



248



268



288



298



328



348





FOUR WINNS®

FOUR WINNS L.L.C., 925 Frisbie Street, Cadillac, MI 49601 Phone (231) 775-1343

WARRANTY REGISTRATION TRANSFER REQUEST

Original Owner Name & Address: _____

Original Date of Purchase: _____

Hull Identification Number: _____

Boat Model: _____

Selling Dealer: _____

Name and address of new purchaser: _____

Telephone & E-Mail Address: _____

Date of Purchase: _____

The warranty may be transferred only once. Registration of the second owner is required and the amount of the transfer fee* is indicated on the warranty statement of the Warranty Registration Card. Transfer of the remainder of the warranty must occur within five (5) years of the original retail sale. The transfer fee must be paid within fifteen (15) days of purchase of the used boat by check, money order or cashier's check payable to Four Winns Boats.

This warranty registration request if accepted, transfers the warranty coverage remaining on the boat to the new purchaser. Acceptance of this request does not create any additional warranties or obligation on Four Winns.

Warranty Expiration Date: _____

Four Winns Transfer Acceptance Date: _____

Four Winns Authorized Signature: _____

Mail to Four Winns L.L.C., 925 Frisbie Street, Cadillac, MI 49601, Attn: Customer Service Department.

***Subject to change without notice.**



FOUR WINNS®

NAME / ADDRESS CHANGE FORM

Name & Address:

PLEASE PRINT CLEARLY.

Telephone & E-Mail Address:

Hull Identification Number:

Boat Model:

Date of Purchase:

NOTE: For warranty transfer please use the Warranty Transfer Request Form also included in front of manual.

PLEASE FOLD IN HALF & SEAL.



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Hull Identification Number:

Boat Model:

Date of Purchase:

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PLEASE FOLD IN HALF & SEAL.

PLEASE
PLACE
STAMP
HERE.

TO: Four Winns L.L.C.
925 Frisbie Street
Cadillac, MI 49601

Attn: Customer Service Department.

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Cadillac, MI 49601

Attn: Customer Service Department.

PREFACE

This manual will acquaint you with the use and maintenance of your new Four Winns boat. This manual also provides special information critical to the safety of the passengers, and longevity of the equipment. The information on the following page lists the graphics used to increase the visibility of these important messages. Also included in your owner's packet is the "Boating Basics, A Guide to Responsible Boating". This publication covers the boating basics and should be read along with your Four Winns Owner's Manual before operating your boat. Review this information completely before using your new boat.

Four Winns continually strives to improve its products. Unit specifications, including standard and optional equipment are constantly being modified. **Equipment availability is also subject to change without notice. The most current and accurate information available at the time of publication is included in this manual. Some variation in material, equipment, description, location, and details can result.**

The information in this manual focuses upon the equipment designed and manufactured by Four Winns on specific models. When appropriate, please utilize the information pertinent to your specific boat model.

Equipment such as engines, and other accessories are manufactured by others. **The information provided in this manual is intended to be used in conjunction with the information provided by the manufacturers of this equipment.** All information available at the time of manufacture has been included with your owner's packet. In many cases, replacement of manufacturer's literature may be obtained via their respective Internet website.

Read this entire manual carefully before operating your new boat. Many instructions may require direct performance of the activity to fully understand the correct method. If you choose to read this manual at home, remember to take it to the boat with you.

Your Four Winns dealer knows your boat best and is interested in your complete satisfaction. Return to the dealer for service or other assistance. If you find it necessary to contact Four Winns directly, please refer to the address information listed below. Be sure to include the boat model, hull identification number, your daytime telephone number, and specifics of the information desired.

This manual has been specifically developed for the Vista™ models. Please record the model and hull identification number information below.

Model

Hull Identification Number

This manual should be considered part of the boat. Should you sell the boat, pass this manual on to the new owner. Take special care of this manual. Certain information in this manual may not be available in a replacement manual. An electronic version of this manual may be viewed on our website at www.fourwinns.com.

Thank you for joining the Four Winns family. We appreciate your purchase and welcome the opportunity to demonstrate our commitment to you.


**Four Winns Customer Service Department
925 Frisbie Street
Cadillac, Michigan 49601
231-775-1343 (Phone)
231-779-2345 (FAX)
E-Mail Address: boating@fourwinns.com
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Congratulations on your new boat purchase and welcome to our boating family!

We want your boating experience to be the most enjoyable possible. The more you know about your new boat, the more you'll enjoy the time you spend aboard. That's why we prepared this manual. It's your guide for safe operation as well as understanding your boat's system and equipment. It has been written for the beginning boater but experienced boaters will find helpful information as well. Be sure to read the contents thoroughly.

The popularity of boating and other water sports has grown tremendously in the past few years. Because of this, safety is an important issue for everyone who shares our waterways.

Remember that along with the freedom and exhilaration of boating comes the responsibility that you have for the safety of your passengers and the other boaters who share the water with you. Throughout this manual, specific precautions and symbols identify safety-related information. Be sure to pay close attention to them.

 This symbol means "pay attention!" Here is important information for your safety. If you don't follow these instructions, you can damage your boat, hurt yourself or someone else or, even worse, have a fatal accident.

 **CAUTION**

This symbol and signal word indicate a potentially hazardous situation. If you ignore this safety message, property damage or minor or moderate personal injury MAY or CAN result.

 **WARNING**

This symbol and signal word indicate a potential hazard. If you ignore this safety message, serious injury or death CAN result.

 **DANGER**

This symbol and signal word indicates an immediate hazard. If you ignore this safety message, serious personal injury or death WILL result.

IMPORTANT HEALTH AND SAFETY INFORMATION ABOUT YOUR NEW BOAT

 **CAUTION**

WARNING: Engine exhaust, some of its constituents, and a wide variety of components contain or emit chemicals known to the State of California to cause cancer and birth defects and other reproductive harm. In addition, oils, fuels and fluids contained in boats as well as waste produced by component wear contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Battery posts, terminals and related accessories contain lead and lead compounds. Wash your hands after handling. Used engine oil contains chemicals that have caused cancer in laboratory animals. Always protect your skin by washing thoroughly with soap and water.

The precautions in this manual can't and don't cover every boating situation. If a specific method or procedure is not recommended, you must make sure that what you do is safe for you and others. Always use common sense when boating! Remember to make sure that every safe boating excursion is a happy experience.

We'd also like to remind you to be kind to our environment while you're boating. Don't throw garbage and other refuse overboard. Do your best to keep harmful compounds like gasoline, oil and antifreeze out of the water. Please see the notifications below:

DISCHARGE OF OIL PROHIBITED

THE FEDERAL WATER POLLUTION CONTROL ACT PROHIBITS THE DISCHARGE OF OIL OR OILY WASTE INTO OR UPON THE NAVIGABLE WATERS OF THE UNITED STATES, OR THE WATERS OF THE CONTIGUOUS ZONE, OR WHICH MAY EFFECT NATURAL RESOURCES BELONGING TO, APPERTAINING TO, OR UNDER THE EXCLUSIVE MANAGEMENT AUTHORITY OF THE UNITED STATES, IF SUCH DISCHARGE CAUSES A FILM OR DISCOLORATION OF THE SURFACE OF THE WATER OR CAUSES A SLUDGE OR EMULSION BENEATH THE SURFACE OF THE WATER. VIOLATORS ARE SUBJECT TO SUBSTANTIAL CIVIL PENALTIES AND/OR CRIMINAL SANCTIONS INCLUDING FINES AND IMPRISONMENT.

Oil Discharge Plate - (Specific Models Only - Location Not Shown)

<p><i>It is illegal for any vessel to dump plastic trash anywhere in the ocean or navigable waters of the United States. Annex V of the MARPOL TREATY is an</i></p>	<p><i>International Law for a cleaner, safer marine environment. Violation of these requirements may result in civil penalty up to \$25,000, fine and imprisonment.</i></p>	
<p>U.S. Lakes, Rivers, Bays, Sounds and <u>3 miles from shore</u> ILLEGAL TO DUMP Plastic & Garbage Paper Metal Rags Crockery Glass Dunnage Food</p>	<p><u>3 to 12 miles</u> ILLEGAL TO DUMP Plastic Dunnage, lining & packing materials that float, also if not ground to less than one inch: Paper Crockery Rags Metal Glass Food</p>	<p><u>12 to 25 miles</u> ILLEGAL TO DUMP Plastic Dunnage, lining & packing materials that float</p>
<p><u>Outside 25 miles</u> ILLEGAL TO DUMP Plastic</p>		
<p>State and local regulations may further restrict the disposal of garbage.</p>		

Trash Overboard Decal - (Specific Models Only - Location Not Shown)

The information contained in the owner's packet has been compiled to help you operate your boat with safety and pleasure. It contains the details of the boat, the equipment supplied or fitted, its systems, and information on its operation and maintenance. Please read the information carefully and familiarize yourself with the boat before using it.

If this is your first boat, or if you are changing to a type of boat you are not familiar with, for your own comfort and safety, please ensure that you obtain handling and operating experience before "assuming command" of the boat. Your dealer or national sailing federation or yacht club will be pleased to advise you of local sea schools and competent instructors.

PLEASE KEEP THE MANUAL AND ALL OTHER PERTINENT INFORMATION IN A SECURE PLACE, AND HAND IT OVER TO THE NEW OWNER WHEN YOU SELL THE BOAT.

LABEL LOCATIONS

The NMMA Yacht Certification plate and various warning labels are placed at different locations on your Vista™ for your safety. Additional warnings for fuel leakage, blower operation, and other important information will be imprinted or located on the dash. Many of these stickers and labels are not required by the U.S. Coast Guard but are important to ensure the safe operation of your Four Winns® boat. In addition, the Hull Identification Number plate is permanently attached below the deck-hull joint on the starboard aft corner.

NOTICE

Not all of the warning label stickers are depicted in the following pages. Some of these stickers will be found on appliances i.e. microwave, TV, DVD player, generator, shore power cord. Be sure to read and follow all manufacturer's literature and warning label(s) relating to their product(s).

Below are locations along with the descriptions of some of the labels found on the boat. Please note that actual locations may vary depending on which model you have. See the following pages for the actual wording of each of these various warning labels found on your boat. Additional labels are also included however the locations may not be shown nor may they be applicable to your particular model.



Hull Identification Number Plate



Gasoline Vapor-Blower Warning



Rotating Prop Boarding Ladder



Leaking Fuel



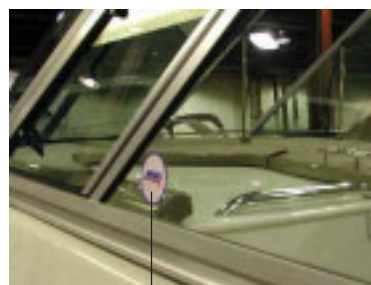
NMMA Yacht Certification Plate
Helm Boarding Ladder Warning



Prevent Falls Overboard Label



Winning Edge Sticker



NMMA Certified Sticker



Shore Power Inlet Dockside Inlet Air Warning Label
Conditioning Label

Figure 1: Label & Sticker Locations (Reference Only)

CAPACITY & WARNING LABELS

MAXIMUM CAPACITIES
12 PERSONS OR 1800 LBS.
 2500 LBS, PERSONS, GEAR

THIS BOAT COMPLIES WITH U.S. COAST GUARD SAFETY STANDARDS IN EFFECT ON THE DATE OF CERTIFICATION
 MANUFACTURER: FOUR WINNS CADILLAC MI 49601
 MODEL: SAMPLE NOTE: SEE CAPACITY LABEL/PLATE AFFIXED TO BOAT FOR ACTUAL CAPACITIES.

DESIGN COMPLIANCE WITH NMMA REQUIREMENTS BELOW IS VERIFIED. MANUFACTURER RESPONSIBLE FOR PRODUCTION CONTROL.

**LOAD CAPACITY * COMPARTMENT VENTILATION
 STEERING, FUEL AND ELECTRICAL SYSTEMS
 NAVIGATION LIGHTS * BASIC FLOTATION
 MANEUVERABILITY**

NMMA CERTIFIED™ NATIONAL MARINE MANUFACTURERS ASSOCIATION



NMMA Yacht Certification Plate
 Replaces Capacity Label on Certain Specific Models Only.

SAMPLE - Capacity Label (See Actual Capacity Plate Affixed to Boat for Actual Capaities if Applicable.



Gasolone Vapors - Blower Warning Label



WARNING

GASOLINE VAPORS CAN EXPLODE RESULTING IN INJURY OR DEATH. BEFORE STARTING ENGINE -CHECK ENGINE BILGE COMPARTMENT FOR GASOLINE OR VAPORS, AND -OPERATE BLOWER FOR FOUR MINUTES, AND VERIFY BLOWER OPERATION. RUN BLOWER WHEN VESSEL IS OPERATING BELOW CRUISING SPEED.



Shaft Alignment Tag (Inboard Models Only)

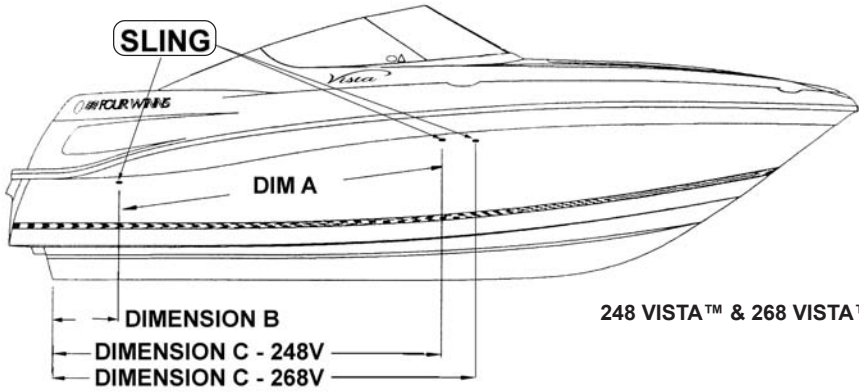


CAUTION

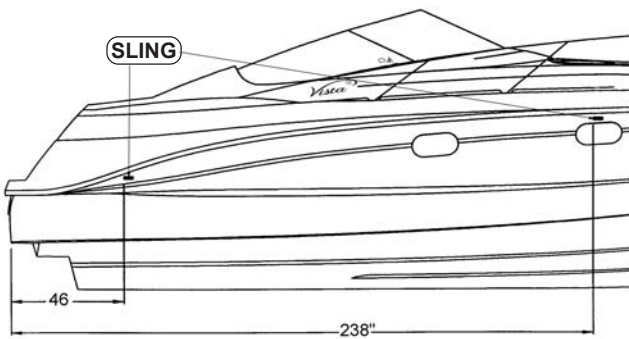
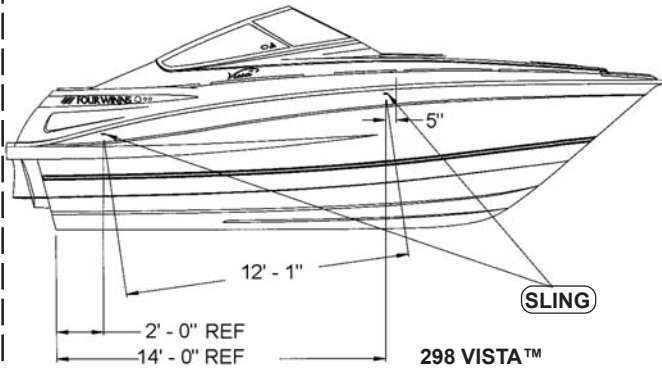
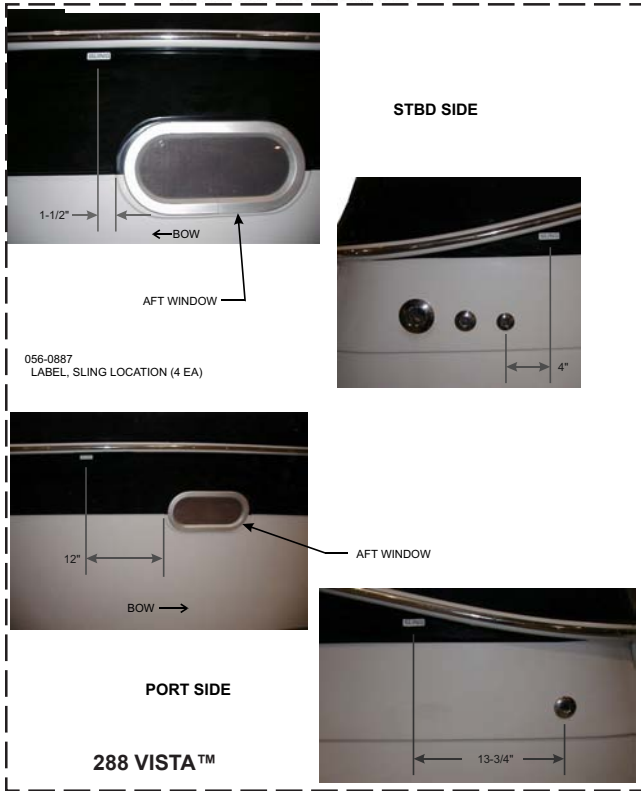
ENGINES MUST BE ALIGNED AND COUPLINGS SECURED PRIOR TO COMMISSIONING.

CAUTION

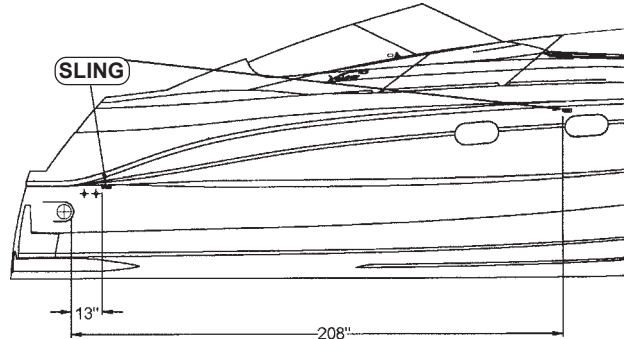
Ensure slings are in proper location as indicated by the sling label location. Failure to do so may result in permanent hull structure damage and will invalidate the hull structure warranty.



DIMENSIONAL DATA	
248V	268V
A= 9'10"	A= 10'1"
B= 1"	B= N/A
C= N/A	C= 7"
D= 2'0"	D= 2'6"
E= 11'9"	E= N/A
F= N/A	F= 12'6"



Sling Location Labels (Reference Only)



WARNING

Gasoline vapors can explode. Before starting engine

- Check engine compartment for gasoline or vapors; and
- Operate blower for four minutes. Run blower when boat is operating below cruising speed.

GM1850501

Gasoline Vapor-Blower Warning Label

WARNING

Rotating propeller can cause serious injury or death. Shut off motor when near persons in water.

GM1850901

Rotating Propeller - Helm Warning Label

WARNING

Rotating propeller can cause serious injury or death. Never approach or use ladder when motor is running.

GM1851001


Rotating Propeller - Ladder Warning Label



WARNING

Avoid serious injury or death from fire or explosion, resulting from leaking fuel. Inspect system for leaks at least once a year.

GM1850601

Leaking Fuel Warning Label


 **WARNING**





Carbon monoxide is produced by all gasoline engines and generator sets. To avoid brain damage or death from carbon monoxide, keep cockpit and cabin area well ventilated, and avoid blockage of exhaust outlets. Do not occupy swim platform or aft lounging area when engine or generator is running. Signs of exposure include nausea, dizziness and drowsiness. See owner's manual for more information.

GM1850101

Carbon Monoxide - Swim Platform & Lounging Area Warning Label

 **WARNING**




To minimize shock and fire hazards:


- (1) Turn off the boat's shore connection switch before connecting or disconnecting shore cable.
- (2) Connect shore power cable at the boat first.
- (3) If polarity warning indicator is activated, immediately disconnect cable.
- (4) Disconnect shore power cable at shore outlet first.
- (5) Close shore power inlet cover tightly.

DO NOT ALTER SHORE POWER CONNECTORS

GM1850401

Shore Power Inlet Warning Label

 **WARNING**



Fuel vapors are a fire and explosion hazard. To avoid injury or death, do not store fuel or flammable liquids here.

GM1850701

No Ventilation - Do Not Store Fuel Warning Label

 **WARNING**



Prevent falls overboard. Close, latch and stay inside gate(s) while underway.

GM1851101

Prevent Falls Overboard Warning Label



Carbon monoxide is produced by all gasoline engines and generator sets. Avoid brain damage or death from carbon monoxide. Keep cockpit and cabin areas well ventilated. Avoid blockage of exhaust outlets. Signs of exposure include nausea, dizziness, and drowsiness. See boat owner's manual for more details. If using a catalytic heater, provide ventilation. Do not use catalytic heater while sleeping.

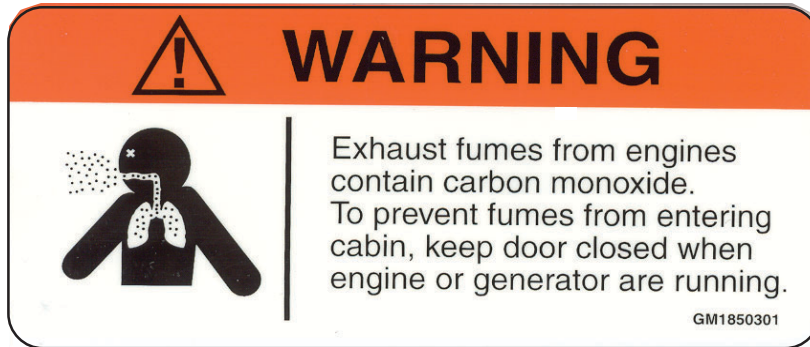
056-0866

Carbon Monoxide Warning Label



Exhaust fumes from engines contain carbon monoxide. Boats with canvas deployed are more likely to collect exhaust fumes. Avoid brain damage or death from carbon monoxide. Keep cockpit and cabin areas well ventilated. Signs of exposure include nausea, dizziness, and drowsiness. See boat owner's manual for more details. If using a catalytic heater, provide ventilation. Do not use catalytic heater while sleeping.

Carbon Monoxide - Canvas Warning Label



GM1850301


Carbon Monoxide - Cabin Doors Warning Label





Dockside Air Conditioning Inlet Label



Microwave Caution Label

 Fisheries and Oceans Canada Coast Guard / Pêches et Océans Canada Garde côtière		Canada
BUILDER - CONSTRUCTEUR FOUR WINNS BOATS, L.L.C. (GFN)	MODEL - MODÈLE MODEL NAME	
THE MANUFACTURER CERTIFIES THAT THIS PRODUCT COMPLIES WITH THE CONSTRUCTION STANDARDS FOR SMALL VESSELS.		LE FABRICANT CERTIFIE QUE CE PRODUIT EST CONFORME AUX NORMES DE CONSTRUCTION DES PETITS BATEAUX.
NO. - no POYEXXXX		SAMPLE

Canadian Conformity Label

CE 0609 C	FOUR WINNS SAMPLE - MODEL NAME/YEAR
	MAXIMUM
8  +  = 1134 kg	

EU Builders Plate-CE Certification Plate (Export)



I. Winning Edge Sticker



J. NMMA Certified Sticker



K. Flush Out Warning Label (Optional)

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OPERATION

A - 1 GENERAL

Before starting the boat, become familiar with all of the various systems and related operations. Be sure all necessary safety equipment is on-board. Know the “Rules of the Road”. Have an experienced operator brief you on the general operation of your new boat. Perform a “pre-cruise systems check”. This manual is a part of your boat’s equipment. Always keep it on board.

A - 2 COMPONENT SYSTEMS

Before you can really enjoy your boat, a thorough understanding of its systems and their operation is essential. This manual and the associated manufacturers information are included in the owner’s packet. This information is provided to enhance your knowledge of the boat. Read this information carefully.

After becoming familiar with the boat and its systems, reread this manual and other material provided in the owner’s packet. Maintenance and service tips are included to help keep the boat in like-new condition.

A - 3 SAFETY EQUIPMENT

Besides the equipment installed on the boat by Four Winns, L.L.C., certain other equipment is required for passenger safety. A booklet listing the Federal equipment requirements is included in the owner’s packet or is available through your local U.S. Coast Guard Station. Remember that these laws are for your protection and are minimum requirements. Check your local and state regulations, also. More information on safety equipment is provided in Section B.

Items like a sea anchor, working anchor, extra dock lines, flare pistol, a line permanently secured to your ring buoy, etc. could at some time save your passengers lives, or save your boat from damage.

The Coast Guard Auxiliary offers a “Courtesy Examination.” This inspection will confirm the boat is equipped with all of the necessary safety equipment.

A - 4 PASSENGER SAFETY

You are responsible for the safety of your passengers as well as for their behavior while aboard. Make sure:

1. Each passenger is properly instructed in Personal Flotation Device (PFD) use and keeps one within reach in case of emergency. All non-swimmers and children should wear a PFD at all times when underway.
2. Passengers do not sit on gunwales, open decks, elevated pedestal seats or on seat backs when the boat is underway. This could cause them to be thrown overboard during a sudden maneuver.
3. At least one other person knows how to operate the boat in case of an emergency.

A - 5 “RULES OF THE ROAD”

As in driving an automobile, there are a few rules that must be known if safe boating operation is to be maintained. The Coast Guard, Coast Guard Auxiliary, Department of Natural Resources or your local boat club sponsor courses in boat handling, including “rules of the road”. Such courses are strongly recommended. Books on this subject are also available from local libraries.

A - 6 LIGHTNING

When boating, it is important to be aware of the weather around you. When the weather changes for the worse, DO NOT jeopardize your safety by trying to “ride out the storm”. If possible, return to safe harbor and dock your vessel immediately.

If caught in a storm, seek shelter inside the cabin and wait for the storm to pass. With open bow models, suntops and campers will provide some protection, but should not be relied on if you are able to return to shore. Exercise care when high winds are present!

NOTICE

Four Winns boats are **not** equipped with a lightning protection system.



WARNING

DO NOT swim or dangle legs or arms into the water during a lightning storm. Stay out of the water!

Lightning will seek a ground when it strikes. Avoid contact with metal parts such as bow rails, control handle, or windshield.

A - 7 DRUGS AND ALCOHOL

Please keep in mind that along with the fun of boating comes responsibility. As the owner or operator of a pleasure boat, you are obligated (morally and legally) to use good judgement while underway in providing for the safety and well-being of your passengers and other boaters around you.

A common and flagrant violation of good judgement and the law by mariners involves the use of alcohol or drugs. Each year, about half of all accidents involving fatalities involve the use of alcohol or drugs.

It is a federal offense to operate a boat while intoxicated. Criminal penalties may include the termination of operating privileges for up to one year. Many states have passed similar laws.

Alcohol or drugs have an inhibiting effect on the judgement and reaction time of the boat operator and his/her passengers. Heed the advice of experts and statisticians...DO NOT drink or use drugs when operating a boat. NEVER allow an obviously intoxicated person to take the helm.

Have fun in your Four Winns® boat, but also have the good sense to be mentally alert and physically capable of operating the boat in a safe manner.

A - 8 PRE-CRUISE SYSTEMS CHECK

Before leaving the dock, the following items should be checked:

A. Before Starting The Engine

1. Check the weather forecast. Determine if the cruise planned can be made safely.

2. Be sure all necessary safety equipment is on board and operative. This includes items such as the running lights, horn, spotlight, life saving devices, etc.
3. Check the bilge water level and bilge pump operation. Check the engine and drive fluid levels. Look for other signs of potential problems. Check for the scent of fuel fumes.
4. Activate the Bilge Blower. Check the blower output.



WARNING

Gasoline vapors can explode resulting in injury or death. Before starting the engine, check engine compartment bilge for gasoline or vapors. Operate blower for four minutes, and verify blower operation. ALWAYS run the blower when the vessel is operating below cruising speed.

5. Ensure an adequate amount of fuel is on board.
6. Be sure you have sufficient water and other provisions on board for the cruise planned.
7. Leave a written message listing details of the planned cruise with a close friend ashore.

B. After Starting The Engine

1. Visibly check the engine to be sure there are no apparent water or oil leaks.
2. Check the gauges. Make sure the oil pressure, water temperature, voltmeter, etc. are reading normally.
3. Have a safe cruise and enjoy yourself.



WARNING

Always be sure to raise the anchor and ensure the chain stop is engaged prior to operating your boat. Failure to raise and secure anchor before getting underway could result in damage to boat and even severe injury or death from a rebounding anchor.

A - 9 ENGINE OPERATIONAL PROCEDURES

Notice: Consult engine manual. Additional engine information is located in Section T.

A. Before Starting

1. Check the engine compartment for water, gas, and/or oil leaks of any kind. Keep the bilge in a clean condition to prevent blower and bilge pump damage, and fire hazards.
2. Check the fluid levels of the engine oil and power steering system daily. Fill oil or steering fluid as required by the indications on the dip sticks. Refer to the Table 1: "SAE Viscosity Chart - Gas" and your engine manual included in the owner's packet. **DO NOT USE MULTIGRADE OIL.**

IF THE LOWEST ANTICIPATED TEMPERATURE IS*	THE FOLLOWING SAE VISCOSITY OILS ARE RECOMMENDED
32° F (0° C) and above	SAE 30
0° F (-18° C) to 32° F (0° C)	SAE 20W-20
Below 0° F (-18° C)	SAE 10W
*Temperature range you expect to operate. Note: Use only single viscosity oils.	

Table 1: SAE Viscosity Chart - Gas

Diesel engines use a Series IIID oil, SAE15W/40. Refer to your diesel engine owner's manual for further information.

Power steering and power trim use automatic transmission fluid. Check the fluid levels in the vertical drive units or transmission as often as practical.

The hydraulic steering uses a fluid which meets Mil H5606 specifications. Please note that automatic transmission fluid (Dexron II) may be used in an emergency. Never use brake fluid. Check the fluid level of the transmission as often as practical.

3. Start and operate the bilge blower system for at least four (4) minutes before start-up.
4. Lower the vertical outdrive units (on applicable models) making sure the water intakes are under the water.

B. Cold Engine Start (Carbureted Engines)

1. The engine may require priming prior to starting. To prime the engine, proceed as follows:
 - a. Place ignition switch in the OFF position.
 - b. Disengage shift mechanism.
 - c. Move control handle to the full throttle position; this operates accelerator pump and primes the engine.
 - d. Repeat priming, if necessary.
 - e. Return the control handle to fast idle position.
2. Turn key switch to START position and hold until engine starts. **DO NOT** hold in START position for more than ten seconds. In colder weather, more priming may be necessary. However, too much priming may flood engine.

If engine floods:

- Disengage shift. Move handle to full throttle position.
- Turn key switch to the START position.
- Immediately move the control handle to the idle position when the engine starts.

NOTICE

Failure to move the control handle to the idle position immediately when engine starts will allow engine to "over-rev" and engine damage could result. "Over-revving" engine after off-season storage could also damage the water pump impeller. **When starting engine for the first time after off-season storage, always idle engine for one minute to allow the water pump to prime.**

3. As soon as engine starts:
 - a. Release key to the ON or RUN position.
 - b. Move control handle to the fast idle position to warm up engine. **DO NOT** exceed 2000 RPM.

C. Warm Engine Starting (Carbureted Engines)

1. Move control handle to the neutral detent position.
2. Turn key switch to START position and hold until engine starts, but DO NOT hold in start position for more than ten seconds. If engine does not start, let go momentarily, then try again.
3. As soon as engine starts, release key to the ON or RUN position.

NOTICE

NEVER turn key to START position when engine is running.

D. Cold / Warm Engine Start (EFI) - Stern Drives

1. Move the control handle to NEUTRAL detent position.
2. Turn the key switch to start and hold until engine starts, for no longer than 10 seconds. If engine does not start, let go momentarily, then try again.
- 2b. For diesel engines, you must first turn the ignition key to the ON position and wait 30 seconds, allowing preheaters to activate. After 30 seconds, turn key switch to START position and hold until engine starts. DO NOT hold in START position for more than ten seconds.
3. As soon as engine starts, release key to ON or RUN.

If engine floods:

- Disengage shift. Move handle to full throttle position.
- Turn key switch to the START position.
- Immediately move the throttle levers to the idle position when the engine starts.

NOTICE

Failure to move the throttle handle to the idle position immediately when engine starts will allow engine to “over-rev” and engine damage could result. “Over-revving” engine after off-season storage could also damage the water pump impeller. **When starting engine for the first time after off-season storage, always idle engine for one minute to allow the water pump to prime.**

3. As soon as engine starts:
 - a. Release key to the ON or RUN position.

NOTICE

Priming is not necessary for EFI engines. Refer to the engine owner’s manual for additional information.

E. Cold Engine Start (EFI Engines) - Inboards

1. Move the twin lever shifter to the neutral detent position. Place the twin lever throttle levers in the idle position. See Figure A1. When in the neutral detent, the detent buttons will click into place. To move the levers to the desired positions after starting you simply push or pull the shifter and throttle levers. The buttons are color coded. Black buttons represent the shifter and red buttons represent the throttles.

*Twin Lever -
Single Action
Control
(w/ Black Buttons)*
*Twin Lever -
Single Action
Throttle
(w/ Red Buttons)*



Figure A1: Inboard Helm Station

- 2a. For gasoline engines, turn key switch to START position and hold until engine starts. DO NOT hold in START position for more than ten seconds.

- 2b. For diesel engines, you must first turn the ignition key to the ON position and wait 30 seconds, allowing preheaters to activate. After 30 seconds, turn key switch to START position and hold until engine starts. DO NOT hold in START position for more than ten seconds.

If engine floods:

- The shifter levers remain in the neutral detent position. Move throttle levers to full throttle position.
- Turn key switch to the START position.
- Immediately move the throttle levers to the idle position when the engine starts.

NOTICE

Failure to move the throttle handle to the idle position immediately when engine starts will allow engine to “over-rev” and engine damage could result. “Over-revving” engine after off-season storage could also damage the water pump impeller. **When starting engine for the first time after off-season storage, always idle engine for one minute to allow the water pump to prime.**

3. As soon as engine starts:
 - a. Release key to the ON or RUN position.

NOTICE

Priming is not necessary for EFI engines. Refer to the engine owner’s manual for additional information.

F. Warm Engine Start (EFI Engines) - Inboards

1. Move shifter levers to the neutral detent position and throttle levers to the idle position.
- 2a. Turn key switch to START position and hold until engine starts, but DO NOT hold in start position for more than ten seconds. If engine does not start, let go momentarily, then try again.
- 2b. For diesel engines, you must first turn the ignition key to the ON position and wait 30 seconds, allowing preheaters to activate. After 30 seconds, turn key switch to START position and hold until engine starts. DO NOT hold in START position for more than ten seconds.

3. As soon as engine starts, release key to the ON or RUN position.

NOTICE

NEVER turn key to START position when engine is running.

G. Shifting and Control Speed

NOTICE

If your boat is equipped with a non-OEM remote control system, ask your dealer how to properly operate it.

1. Move shifter lever(s) to the neutral detent position and throttle levers (if applicable) to the idle position. Placing the shifter levers in the neutral detent position will engage neutral start switch and allow engine to start.

CAUTION

DO NOT shift into FORWARD or REVERSE unless engine is running. Damage to the shift system could result from trying to shift without the engine running. Carefully check function of all control and engine systems before leaving the dock.

2. To go FORWARD - Briskly move the shifter lever(s) forward. Once forward gear engagement is complete, push throttle lever(s) forward until desired speed is achieved.
3. To go in REVERSE - Briskly move the shifter lever(s) rearward. Once rearward gear engagement is complete, push throttle lever(s) forward until desired speed is achieved.

WARNING

DO NOT shift from forward to reverse when the boat is planing.

NOTICE

DO NOT shift if engine speed is above 800 RPM.

4. To go from FORWARD to REVERSE, or REVERSE to FORWARD; always pause at NEUTRAL and allow engine speed to return to idle.
5. After shifting is completed, slowly push throttle lever(s) forward until desired speed is achieved.

WARNING

Any time the boat is operated, be aware of changes in shift system operation. A sudden increase in shift effort of the shifter levers, or other abnormal operation, indicates a possible problem in the shift system. If this occurs, the following precautions must be taken:

- With engine running and boat securely tied to the dock, shift drive into forward and reverse to ensure there is gear engagement.
- When docking the boat, all docking maneuvers must be performed at slow speed. Pay special attention to other boaters. Passengers should be informed of potential problems and precautions taken.

If you suspect there is a problem, see your MerCruiser® or Volvo Penta® dealer as soon as possible for proper diagnosis and required service or adjustment. Continued operation could result in damage to the shift mechanism and loss of control.

H. Stopping Engine

1. Move shifter lever(s) to the NEUTRAL position. Place throttle levers (if applicable) in idle position.
2. Turn ignition key to the OFF position.

NOTICE

DO NOT stop engine at speeds above idle or “speed up” engine while turning off ignition. Engine damage could result.

A - 10 GROUNDING AND TOWING

WARNING

If the boat should become disabled, or if assisting another craft that is disabled, great care must be taken. The stress applied to a boat during towing may become excessive. Excessive stress can damage the structure of the boat and create a safety hazard for those aboard.

Four Winns® boats are not designed nor intended to be used as a towing vessel. The mooring cleats on Four Winns® boats are not designed or intended to be used for towing purposes. These cleats are specifically designed as mooring cleats for securing the boat to a dock, pier, etc. DO NOT use these fittings for towing or attempting to free a grounded vessel.

Freeing a grounded vessel or towing a boat that is disabled requires specialized equipment and knowledge. Line failure and structural damage caused by improper towing have resulted in fatal injuries. Because of this, Four Winns strongly suggests that these activities be left to those who have the equipment and knowledge such as the U.S. Coast Guard or Sea Tow, to safely accomplish the towing task.

CAUTION

Running aground can cause serious damage to a boat and associated underwater gear. If the boat should become grounded, distribute personal flotation devices and inspect the boat for possible damage. Thoroughly inspect the bilge area for signs of leakage. An experienced service facility should check the hull and underwater gear at the first opportunity. DO NOT continue to use the boat if the condition of the hull or underwater equipment is questionable.

If towing or being towed is absolutely necessary, use the strongest lines available, and attach them to the bow eyes or stern eyes only. Have all passengers slip on life jackets and take a seat in the cabin or other protected area.

WARNING

Lines can snap or other hardware can be loosened or broken while towing. Under certain conditions, this can cause severe injury or fatality.

A - 11 BOATING EDUCATION

A. Boating Courses

Boating education classes are offered throughout the country. The United States Coast Guard Auxiliary offers free courses on different topics usually during the off-season. The most popular course is the “Boating Skills & Seamanship Course,” and information can be obtained by calling 1-800-336-BOAT.

The United States Power Squadron also offers free courses ranging from basic seamanship to celestial navigation. For information, contact your local Power Squadron, or write: U.S.P.S., P.O. Box 30423, Raleigh, NC 27622.

The Red Cross offers power boating and canoeing classes. Contact: Director of Water Safety, American National Red Cross, 17th & D Streets N.W., Washington, DC 20006.

The Canadian Power and Sail Squadron offers seamanship courses. Information can be obtained by calling 1-800-268-3579 (Canada only).

B. Boating Manuals and Literature

A good source of information is the U.S. Coast Guard's home study book called "The Skipper's Course". This book may be purchased through: Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402, Stock # 050-012-00159-6.

Another good source of boating information is Chapman's "Piloting, Seamanship and Small Boat Handling". Also, check the local library or bookstore for additional information on boating.

C. Charts and Maps

U.S. nautical charts are sold throughout the country at Governmental Printing Office stores and other agents. A chart catalog is available by writing to: National Oceanic and Atmospheric Administration, National Ocean Survey, Rockville, MD 20852.

In addition, many federal agencies publish recreational maps, including the U.S. Army Corps of Engineers, the Forest Service, the National Park Service, and the Tennessee Valley Authority.

Addresses of all state boating agencies are listed in "A Boater's Guide". For a free copy, write to: National Marine Manufacturers Association, 401 N. Michigan Avenue, Chicago, IL 60611.

D. Laws and Regulations

The U.S. Coast Guard is the authority of the waterways; they are there to help the boating public. State boating regulations are enforced by local authorities. You are subject to marine traffic laws and "Rules of the Road" for both federal and state waterways; you must stop if signaled to do so by enforcement officers, and permit to be boarded if asked.

There are many pamphlets, prepared by the Coast Guard, available to you. These pamphlets explain "Rules of the Road," signal lights, buoys, safety, international and inland regulations and other information which goes beyond the scope of this manual. For more information contact your local U.S. Coast Guard Unit or call the Coast Guard Boating Safety Hotline at 1-800-368-5647.

A - 12 BOAT OWNER REGISTRATION

Federal and state laws require that every boat equipped with propulsion machinery of any type must be registered in the primary state of usage. Registration numbers and validation stickers must be displayed on the boat according to regulations. In most states, this means registration with the designated state agency. In a few jurisdictions, the Coast Guard retains registration authority. Your dealer will either supply registration forms or tell you where they may be obtained. The registration agency will issue you a certificate that must be carried on board when the boat is in use. Some states require additional registration when an out of state boat is used within their boundaries.

Your boat has a hull identification number on the starboard side of the hull. Figure A2 shows a typical identification number. Use this hull identification number for registration and to identify your boat for warranty service.

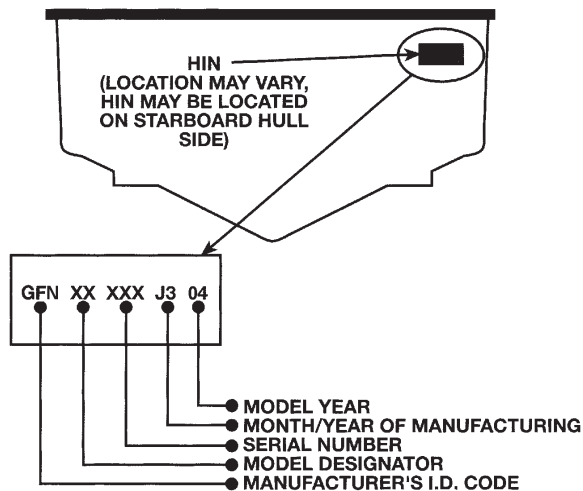


Figure A2: HIN

A - 13 INSURANCE

In most states, the boat owner is legally responsible for damages or injuries he or she causes, even if someone else is operating the boat at the time of the accident. Common sense dictates that you carry adequate personal liability and property damage insurance on your boat, just as you would on an automobile. You should also protect your investment by insuring your boat against physical damage or theft.

A - 14 ACCIDENT REPORTING

The operator of the boat is responsible for filing a report with the appropriate authorities. In general, reports are necessary for accidents involving loss of life, injury, or damage over \$500. In the case of accidents with reportable injuries or death, a formal report is required within 48 hours. If only property damage is involved, a report must be made within ten days. The 1971 Boating Safety Act may impose a \$1,000 civil fine for people who fail to submit a boating accident report. Ask your insurance agent for more information.

If you see a distress signal, you must assume it is a real emergency and render assistance immediately. The master or person in charge of a boat is obligated by law to provide assistance to any individual in danger at sea. However, you should not put your boat or crew in a dangerous situation which exceeds your capabilities or those of your boat. The 1971 Boating Safety Act grants protection to a Good Samaritan boater offering good faith assistance, and absolves a boater from any civil liability arising from assistance given.

A - 15 DISCHARGE OF OIL

The Federal Water Pollution Control Act prohibits the discharge of oil waste into or upon the navigable waters of the United States or the waters of the contiguous zone if such discharge causes a film or sheen upon or a discoloration of the surface of the water or causes a sludge or emulsion beneath the surface of the water. Violators are subject to a penalty of \$5,000.

A - 16 DISPOSAL OF PLASTICS & OTHER GARBAGE

Plastic refuse dumped in the water can kill fish and marine wildlife and can foul boat propellers and cooling water intakes. Other forms of waterborne garbage can litter our beaches and make people sick. U.S. Coast Guard and most state regulations prohibit the dumping of plastic refuse or other garbage mixed with plastic into the water anywhere, and restrict the dumping of other forms of garbage within specified distances from shore.

A - 17 MARPOL TREATY

Boats 26 feet or longer must display a sign stating the disposal regulations of the Federal Water Pollution Control Act. The U.S. Coast Guard has issued these regulations to implement Annex V of the International Convention for the Prevention of Pollution from Ships, 1973, commonly known as Annex V of the MARPOL (Marine Pollution) Treaty 73/78. They apply to all U.S. boats wherever they operate (except waters under the exclusive jurisdiction of a State) and foreign boats operating in U.S. waters out to and including the Exclusive Economic Zone (200 miles). It is important to know these regulations and adhere to them.

The regulations require U.S. recreational boaters, if your boat is 26 feet or more in length, to affix one or more USCG Trash Dumping Restrictions placards to your boat. The placard warns against the discharge of plastic and other forms of garbage within the navigable waters of the United States and specify discharge restrictions beyond the territorial sea. (The territorial sea generally ends three nautical miles from the seashore.) In addition, the placard must contain the warning that a person who violates these requirements is liable to civil (\$25,000) and criminal (Imprisonment) penalties. The placard also must note that State and local regulations may further restrict the disposal of garbage.

Operators shall display one or more placards in a prominent location and in sufficient numbers so they can be observed and read by crew and passengers. These locations might include embarkation points, food service areas, galleys, garbage handling spaces and common deck spaces frequented by crew and passengers. We recommend that these placards may be purchased from local marinas, boat dealerships and marine equipment suppliers. A special placard is available for boats operating on the Great Lakes.

IMPORTANT: It is illegal to discharge waste from your marine sanitary device (toilet) into the water in most areas. It is your responsibility to be aware of and adhere to all local laws concerning waste discharge. Consult with the Coast Guard, local marina or your dealer for additional information.

NOTE: Some states and localities have legal limits on speed, noise and trailer specifications. It is your responsibility to be aware of these laws and limits and to insure that your boat (and trailer) comply. Consult with your local Marine Patrol or local Coast Guard office.

SAFETY & SAFETY EQUIPMENT

B - 1 GENERAL

As the owner/operator of the boat, you are responsible for assuring that all required safety equipment is aboard. You should also consider supplying additional equipment as needed for your safety and that of your passengers. Check state and local regulations and call the U.S. Coast Guard Boating Safety Hotline at 1-800-368-5647 for information about required safety equipment.

A. Required Safety Equipment

Most of the safety equipment required by federal regulations is provided as standard equipment. Personal Floatation Devices (life jackets) must fit the person wearing it. If local regulations require additional equipment, it must be approved by the U.S. Coast Guard (USCG). Minimum requirements include the following:

- Personal Floatation Devices
- Visual Distress Signal
- Bell or Whistle
- Fire Extinguisher
- Navigation Lights

NOTICE

As the owner/operator of the boat, you are responsible for assuring that all required safety equipment is aboard and meets the boating regulations as prescribed by both federal and local authorities in your area.

B. Personal Floatation Devices (PFDs)

Federal regulations require that you have at least one Coast Guard approved personal floatation device (PFD) for each person in a recreational boat. You should not use your boat unless all PFDs are in serviceable condition, readily accessible, legibly marked with the Coast Guard approval number, of an appropriate size (within the weight range and chest size marked on the PFD) for each person aboard.

A PFD provides buoyancy to help keep your head above the water and to help you remain in a satisfactory position while in the water. Body weight and age should be considered when selecting a PFD. The buoyancy provided by the PFD should support the person's weight in the water.

The size of the PFD should be appropriate for the wearer. Body weight or chest size are common methods used to size PFDs. It is your responsibility to ensure that you have the proper number and types of PFDs on board and that your passengers know where and how to use them.

C. PFD Types

Five types of PFDs have been approved by the U.S. Coast Guard. The PFDs are described as follows:

PFD Type 1, Wearable (Figure B1) has the greatest required buoyancy. Its design allows for turning most unconscious persons in the water from face down position to a vertical or slightly backward, face-up position. It can greatly increase the chances of survival. Type 1 is most effective for all waters, especially offshore when rescue may be delayed. It is also the most effective in rough waters.



Figure B1: Type I, Wearable

PFD Type II, Wearable (Figure B2) turns its wearer in the same way as Type I, but not as effectively. The Type II does not turn as many persons under the same conditions as a Type I. You may prefer to use this PFD where there is a probability of quick rescue such as in areas where other people are commonly involved in water activities.

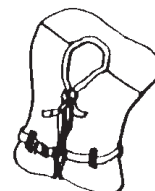


Figure B2: Type II, Wearable

PFD Type III, Wearable (Figure B3) allows the wearer to place themselves in a vertical or slightly backward position. It does not turn the wearer. It maintains the wearer in a vertical or slightly backward position and has no tendency to turn the wearer face down. It has the same buoyancy as a Type II PFD and may be appropriate in areas where other people are commonly involved in water activities.



Figure B3: Type III, Wearable

PFD Type IV, Throwable (Figure B4) is required in addition to the PFDs previously discussed. The most common Type IV PFD is a buoyant cushion or ring buoy. It is designed to be thrown to a person in the water, grasped and held by the user until he or she is rescued. A Type IV PFD should always be in serviceable condition and immediately available for use. Grasping this PFD may be difficult if the rescue is delayed or if the user is overcome by hypothermia (loss of body heat).



Figure B4: Type IV, Throwable

PFD Type V, Wearable (Figure B5) when inflated, it provides buoyancy equivalent to Type I, II, or III PFDs. When it is deflated, however, it may not support some people.



Figure B5: Type V, Wearable

D. PFD Pointers

The purpose of a PFD is to help save your life. If you want it to support you when you are in the water, it needs to fit, float, and be in good condition.

1. Try the PFD on and adjust it until it fits comfortably in and out of the water. Mark your PFD if you are the only wearer.
2. To make sure the PFD works, wear it in the water. This will show you how it works and give you confidence when you use it.
3. Teach children how to put a PFD on and allow them to try it in the water. That way, they know what the PFD is for and how it works. They will feel more comfortable with it if they suddenly find themselves in the water.
4. If the PFD is wet, allow it to dry thoroughly before storing it. Do not dry it in front of a radiator or heater. Store it in a well ventilated area.
5. Keep PFDs away from sharp objects which can tear the fabric or puncture the floatation pads.
6. For their own safety and the safety of others, all nonswimmers, poor swimmers, and small children should wear PFD's at all times, whether the boat is stationary or moving.
7. Check the PFD frequently to make sure that it is not torn, that floatation pads have no leaks, and that all seams and joints are securely sewn.
8. If a PFD contains kapok, the kapok fibers may become waterlogged and lose their buoyancy after the vinyl inserts are punctured. If the kapok becomes hard or if it is soaked with water, replace it. It may not work when you need it.

E. Fire Extinguisher

As the owner/operator of the boat, you are responsible for supplying a fire extinguisher approved by the U.S. Coast Guard.

Hand-held portable extinguisher(s) should be mounted in a readily accessible location(s) away from the engine compartment. All persons aboard should know the location(s) and proper operation of the fire extinguisher(s).



WARNING

Fire!

In case of fire do not open the engine compartment. Shut down engine(s), generator(s), and blower(s). Models with fixed fire suppression system will automatically discharge its entire contents. If using portable CO2 fire extinguisher continuously discharge entire contents. On European models, discharge contents through fire port.

NOTICE

Using a portable fire extinguisher with an access/fire port in the engine compartment is preferred to opening the engine compartment to fight the fire. However, using a portable extinguisher in this way provides less protection against fire than a fixed suppression system.

NOTICE

Do not test fire extinguishers by squirting small amounts of the extinguishing compound. The fire extinguisher might not work when you really need it.

The Vista™ models that measure 16 to less than 26 feet are considered Class 1 powerboats. Since they have permanently installed fuel tanks, they are required to carry one (1) B-1 type hand portable fire extinguisher. If the boat is equipped with a fixed fire extinguishing system in the engine compartment, one (1) B-1 type hand portable fire extinguisher is still recommended.

All Class 2 powerboats (26 to less than 40 feet) are required to carry two (2) B-1 type approved hand portable fire extinguishers or one (1) B-2 type approved hand portable fire extinguisher. When a fixed fire extinguishing system is installed in machinery space(s), at least one (1) B-1 type approved hand portable fire extinguisher is required.

F. Fire Extinguisher System

An automatic FE241 agent fire extinguisher system is available on certain Vista™ models. The equipment utilized has been so chosen, and located, to provide sufficient volume and coverage of the entire engine compartment. While the system ensures excellent overall bilge fire protection, **it does not eliminate the U.S.C.G. requirement for hand-held fire extinguishers.** Refer to the manufacturer's literature included in the owner's packet.

G. Visual Distress Signal Devices

Visual distress signal devices approved by the U.S. Coast Guard are required on all recreational boats operating on coastal waters and to boats owned in the United States when they are operating on the high seas. Coastal waters include territorial seas and those waters directly connected to the Great Lakes and the territorial seas up to a point where the waters are less than two miles (3.2km) wide. Visual distress signal equipment may be of the pyrotechnic or non-pyrotechnic type. Regulations prohibit display of visual distress signals on the water under any circumstances except when assistance is required to prevent immediate or potential danger to persons on board a vessel.

The equipment must be approved by the U.S. Coast Guard, be in serviceable condition, and be stowed in a readily accessible location. Equipment having a date for serviceable life must be within the specified usage date shown. Careful selection and proper stowage of visual distress equipment is very important if young children are aboard.

DAY USE ONLY	NIGHT USE ONLY	DAY AND NIGHT USE
Three orange smoke signals (one hand held and two floating) or one orange flag with black square and disk.	One S-O-S electric distress light.	Three flares of the hand held, meteor or parachute type.

Distress Signal Table

The minimum visual distress signals required in coastal waters for a Class 1 or Class 2 powerboat is the following:

One orange flag with black square-and disc (daytime); and an S-O-S electric light (night-time); or three orange smoke signals, hand held or floating (daytime); or three red flares of hand held, meteor, or parachute type (daytime/night-time).

NOTICE

No single signaling device is appropriate for all purposes. Consider keeping various types of equipment on board.

H. Sound Signaling Devices

Class 1 and Class 2 powerboats are required to carry a hand, mouth or power operated horn or whistle. It must produce a blast of two-second duration and audible at a distance of at least one-half (1/2) mile. Depending on the Vista™ model, it is equipped with either a single or dual trumpet horn which meets this requirement. See Figure B6.

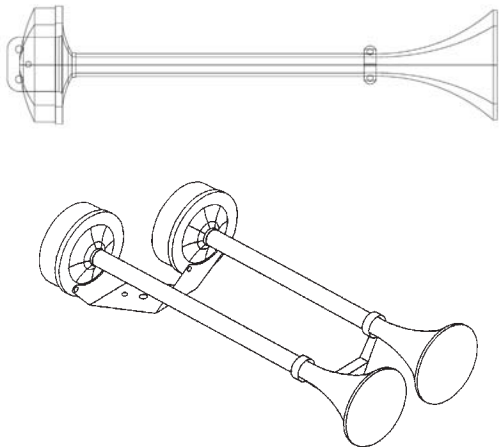


Figure B6: Single & Dual Trumpet Horn

The following are standard whistle signals:

- One Prolonged Blast Warning Signal
- One Short Blast Pass on my Port Side
- Two Short Blasts Pass on my Starboard Side
- Three Short Blasts Engines in Reverse
- Five or More Blasts Danger Signal

I. Navigation Lights

Navigation lights are intended to keep other vessels informed of your presence and course. If you are out on the water between sunset and sunrise, you are required to display appropriate navigation lights.

J. Additional Recommended Equipment

Four Winns recommends that you acquire additional equipment for safe, enjoyable cruising. This list, which is not all inclusive, includes items you should consider acquiring.

Basic Gear

- | | | |
|--|------------------------------------|---------------|
| Flashlight | Spare batteries | Tow line |
| Oar, paddle | Mooring lines | Compass |
| Dock fenders | Distress signals | First aid kit |
| Boat hook | VHF radio | EPIRB* |
| Sunscreen | Extra warm clothing | Charts |
| Second anchor & line | Dewatering device (pump or bailer) | |
| Emergency supply of drinking water and food. | | |
| *Emergency Position Indicating Radio Beacon | | |

Tools

- | | | |
|-------------------|-----------------|-----------------|
| Spark plug wrench | Hammer | Screwdriver |
| Jackknife | Pliers | Electrical tape |
| Adjustable wrench | Lubricating oil | Prop wrench |
| Duct tape | | |

Spare Parts

- | | | |
|-----------------------|-------------|-------------|
| Extra bulbs | Spare prop | Extra fuses |
| Extra drain plug | Spark plugs | Spare wire |
| Extra prop nut/washer | | |

Gear For Extended Cruises

- | | | |
|---|-----------------|----------|
| Foul weather gear | Parallel rulers | Dividers |
| Loran or Global Positioning System navigation equipment | | |

B - 2 CARBON MONOXIDE



Carbon Monoxide!

Carbon monoxide (CO) can be harmful or fatal if inhaled. Brain damage or death can result from prolonged exposure to carbon monoxide. Keep exhaust outlets clear of blockage. Provide adequate ventilation. Open hatches, doors, windows and vents to insure adequate ventilation. Close engine compartment doors and hatches when engine or generator is running. Avoid operating the boat for extended periods of time at idle speed, and be sensitive to weather conditions that may prevent CO from dissipating into the air. Do not stand or swim near engine or generator exhausts when engines are running.

Carbon monoxide accumulation is affected by many variables (e.g., boat geometry, hatch, window and door opening, ventilation openings, proximity to other structures, swim platforms, canvas enclosures, location of exhaust outlets, vessel attitude, wind direction, vessel speed, boat systems maintenance, etc.) The technical information included in this section is to inform the boat owner of possible cause and effects of carbon monoxide exposure. This information has been reprinted with permission from the American Boat and Yacht Council's

(ABYC) technical information report: “Educational Information About Carbon Monoxide”. This information pertains to all gasoline powered boats manufactured by Four Winns.

NOTICE

The boat owner should be aware that other factors may contribute to carbon monoxide accumulation. The most common ones are listed in this section. If a person is exhibiting carbon monoxide-type symptoms (Refer to B-2E Symptoms), be sure to take the necessary precautions as prescribed later in this section.

NOTICE

Boats fueled by diesel have limited carbon monoxide present in the exhaust in comparison to gasoline engine exhaust. However, the boat owner should still be aware of the causes and effects of carbon monoxide which may occur in different boating situations.

A. Properties and Characteristics of Carbon Monoxide

1. Carbon Monoxide is a colorless, odorless and tasteless gas. It is commonly referred to as CO.
2. Its weight is about the same as air so it cannot be expected to rise or fall like some other gases, but will distribute itself throughout the space.

NOTICE

DO NOT rely on the use of smell or sight of other gases to detect CO, because it diffuses in the air much more rapidly than easily detectable vapors (i.e. visible and aromatic vapors).

B. What Makes Carbon Monoxide

Any time a material containing carbon burns such as gasoline, natural gas, oil, propane, coal, or wood, CO is produced.

Common sources of carbon monoxide are:

1. Internal combustion engines.
2. Open flame devices such as:
 - a. Cooking ranges
 - b. Central heating plants
 - c. Space heaters

- d. Water heaters
- e. Fireplaces
- f. Charcoal grills

C. How a Person is Affected by Carbon Monoxide

Carbon monoxide is absorbed by the lungs and reacts with blood hemoglobin to form carboxyhemoglobin, which reduces the oxygen carrying capacity of the blood. The result is a lack of oxygen for the tissues with the subsequent tissue death and, **if exposure is prolonged, death of the individual.**

D. Effects of Carbon Monoxide

Carbon monoxide in high concentrations can be fatal in a matter of minutes. Lower concentrations must not be ignored because the effects of exposure to CO are cumulative and can be just as lethal.

Certain health related problems and age will increase the effects of CO. People who smoke or are exposed to high concentrations of cigarette smoke, consume alcohol or have lung disorders or heart problems, are particularly susceptible to an increase in the effects from CO. However, all occupants' health should be considered. Physical exertion accelerates the rate at which the blood absorbs CO.

E. Symptoms

One or more of the following symptoms can signal the adverse effect of CO accumulation:

1. Watery and itchy eyes
2. Flushed appearance
3. Throbbing temples
4. Inattentiveness
5. Inability to think coherently
6. Loss of physical coordination
7. Ringing in the ears
8. Tightness across the chest
9. Headache
10. Drowsiness
11. Incoherence
12. Slurred speech
13. Nausea
14. Dizziness
15. Fatigue
16. Vomiting
17. Collapse
18. Convulsions

NOTICE

The order of the above list is generally the sequence of appearance of symptoms. However, the order of appearance may change for different people.

NOTICE

The symptoms of Carbon monoxide poisoning may easily be mistaken for seasickness.

F. Treatment (Evaluate, Ventilate, Evacuate, Investigate, Take Corrective Action)

1. Evaluate the situation and ventilate the area if possible.
2. Evacuate the area and move affected person(s) to a fresh air environment.
3. Observe the victim(s).
4. Administer oxygen if available.
5. Contact medical help. If the victim is not breathing, perform rescue breathing or approved cardiopulmonary resuscitation (CPR), as appropriate, until medical help arrives and takes over.

NOTICE

Prompt action can make the difference between life and death.

6. Investigate source of CO and take corrective action.

G. Inspection

Look and listen for leaks in the exhaust systems of both the generator and propulsion engine(s). Look for discoloration around joints in the system (water leaks, carbon, stains, etc.).

1. Make sure all exhaust clamps are in place and secured.
2. Make sure ventilation systems work and are not obstructed or restricted.
3. Make sure gaps around the engine room plumbing and cableways and exhaust system doors, hatches, and access panels are minimized to reduce the opportunity for CO to enter the accommodation space(s).

H. Operation

Cold Start vs. Warm Start: CO production is greater while the combustion chamber surfaces and gas passages are cold versus when they are warm. A boat operator should:

1. Pay attention to ventilating the boat.
2. Orient the boat so it will allow the maximum dissipation of CO.
3. Minimize the time spent on getting underway.
4. In order to minimize CO buildup, do not warm up or run propulsion engine(s) for extended periods while the vessel is stationary.



WARNING

The following are examples of possible situations where carbon monoxide can accumulate within your boat while docked, anchored, or underway. Become familiar with these examples and their precautions to prevent **dangerous** accidents or death.

I. Boathouses, Sea Walls and Confined Spaces

A boat operator should be aware that dangerous concentrations of CO can accumulate when a boat, generator or other engine operated device is operated while the boat is moored in a confined area such as:

1. Boathouses,
2. Proximity to sea walls, or
3. Proximity to other boats.

Keep engine room hatches and doors closed when operating engines, including the generator.

Pay attention to prevailing conditions and provide for ventilation to induce fresh air and minimize exhaust re-entry. Orient the boat for maximum dissipation of the exhaust. **DO NOT** run the boat or boat equipment for extended periods under these conditions. See Figure B7.

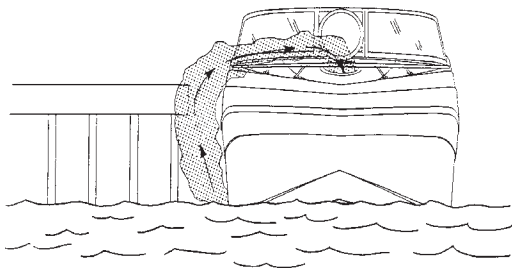


Figure B7: The effect of sea walls and other confined spaces.

Be aware that cockpit and deck drains can be a source of CO ingress into boats, especially boats with cockpit or decks enclosed with canvas or permanent boat structures.

J. The Effect of Boats Moored Alongside

A boat operator should be aware that carbon monoxide is emitted from any boat's exhaust. The operation, mooring, and anchoring in an area containing other boats may be in an atmosphere containing CO not of the operator's making. An operator likewise needs to be aware of the effect of their boat on other boats in the area. Of prime concern is the operation of an auxiliary generator where boats are moored along side each other. Be aware of the effect your exhaust may have on other boats and be aware that the operation of other boats' equipment may affect the carbon monoxide concentration on your boat. See Figure B8.

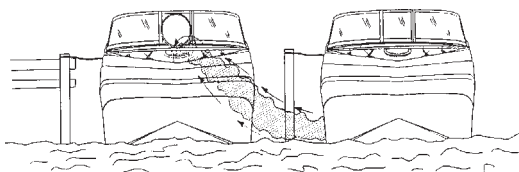


Figure B8: The effect of boats moored along side.

K. Backdrafting (Station Wagon Effect)

Backdrafting or the "station wagon effect" is caused by air movement over or around a boat creating a low pressure area or suction area around the stern that can increase CO level on the boat. Backdrafting can be affected by relative wind direction, boat speed, and boat trim angle. See Figure B9 Backdrafting - Airflows Over Boat and Behind Transom".

Under certain speed and operating conditions the low pressure area may form in other regions and permit carbon monoxide to enter the hull through openings that are not on the back of the boat. Boat factors which may affect CO concentration:

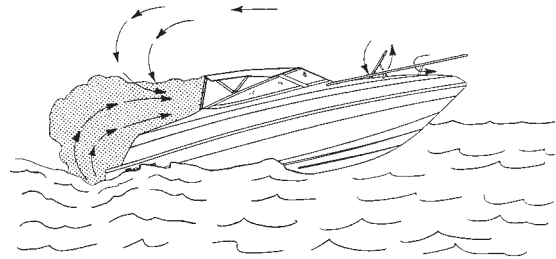


Figure B9: Backdrafting - Air flows over boat and behind transom.

1. Intentional or unintentional excessive trim angle causing high bow angle. See Figure B10.
2. Excessive or unequally distributed weight.

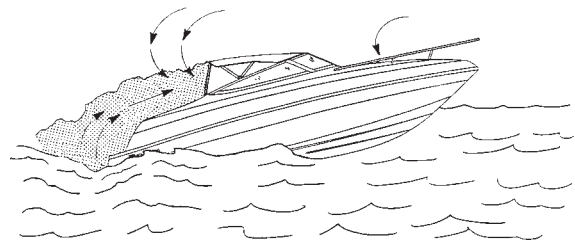


Figure B10: Inefficient trim angles.

3. Canvas Configurations - Under various conditions, adding or removing canvas may raise or lower CO levels. See Figures B9, B10 & B12.

⚠ WARNING
Exhaust Fumes!

Hull exhaust from your boat can cause excessive accumulation of poisonous carbon monoxide gas within cockpit areas when using protective weather coverings (while underway or while stationary). Provide adequate ventilation when the canvas top, side curtains and/or back (aft) curtains are in their closed protective positions.

4. Opening and closing ports, hatches, doors, and windows may raise or lower CO levels on board a boat. When airflow is moving forward inside the boat, CO may be entering the boat. See Figures B11 and B12.

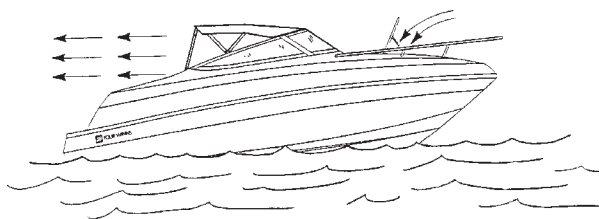


Figure B11: Desired air flow through the boat.

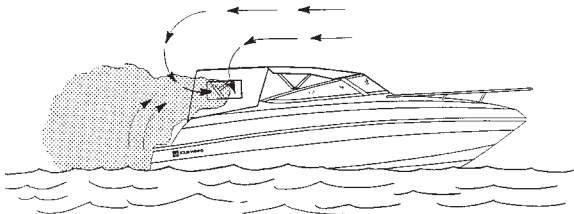


Figure B12: The effect of canvas configurations.

- Operating a boat at slow speeds with a following wind should be avoided. Consider changing direction, adjusting speed, or both. See Figures B13.

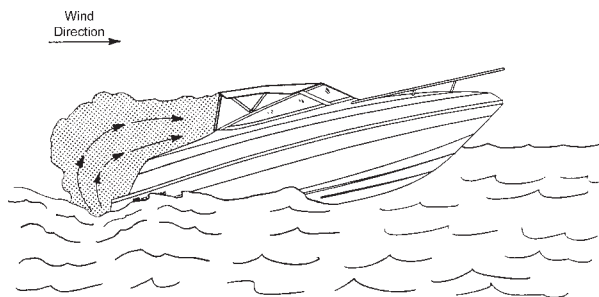


Figure B13: Operating at Slow Speed with Following Wind

- Be aware that cockpit and deck drains can be a source of CO ingress into boats, especially boats with cockpit or decks enclosed with canvas or permanent boat structures.

L. Accumulation of Exhaust Gases-Swim Platform

When the propulsion engine(s) or generator is running, CO is produced and may remain in the vicinity of the exhaust outlet (including underwater exhaust outlets such as sterndrives and outboards):

- Do not occupy aft lounging area(s) or swim platform.
- Do not swim under or around swim platform.

- Do not swim in the vicinity of the exhaust outlet.

Refer to Figure B14.

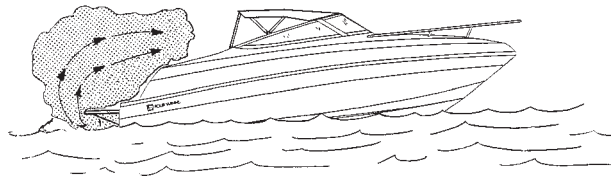


Figure B14: Exhaust Gas Accumulation at Swim Platform

M. Dangerous Activity - "Teak Surfing"/"Dragging"

Do not sit on, occupy or hang on any stern appendages (e.g., swim platforms, boarding ladders, etc.) while underway. Do not body surf, commonly known as "teak surfing" or "dragging", etc. in the wake of the boat. Do not tow persons in close proximity to the stern of the boat. See Figure B15.

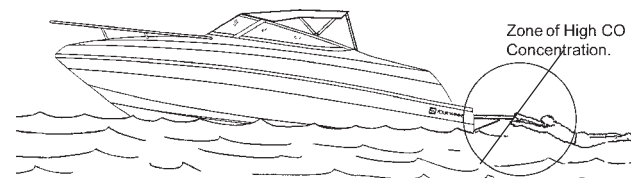


Figure B15: Exhaust Gas Accumulation - Dangerous Activity

N. Cabin Appliances

Boats having fuel burning appliances in accommodation areas should be provided with adequate ventilation and the appliance should be maintained to function properly.

O. Air Conditioning

Lack of system maintenance may cause CO to be brought into the air-conditioned spaces by the air conditioner. Please refer to the air conditioner manufacturer's literature for additional information.

P. Ventilation of Accommodation (Occupied) Spaces

Accommodation spaces need to be ventilated to introduce fresh air into the spaces. Ventilation methods (e.g. windows, hatches, doors, and blowers) used to accomplish this may, under certain conditions, bring hazardous levels of CO into the occupied spaces. Care should be taken to be aware of all prevailing conditions when using these ventilating methods.

Q. Running of Engines in Idle

Engines running in idle exhaust carbon monoxide that can accumulate near the hull of the boat. Do not stand or swim near the engine exhaust or outdrive when engines are idling or generator is running.

R. Altitude and Sea Conditions

Operation at altitudes greater than 5,000 feet contributes to inefficient engine performance and may require adjustments to the ignition systems, fuel systems, or changing the propeller's size or gear ratio.

1. Failure to make adjustments to ignition systems and/or fuel systems for altitude conditions may cause an increase in CO production.
2. Reduced power resulting from increased altitude may require adjustments to propeller size.
3. Heavy sea or out of trim conditions tend to load engines resulting in reduced performance and thereby increasing their CO production.

S. Portable Generator Sets


DANGER

Never use a portable generator on a boat.

Gasoline powered portable generators are available in the marine market place and are not an option available through Four Winns. Portable generators will produce CO. These sets discharge their exhaust products in locations which can lead to an increase in the accumulation of carbon monoxide in the accommodation (occupied) space. **Do not use gasoline powered portable generators on Four Winns® boats.**

T. Maintenance - Engine Performance

Efficient engine performance is vital to minimizing CO production. The following items are those considered to have the greatest effect on increased CO production:

1. Fuel Systems - Fuel that is contaminated, stale or incorrect octane number
2. Carburetors/Injectors
 - a. Dirty or clogged flame arrester

- b. Malfunctioning automatic choke plate or faulty adjustment of manual choke plate
- c. Worn float needle valve and seat
- d. High float level
- e. Incorrect idle mixture adjustment
- f. Dirty or worn injectors

3. Ignition System

- a. Fouled or worn spark plug.
- b. Worn points or incorrect gap on points
- c. Shorted or opened circuit high tension spark plug cables
- d. Incorrect ignition timing.

4. General

- a. Worn piston rings and valves
- b. Engine temperature - Cold running engines increase CO production. Engine cooling water system design and selection of thermostat(s) are primary considerations affecting engine operating temperature. Generally, an engine produces less CO if it operates at a relatively high temperature within manufacturer's specifications.
- c. Exhaust Back-Pressure - Certain alterations to the exhaust system may increase engine exhaust back pressure and CO production.
- d. Restricted engine room or compartment ventilation

U. Maintenance - External Conditions

External conditions that contribute to inefficient engine performance can include:

1. Fouled hull bottom
2. Damaged and fouled running gear (i.e., shaft, strut propeller, rudder and trim tabs)
3. Incorrect selection of propeller size

V. Maintenance - Exhaust System Integrity

Gas tight integrity of exhaust systems must be maintained to insure that leakage of CO within the boat does not occur. Disassembly may be required to carry out a thorough inspection. Repair or replace components as indicated. Inspect the following:

1. Gaskets at cylinder head connection
2. Casting and pipe fittings in the dry section
3. All joints
4. Hoses
5. Clamps
6. Mufflers and their drain plugs
7. Thru-hull fittings
8. Hangers and other supports

W. Maintenance - Ventilation Systems

Boats are equipped with ventilation systems to eliminate gasoline vapors. Blowers and fans may also be provided for ventilation and to mitigate the migration of CO into occupied compartments. Attention should be paid to the following:

1. Keeping ventilation intakes clear of debris
2. Replacing damaged hardware
3. Maintaining the integrity of the ducting material and its connections
4. Ensuring that position of ducting intake is not obstructed or restricted, collapsed, kinked, or crushed
5. Eliminating sags in ducting that can form a water trap
6. Checking hangers and other supports
7. Ensuring blower/fan is operational
8. Ensuring that airflow is present at discharge
9. Inspecting wiring to equipment

X. Maintenance - Bulkhead and Deck Integrity

1. Seal all visible openings (e.g., cracks, crevices, holes, including openings around wiring and piping runs) in bulkheads and decks that separate machinery compartments from occupied compartments. These openings can permit migration of CO vapors.
2. Check gaskets and sealing surfaces on hatches, doors, and access panels.

Y. Maintenance - Air Conditioning Systems

These systems can be a source of CO ingress and migration of CO vapors.

1. Keep grilles and filters clean.
2. Seal bulkhead voids and openings at wiring and piping runs in return air ducting, plenums, and air handling equipment enclosures, especially those adjacent to machinery compartment bulkheads.
3. Check that water traps and condensate drains are present. These may be in the form of a double loop in the drain line or prefabricated p-traps. Any drain that discharges below the waterline when the boat is underway is sealed, by virtue of its design, against CO intrusion.

Z. Maintenance - Liquid Drains

Sink, shower and condensate drains can be a source of CO ingress. Ensure that water traps are present and contain fluid. These traps may be in the form of a double loop in the drain line or prefabricated p-traps. Any drain that terminates below the waterline is, by virtue of its design, sealed against CO intrusion. Some drains that are below the waterline when boat is underway will be above the waterline when the boat is at rest. The location of drains, relative to the waterline, can be affected by the dynamics of boat motion (i.e., underway or at rest).

AA. CO Detection System

Four Winns has included two CO detectors as a standard feature. One of the CO detectors is located in the forward V-berth and the other is located in the aft/mid cabin. Check systems and maintain in accordance with the manufacturer's instructions.

WARNING

CO monitors should be professionally installed and calibrated. Failure to do so may result in the improper function of the CO detector.

WARNING

Never disarm a CO detector. If a CO detector alarms, immediately ventilate the area and check passengers for symptoms of CO intoxication. See your Four Winns dealer for assistance in diagnosing the cause for the alarm.

NOTICE

For information on CO Detection Systems, see American Boat and Yacht Council (ABYC Manual) Section A-24, "Carbon Monoxide Detectors".

Even with the best of boat design and construction plus utmost care in inspection, operation, and maintenance of boat systems, hazardous levels of CO may still be present in accommodation spaces and exterior areas under certain conditions. Vigilant observation of passengers for CO sickness symptoms should be supplemented by a marine CO detection device in the accommodation space.

NOTICE

A CO detector is not a gas/fuel vapor detector. Gas/fuel vapor detectors do not monitor the buildup of carbon monoxide in an enclosed area. For further information on the design, construction, and testing of boats in consideration of carbon monoxide, see ABYC TH-23.

NOTICE

Detection devices should meet the requirements of ABYC A-24 "Carbon Monoxide Detection Systems on Boats".

B - 3 SAFE BOATING PRACTICES

NOTICE

YOU are responsible for your own safety, the safety of your passengers, and the safety of fellow boaters.

A. Drugs and Alcohol

WARNING

Alcohol consumption and boating do not mix! Operating under the influence endangers the lives of your passengers and other boaters. Federal laws prohibit operating a boat under the influence of alcohol or drugs.

Do not use drugs or drink alcohol while operating a boat. Like driving a car, driving a boat requires sober, attentive care. Operating a boat while intoxicated or under the influence of drugs is not only dangerous, but it is also a Federal offense carrying a significant penalty. These laws are vigorously enforced. The use of drugs and alcohol, singly or in combination, decreases reaction time, impedes judgement, impairs vision, and inhibits your ability to operate a boat.

B. Safe Operation

Safe operation means that you do not misuse your boat nor do you allow your passengers to do so. Safe operation means using good judgement at all times. It includes, without limitation, the following actions:

- Observe all safety signs and warnings both inside the boat and in the immediate boating area.
- Become familiar with, and adhere to, the "Rules of the Road".
- Maintain boat speed at or below the legal limits. Avoid excessive speed or speeds not appropriate for operating conditions.
- Be sure at least one other passenger is familiar with the operation and the safety aspects of the boat in case of an emergency.
- Load the boat within the limits listed on the capacity plate. Balance loads bow and stern and port to starboard.
- Do not use the boat in bad weather or sea conditions beyond the skill or experience of the operator or the comfortable capability of the boat or passengers.

- Make sure the passengers and gear do not obstruct the operator's view or impede his ability to move.
- Do not exceed the maximum engine power rating stated on the certification plate located inside the boat.

C. Passenger Safety

Before getting underway, show all passengers where emergency and safety equipment is stowed, and explain how to use it. Everyone aboard should wear rubber-soled shoes which resist slipping on wet surfaces. While underway, passengers should remain seated inside the deck rails and gates. Do not allow passengers to drag their feet or hands in the water. Always use handholds and other safety hardware to prevent falls. All nonswimmers, poor swimmers and small children should wear PFDs at all times.

D. Propeller



Personal Injury!

Do not allow anyone near a propeller, even when the engine is off. Propeller blades can be sharp and continue to turn even after the engine is shut off. Do not allow anyone near the propeller when the throttle is in neutral position. Accidentally engaging the shift can result in a serious injury or death. (See actual ladder warning labels and helm boarding ladder warning label below.)



Never approach or use ladder when motor is running. Severe injury or death will result from contact with rotating propeller.

Ladder Warning Label



Shut off motor when near swimmers. Severe injury or death will result from contact with rotating propeller.

Helm Boarding Ladder Warning Label



When pulling skiers do not turn on the engine until you are at least a boat length away from the person in the water. When approaching a downed skier, turn off the engine at least one boat length away before reaching the skier in the water.

E. First Aid

As a boater, you should be familiar with the basic first aid procedures that may be needed while you are out far from help. Fish hook accidents or minor cuts and abrasions may be the most serious mishaps on board a boat but you should also learn the proper procedures and be ready to deal with the truly serious problems like mouth-to-mouth resuscitation, excessive bleeding, hypothermia, and burns. First aid literature and courses are available through most Red Cross chapters.

F. Operation By Minors

Minors should always be supervised by an adult whenever operating a boat. Many states have laws regarding the minimum age and licensing requirements of minors. Be sure to check local laws or contact the state boating authorities for information.

G. "Rules of the Road"

As a responsible boater, you must comply with the "Rules of the Road," the marine traffic laws enforced by the U.S. Coast Guard. Navigating a boat is much the same as driving an automobile. Operating either one responsibly means complying with a set of rules intended to prevent accidents. Just as you assume other car drivers know what they are doing, other boaters assume you know what you are doing. Information regarding navigational rules and the "Rules of the Road" are discussed in further detail in C-1 & C-2 of the next section.

H. Voluntary Inspections

State boating officials in many states or the U.S. Coast Guard Auxiliaries offer courtesy inspections to check out your craft. They will check for compliance with safety standards and required safety equipment. You may voluntarily consent to one of these inspections, and you are allowed to make corrections without prosecution.

Check with the appropriate state agency or the Coast Guard Auxiliary for details.

I. Safe Boating Courses

The local U.S. Coast Guard Auxiliary and the U.S. Power Squadrons offer comprehensive safe boating classes several times a year. You may contact the Boat/U.S. Foundation at 1-800-336-BOAT (2628) or, in Virginia, 1-800-245-BOAT (2628) for a course scheduled in your area. Also contact the U.S. Coast Guard Auxiliary or Power Squadron Flotilla for the time and place of their next scheduled class.

B - 4 WATER SPORTS



WARNING

Personal Injury!

Four Winns® boats are not designed for and should not be used for pulling parasails, kites, gliders or any device which can become airborne. Use boat only for appropriate water sports. (See Preface for actual warning label.)

Water skiing, kneeboarding, or riding a towed, inflatable apparatus are some of the more popular water sports. Taking part in any water sport requires increased safety awareness by the participant and the boat operator. If you have never pulled someone behind your boat before, it is a good idea to spend some hours as an observer, working with and learning from an experienced driver. It is also important to be aware of the skill and experience of the person being pulled. Always have a second person on board to observe the person in the water so the driver can concentrate on operating the boat.

A. Water Sport Guidelines

Everyone participating in a water sport should observe these guidelines:

1. Allow only capable swimmers to take part in any water sport.
2. Always wear a personal flotation device (PFD) approved by the U.S. Coast Guard. Wearing a properly designed PFD helps a stunned or unconscious person stay afloat.

3. Be considerate of others you share the water with.
4. Give immediate attention to a person who has fallen. He or she is vulnerable in the water alone and may not be seen by other boaters.
5. Approach a person in the water from the lee side (opposite the direction of the wind). **Turn off the motor at least a boat length from the person.**
6. Turn engine off and anchor before swimming.
7. Always participate in water sports in safe areas. Stay away from other boats, beaches, restricted areas, swimmers and heavily traveled waterways.
8. Swim only in areas designated as safe for swimming. These are usually marked with a swim area buoy (see Figure B16). Do not swim alone or at night.



Figure B16: Swim Area Buoy



WARNING

Rotating Propeller!

Rotating propeller can cut or sever causing serious injury or death. Shut engine off and remove ignition key when anyone is swimming nearby. (See Section B-3D.)

9. Do not allow anyone near the propeller(s), even when the engine is off. Propeller blades are sharp and can continue to turn even after the engine is off. Stay at least 150 feet away from areas marked by diver down float. See Figure B17.



Figure B17: Diver Down Float

10. Do not drive the boat directly behind a water skier. At 25 miles per hour, the boat will overtake a fallen skier who was 200 feet in front in about 5 seconds.

B. Water Skiing

The popular sport of water skiing has brought a special set of safety precautions to observe in boating. The following guides help prevent accidents while water skiing.

1. Water ski only in safe areas, away from other boats and swimmers, out of channels, and in water free of underwater obstructions.
2. Allow no one who can not swim to water ski. Skiers must wear a USCG approved floatation device. A Type III water-ski vest is an approved and practical PFD.
3. Have a second person aboard to observe the skier and inform the driver about the skier's hand signals (Figure B18). The driver must give full attention to operating the boat and the waters ahead.
4. Give immediate attention to a fallen skier. Be careful not to swamp the boat while taking the skier on board.
5. Always participate in water sports in safe areas. Stay away from other boats, beaches, swimmers, and heavily traveled waterways.
6. Be considerate of others you share the water with.
7. Give immediate attention to a person who has fallen. He or she is vulnerable in the water alone and may not be seen by other boaters.
8. Approach a person in the water from the lee side (opposite the direction of the wind). Stop the motor at least a boat length from the person.
9. Turn off engine and anchor your boat before swimming.

10. Do not water ski between sunset and sunrise. It is illegal in most states.

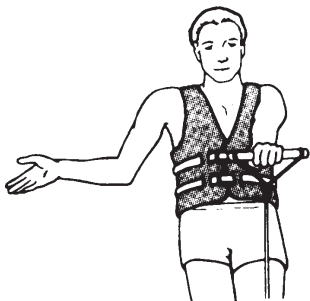
For more information about water skiing, please contact the American Water Ski Association, 799 Overlook Drive, Winter Haven, FL. 33884 or call 1-800-533-2972.



WARNING

Rotating Propeller!

Rotating propeller can cut or sever causing serious injury or death. Switch engine off before skiers enter the water and before taking skiers aboard. **Do not leave engine running in neutral.** Accidentally engaging shift can seriously injure skier.



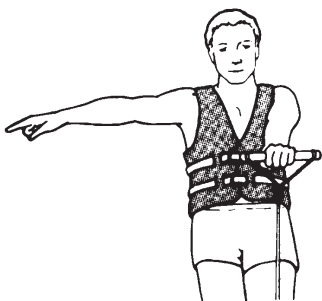
FASTER—
Palm of one hand pointing upward.



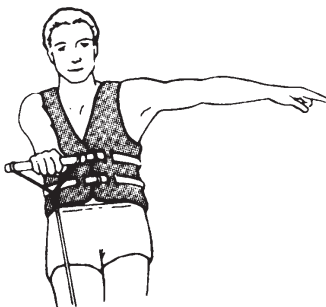
SLOWER—
Palm pointing down.



SPEED OK—
Arm upraised with thumb and finger joined to form circle.



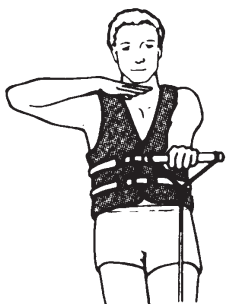
RIGHT TURN—
Arm outstretched pointing to the right.



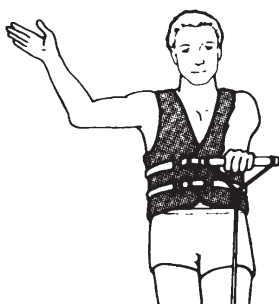
LEFT TURN—
Arm outstretched pointing to the left.



RETURN TO DROP-OFF AREA —
Arm at 45 degree from body pointing down to water and swinging.



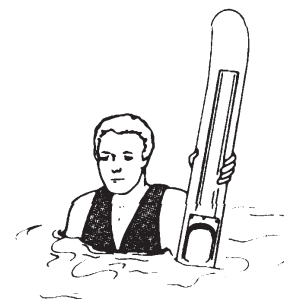
CUT MOTOR—
Finger drawn across throat.



STOP—
Hand up, palm forward, policeman style.



SKIER OK. AFTER THE FALL—
Hands clenched together overhead.



PICK ME UP OR FALLEN SKIER, WATCH OUT—
One ski extended vertically out of water.

Figure B18: Skiing Signals

BASIC SEAMANSHIP

C - 1 GENERAL

Basic rules of seamanship, general information about navigational aids, and sources for additional reading and boater education are presented in this portion of your owner's manual.

A. Boating Regulations

The U.S. Coast Guard is the authority of the waterways. State boating regulations are enforced by local authorities. Your boat is subject to the marine traffic laws known as "Rules of the Road," which are enforced by the U.S. Coast Guard. You are subject to marine traffic laws and "Rules of the Road" for both federal and state waterways; you must stop if signaled to do so by enforcement officers, and permit them to board if asked. The "Rules of the Road" can be obtained from the local U.S. Coast Guard Unit or the United States Coast Guard Headquarters by calling (202) 512-1800 or faxing your request to (202) 512-2250, and asking for the publication titled "Navigational Rules, International-Inland.

Many pamphlets prepared by the Coast Guard are available. They explain signal lights, buoys, safety, international and inland regulations and other information which goes beyond the scope of this manual. "Aids to Navigation" (U.S. Coast Guard pamphlet #123) explains the significance of various lights and buoys. Because of proposed alterations to buoys and markers, contact the U.S. Coast Guard to stay informed of changes. Other pamphlets, including the "Boating Safety Training Manual" and "Federal Requirements For Recreational Boats," are also available from the U.S. Coast Guard Headquarters.

NOTICE

The spoken word "**MAYDAY**" is the international signal for distress. "**MAYDAY**" should **NEVER** be used unless there is grave or imminent danger, and you are in need of immediate assistance.

B. Rules of Seamanship

1. Right-of-way

In general, boats with less maneuverability have right-of-way over a more agile craft. You must stay out of the way of the following vessels:

A vessel not under command or aground.	These vessels have no maneuverability.
A vessel restricted in its maneuverability.	These vessel are performing work which limits their maneuverability such as surveying, dredging, laying pipe or cable, servicing navigational markers among others.
A vessel engaged in fishing.	These include boats fishing with lines, trawl or nets; but not trolling lines.
Sailboats	Sailboats have the right-of-way over power boats; however, if a sailboat is using a propeller to move forward, it is considered a power boat even if its sails are up.

2. Meeting Head-On

When two boats meet head-on neither boat has right-of-way. Both boats should decrease speed, sound one short blast and pass; port to port. For starboard to starboard passing, each vessel should sound two short horn blasts and pass starboard to starboard. See Figure C1.

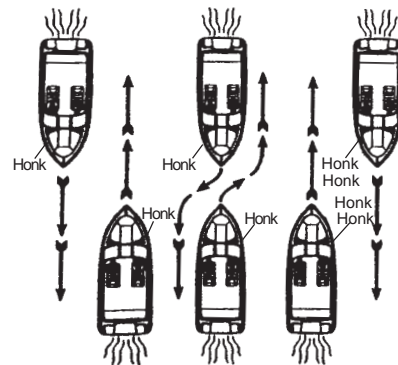


Figure C1: Meeting Head-On

3. Crossing Situations

In a crossing situation, the boat on the right from the 12-4 o'clock position has the right-of-way. It must hold course and speed. The boat without the right-of-way must keep clear and pass to the stern. See Figure C2.

Stand-on (Privileged) Vessel holds course and speed.

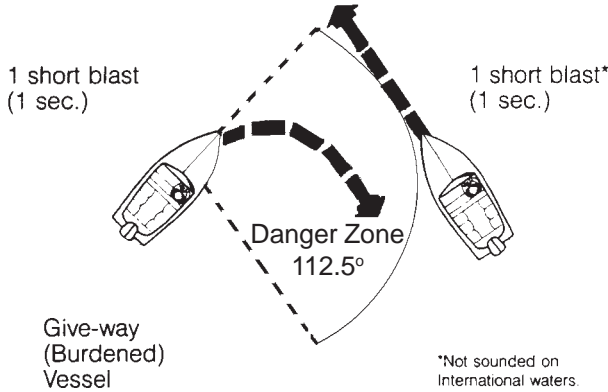


Figure C2: Crossing Situation

4. Overtaking

The boat overtaking the one ahead must yield the right-of-way to the boat being passed. The overtaking boat must make necessary adjustments to keep out of its path. The boat being passed should hold its course and speed. See Figure C3.

Inland Rules

"I want to pass you on your port side."

2 short blasts (1 sec.)

"Proceed"

2 short blasts (1 sec.)

International Rules

"I am altering my course to port."

2 short blasts (1 sec.)

International Rules in Narrow Channels

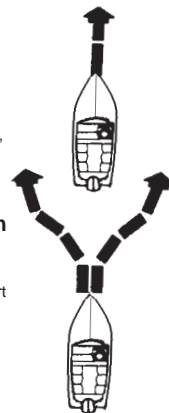
"I intend to pass you on your port side."

2 prolonged blasts (4-6 sec.)
2 short blasts (1 sec.)

"Proceed."

1 prolonged, 1 short
1 prolonged, 1 short

Stand-on (Privileged)
Vessel Being Overtaken



Give-way (Burdened)
Vessel Overtaking

Inland Rules

"I want to pass you on your starboard side."

1 short blast (1 sec.)

"Proceed"

1 short blast (1 sec.)

International Rules

"I am altering my course to starboard."

1 short blast (1 sec.)

International Rules in Narrow Channels

"I intend to pass you on your starboard side."

2 prolonged blasts (4-6 sec.)
1 short blast (1 sec.)

"Proceed."

1 prolonged, 1 short
1 prolonged, 1 short blast

Figure C3: Overtaking

5. The General Prudential Rule

The general prudential rule regarding right-of-way is that if a collision appears unavoidable, neither boat has right-of-way. As prescribed in the "Rules of the Road", both boats must act to avoid collision.

6. Night Running

Boats operating between sunset and sunrise (hours vary by state), or in conditions of reduced visibility, must use navigational lights. Nighttime operation, especially during bad weather or fog, can be dangerous. All "Rules of the Road" apply at night, but it is best to slow down and stay clear of all boats regardless of who has right-of-way.

To see more easily at night, avoid bright lights when possible. Also, it is helpful to have a passenger keep watch for other boats, water hazards, and navigational aids.

To determine the size, speed and direction of other vessels at night, you should use running lights. A green light indicates the starboard side, and the red light indicates the port side. Generally, if you see a green light, you have the right-of-way; if you see a red light, give way to the other vessel. See Figure C4.

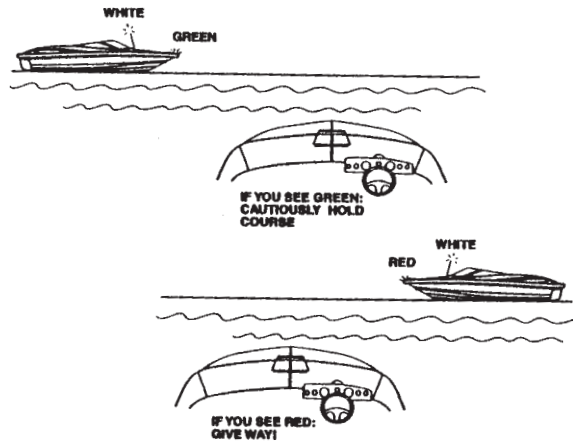


Figure C4: Night Running

7. Whistle Signal

Out on the water, whistle signals are commonly used. Although using a whistle signal is not necessary every time a boat is nearby, operators must signal their intentions when necessary to avoid potentially confusing or

hazardous situations. Use whistle blasts early enough to be noticed and understood by other boaters.

It is customary for the privileged boat to signal first and the yielding boat to return the same signal to acknowledge she understands and will comply. Use the danger signal (five or more short and rapid blasts) if intent is not clear. A short blast is one (1) or two (2) seconds long. A long blast is four (4) to six (6) seconds long. The Navigational Aids Chart at the end of this section lists the meanings of the various whistle signals.

C - 2 NAVIGATIONAL AIDS

Aids to navigation (ATONS) help you to travel safely on the water. They help you get from one place to another and are most helpful if you have a nautical chart. A navigational aids chart is at the end of this section.



WARNING

NEVER tie your vessel to an ATON. It is illegal because it blocks the ATON from view of other boaters. Decreased visibility can contribute to a serious accident which may result in property damage, personal injury, or death.

There are two ATON systems. The system used on federal waters is known as the International Association of Lighthouse Authorities System B (IALA-B). The Coast Guard maintains this system. The second system is the Uniform State Waterway Marking System (USWMS). This system is maintained by state authorities.

A. International Association of Lighthouse Authorities System B (IALA-B)

IALA-B uses four types of ATONS. This section discusses the two most common markers: lateral markers and safe water markers. Other federal markers include special markers and isolated danger markers. The Navigational Aids Chart at the end of this section shows these aids.

B. Lateral Markers

Lateral markers indicate the sides of navigable channels. They consist of lighted can or nun buoys and daymarks. Each has a number and is either red or green. The numbers on the green markers are odd. Red markers have even numbers.

Buoys are red or green floating ATONS. If lighted, they have either red or green lights. Unlighted green buoys, called cans, look like cylinders. Unlighted red nun buoys have a cone shaped top with their points cut off. Do not pass too close to a buoy. You may foul the propeller in its chain.

NOTICE

Buoys are anchored floating objects and may not always be in exactly the same position.

Daymarks are red or green boards with numbers. They are on posts or groups of pilings tied together and called dolphins. Daymarks and their supports are daybeacons. Daybeacons may or may not have lights. If a red or green daybeacon has a light, it is the same color as the marker-red or green. Red daymarks are triangular and have even numbers. Green daymarks are square and have odd numbers.

Red, Right, Returning is a basic rule to assist you in using lateral markers. When you are returning from seaward, keep red markers on the starboard (right) side when you pass them. Keep green markers to the port side.

Returning from seaward is very clear if you have been on the ocean. You are returning to port. By agreement, going upstream on a navigational river is returning from seaward. The outlet ends of the Great Lakes are also the seaward ends. Traveling from a large body of water to a smaller one is considered returning from seaward.

C. Safe Water Markers

Safe water markers have vertical red and white stripes and mark the center of navigable channels and fairways. Safe water markers included both lighted and unlighted buoys and daymarks. If a marker is lighted, the light is white and flashes the letter "A" in Morse Code.

Preferred Channel markers have horizontal red and green bands. If lighted, the color of the light is the same as the top of the band. They show the preferred channel for you to use at a junction point. Be sure to notice the color of the top of the band, and treat it as any other marker you would of that color. If the band is red and you are returning from seaward, keep the marker to the right.

Most lights on markers flash on and off. Others such as lights on aids with no lateral significance are fixed. They stay on all night. ATON lights flash in regular patterns.

For example, they may flash every three seconds, or in groups such as two flashes and a pause. There are a number of flashing patterns, which help you identify the light at night. To identify a light, note its color and pattern or timing of flashes, and compare it to your chart to find its location.

D. The Uniform State Waterway Marking System

This section discusses three kinds of markers in this system: Regulatory, Informational, and Lateral.

Regulatory markers in this system are either signs or buoys. Signs are square with orange borders. Regulatory buoys are white and shaped like cylinders. They have horizontal orange bands near their tops and just above the water's surface. An orange circle on a marker means a controlled area. A message such as "No Wake, Idle Speed, No Skiing, or 5 M.P.H." may appear on a marker. An orange diamond means danger. If a diamond has an orange cross inside it, do not enter the area. The reason you should stay out, such as "Swim Area" may be printed in black on the marker.

Informational Markers are white signs with orange borders. They give information such as direction, distance, and location.

Lateral markers in the USWMS system are either numbered red or black buoys. Black buoys may have green reflectors or lights. They are the equivalent of green buoys in the IALA-B system. Red buoys may have red reflectors or lights. They are the same as red buoys in the IALA-B system. Red or black buoys are usually found in pairs - pass between them.

E. A Special Sign

In Florida, you may see a special sign: "Caution, Manatee Area". When you see this sign, slow down to idle speed. Manatees, an endangered species, are passive, large, slow-moving mammals. Many Manatees are seriously injured or killed each year by boat propellers.

F. Noise

Always be aware of local laws on noise limits. Noise means engine noise, radio noise or even yelling by people on your boat. Good seamanship demands that you operate your boat quietly so as not to infringe on the rights of others. Do not use thru-hull exhaust unless you are well offshore.

G. Anchoring

The weight of the anchor and diameter of anchor line should be governed by the size and weight of your boat. Keep anchor secure while underway to prevent damage or injury due to sudden shifting in the boat's attitude.

Use two or more anchors if anchoring overnight or for extended periods. If not using two anchors, make certain there is sufficient clearance for your boat to swing in a full circle to prevent damage in case of shifting winds.

Make certain you have enough anchor line (or scope) for the depth of water. Your anchor line should be 6 to 7 times the depth of water anchored in. For example, if you are in 20 feet of water, use 120 to 140 feet of anchor line.



CAUTION

Secure anchor line to bow eye or deck cleat. Never tie anchor line to a rail, rail fitting or other hardware not designed to support this stress.

To drop anchor:

Approach your selected anchoring site from downwind and come to a dead stop over the spot where you want to drop anchor. Lower the anchor manually or by using the windlass if applicable.

Maneuver the boat slowly backwards until length of anchor line is 6 or 7 times the depth of the water.

Fasten the anchor line around the bow eye or deck cleat. Anchor flukes should dig in and catch. Watch for anchor drag by checking shoreline landmarks at the time the anchor is dropped and one-half hour later. If the boat has drifted away from these reference marks, the anchor is dragging and must be reset.

To weigh anchor:

Start the engine running before pulling in anchor.

Slowly maneuver the boat forward to reduce tension on the line and make retrieval of the anchor line easier.

Raise the anchor manually or by using the windlass if applicable. Make sure the chain stop is engaged if windlass is used. Properly stow anchor and anchor line.



WARNING

Always be sure to raise and secure the anchor prior to operating your boat. Failure to raise and secure anchor before getting underway could result in severe injury or damage to boat from rebounding anchor.



WARNING

Always utilize the chain stop provided with the windlass/bow roller combination. The chain stop prevents the anchor from accidentally releasing while the boat is moving thus preventing damage to the boat or possible injury or death to individual(s) aboard the boat.

If the anchor becomes stuck, attach the vertical line to the mooring cleat. Wave action on the bow may lift flukes from the bottom and free the anchor. If the anchor is still stuck, feed out a few feet of line and attach it to the bow cleat. Maneuver the boat around the anchor, keeping the line firm. Determine the angle that will work to pull the anchor free.

Anchors are available in different shapes, sizes and weights to fit different boats, uses, and conditions. Your Four Winns dealer can tell you which anchor will work best for your boat.

C - 3 RECOMMENDED READING

We recommend that you read the boating literature published by your state boating agency and the U.S. Coast Guard. Other suggested reading includes the following:

Damford, Don. Anchoring. (ISBN 0-915160-64-1). Seven Seas.

United States Coast Guard Auxiliary. Boating Skills and Seamanship. LC74-164688.(illus.). (ISBN 0-930028-00-7). U.S. Coast Guard.

Bottomley, Tom. Boatman's Handbook, (illus.). 316 p. (ISBN 0-688-03925-1, Hearst Marine Book). Morrow.

Whiting, John and Bottomley, Tom. Chapman's Log and Owner's Manual. 192 p.(ISBN 0-686-96737-2). Hearst Marine Book.

Chapman, Charles F. and Maloney, E.S. Chapman's Piloting, Seamanship and Small Boat Handling. (illus.). 62 p. (ISBN 0-87851-814-2, Pub. by Hearst Bks.); deluxe ed. (ISBN 0-87851-815-0). Morrow.

National Fire Protection Association. Fire Protection Standard for Pleasure and Commercial Motor Craft. (ISBN 0-317-07388-5, NFPA 302). National Fire Protection Association.

Brotherton, Miner. Twelve- Volt Bible. (ISBN 0-915160-81-1). Seven Seas.

C - 4 CONTACTS

There are many good boating publications that have information about your area and what other boats are doing, such as clubs and other activities. Education programs are sponsored by publications and organizations such as the U.S. Power Squadron, U.S. Coast Guard Auxiliary and the American Red Cross. See your dealer about special courses available in the area. For detailed information contact:

American Red Cross
Local address (see local telephone directory)

Boat U.S. Foundation for Boating Safety Hotline
1-800-336-BOAT
1-800-245-BOAT (in Virginia)

U.S. Coast Guard Info Line
1-800-368-5647

NMMA Sources of Waterways Information - National Marine Manufacturers Association has five (5) booklets which list sources for safety, cruising, and local waterway information. Each covers a different region of the U.S. (North Central, South Central, Northeastern, South-eastern and Western). For single copies, write Sources of Waterways information, NMMA, 401 N. Michigan Avenue, Chicago, Illinois 60611. Ask for the booklet for your region.

Skippers Course
GPO Superintendent of Documents
Washington, DC 20012
202-512-1800
202-512-2250 (fax)

United States Coast Guard Auxiliary
Local Flotilla or contact appropriate Coast Guard District Headquarters

United States Coast Guard Headquarters
2100 2nd St., SW
Washington, D.C. 20593-0001
202-267-1060

United States Power Squadron
P.O. Box 30423
Raleigh, NC 27617

C - 5 OWNER'S LOGS AND RECORDS

At the end of this owner's manual are several forms which you will find very helpful.

The **Float Plan** provides a record of your destination, departure and return times, boat description, passenger list, and other information about the trip you have planned. At the bottom of the form is space for listing emergency telephone numbers in case your return is delayed past the expected time. It also has space for indicating information about the person filing this report. Leave the completed form ashore with a responsible person. We recommend you make several copies of this form each boating season to assure an ample supply.

The **Fuel Log** is a handy way to record information covering engine hours, fuel consumption, miles traveled, as well as RPM (revolutions per minute), average M.P.H. (miles per hour) and GPH (gallons per hour).

The **Service/Maintenance Log** provides a record of maintenance work completed, the date of completion, and the engine hour reading. This log also helps you identify the frequency of routine maintenance work, such as engine oil changes. If you should decide to sell your boat, it demonstrates to prospective buyers that you have done a good job taking care of it.

The **Service Information Sheet** allows you to record all the pertinent information regarding your Four Winns® boat. This sheet will be extremely helpful when ordering additional/optional parts for your boat or when having service work done.

C - 6 NAVIGATIONAL AIDS CHART

The illustrated Navigational Aids Charts contain information concerning whistle signals, storm warnings, bridge signals, and buoy descriptions. See Figure C5 on the following page.

Navigational Aids Chart

REMEMBER THESE RULES

- OVERTAKING - PASSING:** Boat being passed has the right-of-way. **KEEP CLEAR.**
- MEETING HEAD ON:** Keep to the right.
- CROSSING:** Boat on right has the right-of-way. **Slow down and permit boat to pass.**

<p>← PORT</p> <p>Yield right-of-way to boats in your DANGER ZONE!</p> <p>STARBOARD →</p> <p>DANGER ZONE (Dead ahead to 2 points abaft your starboard beam)</p>	<h3>STORM WARNINGS</h3> <table border="0"> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>RED FLAG Small craft (winds to 33 knots)</td> <td>2 RED FLAGS Gale (winds up to 47 knots)</td> <td>SQUARE RED FLAG BLACK BOX (Storm)</td> <td>2 SQUARE RED FLAGS BLACK BOX (Hurricane)</td> </tr> </table>					RED FLAG Small craft (winds to 33 knots)	2 RED FLAGS Gale (winds up to 47 knots)	SQUARE RED FLAG BLACK BOX (Storm)	2 SQUARE RED FLAGS BLACK BOX (Hurricane)																				
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<h3>WHISTLE SIGNALS</h3> <p>ONE LONG BLAST: Warning signal (Coming out of slip)</p> <p>ONE SHORT BLAST: Pass on my port side</p> <p>TWO SHORT BLASTS: Pass on my starboard side</p> <p>THREE SHORT BLASTS: Engine(s) in reverse</p> <p>FOUR OR MORE BLASTS: Danger signal</p>	<h3>BRIDGE SIGNALS</h3> <table border="0"> <tr> <td rowspan="2">SOUND</td> <td>VESSEL: Open</td> <td></td> <td rowspan="2">VISUAL</td> <td>VESSEL: Open</td> <td></td> </tr> <tr> <td>BRIDGE: OK</td> <td></td> <td>BRIDGE: OK</td> <td></td> </tr> <tr> <td></td> <td>No</td> <td></td> <td></td> <td>Same</td> <td></td> </tr> <tr> <td></td> <td>VESSEL: Replies:</td> <td></td> <td></td> <td>Same</td> <td></td> </tr> <tr> <td></td> <td>RADIO: VHF CH. 13</td> <td></td> <td></td> <td>No</td> <td></td> </tr> </table>	SOUND	VESSEL: Open		VISUAL	VESSEL: Open		BRIDGE: OK		BRIDGE: OK			No			Same			VESSEL: Replies:			Same			RADIO: VHF CH. 13			No	
SOUND	VESSEL: Open			VISUAL		VESSEL: Open																							
	BRIDGE: OK		BRIDGE: OK																										
	No			Same																									
	VESSEL: Replies:			Same																									
	RADIO: VHF CH. 13			No																									

LATERAL AIDS AS SEEN ENTERING FROM SEAWARD

<h3>PORT SIDE</h3> <p>ODD NUMBERED AIDS</p> <p> GREEN LIGHT ONLY</p> <p>FLASHING </p> <p>OCCULTING </p> <p>QUICK FLASHING </p> <p>ISOPHASE </p> <p> LIGHTED BUOY G "9" Fl G 4sec</p> <p> CAN G C "7"</p> <p> DAYMARK SG G "1"</p>	<h3>SAFE WATER MID-CHANNELS OR FAIRWAYS</h3> <p>NO NUMBERS — MAY BE LETTERED</p> <p><input type="checkbox"/> WHITE LIGHT ONLY MORSE CODE</p> <p>Mo (A) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p> SPHERICAL RW SP "G"</p> <p> MR RW "A"</p> <p> LIGHTED AND OR SOUND RW "N" Mo (A)</p> <hr/> <h3>PREFERRED CHANNEL</h3> <p>COMPOSITE GROUP FLASHING (2 + 1)</p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p> LIGHTED BUOY GR "C" Fl (2 + 1)</p> <p> CAN PREFERRED CHANNEL TO STARBOARD TOPMOST BAND GREEN GR C "L"</p> <p> LIGHTED BUOY RG "B" Fl (2 + 1)</p> <p> NUN PREFERRED CHANNEL TO PORT TOPMOST BAND RED RG N "W"</p> <p> DAYMARK JG A GR "A"</p> <p> DAYMARK JR B RG "B"</p>	<h3>STARBOARD SIDE</h3> <p>EVEN NUMBERED AIDS</p> <p> RED LIGHT ONLY</p> <p>FLASHING </p> <p>OCCULTING </p> <p>QUICK FLASHING </p> <p>ISOPHASE </p> <p> LIGHTED BUOY R "8" Fl R 4sec</p> <p> NUN R N "6"</p> <p> DAYMARK TR 2 R "2"</p>
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Figure C5: Navigational Aids Chart

WARRANTY AND SERVICE

D - 1 FOUR WINNS WARRANTY POLICY

The Four Winns Winning Edge™ Owner Protection Plan, provides the new Four Winns purchaser with one of the most comprehensive corporate commitments in the marine industry today. The Four Winns Owner Protection Plan defines the warranty coverage on all units manufactured by Four Winns. It thoroughly describes the warranty policies and those procedures to be followed to obtain warranty coverage. Review the Four Winns Owner Protection Plan and limited warranty statements carefully.

All engines utilized in the Four Winns® product are warranted by the engine manufacturer. Your Four Winns dealer is authorized to repair your engines and will work closely with the engine manufacturer to resolve any problems you have.

D - 2 DECK/HULL STRUCTURE WARRANTY

Each unit manufactured by Four Winns is encompassed by a separate warranty providing specific coverage on the deck/hull structure. The Four Winns Owner Protection Plan thoroughly describes this coverage.

D - 3 WARRANTY REGISTRATION

A Four Winns Warranty Registration Card is attached to the Four Winns Owner Protection Plan statement. Your Four Winns dealer is responsible for completing and mailing the warranty card at the time of purchase. The receipt of the warranty card is the sole basis for establishing proof of ownership of the boat and corresponding warranty validation.

By signing the warranty registration card you, the new owner, indicate an understanding of the terms and conditions of the Limited Warranty. The warranty registration card should be properly completed by the dealer, signed by the new owner, and returned to us within fifteen (15) days after the original purchase in order to validate the warranty. This is a dealership's responsibility. Be sure to keep the Owner's Registration Card for your records.

All boat manufacturers are required by The Federal Boat Safety Act of 1971 to notify first time owners in the event any defect is discovered "which creates a substantial risk of personal injury to the public." In order for us to notify you if necessary, be sure to verify the accuracy of the embossed Winning Edge™ card upon receipt. You should receive your Winning Edge™ card within approximately 30 days from the day of your boat purchase. If you have not received your Winning Edge™ card within this time frame please contact your Four Winns selling dealer for resolution. If upon receipt of the card you discover a discrepancy, please notify Four Winns L.L.C. at 231-775-1343. A corrected Winning Edge™ card will then be sent to you.

Other equipment manufacturers also require that their products be registered with the respective companies. Warranty registration cards are provided in the owner's information packet.

D - 4 TRANSFER OF WARRANTY

Four Winns confidence in the product and our warranty commitments can extend after the original purchaser may choose to move on to a new boat. The remainder of the Four Winns warranty coverage is transferable to the second owner of the boat for a fee. The warranty may be transferred only once. Registration of the second owner is required and the amount of the transfer fee is indicated on the warranty statement of the Warranty Registration Card. Transfer of the remainder of the warranty must occur within five (5) years of the original retail sale. The transfer fee must be paid within fifteen (15) days of purchase of the used boat by check, money order or cashier's check payable to Four Winns Boats. Proof of purchase date is required. Regarding all engine warranties, the dealer or boat owner is responsible to notify the engine manufacturer of any engine warranty transfer, purchase of extended engine warranty agreement or engine warranty cancellation. The Four Winns Owner Protection Plan thoroughly describes the action required to transfer warranty coverage for your boat.

D - 5 PRE-OWNED UNIT REGISTRATION

Section D-4 Transfer of Warranty discusses the need to properly register the purchase of a pre-owned boat with Four Winns in order to transfer applicable warranty coverage.

Purchasers of all Pre-Owned Four Winns® models, regardless of the decision to transfer warranty coverage, are encouraged to register ownership with Four Winns. To register ownership of a “Pre-Owned Four Winns® boat,” provide Four Winns with your name, address, daytime phone number, e-mail address, purchase date, and hull serial number of the boat purchased. The hull serial number plate is permanently affixed to the starboard side of the transom.

Registration of a Pre-Owned Four Winns® boat does not extend or in any way affect or modify the specific terms of the Four Winns Owner Protection Plan or Limited Warranties.

We provide this service to the purchasers of Pre-Owned Four Winns® boats in the interest of better boating. Four Winns welcomes every purchaser of a Four Winns® boat, new or used, to our family.

D - 6 INSURANCE COVERAGE

One of your responsibilities as a new boat owner is to acquire proper insurance protection. Insurance should include comprehensive and general liability coverage appropriate to your financial needs. Please contact your local agent for assistance on insurance coverage.

D - 7 SERIAL NUMBER RECORD

The manufacturer, model, and serial number of major components are recorded during the assembly of each Four Winns® boat. A copy of this form is included in the owner’s packet. Using this form, you may want to have your dealer help you complete the service information form at the back of this manual. A copy of the serial number record should be made and kept by the dealer in his records. This can assist the dealer in processing warranty claims, or obtaining necessary information. The original copy of the serial number record should be kept in the owner packet. The service information form should remain in the owners manual for easy reference.

D - 8 PRE-DELIVERY SERVICE

Four Winns makes every effort to deliver your boat in “turn key” condition to the dealer. The process of transporting and handling the boat necessitates certain inspections and adjustments prior to delivery to you. Also, various aspects of operation must be checked and adjusted immediately prior to final delivery and use.

The selling Four Winns dealer must perform this thorough review of the boat and its numerous systems during the commissioning or “dealer pre-delivery service” of the craft.

A Four Winns Pre-Delivery Inspection Form is part of the Warranty Registration Card. It lists the many items encompassed by the pre-delivery service previously described. The dealer is to check off the items as they are completed, and complete the form as indicated providing specific performance related information appropriately.

Your Four Winns dealer will sign the Pre-Delivery Inspection Form of the Warranty Registration Card upon completion of the work. You will also be asked to sign the Pre-Delivery Inspection Form upon accepting delivery of the boat. You are to retain the two copies marked “Boat Owner”. Your dealer is to retain the copy marked “Dealer copy” for his records. The Manufacturer’s copy is to be mailed to the Four Winns Customer Service Department.

D - 9 REPLACEMENT PARTS

Four Winns dealers are equipped with a Four Winns parts manual that details the components of each model and their appropriate part numbers. Many Four Winns dealers inventory common replacement components.

In addition, Four Winns maintains specific records on the components used in the manufacture of each unit and makes a concerted effort to maintain components specifically to fill replacement part needs.

The Four Winns dealer from whom you purchased your boat is in the best position to meet your needs. If the dealer does not have the needed item, the dealer has the capability, through direct contact with the Four Winns Customer Service Department, to obtain it quickly. Four Winns will only sell replacement parts to established Four Winns dealers. If you relocate and cannot find a Four Winns dealer close to you, contact the Four Winns

Customer Service Department for information on the nearest dealer in your area.

D - 10 OWNER'S RESPONSIBILITIES

1. Sign the warranty registration card verifying your address, model and hull serial number. The dealer is responsible for mailing the warranty registration card to us.
2. Inspect the boat at the time of delivery to verify that all systems and components are operating safely and acceptably. Read all manuals and instructions.
3. Operate all equipment in compliance with the manufacturer's instructions.
4. Review the pre-delivery checklist for the boat and engine with your dealer when you take delivery.
5. Schedule your 20-hour boat and engine checkup with your dealer.
6. Know how to safely operate your boat and the rules of the road before you use your boat.

IMPORTANT: Make sure that your dealer checks the engine alignment during your boat's 20-hour checkup. The engine alignment check should be performed in accordance with recommended procedures as stated by the engine manufacturer in your engine owner's manual. Failure to do so could result in drive train damage which is not covered under the warranty.

7. We recommend that you review your engine owners manual and warranty certificate for break-in advice, initial inspection and service requirements.
8. Perform or provide for the scheduled maintenance checks outlined in this manual and all related service guides and manuals.
9. You are responsible for any modifications made to the boat or its equipment that could affect the safe operation of the boat.

Along with boating, comes responsibility. Responsibility for safety, boating laws, and the environment. Please think about the future of our waterways, oceans and marine life while you're out enjoying them and take all necessary measures to help protect what natural habitats we have left. Keeping our waterways and marine

habitats free from debris, and showing consideration for the creatures who thrive in these environments are some ways you can help assure the pleasure of boating for years to come.

The operator is also responsible for complying with the following procedures and operational requirements:

- State registration
- Insurance
- Warranty registration
- Warranty terms and conditions
- Rules of the road
- Break-in procedure
- Proper maintenance of the boat and its systems
- Safety equipment
- Safety training of passengers and crews
- Knowledge of boat systems
- Seaworthiness/operational inspection
- Safe operating practices
- Avoiding use of drugs/alcohol
- Environmental regulations
- Accident reporting

D - 11 CONSTRUCTION STANDARDS

All our boats meet or exceed the construction standards set by the U.S. Coast Guard and the American Boat and Yacht Council (ABYC) concerning:

- Navigational lights
- Factory installed fuel systems
- Engine and fuel tank compartment ventilation
- Flotation
- Steering systems
- Backfire flame arresters

We recommend that you see your dealer if you wish to modify factory-installed equipment or add new equipment. Your dealer is qualified to make such modifications or additions without placing the safety or design integrity of your boat at risk and without invalidating the warranty.

D - 12 WINN GEAR™

Show your colors! Four Winns offers a complete line of sports clothing designed to complement your new boat. Your Four Winns dealer has a complete catalog and pricing. Our Winn Gear™ line is also on display on our website at www.fourwinns.com.

ENGINES, DRIVES AND INSTRUMENTATION

E - 1 GENERAL



WARNING

DO NOT attempt to service any engine without being totally familiar with the safe and proper service procedures. Do not attempt to maintain or adjust an engine while it is running. Certain moving parts are exposed and failing to shut off the engine can result in serious injury or death.

Four Winns does not manufacture engines or drives. Because of the technical nature of the engine and drive systems, all manufacturers of these items require that warranty and service problems be taken directly to an authorized dealer for resolution. The Four Winns dealer from whom you purchased your boat, will handle all warranty and service matters with the engine manufacturer for you.

In compliance with the Federal Boat Safety Act of 1971 all engine manufacturers require their products to be registered. A registration card is furnished with each new engine. When selling a Four Winns® boat, the dealer, along with the purchaser, should complete the information requested on these cards and return them to the respective engine manufacturers. Engine registration cards are provided with the engine and will usually be found with the boat literature.

Each manufacturer of the various marine power components provides an owner's information manual with their product. This publication is included with this manual. It is important that you read the manual(s) carefully and become completely familiar with proper care and operation of the engine and drive system. Be sure to read the section on winterization. Replacement costs associated with frozen engine blocks, drive systems and other components are quite substantial.

Also review the other sections in this manual, especially Sections I on Fuel Systems, and Section F on Control Systems.

E - 2 ENGINE EXHAUST

A. Carbon Monoxide

The carbon monoxide in exhaust fumes can be hazardous. It is important for you and your passengers to be aware of the potential safety hazard created by exhaust fumes. Familiarize yourself with the symptoms of individuals overcome by carbon monoxide, and most importantly, ways you can protect yourself and your guests.



WARNING

DO NOT inhale exhaust fumes! Exhaust contains carbon monoxide which is colorless and odorless. Carbon monoxide is a dangerous gas that is potentially lethal.

Persons overcome by carbon monoxide may exhibit the following symptoms:

- a. Watery and itchy eyes
- b. Flushed appearance
- c. Throbbing temples
- d. Inattentiveness
- e. Inability to think coherently
- f. Ringing in the ears
- g. Tightness across the chest
- h. Headache
- i. Drowsiness
- j. Incoherence
- k. Nausea
- l. Dizziness
- m. Fatigue
- n. Vomiting
- o. Collapse
- p. Convulsions

IF YOU THINK EXHAUST FUMES ARE ENTERING YOUR BOAT, DETERMINE THE CAUSE AND HAVE IT CORRECTED IMMEDIATELY!

The following suggestions can help prevent exhaust fumes from entering the boat or injuring people in the vicinity:

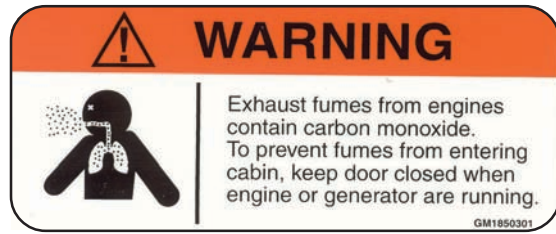
1. DO NOT allow the boat to remain stationary with the engines running for an extended period of time. Do not stand or swim near the exhaust output or outdrive when the engine is idling.
2. Use extreme caution while operating the engines in confined areas such as enclosed slips, congested piers, or in any area where the exhaust outlets are facing or near a bulkhead or wall structure of any kind. Operation under such conditions could easily lead to exhaust gasses (carbon monoxide) entering even though you may have all the hatches, windows, doors and portholes closed.
3. Never operate your generator while the boat is moored against any other boat, dock or wall structure that is against or near the exhaust outlet. Again, operation under such conditions could easily lead to exhaust gasses (carbon monoxide) entering your boat or the boat to which you are moored, even though you may have all the hatches, windows, doors, and portholes closed.
4. Under certain conditions, exhaust gases can enter the boat through the sink drains. Each sink drain has a water trap installed to help prevent this. To be effective, the sink drains must have water in them. Normal use of the sinks will provide the water needed for this to occur.
5. Persons sleeping can be easily overcome by carbon monoxide because they are unaware of its presence. Sleeping while the engines or generator are running is not recommended. If persons are sleeping aboard while underway, or while the generator is running, those awake should monitor for carbon monoxide accumulation in the cabin; especially the sleeping areas. Open forward facing windows or deck hatches to provide fresh air ventilation. Keep hatches, windows, and doorways that face aft or towards the exhaust discharge closed.

WARNING

NEVER operate the propulsion engine(s) or generator while everyone on-board is sleeping. Fatal carbon monoxide poisoning can occur.

6. If possible, ventilate your cabin while under way. Open a forward hatch or window to allow air to travel through the cabin. Do not operate the boat with the

cabin door(s) or windows that face aft, open. The natural vacuum created during operation may allow exhaust gasses to be drawn into the cabin.



Carbon Monoxide - Cabin Doors Warning Label

NOTICE

Current deck hatches are designed to allow ventilation when locked in a partially open position.

7. Inspect the engine exhaust system frequently for water and exhaust gas leakage, hose deterioration, and loose hose clamps. See Section R - General Maintenance for additional information.
8. Have a competent marine engine service technician inspect your exhaust system whenever your boat is in for service, or if you notice a change in the sound of your engines.

For additional information, refer to Section B-2 - Carbon Monoxide.

B. Carbon Monoxide Monitor

A carbon monoxide (CO) monitor(s) will sound an alert should carbon monoxide reach an unsafe level in the cabin of your Vista™. The CO Monitors are standard equipment and are located in the aft cabin and forward cabin. Refer to the manufacturer's literature included with the owner's packet.

WARNING

Never disarm a CO detector. If a CO detector alarms, immediately ventilate the area and check passengers for symptoms of CO intoxication. See your Four Winns dealer for assistance in diagnosing the cause for the alarm.

E - 3 ENGINE & DRIVE SYSTEM

A. Engine

Depending upon the Vista™ model, a single engine or twin engine propulsion is offered. Again depending on

the model, a choice of Mercruiser® (gas) or Volvo-Penta® (gas or diesel) engine(s) is offered. Please consult the engine owner's manual provided with this manual for operation and maintenance information. See your Four Winns dealer for complete engine availability.

B. Stern Drive

A stern drive or inboard/outboard propulsion system has a piston engine equipped with special marine components mounted near the transom and coupled to an external outdrive-type transmission unit. Shifting is performed within the outdrive upper gear case. This type of system is depicted in Figure E1.

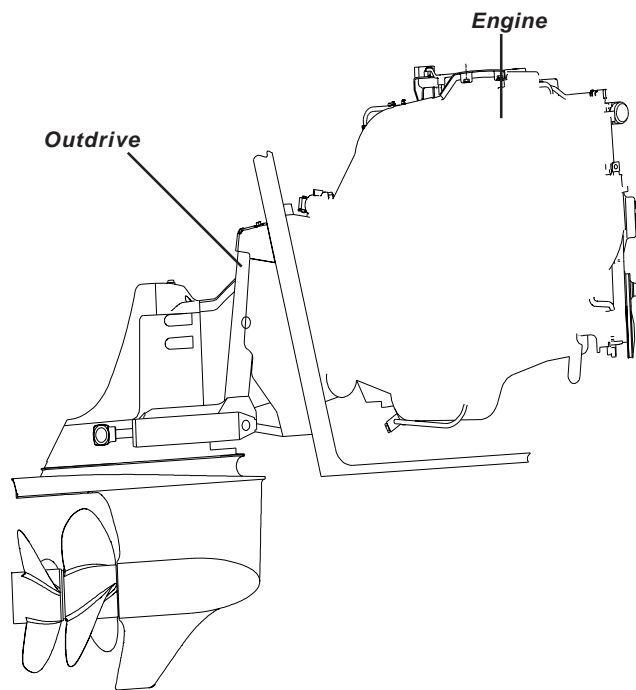


Figure E1: Stern Drive

Consult the Engine Owner's manual for additional information on stern drives.

C. Inboard V-drives

On the V-drive propulsion system of the inboards, all shifting and gearing components are installed inside of the hull, only the propeller shafts and associated equipment are under water. The V-drive system has the engine mounted in the extreme stern of the boat with the output shaft facing forward. A transmission which performs shifting functions is mounted directly onto the engine. A V-drive reduction gearbox is mounted directly to the transmission. The prop shaft is then connected to the V-drive output coupling. See Figure E2.

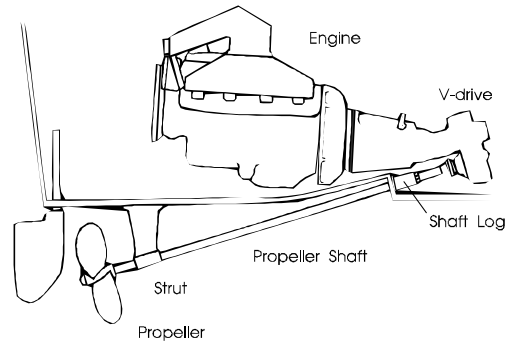


Figure E2: V-drive

NOTICE

Always return the engine throttle lever to the extreme low speed position before shifting. NEVER shift the unit while engine speed is above 800 rpm.

E - 4 UNDERWATER EQUIPMENT (Inboards)

WARNING

Avoid running aground or striking a (submerged) object. Serious damage to the engine(s) or inboard underwater gear can result and the boat can take on water. In the event of such an occurrence, proceed at low speed to the nearest service facility and have an immediate inspection made of the prop shafts and struts before further use of the craft. Keep all life saving devices at hand while driving to a dock area. If the boat cannot be immediately removed from the water, thoroughly inspect the bilge area for leaks so that the boat does not sink while moored.

A. Shaft Log

The shaft log allows the propeller shaft to extend and rotate through the hull with only limited water leakage occurring. Minor dripping may occur and is not abnormal during operation. See Figure E2 & E3.

Proper performance of the shaft seal is directly dependent upon correct propeller shaft alignment. Propeller damage, a bent strut or shaft, or abnormal wear, settling, etc., are common reasons for misalignment. Therefore, periodically have the shaft alignment checked and have adjustments made when necessary.

WARNING

To prevent personal injury, keep away from the propulsion machinery during its operation or whenever the boat is in motion. Movement of water past a propeller can cause the propeller, propeller shaft, and other propulsion machinery to rotate even if that equipment is not being operated intentionally.

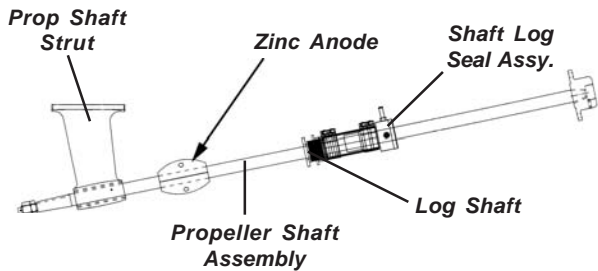


Figure E3: Underwater Equipment

WARNING

To prevent water from entering into the boat, always be sure the lock nuts are tightened securely to prevent the packing nuts from loosening. DO NOT attempt to tighten the lock nuts without the proper equipment to hold the packing nut stationary.

B. Strut

The strut secures the lower end of the propeller shaft. Seasonal inspection of each strut should be made to insure no damage has incurred and the strut bearing is not worn excessively.

When the boat is removed from the water for winterization or general maintenance, apply a light water proof grease to the strut bearing (rubber sleeve in the strut) and the shaft where it penetrates the strut bearing. This will keep the strut bearing from drying out. Replace the strut bearing should it become worn or cracked.

C. Propeller Shaft

NOTICE

When lifting the boat, always position the lifting straps at the corresponding “sling” labels. Lifting the boat with lifting straps over the prop shafts will cause the shafts to become bent. Improper lifting technique will not be covered under warranty.

The prop shafts of all our V-drive boats are aligned at the factory. Prop shaft alignment should be checked by your dealer during pre-delivery service. Shaft alignment should be checked again forty-eight hours after initial commissioning. Periodic checks of shaft alignments, and engine V-drive mounting bolts should be made; especially if noise or vibration occurs.

NOTICE

Excessive vibration, abnormal shaft log wear, or broken propeller shaft coupling bolts are an indication of misalignment. Misalignment can also cause severe damage to shaft logs, struts, shafts and the engine transmission or v-drive. Realignment should only be performed by a qualified service person. The following procedures are provided so a boat owner can determine if service work is required.

The propeller shaft coupling and engine/V-drive output flange coupling must be aligned to within 0.004 inches. Always be sure the prop shaft is centered in the strut bearing and shaft log before alignment adjustments are made. Refer to Figure E4.

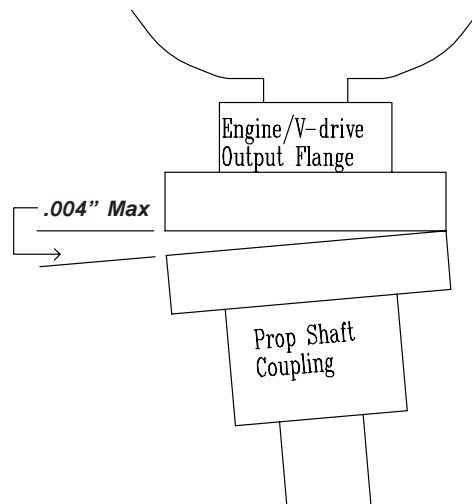


Figure E4: Coupling Alignment

Coupling Alignment Procedure:

1. Boat must be in water for at least 24 hours before alignment is started.
2. Check to be sure that the shaft can be turned with one hand on the coupling.
3. Assure that all shaft coupling nuts and bolts are installed but loose.

4. Separate coupling face from transmission output flange.
5. Using a set of feeler gauges, measure the gap between the coupling face and the transmission output face, next to each bolt, without rotating the shaft.
6. Subtract the smallest measurement from the largest.
 - A. If the difference is .004" or less, snug up each nut and bolt, then tighten each nut to 10 to 15 ft.-lbs of torque, then retighten each nut to 30 to 35 ft.-lbs. of torque.
 - B. If the difference is greater than .004", adjust engine and transmission mounts up or down, sideways and/or fore and aft until the difference between the highest of the measurements and lowest is .004" or less. Snug up each nut and bolt, then tighten each nut to 10 to 15 ft.-lbs of torque, then retighten each nut to 30 to 35 ft.-lbs. of torque.
7. Check to be sure that the shaft can be turned with one hand on the coupling.
8. If the shaft can not be turned with one hand on the coupling, readjust the engine and transmission mounts up and down, sideways, and/or fore and aft until the difference between the highest of the measurements and lowest is .004" or less. Snug up each nut and bolt, then tightening each nut to 10 to 15 ft.-lbs. of torque, then retightening each nut to 30 to 35 ft.-lbs of torque. Be sure the shaft can be turned with one hand on the coupling.
9. Repeat this procedure on the other side.

E - 5 PROPELLERS

Knowledge of the propeller is most easily gained through better understanding of the terminology used to refer to the aspects of propeller size and performance. It should be noted the Vista™ inboard models are equipped with nibral propellers and most stern drives Vista™ models include stainless steel propellers.

A. Diameter

Diameter is twice the distance from the center of the prop shaft to the extreme tip of a propeller blade. Increasing or decreasing propeller size will have a direct bearing on the RPM's an engine will develop. This is due to the greater amount of propeller blade surface in contact with the water. See Figure E5.

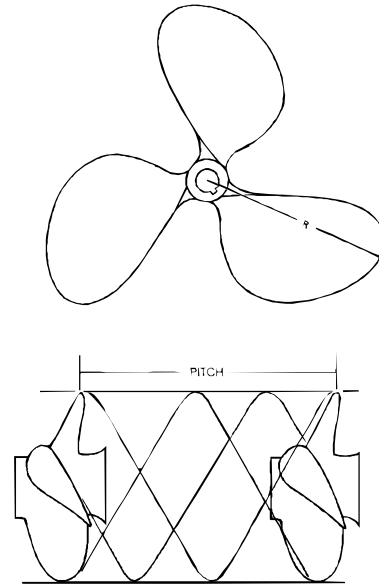


Figure E5: Propeller Pitch & Diameter

B. Pitch

Pitch is a measure of helix angle, or angle of attack, of the rotating blade. Pitch is easily understood if one imagines the propeller rotating through a semisolid such as butter or gelatin. The distance the propeller will travel in one revolution is called "Pitch." Increasing or decreasing pitch will also have a direct bearing on engine RPM's because of the greater bite taken by the blade with each rotation. See Figure E4.

C. Prop Slip

When traveling through water a propeller is unable to get a complete bite because of the fluidity of water. "Prop slip" is usually expressed as a percent of the computed theoretical speed. Twenty-five to thirty-five percent prop slip is common for a cruiser-type boat operating at cruising speed.

Changing either diameter or pitch will have an effect on engine speed and prop slip, and in turn, directly effect the performance of a boat. The propellers included with each Four Winns® boat provide the best general performance based on data obtained from on-the-water testing of that model. Variations in load, operating conditions, environment, the individual engine and hull performance may necessitate the purchase and use of another propeller(s).

Under your normal load conditions, the engines should turn within the maximum RPM range when at full throttle. If the engines exceed the recommended RPM, an increase in pitch or diameter is required. If the engine RPM is too low, a decrease in pitch or diameter is required.

The load carried in a boat will directly affect performance of the engine. If an engine that is not developing full power, be sure the engine is properly tuned and load conditions are those normally experienced, before changing propellers.

NOTICE

For twin engine installations, always check drive shaft rotation before propeller installation. A right hand rotation propeller must be installed on the starboard propeller shaft. Similarly, a left hand prop must be installed on the port propeller shaft.

For shipping reasons, the propellers are not factory installed. Initial installation of the propellers will be performed by the dealer during pre-delivery service. See Figure E6.

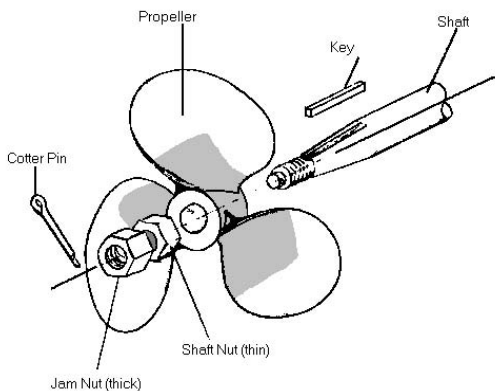


Figure E6: Prop Installation

NOTICE

Should it be necessary to change propellers, always use an appropriate propeller removal tool or "Prop Puller." DO NOT attempt removal using a hammer. Damage to the propeller or propeller shaft can result.

Always check shaft rotation before propeller installation. A right hand rotation propeller must be installed on the prop shaft connected to a starboard engine. Similarly, a left hand prop must be connected to the port engine shaft. The propellers **must** rotate outboard not inboard.

Be sure the propellers are of the correct blade configuration, diameter, pitch, and shaft size to assure good performance. For additional information on factors affecting performance and/or assistance with your selection, please consult your Four Winns dealer.

E - 6 ENGINE COOLING SYSTEMS

A. Raw Water Cooling - Stern Drives & Inboards

The cooling system is a seawater system. Seawater (raw) water is taken in through water inlets on the both sides of the lower gear unit of the stern drives models or by thru-hull intake scoops with strainers (inboards). Water pumped to the engine by the seawater pump is circulated through the engine by the engine circulating pump. A thermostat controls the engine operating temperature by determining the amount of water to be taken in, recirculated and discharged. On stern drive models, the water is discharged through an idle exhaust relief and the exhaust through the propeller hub. Inboard models expel water and exhaust through exhaust ports. A temperature gauge(s) located on your instrument panel monitors engine(s) temperatures.

NOTICE

Inboard boats utilize exhaust hoses to relinquish cooling water. A periodic inspection of the hoses, muffler and related parts should be made to insure that leaks or heat deterioration have not resulted. Replace them as necessary.

CAUTION

Never operate your engine without a thermostat. Engine damage can occur and is considered operator negligence and therefore not covered under the engine warranty.

CAUTION

If engine should overheat, turn off engine, look for obstructions to water pick-up. If any obstructions are found, clear the obstructions and run engine again at 1500 RPM in neutral and check temperature gauge to verify condition. If overheating still occurs, return to port at low RPM to prevent excessive overheating and engine damage. Consult with your certified engine dealer for service.

NOTICE

When laying up the boat for winter it is important that the cooling system be flushed with fresh water so that deposits do not dry and to prevent the buildup of salt crystals. Please consult your engine owner's/operator's manual for proper engine and cooling system winterization procedures.

B. Fresh Water Cooling - Inboard Option

The Vista™ inboard include a “closed water cooling” system as optional equipment. This system provides adequate engine cooling without exposing the internal engine to the detrimental effects of surface water, including salt, highly polluted or silt-laden water. The engine owners manual provides additional information regarding service and maintenance of this equipment.

The Vista™ inboard uses surface water as a cooling medium for the heat exchanger. The cooling water employed enters the system through a water intake and is relinquished through the exhaust manifold system.

Inboards utilize thru-hull water intake scoops. These types of intakes have an external strainer. Be sure strainers are kept free of mud, weeds and other debris. Some boating areas require that additional strainers or water intake filters be installed. Reference Section P-3 - Equipment Installation, in this manual for installation instructions and consult your Four Winns dealer regarding any special equipment that may be required.

A gate valve or seacock is provided at each engine intake scoop previously described. Be sure these valves are in the open position (lever is parallel with the valve) when operating the engines and in the closed positions (lever is perpendicular to valve) when engines are not operating for an extended period of time.

CAUTION

Serious engine damage could result if seacock valve(s) is not open during engine(s) operation. Ensure seacock valve(s) are in the open position when operating engine(s).

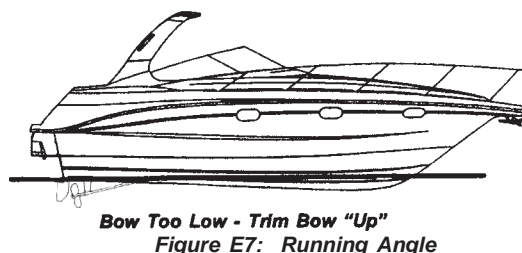
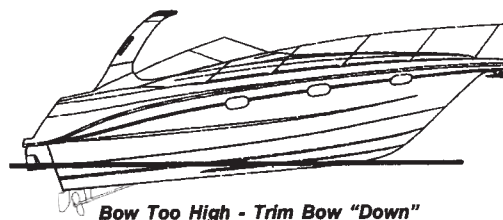
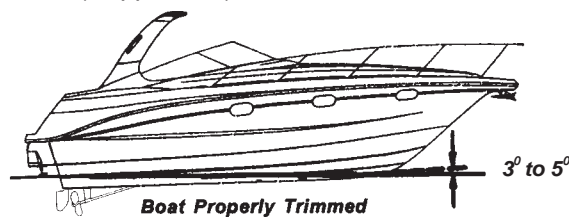
WARNING

Should an engine intake or an exhaust or cooling hose rupture, turn the engine off and close the seacock immediately. Proceed under tow, if necessary, to a service facility for appropriate repairs; maintain a close visual watch on the problem hose and also on the bilge water level.

E - 7 RUNNING ANGLE & POWER TRIM/TILT

Hull planing surfaces have the least amount of drag at a three to five degree angle with the water. This is the preferred running angle when boating. The running angle has a significant impact on top speed and handling. Heavy load or certain water conditions may make it difficult to achieve the optimum running angle. See Figure E7.

The running angle can be controlled through the use of power trim (stern drives) and/or trim tabs. See Section E-8 - Trim Tabs and Section T-7 - Trimming Your Boat for information on the use of trim tabs and tilt/trim control switches (if applicable).



A. Power Trim

Trim angle is how far in or out, the lower unit is positioned in relation to the bottom of the boat. The trim angle of the lower unit has a distinct affect on the running angle of the boat.

The power trim system permits control of the trim angle of the drive unit relative to the boat, at the touch of a button.

It allows the drive unit to be raised (trimmed out) for shallow water operation. Power trim also allows the operator to adjust the drive unit while underway to provide the ideal running angle for a given load and water condition. Additional information can be found in the Engine Owner's manual.

B. Power Tilt

Power tilt allows the operator to raise and lower the drive unit for trailering, launching, and beaching. Additional information on power tilt can be found in the engine manufacturer's manual included with this manual.

NOTICE

DO NOT operate the engine with the stern drive tilted up. Severe damage to the engine drive system can result. Consult the Engine Owner's manual for specific information.

E - 8 TRIM TABS

Electric/hydraulic trim tabs are standard equipment and help provide maximum control of the hull in all water and load conditions. If used properly, trim tabs can:

- Compensate for wind and load listing (level the boat side to side).
- Induce faster planing and help achieve optimum running angle (see Section E-7 - Running Angle & Power Trim/Tilt).

The proper use of electric/hydraulic trim tabs requires a basic understanding of trim tab operation and some practice in calm water. Be sure to read the manufacturer's literature included in the owner's packet.

The trim tab control uses two (2) momentary-type rocker switches. The trim tab switches control the attitude or position of the boat. The trim tab switches are labeled by position such as "Bow Up" and "Bow Down". They are

also labeled for "Port" and "Stbd". When pressed, the label indicates what happens to the bow of the boat.

Before leaving the dock and utilizing the trim tabs, ensure the trim tabs are in the full up position. Press both lower halves of the trim tab switches and hold (for approximately 10 seconds) until the tabs are full up.

A. Control Listing

Wind, loading and many other factors can result in the boat tilting or leaning towards one side while running. This is called listing and can be negated using trim tabs.

Pressing the lower port trim tab switch will move the starboard trim tab upward. This will result in the port bow of the boat being allowed to rise.

Pressing the lower starboard trim tab switch will cause the port trim tab to move upward and will result in the starboard bow being allowed to rise.

Pressing the upper port trim tab switch will cause the starboard trim tab to move downward and will force the port bow downward.

Pressing the upper starboard trim tab switch will cause the port trim tab to move downward and will force the starboard bow downward.

Always establish your intended heading and attain desired cruising speed before trying to adjust running attitude (using the trim tabs).

WARNING

Always press the trim tab switches in short one (1) second bursts. If pressed too long, you can overcompensate, and potentially lose control. DO NOT try to correct the situation by pressing the other upper trim tab switch. Instead, raise the tab slightly by pressing the appropriate lower half of the trim tab switch.

After stabilization of speed and direction, press the upper half of the appropriate trim tab switch to achieve a level side to side running attitude. Be sure to press the correct trim tab switch to obtain the desired result.

After pressing a trim tab switch, always wait and allow time for the change in trim tab position to take effect. DO NOT continue to press the trim tab switch while awaiting trim tab reaction. By the time the effect is noted, the trim tab will move too far and thus overcompensate.

B. Induce Planing & Controlling Trim Angle

Trim tabs can also be used to facilitate faster planing and allow better control of the running angle.

Before accelerating and trying to gain plane, press both upper trim tab switches. This will cause both trim tabs to move downward and force the bow down when running. This can also be used when running the boat with a heavy load aboard.

Moving the trim tabs downward will increase the lift and the boat will achieve plane faster, or stay on plane at a lower engine and boat speed.

After gaining plane and establishing cruising speed, pressing both lower trim tab switches will cause both trim tabs to move upward and will allow the bow to rise. This should be used to adjust the running attitude of the boat to decrease the drag at cruising speed or above, or when running in a following sea.

When running at an engine speed that results in the boat falling off plane or causes the boat to plane inefficiently, lowering both tabs slightly (bow down) will improve the running angle and improve operating efficiency.

Optimum efficiency is obtained when operating at a 3 to 5 degree running angle. Utilizing too much "Bow Down" trim tab can reduce operating efficiency and cause substantial steering and handling difficulties. Be extremely careful when running in a following sea. The effect of trim tabs is amplified under such conditions. Steering and handling difficulties can result from improper trim tab usage, especially in a following sea. If unsure of proper trim tab positioning, raise the trim tabs to the full-up position.



WARNING

When running at high engine speeds, be sure the trim tabs are in the full up position. Trim tab action should be only enough to compensate for any listing. Trim tab adjustments at high speeds are extremely critical. Be prepared to slow down should handling difficulties arise.

When running in a displacement (very slow speed) mode, better efficiency will be obtained with the trim tabs in the full-up position.

C. Trim Tab Maintenance

Check the fluid level of the trim tab reservoir often. Always keep the fluid level between the designated marks on the trim tab pump-reservoir. Refer to the manufacturer's information for specifications on the type of fluid to be used and other operation and maintenance information.

E - 9 ENGINE INSTRUMENTATION

The helm station is equipped with a complete set of engine instruments. These instruments allow the pilot to constantly monitor the operational condition of the engine. Close observation of these instruments could save the engine from damage.

The Vista™ models have individual gauges in the dash panel as standard instrumentation. See Figure E8.



*Figure E8: Vista Helm Station
(Representative View - Models Vary)*

A. Tachometer

The tachometers indicate the speed of the engines in revolutions per minute (RPM) and are preset by Four Winns. This speed is not the boat speed or necessarily the speed of the propeller. They may not register zero with the ignition key in the OFF position. Note: The Vista™ models come with a tachometer/hour meter combination gauge which allows for hour meter viewing at the helm. Please refer to Section E-9J - Engine Hour Meter for information regarding the engine hour meter.

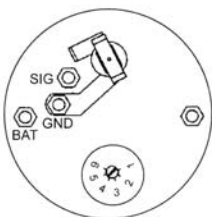
NOTICE

Never exceed the maximum recommended operating RPM of your engines. Maintaining maximum, or close to maximum RPM for extended periods can reduce the life of the engines.

Some engines are equipped with devices that limit engine RPM in accordance with the oil pressure or engine temperature. Refer to the engine owner's manual for additional information.

The tachometer must be set for different engines installed. This is typically done at the factory. The tachometer gauge is shown along with the table detailing the tachometer settings. See Figure E9.

TACHOMETER SETTINGS



Set switch to match your engine.
CAUTION: Depress switch slightly while turning.

TACHOMETER SETTINGS	
NUMBER OF CYLINDERS	ENGINE SETTING
4*	1
6*	2
8*	3
12 POLE	4
(OB ALT)	
* 4 CYCLE ONLY	

Note: Setting information is labeled on the back of the tachometer.

Figure E9: Tachometer - Rear View

B. Speedometer

The speedometer is a water pressure sensitive unit. It has a pick-up (pitot tube) assembly mounted on the transom and a small plastic hose (speedo tube) that connects it to the speedometer gauge on the dash. See Figure E10. The pitot tube extends below the hull. Water strikes the tube inlet and creates positive pressure. The faster the boat speed, the greater the pressure, and the higher the speed indication on the speedometer.

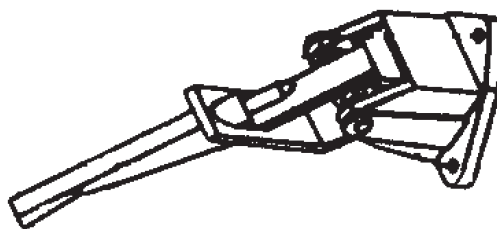


Figure E10: Speedo Sender

A speedometer may **not** be available on certain Vista™ models. With the optional GPS/Navigational package the ability to monitor your speed becomes available. Please refer to the manufacturer's literature for programming the GPS unit for speed readings. This information is included in the owner's packet when the boat is ordered with the navigation package.

NOTICE

Speedometers/speed indicators are not precision instruments. The indications are relative and should never be used for navigational purposes or similar critical situations alone. Use other navigation systems in conjunction with the speedometer.

NOTICE

DO NOT rely on the speed indicator when trying to achieve a "NO WAKE" condition in a harbor or other enclosed waterway. ALWAYS be cognizant of the size of your waves your boat is making and reduce throttle until you are sure that they will not cause any damage. You are responsible for damage caused by the wake of your boat.

C. Temperature Gauge

The temperature gauge monitors the cooling system of the engine. A sudden increase in the temperature could be a signal of a blocked cooling passage or a water pump malfunction.

NOTICE

Operation of an overheated engine can result in engine seizure. If an unusually high temperature reading occurs, shut the engine off immediately.

D. Oil Pressure Gauge

The oil pressure gauge indicates the pressure in the engine lubrication system. A drop in oil pressure is a possible indication of oil pump or leakage problems.

NOTICE

Operation of an engine with abnormally low oil pressure can lead to engine damage and possible seizure. Have the engine serviced immediately upon a reduced oil pressure indication.

E. Voltmeter

The voltmeter monitors battery condition and thus alternator performance. See Section H - Electrical Systems for additional information on voltmeter operation.

F. Fuel Gauge

The Fuel Gauge displays the level of fuel that is present in the fuel tank. Refer to Section I - Fuel System for additional information.

Due to the mechanical nature of the fuel sender, variations in readings during various speeds of operation may occur. This system is merely a relative indication of the available fuel supply and not a calibrated instrument. Refer to Section I-1F - Fuel Senders for additional information.

NOTICE

Fuel gauges are not precision instruments. The reading is relative, and should never be relied upon as the sole indicator of fuel availability.

NOTICE

Use only clean, dry fuel of the type and grade recommended by the engine manufacturer. The use of incorrect or contaminated fuel can cause engine malfunction and serious damage. Refer to Section I - Fuel System for additional information.

G. Power Trim Gauge

Vista™ models equipped with stern drives also have a “power trim gauge.” This gauge provides a visual indication of the inward-outward (trim angle) position of the outdrive. There is not a trailer travel mode on the gauge.

H. Depth Sounder

The depth sounder is standard equipment on most models. It consists of two main components, the transducer and the depth sounder. The transducer is mounted to the hull and the depth sounder is installed in the dash. The transducer and depth sounder communicate by means of a cable, and are powered by your boat’s 12-volt DC battery. The transducer and depth sounder use the basic principle of sonar to indicate the water’s depth. Please read the manufacturer’s literature included with the owner’s packet for information regarding operation and maintenance or visit our website at www.fourwinns.com.

I. Gas Vapor Detector

Depending upon the Vista™ model, a gas vapor detector is either standard or optional equipment. If equipped, the gauge mounts in the dash. Additional information can be found in Section I-1H - Gas Vapor Detector in this manual.

J. Engine Hour Meter

Engine hour meters are standard on the Vista™ models and provides a numeric record of elapsed engine operating time. This information is important in determining scheduled maintenance intervals, ships log data, cruise information, etc. The hour meter is located at the helm with the tachometer/hour meter combination gauge.

K. Ignition Switch

The ignition switch has three positions: OFF, RUN, and START. The START position is spring loaded and the key should be held in this position until the engine starts. The key will return to the RUN position once released. Always turn the key to the OFF position when the engine is not running. This will prevent discharging of the batteries. Additional information on ignition switch operation is covered in Section A - Operation of this manual.

L. Emergency Stop Switch

An emergency stop switch is available on certain Vista™ models. This safety device automatically stops the engine if the lanyard is attached to the operator and the operator falls from his work station. Refer to the engine manual for detailed information about using this switch.

The emergency stop switch (Figure E11) incorporates a shutoff switch, switch clip, lanyard, and lanyard clip. The lanyard clip must be securely attached to the operator's PFD, clothing, arm, or leg. Be sure to attach the lanyard to a place where it is free of obstructions and to something that will move with the operator if he or she leaves the helm station. If the engine shuts down because this switch was activated, the clip may have to be reinstalled on the interrupter switch before the engine can be started.

WARNING

Keep emergency stop switch lanyard free from obstructions that could interfere with its operation. Do not modify or remove emergency stop switch or bypass its safety features. The proper use of the emergency stop switch will prevent a runaway boat situation which can cause severe personal injury or death.

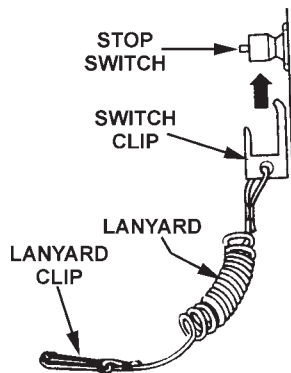


Figure E11: Emergency Stop Switch

The emergency stop switch can only be effective when in good working condition. Observe the following:

1. Lanyard must always be free of entanglements that could hinder its operation.
2. Once a month, check the switch for proper operation. With engine running, pull lanyard. If the engine does not stop, see your Four Winns dealer.
3. Once a month, inspect both the clip and lanyard for cuts, breaks or wear. Replace worn or damaged parts.

In an emergency situation, any occupant of the boat can restart the engine. Just press in and hold the emergency stop switch button, then follow normal starting procedures. When the button is released, the engine will stop.

CAUTION

Avoid knocking or pulling the clip or lanyard from the switch during regular boating operation. Occupants may be thrown forward or possible engine damage may occur by the sudden loss of engine power.

M. Engine Synchronizer Gauge

An engine synchronization gauge is available on certain Vista™ models with twin engine propulsion. It is usually located between the tachometers on the dash. This instrument compares the electrical signals generated by the engines and converts those signals to a visual meter indication of engine speed difference. The meter movement responds to changes in throttle position.

This instrument does not physically synchronize the engines, but only provides a visual indication so the operator can take corrective action. See Section F-2 - Control Operation and the engine manufacturer's literature for additional information on throttle usage and engine synchronization.

N. Alarm System

Vista™ models, either gas or diesel, have an engine alarm system installed. This is an audible alarm that is mounted in the helm area; it is actuated by engine water temperature and engine oil pressure senders. The alarm will sound in the event of low engine oil pressure or high engine coolant temperature.

The engine alarm will sound during engine start-up, or whenever the ignition switch is positioned to ON and the engine is not operating. The alarm sounds under these conditions because engine oil pressure is low; the alarm will cease to sound as soon as engine oil pressure rises to the proper level.

NOTICE

The engine alarm monitors only engine water temperature and engine oil pressure. Always maintain a close visual watch on the drive(s), transmission(s), engine fluid levels, bilge water level, etc. Refer to the engine manufacturer's literature for additional information.

O. Rudder Angle Indicator Gauge - Inboards

This gauge provides you with the information regarding the angle of the rudders relative to the straight ahead position. A rudder angle sender sends the angle information to the rudder angle indicator gauge mounted on the lower instrument gauge panel. See Section G-4 for more information regarding the rudder angle indicator.

P. Navigational Equipment

Four Winns offers navigational packages as options. See Figure E12. Please consult the manufacturer's literature included in the owner's packet for operation and maintenance of these navigational systems (if installed).

NOTICE

Four Winns does not limit you to these specific navigational packages mentioned above. There are many navigational systems on the market today. You may desire to use a different system based on your needs, personal preference, and mounting space available.

NOTICE

Four Winns continually strives to improve its products. Unit specifications, including standard and optional equipment are constantly being modified. Equipment availability is also subject to change. The most current and accurate information available at the time of publication is included in this manual. Some variation in equipment, description, location, and details can result.

NOTICE

These devices are only an aid to navigation. Their accuracy can be affected by many factors including equipment failure or defects, environmental conditions, and improper handling or use. It is the user's responsibility to exercise common prudence and navigational judgement. These devices should not be relied upon as a sole means of navigation nor as a substitute for such prudence and judgement.

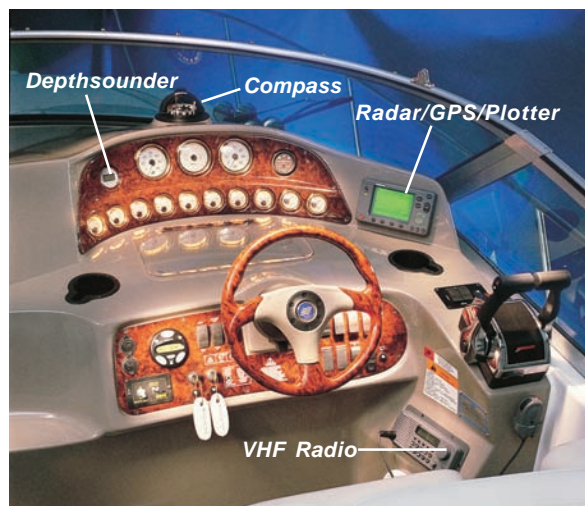


Figure E12: Navigation Package
(Representative View - Models & Equipment Vary)

1. Ship to Shore VHF Radio

A VHF radio is optional equipment offered with a selection of one of the navigation packages offered. It provides reliable communication between vessels, and from ship to public or private shore stations. It is programmed for two-way communication on all the International, U.S. and Canadian channels plus reception on separate weather channels, and the international calling and safety channels (16/9).

The VHF radio with microphone is mounted on the helm. If equipped, additional information is included in the manufacturer's literature included in the owner's packet.

2. GPS/Plotter/Radar

A GPS/chart plotter is an electronic system through which a navigator can determine his position regardless of weather. The GPS sensor receives high frequency radio signals generated from satellites to generate coordinate readings on the display. The GPS navigational unit takes this information and uses it to determine the vessel's exact position and indicates the vessels position on the chart plotter. The chart plotter allows one's course to be plotted electronically. Factory installed GPS/Plotter system is one of the optional navigational packages offered. It is mounted at the helm. If equipped, refer to the manufacturer's literature included in the owner's packet.

NOTICE

You should not rely on these displays as your primary source of navigation. Rather, you should use the chart plotter as a backup to official government charts and traditional methods of navigation.

Another optional navigation package includes radar along with a GPS/Plotter. The radar detects objects/targets and displays them for the operator to see. This option is available on certain Vista™ models only and if so equipped refer to the manufacturer's literature included in the owner's packet for operation instructions.

3. Depth Sounder

A depth sounder may be included with the navigation package option on certain Vista™ models. Please consult the manufacturer's literature included in the owner's packet for operation and care of this particular depth sounder.

4. Compass

A compass is available on many Four Winns® models. See Figure E13. The compass can provide directional information when operating offshore, in unfamiliar waters, or in adverse weather conditions.

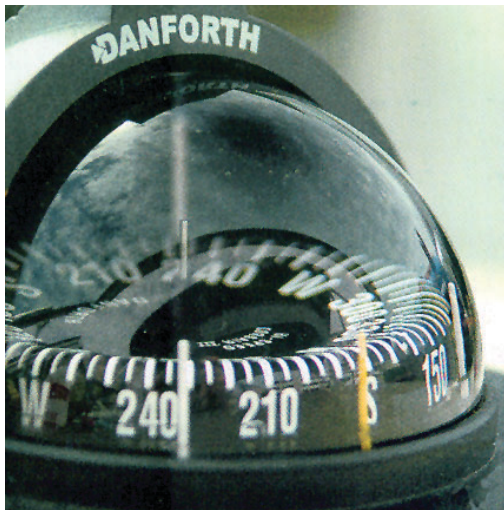


Figure E13: Compass

After all personal equipment is installed, including all electronics (VHF radio, GPS, chart plotter, etc.), the compass must be properly calibrated. DO NOT rely on the compass readings until initial adjustment (compensation) has been performed. The boat has a factory installed compass, the manufacturer's instructions are provided in the owner's packet. Most areas have local companies that specialize in compass adjustment. If unsure of the proper compensation techniques, consider having the adjustment done professionally to insure accuracy and confidence in the compass.

NOTICE

During use, keep all extraneous metal objects away from the compass. The close proximity of metal objects (e.g., beverage cans) can cause compass deviation.

Q. Instrument Maintenance

Electrical protection for instruments and ignition circuitry is provided by a circuit breaker on the ignition panel. Periodically, spray the ignition switches with a contact cleaner. The ignition switches and all instruments, controls, etc. should be protected from the weather when not in use. Four Winns offers appropriate weather covers for each model. Excessive exposure can lead to gauge and ignition switch difficulties.

CAUTION

DO NOT use a product such as WD-40 as a contact cleaner. Be sure to read the label before using any product.

Electronic gauges are affected by static electricity that builds-up on the glass face. Periodic washing of the gauge face with warm water and mild liquid detergent will help eliminate the static electricity problem and improve gauge accuracy.

CONTROL SYSTEMS

F - 1 GENERAL

Control systems permit operation of the engine's throttle and shift mechanisms. They consist of three major components; the control, the throttle and shift cables.

Certain Vista™ models are equipped with a single binnacle lever controls with trim. See Figure F1. One lever controls each engine. Moving the lever forward will shift the drive into forward. Moving it aft will shift the drive into reverse. Moving the lever further will increase engine speed.

Single Binnacle Control Lever



Figure F1: Single Binnacle Control Lever

Other Vista™ models are equipped with dual binnacle lever controls with trim. See Figure F2. The left lever controls the port engine and the right lever controls the starboard engine. Moving the lever forward will shift the drive into forward. Moving it aft will shift the drive into reverse. Moving the lever further will increase engine speed.

Dual Binnacle Control Levers



Figure F2: Dual Binnacle Control Lever

The Vista™ inboard models are equipped with twin lever, single action shifter and throttle levers. See Figures F3. The port shifter lever operates the port engine and the starboard shifter lever operates the starboard engine. This is also true for the throttle levers.

Twin Lever - Single Action Control (w/ Black Buttons)

Twin Lever - Single Action Throttle (w/ Red Buttons)



Figure F3: Inboard Helm Station

NOTICE

Allow the engine to warm up before engaging the shift control. Monitor all instruments while engine is idling during warm-up.

Additional information on controls and their operation is discussed in Section F-2, Section F-3 and the engine manufacturer's information included in the owner's packet.

F - 2 CONTROL OPERATION

A. General

NOTICE

If your boat is equipped with a non-OEM remote control system, ask your dealer how to properly operate it.

NOTICE

Reduce throttle as soon as motor starts. Do not run a cold motor any faster than necessary to keep motor from stalling. Do not exceed 2000 RPM in NEUTRAL.

During the general operation of a twin engine boat, it is advantageous for both engines to be operated at the same engine speed (rpm). This reduces noise and vibration, and can increase propulsion system efficiency. Setting the throttles so the engines are running at the same rpm (synchronized) can be done by engine sounds or by an engine synchronizer gauge (as described in Section E-9M). Attempting to synchronize the engines solely by using tachometer readings or control lever placement generally will not be effective. When the engines are in proper synchronization, the throttle levers may not necessarily be in the same position.

B. Maneuvering - Single & Dual Binnacle Controls

Shifting and engine speed are controlled with the same lever (1). See Figures F4 & F5.

- N** - Neutral position. Drive/Reverse gear disengaged.
- F** - Drive/reverse gear engaged for forward movement (ahead).
- R** - Drive/reverse gear engaged for backward movement (astern).
- T** - Engine speed control.

Trim/Tilt Switch(s)- Push top of switch or where indicated to trim out and tilt up, or push bottom of switch or where indicated to tilt down and trim in.

C. Carbureted Engines

The shift mechanism on the controls can be disengaged to allow for easier starting and engine warm-up. See Figures F4 & F5.

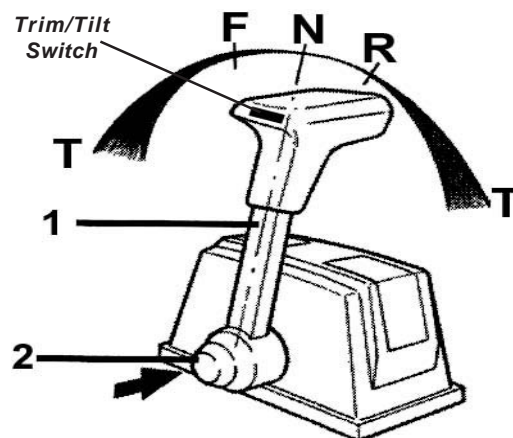


Figure F4: Single Binnacle Control Operation

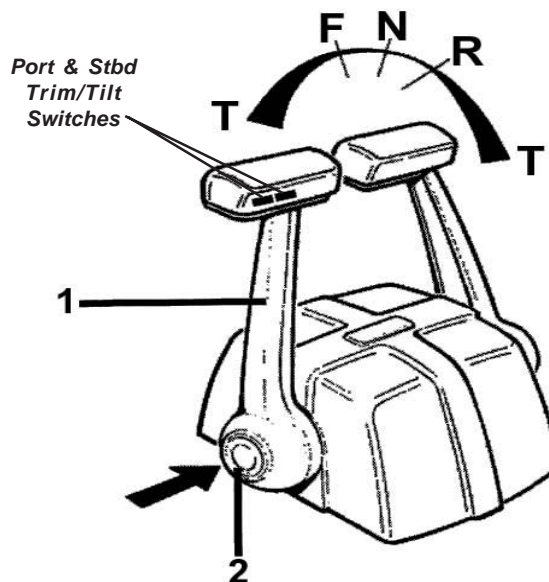


Figure F5: Dual Binnacle Control Operation

To disengage the shift function:

- 1) Move lever (1) to the neutral position (N).
- 2) Press in button (2), move the lever slightly forward and release the button.

The shift function is now disengaged the lever only effects engine speed. When the lever is moved back to the neutral position it will automatically re-engage the shift function. The shift function is then enabled.



CAUTION

Take care not to engage the transmission by mistake.

D. Fuel Injected Engines (EFI)

On fuel injected engines, starting the engine is much easier and faster. It is not necessary to use the throttle while in neutral to cold-start the engine. Simply turn the key and allow the engine to warm up.

For additional information, refer to the section on “Starting and Operation” in the engine manufacturer’s manual.

E. Shifting and Control Speed

1. Move shifter lever(s) to the neutral detent position and throttle levers (if applicable) to the idle position. Placing the shifter levers in the neutral detent position will engage neutral start switch and allow engine to start.



CAUTION

DO NOT shift into FORWARD or REVERSE unless engine is running. Damage to the shift system could result from trying to shift without the engine running. Carefully check function of all control and engine systems before leaving the dock.

2. To go FORWARD - Briskly move the shifter levers forward. Once forward gear engagement is complete, push throttle levers forward until desired speed is achieved.
3. To go in REVERSE - Briskly move the shifter levers rearward. Once rearward gear engagement is complete, push throttle levers forward until desired speed is achieved.



WARNING

DO NOT shift from forward to reverse when the boat is planing.

NOTICE

DO NOT shift if engine speed is above 800 RPM.

4. To go from FORWARD to REVERSE, or REVERSE to FORWARD; always pause at NEUTRAL and allow engine speed to return to idle.

5. After shifting is completed, continue to move the throttle levers slowly in the desired direction to increase speed.

F - 3 NEUTRAL SAFETY SWITCH

Every control system has a neutral safety switch incorporated into it. This device prohibits the engine from being started while the shift lever is in any position other than the neutral position. If the engine will not start, slight movement of the shift lever may be necessary to locate the neutral position and disengage the safety cutout switch. Control or cable adjustments are required to correct this condition should it persist. See your Four Winns dealer for necessary control and cable adjustments.

F - 4 CONTROL SYSTEM MAINTENANCE

Periodic inspections of the controls, cables, and all connections should be made. Signs of looseness, rust, corrosion, wear, cable jacket cracks or other deterioration require immediate system servicing. Replace all damaged components.

Generally, periodic lubrication of all moving parts and connections with a light, waterproof grease is in order. Cables can be lubricated by positioning them to their fullest extension and applying light grease to the inner cable near the jacket. Working the cables back and forth will distribute the grease in the inner cable. Reapply the grease if necessary.

Lubrication should be performed as often as necessary to keep the system operating smoothly. Cable manufacturers such as Teleflex and Morse often offer special tools to make cable lubrication easier.

Cable and control adjustments may become necessary. Adjustment screws in the control, on the cables and in the linkage are provided.



WARNING

DO NOT attempt control adjustments unless you are familiar with servicing control systems service procedures. Control misadjustment can cause loss of control.

Other lubrication, adjustment and maintenance instructions are included in the information provided by the control manufacturer.

STEERING SYSTEMS

G - 1 GENERAL

The stern drive Vista™ models are equipped with rotary-type steering systems. Inboard models are equipped with hydraulic steering. A tilt steering wheel is standard on the Vista™ models.

A. Tilt Steering & Tilt Steering Hydraulic - Inboard

The steering wheel can be tilted up or down so as to enhance the driver's comfort and enjoyment. To tilt the steering wheel, depress the release lever with your thumb. See Figure G1. Be sure to hold the top of the wheel to assist in positioning. Refer to the steering manufacturer's literature for additional information.

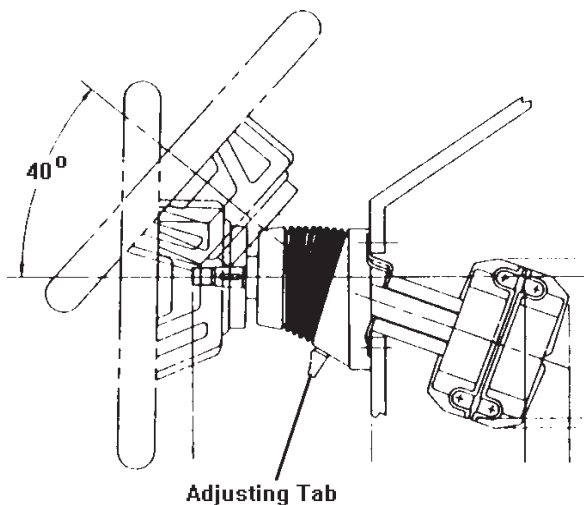


Figure G1: Tilt Steering



WARNING

The tilt mechanism should not be adjusted when the boat is moving. Sudden boat movement may cause loss of balance resulting in loss of control and/or injury.



WARNING

The tilt mechanism is spring loaded. Due to the variation in steering wheel offerings, the wheel may spring up rapidly when depressing the release lever. **ALWAYS KEEP ONE HAND ON THE WHEEL DURING TILT ADJUSTMENT OR INJURY MAY OCCUR.**

B. Rotary Steering - Stern Drive

In the rotary system, a rotary drum assembly is mounted under the dash behind the steering wheel. A one piece cable runs from the drum assembly through the boat into the engine compartment. At the transom, the cable turns and is connected to the drive tiller and the power steering unit.

C. Power Steering - Stern Drive

Power steering is standard engine equipment on stern drive Vista™ models. It is comprised of an engine mounted pump, control valve, hoses, and steering cylinder. Power steering works in conjunction with the helm and steering cable to move the transom mounted tiller arm and vertical drive more easily.

On twin engine installations, only the starboard engine is equipped with a power steering hydraulic assist unit. Therefore, when operating on a single engine, it is imperative to operate with the starboard engine. If only the port engine is used, hard steering will result.

NOTICE

DO NOT force the steering wheel to either extreme position. This can place undue strain on the unit and can lead to power steering damage.

Upon commissioning the boat, it is necessary to purge the system of air. This is performed by your Four Winns dealer during pre-delivery service. Should steering difficulty increase with time, it is possible additional bleeding of the system is required. See your Four Winns dealer for assistance. This and other adjustments on power steering units are critical and should be performed only by a qualified service technician.

If the power steering becomes inoperative, steering will be harder and more effort will be needed to steer the boat. Check for a broken or loose belt on the power steering pump. Also, low fluid levels in the power steering pump reservoir will cause hard steering. If these items are not the source of the problem, check for equipment or other items lying on or up against the steering cable at the back of the boat. The cable must be free and clear to slide back and forth. Any item blocking free movement of the cable will result in harder steering and possible damage to the steering cable. If unable to locate or correct the problem, have the steering cable inspected and lubricated by your Four Winns dealer.

CAUTION

After the first two hours of running time, check the entire steering system for loose bolts, nuts and fasteners which could adversely affect steering control.

NOTICE

Check the fluid level in the reservoir periodically. Low power steering fluid levels may increase steering difficulty.

NOTICE

DO NOT interfere with or restrict steering cable movement through the last 90° of bend at the engine. DO NOT use cable retainers, clamps or tie straps. Using one or all of these could restrict the cable movement near the engine. DO NOT tie wiring harnesses or other control cables to the steering cable. Make sure the deck coaming pads and bulkheads allow for steering cable movement in all positions of trim.

When storing equipment in the engine compartment, be sure to avoid contact with the steering cable. Cables may become kinked or damaged and may increase steering effort.

Additional information on steering operation can be found in Section A-9 in this manual and in your Engine Owner's manual.

D. Hydraulic Steering - Inboard Models

NOTICE

DO NOT force the steering wheel to either extreme position. This can place undue strain on the unit and can lead to hydraulic steering damage.

Upon commissioning the boat, it is necessary to purge the system of air. This is performed by your Four Winns dealer during pre-delivery service. Should steering difficulty increase with time, it is possible additional bleeding of the system is required. See your Four Winns dealer for assistance. This and other adjustments on hydraulic steering units are critical and should be performed only by a qualified service technician.

CAUTION

After the first two hours of running time, check the entire steering system for loose bolts, nuts and fasteners which could adversely affect steering control.

NOTICE

Check the fluid level in the reservoir periodically. Low hydraulic fluid levels may increase steering difficulty.

The hydraulic steering system is comprised of the helm pump and reservoir, hydraulic hoses, and the hydraulic cylinder. The helm assembly acts as a pump to move the fluid through the system. In many aspects this type of steering is similar to the mechanical system. Instead of activating a cable, turning of the helm causes fluid in the hydraulic hoses to flow and activate the hydraulic cylinder causing the rudders to turn. See Figures G3 & G4.

NOTICE

Only use manufacturer's suggested hydraulic fluid. The hydraulic steering uses a fluid which meets Mil H5606 specifications. Please note that automatic transmission fluid (Dexron II) may be used in an emergency. **Never use brake fluid.**

NOTICE

A slight clicking sound may be heard as the wheel is turned. This sound is the opening and closing of valves in the helm unit; this is normal.

Additional information on steering operation can be found in your Engine Owner's manual.

G - 2 STEERING LOAD

A load is placed on the steering system by the propeller torque, and/or water flowing past the rudder/outdrives. The steering system is designed to normalize the effort required to turn the steering wheel throughout the aver-

age operating speed range and general rudder/outdrive position. This is an advantage when the boat is on plane. This can be somewhat of a disadvantage at lower speeds in that the steering effort is not reduced to a level where it can be wheeled “lock to lock” without a concentrated turning effort.



CAUTION

Steering effort can vary significantly with engine acceleration, steering angle, trim angle, and sea condition. Be prepared for additional steering loads at all times.

G - 3 RUDDERS - Inboard Models

On inboard models, the dual V-drives have two rudders. These are coupled together at the tiller arms by a tie bar. The rudders are toed-in at the front to provide maximum stability on straight ahead runs and proper tracking through corners. Rudder alignment is preset at the Four Winns factory. Further alignment adjustments should not be necessary unless the rudder or steering system incurs damage. See Figures G2, G3, & G4.

Rudder Alignment Procedures:

1. Dimension A must be 1/2" to 3/4" larger than dimension B.
2. Dimension A & B must be measured between the inside faces and at the bottom of the rudders.

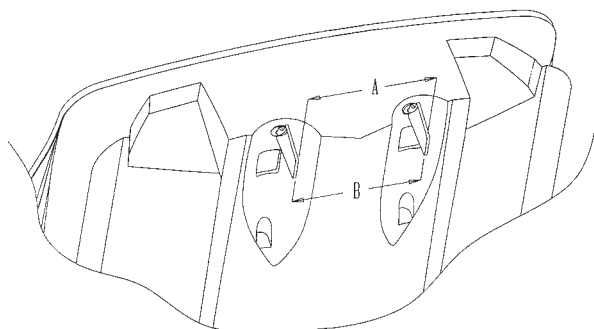


Figure G2: Rudder Alignment Specifications

G - 4 RUDDER ANGLE/POSITION INDICATOR

A rudder angle/position indicator is a device that indicates the location of the rudders relative to the straight ahead position. Such a unit is provided on the inboard Vista™ models and consists of a gauge on the dash and an electrical sending unit connected to a rudder tiller arm or the steering assembly. See Figures G2 & G3.

The reading on the gauge can be adjusted by loosening the three screws securing the electrical sending unit and turning the sending unit either clockwise and counter-clockwise slightly. The reading will vary accordingly.

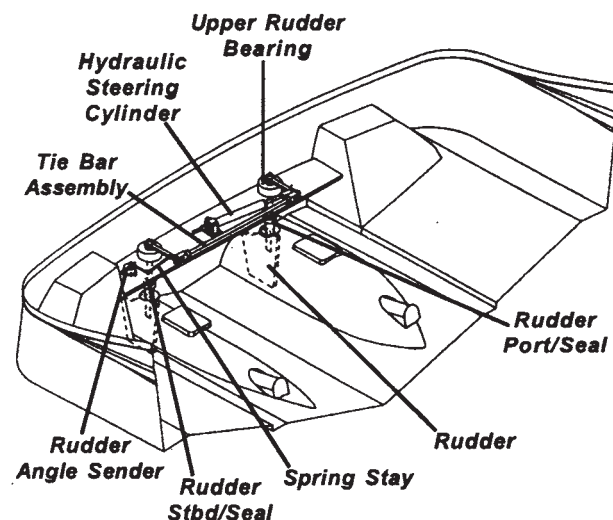


Figure G3: Hydraulic Steering

G - 5 PROPELLER TORQUE

The propeller rotation of a single engine installation will exert a directional force on the steering system. This can cause the steering to be harder in one direction than the other, and is call propeller torque.

Propeller torque can also cause the boat to wander (not follow a straight line) when operated at low speeds. This condition is normal and can be corrected only by increasing engine rpm. Wind, water currents and play in steering components can cause equivalent effects.

G - 6 STEERING SYSTEM MAINTENANCE

A periodic inspection of all stern drive steering cables, linkage and helm assemblies should be made. With inboard models a periodic inspection of the helm pump and reservoir, hydraulic hoses, the hydraulic cylinder, tie bar assembly, bearing, seals, rudder angle sender and rudder should be made. See Figures G4 - G6. Signs of corrosion, cracking, loosening of fastenings, excessive wear, or deterioration should be immediately corrected. Failure to do so could lead to steering system failure and corresponding loss of control.

The helm and cable assembly (if applicable) should be so adjusted that the steering wheel is centered with the drives or rudders in the straight ahead position. There should be an equal number of turns to port and starboard from the straight ahead position. If adjustment becomes necessary, see your Four Winns dealer.

All cables, helm assemblies, and steering connections should be periodically lubricated with a light, waterproof grease or as indicated in the manufacturers information provided in the owner's packet.

Inboard boats should also be inspected for leakage around the rudder port seal. The packing nut(s) should be tight enough to prevent leakage, yet loose enough so excessive drag is not placed on the rudder shafts. Hard steering could otherwise result. If the leakage cannot be stopped without exerting excessive drag on the rudder shaft, replacement of the seal is required.

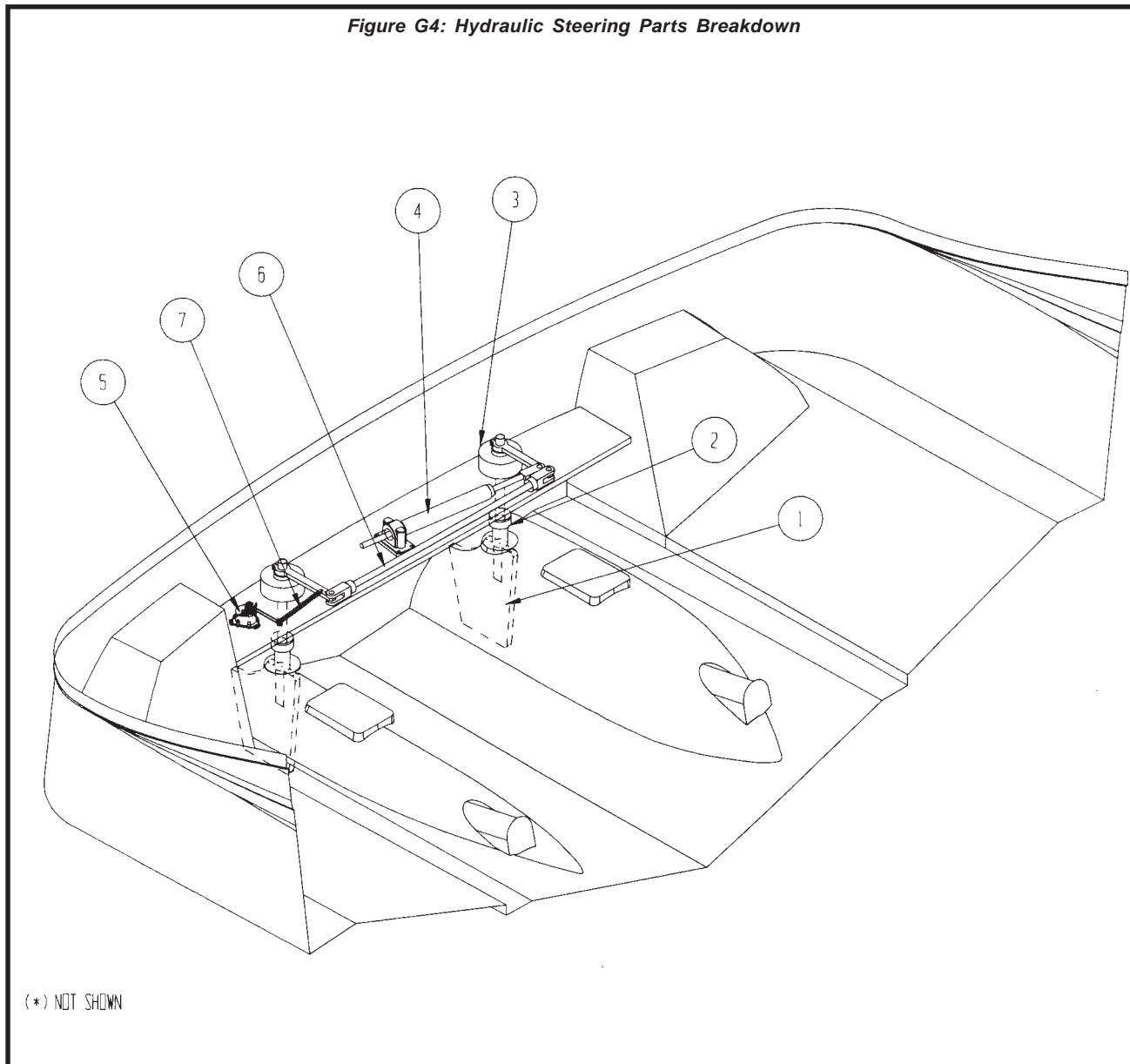


WARNING

To prevent water from entering into the boat, always be sure the lock nuts are tightened securely to prevent the packing nuts from loosening.

Hydraulic steering systems must periodically have all air purged from the system. Review the information provided by the hydraulic steering manufacturer for proper specifications and details on system service and maintenance.

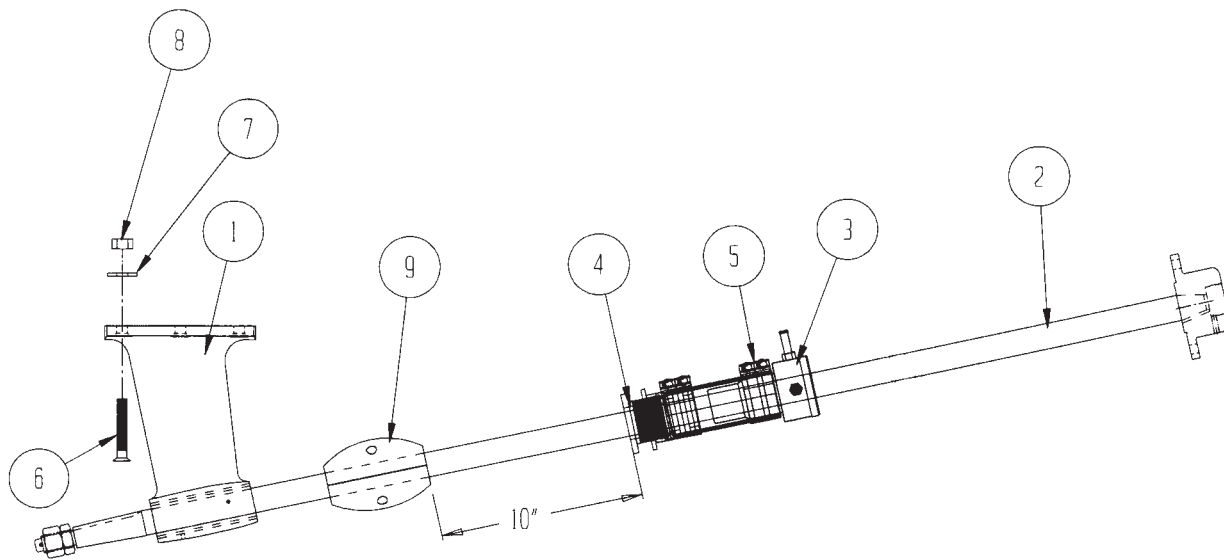
Figure G4: Hydraulic Steering Parts Breakdown



(*) NOT SHOWN

#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	RUDDER, VISTA	040-0525	2	7	SPRING STAY, 6" 03400-1	030-0218	1
2	RUDDER PORT/SEAL VISTA	040-0476	2	*	BOLT, 5/16-18 X 4" HHCS SS	080-1034	8
3	BEARING, UPPER RUDDER VISTA	040-0477	2	*	HELM. HYDRAULIC TILT STEERING	040-0117	1
4	CYLINDER, HYD. STEERING #HC5313	040-0508	1	*	HOSE, HYD. STEERING TELEFLEX HT-5101	040-0047	50 FT
5	SENDER, RUDDER ANGLE INDICATOR	028-1755	1	*	SCREW, 1/4-20 X 1 1/2" PPWSSS1/4C1.5	080-0070	4
6	ASSEMBLY, TIE BAR 34-1/2" TILLER ARM	040-0521	1	*	SCREW, #8 X 3/4" POHSMSS	080-0022	3
*	STEERING WHEEL	040-0625	1	*	NUT, 1/4-20 HEX SS	080-0095	4
*	WASHER, FLAT 3/8" (7/8 OD) WFSS3/8	080-0099	8	*	NUT #10-24 KEPS S.S NUT	080-0097	4
*	NUT, 5/16-18 SS HEX FINISH NFISS5/16C	080-0413	8	*	WASHER, LOCK 5/16" SS WMLSS5/16	080-0101	8
				*	WASHER, 1/4 X 1 1/4 FLAT FENDER WFESS	080-0159	4
				*	DECAL, STEERING WHEEL #DS00028	055-2955	

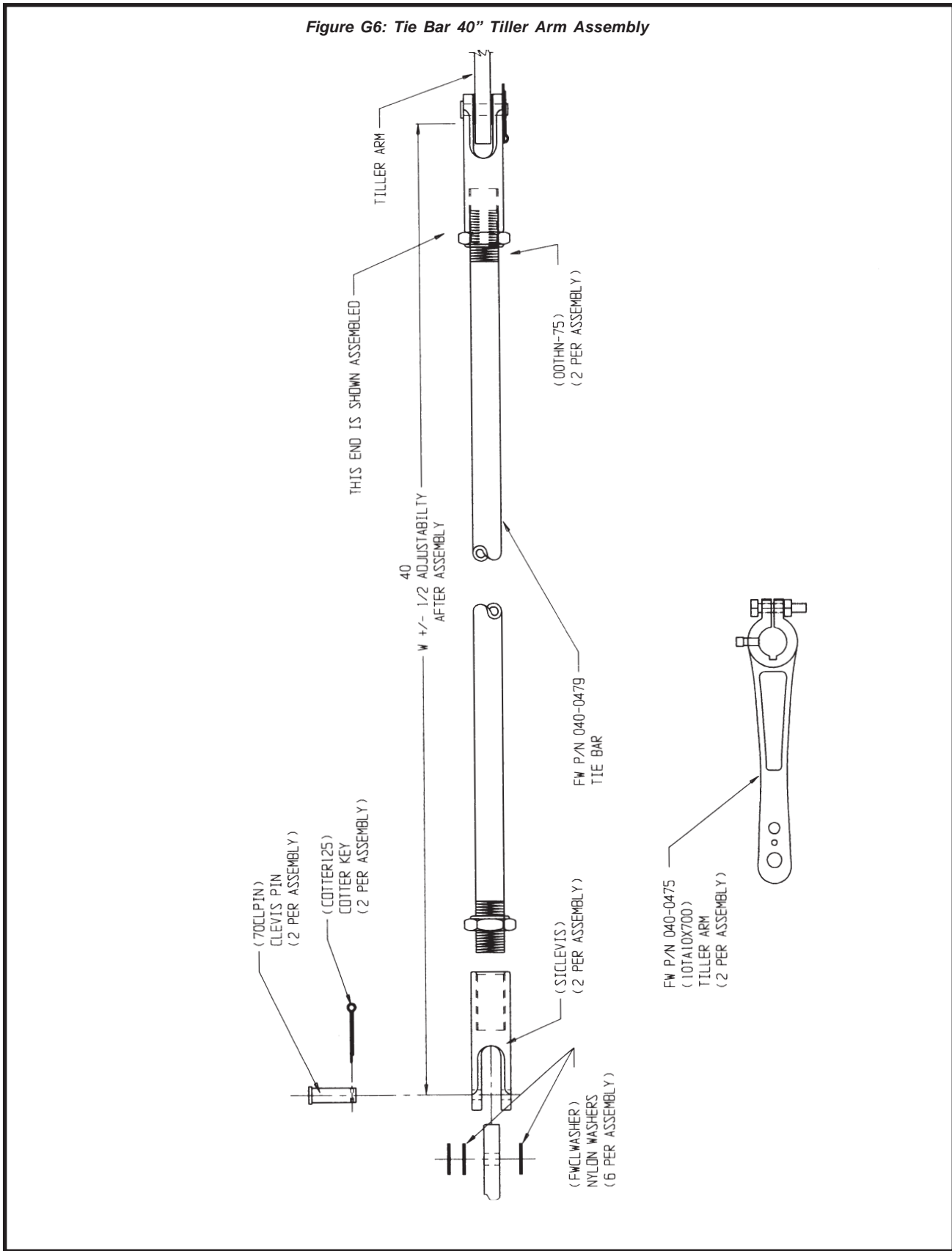
Figure G5: Inboard Propulsion System



(*) NOT SHOWN

#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	STRUT, PROP SHAFT INBOARD	040-0473	2	8	NUT, 1/2-13 NYLON INSERT ESN 79	080-0056	12
2	SHAFT ASSEMBLY, INBOARD	040-0484	2	*	CONTROL, TWIN LEVER/SINGLE ACTION CH4451	041-0268	2
3	SEAL, SHAFT LOG ASS'Y 1.25 SS1250200001	040-0511	2	9	ANODE ZINC, SHAFT, 1-1/4 X-5	040-0056	2
4	SHAFT LOG, SLL-125-FG BUCK ALGONQUIN	040-0516	2				
5	CLAMP, LOG T-BOLT 2 1/2"	021-0362	8				
*	CABLE, CONTROL 22' #CC17230	041-0272	1				
*	CABLE, CONTROL 26' #CC17226	041-0271	2				
*	CABLE, CONTROL 30' #CC17230	041-0270	1				
*	LUBE, MOLY #175356	084-0085	.050 TU				
*	GREASE, OMC TRIPLE GUARD #5082	084-0083	.006 TU				
*	CAULK, 1/4" BEAD #3M 4200	084-0175	30 IN				
6	BOLT, 1/2-13 X 3" FH SOC. MS S	080-0292	12				
7	WASHER, FENDER WFESS.530X1.44X.150 SS	080-0747	12				

Figure G6: Tie Bar 40" Tiller Arm Assembly



ELECTRICAL SYSTEMS

H - 1 GENERAL

All electrical equipment on the Four Winns Vista™ models operates on 12 volts DC or 120 volts (220 volts on 50 Hertz models) AC electrical power. Depending on the Vista™ model, a dual battery or triple battery system along with dockside power (including battery charger) is available. Batteries are located in the engine compartment.

WARNING

Fire or Explosion Hazard!

Electrical system parts are designed by and manufactured to comply with the U.S. Coast Guard requirements to minimize risks of fire or explosion. **Never substitute automotive parts for marine parts.** Automotive parts do not provide the necessary ignition spark protection.

WARNING

DO NOT tamper with any electrical connection, panel or harness, or attempt installation of any electrical equipment unless thoroughly familiar with the systems and experienced in making such installations.

Circuit breakers are installed on the battery switch to protect various system components. The SHIP SYSTEMS breaker supplies power to all DC electrical components except the aft and forward bilge pumps, ignition, and instrumentation. Additional breakers are located in the cabin circuit breaker panel. The circuit breakers and fuses are labeled for amperage and use.

H - 2 SINGLE ENGINE - SINGLE BATTERY SYSTEM

A. Single Battery System

On certain Vista™ models, a single battery is provided as standard equipment (12 volt DC) per Section H-1 above. The 12 volt DC components are protected by a fuse panel either located below the helm or starboard of the helm, below the throttle shift control. Refer to Figure H1 and to the wiring schematics located in the back of this manual.

When installing the battery, proceed as follows:

1. Connect the red (positive) cable running from the battery switch to the positive (+) battery terminal.
2. Connect the black (negative) battery cable running from the engine block to the negative (-) battery terminal.

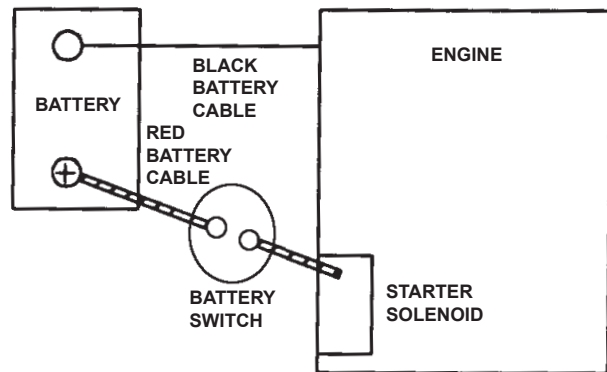


Figure H1: Single Engine-Single Battery Installation

CAUTION

When disconnecting the cables from the battery, make sure all switches are off and disconnect the black negative cable first to prevent spark.

NOTICE

DO NOT disconnect the battery while the engine is running. Alternator damage could result.

Monitor the alternator output voltage with the voltmeter in the dash panel. For additional information, refer to Section H-13 - Electrical System Maintenance.

B. Battery Selector Switch - On/Off Position

“OFF” - With the battery selector switch in the “OFF” position, all 12 volt power to the ships systems is shut off except to the automatic bilge pump and stereo. Circuit breakers are provided on the battery selector switch panel to protect the aft bilge, stereo and 12 volt receptacle. Always turn the battery selector switch to the “OFF” position when the boat is unattended for an extended period.

NOTICE

DO NOT turn the battery selector switch to the “OFF” position while the engine is running. Alternator and wiring damage could result. Always stop the engine before switching “OFF”.

“ON” - With the battery selector switch in the “ON” position, the battery will be used to power the engine and 12 volt power is supplied to the ships systems. With the engine running, the alternator charges the battery. Care must be exercised so as not to drain the battery too low that you are unable to start the engine when needed.

H - 3 SINGLE ENGINE - DUAL BATTERY SYSTEM

A battery selector switch is installed on the dual battery system. This allows DC power to be used from either one or both batteries. Refer to the schematics in the back of the manual.

A. Installation

Connect each of the red (positive) battery cables leading from the battery selector switch to the positive (+) terminal on each of the two batteries. Refer to Figure H2.

NOTICE

Be sure the two red (positive) cables are installed on the positive (+) battery terminals.

2. Connect each of the black (negative) battery cables leading to the engine block to the negative (-) battery terminal on each of the two batteries.

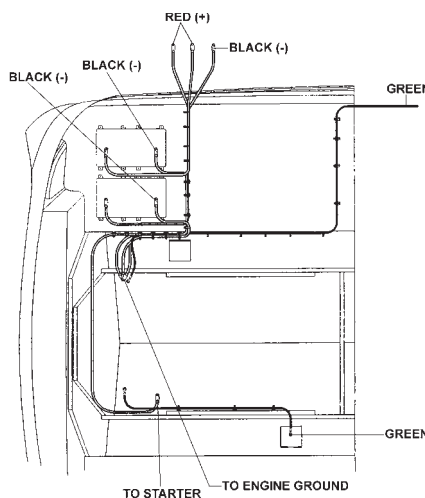
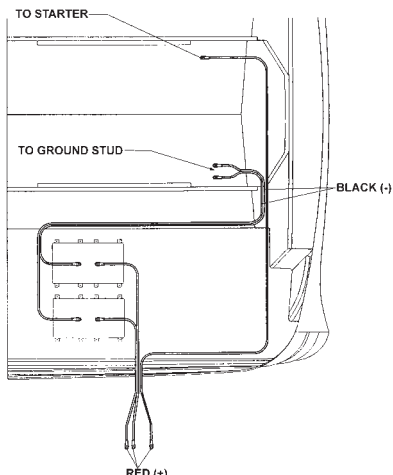


Figure H2: Dual Battery Systems

WARNING

When disconnecting the cables from the battery, make sure all switches are off and disconnect the black negative cable(s) first to prevent spark.

B. Operation - Single Engine w/ Dual Battery System

Power to the engines and all 12 volt electrical equipment is controlled at the battery selector panel. On certain Vista™ models, separate circuit breakers are provided on the battery selector switch panel to protect the windlass (if applicable), forward and/or aft bilge pump, stereo, 12 volt receptacle, and ship systems (if applicable). Note: The quantity and use of circuit breakers may vary depending upon the Vista™ model, equipment availability and battery selector switch panel used.

1. Battery Selector Switch- 1, 2 & BOTH Positions

The battery selector switch positions are as follows:

“OFF” - With the battery selector switch in the “OFF” position, all 12 volt power to the engine is shut off except to the automatic bilge pump, stereo and 12 volt receptacle. Circuit breakers are provided on the battery selector switch panel to protect the aft bilge, stereo and 12 volt receptacle. A circuit breaker switch may also be used to switch the ship systems “ON/OFF”. Always turn the battery selector switch and the ship systems breaker switch (if applicable) to the “OFF” position when the boat is unattended for an extended period.

NOTICE

DO NOT turn the battery selector switch to the "OFF" position while the engine is running. Alternator and wiring damage could result.

"1" - Turning the switch to position "1" will use battery #1 to power the engine and 12 volt equipment. Battery #2 will be isolated and remain in reserve. Only battery #1 will be charged by the alternator.

"2" - Turning the switch to position "2" will use battery #2. Battery #1 is isolated and remains in reserve. Only battery #2 will be charged by the alternator.

"BOTH" - With the battery selector switch in the "BOTH" position, the batteries are connected in parallel. Both batteries will be used by the engine and all 12 volt equipment. Both batteries will be charged by the alternator. However, the batteries will charge at a slower rate compared to setting the switch in the other positions.

The use of one battery at a time is recommended. Position the battery selector switch to either the #1 or #2 position.

Under normal conditions, avoid using the "ALL" position. Use the "ALL" position only when a single battery is not capable of starting the engine.

Four Winns recommends alternating between batteries during boating. Depending upon boating use, this may increase battery longevity. Use battery #1 for the first day of a cruise and switch to battery #2 on the second day.

Position the battery selector switch to the battery that has sufficient power to start the engine (normally position "1"). After the engine is running, turn the battery selector switch to the battery that has the lowest charge. This will allow the alternator to charge the low battery. Utilizing the battery selector switch in this manner (instead of using the "ALL" position) will supply a greater charge to the battery.

FOR EXAMPLE: If battery #1 is fully charged and battery #2 is in need of a charge, use battery #1 to start the engine. After the engine is running and warmed-up, turn the battery selector switch to the #2 position. This will permit the alternator to charge the low, #2 battery.

2. Battery Switch Operation with "Emergency Start Only" Position

A description of the various positions for this battery switch is as follows:

"OFF" - With the battery selector switches in the "OFF" position and the "SHIPS SYSTEMS" circuit breaker in the "OFF" position, all 12 volt power to the boat is shut off except to the automatic bilge pumps, stereo and windlass (if applicable). Always turn the battery selector switch to the "OFF" position when the boat is unattended for an extended period.

NOTICE

Twelve volt power to the cabin panel is supplied by the "SHIPS SYSTEMS" circuit breaker on the battery selector panel. This must be turned on to operate any 12 volt accessories on the cabin panel. The bilge pumps and stereo receive power from the ships system battery and remain on at all time regardless of battery selector or ship systems switch position.

NOTICE

DO NOT turn the battery selector switch to the "OFF" position while its corresponding engine is running. Alternator and wiring damage could result.

"ON" - Turning the switch to position "ON" will use the engine battery to power the engine and 12 volt engine related equipment. The ships system battery will not be used for any engine related equipment, but will power all other 12 volt equipment on the boat (when "SHIP SYSTEM" circuit breaker is on). The isolator will allow the alternator to fully charge the two batteries, but not allow the operator to drain down the engine start battery. "ON" is the recommended switch position for normal boat operation. This position allows maximum use of 12 volt equipment on the boat and leaves a full charge in the engine battery for starting.

"EMERGENCY START ONLY" - With the battery selector switch in the "EMERGENCY START ONLY" position, the engine and ships systems battery are connected in parallel. Both batteries will be used by the engine and all 12 volt equipment. Both batteries will be charged by the alternator through the isolator.

H - 4 DUAL ENGINE - DUAL BATTERY SYSTEM

A battery selector switch is installed on dual engine, dual battery installations. This allows DC power to be used from either one or both batteries. Refer to the schematics in the back of the manual.

A. Installation

Installation of cables is the same as the section on Single Engine - Dual Battery System describes earlier except for the ground cables. An additional black cable is connected to the other engine.

B. Operation

Power to the engines and all 12 volt electrical equipment is controlled at the battery selector panel. Separate circuit breakers are provided on the battery selector switch panel to the windlass (if applicable), stereo, aft bilge pump and ship systems.

NOTICE

DO NOT turn a battery selector switch to the "OFF" position while an engine is running. Alternator and wiring damage could result.

NOTICE

Start one engine, and then the other. Attempting to start both engines by turning both ignition keys simultaneously may damage electrical components and is not recommended.

Monitor the alternator output voltage with the voltmeter in the dash panel. For additional information, refer to Section H-13 - Electrical System Maintenance.

C. Battery Switch Operation

The battery selector switch with "Emergency Start" position is standard on certain Vista™ models only. A description of the various positions for the battery switch is as follows:

"OFF" - With the battery selector switches in the "OFF" position and the "SHIPS SYSTEMS" circuit breaker in the "OFF" position, all 12 volt power to the boat is shut off except to the automatic bilge pump, stereo and windlass (if applicable). Always turn the battery selector switch to the "OFF" position when the boat is unattended for an extended period.

NOTICE

Twelve volt power to the cabin panel is supplied by the "SHIPS SYSTEMS" circuit breaker on the battery selector panel. This must be turned on to operate any 12 volt accessories on the cabin panel. The bilge pumps and stereo receive power from the ships system battery and remain on at all time regardless of battery selector or ship systems switch position.

NOTICE

DO NOT turn the battery selector switch to the "OFF" position while its corresponding engine is running. Alternator and wiring damage could result.

"ON" - Turning the switch to position "ON" will use the engine battery to power the engine and 12 volt engine related equipment. The ships system battery will not be used for any engine related equipment, but will power all other 12V equipment on the boat (when "SHIP SYSTEM" circuit breaker is on). The isolator will allow the alternator to fully charge the two batteries, but not allow the operator to drain down the engine start battery. "ON" is the recommended switch position for normal boat operation. This position allows maximum use of 12V equipment on the boat and leaves a full charge in the engine battery(s) for starting.

"EMERGENCY START ONLY" - With the battery selector switch in the "EMERGENCY START ONLY" position, the engine and ships systems battery are connected in parallel. Both batteries will be used by the engine and all 12 volt equipment. Both batteries will be charged by the alternator through the isolator.

H - 5 DUAL ENGINE - TRIPLE BATTERY SYSTEM

Two battery selector switches are installed on dual engine, triple battery installations. This allows DC power to be used from any of the three batteries. Refer to the schematics in the back of the manual.

A. Installation

1. Connect each of the red (positive) battery cables leading from the battery selector switch to the positive (+) terminal on each of the three batteries. Refer to Figure H3.

NOTICE

Be sure all three red (positive) cables are installed on the positive (+) battery terminals.

2. Connect each of the black (negative) battery cables leading to the engine block to the negative (-) battery terminals on each of the three batteries.

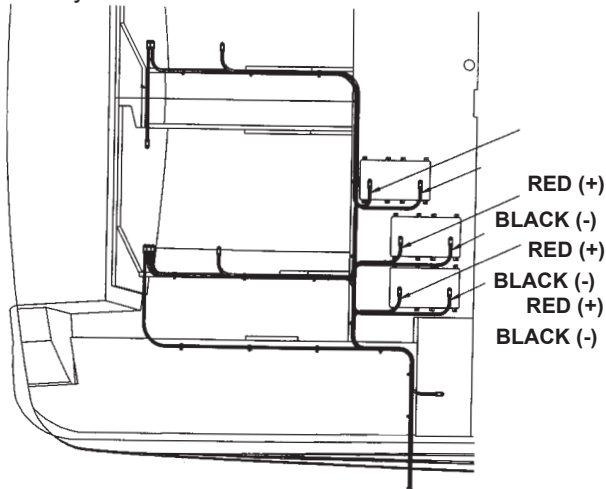


Figure H3: Triple Battery System

B. Operation

Power to the engines and all 12 volt electrical equipment is controlled at the battery selector panel. On certain Vista™ models, separate breakers are provided on the battery selector switch panel to protect the stereo, windlass, forward and aft bilge pump, battery outputs, and ship systems.

Battery Selector Switch - Dual

The battery selector switch positions for the dual battery selector switch is as follows:

“OFF” - With the battery selector switches in the “OFF” position and the “SHIPS SYSTEMS” circuit breaker in the “off” position, all 12 volt power to the boat is shut off except to the fore and aft automatic bilge pumps, stereo, and windlass. Always turn the battery selector switches and the SHIPS SYSTEMS” circuit breaker switch to the “OFF” position when the boat is unattended for an extended period.

NOTICE

Twelve volt power to the cabin panel is supplied by the “SHIPS SYSTEMS” circuit breaker on the battery selector panel. This must be turned on to operate any 12 volt accessories on the cabin panel. The bilge pumps, stereo and windlass receive power from the ships system battery and remain on at all time regardless of battery selector or ship systems switch position.

NOTICE

DO NOT turn the battery selector switch to the “OFF” position while its corresponding engine is running. Alternator and wiring damage could result.

Port Engine Battery Switch:

“ON” - Turning the switch to position “ON” will use the port engine battery to power the port engine and 12 volt engine related equipment. The ships system battery will not be used for any engine related equipment, but will power all other 12 volt equipment on the boat. The isolator will allow any alternator to charge all three batteries. “ON” is the recommended switch position for normal boat operation. This position allows maximum use of 12 volt equipment on the boat.

“SHIP SYSTEMS” - Turning the switch to position “SHIPS SYSTEMS” will use only the ships system battery to power the port engine and 12 volt engine related equipment. The isolator will allow any alternator to charge all batteries, but the boat systems (including the engine) will operate off of the ships systems battery.

“PARALLEL” - With the battery selector switch in the “PARALLEL” position, the port engine and ships systems batteries are connected in parallel. Both batteries will be used by the engine and all 12 volt equipment. All batteries will be charged by any alternator through the isolator.

Starboard Engine Battery Switch:

“ON” - Turning the switch to position “ON” will use the stbd engine battery to power the stbd engine and 12 volt engine related equipment. The ships system battery will not be used for any engine related equipment, but will power all other 12 volt equipment on the boat. The isolator will allow any alternator to charge all three batteries. “ON” is the recommended switch position for normal boat operation. This position allows maximum use of 12 volt equipment on the boat.

“SHIP SYSTEMS” - Turning the switch to position “SHIPS SYSTEMS” will only use the ships system battery to power the stbd engine and 12 volt engine related equipment. The isolator will allow the alternator to charge all batteries, but the boat systems (including the engine) will operate off of the ships systems battery.

H - 6 BATTERY CHARGER

The battery charger is available on certain Vista™ models and is located in engine compartment. The batteries will be charged by the battery charger when the boat is connected to dockside power and the AC circuit breakers are “ON”. If a generator is available and operating, it too will allow the batteries to be charged by the battery charger.

Additional information on the battery charger can be found in Section H-9B - 120 Volt AC Equipment in this manual and refer to the manufacturer’s literature included with the owner’s packet.

H - 7 VOLTMETER

Depending on the number of engine battery(s) on your Vista™ model, voltmeter(s) is installed in the dash panel to monitor the condition of the engine battery(s). When the voltage is checked during engine or battery charger operation, the voltage of the respective battery will be indicated on the respective voltmeter (if applicable). It is common to have a 14 volt reading when the engine(s) is running. It should be noted that located in the cabin panel is a voltmeter which monitors the “SHIPS SYSTEMS” battery (if applicable). Additional information on voltmeters may be found in the engine owner’s manual.

H - 8 12 VOLT ELECTRICAL EQUIPMENT

A. Helm Equipment

Ignitions are protected by circuit breakers on all Vista™ models. Depending on the model, equipment on the helm is protected by either circuit breakers in the helm and in the cabin’s AC/DC panel or by fuses in the fuse panel located below the helm.

To assist you, we have listed the descriptions of individual switches, receptacles and their uses:



To prevent electrical problems, use only replacement fuses or breakers that are of equal rating to the originals.

Accessories - Additional 12 volt equipment may be added to the boat by the using the accessory switches. Depending on the model, certain accessories may be wired directly to the fuse block below the dash or may be wired to a circuit breaker in the AC/DC cabin panel. For additional information on adding accessories, refer to Section H-7B.

12 Volt DC Receptacles - Permits the use of additional 12 volt equipment such as a cell phone. Using the appropriate adaptor, the equipment draws power from the boat’s batteries.

Aft Bilge Pump - The BILGE PUMP switch is used to manually activate the bilge pump in the engine compartment. The bilge pump is used to remove water from the bilge (bottom of the hull) area of the boat by pumping that water overboard. The aft bilge pump is equipped with an automatic bilge switch and will operate whenever bilge water rises to a level that will cause the float to move upward.

This automatic bilge pump is active even if the battery selector switch is in the “OFF” position or if no battery selector switch is installed. The automatic bilge pump circuitry is connected directly to the batteries. When leaving your boat unattended for an extended period, check the charge on the battery(s) periodically. Also check the water level in the bilge and make sure the float switch is functional.

If the automatic bilge pump must be disabled, disconnect the wiring plug near the bilge pump.

Blower - The BLOWER switch is used to activate the bilge blower. The bilge blower is used to remove any gas vapors that may have accumulated in the bilge or engine areas.



WARNING

Gasoline vapors can explode resulting in injury or death. Before starting the engine, check engine compartment bilge for gasoline or vapors. Operate blower for four minutes, and verify blower operation. ALWAYS run the blower when the vessel is operating below cruising speed.

Cockpit Lights - The COCKPIT LTS switch is used to activate the cockpit (courtesy) lights. An additional cockpit light switch is typically located on the cabin light switch panel.

Horn - To sound the horn, press the HORN switch.

Instrument Lights - On certain Vista™ models, the INSTRUMENT LTS switch is used to activate the instrument lights on the dash. A switch allows for the high/low illumination of the instrument lights.

Navigation & Anchor Lights - Moving the NAV/ANC LTS switch towards the NAV position activates the bow lights and the all-around light (or arch light if installed on certain models). Move the switch to the ANC position to activate the all-around light or arch light. The center switch position is “OFF”.

Arch Light - The ARCH LTS switch is used to activate the radar arch lights.

Trim Tabs - The boat is equipped with electric-hydraulic trim tabs, the trim tabs are controlled by the TRIM TAB switches. Refer to Section E-8 - Trim Tabs for more information.

Windlass - The WINDLASS switch activates the windlass. On certain Vista™ models with windlass, a circuit breaker is typically located on the battery switch panel. Refer to the Section M-12 in this manual and the manufacturer’s literature for additional information.

Engine Hatch - The ENGINE HATCH switch (if applicable) is used to raise and lower the engine lid by activating a linear screw jack. Pressing the upper portion of the switch marked “UP” allows the engine lid to be raised. Pressing the lower portion of switch marked “DOWN” lowers the engine lid.

Wiper - The WIPER(S) switch activates the windshield wiper(s). The wiper(s) will self park to the port.

B. Installation of Additional 12 Volt Equipment

Accessories may be added to the boat by wiring directly to the cabin panel. Non-factory installed 12 volt accessory equipment can be connected to the “ACC” switch on the dash.



CAUTION

Be sure to provide proper fuse or circuit breaker protection for all 12 volt equipment that is installed. DO NOT overload the accessory circuitry by installing too much additional 12 volt equipment.

C. Interior Equipment

Cabin equipment will be protected by the 12 volt DC cabin panel or the 12 volt fuse panel depending on the model. Cabin equipment information is listed as follows:

CO Monitor - The CO monitors are protected by a circuit breaker in the cabin panel or helm fuse panel.

Cabin Lights - To turn the overhead lights on, activate the LIGHTING circuit breaker on the 12 volt cabin panel (if applicable). Use the corresponding CABIN LIGHTS “ON/OFF” switch located on cabin lights panel to activate. Additional cabin light “ON/OFF” switches may be located in various areas of the cabin i.e. forward berthing area depending upon model.

Forward Bilge Pump - The forward bilge pump available on certain models can be activated manually by the FWD BILGE PUMP breaker switch placed in the “ON” position. This breaker switch is located on the AC/DC panel of certain Vista™ models only. Note: Instead of a circuit breaker switch, certain model Vista™ may have the forward bilge pump protected by a fuse located in the fuse panel below the helm.

Any water from the stringers or from other sources within the cabin will drain into the forward bilge compartment. The pump is equipped with an automatic float switch and will operate whenever bilge water rises to a level that will cause the float to move upward. The water will be pumped overboard.

Head Compartment Vent/Blower - A blower is installed in the head compartment on certain Vistas. A separate “ON/OFF” switch is provided in the head compartment. The head vent is protected by a “HEAD LIGHT” circuit breaker on the cabin DC panel or by a fuse in the fuse panel.

Pressure Water - A pressure water pump delivers water to the faucets, shower, and transom washdown. Depending on the model, the pressure water pump will operate automatically as long as the FRESH WATER breaker or FRESH WATER switch is "ON". Depending upon the model the fresh water pump is protected by either a circuit breaker on the cabin DC panel or by a fuse in the fuse panel.

Turn the FRESH WATER switch "OFF" when the water tank becomes empty, or when water will not be required for an extended period. Depending on the model, tank monitoring systems are available to check water levels. Refer to Section J-1 and J-2 in this manual for additional information.

Cockpit Refrigerator (Optional - specified models only) - A circuit breaker is provided on the DC cabin panel. The refrigerator has a separate "ON/OFF" switch. Refer to Section L-2 in this manual and to the manufacturer's literature for additional information.

Stereo - The stereo has a separate switch on the unit and is protected by either a circuit breaker labeled STEREO on the 12 volt cabin panel or by a fuse located in the fuse panel depending upon the model.

Sump Pump - A sump pump is used to discharge water from the shower and sink drains overboard. It is installed on all Vista™ models. The sump pump has a float switch which will activate the pump when the water level rises in the sump. This pump is protected by the SHOWER SUMP PUMP circuit breaker located in the 12 volt cabin panel or by a fuse located in the fuse panel again depending upon the model.

If the boat is equipped with a grey water system, the water from the shower and sinks is pumped into a holding tank instead of overboard.

H - 9 12 VOLT ELECTRICAL SYSTEM SHUTDOWN PROCEDURES

When leaving your boat unattended for an extended period of time it is advisable to shutdown the electrical system to reduce battery drainage and/or possible electrical draw. The procedures are general reference only and are listed below. Procedures may vary depending on the Vista™ model.

To shutdown:

1. Turn the battery switch(s) to the "OFF" position.
2. If your battery switch has a SHIP SYSTEMS circuit breaker switch, move the switch to the "OFF" position.
3. If your Vista™ has an AC/DC panel in the cabin, switch the 12VDC SYSTEM MAIN circuit breaker to the "OFF" position.

H - 10 120 (220) VOLT ELECTRICAL SYSTEM

The boat may be equipped with 30 amp, 120 volt, 60 Hertz (or 15 amp, 220 volt, 50 Hertz) AC electrical wiring. Depending on the model and when the boat is connected to a shore power outlet, the AC system supplies electrical power to the following items: battery charger, refrigerator, water heater, range, microwave, cockpit icemaker or cockpit refrigerator, outlets, and air conditioning. The dockside system uses three-wire, color-coded circuitry. The black or hot wire is the ungrounded current carrying conductor. The white or neutral wire is the grounded current carrying conductor. The green wire, referred to as the "equipment ground," is a grounded conductor, and under normal conditions is not a current carrying wire. The neutral wires are connected together at a buss bar. The equipment grounds are similarly connected together at another buss bar. Each hot wire is connected to, and protected by, a circuit breaker in the distribution box located at the top section of the AC/DC main panel or the AC panel depending on the model.

The standard dockside system has a main circuit breaker which protects the overall distribution network. Depending on the Vista™ model, MAIN dockside inlet(s) are located either in the aft transom storage tub or on port side of the deck. Certain Vista™ models have MAIN circuit breakers on the AC/DC cabin panel. Other Vista™ models have a single MAIN breaker located on the AC cabin panel. The MAIN breaker(s) must be turned "ON" and the boat must be connected either to shore power or generator running (if applicable) for AC system operation. The MAIN circuit breaker(s) protects both the hot and neutral input leads. This breaker is sensitive. The resulting power surge which occurs when connecting the shore power cord may cause the MAIN breaker(s) to trip. To avoid this power spike, turn off the MAIN breaker(s) before plugging in the shore power cord. Securely connect the power inlet of the boat and the shore power receptacle. Once the shore

power is securely connected, turn the MAIN breaker(s) back on. If the connection is broken and later re-secured, the circuit breaker may trip. Connections must be secure for uninterrupted dockside service.

H - 11 DOCKSIDE OPERATION



WARNING

If any abnormalities appear during dockside operation, DISCONNECT the system immediately to prevent electric shock hazards! Have the boat's electrical system and the shoreside receptacles checked as soon as possible.

A. Shore Power Connections



WARNING

To prevent electric shock hazards, use only equipment with approved three wire electrical plug connections. Be sure each item being used has been tested and is free of electrical shorts and ground faults.

Fifty foot, ten gauge, three wire, shore power cords are provided with dockside wiring. The shore power cords on 60 Hertz systems have 30 amp twistlock-type connectors. They have a power "ON" indicator light to ease in connecting and troubleshooting. This connector complies with the American Boat and Yacht Council (ABYC) standards.

Some marinas are not equipped with approved twistlock-type receptacles. An adaptor is available from Four Winns which converts the twistlock shore plug to a three wire grounded household type plug. Use only an approved adaptor when an adaptor is necessary.



WARNING

DO NOT use a two-wire adaptor to connect to a three-wire system. These adapters do not provide adequate grounding.

Shore power connection procedure is as follows:

1. Turn off the boat's main breaker switch before connecting or disconnecting the shore power cable.
2. Connect shore power cable at the boat first, then connect it to dockside shore power outlet.

NOTICE

Always connect the cord to the power inlet receptacle of the boat before making connections to the shore power source.

3. Check for reversed polarity on the AC panel. If the reversed polarity light is activated, immediately disconnect the shore power cord. See Section H-11C - Reverse Polarity Indicator.
4. To disconnect shore power, turn off the main breaker switch on the AC electrical panel and disconnect the power cord from the shore power dockside receptacle first. Then, disconnect the cord from the boat.

NOTICE

Always disconnect the shore power cord from the dockside first before disconnecting from the boat.

B. 120 Volt AC Equipment

All 12 volt equipment is isolated from the 120 volt AC system (except the refrigerator which is dual voltage). Appropriately labeled circuit breakers protect all AC systems on the boat. The receptacles can be used for 120 volt (220 volts on 50 Hertz models) household appliances. Refer to the following list for information on appliances and other equipment.

Battery Charger - The battery charger is controlled by a circuit breaker on the AC electrical panel in the cabin labeled BATTERY CHARGER or CHARGER/REFRIGERATOR depending on the Vista™ model. In order for the charger to charge the battery(s) the circuit breaker must be "ON" while connected to dockside power. If a generator is available and operating it too will allow the batteries to be charged by the battery charger.

Refrigerator - The REFRIGERATOR or CHARGER REFRIGERATOR circuit breaker must be on to operate on 120 voltage. If this breaker is off, the refrigerator will automatically operate on the 12 volt system. This can deplete the battery. Excessive drain on the battery may cause irreparable battery damage. The refrigerator will automatically operate on 120 volts when provided. Refer to Section L-1C - Galley Equipment in this manual for more information.

Water Heater - The WATER HEATER circuit breaker supplies power to the water heater. Refer to Section J-2C - Water Heating Systems in this manual for more information.

NOTICE

DO NOT supply electrical power to an empty water heater. Activate the FRESH WATER circuit breaker and switch to start the water pump and prime the system. Be sure there is adequate water in the system before turning on the water heater. Failure to comply will result in immediate damage to the heater element.

Electric Stove - The RANGE circuit breaker must be activated to supply power to the electric stove on all Vista® models. Refer to Section L-1A - Galley Equipment in this manual for more information.

Microwave - The MICROWAVE breaker must be activated and the boat connected to dockside power or use the generator (if applicable) to supply power to the microwave on the Vista™ models.

Icemaker - The icemaker is available on certain Vista™ models only. The ICEMAKER breaker must be "ON" to supply power to the icemaker.

Receptacles - The OUTLETS circuit breakers supply power to the corresponding receptacles in the AC system.

Air Conditioner - The AIR CONDITIONER circuit breaker supplies power to the air conditioner. When equipped with air conditioning, certain Vista™ models have dual dockside installation while other models have single dockside installation. With a dual dockside installation, one inlet is dedicated to the air conditioning only and the other is for the AC Main Shore inlet. Refer to Section L-4 - Air Conditioning in this manual for more information.

Most receptacle circuits are capable of handling 15 amperes. Refer to Table III for a list of equipment and the electrical currents usually required to operate these items. For 220 volt, 50 Hertz models, divide all of the current ratings by 2. Usually, the power requirement is specified on the electrical item. This is only an approximation of the electric current usage normally experienced.

Table III: Electrical Equipment

EQUIPMENT	ELECTRICAL LOADS
Air Conditioners	See motor load plate
Battery Chargers	Up to 800 watts (7.3 amps)
Blankets (Electric)	50 to 200 watts (2 amps)
Coffee Makers	550 to 700 watts (6.3 amps)
Electrical Drills	See motor load plate
Fans	25 to 75 watts (0.7 amps)
Fry Pan	1350 watts (12.3 amps)
Heater	1500 watts (13.7 amps)
Lights	Wattage as marked
Television	1500 watts (10.5 amps)
Vacuum Cleaners	See motor load plate

C. Reverse Polarity Indicator

Improper grounds or reversed polarity at shore power are a source of serious electrical hazard. The reverse polarity light will indicate if a problem exists at the 120 AC electrical system shore connection

If a problem exists, the reverse polarity indicator light will come on when the shore power cable is attached to the inlet. DO NOT activate the shore power switch in the cabin when the reverse polarity light is on.



WARNING

ALWAYS check the reverse polarity indicator light in the AC distribution panel immediately upon connecting the shore power cord before turning on the AC SHORE POWER circuit breaker. If the light is on, a problem with a reversed electrical connection exists. Disconnect the shore power cord immediately. Notify the marina and have the dock's shore power connection inspected.

Under proper operating conditions, the reverse polarity indicator light **will not** be on. A green light is provided for the shore power and will be "ON" when dockside power is being used.

NOTICE

Some marina shore power systems may be improperly grounded to retard electrolysis (see Section H-13 - Stray Current Corrosion). Before using any 120 volt equipment, make sure the reverse polarity light does not activate when connecting the cord to the inlet.

D. Ground Fault Current Interrupters (GFCI)

The ground fault current interrupter (GFCI) is a device which protects against hazardous electrical shock from improper ground. An appliance electrical cord with worn insulation or damp equipment may have stray current which will run through electrical grounds. Stray current as above will result in an electrical shock.

One GFCI receptacle will protect all of the receptacles on the circuit. A GFCI may be used as a receptacle as well as an interrupter.

To test:

Push the black test button and the red reset button should pop out from the inner surface. The receptacle and the circuit are now off.

Push the reset button in until it clicks to reset it. If it does not reset, there is either a short in the circuit or the equipment being used, or a ground fault in the equipment. Unplug all appliances and reset the GFCI. One at a time, plug the equipment back in and turn it on. The item that causes the GFCI to trip is the problem item and should **not** be used.

H - 12 GENERATOR OPTION

An optional generator is available on certain Vista™ models. It provides 120 Volt (220V) AC power when the boat is away from the dock. The generator can be operated while running at or below cruising speed. The generator should not be operated when the boat is being run at high speeds. **Insufficient cooling water may be available due to the speed.**

A generator factory installed by Four Winns is capable of providing sufficient power for most electrical needs including cooking, refrigeration, and air conditioning. **It is possible to overload the generator by trying to operate too much equipment at one time.** The circuit breaker that protects the output circuits on the generator set will trip should that occur. See the generator manufacturers information for specifications and additional details.

On Vista™ models offering optional generators, the boat is pre-wired. If you wish to use dockside power, be sure the generator is off, connect the shore power cords as explained in Section H-11A, and turn on the Shore Power breakers on the AC cabin panel. If you wish to use generator power:

1. Be sure the shore power cord(s) are disconnected.
2. Check the bilge for fumes, operate the blower for at least 4 minutes, and verify blower operation.
3. Open the generator's seacock valve (labeled GENERATOR) to allow water flow to the generator for cooling purposes.

NOTICE

In order to use the generator, you must first open the seacock valve (handle parallel to the flow of valve). Failure to open seacock valve while running generator will cause generator to overheat and possible failure. When not using the generator be sure to close the seacock.

4. Start the generator using the remote generator start switch on the dockside panel.
5. Turn on the generator's main breakers located in the AC cabin panel.

WARNING

Be sure to operate the bilge blower for at least four (4) minutes before starting engine or generator, or whenever operating the engine(s) at idle speed. Check the bilge blower output before each use.

WARNING

Generator exhaust contains carbon monoxide. Review information regarding carbon monoxide at Section B-2 - Carbon Monoxide and Section E-2 - Engine Exhaust.

If a generator is installed, periodic generator maintenance as outlined in the generator owner's manual is necessary. Refer to the manufacturer's literature for more information. General generator installation diagrams are included at the end of this section.

H - 13 ELECTRICAL SYSTEM MAINTENANCE

A. Battery Maintenance

Be sure to keep the batteries charged. Also, keep the batteries clean, especially the terminals and connection lugs. Be sure the batteries are fastened securely while in use.

Check the battery fluid level often, especially when a charger/converter is being used. Replenish a battery indicating a low charge. Determine the reason for the discharge. Lack of battery usage is as detrimental to battery longevity as is overuse. Alternating battery usage is important. Refer to the battery manufacturer's instructions included with your battery.

DANGER

Batteries produce hydrogen and oxygen gases when being charged. These explosive gases escape through the vent/fill caps and may form an explosive atmosphere around the battery if the ventilation is poor. This gas may remain around the battery for several hours after charging. Sparks or flames can ignite the gas and cause an explosion.

WARNING

Fire or Explosion Hazard!

Only qualified personnel should install batteries and perform electrical system maintenance. Do not expose batteries to open flame or sparks. Do not smoke near batteries.

WARNING

Poison!

Sulfuric acid in batteries can cause severe burns. Avoid contact with skin, eyes, or clothing. Wear goggles, rubber gloves and protective apron when working with batteries. In case of skin contact, flush with water at least 15 minutes. If swallowed, drink large quantities of water or milk. Follow with Milk of Magnesia, beaten egg or vegetable oil. Get medical attention immediately.

WARNING

Disconnect the battery before working on electrical or ignition system to prevent electrical shock and accidental ignition.

B. Electrical Wiring Maintenance

Periodically, inspect all wiring for nicks, chaffing, embrittlement, improper support, etc. Examine the shore power cord closely for insulation cracks and corrosion in the electrical devices. Spraying the receptacles and electrical connections with an electrical connection cleaner will reduce corrosion and improve electrical continuity.

WARNING

DO NOT allow corrosion to build up on connections. Shorts or ground faults can result.

The entire 120 (220) volt circuitry, especially the shore power cord, should be seasonally tested for proper continuity by an experienced marine electrician. This will help detect any short, open wire, or ground fault. Also, check the polarity indicator system for proper operation.

WARNING

120 (220) volt AC electrical power can be dangerous. DO NOT attempt to service a system unless you are familiar with, and experienced in, performing such service.

H - 14 STRAY CURRENT CORROSION

A. General

Electrically induced underwater corrosion occasionally affects boats and their related components. This is referred to as “Stray Current Corrosion” and appears as surface pitting or deterioration. Stray current corrosion is the decomposition of chemical compounds by electric current.

Stray current corrosion can be caused by surrounding boats; an improperly wired battery/charger installation or other boats that are in close proximity which have electrical power leakages. Stern drive units are especially vulnerable to stray current corrosion.

Periodically inspect the engine components to determine if corrosion damage exists. If stray current corrosion damage is found, determine and correct the cause of the stray current to prevent further damage. Consult an experienced marine electrician or contact your Four Winns dealer for assistance.

The use of some shore power battery chargers, while the boat is in the water and the battery is connected to the system, can cause stray current corrosion. Have an experienced marine electrician review any battery charger installation to ensure a stray current corrosion problem will not develop. An improper battery connection is a common cause of stray current corrosion.

NOTICE

Use only a battery charger designed to meet U.S. Coast Guard regulations for external ignition protection.

Corrosion is usually more prevalent in polluted or salt water than in clean water. It is also more likely to occur when dockage is in an area with steel piers, large metal boats, or where shore power is in use.

B. Galvanic Corrosion

Galvanic corrosion results from a potential electrical difference existing between dissimilar metals immersed in a conductive solution (e.g., salt or brackish water). If these metals touch or are otherwise electrically connected, this potential difference produces an electron flow between them. The attack on the more active metal is usually increased and the attack on the less active metal is decreased, as compared to when these metals are not touching.

C. Corrosion Prevention

Anticorrosion anodes are attached to the bottom of the gimbal housing of your stern drive or to the transom and propeller shafts (inboards models) to prevent corrosion to your electrical systems and underwater parts. These anodes will be slowly eroded away by galvanic action and require periodic inspection. Please refer to the section on “Anti-Corrosion Anodes” in your engine manufacturer’s manual for additional information. See Figure H4.

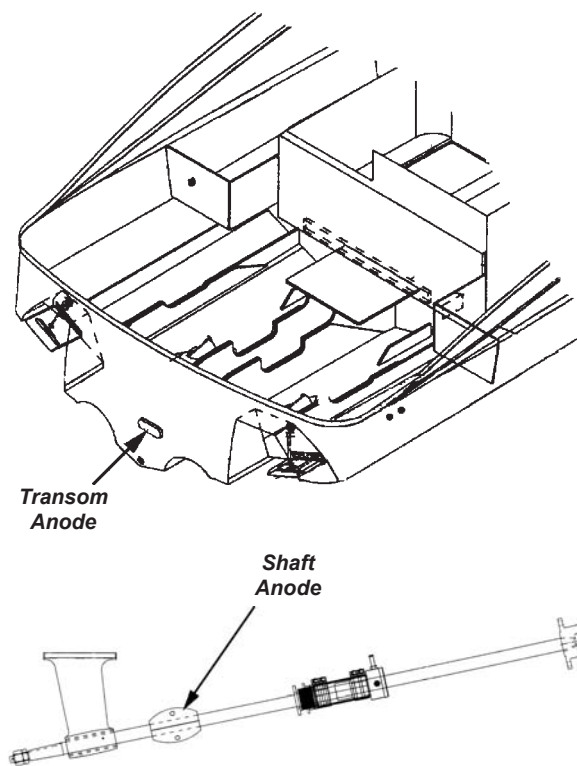
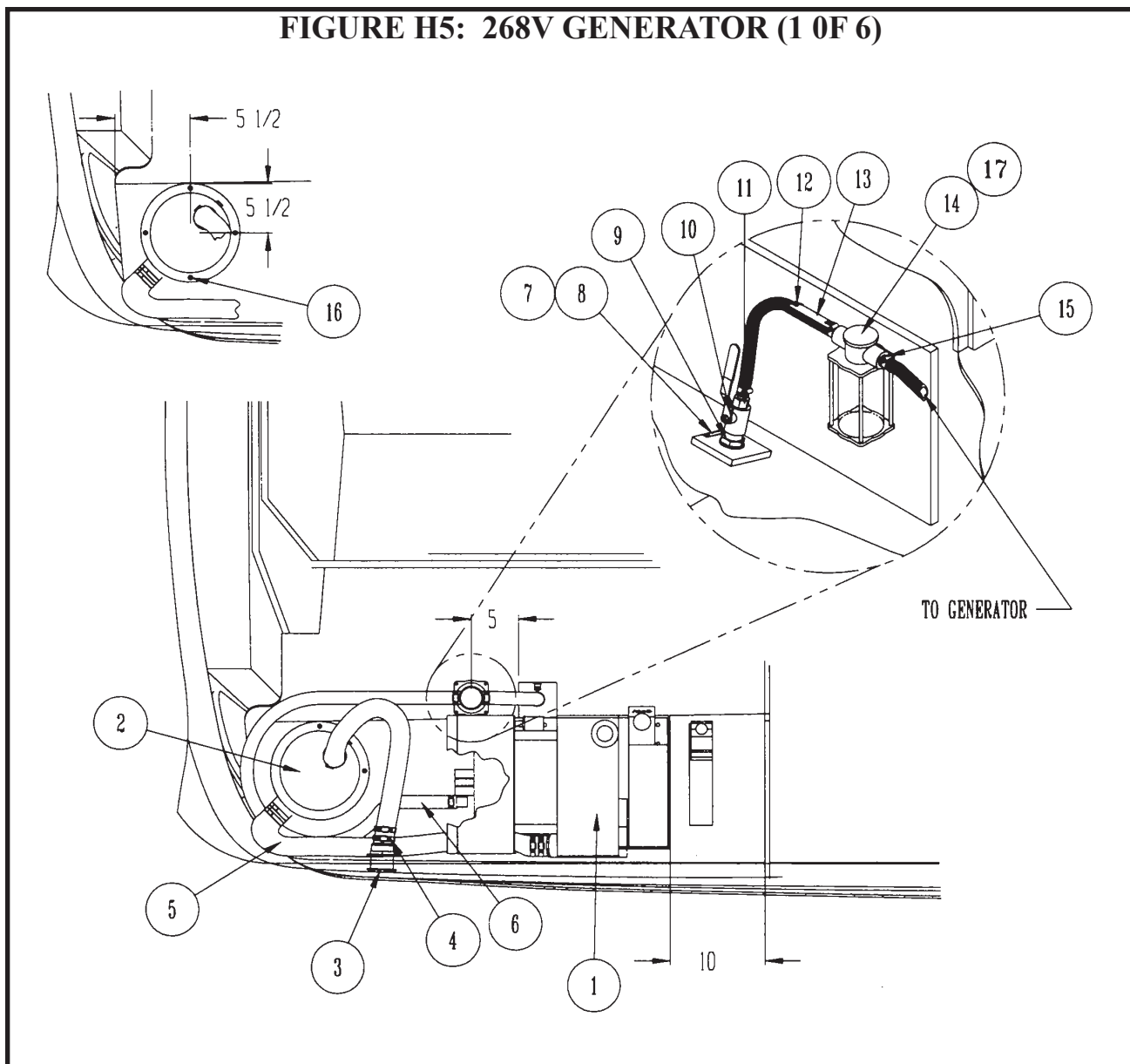


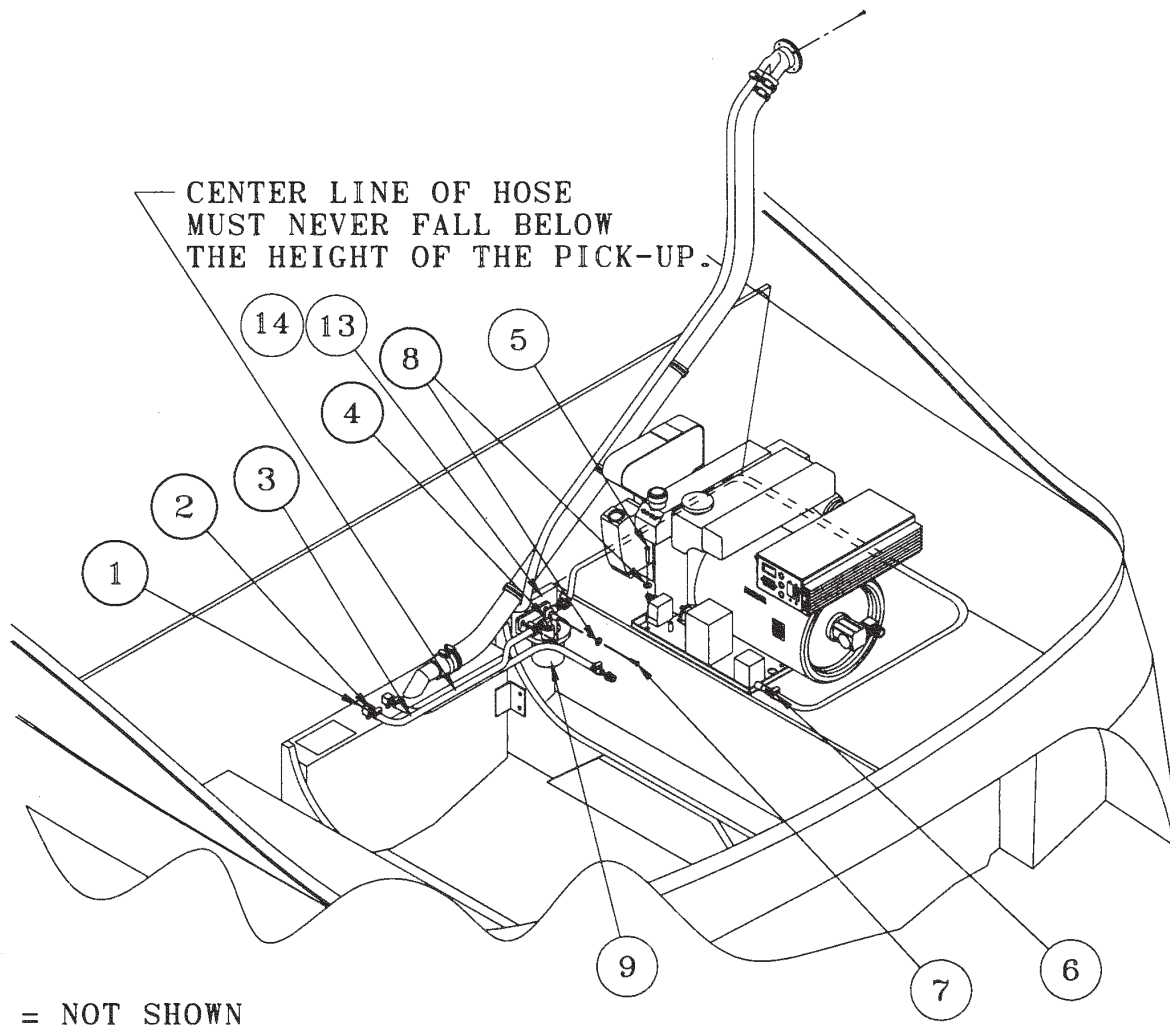
Figure H4: Inboard Transom & Shaft Anodes Shown

FIGURE H5: 268V GENERATOR (1 OF 6)



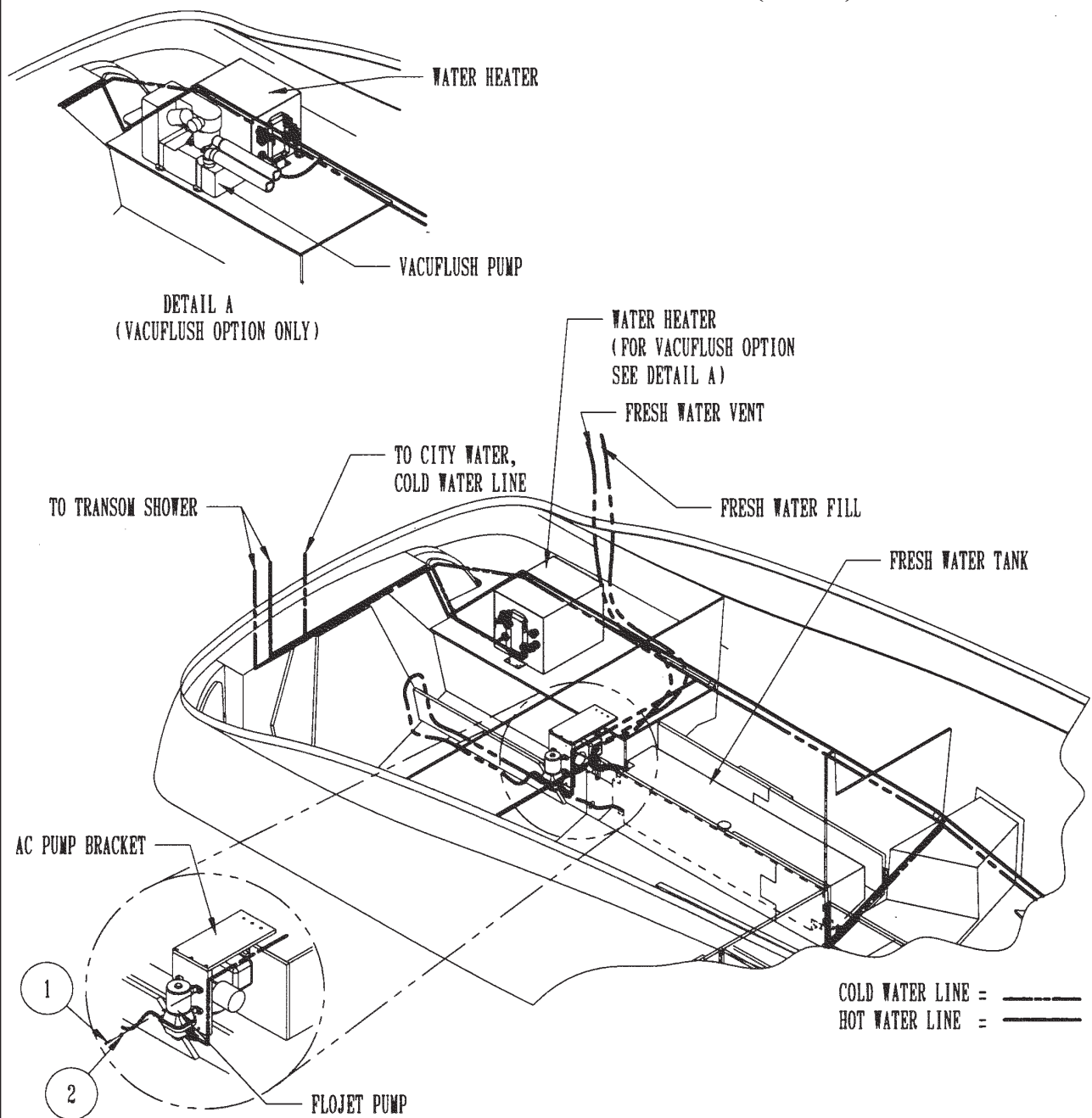
#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	GENERATOR, 5KW KOHLER 5E 120V	065-1164	1 EA	15	CLAMP, 5/8" #10H FUEL VENT HOSE	021-0031	4 EA
2	MUFFLER, KOHLER GENERATOR	032-0388	1 EA	16	SCREW, #12 X 3/4" PTHSS	080-0369	4 EA
3	THRU HULL, 2" BRONZE CHROME	035-0792	1 EA	17	SCREW, #12 X 1 1/2" PPHSMSSS	080-0041	3 EA
4	CLAMP, 2" EXHAUST #63360 52	021-0097	8 EA				
5	HOSE, 2" EXHAUST MPI-250-2006	022-0037	7.8 FT				
6	HOSE, HW 3/4" 250BE-00750-00-600F	022-0201	9.5 FT				
7	PLATE, GENERATOR SEAWATER	056-0103	1 EA				
8	SCREW, #6 X 3/4" PPH SS	080-0270	2 EA				
9	THRU HULL, 3/4" BRONZE	035-0552	1 EA				
10	VALVE, BALL 3/4"	035-0118	1 EA				
11	HOSE BARB, 3/4 MPT X 3/4 HB	035-0327	3 EA				
12	TIE, CABLE 4", MINIATURE, PANDUIT	080-0285	2 EA				
13	PLATE, GENERATOR STRAINER	056-0104	1 EA				
14	STRAINER, WATER 3/4"	035-0248	1 EA				

FIGURE H6: 268V GENERATOR (2 OF 6)



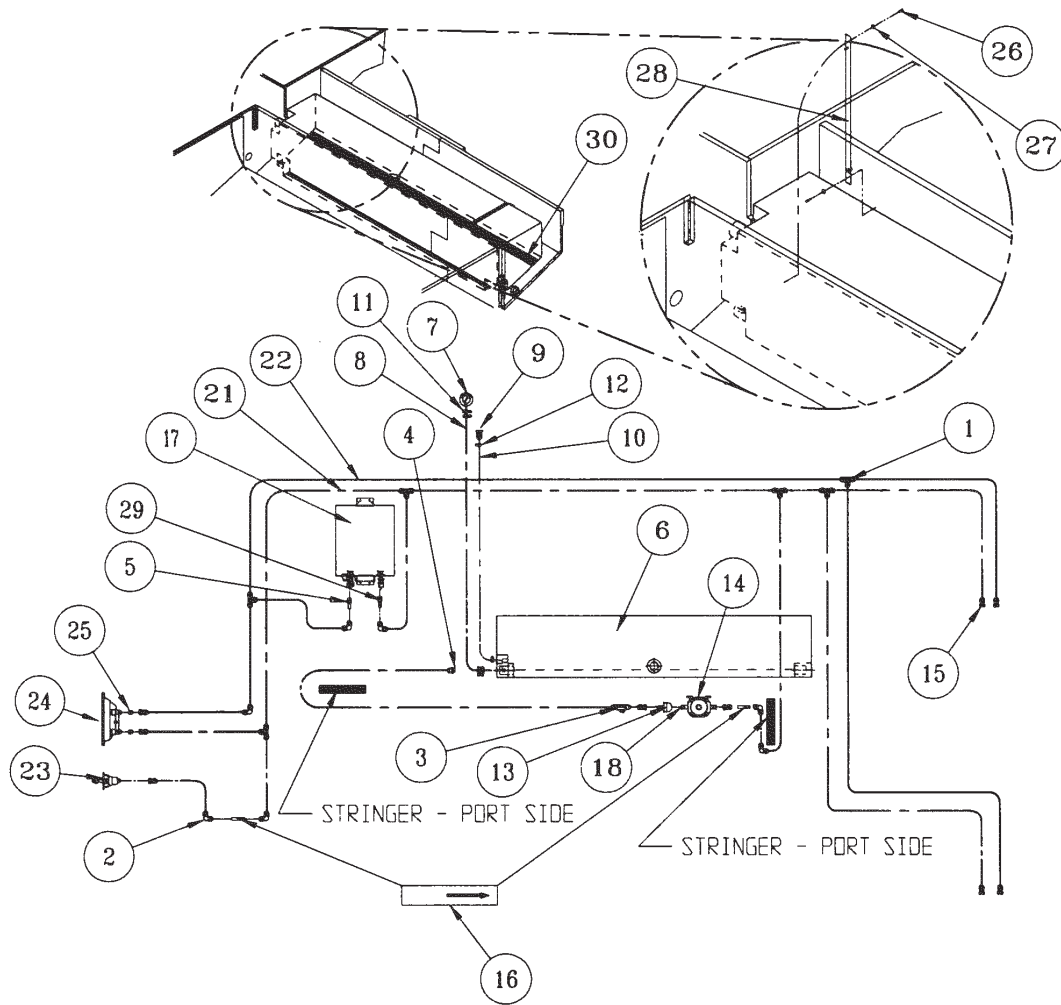
#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	PICK-UP GENERATOR 11" 328V	021-0289	1 EA				
2	HOSE BARB, 1/4 NPT X 1/4" I.D. HOSE BARB	021-0398	3 EA				
3	HOSE, 3/8" HOSE AL FUEL FEED	021-0275	10.3 FT				
4	ELBOW, ST 3/8 X 1/4	021-0012	2 EA				
5	SCREW, #14 X 1 3/4" PPH SS	080-0780	4 EA				
6	CLAMP, 3/8" HOSE #67065-52	021-0034	4 EA				
7	SCREW, #14 X 1" PPHS SS	080-0940	2 EA				
8	WASHER, .75 OD X .25 ID X .07 TH SS	080-0214	6 EA				
9	FILTER, FUEL OMC #174176	021-0075	1 EA				
*10	BLOCK, TIE WRAP	032-0584	A/R				
*11	TIE, CABLE 8.4" W/O HOLE	080-0389	A/R				
*12	SCREW, #8 X 3/4" POHSMS	080-0022	A/R				
13	STARBOARD, 3/4 X 6 X 6	100-60598	1 EA				
*14	SCREW, #10 X 1 3/4" POHSMS	080-0036	4 EA				

FIGURE H7: 268V GENERATOR (3 OF 6)



#	DESCRIPTION	PART #	QTY.
1	SCREW, #8 x 1 1/4" POHSM	080-0104	4 EA
2	WASHER, FINISH #8 SS FLANGE	080-0091	4 EA

FIGURE H8: 268V GENERATOR (4 OF 6)



NOTES: 1) ASSURE CHECK VALVES ARE IN CORRECT DIRECTION.
2) * NOT SHOWN

— HOT WATER LINE
- - - COLD WATER LINE

#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	TEE, 15mm WX1502B	035-0928	6 EA	17	WATER HEATER, 6 GAL	065-0040	1 EA
2	ELBOW, 15mm WX1503B	035-0929	7 EA	18	FITTING, KIT, FLOJET #C 20381-0	035-0729	1 EA
3	VALVE, SHUT-OFF 15mm WX1574B	035-0932	1 EA	*19	HOT WATER HEATER KIT #3856265	035-0334	1 EA
4	ADAPTER, MALE 1/2" BSP x 15mm WX1514B	035-0934	2 EA	*20	ANTIFREEZE, NON-TOXIC, 55 GAL	084-0043	3 GAL
5	ADAPTER, STEM 1/2" MPT x 15mm WX1524B	035-0986	1 EA	21	TUBING, BLUE 15mm x 50mm WX7152B	035-0936	48 FT
6	TANK, GRAY WATER/ FRESH WATER 21 GAL.	035-0905	1 EA	22	TUBING, RED 15mm x 50mm WX7154B	035-0937	27 FT
7	DECK FILL, S.S. WATER #66408-1	031-0087	1 EA	23	FITTING, WATER INLET/REG. #44410-1001	035-0027	1 EA
8	HOSE, 1 1/2" WATER WHITE #143-1120	022-0007	9.5 FT	24	SHOWER, TRANSON MIXER H/C	035-0988	1 EA
9	VENT, 90 DEGREE ELBOW #352030	035-0812	1 EA	25	ADAPTER, 3/8" BSP x 1/2" NPT	035-0691	2 EA
10	HOSE, 5/8" WASTE #148-0580	022-0013	9.5 FT	26	SCREW, #8 x 3/4" POHMS SS	080-0022	8 EA
11	CLAMP, 1 1/2" FILL HOSE	021-0032	4 EA	27	WASHER, FINISH #8 SS FLANGE	080-0091	8 EA
12	CLAMP, 5/8" VENT HOSE	021-0031	2 EA	28	INSERT, VINYL RUB RAIL ALL MODELS	033-0171	3 FT
13	FILTER, IN LINE SHURFLO #170-06	035-0158	1 EA	29	ADAPTER, STEM 1/2" MPT X 15MM WX1534B	035-0984	1 EA
14	PUMP, FLOJET #14405-143B	026-0331-02	1 EA	30	TAPE, FUEL TANK SUPPORT	021-0280	9.6 FT
15	ADAPTER, FEMALE 1/2" BSP x 15mm WX1532B	035-0933	9 EA				
16	CHECK VALVE, 15mm WX1582B	035-0985	2 EA				

FIGURE H9: 268V GENERATOR (5 OF 6)

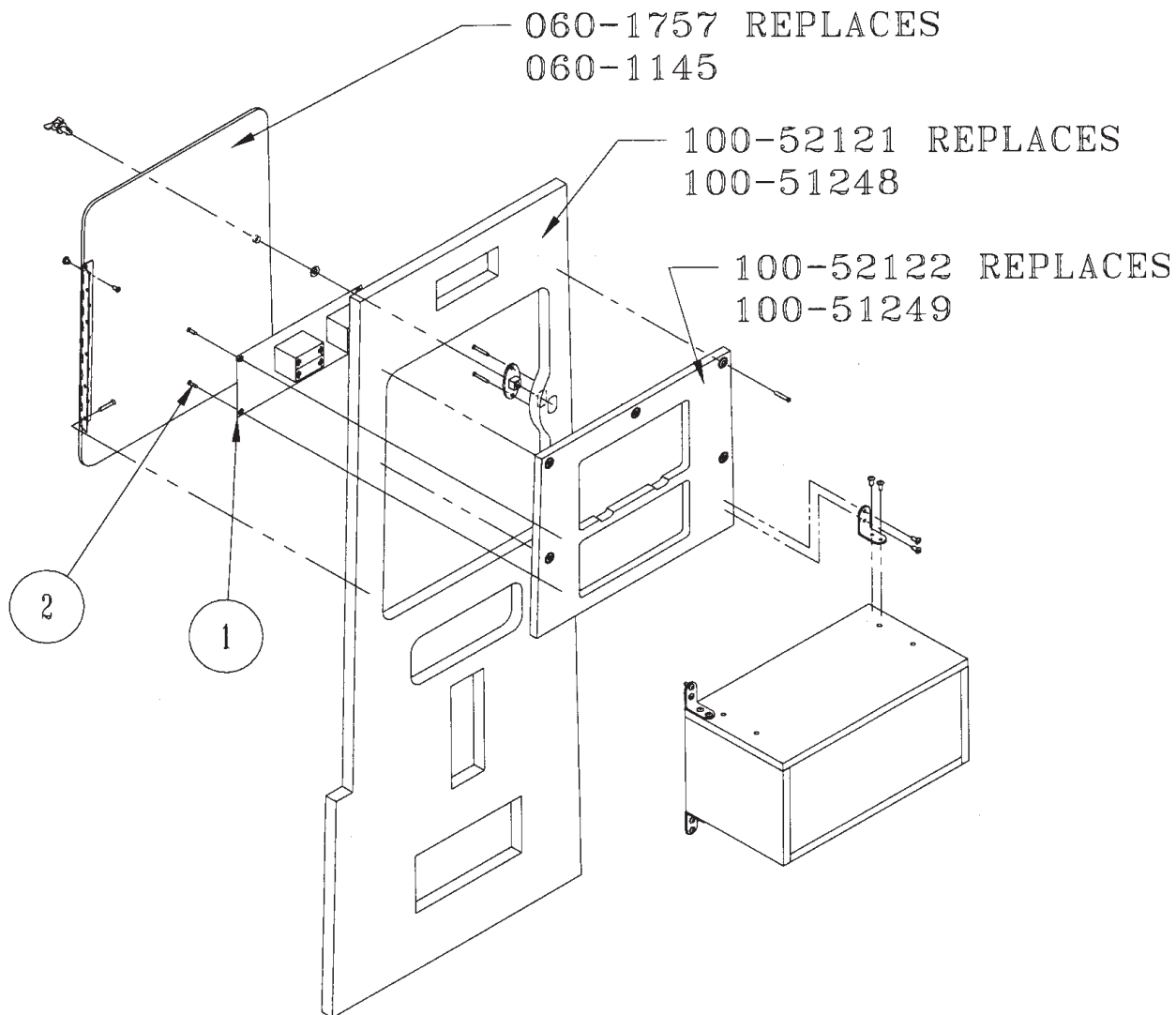
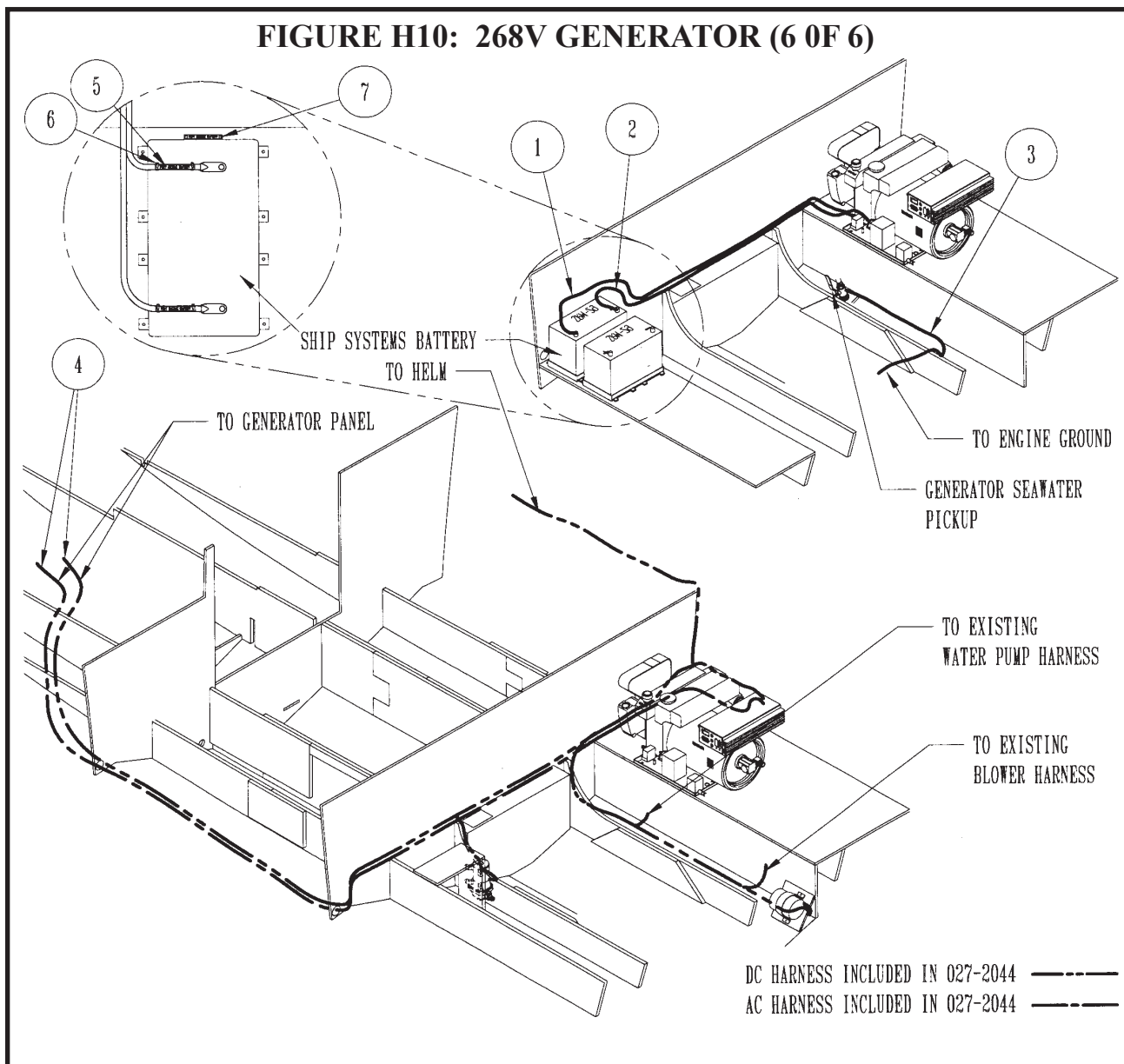
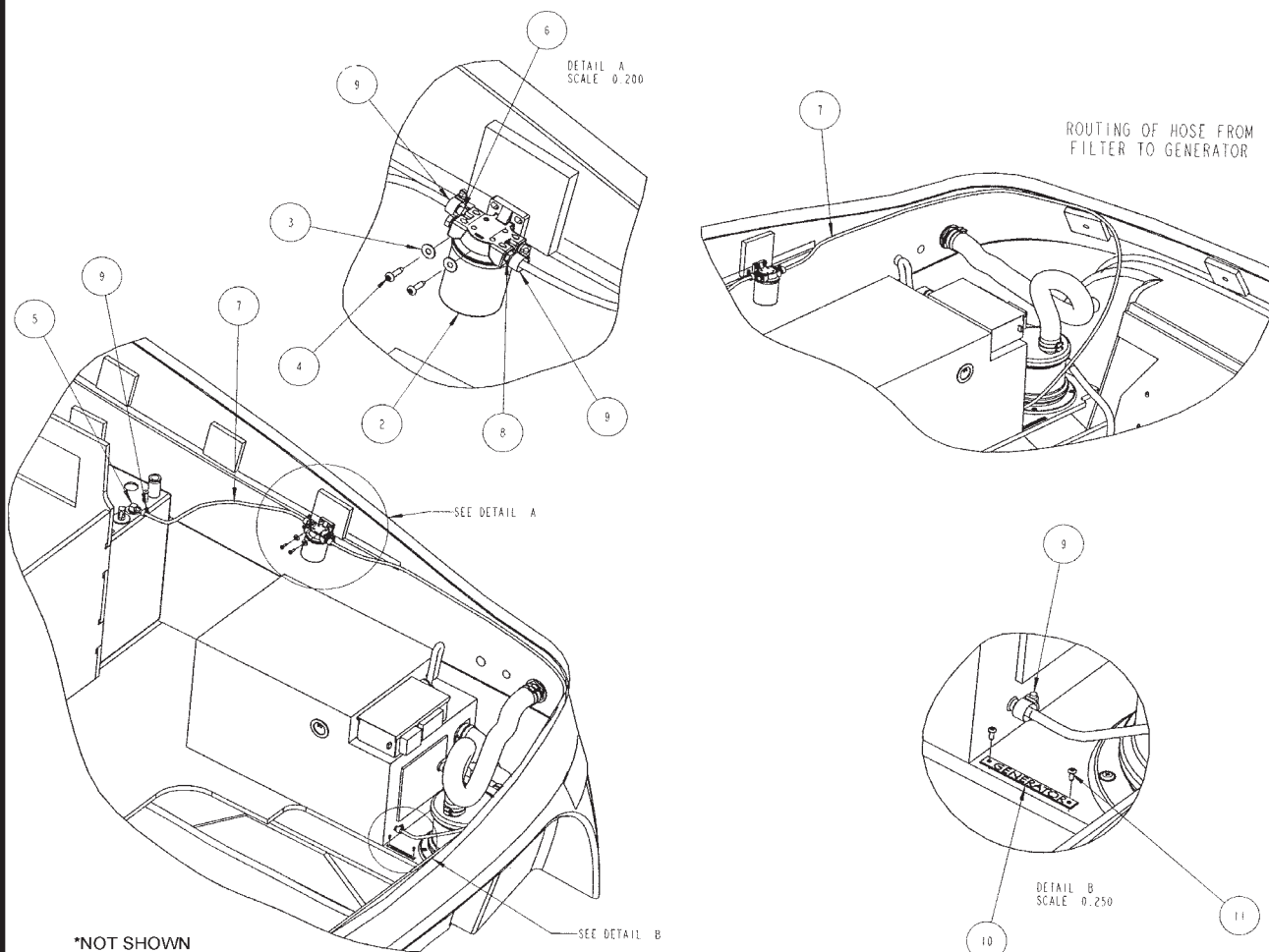


FIGURE H10: 268V GENERATOR (6 OF 6)



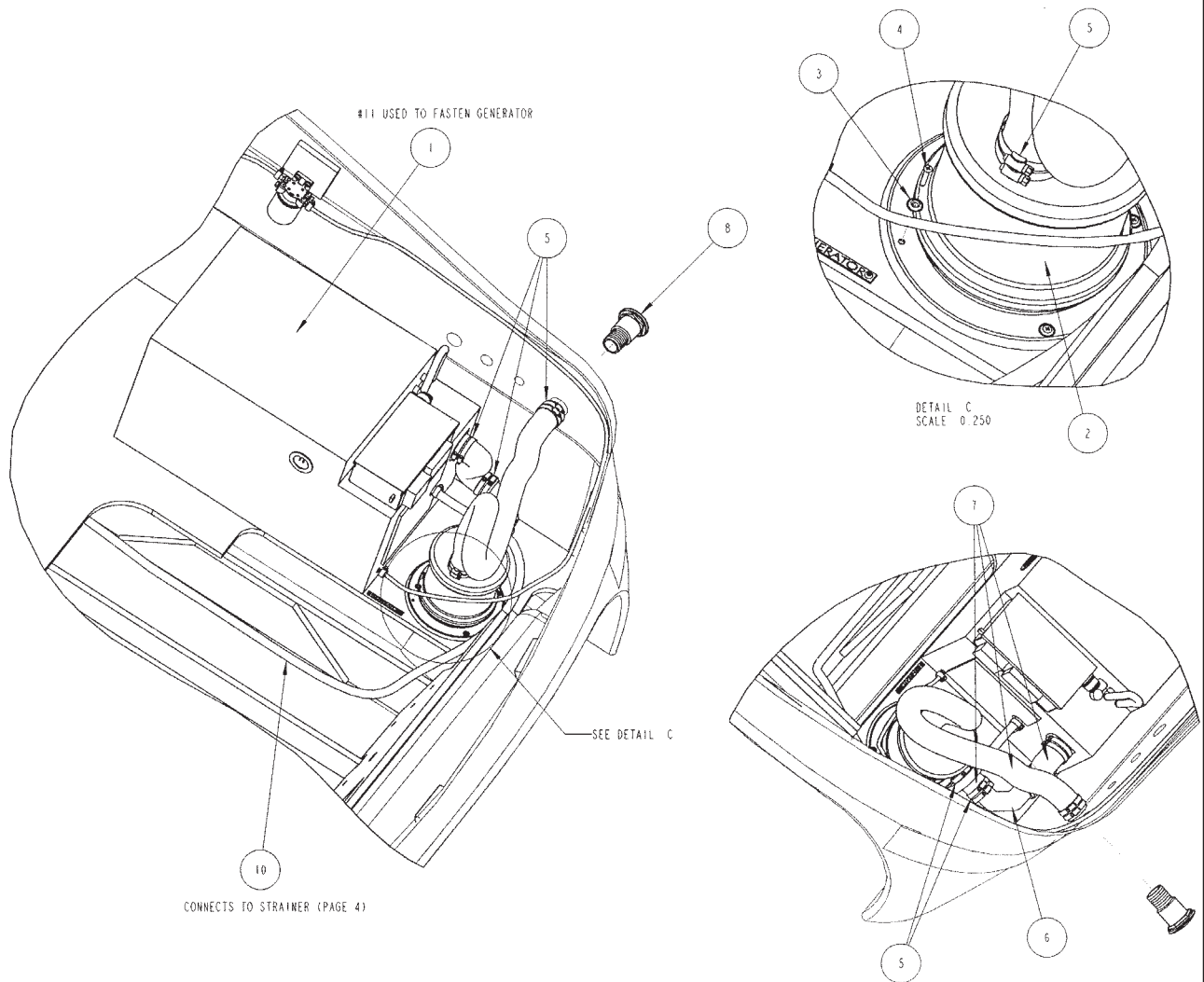
#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	CABLE ASSEMBLY, 2AWG RED	027-1523	1 EA				
2	CABLE ASSEMBLY, 2AWG BLK	027-1527	1 EA				
3	BONDING WIRE, 268V GENERATOR INTAKE	027-2045	1 EA				
4	HARNESS ASSY, GENERATOR, 268V	027-2044	1 EA				
5	PLATE, SHIP SYSTEMS BATTERY	056-0925	3 EA				
6	TIE, CABLE, 4", MINIATURE	080-0285	4 EA				
7	SCREW, #6 X 1/2" PPHSMS	080-0010	2 EA				

FIGURE H11: 288V GENERATOR (1 OF 3)



#	DESCRIPTION	PART No.	QTY	U/M
1	BOOT, HOSE CLAMP	030-0864	18	EA
2	FILTER, FUEL/WATER SEPERATOR	021-0433	1	EA
3	WASHER, .255 X .750 X .070 FLT	080-0214	2	EA
4	SCREW, #14 x 1" PPHSMS	080-0940	2	EA
5	PICK-UP, GENERATOR 22"	021-0438	1	EA
6	HOSE BARB, 1/4MP TO 3/8HB #220EE	021-0014	1	EA
7	HOSE, 1/4" I.D. FUEL HOSE	021-0079	12	FT
8	HOSE BARB, 1/4 NPTF X 1/4" I.D. HOSE BARB	021-0398	1	EA
9	CLAMP, 3/8" HOSE #67065-52	021-0034	4	EA
10	PLATE, GENERATOR	056-0114	1	EA
11	SCREW, #8 x 1/2" PPHSMS BLACK	080-0024	2	EA
12	HARNES ASS'Y, GENERATOR 288V	027-2390	1	EA
13	ANTIFREEZE, NON-TOXIC, 55 GAL DRUM	084-0043	2	GL
14	BLOCK, TIE WRAP, SCREW MOUNT	032-0584	6	EA
15	SCREW, 10 X 1-1/2 POHSMS	080-0032	6	EA

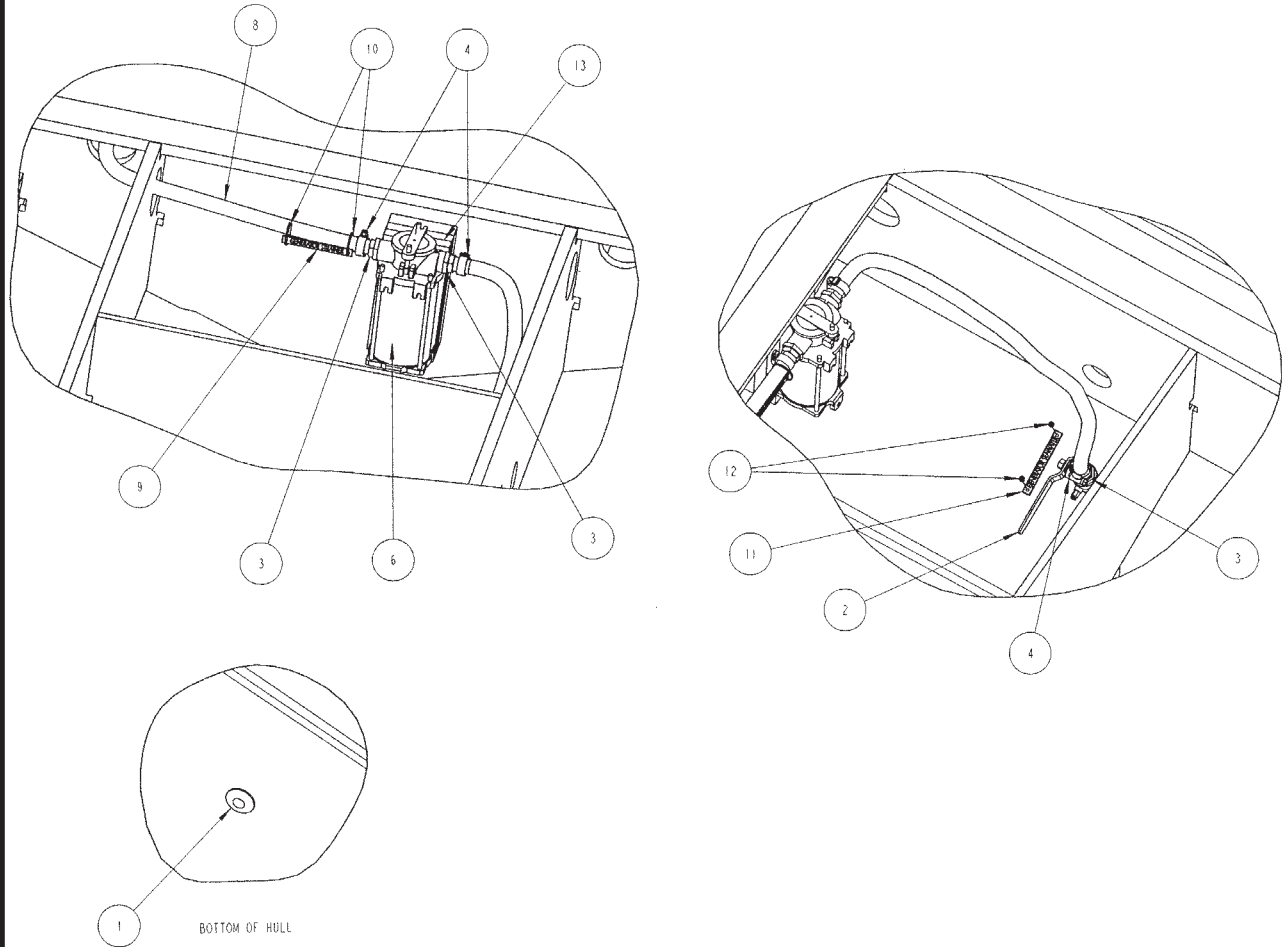
FIGURE H12: 288V GENERATOR (2 OF 3)



NOTE: DOUBLE CLAMPING REQUIRED ON 2" EXHAUST HOSE!!!

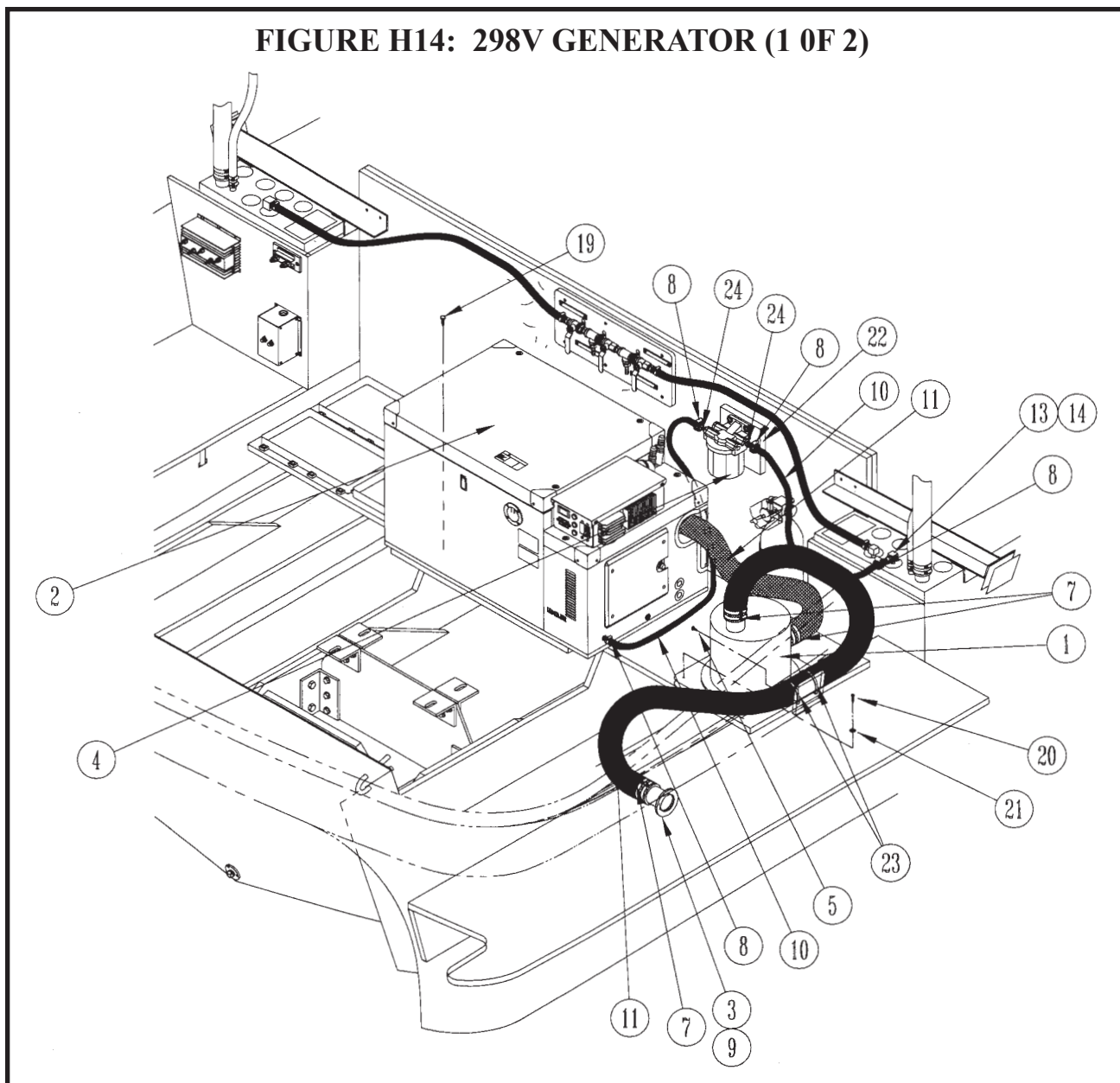
#	DESCRIPTION	PART No.	QTY	U/M
1	GENERATOR, 5KW KOHLER 5E-E 120V	065-0998	1	EA
2	MUFFLER, KOHLER GENERATOR 1500026	032-0388	1	EA
3	WASHER, FINISH #8 SS FLANGE WFFSS8	080-0091	4	EA
4	SCREW, #10 x 1" POHSMS	080-0035	4	EA
5	CLAMP, 2" EXHAUST	021-0097	10	EA
6	ELBOW, EXHAUST 90 DEG.	030-1684	1	EA
7	HOSE, 2" EXHAUST	022-0037	5	FT
8	THRU-HULL, 2" S.S.	035-0792	1	EA
9	BOOT, HOSE CLAMP	030-0864	REF	
10	HOSE, HW 3/4" 250BE-00750-00600F	022-0201	14	FT
# 11	SCREW, 14 X 1" PPHSMS	080-0940	6	EA

FIGURE H13: 288V GENERATOR (3 OF 3)



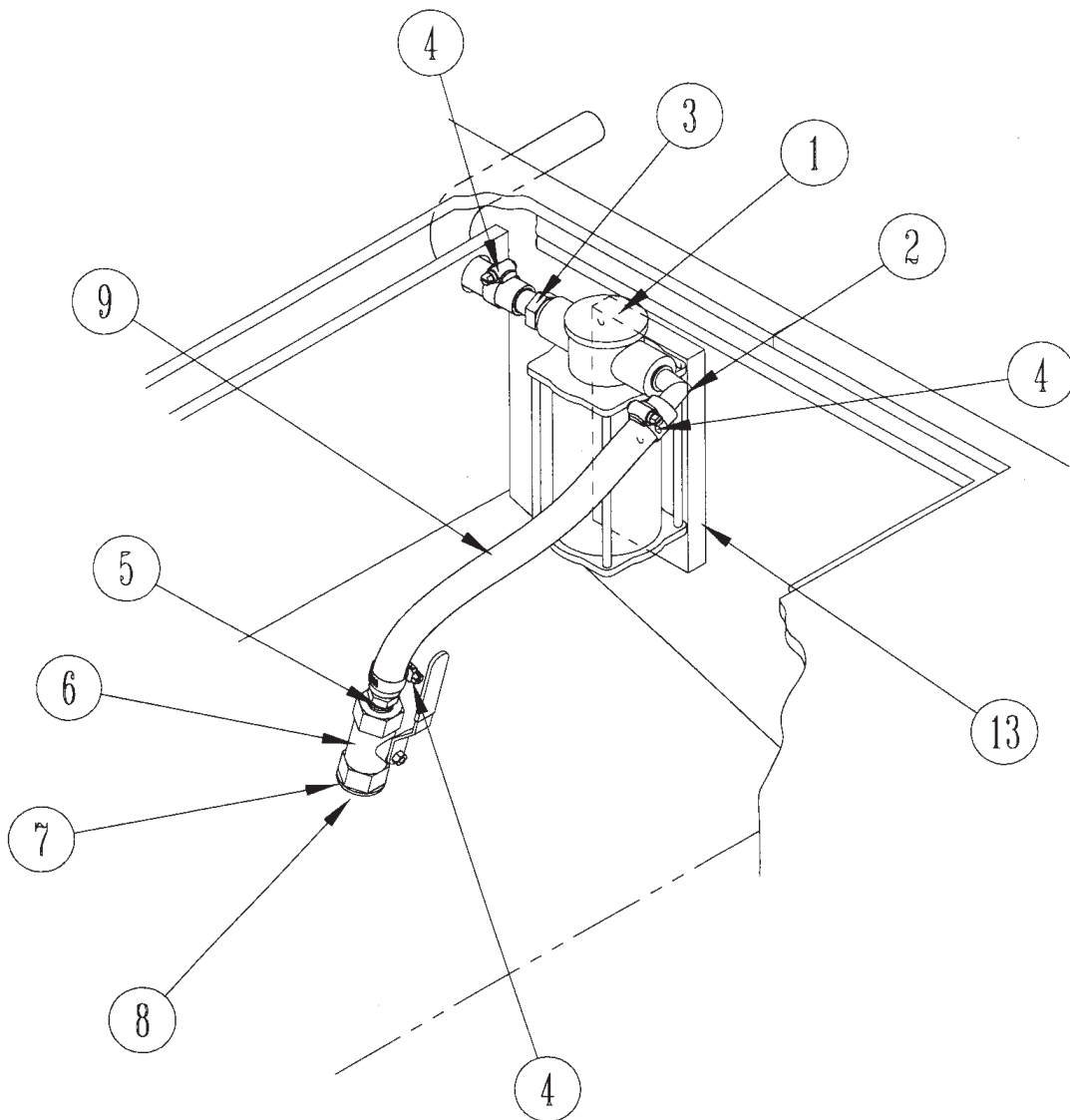
#	DESCRIPTION	PART No.	QTY	U/M
1	THRU-HULL, 3/4" BRONZE	035-0552	1	EA
2	VALVE, BALL 3/4"	035-0118	1	EA
3	HOSE BARB, 3/4 MPT X 3/4 HB	035-0327	3	EA
4	CLAMP, 5/8 INCH #10H FUEL VENT	021-0031	3	EA
5	BOOT, HOSE CLAMP	030-0864	REF	
6	HOSE, HW 3/4" 250BE-00750-00600F	022-0201	REF	
7	STRAINER, WATER 3/4"	035-0248	1	EA
8	SCREW, #10 x 3/4" PTHSMS	080-0033	3	EA
9	PLATE, GENERATOR STRAINER	056-0104	1	EA
10	TIE, CABLE 4" MINIATURE	080-0285	2	EA
11	PLATE, GENERATOR SEAWATER	056-0103	1	EA
12	SCREW, #8 x 1/2" PPHSMS BLACK	080-0024	2	EA
13	SHIM, WATER STRAINER 288/298V	100-60783	2	EA

FIGURE H14: 298V GENERATOR (1 OF 2)



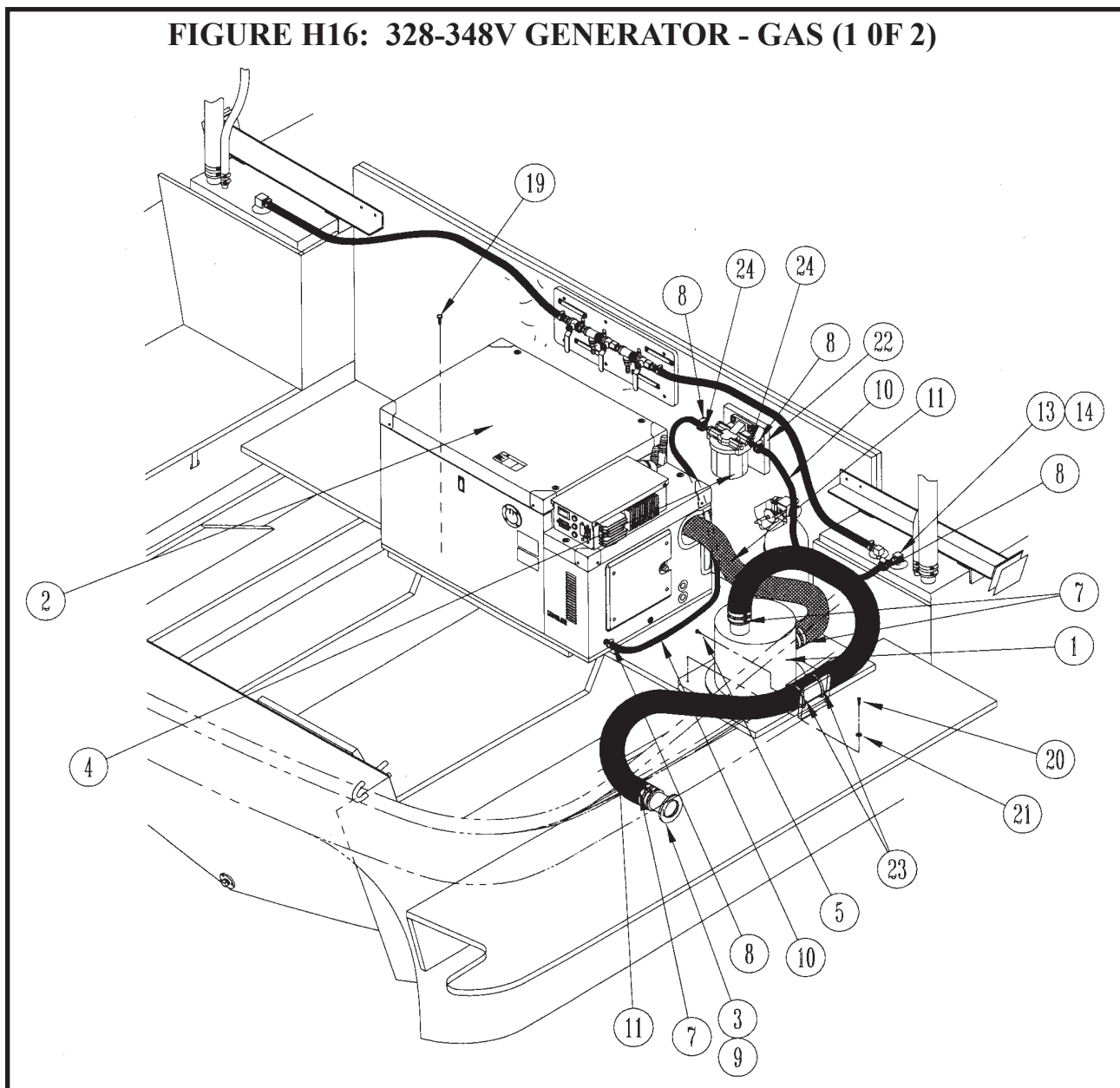
#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	MUFFLER KOHLER GENERATOR	032-0388	1 EA	14	VALVE, ANTI-SIPHON 1/4" MPT x 1/4" HB	021-0467	1 EA
2	GENERATOR, 5KW KOHLER	065-0998	1 EA	15	PLATE, GENERATOR SEAWATER (NOT SHOWN)	056-0103	1 EA
3	THRU-HULL, 2" BRONZE/CHROME	035-0792	1 EA	16	CABLE ASS'Y, 2AWG RED 186" (NOT SHOWN)	027-2523	1 EA
4	FILTER, FUEL WATER SEPARATING	021-0433	1 EA	17	CABLE ASS'Y, 2AWG BLK 120" (NOT SHOWN)	027-1971	1 EA
5	SCREW, #10 x 3/4" PTHSMS	080-0033	4 EA	18	PLATE GENERATOR (NOT SHOWN)	056-0114	1 EA
6	SCREW, #12 x 1 1/2" POHSM (NOT SHOWN)	080-0243	2 EA	19	SCREW, #14 x 1" PPHSMS	080-0940	6 EA
7	CLAMP, EXHAUST 2"	021-0097	8 EA	20	SCREW, #10 x 1" POHSM	080-0035	4 EA
8	CLAMP, 3/8" HOSE	021-0034	4 EA	21	WASHER, 8 FLANGE FINISH WASHER	080-0091	4 EA
9	CAULK, 3M 4200 1/4" BEAD	084-0175	AR	22	STARBOARD, 3/4" x 6" x 6"	100-60598	1 EA
10	HOSE, 1/4" I.D. FUEL	021-0079	14 FT.	23	TY, WRAP; 14"	080-0396	2 EA
11	HOSE, 2" EXHAUST	022-0037	15 FT.	24	HOSE BARB, 1/4" NPT x 1/4" BARB	021-0398	2 EA
12	ANTIFREEZE, NON-TOXIC (NOT SHOWN)	084-0043	2 GAL.	25	CABLE ASS'Y, 2AWG BLK 108" (NOT SHOWN)	027-1898	1 EA
13	PICK-UP GENERATOR 11"	021-0289	1 EA				

FIGURE H15: 298V GENERATOR (2 OF 2)



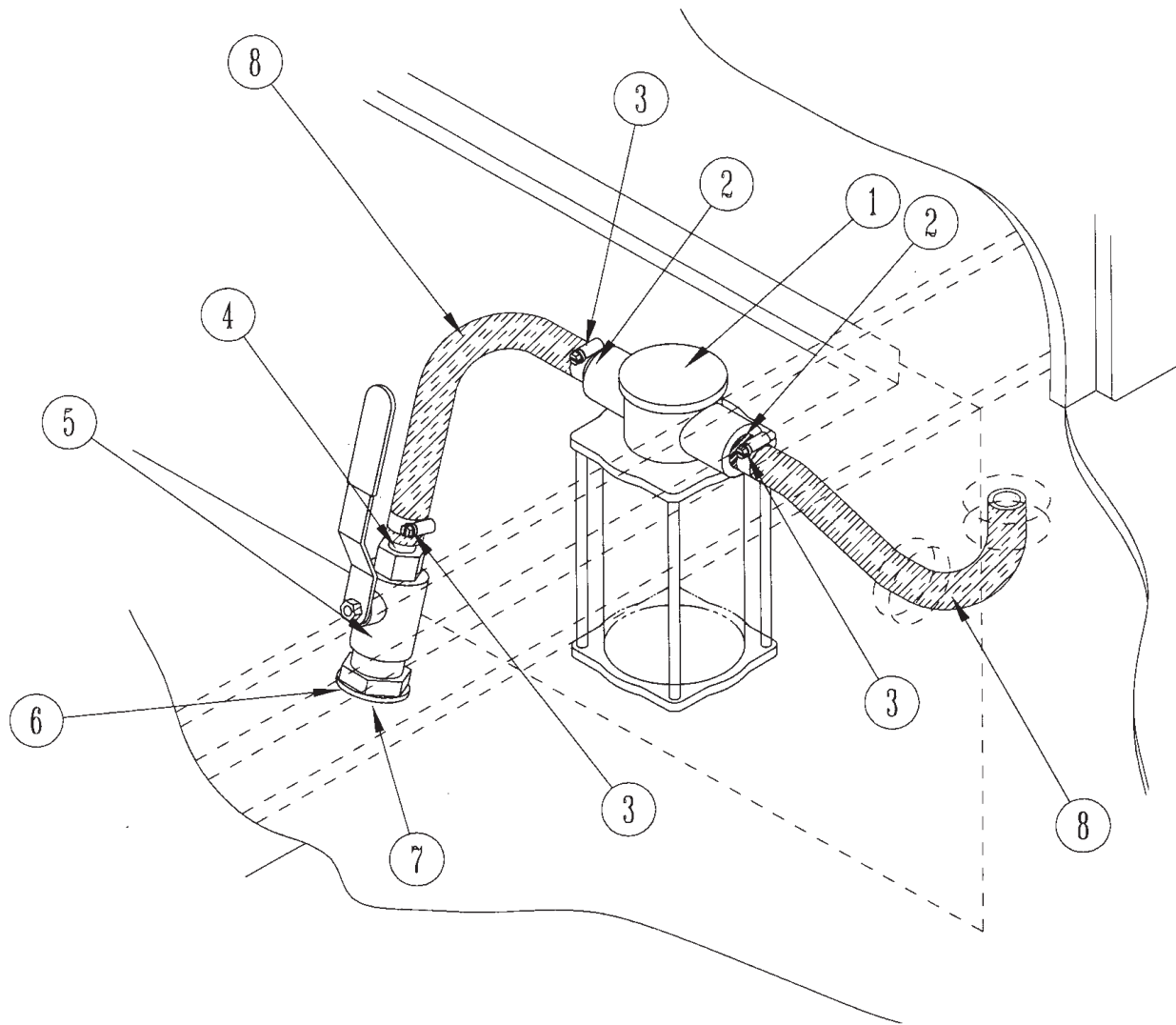
#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	STRAINER, WATER 3/4" BRONZE #322-005	035-0248	1 EA				
2	ELBOW, 3/4MPT X 3/4HB	035-0245	1 EA				
3	BARB, 3/4" BRASS	035-0327	1 EA				
4	CLAMP, 5/8' FUEL VENT HOSE	021-0031	3 EA				
5	BARB, 3/4" BRASS	035-0327	1 EA				
6	VALVE, BALL 3/4" #4726K12	035-0118	1 EA				
7	THRU-HULL, 3/4" BRONZE #322-005	035-0552	1 EA				
8	SEALANT, 3M 4200	084-0175	AR				
9	HOSE, HW 3/4" 250BE-00750-00-600F	022-0201	12 FT				
10	SCREW, #10 X 3/4" PTHSMS (NOT SHOWN)	080-0033	2 EA				
11	PLATE, GENERATOR STRAINER (NOT SHOWN)	056-0104	1 EA				
12	TIE, .4", MINI, PANDUIT (NOT SHOWN)	080-0285	4 EA				
13	SHIM, WATER STRAINER	100-60783	1 EA				

FIGURE H16: 328-348V GENERATOR - GAS (1 OF 2)



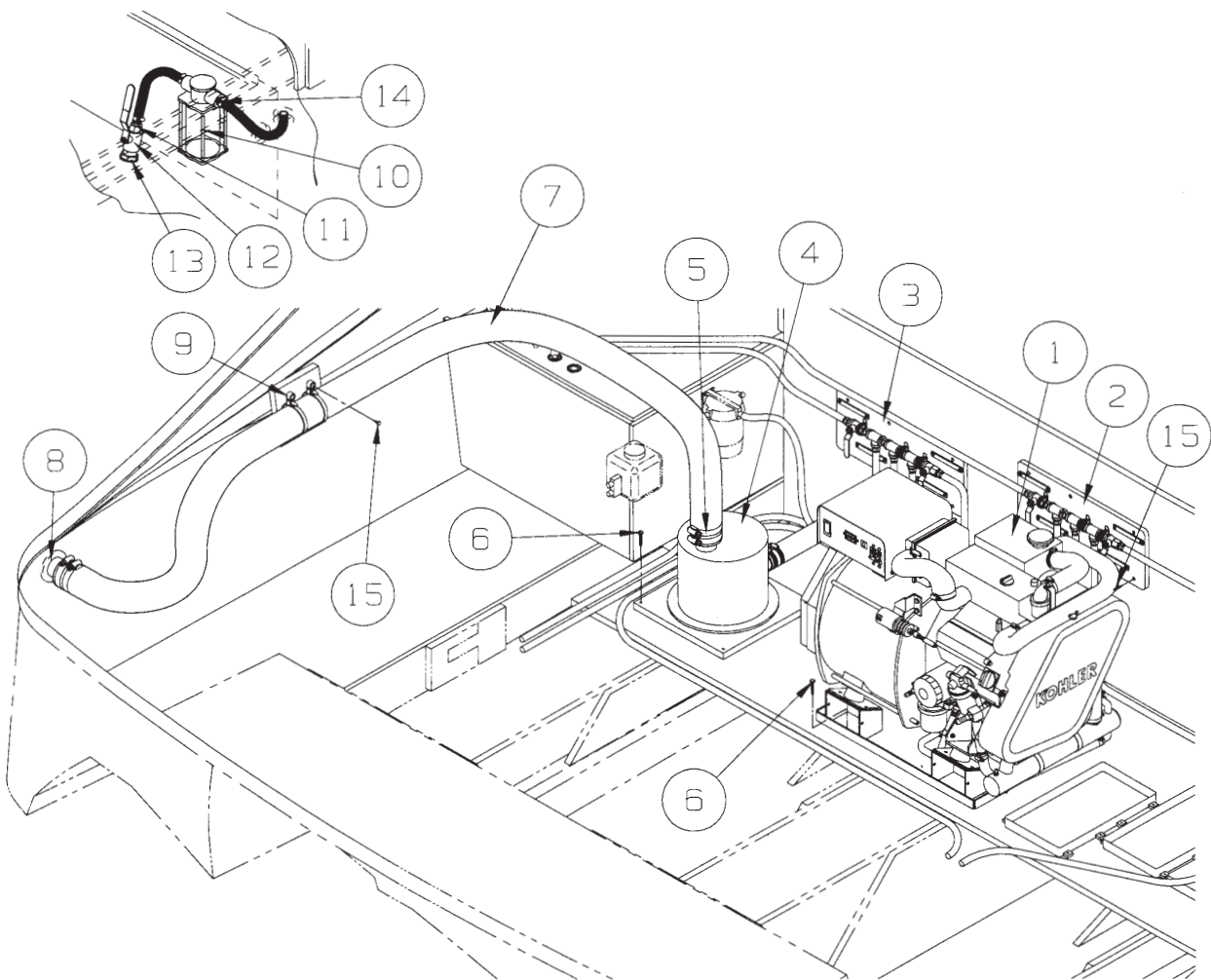
#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	MUFFLER KOHLER GENERATOR	032-0388	1 EA	14	VALVE, ANTI-SIPHON 1/4" MPT x 1/4" HB	021-0467	1 EA
2	GENERATOR, 5KW KOHLER	065-0998	1 EA	15	PLATE, GENERATOR SEAWATER (NOT SHOWN)	056-0103	1 EA
3	THRU-HULL, 2" BRONZE/CHROME	035-0792	1 EA	16	CABLE ASS'Y, 2AWG RED 144" 328 (NOT SHOWN)	027-1526	1 EA
4	FILTER, FUEL WATER SEPARATING	021-0433	1 EA	16	CABLE ASS'Y, 2AWG RED 96" 348 (NOT SHOWN)	027-1523	1 EA
5	SCREW, #10 x 3/4" PTHSMS	080-0033	4 EA	17	CABLE ASS'Y, 2AWG BLK 96" (NOT SHOWN)	027-1527	1 EA
6	SCREW, #12 x 1 1/2" POHSMS (NOT SHOWN)	080-0243	2 EA	18	PLATE, SHIP SYSTEMS BATTERY (NOT SHOWN)	056-0925	2 EA
7	CLAMP, EXHAUST 2"	021-0097	8 EA	19	SCREW, #14 x 1" PPHSMS	080-0940	6 EA
8	CLAMP, 3/8" HOSE	021-0034	4 EA	20	SCREW, #10 x 1" POHSMS	080-0035	4 EA
9	CAULK, 3M 4200 1/4" BEAD	084-0175	AR	21	WASHER, 8 FLANGE FINISH WASHER	080-0091	4 EA
10	HOSE, 1/4" I.D. FUEL	021-0079	14 FT.	22	STARBOARD, 3/4" x 6" x 6"	100-60598	1 EA
11	HOSE, 2" EXHAUST	022-0037	15 FT.	23	TY, WRAP; 14"	080-0396	2 EA
12	ANTIFREEZE, NON-TOXIC (NOT SHOWN)	084-0043	2 GAL.	24	HOSE BARB, 1/4" NPT x 1/4" BARB	021-0389	2 EA
13	PICK-UP GENERATOR 11"	021-0289	1 EA	25	CABLE ASS'Y, 2AWG BLK 120"	027-1971	1 EA

FIGURE H17: 328-348V GENERATOR - GAS (2 OF 2)



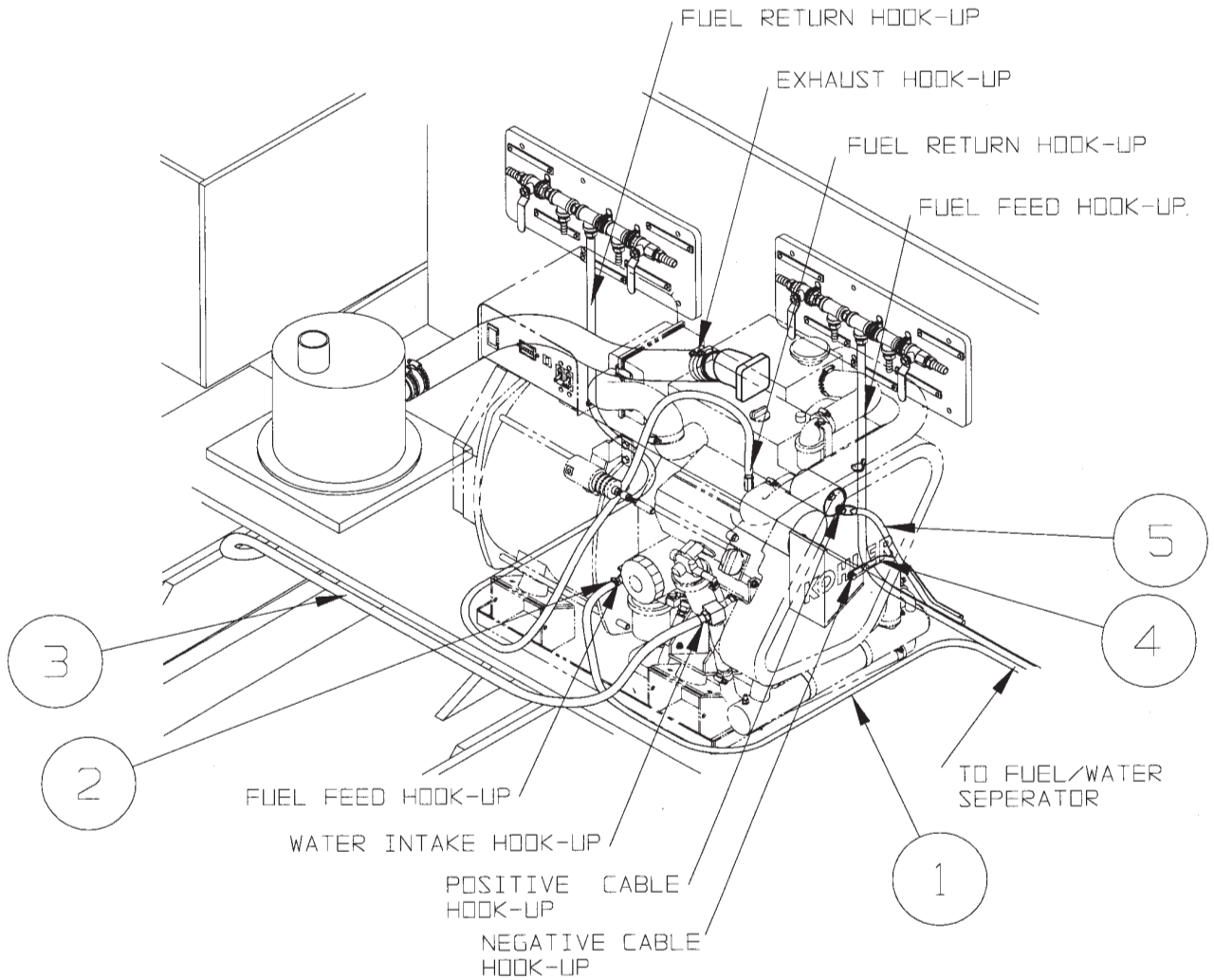
#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	STRAINER, WATER 3/4" BRONZE #322-005	035-0248	1 EA				
2	BARB, 3/4" BRASS	035-0327	1 EA				
3	CLAMP, 5/8" FUEL VENT HOSE	021-0031	3 EA				
4	BARB, 3/4" BRASS	035-0327	1 EA				
5	VALVE, BALL 3/4" #4726K12	035-0118	1 EA				
6	THRU-HULL, 3/4" BRONZE #322-005	035-0552	1 EA				
7	SEALANT, 3M 4200	084-0175	AR				
8	HOSE, HW 3/4" 250BE-00750-00-600F	022-0201	12 FT				
9	SCREW, #10 X 3/4" PTHSMS (NOT SHOWN)	080-0033	2 EA				
10	PLATE, GENERATOR STRAINER (NOT SHOWN)	056-0104	1 EA				
11	TIE, .4", MINI, PANDUIT (NOT SHOWN)	080-0285	4 EA				

FIGURE H18: 328V GENERATOR - DIESEL (1 OF 3)



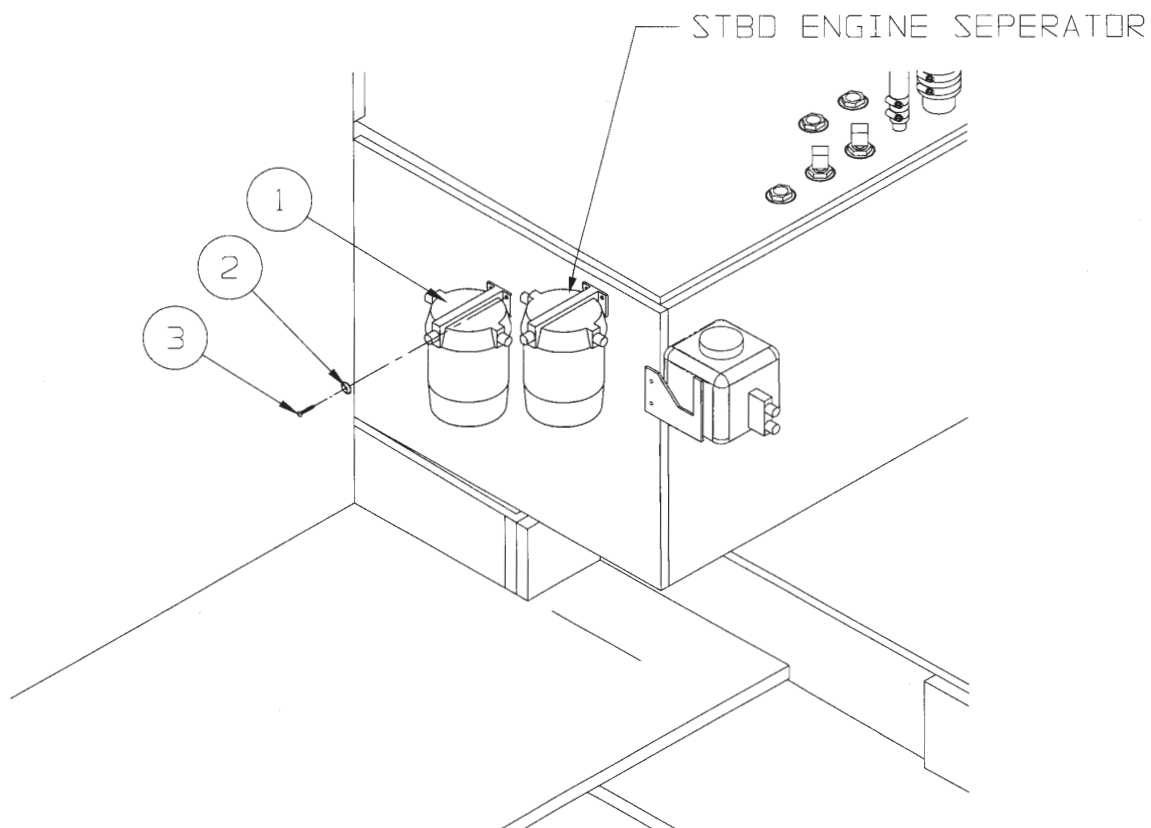
#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	GENERATOR, KOHLER 5EOZ 110V DIESEL	065-0972	1 EA	15	SCREW, #10 X 3/4" PTHSMS	080-0033	2 EA
2	FUEL ASSY, GAS & DIESEL w/ GENERATOR	118-50888	1 EA				
3	FUEL RETURN ASSY, GAS & DIESEL w/ GEN	118-50890	1 EA				
4	MUFFLER, KOHLER GENERATOR 1500	032-0388	1 EA				
5	CLAMP, EXHAUST 2"	021-0097	8 EA				
6	SCREW, #14 X 1" PPHSMS	080-0940	8 EA				
7	HOSE, 2" EXHAUST MPI-250-2006	022-0037	15 FT				
8	THRU-HULL, 2" PLASTIC	035-0351	1 EA				
9	TIE WRAP, 14" TY234W	080-0396	2 EA				
10	STRAINER, WATER 3/4"	035-0248	1 EA				
11	THRU-HULL, 3/4" BRONZE	035-0552	1 EA				
12	VALVE, 3/4" BALL	035-0118	1 EA				
13	HOSE BARB, 3/4 MPT X 3/4 HB	035-0327	1 EA				
14	CLAMP, 5/8" #10H FUEL VENT HOSE	021-0031	4 EA				

FIGURE H19: 328V GENERATOR - DIESEL (2 OF 3)



#	DESCRIPTION	PART #	QTY. #	DESCRIPTION	PART #	QTY.
1	HOSE, 1/4" FUEL	021-0079	10 FT			
2	CLAMP, 3/8" HOSE	021-0034	6 EA			
3	HOSE, HW 3/4" 250BE-00750-00-600F	022-0201	10.96FT			
4	CABLE ASSY, 2AWG BLK 96"	027-1527	1 EA			
5	CABLE ASSY, 2AWG RED 144"	027-1526	1 EA			
6	CABLE ASS'Y, 2AWG BLK 120" (NOT SHWN)	027-1971	1 EA			

FIGURE H20: 328V GENERATOR - DIESEL (3 OF 3)



#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	SEPERATOR, FUEL/WATER RACOR	021-0102	1	EA			
2	WASHER, #8 FINISH	080-0091	2	EA			
3	SCREW, #10 X 1-1/2" POHMS	080-0032	2	EA			

FUEL SYSTEMS

I - 1 GASOLINE FUEL SYSTEMS

Gasoline fuel systems used in Four Winns® boats are designed to meet or exceed the requirements of the U.S. Coast Guard, the National Marine Manufacturers Association, and the American Boat and Yacht Council in effect at the time of manufacture.

NOTICE

Use only clean, dry fuel of the type and grade recommended by the engine manufacturer. The use of incorrect or contaminated fuel can cause engine malfunction and serious damage. Engine damage resulting from the use of a lower octane gasoline is considered misuse of the engine and will void the engine warranty. Refer to the section on Gasoline Requirements in the engine manual for information on octane specifications.

Single fuel tank applications have the tanks located forward of the engine. Where as in twin engine applications, the port and starboard fuel tanks are located forward of their respective engine. See Figures I1 & I2 below. The capacity of the fuel tank(s) may be found on our website at www.fourwinns.com.

Certain Vista™ models equipped with twin fuel tanks come with a manual fuel valve system. This system allows you to choose which fuel tank you want your engines to draw from. Your generator (if so equipped) uses a separate fuel pick-up. Please see Figure I8 at the end of this section for fuel valve operations.

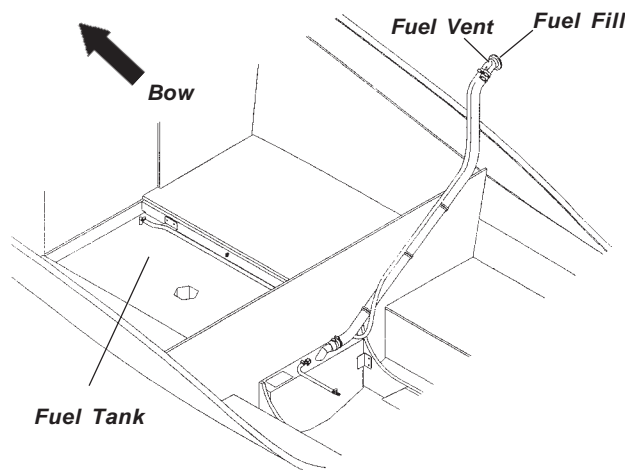


Figure I1: Single Fuel Tank

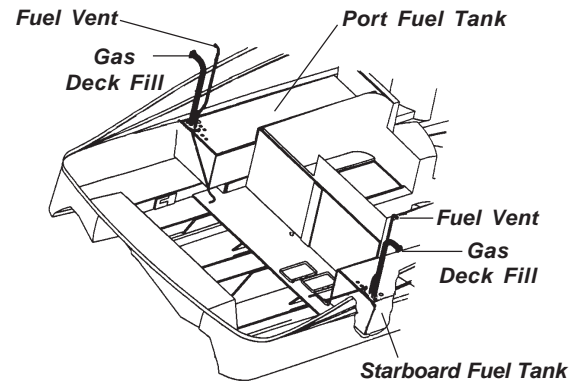


Figure I2: Twin Fuel Tank Locations

A. System Testing

All gasoline fuel systems have been factory inspected and pressure tested in accordance with regulations in effect at the time of manufacture. Additionally, each fuel tank must pass rigid tests and inspections performed by the fuel tank manufacturer.

Prior to taking delivery, it is important that a full inspection be made of the entire fuel system by the selling dealer. An entry on the Four Winns Pre-Delivery Inspection Form portion of the Warranty Registration Card will attest to the dealer's performance of this service.

B. Fuel Fills

The fuel fill deck plate(s) is located on the port and/or starboard rear deck(s) and is marked "GAS". Be sure to utilize the proper type and grade of fuel as recommended by the engine manufacturer. To open, insert the deck plate key into the holes on the cap and rotate counterclockwise. A bead chain connects the cap to body to help prevent loss overboard. Refer to Section I-3 for information regarding fueling instructions.



WARNING

DO NOT confuse FUEL deck fill plate with WATER or WASTE deck plates. Deck fill plates are labeled according to the intended use.

The gasket/o-ring seals on the fuel fill cap assist in sealing when closed. A missing or damaged o-ring can allow water on the surrounding surfaces to run into the tank.

Periodically inspect the cap and the fuel deck plate. The o-ring seal should be inspected for cracks or damage and replaced as necessary. Lubricating with a light, waterproof oil or grease is recommended and can extend the o-ring's longevity.

C. Fuel Vents

Depending on which type of fuel fill determines whether there is a separate thru-hull fuel vent or a fuel vent located below the fill cap application being used. Either way while the tank is being filled, the air displaced by the fuel escapes through the vent overboard. When the tank is almost full, fuel will be ejected from the fuel vent.



WARNING

Spilled fuel is a fire and explosion hazard. DO NOT overfill or overflow the tank, or allow fuel spills into the hull or bilge. If spillage occurs, clean up immediately and dispose of soiled rags/towels in a proper container.

NOTICE

When fueling at a marina, DO NOT overfill. Fuel may spill into the water.

After fueling, replace the fill cap, and wash the areas around the fuel fill plate and below the fuel vent. Residual fuel left on the deck and hull sides can be dangerous, and will yellow the fiberglass. It will also damage the tape stripes and logos.

For those models with thru-hull venting, periodically, inspect the fuel vent(s) for any dirt, wax, etc. Carefully remove any obstruction with a pipe cleaner or similar device. **Be sure not to puncture the screen.** The vent screens are designed to keep insects and foreign matter from contaminating the fuel and fuel system. The stainless steel cap is not removable.

D. Anti-Siphon Valves

The fuel withdrawal line is equipped with an anti-siphon valve where the line attaches to the fuel tank. The valve prevents gasoline from siphoning out of the fuel tank should a line rupture. See Figure I3 for anti-siphon location.

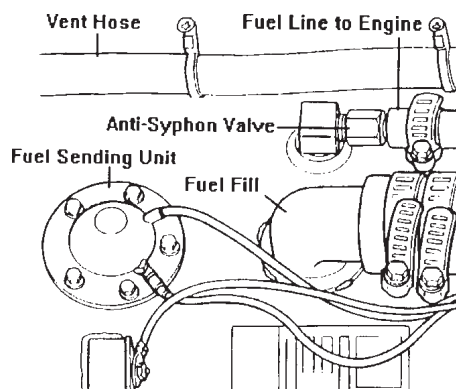


Figure I3: Fuel Tank Fittings



CAUTION

DO NOT remove the anti-siphon valve(s) from the system. Should the valves become clogged, clean and reinstall or replace.



CAUTION

The fuel withdrawal is positioned in the fuel tank to achieve optimum fuel usage, and fuel line routing. At certain speeds and hull trim angles, the fuel supply at the withdrawal can increase or decrease accordingly. Be extremely careful when attempting to operate the boat on a minimum amount of fuel. Though some fuel may be in the tank, the relative trim angle of the boat may cause the fuel to flow away from the withdrawal.

NOTICE

On all Vista® models, access to the anti-siphon valve and fuel sender is by either an access plate or through the engine compartment.

E. Fuel Gauge

The fuel gauge indicates the amount of fuel in the fuel tank. See Section E-9F - Fuel Gauge for additional information on fuel gauge use.

F. Fuel Senders

The fuel sender consists of a float which travels up and down a stationary tube. The float measures the level of the fuel in the tank and sends a signal to the fuel gauge. See Figure I4.

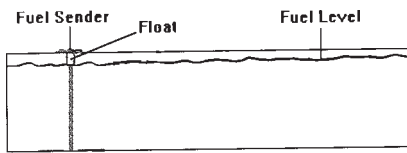


Figure 14: Fuel Sender Operation

Due to the mechanical nature of the fuel sender, variations in readings during various speeds of operation may occur. This system is merely a relative indication of the available fuel supply and not a calibrated instrument. With this type of sending unit a more accurate measurement of fuel level is obtained with the boat in a level position.

The gauge readings will also vary with the trim angle of the boat. When sitting at a dock and the boat is nearly level, the fuel gauge will register accurately. Refer to Figure 13. When boating, the trim angle of the boat changes and affects the gauge readings. Under these conditions, the fuel sender will register “full” for the first few hours of running time until the fuel level drops below the 3/4 or 1/2 mark. This is caused by the angle of the fuel in the tank as shown in Figure 15.

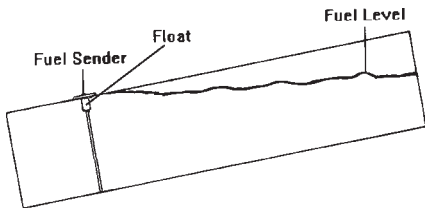


Figure 15: Effects of Trim Angle

It is very important to keep track of hours and fuel consumption to obtain an average gallon per hour consumption figure. Refer to the fuel log located at the back of this manual. This will prevent any problems with running out of fuel on the water.

Dealers are equipped with some general figures on consumption which can be used as a guide until specific information on your boat is determined. Because of boating conditions, speed, weight and other factors common to your situation, fuel consumption will vary between your boat and consumption figures developed by Four Winns.

When the fuel gauge begins to register below the “full” mark, the gauge readings will drop much faster until it reads “empty”. When this occurs, the trim angle has affected the sender reading. When the gauge registers “empty”, the sender has bottomed out and there may be 3 to 4 gallons of fuel in the tank. See Figure 16.

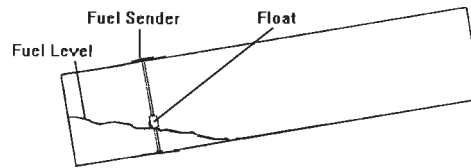


Figure 16: Trim Angle Effect with Low Fuel

G. Fuel Filters

Fuel filters are installed on each engine. Filters should be changed frequently to assure an adequate supply of fuel to the engine. Refer to the engine manual for additional information. The engine manual is included in the owner's information packet.

NOTICE
Canister-type filters should be changed annually.

H. Gas Vapor Detector

A gas vapor detector is available on the Vista™ models. The gas vapor detector will monitor the engine compartment and notify the operator of an accumulation of gasoline vapors. The operator must take immediate action upon warning to avoid the possibility of an explosion.

The sensing unit is usually mounted towards the rear of the engine compartment. The alarm unit is mounted at the dash.

WARNING

Always personally inspect the engine compartment and sniff for fuel vapors before starting the engine. Remember, a gas vapor detector is a mechanical device. DO NOT rely exclusively on its operation.

I. Use and Maintenance

WARNING

DO NOT let the odor of gasoline go unchecked. If the odor of gasoline is noted, DO NOT START ENGINE. If engine is running, SHUT OFF ENGINE, ELECTRICAL AND HEAT GENERATING EQUIPMENT. Investigate and correct the situation immediately! Have all passengers put on personal flotation devices and keep fire extinguishers at hand until the situation is resolved.



WARNING

Avoid serious injury or death from fire or explosion resulting from leaking fuel. Inspect system for leaks at least once a year.

If areas are found within the fuel system that appear questionable, have a qualified marine technician inspect the system. A thorough fuel system examination should be made by an experienced marine technician at least once a year.



WARNING

To help guard against damage, avoid the storage or handling of gear near the fuel lines, fittings and tanks.

I - 2 FUEL STANDARDS

Be cautious when using gasoline which contains alcohol.



CAUTION

To conform to Federal Air Quality Standards, the petroleum industry reduced the amount of tetraethyl lead in gasoline. Alcohol is being blended with gasoline to help restore the octane rating lost when the lead was removed. While blending alcohol with gasoline increases the octane level of the fuel, it can also create certain safety and performance related problems for boaters.

A. Problems With Alcohol In Gasoline

Below is a list of problems which may be experienced when using blended gasoline.

1. Premature deterioration of fuel system components may occur. Alcohol will attack rubber fuel hoses, fuel tanks, fuel filters, fuel pumps and rubber gaskets. This deterioration will lead to fuel system leakage.
2. Phase separation of fuel will cause contamination. Water which accumulates in the tank through contamination or condensation will be absorbed by the alcohol. This water-heavy alcohol will settle at the bottom of the tank. This phase separation will lead to fuel tank corrosion. This may also result in a lean mixture to the carburetor and cause engine stalling or possible engine damage.

The use of alcohol additives in gasoline has become more widespread. Regulations on public notification of the existence of additives is currently controlled by the Environmental Protection Agency (EPA). Some states do require that gasoline pumps display information on additives (especially alcohol). If alcohol content is not posted, ask and avoid using fuel containing alcohol if possible.

B. Recommendations

Assume blended gasoline is being used and follow these recommendations below.

1. Inspect fuel hoses often. A deteriorated hose containing alcohol blended gasoline will normally be soft and swollen. A deteriorating hose containing no fuel will normally be hard and brittle. In both cases the hose should be replaced.
2. Ventilate the engine compartment before starting the engine(s). Operate the engine compartment blower for four (4) minutes. Then, prior to starting the engine(s), check the bilge area for the scent of gasoline fumes; DO NOT start the engines if the odor of gasoline is detected.
3. Frequently inspect the fuel system fittings. Inspect the fuel tank, pump and filter for signs of leaks or corrosion. Visually inspect for deteriorating metal fittings at the fuel hose connections.
4. If areas are found within the fuel system that appear questionable, have a qualified marine technician inspect the system. Have those fuel system components that do not pass inspection replaced. A thorough fuel system examination should be made by an experienced marine technician at least once a year.

I - 3 FUELING INSTRUCTIONS

1. Avoid fueling at night except in emergencies.
2. When moored at fueling pier:
 - a. Do not smoke, strike matches, or throw switches.
 - b. Stop all engines, motors, fans, and devices that could produce sparks.

- c. Put out all lights and galley stove.
 - d. Position the Battery Selector Switch to OFF.
3. Before starting to fuel:
- a. Ensure that boat is moored securely.
 - b. Close all ports, windows, doors and hatches.
 - c. Be sure the proper type of grade of fuel as recommended by your engine manual is used.
 - d. Determine how much additional fuel is required to avoid overflow.
4. During fueling:

Keep the fill nozzle in contact with the fuel opening at all times to guard against possible static spark. See Figure 17.

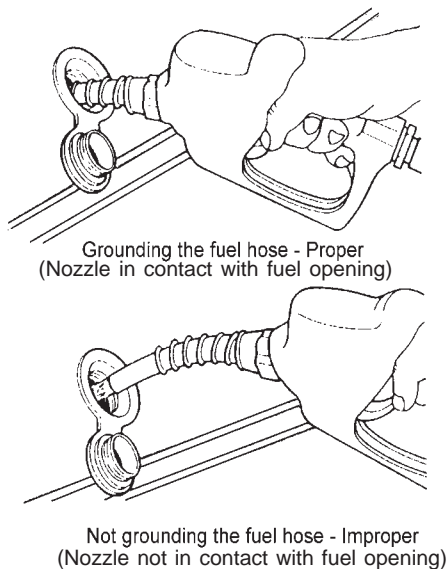


Figure 17: Grounding Fuel Hose

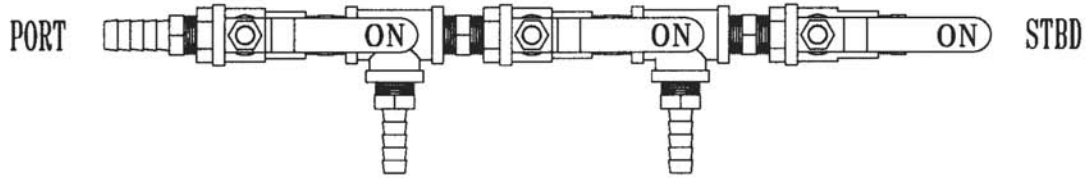
 **WARNING**

Spilled fuel is a fire and explosion hazard. DO NOT overflow the tank or allow fuel spills into the hull or bilges. Avoid overboard spills. Visually monitor the fuel vent located on either the transom or side of the hull. When the tank is full, fuel will flow from the fuel vent.

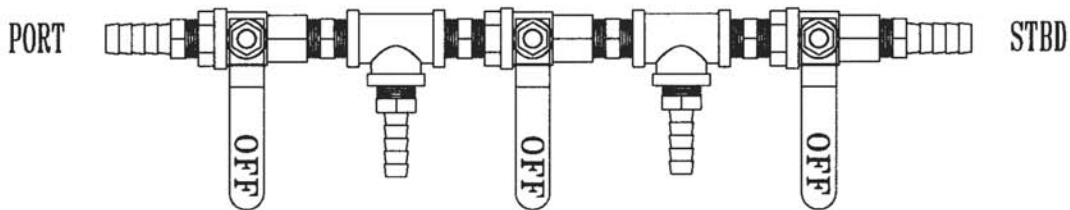
5. After fueling:
- a. Replace all fill caps securely.
 - b. Wipe up any spilled fuel.
 - c. Open all ports, windows, doors and hatches.
 - e. Determine that there is no odor of gasoline in the engine compartment or below decks before starting machinery, turning on lights or lighting stove. Operate the bilge blower system for at least four (4) minutes before engine start-up.
 - f. Be prepared to cast off moorings as soon as engines are started.

NOTE: GENERATOR OPTION HAS SEPARATE FUEL PICK-UP.

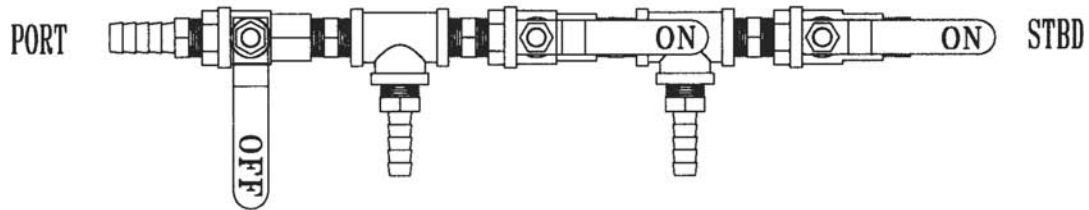
PORT ENGINE AND STARBOARD ENGINE DRAWING FROM BOTH FUEL TANKS.



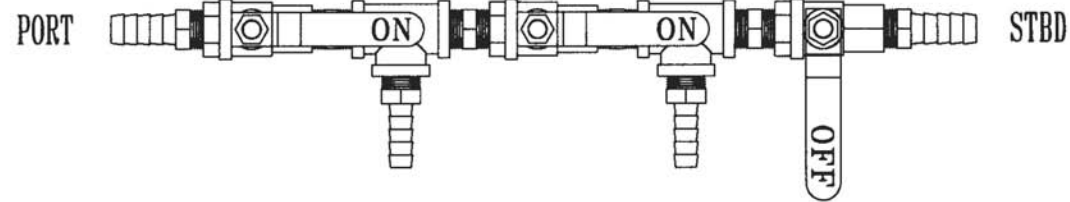
FUEL SYSTEM COMPLETELY CLOSED.



PORT ENGINE AND STARBOARD ENGINE DRAWING FROM STARBOARD FUEL TANK.



PORT ENGINE AND STARBOARD ENGINE DRAWING FROM PORT FUEL TANK.



- 1) PORT ENGINE DRAWING FROM PORT FUEL TANK.
- 2) STARBOARD ENGINE DRAWING FROM STARBOARD FUEL TANK.

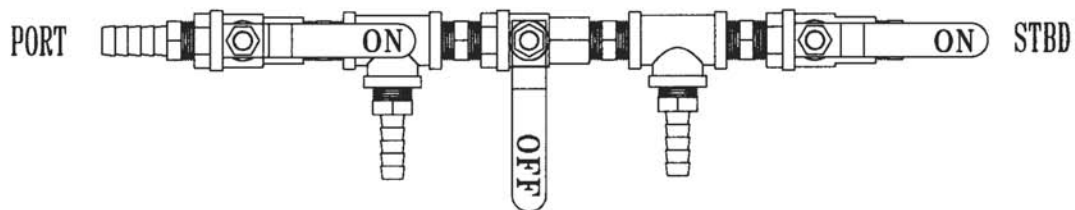


Figure 18: Fuel Valve System

WATER AND WASTE SYSTEMS

J - 1 GENERAL

All Four Winns Vista™ models are equipped with a fresh water supply system. This system consists of a water supply tank, water distribution lines and a distribution pump. The water fill deck plate for the fresh water system is located on the deck and labeled accordingly. Always fill the tank slowly.

CAUTION

The water deck plate is appropriately labeled. DO NOT fill the system with anything other than water. Should the system become contaminated with fuel or other toxic solution, component replacement may be necessary.

The water tank is equipped with an overboard vent. Maintain a close visual watch on the overboard vent while filling the water tank. Always fill the tank slowly. When the tank is almost full, water will spurt out of the vent.

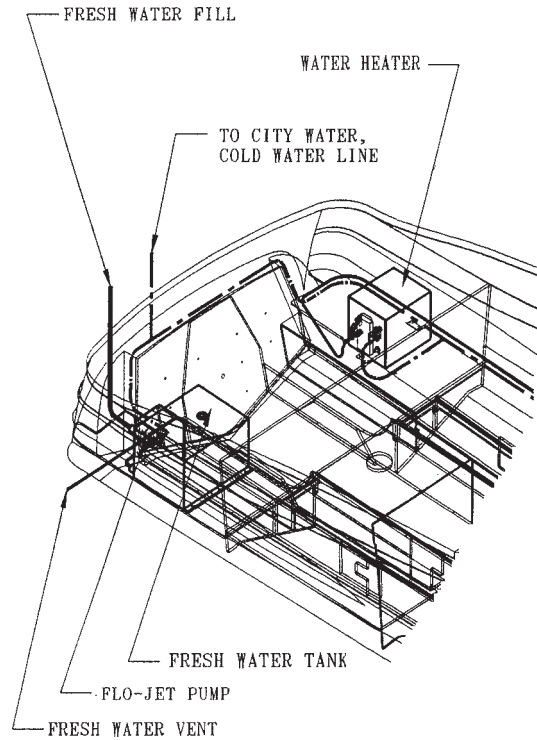
NOTICE

When filling the tank, never seal the hose to the deck plate. The tank will become pressurized and could rupture.

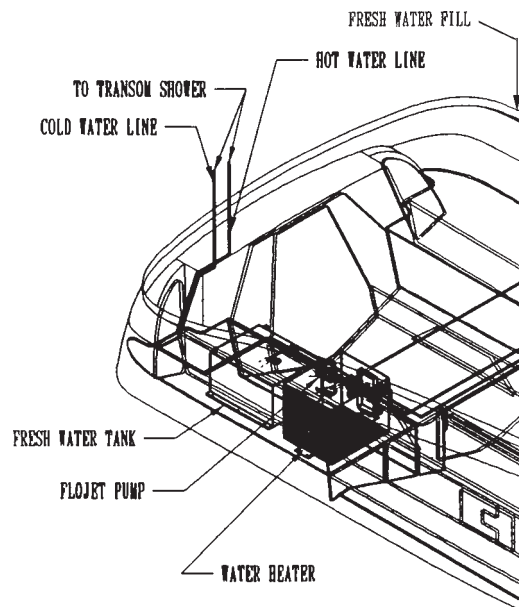
DO NOT overfill the water tank. Tank damage may result. Water capacity and tank location may vary due to other equipment that may be installed on the boat.

The capacity of the fresh water tank vary depending on the Vista™ model. Please refer to our Four Winns website at www.fourwinns.com for the potable water capacity of your particular model. Tank monitoring systems are available either as a standard or optional feature depending upon the model. These indicator gauges are typically located in the head for monitoring the water/waste levels. Refer to Figure J1 and the locator drawings in the back of this manual for the fresh water tank location. Access to the tank is gained through an access lid under the V-berth storage lid or through the engine compartment lid depending on model.

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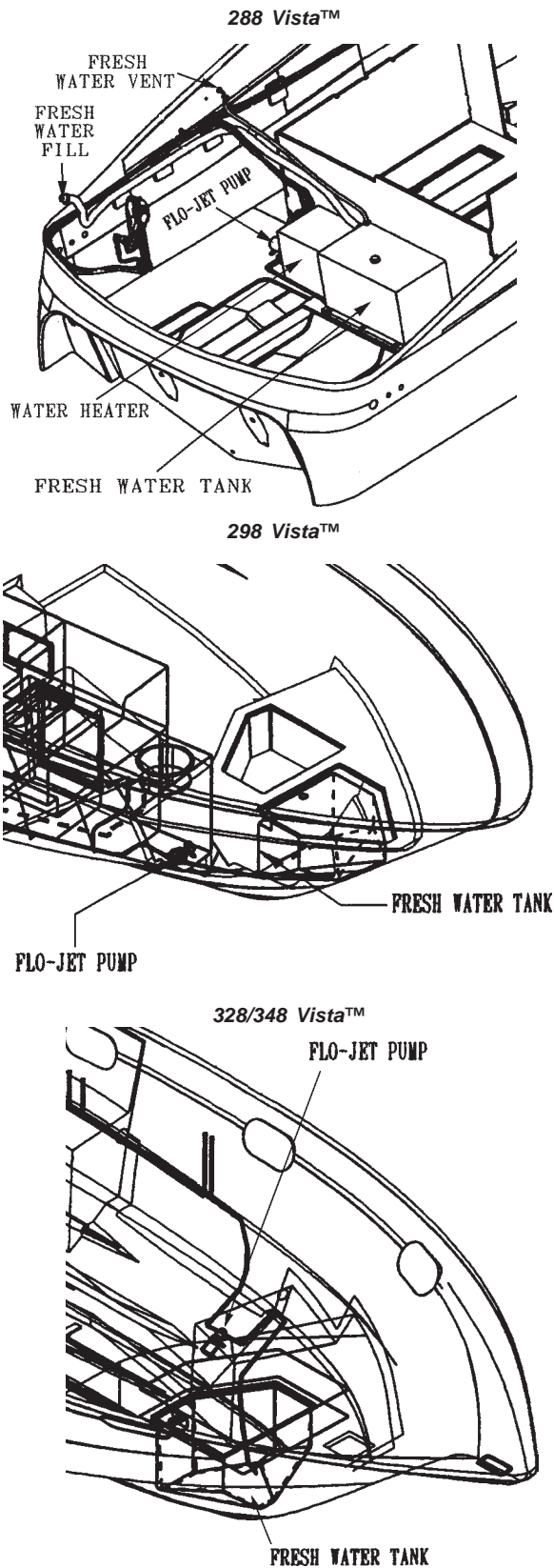


Figure J1: Water Tank Locations

The materials from which the components of the water system are made may give the water supply a peculiar taste, especially when new. This condition is normal and can be reduced somewhat through the use of a water filter; such as that produced by PuriTec™. The taste will completely dissipate in time.

WARNING

The fresh (potable) water system should be disinfected prior to initial use.

The water system should be disinfected before first use and at the beginning of each season. The following information is a general guide to disinfecting the fresh water system.

1. Flush the boat's water system thoroughly with fresh water. Make sure all nontoxic antifreeze is removed from the system.
2. The water system should be drained completely.
3. To disinfect the water system, use one gallon of water and 1/4 cup of Clorox™ or Purex™ household bleach (5% sodium hypochlorite solution). This is recommended for each 15 gallons of tank capacity.
4. Allow to stand for three (3) hours. If time is a factor, greater concentrations of chlorine solution will be needed to disinfect the water system.
5. Drain the system.
6. Flush the system thoroughly with fresh water.
7. Fill the system with fresh water.

To remove excessive chlorine taste or odor which might remain in the system, prepare a solution of one quart vinegar to five gallons water and allow this solution to agitate in the tank for several days during boating. Then drain tank and refill with fresh water.

All drains are equipped with traps, and the water will drain slowly. If the system is not operating properly, have it checked by your authorized Four Winns dealer.

J - 2 PRESSURIZED WATER SYSTEM

The water pump is an automatic, on-off, self-priming pump that can service several outlets at once. The pump will build up water pressure and will turn off when it reaches 35 psi. It will generate 20 psi with the faucets open. Refer to Figure J1 and the drawings at the end of this section.

A. Priming The System

After filling the water tank, open all faucets partially. Depending on the model, open the FRESH WATER switch on the cabin panel or the FRESH WATER circuit breaker switch on the cabin AC/DC panel to supply the system with water. Let the pump run until water comes out of the galley faucet, head faucet and transom shower.

After all the air has been purged from the system and a steady flow of water is coming from each outlet, turn off the faucets one by one. Begin with the cold water faucets and continue until all faucets are shut off. As the pressure builds, the pump will automatically shut off at 35 psi. Refer to Section H-8 - 12 Volt Electrical Equipment and the manufacturer's literature included in the owner's packet for additional information.

B. System Operation

When properly primed and activated, the pressurized water system can be used in the same manner as the water system in a home. An automatic pressure sensor in the water pump keeps the system pressurized. Simply turn on the faucet and water will be delivered. If the system has been recently filled, or has not been used for an extended period of time, air bubbles may accumulate at the pump. If this should happen, re-priming may be necessary.

To obtain the most consistent mixture of hot and cold water, turn the cold water on full, then mix in hot water until the desired temperature is obtained. If water pump cycling occurs, some minor variations in water temperature can be expected.

Whenever the boat will be left unattended for an extended period, the water pump switch should be turned to the OFF position. This switch should also be turned OFF whenever the water tank is to remain empty for an extended period of time.

C. Water Heating Systems

A water heater is available on the Vista™ models either as standard feature or as an option. The capacity of the water heater will vary depending on the model and the capacity information of the water heater may be found on our website at www.fourwinns.com. Refer to Figures J1, J2 and to the drawings at the end of this section.

NOTICE

Water heater location may vary due to the installation of optional equipment.

The water heater utilizes 120 volt (220 volt on 50 Hertz models) power. The water heater breaker switch is located on the cabin 120 Volt AC panel.

NOTICE

DO NOT supply 120 volt power to an empty water heater. Damage to the heater will result immediately. The water system must be filled and primed before attempting to use the water heater.

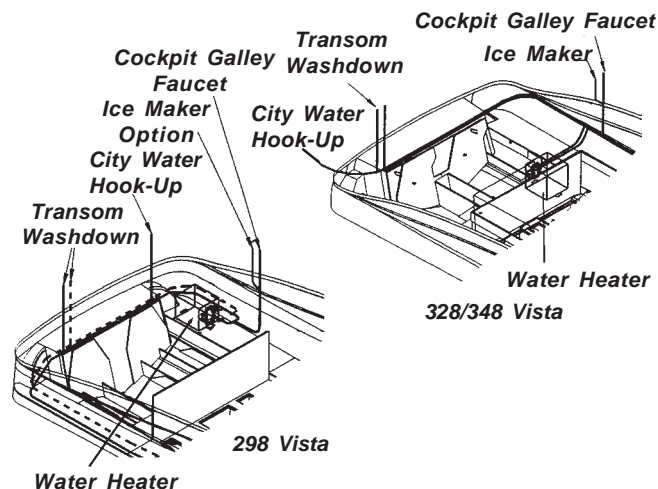


Figure J2: Water Heater Locations

On Vista™ models with a water heater, it incorporates a heat exchanger. The heat exchanger allows the engine coolant to heat a portion of the fresh water supply while the engines are operating. This option will provide hot water at times when 120 volt power is not available. Additional information on heat exchangers is covered in the engine and hot water heater manufacturers' manuals. Please refer to Section H on Electrical Systems for additional information.

D. Using The Shower

Turn on the faucets to desired temperature, remove the shower spout from the sink faucet receptacle, press the lever on the shower head, and the shower is operational. The shower hose is connected to the shower spout and runs inside the faucet receptacle and underneath the sink. Certain models have a wall mount shower bracket for convenience.

When using the shower, draw the shower curtain before using the shower. Damage to the finish can result if surrounding walls and flooring are allowed to become excessively wet. Thoroughly dry these areas after showering.



CAUTION

The water temperature can vary during shower use as the pressure pump cycles on and off. For greatest consistency, turn the cold water on full, then mix in hot water until the desired temperature is obtained.

A shower sump pump is incorporated into the drain system of the shower. The shower drains into the sump pump located forward of the aft cabin. The water will then be pumped into the black/grey water holding tank. If a grey water system is installed, the water will be pumped into the grey water holding tank.

The sump pump includes an automatic bilge switch and is protected by a circuit breaker either at the AC/DC cabin panel, helm fuse block or the battery switch (FORWARD or AUTO BILGE) depending on the model. The sump pump will automatically start as soon as the water in the sump reaches a level that will cause the float on the switch to rise.

After showering, let the water flow for a period of time to flush the pump of soap residue. Check the sump for excess residue. When rinsed out, the pump will automatically shut off.

If water flow from the shower head appears to be restricted, it may be due to sediment accumulating at the shower head. If necessary, remove the head and clean the discharge holes with a fine wire.

Periodically check the sump pump screen for clogs to prevent drainage problems from occurring in the shower drain. Refer to the manufacturer's literature included in the owner's packet.

J - 3 GREY WATER SYSTEM

The grey water system is optional on Vista™ models. The water from the galley sink, head sink and shower will drain into a sump and is pumped into a grey water holding tank respectively. The waste level indicator is located in the head compartment. A pumpout fitting labeled WASTE but designated for grey water is provided on the deck. Refer to the drawings at the end of this section.

NOTICE

Certain geographical areas have restrictions on grey water being pumped or drained overboard. Be sure to check all local, state and federal laws in the boating area.

J - 4 SHORE WATER CONNECTION

Shore water connection is standard on all Vista™ models. This feature allows the direct connection of a city or shoreside water supply to the boat's water system to provide a constant supply of fresh water without the need to constantly refill the water supply tank. This minimizes pressure pump operation thus extending the life span of the pump.

Dockside shore water pressure can vary dramatically. Excess pressure could damage the boat's water system so the shore connection also regulates the water pressure to a maximum of 35 psi.

The female inlet deck fitting may in the transom door storage area or starboard side of the transom above the swim platform.

To use shore water, connect a hose from the shore water faucet to the shore water fitting on the boat and turn on the shore water. The water system of the boat will then be pressurized by city water if the system was previously primed.

The water pump should be turned off when using city water. City water pressure varies from area to area. If the pump is ON and water pressure drops below 35 psi, the pump will activate to maintain pressure at 35 psi. It will draw water out of tank and bypass city water.

If the pump is OFF, the pump will not function and the water in the storage tank of the boat will not be utilized.

NOTICE

Always remember to disconnect the shore water supply hose before leaving the dock.

Always turn off the shore water whenever the boat is left unattended. If a major water leak did occur and went undetected, the boat could fill with water and sink.

DO NOT alter or repair the pressurized water system or shore water connection without having proper knowledge of the system. Damage to the water system can occur.

See Section J-1 for general water system information and instructions on filling the water tank. The water tank will not be filled while connected to shore water.

J - 5 TRANSOM SHOWER

The transom shower is standard or optional on the Vista™ models. On certain Vista™ transom showers, a choice of hot/cold water is available. The shower unit is usually located on the starboard side of the transom or inside the transom storage door. Refer to Figures J2, J3 and to the drawings at the end of this section.

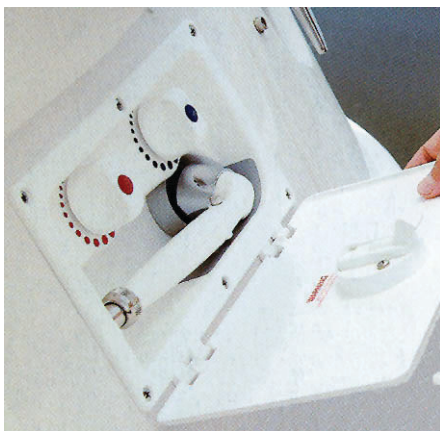


Figure J3: Transom Shower

The water supply system can be used for showering or washing down the transom area. As long as there is water pressure, the shower faucet will operate. Fresh water tank capacity is limited. Connect the boat to shore water before using large amounts of water as required when washing down the transom/swim platform area.

J - 6 HEADS

The various antipollution laws presently in effect have necessitated the use and availability of a wide variety of heads. The heads that have been factory installed in Four Winns® boats have been chosen to provide reasonable longevity and reliable service, at a realistic cost. Refer to the drawings at the end of this section. Also, refer to the manufacturers literature included in the owner's packet.

A. VacuFlush® Sanitation System

Depending on the Vista™ model, the VacuFlush® sanitation system is either standard or optional. The system eliminates the unpleasant sulfide odors which plague saltwater systems. Flush water is no longer drawn through the through-hull fittings, seacock, and vented loop. It also extends the life of the system components by eliminating salt water and impurities from accumulating in the system over time.

The VacuFlush® toilet operates in a different way from other marine toilets. VacuFlush® systems use a small amount of water (a little more than a pint) per flush in addition to a simple vacuum. The toilet is connected to the fresh water system. Fresh water is the key to an odor free bathroom compartment. VacuFlush® toilets are equipped with an integrated vacuum breaker which prevents the possible contamination of the potable/fresh water supply. See Figures J4 & J5. Also refer to the manufacturer's literature included in the owner's packet.

NOTICE

The VacuFlush® (TOILET) switch located in the head must be ON in order for the toilet to flush & recharge.

To operate:

1. To add water to the toilet before using, raise flush lever until desired water level is reached. Generally, more water is required only when flushing solids. See Figure J4.
2. To flush toilet, press flush lever sharply down to the floor until contents clear bowl. A sharp popping noise is normal when the vacuum seal is broken and the flushing action begins. **Be sure to hold lever down for 3 seconds.** If flush lever is accidentally released before waste clears bowl, do not attempt to flush toilet again until vacuum pump stops running. A small

amount of water should remain in the bowl after flushing.

- Do not dispose of sanitary napkins or other non-dissolving items in toilet, such as facial tissue or paper towels. These items can cause plugging of the system. Refer to the "Deodorants and Special Tissue" section in the manufacturer's manual for more information.

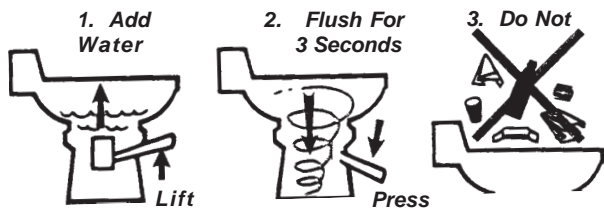


Figure J4: VacuFlush Operations

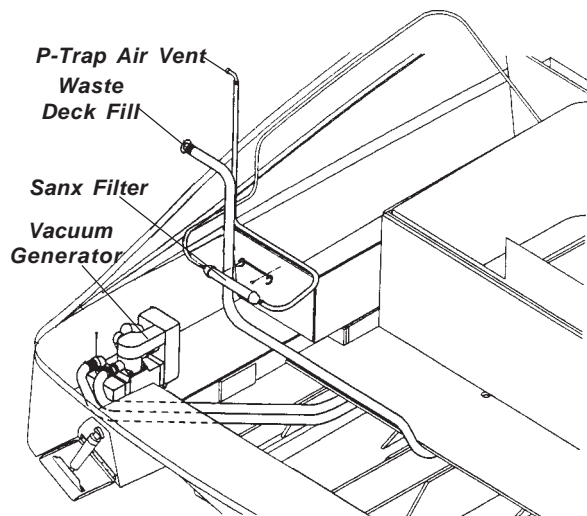


Figure J5: VacuFlush® Vacuum Generator and Waste Deck Fill - (Representative View Only - Location may vary depending on model).

B. Porcelain Head

Certain Vista™ models are available with a porcelain head. Depending on the model, the toilet is either a left hand or right hand, manually-operated toilet. The head obtains sea water from a pick-up for rinsing the bowl. The pick-up and strainer are generally located below the mid cabin floor. Tank level indicators may also be optional and are located in the head if so equipped. Please refer to the following toilet operation instructions, the manufacturer's literature in the owner's packet, and Figures J6 & J7.

To operate toilet:

1. First use

After periods without use the toilet may benefit from lubrication.

- Open inlet seacock.
- Half fill the bowl with warm fresh water.
- Keeping the Flush Control Lever (key 23) in the Shut (➡) position, pump out the warm water.

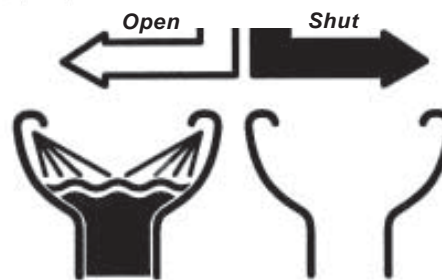


Figure J6: Flush Control Lever Positions

2. Normal use

Open inlet seacock.

- Before use, ensure that there is enough water in the bowl to prevent the toilet paper becoming compacted at the bottom of the bowl.

If the bowl is empty, move the Flush Control Lever (key 23) to the Open (←) position and pump the handle (key 17) up and down until the flushing pump is primed and water enters the bowl.

Then Shut (➡) the Flush Control.

- Operate the pump with long, smooth strokes for efficient and easy operation.
- During use, pump as necessary to keep the contents of the bowl low enough for comfort.
- Use good quality hard or soft household toilet paper, but do not use more than necessary.
- After use, keep the Flush Control Shut (➡) and pump until the bowl is empty.
- When the bowl is empty, Open (←) the Flush Control again, and continue to pump until all waste has either left the boat, or reached the holding tank (allow 7 complete up/down strokes per metre (yard) length of discharge pipework).

Then Shut (➡) the Flush Control and pump until the bowl is empty. Always leave the bowl empty to minimise odour and spillage.

AFTER USE:

- SHUT (➡) THE FLUSH CONTROL.
- SHUT THE SEACOCK.

CAUTION

The toilet is connected to a thru-hull fitting that is below the waterline and if at any time the toilet or pipework is damaged, water may flood in, causing the craft to sink, which may result in a loss of life. Therefore, after every usage the seacock **MUST** be shut or whenever your craft is unattended even for a very short period of time.

Ensure that all users understand how to operate the toilet system correctly and safely, including seacock(s). Take special care to instruct children, the elderly and visitors.

NOTICE

Do not put anything in the toilet unless you have eaten it first except toilet paper. Do not put in: sanitary towels, wet strength tissues, cotton, wool, cigarettes matches, chewing gum, or any solid objects, petrol, diesel, oil, solvents of any kind or water more than hand hot. See Figure J7.

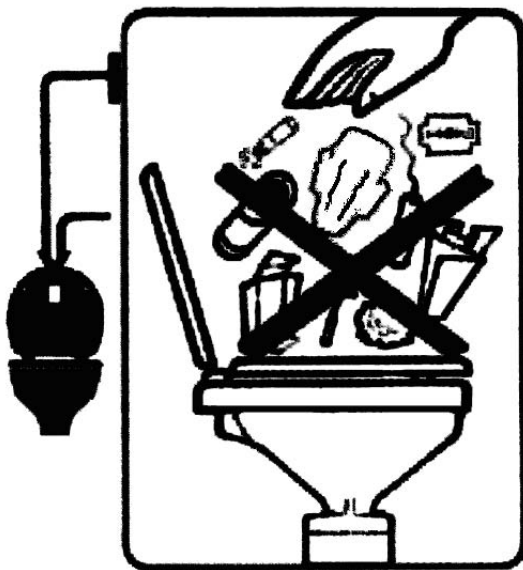


Figure J7: Do Not Place These Items in Toilet Label

Refer to the toilet manufacture's literature for recommended cleaning procedure. This literature is included in the owner's packet.

C. Porta Potti

Certain Vista™ models may utilize a porta potti located in the head compartment.

Preparation:

Separate unit by sliding the locking lever to the left "unlocked" position and hold (Figure J8-A). Separate the units (Figure J8-B).

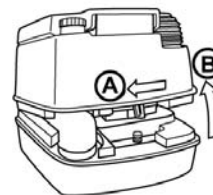


Figure J8 (A & B): Separate Porta Potti

With the waste tank (lower section) sitting flat, open valve by pulling handle out (Figure J9-A).

Add deodorant through the valve opening (Figure J9-B). Use Thetford Holding Tank Deodorant (sample included) in built-in storage compartment (Figure J9-C).

Add water to cover tank bottom. Close valve and replace deodorant (Figure J9-D).

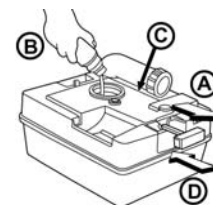


Figure J9 (A - D): Porta Potti Preparation

Recombine the unit. Align hinge with front interlocking tabs. To secure unit, press downward...it should click into place.

Fill fresh water tank by removing the water fill cap and filling the tank with fresh water (Figure J10). **(NEVER add holding tank chemical to the fresh water tank assembly.)** Replace and tighten the cap securely.



Figure J10: Filling Fresh Water Tank

NOTICE

Before each use: With seat cover closed, open and close the holding tank valve (Figure J11) to vent any pressure that may have built up as a result of heat or altitude. This prevents upward splashing of bowl contents when toilet is flushed.

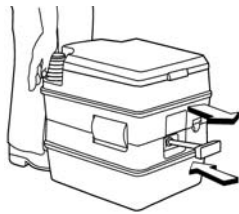


Figure J11: Porta Potti - Bellows Flush Operation

Bellows Flush Operation:

1. Pull out holding tank valve handle (Figure J11).
2. Push down on bellows to rinse the bowl.
3. Push valve handle all the way in to insure an odor-tight seal.

Emptying of Portable Models:

1. Empty when waste holding tank level appears full. **DO NOT ALLOW THE TANK TO BECOME OVERFILLED.**
2. Make sure waste valve handle is in the closed position.
3. Remove fresh water tank from waste holding tank (Figure J12).

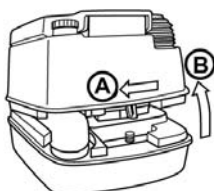


Figure J12: Removing Fresh Water Tank

4. Remove waste holding tank from hold down brackets.
5. Carry the waste holding tank to any permanent toilet facility. Rotate the pour-out spout to the desired position. Remove the cap. Depress the air relief valve with your thumb while emptying (Figure J13).



Figure J13: Emptying Waste Holding Tank

6. Rinse waste holding tank and recharge as described under Preparation portion of this section.
7. Reassemble unit and fasten to floor or deck.

D. Head With Overboard Discharge

This option is available on most Vista™ models. The head toilet operations are the same as the systems described earlier but an additional line with a “Y” has been installed for overboard discharge. The waste will be pumped into the holding tank from the head. The macerator pump is installed after the “wye”. Refer to Figures J5 & J14.

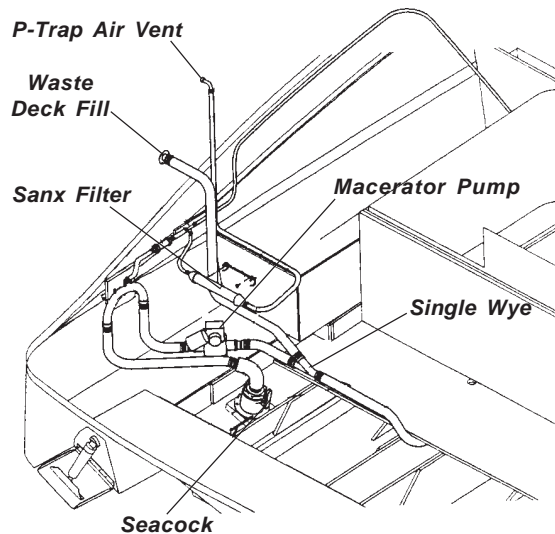


Figure J14: Overboard Discharge Option - (Representative View Only - Description & Location may vary depending on model).

NOTICE

The macerator pump must be used to discharge waste overboard. However, DO NOT use the macerator pump to discharge waste at a pumping station. If the hose is not air tight or connected properly, waste could spurt out or leak around the deck fitting and into the boat.

To operate the overboard discharge system:

1. The discharge valve is located in the engine compartment labeled HEAD DISCHARGE. To open, turn the valve so that the handle is parallel to the flow of the valve. The waste deck plate cover must be tightened securely for the overboard discharge system to operate.
2. Turn ON the macerator pump switch which is located in the head on the switch panel. Allow the pump to run until the storage tank is empty. The sound of the pump's motor load and speed will change when the tank becomes empty.
3. Turn the switch off.
4. Turn the discharge valve handle to the closed position, and secure it. The thru-hull valve must be closed to prevent water from being forced back into the system.

NOTICE

Discharging waste overboard is illegal in most U.S. waters today. Discharge is limited to certain coastal waters, a designated distance offshore. Check with your local boating regulations before proceeding with any discharge activities.

Some local regulations require overboard discharge systems be physically secured in a closed position during use of the boat in waters designated as "no discharge" areas. Check with local boating regulations. Refer to the manufacturer's literature for additional information.

E. Dockside Waste Pump Out

On most Vista™ models waste pump out capability is available. Waste can be removed from the holding tank by taking the boat to a dockside waste pumping station. Most marina fueling facilities provide such services.

The waste holding tank should be emptied upon visual inspection of the waste holding tank and determining the waste holding tank's capacity is almost full or by using the waste level indicator if so equipped. Waste level indicators are typically located in the head. On the porta potti (models with pumpout option only) the waste level indicator is located on the porta potti itself and will change from green to red indicating the tank should be emptied. See Figure J15. **DO NOT ALLOW THE WASTE TANK TO BECOME OVERFILLED.**

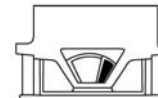


Figure J15: Porta Potti w/ Pumpout Waste Level Indicator

To pump out the holding tank:

1. Be sure the head has some water in the bowl.
2. Connect the dockside pump out connection to the WASTE plate located on the deck.

NOTICE

Usually the dockside pump out connection will screw into the waste deck plate or has a rubber sleeve that inserts into the plate and must be held in position during the pump out operation.

3. Have the pumping station operator activate the pumping equipment. The waste will be drawn from the holding tank and into the pumping station's disposal tank.
4. Remove the pump out connection from the deck plate. Add at least 5 gallons of clean water to the holding tank on most models through the waste deck fitting using a dockside water hose. The exception being the porta potti toilet with pumpout model. Add 1 gallon of water through the waste fitting.
5. Repeat steps 2 & 3 above to pump out the water used in step 4 to flush the holding tank.

6. Add waste holding tank treatment chemical to the head bowl. It is available from the dockside pumping station or can be obtained from your dealer. Flush at least twice.



CAUTION

Be careful when handling and storing treatment chemicals. Not only are they toxic, but they will also stain and damage surrounding surface.

J - 7 SYSTEM MAINTENANCE

Information supplied with water and waste system components by the equipment manufacturers is included with this manual. Refer to this literature for additional operation and service information.

Be sure the batteries in the boat are properly charged. Operating the pressure pump from a battery with a low charge will result in pump cycling. This could lead to premature pump failure.



CAUTION

The decomposition of waste produces a colorless, odorless gas, methane, that is lighter than air, combustible, and extremely lethal. Always provide sufficient ventilation when effecting repairs to the waste system and allow no odor from the waste system to go unresolved.

A. Clean Vents and Screens

Periodically, inspect the water tank vents and thru-hull vent fittings for any dirt, wax, etc. Carefully remove any obstruction with a pipe cleaner or similar device. **Be sure not to puncture the screen.** The stainless steel vent cap is not removable.

NOTICE

Failure to keep the water tank vent fittings clean will cause excessive pressure buildup within the tank during filling. This can cause water tank damage.

Periodically remove the filter screens from the faucet discharge spouts and shower head. Remove the accumulation of sediment from the screens. If necessary, clean

out the holes using a fine wire. A buildup of debris in the faucet filter screens can create enough restriction to cause the pump to cycle on and off.

Check the in-line water filter/screen for sediment and blockage. It is located between the water tank and the pressure water pump. If obstructed, remove from the water line and either clean or replace the part. The filter unit will twist apart.

Inspect and clean the shower sump every 30 days. Some water will always be in the compartment. Sediment and other debris will buildup and affect the automatic bilge switch and pump operation. Remove the pump's cover and clean the screen. The screen will become blocked and the pump will not operate properly. To clean the compartment, use baking soda and a fine wire brush to remove dirt and other debris. This will also serve to disinfect the area.

B. Winterizing the Water System

Winter lay-up service procedures should include a thorough draining of the water system. Disconnect all accessible fittings. Blow out all lines. Be sure the hot water heater, fresh and grey water tanks, transom shower, pumps and lines are completely dry. Leave all faucets open. Freezing water can cause severe damage to all water system components.

NOTICE

Always winterize the fresh water system prior to winterization of the hull drainage (bilge pump) system.

Draining the system as mentioned can be very tedious and an incomplete job can result in expensive repairs. The use of nontoxic antifreeze (such as R.V. antifreeze) designed for fresh water systems considerably reduces the work necessary and is a more positive means of winterizing the system. Follow the directions included with the antifreeze solution.

To winterize:

1. Turn on the water pump and drain the water tank by opening a faucet (the pump will run faster when it is empty).

NOTICE

Be sure the circuit breaker for the water heater in 120 Volt AC panel is in the OFF position. The water heater will be damaged immediately by supplying electrical power to an empty water heater.

DO NOT run the water pump without water in the system. Pump damage will result. Be watchful and turn the pump off as soon as the tank becomes empty.

2. Add 15 gallons of R.V. antifreeze to the water tank.

NOTICE

Generally the hot water heater will require approximately five gallons of antifreeze before the hot water lines will have antifreeze running through them. The cold water faucet should be turned OFF at some point to test for antifreeze in the hot water line.

3. Turn ON all faucets (both hot and cold) until undiluted antifreeze is seen. Make sure the transom shower, head faucet and galley faucet have antifreeze coming out.
4. Activate the shower sump pump and pour approximately 1 quart of nontoxic antifreeze down the shower drain. The shower sump will discharge some of the antifreeze overboard.



Use only nontoxic antifreeze solutions such as R.V. antifreeze. DO NOT use ethylene glycol solutions; the type that is used in engine coolant systems. These are toxic.

NOTICE

Be sure to wipe up any antifreeze that has been spilled on the fiberglass shower surfaces.

C. Winterizing the Waste System

To winterize the waste holding tank, flush the tank with soap, water and a deodorizer (e.g., Lysol Liquid™). Empty the tank and pour two (2) gallons (3 gallons if equipped with overboard discharge) of R.V. antifreeze into the bowl and flush.

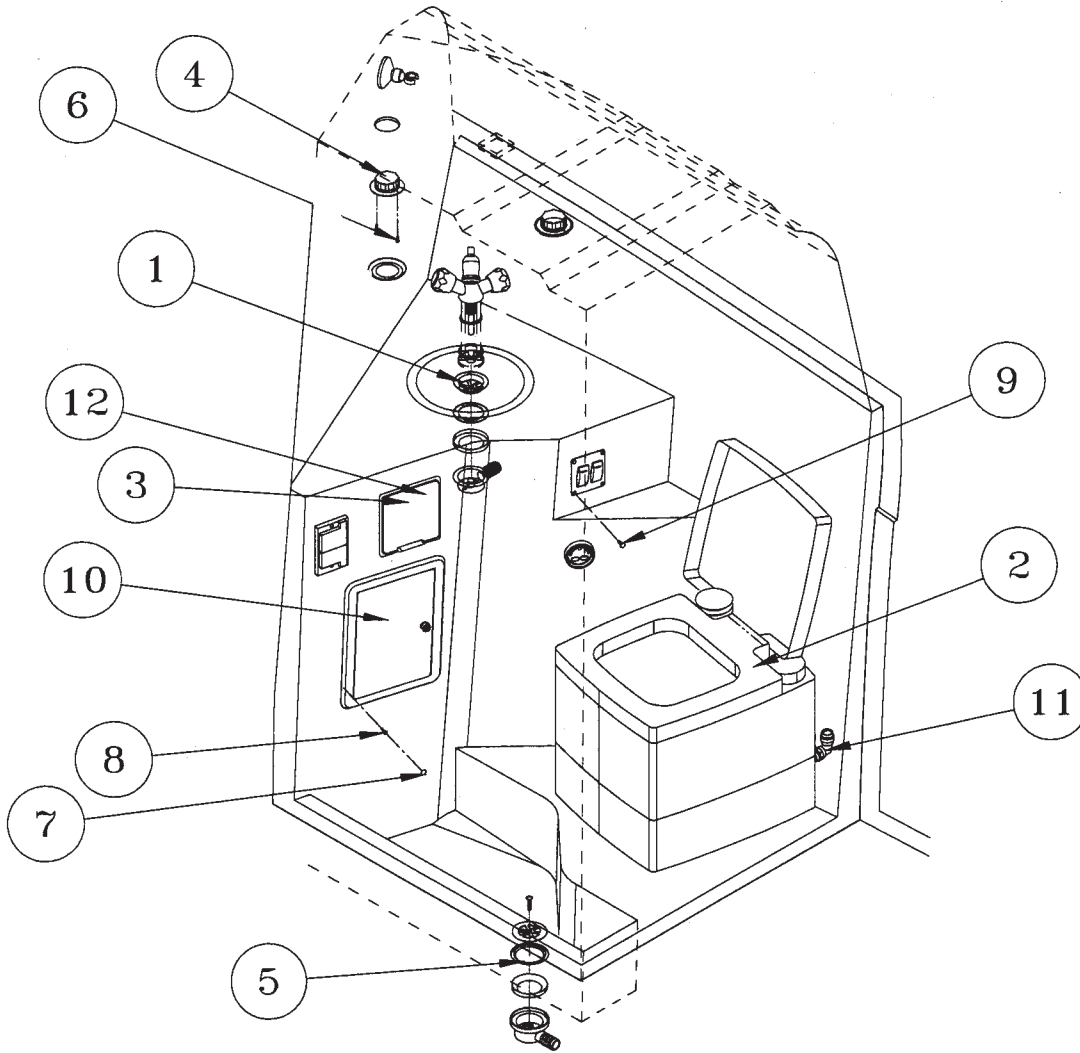
If the boat is equipped with overboard discharge capabilities, follow the normal procedures above. Run the discharge pump only long enough until the antifreeze solution is being pumped overboard.

For additional information, refer to the manufacturer's manuals in the owner's packet.

NOTICE

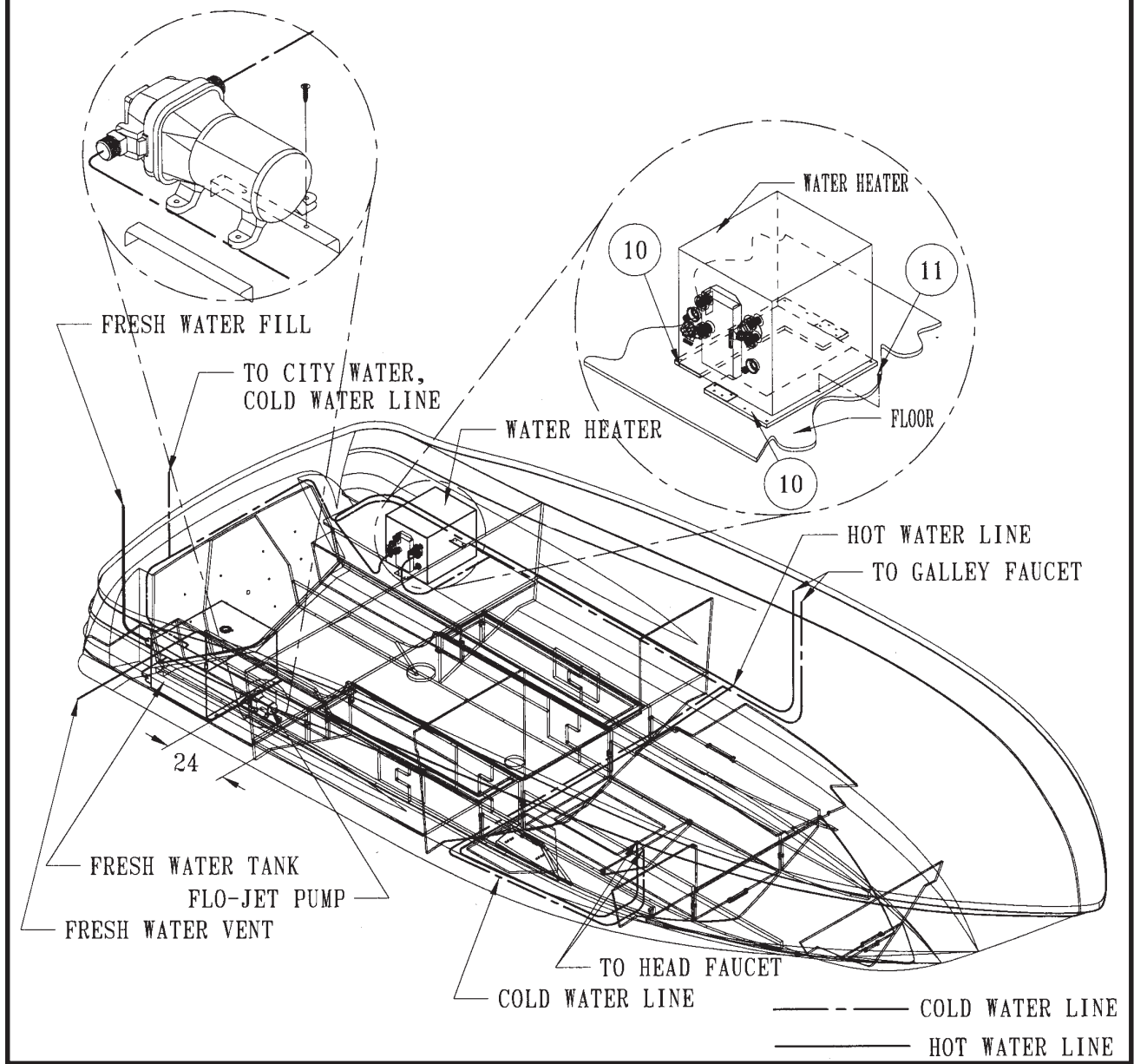
The instructions listed in this section provide a working knowledge to winterize the water and waste systems. However, to prevent possible damage to components in your boat, Four Winns recommends having the boat winterized by your Four Winns dealer.

FIGURE J16: 248V HEAD



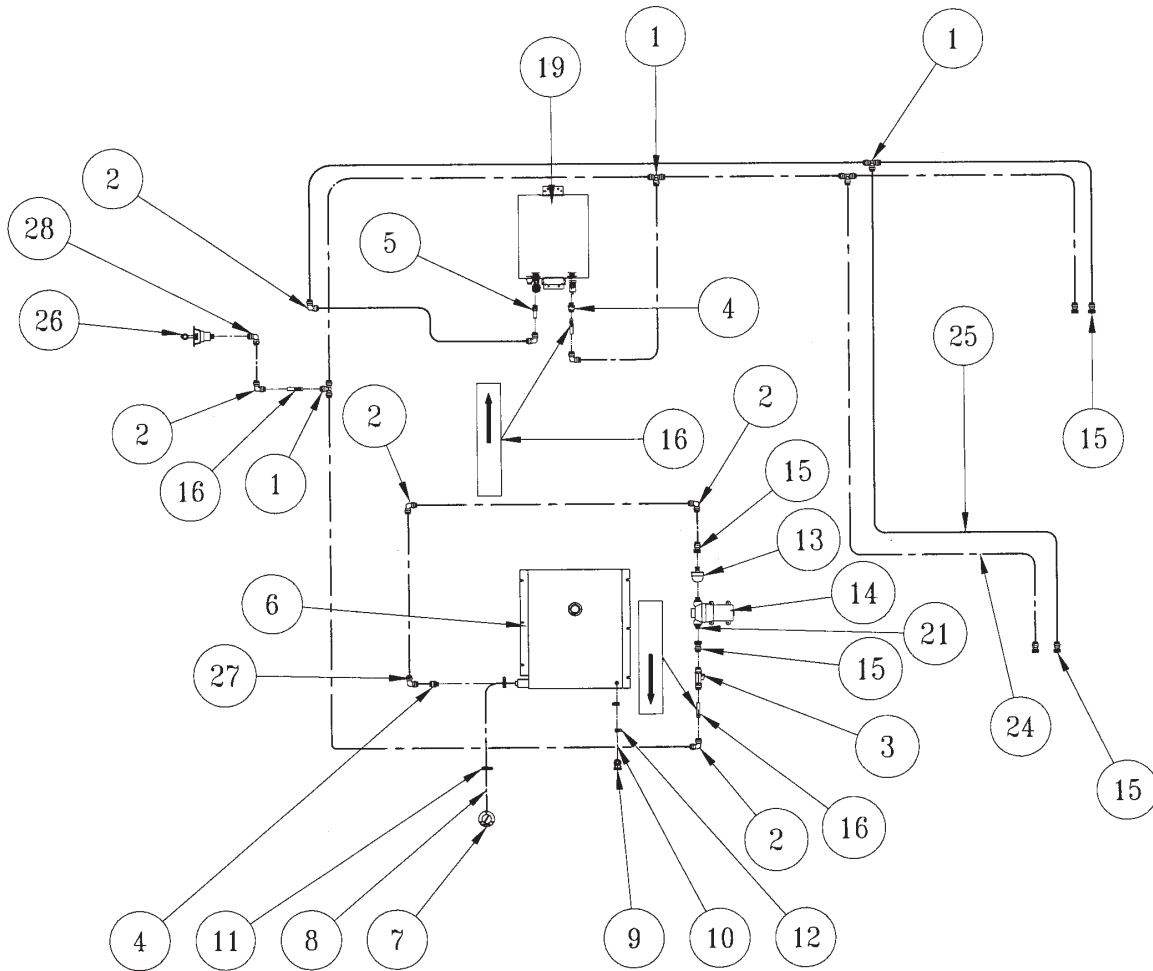
#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	DRAIN, SINK #101045-00	035-0225	1 EA				
2	PORTA POTTIE, 735MSD W/STR. PUMP	065-0958	1 EA				
3	HOLDER, TOILET PAPER #30803	032-0293	1 EA				
4	LIGHT, BLACK PLATINUM (UMNL) 2"	026-0500-02	2 EA				
5	DRAIN, SHOWER FLOOR #101045-10	035-0616	1 EA				
6	SCREW, #6 X 3/4" PFHMS SS PFA	080-0011	4 EA				
7	COVER, SCREW PRESS-ON #TC2-100	080-1006	4 EA				
8	SCREW, #8 X 3/4" POHMS SS	080-0022	6 EA				
9	SCREW, #8 X 1/2" PPH BLACK PPA	080-0024	4 EA				
10	VANITY ASS'Y, HEAD 248V	101-50181	1 EA				
11	PUMP OUT, 90 DEGREE #16587	065-0959	1 EA				
12	SCREW, #8 X 3/4" POHMS SS POH	080-0022	2 EA				

FIGURE J17: 248 FRESH WATER SYSTEM (1 OF 2)



#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
	* TUBING HARDWARE *				* WATER HEATER HARDWARE *		
1	BLOCK, TIE WRAP, SCREW MOUNT	032-0584	18 EA	8	WASHER, FINISH #8 SS	080-0091	8 EA
2	SCREW, #8 x 3/4" POHSMS SS	080-0022	18 EA	9	SCREW, #10 x 1-3/4" POHSMS SS	080-0036	8 EA
3	TIE, CABLE 15" W/ MOUNTING HOLE	080-0273	18 EA	10	SHIM, WATER HEATER	100-51076	2 EA
	* DECK FILL HARDWARE *			11	SCREW, #10 x 1 1/2" POHSMS	080-0032	8 EA
4	SCREW, #8 x 3/4" POHSMS SS	080-0022	3 EA		* WATER INLET/REG HARDWARE*		
	* FLO-JET HARDWARE *			12	SCREW, #10 x 1" POHSMS SS	080-0035	3 EA
5	SCREW, #10 x 3/4" PTHSMS SS	080-0033	4 EA	13	SCREW, #8 x 1 1/2" POHSMS	080-0309	4 EA
	* WATER TANK HARDWARE *			14	CLEAT, WATER PUMP RISER 248/268V	100-51932	2 EA
6	WASHER, 1/4" x 1 1/4" FLATFENDER	080-0159	6 EA				
7	SCREW, #12 x 1 1/2" PPHSMS SS	080-0041	6 EA				

FIGURE J18: 248 FRESH WATER SYSTEM (2 OF 2)



NOTES: 1) ASSURE CHECK VALVES ARE IN CORRECT DIRECTION.
2) * NOT SHOWN

————— HOT WATER LINE
- - - - - COLD WATER LINE

#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	TEE, 15mm WS1502B	035-0928	4 EA	15	ADAPTER, FEMALE 1/2" BSP x 15mm WS1532B	035-0933	6 EA
2	ELBOW, 15mm WS1503B	035-0929	7 EA	16	CHECK VALVE, 15mm WS1582B	035-0931	3 EA
3	VALVE, SHUT-OFF 15mm WS1574B	035-0932	1 EA	*17	COLLET CLIP, 15mm WS1518B	035-0939	36 EA
4	ADAPTER, MALE 1/2" BSP x 15mm WS1514B	035-0934	3 EA	*18	COLLET COVER, 15mm WS1590B	035-0940	36 EA
5	ADAPTER, STEM 1/2" WPT x 15mm WS1524B	035-0935	1 EA	19	WATER HEATER, 6 GAL	065-0040	1 EA
6	TANK, GRAY WATER/ FRESH WATER 20 GAL.	035-0918	1 EA	*20	COUPLING, MALE 1/2" x 1/2" #QC33	035-0078	1 EA
7	DECK FILL, S.S. WATER #66408-1	031-0087	1 EA	21	FITTING, KIT, FLOJET #C 20381-0	035-0729	1 EA
8	HOSE, 1 1/2" WATER WHITE #143-1120	022-0007	5 FT	*22	HOT WATER HEATER KIT #3856265	035-0334	1 EA
9	VENT, CHROME PLATED BRASS #352030	035-0812	1 EA	*23	ANTIFREEZE, NON-TOXIC, 55 GAL	084-0043	3 GAL
10	HOSE, 5/8" WASTE #148-0580	022-0013	5 FT	24	TUBING, BLUE 15mm x 50mm WS7152B	035-0936	41 FT
11	CLAMP, 1 1/2" FILL HOSE	021-0032	4 EA	25	TUBING, RED 15mm x 50mm WS7154B	035-0937	27 FT
12	CLAMP, 5/8" VENT HOSE	021-0031	2 EA	26	FITTING, WATER INLET/REG. #44410-1001	035-0027	1 EA
13	FILTER, IN LINE SHURFLO #170-06	035-0158	1 EA	27	ELBOW, STEM WX151522B	035-1002	1 EA
14	PUMP, FLOJET #f4405-143B	026-0331-02	1 EA	28	ELBOW, ADAPTER 1/2" BSP #WX1531B	035-1003	1 EA

FIGURE J19: 248V WASTE SYSTEM (1OF 2)

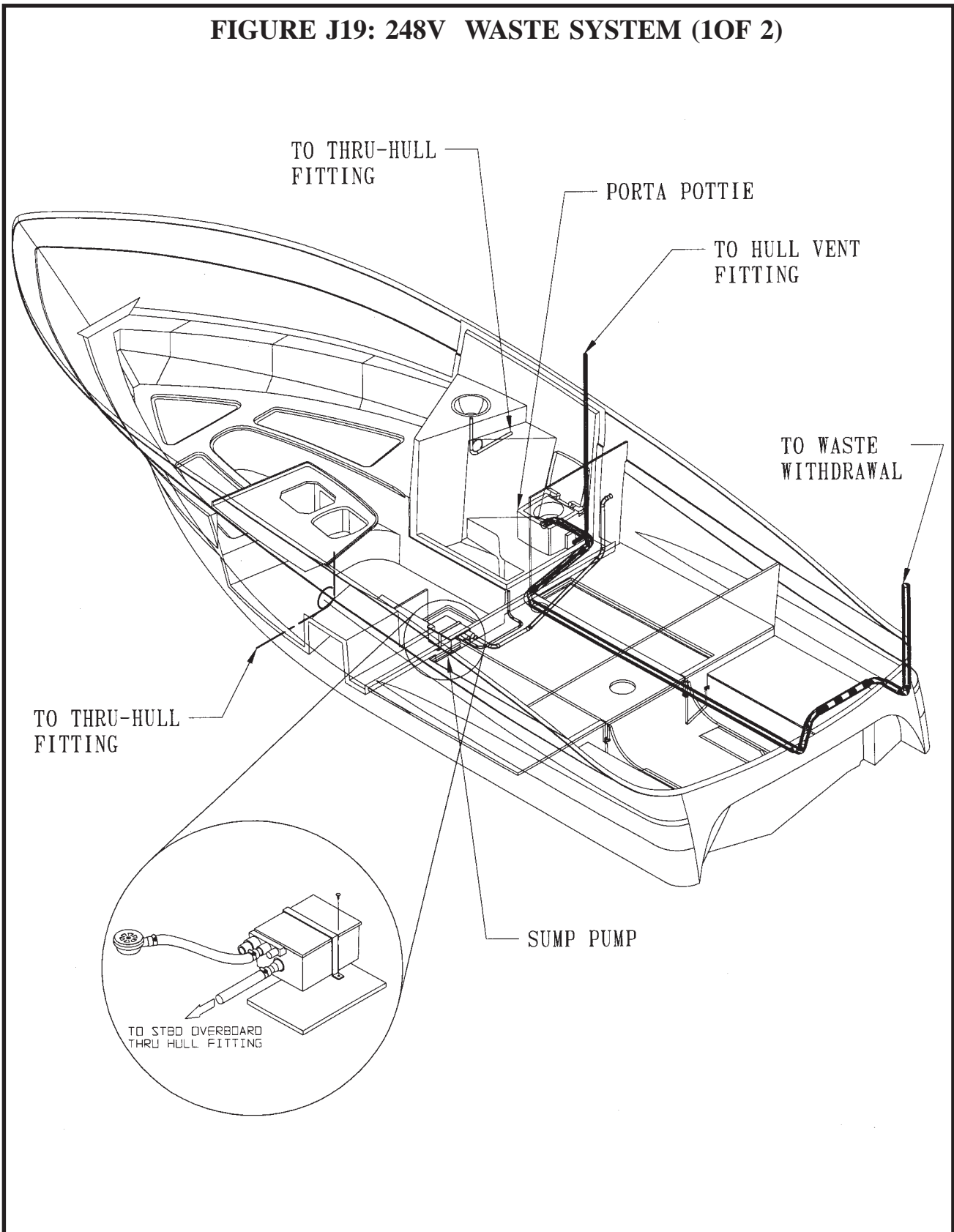
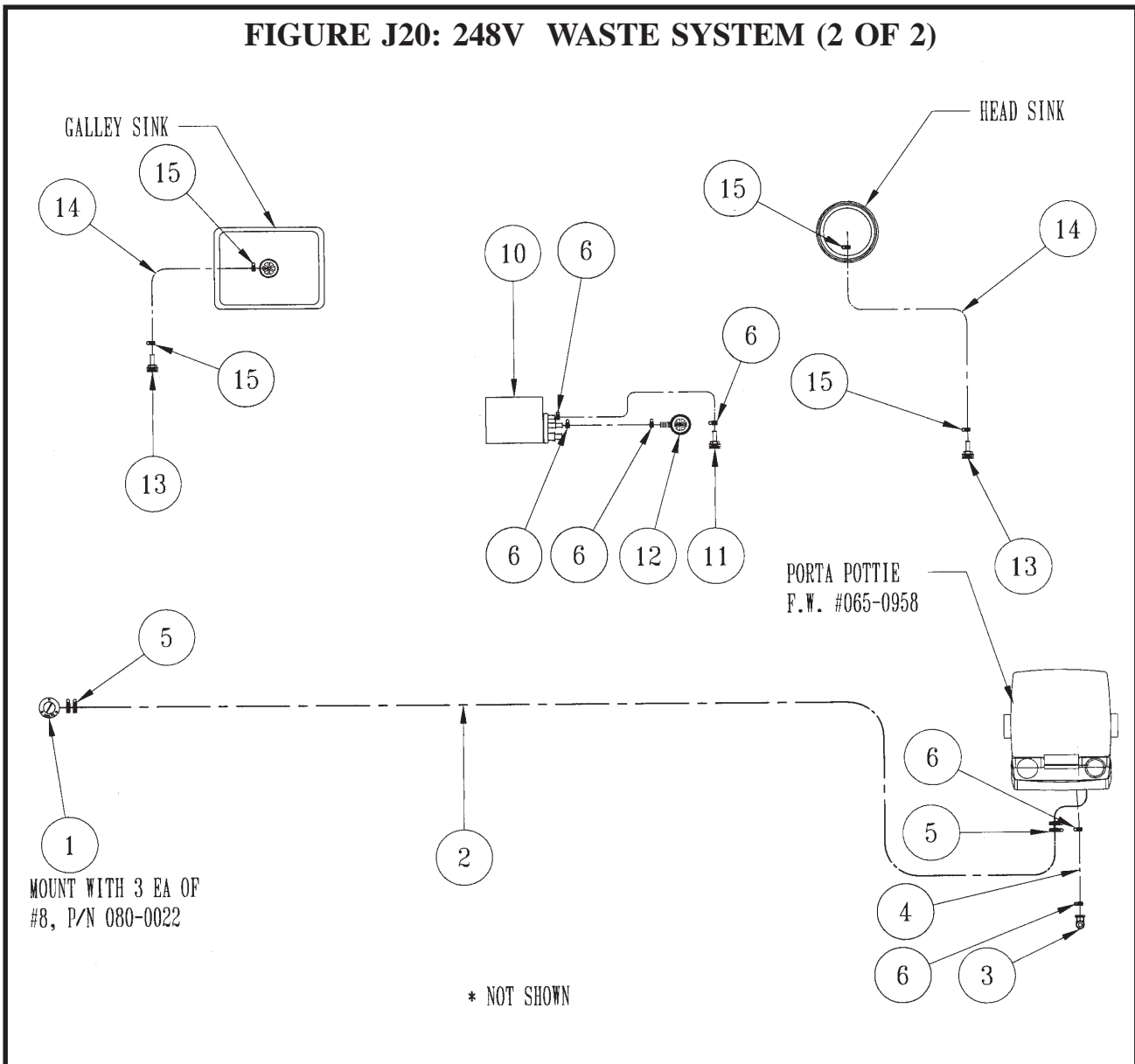


FIGURE J20: 248V WASTE SYSTEM (2 OF 2)



#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	DECK FILL, S.S. WASTE #66126-1	031-0086	1 EA	15	CLAMP, 1-1/4" HOSE #67165-52	021-0035	4 EA
2	HOSE, 1-1/2" SANITATION WHITE #116	022-0055	18 FT				
3	VENT, 90° CHROME ELBOW 352030	035-0812	1 EA				
4	HOSE, 5/8" WASTE #148-0580	022-0013	6 FT				
5	CLAMP, 1-1/2" #24 FILL HOSE #6	021-0032	4 EA				
6	CLAMP, 5/8" #10H VENT HOSE	021-0031	6 EA				
*7	BLOCK, TIE WRAP SCREW MOUNT	032-0584	7 EA				
*8	SCREW, #8 x 3/4" POHSMSS SS	080-0022	10 EA				
*9	TIE, CABLE 15"W/MOUNTING HOLE	080-0273	7 EA				
10	SUMP, SHOWER 800GPH RULE #98 (UML)	026-0629	1 EA				
11	THRU-HULL, 3/4" PLASTIC (REF. ONLY)	032-0012	1 EA				
12	DRAIN, SHOWER (REF. ONLY)	035-0616	1 EA				
13	THRU-HULL, 1" PLASTIC (REF. ONLY)	035-0208	2 EA				
14	HOSE, 1" BLACK PVC #149-1000	022-0047	18 FT				

FIGURE J21: 248V PORCELAIN TOILET W/ HOLDING TANK (1 OF 2)

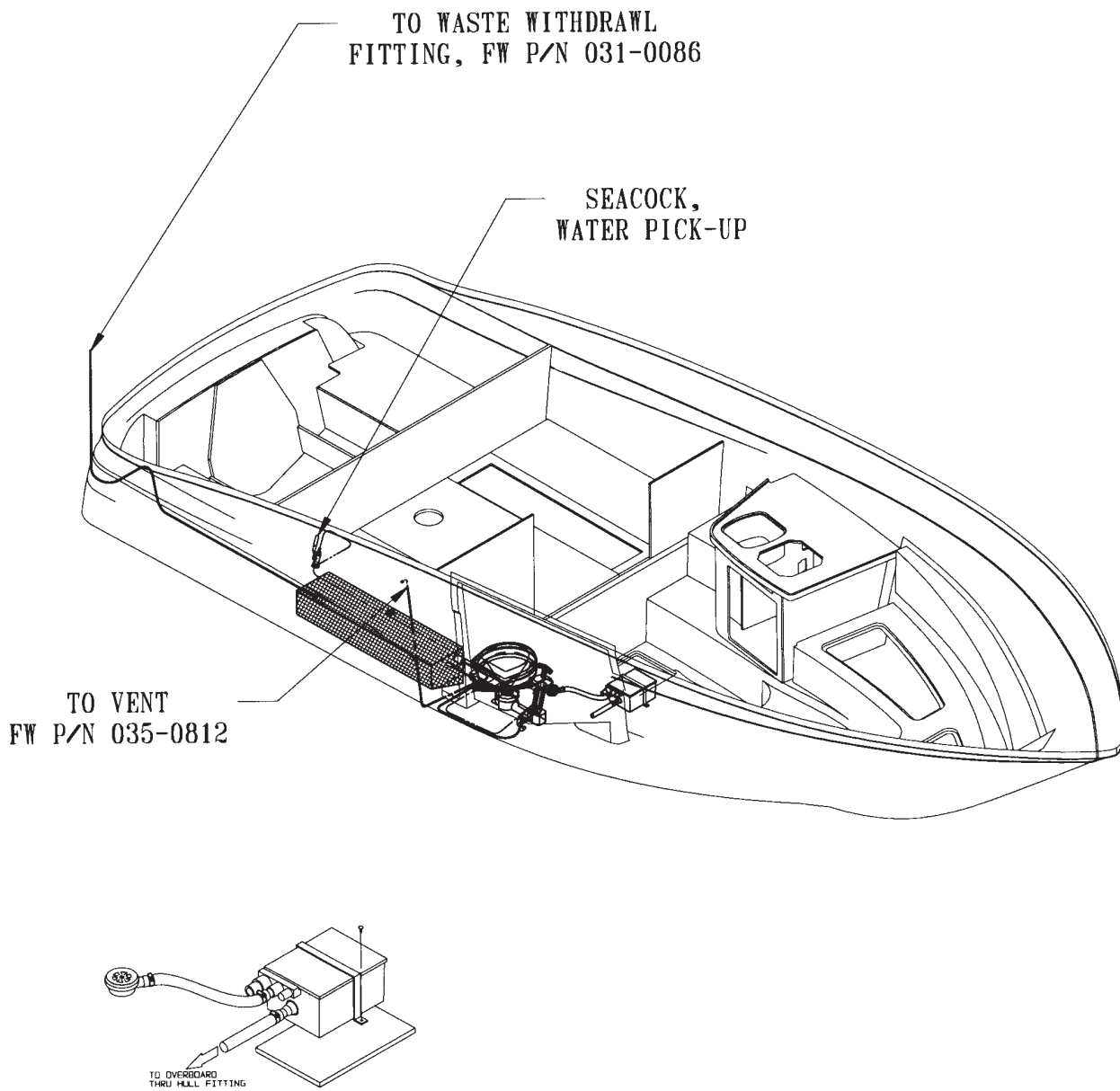
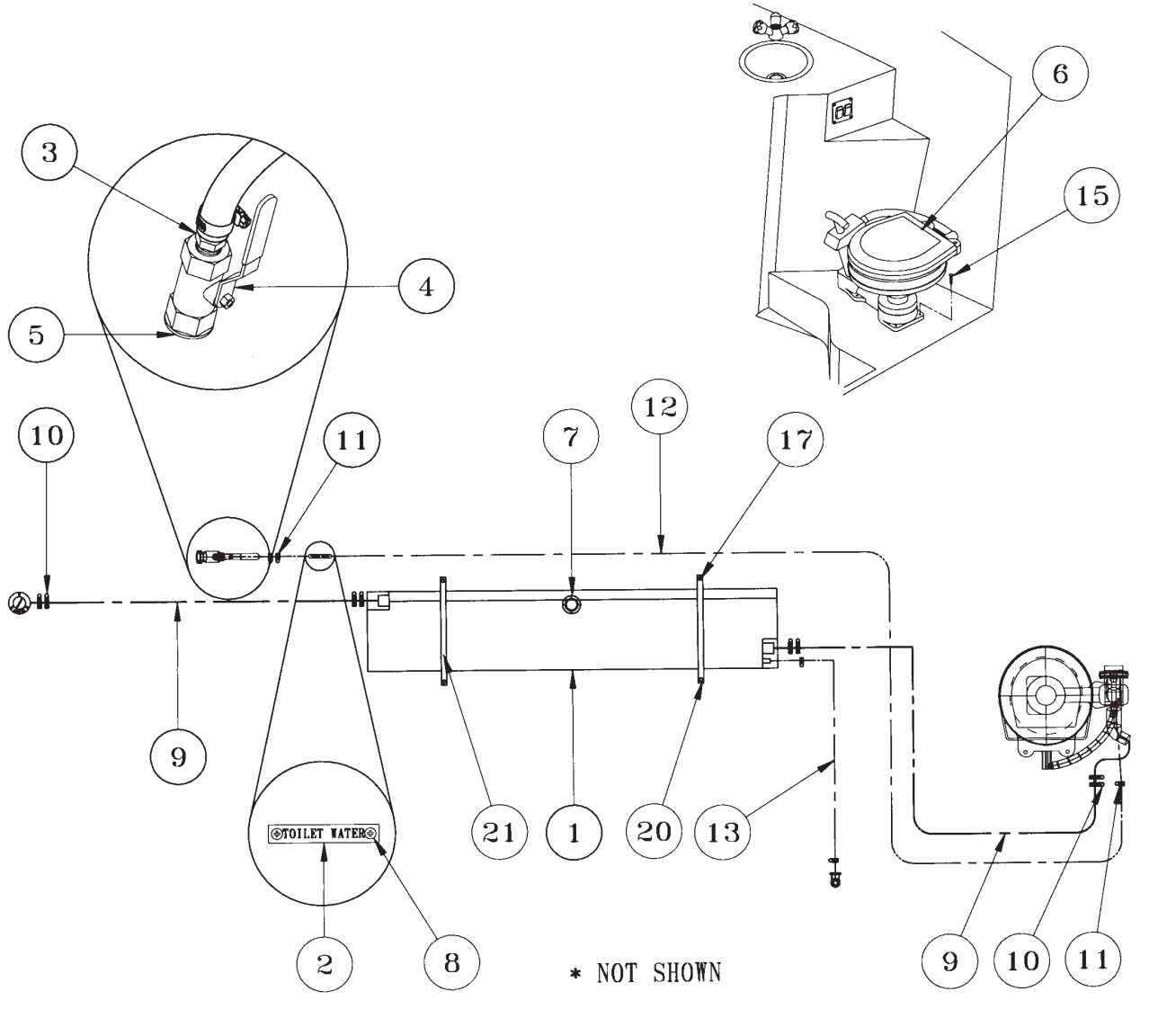
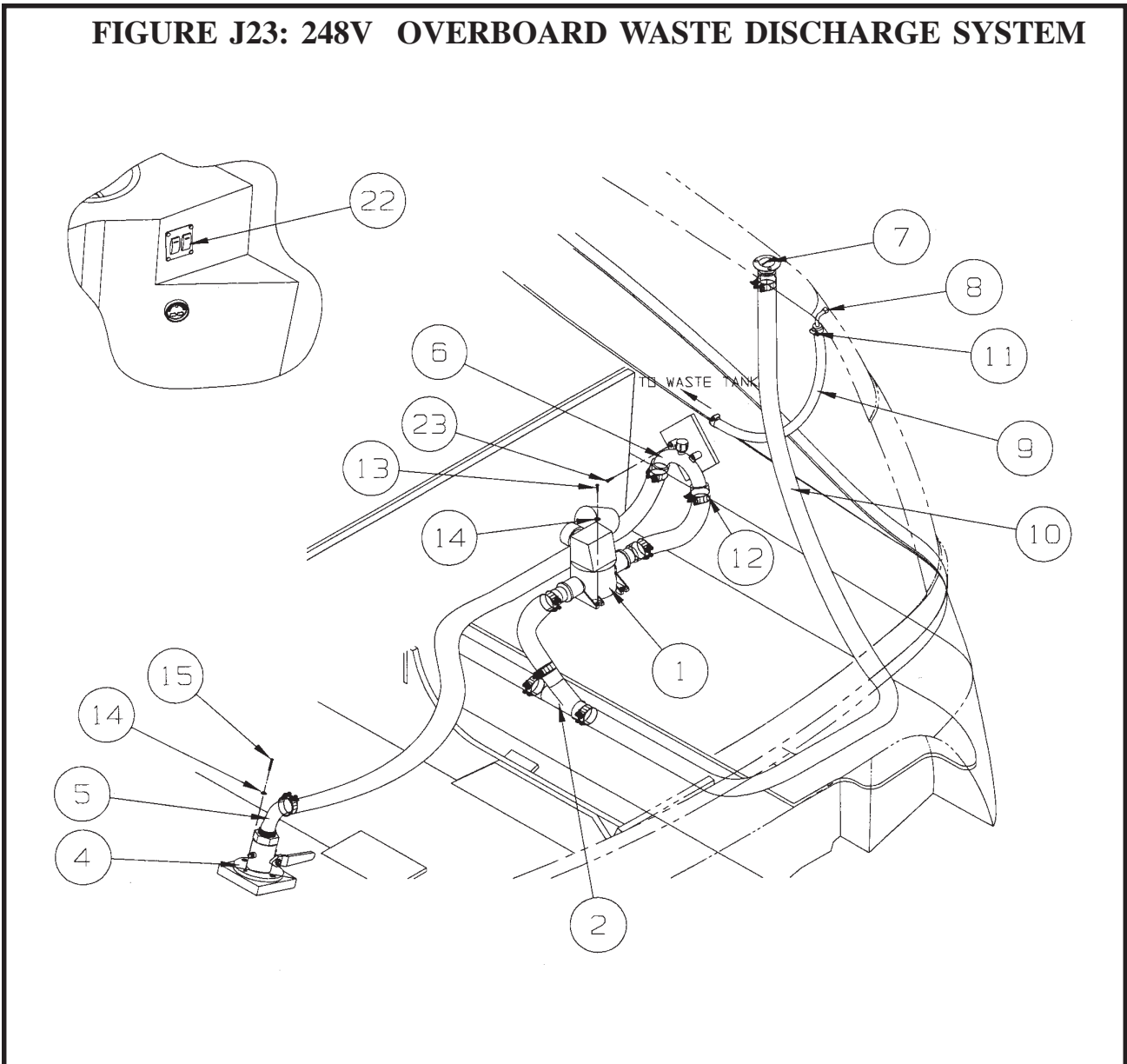


FIGURE J22: 248V PORCELAIN TOILET W/ HOLDING TANK (2 OF 2)



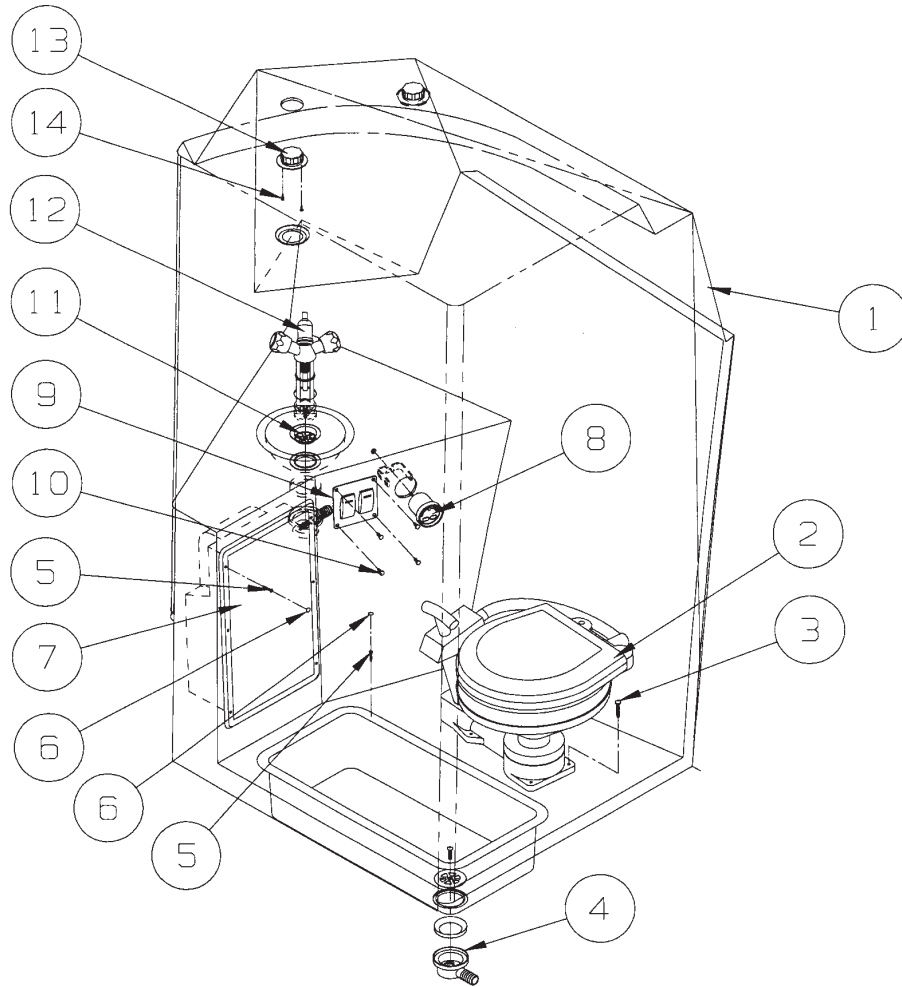
#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	TANK, BLACK / GRAY WATER 16 GALLON	035-0964	1 EA	15	SCREW, #14 x 1-1/2" PPHSMS SS	080-0043	4 EA
2	PLATE, ENGRAVED "TOILET WATER"	056-0155	1 EA	*16	BLOCK, TIE WRAP, SCREW MOUNT	032-0584	10 EA
3	HOSE BARB, 3/4" MPT x 3/4" HB	035-0327	1 EA	17	SCREW, #10 x 1-3/4" POHSMS SS	080-0036	4 EA
4	VALVE, BALL 3/4" #4726K12	035-0118	1 EA	*18	SCREW, #8 x 3/4" POHSMS SS	080-0022	10 EA
5	THRU HULL, 3/4" BRONZE #322-00	035-0552	1 EA	*19	HARNES ASSEMBLY, 8AWG GREEN 65"	027-1804	1 EA
6	TOILET, MANUAL LEFT HAND #2909	035-0257	1 EA	20	WASHER, FINISH #8 SS	080-0091	4 EA
7	PLUG, 1-1/2" MPT	035-0160	1 EA	21	INSERT, VINYL RUB RAIL	033-0171	5 FT
8	SCREW, #6 x 1/2" PPHSMS SS	080-0010	2 EA				
9	HOSE, 1-1/2" SANITATION WHT116	022-0055	-4 FT				
10	CLAMP, 1-1/2" #24 FILL HOSE	021-0032	4 EA				
11	CLAMP, 5/8" FUEL VENT HOSE	021-0031	4 EA				
12	HOSE, 3/4" WATER #148-0340	022-0029	16 FT				
13	HOSE, 5/8" WASTE #148-0580 (REF. ONLY)	022-0013					
*14	TIE, CABLE 15" W/MOUNTING HOLE	080-0273	10 EA				

FIGURE J23: 248V OVERBOARD WASTE DISCHARGE SYSTEM



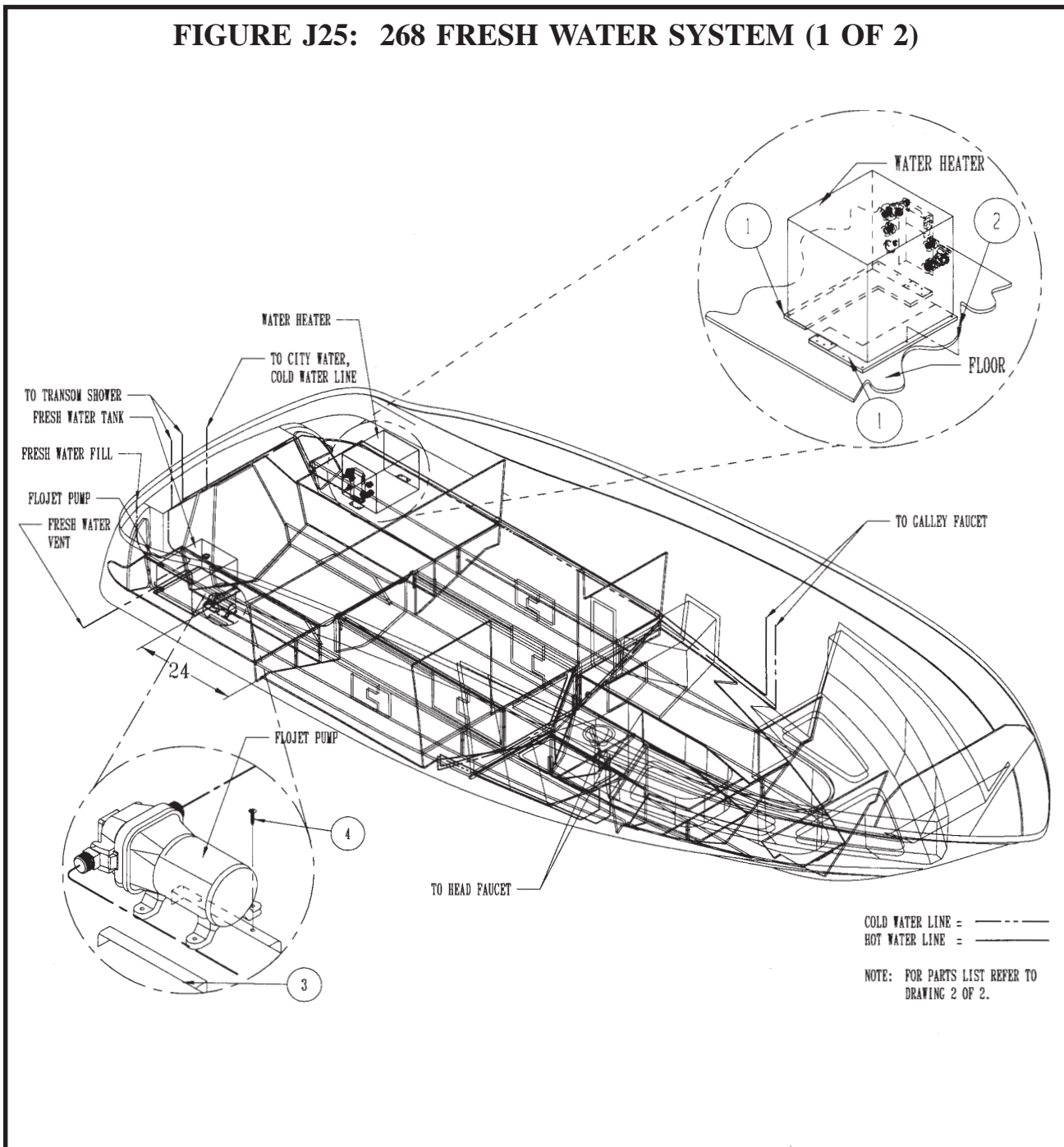
#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	PUMP, T-12 MACERATOR	065-0081-02	1EA	15	SCREW, #10 x 1-1/2" POHSMS	080-0032	4EA
2	KIT, SINGLE WYE 1-1/2"	035-0305	1EA	16	PLATE, "HEAD DISCHARGE" (NOT SHOWN)	056-0183	1EA
3	THRU-HULL, 1-1/2" BRONZE (NOT SHOWN)	035-0204	1EA	17	HARNASS ASSEMBLY, 8 AWG (NOT SHOWN)	027-1804	1EA
4	SEACOCK, 1-1/2" #805008 PLB	035-0105	1EA	18	TEE, 5/8" HOSE BARB (NOT SHOWN)	035-0166	1EA
5	ELBOW, 1.5"MP x 1.5"HB BRONZE	035-0199	1EA	19	BLOCK, TIE WRAP, SCREW MOUNT (NOT SHOWN)	032-0584	12EA
6	VENT LOOP, 1-1/2" w/ CAP	035-1377	1EA	20	SCREW, #8 x 3/4" POHSMS SS (NOT SHOWN)	080-0022	12EA
7	DECK FITTING, SS WASTE	REF 118-50834		21	TIE, CABLE, 7.9"W/MOUNTING HOLE (NOT SHOWN)	080-0287	12EA
8	VENT, CHROME PLATED BRASS	035-0812	1EA	22	PANEL ASS'Y, HEAD SWITCH 248/268	025-2182	1EA
9	HOSE, 5/8" WASTE #148-0580	022-0013	10FT	23	SCREW, #10 x 3/4" PTHSMS	080-0033	3EA
10	HOSE, 1-1/2" ODORSAFE	022-0146	17FT	24	CAULK, 1/4" BEAD 3M BELOW WTRLINE (NOT SHWN)	084-0175	36LN
11	CLAMP, 5/8" #10H FUEL VENT	021-0031	2EA				
12	CLAMP, T-BOLT 1-7/8"	021-0371	10EA				
13	SCREW, #10 x 1" POHSMS	080-0035	4EA				
14	WASHER, #8 FINISH	080-0091	8EA				

FIGURE J24: 268V HEAD



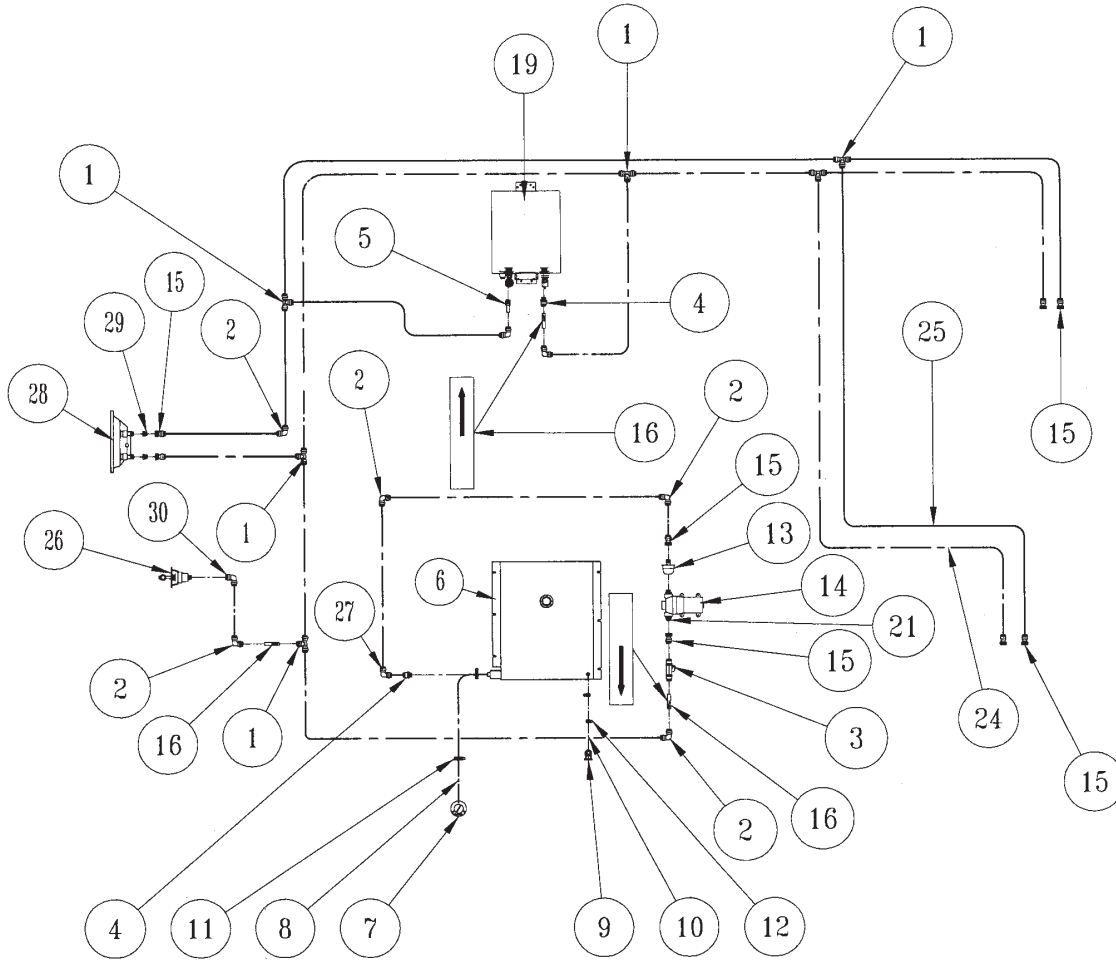
#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	TOP, HEAD 268 VISTA	110-50159	1EA				
2	TOILET, MANUAL LEFT HAND #2909	035-0257	1EA				
3	SCREW, #14 X 1 1/2" PPHSMS	080-0043	4EA				
4	DRAIN, SHOWER FLOOR	035-0616	1EA				
5	SCREW, #8 X 3/4" POHSMS	080-0022	10EA				
6	COVER, SCREW PRESS-ON #TC2-100	080-1006	10EA				
7	CABINET, VANITY LEFT HAND	032-1867	1EA				
8	INDICATOR, WASTE LEVEL (OPTION)	024-0399-02	1EA				
9	PANEL ASS'Y, HEAD, LIGHT/TOILET 248/268	025-2457	1EA				
10	SCREW, #6 X 1/2" PPHSMS	080-0010	4EA				
11	DRAIN, SINK	035-0225	1EA				
12	FAUCET, PULL-OUT SHOWER SPOUT	035-0927	1EA				
13	LIGHT, BLACK PLATINUM (UMNL) 2"	026-0500-02	2EA				
14	SCREW, #6 X 3/4" PPHSMS	080-0011	4EA				

FIGURE J25: 268 FRESH WATER SYSTEM (1 OF 2)



#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	SHIM, WATER HEATER	100-51076	2 EA				
2	SCREW, #10 x 1 1/2" POHSMS	080-0032	8 EA				
3	CLEAT, WATER PUMP RISER 248/268V	100-51932	2 EA				
4	SCREW, #8 x 1 1/2" POHSMS	080-0309	4 EA				

FIGURE J26: 268 FRESH WATER SYSTEM (2 OF 2)

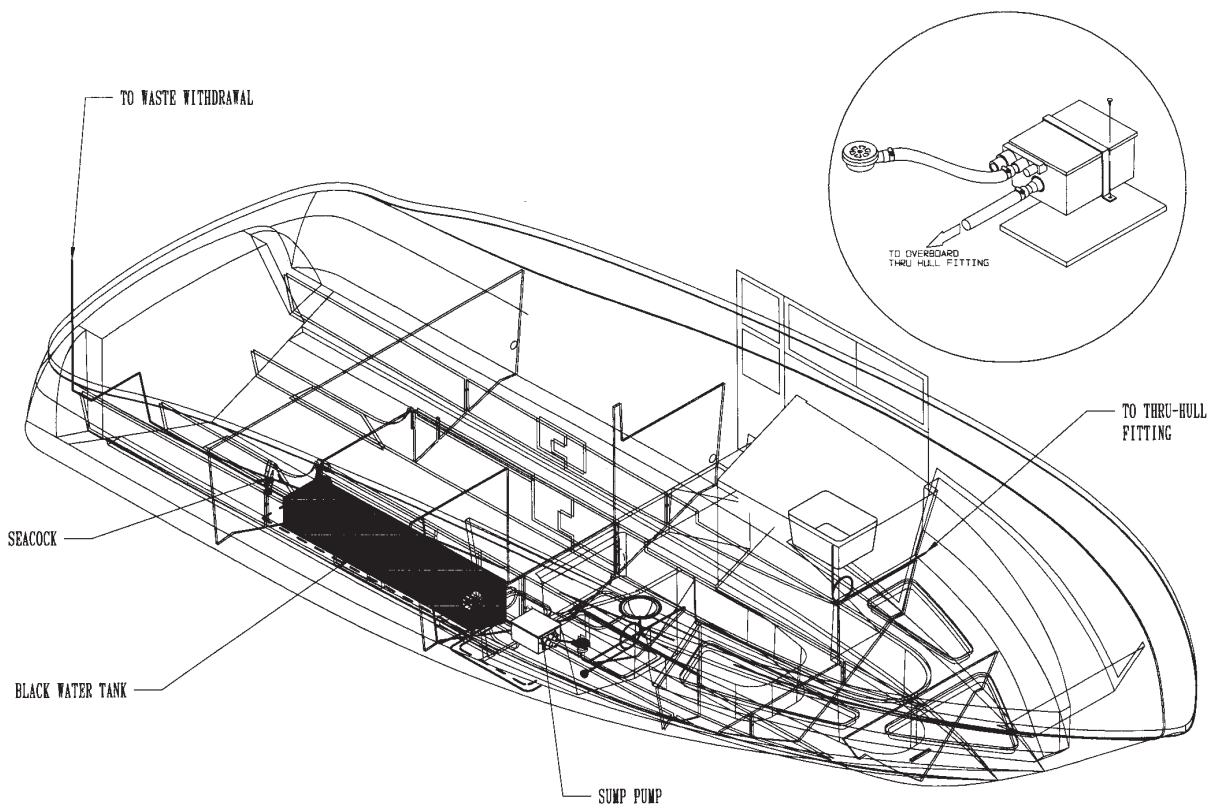


NOTES: 1) ASSURE CHECK VALVES ARE IN CORRECT DIRECTION.
2) * NOT SHOWN

————— HOT WATER LINE
- - - - - COLD WATER LINE

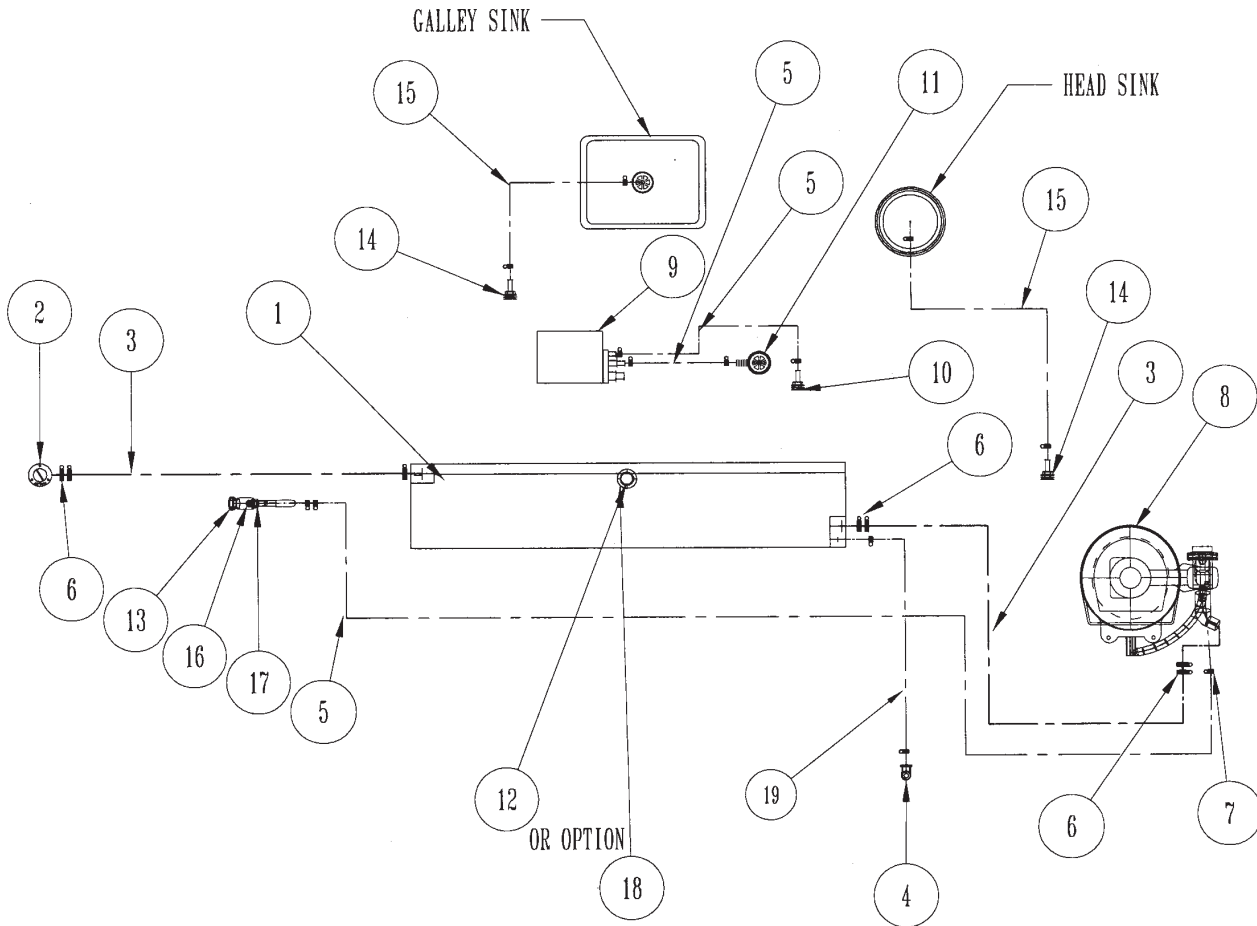
#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	TEE, 15mm WS1502B	035-0928	6 EA	16	CHECK VALVE, 15mm WS1582B	035-0931	3 EA
2	ELBOW, 15mm WS1503B	035-0929	7 EA	*17	COLLET CLIP, 15mm WS1518B	035-0939	36 EA
3	VALVE, SHUT-OFF 15mm WS1574B	035-0932	1 EA	*18	COLLET COVER, 15mm WS1590B	035-0940	36 EA
4	ADAPTER, MALE 1/2" BSP x 15mm WS1514B	035-0934	3 EA	19	WATER HEATER, 6 GAL	065-0040	1 EA
5	ADAPTER, STEM 1/2" MPT x 15mm WS1524B	035-0935	1 EA	*20	COUPLING, MALE 1/2" x 1/2" #QC33	035-0078	1 EA
6	TANK, GRAY WATER/ FRESH WATER 20 GAL.	035-0918	1 EA	21	FITTING, KIT, FLOJET #C 20381-0	035-0729	1 EA
7	DECK FILL, S.S. WATER #66408-1	031-0087	1 EA	*22	HOT WATER HEATER KIT #3856265	035-0334	1 EA
8	HOSE, 1 1/2" WATER WHITE #143-1120	022-0007	5 FT	*23	ANTIFREEZE, NON-TOXIC, 55 GAL	084-0043	3 GAL
9	VENT, CHROME PLATED BRASS #352030	035-0812	1 EA	24	TUBING, BLUE 15mm x 50mm WS7152B	035-0936	46 FT
10	HOSE, 5/8" WASTE #148-0580	022-0013	5 FT	25	TUBING, RED 15mm x 50mm WS7154B	035-0937	27 FT
11	CLAMP, 1 1/2" FILL HOSE	021-0032	4 EA	26	FITTING, WATER INLET/REG. #44410-1001	035-0027	1 EA
12	CLAMP, 5/8" VENT HOSE	021-0031	2 EA	27	ELBOW, STEM WX151522B	035-1002	1 EA
13	FILTER, IN LINE SHURFLO #170-06	035-0158	1 EA	28	SHOWER, TRANSOM MIXER H/C	035-0988	1 EA
14	PUMP, FLOJET #f4405-143B	026-0331-02	1 EA	29	ADAPTER, 3/8" BSP x 1/2" NPT	035-0691	2 EA
15	ADAPTER, FEMALE 1/2" BSP x 15mm WS1532B	035-0933	8 EA	30	ELBOW, ADAPTER 1/2" BSP WX1531B	035-1003	1 EA

FIGURE J27: 268V WASTE SYSTEM (1 OF 2)



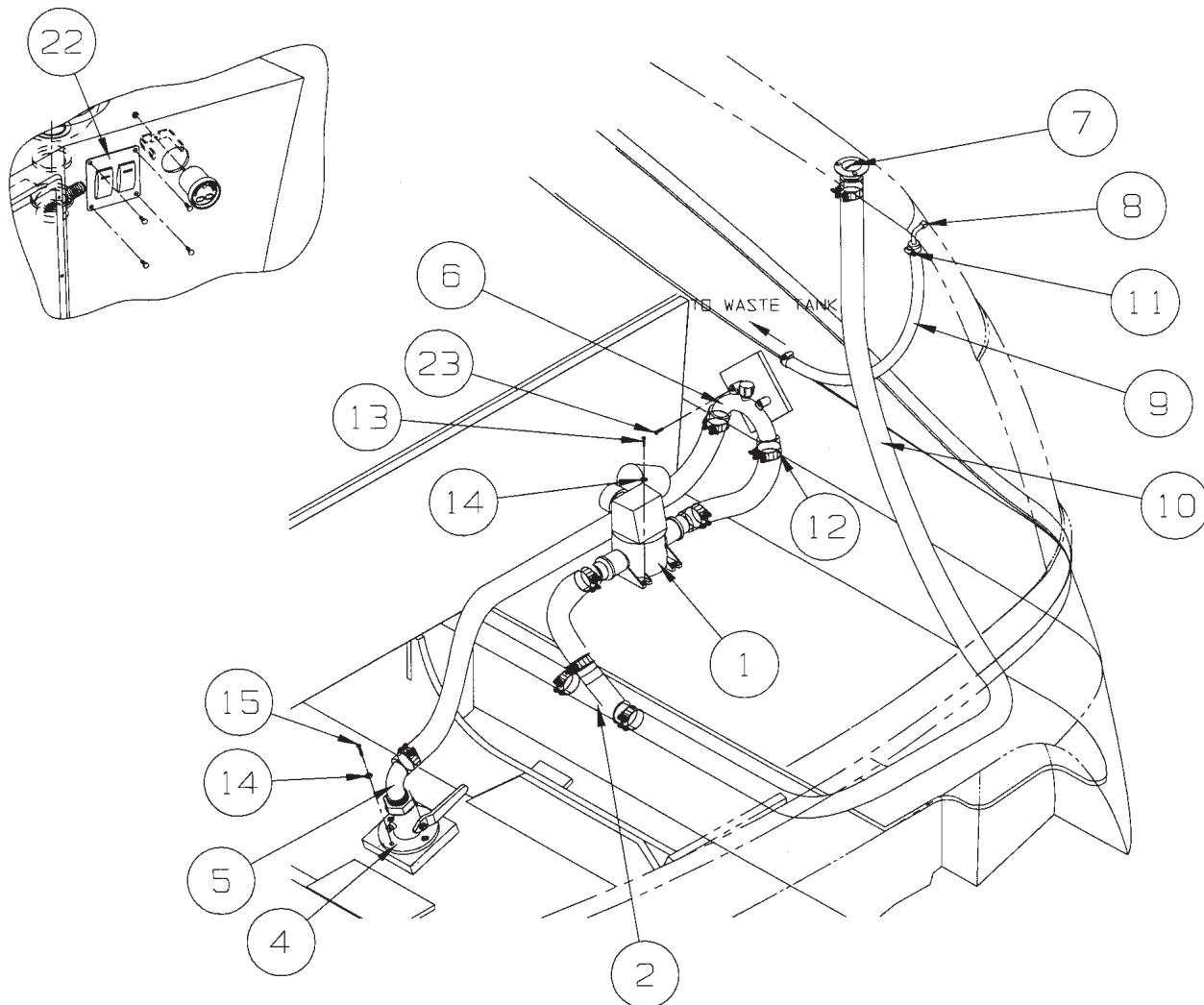
NOTE: FOR PARTS LIST REFER TO DRAWING 2 OF 2.

FIGURE J28: 268V WASTE SYSTEM (2 OF 2)



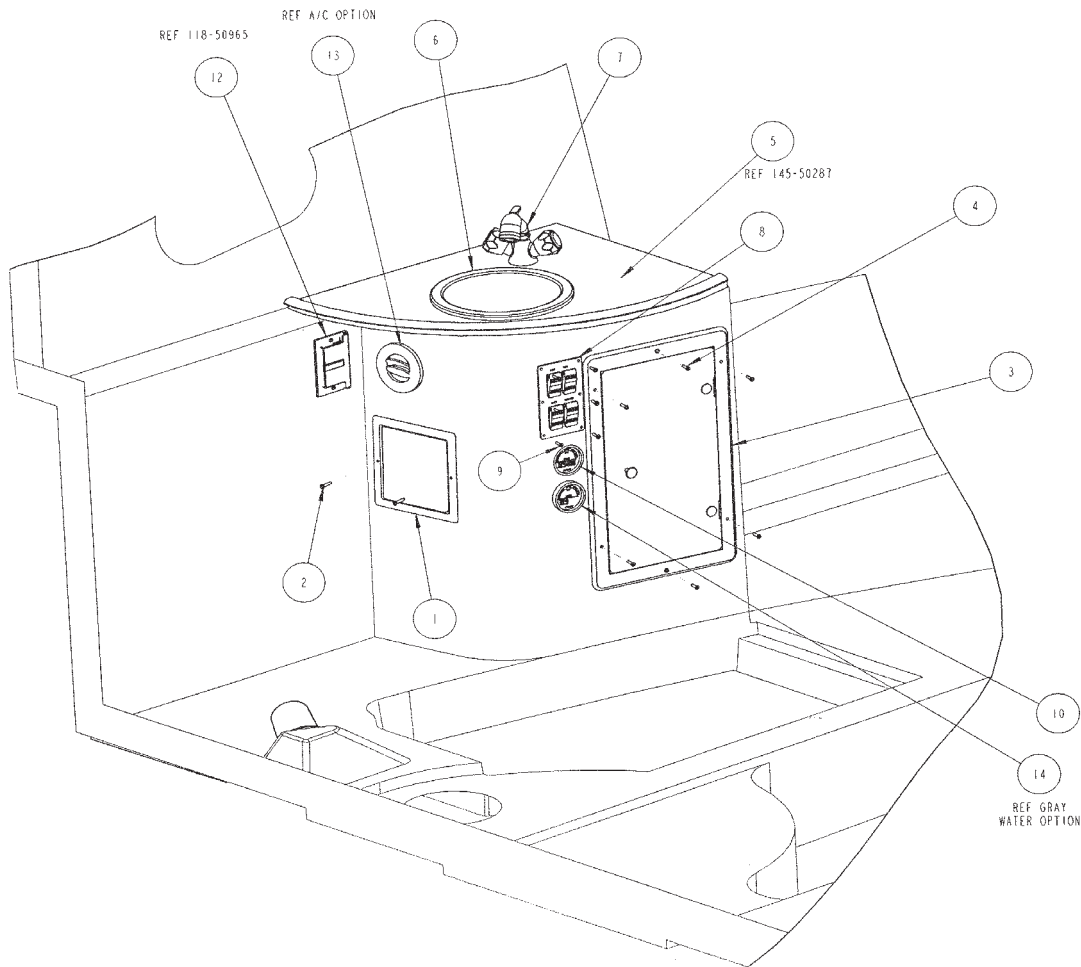
#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	TANK, FRESH WATER/BLACK	035-0905	1 EA	15	HOSE, 1" BLACK PVC #149-1000	022-0047	20 FT
2	DECK FILL, S.S. WASTE #66126-1	031-0086	1 EA	16	VALVE, BALL 3/4"	035-0118	1 EA
3	HOSE, 1 1/2" WATER WHITE #143-1120	022-0007	32 FT	17	HOSE BARB, 3/4 MPT x 3/4 HB (BRASS)	035-0327	1 EA
4	VENT, CHROME PLATED BRASS #352030	035-0812	1 EA	18*	SENDER WASTE LEVEL INDICATOR (OPTION)	025-2098	1 EA
5	HOSE, 3/4" WATER	022-0029	20 FT	19	HOSE, 5/8" WASTE	022-0013	12 FT
6	CLAMP, 1 1/2" FILL HOSE	021-0032	6 EA				
7	CLAMP, 5/8" VENT HOSE	021-0031	13 EA				
8	TIOLET, MANUAL LEFT HAND	035-0257	1 EA				
9	SUMP, SHOWER 800 GPH RULE #98 (UML)	026-0629	1 EA				
10	THRU-HULL, 3/4" PLASTIC (REF. ONLY)	032-0012	1 EA				
11	DRAIN, SHOWER (REF. ONLY)	035-0616	1 EA				
12	PLUG, 1 1/2" MPT	035-0160	1 EA				
13	THRU HULL, 3/4" BRONZE #322-005	035-0552	1 EA				
14	THRU-HULL, 1" PLASTIC (REF. ONLY)	035-0208	2 EA				

FIGURE J29: 268V OVERBOARD WASTE DISCHARGE SYSTEM



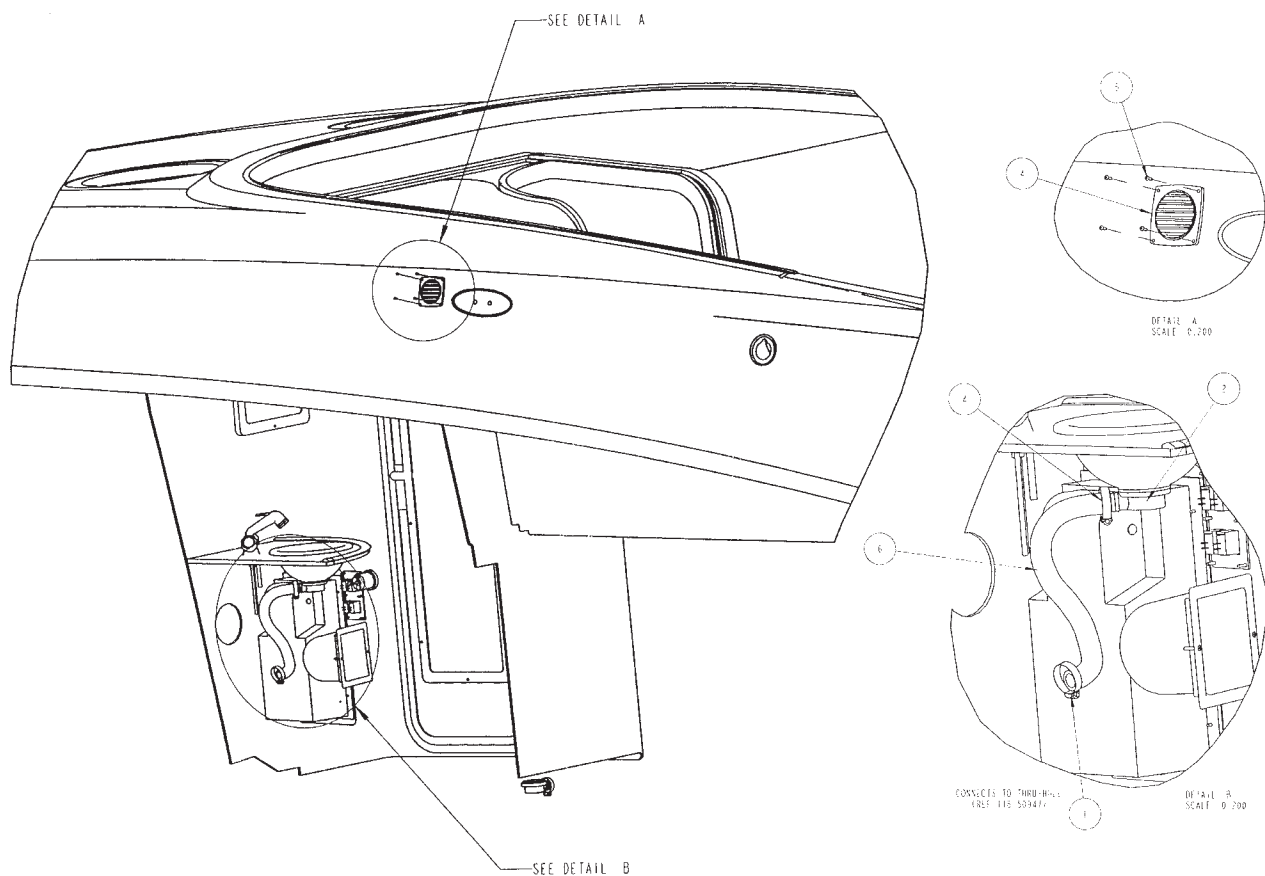
#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	PUMP, T-12 MACERATOR	065-0081-02	1EA	15	SCREW, #10 x 1-1/2" POHSM	080-0032	4EA
2	KIT, SINGLE WYE 1-1/2"	035-0305	1EA	16	PLATE, "HEAD DISCHARGE" (NOT SHOWN)	056-0183	1EA
3	THRU-HULL, 1-1/2" BRONZE (NOT SHOWN)	035-0204	1EA	17	HARNES ASSEMBLY, 8AWG (NOT SHOWN)	027-1804	1EA
4	SEACOCK, 1-1/2" #805008 PLB	035-0105	1EA	18	TEE, 5/8" HOSE BARB (NOT SHOWN)	035-0166	1EA
5	ELBOW, 1.5"MP x 1.5"HB BRONZE	035-0199	1EA	19	BLOCK, TIE WRAP, SCREW MOUNT (NOT SHOWN)	032-0584	12EA
6	VENT LOOP, 1-1/2" w/ CAP	035-1377	1EA	20	SCREW #8 x 3/4" POHSM SS (NOT SHOWN)	080-0022	12EA
7	DECK FITTING, SS WASTE	REF 118-50834		21	TIE, CABLE, 7.9"W/MOUNTING HOLE (NOT SHOWN)	080-0287	12EA
8	VENT, CHROME PLATED BRASS	035-0812	1EA	22	PANEL ASS'Y, HEAD SWITCH 248/268	025-2182	1EA
9	HOSE, 5/8" WASTE #148-0580	022-0013	10FT	23	SCREW, #10 x 3/4" PTHSM	080-0033	3EA
10	HOSE, 1-1/2" ODORSAFE	022-0146	14FT	24	CAULK, 1/4" BEAD 3M BELOW WTRLINE (NOT SHWN)	084-0175	36IN
11	CLAMP, 5/8" #10H FUEL VENT	021-0031	2EA				
12	CLAMP, T-BOLT 1-7/8"	021-0371	10EA				
13	SCREW, #10 x 1" POHSM	080-0035	4EA				
14	WASHER, #8 FINISH	080-0091	8EA				

FIGURE J30: 288V HEAD (1 of 5)



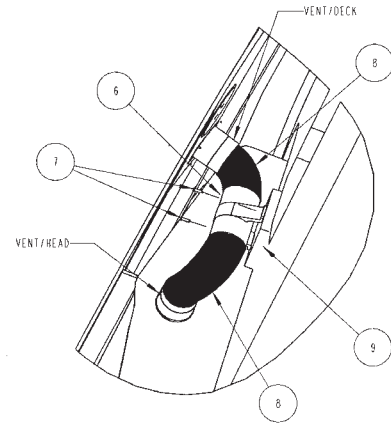
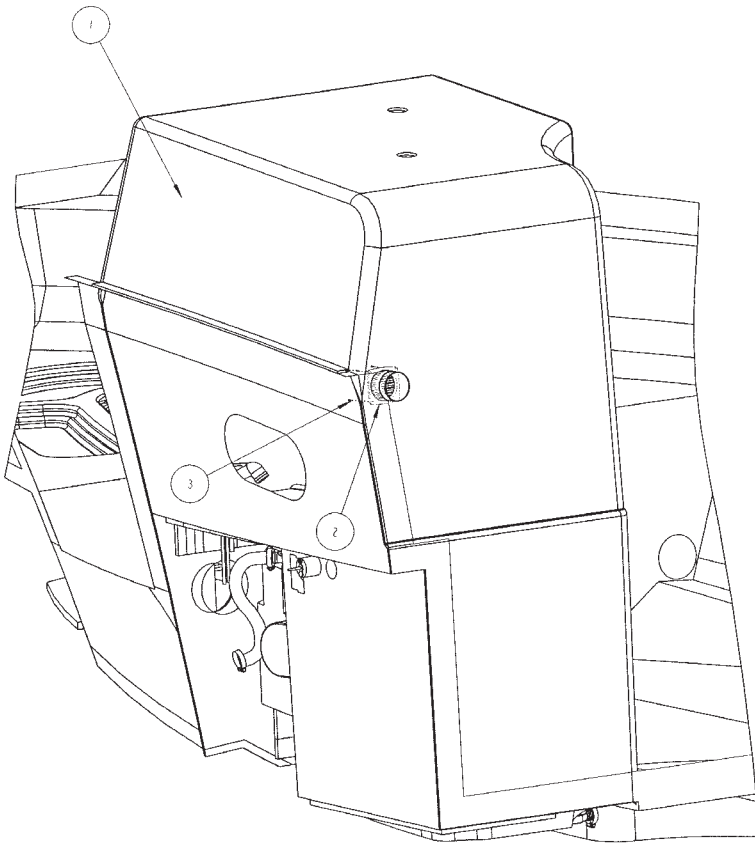
#	DESCRIPTION	PART No.	QTY	U/M
1	HOLDER, TOILET PAPER	032-0293	1	EA
2	SCREW, #10 x 1" POHMS	080-0035	2	EA
3	CABINET, VANITY INSERT	032-0696	1	EA
4	SCREW, #8 x 3/4" POHMS	080-0022	6	EA
5	COUNTERTOP ASS'Y, HEAD 288V	101-50350	REF	
6	SINK, 10-1/2" x 4-1/2" WHITE PLASTIC	032-1890	1	EA
7	FAUCET, WHITE SHOWER	035-0927	1	EA
8	PANEL ASS'Y, HEAD SWITCH 378V	025-2946	1	EA
9	SCREW, #8 x 3/4" PPHMS BLACK	080-0025	6	EA
10	GAUGE, WATER/HOLDING DISPLAY #LLM-2	024-0516	1	EA
11	TRIM RING, HEAD WINDOW	110-50275	1	EA
12	COVER, GFCI WATERPROOF	028-1137	REF	
13	GRILL, 3" WHITE V3DA-EL-W	032-2099	REF	
14	GAUGE, HOLDING DISPLAY #LLM-1 WASTE	024-0515	REF	

FIGURE J31: 288V HEAD (2 of 5)



#	DESCRIPTION	PART No.	QTY	U/W
1	CLAMP, 1 1/4" HOSE	021-0035	REF	
2	DRAIN, SINK #101045-00	035-0225	1	EA
3	CLAMP, 1 1/4" HOSE	021-0035	1	EA
4	VENT, DECK HEAD FITTING	032-0669	1	EA
5	SCREW, #6 x 1/2" PPHSMS	080-0010	4	EA
6	HOSE, 1" BLACK PVC	022-0047	3	FT

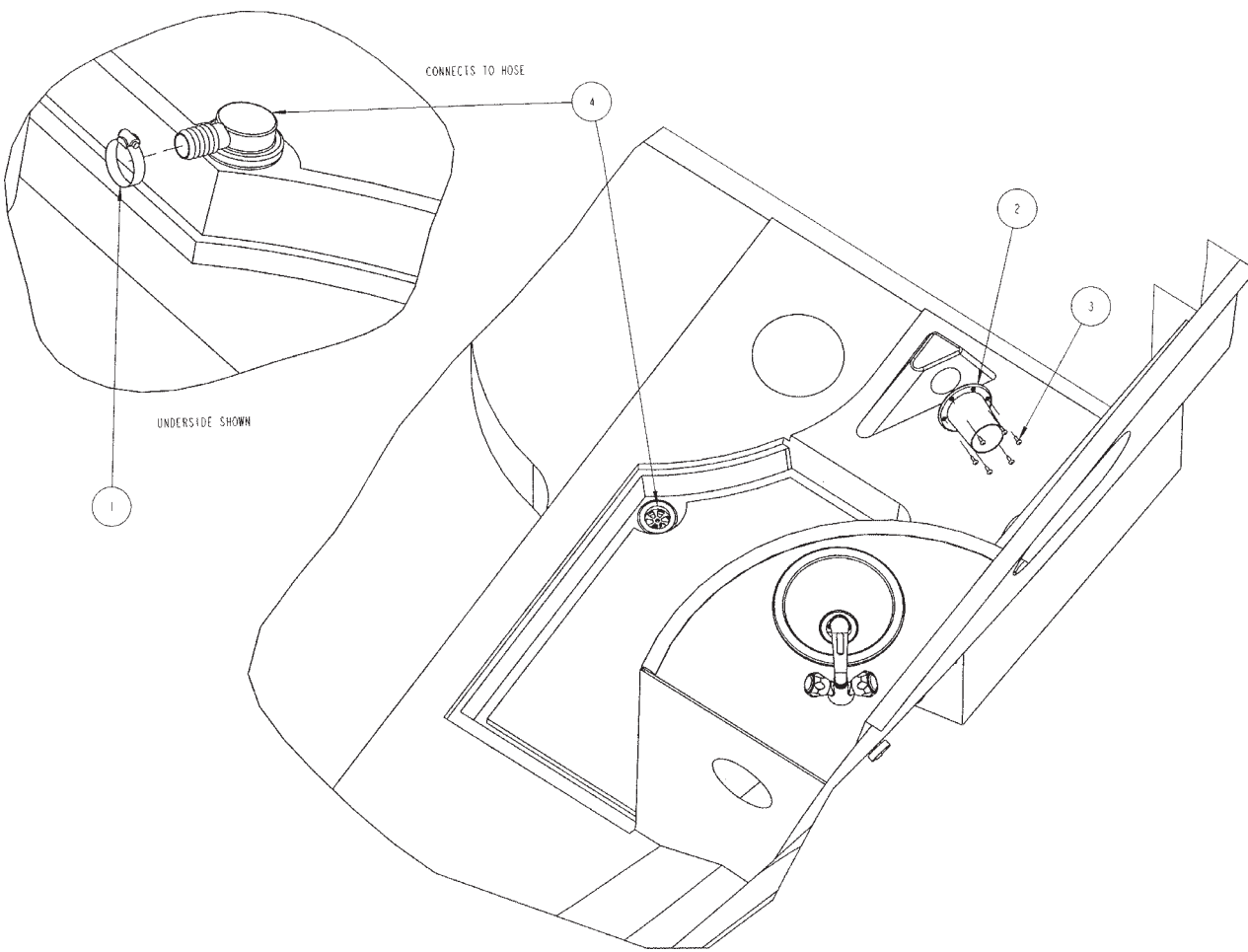
FIGURE J32: 288V HEAD (3 of 5)



NOTES:
 1) #4 SCREW AND #5 WASHER USED TO FASTEN #1 HEAD MODULE
 2) #10 CABLE TIE - FASTENS HOSE TO BLOWER - DO NOT OVERTIGHTEN ON BLOWER

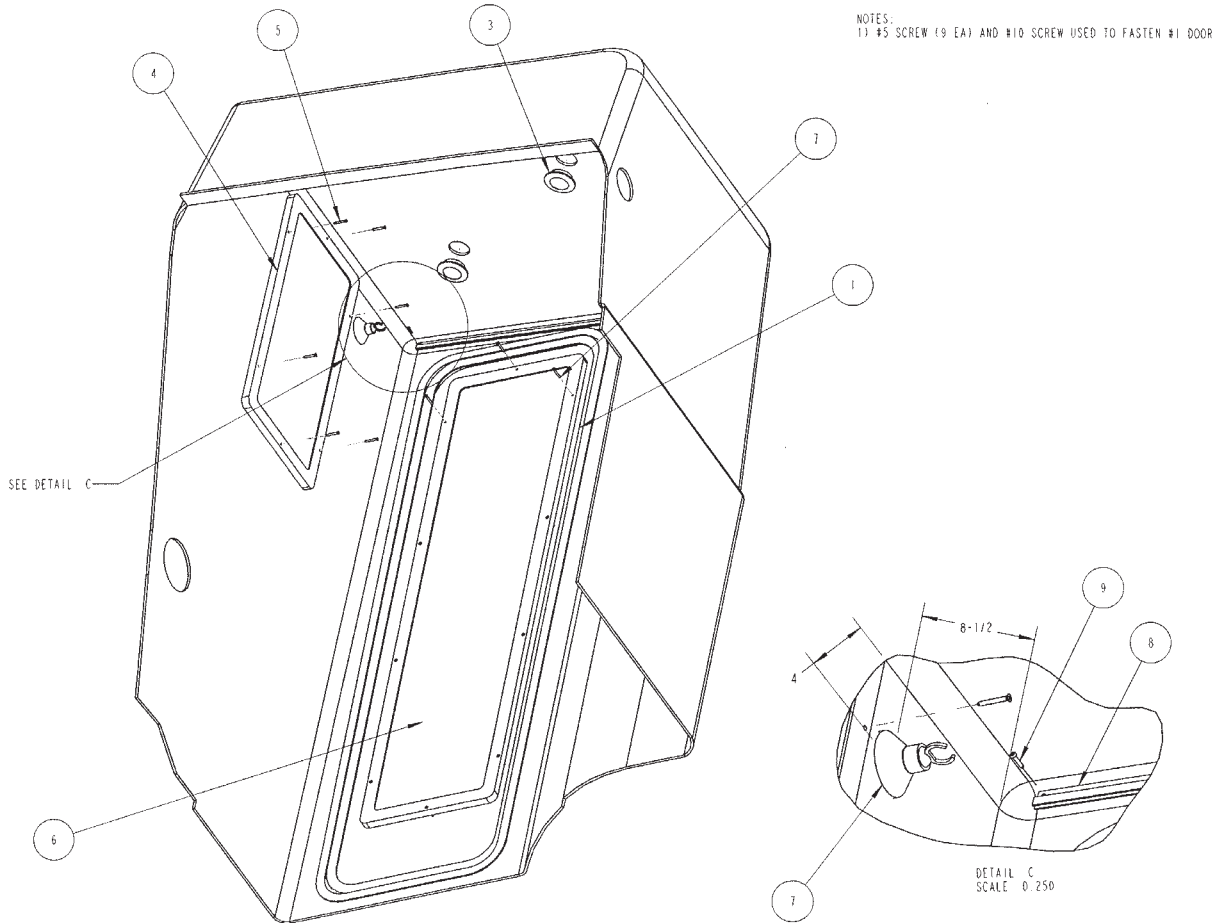
#	DESCRIPTION	PART No.	QTY	U/M
1	HEAD MODULE, 288V	110-50270	1	EA
2	VENT, DECK HEAD FITTING	032-0669	1	EA
3	SCREW, #6 x 1/2" PPHSMS	080-0010	4	EA
# 4	SCREW, 8 X 1" PPHSMS	080-0019	12	EA
# 5	WASHER, 8 FLANGE FINISH	080-0091	12	EA
6	BLOWER, UNI 3" BILGE	026-0612-02	1	EA
7	SCREW, 10 X 3/4" PTHSMS	080-0038	2	EA
8	HOSE, 3" BILGE VENT	022-0002	5	FT
9	PLYWOOD, 3/4" X 5" X 5"	100-60195	REF	
# 10	TIE, CABLE 14.5" BLK W/O HOLE	080-1104	4	EA

FIGURE J33: 288V HEAD (4 of 5)



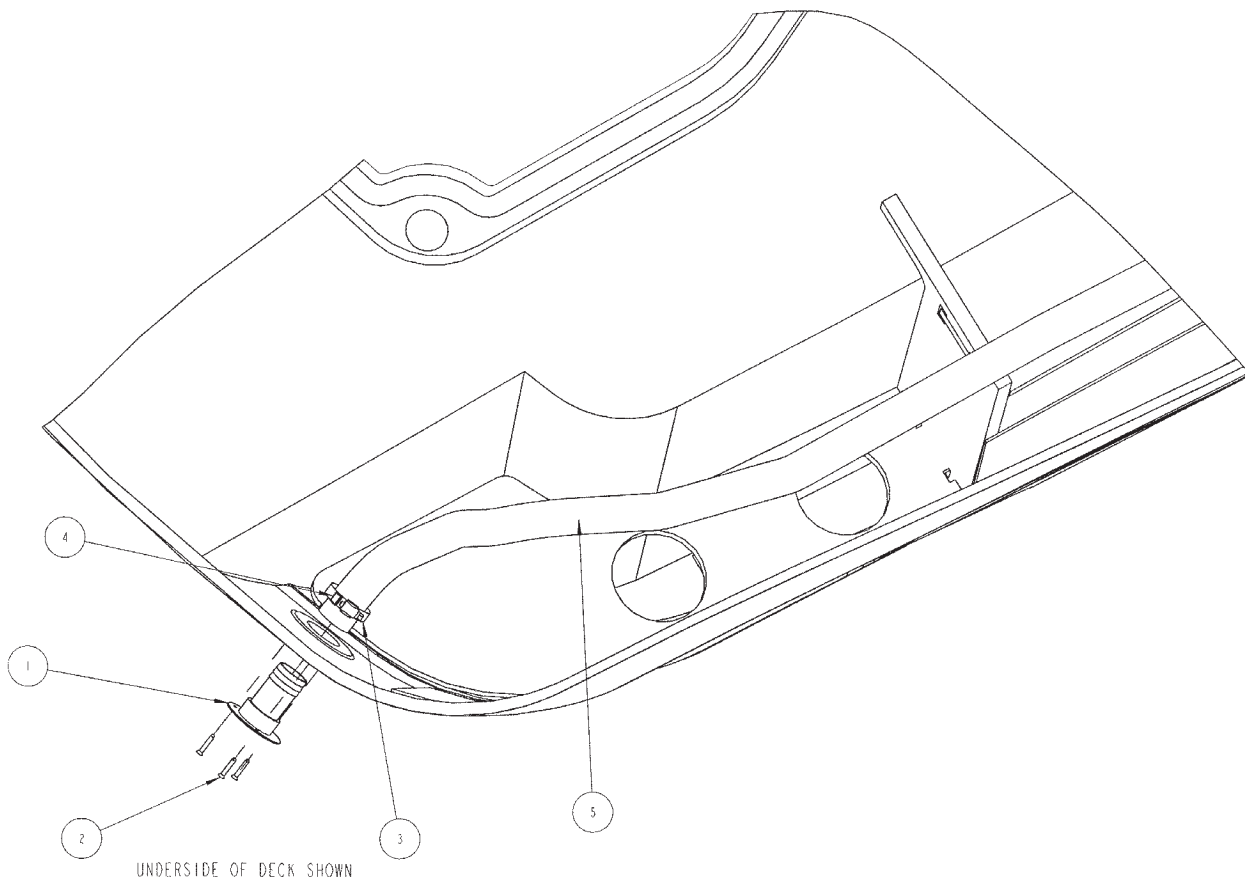
#	DESCRIPTION	PART No.	QTY	U/M
1	CLAMP, 1 1/4" HOSE	021-0035	1	EA
2	BOOT, VINYL W/WIRE TIE 3"	032-0105	1	EA
3	SCREW, #10 x 3/4" PTHSMS	080-0033	6	EA
4	DRAIN, SHOWER FLOOR	035-0616	1	EA

FIGURE J34: 288V HEAD (5 of 5)



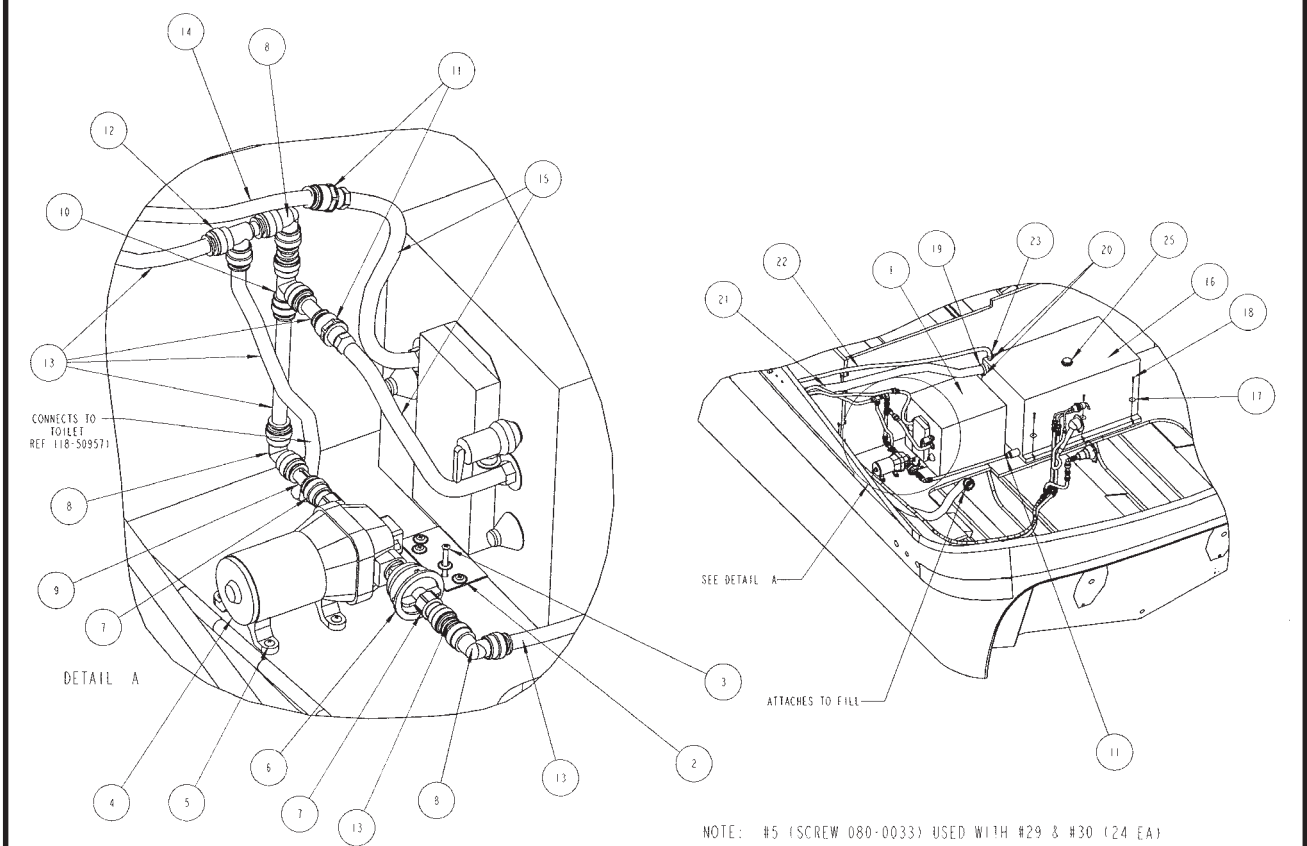
#	DESCRIPTION	PART No.	QTY	U/M
1	DOOR, HEAD SELECT CHERRY GLOSS 288V	060-2131	1	EA
2	TRIM RING, HEAD DOOR 338V "02"	060-1921	14	EA
3	LIGHT, WHITE 2" (UMNL) FLUSH	026-0368-02	2	EA
4	MIRROR ASS'Y, 11" X 23" RECTANGULAR	101-60062	1	EA
5	SCREW, #8 x 1-1/4" PPHSMS	080-0104	25	EA
6	MIRROR ASS'Y, 12" X 45-5/8" RECTANGULAR	101-60060	1	EA
7	BRACKET, SHOWER, WALL MOUNT	035-0760	1	EA
8	EXTRUSION, CURTAIN TRK HOR MT	033-0535	3	FT
9	SCREW, #6 x 3/4" PPHSMS	080-0076	2	EA
#10	SCREW, 8 X 1" PTHSMS	080-0269	6	EA

FIGURE J35: 288V FRESH WATER (1 of 4)



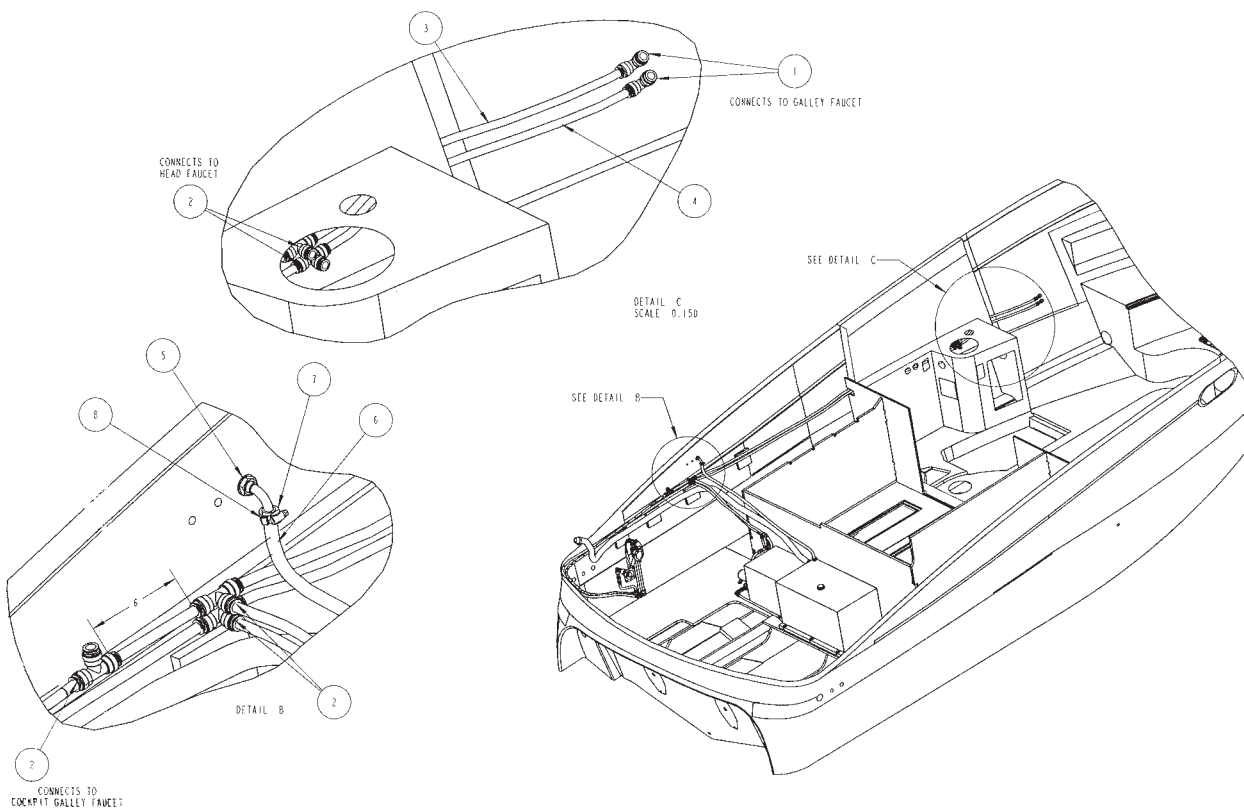
#	DESCRIPTION	PART No.	QTY	U/M
1	DECK FILL, SS WATER	031-0087	1	EA
2	SCREW, #10 x 1" POHSMS	080-0035	3	EA
3	CLAMP, 1 1/2" #24 FILL HOSE #67285-52	021-0032	2	EA
4	BOOT, HOSE CLAMP	030-0864	4	EA
5	HOSE, 1-1/2" SANITATION WHITE	022-0055	9	FT

FIGURE J36: 288V FRESH WATER (2 of 4)



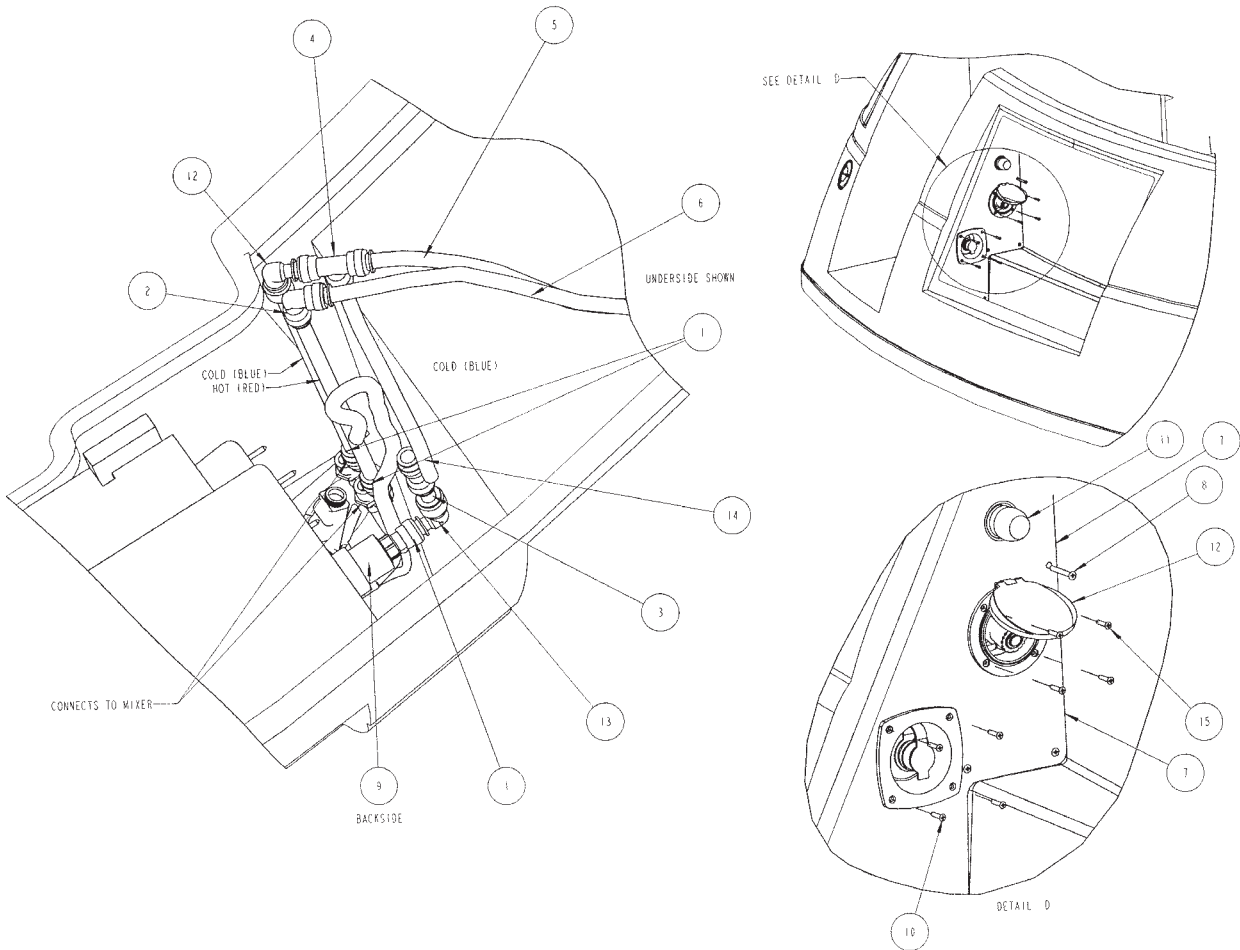
#	DESCRIPTION	PART No.	QTY	U/M	#	DESCRIPTION	PART No.	QTY	U/M
1	WATER HEATER, 6 GAL SOU 110V #94595	065-0040	1	EA	17	WASHER, 1/4" X 1-1/4" FLAT FENDER	080-0159	6	EA
2	WASHER, FINISH #8 SS FLANGE WFFSS8	080-0091	8	EA	18	SCREW, #12 x 1-1/2" PPHSMS	080-0041	6	EA
3	SCREW, #10 x 1-3/4" POHSMS	080-0036	8	EA	19	CLAMP, 1 1/2" #24 FILL HOSE #67285-52	021-0032	REF	
4	PUMP, FLOJET #4405-1438 W/CONNECTOR	026-0331	1	EA	20	BOOT, HOSE CLAMP	030-0864	REF	
5	SCREW, #10 x 3/4" PTHSMS	080-0033	28	EA	21	HOSE, 1-1/2" SANITATION WHITE	022-0055	REF	
6	FILTER, IN-LINE SHUREFLO	035-0158	1	EA	22	HOSE, 5/8" WASTE	022-0013	7	FT
7	WS1504B CONNECTOR STRAIGHT	035-0933	2	EA	23	CLAMP, 5/8 INCH #10H FUEL VENT	021-0031	2	EA
8	ELBOW, 15mm WX1503B	035-0929	3	EA	24	WS1504B CONNECTOR STRAIGHT	035-0959	1	EA
9	CHECK VALVE, 15 MM	035-0985	1	EA	25	SENDER, WATER 14" #TS-14	026-0647	1	EA
10	TEE, 15mm WX1502B	035-0928	1	EA	* 26	KEY, GAS CAP #66060-1	031-0085-2	1	EA
11	ADAPTER, MALE 1/2" x 15mm WX1514B	035-0934	3	EA	* 27	FITTING KIT, FLOJET	035-0729	1	EA
12	TEE, STEM #WX1521B	035-0998	1	EA	* 28	HOT WATER OUTLET, VPSB	035-1230	1	EA
13	TUBING, BLUE 15 MM X 50 M	035-0936	44	FT	* 29	BLOCK, TIE WRAP w MOUNTING HOLE	032-0584	24	EA
14	TUBING, RED 15 MM X 50 M	035-0937	24	FT	* 30	TIE, CABLE 7.4" w/o HOLE	080-0389	24	EA
15	CONNECTOR, WATER HEATER 1/2"	035-1260	2	EA	* 31	TIE, CABLE, 15" W/HOLE PLC4H-S25D0	080-0273	18	EA
16	TANK, WATER, FRESH/GRAY 27GAL W/MT FLG.	035-1259	1	EA	* 32	ANTIFREEZE, NON-TOXIC, 55 GAL DRUM	084-0043	8	GL

FIGURE J37: 288V FRESH WATER (3 of 4)



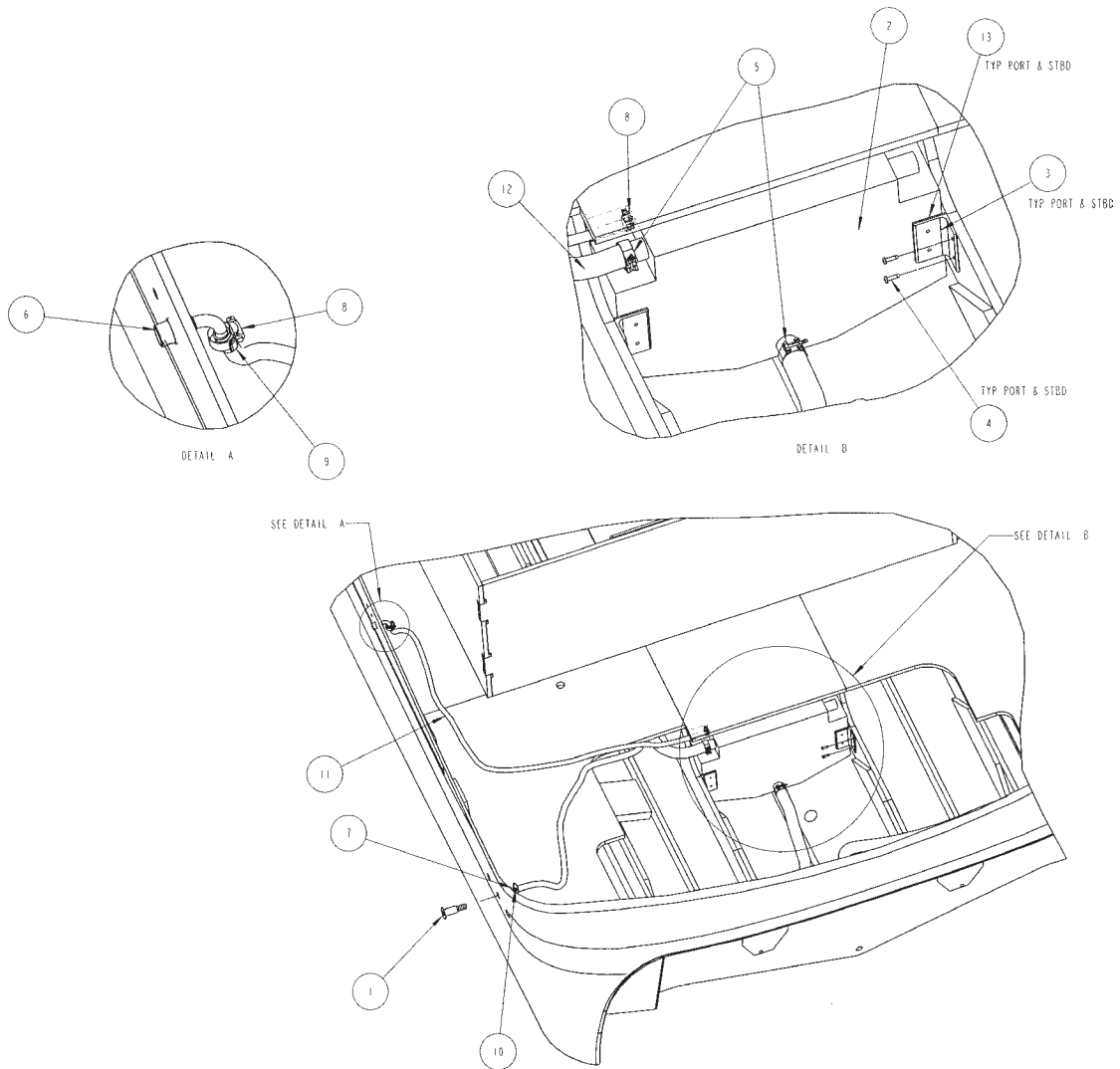
#	DESCRIPTION	PART No.	QTY	U/M
1	ELBOW, 15mm WX1503B	035-0929	2	EA
2	TEE, 15mm WX1502B	035-0928	5	EA
3	TUBING, BLUE 15 MM X 50 M	035-0936	REF	
4	TUBING, RED 15 MM X 50 M	035-0937	REF	
5	VENT, 90 DEG. ELBOW GEM	035-1332	1	EA
6	HOSE, 5/8" WASTE	022-0013	REF	
7	CLAMP, 5/8 INCH #10H FUEL VENT	021-0031	REF	
8	BOOT, HOSE CLAMP	030-0864	REF	

FIGURE J38: 288V FRESH WATER (4 of 4)



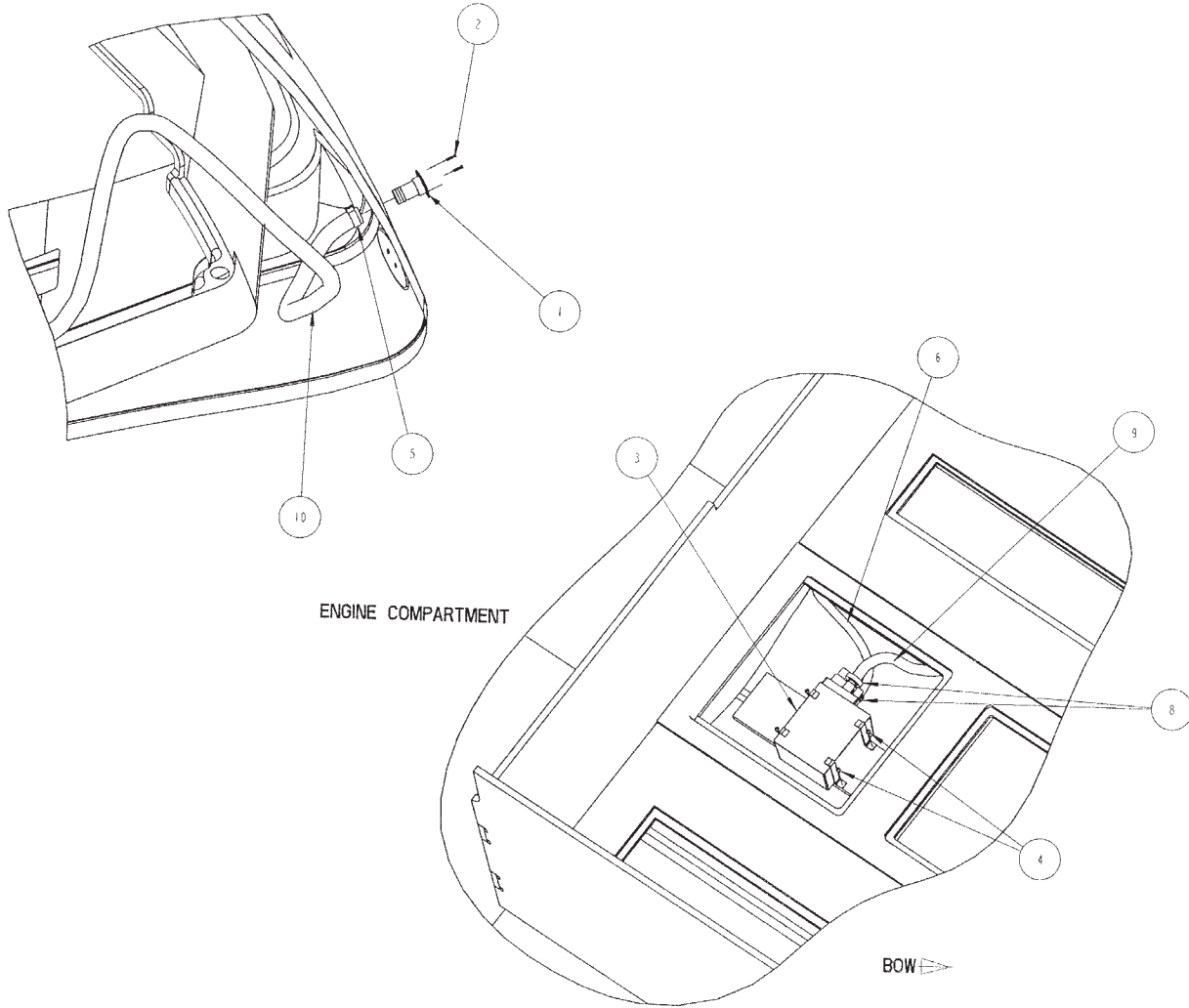
#	DESCRIPTION	PART No.	QTY	U/M
1	WS1504B CONNECTOR STRAIGHT	035-0933	3	EA
2	ELBOW, 15mm WX1503B	035-0929	1	EA
3	CHECK VALVE, 15 MM	035-0985	1	EA
4	TEE, 15mm WX1502B	035-0928	1	EA
5	TUBING, BLUE 15 MM X 50 M	035-0936	REF	
6	TUBING, RED 15 MM X 50 M	035-0937	REF	
7	PANEL, MOUNTING AFT FLUSH OUT 288V	100-53467	1	EA
8	SCREW, #10 x 1-1/2" POHMS	080-0032	9	EA
9	FITTING, WATER INLET/REG	035-0027	1	EA
10	SCREW, #8 x 3/4" POHMS	080-0022	4	EA
11	MIXER, TRANSOM SHOWER	035-1257	1	EA
12	SHOWER, TRANSOM #46303	035-1375	1	EA
13	ELBOW, SEM WX1522B	035-1002	2	EA
14	WS1504B CONNECTOR STRAIGHT	035-0959	1	EA
15	SCREW, #8 x 3/4" POHMS	080-0022	4	EA

FIGURE J39: 288V WASTE (1 of 4)



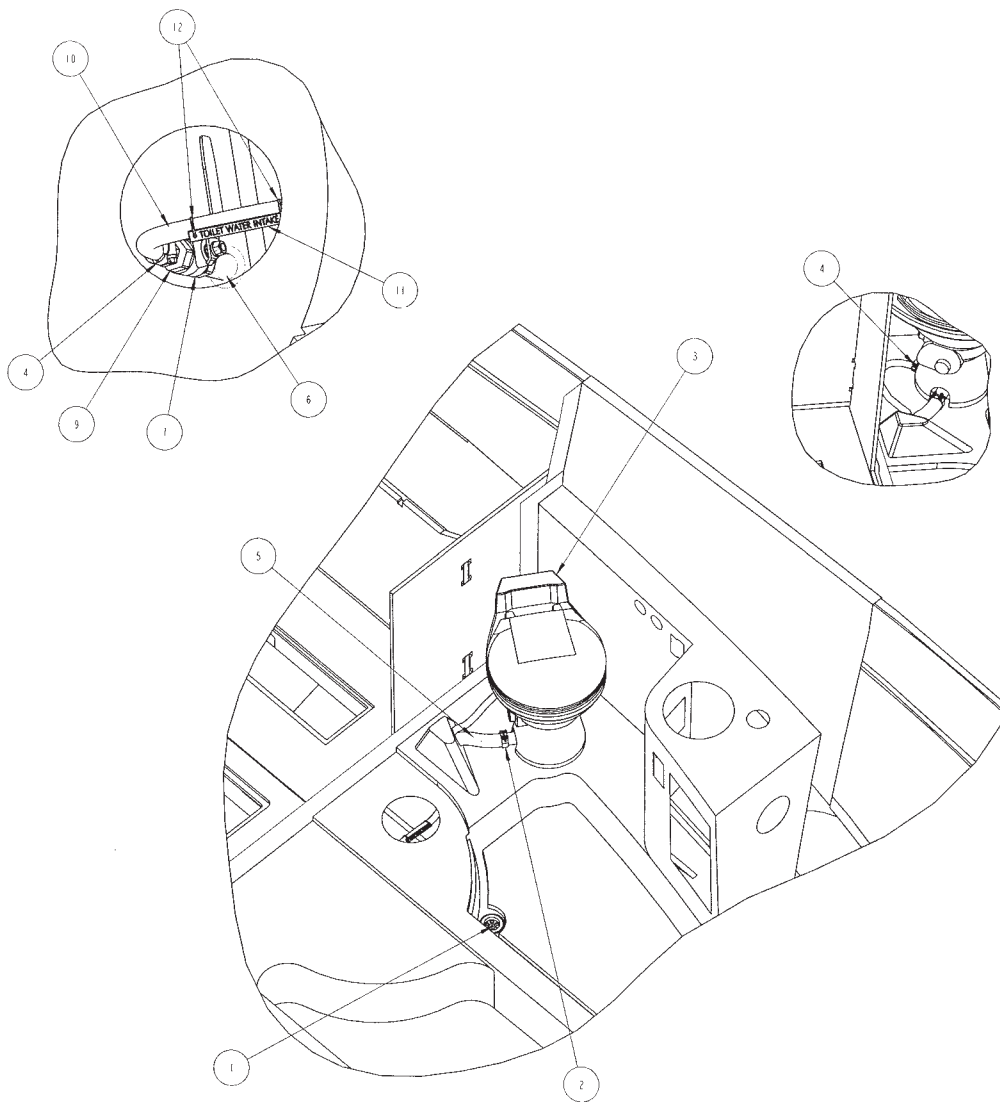
#	DESCRIPTION	PART No.	QTY	U/M
1	THRU HULL, 3/4" S.S.	035-1263	REF	
2	TANK, BLACK WATER 25 GAL	035-0925	1	EA
3	BRACKET, FUEL TANK 4-HOLE	029-0388	2	EA
4	SCREW, #14 x 1" PPHSMS	080-0940	4	EA
5	CLAMP, T-BOLT 1-7/8" #70STBC18	021-0371	2	EA
6	VENT, 90 DEG. ELBOW GEM	035-1332	1	EA
7	HOSE, 3/4" BLACK PVC	022-0046	15	FT
8	CLAMP, 5/8 INCH #10H FUEL VENT	021-0031	4	EA
9	BOOT, HOSE CLAMP	030-0864	12	EA
10	CLAMP, 1 1/4" HOSE	021-0035	REF	
11	HOSE, 5/8" WASTE	022-0013	18	FT
12	HOSE, 1-1/2" ODORSAFE	022-0146	24	FT
13	TAPE, FUEL TANK SUPPORT	021-0280	1	FT
#14	KEY, GAS CAP	031-0085-2	1	EA

FIGURE J40: 288V WASTE (2 of 4)



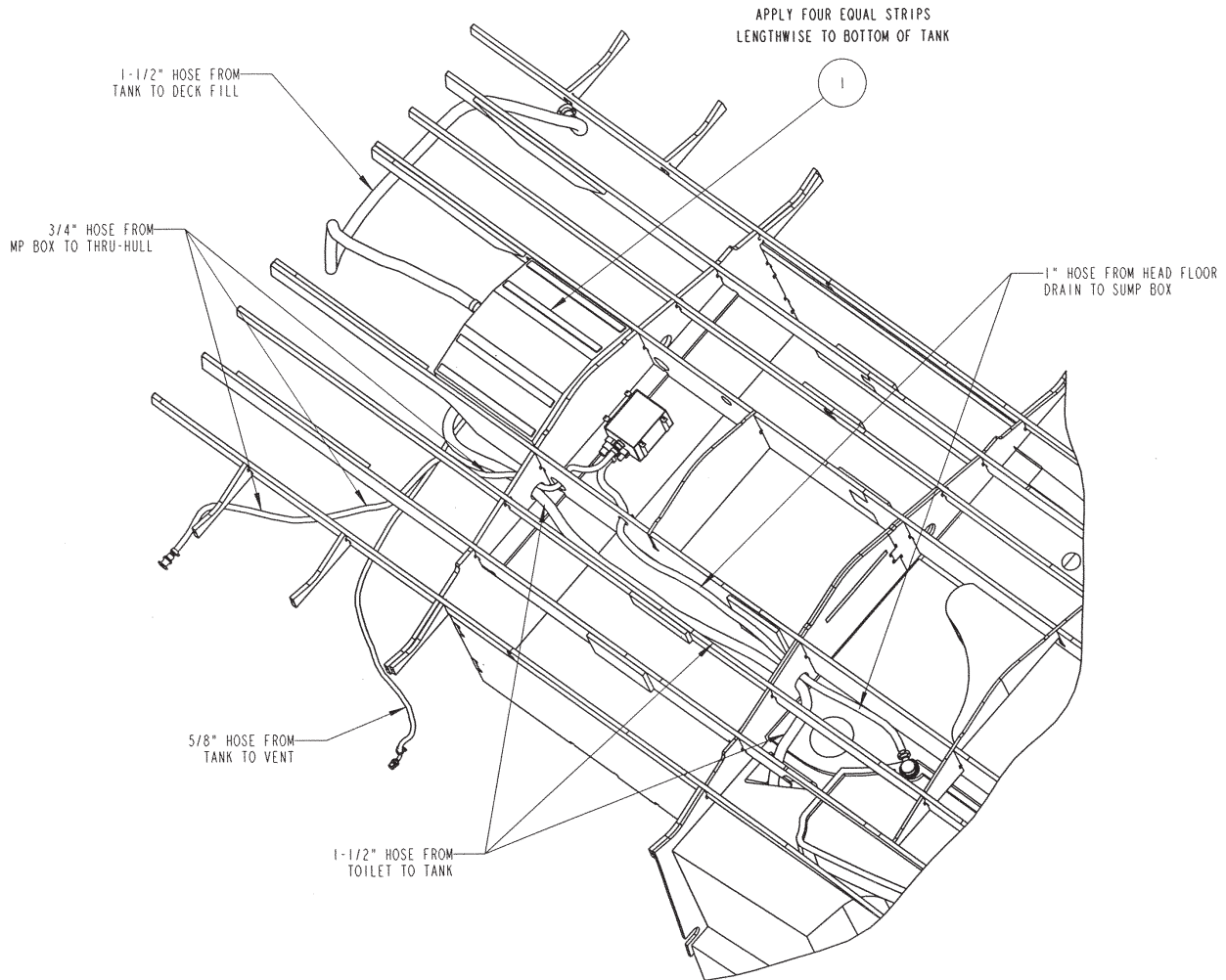
#	DESCRIPTION	PART No.	QTY	U/M
1	DECK FILL, SS WASTE	031-0086	1	EA
2	SCREW, #10 x 1" POHSMS	080-0035	3	EA
3	SUMP, SHOWER (UNI)	026-0629	1	EA
4	SCREW, #10 x 3/4" PTHSMS	080-0033	4	EA
5	CLAMP, T-BOLT 1-7/8" #70STBC18	021-0371	1	EA
6	HOSE, 3/4" BLACK PVC	022-0046	REF	
7	BOOT, HOSE CLAMP	030-0864	REF	
8	CLAMP, 1 1/4" HOSE	021-0035	2	EA
9	HOSE, 1" BLACK PVC	022-0047	7	FT
10	HOSE, 1-1/2" ODORSAFE	022-0146	REF	

FIGURE J41: 288V WASTE (3 of 4)



#	DESCRIPTION	PART No.	QTY	U/M
1	DRAIN, SINK #101045-00	035-0225	REF	
2	CLAMP, T-BOLT 1-7/8" #70STBC18	021-0371	1	EA
3	TOILET, RIGHT HAND	035-0378	1	EA
4	CLAMP, 5/8 INCH #10H FUEL VENT	021-0031	REF	
5	HOSE, 1-1/2" ODORSAFE	022-0146	REF	
6	THRU-HULL, 3/4" BRONZE	035-0552	1	EA
7	VALVE, BALL 3/4" #47	035-0118	1	EA
8	SCREW, #14 x 1-1/2" PPHSMS	080-0043	4	EA
9	HOSE BARB, 3/4 MPT X 3/4 HB	035-0327	1	EA
10	HOSE, 3/4" BLACK PVC	022-0046	REF	
11	PLATE, TOILET WATER INTAKE	056-0155	1	EA
12	TIE, CABLE 4" MINIATURE	080-0285	2	EA

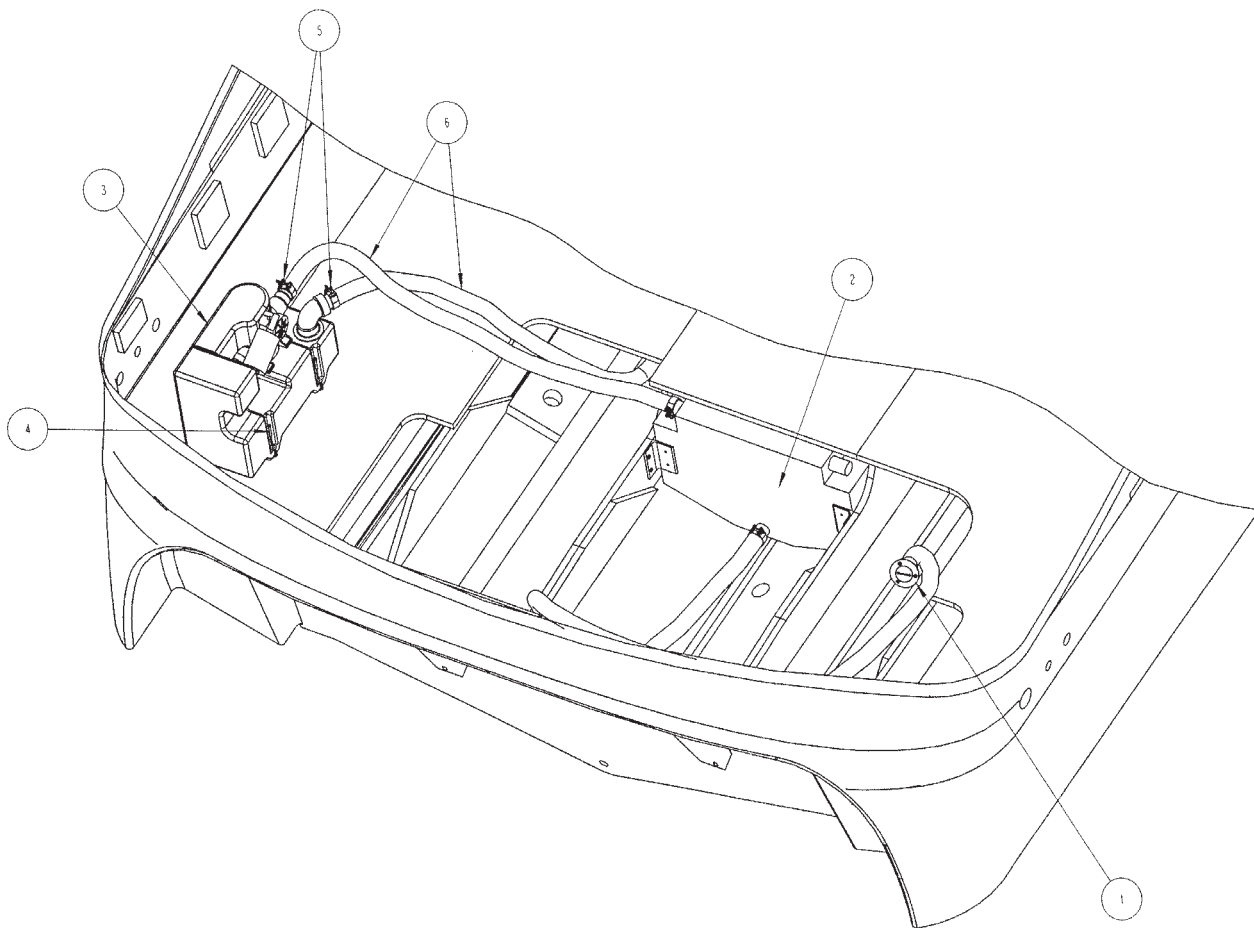
FIGURE J42: 288V WASTE (4 of 4)



ROUTING OF HOSES

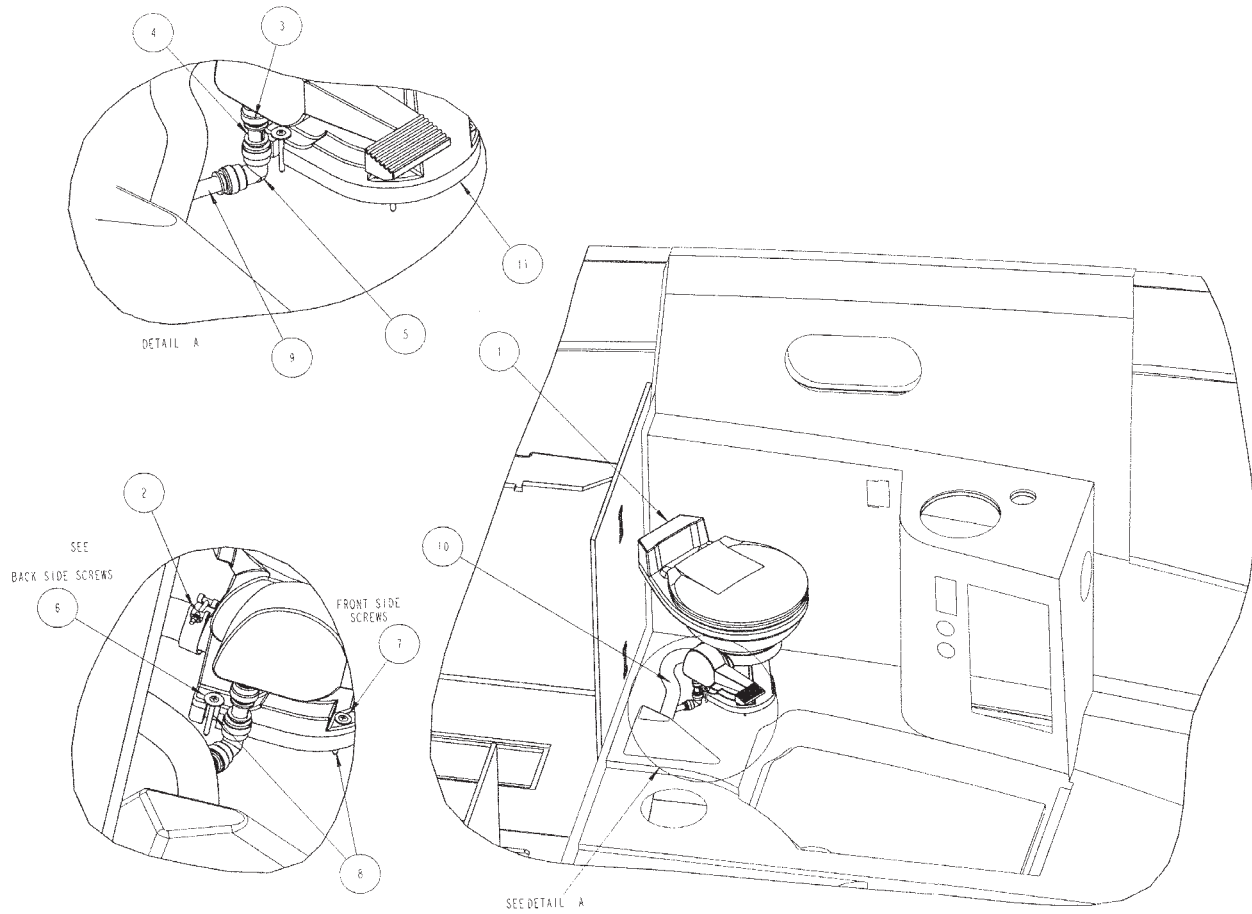
#	DESCRIPTION	PART No.	QTY	U/M
1	TAPE, FUEL TANK SUPPORT	021-0280	8	FT

FIGURE J43: 288V HEAD-VACUFLUSH (1 of 3)



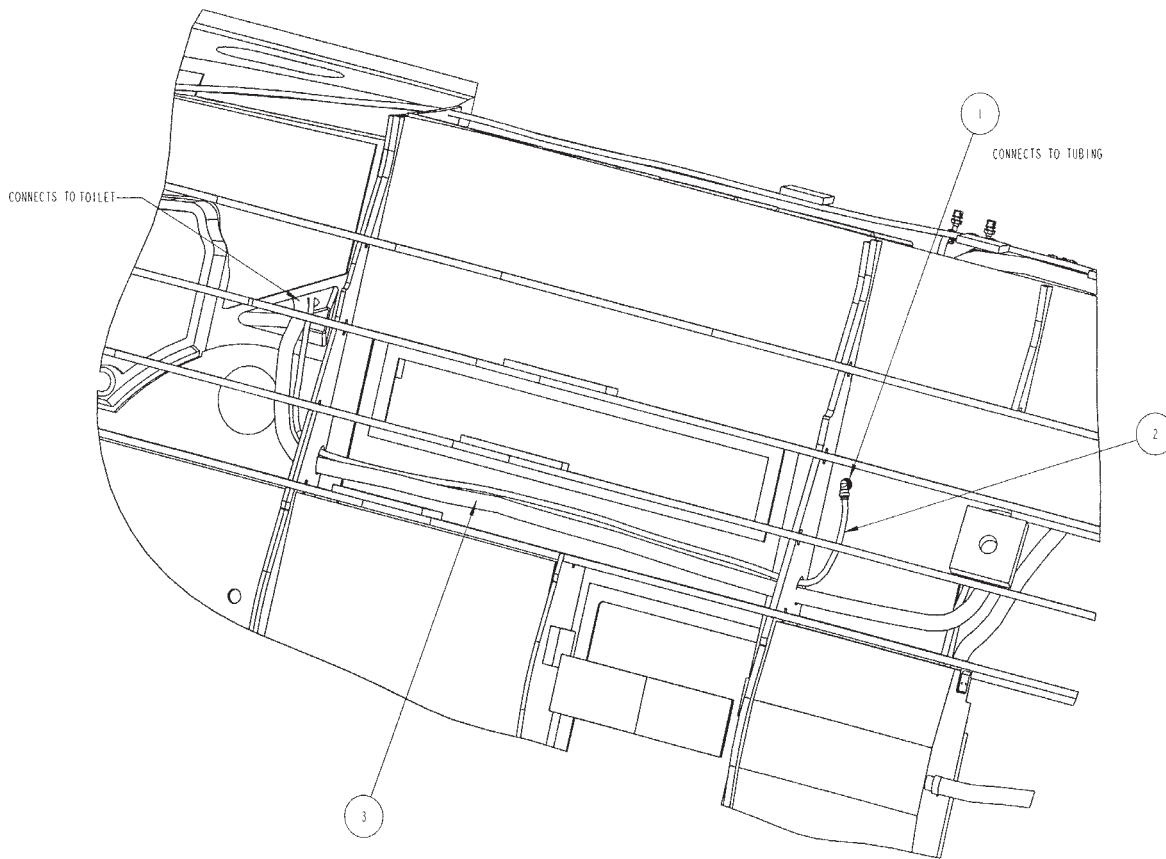
#	DESCRIPTION	PART No.	QTY	U/M
1	DECK FILL, SS WASTE	031-0086	REF	
2	TANK, BLACK WATER 25 GAL	035-0925	REF	
3	VACUUM GENERATOR, 12V VACUFLUSH SYSTEM	065-0832	1	EA
4	SCREW, #10 x 1-1/2" POHSMS	080-0032	4	EA
5	CLAMP, T-BOLT 1-7/8" #70STBC18	021-0371	2	EA
6	HOSE, 1-1/2" ODORSAFE	022-0146	8	FT
7	TIE, CABLE, 15" W/MOUNTING HOLE	080-0273	12	EA
8	TIE, CABLE 8.4" W/O HOLE	080-0389	6	EA
9	SCREW, 8 X 3/4" POHSMS	080-0022	12	EA

FIGURE J44: 288V HEAD-VACUFLUSH (2 of 3)



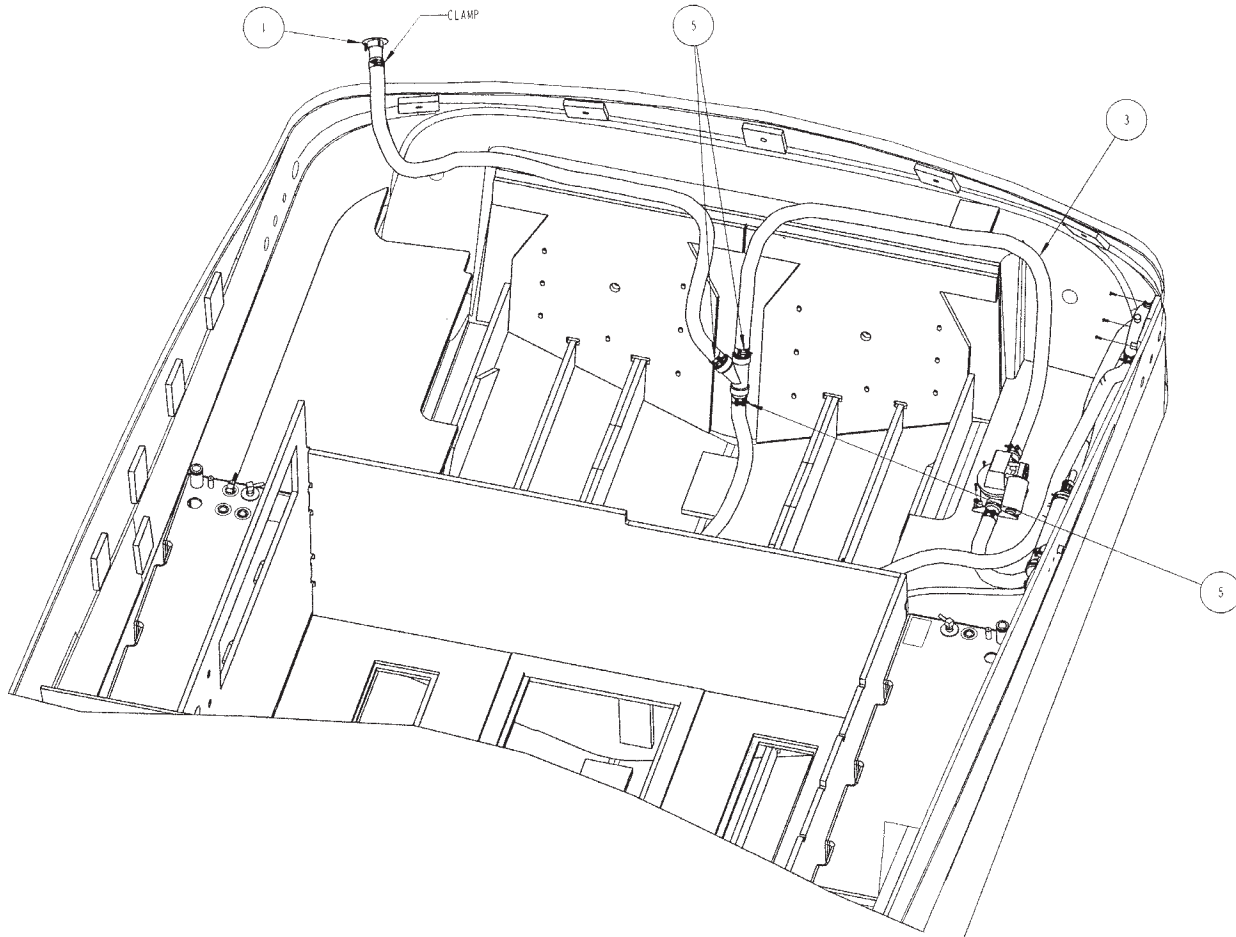
#	DESCRIPTION	PART No.	QTY	U/M
1	TOILET, VACU-FLUSH #149	035-1376	1	EA
2	CLAMP, T-BOLT 1-7/8" #70STBC18	021-0371	REF	
3	WS1504B CONNECTOR STRAIGHT	035-0933	1	EA
4	CHECK VALVE, 15 MM	035-0985	1	EA
5	ELBOW, 15mm WX1503B	035-0929	1	EA
6	WASHER, .255 X .750 X .070 FLT	080-0214	2	EA
7	WASHER, FLAT 1/4"	080-0094	2	EA
8	SCREW, #10 x 1-3/4" POHSMS	080-0036	4	EA
9	TUBING, BLUE 15MM X 50M	035-0936	10	FT
10	HOSE, 1-1/2" ODORSAFE	022-0146	REF	
11	SHIM, ECOVAC TOILET 288V "04"	100-53416	1	EA

FIGURE J45: 288V HEAD-VACUFLUSH (3 of 3)



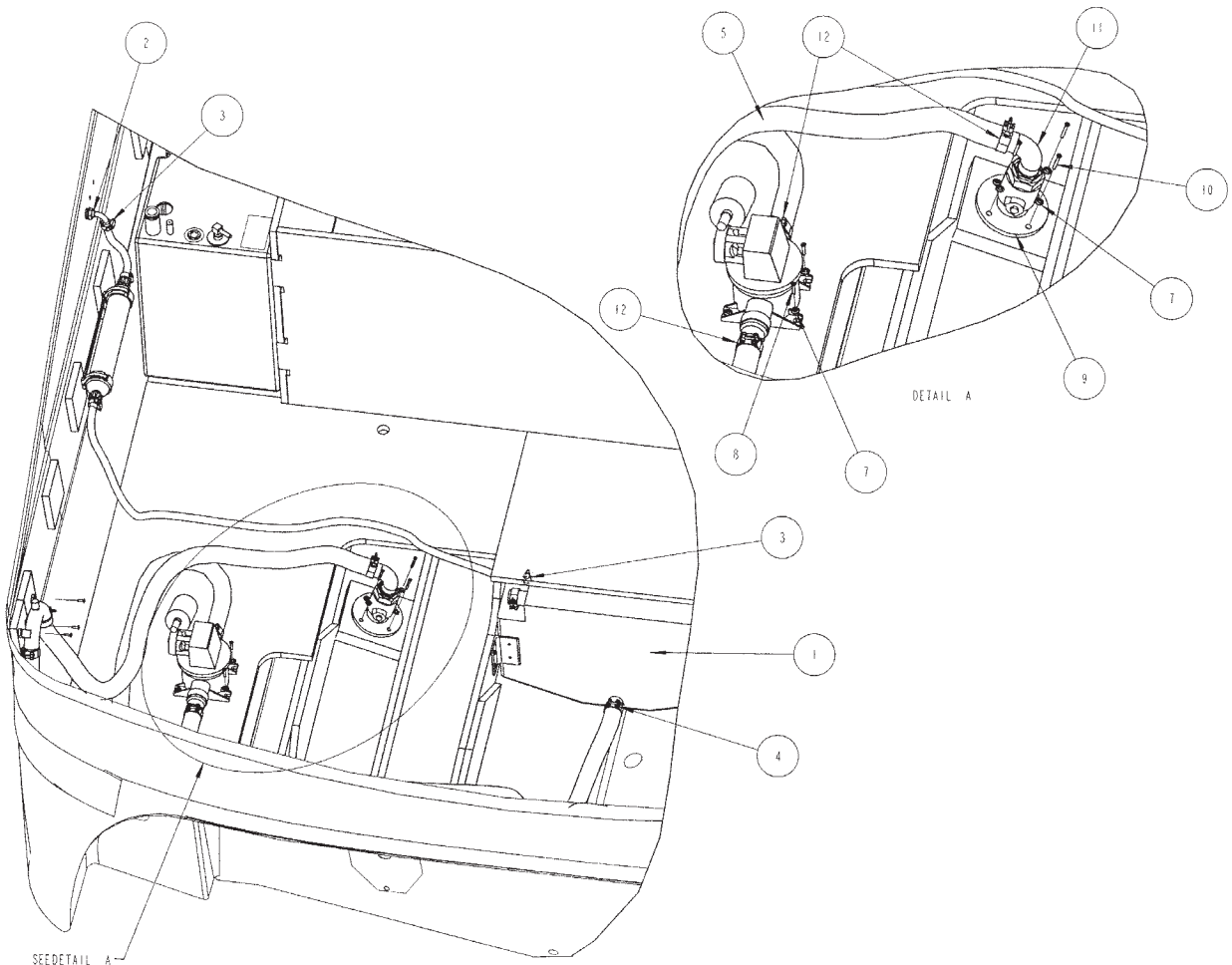
#	DESCRIPTION	PART No.	QTY	U/M
1	ELBOW, 15mm WX1503B	035-0929	1	EA
2	TUBING, BLUE 15MM X 50M	035-0936	REF	
3	HOSE, 1-1/2" ODORSAFE	022-0146	REF	

FIGURE J46: 288V HEAD OVERBOARD DISCHARGE (1 of 3)



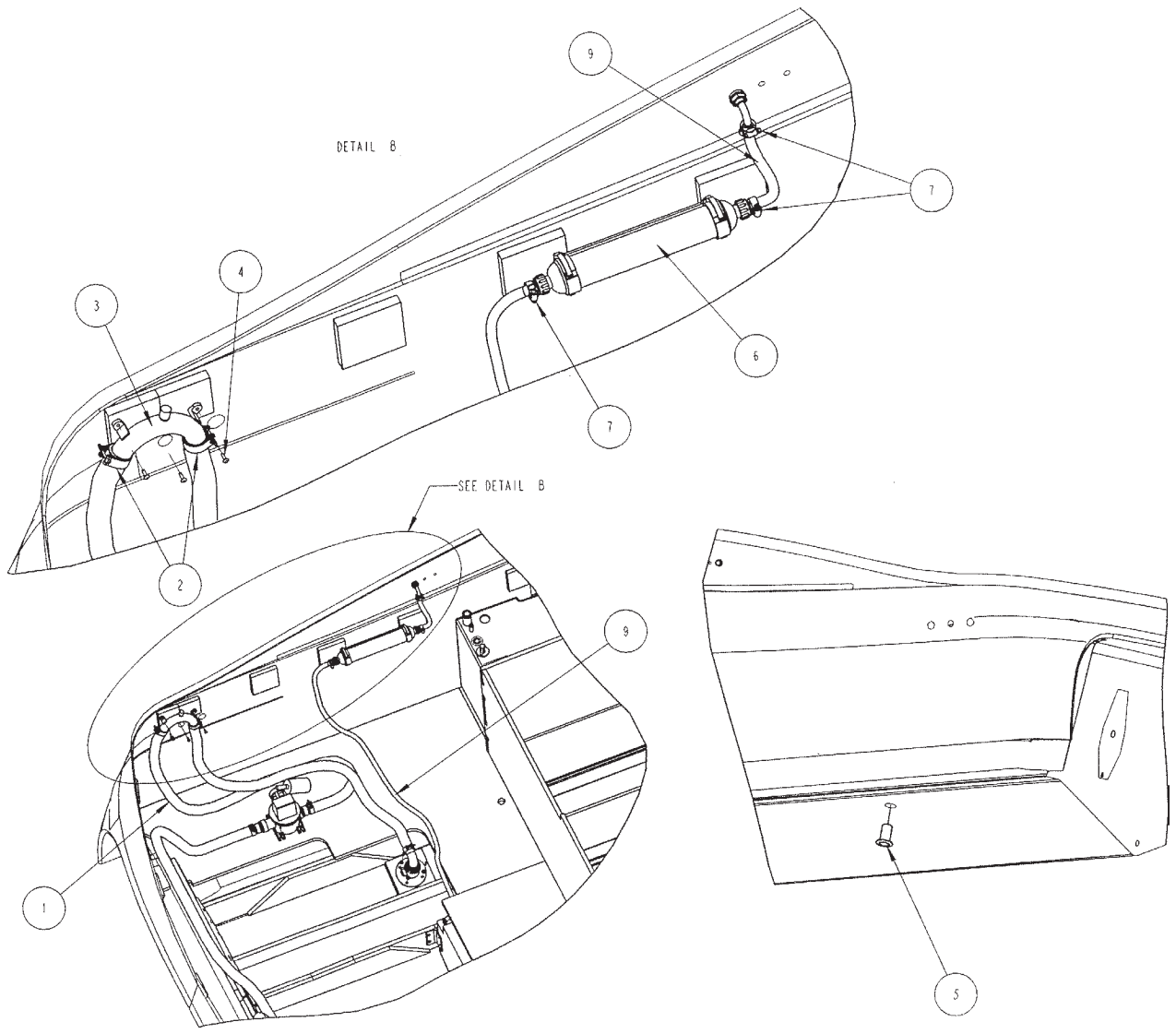
#	DESCRIPTION	PART No.	QTY	U/M
1	DECK FILL, SS WASTE	031-0086	REF	
2	KIT, SINGLE WYE 1-1/2"	035-0305	1	EA
3	HOSE, 1-1/2" ODORSAFE	022-0146	16	FT
* 4	HARNES ASS'Y, GALVANIC ISOLAT	027-1937	1	EA
5	CLAMP, T-BOLT 1-7/8" #70STBC18	021-0371	8	EA
* 6	PLATE, "HEAD DISCHARGE" (ENGRAVED)	056-0183	1	EA
* 7	BLOCK, TIE WRAP, SCREW MOUNT	032-0584	24	EA
* 8	SCREW, 8 X 3/4" POHSM5M	080-0022	24	EA
* 9	TIE, CBL, 7.9" W/MOUNTING HOLE	080-0287	24	EA

FIGURE J47: 288V HEAD OVERBOARD DISCHARGE (2 of 3)



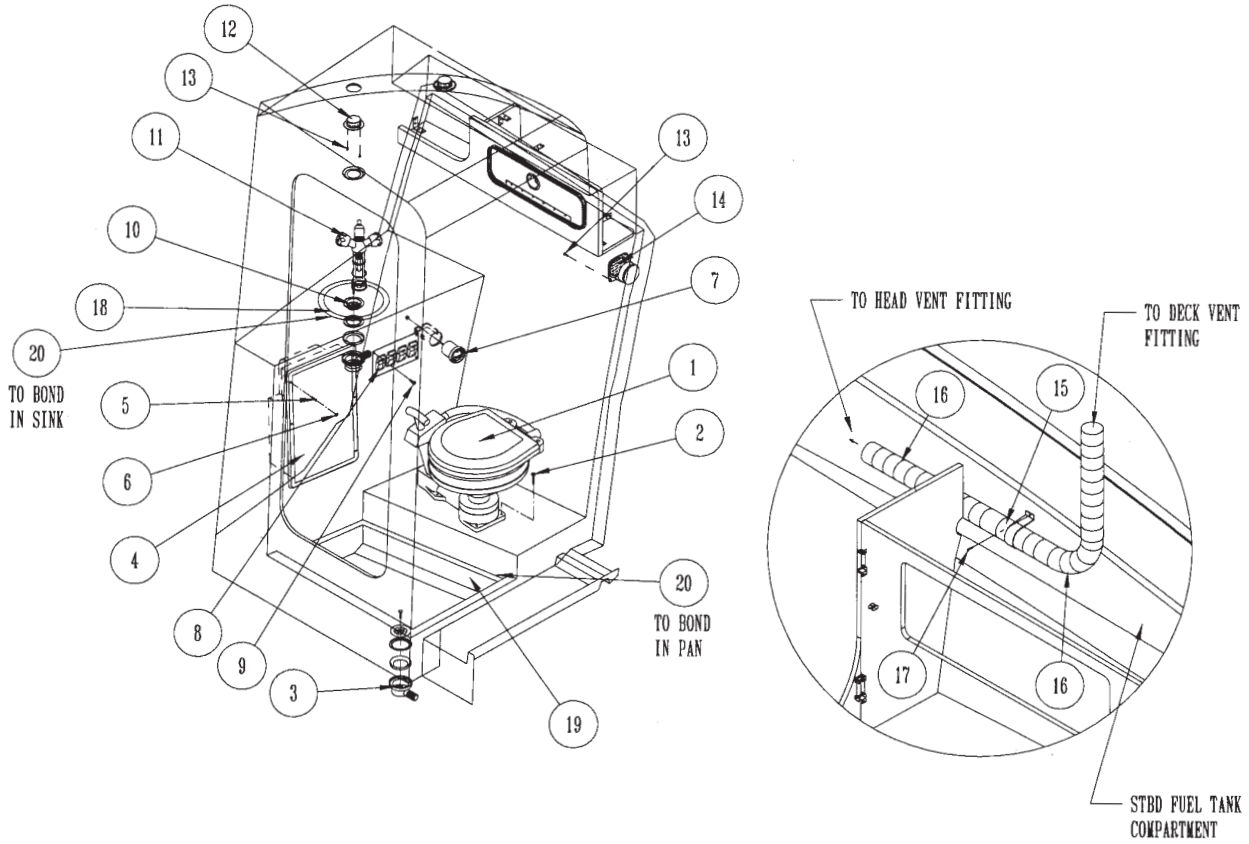
#	DESCRIPTION	PART No.	QTY	U/M
1	TANK, BLACK WATER 25 GAL	035-0925	REF	
2	VENT, 90 DEG. ELBOW GEM	035-1332	REF	
3	CLAMP, 5/8 INCH #10H FUEL VENT	021-0031	REF	
4	CLAMP, T-BOLT 1-7/8" #70STBC18	021-0371	REF	
5	HOSE, 1-1/2" ODORSAFE	022-0146	REF	
6	PUMP, T-12 MACERATOR	065-0081	1	EA
7	WASHER, FINISH #8 SS FLANGE WFFSS8	080-0091	8	EA
8	SCREW, #10 x 1" POHSMS	080-0035	4	EA
9	SEACOCK, 1-1/2"	035-0105	1	EA
10	SCREW, #10 x 1-1/2" POHSMS	080-0032	4	EA
11	ELBOW, 1/2" MP X 5/8" HB	035-0199	1	EA
12	CLAMP, T-BOLT 1-7/8" #70STBC18	021-0371	REF	
13	HOSE, 5/8" WASTE	022-0013	12	FT

FIGURE J48: 288V HEAD OVERBOARD DISCHARGE (3 of 3)



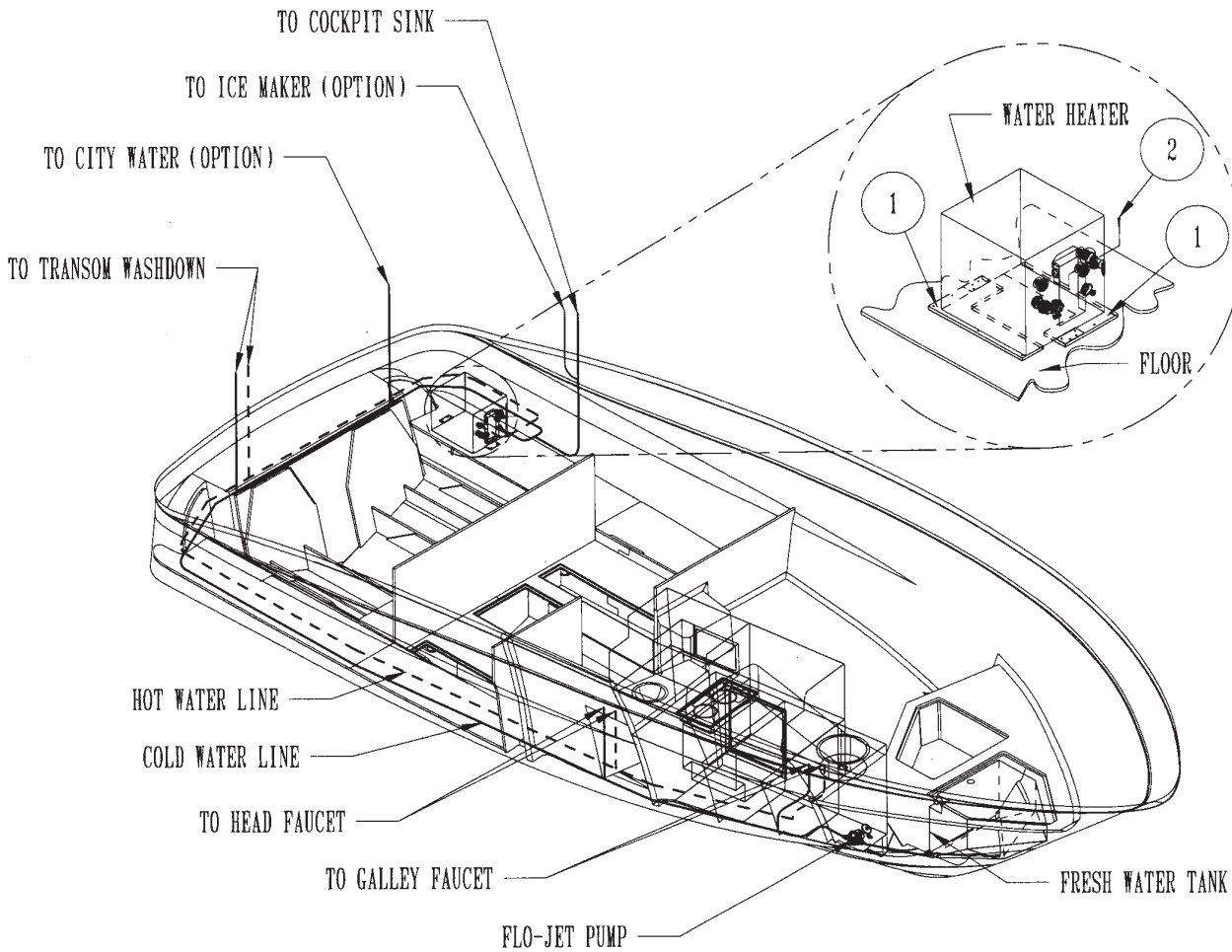
#	DESCRIPTION	PART No.	QTY	U/M
1	HOSE, 1-1/2" ODORSAFE	022-0146	REF	
2	CLAMP, T-BOLT 1-7/8" #70STBC18	021-0371	REF	
3	VENT LOOP, W/CAP 1-1/2"	035-1377	1	EA
4	SCREW, #10 x 3/4" PTHSMS	080-0033	3	EA
5	THRU HULL, 1-1/2" BRONZE	035-0204	1	EA
6	FILTER, SANX	065-0070-1	1	EA
7	CLAMP, 5/8 INCH #10H FUEL VENT	021-0031	8	EA
8	BOOT, HOSE CLAMP	030-0864	8	EA
9	HOSE, 5/8" WASTE	022-0013	REF	

FIGURE J49: 298V HEAD



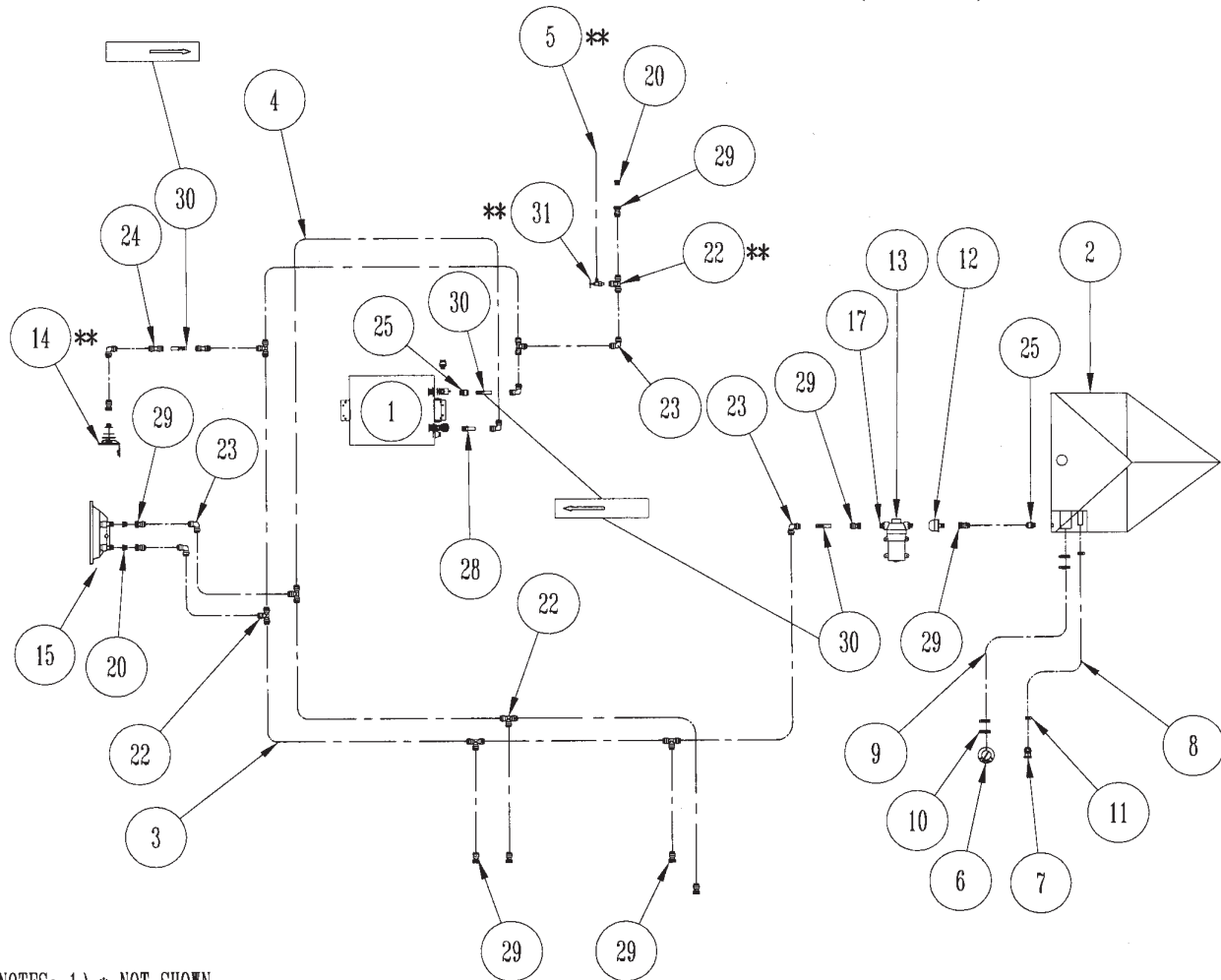
#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	TOILET, ECOVAC #148	035-1074	1 EA	15	BLOWER, INLINE BILGE 3"	026-0144-02	1 EA
2	SCREW, #14X1 1/2" PPHSMS	080-0043	4 EA	16	HOSE, 3" BILGE VENT	022-0002	5 FT
3	DRAIN, SHOWER FLOOR	035-0616	1 EA	17	SCREW, #10X3/4" PTHSMSSS	080-0033	2 EA
4	CABINET, VANITY INSERT (LEFT HAND)	032-1867	1 EA	18	SINK, 10 1/2" X 4 1/2" WHITE PLASTIC	032-1890	1 EA
5	SCREW, #8X3/4" POHSMSSS	080-0022	6 EA	19	SHOWER PAN, 298V	110-50245	1 EA
6	COVER, SCREW PRESS-ON	080-1006	6 EA	20	ADHESIVE, SEALANT, 3M 4200	084-0395	A/R
7	GAUGE, LEVEL INDICATOR	024-0412	1 EA				
8	PANEL, ASSEMBLY HEAD SWITCH	025-2070	1 EA				
9	SCREW, #6X1/2" PPHSMSSS	080-0010	4 EA				
10	DRAIN, SINK	035-0225	1 EA				
11	FAUCET, PULLOUT SHOWER SPOUT	035-0825	1 EA				
12	LIGHT, BLACK PLATINUM (NMNL) 2"	026-0500-02	2 EA				
13	SCREW, #6X 3/4" PPHSMS	080-0011	8 EA				
14	VENT, HEAD DECK FITTING	032-0669	1 EA				

FIGURE J50: 298V FRESH WATER (1 OF 2)



#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	SHIM, WATER HEATER	100-51076	2	EA			
2	SCREW, #10 x 1 1/2" POHSMSS SS	080-0032	8	EA			

FIGURE J51: 298V FRESH WATER (2 OF 2)

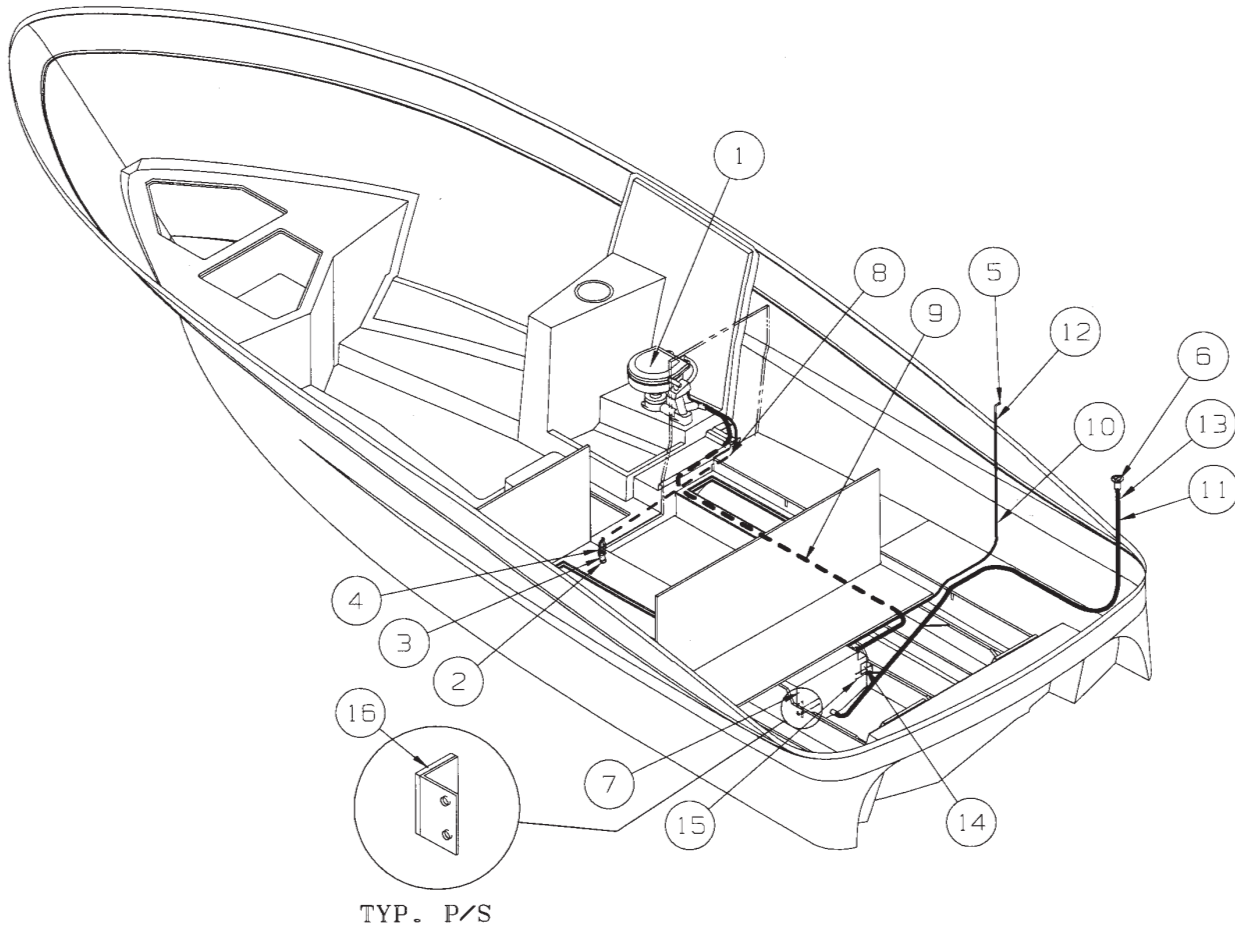


NOTES: 1) * NOT SHOWN
 2) ASSURE CHECK VALVE
 DIRECTION IS CORRECT.

** = OPTION

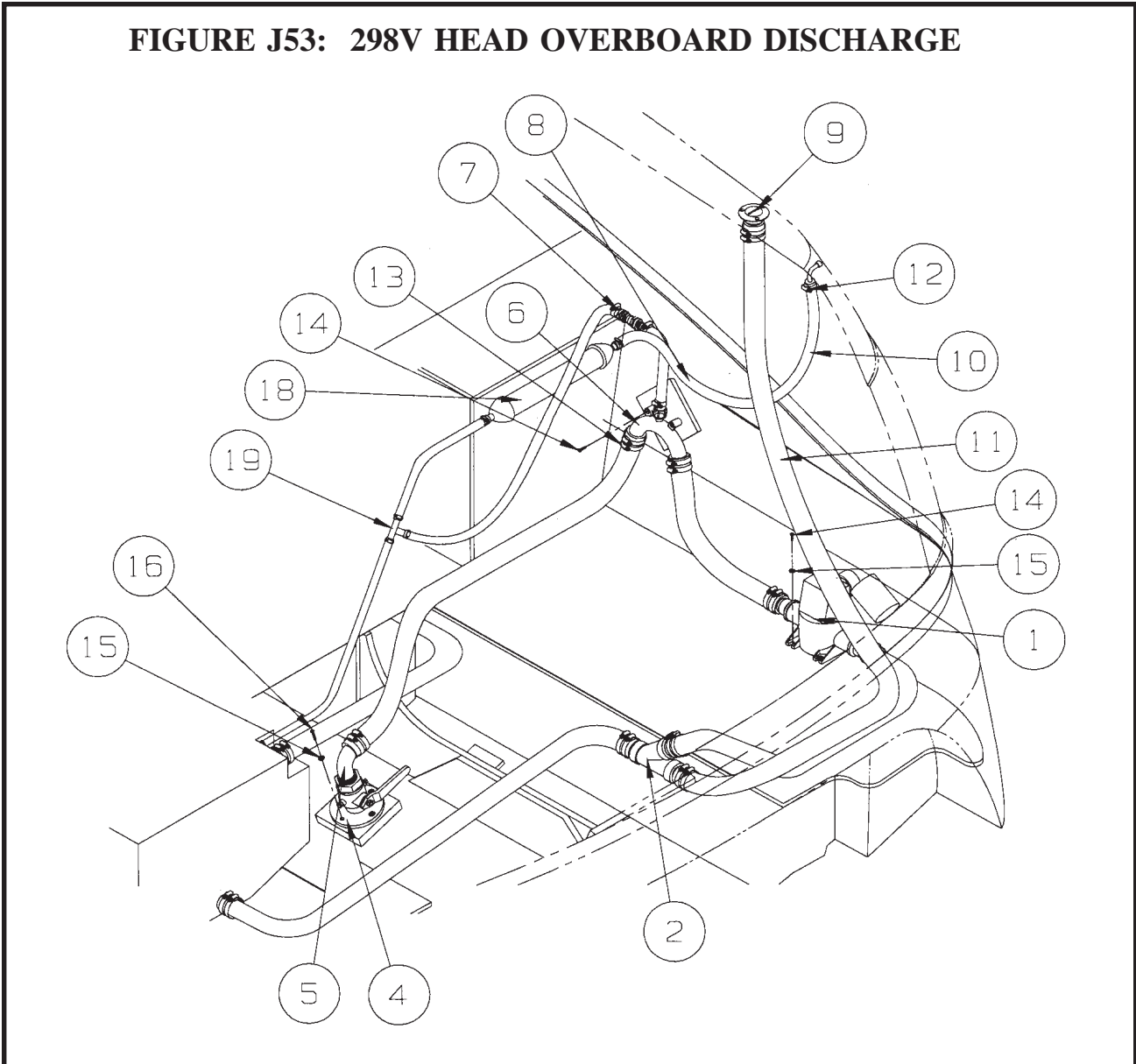
#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	WATER HEATER, 6 GAL.110v #94595	065-0040	1 EA	17	FITTING, KIT, FLOJET #C 20381-0	035-0729	1 EA
2	TANK, WATER 30 GAL. WT3003-10	035-0926	1 EA	*18	HOT WATER HEATER KIT #3856265	035-0334	1 EA
3	TUBING, BLUE 15mm x 50mm WS7152B	035-0936	60 FT	19	COUPLING, MALE 1/2" x 1/2" #QC33	035-0078	1 EA
4	TUBING, RED 15mm x 50mm WS7154B	035-0937	40 FT	20	ADAPTER, 3/8" BSP x 1/2" NPT	035-0691	3 EA
5	TUBING, POLYETHYLENE #15978	035-0823	3 FT	*21	SENDER, WATER 19" (UNT) #TS-19	026-0607-02	1 EA
6	DECK FILL, S.S. WATER #66408-1	031-0087	1 EA	22	TEE, 15mm WS1502B	035-0928	8 EA
7	VENT, CHROME PLATED BRASS #352030	035-0812	1 EA	23	ELBOW, 15mm WS1503B	035-0929	7 EA
8	HOSE, 5/8" WASTE #148-0580	022-0013	8 FT	24	EQUAL STRAIGHT, 15mm WS1504B	035-0959	2 EA
9	HOSE, 1 1/2" WATER WHITE #143-1120	022-0007	8 FT	25	ADAPTER, MALE 1/2" BSP x 15mm WS1514B	035-0934	3 EA
10	CLAMP, 1 1/2" FILL HOSE	021-0032	4 EA	*26	COLLET CLIP, 15mm WS1518B	035-0939	55 EA
11	CLAMP, 5/8" VENT HOSE	021-0031	2 EA	*27	COLLET COVER, 15mm WS1590B	035-0940	55 EA
12	FILTER, IN LINE SHUFLO #170-06	035-0158	1 EA	28	ADAPTER, STEM 1/2" MPT x 15mm WS1524B	035-0935	1 EA
13	PUMP, FLOJET #F4405-143B	026-0331-02	1 EA	29	ADAPTER, FEMALE 1/2" BSP x 15mm WS1532B	035-0933	10 EA
14	FITTING, WATER INLET / REGULATOR	035-0027	1 EA	30	CHECK VALVE, 15mm WS1582B	035-0931	3 EA
15	SHOWER, TRANSOM MIXER H/C	035-0988	1 EA	31	VALVE STEM FITTING, 15mm WS1577B	035-0938	1 EA
*16	ANTIFREEZE, NON-TOXIC, 55 GALLON	084-0043	3 GAL				

FIGURE J52: 298V WASTE



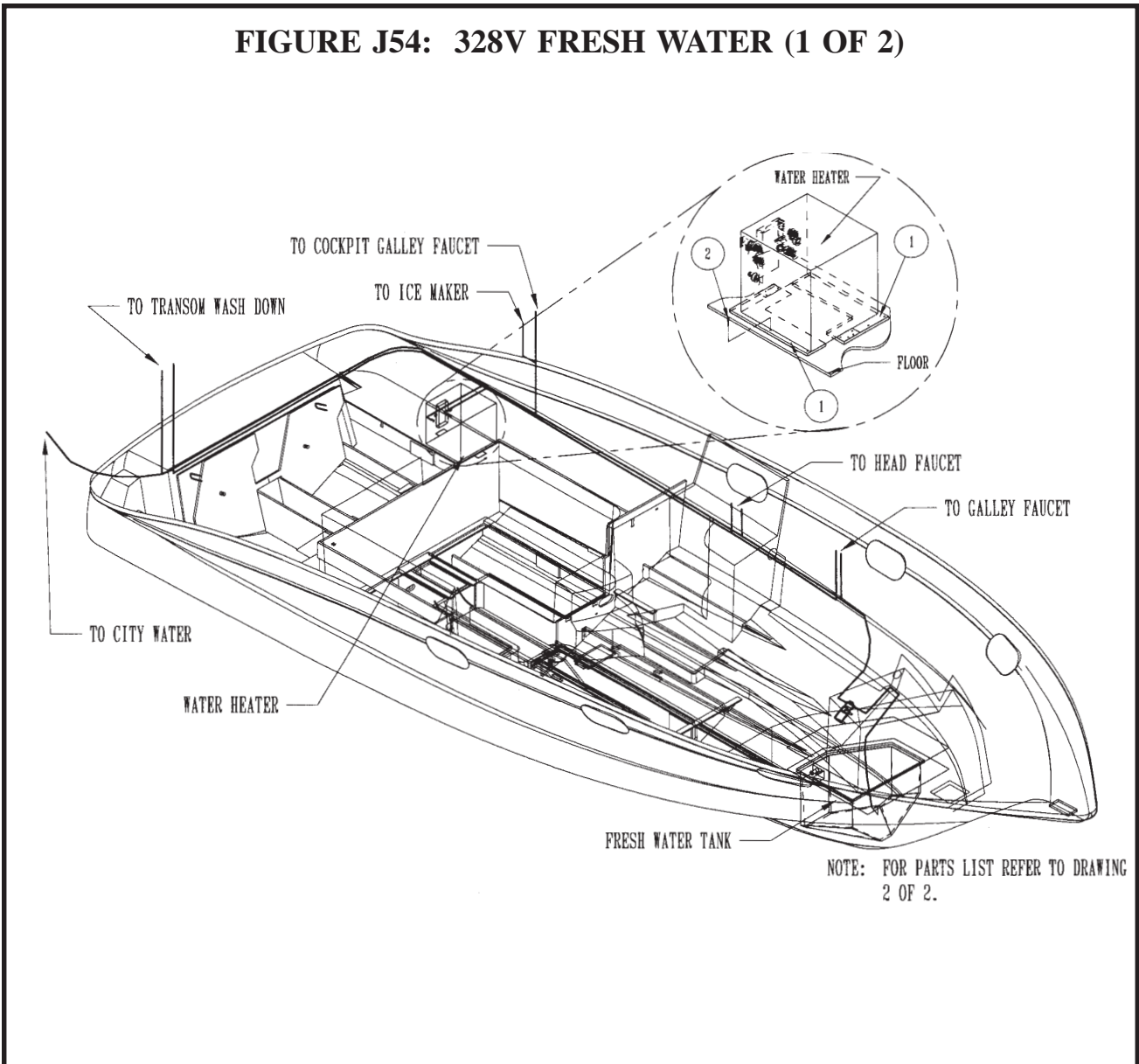
#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	TOILET, ECOVAC #148	035-1074	1EA	15	SCREW, #14 x 1" PPHS SS	080-0940	4EA
2	THRU-HULL, 3/4" BRONZE	N/A	1EA	16	TAPE, FUEL TANK SUPPORT	021-0280	.7SF
3	VALVE, BALL 3/4"	N/A	1EA				
4	BARB, HOSE 3/4" MPT X 3/4" HB	N/A	1EA				
5	VENT, 90° ELBOW	035-0812	1EA				
6	DECK FILL, SS WASTE	031-0086	1EA				
7	TANK, BLACK WATER 30 GAL.	035-0925	1EA				
8	HOSE, 3/4" BLACK PVC	022-0046	XFT				
9	HOSE, 1 1/2" SANITATION	022-0055	XFT				
10	HOSE, 5/8" WASTE	022-0013	XFT				
11	HOSE, 1 1/2" SANITATION	022-0055	XFT				
12	CLAMP, 5/8" #10H FUEL VENT	021-0031	4EA				
13	CLAMP, 1/4" HOSE	021-0035	8EA				
14	BRACKET, FUEL TANK (4 HOLE)	029-0388	2EA				

FIGURE J53: 298V HEAD OVERBOARD DISCHARGE



#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	PUMP, T-12 MACERATOR	065-0081-02	1EA	15	WASHER, #8 FINISH	080-0091	8EA
2	KIT, SINGLE WYE 1-1/2"	035-0305	1EA	16	SCREW, #10 x 1-1/2" POHMS	080-0032	4EA
3	THRU-HULL, 1-1/2" BRONZE NOT SHOWN	035-0204	1EA	17	PLATE, "HEAD DISCHARGE" NOT SHOWN	056-0183	1EA
4	SEACOCK, 1-1/2" #805008 PLB	035-0105	1EA	18	FILTER, SANX	065-0070-1	1EA
5	ELBOW, 1.5"MP x 1.5"HB BRONZE	035-0199	1EA	19	TEE, 5/8" HOSE BARB	035-0166	1EA
6	VENT LOOP, 1-1/2" w/ HOSE BARB	035-0110	1EA	20	HARNASS ASS'Y DISCHARGE BONDI NOT SHOWN	027-1518	1EA
7	VALVE, CHECK #Q2501	035-0015	1EA	21	KEY, GAS CAP #66060-1 NOT SHOWN	031-0085-2	1EA
8	TAIL PIPE, 1/2"MP x 5/8"HB	035-0034	1EA	22	BLOCK, TIE WRAP, SCREW MOUNT NOT SHOWN	032-0584	12EA
9	DECK FITTING, SS WASTE	031-0086	1EA	23	SCREW, #8 X 3/4" POHMS POA NOT SHOWN	080-0022	12EA
10	HOSE, 5/8" WASTE #148-0580	022-0013	10FT	24	TIE, CABLE, 7.9 W/MOUNTING HOLE NOT SHOWN	080-0287	12EA
11	HOSE, 1-1/2" SANITATION WHT116	022-0055	14FT	25	CAULK 1/4" BREAD #3M 4200 PER NOT SHOWN	084-0175	36IN
12	CLAMP, 5/8" #10H FUEL VENT	021-0031	4EA	26	ADHESIVE SEALANT, 3M 4200 NOT SHOWN	084-0395	.0416
13	CLAMP, 1-1/2" #24 FILL HOSE	021-0032	18EA				
14	SCREW, #10 X 1" POHMS	080-0035	6EA				

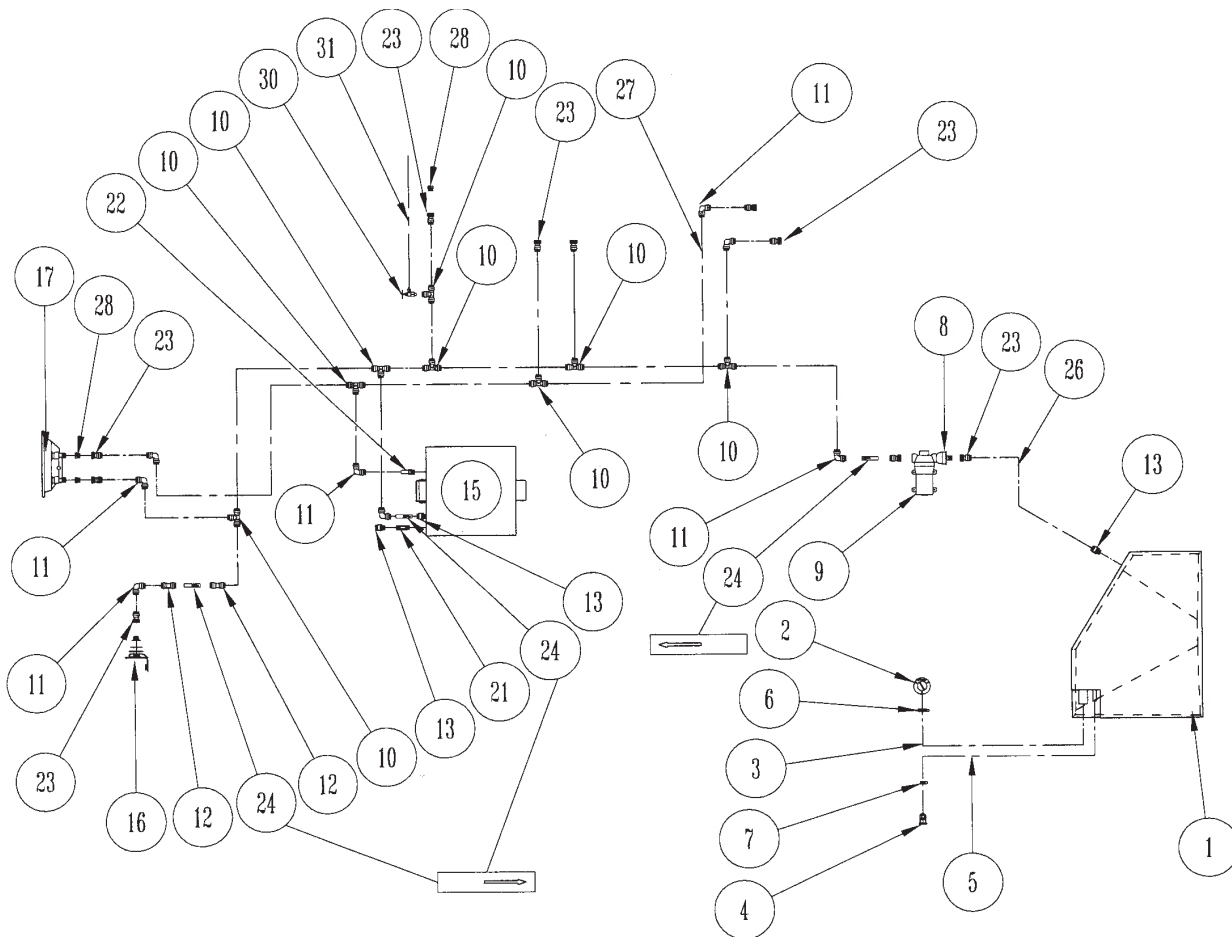
FIGURE J54: 328V FRESH WATER (1 OF 2)



NOTE: FOR PARTS LIST REFER TO DRAWING 2 OF 2.

#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	SHIM, WATER HEATER	100-51076	2 EA				
2	SCREW, #10 x 1 1/2" POHMS SS	080-0032	8 EA				

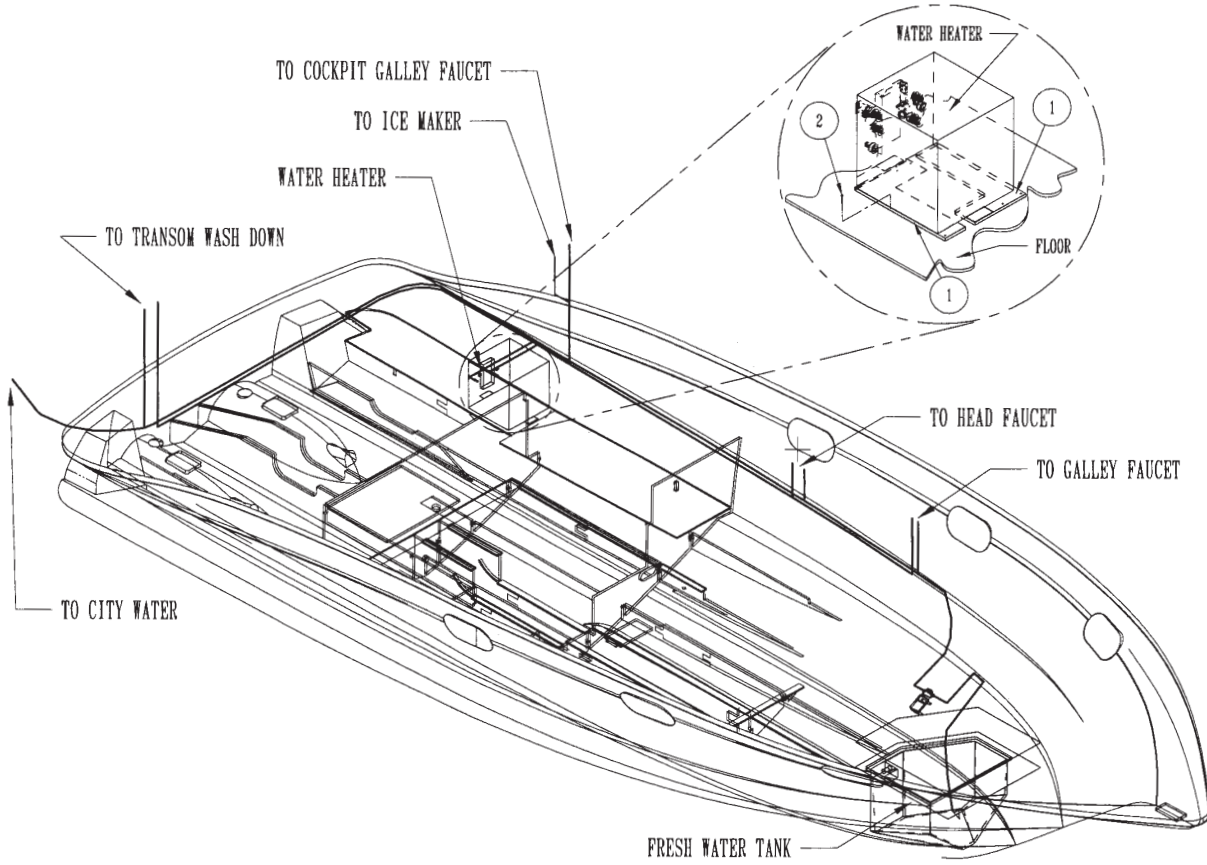
FIGURE J55: 328V FRESH WATER (2 OF 2)



NOTE: 1) * NOT SHOWN
 2) ASSURE CHECK VALVE DIRECTION IS CORRECT.

#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	TANK, FRESH WATER 45 GAL	035-0816	1 EA	17	SHOWER, TRANSOMMIXER H/C	035-0988	1 EA
2	DECK FILL, S.S. WATER #66408-1	031-0087	1 EA	*18	FITTING, KIT, FLOJET #C 20381-0	035-0729	1 EA
3	HOSE, 1 1/2" WATER WHITE #143-1120	022-0007	5 FT	*19	HOT WATER HEATER KIT #3856265	035-0334	1 EA
4	VENT, CHROME PLATED BRASS #352030	035-0812	1 EA	*20	ANTIFREEZE, NON-TOXIC, 55 GALLON	084-0043	3 GAL
5	HOSE, 5/8" WASTE #148-0580	022-0013	5 FT	21	COUPLING, MALE 1/2" x 1/2" #QC33	035-0078	1 EA
6	CLAMP, 1 1/2" FILL HOSE	021-0032	2 EA	22	ADAPTER, STEM 1/2" MPT x 15mm WS1524B	035-0935	1 EA
7	CLAMP, 5/8" VENT HOSE	021-0031	2 EA	23	ADAPTER, FEMALE 1/2" BSP x 15mm WS1532B	035-0933	10 EA
8	FILTER, IN LINE SHURFLO #170-06	035-0158	1 EA	24	CHECK VALVE, 15mm WS1582B	035-0931	3 EA
9	PUMP, FLOJET #f4405-143B	026-0331-02	1 EA	*25	COLLET COVER, 15mm WS1590B	035-0940	57 EA
10	TEE, 15mm WS1502B	035-0928	8 EA	26	TUBING, BLUE 15mm x 50mm WS7152B	035-0936	60 FT
11	ELBOW, 15mm WS1503B	035-0929	8 EA	27	TUBING, RED 15mm x 50mm WS7154B	035-0937	40 FT
12	EQUAL STRAIGHT 15mm WS1504B	035-0959	2 EA	28	ADAPTER, 3/8 BSP x 1/2 NPT	035-0691	3 EA
13	ADAPTER, MALE 1/2" BSP x 15mm WS1514B	035-0934	3 EA	*29	SENDER, WATER 19" (UNI) #TS-19	026-0607-02	1 EA
*14	COLLET CLIP 15mm WS1518B	035-0939	57 EA	30	VALVE STEM FITTING, 15mm WS1577B	035-0938	1 EA
15	WATER HEATER, ELECTRIC W/ HEATEX	065-0829	1 EA	31	TUBING, POLYETHYLENE #15978	035-0823	3 FT
16	FITTING, WATER INLET / REGULATOR	035-0027	1 EA				

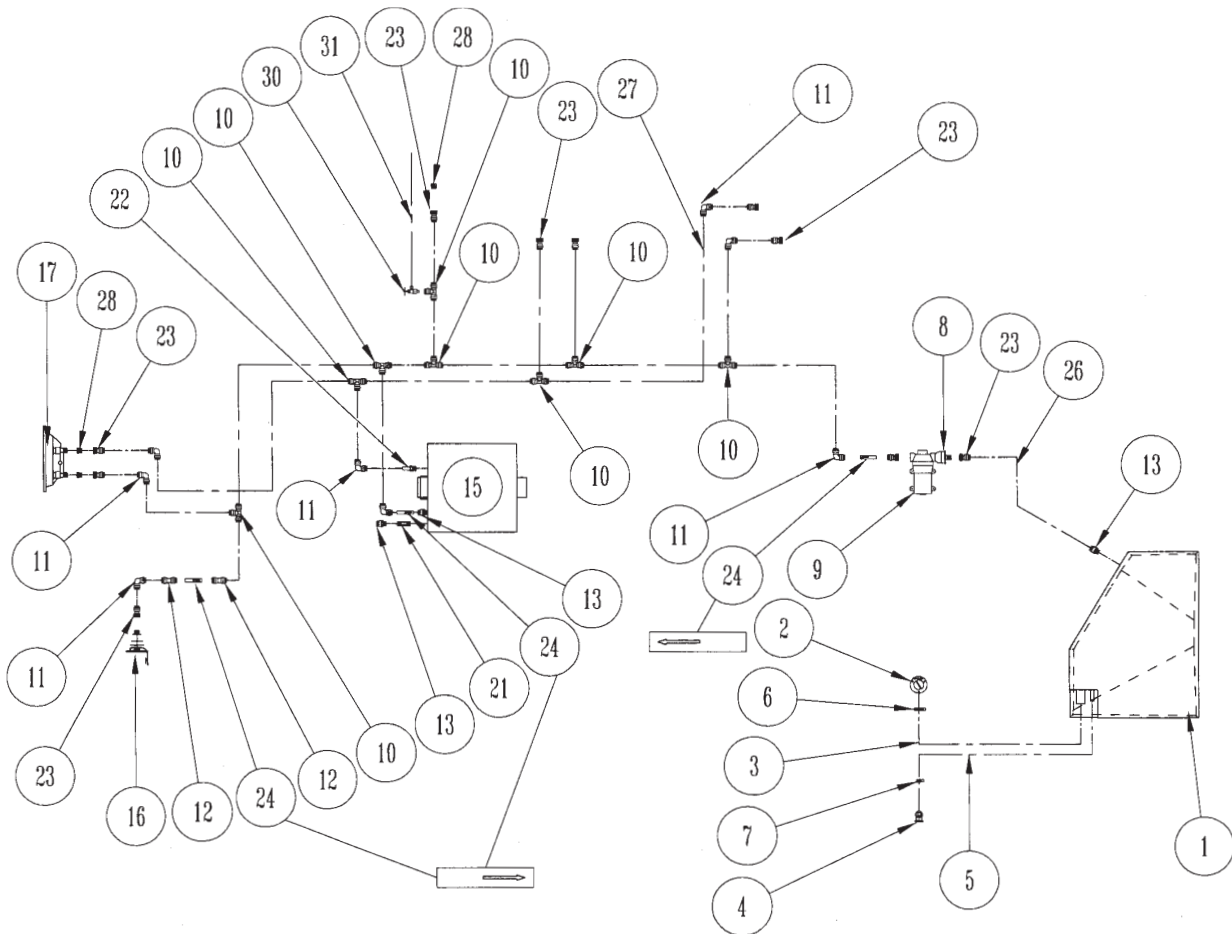
FIGURE J56: 348V FRESH WATER (1 OF 2)



NOTE: FOR PARTS LIST REFER TO DRAWING 2 OF 2.

#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	SHIM, WATER HEATER	100-51076	2 EA				
2	SCREW, #10 x 1 1/2" POHSWS SS	080-0032	8 EA				

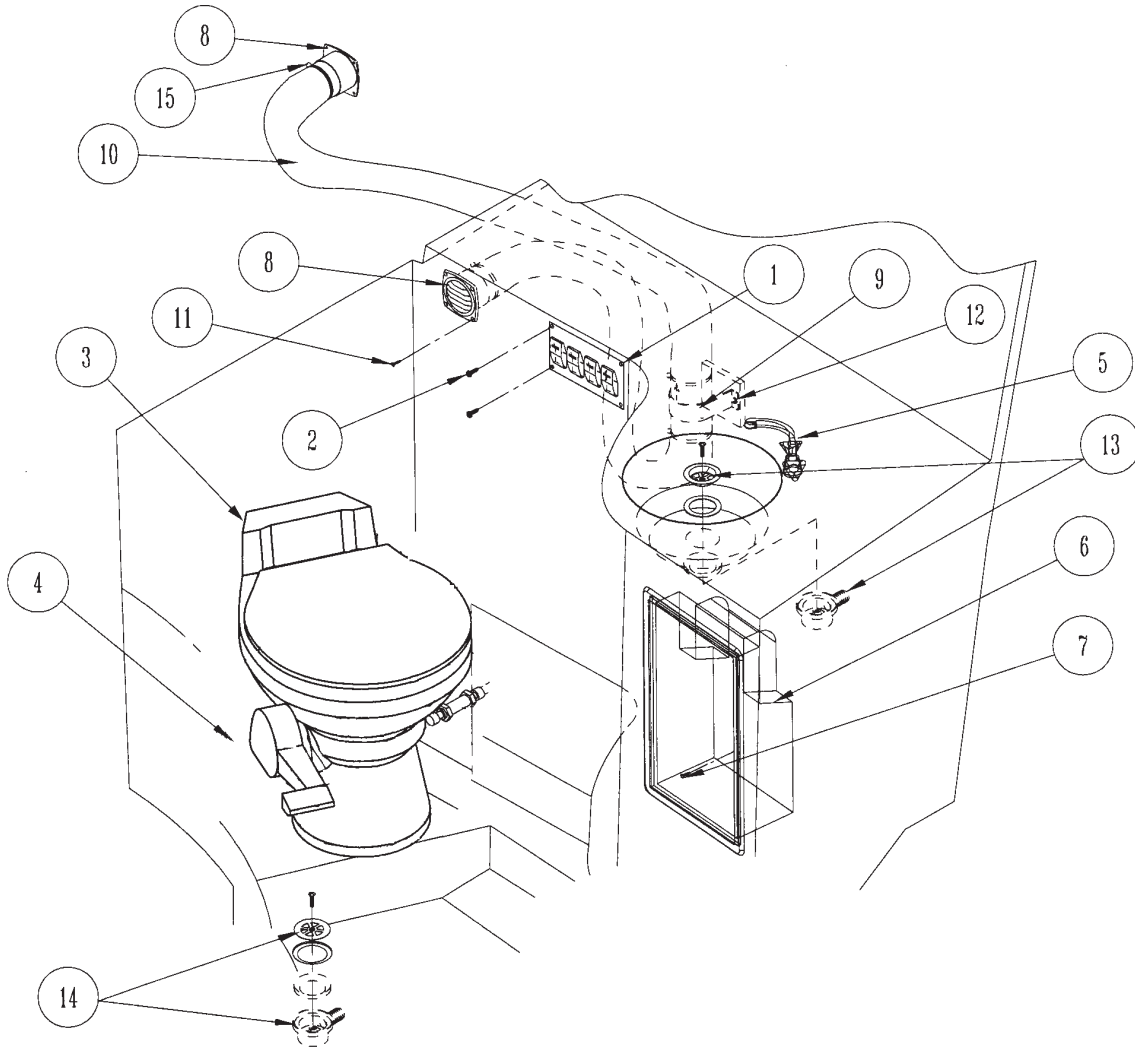
FIGURE J57: 348V FRESH WATER (2 OF 2)



NOTE: 1) * NOT SHOWN
 2) ASSURE CHECK VALVE DIRECTION IS CORRECT.

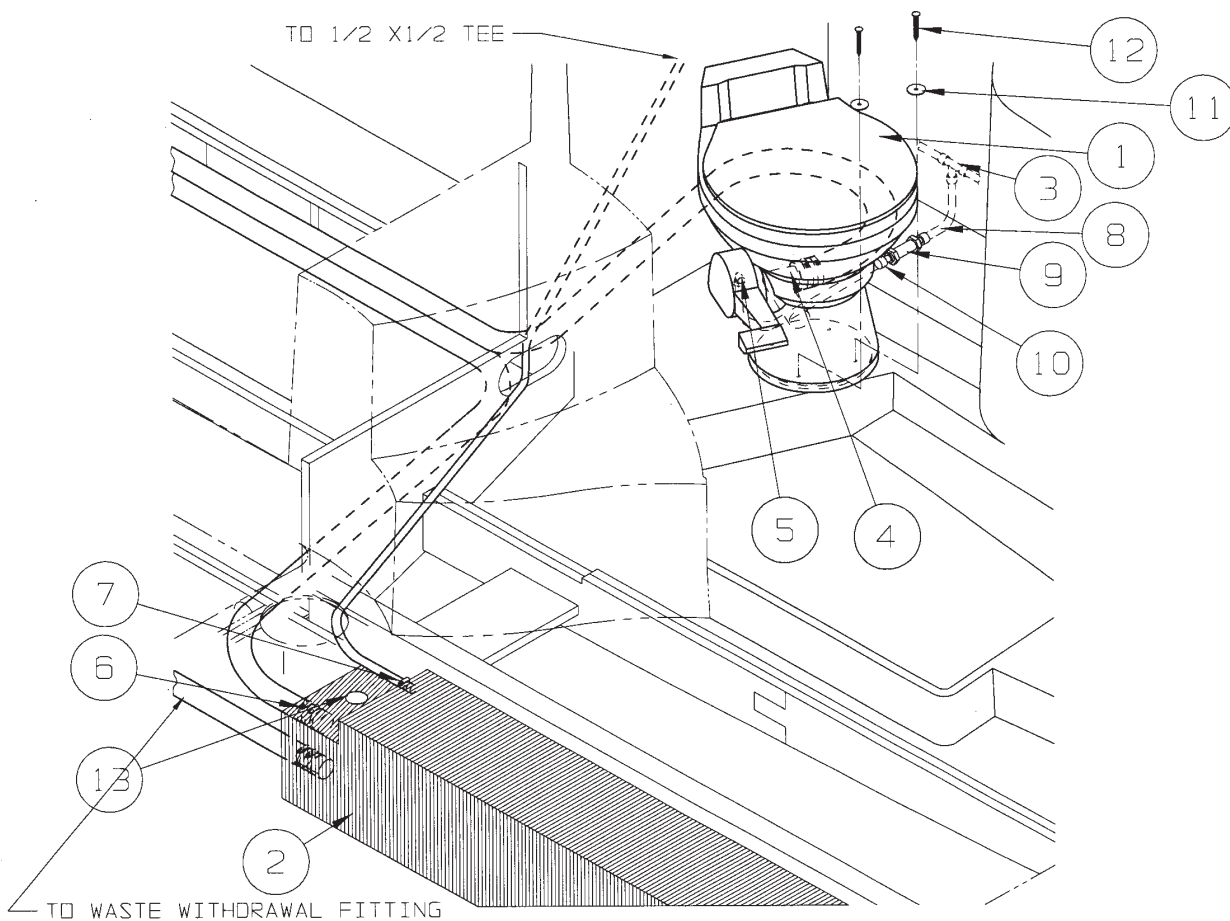
#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	TANK, FRESH WATER 45 GAL	035-0816	1 EA	17	SHOWER, TRANSOMMIXER H/C	035-0988	1 EA
2	DECK FILL, S.S. WATER #66408-1	031-0087	1 EA	*18	FITTING, KIT, FLOJET #C 20381-0	035-0729	1 EA
3	HOSE, 1 1/2" WATER WHITE #143-1120	022-0007	5 FT	*19	HOT WATER HEATER KIT #3856265	035-0334	1 EA
4	VENT, CHROME PLATED BRASS #352030	035-0812	1 EA	*20	ANTIFREEZE, NON-TOXIC, 55 GALLON	084-0043	3 GAL
5	HOSE, 5/8" WASTE #148-0580	022-0013	5 FT	21	COUPLING, MALE 1/2" x 1/2" #QC33	035-0078	1 EA
6	CLAMP, 1 1/2" FILL HOSE	021-0032	2 EA	22	ADAPTER, STEM 1/2" MPT x 15mm WS1524B	035-0935	1 EA
7	CLAMP, 5/8" VENT HOSE	021-0031	2 EA	23	ADAPTER, FEMALE 1/2" BSP x 15mm WS1532B	035-0933	10 EA
8	FILTER, IN LINE SHURFLO #170-06	035-0158	1 EA	24	CHECK VALVE, 15mm WS1582B	035-0931	3 EA
9	PUMP, FLOJET #f4405-143B	026-0331-02	1 EA	*25	COLLET COVER, 15mm WS1590B	035-0940	57 EA
10	TEE, 15mm WS1502B	035-0928	8 EA	26	TUBING, BLUE 15mm x 50mm WS7152B	035-0936	60 FT
11	ELBOW, 15mm WS1503B	035-0929	8 EA	27	TUBING, RED 15mm x 50mm WS7154B	035-0937	40 FT
12	EQUAL STRAIGHT 15mm WS1504B	035-0959	2 EA	28	ADAPTER, 3/8 BSP x 1/2 NPT	035-0691	3 EA
13	ADAPTER, MALE 1/2" BSP x 15mm WS1514B	035-0934	3 EA	*29	SENDER, WATER 19" (UNI) #TS-19	026-0607-02	1 EA
*14	COLLET CLIP 15mm WS1518B	035-0939	57 EA	30	VALVE STEM FITTING, 15mm WS1577B	035-0938	1 EA
15	WATER HEATER, ELECTRIC W/ HEATEX	065-0829	1 EA	31	TUBING, POLYETHYLENE #15978	035-0823	3 FT
16	FITTING, WATER INLET / REGULATOR	035-0027	1 EA				

FIGURE J58: 328/348V HEAD



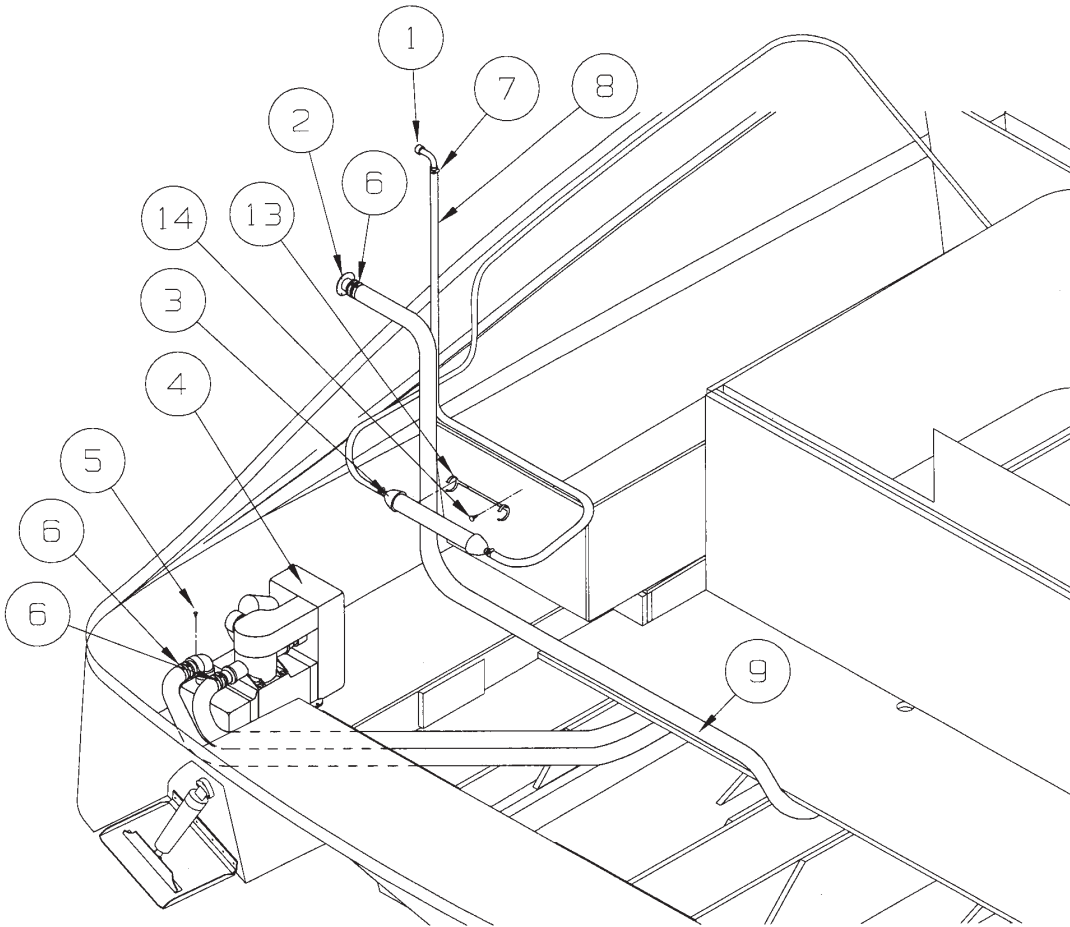
#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	SWITCH PANEL, HEAD 328V "99"	025-2070	1 EA	15	TIE, CABLE, 15" W/MOUNTING HOLE	080-0273	4 EA
2	SCREW, #6 x 1/2" PPHSMS	080-0010	4 EA				
3	TOILET, VACUFLUSH #1048	035-1222	1 EA				
4	N/A						
5	FAUCET, PULL OUT SHOWER SPOUT SS 97655CP	035-0825	1 EA				
6	CABINET, VANITY INSERT	032-0696	1 EA				
7	SCREW, #8 x 3/4" POHSMS	080-0022	10 EA				
8	VENT, HEAD DECK FITTING	032-0669	2 EA				
9	BLOWER, INLINE BILGE 3" (UNI)	026-0144-02	1 EA				
10	HOSE, 3" BILGE VENT	022-0002	5 FT				
11	SCREW, #8 x 3/4" POHSMS	080-0022	8 EA				
12	SCREW, #10 x 5/8" PTHSMS	080-0160	2 EA				
13	DRAIN, SINK #101045-00	035-0225	1 EA				
14	DRAIN, SHOWER FLOOR #101045-01	035-0616	1 EA				

FIGURE J59: 328/348V WASTE (1 OF 3)



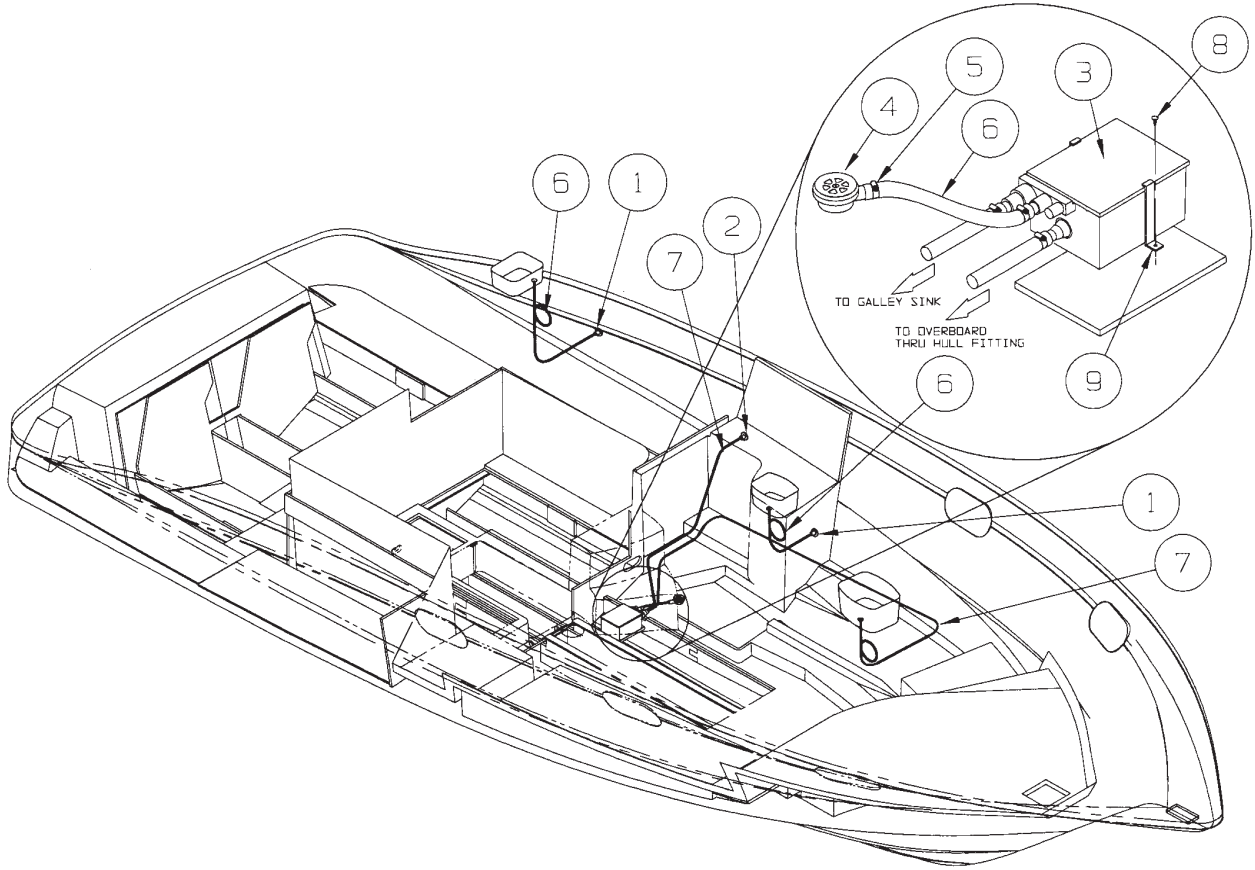
#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	TOILET, VACUFLUSH #1048	035-1222	1EA				
2	TANK, 96" LONG 30 GAL	035-0814	1EA				
3	TEE, 1/2P X 1/2P	035-0439	1EA				
4	ELBOW, 100DEG 1-1/2 X 1-1/2	035-0824	1EA				
5	ELBOW, 1/2P X 1/2P	035-0441	1EA				
6	CLAMP, 1-1/2" #24	021-0032	2EA				
7	CLAMP, 5/8" #10H FUEL VENT	021-0031	1EA				
8	TUBE, POLY 1/2 X 5/8 OD	035-0434	5FT				
9	CHECK VALVE, 1/2 X 1/2FPT	035-0015	1EA				
10	ADAPTOR 1/2M X 1/2P	035-0437	2EA				
11	WASHER, FLAT 1/2"	080-0092	4EA				
12	SCREW, #14 X 1-1/2" PPHSMS	080-0043	4EA				
13	SENDER, WASTE 7"	026-0604-02	1EA				

FIGURE J60: 328/348V WASTE (2 OF 3)



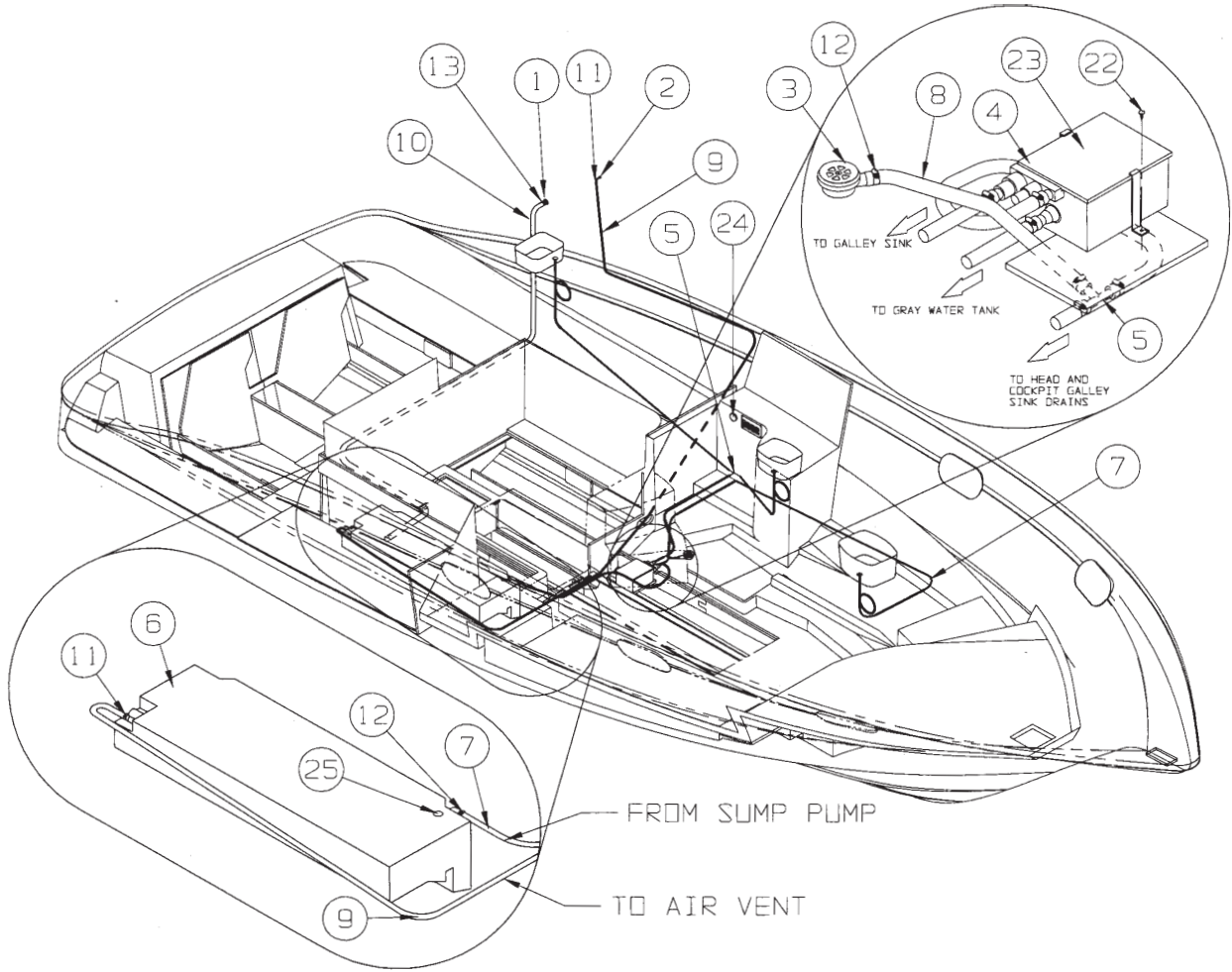
#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	VENT, CHROME PLATED BRASS #352030	035-0812	1EA				
2	DECK FILL, S.S. WASTE	031-0086	1EA				
3	FILTER, SANX	065-0070-1	1EA				
4	VACUUM GENERATOR, VACUFLUSH	065-0832	1EA				
5	SCREW, #10 X 1-1/2" POHMS	080-0032	4EA				
6	CLAMP, 1-1/2" #24	021-0032	6EA				
7	CLAMP, 5/8" #10H FUEL VENT	021-0031	3EA				
8	HOSE, 5/8" WASTE	022-0013	15FT				
9	HOSE, 1-1/2" SANITATION	022-0055	40FT				
10	*BLOCK, TIE WRAP SCREW MOUNT	032-0584	10EA				
11	*TIE, CABLE 7.4 W/O HOLE	080-0286	10EA				
12	*SCREW, #8 X 3/4" POHMS	080-0022	10EA				
13	BRACKET, SANX (INCLUDED W/FILTER)	-	2EA				
14	SCREW, #10 X 3/4" PTHMS	080-0033	4EA		*NOT SHOWN		

FIGURE J61: 328/348V WASTE (3 OF 3)



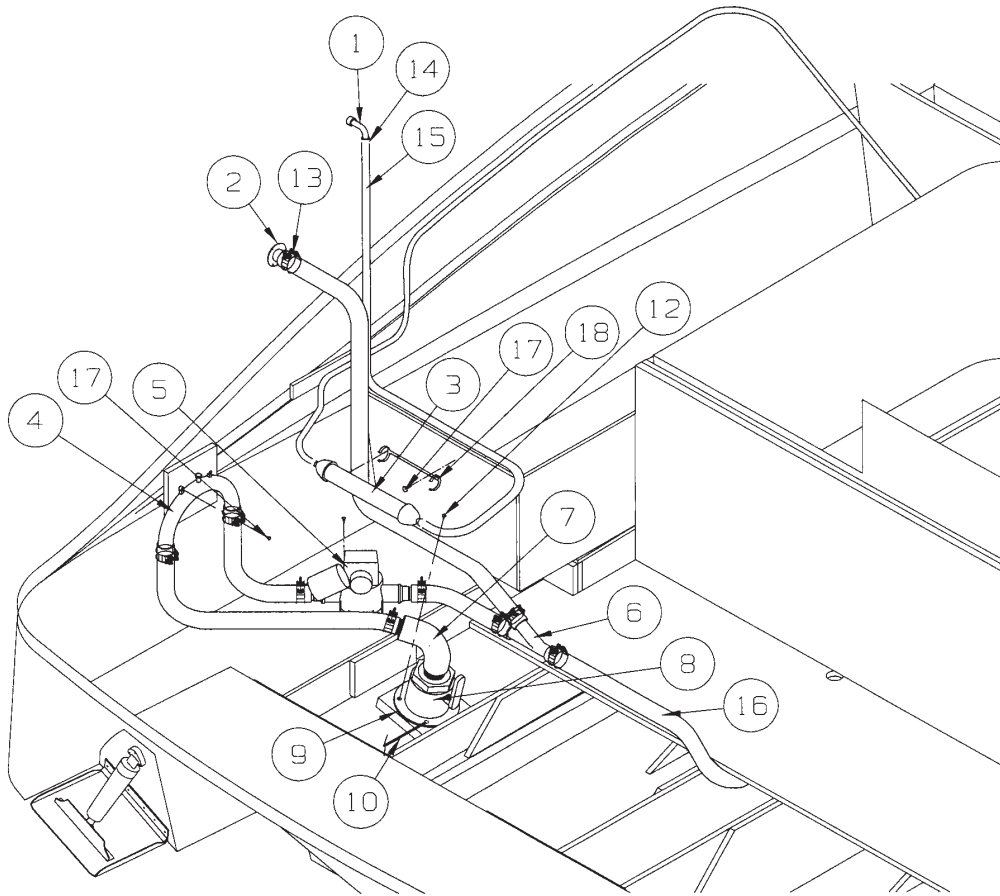
#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	THRU-HULL, 1" PLASTIC (REF ONLY)	035-0208	2EA				
2	THRU-HULL, 3/4" PLASTIC (REF ONLY)	032-0012	1EA				
3	SUMP, SHOWER 800 GPH RULE #98 (UML)	026-0629	1EA				
4	DRAIN, SHOWER (REF ONLY)	035-0616	1EA				
5	CLAMP, 1 1/4" HOSE	021-0035	10EA				
6	HOSE, 1" BLACK PVC	022-0047	25FT				
7	HOSE, 3/4" BLACK PVC	022-0046	7FT				
8	SCREW, #10 X 3/4" PTHSMS	080-0033	2EA				
9	-BRACKET PROVIDED WITH SUMP PUMP		2EA				

FIGURE J62: 328/348V GRAY WATER



#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	DECK FILL, S.S. WASTE	031-0086	1EA	15	*TIE, CABLE 7.4" W/O HOLE	080-0286	16EA
2	VENT, CHROME PLATED BRASS #352030	035-0812	1EA	16	*BRACKET, TOP STORAGE CUDDY	029-0005	1EA
3	DRAIN, SHOWER	035-0616	1EA	17	*SCREW, #8 X 3/4" PHSMS	080-0022	16EA
4	SUMP, SHOWER	026-0212	1EA	18	*SCREW, #10 X 1 1/2" PHSMS	080-0032	3EA
5	TEE, 1" ALL BARDED	035-0252	2EA	19	*SCREW, #10 X 3/4" PHSMS	080-0033	2EA
6	TANK, WASTE 30 GAL	035-0783	1EA	20	*TAPE, FUEL TANK SUPPORT	021-0280	12FT
7	HOSE, 3/4" BLACK PVC	022-0046	21FT	21	*CAULK, 1/4" BEAD #3M 4200	084-0175	12IN
8	HOSE, 1" BLACK PVC	022-0047	25FT	22	SCREW, #10 X 3/4" PHSMS	080-0033	2EA
9	HOSE, 5/8" SANITATION	022-0053	19FT	23	-BRACKET PROVIDED WITH SUMP PUMP		2EA
10	HOSE, 1 1/2" SANITATION	022-0055	13FT	24	GAUGE, WASTE LEVEL INDICATOR	024-0323-02	1EA
11	CLAMP, 5/8" #10H FUEL VENT	021-0031	5EA	25	SENDER, WASTE LEVEL INDICATOR	025-1963-02	1EA
12	CLAMP, 1 1/4" HOSE	021-0035	10EA				
13	CLAMP, 1 1/2" #24 FILL HOSE	021-0032	4EA				
14	*BLOCK, TIE WRAP, SCREW MOUNT	032-0584	16EA		* NOT SHOWN		

FIGURE J63: 328/348V OVERBOARD DISCHARGE



#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	VENT, CHROME PLATED BRASS #052030	035-0812	1EA	15	HOSE, 5/8" WASTE	022-0013	15FT
2	DECK FILL, S.S. WASTE	031-0086	1EA	16	HOSE, 1-1/2" ODORSAFE	022-0146	25FT
3	FILTER, SANX	065-0070-1	1EA	17	SCREW, #10X3/4" PTHSMS	080-0033	5EA
4	VENT LOOP, 1 1/2" W/CAP	035-1377	1EA	18	BRACKET, SANX (INCLUDED W/FILTER)	-	1EA
5	PUMP, T-12 MACERATOR	065-0081-2	1EA	19	*BLOCK, TIE WRAP SCREW MOUNT	032-0584	10EA
6	KIT, SINGLE WYE 1-1/2"	035-0305	1EA	20	*TIE, CABLE 7.4 W/O HOLE	080-0286	10EA
7	ELBOW, 1.5MP X 1.5HB BRONZE	035-0199	1EA	21	*SCREW, #8 X 3/4" POHSMS	080-0022	10EA
8	SEACOCK, 1-1/2"	035-0105	1EA	22	*PLATE, "HEAD DISCHARGE"	056-0183	1EA
9	THRU HULL, 1-1/2" BRONZE	035-0204	1EA	23	*CAULK, 1/4" BEAD 3M BELOW WATERLINE	084-0175	361N
10	HARNASS ASSY, DISCHG BOND	027-1518	4EA				
11	SCREW, #10 X 1" POHSMS	080-0035	4EA		* NOT SHOWN		
12	SCREW, #10 X 1 1/2" POHSMS	080-0032	4EA				
13	CLAMP, T-BOLT 1-7/8"	021-0371	12EA				
14	CLAMP, 5/8" #10H FUEL VENT	021-0031	4EA				

VENTILATION AND DRAINAGE SYSTEMS

K - 1 ENGINE COMPARTMENT VENTILATION

All Four Winns Vista™ models are equipped with engine compartment ventilation. This system is designed to meet or exceed the requirements (in effect at the time of manufacture) of the U.S. Coast Guard, the National Marine Manufacturers Association, and the American Boat and Yacht Council.

A. Gravity Ventilation System

This system includes air intake and exhaust components. The exhaust ducting reaches to the lower bilge area. This provides adequate air movement while underway and during bilge blower operation.

B. Forced Air Ventilation

All Four Winns Vista™ models are equipped with an electric bilge blower. The bilge blower provides the ventilation required prior to starting the engines and while at idle. See Section H - Electrical Systems for blower operation instructions.



WARNING

Before starting the engine(s) or generator, operate the engine compartment bilge blower for four (4) minutes. Then check the engine compartment for gasoline vapors. ALWAYS operate the bilge blower while the engines are at idle or the generator is in use. Failure to comply could cause explosion and thereby inflict serious injury or death.



WARNING

Fumes can come from batteries while charging. A concentration of hydrogen fumes can be explosive under the right conditions. Ensure to follow the above warning.

NOTICE

A gas vapor detector is a monitor which will alert the operator of an accumulation of gasoline fumes in the engine compartment. It is standard on certain Vista™ models and optional on others. DO NOT rely solely on detectors or similar equipment. ALWAYS conduct a physical inspection of the engine compartment.

C. Engine Ventilation System Maintenance

Periodic inspection and cleaning of the ventilation ducts is necessary to ensure adequate air circulation. A buildup of leaves, twigs, or other debris can severely reduce ventilation. Be sure bilge water does not accumulate to a level that would obstruct the ventilation ducts.

Blower operation can be tested by placing a hand over the vents. DO NOT rely on the sound of the blower. Be sure a substantial amount of air is being exhausted by the bilge blower. Check the bilge blower system often, preferably before each cruise.

K - 2 CABIN VENTILATION

All Vista™ cabins are equipped with deck hatches for ventilation. The aft cabin window (if applicable) also opens to provide ventilation. The cabin side windows (portlight) on the Vista™ models may be opened to provide additional ventilation.



WARNING

Failure to properly ventilate the boat while the engines or generator are operating may permit carbon monoxide to accumulate inside of the cabin. Refer to Section E-2 - Engine Exhaust and Section B-2 - Carbon Monoxide for additional information.

Screen(s) for the forward deck hatch(s) is standard for the Vista™ models. The screen(s) is removable and must be stored properly when not in use.

NOTICE

Be sure deck hatch(s) is secured while underway. Damage to the hatch may result. When not in use store screen(s) in a safe place to prevent damage.

K - 3 HULL DRAINAGE SYSTEMS

A. Transom Drain

A transom drain with plug is provided in the engine compartment to allow water drainage. When boat is out of the water, the boat and cradle should be positioned so

any bilge water accumulation during dry storage will flow towards the transom.



CAUTION

Be sure the drain plug is securely in place prior to launching the boat. Upon shipment of the boat, the drain plug is usually taped to the steering wheel.

B. Bilge Pumps

Bilge pumps are provided in the bottom of the hull to remove miscellaneous water accumulations that might occur during normal boating or weather conditions. The aft bilge pump is controlled by the AFT BILGE PUMP switch on the helm upper switch panel (see Section H for a detailed description of the bilge pump switch).

The aft bilge pump is equipped with an automatic switch to control pump operation. As the water level rises, the automatic float switch will activate the pump. A separate circuit breaker is provided to supply power directly from the “SHIP SYSTEMS” battery(s) regardless of battery selector switch position.

NOTICE

While at rest, any bilge water accumulation may flow forward. Therefore, operate the bilge pumps shortly after getting underway and while the boat is at a substantial running angle. DO NOT allow bilge water to accumulate. Damage to the engine or other components may result.

When leaving the boat unattended for long periods of time or during excessive rain storms, it is a good idea to check on the boat for excessive water accumulation. Be sure the bilge pump and automatic float switch are operating properly. The operating time of the bilge pump will be limited to the battery capacity.

Periodically, clean the bilge pump strainers. DO NOT allow dirt and debris to clog the bilge pump intakes. Check operation of the bilge pump float switch often to ensure movement of the switch is not restricted by debris, portions of the hull, etc.

Wipe up any oil accumulation in the bilge prior to activation of the bilge pumps. Pumping oil overboard will pollute the water, and is subject to fine.

After winterization of the fresh water systems, be sure the bilge area, bilge pumps and associated hoses are thoroughly dry. Damage to the hull, bilge pumps and

other equipment could occur if water is allowed to freeze in the bilge. Refer to the manufacturers literature included in the owner’s packet for additional information.

C. Sump

A sump box is either installed in the floor of the aft cabin or just forward of the aft cabin. See the Vista™ locator drawings at the back of this manual. It is equipped with an automatic bilge switch and will pump water overboard or into the grey water tank (if available). Refer to Section J-2D on using the shower and for additional information on sump pump operation.

D. Bilge Compartment Drainage

Certain bulkhead areas of Four Winns® boats are sealed in accordance with U.S. Coast Guard regulations effective at the date of manufacture. Drainage is provided and water can be removed with the bilge pump.

E. Cockpit Drainage

The Vista™ models incorporates a fiberglass self-bailing cockpit. This feature minimizes water entry to the bilge or engine compartment areas by providing means for water to be drained overboard.

Periodically open all engine hatches and clean the aft bilge compartment. Be sure the drains, tubes and fittings are clean and free of leaves, dirt, or other debris.

INTERIOR EQUIPMENT

L - 1 GALLEY EQUIPMENT

CAUTION
Care must be exercised while around stoves and other appliances. Keep children away from burners.

A. Electric Stove

An electric stove is available on most of the Vista™ cruiser models. The stove is equipped with either dual burners or a single burner depending on the model. A circuit breaker (RANGE) is provided in the 120 Volt AC cabin electrical panel. Refer to the Section H and the manufacturer's literature included in the owner's packet. See Figures L1 - L5 for stove and other appliance locations.

Certain models may come with an alcohol stove as a standard feature and offer an electric stove as optional. Other Vista™ models may offer an alcohol/electric stove as an option. Consult with your Four Winns dealer for further information. Refer to the manufacturer's literature for operation and safety procedures included in the owner's packet.

B. Microwave Oven

A microwave oven is available on most of the Vista™ models. The circuit breaker on the 120 Volt AC cabin electrical panel must be activated and the boat must be connected to dockside power or use the generator (if applicable) in order to operate the microwave. Refer to the manufacturer's literature provided in the owner's packet.

CAUTION
Do not restrict air flow while microwave is in use, or damage to microwave oven or cabinet may result.



Figure L1: 248V Galley



Figure L2: 268V Galley



Figure L3: 288V Galley

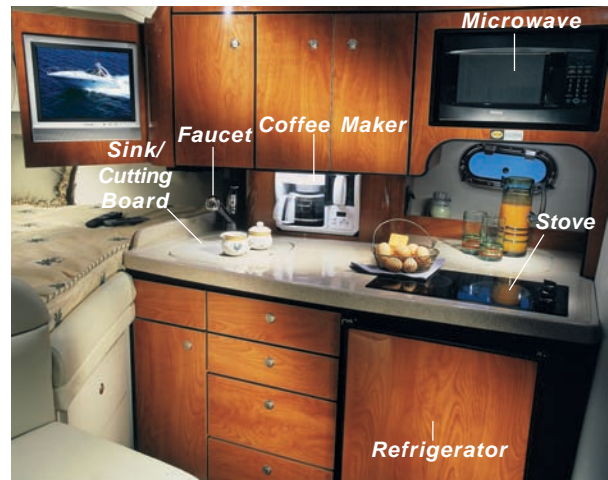


Figure L4: 298V Galley

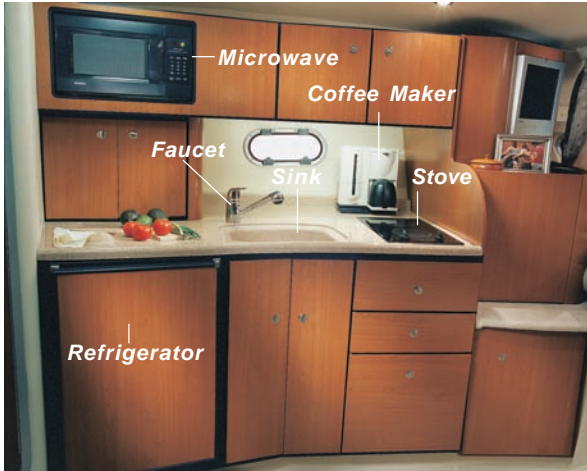


Figure L5: 328/348V Galley

C. Refrigerator

A refrigerator is standard equipment. The refrigerator is designed to operate efficiently on AC Shore Power (120 volt or 220VAC - international) or battery power (12 volt). The refrigerator will automatically transfer to 12 volt operation when dockside power is not available and the 12 volt refrigerator breaker is on.

Most refrigerator models have a thermostat that will maintain the temperature desired. According to the refrigerator manufacturer's operations manual, select the temperature setting by turning the thermostat dial to the various numbered positions. The refrigerator may be turned off by turning the thermostat to the "OFF" position. See the manufacturer's literature included in the owner's packet for specific information on the model used in your Vista™.

Care should be exercised while operating the refrigerator on the 12 volt system. The refrigerator requires a substantial amount of current. Excessive current draw can severely drain a battery through extended use.

On certain models a magnetic strip is used inside the seal of the refrigerators. The magnetic strip allows the seal to draw tight to the inside of the refrigerator when the door is closed. Also, make sure retaining latch is in place to secure refrigerator door while underway.

L - 2 REFRESHMENT CENTER

A refreshment center is available on certain Vista™ models. The refreshment center comes with a Corian® countertop and sink. Certain refreshment centers may have an icemaker or refrigerator available while others may have a removable 36-quart portable cooler, beverage holders and trash receptacle. See Figures L6 - L8.



Figure L6: 288V Refreshment Center

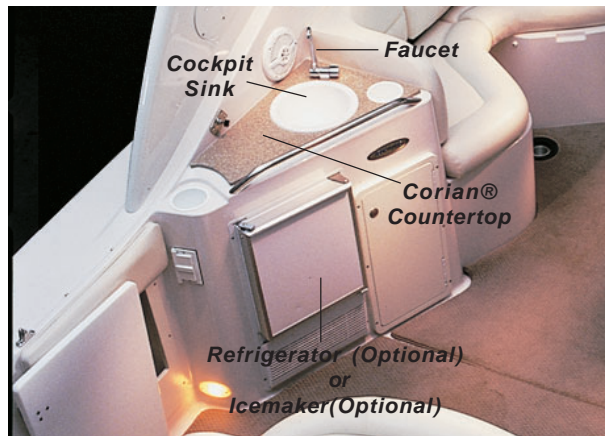


Figure L7: 298V Refreshment Center



Figure L8: 328/348V Refreshment Center

The cockpit refrigerator (if applicable) operates automatically on 120 volt AC or 12/24V DC power supply. When both power sources are supplied to the refrigerator, it defaults to AC. When the refrigerator is disconnected from shore power (when AC power is no longer available) the refrigerator switches to DC operation.

The cockpit refrigerator runs continuously and does not utilize water. Unlike the icemaker, no winterization is required. Please follow the manufacturer's instructions regarding the use, care and maintenance of the refrigerator. These instructions are found in the owner's packet.

The icemaker operates on 120 volt (220 volt on 50 Hertz models) AC power and will only function when plugged into dockside power or when the generator is running. The icemaker is controlled by the Icemaker Circuit Breaker on the main cabin electrical panel. Refer to Section H - Electrical Systems for more information.

To operate, make sure the unit is plugged in and the main water supply is on. Ensure the "ice bin arm" is in the DOWN position. The first ice cubes may take approximately 45 minutes to be made.

To control the temperature, turn the temperature control clockwise to make it colder or turn control counterclockwise to make it warmer. Remember, a warmer setting increases the rate of ice production (maximum ice is achieved at the warmest setting). Refer to the manufacturer's information in the owner's packet for further information.

To winterize, unplug the unit and follow the normal cleaning and maintenance instructions included in the manufacturer's manual to drain the system. For instructions on winterizing with antifreeze, refer to Section J-7 on Water System Maintenance in this manual.

CAUTION

Thoroughly flush the water supply lines and system prior to initial use, and at least once each season. This will remove any additives and possible contaminants present in the system.

The materials from which the components of the water system are made may give the water supply a peculiar taste, especially when new. This condition is normal and can be reduced substantially by adding a water filter to the system such as one produced by PuriTek™. The taste will completely dissipate in time.

L - 3 ENTERTAINMENT

A. Stereo System

Four Winns offers a CD stereo as standard equipment. A CD player and 6 disc CD changer are optional. A stereo remote with display feature at the helm is available and an additional stereo remote with display feature is optional at the transom on most models.

Speakers are installed within the interior cabins and exterior cockpit areas to provide excellent sound quality. In addition, the cabin and cockpit speakers can be faded in or out depending on the effect desired. For stereo operation, please refer to the manufacturer's manual included in the owner's information packet.

B. TV and DVD Player

A flat screen TV and DVD player with remote is available on most Vista™ models. The size of the flat screen may vary depending on the Vista™ model. It uses an internal speaker only. The TV is not wired into the stereo speaker system. Please read the manufacturer's information on the TV and DVD player in the owner's packet. See Figures L9 & L10.

On certain Vista™ models, a dockside cable/antenna TV connection is included. The deck connection for the TV is mounted in the shore power inlet panel located in the transom storage compartment.

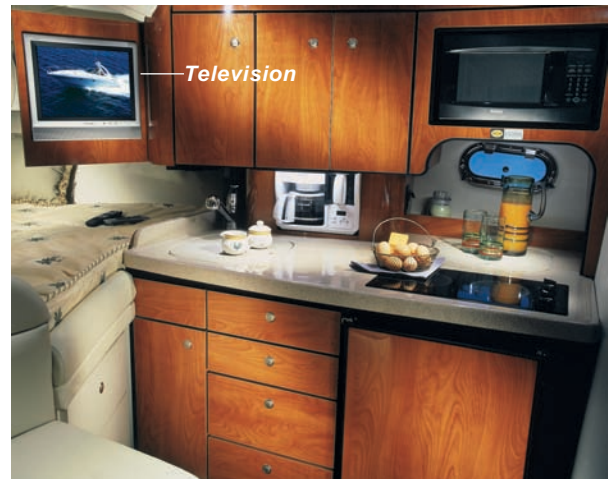


Figure L9: 298V Upper Galley w/ Television

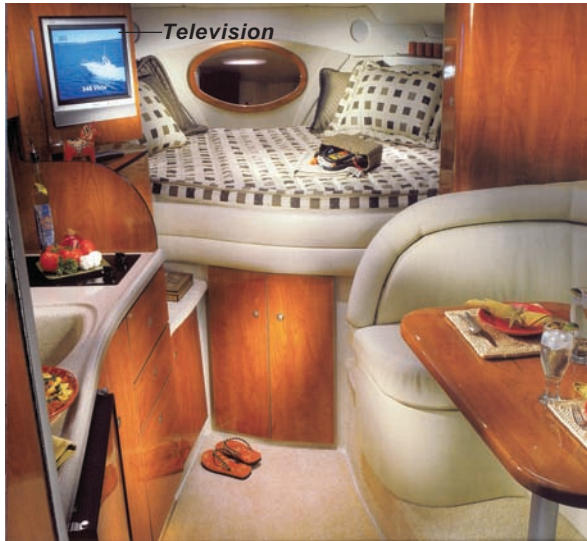


Figure L10: 328/348V Television

L - 4 AIR CONDITIONING

Air conditioner/heater provides either cooling or heating and is either standard or optional depending on the Vista™ model. The unit operates on 120 volt (220 volt on 50 hertz on export models) AC power. The output of the air conditioner may be found on our website at www.fourwinns.com. Be sure the appropriate shore power cord is connected or the generator (if applicable) is running whenever the air conditioning is to be used.

The air conditioning breaker must be turned on to activate the air conditioning unit. Depending upon humidity, the air conditioner will condense 5 to 15 gallons of water a day and this water drains into the sump pump.

The air conditioner is located either underneath the dinette lid or in the aft cabin, port storage compartment depending on the model. Air conditioner vents are located throughout the cabin to provide good air circulation. There is a vent in the head for additional air circulation on most models. The vents are adjustable to change air flow direction and can be closed. See Figures L11 - L23 and the locator drawings in the back of this manual.

Depending on the Vista™ model the seawater inlet valve (seacock) for the air conditioner is located either next to the bilge pump in the engine compartment or in the sump box. The seawater inlet valve is identified with a plate inscribed with the words "Air Conditioner Seawater".

NOTICE

In order to use the air conditioner, you must first open the seawater inlet valve - seacock (handle parallel to the flow of valve). When not using the air conditioner be sure to close the valve/seacock.

Refer to the Figures L12, L13, L16 and L22 for the location of the air conditioning control panel in the various Vista™ models. Please read the manufacturer's information on the air conditioner contained in the owner's packet for operation instructions (if applicable).

NOTICE

Most air conditioners utilize surface water as the cooling medium. Prior to using the air conditioning, the boat must be in the water and the seacock to the air conditioning water intake must be in the open position. The air conditioning seacock for water intake is below the aft cabin access panel. Operating air conditioners without proper cooling water will cause damage to the air conditioning system.

Air conditioners utilized in Four Winns® boats are equipped with reverse cycle heat. Thus, some heat effect can be derived from the unit. It must be noted that the amount of heat that can be obtained is limited by the temperature of the raw cooling water pumped through the system. When the water temperature drops to 40 degrees Fahrenheit, the output is about 50% of the maximum. At 36 degrees Fahrenheit, the output is very low.

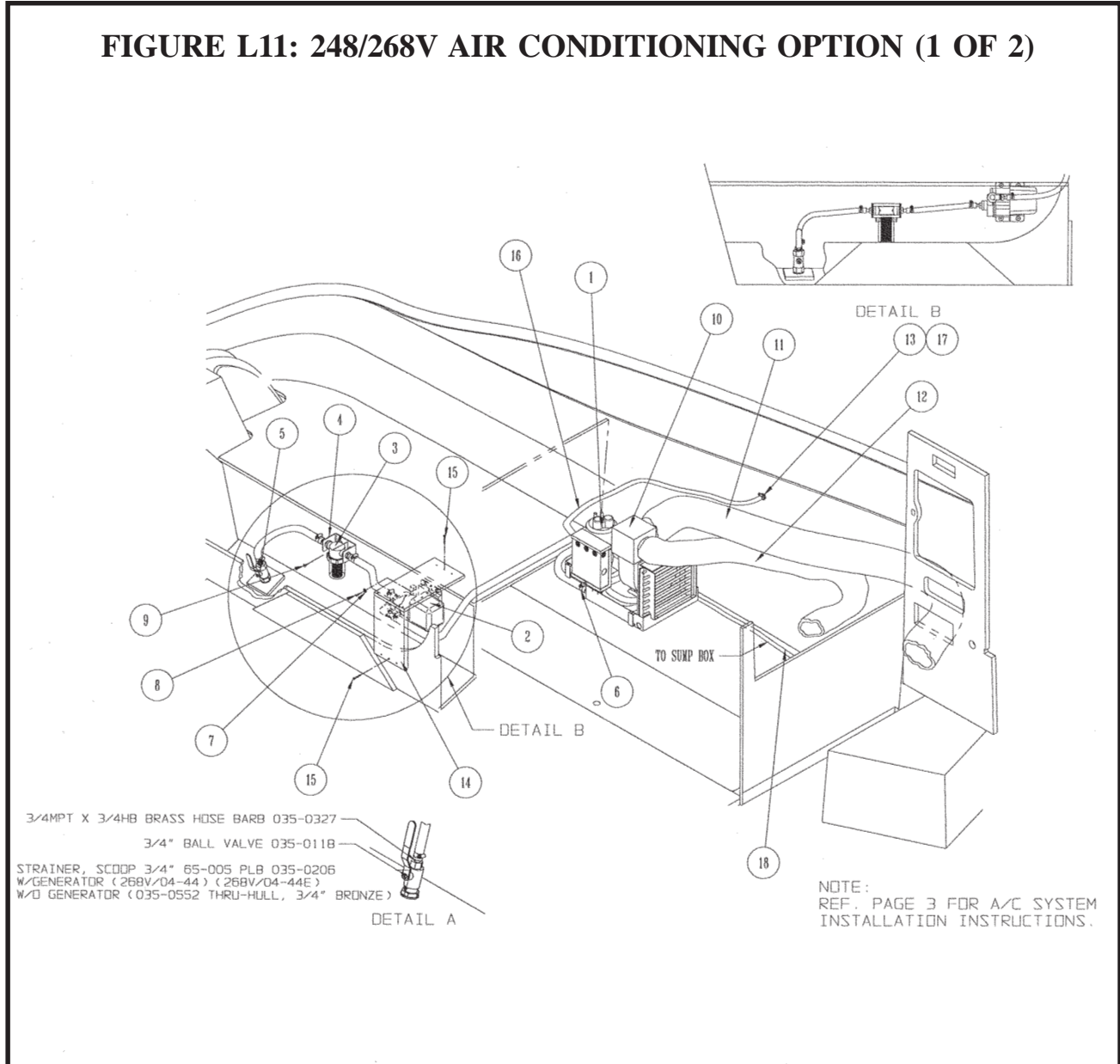
NOTICE

During cold conditions, an alternate or supplemental heating system should be used.

Clean the sea water strainer often. Also, clean the return air filter screens, located behind the louvered doors and grills, at least once a month.

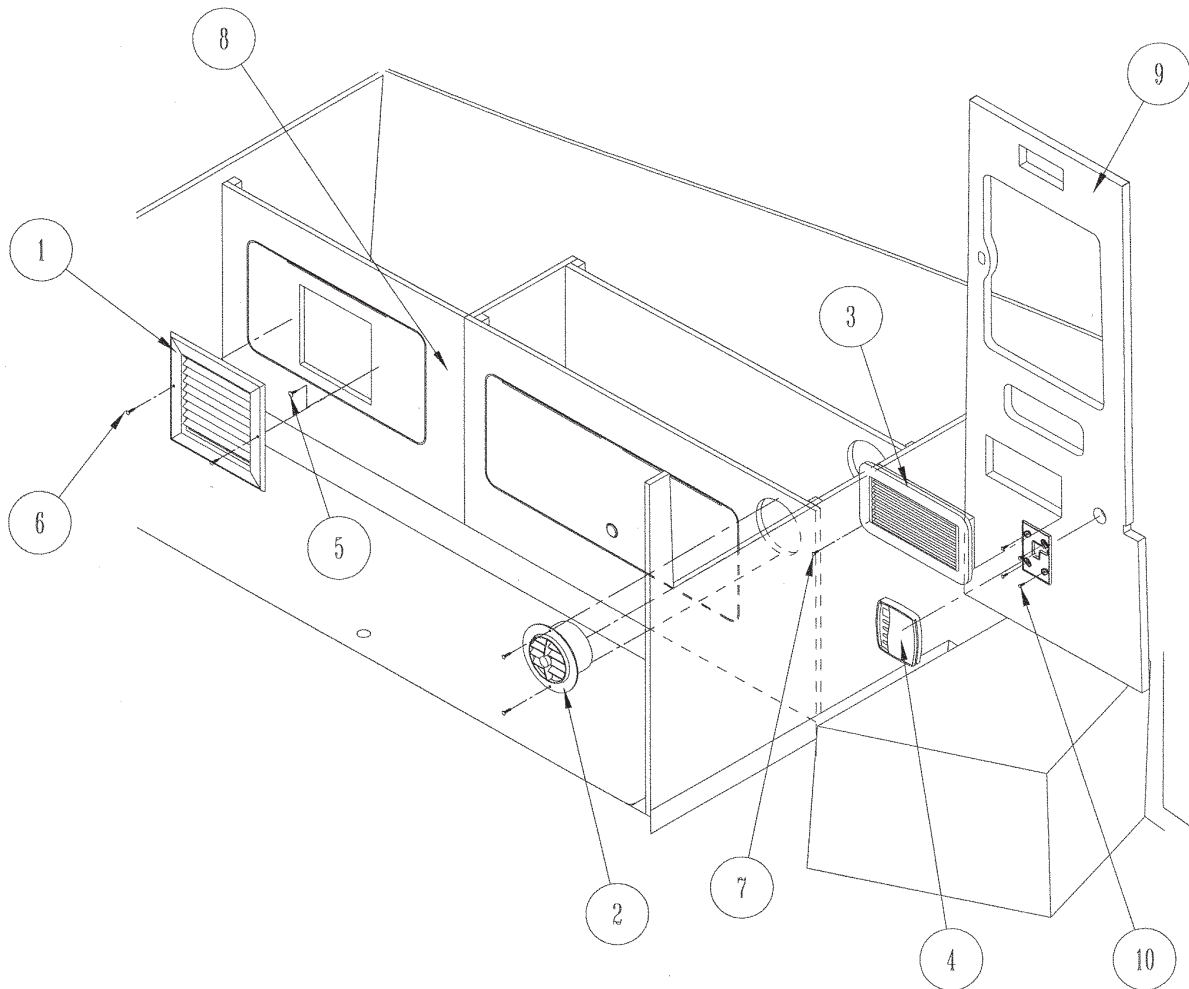
To winterize, refer to the manufacturer's literature included in the owner's packet.

FIGURE L11: 248/268V AIR CONDITIONING OPTION (1 OF 2)



#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	AIR CONDITIONER, SXF5 (5000 BTU)	065-1407	1 KIT	15	SCREW, #10 x 1 1/2 POHSMS	080-0032	6 EA
2	PUMP, SEAWATER PMP250	-	1EA	16	HOSE, 5/8" DRAIN	*	
3	STRAINER, SEAWATER PLASTIC	-	1EA	17	HOSE BARB, 5/8 x 3/4 M.P.	021-0019	1 EA
4	BRACKET, SEAWATER STRAINER	029-0345	1EA	18	HOSE, BLACK PVC #149-0340	022-0046	14 FT.
5	PICKUP, SEAWATER	DETAIL A		19	PLATE, AIR COND. SEAWATER (NOT SHOWN)	056-0105	1 EA
6	CLAMP, FUEL VENT 5/8"	021-0031	8EA	20	PLATE, AIR COND. STRAINER (NOT SHOWN)	056-0106	1 EA
7	WASHER, #8 FINISH	080-0091	4EA	21	PLATE, AIR COND. PUMP (NOT SHOWN)	056-0119	1 EA
8	SCREW, #8 x 1" POHSMS	080-0019	4EA	22	SCREW, #6 x 1/2" PPHSMS (NOT SHOWN)	080-0010	6 EA
9	SCREW, #10 x 3/4" PTHSMS	080-0033	2EA				
10	BOX, BLOWER PLENUM JUNCTION	-	1EA				
11	DUCT, 4"DIA INSULATED	-	-				
12	DUCT, 3"DIA INSULATED	-	-				
13	THRU HULL, 5/8" S.S.	035-1270	1 EA				
14	COVER ASS'Y A/C PUMP 248/268V	101-50216	1 EA				

FIGURE L12: 248/268V AIR CONDITIONING OPTION (2 OF 2)



#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	GRILL, ALUMINUM V8x8 RA	033-0877	1 EA				
2	GRILL, 4" BLK W/DAMPENER #V4 RND	032-2217	1 EA				
3	GRILL, 8 x 4 BLACK RING #PGA84	032-2214	1 EA				
4	DISPLAY, BLACK SMXIRB	-	1 EA				
5	SCREW, #10 x 3/4" PTHSMS	080-0033	1 EA				
6	SCREW, #8 x 1" PPHSMS	080-0019	8 EA				
7	SCREW, #8 x 1" PPHSMS BLACK	080-0021	4 EA				
8	STORAGE ASS'Y, 268V MID CABIN	101-50136	1 EA				
9	PANEL, ELEC. EXPORT W/AIR 268V "03"	100-52758	1 EA				
10	SCREW, #8 x 3/4" PPHSMS	080-0025	4 EA				

FIGURES L13 - L15: 288V AIR CONDITIONING OPTION

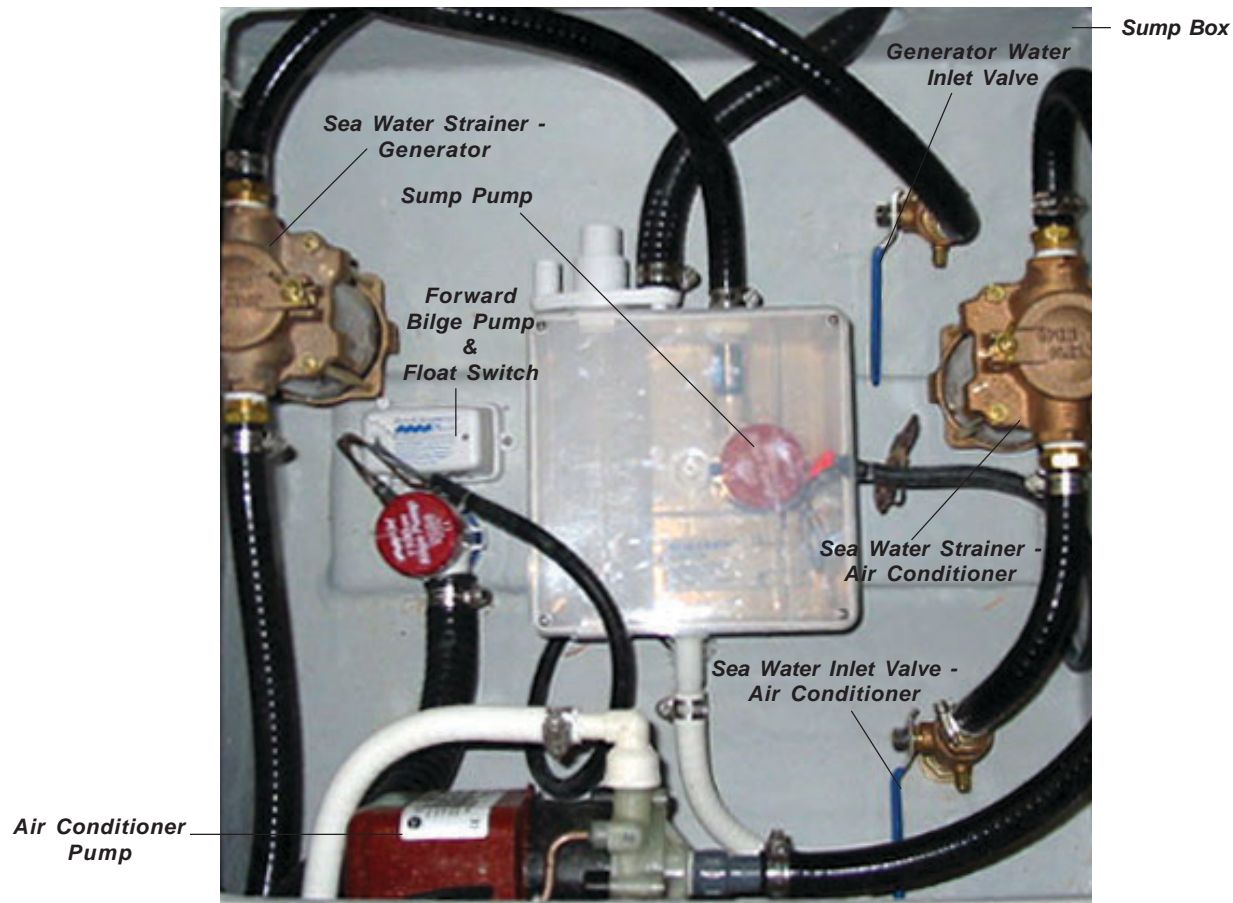
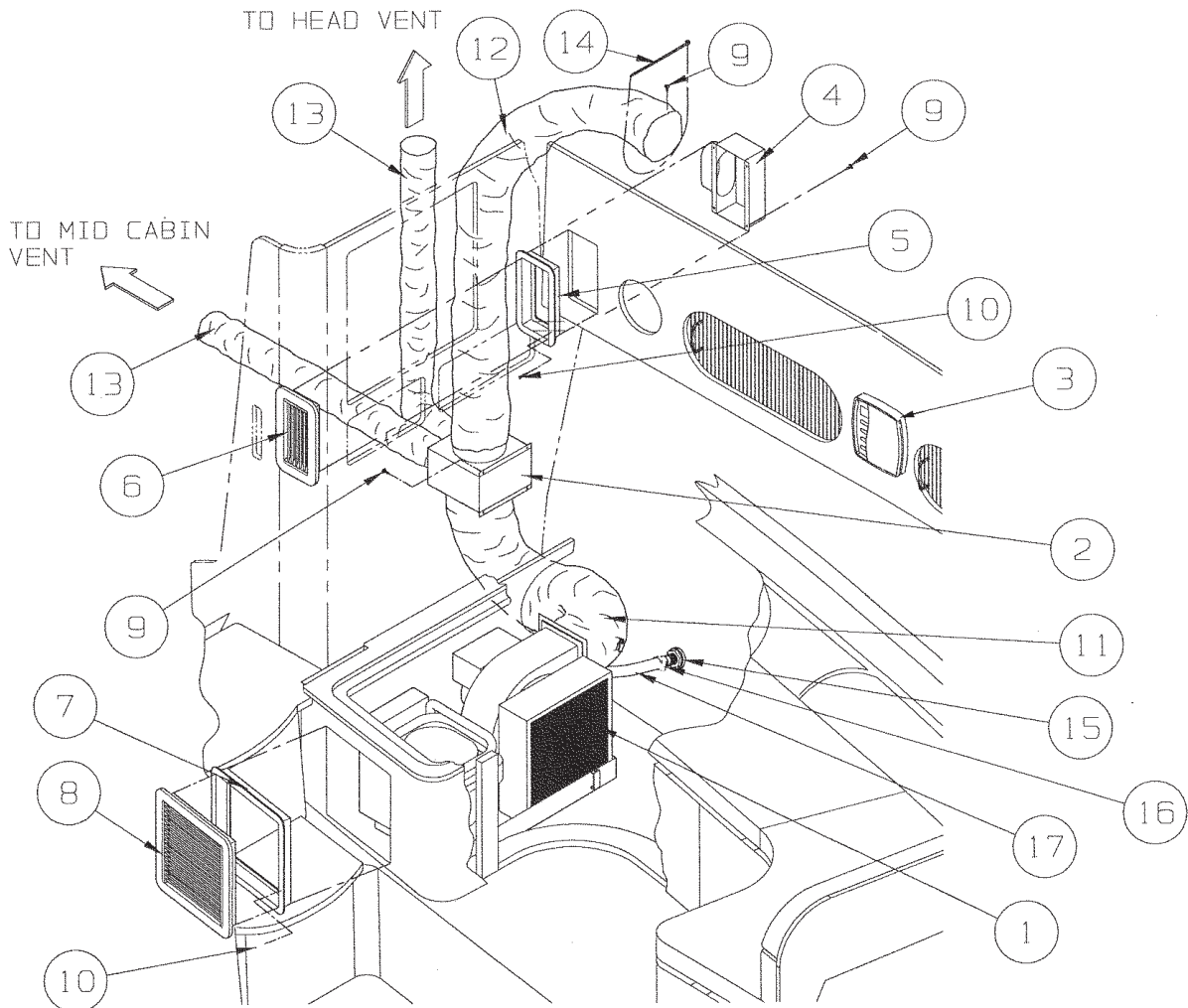
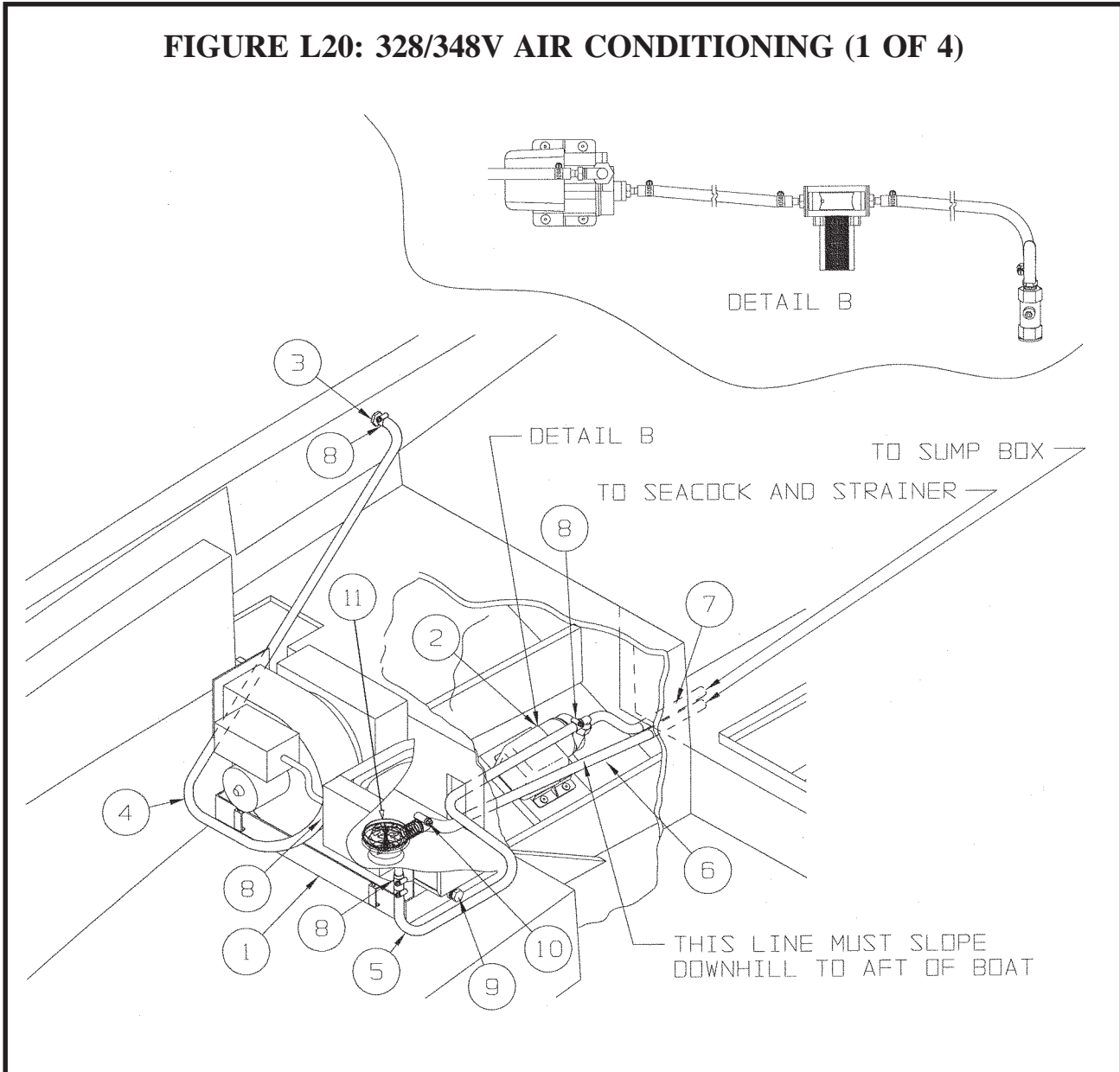


FIGURE L16: 298V AIR CONDITIONING (1 OF 4)



#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	AIR CONDITIONER, SXR10-M10 115V	065-0995	1EA	15	THRU-HULL, 5/8" SS	035-1270	1EA
2	PLENUM, 6I 5T 3R 3R	*	1EA	16	CLAMP, 5/8" #10H FUEL VENT HOSE	021-0031	1EA
3	PLATE, SNAP-ON WHITE STD	032-2107	1EA	17	HOSE, 5/8" DRAIN	*	5FT
4	PLENUM, TRANSITION 5R	*	1EA				
5	RING, V4X8 GRILL MOUNTING	*	1EA				
6	GRILL, SNAP WHITE W/ FRAME RING V8x4	032-2102	1EA				
7	RING, V10X10 GRILL MOUNTING	*	1EA				
8	GRILL, ALUMINUM V10x10	033-0036	1EA				
9	SCREW, #10 X 3/4" PTHSMS	080-0033	17EA				
10	SCREW, #8 X 1" POHSMS	080-0019	8EA				
11	DUCT, INSUL 6" FLEX	*	4FT				
12	DUCT, INSUL 5" FLEX	*	7FT				
13	DUCT, INSUL 3" FLEX	*	21FT				
14	TIE WRAP, 14" BLACK	080-0396	10EA		* PART OF 065-0995		

FIGURE L20: 328/348V AIR CONDITIONING (1 OF 4)



#	DESCRIPTION	PART #	QTY.	#	DESCRIPTION	PART #	QTY.
1	AIR CONDITIONER, CRUSAIR SX12	065-0844	1 EA				
2	PUMP, SEAWATER PMP500	*	1 EA				
3	THRU-HULL, 5/8" SS	035-1270	1 EA				
4	HOSE, 5/8" WATER #164-0580	022-0006	5 FT				
5	HOSE, 5/8" WATER #164-0580	022-0006	4 FT				
6	HOSE, 3/4" WATER #148-0340	022-0029	12 FT				
7	CLAMP, 5/8" #10H FUEL VENT HOSE	021-0031	9 EA				
8	CLAMP, 5/8" #10H FUEL VENT HOSE	021-0031	8 EA				
9	PLUG, 1/2" WATER TANK	035-0014	2 EA				
10	CLAMP, 1 1/4" HOSE	021-0035	1 EA				
11	DRAIN, SHOWER FLOOR	035-0616	1 EA				
	*PART OF 065-0844						

EXTERIOR EQUIPMENT

M - 1 RAILS & DECK HARDWARE

Hand and bow rails have been installed to provide security for passengers while outside the cockpit area (i.e. swim platform and bow areas). Limiting passenger movement while underway is recommended. All those on board should be safely seated whenever possible. Additional care must be taken when in rough seas or foul weather. Access to the foredeck should be through the foredeck hatch when running in adverse conditions.

The rail system and hardware fittings have been selected and installed to perform specific functions. Fenders or mooring lines should not be secured to the rails or stanchions. Be certain that a clear lead exists when running dock lines or an anchor line. A line inadvertently threaded around a stanchion or over the rail could cause damage.

The majority of the hardware installed is made of stainless steel. See Figure M1. Regardless of the type of hardware used, periodic maintenance is necessary.



Figure M1: Stainless Steel Fittings

Cleaning the hardware with a nonabrasive cleaner will help keep the original shine and beauty. Stainless steel hardware, while quite durable, can become superficially rusted. This can be controlled by cleaning the fittings and applying a coat of wax. Any future rusting can be easily removed by polishing and rewaxing.

NOTICE

All fittings must be periodically inspected for loosening, wear, and damage. Problems should be corrected immediately!

The cleats that have been installed are specifically designed and are intended to be used as mooring cleats. Their purpose is for securing the vessel to a dock, pier, mooring, or anchor.

WARNING

Four Winns® boats are not equipped with any hardware designed for towing purposes. The mooring cleats that are installed on the boat are not to be used for towing another vessel or having the boat towed. Refer to Section A - Operation for additional precautions regarding grounding and towing.

M - 2 TRANSOM DOOR

A transom door is provided and allows access from the swim platform to the cockpit. A slide bolt is used to secure the transom door. To prevent a possible man overboard situation, make sure the transom door is secure before each cruise.

WARNING

Prevent falls overboard. Close, latch, and stay inside gate(s) while underway.

DANGER

To prevent personal injury, swim platform must not be occupied and transom door must be closed while engines are running.

CAUTION

To prevent personal injury, DO NOT sit on or lean against the transom door.

M - 3 COMPANIONWAY DOOR

Certain Vista™ models have a combination hinged door (w/screen) and sliding hatch assembly for gaining access to and from the cabin. See Figure M2. A lift pin secures the hatch in different positions. The door may be kept open with the use of a strap. To utilize the screen door, simply separate the two doors. Strap the solid door open and close the screen door.

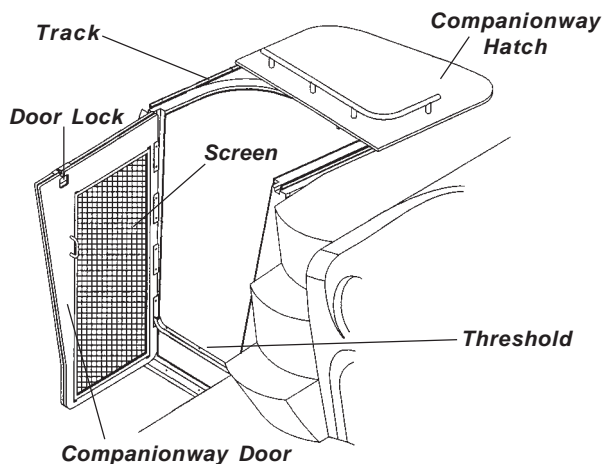


Figure M2: Companionway Door

Other Vista™ models have a one-piece sliding companionway door on a track. To prevent damage to the companionway track, the companionway door must be moved slowly and carefully during use. See Figure M3. A hinged stop at threshold secures the door in the open position.

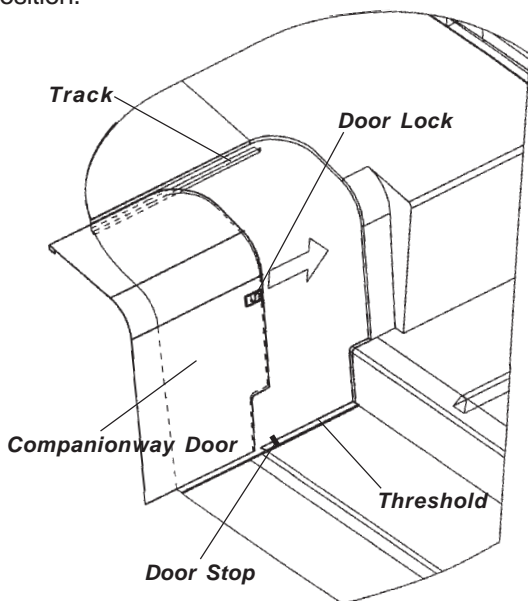


Figure M3: Sliding Companionway Door

NOTICE

To prevent damage to the companionway's hatch track, the companionway hatch must be opened and closed slowly and carefully during use.

Locks are provided on the various companionway doors to secure the cabin.

NOTICE

Always secure companionway door and hatch before operating the boat. Rough water or significant wake could cause the hatch or door to slam shut and break. Acrylic plastic is impact resistant but in extreme cases it can crack and/or hardware such as hinges may become damaged if not secured.

To clean acrylic plastic (plexiglass):

- 1) Rinse with plenty of water to wash off as much dirt as possible.
- 2) Using your bare hand, along with plenty of water, feel and remove any dried on dirt or mud.
- 3) Wash using a soft, grit free cloth or sponge and mild, nonabrasive soap or detergent.
- 4) Blot dry using a clean, damp chamois.

NOTICE

Never use a dry cloth, duster, glass cleaning solutions or citrus cleaner on acrylic plastic.

See Section Q - 8 for additional information on the care of acrylic plastic.

M - 4 WINDOWS

A. Windshields and Cabin Windows

The windshield consist of tempered safety glass and cabin port lights consist of plexiglass. The windshield frame consists of a painted or polished aluminum.

A walk-thru windshield is standard. Steps are provided between the companionway and helm station to allow easy access through the walk-thru windshield opening.

WARNING

DO NOT use walk-thru during bad weather or on rough seas. Make sure deck hatches are closed when using walk-thru to prevent injury.

CAUTION

We recommend you close and secure the walk-thru windshield while underway. Damage to the windshield could result.

CAUTION

Secure walk-thru windshield with strap (if applicable) when in open position. Securing the walk-thru windshield will help prevent the windshield from accidentally slamming closed due to high wind and/or wake condition, thus reducing the chance of damage to windshield or injury.

Windshields made of tempered glass can be cleaned with automotive glass cleaners or dishwashing soap and water. Ensure that a clean cloth is used to prevent scratching the glass.

Aluminum can be cleaned with similar products or with nonabrasive cleaners such as Fantastik™.

NOTICE

Read the label before using any product. DO NOT use abrasive cleaners.

B. Plexiglass

Plexiglass (acrylic plastic) is used for port holes, companionway door assemblies, transom doors, sliding storage doors, electrical panel doors, cabinets and cabin windows. Plexiglass will scratch easily and must be handled with care.

To clean, follow the instructions located in Sections M-3 and Q-8. DO NOT use paper towels. They will scratch the plexiglass.

Plexiglass or plastic polish may also be used. Read the label first before using any cleaning product.

NOTICE

DO NOT use harsh chemicals or strong cleaning solutions on plexiglass. The surface can be etched, scratched, disfigured, or clouded. See Section Q - 8 Acrylic Plastic - (Plexiglass).

M - 5 FOREDECK HATCHES

The foredeck hatches consist of a translucent plexiglass. The hatch is supported by one locking hinge and can be secured in a partially open position for ventilation. See Figure M4. Hatch screens are provided on the Vista™ models. Follow the cleaning directions for plexiglass described in Sections M - 3 and Q - 8 of this manual.

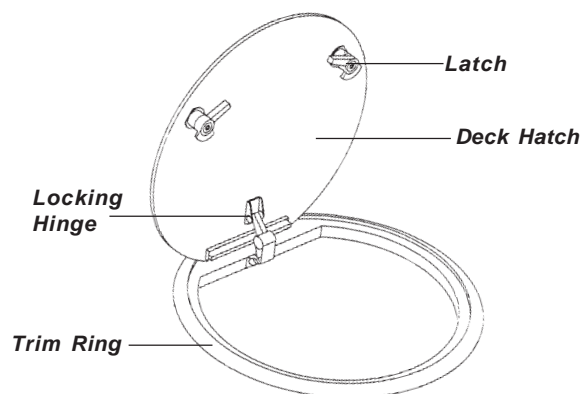


Figure M4: Forward Deck Hatch

NOTICE

DO NOT close the foredeck hatch with the hatch screen in place. Damage to the screen can result. Be sure deck hatches are secured while underway. Damage to the hatch may result.

M - 6 SWIM PLATFORM

Four Winns provides an integrated fiberglass swim platform on all models. An extended swim platform is a standard feature and lengthens the integrated swim platform anywhere from approximately 26" (65cm) - 36" (90cm) depending on the model. For better footing, a skid-resistant surface is provided. The ladder and grab handle are located for easy access when boarding. See Figure M5.

WARNING

To prevent personal injury, DO NOT use the boarding ladder or swim platform while the engines are operating or the boat is in motion. Engines must be off when using the swim platform or boarding ladder. See Preface for specific label information.

WARNING

Keep hands and fingers away from ladder supports and hinges to prevent injury.

NOTICE

Always secure the ladder before boating. Damage to the ladder may otherwise result.



Figure M5: Extended Swim Platform

Note: Example Representation Only - Swim Platforms may vary between models.

M - 7 COCKPIT STORAGE

Storage compartments are provided throughout the cockpit area. See Figures M6 & M7. The doors have latches and roller-type catches for easy opening and closing. Storage space or shelves behind the doors are easily accessible.



Figure M6: Helm Seat Storage Compartments

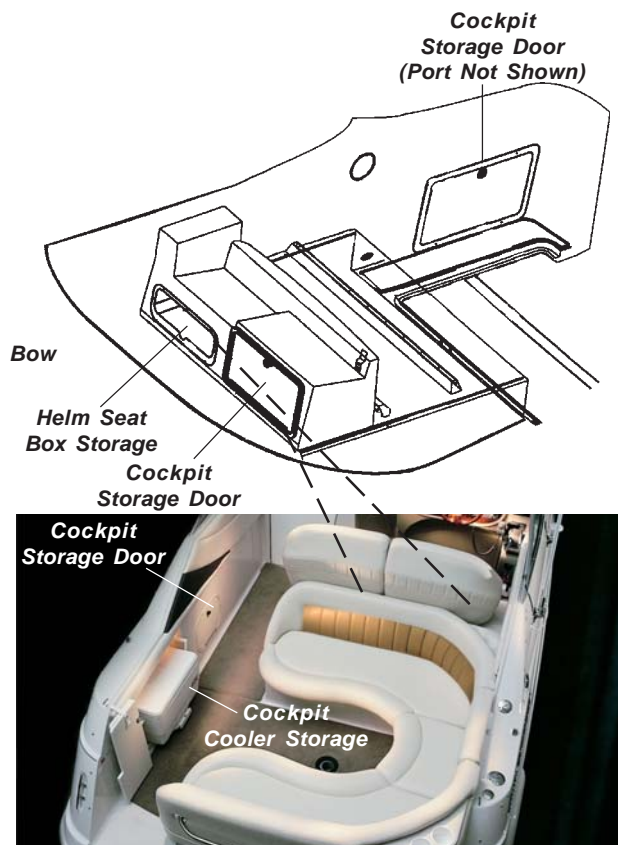


Figure M7: Cockpit Storage Compartments

M - 8 TRANSOM STORAGE LOCKER

The transom storage provides storage for such things as dock fenders, personal flotation devices, dockside power cord(s) etc. The storage lockers use latches for easy access. To open, lift the handle. The latches are flush mounted to prevent injury or accidental opening while underway. See Figures M8 and M9 for examples.



Figure M8: Transom Storage Compartment - Wet



Figure M9: Transom Storage Compartment - Dry

M - 9 BOW PLATFORM

Certain Vista™ models are designed with an integrated bow platform. This bow platform provides a functional base for anchoring. The anchor is stored in the anchor chute of the platform. The anchor roller provides support for the chain/rope and anchor. See Figures M10 & M11 below. Refer to Chapman's Piloting, Seamanship and Small Boat Handling or local anchorage authority for anchor type and size recommendation.

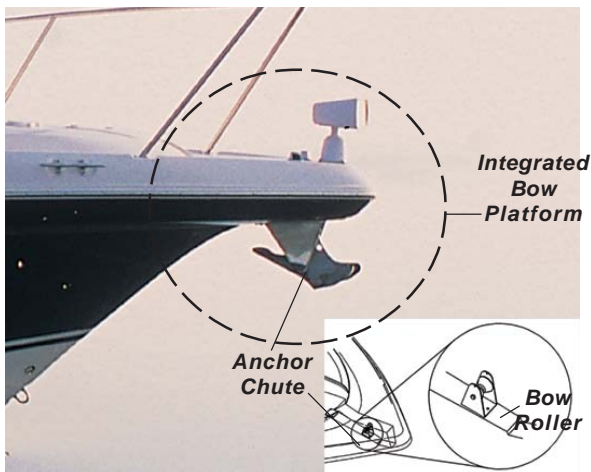


Figure M10: Integrated Bow Platform

WARNING

To prevent a possible man overboard situation, NEVER stand on, or try to utilize the bow platform in any way while the boat is underway.

M - 10 BOW ROLLER

The bow roller assembly is standard equipment on most Vista™ models. On certain models the bow roller extends beyond the bow and above the anchor chute while other models have an integrated bow roller/anchor chute combination. Refer to Figures M10 and M11. The function of the bow roller is to allow easier retrieval of the anchor. It also protects the hull/deck from surface abrasions or gouges when either moored or retrieving the anchor.

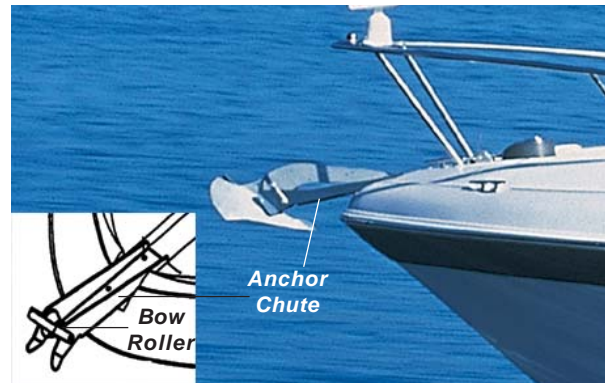


Figure M11: Bow Roller

M - 11 ANCHOR LINE STORAGE LOCKER

The anchor line is stored in the anchor line locker. The locker keeps the line secure while underway and keeps the deck clear of unsightly anchor line when docked. See Figure M12. Certain Vista™ models have a windlass available and if installed the windlass is contained in this anchor line locker. Please see Section M-12 for details regarding the windlass.

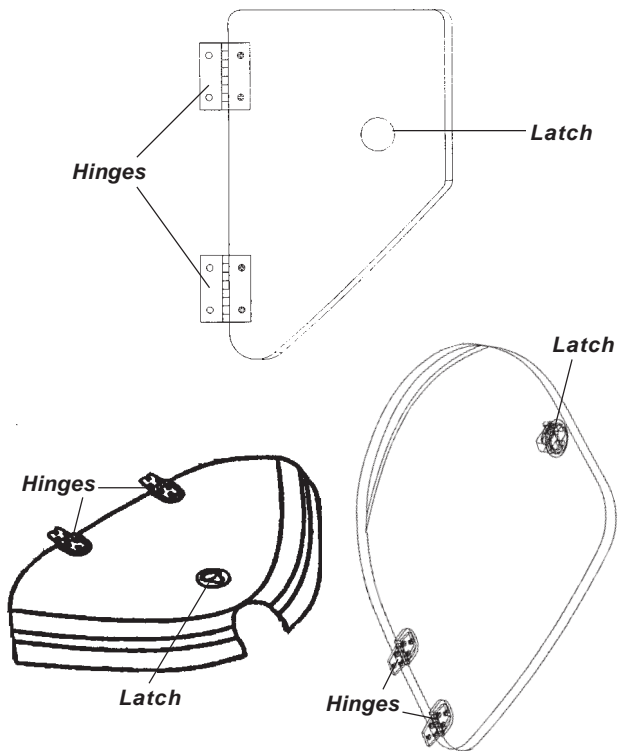


Figure M12: Various Anchor Locker Lids

M - 12 WINDLASS

A windlass is an electrically controlled winch mechanism for retrieving the anchor available on certain Vista™ models. The mechanical winch portion is mounted inside the anchor locker, at the bow. See Figures M13 and M14. The windlass can be controlled by a set of foot pads (electrical switches) mounted on the foredeck or it can be operated from the helm. A circuit breaker on the battery switch is provided to protect the windlass from possible overload situation. Along with the windlass comes an anchor, rope and chain. Refer to the manufacturer's literature included in the owner's packet for windlass operation.



Figure M13: Windlass



Figure M14: Windlass Foot Switches

! WARNING

To prevent personal injury, keep clear of the windlass at all times.

! WARNING

Always be sure to raise and secure the anchor prior to operating your boat. Failure to raise and secure anchor before getting underway could result in severe injury or damage to boat from rebounding anchor.

! WARNING

Always utilize the chain stop provided with the windlass/bow roller combination. The chain stop prevents the anchor from accidentally releasing while the boat is moving thus preventing damage to the boat or possible injury or death to individual(s) aboard the boat. See Figure M15.

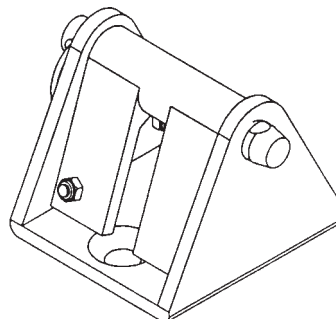


Figure M15: Chain Stop

M - 13 RADAR ARCH

The radar arch is a feature on certain Vista™ models and is swept forward in design. This presents a sleek, new look while providing an adequate platform necessary for installation of radar equipment. See Figure M16. Four Winns offers a certain optional navigation package that include radar equipment for certain specific Vista™ models. Refer to Section E - 9P Navigational Equipment.

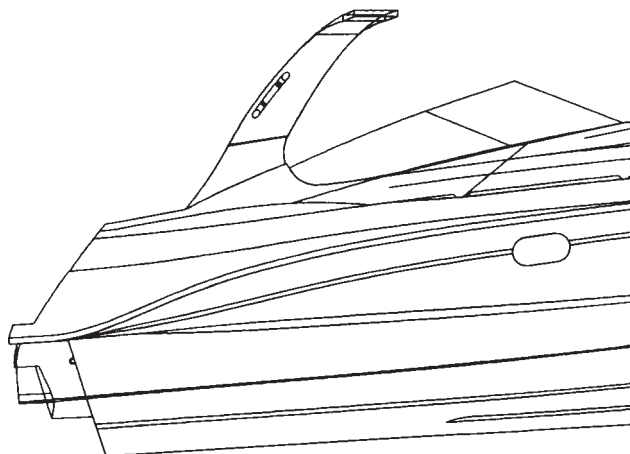


Figure M16: Radar Arch

M - 14 SPOTLIGHT

A properly operating spotlight is essential for safe cruising at night. Four Winns offers electrically controlled spotlights as standard or optional equipment on the Vista™ model. The spotlight uses an electric motor and helm switch controls to direct the spotlight beam. See Figure M17. Refer to the spotlight manufacturer's literature included in the owner's packet.



Figure M17: Remote Spotlight

M - 15 ENGINE DAY HATCH w/ ELECTRIC LIFT

Certain Vista™ models feature an engine day hatch with an electric lift or screw jack. The screw jack lifts and lowers the engine day hatch by pressing the switch located on the dash. The screw jack runs off either the ship systems's battery or engine battery depending on the Vista™ model. For quick visual inspections of the engine(s) an inspection lid is installed. See Figures M18 & M19.



Figure M18: Engine Day Hatch



Figure M19: Engine Inspection Lid

To raise the engine hatch:

1. Remove the cockpit table or aft fill-in cushion (if currently installed).
2. Press the engine hatch switch ("UP") to raise the engine hood to its open position.

The engine hatch can be lifted manually if the screw jack fails to operate.

To raise the engine hatch manually:

1. Remove the engine inspection hatch.
2. Reach into engine compartment and release either one of the release pins of the screw jack.
3. Carefully raise the engine hatch and prop open.

 **CAUTION**

Without properly propping engine hatch open during manual lifting procedure, engine hatch may fall resulting in possible personal injury and/or damage to engine hatch and components.

 **CAUTION**

The engine hatch can be lifted without the screw jack. Use care and proper lifting techniques to prevent possible back injury.

 **CAUTION**

Do not have person(s) sitting in stern seat or on engine hatch while attempting to raise engine hatch. Possible injury to person(s) and/or damage to engine hatch and components may result.

NOTICE

Never operate or trailer your boat with the engine hatch in its open position. Doing so could result in damage to the engine hatch, hardware, and/or loss of cushions.

To lower the engine hatch:

1. Press the engine hatch switch (“DOWN”) to lower the engine hatch to its closed position.
- 1b. If lowering engine hatch manually, raise the hatch slightly and remove the prop rod. Gently lower the engine hatch to its closed position. Do not allow it to just drop to the deck.

 **CAUTION**

If closing the engine hatch manually, **do not** allow the engine hatch to “slam” shut. Allowing the engine hatch to “slam” shut can damage the fiberglass and/or cause bodily injury.

2. Reinstall the cockpit table (if so desired).

NOTICE

Cushions, if not properly stored and secured, can blow out of the boat.

UPHOLSTERY

N - 1 INTERIOR SEATING

A. Cabin Tables

A cherry dinette is standard on Vista™ models and may be located in either the main cabin or in the V-berth/forward cabin area depending on the model. Table bases are “flush” mounted for convenience. Table legs are removable. Rotating the leg while lifting will ease the removal. See Figure N1. Table leg storage is provided below the dinette cushions and V-berth cushions on certain models.



Figure N1: Dinette Tables

The dinette areas on certain Vista™ models can be converted into sleeping quarters with the use of filler cushion(s), “short” table leg, and dinette table. See Figure N2. (Note: The filler cushion(s) are also the backrest cushion).



Figure N2: Dinette Converts to Berth

To convert the dinette area into a berth follow the steps below:

1. Remove the dinette table from the “long” table leg.
2. Remove the “long” table leg from its floor mount. Rotating the leg while lifting will ease the removal.
3. Insert “short” table leg into the floor mount.
4. Place the dinette table onto the “short” leg.
5. Remove the backrest cushions and place them on the dinette table.

Reverse this procedure to return the berth back into a dinette.

B. V-berth or Forward Cabin

Four Winns provides cushions for the v-berth/forward cabin area. These cushions simply drop into place. An optional inner-spring mattress for the V-berth is available on certain models. Certain V-berths also come with a privacy curtain and hanging locker storage. Some forward cabins may be converted from a dining area to a berthing space by using a support board and support rod (as required). See Figure N2.



Figure N2: Dining Area Converts to Berth

To gain access to the V-berth storage and water storage tank (specific models only), remove the cushions to reveal the access lids. See Figures N3 and N4.

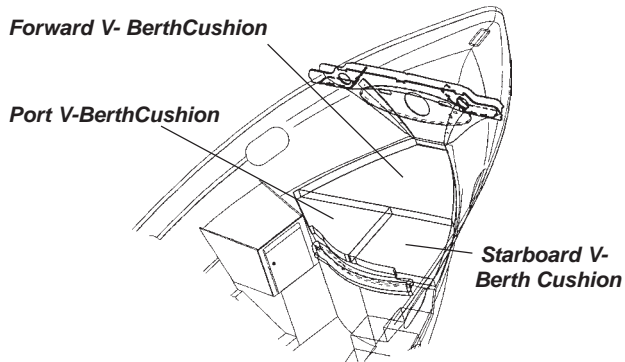


Figure N3: 328/348V V-Berth Cushions

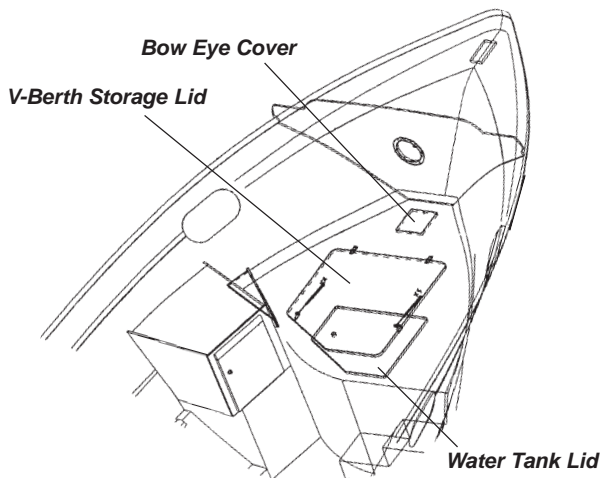


Figure N4: 328/348V V-Berth Storage Lid & Water Tank Lid

C. Mid Cabin (Aft Cabin) Berth

The mid cabin provides sleeping quarters with the use of either a mattress or filler cushions depending on the model. Privacy can be obtained through the use of the privacy curtain. The mid cabin also includes a window with screen for ventilation. Storage in the mid cabin may consist of one or a combination of storage compartment(s) e.g. side wall cabinet, overhead stor-

age, and/or hanging locker. Also, access lids are installed below mid cabin cushions or mattress for operation and servicing of various plumbing systems and other equipment. See Figures N5 & N6 for an example. It should be noted that access lids as well as storage compartment types and quantities will vary depending upon the Vista™ model.

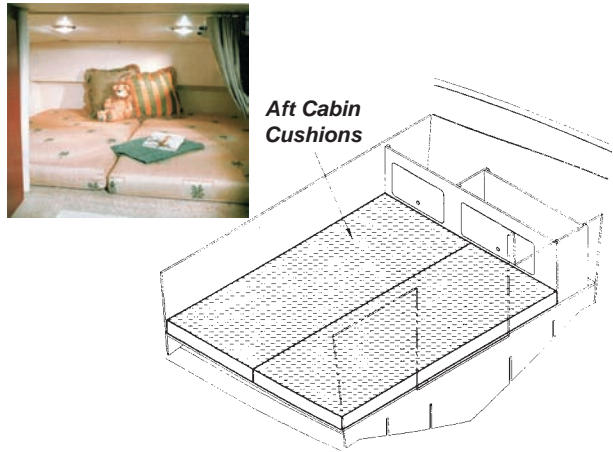


Figure N5: 268V Mid Cabin Cushions

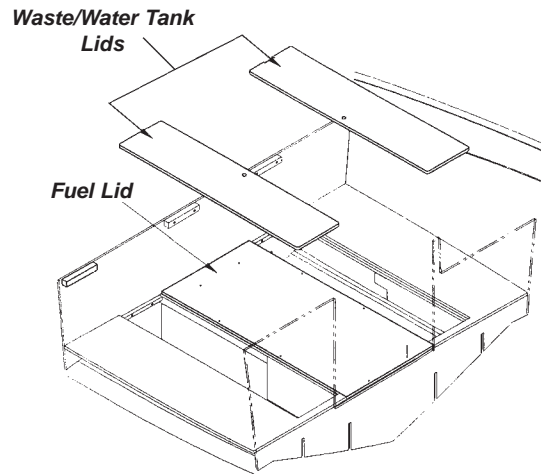


Figure N6: 268V Mid Cabin Access Lids



CAUTION

To prevent personal injury, be sure the mid cabin backrest/filler support (if applicable) is secure before use.

N - 2 EXTERIOR SEATING

A. Helm Seat

The helm seat is adjustable and double wide so it can seat two people comfortably. A manual, slider mechanism is mounted under the driver's seat. This allows the driver of the boat to adjust his portion of the helm seat to meet his or her needs. To adjust, lift the lever below the pilot's seat and slide the seat forward or aft to the desired position. There is approximately six inches of adjustment available. The helm seat includes a driver's side flip-up bolster. By simply flipping up the bolster the driver is able to sit higher in the seat. This is designed to give the driver greater flexibility, increased visibility, and riding comfort. See Figures N7 and N8.



Figure N7: Helm Seat & Bolster



Figure N8: Helm Seat Slider Mechanism



WARNING

DO NOT sit on the backrest portion of any cockpit seat. The operator could lose control of the boat or passengers could be thrown from the boat. The seat could also be damaged if excessive force is applied.

B. Stern Seat

The custom U-shape stern seat includes support legs and fiberglass base. The U-shape seating arrangement continues around the back of the boat to create more usable seating area. Refer to Figure N9 for a representational view.

Fwd Cockpit Cushion Fwd Cockpit Backrest Stbd Cockpit Cushion Stbd Cockpit Backrest



Aft Cockpit Cushion Aft Cockpit Backrest

Figure N9: Stern Seating

Additionally, an aft fill-in seat cushion is either available as a standard feature or as an option. This feature extends the cushion area of the stern seat for such things as sunbathing, napping or overnight sleeping. Refer to Figures N7 and N10 for representational views.

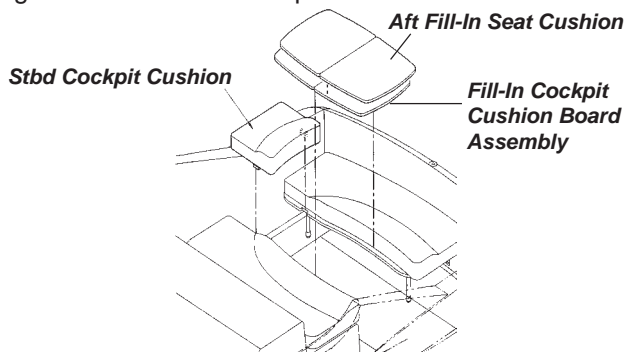


Figure N10: Aft Seat Fill-In Cushion

Certain Vista™ aft cockpit stern seat cushions folds up against the transom to allow for more floor space and access to the engine lids. The forward cockpit cushion can be locked in a raised position with a block attached to the bottom of the cushion. This too, provides easier access to the forward engine lid. Some cushions can also be removed.



WARNING

Make sure legs are vertical and locked before using the aft stern seat.



WARNING

When storing the aft stern seat up against the transom, be sure the legs are folded and secured to prevent damage to the seat or injury to people.

Nylon straps are provided to secure the seat in the stored position against the transom. The straps snap to the underside of the aft stern seat and are designed to wrap around the stern rail.

On some models the aft cockpit stern seat cushion can be removed by lifting up and out. This allows for easier access to the engine compartment. Refer to Figure N11.

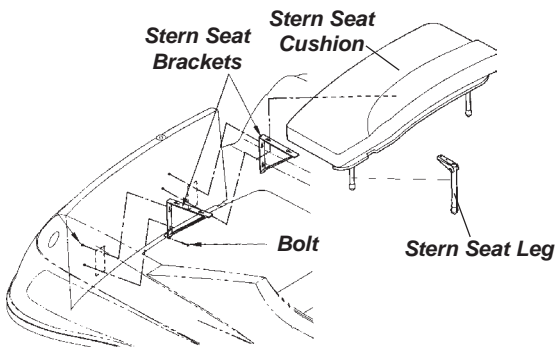


Figure N11: Removable Aft Stern Seat Cushion Assembly



WARNING

Make sure legs are vertical and locked before using the aft stern seat. Also, ensure the stern seat brackets are locked in their proper position before use.

C. Port Chaise Lounger Seat

On certain models a port “wrap around” chaise lounge provides seating capacity for two people. It is conveniently built into an integrated fiberglass base which also contains the refreshment center. Storage is provided underneath the removable or hinging seat cushion. See Figure N12.



Figure N12: Port Chaise Lounge

D. Cockpit Table

Depending on the model an aft cockpit table is either standard or optional. Table bases are “flush” mounted for convenience and safety.

To set up the cockpit table:

1. Insert the table leg into the floor mount.
2. Mount the cockpit table onto the table leg.

To remove the cockpit table simply reverse the procedure.

NOTICE

To prevent damage to cockpit table and/or cockpit interior ensure the cockpit table and legs are properly stored.

E. Deck Sunpads

The sunpads are optional. These cushions securely snap in place and provide comfort while sunbathing on the foredeck. See Figure N13.



WARNING

To prevent a possible man overboard situation, NEVER occupy the sunpads while the boat is underway. Use the sunpads when boat is at rest only.



Figure N13: Sundeck Pads

N - 3 INTERIOR UPHOLSTERY CARE

A. Cleaning Interior Fabric/Upholstery

The fabric used in the cabin should be treated the same as fabrics in your home. Periodic vacuuming and gentle cleaning will keep the fabric and upholstery clean and odor free. Spraying the fabric/upholstery with Lysol Spray Disinfectant™ will help retard mildew. For vinyl care see N-4A.

A recommended “Cleaning Kit” includes:

- Westley’s Clear Magic™
(for ordering information call 1-800-416-1600 or 800-321-8577; website address www.westleys.com)
- Fast & Easy Glass Cleaner™
(to locate the nearest distributor, call 800-537-8990)
- Tough Duty Cleaner™
(to locate the nearest distributor, call 800-537-8990)
- Clean, white towels
- Portable/Compact Deep Cleaner Vacuum (Bissell Spot Lifter™ or similar product)
- Air hose (if available)

To remove stains, please refer to the following list for recommended cleaners.

1. Basic Stains/Ink/Grease/Pencil/Dirt:

Westley’s Clear Magic™

2. Adhesives/Teak Oil/Gum/Tar:

Tough Duty Cleaner™

3. Water Stains:

- a. While fabric is still wet, use a deep cleaner vacuum to go over the wet area. This will remove the stain from the fabric. It is always best to get the stain before it dries.
- b. For water stains that have dried, use a deep cleaner vacuum system. Follow the instructions that come with the deep cleaner system. Repeat if necessary.
- c. If this does not work we recommend a professional cleaning service. One such service is Service Master®. Please call 1-800-937-3783 for the Service Master location nearest you.

4. Tough Stains/Set Water Stains:

- a. Spray Westley’s Clear Magic™ on the area, going two (2) inches around the stain or if possible, bring wetness to a break point, such as a bulkhead, etc. Spray water on the same area as directed on the bottle.

- b. Let set approximately five (5) minutes.
- c. Rub the area with a clean towel, rotating the towel as the stain is removed. As you rub, go a little beyond the wetness with the towel, flaring the edges.
- d. Use a deep cleaner type vacuum to remove excess wetness. Allow to dry.
- e. Repeat if necessary.
- f. If stain still persists, use a professional cleaning service.

B. Interior Carpets

Four Winns Vista™ cruisers use a high quality interior grade carpeting. Interior carpeting should be cleaned in the same manner as the carpeting in your home. Vacuuming and occasional rug shampooing are recommended for extended life and appearance. Always conduct a colorfast check on a small area of carpet prior to applying the cleaning solution/shampoo on the entire carpet.

C. Privacy Curtains

After a season or more use and exposure, you may wish to remove the curtains. Dry cleaning is recommended. Most draperies can be taken down after removing the screw from the end of the curtain track. This screw may not be accessible on some models. Should this be the case, remove the screws securing the end of the track. The track is flexible and can be lowered to remove the end screws.

N - 4 EXTERIOR UPHOLSTERY CARE

A. Cleaning Vinyl

NOTICE

Vinyl upholstery should be cleaned and maintained in accordance with the manufacturer's recommendations and instructions.

The vinyl material used on the exterior upholstery should be cleaned regularly with warm water and a mild dish soap or Vinyl Finish Vinyl Cleaner® using a soft clean cloth, then rinse with a soft clean cloth. For dirt buildup, spray Vinyl Finish Vinyl Cleaner®, let soak for approximately ten (10) minutes, then gently scrub with a soft

bristle brush. Be sure to thoroughly rinse the vinyl after washing with mild dish soap or Vinyl Finish Vinyl Cleaner® to remove all residue. Towel dry the vinyl. Periodic spraying of the seats with Lysol Spray Disinfectant™ will help retard mildew.

To further protect the vinyl from early degradation, use 303 Aerospace Vinyl Protectant®. Spray on, then wipe dry. 303 Vinyl Protectant should be applied every 3-5 weeks when boat is in use. Regular cleaning with mild soap and water or Vinyl Finish Cleaner will not remove the 303.

NOTICE

DO NOT apply vinyl protectants such as Armorall. The manufacturer does not recommend this product because it removes the oils present in vinyl that keeps vinyl soft.

A recommended "Cleaning Kit" includes:

- Ivory Dishwashing Liquid™ and water
- Clean, white towels
- Soft bristle brush
- Fantastik Spray Cleaner™
- Denatured Alcohol
- Hemisphere Ink Remover® - (for ordering information call 800-247-9901)
- Vinyl Finish Vinyl Cleaner® - (everyday cleaning & care, call 800-247-9901)
- 303 Aerospace Vinyl Protectant® - (for ordering information call 800-247-9901)
- Tough Duty Cleaner™ - (to locate the nearest distributor, call 800-537-8990)
- Ammonia and hydrogen peroxide

To remove stains, follow the general guidelines list and/or refer to the Step-by Step Cleaning Instructions table:

General Stain Removal Guidelines

1. Basic Stains/Grease/Pencil/Dirt:

Ivory (mild) Dishwashing Soap™ and water, or Fantastik Spray Cleaner™ applied with a medium-soft brush or Vinyl Finish Vinyl Cleaner® using a soft clean cloth, then rinse with a soft clean cloth.

2. Tough Stains/Adhesive/Teak Oil/Rust:

Tough Duty Cleaner™; rinse with soap and water or spray with Vinyl Finish Vinyl Cleaner®, let soak for approximately ten (10) minutes, then gently scrub with a soft bristle brush. Thoroughly rinse vinyl and dry.

NOTICE

To prevent possible damage to the vinyl, rinse with soap and water after applying the Tough Duty Cleaner™ or Vinyl Finish Cleaner®. Then rinse and dry.

3. Ink:

Denatured alcohol or Hemisphere Ink Remover®.

4. Mildew Stains:

To kill bacteria creating the mildew, vigorously brush the stained area with a 4-to-1 mixture of water and ammonia; rinse thoroughly with water and dry.

5. Tough Mildew Stains:

Apply a mixture of one (1) teaspoon ammonia, one-fourth (1/4) cup of hydrogen peroxide, and three-fourths (3/4) cup of distilled water; rinse with water and dry.

Step-by-step cleaning instructions			
Type of stain	STEPS: 1,	2,	3
General Care	A	B	
Dirt Build-up	A	B	
Ballpoint ink*	E	B	A
Chewing gum	D	A	
Coffee, tea, chocolate	B		
Grease	D	B	
Household soil	A	B	
Ketchup	A	B	
Latex paint	A	B	
Lipstick	A	B	
Mildew or wet leaves*	C	B	A
Motor oil	B		
Oil-based paint	D	B	
Permanent marker*	E	B	C
Spray paint	B		
Suntan lotion*	A	B	
Tar / Asphalt	D	B	
Yellow mustard	A	B	C

Legend

- A. Medium-soft brush, warm soapy water
Rinse / Dry
- B. Vinyl Finish Vinyl Cleaner®
Rinse / Dry
- C. One (1) Tablespoon of ammonia; one-fourth (1/4) cup of water
Rinse / Dry
- D. Wipe or scrape off excess (chill gum with ice before hand)
- E. Hemisphere Ink Remover
Rinse / Dry

All cleaning methods must be followed by a thorough rinse with clean warm water.

Certain household cleaners, powdered abrasives, steel wool and industrial cleaners can cause damage and discoloration and are not recommended. Dry cleaning fluids and lacquer solvents should not be used as they will remove the printed pattern and gloss. Waxes should be used with caution as many contain dyes or solvents that can permanently damage the protective coating.

*Suntan lotion, tree pollen, wet leaves and some other products can contain dyes that stain permanently. Care should be exercised and boat covers should be utilized.

Step-By-Step Vinyl Cleaning Instructions Table

NOTICE

When docking or mooring your boat be aware of your surroundings i.e. trees with pollen, wet leaves, berries etc. These and other items can contain dyes that stain permanently. Utilize weather covers whenever possibly to protect vinyl from potential stains.

NOTICE

ALWAYS CLEAN STAINS IMMEDIATELY! DO NOT use 409 Cleaner™ or ArmorAll™ on vinyl. Do not use kerosine, gasoline or acetone as they will remove the protective marine topcoat.

NOTICE

All cleaning methods must be followed by a thorough rinse with water and drying.

Additional cleaning information is provided by the manufacturer and is included with this manual.

Four Winns offers a variety of optional weather covers for protection of the boat and associated equipment. Continued exposure can damage the upholstery and seating. The seating can become thoroughly saturated with water if not adequately protected. Refer to Section O - Weather Covers for more information.

NOTICE

The appearance and longevity of the exterior upholstery will be affected by water saturation. Protect these items appropriately.

B. Exterior Carpets

The removable exterior grade carpeting may be periodically washed with mild laundry soaps or shampooed, dried and reinstalled. It is 100% UV stabilized Olefin™ fiber with rubber backing. See Figure N-14.

NOTICE

Prior to using any mild laundry soaps or carpet shampoo, always conduct a colorfast test on a small inconspicuous portion of carpet before applying to entire carpet.

NOTICE

DO NOT dry carpeting in an automatic dryer.

Cockpit Companionway Lay-In Carpet

Helm Cockpit Lay-In Carpet (Not Shown)



Cockpit Lay-In Carpet
Figure N14: 288V Cockpit Lay-in Carpet

C. Cleaning and Maintenance

The following information should be useful in helping you keep your carpet looking well maintained.

Carpet made with Olefin™ fiber possesses built-in stain and soil release for easy, less costly maintenance. Regular vacuuming and occasional shampooing will help it stay attractive and serviceable.

D. Stain Removal Testing

Even the most stubborn stains can be removed from Olefin fiber following the procedures outlined. Stains were selected as being representative of spills commonly occurring on carpets. Stains were pressed into the carpet to simulate foot pressure following a spill. Stains were applied to a two-inch square section and allowed to penetrate. Removal was performed after two weeks. Carpets were tested for stain removal by an independent laboratory. Stain removal was effective for the all the stains selected. Results are shown in the table on the following page.

E. Stain Removal Procedures

Regular maintenance such as vacuuming, hosing or washing should be performed. Most stains and mildew are easily removed from carpet made with Olefin fiber using common household cleaners. Refer to Table I. Olefin™ fiber is so resistant to chemical attack that Clorox™ bleach may be used to clean up any mildew that may result from excessive wetness.

Code for stain removal procedure (See Table 1):

- “A” Apply warm water and household detergent in minimal amounts to stained area. Sponge or scrape until stain is removed. Rinse with clean water.
- “B” Apply warm water and household detergent. Work well into stained area then flush with warm water.

Most stains should be easily removed however, if the stain persists, the cleaning procedure should be repeated to insure stain removal. Remember, the sooner the stain removal process begins, the easier the stain will be to remove.

NOTICE

Do not use dry cleaning solvents on carpet or vinyl. **Permanent damage** to the fiber will result.

N - 5 REPLACEMENT UPHOLSTERY

Should upholstery become severely soiled, torn, or in some manner damaged, replacement upholstery cushions are available. Larger upholstery items have separate component parts for easier serviceability.

Depending upon the year and model of the boat, most upholstery parts can be obtained through your Four Winns servicing dealer within a short period of time.

STAIN	REMOVAL PROCEDURE
Automotive Grease	A
Automotive Oil (New or Used)	A
Bacon Grease	A
Berry Stain	A
Blood	A
Butter	A
Catsup or Mustard	A
Chewing Gum	A (Repeat)
Chlorine Bleach (5%)	A
Chocolate (Melted)	A
Clay	A
Coffee or Tea	A
Cola	A
Crayon	B
Dye	A
Egg	A
Feces	A
Fish Formula	A
Fruit Juice	A
Furniture Polish	A
Gravy	A
Ice Cream	A
Ink (Permanent Black)	B
Ink (Scripto, Ballpoint)	B
Iron Rust	A
Lipstick	B
Mayonnaise	A
Milk	A
Latex Paint	A
Oil Base Paint	B
Polish	B
Rust	A
Salad Dressing	A
Shaving Cream or Lotion	A
Tar	B
Urine	A
Vomit	A
Water Colors	A
Wax	B
Wine	A

Table I: Stain Removal

WEATHER COVERS

O - 1 GENERAL INFORMATION

Weather covers for the cockpit areas are available on all Four Winns® models. A bimini top and camper is standard on the Vista™ models. Four Winns® covers are designed and intended to provide protection of the cockpit seating areas.

Four Winns utilizes 100% acrylic-type material. During the manufacturing of the weather covers, the smallest possible needle and highest quality UV stabilized, bonded polyester thread is used in the stitching.



WARNING

Never use any form of open flame cooking device in any area fully enclosed or near weather covers. This material is flammable.

The weather cover is water repellent but not water proof. During a hard rain, you may notice a light mist permeating through a weather cover. This is normal. If the seams leak, they can be sprayed with Scotchguard™ or similar type water repellent or a seam sealing compound can be applied. Keep objects from contacting the inside of the cover. Leakage may occur at point of contact.

Weather covers must be installed “snug” to prevent sags. The material relies on swelling to seal itself. If too taut or overly tight, the material will not seal and may tear.

NOTICE

Periodically check weather covers for accumulation of water. Damage to the bow assemblies may otherwise result. Make sure cover is snug to avoid puddling of water.

After use, the top canvas should be rolled up into the boot (supplied) and secured.

NOTICE

NEVER fold or store a wet weather cover. This can lead to mildew or shrinkage. Roll rather than fold the enclosure curtains. Sharp folds increase the chance of cracking the clear vinyl.

NOTICE

DO NOT use the weather covers for outdoor winter storage. The weight of the snow or heavy rain can cause severe damage to the material or top structure. Refer to O-7 - Winter Storage in this manual for more information.

Four Winns is utilizing snaps for the canvas. The snap sockets are notched towards the outer edge of the canvas. To unsnap, just lift on the side by the notch.

NOTICE

Remove snaps one at a time to prevent damage. DO NOT rip off or pull the weather cover as a whole; acrylic material will tear at snaps.

O - 2 TRAILERING

High winds encountered during trailering your boat can severely damage most weather covers. If an extended trip at highway speeds is planned, the top and other weather covers should be booted or removed entirely. This will prevent damage and/or loss. See Figure O-1.



Figure O1: Bimini & Camper Tops - Booted

NOTICE

DO NOT tow your boat at highway speeds with weather covers in place. High winds encountered during trailering your boat can severely damage most weather covers. Damage to weather covers incurred as a result of trailering your boat is not covered under warranty.

O - 3 BIMINI TOP

The bimini top is standard and provides cover/shade for the forward cockpit area. It is designed to be fastened to the radar arch with the use of a track. See Figure O-2.

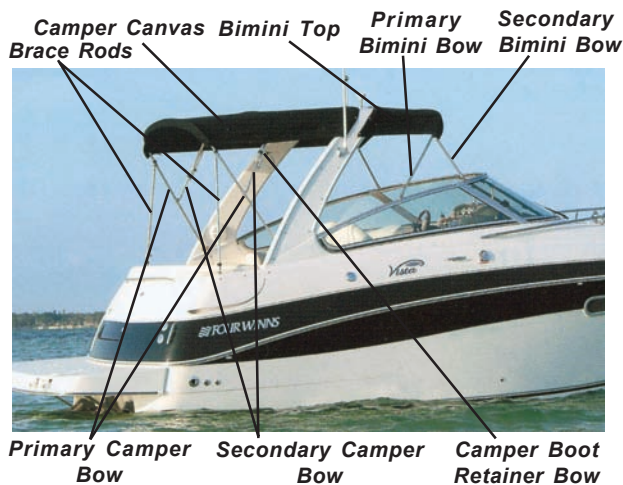


Figure O2: Bimini Top & Camper Canvas

A clear plastic visor is provided and once installed it connects the forward windshield and the bimini top. Side bimini curtains are also made of clear plastic for visibility and connect the side portion of the windshield to the bimini top. The helm area is protected from the elements once the bimini top, forward windshield connector and bimini side curtains are installed. See Figure O3 below and for hardware installation see Figures O10 & O11 at the end of this section.



Figure O3: Forward, Side & Aft Curtains

The bimini top is factory installed, therefore, minimal adjustment is necessary. To utilize the bimini top:

1. Remove the canvas boot from the bimini top and unroll top.

2. Attach the aft edge of the bimini canvas to radar arch by sliding the smaller zipper end (valence) into the track (if necessary). Typically, the valence comes installed in the track from the factory. Ensure the valence is centered. Mate the zipper ends and zip the canvas together.
3. Zip in forward windshield connector (clear visor) section to the bimini top and snap to windshield. Starting at the walk-thru windshield may prove to be easiest. Windshield snaps can be adjusted to match snaps in canvas.
4. Zip in the side curtains to the bimini top. Snap canvas to windshield beginning at forward edge.

NOTICE

Adjustable Bow Style Models

When attaching windshield connector and side curtains you may want to adjust your bows to provide more slack and thus ease the installation process. Press the spring pin to adjust accordingly. Once the windshield connector and curtains are installed, extend the bows to make the canvas taut and remove sags. See Figure O4.



Figure O4: Adjustable Bow w/ Spring Pin

NOTICE

Non-Adjustable Bow Style Models

When attaching windshield connector and side curtains you may need to unzip a portion of the bimini canvas from the arch to provide some slack and thus ease the installation process. **Do not** unzip completely. Once the windshield connector and curtains are installed, zip the bimini top completely to the arch.

For bimini storage, reverse the previously described procedure.

NOTICE

Canvas should be snug. If too taut or extremely tight, canvas could tear or pull at seams.

NOTICE

Both the bimini and camper canvas have been designed and are intended to remain installed on the boat in the upright “stored” position. Four Winns does not recommend the bimini and/or camper assembly be removed from the boat unless absolutely necessary.

NOTICE

Two people are recommended if removal or installation becomes necessary. Care must be exercised so the radar arch does not become damaged. Use a protective covering to prevent damage to arch.

NOTICE

In the event the canvas requires some maintenance or repair, remove the bimini camper canvas from the bow assembly. Unzip the bow sleeves, unsnap all snaps and straps, and remove the canvas.

O - 4 CAMPER

The camper is standard and provides cover/shade for the aft portion of the cockpit area. It too, is designed to be fastened to the radar arch with the use of a track. See Figure O2. The camper aft curtain and camper side curtains can be installed to enclose the aft cockpit area. The camper and camper curtains used in conjunction with the bimini top, forward connector and bimini side curtains completely encloses the cockpit area when desired. See Figure O3. For hardware installation see Figures O10 & O11 at the end of this section.

To install:

1. Install bimini top, forward windshield connector and bimini side curtains as previously instructed.
2. Remove the pin with lanyard or thumbscrew from each of the deck mounts located on each side of the radar arch. This will release the camper retainer bows and camper from its stored position. See Figure O5. Be sure to be supporting the camper top to prevent it from falling and possible damage. Reinsert pin with lanyard or thumbscrew into deck hinge.

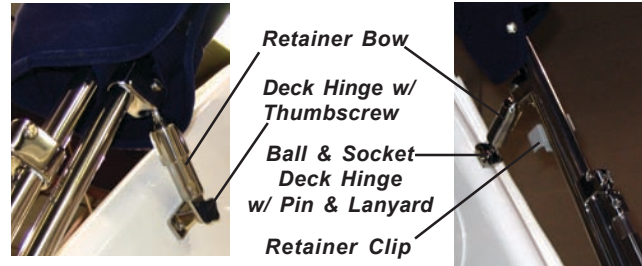


Figure O5: Camper Stored Position

3. Attach the aft secondary camper bow to the rear deck mounts. Insert pin with lanyard or thumbscrew depending on model.
4. Slide the smaller zipper end (valence) into the track (if necessary). Typically, the valence comes installed in the track from the factory. Ensure the valence is centered.
5. Remove the canvas boot from the camper top.

NOTICE

Premature camper canvas deployment can damage the canvas as well as the canvas hardware.

6. Extend the primary camper bows and attach the forward edge of the camper canvas to radar arch by mating the zipper ends and zip the canvas together.
7. With the retaining clips supplied, attach the retainer bows to the primary bows when camper is deployed. This will prevent the retainer bows from racking around loose and possibly damaging the arch or bows.
8. Zip the camper side curtains to the camper top. Snap the edge portion of these curtains to radar arch and the deck. It may prove easiest to start snapping the curtains at the upper portion of the arch and work your way down and then along the deck.
9. Unroll the aft camper curtain and zip the curtain to the camper.
10. Snap the bottom portion of the aft curtain to the transom and attach the straps to the transom rail and tighten.

NOTICE

Adjustable Bow Style Models

When attaching camper side curtains and aft curtain you may want to adjust your bows to provide more slack and thus ease the installation process. Press the spring pin to adjust accordingly. Once the windshield connector and curtains are installed, extend the bows to make the canvas taught and remove sags. See Figure O4.

NOTICE

Non-Adjustable Bow Style Models

When attaching camper side curtains and aft curtain you may need to unzip a portion of the camper canvas from the arch to provide some slack and thus ease the installation process. **Do not** unzip completely. Once the camper side curtains and aft curtain are installed, zip the camper top completely to the arch.

For camper storage, reverse the procedure described above.

O - 5 COCKPIT COVER

The cockpit cover is optional and is used to cover the complete cockpit area and is intended as a short term storage cover. See Figure O6.



Figure O6: Cockpit Cover

To install:

1. Snap the forward edge of the cockpit cover to the bottom edge of the windshield track. Snaps can be adjusted on the windshield track if necessary.

2. Snap the cockpit cover sides to the deck and arch.
3. Secure the rear corners and aft edge of the cockpit canvas. This is done with the use of snaps and straps which are placed around the transom rail and tightened.
4. Place the adjustable poles in position. The adjustable poles are provided to adjust the canvas for tautness and prevent puddling.

To store the cockpit cover we recommend folding the cover in half, lengthwise and then rolling the cover up.

O - 6 USE OF WEATHER COVERS AND CARBON MONOXIDE

When an engine is running, a natural vacuum may exist with the right wind and sea conditions to allow exhaust gases (which includes carbon monoxide) to seep into the boat. When canvas is utilized, this compounds the possibility of this occurring and inhibits natural ventilation. For more information, refer to Section B-2 - Carbon Monoxide in this manual.

The carbon monoxide in exhaust fumes can be hazardous. It is important for you and your passengers to be aware of the potential safety hazard created by exhaust fumes. Familiarize yourself with the symptoms of individuals overcome by carbon monoxide, and most importantly, ways you can protect yourself and your guests. See Figure O7 - Carbon Monoxide Canvas Warning Label and Figure O8 - Carbon Monoxide Warning Label.

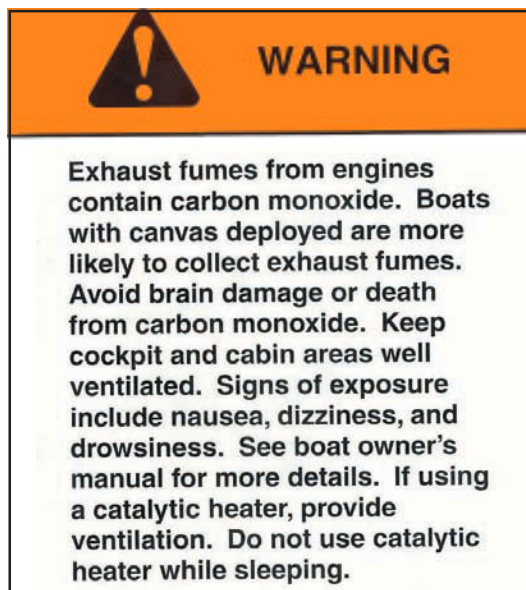


Figure O7: Carbon Monoxide Canvas Warning Label

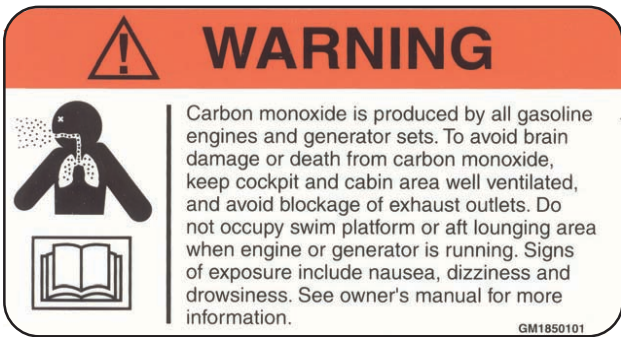


Figure 08: Carbon Monoxide Warning Label

O - 7 WINTER STORAGE

The boat must be properly protected during winter dry dock storage. A winter storage cover is advisable. Many marine dealers offer shrinkwrap enclosures for outdoor storage. See a Four Winns dealer for information on the availability of winter storage covers or other alternatives for storage.

When storing outdoors, make sure the supporting framework keeps the weight of the snow and rain from accumulating on the storage cover. Proper ventilation must also be provided or dry rot and mildew will occur. See Section R - General Maintenance for additional winter storage information.

O - 8 MAINTENANCE

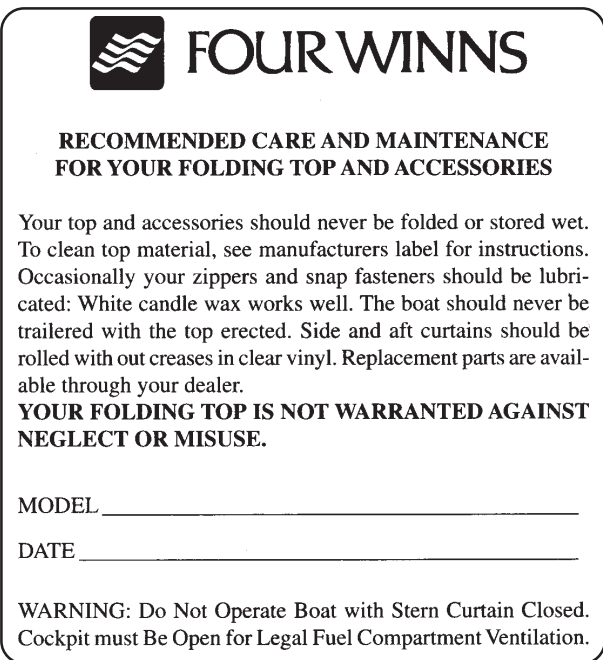


Figure 09: Canvas Care & Maintenance Tag

Moisture, dirt, chemicals from industrial fallout, heat, ultraviolet rays and in some cases, salt water are factors which affect the longevity of acrylic covers. See Figure O9.

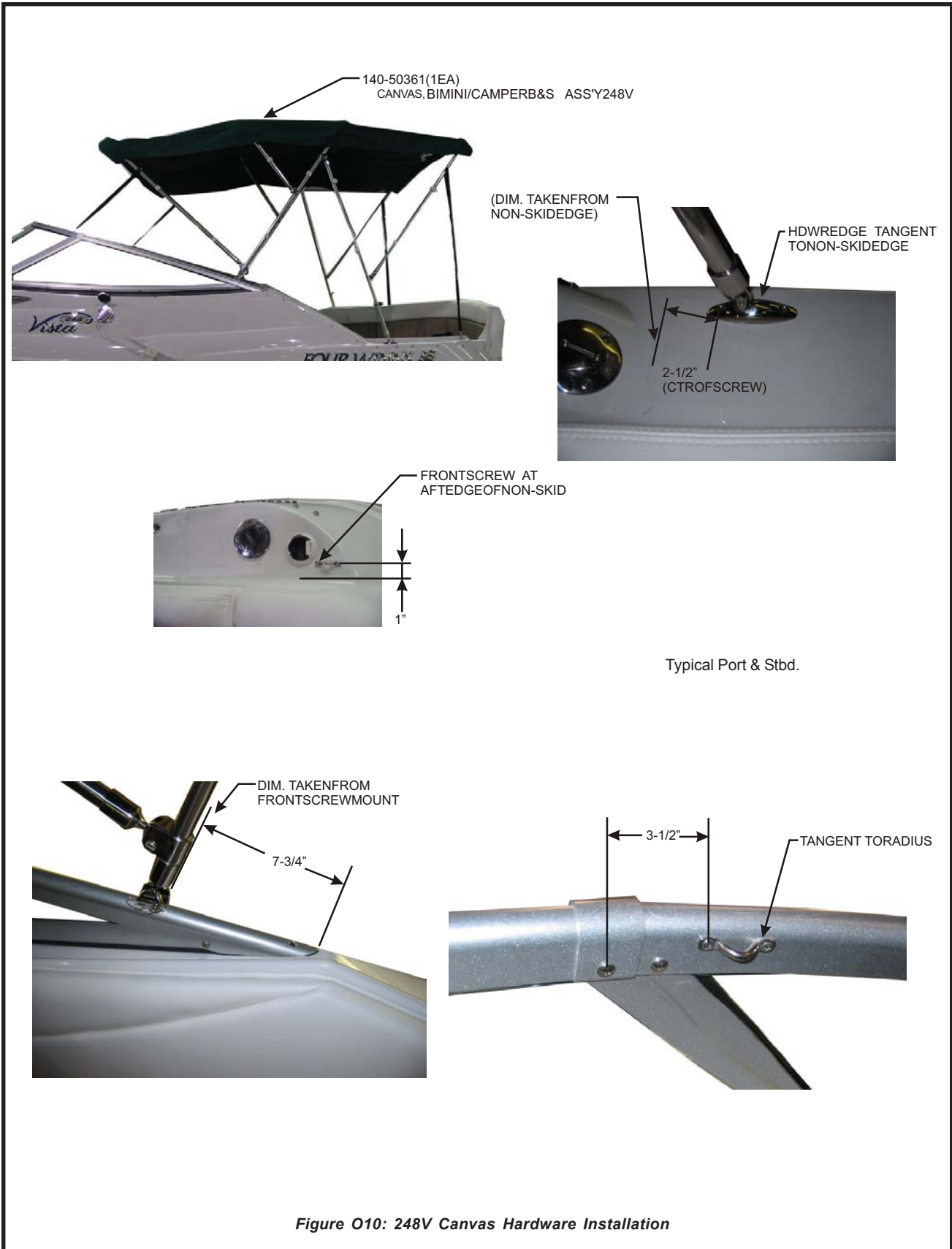
1. Moisture can cause shrinkage and mildew. Allow the cover to dry thoroughly before disassembling tops. Keep it clean and well ventilated to prevent mildew. Spraying the weather cover with Lysol Disinfectant™ or similar product will help prevent mildew.
2. Dirt creates a starting point for mildew when moisture is present. Clean the top with a sponge or soft scrub brush and mild detergent when the cover is installed. Make sure cover is snug to help prevent shrinkage.
3. Chemicals cause decay if allowed to accumulate for long periods of time. Keep the cover clean to prevent decay.
4. Heat can cause cracks in vinyl components and stiffening of fabric when enclosed in plastic or polyethylene. DO NOT store the weather cover in polyethylene under direct sunlight or high temperature situations.
5. Ultraviolet degradation may occur under prolonged exposure to direct sunlight. Store the top in the boot when not in use.
6. Salt water can corrode brass, aluminum, or stainless steel fittings and fasteners. Keep fittings clean, lubricated, and waxed to prevent corrosion.

Clear vinyl curtains and windows demand extra care to prevent scratching. DO NOT use cloth or chamois skin. Dirt or grit in the cloth will scratch the vinyl window. Hose clean water onto vinyl to rinse off salt, dirt, or grime.

NOTICE

DO NOT use hot water. DO NOT dry in an automatic dryer. DO NOT dry clean or steam press.

Leakage after cleaning may be the result of insufficient rinsing. Re-rinse. If leakage continues, apply a coat of silicone air drying water repellent, such as Scotchguard™. See your Four Winns dealer for additional information on weather covers.



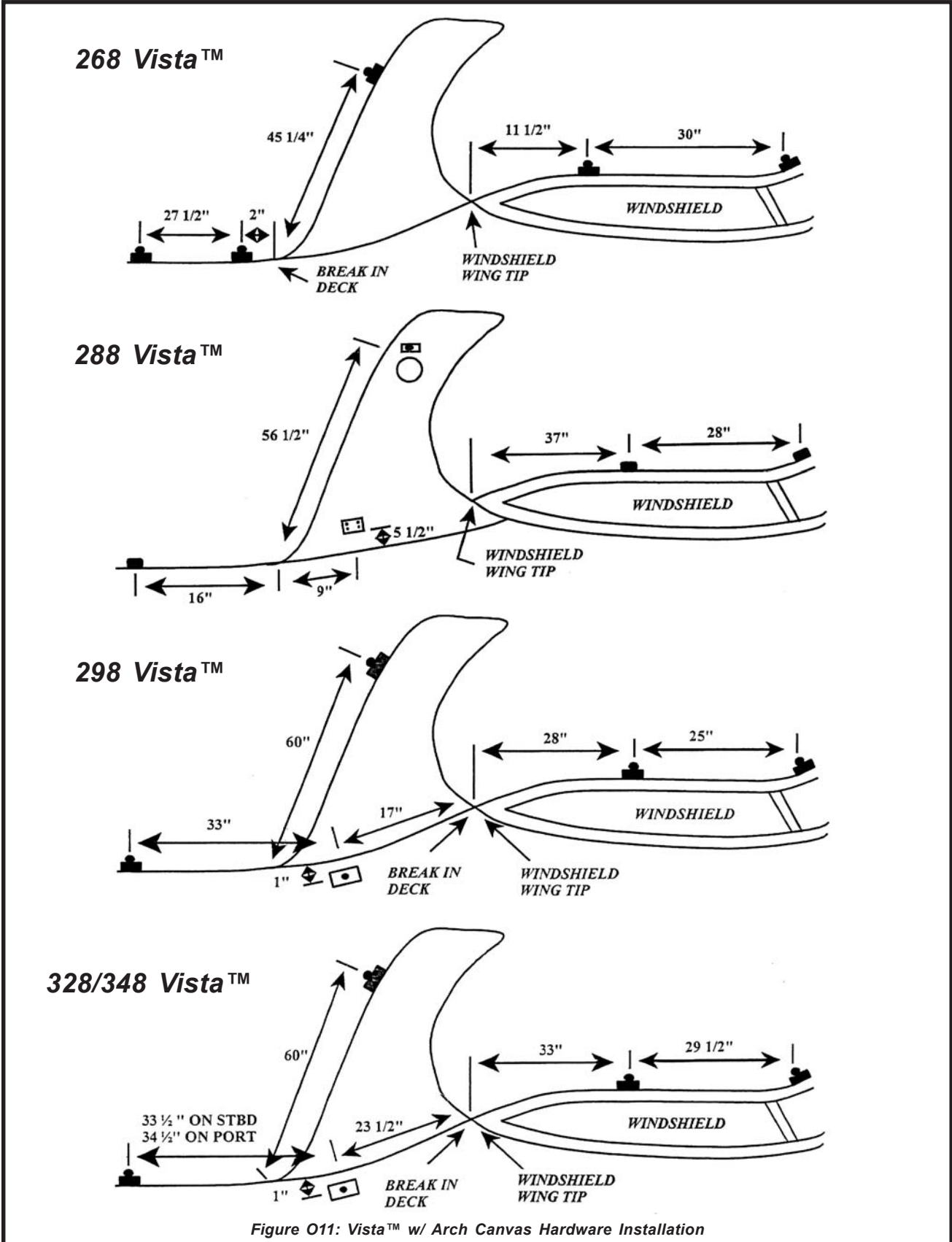


Figure O11: Vista™ w/ Arch Canvas Hardware Installation

FIBERGLASS AND HULL INFORMATION

P - 1 HULL DESIGN INFORMATION

Four Winns® boats are designed using the sound engineering and mathematical principles of hydrostatics, hydrodynamics, structure, and strength of materials. The materials utilized provide optimum strength at the lightest possible weight. The exact fiberglass laminate schedule and construction techniques of each part is determined in accordance with the strength and rigidity required.

All Four Winns Vista™ models include our patented **Stable-Vee™** hull design. Pods on either side of the outdrive extend the running surface beyond the transom. These pods, plus the unique distribution of deadrise from transom to bow, allows Four Winns to place more hull in the water than deep-vee designs of similar length and beam. This results in better boat handling whether on plane, during turns, or at rest. See Figure P1.

P - 2 FIBERGLASS CONSTRUCTION

The fiberglass components of Four Winns® boats are of the finest quality materials, workmanship and construction techniques available. This ensures the structural integrity to provide years of boating enjoyment with minimal maintenance.

The construction of a Four Winns® hull begins with the application of gel coat to the mold. The gel coat is approximately 25 mils thick. A coat of resin and chopped fiberglass is then sprayed into the hull and carefully hand rolled until it is securely affixed to the gel coat.

A number of fiberglass layers and woven roving are applied to the above laminate. Each layer is hand laid and hand rolled. The keel and chine areas have fiberglass woven roving overlapped in these areas to provide additional strength. Most Vista™ models utilize encapsulated end-grain balsa core or coremat laminates to achieve additional rigidity. Others utilize additional laminations of woven roving to maintain strength and rigidity.

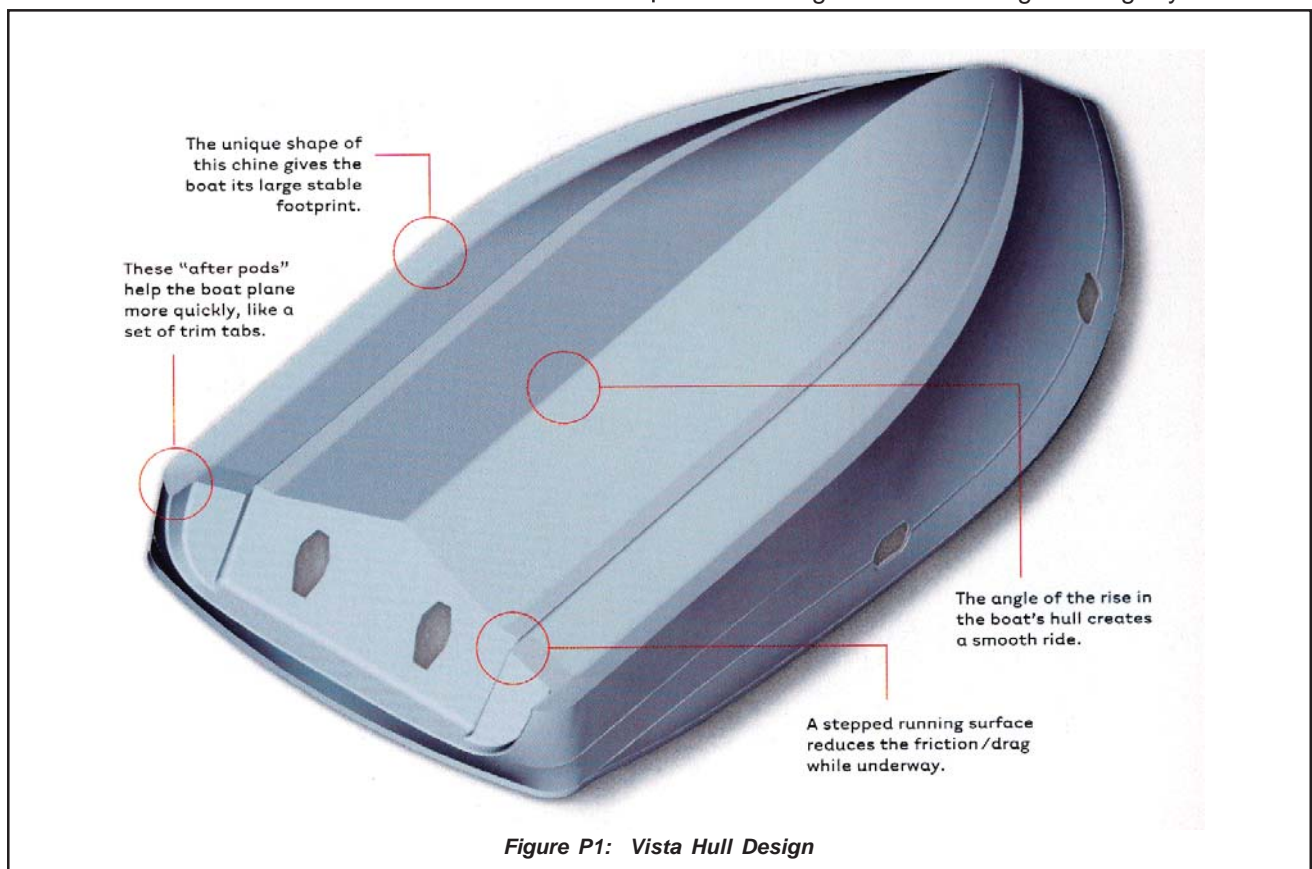


Figure P1: Vista Hull Design

The hull support stringers are located using special tools, and are fiberglassed into place. This ensures a strong, rigid hull, permanently formed into a solid assembly, free of distortions.

Fiberglass cockpit liners and seat base are constructed similar to the hull. Balsa core or coremat laminations are utilized when necessary.

In addition to a thorough visual inspection of each fiberglass component, samples are measured using special equipment, for fiberglass reinforcement to resin ratio, laminate configuration, weight and thickness. By these procedures Four Winns ensures proper composition.

P - 3 EQUIPMENT INSTALLATION

Many boats are used for specific purposes or under conditions which require the addition of special equipment to the hull or deck. Special care must be taken during the installation of any equipment to a fiberglass component. A polysulfide or butyl based sealant should be used to seal installations below the water line. Silicone "marine" seal or similar bedding compound should be used elsewhere.

NOTICE

DO NOT install any item onto or through the hull without adequately sealing the hull area penetrated by the installed item or related fasteners. Improper installations could cause leakage or allow water absorption and thus cause serious hull damage.

Always pre-drill fastening holes with a proper size bit. Pre-drilling will help prevent the fiberglass from splintering and thus causing unsightly damage. Also, countersink holes to prevent the gel coat from chipping.

Any equipment which will be subjected to cyclic loading or significant force should be through-bolted to a fiberglass component. A butt block or backing plate should be used to strengthen any area onto which an item will be mounted.

P - 4 FIBERGLASS CARE & MAINTENANCE

Fiberglass is affected by weathering processes and requires maintenance on a periodic basis to help maintain the beauty and shine. The effects upon the gel coat will be dependent upon boating conditions, storage, type of use, and the care given to the boat during the boating season.

Four Winns utilizes fade-fighting gel coat in the exterior finish. It is specially formulated to resist fading and yellowing, and retain more of its original gloss than better grade gel coats. However, it is still important to maintain the gel coat to protect the finish.

A. General Maintenance

For fresh water use, the boat should be washed once or twice a month. When using in a salt water environment, considerable more care will be necessary. Be careful when selecting a cleaning agent. Hand dish washing detergents are usually gentle and are recommended for cleaning gel coat. Cleaning products such as Ivory™ or Dawn™ hand dish washing liquid can be safely used. Always read the label before using any product.

NOTICE

DO NOT use acetone, paint thinner, solvents, or strong alkaline based detergents, nor cleaners with a "gritty" and abrasive texture. Avoid products which contain sodium phosphate. Common examples of these types of household cleaning agents are: Tide™, Oxydol™, Janitor-in-a-Drum™, Fantastik™, Clorox™, etc. Always read the label before using an agent.

There are several products available which are specifically designed to clean fiberglass exterior finishes. Many companies like Johnson & Johnson®, Turtle Wax®, etc. manufacture cleaning fluids mild enough to clean without stripping the wax.

NOTICE


Treading on a soiled fiberglass surface can severely scratch and mar the finish. Keep the fiberglass as clean as possible.

When cleaning skid-resistant areas, DO NOT attempt to use a wire brush or sandpaper because this will remove the skid-resistant gel.

Apply wax once or twice a year to maintain gel coat lustre. Read the label before using any product. Make sure product is formulated for gel coat surfaces. Also, consult a Four Winns dealer for their recommendations.

NOTICE

Do not use carnuba based waxes. This type of wax yellows over time and makes the fiberglass appear yellow.

 **CAUTION**

Waxing decks, cockpit floors or other walking areas is not recommended. Waxing will produce a very slippery surface, especially when wet. Wax may also buildup in the skid-resistant surfaces. Be sure all persons wear deck shoes while aboard the boat. Footing will be improved and feet will be protected from accidental cuts and bruises.

A darkening or discoloration of the skid-resistant surfaces can sometimes occur as a result of wax buildup. Exposure to the sun and elements can turn the wax darker, or occasionally can cause it to become flaky or powdery. To remove, use fine rubbing compound and a low rpm buffer (1200 to 2000 rpm). Apply light pressure and keep the buffer moving at all times to prevent heat build-up. Read the directions before using any equipment.

B. Weathering Effects on Gel Coat

Weathering occurs from direct sunlight, water, chemicals, and dust. Some of the terms below describe the changes that can occur to the gel coat surface.

Chalking is a result of the gel coat's top surface being broken down into an extremely fine powder. When this happens, the color whitens. The chalk is present on the surface only.

Fading is the uniform change in color. This happens when the actual pigments have changed color, especially from excessive chalking, or when the gel coat has either been stained or bleached by something.

Yellowing is gel coat which has a yellow cast and streaking usually deals with a stain or contact with another surface.

Gloss refers to the shine of the surface. This can change from sanding action, chalk, residues, or exposure.

Blistering refers to a condition in which the unprotected gel coat surface below the waterline has absorbed water and formed bubbles. See Section P-5 for additional information.

Follow the instructions below for boats that have weathered and chalked.

1. Wash.
2. Wax. If this does not work, then use a fine rubbing compound. If this does not work use 400 or 600 wet or dry sandpaper, followed by fine rubbing compound and wax.

When using wax or fine rubbing compounds, make sure to read the label and follow the directions. Some helpful tips are listed below.

1. Avoid working in direct sunlight. This dries out the wax or compound, and can stain the surface.
2. Use clean pads or cloths to apply a thin coating of wax or rubbing compound to a small area such as three feet by three feet. Remove any excess, and then rub the area with a buffing pad, or power buffer. Apply pressure only as necessary to restore the surface finish. Applying too much pressure or buffing in one place too long can permanently damage the surface.
3. After applying compound, always follow with waxing.

NOTICE

If using a power buffer, use a low RPM buffer with light pressure. Keep the pad wet and the buffer moving at all times to prevent heat buildup.

NOTICE

To prevent gouges, uneven areas, or other damage from occurring, DO NOT use a power or belt sander when sanding. For best results, block sand the gel coat.

C. Stains

Stains can appear anywhere on the exterior of the boat and may be a result of contact with tar, plant sap, leaves, rust from metal fittings, and other materials. Surface stains may be removed with hand dish washing soap, mild cleansers, or some household detergents. DO NOT use chlorine or ammonia products. These products can affect the color of gel coat. Commercial car washes use strong cleaners and should be avoided.

To remove stains, refer to the procedures below.

1. Wash area with hand dish washing soap.
2. Begin with a small area such as three feet by three feet and apply a mild cleanser.
3. Rinse with clean water.
4. Follow with compound and waxing as outlined in procedure above.

If the stain is not removed by the hand dish washing soap or mild cleanser, then the next procedure is to use either denatured or rubbing alcohol. If this does not work, consult your Four Winns dealer for professional assistance.

NOTICE

DO NOT use acetone, ketone, or other solvents to remove stains. These chemicals are flammable and may damage the gel coat.

P - 5 FIBERGLASS REPAIRS

Fiberglass is one of the most durable, strong, and forgiving construction materials afloat. It is resilient and normal repairs can be made without affecting the strength or structural integrity of the boat.



WARNING

Striking docks, other boats, or submerged objects could create a very hazardous situation or severely damage the fiberglass. In the event an object is struck below or near the waterline, proceed directly and cautiously to the nearest service facility and remove the boat from the water. Closely inspect the hull for damage. If the outer fiberglass laminate was penetrated, repairs must be made prior to relaunch.

Occasionally, blisters, crazing, scratches, or damage to the fiberglass can occur. Repairs may be necessary to correct the problem.

A. Scratches

Scratches occur during normal use. The following is a step by step procedure to repair scratches.

1. Clean area with soap and water.

2. Apply a fine rubbing compound and buff.
3. Wax.

If this does not work, clean the area and sand lightly with 400 to 600 wet or dry sandpaper and follow with rubbing compound and wax.

B. Gouges & Cracks

Stress cracks and crazing are the appearance of hairline cracks in the gel coat surface. When present, these problems usually occur in the gel coat finish or the outer "skin coat" fiberglass laminate. The appearance of these cracks does not pose a threat to the structural integrity of the boat. In most cases, they are cosmetic and can be treated.

Cosmetic surface damage can be repaired as follows:

1. Sand the surrounding area with medium or fine grit sandpaper. Clean all marine growth, dirt, antifouling paint, etc. from the immediate area. DO NOT excessively scratch or gouge the surrounding area.
2. Use a hard, pointed tool to open the gel crack. Take care not to damage the surrounding gel coat.
3. Sand the crack or gouge so the edges are smooth and will allow proper "feathering" of the area.
4. Clean the area thoroughly. Make sure the area is dry before proceeding.

NOTICE

Be sure the structure and the ambient temperature are above 60 degrees F (15 degrees C) and the relative humidity below 70% immediately before, during, and after the repair.

5. If the nick or gouge is deep and penetrates through the gel coat, fill the area with fiberglass patching paste. Follow the directions on the can when mixing the paste with the catalyist.
6. After the gouge is filled and has dried, sand the patched area. Begin by using medium-fine grade sandpaper. Progressively use finer grade sandpaper until the surface is very smooth. If necessary, add filler and then sand the surface again.
7. Apply two or three light coats of matching fiberglass gel coat to the repaired area. Enough gel coat should be used so that the entire area is covered.

The gel coat must be catalyzed using up to 2% MEK Peroxide which can be purchased at a supplier handling fiberglass reinforced products. Contact your Four Winns dealer for assistance.

8. After ample drying time, sand the area using very fine wet/dry sandpaper. If the appearance of the area is still not satisfactory, repeat steps 2 through 4 as necessary.
9. If above the waterline, polish the area using a fiberglass rubbing compound and then wax. If the repaired area is below the waterline, the area should be primed and painted in accordance with the anti-fouling paint manufacturer's instructions.

Gel coat, like paint, will change colors with time and exposure to sunlight (ultraviolet). For this reason, "matching" gel coat obtained from Four Winns may not match the gel color of a boat that has been exposed. However, this is the closest match commercially available. A fiberglass technician can tint the gel to be used in the repair to provide a closer color match.

More severe fiberglass damage, especially when structural, requires the expertise of an experienced fiberglass repair technician. See your Four Winns dealer for assistance.

NOTICE

Improper repair techniques can lead to further fiberglass component damage.

C. Osmotic Blistering

Osmotic blistering or "boat pox" is an unfortunate but not uncommon occurrence in fiberglass boats. Fiberglass is water retardant, not waterproof. When a boat is left in the water for a period of time, the fiberglass will absorb water. It is a natural process that can not be eliminated in production methods or material selection and usage. However, there are ways to control and possibly prevent blisters (see Section P-6). If you do encounter blisters, be assured that the blisters are merely cosmetic. They do not indicate a defect in the boat structure or lamination. Four Winns, along with most boat manufacturers, regard gel blisters as a standard maintenance item.

The repair procedure for gel coat blisters is similar to the procedures outlined in the previous section on cracks and gouges. There is an exception however, in that the hull must dry out for several days or possibly weeks before repairs can proceed.

To determine if the hull has dried sufficiently, tape one square foot of household plastic wrap securely to the hull bottom. Make sure all edges are sealed and let it stand for twenty-four hours. If condensation has accumulated under the plastic, the hull is still "wet" and must be allowed to dry longer before repairing.

When the repair is completed, an application of an epoxy barrier coat should be considered. This will help prevent the possibility of reoccurrence of blisters. Your Four Winns dealer or local ship store will have information on barrier coat products.

P - 6 ANTIFOULING PAINT

Four Winns recommends antifouling or bottom paint for boats which will be kept in the water for extended periods of time. Antifouling paint reacts with water to retard the growth of algae, barnacles and other marine growth on the hull. In addition to marine growth, it offers protection against excessive water pollution.

Antifouling paint begins reaction upon contact with water. After a season's use or sooner under certain conditions, the antifouling paint may appear to be dissolving. This is due to the paint's chemical emission that in turn retards marine growth. When this occurs, refinishing is in order. For bottom paint line location, refer to Figures P2 - P7 at the end of this section.

Four Winns recommends reapplication of the antifouling paint seasonally. The effectiveness of the paint will be drastically reduced if used longer. Though Four Winns has found the antifouling paints used to provide good marine growth protection in most water, other paints may be more effective in certain water conditions. See a Four Winns dealer for recommendations on antifouling paint use in your area.

NOTICE

During surface preparation, the hull should be sanded only enough to remove any foreign matter, and loose paint. DO NOT sand deeply into the gel coat, fiberglass cosmetic problems could later result. After sanding, the surface should be wiped with a rag treated with a cleaner recommended by the antifouling paint manufacturer. The surface must be clean and slightly rough to ensure paint adhesion.

Prior to application of the antifouling paint, the boat owner may consider coating the hull bottom with an epoxy coating. Four Winns recommends this procedure as a preventive and effective means of controlling osmotic blistering. Most major antifouling paint manufacturers also supply a line of epoxy undercoatings. Consult your Four Winns dealer for recommendations on epoxy undercoatings.

P - 7 HULL SUPPORT

Proper support of the hull while it is out of the water is imperative. Due to the design complexities, Four Winns does not recommend trailers or storage cradles be home-made. The boat is a valuable piece of equipment. **DO NOT** risk permanent damage to the hull structure in an attempt to save the cost of an adequate support. Improper support can lead to serious and permanent hull deformation.



CAUTION

While lifting the boat, ensure slings are in the proper locations as indicated by the sling location labels. **Failure to do so may result in permanent hull structure damage and will invalidate the hull structure warranty.**

NOTICE

When attempting to raise the hull, never allow one end of the boat to rise first, while letting the opposite rest momentarily on the underwater gear. Serious damage to these components could result. **DO NOT** place lifting straps on underwater gear. Be sure the strap is against the hull surface only and are in proper location as indicated by the sling label location.

A trailer, or storage cradle designed for a larger or smaller boat will not provide proper support for the hull. This could lead to hull deformation and thus serious performance deficiencies.

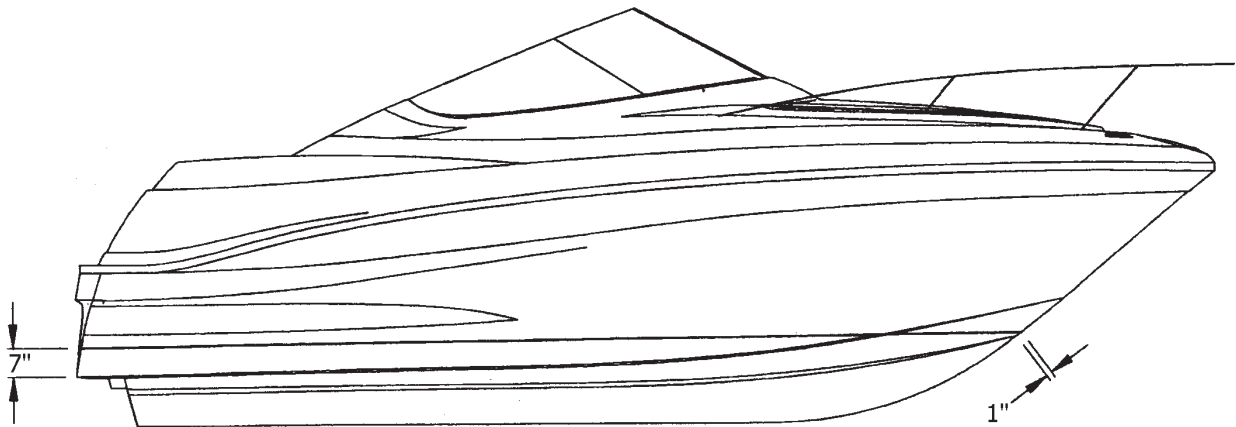


Figure P2: 248 Vista™ Bottom Paint Line Location

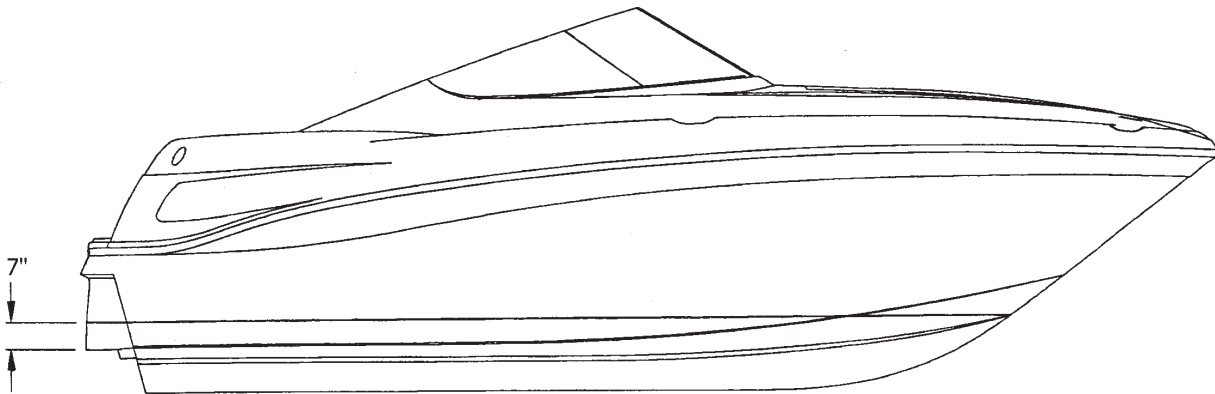


Figure P3: 268 Vista™ Bottom Paint Line Location

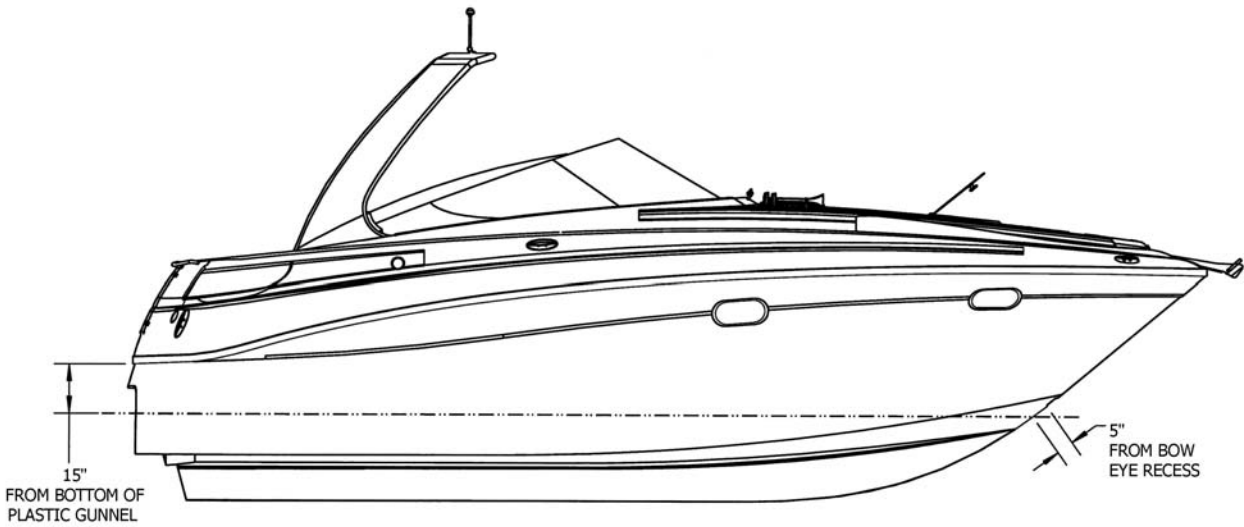


Figure P4: 288 Vista™ Bottom Paint Line Location

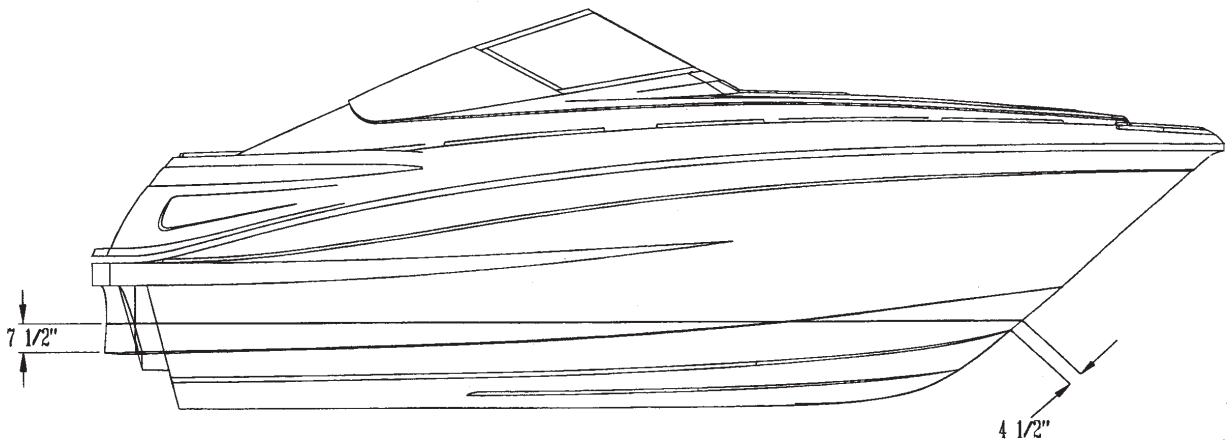


Figure P5: 298 Vista™ Bottom Paint Line Location

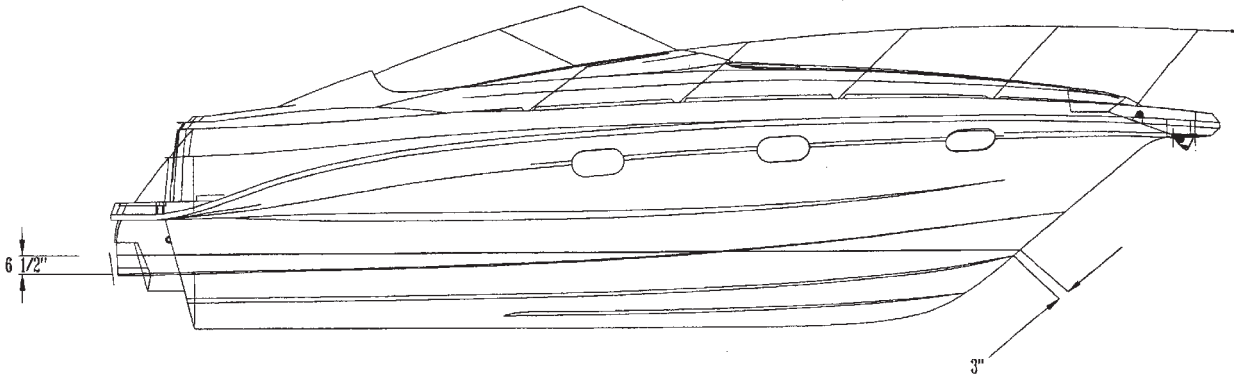


Figure P6: 328 Vista™ Bottom Paint Line Location

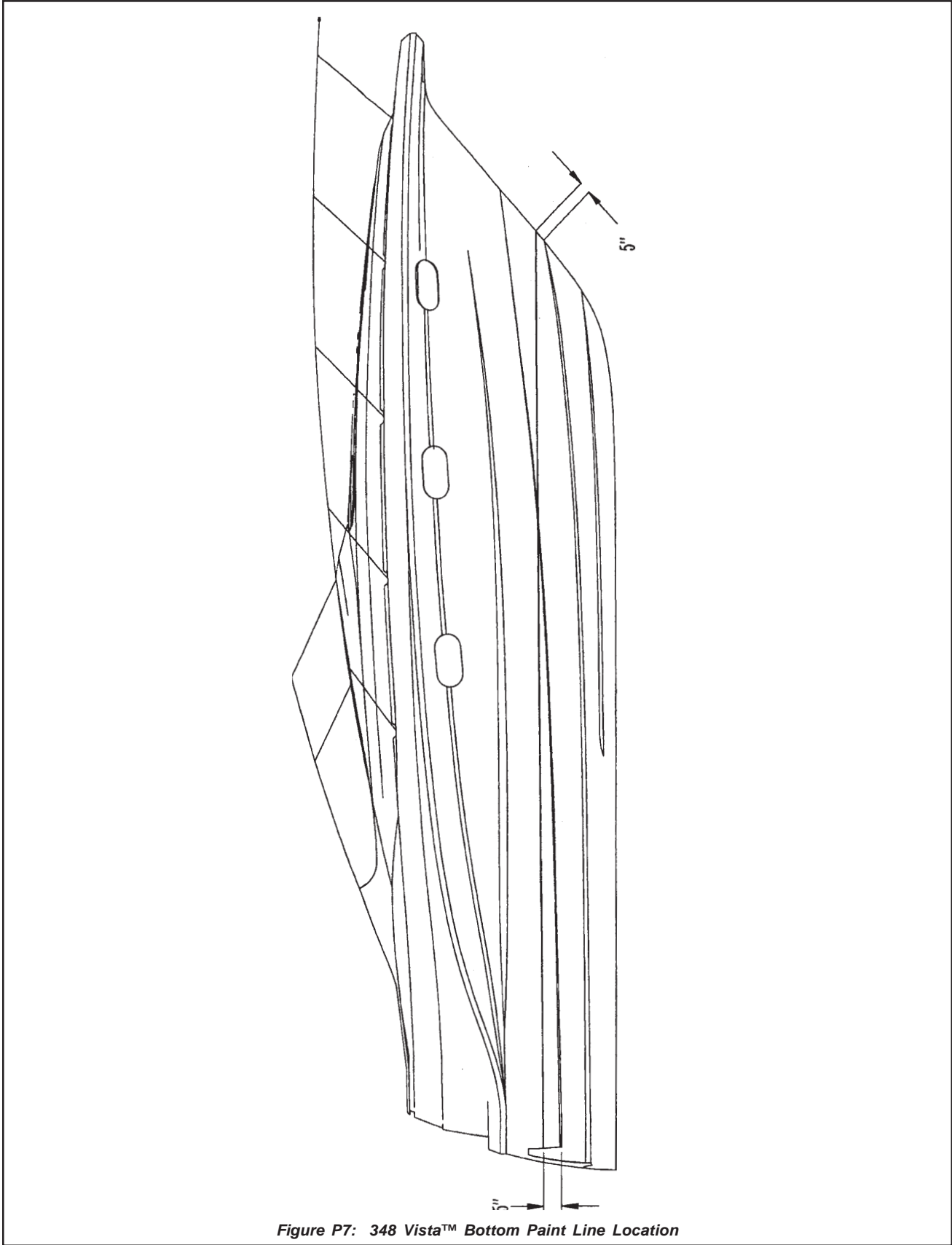


Figure P7: 348 Vista™ Bottom Paint Line Location

WOODWORK AND COMPOSITES

Q - 1 HIGH-PRESSURE LAMINATE CARE

Much of the Vista™ interior components such as the shelving, head door, closets, closet door and drawer fronts consist of a high pressure laminate material. The finish is that of a synthetic cherry and can be cleaned with hand dish washing soap and water or other cleaning solutions such as Fantastik™. Always read the label before using any product.

NOTICE

DO NOT use abrasive cleaners or solvents on laminate. DO NOT use Soft Scrub soap or similar cleaning products; they will scratch the surface and remove the shine.

Q - 2 CHERRY

Four Winns uses cherry wood trim throughout the Vista™ model interiors. The wood is prepared with a light stain followed by a polyurethane finish. To clean, a damp cloth will usually suffice. Care should be similar for cherry as it is for fine, household furniture. See Figure Q1.



Figure Q1: Cherry Dinette Table - Representative View

NOTICE

“Representative View” indicates the quantity, location, size & shape of equipment depicted may vary from model to model and is subject to change without notice. Availability may also vary.

Q - 3 STAR BOARD

Star board is a high density polyethylene (plastic) and is very durable and fade resistant. Star board requires little maintenance, and is being used in place of wood in many areas of the boat.

To clean star board, use a solvent-free, nonabrasive cleaner such as hand dish washing soap or Fantastik™. Read the label before using any cleaning product.

NOTICE

Star board will stain when exposed to certain oils or chemicals. Always wipe up any spills immediately.

Q - 4 LAMINATED FIBERGLASS

Some models come with a cockpit table option which consist of a laminated fiberglass material. See Figure Q2. It can be cleaned with mild dishwashing soap and water. Always read the label before using any product.

NOTICE

DO NOT use abrasive cleaners or solvents on cockpit table. DO NOT use Soft Scrub™ soap or similar cleaning products; they will scratch the surface and remove the shine.

NOTICE

DO NOT use cockpit table as a cutting board. The knife will leave gouges/marks in the surface of the table.



Figure Q2: Cockpit Table

Q - 5 BURLWOOD MAHOGANY ENHANCEMENTS

Mahogany enhancements are standard on the Vista™ models. They consist of a finished synthetic burlwood mahogany. This mahogany can be found in the instrument gauge panels, switch panel, steering wheel and ignition switch panels of the Vista™ series. To clean, a damp cloth will usually suffice. See Figure Q3.



Figure Q3: Burlwood Helm - Representative View

Q - 6 GRANICOAT™ GALLEY COUNTERTOP

The countertop for certain cabin galleys is made of laminated fiberglass with an exterior skin of Granicoat™ gel coat. This makes for an extremely strong yet lightweight countertop. The Granicoat™ gel coat gives the appearance of “granite” and is both temperature and stain resistant. It can be cleaned with hand dish washing soap and water or other cleaning solutions such as Fantastik™. Always read the label before using any product. Please read the notices below. See Figure Q4.



Figure Q4: Galley Countertop - Representative View

NOTICE

DO NOT use abrasive cleaners or solvents on countertop. DO NOT use Soft Scrub™ soap or similar cleaning products; they will scratch the surface and remove the shine.

NOTICE

DO NOT set hot pans or dishes directly on the countertop. The countertop may become burnt and/or discolored. Use of a hot pad will prevent any discoloration from occurring.

NOTICE

DO NOT use countertop as a cutting board. The knife will leave gouges/marks in the surface of the countertop. A cutting board that fits over the sink is provided.

Q - 7 CORIAN® MATERIAL

Corian® material is utilized in the entertainment center countertop and head sink countertop of certain Vista™ models. A Corian® insert may also be found in certain Vista™ galley countertops as well. The Corian® gives these countertop a rich look and makes for an extremely strong yet lightweight top. It can be cleaned with hand dish washing soap and water, or other cleaning solutions such as Fantastik™. Always read the label before using any product. See Figure Q5.



Figure Q5: Entertainment Center - Representative View

Q - 8 ACRYLIC PLASTIC - (PLEXIGLASS)

Acrylic plastic is utilized in the companionway doors, transom doors, deck hatches, portlight windows, sliding storage doors, electrical panel doors, cabinets and cabin windows.

To clean acrylic plastic:

- 1) Rinse with plenty of water to wash off as much dirt as possible.
- 2) Using your bare hand, along with plenty of water, feel and remove any dried on dirt or mud.
- 3) Wash using a soft, grit free cloth or sponge and mild, nonabrasive soap or detergent.
- 4) Blot dry using a clean, damp chamois.

NOTICE

Never use a dry cloth, duster, glass cleaning solutions or citrus cleaner on acrylic plastic.

NOTICE

Do not use solvents such as acetone, silicone spray, benzine, carbon tetrachloride, fire extinguisher fluid, dry cleaning fluid, lacquer thinner or ammonia. These solutions attack the acrylic surface.

You can use fine automotive acrylic rubbing and polishing compounds to remove fine scratches on acrylic.

GENERAL MAINTENANCE

R - 1 WINTERIZATION

A. Prior to Lifting for Winter Lay-up

1. Pump out the head (dockside discharge), and be sure the holding tank is empty. Flush the head holding tank with soap, water and a deodorizer (e.g., Lysol Liquid™). Add more water if necessary. Have the cleaning solution pumped out.
2. Have the fuel tank either full or completely empty. See the Engine Owner's manual for recommendations. Also, check with the dry dock operators for recommendations. If winter storing with a full fuel tank, gasoline winterizer such as Sta-bil® fuel conditioner, will reduce varnishing, condensation, etc.

NOTICE

If the fuel has been treated with winterizer, run engines for ten minutes to make sure the treated fuel is present in all lines and parts of the engines.

3. Drain water from the fresh water system and the hot water heater.
4. Winterize the engine and drive systems as recommended in the engine owner's manual (applies to both gas and diesel systems). Portions of this winterization procedure may require that the boat be lifted. Winterization of engine and boat systems should be performed by qualified service personnel.
5. Lift the boat only at the designated "sling" labels. See Section P-7 - Hull Support and the Preface page 6 of this manual for additional details.

B. After Lifting

1. Remove the drain plug.
2. Thoroughly wash the fiberglass exterior, especially the hull bottom. Remove as much marine growth as possible. Wax lightly.

3. Lower boat onto cradle properly or place boat on trailer. Be sure boat is adequately supported. The boat should be raised slightly under the forward supports or trailer tongue to improve drainage to the transom drain.
4. Be sure all the water is completely drained from the fresh water system. Disconnect all hoses, check valves, etc. and blow all the water from the system using very low air pressure. The use of nontoxic, fresh water system antifreeze is recommended as an alternative to disassembling the water system. Refer to Section J-7 - System Maintenance in this manual for information on winterizing the water system.
5. Winterize the head as recommended by the head manufacturer. If the boat is equipped with a holding tank, mix some antifreeze solution and pour it into the head. Transfer some of the antifreeze to the holding tank by flushing the head. Also, refer to Section J-7 - System Maintenance for additional information.
6. Drain or winterize the air conditioning and generator system. Follow the appropriate manufacturer's directions. Be sure all water intake filters are drained thoroughly.
7. Ensure that all water is removed from the sump pump, bilge pump and bilge pump lines. Dry the hull bilge, and self-bailing cockpit drain troughs. Water freezing in these areas could cause damage. See Section K-3 - Hull Drainage Systems.
8. Remove the batteries and store in a cool place. Clean the batteries using clear, clean water. Be sure the battery has sufficient water and clean terminals. Keep the batteries charged throughout the storage period. DO NOT store the batteries on a concrete floor or other damp or conductive surface.
9. Drain the alcohol out of the stove (if applicable) and store alcohol in a cool, dry place away from heat or spark.
10. Clean the boat interior thoroughly. Vacuum carpets, and dry clean drapes and upholstery jackets as necessary.

11. Wash exterior fiberglass components, wax lightly.
12. Clean exterior upholstery with hand dish washing soap and water, rinse, and dry thoroughly.
13. Remove all oxidation from exterior hardware and apply a light film of moisture - displacing lubricant.

C. Prior to Winter Storage

1. Remove as many cushions as possible. Remove storage lids or hatches. Open as many locker doors, as possible. Open the refrigerator door. Leave these areas open to improve ventilation.
2. Spray the weather covers and the boat upholstery with Lysol Spray Disinfectant™. Enclosed areas such as the refrigerator, shower basin, storage locker areas, etc. should also be sprayed with Lysol Disinfectant™.
3. Place small dishes of rodent poison such as D-Con™ in a number of areas around the boat. Be sure dishes are placed near the head and the engines, as rodents will destroy upholstery, water intake and discharge hoses.
4. If the boat will be in outside storage, properly support a storage cover and secure it over the boat. DO NOT secure the cover tightly to the boat. This does not allow adequate ventilation and can lead to dry rot. DO NOT store the boat in a damp storage enclosure. Excessive dampness can cause electrical problems, corrosion, and dry rot.



WARNING

Placing an electric or fuel burning heating unit in the bilge of the boat during cold weather could cause fire or explosion and is not recommended.

5. DO NOT use the bimini top or camper top as a winter storage cover. The life of these covers may be significantly shortened if exposed to harsh weather elements for long periods.

NOTICE

Boats stored outside in areas with heavy snow accumulation are more susceptible to damage, and should be inspected regularly during the winter months.

R - 2 ENGINE FLUSH OUT

The optional engine flush out (if applicable) should be used to clean the engine of unwanted salt, mud, sludge, etc. which may have accumulated in the engine cooling system. Before winterizing the engine, flush out the system for at least five minutes.



CAUTION

Make sure that no section of flush hoses are in contact with moving or hot engine parts or abrasive surfaces such as screw threads, sharp edges, etc., which could damage the hoses. Damage to the hoses could cause leaks and possible flooding of the engine compartment. Periodically check hoses for abrasions.

NOTICE

The Four Winns flush out kit may be used with the boat in or out of the water and the engine OFF. If engine comes with flush out kit from the engine manufacturer, refer to engine operator's manual.

To flush out the engine with Four Winns installed flush out kit, follow the instructions below.

1. **Do not run engine during flushing procedure.**
2. Remove cap from coupling and attach swivel connector.
3. Attach water supply hose to swivel connector.
4. Turn water on and allow water to flush the engine and exhaust manifold for five to ten minutes.
5. Turn water off. Disconnect hose; replace and tighten cap securely.



CAUTION

Reinstall cap onto coupler after flushing. Flooding of the engine compartment will occur if the cap is not installed and tightened.

R - 2 GENERAL MAINTENANCE SCHEDULE

SERVICE	AT LAUNCH AND FIRST OPERATION*	25 HOUR CHECK EACH SEASON*	BI-SEASONALLY OR EVERY 6 MONTHS OR EVERY 100 HOURS*	SEASONALLY OR EVERY 12 MONTHS OR EVERY 200 HOURS*
Engine and Instrumentation	Refer to Section E			
Engine Maintenance	As Recommended by the Manufacturer			
Inspect Exhaust System Hoses and Connections				
Inspect Cooling System Hoses, Connections and Impellers				
Check Propellers				
Check All Thru-Hull Fittings				
Test Emergency Shut-Off Switch				
Gauge Cleaning				
Controls Systems	Refer to Section F			
Throttle and Shift Adjustment				
Neutral Safety Switch Test				
Cable and Control Lubrication				
Steering Systems	Refer to Section G			
Linkage and Connection Inspection				
Stern Drive Torque Tab Adjustment				
Power Steering Service	As Recommended by the Manufacturer			
Steering Adjustments				
Steering System Lubrication				
Electrical Systems	Refer to Section H			
Inspect Battery Connections				
Check Battery Water				
Battery Cable Inspection				
12 Volt Electrical Equipment Operation				
12 Volt Wiring and Connection Inspection				
120 Volt Electrical Equipment Operation				
120 Volt Wiring Inspection				
120 Volt System Continuity Test				
Shore Power Cord and Adapter Inspection				
Polarity Light Operation				
Receptacle and Connection Inspection				
Generator Maintenance	As Recommended by the Manufacturer			
Inspect Generator Water Intake and Exhaust				

* Or as Required

SERVICE	AT LAUNCH AND FIRST OPERATION*	25 HOUR CHECK EACH SEASON*	BI-SEASONALLY OR EVERY 6 MONTHS OR EVERY 100 HOURS*	SEASONALLY OR EVERY 12 MONTHS OR EVERY 200 HOURS*
Fuel System	Refer to Section I			
Inspect for Leaks				
Fuel Sender Inspection				
Fuel Filter Inspection				
Fuel Tank Inspection				
Water Systems	Refer to Section J			
Inspect All Water Systems				
Fresh, Grey & Holding Tank Inspections				
Drain & Flush Fresh Water System				
Drain & Flush Waste Water System				
Drain & Flush Grey Water System				
Ventilation and Drainage	Refer to Section K			
Engine Blower Operation	Before Every Use			
Head Blower Operation				
Blower Vent System Cleaning				
Bilge Pump Operation and Cleaning	Before Every Use			
Check Transom Drain Plug				
Deck Hatch, Porthole & Aft Window Cabin Operation				
Interior Equipment	Refer to Section L			
Head Maintenance	As Recommended by the Manufacturer			
Thru-Hull Fitting Inspection				
Icemaker and Refrigerator Cleaning				
Clean Cooler	As Required			
Inspect Stove Fuel System				
Stove Maintenance	As Recommended by the Manufacturer			
Exterior Equipment	Refer to Section M			
Check PFD's for Serviceability and Correct Number	As Required			
Check Charge of Fire Extinguishers	As Required			
Clean Spotlight				
Check Compass for Magnetic Deviation				
Windlass Maintenance	As Recommended by the Manufacturer			
Check Trim Tab Fluid Level				
Check Trim Tab System for Leakage				
Clean Windshield	As Needed			

* Or as Required

SERVICE	AT LAUNCH AND FIRST OPERATION*	25 HOUR CHECK EACH SEASON*	BI-SEASONALLY OR EVERY 6 MONTHS OR EVERY 100 HOURS*	SEASONALLY OR EVERY 12 MONTHS OR EVERY 200 HOURS*
Upholstery	Refer to Section N			
Clean Upholstery				
Clean Carpet				
Spray Upholstery with Lysol				
Check Seat Hinges and Mounting Hardware				
Weather Covers	Refer to Section O			
Wash Weather Covers				
Spray Weather Covers with Lysol				
Fiberglass Components and Hull	Refer to Section P			
Check All Fastenings (securing rails, seats, etc.)				
Clean Fiberglass Thoroughly				
Wax Hull Sides and All Non-Tread Areas				
Inspect Fiberglass Areas for Damage				
Perform Minor Touch-Up Repairs				
Sand Hull and Re-Apply Anti-Fouling Paint				
Woodwork & Composite Maintenance	Refer to Section Q			
Clean Wood Trim & Wood Table	As Needed			
Clean Star Board	As Needed			
Clean Cockpit Tables / Countertops	As Needed			
Clean Plexiglass Components	As Needed			
Trailers (Applicable Models Only)	Refer to Section S			
Wax Trailer				
Lubricate Trailer Jack				
Lubricate Trailer Coupler				
Lubricate Trailer Winch				
Brake Operation	Before Every Use			
Brake Inspection				
Inspect Hubs/Disc Brakes				
Inspect Bearings & Seals				
Lubricate Bearings				
Springs, Hangers & Suspension Parts				
Wheel Lug Nut				
Wheels				
Tire Pressure & Condition	Before Every Use			

* Or as Required

TRAILER INFORMATION

S - 1 GENERAL TRAILER INFORMATION

The trailer must properly “match” the boat’s weight and hull design. Four Winns® trailers are designed specifically for certain Vista™ models only. Please consult our website at www.fourwinns.com or your Four Winns dealer for applicable trailer models. Four Winns® trailers meet or exceed the National Marine Manufacturers Association’s trailer requirements.

Four Winns manufactures bunk type trailers for these applicable Vista™ models only. The bunks are located specifically for Four Winns® boats and adequately support all parts of the boat. It is a “drive-on” type trailer which means winching the boat from the water is not necessary.

NOTICE

When winching the boat onto the trailer, **be sure the bunks are wet to prevent damage to the boat or trailer.** DO NOT attempt to winch the boat forward when out of the water. Damage to the winch stand/assembly or tongue could occur.

Four Winns offers both painted and galvanized trailers. The painted trailer is intended to be used in fresh water and the galvanized trailer in salt/brackish water.

NOTICE

Four Winns does not recommend the usage of painted trailers for salt/brackish water conditions, as trailer life may be substantially reduced.

A. Regulations

Federal law requires that the trailer and tire registration information be compiled and recorded. The Four Winns® boat registration card includes trailer registration information. A trailer tire warranty card included in the owner’s packet, is to be filled out and returned to the tire manufacturer.

NOTICE

The warranty of the tire is administered by the manufacturer of the tire. The manufacturer of the tires on your trailer is Carlisle Tire. Please call 1-800-260-7959 regarding any warranty concerns relating to your tires.

Laws covering such items as trailer brakes, lights, safety chains, etc., will vary from state to state. Please contact the motor vehicle department in your state for additional information.

B. Load Carrying Capacity

The certification label shows the maximum load-carrying capacity and is located on the port forward side of the trailer. The Gross Vehicle Weight Rating (GVWR) is the load-carrying capacity plus the weight of the trailer itself. DO NOT exceed the GVWR rating for the trailer.

NOTICE

When using or choosing a tow vehicle with the correct GVWR, you must consider not only the weight of the boat and trailer but also the weight of the fuel, water, equipment, etc. Refer to Table 1 below:

EQUIPMENT	WEIGHT (AVERAGE)
Battery	60 Lbs./Battery
Fuel	6.5 Lbs./Gal.
Water	8 Lbs./Gal.
Accessories	350 Lbs. (Approximate)

Table 1: Average Equipment Weight

If selecting a trailer from another manufacturer, check the load-carrying capacity. A trailer with a load-carrying capacity that is too low will be unsafe on the highway and could cause sudden failure of critical trailer components or abnormal tire wear. A trailer with too high of a load-carrying capacity that is sprung for heavy loads can damage a lighter boat.

NOTICE

DO NOT overload your trailer by placing camping gear or other heavy equipment in the boat. DO NOT exceed the GVWR rating. Damage to the hitch, coupler, or trailer may occur.

Improper weight distribution can place excessive strain on the towing vehicle and trailer. It can also cause the trailer to “fishtail” (sway side to side). Be sure gear and other items are distributed evenly in the boat.

C. Hitches

The load-carrying capacity of trailer hitches will vary between manufacturers and must equal or exceed the GVWR. Four Winns® trailers use surge disc brake systems and require a fixed hitch. Refer to Section S-2E Surge Disc Brakes for more information.

Before hitching the trailer to the vehicle, make sure the proper size hitch ball is installed to match the coupler. The ball size is determined by the Gross Vehicle Weight Rating or GVWR. The GVWR is printed either on the trailer plate or embossed on the tongue, coupler or actuator. For trailers with a GVWR of 7000 pounds or less a 2” ball is used. For trailers with a GVWR over 7000 pounds a 2 5/16” ball is used. This information may also be obtained on our website at www.fourwinns.com. Refer to Section S-3 Operation for additional information on hitches. Also, consult your Four Winns dealer for his recommendation before purchasing a trailer hitch for your towing vehicle.



WARNING

To help guard against a sudden failure while in use, **do not use a worn hitch ball**. Replace all worn or damaged parts.

S - 2 TRAILER COMPONENTS

A. Bunk Supports

All bunk boards are made of pressure treated wood. This wood is rot resistant. All boards are covered with a high quality exterior grade carpet to protect the boat from damage during normal use.

Bunk supports run parallel to the keel and support the hull, extending beyond the transom. See Figure S1.

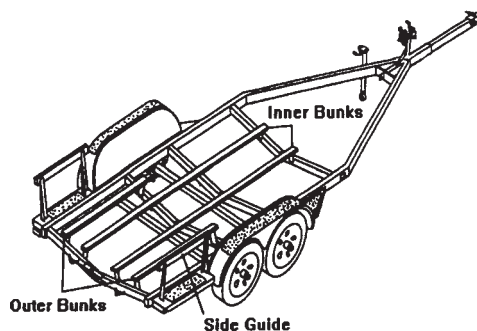


Figure S1: Trailer Bunks

Outer bunk supports provide stability for the boat. The inside bunks are the main weight bearing members. Side guide-on supports help to keep the boat straight while driving the boat onto the trailer. Keeping the tie-downs tightly fastened will prevent the boat from bouncing against the bunk supports.

NOTICE

Improper trailer setup can cause hull damage.

B. Tongue

Four Winns® trailers are designed with tongue weights between 5% and 10% of the total weight of the boat, fuel, gear and trailer. If the downward weight on the coupling ball does not fall within this range, coupler failure and towing instability may occur. If using another manufacturer’s trailer, have the dealer check the tongue weight before trailering.

NOTICE

DO NOT use a bent or damaged tongue or coupler. Replacement parts may be ordered through a Four Winns dealer.

The trailer tongue is hinged or removable on our painted trailers and galvanized trailers. This allows for easier storage. The tongue is attached with clevis pin(s) with locking hair pin(s) or clevis pin keeper(s) to the trailer frame. Refer to Figure S2.

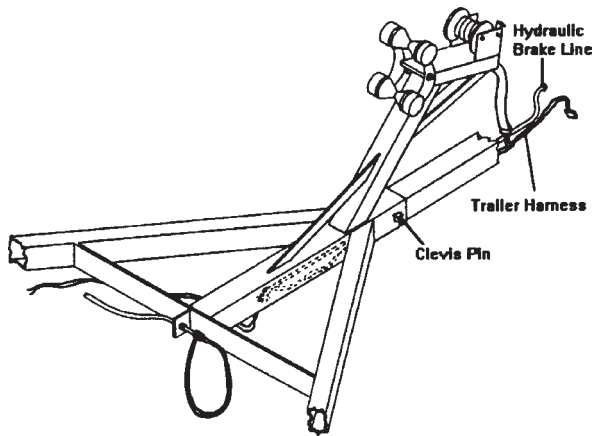


Figure S2: Trailer Tongue Assembly

To pivot the tongue on trailers models with hinge located inside the receiver:

1. Make sure the trailer jack is supporting the trailer load properly. Refer to Section S-2C on Swivel Jacks for additional information.
2. Unplug the wire harness at the trailer cross member.
3. Disconnect the brake line coupler.
4. Remove the locking hair pins and clevis pins. Please note, the locking hair pins must be rotated away from clevis pin and then removed.

NOTICE

The tongue will exert some pressure on the clevis pins. It may be necessary to lift, push or wiggle the tongue to remove the clevis pins.

5. Slide trailer tongue out of receiver until the hinge is exposed. Pivot the tongue towards the trailer as far as it will go.

To reinstall, follow this procedure in reverse order.

1. Pivot the tongue so that it extends straight and is in alignment with the receiver.

NOTICE

When extending tongue ensure that the brake line and wire harness are not pinched. Failure to check could result in damage.

2. Slide the trailer tongue into the receiver until the clevis pin holes are aligned.
3. Insert clevis pins with washers and locking hair pins.

NOTICE

The tongue will exert some pressure on the clevis pins. It may be necessary to lift, push or wiggle the tongue to insert the clevis pins.

4. Reconnect the brake line coupler.
5. If towing the trailer, remember to plug the 5-wire tongue harness to the trunk connector wire harness of your tow vehicle.

CAUTION

Make sure the trailer tongue is secure before hitching to the towing vehicle.

To pivot the tongue on trailers models with exposed hinges:

1. Make sure the trailer jack is supporting the trailer load properly. Refer to Section S-2C on Swivel Jacks for additional information.
2. Unplug the wire harness at the trailer cross member.
3. Disconnect the brake line coupler.
4. Remove the clevis pin keeper and clevis pin.

NOTICE

The tongue will exert some pressure on the clevis pins. It may be necessary to lift, push or wiggle the tongue to remove the clevis pins.

5. Pivot the tongue towards the trailer as far as it will go.

To reinstall, follow this procedure in reverse order.

1. Pivot the tongue until the clevis pin hole is aligned.

NOTICE

When extending tongue ensure that the brake line and wire harness are not pinched. Failure to check could result in damage.

2. Insert clevis pin. **Always** be sure to insert clevis pin from the top and insert the clevis pin keeper.

NOTICE

The tongue will exert some pressure on the clevis pins. It may be necessary to lift, push or wiggle the tongue to insert the clevis pins.

4. Reconnect the brake line coupler.
5. If towing the trailer, remember to plug the 5-wire tongue harness to the trunk connector wire harness of your tow vehicle.

To remove the tongue on painted or galvanized trailers:

1. Make sure the trailer jack is supporting the trailer load properly. Refer to Section S-2C on Swivel Jacks for additional information.
2. Unplug the wire harness at the trailer cross member.
3. Disconnect the brake line coupler.
4. Remove the locking hair pin and clevis pin. Please note, the locking hair pin must be rotated away from clevis pin and then removed.

NOTICE

The tongue will exert some pressure on the clevis pins. It may be necessary to lift, push or wiggle the tongue to remove the clevis pin.

5. Slide trailer tongue out of receiver and store in a proper place. If the trailer has brakes, store the tongue upright to prevent brake fluid from leaking.

To reinstall, follow this procedure in reverse order.

CAUTION

Make sure the trailer tongue is secure before hitching to the towing vehicle.

C. Swivel Jack

The jack is designed to lift, lower and support the tongues of the trailers when not connected to the towing vehicle. Before unhitching the trailer, use the following guidelines when setting up the jack.

1. Pull on the lock pin. See Figure S3.

2. Swivel jack to the vertical position.

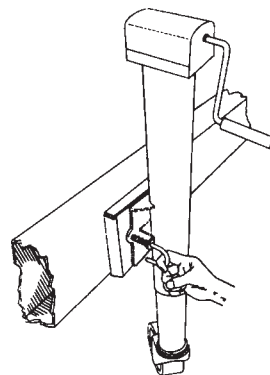


Figure S3: Swivel Jack

3. Release the lock pin and make sure the pin fully engages the attached tongue bracket.

CAUTION

Be sure dirt, sand, ice, etc., does not obstruct the proper seating of the lock pin.

4. When raising or lowering the jack, prevent the caster from rotating while cranking. Make sure the jack is planted on a firm and level surface before unhitching the trailer.

WARNING

To prevent personal injury or damage to the boat and trailer, observe the following:

- NEVER pull on the lock pin when any trailer weight is on the trailer jack.
- DO NOT move the trailer when resting on the swivel jack. Use towing vehicle to move the boat and trailer.
- Keep body and feet clear of trailer tongue when raising or lowering jack.

Always remember to swivel jack to the horizontal position before towing the trailer. Damage to the caster and jack may result.

The swivel jack provided on the Four Winns® trailer can be removed from the trailer to allow for maintenance or repairs. Follow the manufacturer's recommendations provided in the owner's packet.

D. Coupling Assembly

To unlock the coupler, pull the locking trigger upward with your index finger and lift the locking lever. To lock, push the locking lever down. See Figure S4.

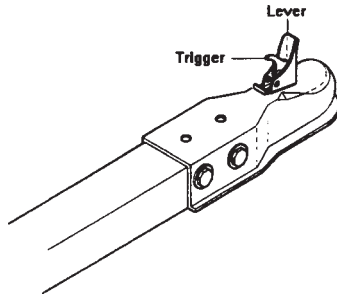


Figure S4: Coupling Assembly

This is also applicable to the Surge Disc Brake Actuator and Coupling Assembly.

E. Surge Disc Brakes

Surge disc brakes are available on model trailers manufactured by Four Winns. Surge disc brakes operate automatically when the tow vehicle's brakes are applied. When the tow vehicle slows down or stops, the forward momentum or "surge" of the trailer against the hitch ball applies pressure to a master cylinder in the trailer coupler. The master cylinder supplies hydraulic pressure through the hydraulic system which activates the trailer's disc brakes. See Figures S5 and S6. Please refer to the manufacturer's literature included in your owner's packet for further details regarding operation and maintenance.

The benefits of disc brakes in comparison to drum brakes:

- Fewer moving parts.
- Longer life due to fewer moving parts.
- Friction pads are easily accessible.
- Easy access to caliper for cleaning and maintenance.
- Calipers are self-adjusting allowing smoother braking operation.
- Braking performance less likely to be affected by dirt, water, or rust contamination.
- Fade resistant.

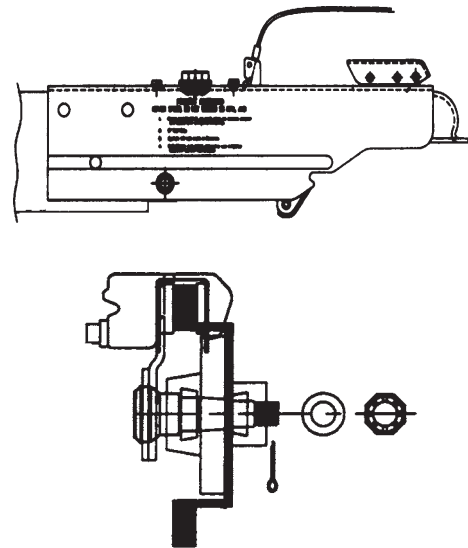


Figure S5: Brake Actuator & Coupling Assembly and Brake

For boat models with the Surge Brake Actuator and Coupling Assembly shown in Figure S6, lift the release handle to unlock the coupler. Push down on the release handle/locking lever to lock the trailer to the ball hitch. The locking pin, provided with the trailer, or a padlock **must be inserted** in the locking lever hole. This ensures the coupler's locking lever remains in the locked position during towing of the trailer. Refer to Section S-3 Operation for additional information on couplers and hitching to the tow vehicle.

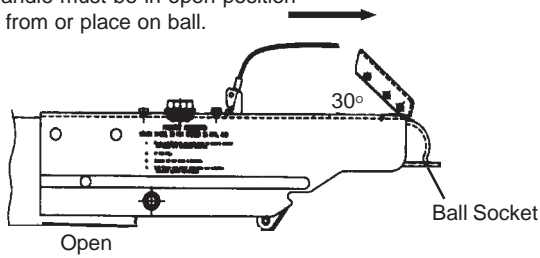
NOTICE

Anti-sway devices as used on recreational vehicles (RV's) are not applicable to surge brake systems and should not be used on Four Winns® trailers.

DO NOT use a trailer hitch with moving parts. The brakes could activate when traveling downhill. Always use a fixed hitch.

If the brakes are wet from loading, travel at a slow speed and apply the brakes on your towing vehicle several times to "dry" out the trailer brakes.

Release handle must be in open position to remove from or place on ball.



Release handle must be fully closed and pin inserted before towing.

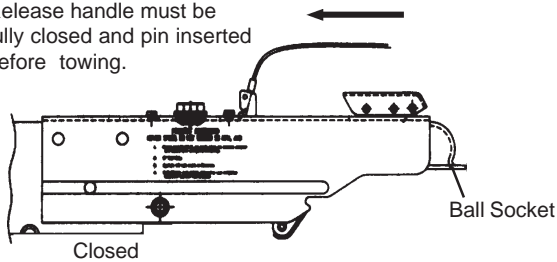


Figure S6: Surge Brake Actuator & Coupling Assembly

The brake actuator and coupling assembly comes with a 5-wire plug for connecting to the tow vehicle's trailering harness. Figure S7 depicts the 5-wire plug, the color of the individual wires, and the designated circuit for each wire.



Figure S7: 5-Wire Plug Harness

For maintenance and other information, refer to the manufacturer's literature included with in the owner's packet.

F. Winch

Winch operating instructions are listed below.

To release the winch, place the ratchet in the REVERSE or NEUTRAL position. The winch handle may spin when pulling on the winch line.

CAUTION

To prevent personal injury, observe the following:

A spinning winch handle can cause injury. Be sure the area is clear.

DO NOT release the handle when the ratchet is disengaged. Be sure the ratchet is engaged or no load is on the winch before releasing the handle.

CAUTION

To prevent personal injury, ALWAYS inspect the winch line and hook before each use. NEVER use line that is worn or frayed. NEVER let anyone stand in or behind a boat while pulling with the winch.

CAUTION

A clicking sound will be heard when the winch is properly engaged. If a clicking sound is not heard, DO NOT release the handle. Handle may spin backwards. Lower the load into a safe position before releasing the handle.

To rewind the winch, ALWAYS engage the ratchet first. Turn the handle in the appropriate direction to rewind the line.

Refer to the manufacturer's literature, included in the owner's packet, for more information on winch operation.

G. Tires & Wheels

Trailer wheel rims are available in three types of finishes: white, aluminum and galvanized. The white, powder coat finish is standard. Aluminum rims (Mags) are optional on painted trailers. Galvanized trailers are equipped with matching galvanized rims. Spare tire covers are available as an option and will match the trailer.

The tires installed on Four Winns® trailers meet the trailer load requirements for each model. Before trailering, make sure the tires are inflated according to the manufacturer's recommendation. Tire pressure information is noted on the tire and in the manufacturer's literature included in the owner's packet.

NOTICE

Carlisle Tire Registry

Ensure to fill out your name and address on the tire registration form provided in your owners packet. Mail it to the tire manufacturer for the purposes of compliance with Federal defect notification regulations.

Mag wheels include a locking-type nut to help deter theft. This nut requires a special key or socket to remove. The socket will be included with your trailer when mag wheels are ordered. Refer to Figure S8.

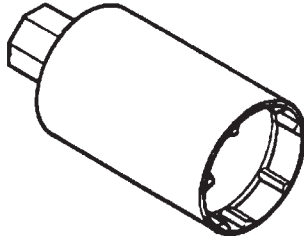


Figure S8: Mag Wheel & Mag Wheel Key (Socket)

NOTICE

DO NOT use an air wrench or other power equipment to install lug nuts on aluminum (Mag) wheels. Damage to the wheel may result. Lug nuts should be torqued to 85 foot pounds.

Examine the tires frequently for snags, bulges, excessive tread wear, separations or cuts.

Refer to the manufacturer's literature included in the owner's packet for more information.

NOTICE

The warranty of the tire is administered by the manufacturer of the tire. The manufacturer of the tires on your trailer is Carlisle Tire. Please call 1-800-260-7959 regarding any warranty concerns relating to your tires.

H. Spare Tire Carrier

Spare tires are optional on all Four Winns® trailers. A spare tire carrier is bolted to the trailer frame and is available in painted or galvanized finish. A spare tire carrier and wheel can be ordered from your Four Winns dealer. Refer to Figure S9.

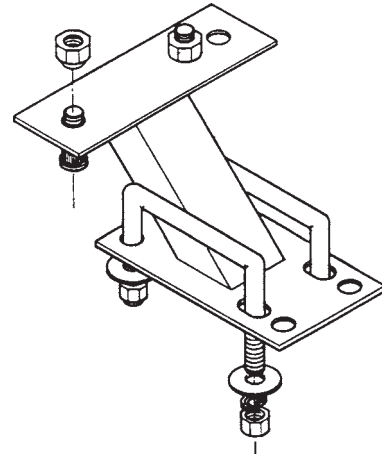


Figure S9: Spare Tire Carrier

I. Lights

Four Winns® trailers are equipped with taillights, brake lights, turning signals, and clearance lights. All lights are sealed to prevent moisture from entering. The taillight bulb and/or assemblies may be replaced. The bulb to the taillight is enclosed in a sealed housing which can be opened for bulb replacement. Contact your Four Winns dealer for assistance.

NOTICE

Use a heavy duty turning signal flasher on towing vehicles. Check with your local auto parts store or ask your Four Winns dealer for assistance.

Consult your dealer for state trailer regulations concerning lighting and other optional equipment.

J. Tie-downs

The boat should be secured to the trailer by tie-downs to prevent damage to the hull. The boat may shift or bounce against the bunks or hull supports if not secured. It may also slide or fall off the trailer while being towed.

There are two types of tie-downs being used:

1. **Bow Tie-downs:** A bow stop to hold the front of your boat in place is located on the winch stand. It should be positioned so that the winch line pulls straight and is parallel to the trailer frame. A separate tie-down should then be attached to hold the boat. See Figure S10.

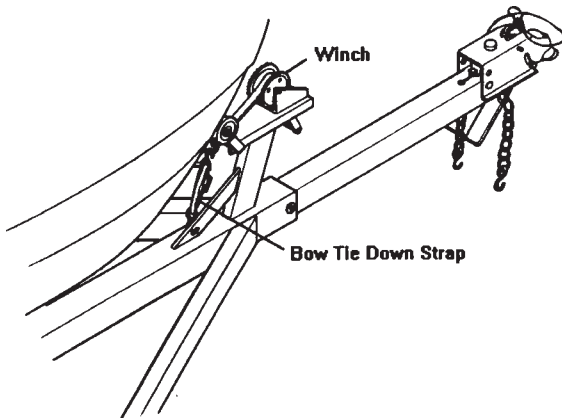
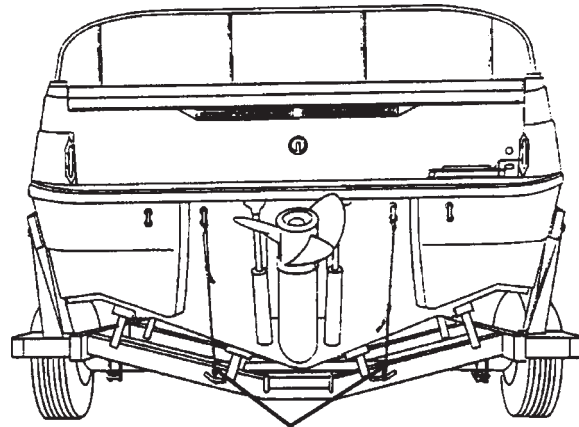


Figure S10: Bow Tie Down Strap

NOTICE

DO NOT rely on the winch cable (or line) alone to hold the bow of the boat against the bow stop. A bow tie-down is provided with the Four Winns® trailer.

2. **Rear Tie-downs:** It is very important that the transom is resting securely on the bunk supports at the rear of the trailer. Rear tie-downs are provided to secure the boat to the trailer. Tighten the tie-downs to prevent the boat from moving. See Figure S11.



Rear Tie Down Straps

Figure S11: Rear Tie Down Straps

The tie-down is a mechanical ratchet device. To allow line out, follow the procedures below:

1. Place two fingers on spring-loaded release, and pull release away from spindle/gear.
2. Open tie-down to a flat, 180° position.

NOTICE

Spring-loaded release should click into a notch on the painted handle. Both spring releases should clear the inner gear.

3. Pull line out. The inner spindle/gear should move freely.

To ratchet line or tighten down the strap on the boat:

1. Place two fingers on spring-loaded release, and pull release away from spindle/gear.
2. Bring both handles together. Both handles should ride on the inner gear.
3. Open (to approximately 110°) and close handles to ratchet. Leave in closed position to maintain pressure on line.

S - 3 OPERATION

A. Hitching Trailer

Before towing, the trailer must be properly hitched to the tow vehicle.



WARNING

To ensure proper engagement of the actuator's coupler to the tow ball, **DO NOT** use a multi-piece ball, an incorrectly sized ball, or a worn/damaged ball. Please refer to the trailer's certification plate, coupler or actuator on the trailer for Gross Vehicle Weight Rating (GVWR) or visit our website at www.fourwinns.com. Trailers with a GVWR of 7000 pounds or below require a 2" tow ball and trailers above a GVWR of 7000 pounds require a 2 5/16" tow ball.

1. Position actuator ball socket above ball hitch.
2. Lift up on release handle fully (approximately 30° for a trailer with brake actuator and coupler assembly) to allow the ball latch to rotate open. The handle will remain up to indicate that it is not yet attached to the ball. See Figure S6.
3. Lower trailer tongue until ball is seated or rests in ball socket.
4. Close release handle. If it is a trailer with brake actuator and coupler assembly the handle will snap to its closed position when properly seated.

The release handle will close freely with finger pressure when ball is properly seated in socket. **If the handle does not close freely or does not snap to its closed position properly, do not tow trailer. DO NOT** force handle into closed position, otherwise damage could result. Inspect actuator for bent parts or cause of improper operation.

NOTICE

Keep the coupler clean and lubricated to prevent damage to the coupler.

5. Make sure the actuator is secure. If unsure, extend the trailer tongue jack to the ground and lift (with the jack) the car and trailer combination approximately 2" to 4". If the ball does not disengage and remains secured, the actuator is latched properly.

NOTICE

To prevent back injury, **DO NOT PHYSICALLY LIFT** the trailer tongue when loaded.

6. The locking pin, provided with the trailer, or a padlock **must be inserted** in the locking lever hole. This ensures the coupler's locking lever remains in the locked position during towing of the trailer. Use of a padlock will help to deter theft.
7. Connect break-away cable S-hook securely to one of the tow vehicle hitch's safety chain connection points. The cable should hang clear of trailer tongue and be long enough to permit short radius turns without pulling break-away cable forward. **DO NOT** loop the break-away cable around a bracket and loop it back onto itself.
8. Make sure the break-away lever is fully rotated to the rear with the break-away catch pin securely located under the break-away spring. The break-away catch pin will be in the lever's uppermost notch. See Figure S12.

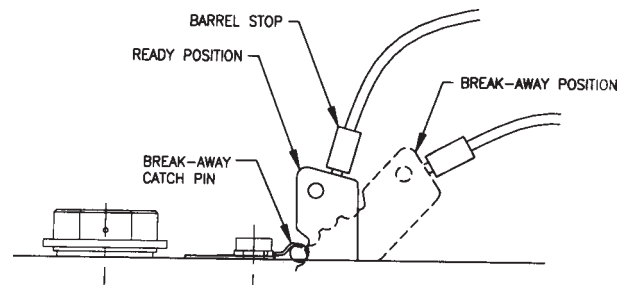


Figure S12: Break-away Cable



CAUTION

The Break-away system is not designed to operate if the trailer does not separate completely from the tow vehicle, or if the trailer tongue "submarines" and goes beneath the tow vehicle. **DO NOT** use break-away cable as a parking brake.

9. Safety chains or cables (depending on which model you have) are provided and must be used. Cross the safety chains/cables under the coupling and attach to the towing vehicle's frame or bumper. See Figure S13. Always allow slack for turns. Four Winns provides securement clips for the safety chain/cable hooks and recommends you use them. Regulations vary from state to state. Please check the local laws in your state.

WARNING

The trailer's safety chain/cable length **MUST** be set short enough so the actuator's break-away cable is **NOT** pulled if the coupler separates from the tow vehicle's hitch but remains connected by the safety chains/cables. The break-away system should only be activated after **BOTH** the trailer's coupler and safety chains/cables have failed and allowed the trailer to completely separate from the tow vehicle. Provide just enough slack in the trailer safety chains/cables to allow short radius turns. The chains/cables should not drag on the ground. **Safety chains/cables must be used.**

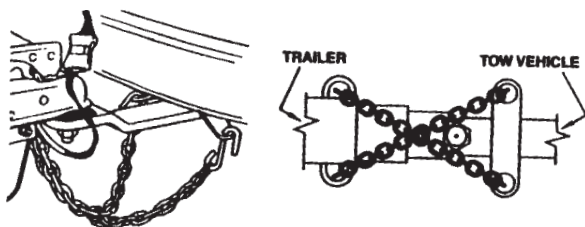


Figure S13: Crossing the Safety Chains/Cables

WARNING

To reduce the risk of Break-away accidents, be sure coupler is seated and safety chains/cables crisscrossed before trailering.

NOTICE

Rubber safety chain straps are included on the "S" hooks to prevent chains/cables from bouncing off of the tow vehicle and **must be used.**

10. Retract jack fully and place in trailering or horizontal position.
11. Check for proper tow vehicle-trailer hookup. The tow vehicle and trailer should be level with a positive tongue load. Four Winns® trailers are designed with tongue weights between 5% and 10% of the total weight of the boat, fuel, gear and trailer. The trailer should be close to level. If unsure of tongue load and trailer position, consult your Four Winns dealer before proceeding.

WARNING

Be sure the tow vehicle and trailer are level and have a positive tongue load. This will allow the brake actuators to function properly on trailer models having such braking systems.

Be sure to read the manufacturer's literature, included in the owner's packet, before towing your Four Winns® boat and trailer.

B. Backing Up With Surge Disc Brakes

Follow the steps listed above for hitching the trailer before backing up.

1. Before backing up a slope or through soft ground, pull the trailer forward slightly to assure the actuator socket is in the fully forward position.
2. Back the trailer up.

CAUTION

Avoid sharp turns. This could bend, create extreme stress or fracture either the actuator or trailer tongue.

NOTICE

Be sure to check for obstacles or persons behind the trailer before backing up. Also, adjust your mirrors for clear view of the area behind the trailer.

3. If the trailer is to be uncoupled from the tow vehicle after backing, block all trailer wheels and pull forward slightly to take strain off the actuator.

Uncouple the actuator by lifting the release handle and raise the trailer tongue with the jack.

For most trailering conditions, the brake actuator will allow you to back up normally. However, if the coupler is not wired or if there is a failure the trailer can still be backed up by using the manual brake lockout.

To use your lockout, check that no force is being applied to the actuator. This is achieved by positioning the towing vehicle and the trailer on a flat service, or with the trailer downhill from the tow vehicle. Set the vehicle's parking brake.

Rotate the lockout assembly forward and up. See Figure S14. Then push it rearward, so the pin ends will rest in the notches in the sides of the outer case. The actuator is now “locked out” and will not apply any noticeable pressure to the trailer brakes as you back up. If you can not rotate the assembly forward enough to reach the notch, make sure the actuator’s coupler case assembly is pulled fully forward out of the outer case.

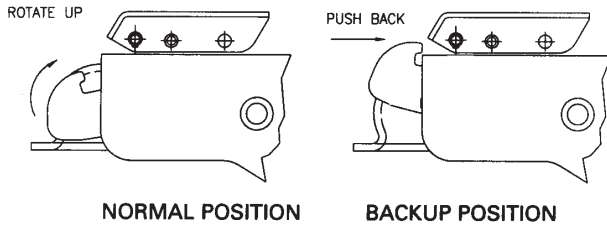


Figure S14: Brake Lockout Mechanism

NOTICE

Trailer components may be different between models and may change during the model year. Be sure to read all manufacturer’s literature supplied with your Four Winns® trailer.


S - 4 TRAILERING

A. Checklist

Before trailering, the trailer should be inspected for the following:

1. Check tires for proper inflation. Under-inflated tires heat up rapidly and may blowout or cause uncontrolled swaying. Also, make sure lug nuts are tight.
2. Be sure the coupler is secured to the trailer hitch and safety chains are attached.
3. Be sure trailer taillights and turning signals are operational.
4. Check the brakes for proper operation prior to departure.
5. Check lug nuts for proper tightness.
6. Check tie-downs and make sure boat is secured to the trailer.
7. Check the springs and under carriage for loose parts.

8. Before towing, close and secure all hatches, doors, and windows. Securely store all equipment and canvases. Installed tops, side curtains, and aft curtains can be damaged while towing.
9. Carry a spare tire for both the trailer and towing vehicle. On extended trips, carry spare wheel bearings, seals, and races. Be sure and carry the proper tools to complete the repairs.

 **WARNING**

To avoid bearing failure and possible wheel loss, keep wheel bearings properly lubricated. Inspect the wheel bearings periodically and check for damage.

10. Before trailering, inspect the bearings for wear and adequate lubrication. When traveling, check the wheel hubs during stops at gas stations, restaurants or other places. If the hub feels abnormally hot, the bearing should be inspected before continuing the trip.

B. Tactics

NOTICE

Be sure to check the towing vehicle manufacturer’s literature for recommendations on towing.

1. Install outside rear view mirrors on both sides of the towing vehicle to improve vision. Check the rear view mirrors at frequent intervals to be sure trailer and boat are riding smoothly.
2. Allow at least one car and trailer length between vehicles for each 10 mph. **DO NOT** tailgate.
3. Use low gear (on manual transmissions) when traveling up steep hills or over sand, gravel, or dirt roads.
4. Use care if shifting to a lower gear while traveling downhill. This could activate the trailer’s surge brakes for the duration of the downhill run and cause overheating. Extended overheating could result in complete loss of the trailer brakes.

To help prevent overheating, slow down while approaching the crest of a hill and maintain a slow, controlled downhill speed. Apply brakes in short intervals to allow time between braking for the brakes to cool off.

CAUTION

In mountain regions, extra care is required due to extreme braking conditions. If not equipped with a “rugged duty towing package” use turn-outs often to allow brakes to cool otherwise loss of trailer brakes could result. Consult with your Four Winns dealer regarding a “rugged duty towing package” for your towing requirements.

5. When rounding turns on highways or streets, **DO NOT** cut corners. Also, travel slowly over railroad tracks.
6. If the trailer begins to “fishtail” when accelerating, reduce speed until it ceases. If the trailer “fishtails” again during acceleration, stop to investigate the cause of the problem. Check for improper trailer load and uneven weight distribution inside the boat. Check the winch line and tie-downs. Also check the tires for proper inflation or damage. If necessary, redistribute the load before continuing.

For additional information on trailering, refer to the “Boating Basics” manual included in the owner’s packet.

S - 5 MAINTENANCE

A. Care of Exterior Finish

When using the trailer, keep in mind the paint can scratch and become marred during normal use. In most cases, touch-up paint can be ordered. Please contact a Four Winns dealer for assistance.

Some maintenance is required to maintain the finish and minimize rusting. The trailer should be washed and rinsed with clean water immediately after each use. On galvanized trailers, rinse only with clean water. Depending upon use, waxing is recommended twice a year. Use paste wax designed for enamel paint.

B. Bunks

The bunks should be replaced if they are cracked, warped, or evidence of dry-rot is found. The replacement boards should be treated lumber of the same length and width.

CAUTION

DO NOT burn damaged or broken bunks. Toxic fumes will be released. Dispose of bunks properly.

C. Swivel Jack

Keep the swivel jack clean of dirt, tar, and mud. Lubricate every six months. The swivel jack’s inner ram should be lubricated with SAE 30 weight oil. The top cover may be removed to lubricate the gears with wheel bearing grease.

Replace all worn and damaged parts. **ALWAYS** use the manufacturer’s replacement parts. Replacement parts may be ordered through your Four Winns dealer.

For more information on maintenance, refer to the manufacturer’s literature included in the owner’s packet.

D. Brake Actuator & Coupling Assembly

When storing or parking your trailer, keep the brake actuator and coupling assembly (coupler) off the ground to prevent dirt buildup in the ball socket. Keep the coupler clean of dirt, tar, and mud. Lubricate the coupler with SAE 30 weight oil every six months or as often as necessary. Replace any worn or defective parts. If the coupler is damaged, contact your Four Winns dealer for replacement parts. **DO NOT** use a damaged or bent coupler assembly.

For more information on maintenance, refer to the manufacturer’s literature included in the owner’s packet.

NOTICE

The trailer should be set up at a slight angle to allow for water to drain aft in the boat.

E. Winch

The winch should be kept clean of dirt, ice, paint, etc., and the spur gears should have a film of grease on them at all times. Apply several drops of SAE 30 weight oil to the ratchet pawl mechanism, bushings and pinion shaft threads twice per season.

Replace any worn or damaged parts. For more information on maintenance, refer to the manufacturer’s literature included in the owner’s packet.

F. Lights

Inspect wiring for cuts or bare wire which could cause electrical shorts. Repair or replace defective wiring. Replace cracked or damaged lens and always carry spare bulbs. Replacement parts may be ordered through a Four Winns dealer.

G. Tie-downs

Replace frayed or damaged tie-downs. Periodically, lubricate the ratchet mechanism with a fine oil or silicone spray. Replacement parts may be ordered through a Four Winns dealer.

H. Wheels

Some maintenance is required to maintain the finish and retard rusting of painted rims. The wheels should be cleaned with dishwashing soap and water and rinsed with clean water immediately after each use. Waxing is recommended three to four times each year.

Aluminum wheel rims may be cleaned with dishwashing soap and water. However, cleaning products specifically for aluminum are available and can be used. Cleaners may be obtained from Four Winns dealers and your local auto parts stores. The Mag wheel manufacturer recommends a product by Priority One® called Pro-Long Aluminum/Chrome Wheel Protectant™. Galvanized rims should be rinsed only with clean water immediately after each use.

NOTICE

ALWAYS read the manufacturer's instructions on the label before using any product.

I. Brakes

Keep the actuator clean of dirt, tar, and mud. The actuator and internal parts should be lubricated at all times with SAE 30 weight oil. The hitch ball may be lubricated with automotive grease or lubricant made for hitch balls.

Periodically inspect the brake system for leaks. Check all hoses for cuts or wear. Replace all defective hoses. The master cylinder should be filled within 1/2 inch from the top of the reservoir.

At the beginning of each year, inspect the brakes for excessive wear, have linings replaced if necessary.

If the brakes need bleeding, consult your Four Winns dealer for assistance. If unavailable, a brake or auto repair facility can perform the repair.

Refer to the manufacturer's literature included in the owner's packet for additional information on the brake system.

J. Bearings

Wheel bearings and seals should be inspected at the same time as brakes. Have worn or defective parts replaced. Grease bearings and seals at this time and at the end of the boating season. Bearing Protectors should be greased three to four times a year. A grease fitting is provided.

Four Winns uses the Accu-Lube™ bearing protection system on its trailers. The Accu-Lube™ design is submersible and provides for grease flow that completely repacks and protects the bearings. This lubrication system disallows water entry, thus extending the life of the bearings, spindle and hub.

Lubricate the bearings as follows:

1. Remove the rubber plug.
2. Insert the grease gun into the grease fitting. Pump grease until old grease comes back out the front.
3. Remove old grease and reinstall rubber plug.

NOTICE

Most bearing failures are due to improper maintenance. Be sure to inspect bearings and seals as noted in Section S-6B and refer to the manufacturer's literature included with your trailer.

S - 6 AXLE INSPECTION & REPAIRS

As a general rule, repairs and maintenance should be performed by qualified servicing personnel. Our axle manufacturer recommends that a certified mechanic should be consulted on the following items:

1. Broken axle
2. Broken spring
3. Worn spring eye bushing parts
4. Sagging springs
5. Welding fatigue
6. Serious leakage of seal
7. Tire wear
8. Loose or worn suspension parts
9. All brake related adjustments, inspections and problems

A. Removal of Hub

The following instructions pertain only to trailers manufactured by Four Winns. To remove the hub to inspect the bearings and seals, refer to Figure S15 and the following instructions:

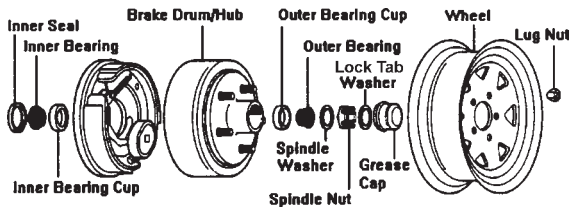


Figure S15: Axle Components

1. Remove lug nuts.
2. Remove wheel.
3. Remove grease cap.
4. Remove lock tab washer.
5. Unscrew the spindle nut counter clockwise.
6. Remove spindle washer.
7. Remove hub from spindle.

B. Bearing/Seal Inspection and Replacement

When inspecting bearings or seals:

1. Inspect the grease seal for damage, tears, or cracks. If there is no damage or leakage is not occurring, the seal is in good condition.

If the seal is torn or cracked, then it should be replaced. The seal can be pried out of the hub with a screw driver. Be sure to replace the seal using the recommended replacement parts. Parts can be obtained from your Four Winns dealer.

2. When inspecting the bearing, check for corrosion and wear. If any rust or wear exists on the bearing, then remove and replace with the recommended parts listed in the table above.

3. If the bearings are in good condition, repacking the grease should be done at this time. Hand pack each bearing individually using a premium water resistant wheel bearing grease.

C. Hub Reinstallation

1. To reinstall hub, reverse the procedures listed above.
2. It is important to tighten the spindle nut to approximately 50 ft. lbs. (12" wrench with full hand force). Loosen the nut then finger tighten.
3. Replace the cotter.
4. When reinstalling wheel, the following tightening procedure is recommended by the manufacturer:
 - a. Place wheel lug nuts on by hand to start.
 - b. Tighten initially to 15 - 20 ft. lbs. (Apply 20 pounds of pressure to wrench 12" long) using cross tightening sequence. Proceed to finish tightening to 85 ft. lbs. (Applying 85 pounds of pressure to wrench 12" long will yield 85 ft. lbs. of torque).
 - c. Re-torque after first 50 miles of use.

Refer to Section S-2G for additional information on wheel requirements.

PRE-LAUNCH AND UNDERWAY

T - 1 LAUNCH AND CRUISE CHECKLIST

- Get a current weather report. If the weather will not be favorable, postpone your trip.
- If your boat has been out of the water, check to see that all bilge water has drained out.
- Install hull drain plugs.
- Inspect the hull and propeller for damage. Excessive dirt or marine growth will effect your boat's performance and fuel efficiency.
- Check the electrical system and navigation lights.
- If your boat has been in the water, run the bilge pump until the flow of water stops.
- Check that all required safety equipment is on board and in good working condition. Examples include personal flotation devices (PFDs), horn, fire extinguisher, visual distress signals, etc. Take along a gallon of drinking water.
- Check that other important equipment is on board. Examples include mooring lines, anchor and line, tool kit, first aid kit, etc.
- Open engine compartment. Inspect for fuel odors and visible leaks in the fuel, oil, coolant, exhaust and power steering systems.
- Visually inspect engine for cracked hose, defective belts, or other signs of engine problems. Check engine oil and battery water levels. Check power steering fluid level. Check battery electrolyte range.
- Check fuel level. Fuel tanks should be filled to slightly less than capacity. Allow for fuel expansion.
- Check that all engine drains are closed (stern drives).
- Make sure navigation charts and equipment are on board.
- Check operation of steering system, navigation lights, and operation of horn.
- Make sure passengers and crew know what to do in case of an emergency and how to operate safety equipment.
- Make sure all required documents are on board.
- File a float plan with a responsible party ashore.
- Keep an eye on the weather. Be aware of possible changing conditions by monitoring local weather broadcasts prior to departure. The captain or first mate should personally monitor strong winds and electrical storms.
- Always keep accurate up-to-date charts of your boating area on board.

T - 2 FUELING

WARNING

Do not smoke, extinguish all open flames, STOP all engines and other devices that could cause sparks, including the bilge blower. Do not use electrical switches or accessories. Shut OFF all stoves that may produce a spark or flame. Close all openings into the cabin area of the boat.

A. Recommendations

WARNING

When fueling or having your boat fueled by an attendant, be sure the waste pump-out or fresh water fitting is not mistaken for the gas fill.

Although alcohol boosts the octane level of gasoline, it also attacks the rubber fuel distribution lines and even metal fuel system components. Alcohol will permeate most fuel hoses and other components such as fuel pump, gaskets and seals, and can also contribute to fuel system contamination.

The hoses we use in our boats are alcohol-resistant as are the materials used by the engine manufacturers. If only fuel containing alcohol is available, or the presence of alcohol is unknown, you must perform more frequent inspections for leaks and abnormalities. Any sign of leakage or deterioration requires your immediate attention. Refer to the engine manufacturer's recommendations on fuel type and octane ratings.

B. Preliminary Guidelines

1. Safely secure your boat to the dock.
2. Close all hatches, windows, doors and compartments to prevent accumulation of fuel vapors.
3. Ensure that a fire extinguisher is readily available.
4. Do not store fuel in areas that are not adequately ventilated.
5. Use only fuel lubricants recommended by the engine manufacturer.

C. Pumping Fuel

WARNING

Follow engine manufacturer's recommendations for types of fuel and oil. Use of improper products can damage the engine and void the warranty.

1. Be sure to fuel in a well-lit area gasoline spills are unnoticeable under poor lighting or in the dark.
2. Remove the gas fill cover.
3. Insert the fuel supply nozzle, keeping it in contact with the fuel fill plate to guard against static produced sparks.
4. Stand away from the fuel tank vent and gas fill during fueling. Splashback may occur and can be an eye irritant and/or a fire hazard.
5. Avoid spillage. Wipe up any excess fuel immediately.
6. After pumping approximately 10 gallons of fuel into the fuel tank, inspect the engine and fuel tank area for any signs of leakage. If no leaks or other problems are detected, resume fueling.
7. Allow space at the top of the tank for thermal expansion.
8. If fuel cannot be pumped in at a reasonable rate, check for fuel vent blockage or a kink in the line.

D. After Fueling

1. Replace the gas fill cover and wipe up any fuel spilled. Discard rags used in a safe place ashore.
2. Open the engine compartment and all hatches, windows, doors and other compartments that were closed during fueling. Inspect these areas for the odor of fuel vapors and visible fuel leakage.

WARNING

Investigate and correct any sign of fuel leakage or indication of vapors before starting engine. Do not run blower or operate any electrical switch until problem is corrected. Fire or explosion may result.

T - 3 LOADING PASSENGERS AND GEAR

When loading your boat, remember to distribute the load evenly. Keep the load low and do not overload. On certain Vista™ models a capacity plate affixed to your boat states the maximum load capacity. The plate shows in pounds, the amount of persons and gear that the boat will safely handle under normal conditions. U. S. Coast Guard regulations establishes these load capacity ratings. Position passengers and gear so that the load is balanced.

NOTICE

The NMMA Yacht Certification rating (indicated by a yacht certification plate - see Preface page 5) places the responsibility on the captain to make the determination as to the appropriate load, load placement and number of passengers permitted aboard the vessel.

When loading, always step into the boat, never board by jumping. Have someone on the dock pass your gear aboard. Secure all gear firmly so it doesn't move or interfere with operation of the boat. Passengers should board the boat one-at-a-time and be seated.

IMPORTANT: Passengers are prohibited from riding on the bow with feet hanging over the side or ride while sitting on the stern, gunwales or seatbacks. The Coast Guard considers these acts to be negligent or grossly negligent operation. They are prohibited by law because falls from moving boats are a major cause of fatal recreational boating accidents.

IMPORTANT: The presence of the capacity plate does not relieve the boat operator from the responsibility of using common sense or sound judgment. Turbulent waters and adverse weather conditions will reduce the maximum load capacity rating of the boat.

T - 4 STARTING PROCEDURES

The operation and maintenance manual supplied with your engine provides pre-start, starting and cold-starting instructions. The following information is merely a guide and not intended to explain in detail all starting procedures and instructions. Refer to your engine owner's manual.

A. Preliminary Checks

1. Secure boat to the dock before attempting to start engine. The boat should be kept secure until the engine is running and warmed up.
2. Operate the bilge pump until the flow of water stops.
3. Make sure the throttle is in the neutral position and stern drive or outboard is lowered into water.
4. Make sure passengers seated in the bow area do not obstruct the driver's vision.

B. Starting



To prevent excessive exposure and reduce the possibility of carbon monoxide accumulation in the cockpit areas of the boat, the operator should provide adequate ventilation in each of these areas. Utilize hatches, doors, windows and side vents to increase air movement. See Section B-2 for information about the dangers of Carbon Monoxide.

Notice: Additional starting information is located in Section A.

1. Check all electrical systems and navigation lights.
2. If your boat is equipped with a battery selector switch, turn the battery switch to 1, 2, or BOTH or ON or EMERGENCY START ONLY position (depending on which model you have.)
3. Attach the ignition interrupt lanyards securely to your body (if applicable for your model). In the event that you move away from the helm area and beyond the length of the lanyard, the engine will be turned off.
4. If your boat has fuel injection, turn the key to start the engine. Engine will not turn over if throttle is not in the neutral position.

If your boat does not have fuel injection, depress the engine warm-up button to advance the throttle several times and leave it in the SLOW/START position. This will actuate the carburetor accelerator pump and feed fuel to the engine. Turn ignition key to START position.

5. When engine is cold, run engine approximately one (1) to two (2) minutes at fast idle speed (1200 to 1500 rpm). This step is not necessary with fuel injected engines.
6. Once engine has warmed up, check water temperature gauge to ensure engine temperature stays within optimum range. If temperature reading is abnormally high, stop engine immediately and inspect for cause of high reading.
7. With engine running, voltmeter should show a reading between 12 and 15 volts.
8. Check steering operation. Turn steering wheel full to port and starboard while observing outdrive movement.
9. Inspect for fuel odors and visible leaks in the fuel, oil, coolant, exhaust and power steering systems.
10. Make sure boat is securely moored to the dock and engine is idling. Then move the throttle forward and then aft and back to neutral to check for proper operation of the shifting motion. Be careful. Leave the engine in gear for only a second or two.

T - 5 MANEUVERING



WARNING

Boat steering is not self-centering. Steering is effected by engine and propeller torque, trim tab setting, wave and current action and the speed of the hull through the water. Constant attention to steering is required for safe operation.

When all your pre-departure checks have been completed and the engine has warmed up, you will be ready to leave the dock. Take into account the amount of wind, tide current, and other forces that may affect your maneuvering as you leave the dock. Idle speeds work best when maneuvering to and from the dock. Do not forget to release the mooring lines.

A. Leaving the Dock

You are ready to leave the dock after the engine has warmed up. Check all gauges for appropriate readings before casting off. If oil pressure is abnormally low or engine temperature is abnormally high, stop the engine immediately. Check voltmeter to be sure the charging system is working properly. Check for fuel, oil, and ex-

haust leaks. Correct the cause of any abnormal condition before getting underway.



WARNING

Make sure passengers sitting in the bow area do not obstruct the operator's vision when casting off or while underway.

After making sure your boat is ready, check wind, tide, current and other forces that will affect the way you maneuver your boat away from the dock. Throw mooring lines off to your boat. Shift your boat's engine into forward or reverse depending on whether you want to move the bow or the stern away from the dock first. Run your engine at a slow speed as you move away from the dock. If you move the bow out first, watch that the stern of the boat does not swing into the dock or a piling.

Once away from the dock, devote some time to learning how to maneuver. Practice docking using an imaginary dock. Practice stopping and reversing.

B. Stopping

Boats have no brakes. Stopping is accomplished by backing down on the throttle. Practice stopping maneuvers and learn early how your boat reacts. From forward motion, pull the throttle back towards NEUTRAL. Depending on your speed, the distance the boat travels until it comes to a complete stop will vary. The ability to measure the distance will only be acquired through experience.

Once the boat has slowed and motor is idling, place the shift in REVERSE. Gradually increasing reverse power with the throttle will allow you to stop the boat in a very short distance.

NOTE: A boat will not respond to steering in reverse nearly as well as it does when going forward, so do not expect to accomplish tight turning maneuvers when backing up.

Remember that all boats steer by the stern (the feeling is much like steering your automobile in reverse). This means that the stern of your boat will swing in the direction opposite to your turn. For example, when you turn the helm wheel to the left, the stern of your boat will swing in the direction opposite to your turn. This is especially important to keep in mind when docking, operating in close quarters with other boats, or when approaching a swimmer or downed skier in the water.

Always look behind you and to both sides of the boat before slowing down. Tell your passengers your intentions to allow them time to make adjustments to their balance or positions.

Slowly pull back on throttles, glance back and see if a large following wave is approaching the transom. If so give the engines a little throttle as the wave arrives to keep wave from rolling over the transom.

Once you have spent enough time practicing maneuvers and have a feel for how the boat handles, you will be ready to run in open waters.

T - 6 ACCELERATION



WARNING

Before accelerating to bring you boat on plane, be sure that the area in front of your boat is clear. The bow will rise out of the water momentarily before you plane and may temporarily obstruct your vision.

If you have never had your boat on plane before, choose a calm day for your first on plane experience. Never boat beyond your ability and experience.

Before bringing your boat “on plane”, check the entire area to make sure you have a clear, safe path. As you throttle up to accelerate, your boat will increase its angle of trim, causing the bow to ride high. From a maximum angle, the boat will level out to its planing attitude with continued acceleration. This maximum angle is known as the “hump”. Because visibility, handling, and performance are reduced, it is advisable to get “over the hump” as soon as possible. A few seconds at full throttle should get the boat over the hump and into its planing attitude.

After getting over the hump, accelerate until reaching a comfortable plane, then throttle down to cruising speed. This also will provide for better fuel efficiency.

T - 7 TRIMMING YOUR BOAT

A. Trim Tabs

Trim tabs are used to add lift to the boat’s stern, thereby changing the boat’s attitude (see Figure T1). This lift can help the boat get on plane faster and remain on

plane at slower speeds than if no tabs were used. Used independently, tabs can also correct listing conditions caused by crosswinds, unbalanced loading and quartering seas. Trimming your boat properly involves two separate procedures, trimming or tilting the lower unit and setting the trim tabs.

When you are sitting dead in the water, your drive should be down and the trim tab switches are in the BOW UP position. Accelerate until you get onto plane. At this point your boat will be plowing through the water with the bow down too far. Trim the lower unit up slightly until the bow comes up. If you trim the lower unit out too far, your boat will porpoise or the propeller will cavitate, and the bow will slam up and down on the water. Your boat is trimmed correctly when it is just short of porpoising or propeller cavitation, under ideal running conditions.

Trim your boat to compensate for seas, winds, or uneven loads.

Head Seas	Trim drives in more than usual. Use tabs to keep bow down and go at a slower speed.
Following Seas	To prevent taking seawater over the bow, trim drives out and keep tabs up to keep bow up.
Listing Due to Quartering Seas, Beam Wind, or Uneven Load	Use tabs independently to adjust for list. If listing to starboard, press port bow down switch. If listing to port, press starboard bow down switch.

Remember that most boats react very slowly to trim tabs. Often boat owners do not give trim tabs time to work. Press the trim tab switches for only one second at a time and then allow some time for the boat to react. If the boat is still listing after a minute or two, press the trim tab switch again for a one second interval. The labels on the trim tab switches indicate what you want your boat to do, not what you want the tabs to do.

It is a good idea to take your boat out onto open water shortly after you get it and experiment with the trim tabs. After you get your boat onto plane, set the tabs in various positions and note how your boat reacts. This will give you a feel for how the trim tabs work.

It is possible to extend the cylinder life expectancy on your trim tabs. To do this, keep the cylinders retracted while at dockside. Press both trim tab controls down until tabs reach their full up position.

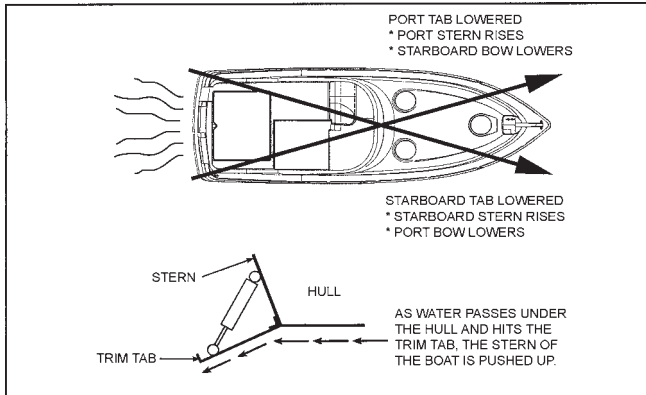


Figure T1: Trimming the Boat with Trim Tabs

B. Tilt/Trim Control Switches - Stern Drive Models Only

NOTE: Trim refers to the angle of the lower unit in relation to the bottom of the boat. With respect to trimming, the words in, down, under, and forward, have the same meaning as do up, out, and aft.

1. The standard trim control switch is located on the control lever handle.
2. The switch controls the position of the stern drive. Proper trim is very important in boating.
3. In the case of low or heavy bow attitude, the boat tends to “plow” (Figure T2). The lower unit is trimmed too far under or forward. Trim the unit UP (out) to correct this situation.
4. If the bow is too high, the boat tends to “porpoise” (Figure T4). The drive unit is trimmed up or out too far. Trim DN (in) to correct.
5. A good practice is to get underway (especially when fully loaded or pulling a skier) with the unit trimmed all the way DN (under). After the boat is on plane, adjust the trim out slightly to obtain the proper bow attitude and engine speed.
6. Trim also affects propeller selection and fuel efficiency. All models should be “propped” to be in the upper half of the maximum rpm range with the boat

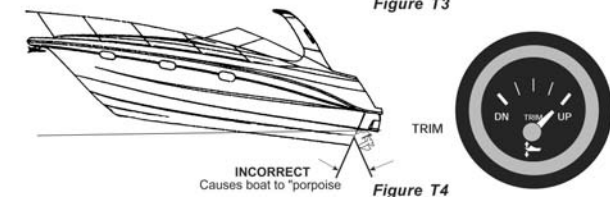
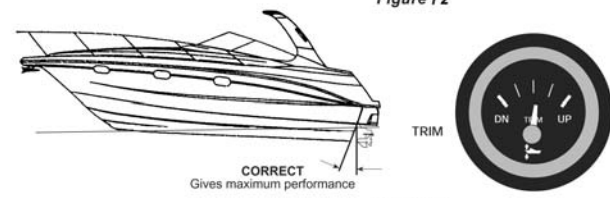
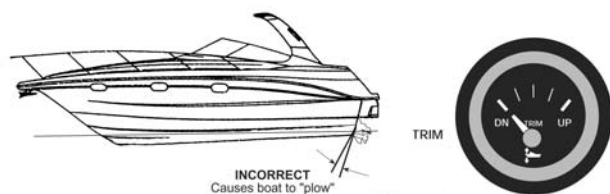
lightly loaded and the drive trimmed up to maximum. This configuration allows the engine to operate within the recommended rpm range with a heavy load.

The power unit should never be trimmed up to a point where the propeller cavitates (or slips). A rapid increase in engine rpm's is evidence of cavitation. If this occurs accidentally while running at full throttle, immediately lower the drive trim and reduce the throttle until the slipping stops. If necessary, have your dealer reset the trim limit switch (if provided) to avoid overtrimming in the future.

If the prop slips at lower planing speeds, the drive may be trimmed too high. Immediately lower the drive unit until the prop grabs again to restore efficiency.

7. Trimming out, in addition to raising the bow, also lifts the boat higher, gaining speed because less hull is in the water.
8. The trailering position of some stern drives is controlled by a separate switch on the dash switch panel or throttle/shift control. **Do not activate this switch while engine is running. Doing so can severely damage the lower unit and engine.**

NOTE: Refer to the control instructions regarding the power trim controls installed on your boat.



Figures T2-T4: Trimming the Boat with Outdrive

T - 8 NAVIGATION LIGHTS

Although night activities are limited, cruising at night can be very pleasurable. It can also be dangerous if you don't pay close attention to water levels and obstacles. Be especially careful of shallow waters and watch for submerged debris, rocks and other obstacles in the water. Your navigation lights are intended only to prevent collision, not to improve your night vision. You may choose to use a spotlight instead.

NOTE: It is illegal to use your spotlight as a headlight. Use it only temporarily to check the position of your boat and the surrounding area.

Your boat has one white (stern), one red (port) and one green (starboard) light. The stern light may be a removable pole light. To use the light, line up the two-prong plug in the pole with the receptacle in the base. Plug the light in, and lock it into place with lever/slide lock. When not in use, stow the light inside your boat for safekeeping. This light can be turned on or off at the helm.

Check lights for proper operation before heading out at night. You should also learn to identify the running light combinations for other vessels. We recommend that you participate in a boating safety course to further learn about navigation lights and safe boating practices.

The anchor lights and navigation lights are controlled by a switch at the helm. The anchor light switch allows you to turn on just the stern (white) light when anchored or moored. While underway, use the navigation light switch to turn on the stern (white), port (red) and starboard (green) lights. Lights are off when switches are in the OFF position.

T - 9 HAZARDOUS CONDITIONS

A. Storms

Storms sometimes appear without advance notice. Although weather information from meteorological observation and reporting stations is available, weather bureaus are known to have failures in their predictions or information gathering equipment. There is no substitute for a strong understanding of what action to take when the weather takes a turn for the worse. Many marinas fly weather signals. You should learn to recognize these signals and monitor your local weather forecasts before leaving port.

The present and forecasted weather conditions are of primary consideration, but a threat of possible storms should always be a concern. Observance of the following information will help in your safety afloat if storms do occur:

- Keep a watch on the horizon for approaching storm indicators.
- Turn radio ON. Dial in local weather station and monitor forecast. If your boat has a VHF radio, check the weather channels.
- The best possible situation is to return to a safe port if time allows.
- Close and secure all portals and hatches. Stow all loose gear below deck and tie down any gear required to remain on deck.
- Reduce speed as the seas build. Make sure all passengers are wearing their PFDs.
- If you lose power, keep the boat headed into the waves by rigging a sea anchor off the bow. If there is no sea anchor on board, use a canvas bucket or any object that will offer resistance.
- Radar reflectors (if installed on your boat) should be 18 inches diagonally and placed 12 feet above the waterline.

B. Fog

Fog is a result of either warm surface or cold surface conditions. You can judge the likelihood of fog formation by periodically measuring the air temperature and dew point temperature. If the spread (difference) between these two temperatures is small, you likely will incur a fog situation. Remember the following guidelines:

- Turn on running lights.
- As fog sets in, take bearings and mark your position on the chart while continuing to log your course and speed.
- Make sure all persons aboard are wearing their PFDs.
- If your boat has depth finding equipment, take soundings and match them with soundings on your charts.

- Station a person forward on the boat as a lookout.
- Reduce your speed. From time to time, stop engine and listen for fog signals.
- Sound the proper horn or fog bell at proper intervals to warn other boaters.
- If there is any doubt in continuing boat movement, anchor. Listen for other fog signals while continuing to sound the proper fog horn or bell for a boat at anchor.

C. Running Aground



WARNING

To prevent boat damage, DO NOT use deck hardware or water ski pylon for towing. Use a commercial towing service.

Operating in shallow water can present a number of hazards. Sand bars in narrow inlets are constantly shifting, making it difficult to mark them with buoys. Sometimes sand bars are indicated by waves as they form into breakers when passing over sand bars. In coastal areas, tides can change water levels by as much as 30 feet. Check with local marinas or Coast Guard stations for tide tables and current charts.

If your boat runs aground, first check persons aboard for injury. Then check for damage to the boat. If the drive unit strikes an underwater hazard, check for boat and drive unit damage. If the engine vibrates excessively after striking an underwater obstruction, it may indicate a damaged propeller. If vibration is noticeable, return to port slowly to prevent further drive and engine damage from an out-of-balance condition. Watch the temperature gauge to make sure you do not overheat the engine.

If the boat is not taking on any water, it may be possible to rock the boat by shifting the weight of the passengers and gear and by raising the drive unit while reversing the engine.

If you ground your boat on a sand bar, shut down the engine and seek help from another boater or radio for help. See your dealer as soon as possible, as sand ingested in the engine cooling system can cause major engine damage.

D. Warning Markers

It is a good idea to find out about hazardous areas and how they are marked by asking your local authorities.

- Boaters must also recognize the flag designs which indicate that scuba divers are present and keep well clear of the area.
- Watch for swimmers. Swimming areas may not be marked. Steer clear from the area and always remain alert.
- Distress flags indicate a fellow boater is in need of assistance.
- Navigation markers serve as a means of identifying navigable routes and indicate water hazards. Boaters should become familiar with navigation markers and stay within marked boundaries and clear of hazards.

T - 10 REACTING TO EMERGENCIES

Be prepared to deal with emergencies before they happen. Try to formulate a plan for each type of emergency in advance so that decisions can be made quickly and without hesitation. Precious moments lost can mean the difference between losing and saving a life.

A. Flooding

If your boat starts taking on water, activate the bilge pump immediately. Make sure all passengers are wearing their PFDs. Open the engine compartment, look for the cause of the flooding. Check all hoses, through hull fittings, seacocks and strainers. If flooding occurs as a result of collision or grounding damage, call for assistance and head for shore if possible.

B. Capsizing and Man Overboard

By far, the largest number of boating fatalities involve capsizing and falling overboard accidents. By being prepared ahead of time with an appropriate plan of action, you can greatly lower your chances and your passengers' chances of becoming seriously injured.

C. Capsizing

Wear PFDs or have them readily available at all times. If your boat capsizes, and others were on board, locate them and guide them to the safety of the hull. Even if the boat floats in an upside-down position, stay with it. The boat hull is much easier for rescuers to spot than a human head sticking out of the water. DO NOT attempt to swim ashore, it may be further than it looks.

D. Man Overboard

Think through and follow these procedures if someone in your boat falls overboard.

- Remember, every second counts, you must act fast.
- Move throttles to idle position immediately and yell “MAN OVERBOARD.”
- Throw some floating object overboard immediately. Keep your required Type IV PFD accessible at all times for such an emergency.
- Keep the person in the water in sight at all times. Have a passenger do nothing but watch the person. Do not go into the water to help the victim. One person in the water is enough trouble.
- Circle around quickly, approaching into the wind and waves. When the person is alongside, put the engine in neutral and throw them a Type IV PFD with a line attached or extend a paddle or boat hook within his/her reach.

E. Collision

If a serious collision occurs, you should first check the condition of all passengers aboard, then inspect your boat to determine the extent of damage.

1. Make sure all persons aboard are wearing their PFDs.
2. If you need help and your boat has a ship-to-shore radio, first contact the U. S. Coast Guard (VHF Channel 16) or other rescue authorities immediately.
3. Prepare to assist the other vessel unless your passengers and/or boat are in danger.
4. If the bow of the other boat penetrated your boat’s hull, prepare to block the opening once the boats are separated.

5. Shore up the hole with a spare PFD or bunk cushion from your boat.
6. While blocking the hole, trim the boat so that the hole is out of the water.

F. Fire

Most fires are caused by electrical problems or careless fueling practices. A fire on board your boat is a serious emergency. You must work quickly to implement safety procedures. If a fire occurs, immediately stop the engine.

1. Make sure all persons aboard are wearing their PFDs.
2. If the fire is small, attempt to put it out with your fire extinguisher. If the fire is in the engine compartment, turn off the bilge blower. Do not open the engine compartment. This feeds oxygen to the fire and may cause it to flare up.
3. If the fire gets out of control, execute a distress signal and call for help if equipped with a ship-to-shore radio.
4. All persons aboard should jump overboard and swim a safe distance away from the flames.

IMPORTANT: All persons aboard should know the location and proper operation of the fire extinguishers.

Guidelines

- Use only approved marine cooking and heating systems.
- Open flames demand constant attention.
- Keep flammable materials in approved containers in a overboard vented locker sealed from the interior of the boat.
- Ensure ventilation systems are unobstructed.
- Remove mooring covers before starting engine.
- Check the bilge for fuel leaks.
- Extinguish smoking materials carefully.
- Use special care with flame or high temperatures around urethane foam.

- Check cleaning products for flammability.
- Ventilate when cleaning or painting.
- Disconnect electrical system from its power source before performing maintenance.
- Replace breaker or fuse with same amperage device.
- Electrical appliances must be within rated amperage of boat circuits. Observe the boat carefully while the electrical system is being energized.
- Allow only a qualified marine electrician to service the boat's electrical system.

G. Medical Emergency

Accidents while boating can and may happen. Be prepared to handle these emergencies when they happen. Keeping a first aid kit and dry blankets on board can assist during these situations. It is also a good idea to contact your local Red Cross for information and training on first aid and CPR.

H. Propulsion Failure

Before you call for help regarding an engine or drive unit failure, it is a good idea to eliminate the possibility of simple problems. Turn off the engine and check to see that (1) there is fuel in the tank; (2) the engine cooling intakes on the outdrive are not clogged; (3) props are clean and free of weeds, netting, etc. ; (4) no hoses are leaking; (5) there is oil in the engine.

Once you have checked out the possibilities listed above and find they are not the problem, call for help giving your position and a detailed description of your boat.

I. Control Failure

In the unlikely event of a shift/throttle failure, shut down the engine immediately. Carefully check the control connections in the engine compartment to see if they are secure. If not, try to locate the attaching hardware and reassemble. If that is not possible, try to use whatever is available such as paper clips, hair clips, tape, etc. , to secure the connections. If a temporary repair is made, return to port at the slowest steerable speed and be prepared to take emergency action should the temporary repair fail also. Have your dealer make repairs before using the boat again.

J. Steering Failure

If a problem with the steering occurs, shut down the engine immediately. Check the connections to the drive unit in the engine compartment. Some boats have a push/pull cable while others will have hydraulic hose connections. With cable connections, check the attaching hardware and tighten it if necessary. If you have hydraulic hose connections, check to see if they are leaking. If so, tighten the connections and check the hydraulic fluid reservoir level. Most stern drives are power assisted and have their own hydraulic reservoir and engine mounted drive pump; check the level of reservoir and drive pump belt. If the steering is not operating properly, do not operate the boat and call for assistance.

K. Additional Underway Information

- Always be aware of local laws on noise limits. Noise means engine noise, radio noise or even yelling by people on your boat. Good seamanship demands that you operate your boat quietly so as not to infringe on the rights of others. Don't use thru-transom exhaust unless you are well off shore.
- You are responsible for any damage or injury caused by your boat's wake. Observe no wake speed zone warnings. Operate your boat with regard for the safety of other boats and people in your boating area.
- Keep your engine well tuned to decrease exhaust hydrocarbon emissions that pollute the air and water.

T - 11 RETURNING TO SHORE

A. Docking

Always approach the dock slowly. Think before acting. If you are wondering whether your boat will fit in a space against a dock, remember that pilings are often (but not always) spaced 10 feet apart.

Remember that it is easier to control a boat in reverse because a boat steers from the stern. When backing into a slip, back so that bow swings into the wind if possible. You will have more control.

If possible, come in against the wind or current, whichever is stronger. Approach the dock at a 30-45° angle. As the boat nears the dock, slowly swing parallel to it. Tie the bow line first; then the stern.

If wind or current is moving toward the dock, move parallel to the dock further out. Let the wind or current push you in. Tie the stern first, then the bow.

Use extreme caution if wind or current is from your stern. Back in towards the dock slowly at a slight angle with engine in slow reverse. Gently swing parallel. Tie stern first, then the bow.

If the weather looks bad, use spring-lines from the bow and stern to dock amidships of the boat. Tie up on the downwind side of the dock. If the wind is changeable, place fenders over the side between the boat and the dock.

B. Mooring

After you have positioned your boat next to the dock, you must secure it with mooring lines to keep it in position. Mooring lines must be long enough to secure your boat in any docking situation. For example, the length of the lines for a 16-foot runabout should be at least 15 feet. An eye splice at the end of each line works well with bow or stern cleats.

The mooring lines you will use most often are the bow line, the stern line, and spring lines as shown on Figure T5. Each line has a specific purpose. The bow line and the stern line secure your boat's bow and stern. The two spring lines keep your boat from moving forward or backward when you are moored alongside a dock.

If you are mooring your boat for a short time, bow and stern lines may be the only lines you will need. If you are mooring your boat for a longer time or the currents are swift, you should use spring lines. The stern spring line leads from the boat's stern cleat forward to the piling or cleat on the dock. The bow spring line leads from the bow cleat aft to the dock.

If you are mooring your boat in a slip, bow and spring lines, port and starboard, will keep your boat in position.

NOTE: If tides are a consideration, be sure to leave slack in the lines to make up for the rise and fall of the water while your boat is docked.

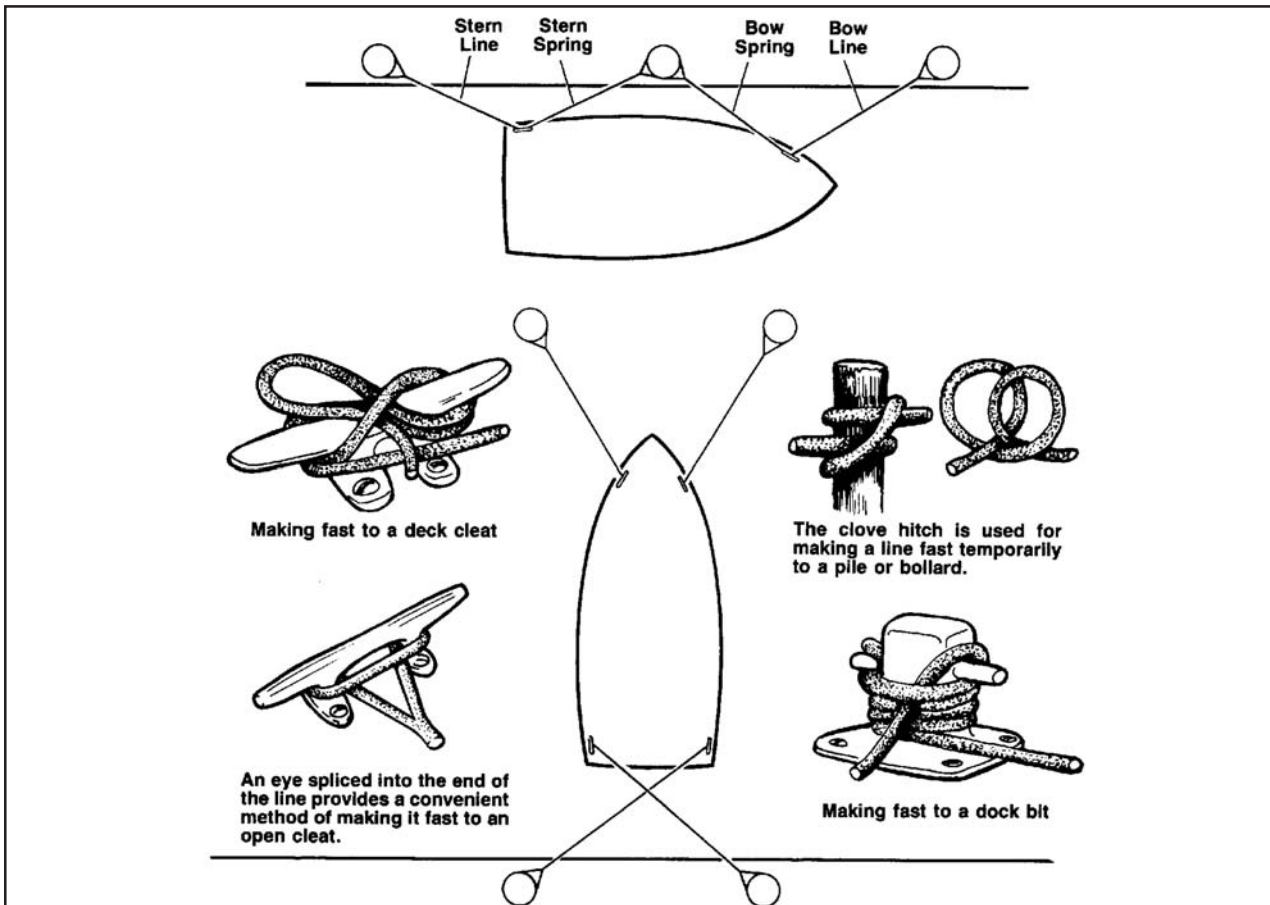


Figure T5: Mooring Lines

GLOSSARY

ABAFT - Toward the rear of a boat.

ABEAM - At right angles to the keel of the boat.

ABOARD - On the boat.

ABREAST - Side by side.

ADRIFT - Loose, not on moorings or towline.

AFT - Moving toward the stern, you are going aft.

AGROUND - Stuck fast to the bottom.

AHEAD - In a forward direction.

ALEE - Away from the direction of the wind; opposite of windward.

ALOFT - Above the deck.

AMIDSHIPS - 1. An object or area midway between the bow and stern. 2. An object or area midway between the port side and the starboard side of a vessel.

AMPERE - The standard unit used to measure the draw of an electrical current.

ANCHOR RODE OR ROPE - The line (chain) connecting a vessel to its anchor.

ANCHOR BALL - A black, circular, day signal hoisted to show that a vessel is anchored. Replaced at dusk by the anchor light.

ASTERN - Anywhere behind the boat, a reverse direction, opposite of ahead.

ATHWARTSHIPS - A line, or anything else, running perpendicular to the fore-and-aft center line of a boat.

BATTEN - A strip of wood or metal used to secure tarpaulin(s) in place over a hatch. To batten down means to secure for rough weather.

BEAM - 1. The widest distance across a boat from the outside skin on one side to the outside skin on the other. 2. A transverse structural member that stiffens and supports a portion of the deck.

BEAM WIND - A wind blowing against the side of the vessel, perpendicular to the long axis of the vessel.

BILGE - The lowest interior area of a hull, used to collect water that has entered.

BILGE PUMP - A pump intended for removal of spray, rainwater, and the normal accumulation of water due to seepage and spillage; not intended for damage control.

BINNACLE - The stand or support for a magnetic compass occasionally used to mean helm.

BITT - A heavy and firmly mounted piece of wood or metal used for securing lines.

BLOCK - A wooden or metal case enclosing one or more pulleys and having a hook, eye, or strap by which it may be attached.

BOLLARD - A single post (wood, metal, or concrete) on a dock, pier, or wharf used to secure a vessel's lines.

BONDING - The electrical connection of exposed metallic, non-current carrying components to a common point on the main engine block.

BOW - The front end of the boat.

BOW LINE - A docking line leading from the bow.

BREAKER - A single breaking, plunging or spilling wave.

BREAKER LINE - The outer limit of the surf. However, all breakers may not be in a line. They can occur outside the breaker line.

BRIDGE - The main vessel control station.

BROACH - The turning of a boat parallel to the waves, subjecting it to possible capsizing.

BULKHEADS - The interior walls of a boat.

BULWARK - The side of a vessel when carried above the level of the deck.

BUOY - An anchored float used for marking a position on the water, a hazard, or a shoal.

CAPSIZE - To turn over.

CAPSTAN - A machine that moves a cylindrical device on a shaft for the purpose of hauling up an anchor.

CAST OFF - To let go.

CATAMARAN - A twin-hulled boat, with the hulls being side-by-side.

CHINE - The intersection of a boat's bottom and side. If this intersection is rounded, it is a "soft" chine. If the intersection is squared off, it is a "hard" chine.

CHOCK - 1. A fitting or hole in a railing or deck through which a mooring or anchor line is routed. 2. A wedge used to secure an item in place.

CIRCUIT BREAKER - A device used to interrupt an electrical circuit when current flow exceeds a predetermined level.

CLEAT - A double-ended deck fitting to which lines are secured; usually anvil-shaped.

COAMINGS - Raised lips around cockpits or hatches used to keep water from entering

COCKPIT - An exposed deck area (usually aft) that is substantially lower than the adjacent deck.

COMBER - A wave on the point of breaking. A comber has a thin line of white water on its crest, known as "feathering."

COMPANIONWAY - The steps or ladder leading downward from a deck.

COMPARTMENTS - Rooms divided by bulkheads.

COUNTER - The overhang at the stern of a boat.

CRADLE - A framework, generally made of wood, used to support a boat when it is out of the water.

CREST - The top of a wave, breaker or swell.

CUDDY - A small sheltered cabin in a boat.

CURRENT -1. The movement of water, 2. The flow of electrical charge.

DEAD AHEAD - Directly in front of the boat.

DEAD RECKONING - A plot of courses steered and distances traveled through the water.

DECK - A permanent covering over a compartment, hull or any part thereof.

DINGHY - A small, open boat used for ship to shore transportation.

DISPLACEMENT - The weight of water displaced by the hull of a vessel.

DISPLACEMENT HULL - A hull that "displaces" a volume of water equal to the weight of the boat. A hull designed to run in the water rather than on top of the water. When a displacement hull moves through the water, it pushes that water out of the way. Water will then flow around the hull and fill the "hole" the boat leaves astern.

DOCUMENTED VESSEL - Documented yachts have been specially registered with the U.S. Coast Guard. All documented yachts must have their name and home (hailing) port marked on some conspicuous place on the hull. Numbering is not required. Advantages include legal authority to fly the yacht ensign, privilege of recording bills of sale, and other instruments of title with federal officials, and preferred status for mortgages. Documentation does not exempt the unit from any State or Federal taxes. All safety and equipment regulations still apply.

DOLPHIN - A group of piles driven close together and bound with wire cables into a single structure.

DRAFT - 1. The depth of a boat from the actual water line to the bottom of the lowest part of the boat (e.g., the propeller tip or rudder). 2. The depth of water necessary to float a boat.

DROGUE - Any device streamed astern to check a vessel's speed, or to keep its stern up to the waves in a following sea.

DYE MARKER - A brightly colored chemical that spreads when released into water; normally used to attract attention.

EBB TIDE - A receding tide.

EVEN KEEL - To be floating evenly without listing to either side.

EXHAUST SYSTEM - The means by which the hot engine (or generator) exhaust gases are moved from the engine to an outboard port and then released into atmosphere.

EYE SPLICE - A permanent loop spliced in the end of a line.

FAST - Said of an object that is secured to another.

FATHOM - Six feet.

FENDER - A device (usually constructed of rubber or plastic) positioned so as to absorb the impact between vessels or dock.

FETCH - The unobstructed distance that the wind can blow over the water to create waves.

FLARE - 1. Outboard curve of the hull as it comes up the side from the waterline; the reverse of tumble home. 2. A pyrotechnic device used for emergency signaling.

FLAT - A small deck that is built below decks, specifically to support a piece of equipment.

FLEMISH - To coil down a line or rope on deck in a flat, circular, concentric arrangement.

FLOTSAM - Floating wreckage, trash or debris.

FLUKE - The palm of an anchor.

FOAM CREST - The top of the foaming water that speeds toward the beach after a wave has broken, commonly referred to as "white water."

FOLLOWING SEA - A sea (waves) moving in the same direction as a vessel.

FORE-AND-AFT - A line, or anything else, that runs parallel to the longitudinal center line of a boat.

FOREFOOT - The portion of a vessel's keel that curves upward to meet the stem.

FOREPEAK - A compartment in the bow of a boat.

FORWARD - Toward the bow.

FREEBOARD - The minimum vertical distance from the surface of the water to the gunwale.

FREQUENCY - The number of crests passing a fixed point at a given time.

FRONTS - Where opposing warm and cold air masses meet, generally producing a band of wet, stormy weather wherever they meet.

GALLEY - The kitchen area of a boat.

GALVANIC CORROSION - A potential electrical difference exists between dissimilar metals immersed in a conductive solution (e.g., salt water). If these metals touch or are otherwise electrically connected, this potential difference produces an electron flow between them. The attack on the less corrosion resistant metal is usually increased and the attack on the more resistant metal is decreased, as compared to when these metals are not touching.

GANGWAY - The area of a ship's side where people board and disembark.

GASKET - A strip of sealing material, usually rubber, set along the edge of a water or gas tight door, port, cover or hatch.

GELCOAT - The thin outer layer of pigmented plastic covering a fiberglass vessel.

GLAND - The movable part of a stuffing box, which when tightened, compresses the packing.

GROUND - Electrical term meaning the electrical potential of the earth's surface, which is zero.

GROUND SPEED - A vessel's speed made good over the earth's surface along a course or track.

GROUND TACKLE - The anchor, anchor rode, and other fittings that are used to secure a vessel at anchor or dockside.

GUNWALE - 1. The line where the upper deck and the hull meet. 2. The upper edge of a boat's side.

HALYARD - A line used to hoist a flag or pennant.

HATCHES - Cover on hatchways.

HATCHWAYS - Access ways through decks.

HARDTOP - A permanent cover over the cabin or cockpit.

HAWSER - A heavy rope or cable used for mooring or towing.

HEAD - A toilet or lavatory area.

HEADING - The direction that a vessel is going with reference to true, magnetic, or compass north.

HEADWAY - The forward motion of a vessel through the water.

HEAVE TO - To bring a vessel up in a position where it will maintain little or no headway, usually with the bow into the wind.

HEAVY WEATHER - Stormy weather with high seas and strong winds.

HEEL - To tip to one side.

HELM - The wheel or tiller that manually controls the boat's steering system.

HELMSMAN - The individual steering the vessel.

HIGHS - A center of pressure surrounded by lower pressure on all sides. Caused by a mass of cooler, sinking, drier air. This raises the area ground level air pressure and provides clear skies.

HULL - The main body of a boat.

INBOARD - 1. From either the port or starboard side of a boat toward the fore-and-aft centerline of a boat. 2. The dock side of a moored boat.

INLAND RULES - Nautical "Rules-of-the-Road" that apply in U.S. lakes, rivers, and coastal waters.

INTERNATIONAL RULES - Nautical "Rules-of-the-Road" that are in effect by international agreement to the high seas.

ISOBARS - Lines of equal air pressure that connect all the local points on a weather map. These lines are usually closed and define high or low pressure air masses.

ISOTHERMS - Isotherms are lines that are similar to isobars except that isotherms connect all the points that are of equal temperature.

JETSAM - Refuse that sinks when discharged overboard.

KEDGE(S) - One or more anchors set out from a grounded vessel, usually astern, to 1) keep it from being driven further aground and 2) to aid in refloating.

KEEL - 1. The centerline of a boat hull bottom running fore and aft, 2. The backbone of a vessel.

KNOT - 1. A maritime unit of speed equal to one nautical mile per hour (6076 feet). 2. A term for hitches and bends.

LANYARD - A short line made fast to an object to secure it.

LATITUDE - The measure of angular distance in degrees, minutes, and seconds, north or south of the equator.

LAZARETTE - Storage compartment in the deck at the stern.

LEADLINE - A weighted line used to take depth measurements.

LEE - The direction opposite that of the wind.

LEEWARD - Away from the wind.

LIST - A vessel that inclines to port or starboard.

LORAN - Long Range Navigation. An electronic system whereby a navigator can determine position regardless of weather.

LONGITUDINAL - Running lengthwise.

LOWS - A region of low atmospheric pressure. Hurricanes are extremely concentrated low pressure systems.

LUBBER LINE - A mark or line on the compass parallel to the keel indicating forward.

MAST - A spar that is set upright to support lighting, rigging, or sails.

MOORING - An arrangement for securing a boat to a mooring buoy or pier.

NAVIGATION LIGHTS - A set of red and green or white lights which must be shown by all vessels between dusk and dawn.

OVERHEAD - A ceiling or roof of a vessel.

OVERBOARD - Over the side of the boat.

OUTBOARD - 1. From the fore-and-aft centerline of a boat toward both the port and starboard sides. 2. The seaward side of a moored boat. 3. An engine that is mounted externally onto the transom of a boat.

PAINTER - A line to the bow of a small boat used for making fast.

PASSAGEWAY - A corridor or hallway aboard ship.

PENNANT - The line by which a boat is made fast to a mooring buoy; also pendant.

PERSONAL FLOATATION DEVICE (PFD) - A life preserver.

PIER - A loading platform that extends at an angle from the shore.

PILASTER - A rectangular structural support column that is an extension of the port and starboard aft cabin sides and which supports the hardtop and flybridge.

PILING - Support, or protection for wharves, piers, etc.

PITCH - 1. The vertical (up and down) motion of a bow in a seaway, about the athwartships axis. 2. The axial advance of a propeller during one complete revolution.

PITCHPOLING - A boat being thrown end-over-end.

PLANING HULL - At slow speeds, a planing hull will displace water in the same manner as a displacement hull. As speed is increased, the hull provides a lifting effect up onto the surface of the water.

POINT - One of 32 points of the compass that is equal to 11-1/4 degrees.

PORT - 1. Looking forward, the left side of a boat, 2. A harbor, 3. An opening for light or ventilation or passage of material in the side of a boat.

PORT BEAM - The left-center of a boat.

PORT BOW - Facing the bow, the front left side.

PORT QUARTER - Looking forward, a vessel's left rear section.

QUARTER - The sides of a boat aft of amidships.

QUARTERING SEA - Sea coming on a boat's quarter.

RED-RIGHT-RETURNING - A term for helmsmen that buoys and day markers are on the right when returning from seaward.

REEF - A shallow underwater barrier.

REEVE - To pass a line through a block or other opening.

RIDGES - High pressure fingers extending out from a high.

RODE - The anchor line or chain.

RUNNING LIGHTS - Lights required to be shown on boats underway between sundown and sunup.

RUDDER - A vertical plate for steering a boat.

SALON - The main social cabin on a vessel, usually the largest area, occasionally referred to as the deckhouse.

SCREW - A propeller.

SCUPPER - A drain from the edge of a deck that discharges overboard.

SEACOCK - A positive action shut-off valve connected directly to the hull seawater intake and discharge piping.

SERIES - A group of waves which seem to travel together and at about the same speed.

SHACKLE - A "U" shaped connector with a pin or bolt across the open end.

SHAFT - The long, round member that connects the engine or transmission to the propeller.

SHAFT LOG - A fitting at the hull bottom where the shaft connecting an engine to its propeller penetrates the hull. A shaft log permits the shaft to rotate while simultaneously preventing water from entering the hull.

SHEER - The top of the hull's curvature at the deck line from the bow to the stern.

SHEER STRAKE - The upper edge of the hull, immediately below the deck.

SHEET BEND - A knot used to join tow ropes.

SHOAL - An area of shallow water.

SILENCER - A baffled chamber installed in an exhaust system to reduce the noise.

SOLE - Term for deck, cabin or cockpit floor.

SPAR - A general term for booms, masts, yards etc.

SPRING LINE - A pivot line used in docking, undocking, or to prevent the boat from moving forward or astern while made fast to a dock.

STARBOARD - Looking forward, the right side of a boat.

STARBOARD BEAM - The right-center of a boat.

STARBOARD BOW - When facing the bow, the front right side.

STARBOARD QUARTER - When looking forward, the right rear section of the boat.

STEERAGEWAY - The lowest speed at which a vessel can be controlled by the steering wheel.

STEM - The leading edge of a boat's hull.

STERN - The back of a boat.

STRINGER - A fore and aft continuous member used to provide a vessel longitudinal strength.

STRUT - A propeller shaft support that is below the hull.

SUMP - A pit or well into which water is drained.

SUPERSTRUCTURE - Deck houses and other structures extending above the deck.

THWART - A seat or brace running laterally across a boat.

THWARTSHIPS - At right angles to the centerline.

TILLER - A bar or handle for turning a boat's rudder, or motor.

TOPSIDE - To go up to the top deck.

TRANSOM - The stern cross-section of a square sterned boat.

TRANSVERSE - Across the vessel; athwartships.

TRIM - Fore and aft balance of a boat.

TROUGH - 1. The valley that exists between waves. 2. A trough is the opposite of a ridge in that it is an elongated low-pressure area extending out from a low. A trough normally indicates unsettled weather.

TUMBLE HOME - The opposite of flare. The shape of the hull as it moves outboard going down from the gunwale to the waterline or chine.

UNDERWAY - Movement. Usually referring to a vessel proceeding forward.

V-BOTTOM - A hull with the bottom section in the shape of a "V."

V DRIVE - A drive system that has the output of the engine facing forward and coupled to a transmission. The prop shaft is then coupled to the transmission.

WAKE - Moving waves, track or path that a boat leaves behind it when moving across the water.

WATER LINE - The line of the water on the hull when the vessel is afloat.

WATCH - A 4 hour duty period while at sea.

WAVES - Waves are periodic disturbances of the sea's surface, caused by wind, seaquakes, and the gravitational pull of the moon and the sun.

WAVE GRADIENT - A wave's slope or angle from trough to crest with respect to the horizon.

WAVE HEIGHT - From the bottom of a wave's trough to the top of the crest.

WEATHER DECK - A deck with no overhead protection.

WET EXHAUST - This term refers to an exhaust system where the cooling seawater is mixed with the exhaust gases just after the riser. This mixture is then ejected through the drive or ports located in the transom or hull sides.

WHARF - A man-made structure bounding the edge of a dock and built along the shoreline.

WHIPPING - The act of wrapping the end of a piece of rope with small line, tape or plastic to prevent it from fraying.

WINDLASS - A device used to raise and lower the anchor.

WINDWARD - Toward the direction from which the wind is coming.

YAW - 1. To swing off course, as when due to the impact of a following or quartering sea. 2. Any motion about a vertical axis.

FLOAT PLAN

Copy this page and fill out before going boating. Leave the completed copy with a reliable person who can be depended upon to notify the Coast Guard, or other rescue organization, should you not return as scheduled. DO NOT file this plan with the Coast Guard.

Name _____ Telephone _____

Description of Boat _____ Type _____ Color _____ Trim _____

Registration Number _____

Length _____ Name _____ Make _____

Four Winns® Hull Identification Number _____

Other Information _____

Persons Aboard: Name	Age	Address	Telephone

Engine Type _____ HP _____

Number of Engines _____ Fuel Capacity _____

Survival Equipment:

PFDs _____ Flares _____ Mirror _____

Smoke Signals _____ Flashlight _____ Food _____

Paddles _____ Water _____ Anchor _____

Raft or Dinghy _____ EPIRB _____ Sea Anchor _____

Navigation Equipment:

Compass _____ Loran _____ GPS _____ Radar _____

Radio: Yes _____ No _____ Type _____ Frequency _____

Phone: Yes _____ No _____ Phone Number _____

Destination _____ Estimated Time of Arrival _____

Expected to Return By _____

AutoType _____ License No. _____ Where _____

If not returned by _____ call the Coast Guard, or _____

Local Marine Authority

Coast Guard Telephone Number: _____

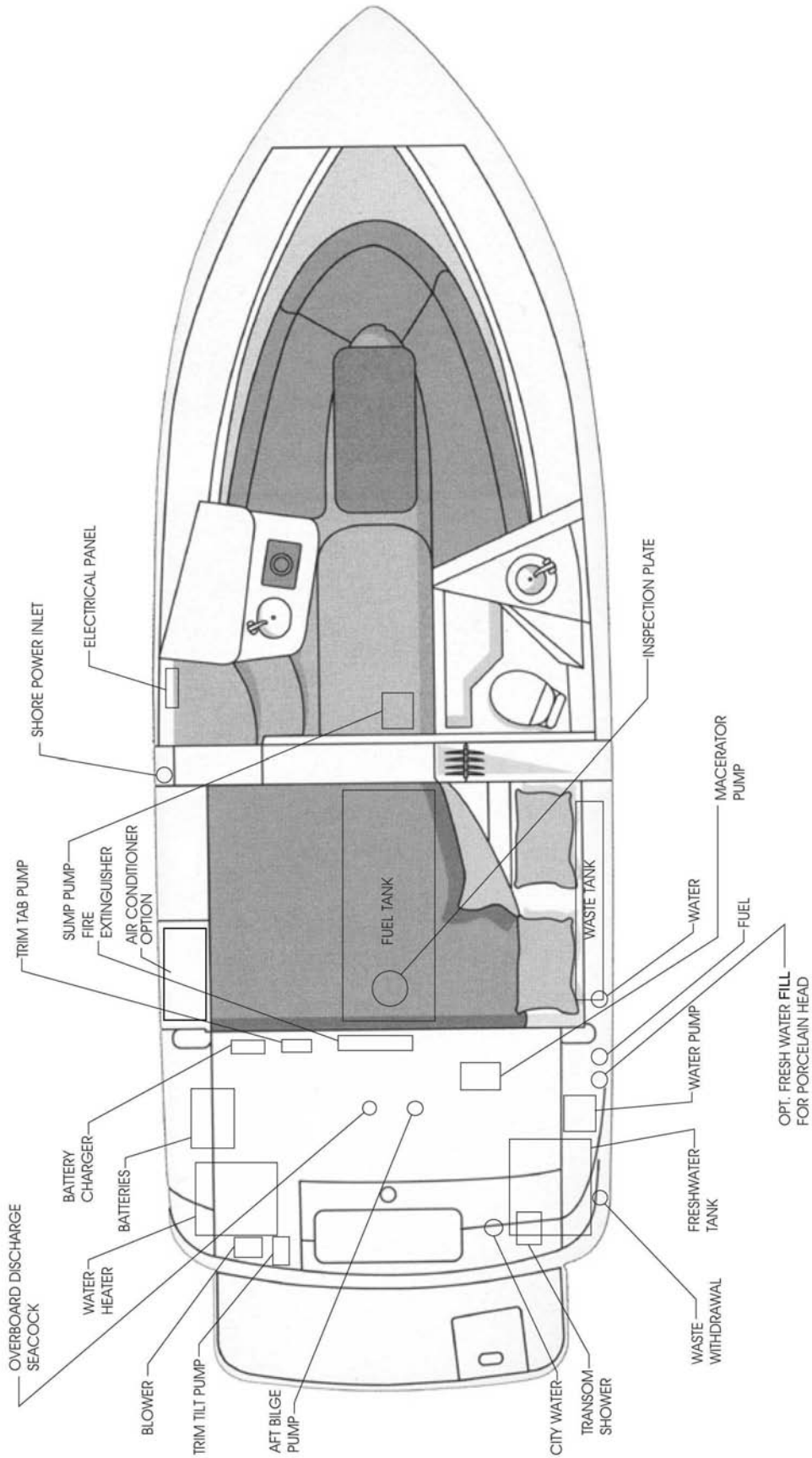
Local Marine Authority Telephone Number: _____

SERVICE INFORMATION

BOAT MODEL	
HULL IDENTIFICATION NUMBER	
ENGINE MODEL	
ENGINE SERIAL NUMBER(S)	
DRIVE MODEL	
DRIVE SERIAL NUMBER(S)	
PROPELLER DIAMETER	
PROPELLER PITCH	
PROPELLER PART NUMBER(S)	
OIL FILTER NUMBER	
BOAT COLOR	
COCKPIT UPHOLSTERY COLOR	
CABIN UPHOLSTERY COLOR	
FUEL CAPACITY	
FUEL: ESTIMATED AVG. GALLON/HR USAGE	
IGNITION KEY NUMBER(S)	
GLOVE BOX KEY NUMBER	
COMPANIONWAY KEY NUMBER	
TRAILER MODEL	
TRAILER COLOR	
TRAILER SERIAL NUMBER	
TRAILER TIRE SIZE & MANUFACTURER	
SELLING DEALER	
ADDRESS	
CITY & STATE	
PHONE NUMBER	
MISCELLANEOUS	

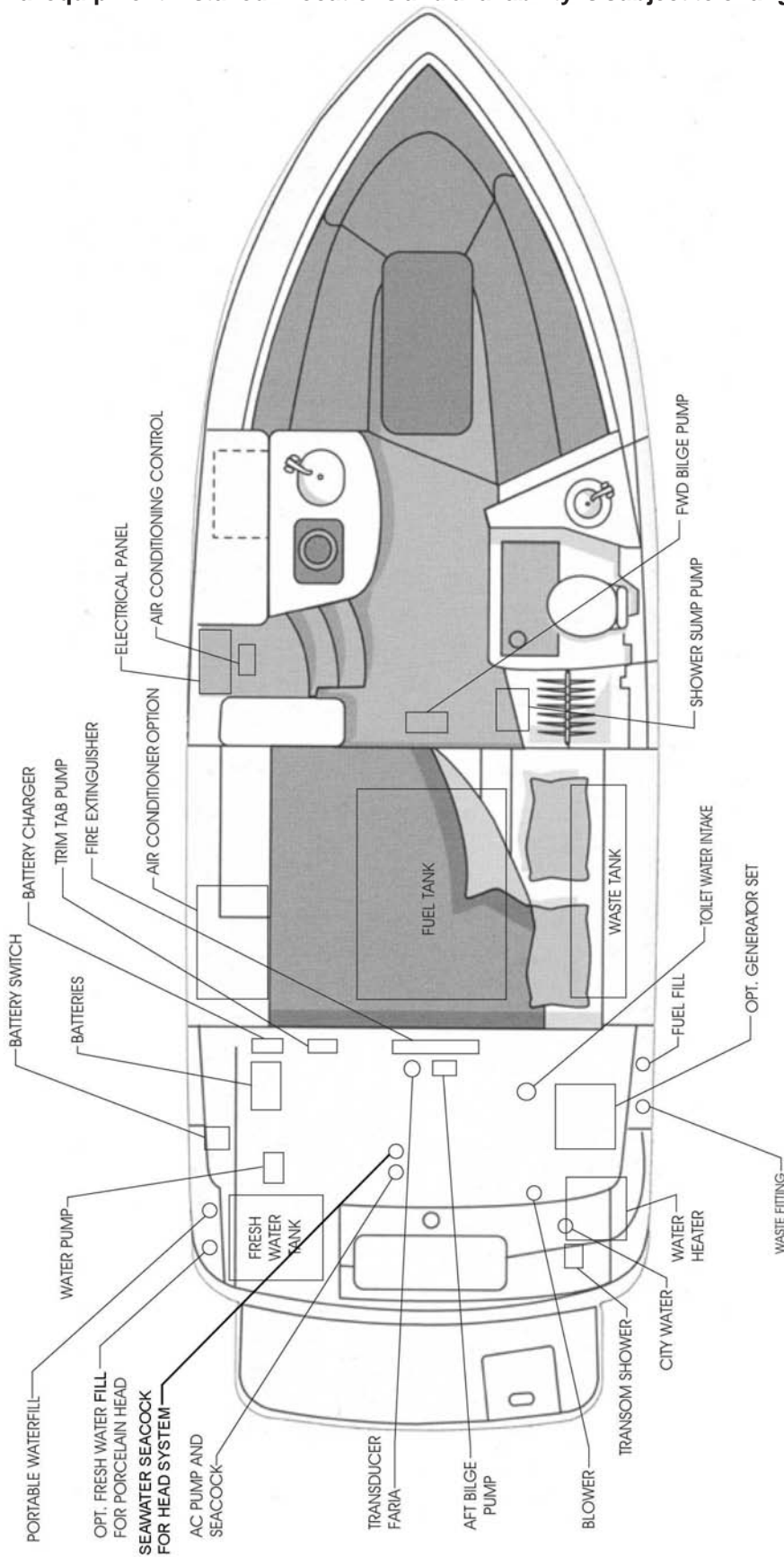
248 VISTA™ LOCATOR DRAWING

(Note: Representative Location Only - availability and locations of equipment may vary depending on model and optional equipment installed. Locations and availability is subject to change without notice).



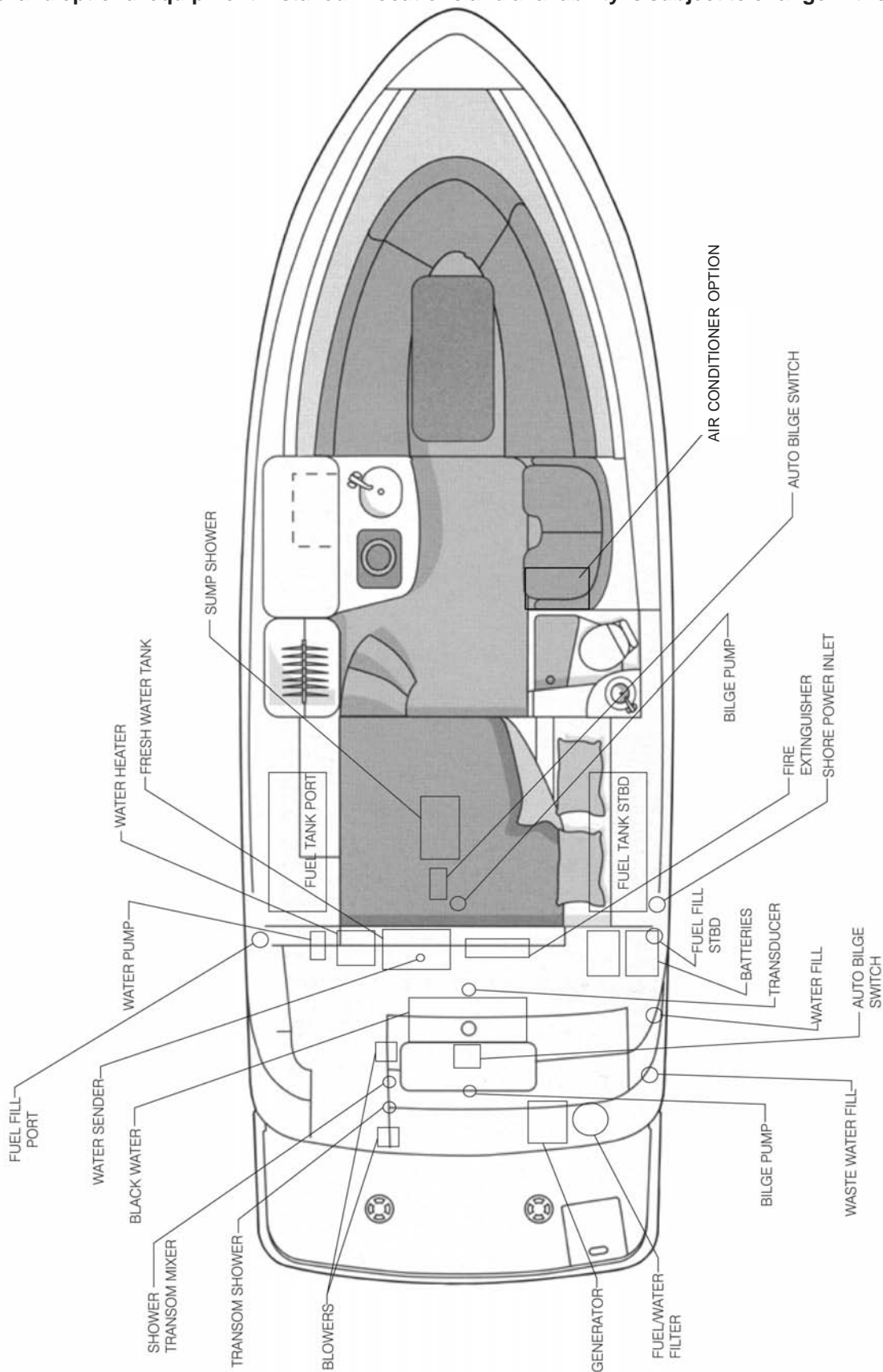
268 VISTA™ LOCATOR DRAWING

(Note: Representative Location Only - availability and locations of equipment may vary depending on model and optional equipment installed. Locations and availability is subject to change without notice).



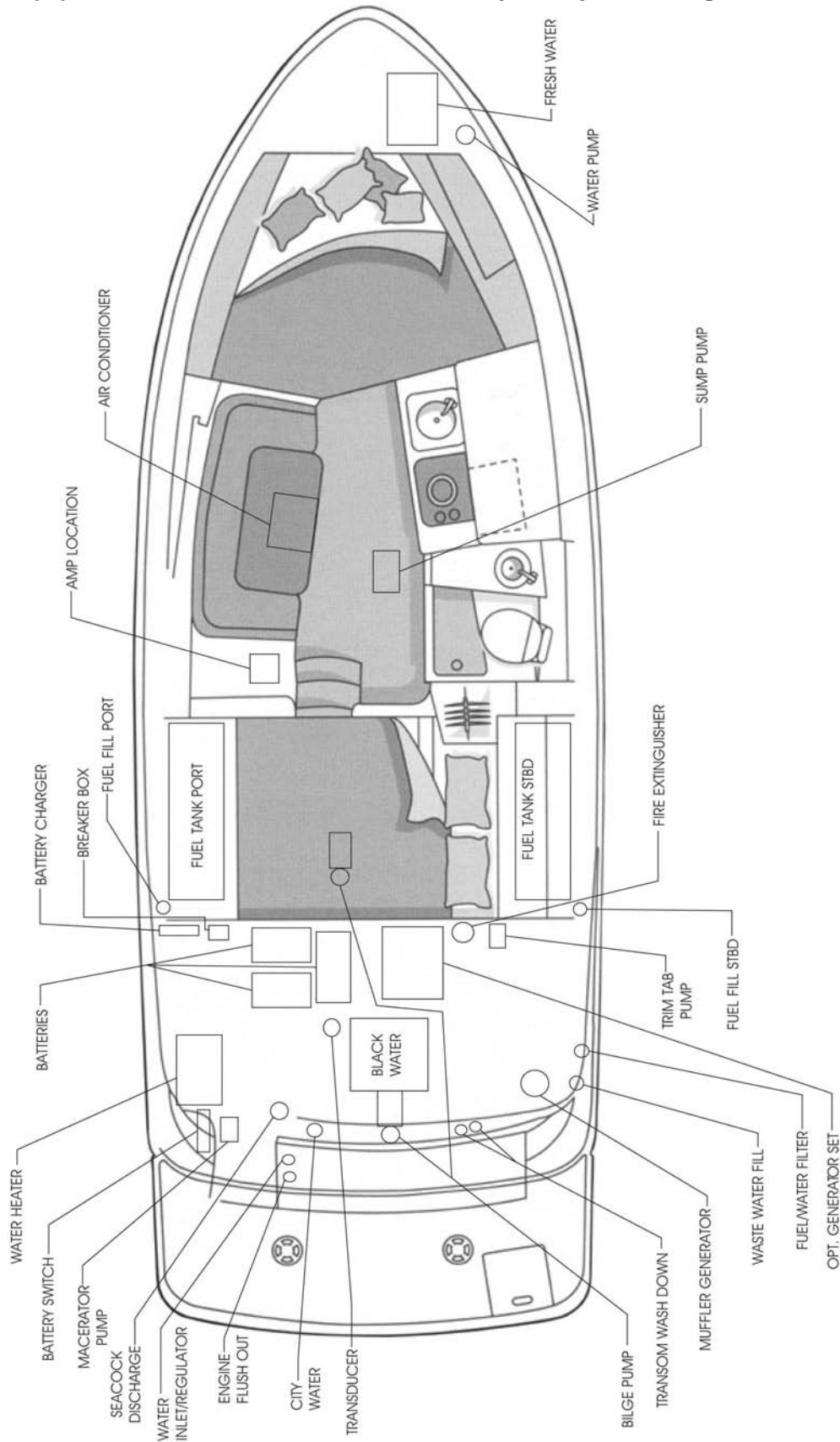
288 VISTA™ LOCATOR DRAWING

(Note: Representative Location Only - availability and locations of equipment may vary depending on model and optional equipment installed. Locations and availability is subject to change without notice).



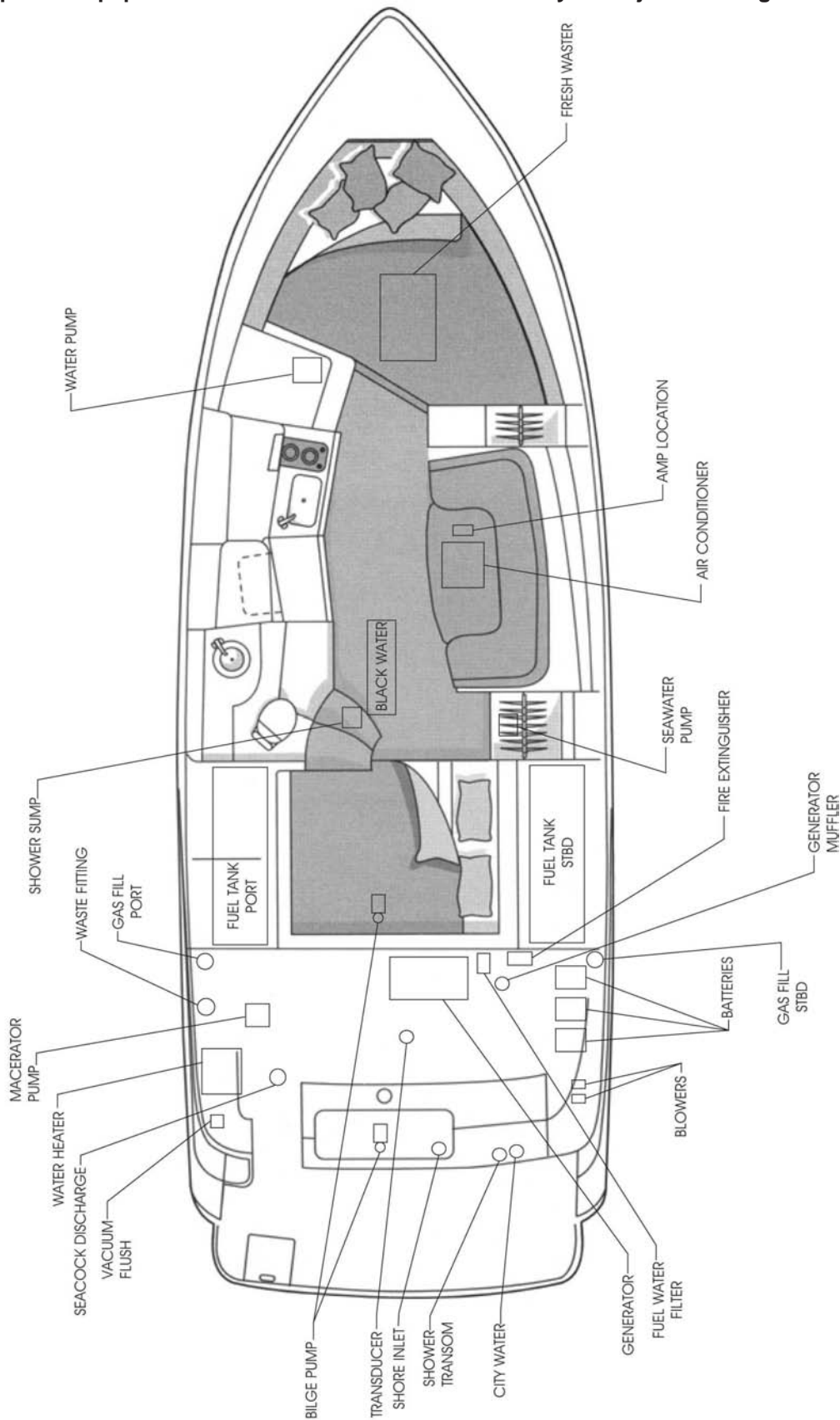
298 VISTA™ LOCATOR DRAWING

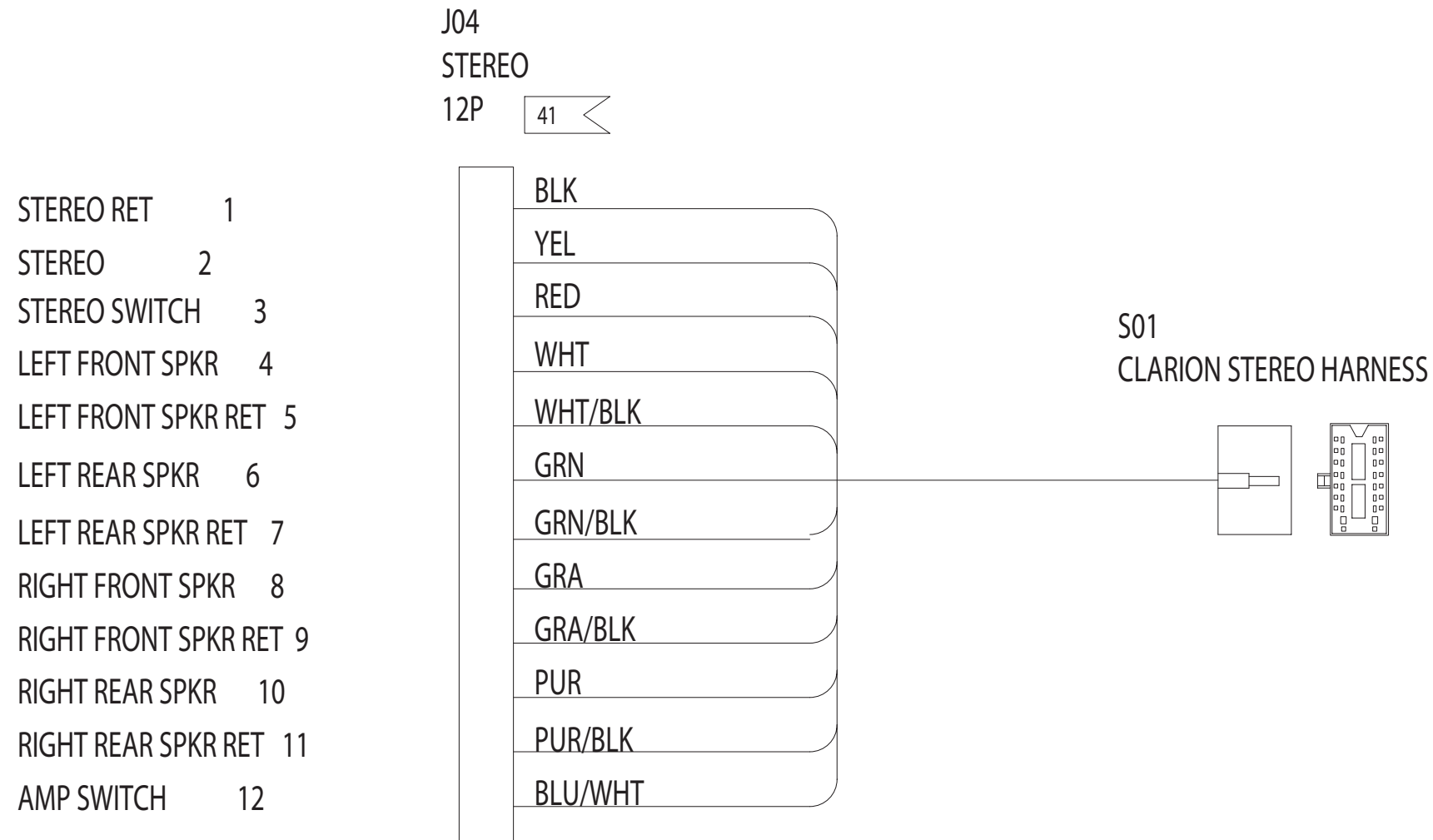
(Note: Representative Location Only - availability and locations of equipment may vary depending on model and optional equipment installed. Locations and availability is subject to change without notice).



328/348 VISTA™ LOCATOR DRAWING

(Note: Representative Location Only - availability and locations of equipment may vary depending on model and optional equipment installed. Locations and availability is subject to change without notice).





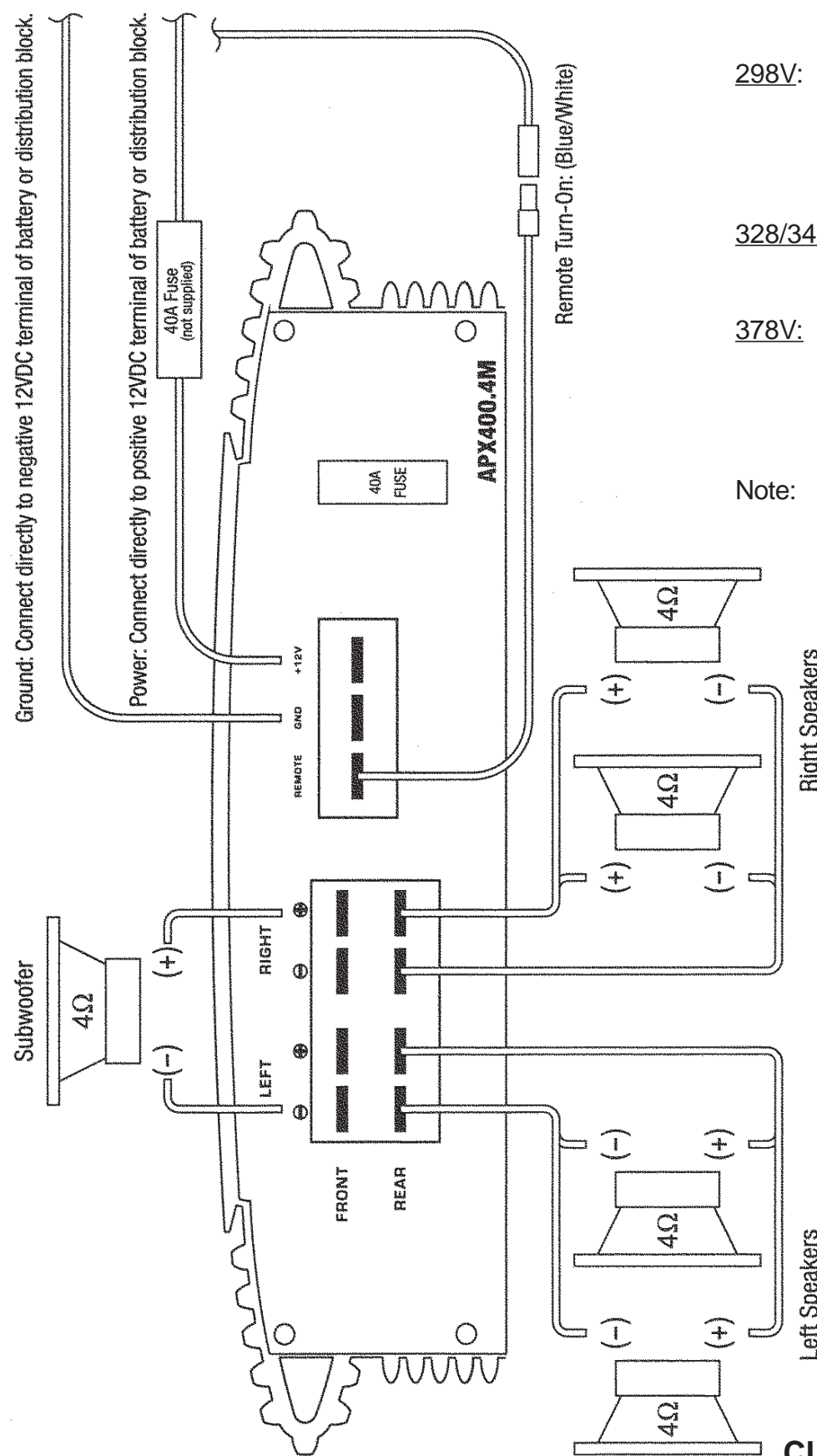
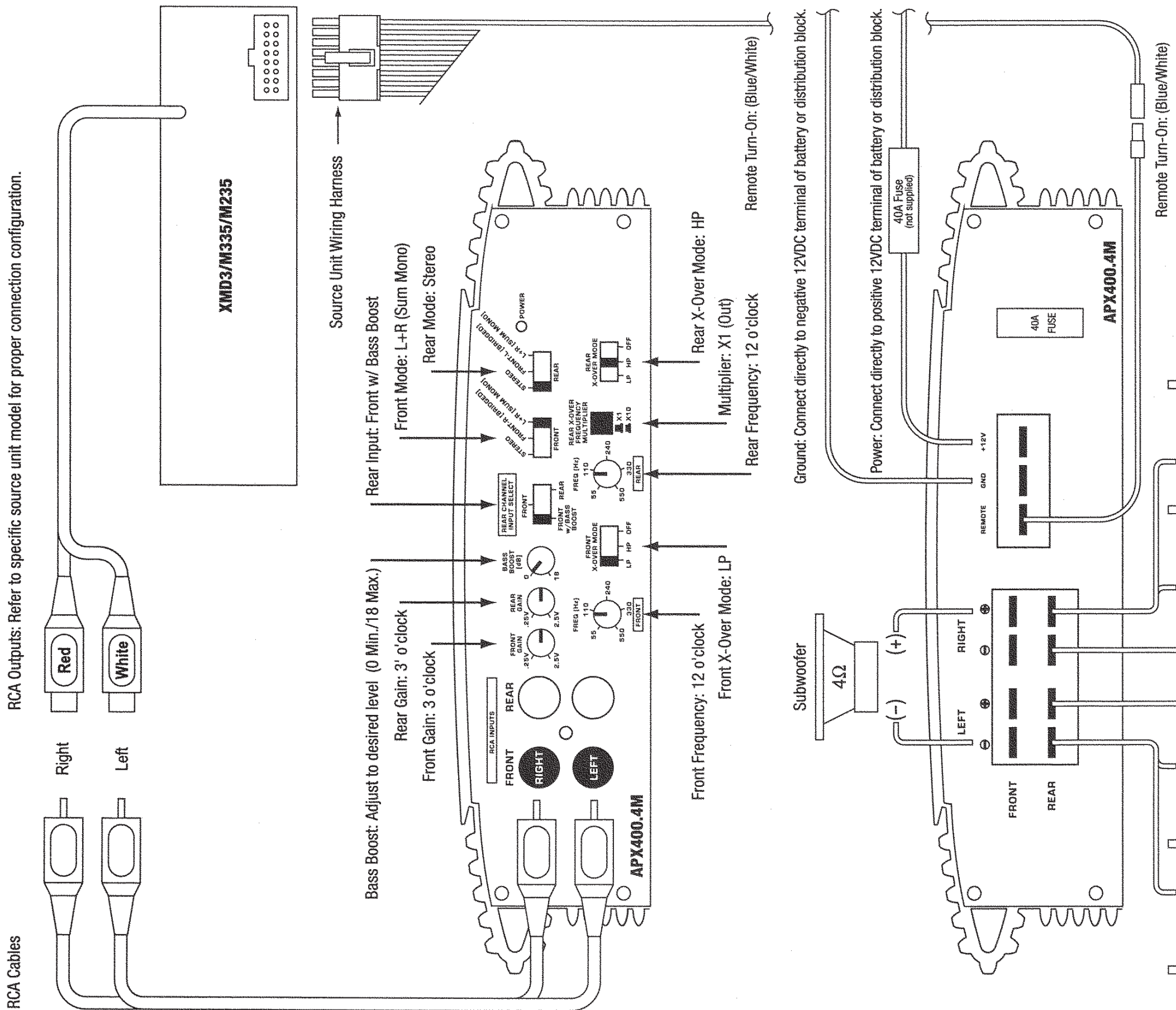
FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
	028-0390	3	PIN,UMNL,18-14	41	AMP
	028-1036	8	PIN,UMNL,24-18	57	AMP
J04	028-0445	1	RECEPT,UMNL,12 CKT	STEREO ADAPTOR	AMP
S01	027-2441	1	CLARION STEREO PLUG ASSY	CLARION STEREO	CLARION

CLARION STEREO ADAPTER HARNESS ASSEMBLY



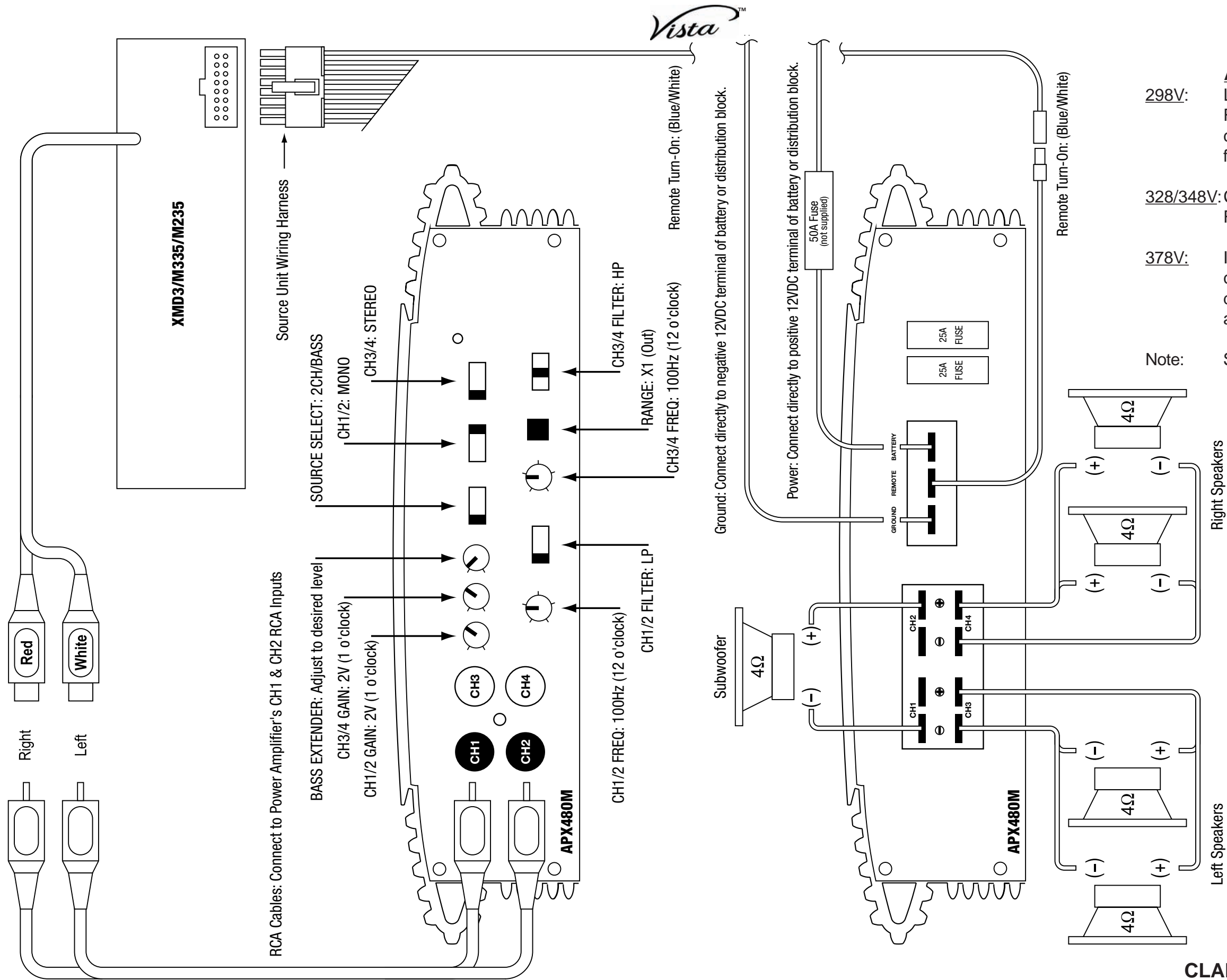
RCA Outputs: Refer to specific source unit model for proper connection configuration.



- AMP LOCATIONS*:**
- 298V:** Lower portion of AC/DC cabin. Remove the storage tub in mid-cabin/companionway bulkhead for access.
 - 328/348V:** Center of the dinette seat base. Remove access cover.
 - 378V:** In portside, mid-cabin storage compartment w/ door. Open door and remove the panel for access.
- Note: Subject to change without notice.

CLARION AMPLIFIER - APX400.4M
CONNECTIONS & SETTINGS
 (AVAILABLE ON CERTAIN VISTA™ MODELS ONLY)

RCA Outputs: Refer to specific source unit model for proper connection configuration.



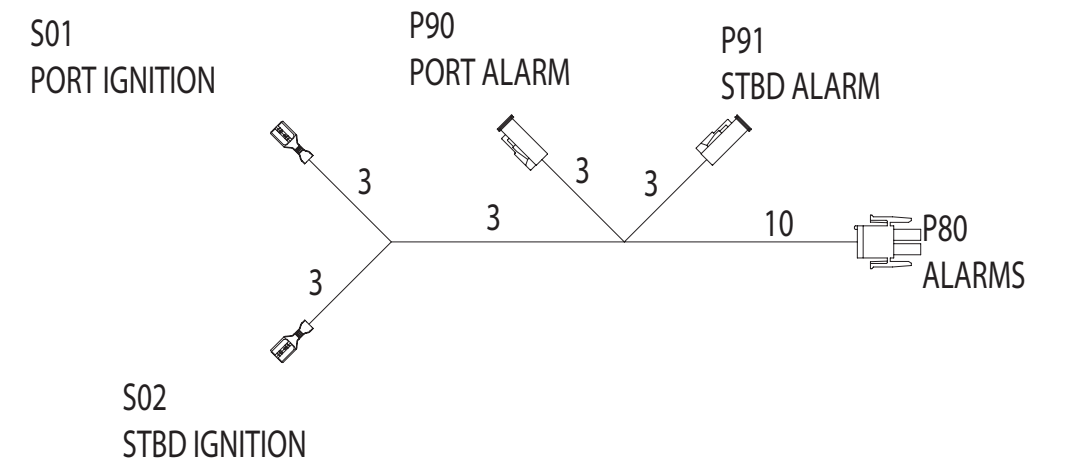
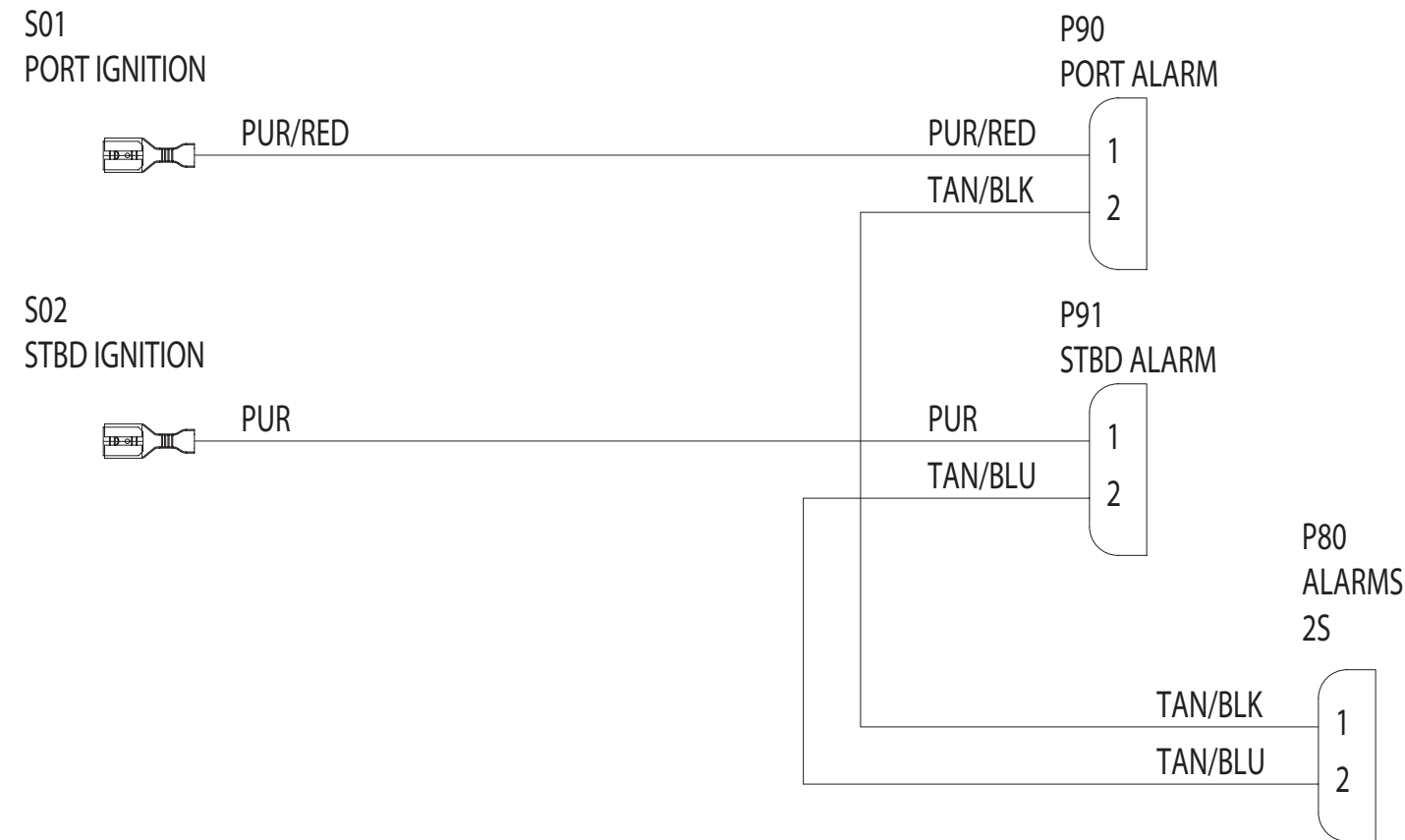
AMP LOCATIONS*:

- 298V: Lower portion of AC/DC cabin. Remove the storage tub in mid-cabin/companionway bulkhead for access.
- 328/348V: Center of the dinette seat base. Remove access cover.
- 378V: In portside, mid-cabin storage compartment w/ door. Open door and remove the panel for access.

Note: Subject to change without notice.

**CLARION AMPLIFIER - APX480M
CONNECTIONS & SETTINGS**

(AVAILABLE ON CERTAIN VISTA™ MODELS ONLY)



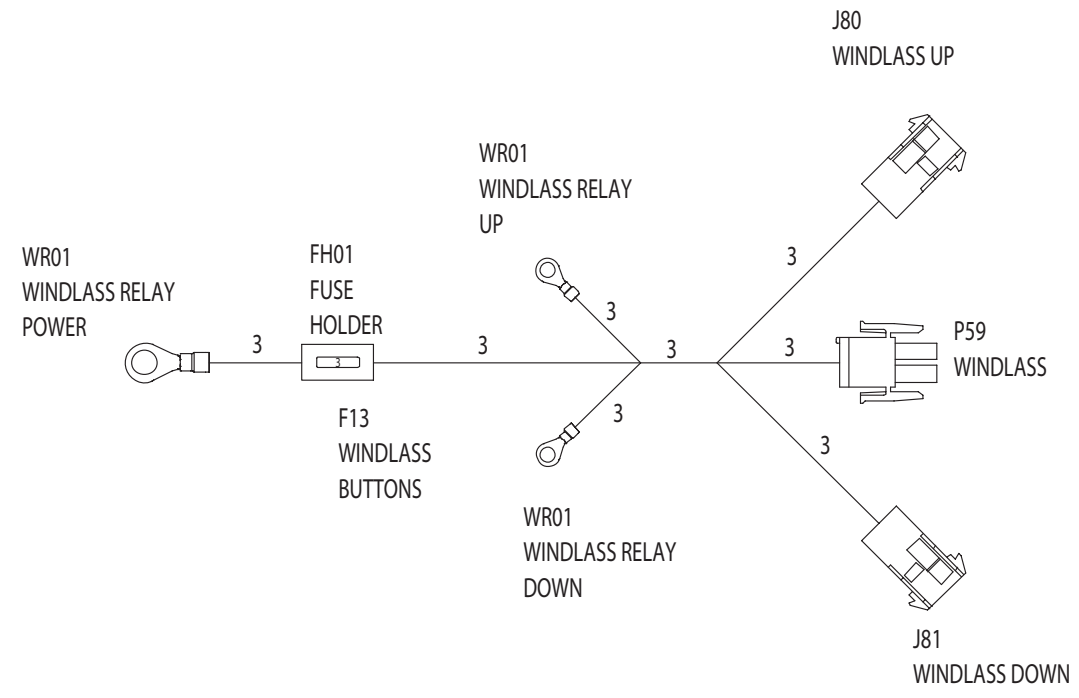
FOUR WINNS WIRE LIST

COLOR	GA	FIRST	PIN	TERM	NOTE	SECOND	PIN	TERM	NOTE	FUNCTION
PUR/RED	16	S01	1	05		P90	1	36		PORT IGNITION
PUR	16	S02	1	05		P91	1	36		STBD IGNITION
TAN/BLK	16	P90	2	36		P80	1	41		PORT ALARM
TAN/BLU	16	P91	2	36		P80	2	41		STBD ALARM

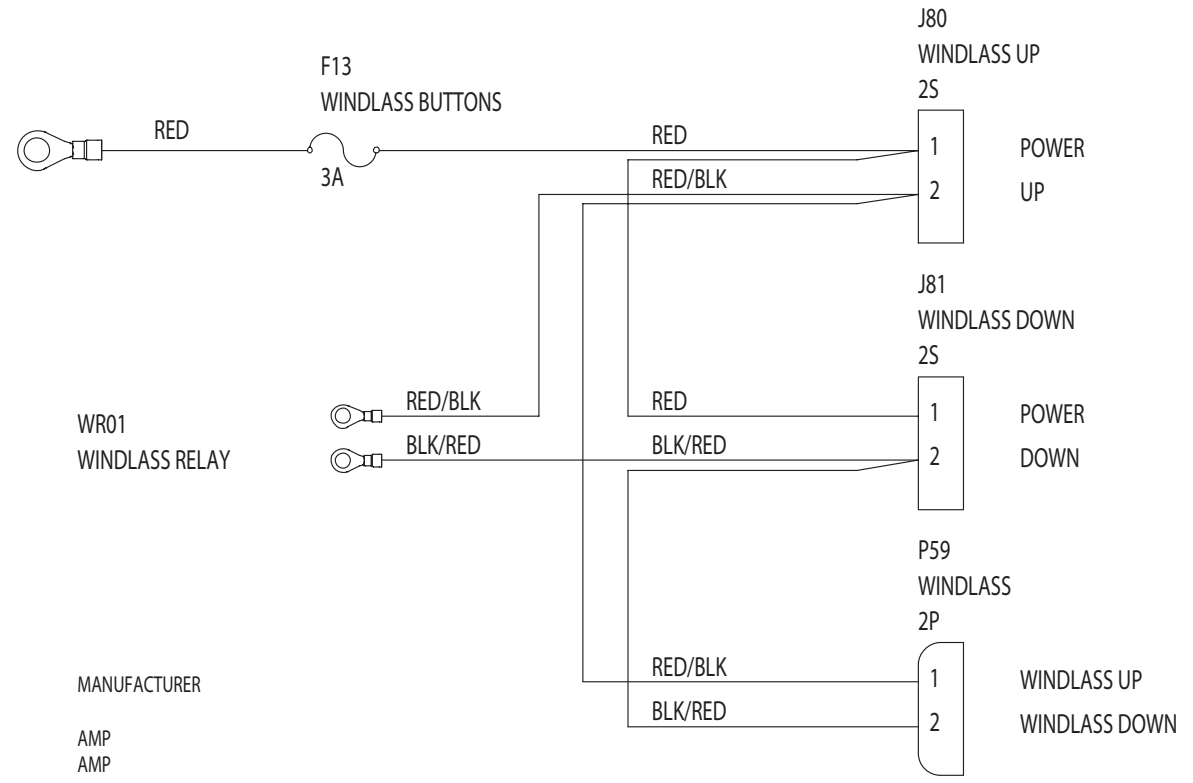
FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
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	028-0620	4	SOCKET,DEUTSCH,18-16	36	DEUTSCH
	028-0390	2	PIN,UMNL,18-14	41	AMP
P80	028-0447	1	PLUG,UMNL,2 CKT	ALARMS	AMP
P90	028-1001	1	PLUG,DEUSTCH,2 CKT	PORT ALARM	DEUTSCH
P91	028-1001	1	PLUG,DEUSTCH,2 CKT	STBD ALARM	DEUTSCH
S01	028-0188	REF	SWITCH,IGNITION,I/O	PORT IGNITION	
S02	028-0188	REF	SWITCH,IGNITION,I/O	STBD IGNITION	
	028-1002	1	LOCKWEDGE,DEUTSCH,PLUG,2 CKT		DEUTSCH
	028-1002	1	LOCKWEDGE,DEUTSCH,PLUG,2 CKT		DEUTSCH

**DIESEL ALARM
HARNESS ASSEMBLY**
(DIESELS AVAILABLE ON CERTAIN VISTA™ MODELS ONLY)



WR01 WINDLASS RELAY

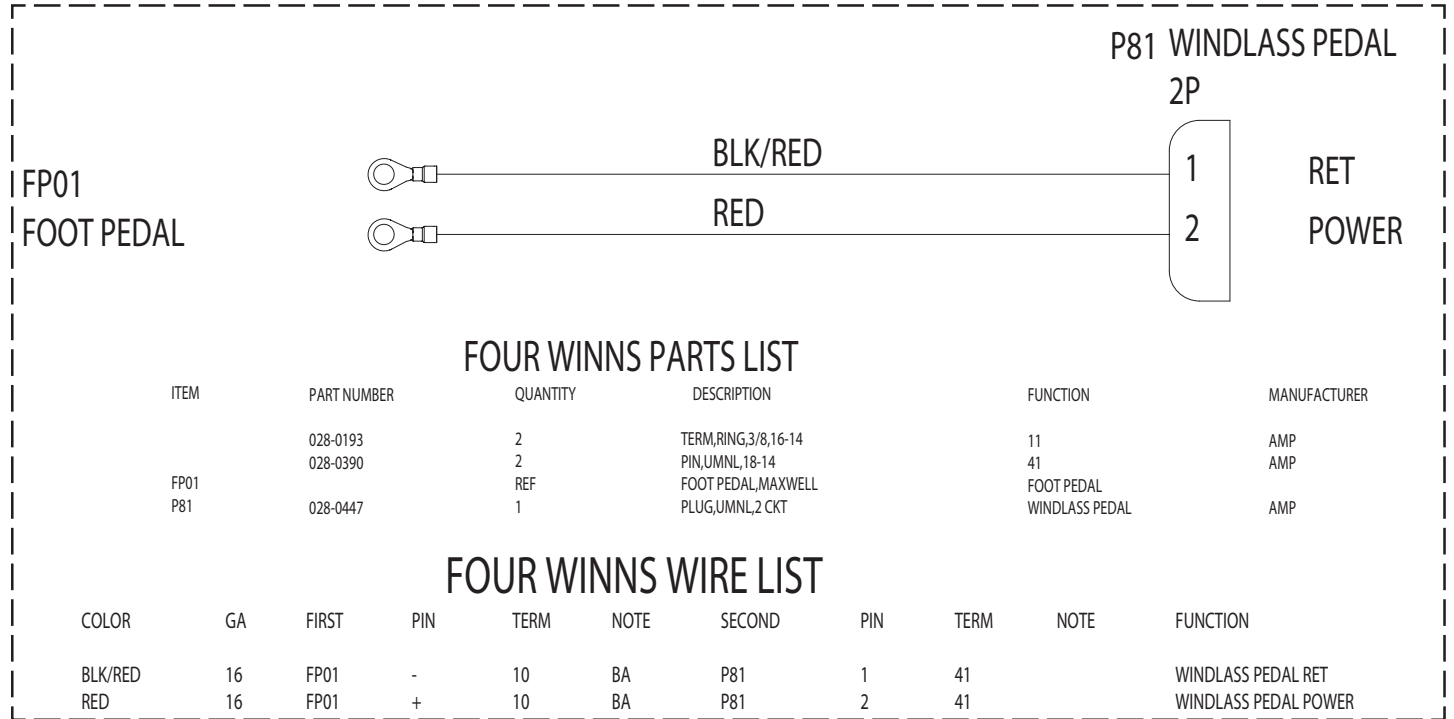


FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
	028-0189	2	TERM,RING,#8,16-14	08	AMP
	028-0193	1	TERM,RING,3/8,.250	11	AMP
	028-0390	2	PIN,UMNL,18-14	41	AMP
	028-0454	4	SOCKET,UMNL,18-14	42	AMP
	028-0506	1	FUSE,ATC,3A		BUSS
F13		1	FUSE HOLDER,INLINE		3M
FH01	028-0441	1	RECEPT,UMNL,2 CKT		AMP
J80	028-0441	1	RECEPT,UMNL,2 CKT		AMP
J81	028-0447	1	PLUG,UMNL,2 CKT		AMP
P59	065-0842-02	REF	WINDLASS RELAY		AMP
WR01					

FOUR WINNS WIRE LIST

COLOR	GA	FIRST	PIN	TERM	NOTE	SECOND	PIN	TERM	NOTE	FUNCTION
RED	16	WR01	+	11		FH01	LINE	51		BUTTON POWER
RED	16	FH01	LOAD	51		J80	1	42	SA	BUTTON POWER
RED	16	J80	1	42	SA	J81	1	42		BUTTON POWER
RED/BLK	16	WR01	UP	08		J80	2	42	SB	WINDLASS UP
RED/BLK	16	J80	2	42	SB	P59	1	41		WINDLASS UP
BLK/RED	16	WR01	DOWN	08		J81	2	42	SC	WINDLASS DOWN
BLK/RED	16	J81	2	42	SC	P59	2	41		WINDLASS DOWN



FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
	028-0193	2	TERM,RING,3/8,16-14	11	AMP
	028-0390	2	PIN,UMNL,18-14	41	AMP
FP01		REF	FOOT PEDAL,MAXWELL		
P81	028-0447	1	PLUG,UMNL,2 CKT		AMP

FOUR WINNS WIRE LIST

COLOR	GA	FIRST	PIN	TERM	NOTE	SECOND	PIN	TERM	NOTE	FUNCTION
BLK/RED	16	FP01	-	10	BA	P81	1	41		WINDLASS PEDAL RET
RED	16	FP01	+	10	BA	P81	2	41		WINDLASS PEDAL POWER

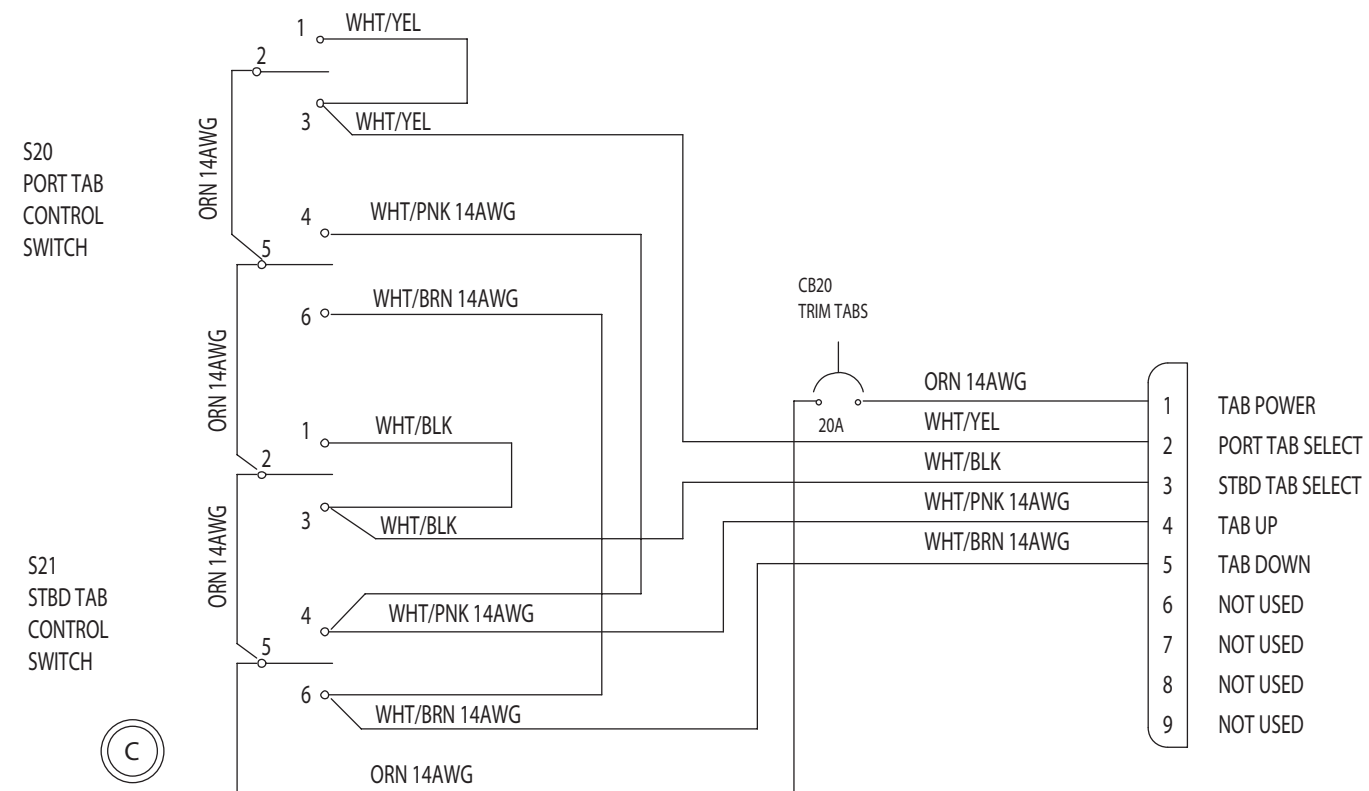
MAXWELL WINDLASS RELAY & FOOT PEDAL HARNESS ASSEMBLY
 (AVAILABLE ON CERTAIN VISTA™ MODELS ONLY)

FOUR WINNS WIRE LIST

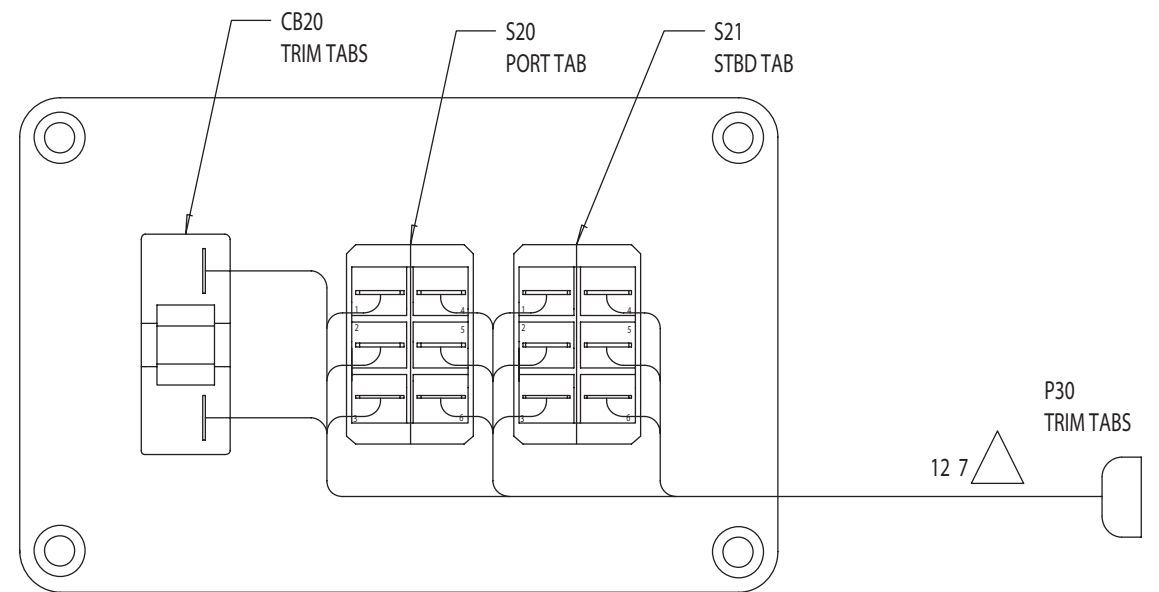
COLOR	GA	FIRST	PIN	TERM	NOTE	SECOND	PIN	TERM	NOTE	FUNCTION
ORN	14	P30	1	41		CB20	LINE	02		TAB POWER
ORN	14	CB20	LOAD	02		S21	5	02	SA	TAB POWER
WHT/YEL	16	P30	2	41		S20	3	02	SD	PORT TAB SELECT
WHT/BLK	16	P30	3	41		S21	3	02	SE	STBD TAB SELECT
WHT/PNK	14	P30	4	41		S21	4	02	SF	TAB UP
WHT/BRN	14	P30	5	41		S21	6	02	SG	TAB DOWN
ORN	14	S21	5	02	SA	S21	2	02	SB	TAB POWER
ORN	14	S21	2	02	SB	S20	5	02	SC	TAB POWER
ONR	14	S20	5	02	SC	S20	2	02		TAB POWER
WHT/BRN	14	S20	6	02		S21	6	02	SG	TAB DOWN
WHT/PNK	14	S20	4	02		S21	4	02	SF	TAB UP
WHT/YEL	16	S20	3	02	SD	S20	1	02		PORT TAB SELECT
WHT/BLK	16	S21	3	02	SE	S21	1	02		STBD TAB SELECT

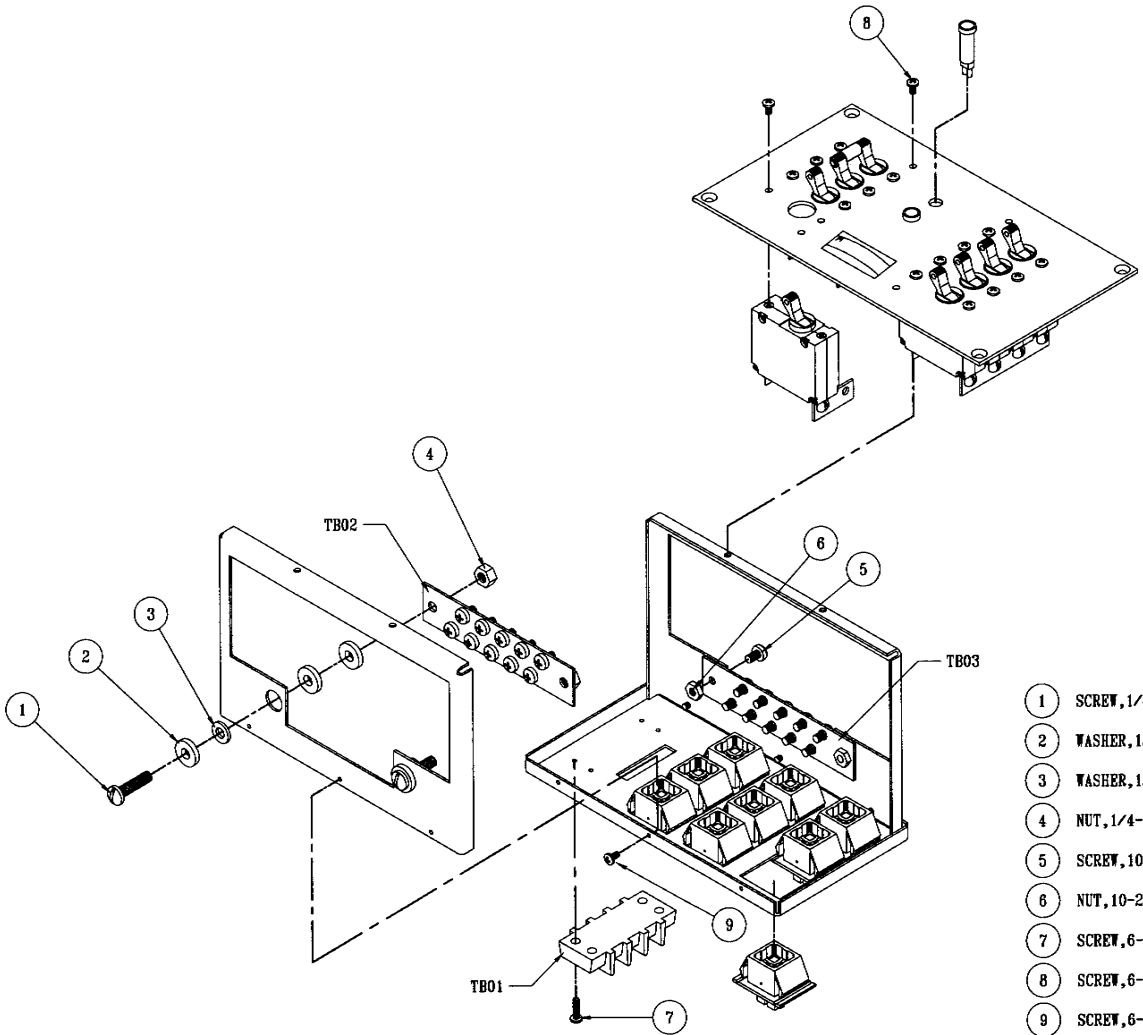
FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
	028-0177	14	TERM,FASTON,250,18-14	02	AMP
	028-0390	5	PIN,UMNL,18-14	42	AMP
	025-2234	1	PANEL,BLANK,TRIM TABS	BLANK PANEL	
CB20	028-0468	1	BREAKER,20A	TRIM TAB BREAKER	MP
P30	028-0449	1	PLUG,UMNL,9 CKT	TRIM TABS	AMP
S20	028-0460	1	SWITCH,(ON) OFF (ON) CONT III	PORT TAB SELECT	CARL SW
S21	028-0460	1	SWITCH,(ON) OFF (ON) CONT III	STBD TAB SELECT	CARL SW

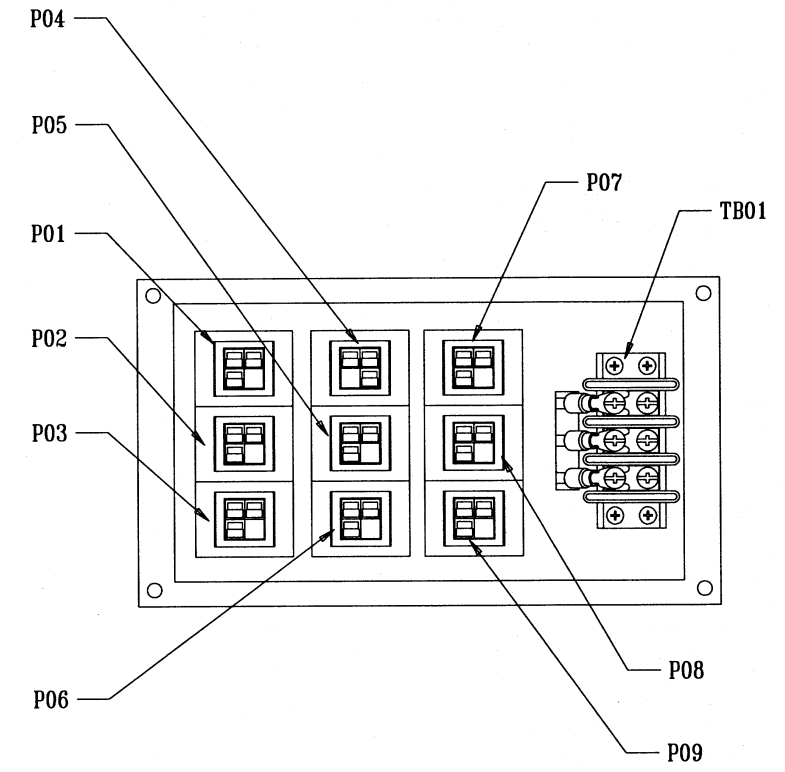
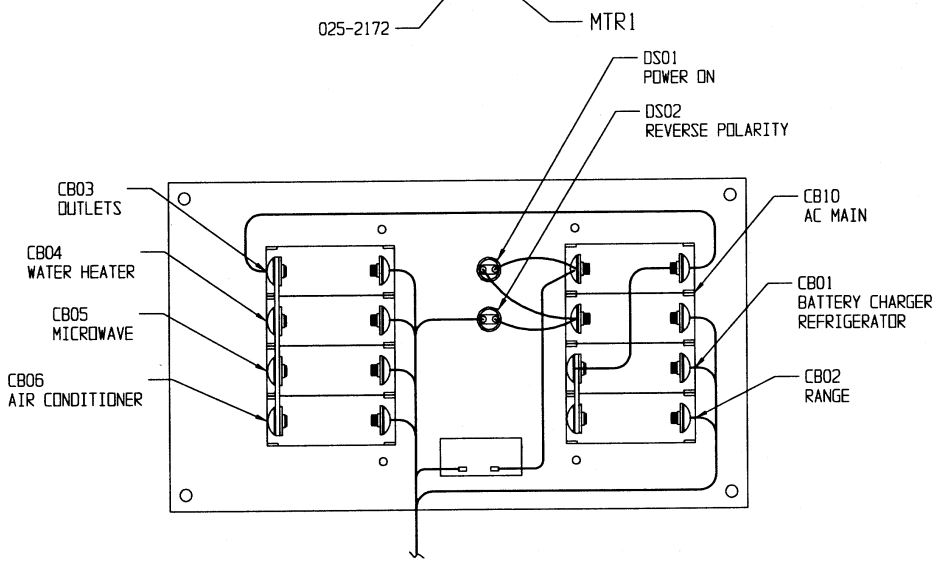
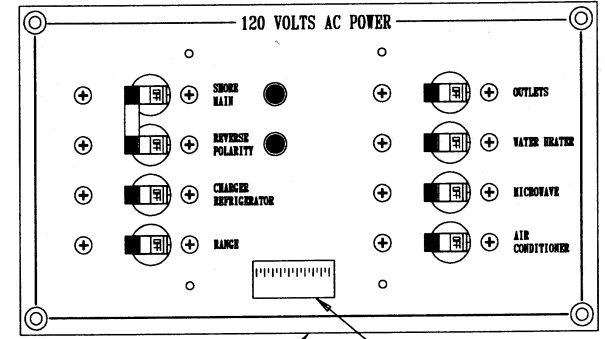


REAR PANEL VIEW





- 1 SCREW, 1/4-20 X 1" SPHMS BRASS: QTY-2EA.
- 2 WASHER, 1/4 X 5/8 PLASTIC: QTY-6EA.
- 3 WASHER, 1/4 X 1/2 PLASTIC: QTY-2EA.
- 4 NUT, 1/4-20 BRASS: QTY-2EA.
- 5 SCREW, 10-24 X 1/4" PPHMS BRASS: QTY-2EA.
- 6 NUT, 10-24 SS: QTY-2EA.
- 7 SCREW, 6-32 X 1" PPHMS SS: QTY-4EA.
- 8 SCREW, 6-32 X 1/4" PPHMS SS: QTY-6EA.
- 9 SCREW, 6-32 X 1/4" PPHMS BLK: QTY-20EA.



FOUR WINNS WIRE LIST

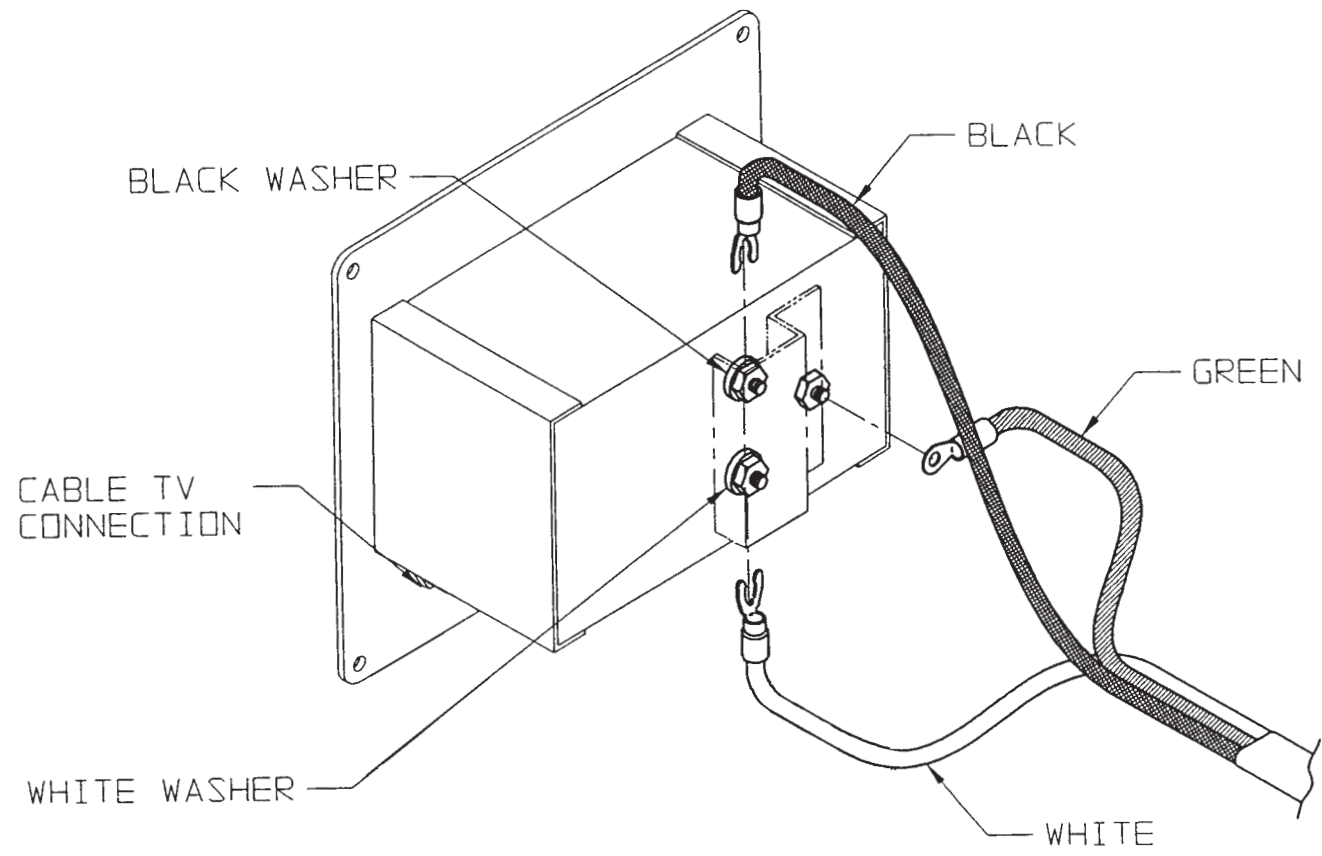
COLOR	GA	FIRST	PIN	TERM	NOTE	SECOND	PIN	TERM	NOTE	FUNCTION
BLK	16	MTR1	+	04		CB10	LINE	21		VOLTAGE
BLK	16	TB03	1	09		MTR1	-	04		NEUT.
BLK	16	DS01	1	51		CB10	LINE1	21		AC POWER OK
BLK	16	DS01	2	51		CB10	LINE2	21	SA	AC POWER OK
BLK	16	DS02	1	51		CB10	LINE2	21	SA	REVERSE POLARITY
BLK	16	DS02	2	51		TB03	1	09		REVERSE POLARITY
BLK	10	CB10	LINE1	21		TB01	2	21		AC HOT
BLK	10	CB10	LOAD1	21		CB01	LINE	21		AC LINE
BLK	10	CB10	LOAD1	21		CB03	LINE	21		AC LINE
DRN	10	CB01	LOAD	21		P07	3	23		BATTERY CHARGER
BLU	12	CB01	LOAD	21		P08	3	23		REFRIGERATOR
YEL	12	CB02	LOAD	21		P09	3	23		RANGE
BLK	12	CB03	LOAD	13		P01	3	23		OUTLETS
BLK	12	CB03	LOAD	13		P02	3	23		OUTLETS
BLK	12	CB03	LOAD	13		P03	3	23		OUTLETS
RED	12	CB04	LOAD	21		P04	4	23		WATER HEATER
YEL/BLK	12	CB05	LOAD	21		P05	3	23		MICROWAVE
GRA	12	CB06	LOAD	21		P06	3	23		AIR CONDITIONING
WHT	12	CB10	LINE2	21		TB01	3	21		AC RETURN
WHT	10	CB10	LOAD2	13		TB02	1	13		AC RETURNS
WHT	12	P01	NEUTRAL	23		TB02	2	13		OUTLET RETURN
WHT	12	P02	NEUTRAL	23		TB02	3	13		OUTLET RETURN
WHT	12	P03	NEUTRAL	23		TB02	4	13		OUTLET RETURN
WHT	12	P04	NEUTRAL	23		TB02	5	13		WATER HEATER RETURN
WHT	12	P05	NEUTRAL	23		TB02	6	13		MICROWAVE RETURN
WHT	12	P06	NEUTRAL	23		TB02	7	13		AIR CONDITIONER RETURN
WHT	12	P07	NEUTRAL	23		TB02	8	13		BATTERY CHARGER RETURN
WHT	12	P08	NEUTRAL	23		TB02	9	13		REFRIGERATOR RETURN
WHT	12	P09	NEUTRAL	23		TB02	10	13		RANGE RETURN
GRN	12	TB01	GND	21		TB03	1	12		SHORE GND
GRN	12	P01	GND	23		TB03	2	09		OUTLET GND
GRN	12	P02	GND	23		TB03	3	09		OUTLET GND
GRN	12	P03	GND	23		TB03	4	09		OUTLET GND
GRN	12	P04	GND	23		TB03	5	09		WATER HEATER GND
GRN	12	P05	GND	23		TB03	6	09		MICROWAVE GND
GRN	12	P06	GND	23		TB03	7	09		AIR CONDITIONER GND
GRN	12	P07	GND	23		TB03	8	09		BATTERY CHARGER GND
GRN	12	P08	GND	23		TB03	9	09		REFRIGERATOR GND
GRN	12	P09	GND	23		TB03	10	09		RANGE GND

FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACT
-	025-2172	1	PANEL, BLANK, 248/268V AC CABIN		AMP
-	028-0191	10	TERM, RING, PG, #8, 16-14	09	AMP
-	028-0194	1	TERM, RING, PG, #8, 12-10	12	AMP
-	028-0195	14	TERM, RING, PG, #10, 12-10	13	AMP
-	028-0200	17	TERM, SPRING SPADE, #10, 12-10	21	AMP
CB01	028-0416	1	CKT BKR, 10A	CHARGER/FRIG	CARLINGSI
CB02	028-0418	1	CKT BKR, 20A	RANGE	CARLINGSI
CB03	028-0418	1	CKT BKR, 20A	OUTLETS	CARLINGSI
CB04	028-0418	1	CKT BKR, 20A	WATER HEATER	CARLINGSI
CB05	028-0417	1	CKT BKR, 15A	MICROWAVE	CARLINGSI
CB06	028-0418	1	CKT BKR, 20A	AIR CONDITIONING	CARLINGSI
CB10	028-0494	1	CKT BKR, 30A, DP	AC MAIN	CARLINGSI
DS01	028-0531	1	INDICATOR, GREEN NEON, 250 V	AC POWER OK	SOLICO
DS02	028-0530	1	INDICATOR, RED NEON, 250 V	REVERSE POLARITY	SOLICO
TB01	028-0475	1	BLOCK, TERMINAL, 3 POS	AC LINE (SHORE IN)	BEAU
-	147061-BK	9	HSG, 4 GANG PANEL MOUNT	AC LOADS	ANDERSON
-	132767-BK	9	BLOCK, WHT TERM.	AC NEUTRAL	ANDERSON
-	132765-BK	9	BLOCK, GRN TERM.	AC GROUND	ANDERSON
-	1-9601G15	3	BLOCK, BLK TERM.	OUTLET LOAD	ANDERSON
-	1-9601-G54	2	BLOCK, YEL TERM.	RANGE/MICRO LOADS	ANDERSON
-	1-9601-G2	1	BLOCK, RED TERM.	WATER HTR LOAD	ANDERSON
-	1-9601-G55	1	BLOCK, DRN TERM.	BAT CHRGR LOAD	ANDERSON
-	1-9601-G40	1	BLOCK, BLU TERM.	REFRIG LOAD	ANDERSON
-	1-9601-G57	1	BLOCK, GRA TERM.	ATR COND LOAD	ANDERSON
-	3-5154P2	9	BLOCK, SHORT BLANK	-	ANDERSON
-	261G1	27	TERM., ANDERSON 30A	-	ANDERSON
-	111812P1-1K	9	PIN, RETAINING	-	ANDERSON
TB02	-	1	NEUTRAL BUSS	ALL NEUTRAL CONN.	-
TB03	-	1	GROUND BUSS	ALL GND CONN.	-
MTR1	921161-001	1	GAUGE, VOLT METER	DISPLAY, AC VOLTAGE	CARSON M

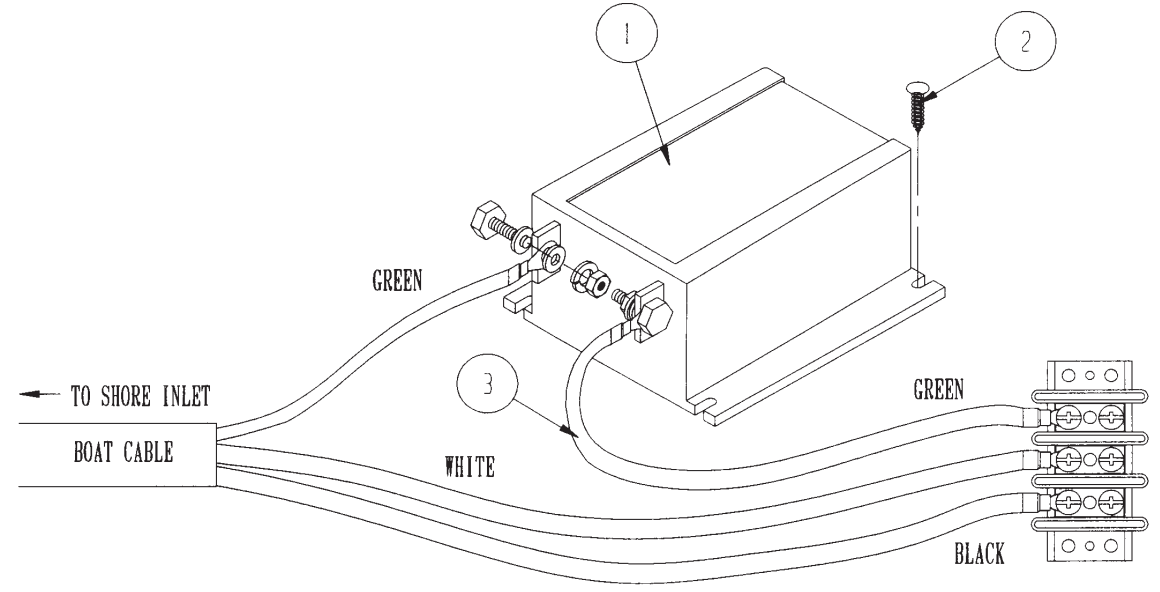
248/268/288 VISTA
AC CABIN
PANEL ASSEMBLY

Shore Power Inlet Installation



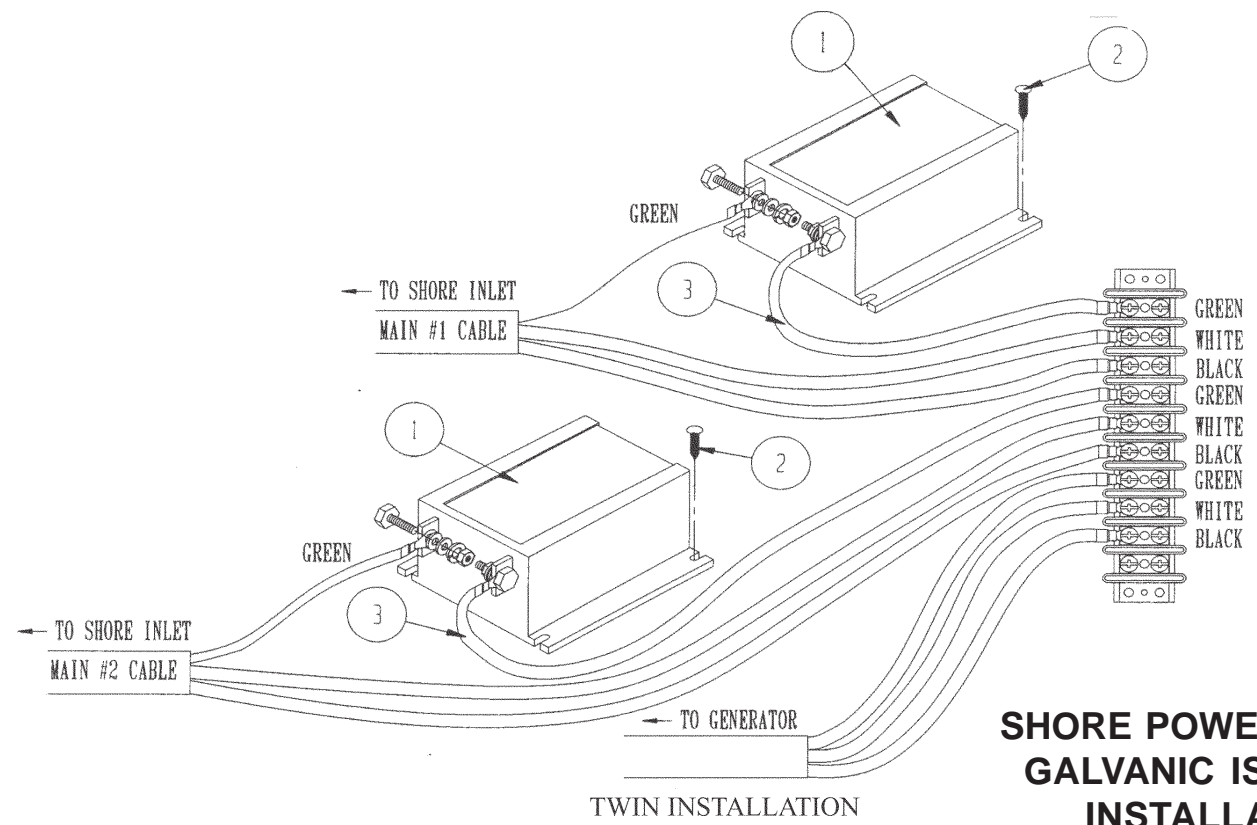
TYPICAL CONNECTION FOR SHORE POWER.

Galvanic Isolator Installation

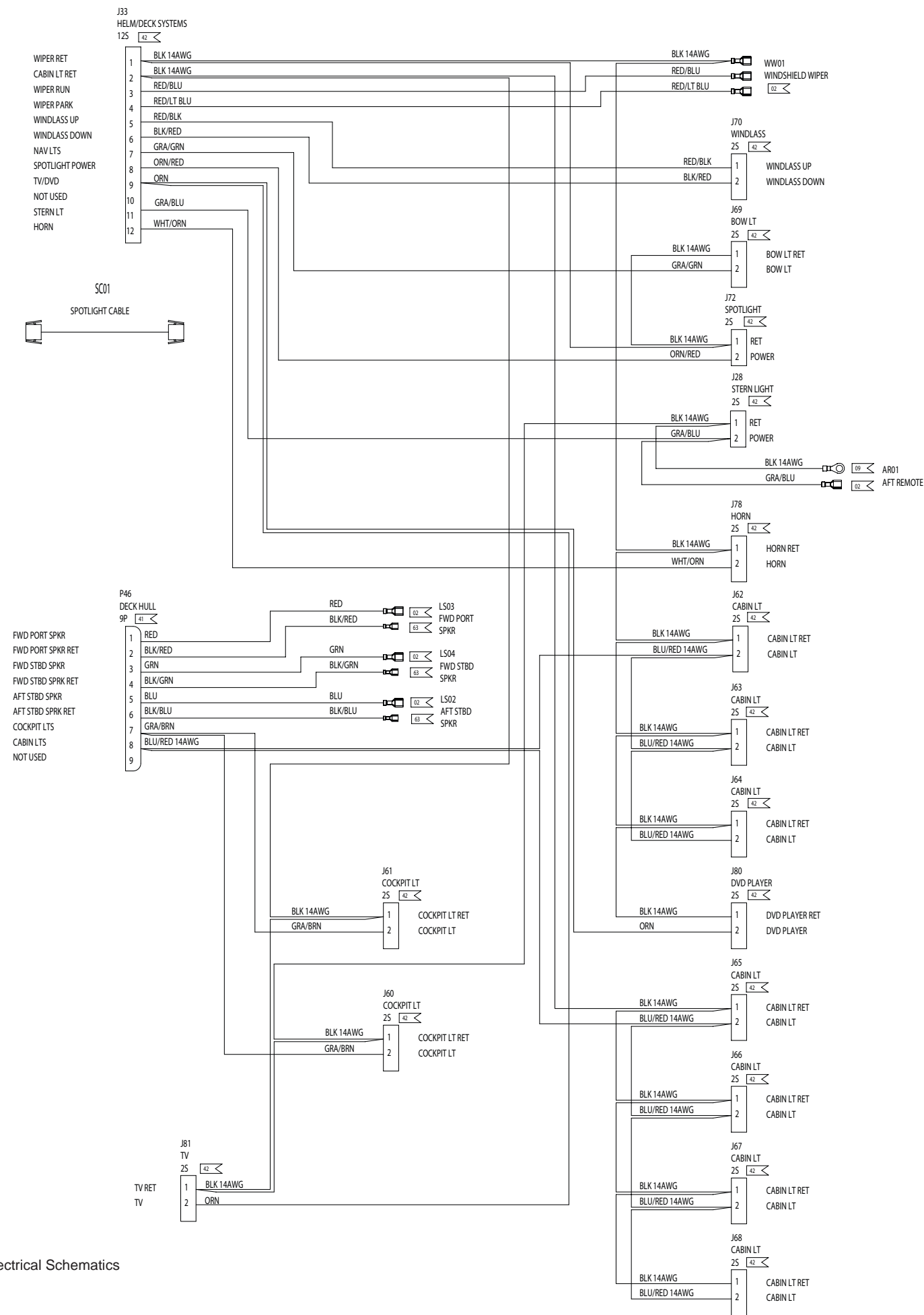


SINGLE SHORE POWER INSTALLATION

DESCRIPTION	PART #	QUANTITY (SINGLE)	QUANTITY (TWIN)
Galvanic Isolator, 30 Amp Guest #2433	028-1349	1 EA	2 EA
Screw, #10 x 3/4" PTHSMS	080-0033	4 EA	8 EA
Harness Assembly, Galvanic Isolator, 24"	027-1937	1 EA	2 EA



SHORE POWER INLET & GALVANIC ISOLATOR INSTALLATION



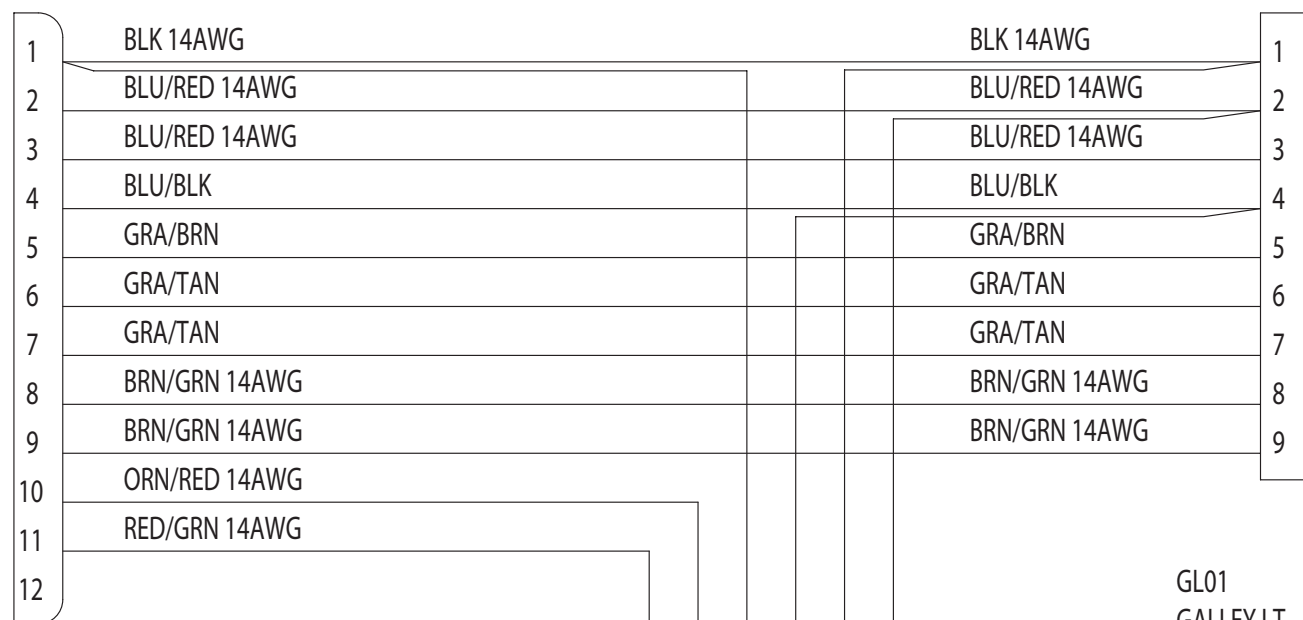
FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
-	028-0177	7	TERM,FASTON,,250,18-14	02	AMP
-	028-0191	1	TERM,RING,PG,#10,16-14	09	AMP
-	028-0390	9	PIN,UMNL,18-14	41	AMP
-	028-0454	41	SOCKET,UMNL,18-14	42	AMP
-	028-1288	3	TERM,FASTON,,205,18-14	63	AMP
CB01	-	REF	CIRCUIT BREAKER	WINDLASS BREAKER	-
GND2	-	REF	PANEL GROUND	HELM SYSTEMS	-
J28	028-0441	1	RECEPT,UMNL,2 CKT	STERN LIGHT	AMP
J33	028-0445	1	RECEPT,UMNL,12 CKT	COCKPIT LT	AMP
J60	028-0441	1	RECEPT,UMNL,2 CKT	COCKPIT LT	AMP
J61	028-0441	1	RECEPT,UMNL,2 CKT	CABIN LT	AMP
J62	028-0441	1	RECEPT,UMNL,2 CKT	CABIN LT	AMP
J63	028-0441	1	RECEPT,UMNL,2 CKT	CABIN LT	AMP
J64	028-0441	1	RECEPT,UMNL,2 CKT	CABIN LT	AMP
J65	028-0441	1	RECEPT,UMNL,2 CKT	CABIN LT	AMP
J66	028-0441	1	RECEPT,UMNL,2 CKT	CABIN LT	AMP
J67	028-0441	1	RECEPT,UMNL,2 CKT	CABIN LT	AMP
J68	028-0441	1	RECEPT,UMNL,2 CKT	CABIN LT	AMP
J69	028-0441	1	RECEPT,UMNL,2 CKT	BOW LT	AMP
J70	028-0441	1	RECEPT,UMNL,2 CKT	WINDLASS	AMP
J72	028-0441	1	RECEPT,UMNL,2 CKT	SPOTLIGHT	AMP
J78	028-0441	1	RECEPT,UMNL,2 CKT	HORN	AMP
J80	028-0441	1	RECEPT,UMNL,2 CKT	DVD PLAYER	AMP
J81	028-0441	1	RECEPT,UMNL,2 CKT	TV	AMP
LS02	065-0304	REF	SPEAKER	STBD AFT SPKR	-
LS03	065-0304	REF	SPEAKER	PORT FWD SPKR	-
LS04	065-0304	REF	SPEAKER	STBD FWD SPKR	-
P46	028-0449	1	PLUG,UMNL,9 CKT	DECK HULL	AMP
SC01	027-1701	1	SPOTLIGHT CABLE,24'	SPOTLIGHT CABLE	GUEST

P39
GALLEY SYSTEMS
12P

J19
CABIN SWITCH
9S

GALLEY RET
CABIN LTS IN
CABIN LTS
STRIP LTS
COCKPIT LTS OUT
COCKPIT LTS
COCKPIT LTS
FRESH WATER PUMP IN
FRESH WATER PUMP
12V RECEPTACLE
REFRIGERATOR
NOT USED



PANEL RET
CABIN LTS IN
CABIN LTS
STRIP LIGHTS
COCKPIT LTS OUT
COCKPIT LTS
COCKPIT LTS
FRESH WATER PUMP IN
FRESH WATER PUMP

GL01
GALLEY LT

BLK 14AWG
BLU/RED 14AWG

GALLEY LT NEG
GALLEY LT POS

J41
STRIP LT
2S

BLK 14AWG
BLU/BLK

STRIP LT RET
STRIP LT POS

R01
CABIN 12V RECEPTACLE

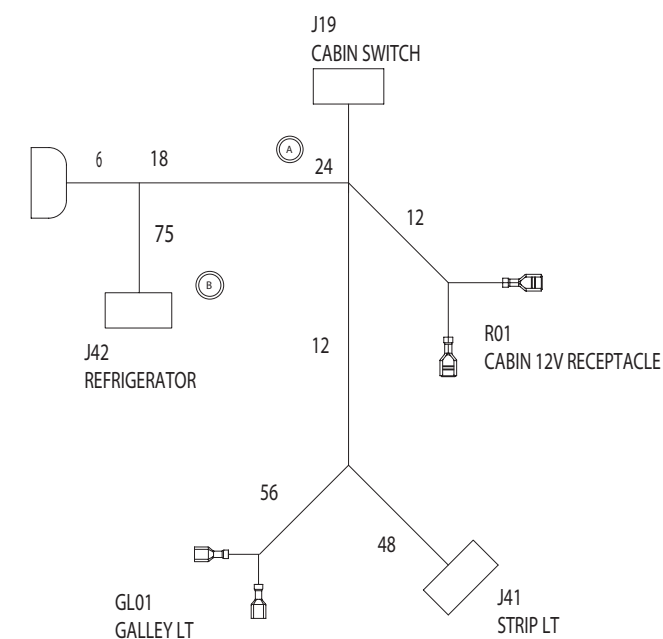
BLK 14AWG
ORN/RED 14AWG

J42
REFRIGERATOR
2S

BLK 14AWG
RED/GRN 14AWG

REFRIG RET
REFRIG POS

P39
GALLEY SYSTEMS



FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
	028-0177	4	TERM,FASTON,250,18-14	02	AMP
	028-0390	9	PIN,UMNL,18-14	41	AMP
	028-0454	15	SOCKET,UMNL,18-14	42	AMP
J19	028-0443	1	RECEPT,UMNL,9 CKT	CABIN SWITCH	AMP
J41	028-0441	1	RECEPT,UMNL,2 CKT	STRIP LT	AMP
J42	028-0441	1	RECEPT,UMNL,2 CKT	REFRIGERATOR	AMP
P39	028-0450	1	PLUG,UMNL,12 CKT	GALLEY SYSTEMS	AMP
R01	028-0450	1	RECEPT,12VAFI	12V RECEPTACLE	AMP
GL01	028-1100	REF	FLOURESCENT LT	GALLEY LIGHT	

FOUR WINNS WIRE LIST

COLOR	GA	FIRST	PIN	TERM	NOTE	SECOND	PIN	TERM	NOTE	FUNCTION
BLK	14	P39	1	41	SA	J19	1	42	SB	CABIN SWITCH LT RET
BLK	14	P39	1	41	SA	R01	-	02	SD	12V RECEPTACLE RET
BLU/RED	14	P39	2	41		J19	2	42	SE	CABIN LTS IN
BLU/RED	14	P39	3	41		J19	3	42		CABIN LTS
BLU/BLK	16	P39	4	41		J19	4	42	SF	STRIP LTS
GRA/BRN	16	P39	5	41		J19	5	42		COCKPIT LTS OUT
GRA/TAN	16	P39	6	41		J19	6	42		COCKPIT LTS
GRA/TAN	16	P39	7	41		J19	7	42		COCKPIT LTS
BRN/GRN	14	P39	8	41		J19	8	42		FRESH WATER PUMP
BRN/GRN	14	P39	9	41		J19	9	42		FRESH WATER PUMP
ORN/RED	14	P39	10	41		R01	+	02		12V RECEPTACLE
RED/GRN	14	P39	11	41		J42	2	42		REFRIGERATOR
BLK	14	J19	1	42	SB	GL01	-	02	SC	GALLEY LT RET
BLK	14	GL01	-	02	SC	J41	1	42		STRIP LT RET
BLU/RED	14	J19	2	42	SE	GL01	+	02		GALLEY LT
BLU/BLK	16	J19	4	42	SF	J41	2	42		STRIP LT
BLK	14	R01	-	02	SD	J42	1	42		REFRIGERATOR RET

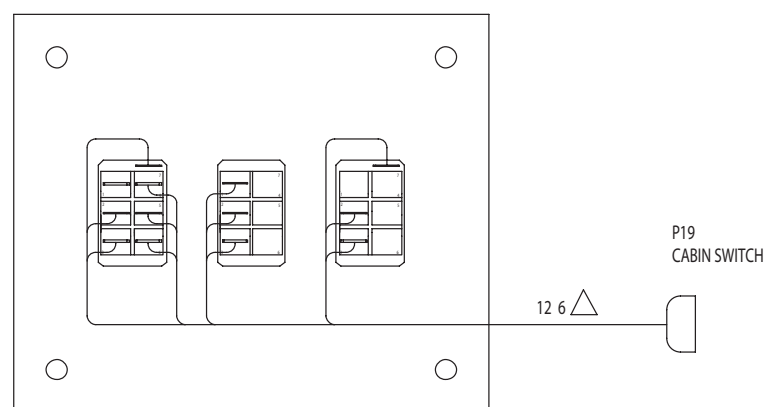
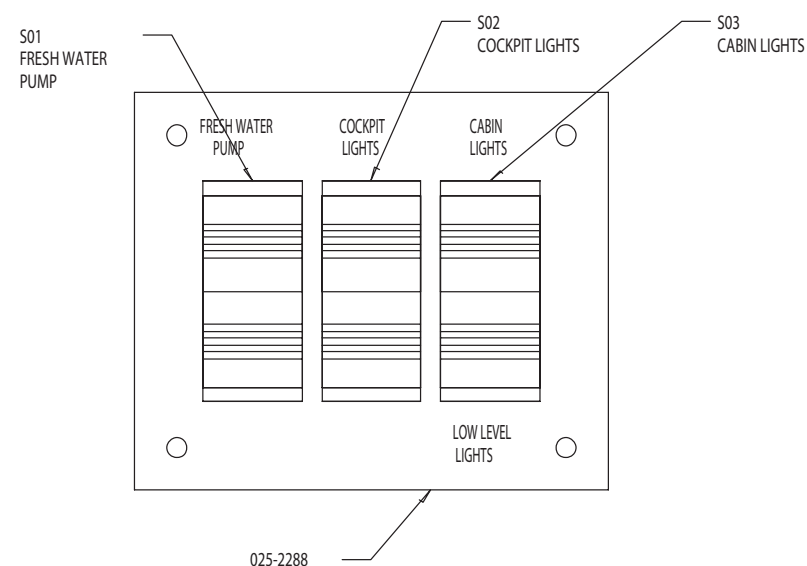
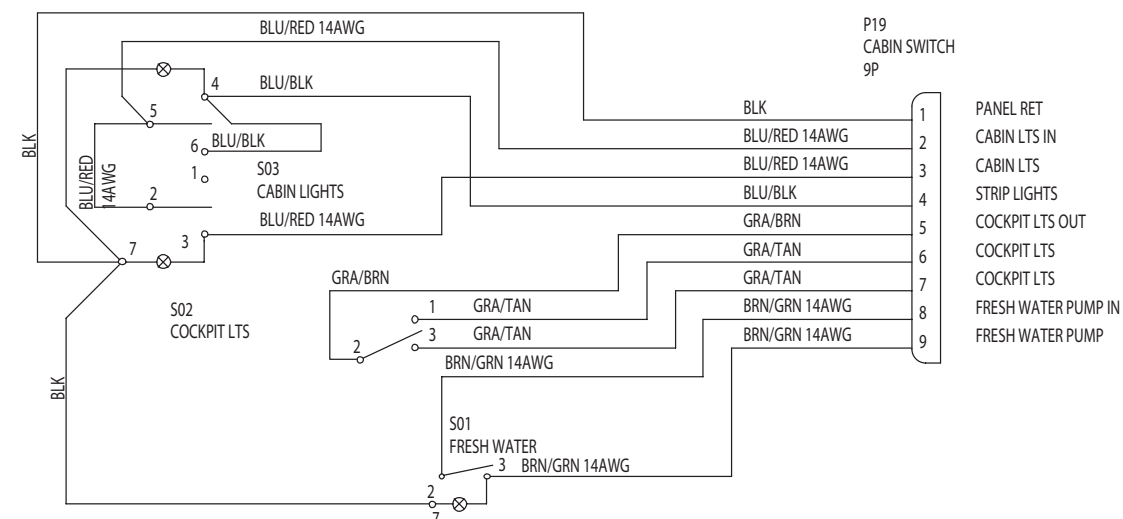
248 VISTA
GALLEY SYSTEMS
HARNESS ASSEMBLY

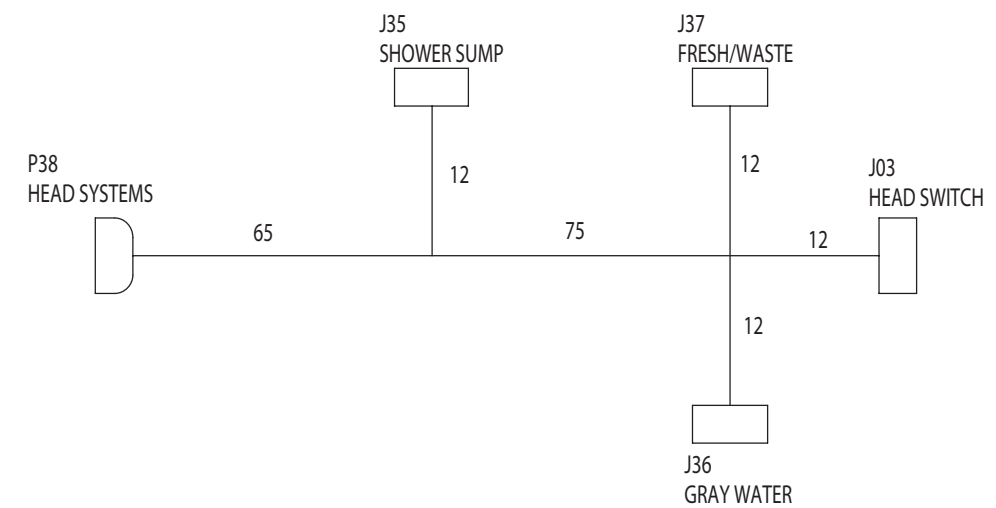
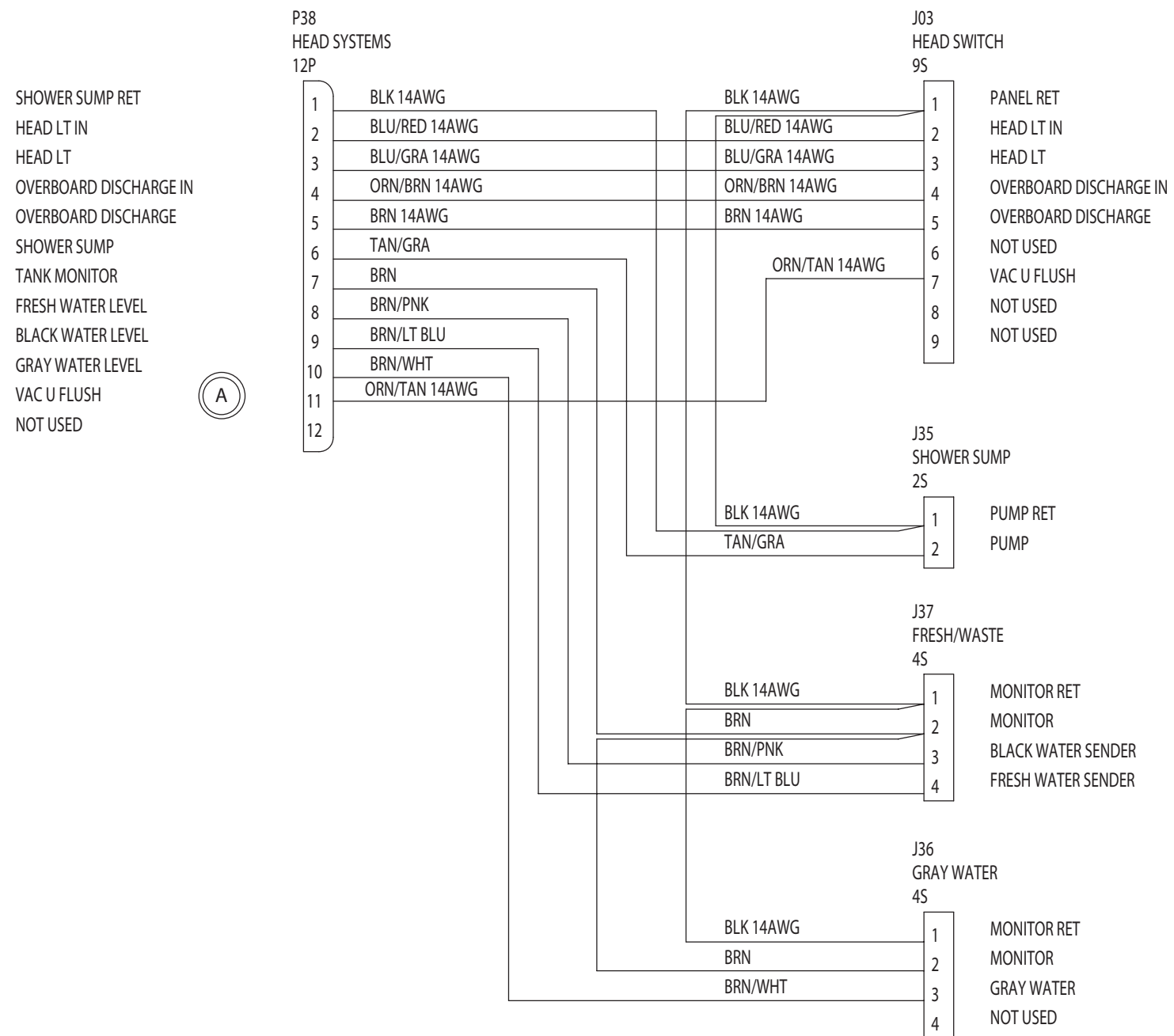
FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
	028-0177	12	RECEPT,FASTON,250,18-14	02	AMP
	028-0390	9	PIN,UMNL,18-14	41	AMP
	025-2288	1	PANEL,BLANK,CABIN LTS		
P19	028-0449	1	PLUG,UMNL,9 CKT	CABIN SWITCH	AMP
S01	028-0457	1	SWITCH,SPST,CONT III	FRESH WATER PUMP	CARL SW
S02	028-1135	1	SWITCH,ON-ON CONT III	COCKPIT LTS	CARL SW
S03	028-0504	1	SWITCH ,DPDT,CONT III	CABIN LTS	CARL SW

FOUR WINNS WIRE LIST

COLOR	GA	FIRST	PIN	TERM	NOTE	SECOND	PIN	TERM	NOTE	FUNCTION
BLK	16	P19	1	41		S03	7	02	SA	CABIN LT SWITCH RET
BLK	16	S03	7	02	SA	S03	7	02		FRESH WATER SWITCH LT RET
BLU/RED	14	P19	2	41		S03	5	02	SC	CABIN LTS IN
BLU/RED	14	P19	3	41		S03	3	02		CABIN LTS
BLU/BLK	16	P19	4	41		S03	4	02	SB	STRIP LTS
GRA/BRN	16	P19	5	41		S02	2	02		COCKPIT LTS OUT
GRA/TAN	16	P19	6	41		S02	1	02		COCKPIT LTS
GRA/TAN	16	P19	7	41		S02	3	02		COCKPIT LTS
BRN/GRN	14	P19	8	41		S01	2	02		FRESH WATER PUMP IN
BRN/GRN	14	P19	9	41		S01	3	02		FRESH WATER PUMP
BLU/RED	14	S03	2	02		S03	5	02	SC	CABIN LT JUMPER
BLU/BLK	16	S03	4	02	SB	S03	6	02		STRIP LT JUMPER



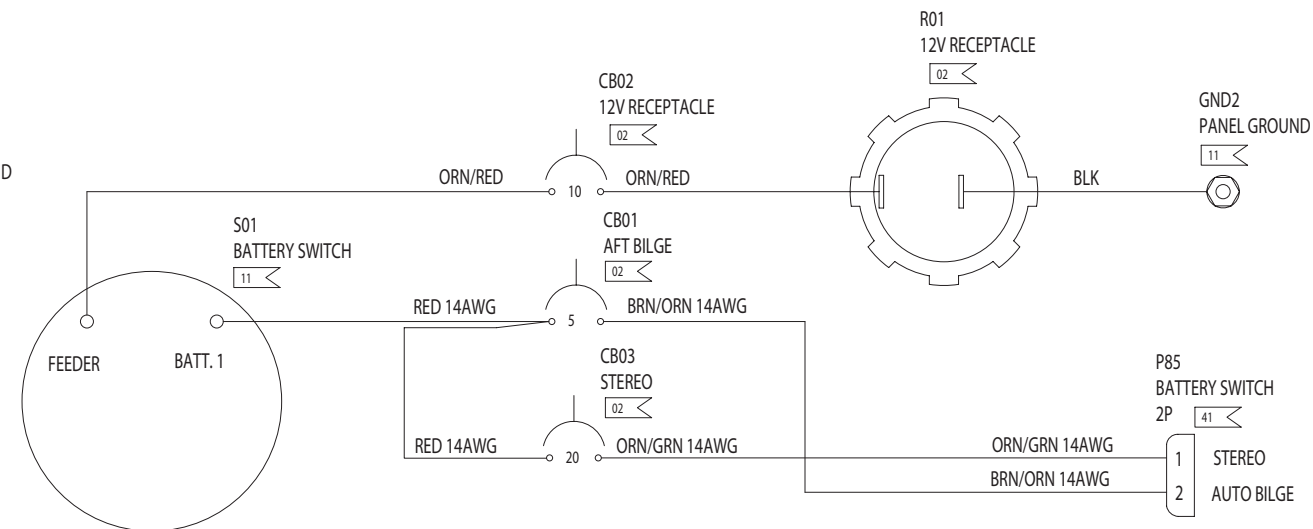
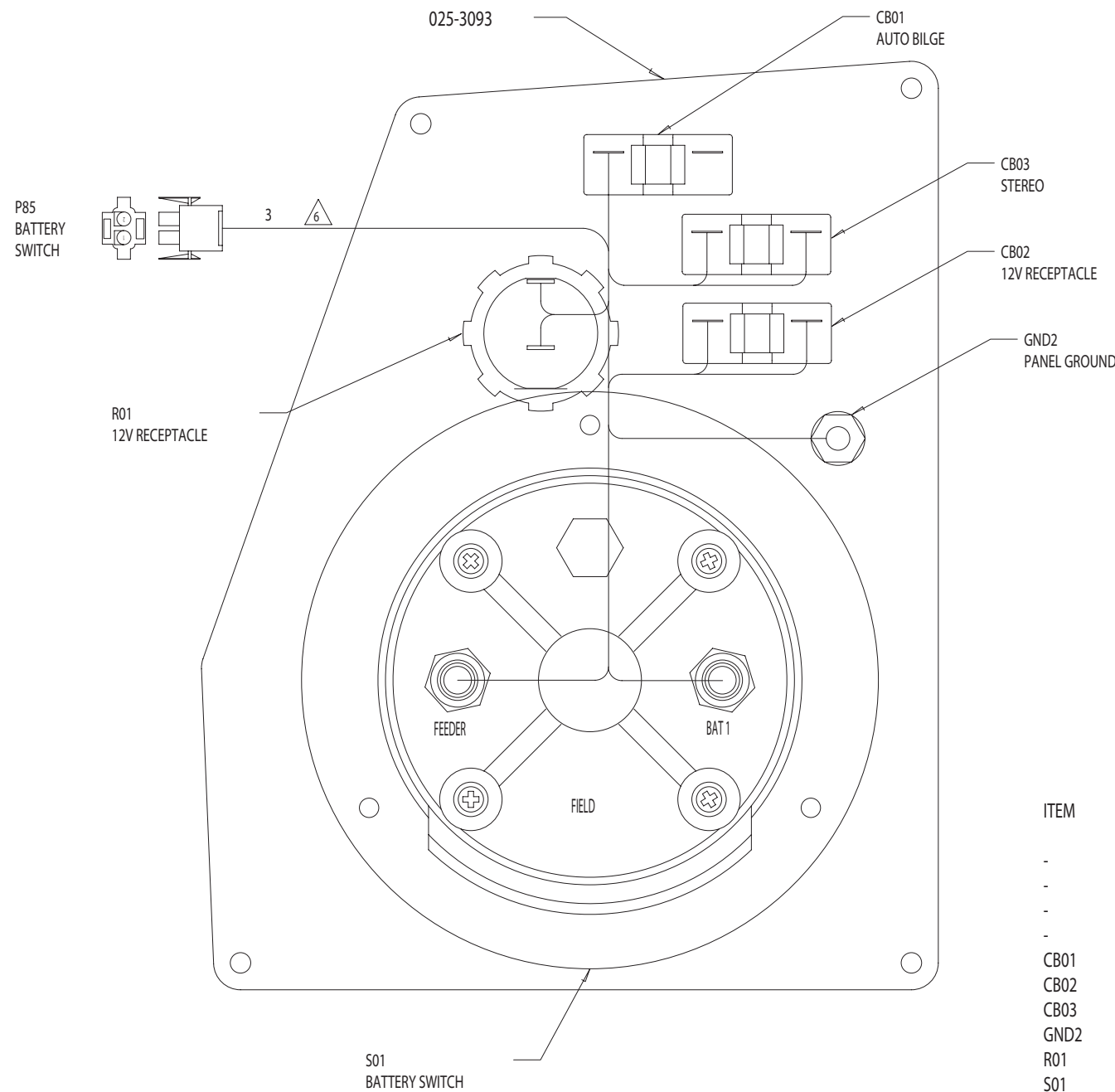


FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
	028-0390	11	PIN,UMNL,18-14	41	AMP
	028-0454	15	SOCKET,UMNL,18-14	42	AMP
J03	028-0443	1	RECEPT,UMNL,9 CKT	HEAD SWITCH	AMP
J35	028-0441	1	RECEPT,UMNL,2 CKT	SHOWER SUMP	AMP
J36	028-0442	1	RECEPT,UMNL,4 CKT	GRAY WATER	AMP
J37	028-0442	1	RECEPT,UMNL,4 CKT	FRESH/WASTE	AMP
P38	028-0450	1	PLUG,UMNL,12 CKT	HEAD SYSTEMS	AMP

FOUR WINNS WIRE LIST

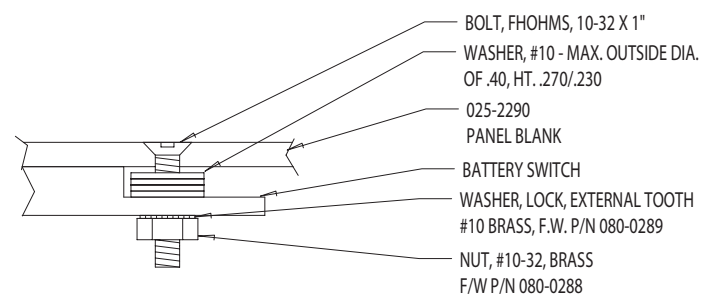
COLOR	GA	FIRST	PIN	TERM	NOTE	SECOND	PIN	TERM	NOTE	FUNCTION
BLK	14	P38	1	41		J35	1	42	SA	SHOWER SUMP RET
BLK	14	J35	1	42	SA	J03	1	42	SB	HEAD SWITCH RET
BLK	14	J03	1	42	SB	J37	1	42	SC	FRESH/WASTE RET
BLK	14	J37	1	42	SC	J36	1	42		GRAY WATER RET
BLU/RED	14	P38	2	41		J03	2	42		HEAD LT IN
BLU/GRA	14	P38	3	41		J03	3	42		HEAD LT
ORN/BRN	14	P38	4	41		J03	4	42		OVERBOARD DISCHARGE IN
BRN	14	P38	5	41		J03	5	42		OVERBOARD DISCHARGE
TAN/GRA	16	P38	6	41		J35	2	42		SHOWER SUMP
BRN	16	P38	7	41		J37	2	42	SD	TANK MONITOR POWER
BRN	16	J37	2	42	SD	J36	2	42		TANK MONITOR POWER
BRN/PNK	16	P38	8	41		J37	3	42		BLACK WATER LEVEL
BRN/LT BLU	16	P38	9	41		J37	4	42		FRESH WATER LEVEL
BRN/WHT	16	P38	10	41		J36	3	42		GRAY WATER LEVEL
ORN TAN	14	P38	11	41		J03	7	42		VAC U FLUSH



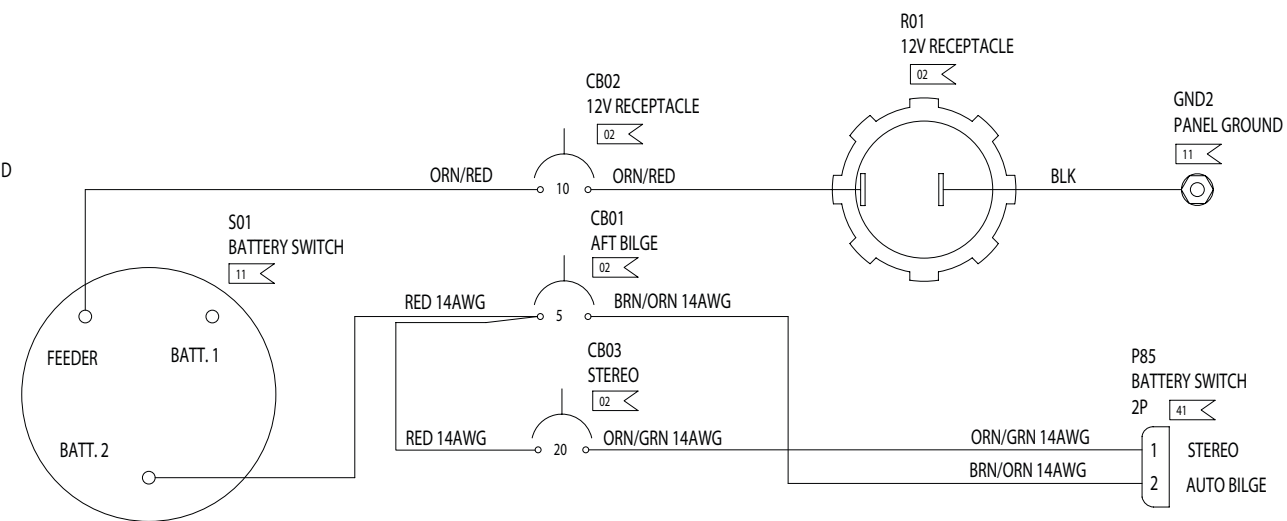
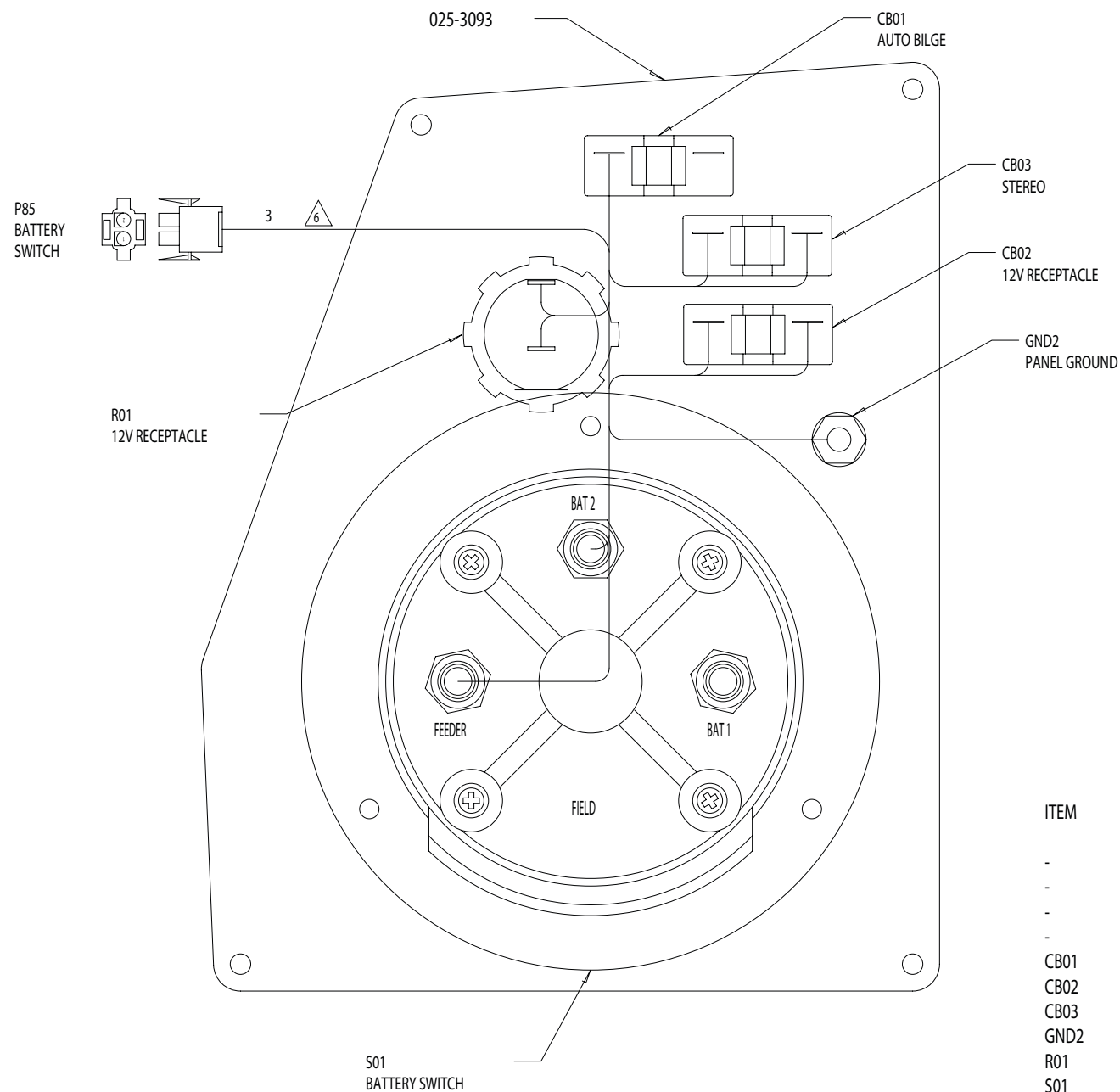
FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
-	028-0177	8	TERM,FASTON,,250,18-14	02	AMP
-	028-0193	3	TERM,RING,3/8,16-14	11	AMP
-	028-0390	2	PIN,UMNL,18-14	41	AMP
-	025-3093	1	PANEL,BLANK,BATTERY 248V	-	-
CB01	028-1879	1	BREAKER,5A	AFT BILGE PUMP	ETA
CB02	028-1880	1	BREAKER,10A	12V RECEPTACLE	ETA
CB03	028-1881	1	BREAKER,20A	STEREO	ETA
GND2	-	REF	PANEL GROUND	PANEL GROUND	-
R01	028-1100	1	RECEPTACLE,12V AFI	12V RECEPTACLE	AFI
S01	028-0551	1	SWITCH, BATTERY, ON/OFF	BATTERY SWITCH	GUEST
P85	028-0448	1	PLUG, UMNL, 2 CKT	BATTERY SWITCH	AMP

BATTERY SWITCH MOUNTING DETAIL



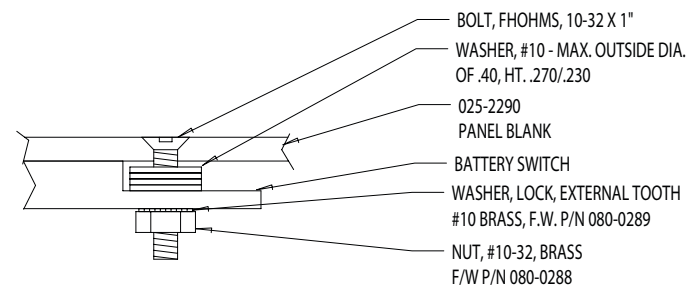
248 VISTA SINGLE BATTERY SWITCH PANEL ASSEMBLY



FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
-	028-0177	8	TERM,FASTON,,250,18-14	02	AMP
-	028-0193	3	TERM,RING,3/8,16-14	11	AMP
-	028-0390	2	PIN,UMNL,18-14	41	AMP
-	025-3093	1	PANEL,BLANK,BATTERY 248V	-	-
CB01	028-1879	1	BREAKER,5A	AFT BILGE PUMP	ETA
CB02	028-1880	1	BREAKER,10A	12V RECEPTACLE	ETA
CB03	028-1881	1	BREAKER,20A	STEREO	ETA
GND2	-	REF	PANEL GROUND	PANEL GROUND	-
R01	028-1100	1	RECEPTACLE,12V AFI	12V RECEPTACLE	AFI
S01	028-0485	1	SWITCH,DUAL BATTERY	BATTERY SWITCH	GUEST
P85	028-0448	1	PLUG, UMNL, 2 CKT	BATTERY SWITCH	AMP

BATTERY SWITCH MOUNTING DETAIL

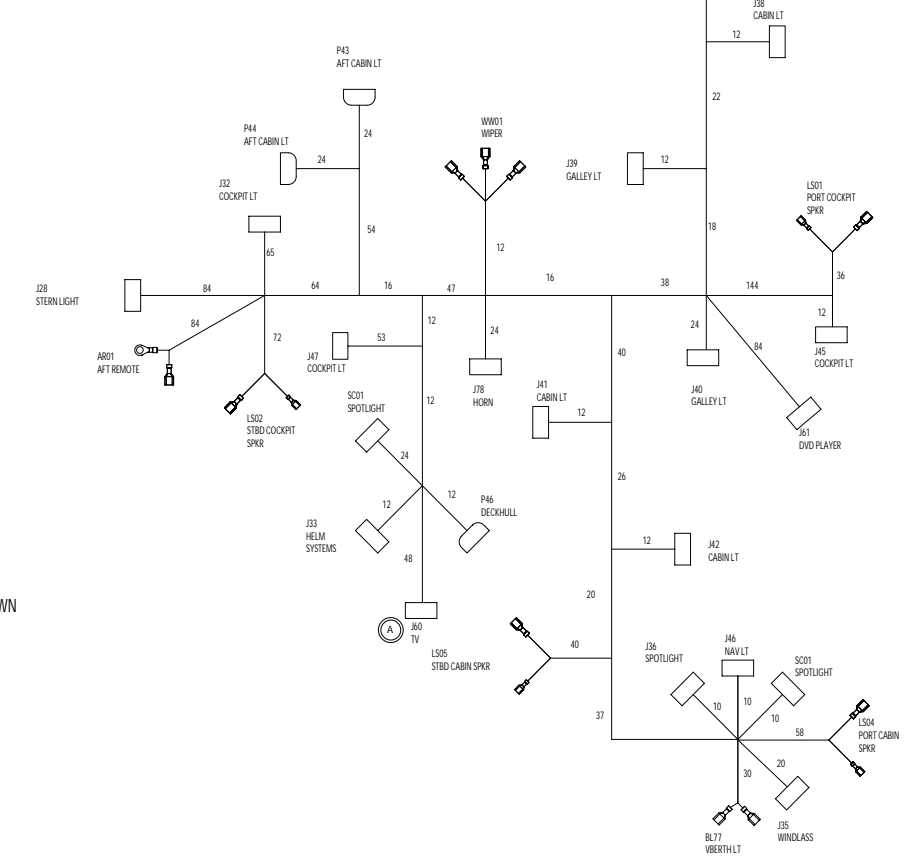
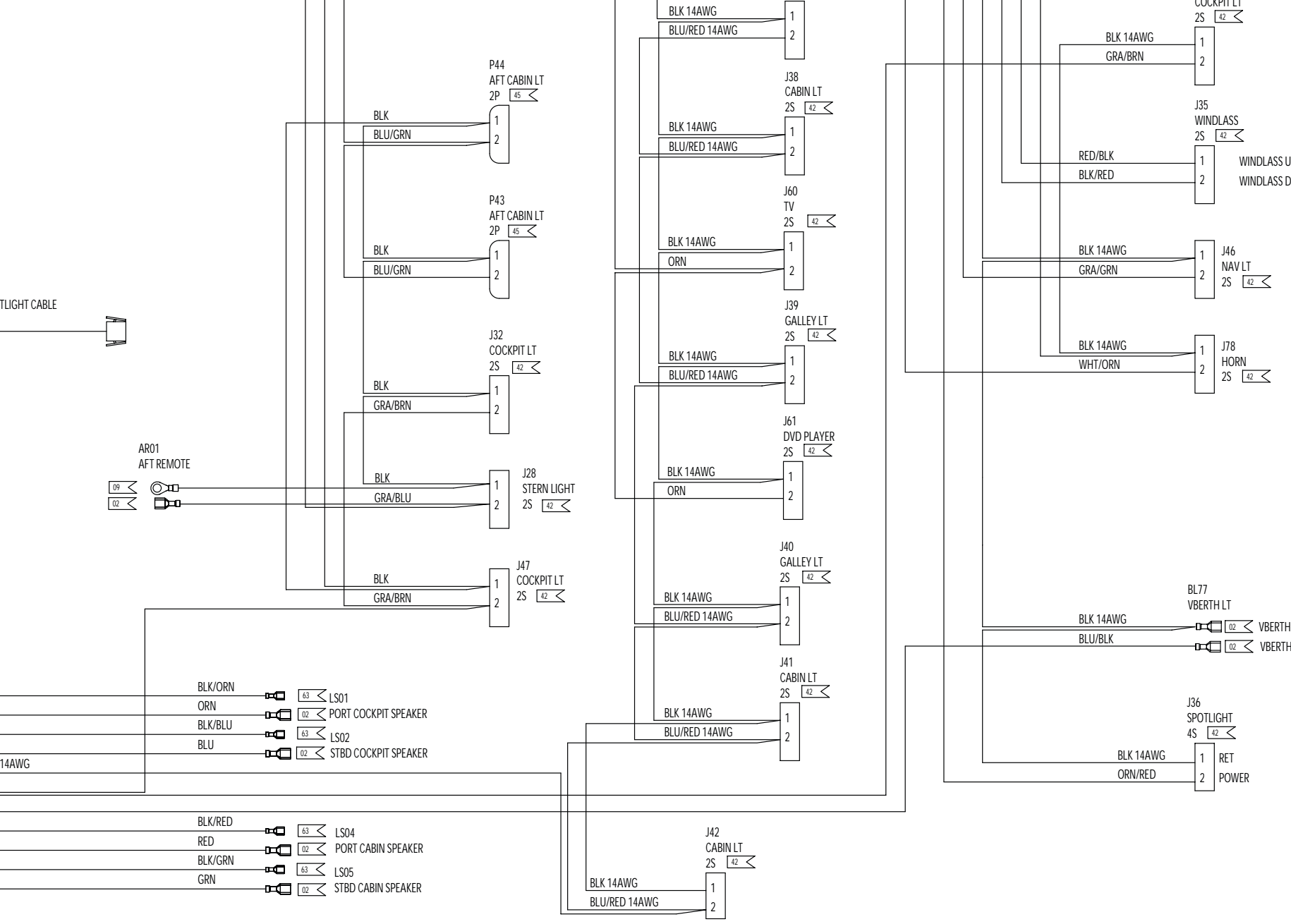


248 VISTA DUAL BATTERY W/ SWITCH PANEL ASSEMBLY

J33
HELM/DECK SYSTEMS
12S 42

- 1 WIPER RET
- 2 CABIN LT RET
- 3 WIPER RUN
- 4 WIPER PARK
- 5 WINDLASS UP
- 6 WINDLASS DOWN
- 7 NAV LTS
- 8 SPOTLIGHT POWER
- 9 TV/DVD
- 10 AFT CABIN LTS
- 11 STERN LT
- 12 HORN

- 1 BLK 14AWG
- 2 BLK 14AWG
- 3 RED/BLU
- 4 RED/LT BLU
- 5 RED/BLK
- 6 BLK/RED
- 7 GRA/GRN
- 8 ORN/RED
- 9 ORN
- 10 BLU/GRN
- 11 GRA/BLU
- 12 WHT/ORN



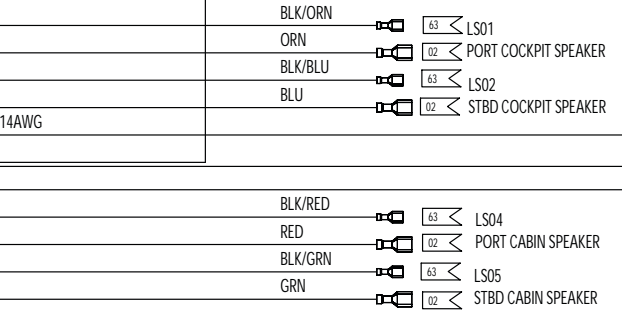
FOUR WINNS PARTS LIST

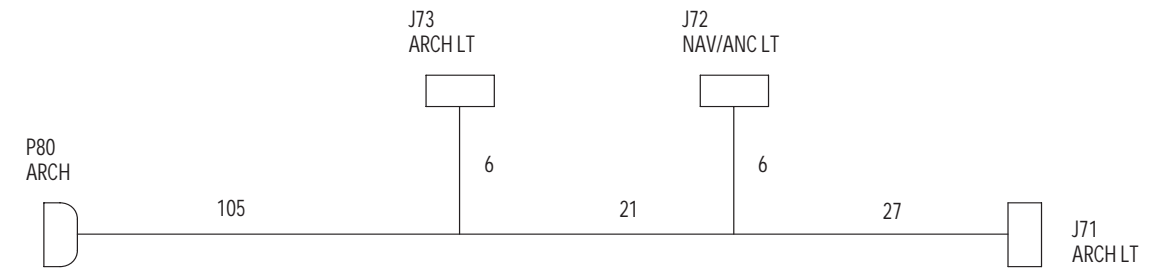
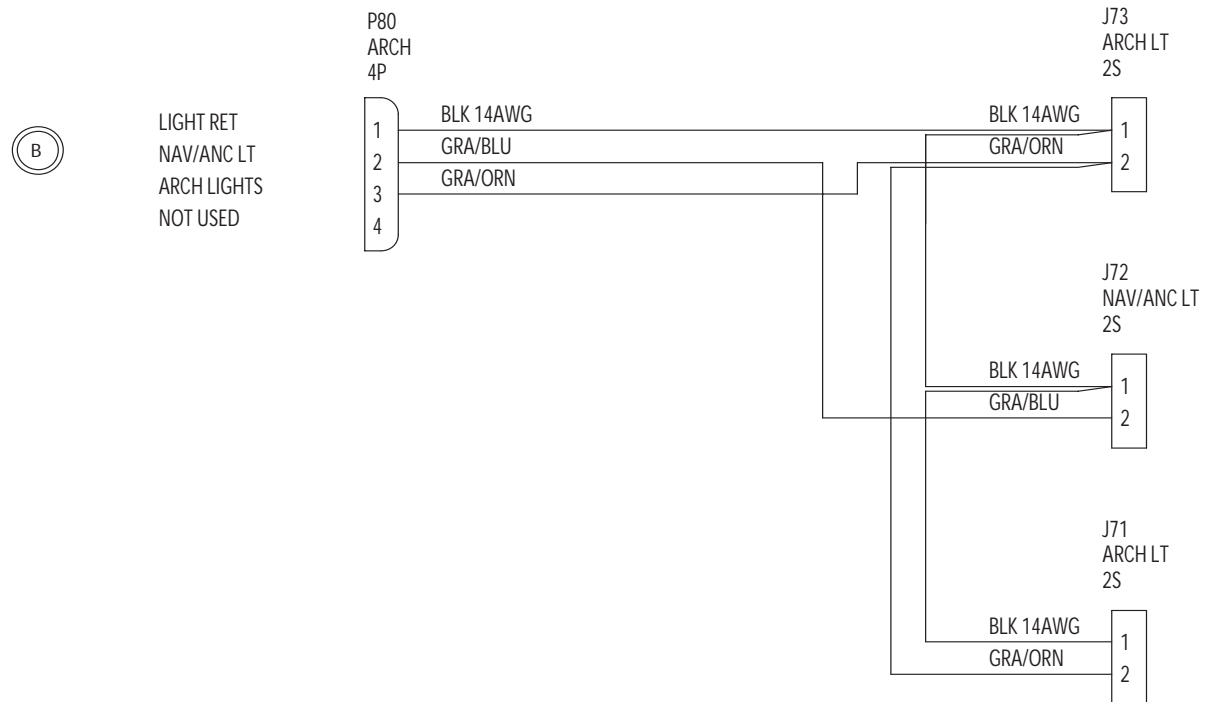
ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
-	028-0177	10	TERM/FASTON_250,18-14	02	AMP
-	028-0191	1	TERMRING#10,16-14	09	AMP
-	028-0390	11	PIN,UMINL_18-14	41	AMP
-	028-0454	44	SOCKET,UMINL_18-14	42	AMP
-	028-0159	4	SOCKET,UMINL_20-14	45	AMP
-	028-1288	4	TERM/FASTON_205,18-14	63	AMP
END3	-	REF	PANEL GROUND	-	-
J28	028-0441	1	RECEPT,UMINL_2 CKT	STERN LIGHT	AMP
J32	028-0441	1	RECEPT,UMINL_2 CKT	COCKPIT LT	AMP
J33	028-0445	1	RECEPT,UMINL_12 CKT	HELM/DECK SYSTEMS	AMP
J35	028-0441	1	RECEPT,UMINL_2 CKT	WINDLASS	AMP
J36	028-0441	1	RECEPT,UMINL_2 CKT	SPOTLIGHT	AMP
J37	028-0441	1	RECEPT,UMINL_2 CKT	CABIN LT	AMP
J38	028-0441	1	RECEPT,UMINL_2 CKT	CABIN LT	AMP
J39	028-0441	1	RECEPT,UMINL_2 CKT	GALLEY LT	AMP
J40	028-0441	1	RECEPT,UMINL_2 CKT	GALLEY LT	AMP
J41	028-0441	1	RECEPT,UMINL_2 CKT	CABIN LT	AMP
J42	028-0441	1	RECEPT,UMINL_2 CKT	CABIN LT	AMP
J45	028-0441	1	RECEPT,UMINL_2 CKT	COCKPIT LT	AMP
J46	028-0441	1	RECEPT,UMINL_2 CKT	NAV LT	AMP
J47	028-0441	1	RECEPT,UMINL_2 CKT	COCKPIT LT	AMP
J60	028-0441	1	RECEPT,UMINL_2 CKT	TV	AMP
J61	028-0441	1	RECEPT,UMINL_2 CKT	DVD	AMP
J78	028-0441	1	RECEPT,UMINL_2 CKT	HORN	AMP
LS01	-	REF	SPEAKER	PORT COCKPIT SPKR	-
LS02	-	REF	SPEAKER	STBD COCKPIT SPKR	-
LS04	-	REF	SPEAKER	PORT CABIN SPKR	-
LS05	-	REF	SPEAKER	STBD CABIN SPKR	-
P43	028-0161	1	PLUG,CAMNL_2 CKT	AFT CABIN LT	AMP
P44	028-0161	1	PLUG,CAMNL_2 CKT	AFT CABIN LT	AMP
P46	028-0451	1	PLUG,UMINL_12 CKT	DECK/HULL	AMP
SC01	027-1701	1	CABLE,SPOTLIGHT 24'	SPOTLIGHT	GUEST
WW01	-	REF	WIPER MOTOR,API 2000	WIPER	-
AR01	-	REF	AFT REMOTE	STEREO REMOTE	-

- 1 PORT COCKPIT SPKR RET
- 2 PORT COCKPIT SPKR
- 3 STBD COCKPIT SPKR RET
- 4 STBD COCKPIT SPKR
- 5 SWITCHED CABIN LTS
- 6 COCKPIT LTS
- 7 VBERTH LT
- 8 PORT CABIN SPKR RET
- 9 PORT CABIN SPKR
- 10 STBD CABIN SPKR RET
- 11
- 12

P46
DECK/HULL
12P 41

- 1 BLK/ORN
- 2 ORN
- 3 BLK/BLU
- 4 BLU
- 5 BLU/RED 14AWG
- 6 GRA/BRN
- 7 BLU/BLK
- 8 BLK/RED
- 9 RED
- 10 BLK/GRN
- 11 GRN
- 12



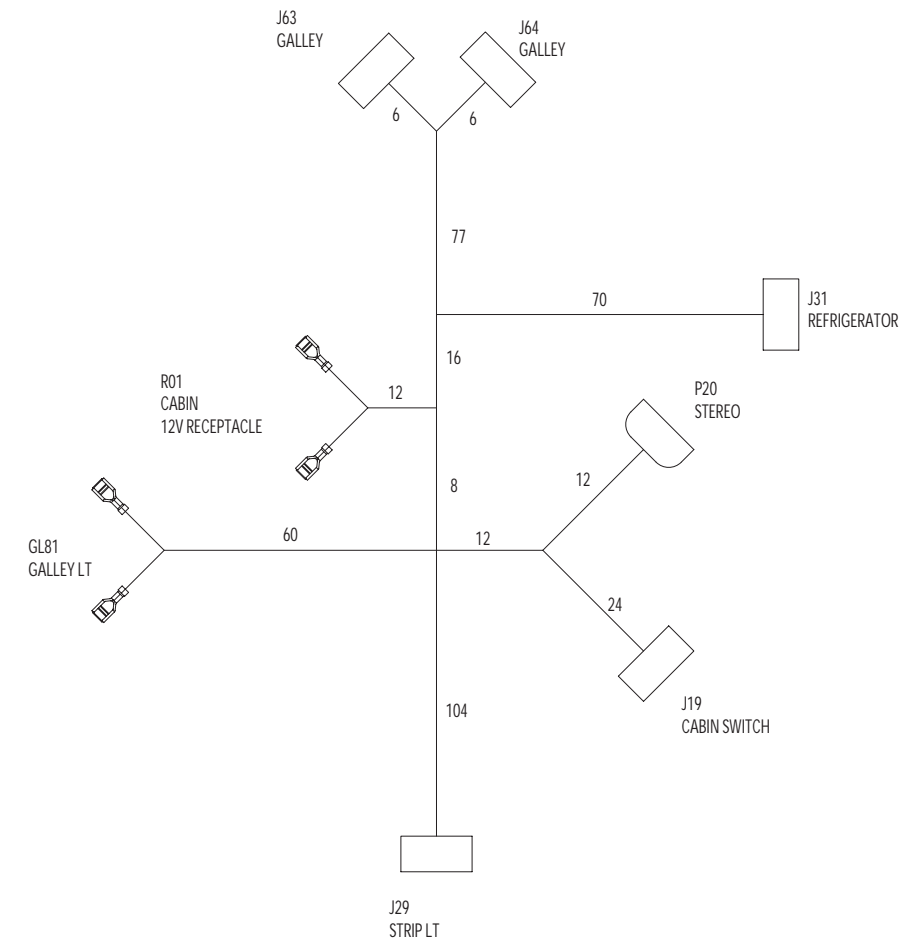
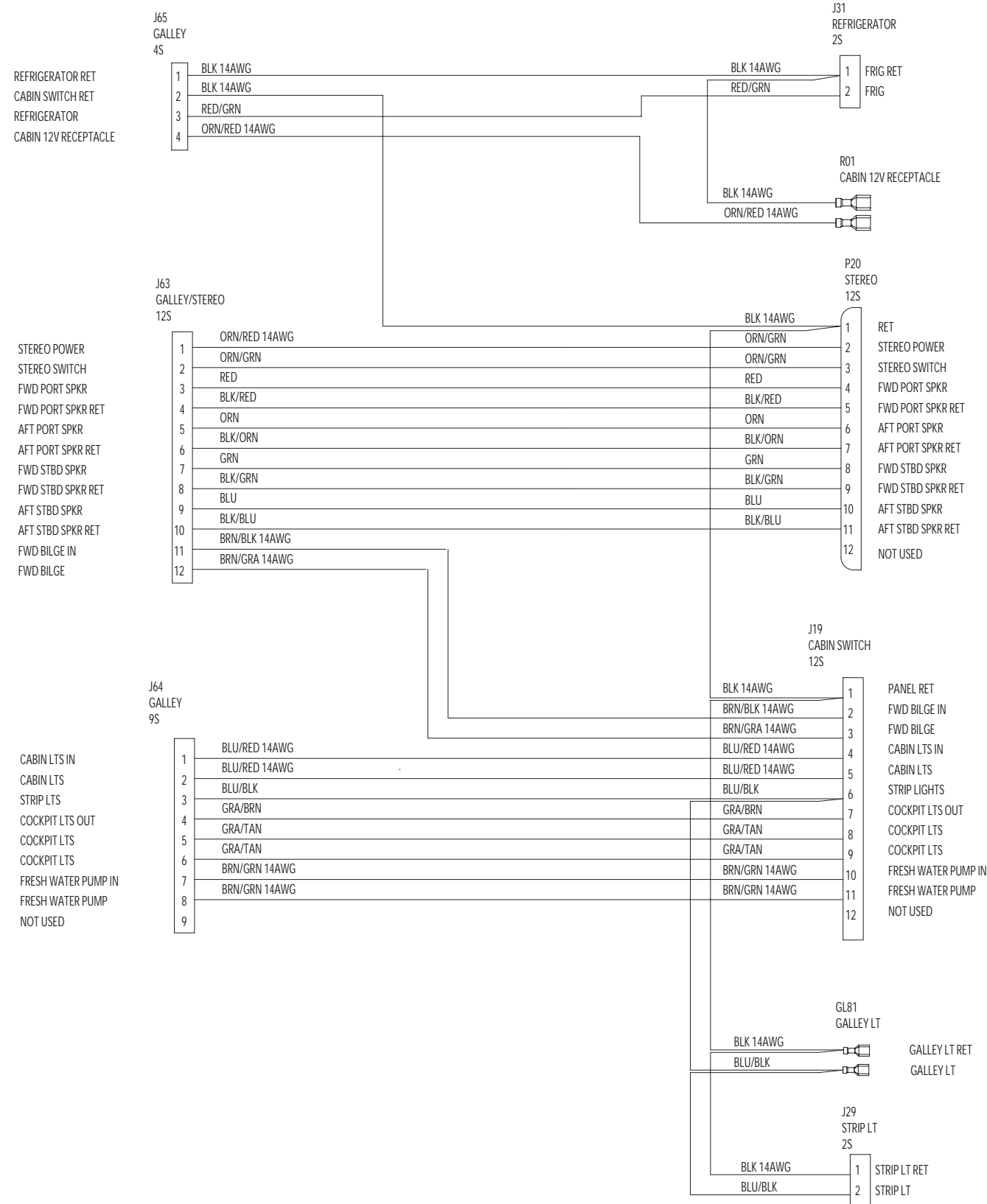


FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
	028-0390	3	PIN,UMNL,18-14	41	AMP
	028-0454	6	SOCKET,UMNL,18-14	42	AMP
J71	028-0441	1	RECEPT,UNNL,2 CKT	ARCH LT	AMP
J72	028-0441	1	RECEPT,UMNL,2 CKT	NAV/ANC LT	AMP
J73	028-0441	1	RECEPT,UMNL,2 CKT	ARCH LT	AMP
P80	028-0448	1	PLUG,UMNL,4 CKT	ARCH	AMP

FOUR WINNS WIRE LIST

COLOR	GA	FIRST	PIN	TERM	NOTE	SECOND	PIN	TERM	NOTE	FUNCTION
GRA/BLU	16	P80	2	41		J72	2	42		NAV LT
GRA/ORN	16	P80	3	41		J73	2	42	SA	ARCH LT
BLK	14	P80	1	41		J73	1	42	SB	LIGHT RET
GRA/ORN	16	J73	2	42	SA	J71	2	42		ARCH LT
BLK	14	J73	1	42	SB	J72	1	42	SC	NAV LT RET
BLK	14	J72	1	42	SC	J71	1	42		ARCH LT RET



FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
	028-0177	2	TERM,FASTON,,250,18-14	02	AMP
	028-0454	51	SOCKET,UMNL,18-14	42	AMP
J19	028-0445	1	RECEPT,UMNL,12 CKT	CABIN SWITCH	AMP
J29	028-0441	1	RECEPT,UMNL,2 CKT	STRIP LT	AMP
J31	028-0441	1	RECEPT,UMNL,2 CKT	REFRIGERATOR	AMP
J63	028-0445	1	RECEPT,UMNL,12 CKT	GALLEY/STEREO	AMP
J64	028-0443	1	RECEPT,UMNL,9 CKT	GALLEY	AMP
J65	028-0442	1	RECEPT,UMNL,4 CKT	GALLEY	AMP
GL81	-	REF	FLOURESCENT LIGHT	GALLEY LT	-
R01	028-1100	REF	RECEPT,12V AFI	CABIN 12V RECEPTACLE	-
P20	028-0451	1	PLUG,UMNL,12 CKT	STEREO	AMP

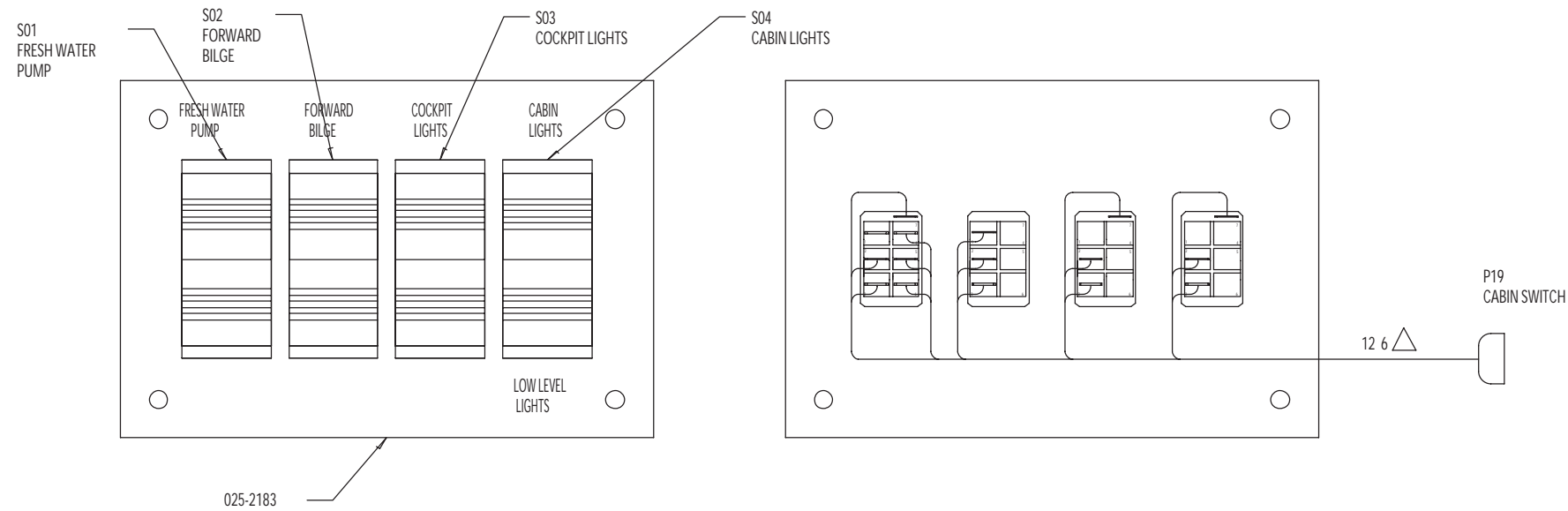
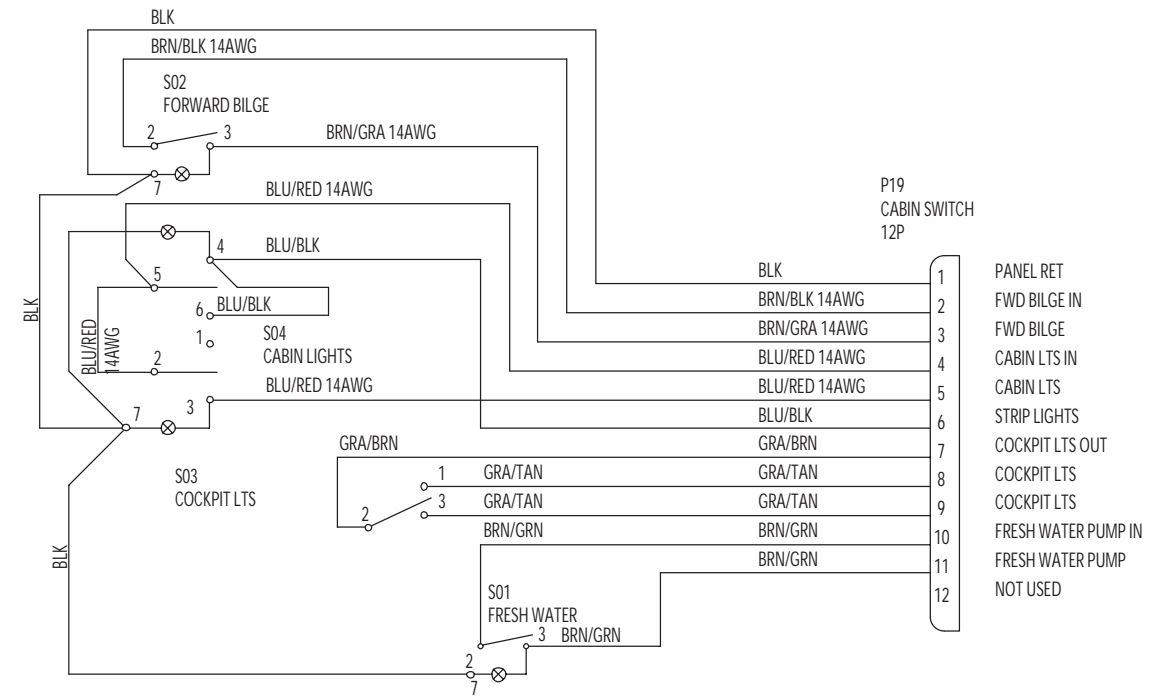
268 VISTA PORT HULL SYSTEMS HARNESS ASSEMBLY

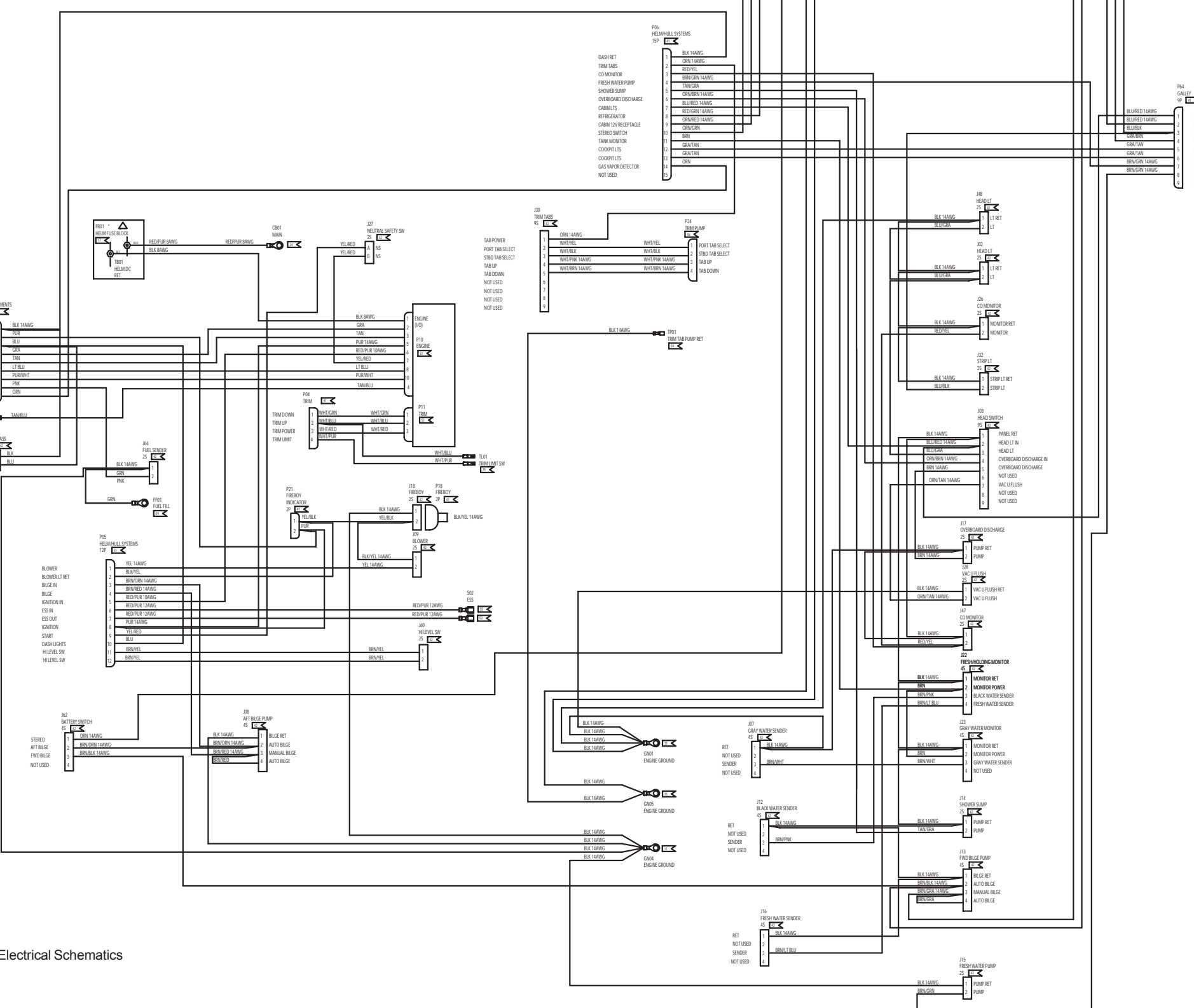
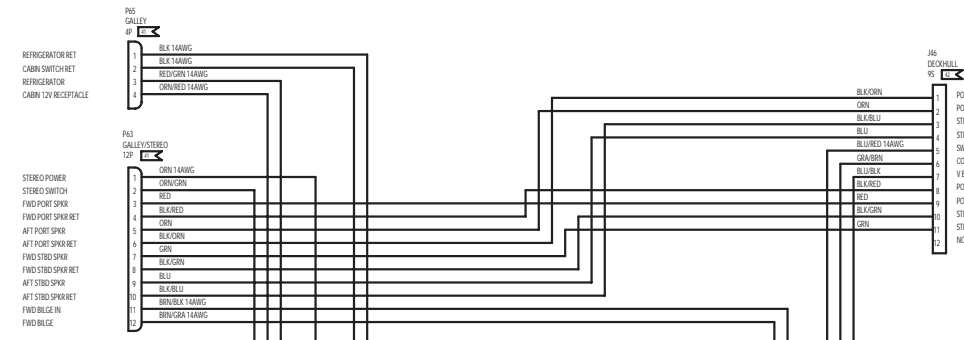
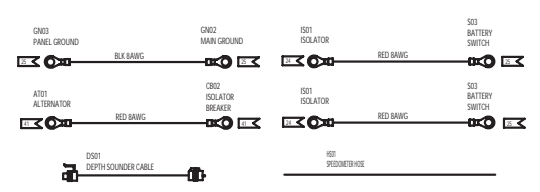
FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
	028-0177	15	RECEPT,FASTON ,250,18-14	02	AMP
	028-0390	11	PIN,UMNL,18-14	41	AMP
	025-2183	1	PANEL,BLANK,CABIN LTS		
P65	028-0450	1	PLUG,UMNL,12 CKT	CABIN SWITCH	AMP
S01	028-0457	1	SWITCH,SPST,CONT III	FRESH WATER PUMP	CARL SW
S02	028-0457	1	SWITCH,SPST,CONT III	FORWARD BILGE	CARL SW
S03	028-1135	1	SWITCH,ON-ON CONT III	COCKPIT LTS	CARL SW
S04	028-0504	1	SWITCH ,DPDT,CONT III	CABIN LTS	CARL SW

FOUR WINNS WIRE LIST

COLOR	GA	FIRST	PIN	TERM	NOTE	SECOND	PIN	TERM	NOTE	FUNCTION
BLK	16	P19	1	41		S02	7	02	SA	PANEL RET
BRN/BLK	14	P19	2	41		S02	2	02		FWD BILGE IN
BRN/GRA	14	P19	3	41		S02	3	02		FWD BILGE
BLU/RED	14	P19	4	41		S04	5	02	SD	CABIN LTS IN
BLU/RED	14	P19	5	41		S04	3	02		CABIN LTS
BLU/BLK	16	P19	6	41		S04	4	02	SC	STRIP LTS
GRA/BRN	16	P19	7	41		S03	2	02		COCKPIT LTS OUT
GRA/TAN	16	P19	8	41		S03	1	02		COCKPIT LTS
GRA/TAN	16	P19	9	41		S03	3	02		COCKPIT LTS
BRN/GRN	16	P19	10	41		S01	2	02		FRESH WATER PUMP IN
BRN/GRN	16	P19	11	41		S01	3	02		FRESH WATER PUMP
BLK	16	S02	7	02	SA	S04	7	02	SB	SWITCH LT RET
BLK	16	S04	7	02	SB	S01	7	02		SWITCH LT RET
BLU/RED	14	S04	2	02		S04	5	02	SD	CABIN LT SWITCH JUMPER
BLU/BLK	16	S04	4	02	SC	S04	6	02		CABIN LT SWITCH JUMPER

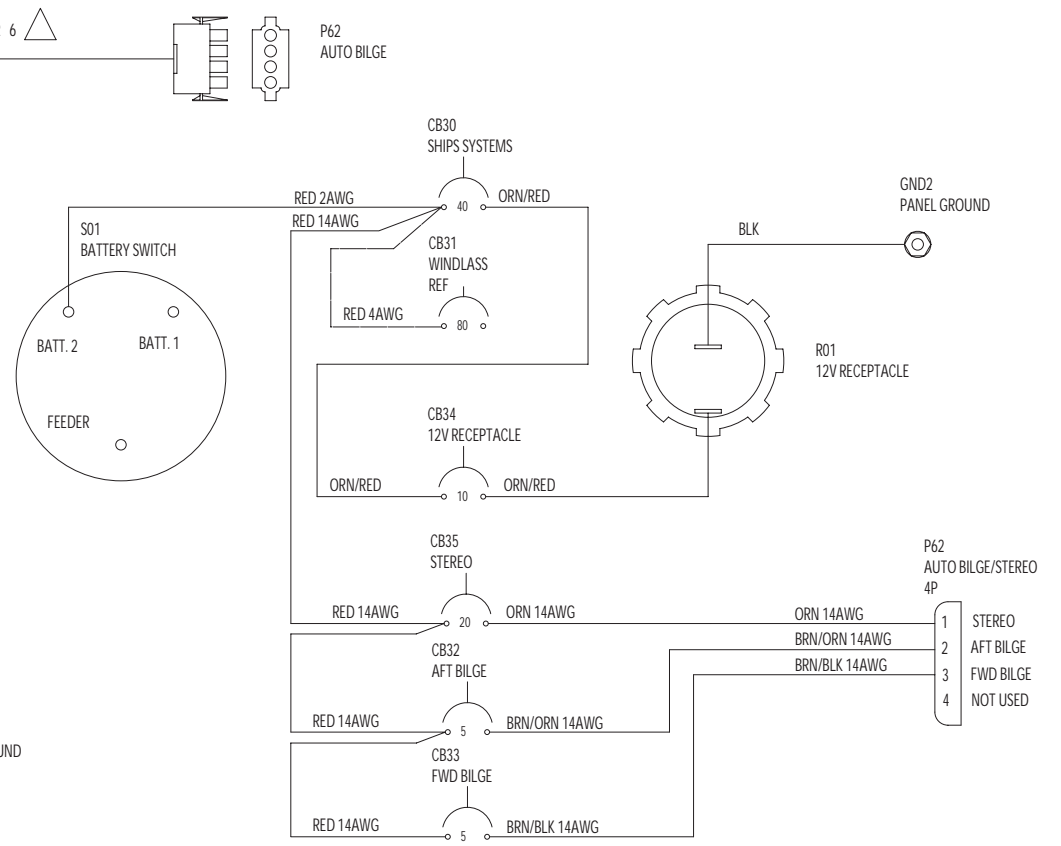
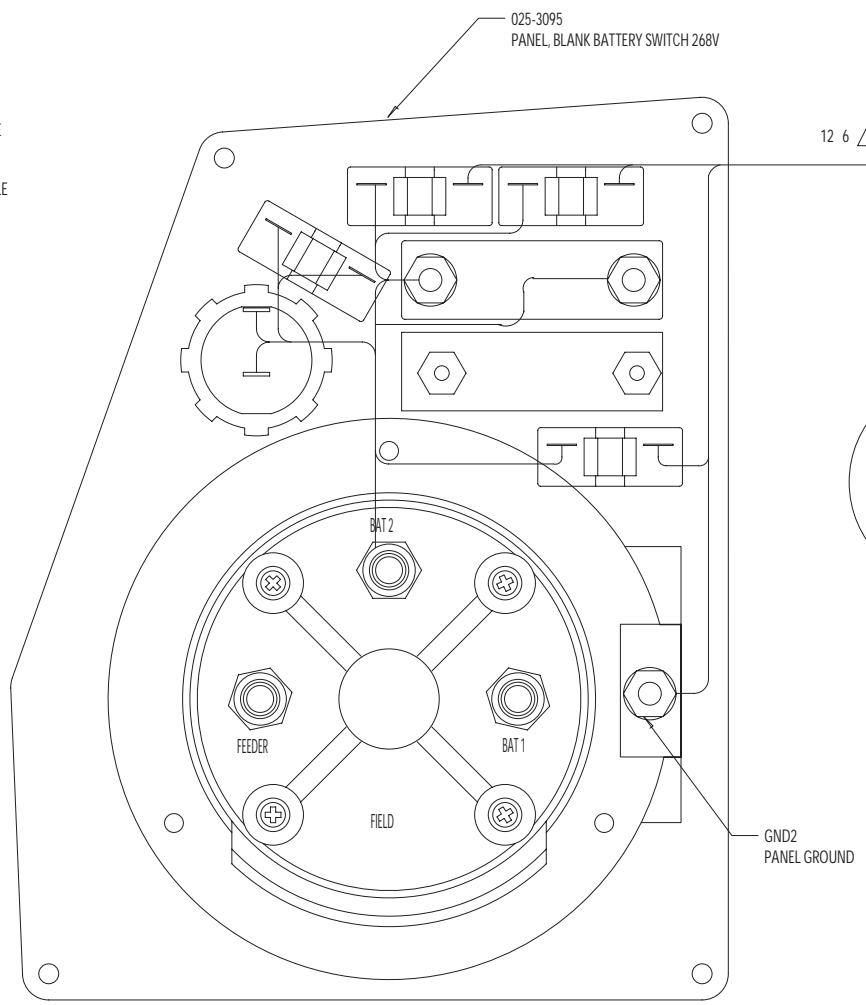
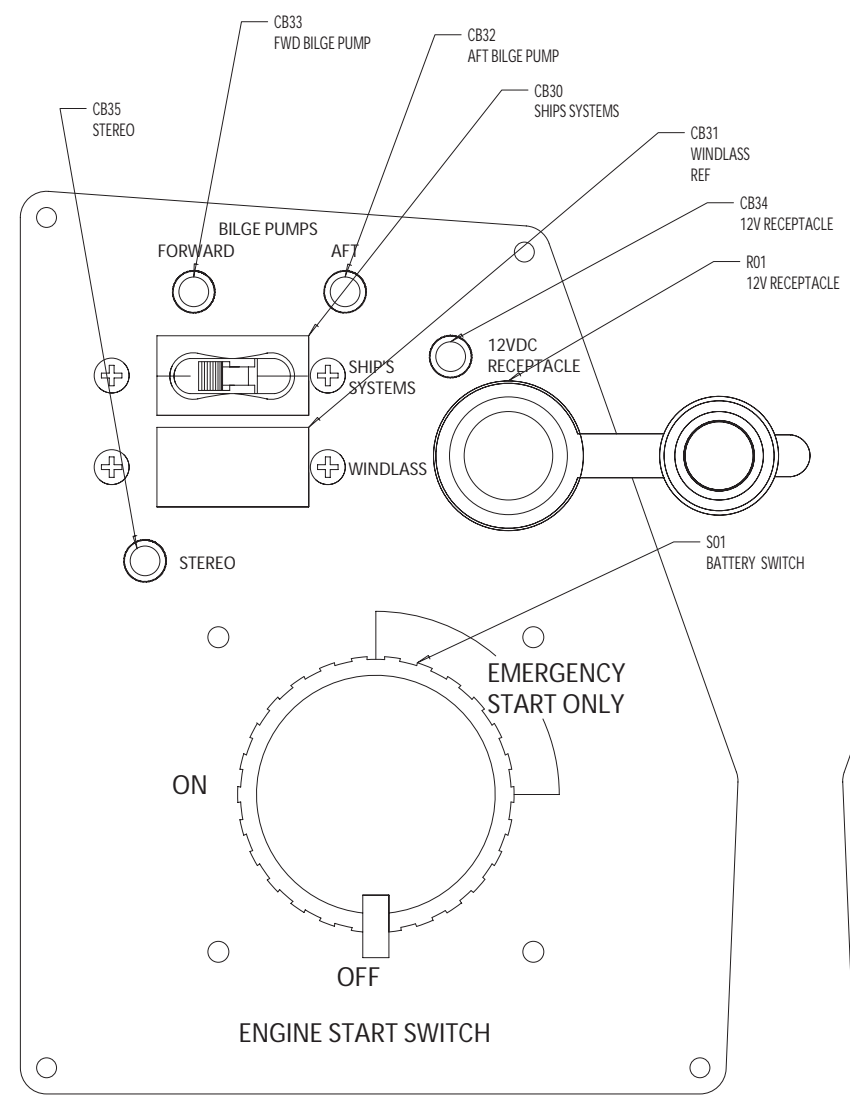




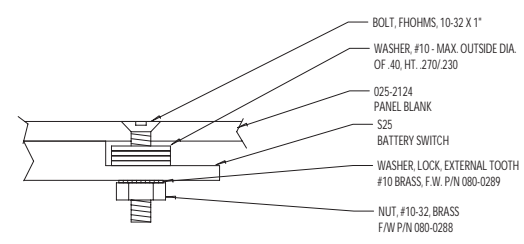
FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
-	028-0177	2	TERM.FASTON, 250,18-14	02	AMP
-	028-0201	1	TAB,FASTON, 250,16-14	04	AMP
-	028-0191	1	TERM.RING #10,16-14	09	AMP
-	028-0197	3	TERM.RING 3/8,16-14	11	AMP
-	028-0198	2	TERM.RING #10,8	17	AMP
-	028-0315	3	TERM.RING 1/4,8	24	AMP
-	028-0316	4	TERM.RING 3/8,8	25	AMP
-	028-0391	68	PIN,UMNL,18-14	41	AMP
-	028-0454	76	SOCKET,UMNL,18-14	42	AMP
-	028-0159	4	SOCKET,CMNL,20-14	45	AMP
-	-	12	VENDER TERMINATED	51	-
-	028-1823	3	TERM,BULLET,FEM,INS, 156,16-14	75	MOLEX
AT01	-	REF	ALTERNATOR	-	-
CB01	-	REF	BREAKER,40A,CARLING	-	-
CB02	-	REF	BREAKER,60A,ETA	-	-
DS01	027-2199	1	CABLE,25' EXTENSION	-	FARIA/TALON
FB01	-	REF	FUSE BLOCK,28 POSITION	-	-
FF01	-	REF	FUEL FILL	-	-
GN01	-	REF	ENGINE GROUND	-	-
GN02	-	REF	ENGINE GROUND	-	-
GN03	-	REF	PANEL GROUND	-	-
GN04	-	REF	ENGINE GROUND	-	-
GN05	-	REF	ENGINE GROUND	-	-
IS01	-	REF	ISOLATOR,1 ALT-2 BATTERY	-	-
SH01	024-0415	1	HOSE, SPEEDOMETER	-	NEW AGE
J02	028-0441	1	RECEPT,UMNL,2 CKT	HEAD LT	AMP
J03	028-0449	1	RECEPT,UMNL,9 CKT	HEAD SWITCH	AMP
J07	028-0442	1	RECEPT,UMNL,4 CKT	GRAY WATER SENDER	AMP
J08	028-0442	1	RECEPT,UMNL,4 CKT	AFT BILGE PUMP	AMP
J09	028-0441	1	RECEPT,UMNL,2 CKT	BLOWER	AMP
J12	028-0442	1	RECEPT,UMNL,4 CKT	BLACK WATER SENDER	AMP
J13	028-0442	1	RECEPT,UMNL,4 CKT	FWD BILGE	AMP
J14	028-0441	1	RECEPT,UMNL,2 CKT	SHOWER SLUMP	AMP
J15	028-0441	1	RECEPT,UMNL,2 CKT	FRESH WATER PUMP	AMP
J16	028-0442	1	RECEPT,UMNL,4 CKT	FRESH WATER SENDER	AMP
J17	028-0441	1	RECEPT,UMNL,2 CKT	OVERBOARD DISCHARGE	AMP
J18	028-0441	1	RECEPT,UMNL,2 CKT	FIREBOY	AMP
J22	028-0442	1	RECEPT,UMNL,4 CKT	FRESH WATER/HOLDING	AMP
J23	028-0442	1	RECEPT,UMNL,4 CKT	GRAY WATER MONITOR	AMP
J26	028-0441	1	RECEPT,UMNL,2 CKT	CO MONITOR	AMP
J30	028-0443	1	RECEPT,UMNL,9 CKT	TRIM TABS	AMP
J32	028-0441	1	RECEPT,UMNL,2 CKT	STRIP LT	AMP
J46	028-0443	1	RECEPT,UMNL,9 CKT	DECK HULL	AMP
J47	028-0441	1	RECEPT,UMNL,2 CKT	CO MONITOR	AMP
J48	028-0441	1	RECEPT,UMNL,2 CKT	HEAD LT	AMP
J62	028-0442	1	RECEPT,UMNL,4 CKT	BATTERY SWITCH	AMP
J89	028-0441	1	RECEPT,UMNL,2 CKT	COMPASS	AMP
P01	028-0443	1	PLUG,UMNL,9 CKT	INSTRUMENTS	AMP
P04	028-0448	1	PLUG,UMNL,4 CKT	TRIM	AMP
P05	028-0451	1	PLUG,UMNL,12 CKT	HELM/HULL SYSTEMS	AMP
P06	028-0452	1	PLUG,UMNL,15 CKT	HELM/HULL SYSTEMS	AMP
P10	-	1	PLUG,ENGINE,OMC IO	ENGINE	OMC
P11	-	1	PLUG,TRIM PUMP,OMC	TRIM PUMP	OMC
P18	028-0447	1	PLUG,UMNL,2 CKT	FIREBOY	AMP
P21	028-0447	1	PLUG,UMNL,2 CKT	FIREBOY INDICATOR	AMP
P24	028-0450	1	PLUG,CMNL,4 CKT	TRIM TAB PUMP	AMP
P63	028-0451	1	PLUG,UMNL,12 CKT	GALLEY/STEREO	AMP
P64	028-0449	1	PLUG,UMNL,9 CKT	GALLEY	AMP
P65	028-0448	1	PLUG,UMNL,4 CKT	GALLEY	AMP
J27	028-0441	1	RECEPT,UMNL,2 CKT	NEUTRAL SAFETY SWITCH	AMP
J28	028-0441	1	RECEPT,UMNL,2 CKT	VAC U FLUSH	AMP
S02	-	REF	SWITCH,ESS,NO	ESS	-
S03	-	REF	SWITCH,BATTERY	BATTERY SWITCH	-
TB01	-	REF	TERMINAL,BUSS,14 POS	HELM DC RET	-
J60	028-0441	1	RECEPT,UMNL,2 CKT	HI LEVEL SWITCH	AMP
J66	028-0441	1	RECEPT,UMNL,2 CKT	FUEL SENDER	AMP
EA01	-	REF	ENGINE ALARM	ENGINE ALARM	-

268 VISTA
AFT SYSTEMS
HARNESS ASSEMBLY



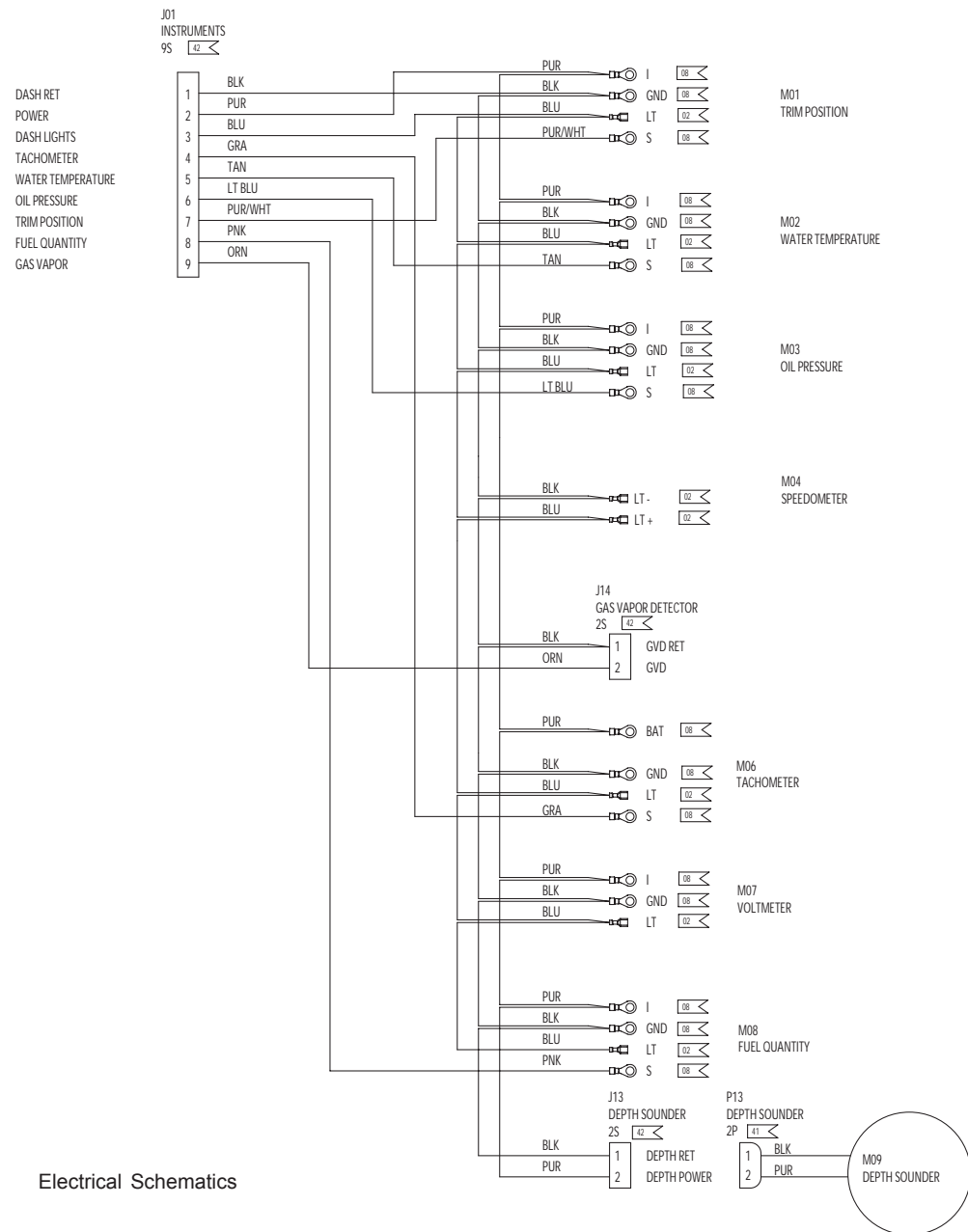
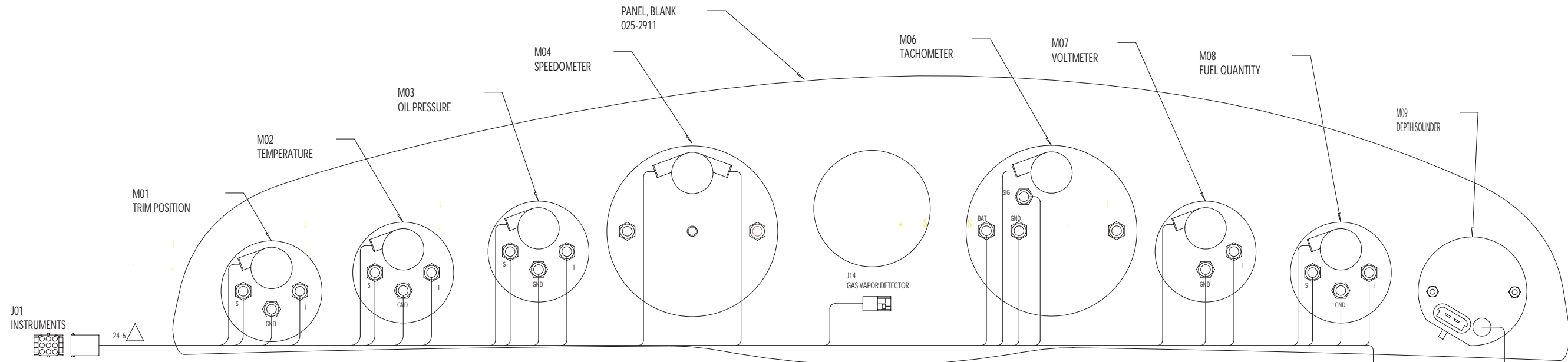
BATTERY SWITCH MOUNTING DETAIL



FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
-	028-0177	10	TERM,FASTON,.250,18-14	02	AMP
-	018-0192	1	TERM,RING,1/4,16-14	10	AMP
-	028-0286	1	TERM,RING,3/8,16-14	11	AMP
-	-	2	TERM,RING,1/4,4	35	AMP
-	-	1	TERM,RING,1/4,2	31	AMP
-	028-0399	1	TERM,RING,3/8,2	18	AMP
-	028-0390	2	PIN,UMNL,18-14	41	AMP
-	025-2124	1	PANEL,BLANK,BATTERY SWITCH	-	-
P62	028-0448	1	PLUG,UMNL,4 CKT	AUTO BILGE/STEREO	AMP
CB30	028-1887	1	BREAKER,40A	SHIPS SYSTEMS	CARL SW
CB31	038-1888	REF	BREAKER,80A	WINDLASS	CARL SW
CB32	028-1879	1	BREAKER,5A	AFT BILGE	ETA
CB33	028-1879	1	BREAKER,5A	FWD BILGE	ETA
CB34	028-1880	1	BREAKER,10A	12V RECEPTACLE	ETA
CB35	028-1881	REF	BREAKER,20A	STEREO	ETA
GND2	-	1	PANEL GROUND	PANEL GROUND	-
R01	028-1100	1	RECEPTACLE,12V AFI	12V RECEPTACLE	AFI
S01	028-0485	1	SWITCH,DUAL BATTERY	BATTERY SWITCH	GUEST

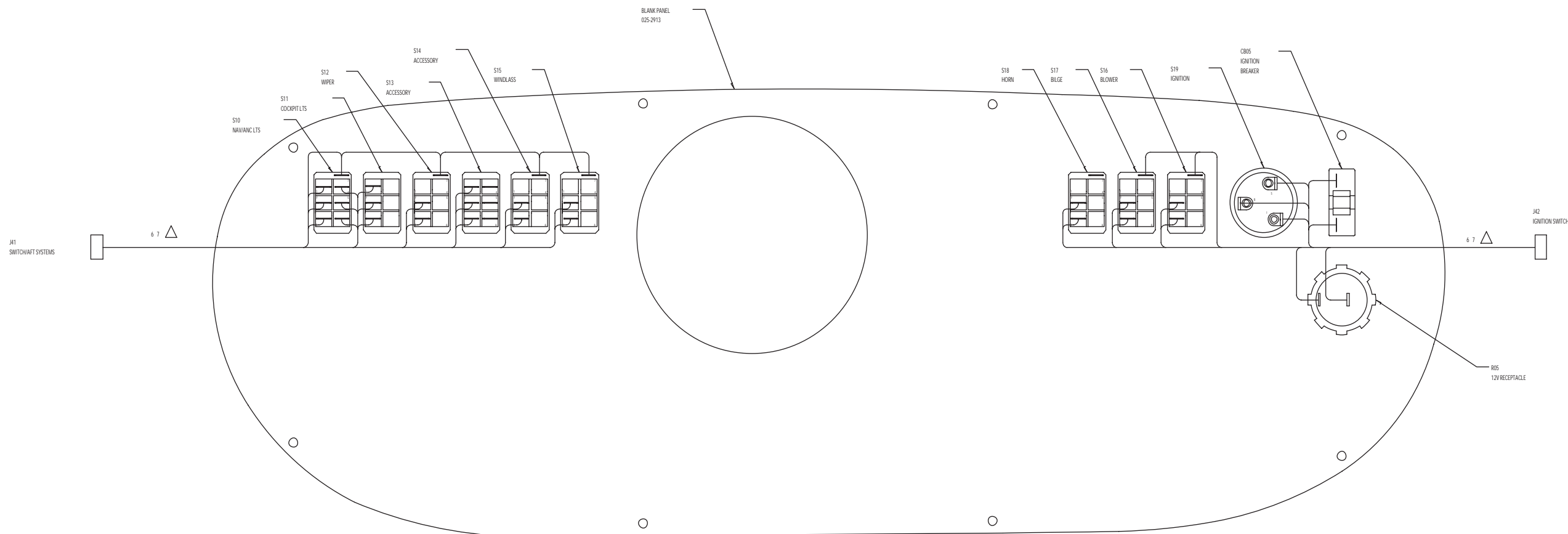
268 VISTA
BATTERY SWITCH
PANEL ASSEMBLY



FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
	028-0177	8	RECEPT,FASTON,.250,18-14	02	AMP
	028-0189	17	TERM, RING, PG, #8, 16-14	08	AMP
	028-0390	2	PIN,UMNL,18-14	41	AMP
	028-0454	9	SOCKET,UMNL,18-14	42	AMP
	028-0211	5	RECEPT,SOCKET,# STUD.16-14	46	AMP
	025-2911	1	PANEL,BLANK,INSTR, BURL	PANEL BLANK	
J01	028-0443	1	RECEPT,UMNL,9 CKT	INSTRUMENT	AMP
J13	028-0441	1	RECEPT,UMNL,2 CKT	DEPTH SOUNDER	AMP
J14	028-0441	1	RECEPT,UMNL,2 CKT	GAS VAPOR DETECTOR	AMP
M01	024-0529	1	GAUGE,TRIM FARIA#GP7766	TRIM POSITION	FARIA
M02	024-0528	1	GAUGE,WATER TEMP FARIA#GP7765	WATER TEMP	FARIA
M03	024-0530	1	GAUGE,OIL PRESSURE FARIA#GP7767	OIL PRESSURE	FARIA
M04	024-0522	1	GAUGE,50 MPH SPEEDO FARIA#SE9973	SPEEDOMETER	FARIA
M06	024-0526	1	GAUGE,TACH W/HOUR 6000 FARIA#TCH239	TACHOMETER	FARIA
M07	024-0531	1	GAUGE,VOLTMETER FARIA#VP7114	VOLTMETER	FARIA
M08	024-0532	1	GAUGE,FUEL FARIA#GP7768	FUEL QUANTITY	FARIA
M09	028-1748	1	DEPTH FINDER 2" FARIA#0109	DEPTH SOUNDER	FARIA
P13	028-0447	1	PLUG,UMNL,2 CKT	DEPTH SOUNDER	AMP

248/268 VISTA INSTRUMENTATION PANEL ASSEMBLY

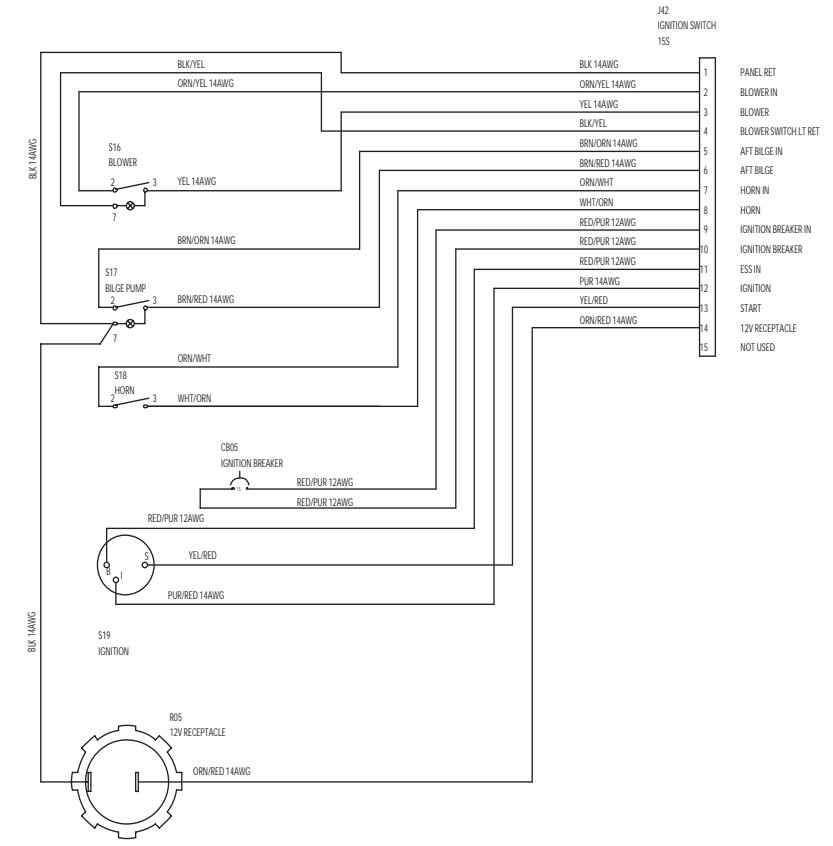
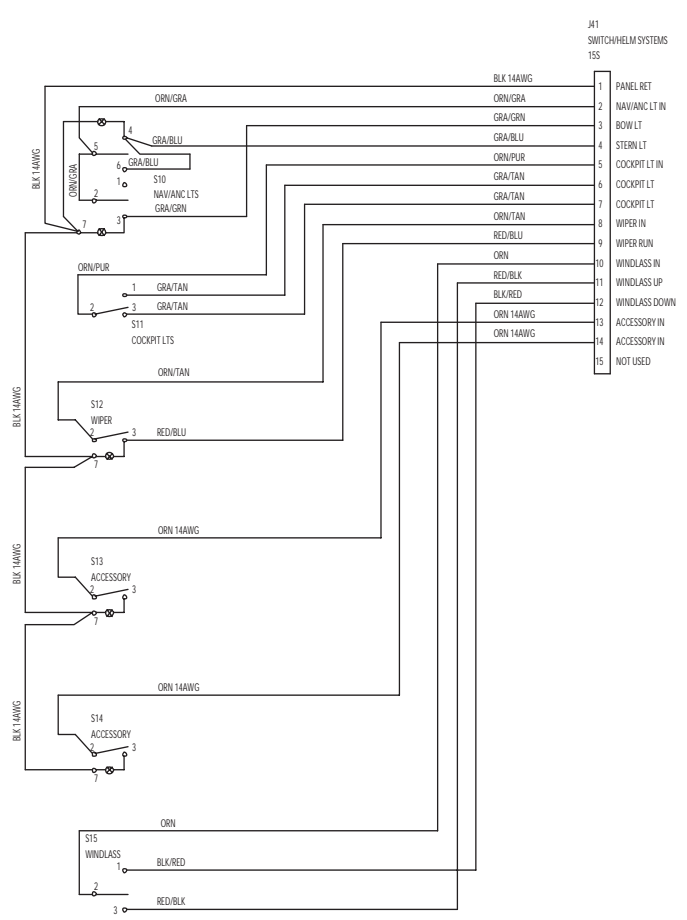


FOUR WINNS WIRE LIST

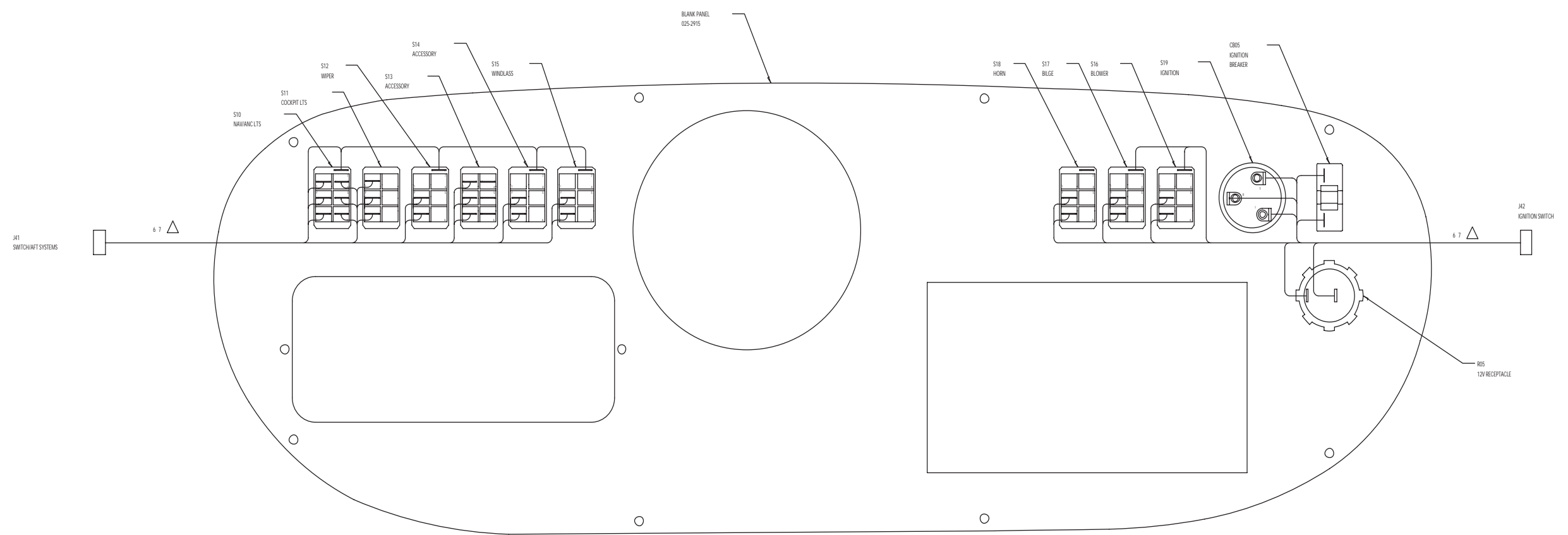
COLOR	GA	FIRST	PIN	TERM	NOTE	SECOND	PIN	TERM	NOTE	FUNCTION
BLK	14	J42	1	42		S17	7	02	SA	PANEL RET
ORV/YEL	14	J42	2	42		S16	2	02		BLOWER IN
YEL	14	J42	3	42		S16	3	02		BLOWER SWITCH LT RET
BLK/YEL	16	J42	4	42		S16	7	02		BLOWER
BRN/VORN	14	J42	5	42		S17	2	02		AFT BILGE IN
BRN/RED	14	J42	6	42		S17	3	02		AFT BILGE
ORV/WHT	16	J42	7	42		S18	2	02		HORN IN
WHT/ORN	16	J42	8	42		S18	3	02		HORN
RED/PUR	12	J42	9	42		CRBS	LINE	02		IGNITION BREAKER IN
RED/PUR	12	J42	10	42		CRBS	LOAD	02		IGNITION BREAKER
RED/PUR	12	J42	11	42		S19	8	02		ESS IN
PUR	14	J42	12	42		S19	1	02		IGNITION
YEL/RED	16	J42	13	42		S19	5	02		START
ORV/RED	14	J42	14	42		R05	+	02		12V RECEPTACLE
BLK	14	J41	1	42		S10	7	02	SB	PANEL RET
ORV/GRN	16	J41	2	42		S10	5	02		NAVIANC.LT IN
GRN/GRN	16	J41	3	42		S10	3	02		BOW LT
GRN/BLU	16	J41	4	42		S10	4	02		STERN LT
ORV/PUR	16	J41	5	42		S11	2	02		COCKPIT LT IN
GRN/TAN	16	J41	6	42		S11	1	02		COCKPIT LT
GRN/TAN	16	J41	7	42		S11	3	02		COCKPIT LT
ORV/TAN	16	J41	8	42		S12	2	02		WIPER IN
RED/BLU	16	J41	9	42		S12	3	02		WIPER RUN
ORN	16	J41	10	42		S15	2	02		WINDLASS IN
RED/BLK	16	J41	11	42		S15	3	02		WINDLASS UP
BLK/RED	16	J41	12	42		S15	1	02		WINDLASS DOWN
ORN	14	J41	13	42		S13	2	02		ACCESSORY IN
ORN	14	J41	14	42		S14	2	02		ACCESSORY IN
BLK	14	S17	7	02	SA	R05	-	02		12V RECEPTACLE RET
BLK	14	S10	7	02	SB	S12	7	02	SC	SWITCH LT RET
BLK	14	S12	7	02	SC	S14	7	02	SD	SWITCH LT RET
BLK	14	S14	7	02	SD	S15	7	02		SWITCH LT RET

FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
	028-0177	34	TERM FASTON, 250,18-14	02	AMP
	028-0454	28	SOCKET LAMP, 18-14	42	AMP
	025-2913	1	PANEL,BLANK,INSTRUMENT		
	028-0467	1	BREAKER,15A	IGNITION BREAKER	MP
J41	028-0446	1	RECEPT,12V,15 CKT	SWITCHHELM SYSTEMS	AMP
J42	028-0446	1	RECEPT,12V,15 CKT	IGNITION SWITCH	AMP
R05	028-1100	1	RECEPT,12V,AFT	12V RECEPTACLE	AFI
S10	028-0504	1	SWITCH,DPDT,CONT III	NAVIANC.LTS	CARL SW
S11	028-1135	1	SWITCH,ON-ON,CONT III	COCKPIT.LTS	CARL SW
S12	028-0457	1	SWITCH,SPST,CONT III	WIPER	CARL SW
S13	028-0457	1	SWITCH,SPST,CONT III	ACCESSORY	CARL SW
S14	028-0457	1	SWITCH,SPST,CONT III	ACCESSORY	CARL SW
S15	028-0457	1	SWITCH,SPST,CONT III	WINDLASS	CARL SW
S16	028-0457	1	SWITCH,SPST,CONT III	BLOWER	CARL SW
S17	028-0457	1	SWITCH,SPST,CONT III	BILGE PUMP	CARL SW
S18	028-0456	1	SWITCH,OFF,ON,CONT III	HORN	CARL SW
S19	028-0188	1	SWITCH,IGNITION,NO	IGNITION	GENERAL



248/268 VISTA
IGNITION/SWITCH PANEL
ASSEMBLY W/O ELECTRONICS

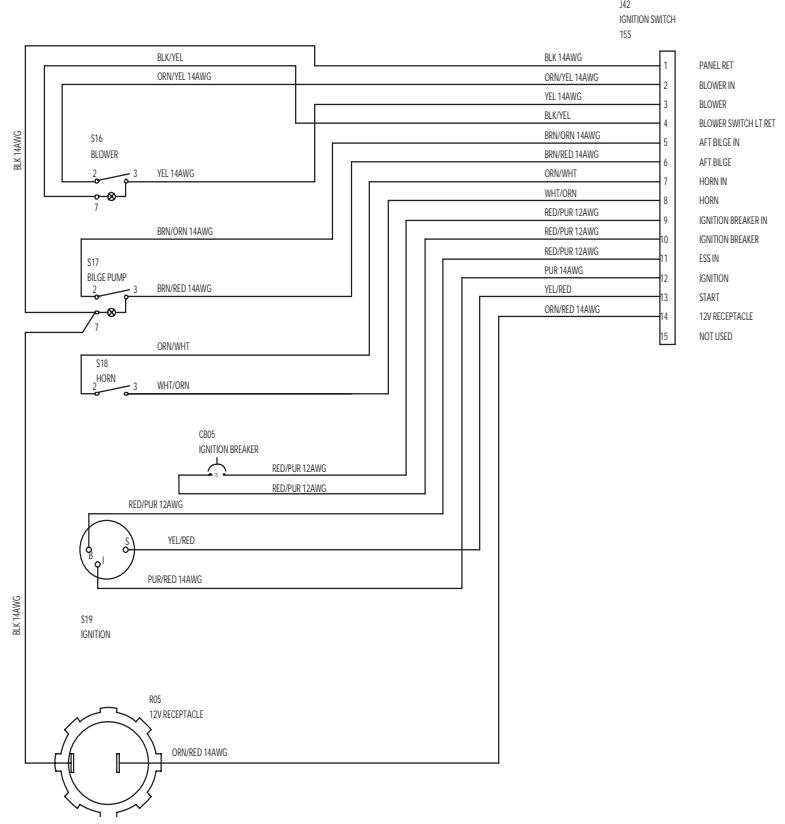
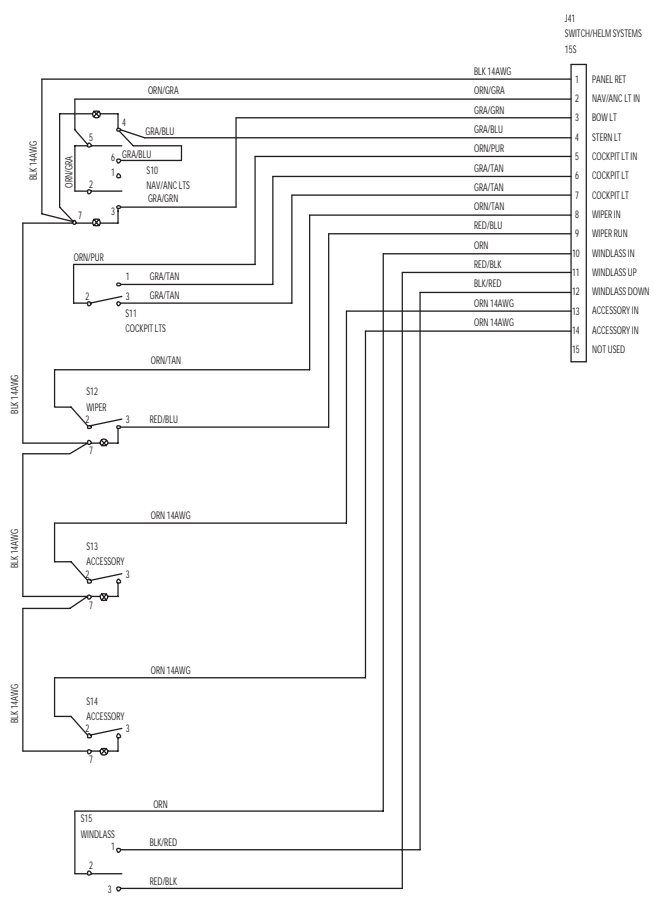


FOUR WINNS WIRE LIST

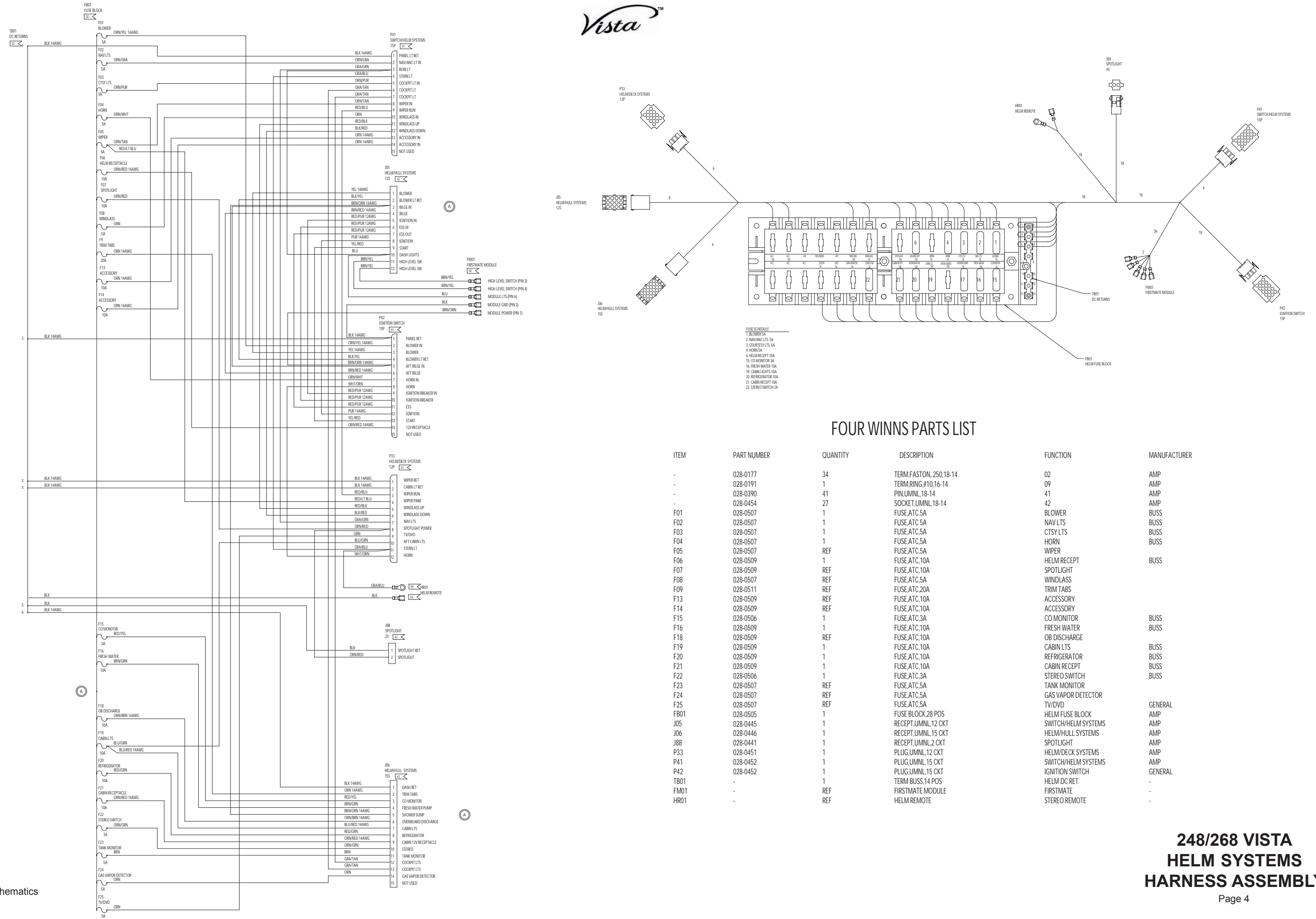
COLOR	GA	FIRST	PN	TERM	NOTE	SECOND	PN	TERM	NOTE	FUNCTION
BLK	14	J42	1	42		S17	7	02		PANEL RET
ORNYEL	14	J42	2	42		S16	2	02	SA	BLOWER IN
YEL	14	J42	3	42		S16	3	02		BLOWER
BLKYEL	16	J42	4	42		S16	7	02		BLOWER SWITCH LT RET
BRNVRN	14	J42	5	42		S17	2	02		AFT BILGE IN
BRNRED	14	J42	6	42		S17	3	02		AFT BILGE
ORNVHIT	16	J42	7	42		S18	2	02		HORN IN
WHYORN	16	J42	8	42		S18	8	02		HORN
REDPUR	12	J42	9	42		CB05	LINE	02		IGNITION BREAKER IN
REDPUR	12	J42	10	42		CB05	LOAD	02		IGNITION BREAKER
REDPUR	12	J42	11	42		S19	8	02		ESS IN
PUR	14	J42	12	42		S19	1	02		IGNITION
YELRED	16	J42	13	42		S19	5	02		START
ORNVRED	14	J42	14	42		R05	-	02		12V RECEPTACLE
BLK	14	J41	1	42		S10	7	02	SB	PANEL RET
ORNVGRA	16	J41	2	42		S10	5	02		NAVIANG LT IN
GRAGRN	16	J41	3	42		S10	3	02		BOW LT
GRABLU	16	J41	4	42		S10	4	02		STERN LT
ORNPUR	16	J41	5	42		S11	2	02		COCKPIT LT IN
GRATAN	16	J41	6	42		S11	1	02		COCKPIT LT
GRATAN	16	J41	7	42		S11	3	02		COCKPIT LT
ORNV TAN	16	J41	8	42		S12	2	02		WIPER IN
REDBLU	16	J41	9	42		S12	3	02		WIPER RUN
ORN	16	J41	10	42		S15	2	02		WINDLASS IN
REDBLK	16	J41	11	42		S15	3	02		WINDLASS UP
BLKRED	16	J41	12	42		S15	1	02		WINDLASS DOWN
ORN	14	J41	13	42		S13	2	02		ACCESSORY IN
ORN	14	J41	14	42		S14	2	02		ACCESSORY IN
BLK	14	S17	7	02	SA	R05	-	02		12V RECEPTACLE RET
BLK	14	S10	7	02	SB	S12	7	02	SC	SWITCH LT RET
BLK	14	S12	7	02	SC	S14	7	02	SD	SWITCH LT RET
BLK	14	S14	7	02	SD	S15	7	02		SWITCH LT RET

FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
	028-0177	34	TERMFASTON, 250, 18-14		AMP
	028-0454	28	SOCKET UANL, 18-14		AMP
	025-2915	1	PANEL, BLANK INSTRUMENT		
CB05	028-0467	1	BREAKER, SA	IGNITION BREAKER	MP
J41	028-0446	1	RECEPT UANL, 15 DKT	SWITCH/HAELM SYSTEMS	AMP
J42	028-0446	1	RECEPT UANL, 15 DKT	IGNITION SWITCH	AMP
R05	028-1100	1	RECEPT, 12V APT	12V RECEPTACLE	AFI
S10	028-0504	1	SWITCH, SPST, CONT III	NAVIANG LITS	CARL SW
S11	028-1135	1	SWITCH, ON-ON, CONT III	COCKPIT LITS	CARL SW
S12	028-0457	1	SWITCH, SPST, CONT III	WIPER	CARL SW
S13	028-0457	1	SWITCH, SPST, CONT III	ACCESSORY	CARL SW
S14	028-0457	1	SWITCH, SPST, CONT III	ACCESSORY	CARL SW
S15	028-0457	1	SWITCH, SPST, CONT III	WINDLASS	CARL SW
S16	028-0457	1	SWITCH, SPST, CONT III	BLOWER	CARL SW
S17	028-0457	1	SWITCH, SPST, CONT III	BILGE PUMP	CARL SW
S18	028-0456	1	SWITCH, SPST, CONT III	HORN	CARL SW
S19	028-0188	1	SWITCH, IGNITION I/O	IGNITION	GENERAL



**248/268 VISTA
IGNITION/SWITCH PANEL
ASSEMBLY W/ ELECTRONICS**



FUSE SCHEDULE

- 1. BLOWER 5A
- 2. NAV LITS 5A
- 3. COURTESY LITS 5A
- 4. HORN 5A
- 6. HELM RECEPT 10A
- 15. CO MONITOR 3A
- 16. FRESH WATER 10A
- 19. CABIN LIGHTS 10A
- 20. REFRIGERATOR 15A
- 21. CABIN RECEPT 10A
- 22. STEREO SWITCH 3A

FOUR WINNS PARTS LIST

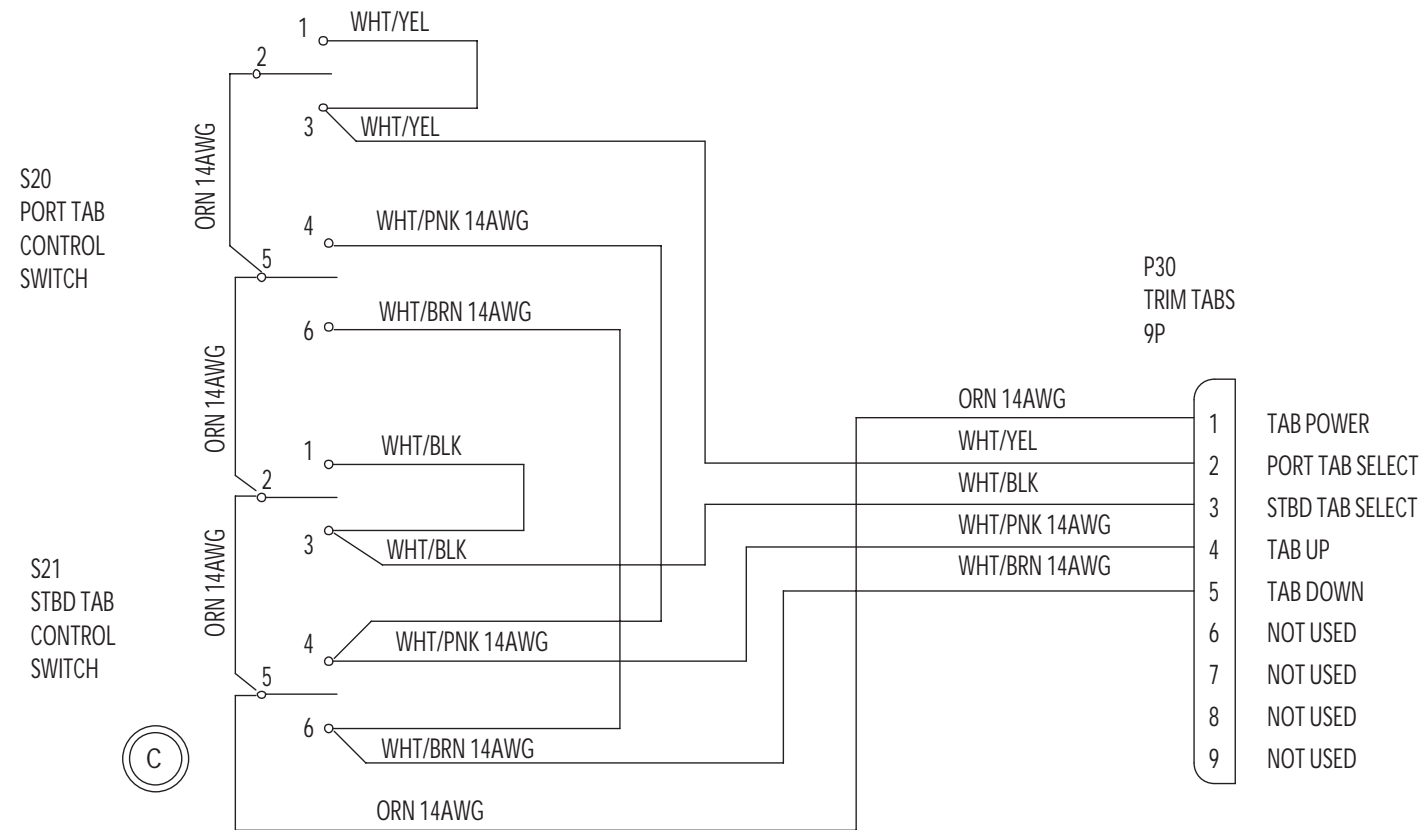
ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
-	028-0177	34	TERM,FASTON, 250,18-14	02	AMP
-	028-0191	1	TERM,RING,#10,16-14	09	AMP
-	028-0390	41	PIN,UMNL,18-14	41	AMP
-	028-0454	27	SOCKET,UMNL,18-14	42	AMP
F01	028-0507	1	FUSE,ATC,5A	BLOWER	BUSS
F02	028-0507	1	FUSE,ATC,5A	NAV LITS	BUSS
F03	028-0507	1	FUSE,ATC,5A	CTSY LITS	BUSS
F04	028-0507	1	FUSE,ATC,5A	HORN	BUSS
F05	028-0507	REF	FUSE,ATC,5A	WIPER	BUSS
F06	028-0509	1	FUSE,ATC,10A	HELM RECEPT	BUSS
F07	028-0509	REF	FUSE,ATC,10A	SPOTLIGHT	BUSS
F08	028-0507	REF	FUSE,ATC,5A	WINDLASS	BUSS
F09	028-0511	REF	FUSE,ATC,20A	TRIM TABS	BUSS
F13	028-0509	REF	FUSE,ATC,10A	ACCESSORY	BUSS
F14	028-0509	REF	FUSE,ATC,10A	ACCESSORY	BUSS
F15	028-0506	1	FUSE,ATC,3A	CO MONITOR	BUSS
F16	028-0509	1	FUSE,ATC,10A	FRESH WATER	BUSS
F18	028-0509	REF	FUSE,ATC,10A	OB DISCHARGE	BUSS
F19	028-0509	1	FUSE,ATC,10A	CABIN LITS	BUSS
F20	028-0509	1	FUSE,ATC,10A	REFRIGERATOR	BUSS
F21	028-0509	1	FUSE,ATC,10A	CABIN RECEPT	BUSS
F22	028-0506	1	FUSE,ATC,3A	STEREO SWITCH	BUSS
F23	028-0507	REF	FUSE,ATC,5A	TANK MONITOR	GENERAL
F24	028-0507	REF	FUSE,ATC,5A	GAS VAPOR DETECTOR	GENERAL
F25	028-0507	REF	FUSE,ATC,5A	TV/DVD	GENERAL
FB01	028-0505	1	FUSE BLOCK,28 POS	HELM FUSE BLOCK	AMP
J05	028-0445	1	RECEPT,UMNL,12 CKT	SWITCH/HELM SYSTEMS	AMP
J06	028-0446	1	RECEPT,UMNL,15 CKT	HELM/HULL SYSTEMS	AMP
J88	028-0441	1	RECEPT,UMNL,2 CKT	SPOTLIGHT	AMP
P33	028-0451	1	PLUG,UMNL,12 CKT	HELM/DECK SYSTEMS	AMP
P41	028-0452	1	PLUG,UMNL,15 CKT	SWITCH/HELM SYSTEMS	AMP
P42	028-0452	1	PLUG,UMNL,15 CKT	IGNITION SWITCH	GENERAL
TB01	-	1	TERM BUSS,14 POS	HELM DC RET	-
FM01	-	REF	FIRSTMATE MODULE	FIRSTMATE	-
HR01	-	REF	HELM REMOTE	STEREO REMOTE	-

FOUR WINNS WIRE LIST

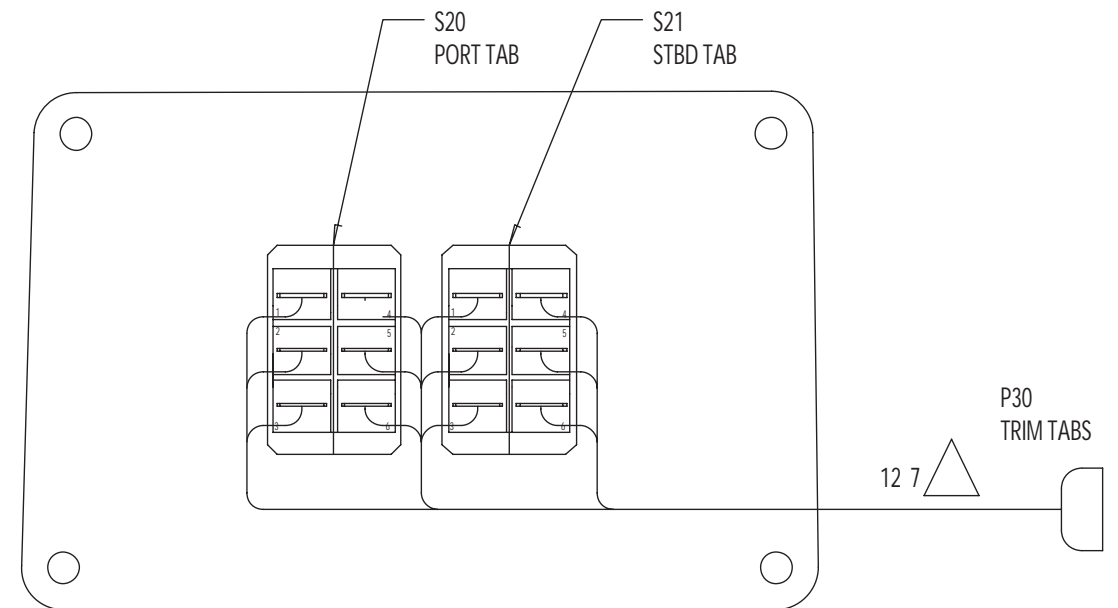
COLOR	GA	FIRST	PIN	TERM	NOTE	SECOND	PIN	TERM	NOTE	FUNCTION
ORN	14	P30	1	41		S21	5	02	SA	TAB POWER
WHT/YEL	16	P30	2	41		S20	3	02	SD	PORT TAB SELECT
WHT/BLK	16	P30	3	41		S21	3	02	SE	STBD TAB SELECT
WHT/PNK	14	P30	4	41		S21	4	02	SF	TAB UP
WHT/BRN	14	P30	5	41		S21	6	02	SG	TAB DOWN
ORN	14	S20	5	02	SC	S20	2	02		
ORN	14	S20	5	02	SC	S21	2	02	SB	TAB POWER
ONR	14	S21	2	02	SB	S21	5	02	SA	TAB POWER
WHT/BRN	14	S20	6	02	SG	S21	6	02		TAB DOWN
WHT/PNK	14	S20	4	02	SF	S21	4	02		TAB UP
WHT/YEL	16	S20	3	02	SD	S20	1	02		PORT TAB SELECT
WHT/BLK	16	S21	3	02	SE	S21	1	02		STBD TAB SELECT

FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
	028-0177	34	TERM,FASTON,250,18-14	02	AMP
	028-0390	28	SOCKET,UMNL,18-14	42	AMP
	025-2185	1	PANEL,BLANK,TRIM TABS	BLANK PANEL	
P30	028-0449	1	PLUG,UMNL,9 CKT	TRIM TABS	AMP
S20	028-0460	1	SWITCH,(ON) OFF (ON) CONT III	PORT TAB SELECT	CARL SW
S21	028-0460	1	SWITCH,(ON) OFF (ON) CONT III	STBD TAB SELECT	CARL SW



REAR PANEL VIEW



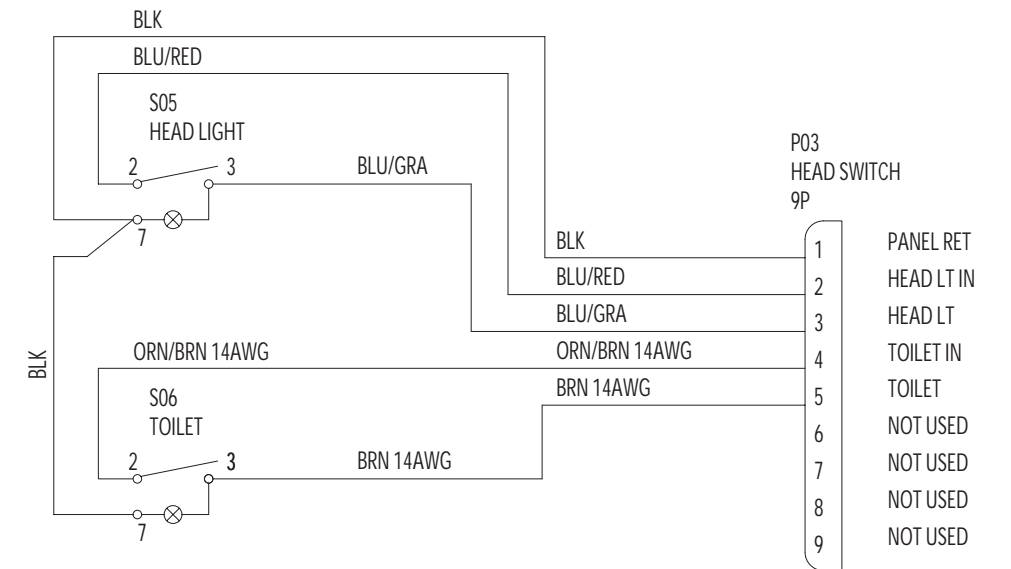
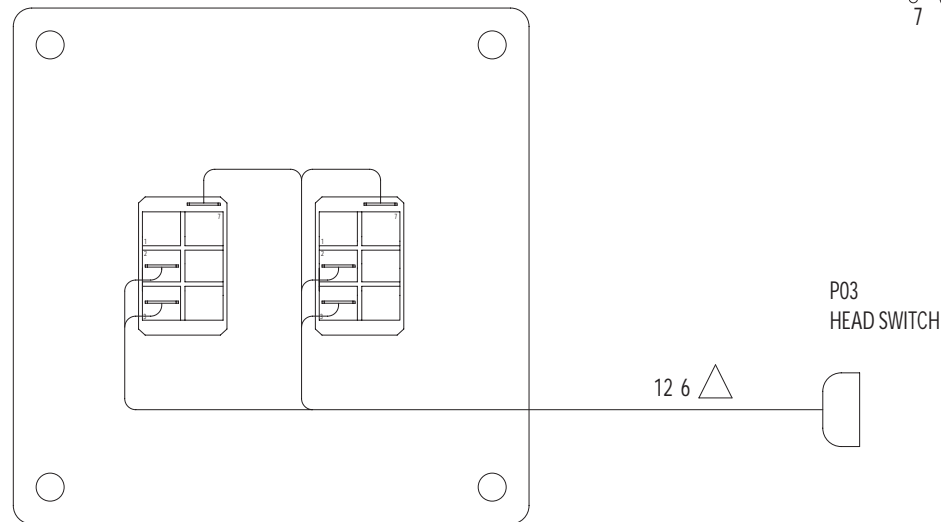
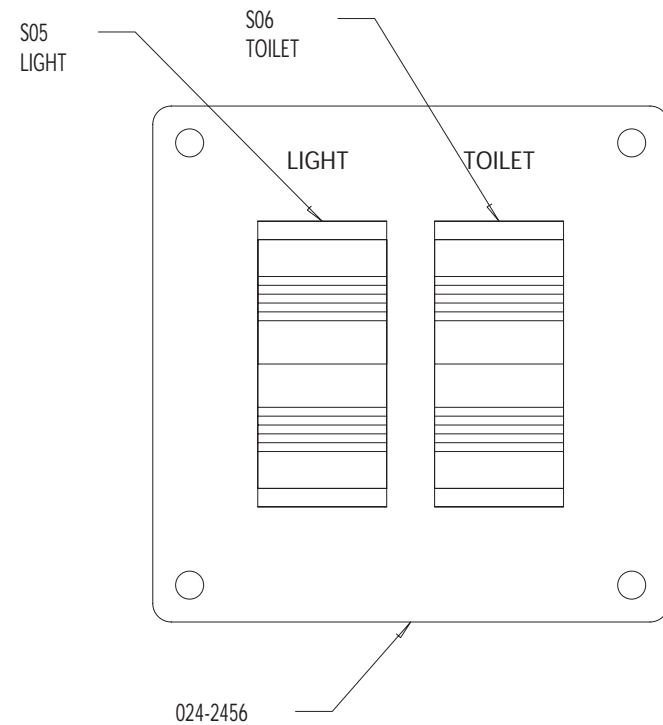
248/268 VISTA TRIM TABS PANEL ASSEMBLY

FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
	028-0177	6	RECEPT,FASTON,,250,18-14	02	AMP
	028-0390	5	PIN,UMNL,18-14	41	AMP
	025-2456	1	PANEL,BLANK,HEAD,LIGHT/TOILET		
P03	028-0449	1	PLUG,UMNL,9 CKT	CABIN SWITCH	AMP
S05	028-0457	1	SWITCH,SPST,CONT III	HEAD LIGHT	CARL SW
S06	028-0457	1	SWITCH,SPST,CONT III	TOILET	CARL SW

FOUR WINNS WIRE LIST

COLOR	GA	FIRST	PIN	TERM	NOTE	SECOND	PIN	TERM	NOTE	FUNCTION
BLK	16	P03	1	41		S05	7	02	SA	PANEL LT RET
BLK	16	S05	7	02	SA	S06	7	02		PANEL LT RET
BLU/RED	16	P03	2	41		S05	2	02		HEAD LT IN
BLU/GRA	16	P03	3	41		S05	3	02		HEAD LT
ORN/BRN	14	P03	4	41		S06	2	02		TOILET IN
BRN	14	P03	5	41		S06	3	02		TOILET

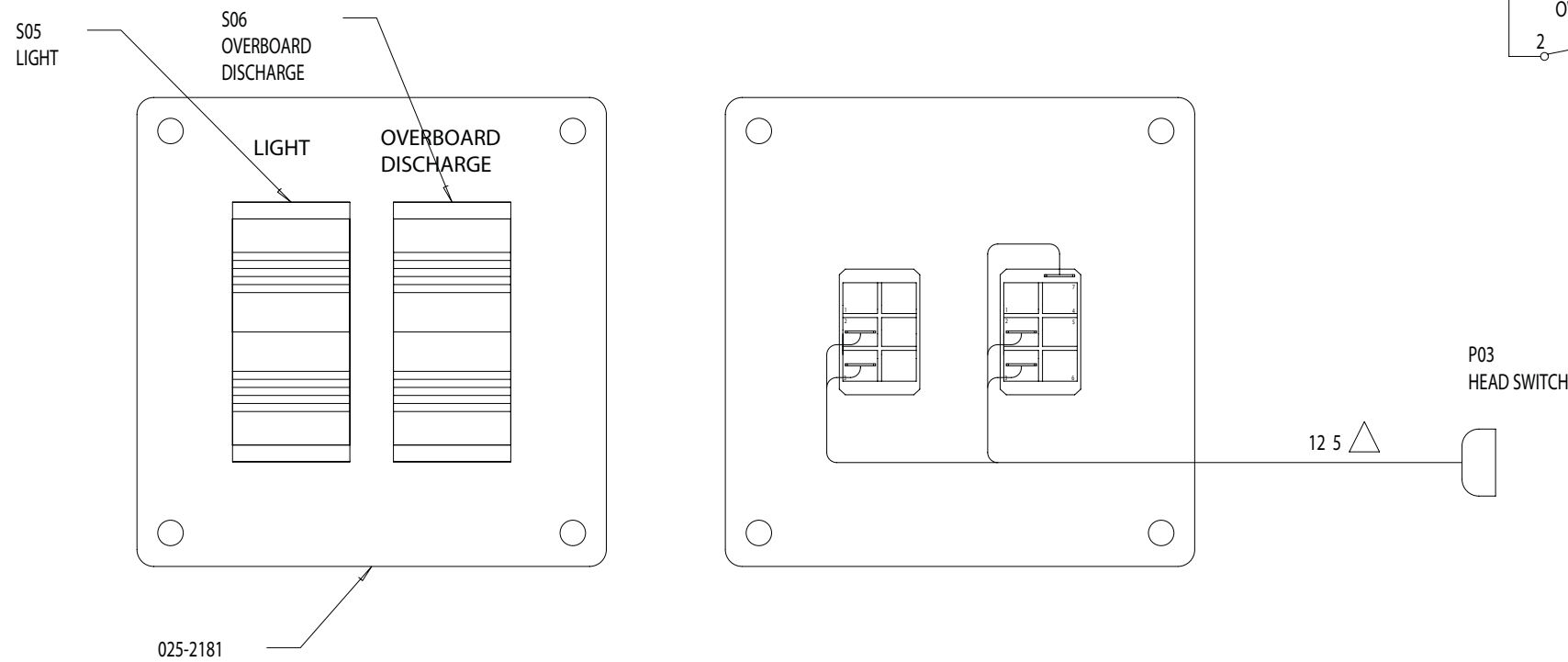
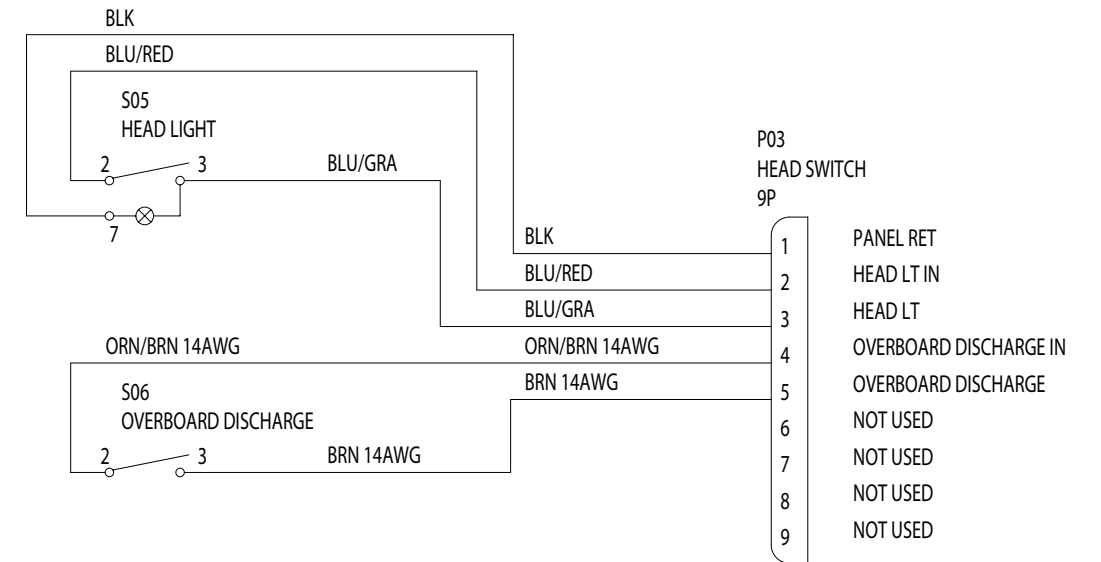


FOUR WINNS PARTS LIST

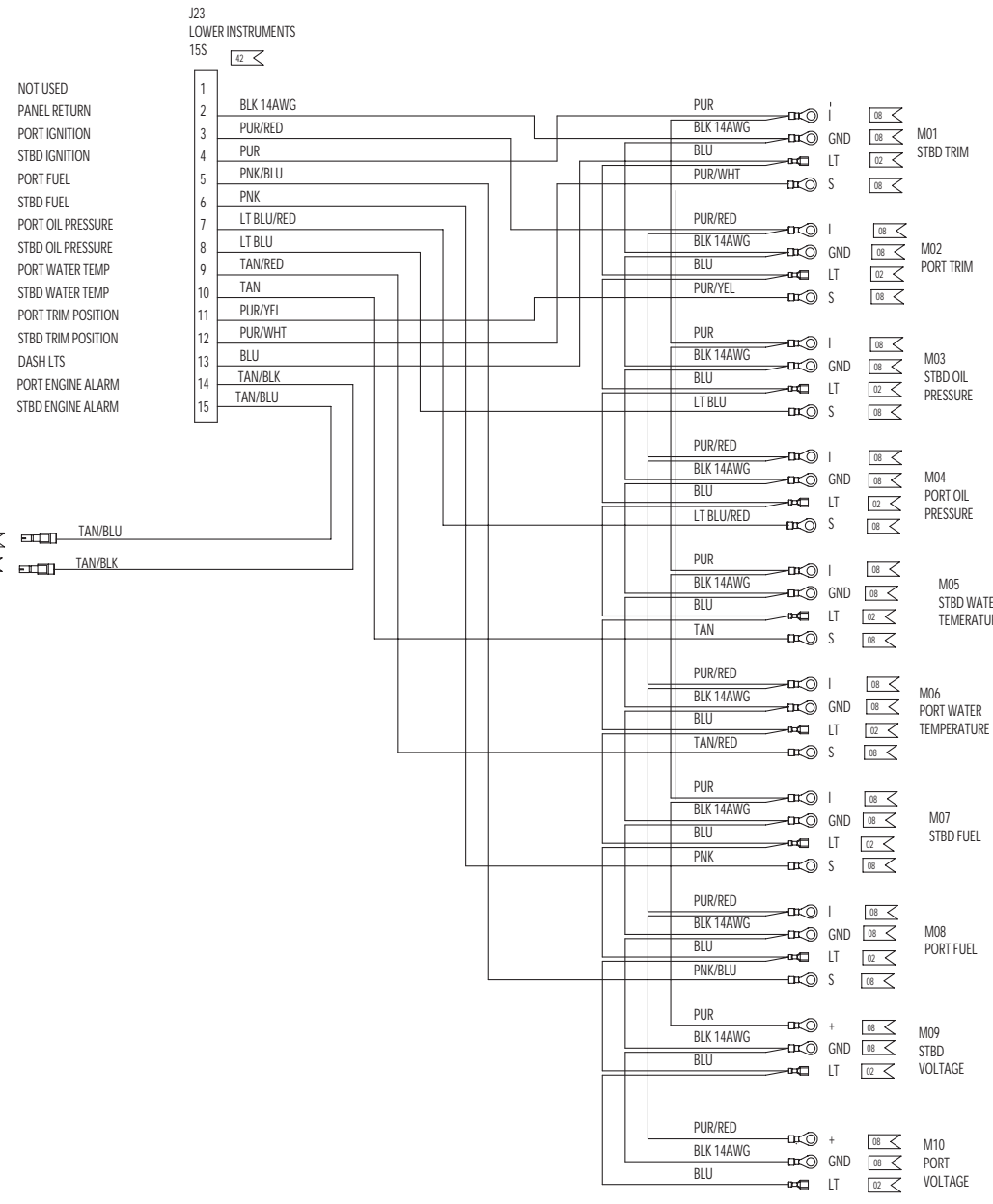
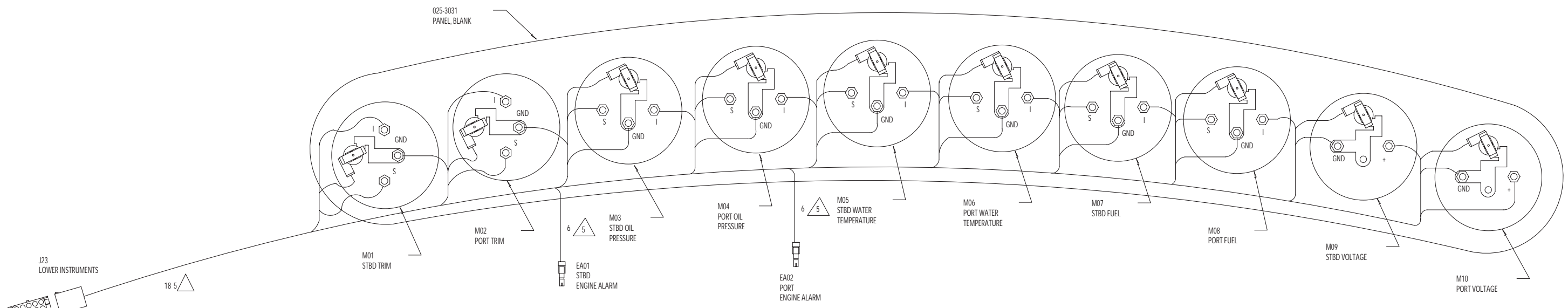
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	028-0177	15	RECEPT,FASTON,,250,18-14	02	AMP
	028-0390	11	PIN,UMNL,18-14	41	AMP
	025-2181	1	PANEL,BLANK,CABIN LTS		CARL SW
	028-0519	1	SWITCH,BLANK,CONT III,BLK		
P03	028-0449	1	PLUG,UMNL,9 CKT	CABIN SWITCH	AMP
S05	028-0457	1	SWITCH,SPST,CONT III	HEAD LIGHT	CARL SW
S06	028-0456	REF	SWITCH,OFF(ON) CONT III	OVERBOARD DISCHARGE	CARL SW

FOUR WINNS WIRE LIST

COLOR	GA	FIRST	PIN	TERM	NOTE	SECOND	PIN	TERM	NOTE	FUNCTION
BLK	16	P03	1	41		S05	7	02		PANEL LT RET
BLU/RED	16	P03	2	41		S05	2	02		HEAD LT IN
BLU/GRA	16	P03	3	41		S05	3	02		HEAD LT
ORN/BRN	14	P03	4	41		S06	2	02		OVERBOARD DISCHARGE IN
BRN	14	P03	5	41		S06	3	02		OVERBOARD DISCHARGE

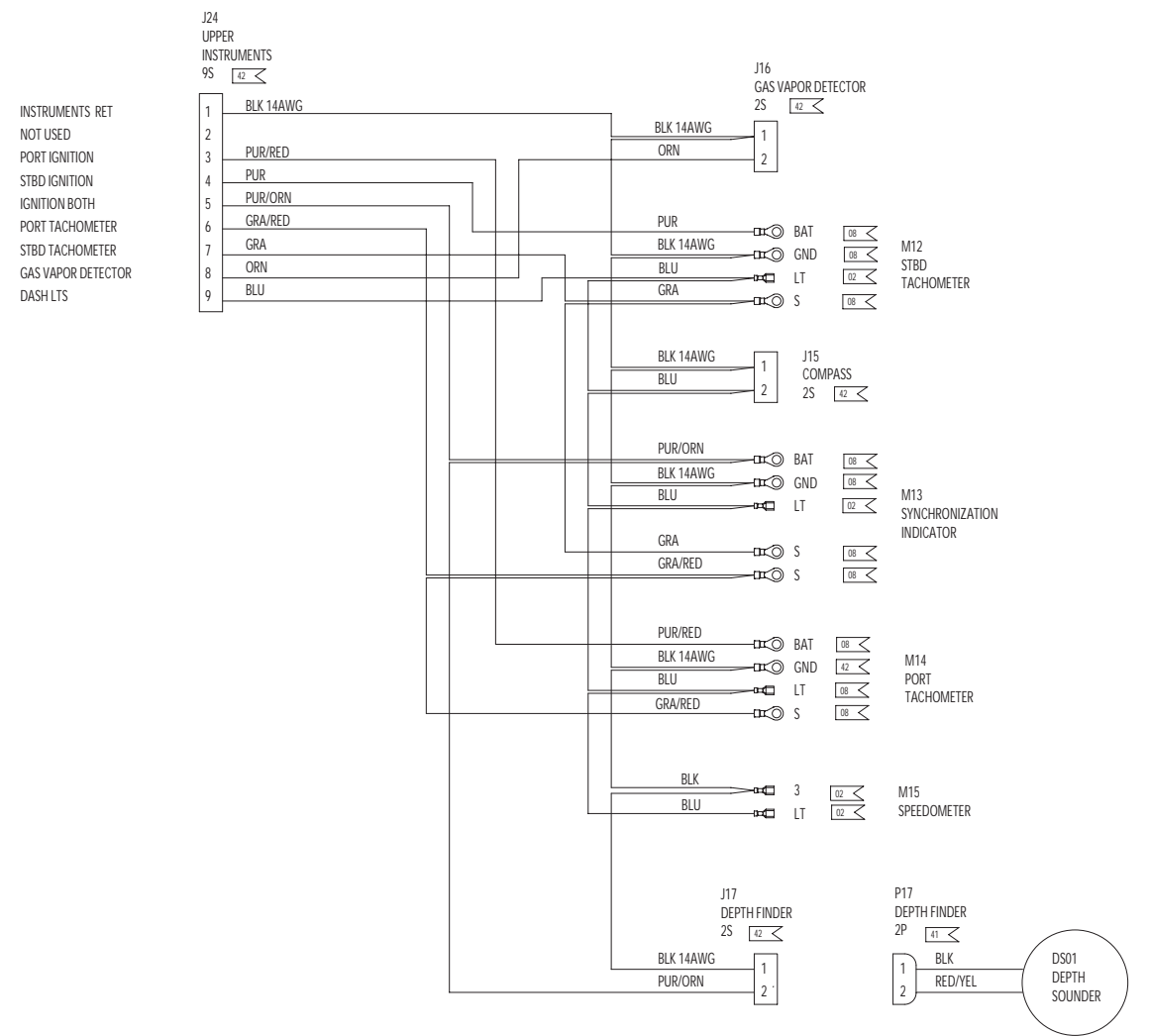
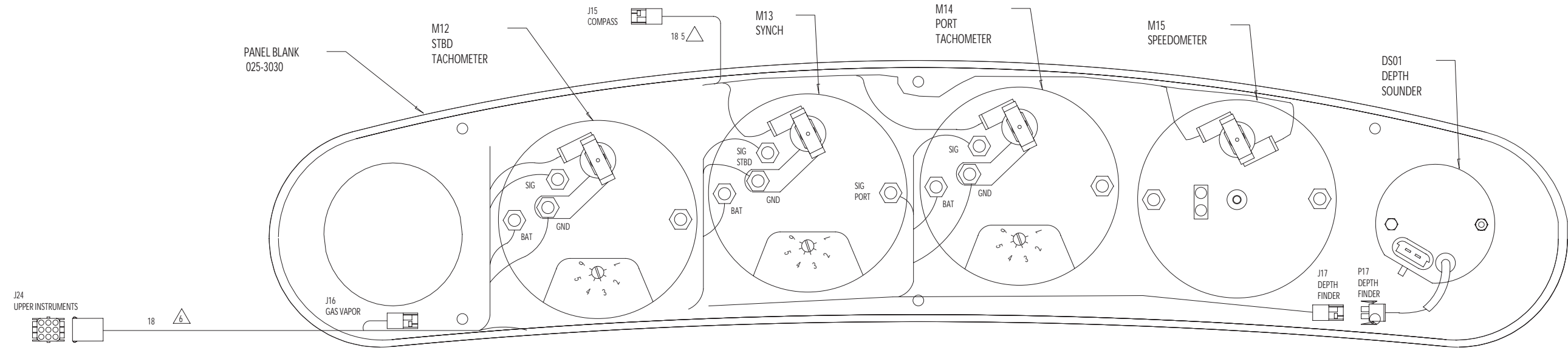


248/268 VISTA
HEAD SWITCH w/ OVERBOARD
DISCHARGE OPTION
PANEL ASSEMBLY
 Page 7



FOUR WINNS PARTS LIST

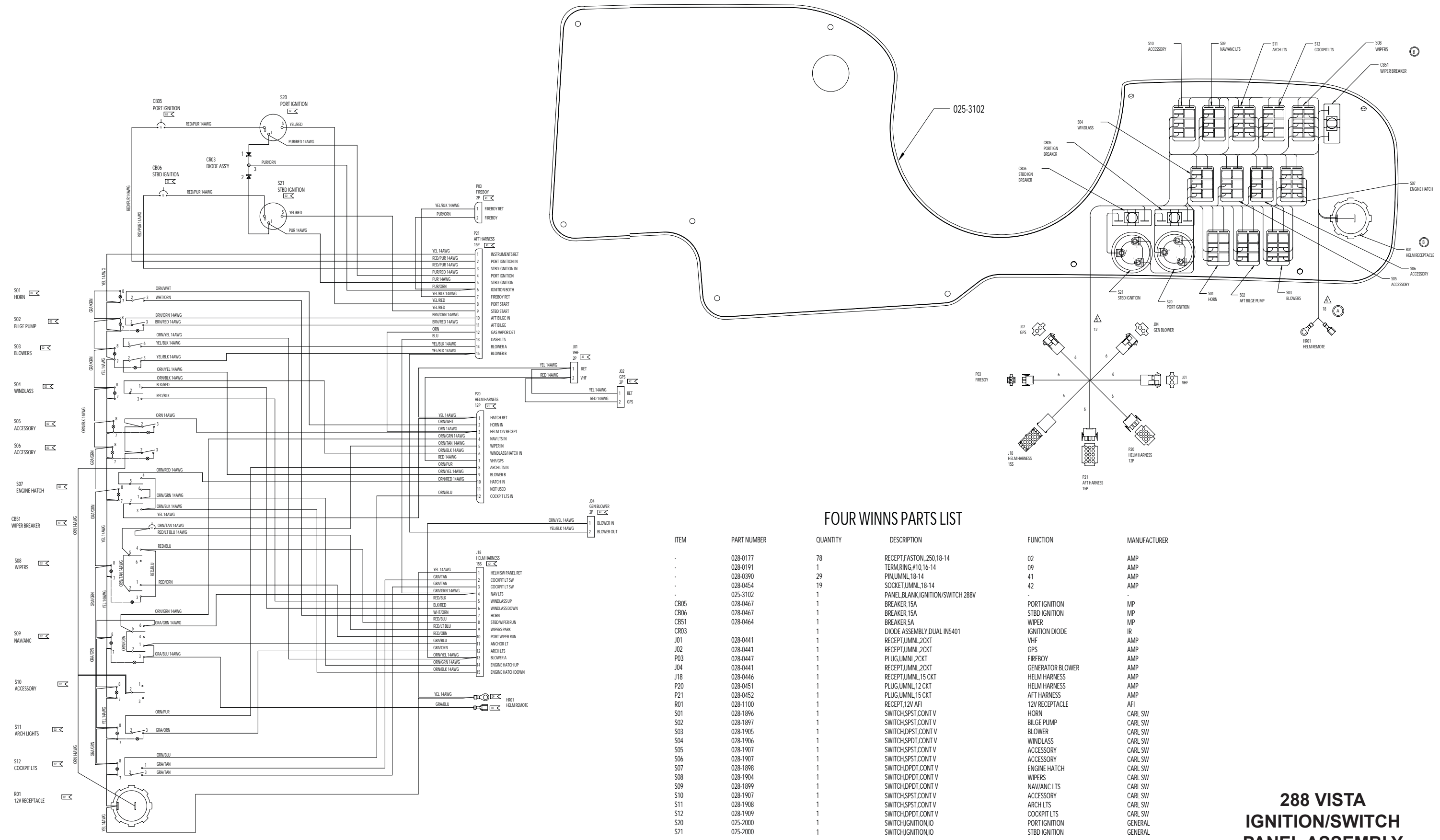
ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
-	028-0177	10	TERM,FASTON,.250,18-14	02	AMP
-	028-0189	28	TERMINAL,RING,PG,#8,16-14	08	AMP
-	028-0454	14	SOCKET,UMNL,18-14	42	AMP
-	028-1823	2	TERM,BULLETFEM,INS.,156,16-14	75	MOLEX
-	025-3031	1	PANEL,BLANK,LOWER INSTRS,288V	-	-
J23	028-0445	1	RECEPT,UMNL,15 CKT	LOWER INSTRUMENTS	AMP
M01	024-0529	1	GAUGE,TRIM,FARIA#GP7766	STBD TRIM	FARIA
M02	024-0529	1	GAUGE,TRIM,FARIA#GP7766	PORT TRIM	FARIA
M03	024-0530	1	GAUGE,OIL,FARIA#GP7767	STBD OIL PRESSURE	FARIA
M04	024-0530	1	GAUGE,OIL,FARIA#GP7767	PORT OIL PRESSURE	FARIA
M05	024-0528	1	GAUGE,TEMP,FARIA#GP7765	STBD WATER TEMP	FARIA
M06	024-0528	1	GAUGE,TEMP,FARIA#GP7765	PORT WATER TEMP	FARIA
M07	024-0532	1	GAUGE,FUEL,FARIA#GP7768	STBD FUEL QUANTITY	FARIA
M08	024-0532	1	GAUGE,FUEL,FARIA#GP7768	PORT FUEL QUANTITY	FARIA
M09	024-0531	1	GAUGE,VOLT,FARIA#VP7114	STBD VOLTAGE	FARIA
M10	024-0531	1	GAUGE,VOLT,FARIA#VP7114	PORT VOLTAGE	FARIA
EA01	-	REF	STBD ENGINE ALARM	ENGINE ALARM	-
EA02	-	REF	PORT ENGINE ALARM	ENGINE ALARM	-



FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
-	028-0177	5	TERM,FASTON,250,18-14	02	AMP
-	028-0189	10	TERMINAL,RING,PG,#8,16-14	08	AMP
-	028-0390	2	PIN,UMNL,18-14	41	AMP
-	028-0454	14	SOCKET,UMNL,18-14	42	AMP
-	025-3030	1	PANEL,BLANK,UPPER INSTRS,288V	-	-
J15	028-0441	1	RECEPT,UMNL,2 CKT	COMPASS	AMP
J16	028-0441	1	RECEPT,UMNL,2 CKT	GAS VAPOR	AMP
J17	028-0441	1	RECEPT,UMNL,2 CKT	DEPTH SOUNDER	AMP
P17	028-0447	1	PLUG,UMNL,2 CKT	DEPTH SOUNDER	AMP
J24	028-0443	1	RECEPT,UMNL,9 CKT	UPPER INSTRUMENTS	AMP
M12	024-0526	1	GAUGE,TACH,6000 W/HOUR,FARIA#TCH239	STBD TACHOMETER	FARIA
M13	024-0533	1	GAUGE,SYNC,FARIA#SY9762	SYNCHRONIZATION	FARIA
M14	024-0526	1	GAUGE,TACH,6000 W/HOUR,FARIA#TCH239	PORT TACHOMETER	FARIA
M15	024-0522	1	GAUGE,SPEED,50MPH,FARIA#SE9973	SPEEDOMETER	FARIA
DS01	028-1748	1	DEPTH, FARIA#DS0109	DEPTH SOUNDER	FARIA

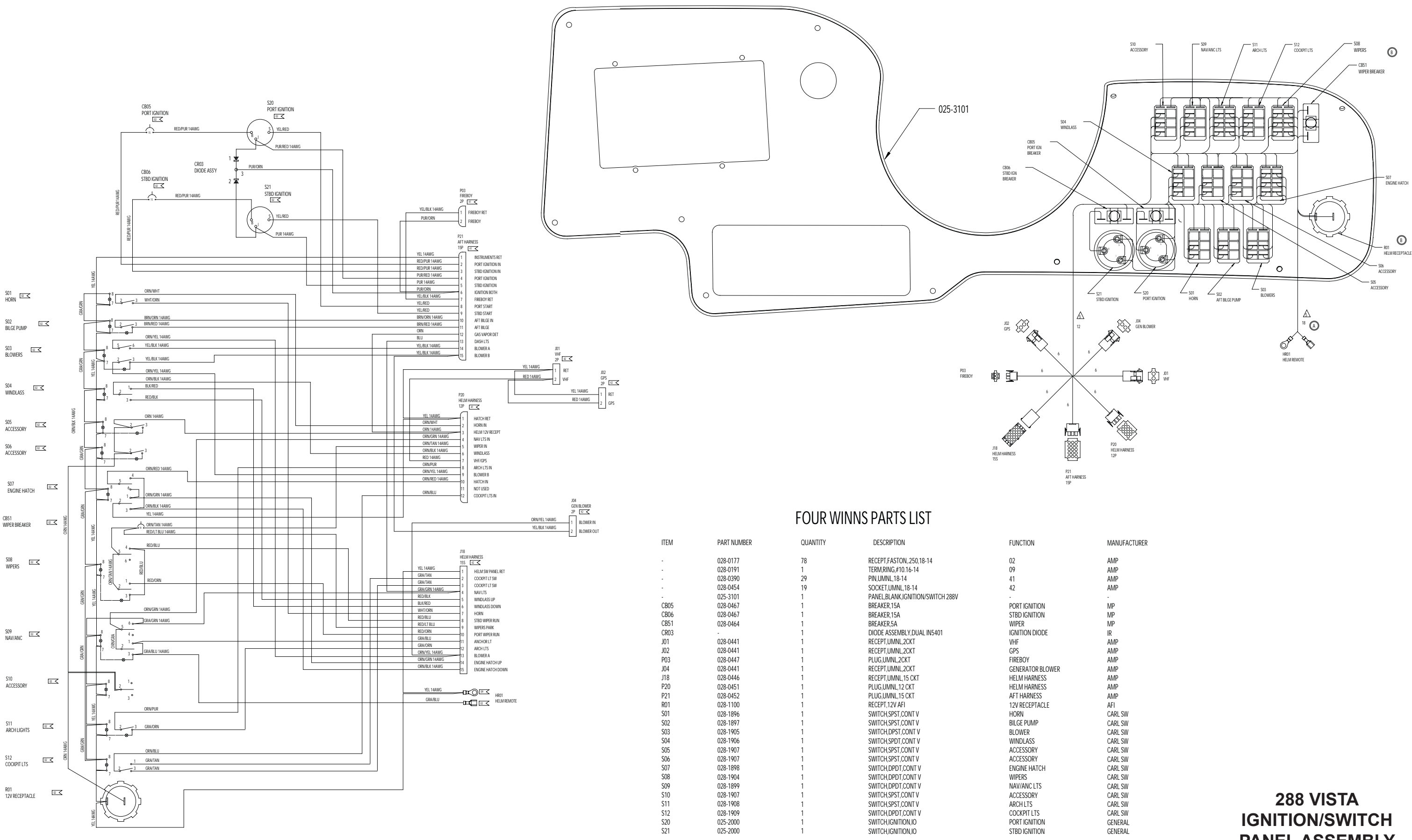
288 VISTA UPPER INSTRUMENTS PANEL ASSEMBLY



FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
-	028-0177	78	RECEPT.FASTON. 250.18-14	02	AMP
-	028-0191	1	TERM.RING.#10,16-14	09	AMP
-	028-0390	29	PIN,UMNL.18-14	41	AMP
-	028-0454	19	SOCKET,UMNL.18-14	42	AMP
-	025-3102	1	PANEL,BLANK,IGNITION/SWITCH 288V	-	-
CB05	028-0467	1	BREAKER,15A	PORT IGNITION	MP
CB06	028-0467	1	BREAKER,15A	STBD IGNITION	MP
CB51	028-0464	1	BREAKER,5A	WIPER	MP
CR03	-	1	DIODE ASSEMBLY,DUAL IN5401	IGNITION DIODE	IR
J01	028-0441	1	RECEPT,UMNL,2CKT	VHF	AMP
J02	028-0441	1	RECEPT,UMNL,2CKT	GPS	AMP
P03	028-0447	1	PLUG,UMNL,2CKT	FIREBOY	AMP
J04	028-0441	1	RECEPT,UMNL,2CKT	GENERATOR BLOWER	AMP
J18	028-0446	1	RECEPT,UMNL,15 CKT	HELM HARNESS	AMP
P20	028-0451	1	PLUG,UMNL,12 CKT	HELM HARNESS	AMP
P21	028-0452	1	PLUG,UMNL,15 CKT	AFT HARNESS	AMP
R01	028-1100	1	RECEPT,12V AFI	12V RECEPTACLE	AFI
S01	028-1896	1	SWITCH,SPST,CONT V	HORN	CARL SW
S02	028-1897	1	SWITCH,SPST,CONT V	BILGE PUMP	CARL SW
S03	028-1905	1	SWITCH,DPST,CONT V	BLOWER	CARL SW
S04	028-1906	1	SWITCH,SPST,CONT V	WINDLASS	CARL SW
S05	028-1907	1	SWITCH,SPST,CONT V	ACCESSORY	CARL SW
S06	028-1907	1	SWITCH,SPST,CONT V	ACCESSORY	CARL SW
S07	028-1898	1	SWITCH,DPDT,CONT V	ENGINE HATCH	CARL SW
S08	028-1904	1	SWITCH,DPDT,CONT V	WIPERS	CARL SW
S09	028-1899	1	SWITCH,DPDT,CONT V	NAV/ANC LTS	CARL SW
S10	028-1907	1	SWITCH,SPST,CONT V	ACCESSORY	CARL SW
S11	028-1908	1	SWITCH,SPST,CONT V	ARCH LTS	CARL SW
S12	028-1909	1	SWITCH,DPDT,CONT V	COCKPIT LTS	CARL SW
S20	025-2000	1	SWITCH,IGNITION,NO	PORT IGNITION	GENERAL
S21	025-2000	1	SWITCH,IGNITION,NO	STBD IGNITION	GENERAL

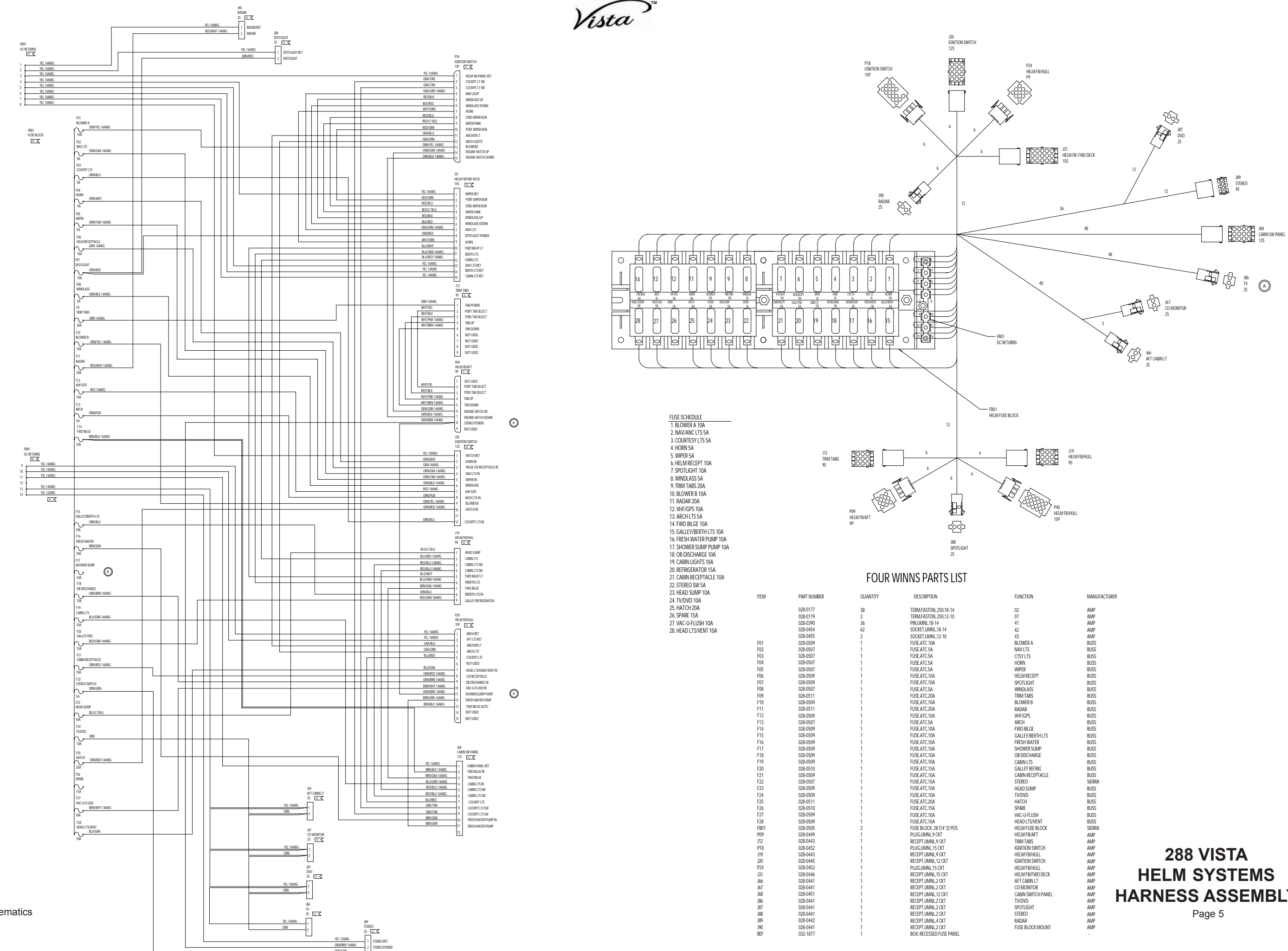
**288 VISTA
IGNITION/SWITCH
PANEL ASSEMBLY
W/OUT NAV PACKAGE**



FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
-	028-0177	78	RECEPT,FASTON,250,18-14	02	AMP
-	028-0191	1	TERM,RING,#10,16-14	09	AMP
-	028-0390	29	PIN,UMNL,18-14	41	AMP
-	028-0454	19	SOCKET,UMNL,18-14	42	AMP
-	025-3101	1	PANEL,BLANK,IGNITION/SWITCH 288V	-	-
CB05	028-0467	1	BREAKER,15A	PORT IGNITION	MP
CB06	028-0467	1	BREAKER,15A	STBD IGNITION	MP
CBS1	028-0464	1	BREAKER,5A	WIPER	MP
CRO3	-	1	DIODE ASSEMBLY,DUAL IN5401	IGNITION DIODE	IR
J01	028-0441	1	RECEPT,UMNL,2CKT	VHF	AMP
J02	028-0441	1	RECEPT,UMNL,2CKT	GPS	AMP
P03	028-0447	1	PLUG,UMNL,2CKT	FIREBOY	AMP
J04	028-0441	1	RECEPT,UMNL,2CKT	GENERATOR BLOWER	AMP
J18	028-0446	1	RECEPT,UMNL,15 CKT	HELM HARNESS	AMP
P20	028-0451	1	PLUG,UMNL,12 CKT	HELM HARNESS	AMP
P21	028-0452	1	PLUG,UMNL,15 CKT	AFT HARNESS	AMP
R01	028-1100	1	RECEPT,12V AFI	12V RECEPTACLE	AFI
S01	028-1896	1	SWITCH,SPST,CONT V	HORN	CARL SW
S02	028-1897	1	SWITCH,SPST,CONT V	BILGE PUMP	CARL SW
S03	028-1905	1	SWITCH,DPST,CONT V	BLOWER	CARL SW
S04	028-1906	1	SWITCH,SPDT,CONT V	WINDLASS	CARL SW
S05	028-1907	1	SWITCH,SPST,CONT V	ACCESSORY	CARL SW
S06	028-1907	1	SWITCH,SPST,CONT V	ACCESSORY	CARL SW
S07	028-1898	1	SWITCH,DPDT,CONT V	ENGINE HATCH	CARL SW
S08	028-1904	1	SWITCH,DPDT,CONT V	WIPERS	CARL SW
S09	028-1899	1	SWITCH,DPDT,CONT V	NAV/ANC LTS	CARL SW
S10	028-1907	1	SWITCH,SPST,CONT V	ACCESSORY	CARL SW
S11	028-1908	1	SWITCH,SPST,CONT V	ARCH LTS	CARL SW
S12	028-1909	1	SWITCH,DPDT,CONT V	COCKPIT LTS	CARL SW
S20	025-2000	1	SWITCH,IGNITION,JO	PORT IGNITION	GENERAL
S21	025-2000	1	SWITCH,IGNITION,JO	STBD IGNITION	GENERAL

**288 VISTA
IGNITION/SWITCH
PANEL ASSEMBLY
W/ NAV PACKAGE**
Page 4

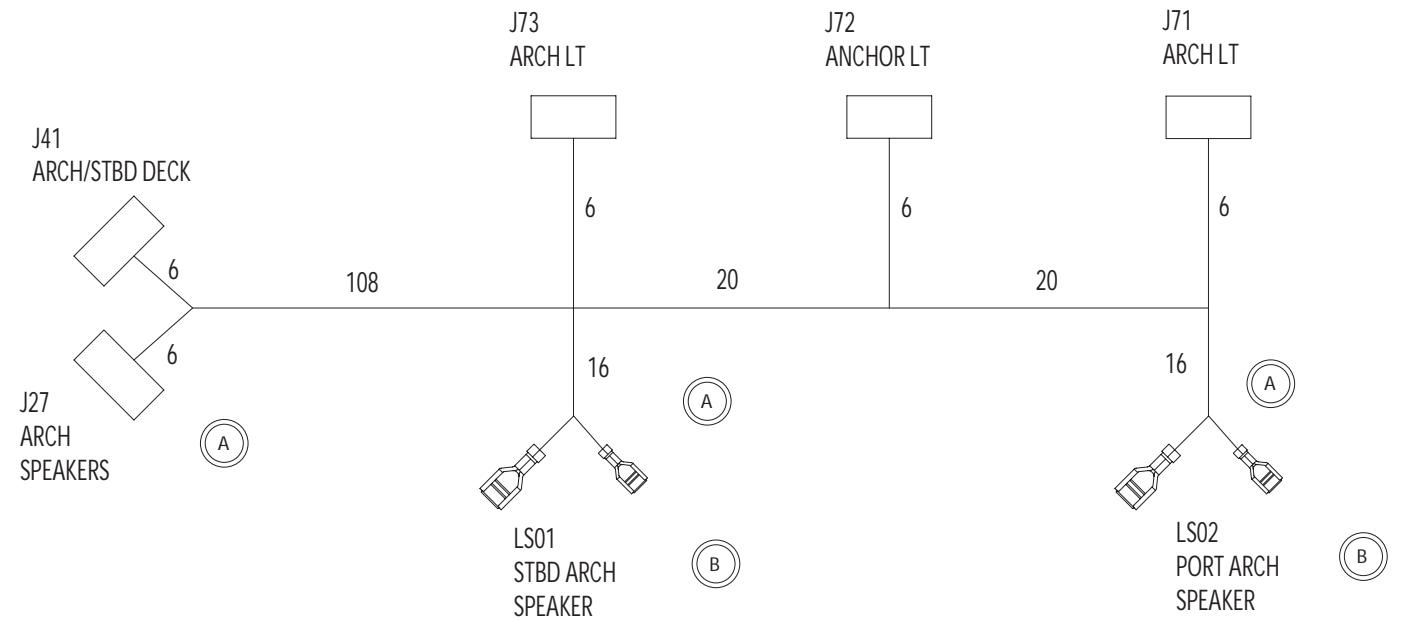
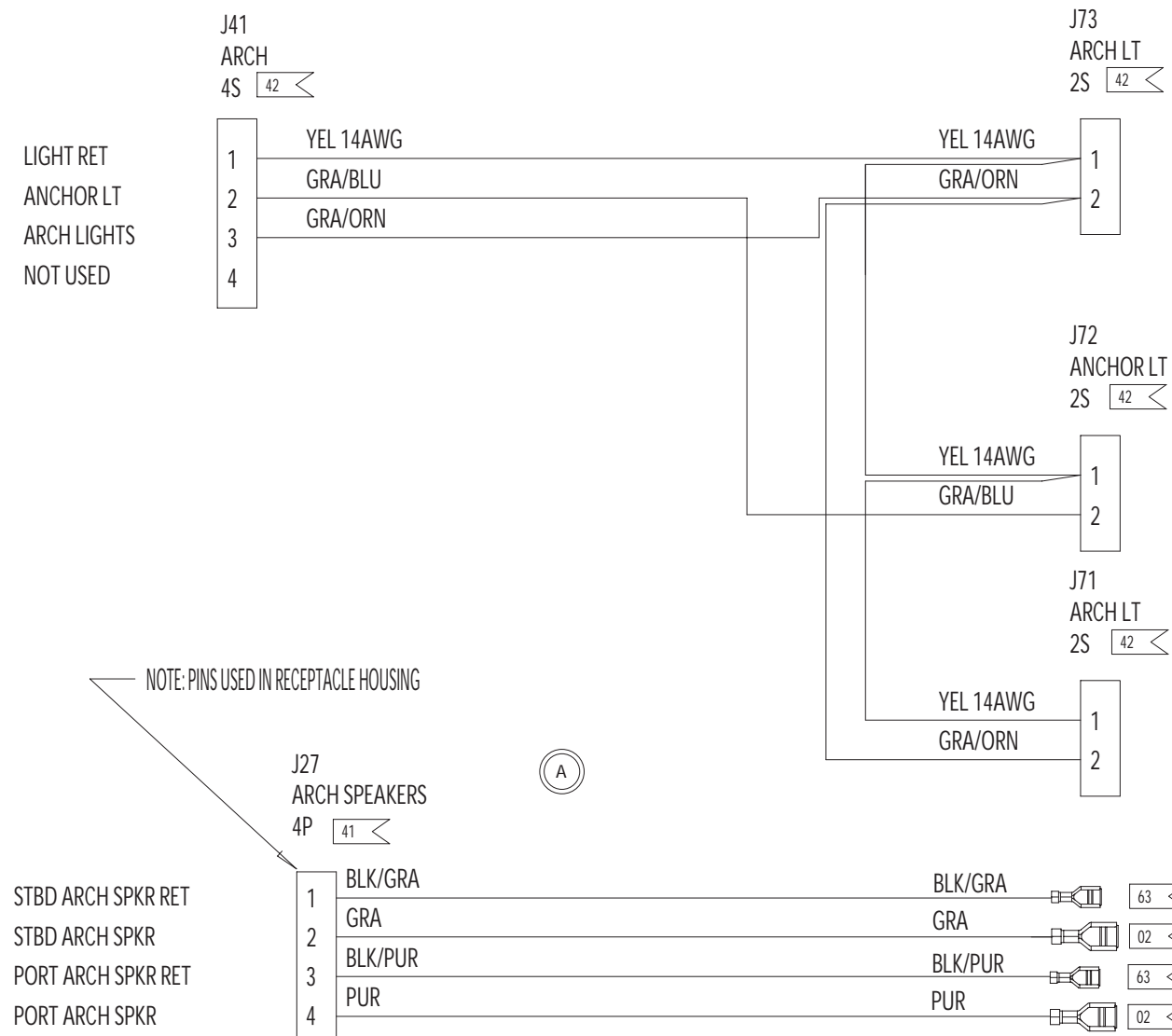


- FUSE SCHEDULE**
- 1. BLOWER A 10A
 - 2. NAV/ANC LTS 5A
 - 3. COURTESY LTS 5A
 - 4. HORN 5A
 - 5. WIPER 5A
 - 6. HELM RECEPT 10A
 - 7. SPOTLIGHT 10A
 - 8. WINDLASS 5A
 - 9. TRIM TABS 20A
 - 10. BLOWER B 10A
 - 11. RADAR 20A
 - 12. VHF/GPS 10A
 - 13. ARCH LTS 5A
 - 14. FWD BILGE 10A
 - 15. GALLEY/BERTH LTS 10A
 - 16. FRESH WATER PUMP 10A
 - 17. SHOWER SUMP PUMP 10A
 - 18. OB DISCHARGE 10A
 - 19. CABIN LIGHTS 10A
 - 20. REFRIGERATOR 15A
 - 21. CABIN RECEPTACLE 10A
 - 22. STEREO SW 5A
 - 23. HEAD SUMP 10A
 - 24. TV/DVD 10A
 - 25. HATCH 20A
 - 26. SPARE 15A
 - 27. VAC-U-FLUSH 10A
 - 28. HEAD LTS/VENT 10A

FOUR WINNS PARTS LIST

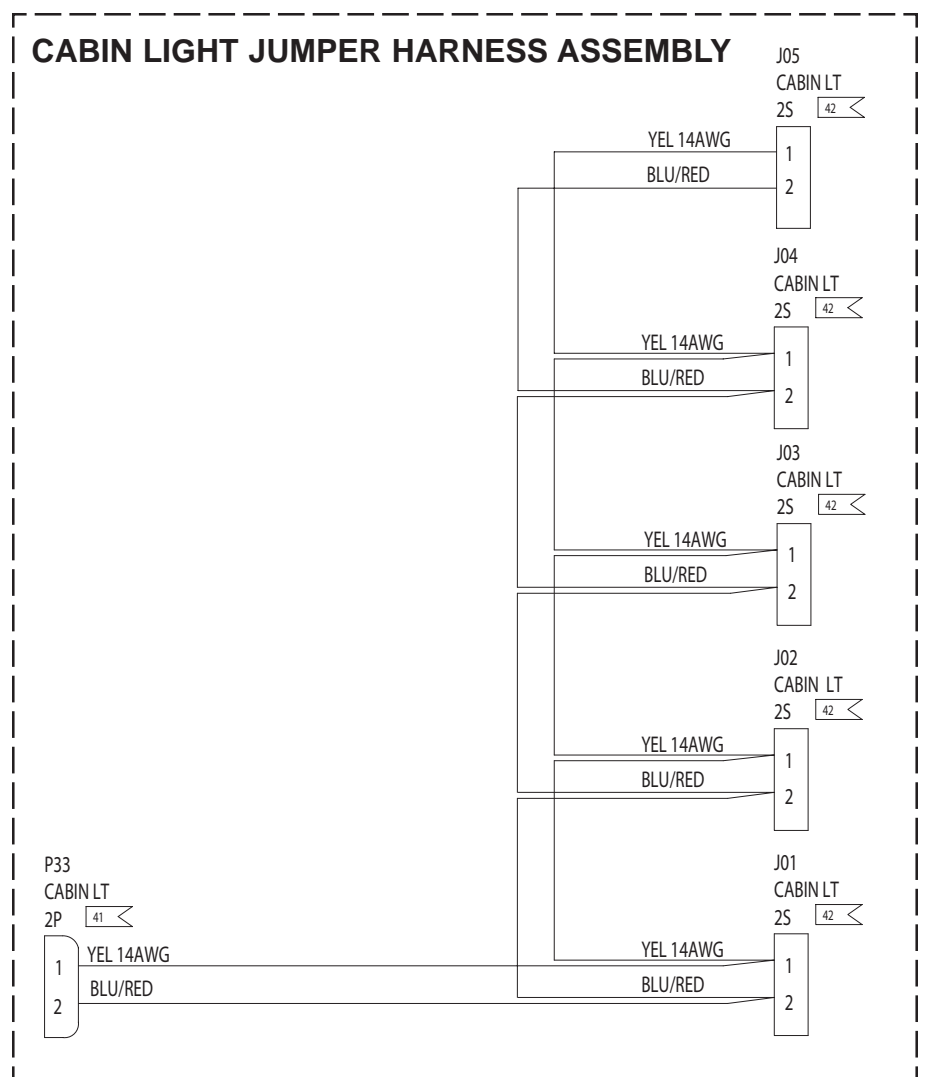
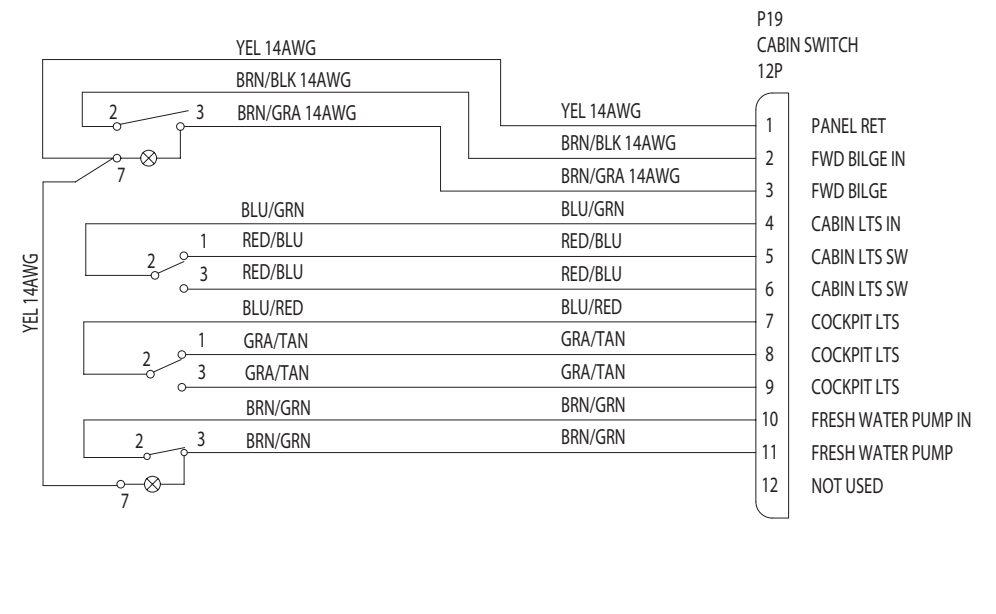
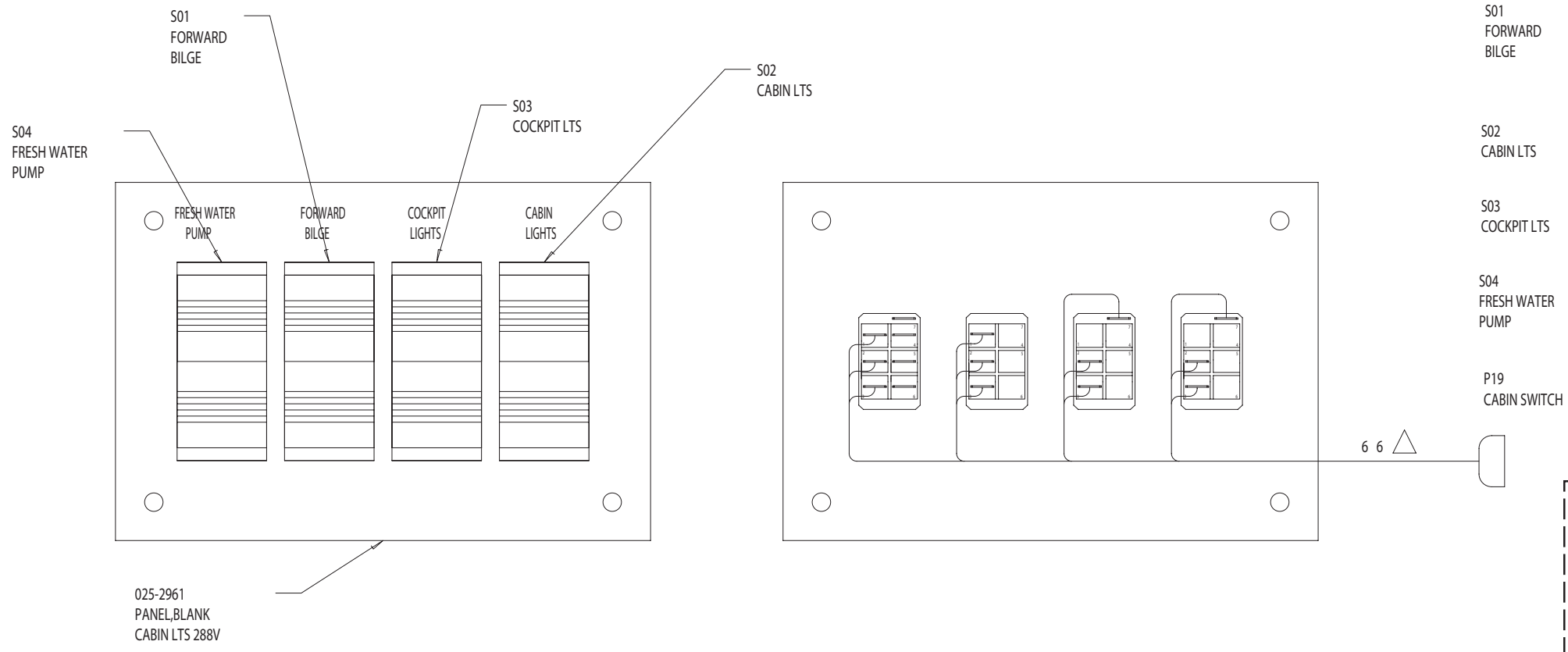
ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
	028-0177	38	TERMFASTON, 250,18-14	02	AMP
	028-0179	2	TERMFASTON, 250,12-10	07	AMP
	028-0390	36	PIN UMNL, 18-14	41	AMP
	028-0454	62	SOCKET UMNL, 18-14	42	AMP
	028-0455	2	SOCKET UMNL, 12-10	43	AMP
F01	028-0509	1	FUSE,ATC,10A	BLOWER A	BUSS
F02	028-0507	1	FUSE,ATC,5A	NAV LTS	BUSS
F03	028-0507	1	FUSE,ATC,5A	CTS/LTS	BUSS
F04	028-0507	1	FUSE,ATC,5A	HORN	BUSS
F05	028-0507	1	FUSE,ATC,5A	WIPER	BUSS
F06	028-0509	1	FUSE,ATC,10A	HELM RECEPT	BUSS
F07	028-0509	1	FUSE,ATC,10A	SPOTLIGHT	BUSS
F08	028-0507	1	FUSE,ATC,5A	WINDLASS	BUSS
F09	028-0511	1	FUSE,ATC,20A	TRIM TABS	BUSS
F10	028-0509	1	FUSE,ATC,10A	BLOWER B	BUSS
F11	028-0511	1	FUSE,ATC,20A	RADAR	BUSS
F12	028-0509	1	FUSE,ATC,10A	VHF/GPS	BUSS
F13	028-0507	1	FUSE,ATC,5A	ARCH	BUSS
F14	028-0509	1	FUSE,ATC,10A	FWD BILGE	BUSS
F15	028-0509	1	FUSE,ATC,10A	GALLEY/BERTH LTS	BUSS
F16	028-0509	1	FUSE,ATC,10A	FRESH WATER	BUSS
F17	028-0509	1	FUSE,ATC,10A	SHOWER SUMP	BUSS
F18	028-0509	1	FUSE,ATC,10A	OB DISCHARGE	BUSS
F19	028-0509	1	FUSE,ATC,10A	CABIN LTS	BUSS
F20	028-0510	1	FUSE,ATC,15A	GALLEY REFRIG	BUSS
F21	028-0509	1	FUSE,ATC,10A	CABIN RECEPTACLE	BUSS
F22	028-0507	1	FUSE,ATC,5A	STEREO	SIERRA
F23	028-0509	1	FUSE,ATC,10A	HEAD SUMP	BUSS
F24	028-0509	1	FUSE,ATC,10A	TV/DVD	BUSS
F25	028-0511	1	FUSE,ATC,20A	HATCH	BUSS
F26	028-0510	1	FUSE,ATC,15A	SPARE	BUSS
F27	028-0509	1	FUSE,ATC,10A	VAC-U-FLUSH	BUSS
F28	028-0509	1	FUSE,ATC,10A	HEAD LTS/VENT	BUSS
FB01	028-0505	2	FUSE BLOCK, 28 (14*2) POS	HELM FUSE BLOCK	SIERRA
P09	028-0449	1	PLUG,UMNL,9,CKT	HELM FB/AFT	AMP
J12	028-0443	1	RECEPT,UMNL,9,CKT	TRIM TABS	AMP
P18	028-0452	1	PLUG,UMNL,15,CKT	IGNITION SWITCH	AMP
J19	028-0443	1	RECEPT,UMNL,9,CKT	HELM FB/HULL	AMP
J20	028-0445	1	RECEPT,UMNL,12,CKT	IGNITION SWITCH	AMP
P24	028-0452	1	PLUG,UMNL,15,CKT	HELM FB/HULL	AMP
J31	028-0446	1	RECEPT,UMNL,15,CKT	HELM FB/FWD DECK	AMP
J66	028-0441	1	RECEPT,UMNL,2,CKT	AFT CABIN LT	AMP
J67	028-0441	1	RECEPT,UMNL,2,CKT	CO MONITOR	AMP
J88	028-0451	1	RECEPT,UMNL,12,CKT	CABIN SWITCH PANEL	AMP
J86	028-0441	1	RECEPT,UMNL,2,CKT	TV/DVD	AMP
J87	028-0441	1	RECEPT,UMNL,2,CKT	SPOTLIGHT	AMP
J88	028-0441	1	RECEPT,UMNL,2,CKT	STEREO	AMP
J89	028-0442	1	RECEPT,UMNL,4,CKT	RADAR	AMP
J90	028-0441	1	RECEPT,UMNL,2,CKT	FUSE BLOCK MOUNT	AMP
REF	032-1877	1	BOX, RECESSED FUSE PANEL		

**288 VISTA
HELM SYSTEMS
HARNESS ASSEMBLY**



FOUR WINNS PARTS LIST

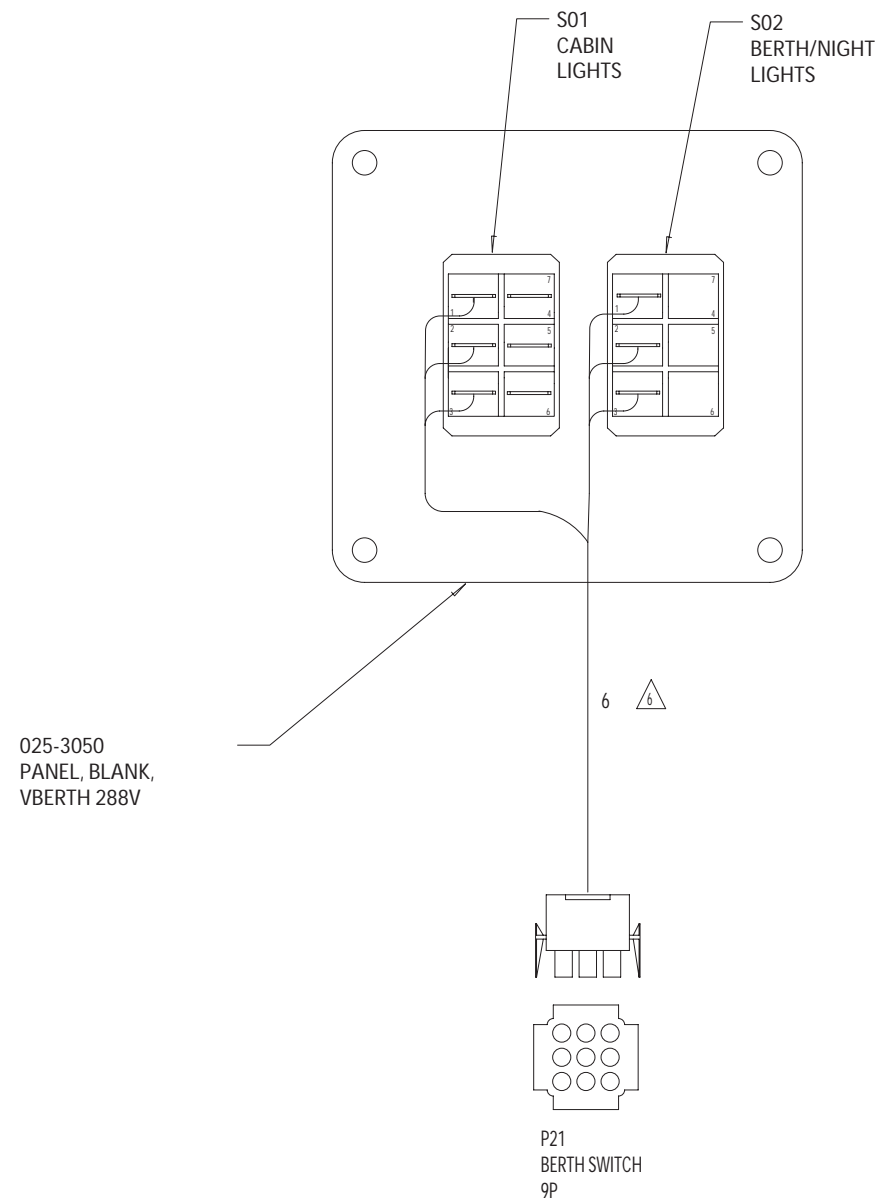
ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
-	028-0177	2	RECEPT,FASTON,,250,16-14	02	AMP
-	028-0390	4	PIN,UMNL,18-14	41	AMP
-	028-0454	9	SOCKET,UMNL,18-14	42	AMP
-	028-1288	2	RECEPT,FASTON,,205,20-16	63	AMP
J27	028-0442	1	RECEPT,UMNL,4 CKT	ARCH SPEAKERS	AMP
J41	028-0442	1	RECEPT,UMNL,4 CKT	ARCH/STBD DECK	AMP
J71	028-0441	1	RECEPT,UMNL,2 CKT	ARCH LT	AMP
J72	028-0441	1	RECEPT,UMNL,2 CKT	ANCHOR LT	AMP
J73	028-0441	1	RECEPT,UMNL,2 CKT	ARCH LT	AMP
LS01	REF	1	STBD ARCH SPEAKER	-	-
LS02	REF	1	PORT ARCH SPEAKER	-	-



FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
	028-0177	12	RECEPT,FASTON,,250,18-14	02	AMP
	028-0390	11	PIN,UMNL,18-14	41	AMP
	025-2961	1	PANEL,BLANK,CABIN LTS		
P19	028-0451	1	PLUG,UMNL,12 CKT	CABIN SWITCH	AMP
S01	028-0457	1	SWITCH,SPST,CONT III	FORWARD BILGE	CARL SW
S02	028-1135	1	SWITCH,ON-ON CONT III	COCKPIT LTS	CARL SW
S03	028-1135	1	SWITCH,ON-ON,CONT III	CABIN LTS	CARL SW
S04	028-0457	1	SWITCH,SPST,CONT III	FRESH WATER PUMP	CARL SW

288 VISTA CABIN LIGHTS PANEL ASSEMBLY



S01
CABIN
LIGHTS



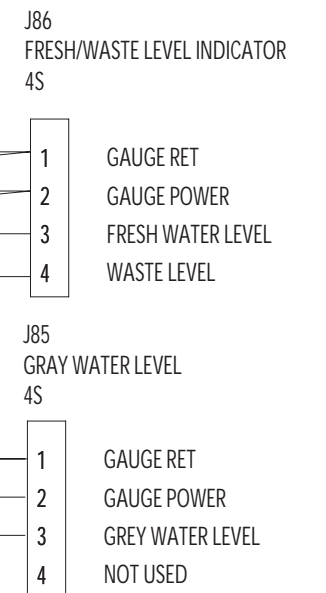
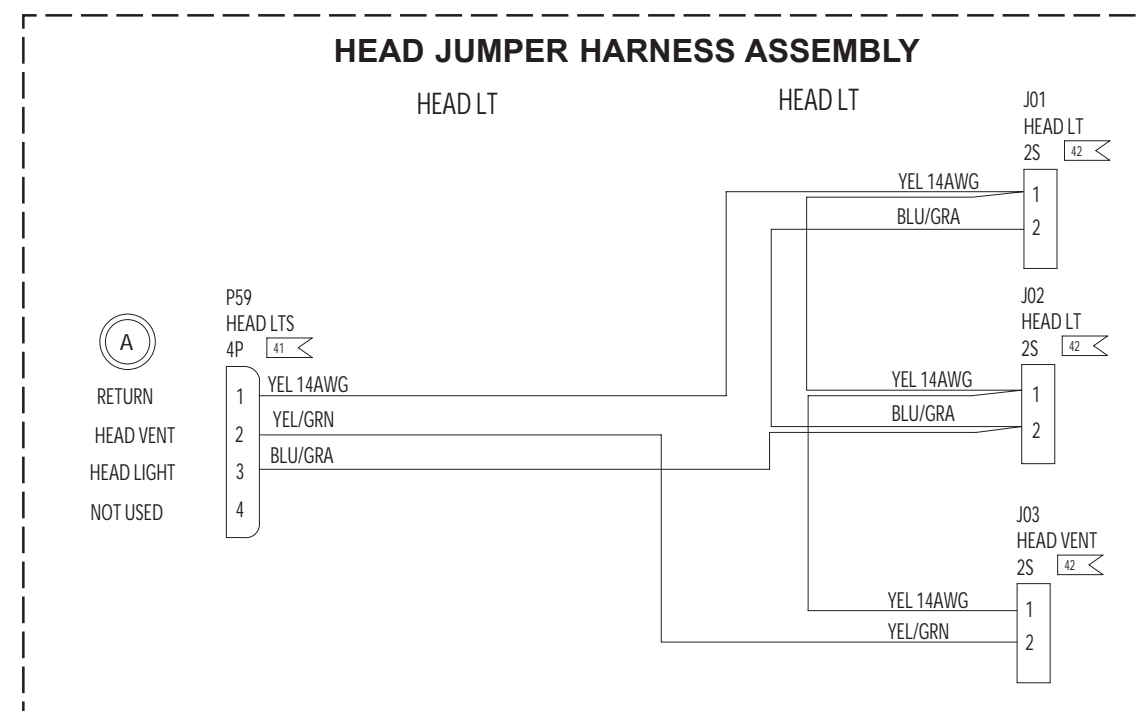
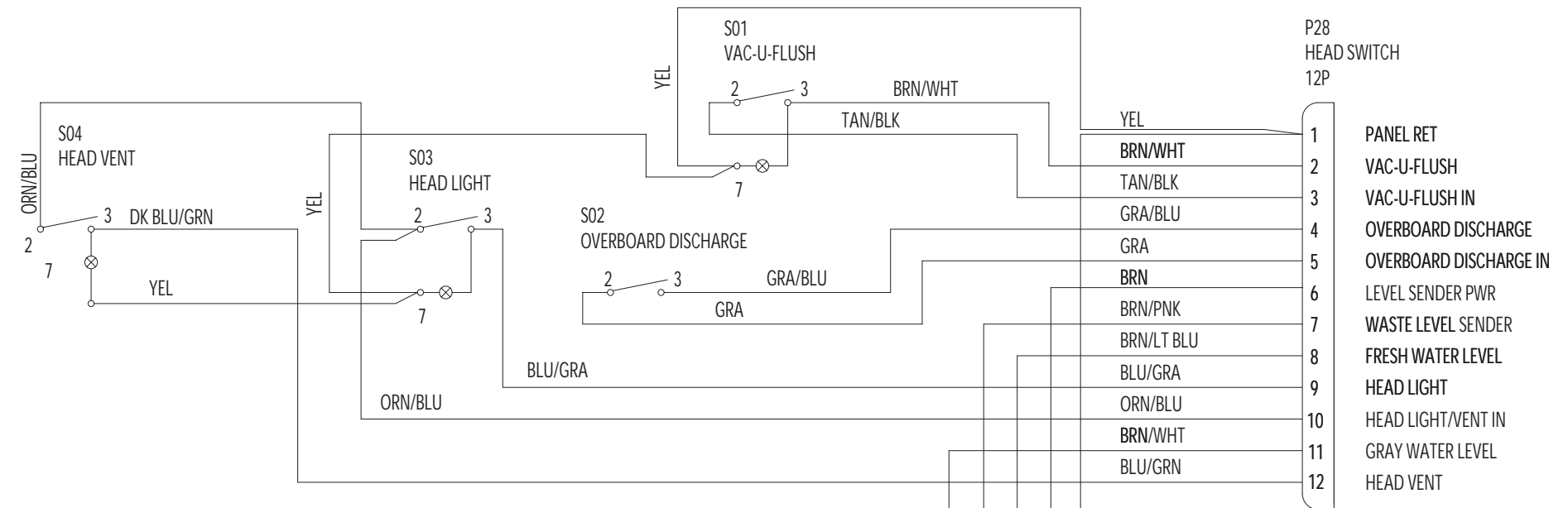
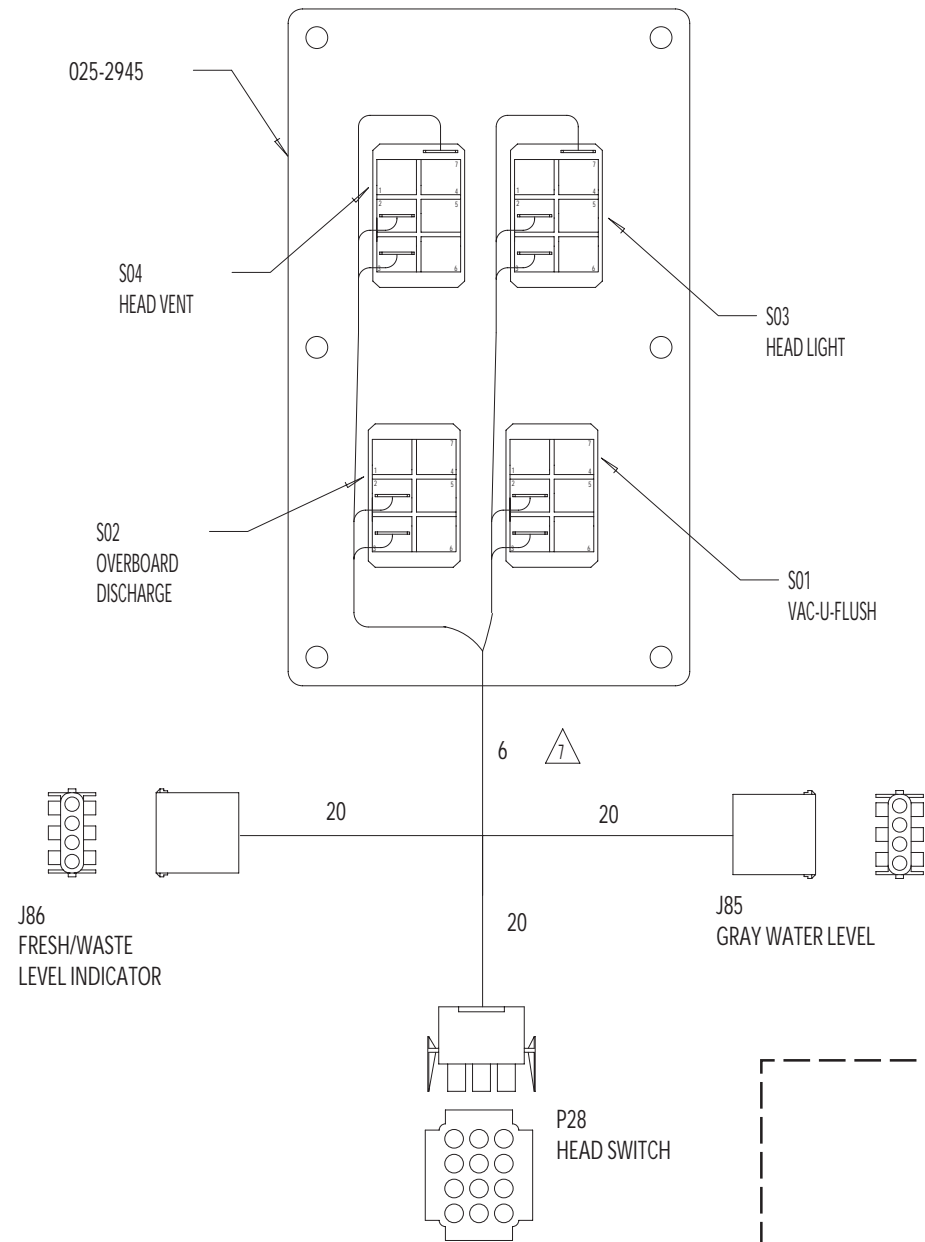
S02
BERTH/NIGHT
LIGHTS

FOUR WINNS PARTS LIST

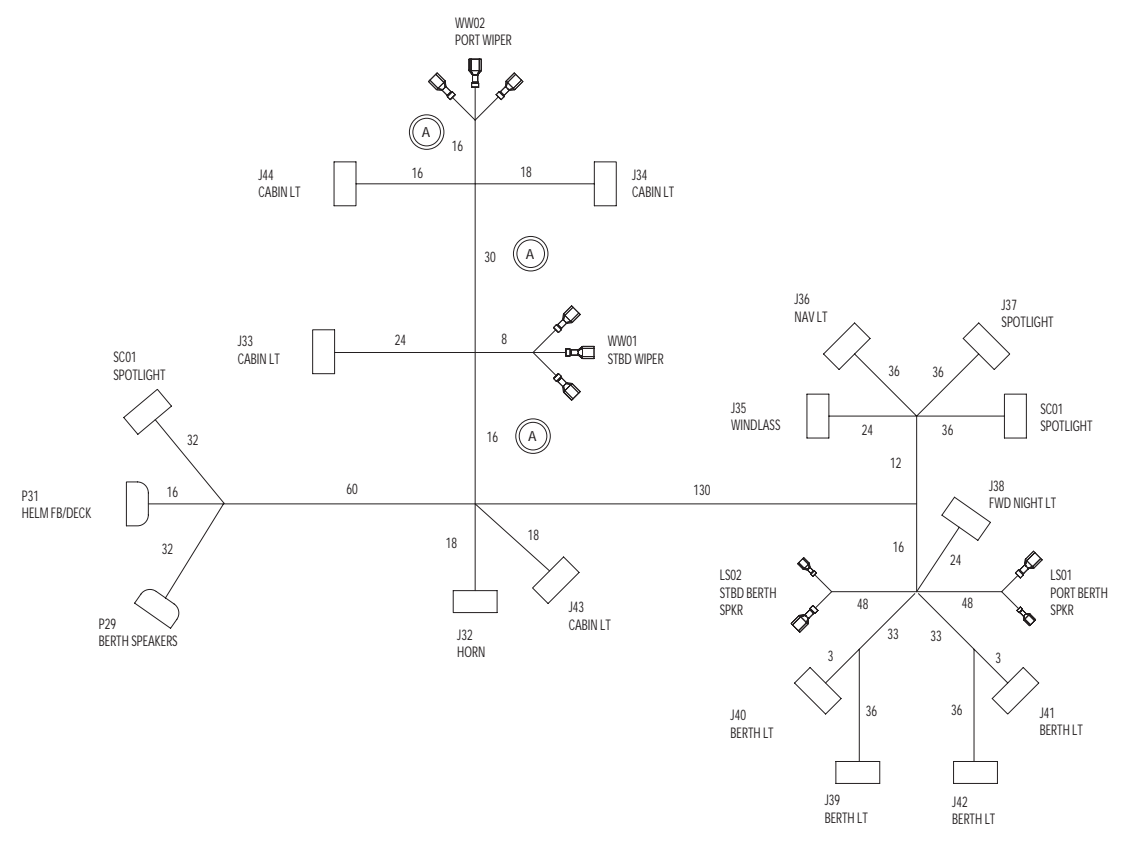
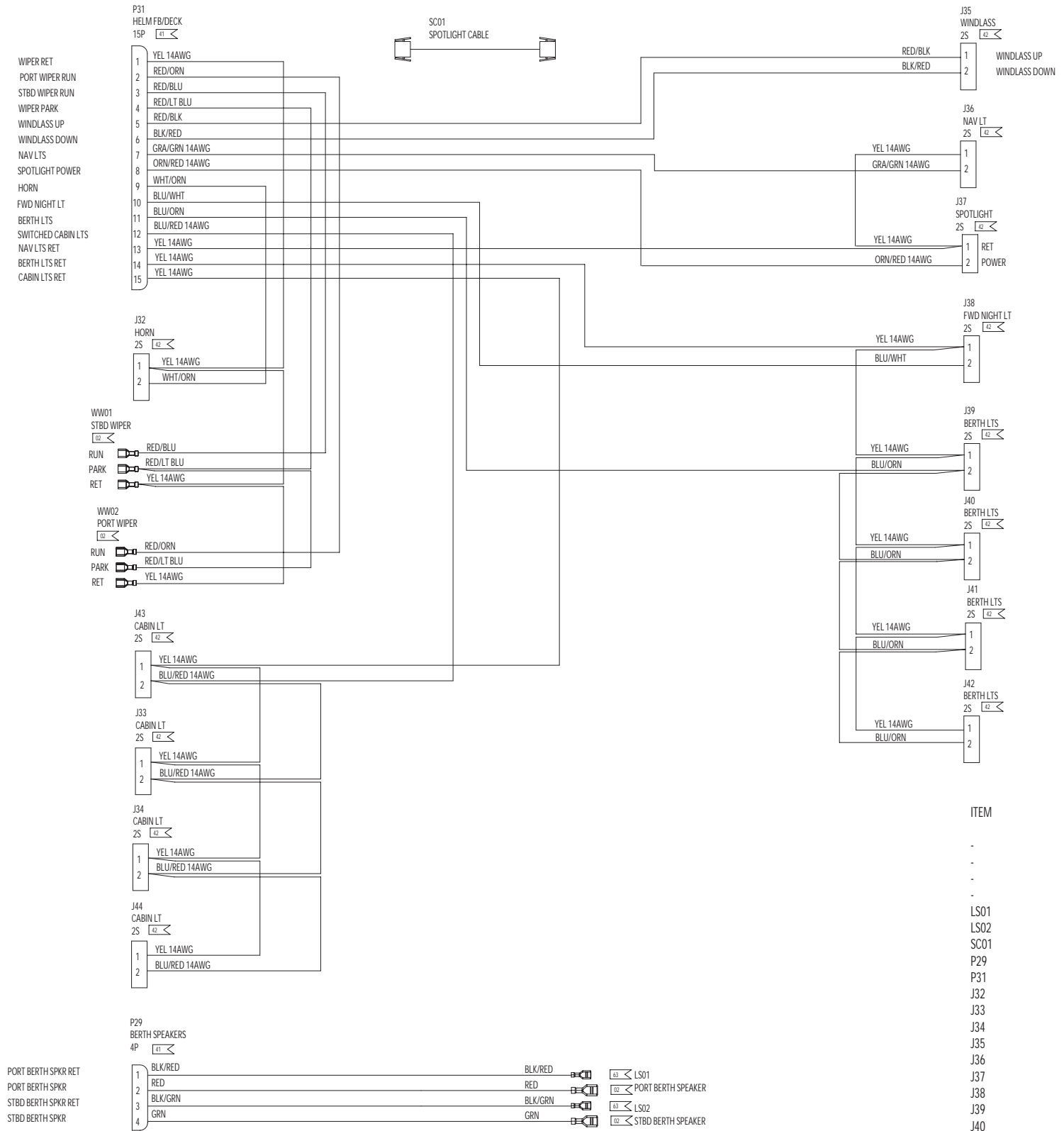
ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
	028-0390	6	PIN,UMNL,18-14	41	AMP
	028-0177	6	RECEPT,FASTON,,250,18-14	02	AMP
	025-3050	1	PANEL,BLANK, VBERTH 368V		
P21	028-0449	1	PLUG, UMNL,9 CKT	BERTH SWITCH	CARL
S01	028-1135	1	SWITCH, SPDT, ON-ON CONT III	CABIN LIGHTS	CARL
S02	028-0461	1	SWITCH, SPDT, ON-OFF-ON CONT III	BERTH/NIGHT LIGHTS	CARL

288 VISTA V-BERTH SWITCH PANEL ASSEMBLY

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
	028-0177	11	RECEPT,FASTON,.250,18-14	02	AMP
	028-0390	12	PIN,UMNL,18-14	41	AMP
	028-0454	7	SOCKET,UMNL,18-14	42	AMP
	025-2945	1	PANEL,BLANK,HEAD SWITCH	HEAD PANEL	
J85	028-0442	1	RECEPT,UMNL,4 CKT	GRAY WATER LEVEL	AMP
J86	028-0442	1	RECEPT,UMNL,4 CKT	FRESH/WASTE LEVEL	AMP
P28	028-0451	1	PLUG,UMNL,12 CKT	HEAD SWITCH	AMP
S01	028-0457	1	SWITCH,UNLIT ON OFF,CONT III	VAC-U-FLUSH	CARL SW
S02	028-0456	1	SWITCH,UNLIT (ON) OFF,CONT III	OVERBOARD DISCHARGE	CARL SW
S03	028-0457	1	SWITCH,SPST ON OFF,CONT III	HEAD LIGHT	CARL SW
S04	028-0457	1	SWITCH,SPST,ON OFF,CONT III	HEAD VENT	CARL SW



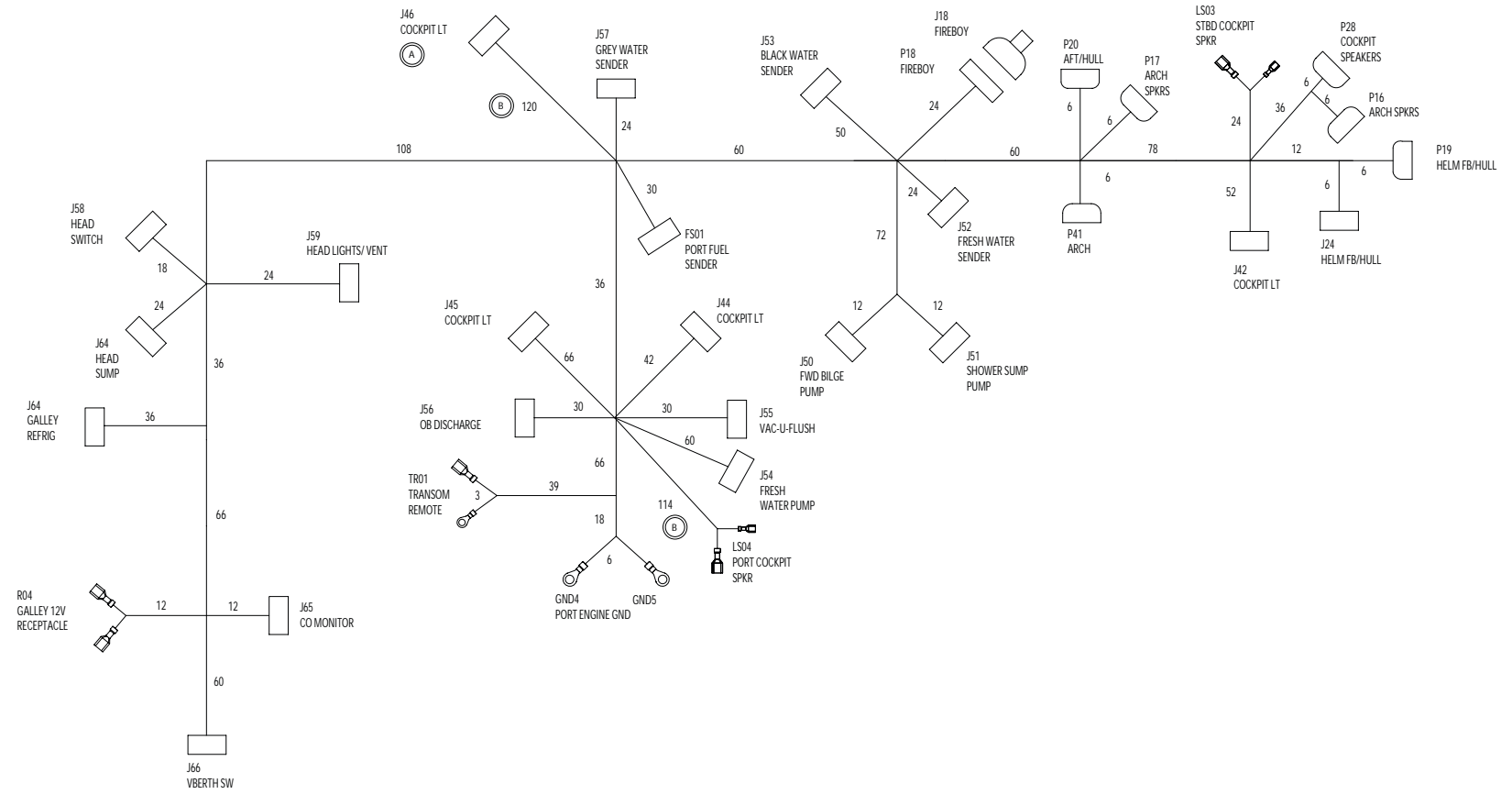
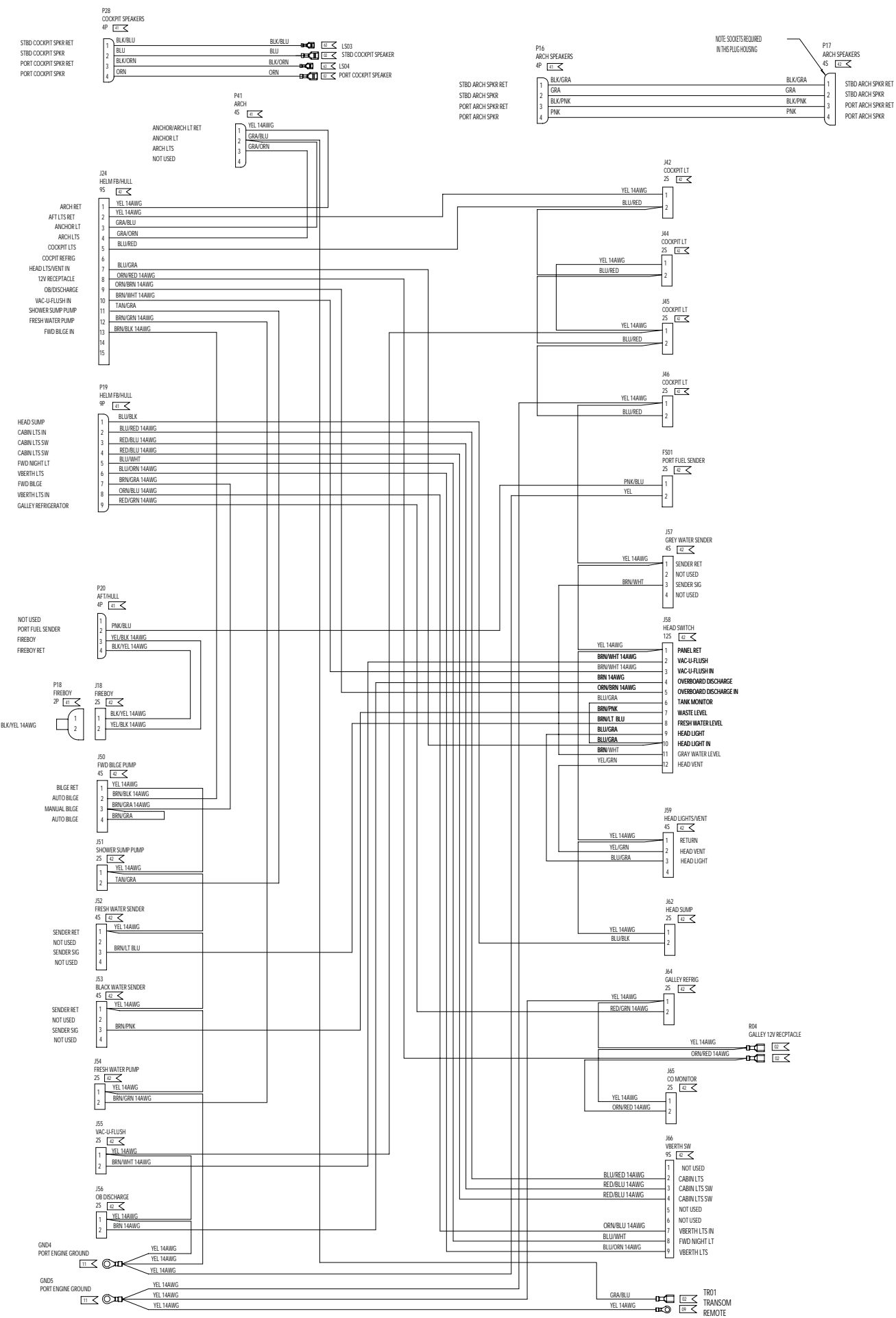
**288 VISTA
HEAD SWITCH
PANEL ASSEMBLY**



FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
-	028-0177	8	RECEPT,FASTON,.250,18-14	02	AMP
-	028-0390	19	PIN,UMNL,18-14	41	AMP
-	028-0454	22	SOCKET,UMNL,16-14	42	AMP
-	028-1288	2	RECEPT,FASTON,.205,18-14	63	AMP
LS01	-	REF	SPEAKER	FWD PORT SPKR	-
LS02	-	REF	SPEAKER	FWD STBD SPKR	-
SC01	027-1701	1	CABLE,SPOTLIGHT 24'	SPOTLIGHT CONTROL	GUEST
P29	028-0448	1	PLUG,UMNL,4 CKT	BERTH SPEAKERS	AMP
P31	028-0452	1	PLUG,UMNL,15 CKT	HELM FB/FWD DECK	AMP
J32	028-0441	1	RECEPT,UMNL,2 CKT	HORN	AMP
J33	028-0441	1	RECEPT,UMNL,2 CKT	CABIN LT	AMP
J34	028-0441	1	RECEPT,UMNL,2 CKT	CABIN LT	AMP
J35	028-0441	1	RECEPT,UMNL,2 CKT	WINDLASS	AMP
J36	028-0441	1	RECEPT,UMNL,2 CKT	NAV LTS	AMP
J37	028-0441	1	RECEPT,UMNL,2 CKT	SPOTLIGHT	AMP
J38	028-0441	1	RECEPT,UMNL,2 CKT	FWD NIGHT LT	AMP
J39	028-0441	1	RECEPT,UMNL,2 CKT	BERTH LT	AMP
J40	028-0441	1	RECEPT,UMNL,2 CKT	BERTH LT	AMP
J41	028-0441	1	RECEPT,UMNL,2 CKT	BERTH LT	AMP
J42	028-0441	1	RECEPT,UMNL,2 CKT	BERTH LT	AMP
J43	028-0441	1	RECEPT,UMNL,2 CKT	CABIN LT	AMP
J44	028-0441	1	RECEPT,UMNL,2 CKT	CABIN LT	AMP

288 VISTA FORWARD DECK SYSTEMS HARNES ASSEMBLY

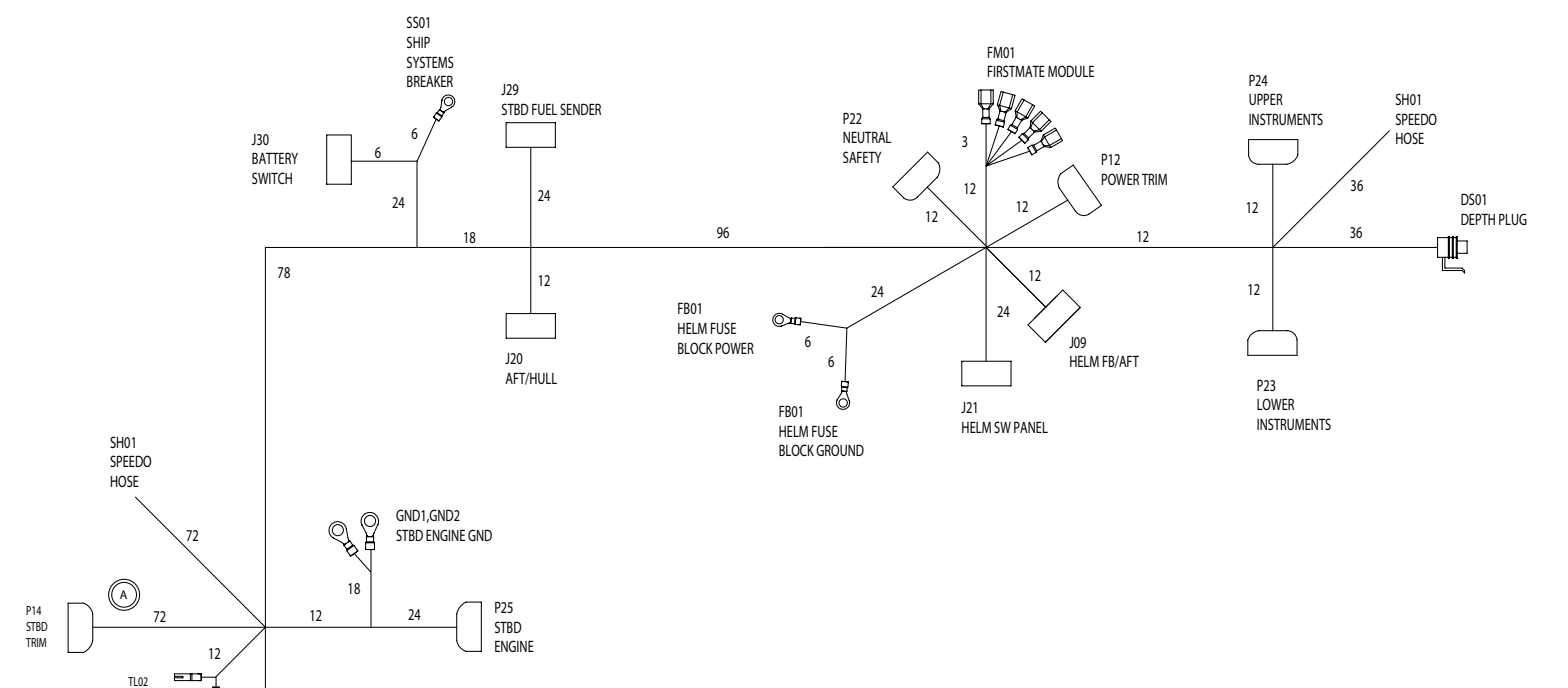
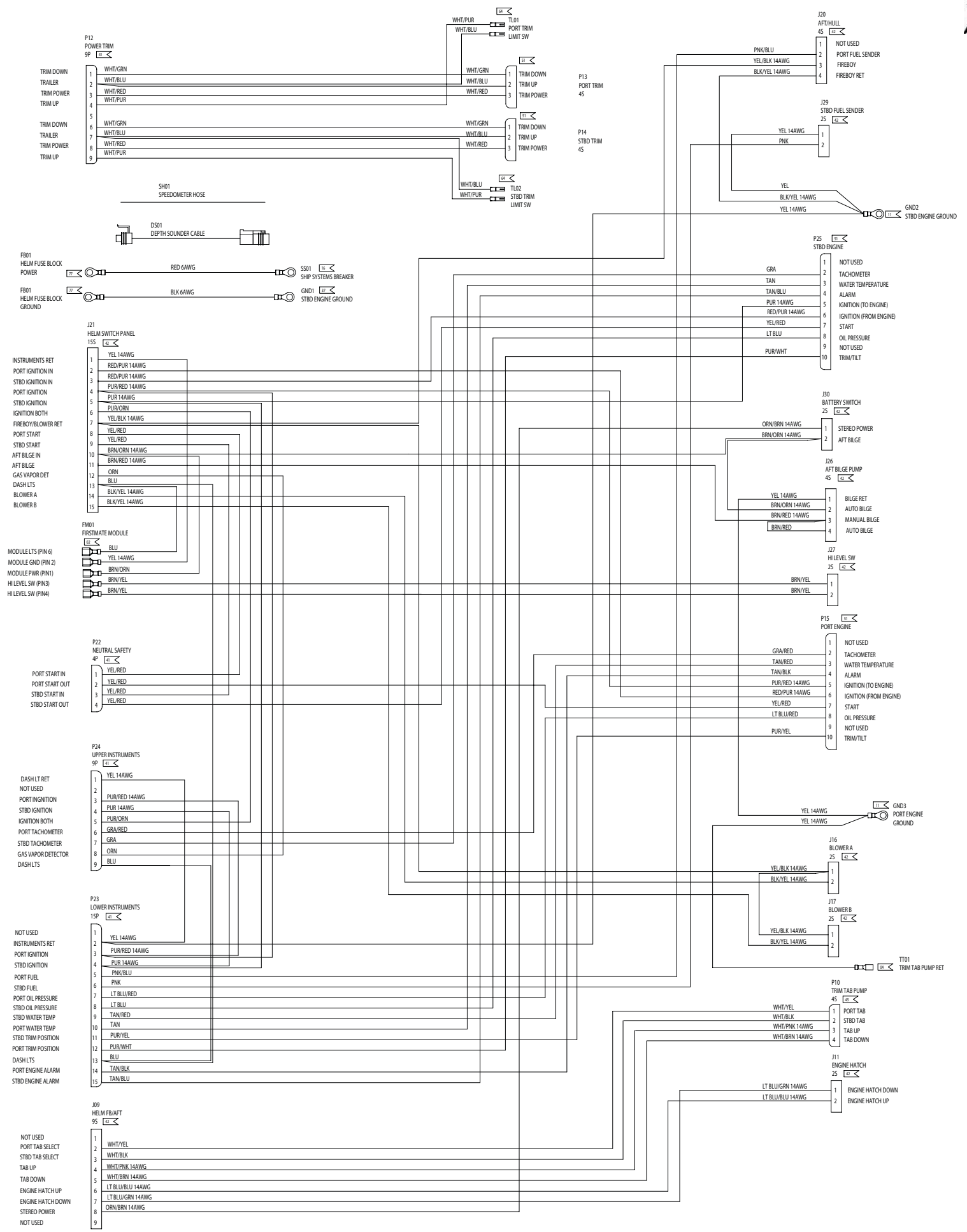


FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
-	028-0177	5	RECEPT,FASTON,250,16-14	02	AMP
-	028-0191	1	TERM.RING,#10,16-14	09	AMP
-	028-0193	2	TERM.RING,3/8,16-14	11	AMP
-	028-0390	7	PIN,UMNL,18-14	41	AMP
-	028-0454	72	SOCKET,UMNL,18-14	42	AMP
-	028-1288	2	RECEPT,FASTON,205,18-14	63	AMP
P18	028-0447	1	PLUG,UMNL,2 CKT	FIREBOY	AMP
P19	028-0449	1	PLUG,UMNL,9 CK	HELM FB/HULL	AMP
P20	028-0448	1	PLUG,UMNL,4 CKT	AFT/HULL	AMP
J18	028-0441	1	RECEPT,UMNL,2 CKT	FIREBOY	AMP
J24	028-0452	1	RECEPT,UMNL,15 CKT	HELM FB/HULL	AMP
P28	028-0442	1	PLUG,UMNL,4 CKT	COCKPIT SPEAKERS	AMP
J42	028-0441	1	RECEPT,UMNL,2 CKT	COCKPIT LT	AMP
J44	028-0441	1	RECEPT,UMNL,2 CKT	COCKPIT LT	AMP
J45	028-0441	1	RECEPT,UMNL,2 CKT	COCKPIT LT	AMP
J46	028-0441	1	RECEPT,UMNL,2 CKT	COCKPIT LT	AMP
J50	028-0442	1	RECEPT,UMNL,4 CKT	FWD BILGE PUMP	AMP
J51	028-0441	1	RECEPT,UMNL,2 CKT	SHOWER SUMP PUMP	AMP
J52	028-0442	1	RECEPT,UMNL,4 CKT	FRESH WATER SENDER	AMP
J53	028-0442	1	RECEPT,UMNL,4 CKT	BLACK WATER SENDER	AMP
J54	028-0441	1	RECEPT,UMNL,2 CKT	FRESH WATER PUMP	AMP
J55	028-0441	1	RECEPT,UMNL,2 CKT	VAC-U-FLUSH	AMP
J56	028-0441	1	RECEPT,UMNL,2 CKT	OB DISCHARGE	AMP
J57	028-0442	1	RECEPT,UMNL,4 CKT	GREY WATER SENDER	AMP
J58	028-0445	1	RECEPT,UMNL,12 CKT	HEAD SWITCH	AMP
J59	028-0442	1	RECEPT,UMNL,4 CKT	HEAD LIGHTS/VENT	AMP
J62	028-0441	1	RECEPT,UMNL,2 CKT	HEAD SUMP	AMP
J63	028-0441	1	RECEPT,UMNL,2 CKT	GALLEY LIGHT	AMP
J64	028-0441	1	RECEPT,UMNL,2 CKT	GALLEY REFRIGERATOR	AMP
J65	028-0441	1	RECEPT,UMNL,2 CKT	CO MONITOR	AMP
J66	028-0443	1	RECEPT,UMNL,9 CKT	VBERTH SWITCH	AMP
J67	028-0441	1	RECEPT,UMNL,2 CKT	FUEL SENDER	AMP
R04	REF	1	12V RECEPTACLE	-	-
GND4	REF	1	PORT ENGINE GROUND	-	-
GND5	REF	1	PORT ENGINE GROUND	-	-
LS03	REF	1	STBD COCKPIT SPEAKER	-	-
LS04	REF	1	PORT COCKPIT SPEAKER	-	-
TR01	REF	1	TRANSOM REMOTE	STEREO REMOTE	-

288 VISTA HULL SYSTEMS HARNESS ASSEMBLY

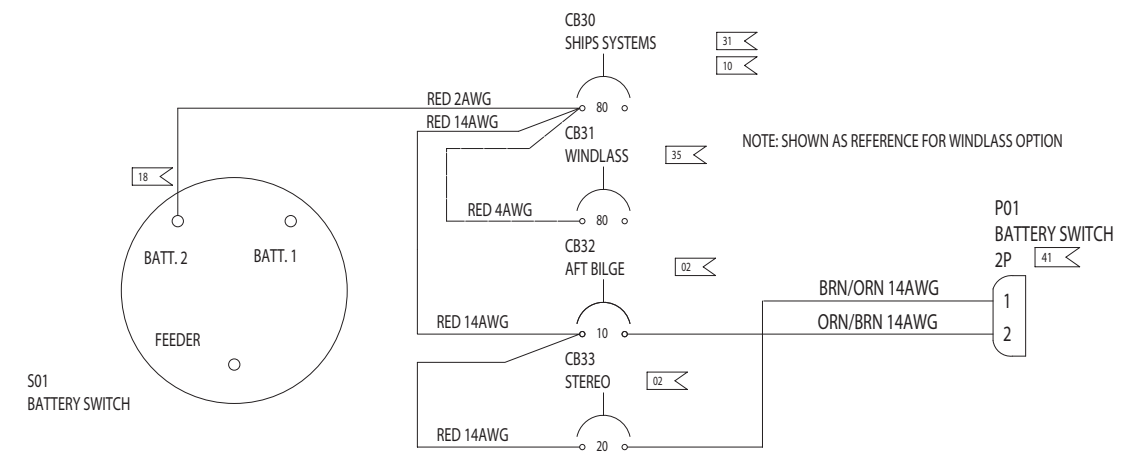
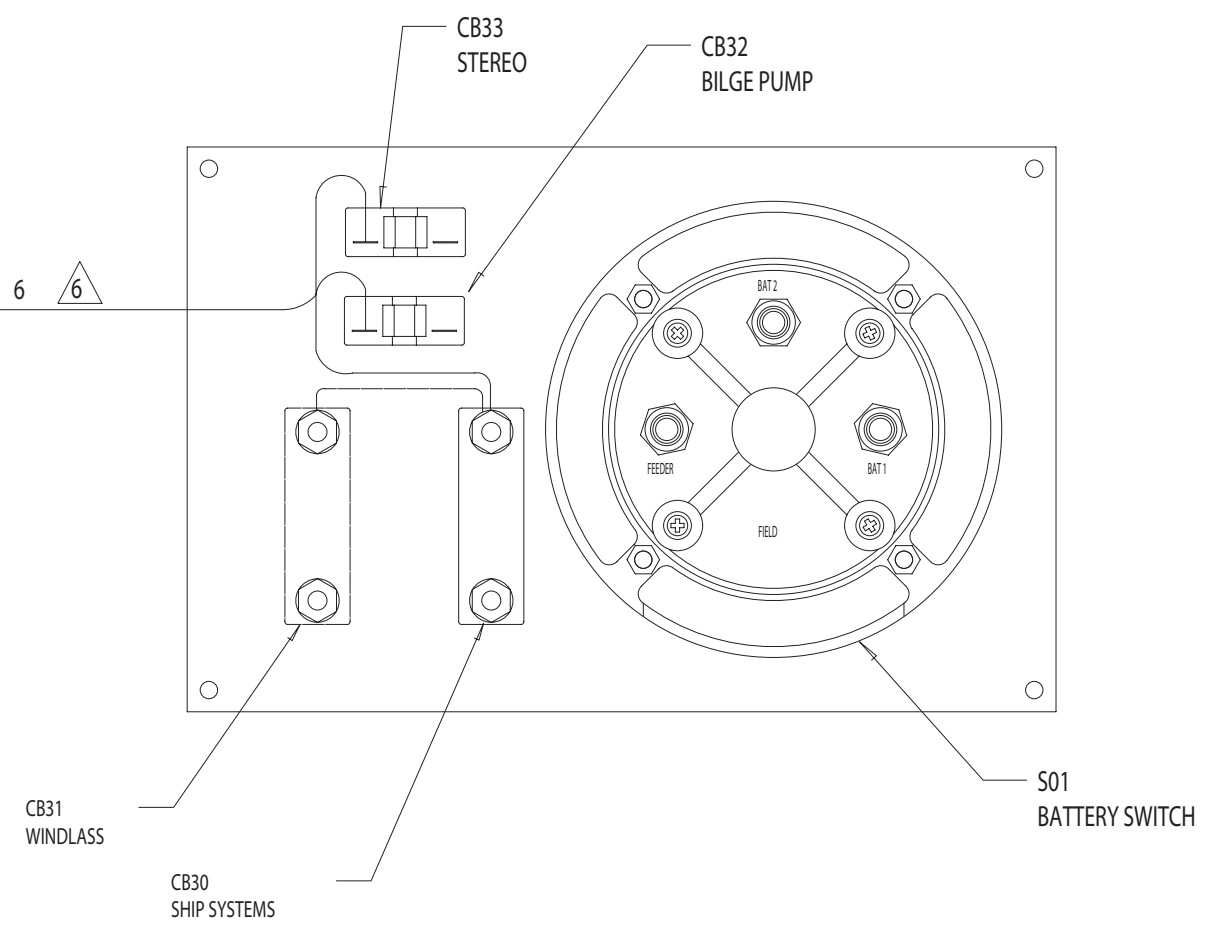
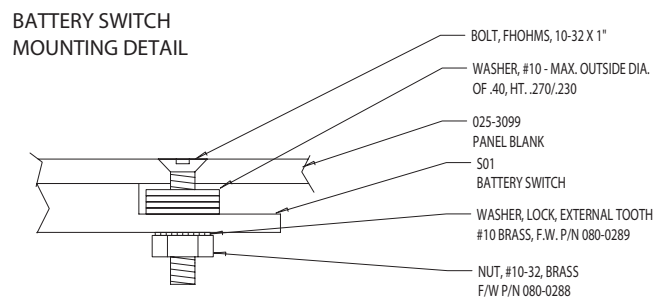
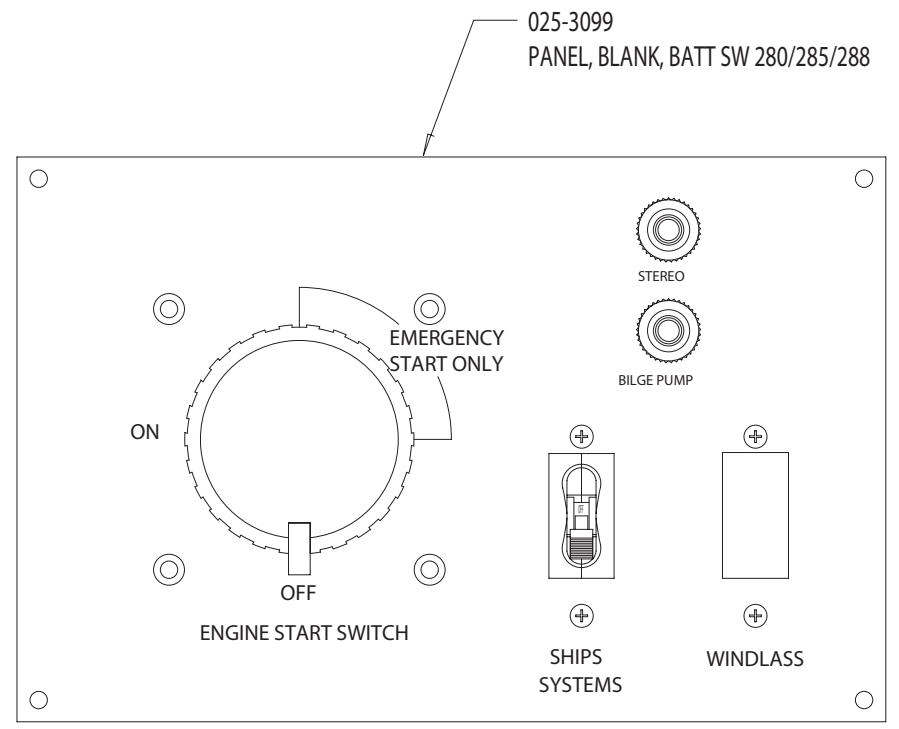
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FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
-	028-0177	5	RECEPT,FASTON,250,16-14	02	AMP
-	028-0201	1	TAB,FASTON,UF,250,16-14	04	AMP
-	028-0191	1	TERM,RING,PG,#10,16-14	09	AMP
-	028-0193	2	TERM,RING,3/8,16-14	11	AMP
-	028-0286	1	TERM,RING,PG,1/4,6	16	AMP
-	028-0356	1	TERM,RING,PG,#6,16-14	22	AMP
-	028-0619	1	TERM,RING,3/8,6	37	AMP
-	028-1727	4	TERM,PIDG,BULL,156,16-14	64	AMP
-	028-1826	2	TERM,RING,#10,6	77	AMP
-	028-0390	34	PIN,UMNL,18-14	41	AMP
-	028-0454	34	SOCKET,UMNL,18-14	42	AMP
-	028-0159	4	SOCKET,CMNLT,20-14	45	AMP
-	-	-	VENDOR TERMINATED	51	-
P10	028-0204	1	PLUG,CMNLT,4 CKT	TRIM TAB PUMP	AMP
P12	028-0449	1	PLUG,UMNL,9 CKT	POWER TRIM	AMP
P13	-	1	PLUG,TRIM, OMC	PORT POWER TRIM	-
P14	-	1	PLUG,TRIM, OMC	STBD POWER TRIM	-
P15	-	1	PLUG,ENGINE, OMC I/O	PORT ENGINE	-
P22	028-0448	1	PLUG,UMNL,4 CKT	NEUTRAL SAFETY	AMP
P23	028-0452	1	PLUG,UMNL,15 CKT	LOWER INSTRUMENTS	AMP
P24	028-0449	1	PLUG,UMNL,9 CKT	UPPER INSTRUMENTS	AMP
P25	-	1	PLUG,ENGINE, OMC I/O	STBD ENGINE	-
J09	028-0443	1	RECEPT,UMNL,9 CKT	HELM FB/AFT	AMP
J11	028-0441	1	RECEPT,UMNL,2 CKT	ENGINE HATCH	AMP
J16	028-0441	1	RECEPT,UMNL,2 CKT	BLOWER A	AMP
J17	028-0441	1	RECEPT,UMNL,2 CKT	BLOWER B	AMP
J20	028-0442	1	RECEPT,UMNL,4 CKT	AFT/HULL	AMP
J21	028-0446	1	RECEPT,UMNL,15 CKT	HELM SWITCH PANEL	AMP
J26	028-0442	1	RECEPT,UMNL,4 CKT	AFT BILGE PUMP	AMP
J27	028-0441	1	RECEPT,UMNL,2 CKT	HI LEVEL SWITCH	AMP
J29	028-0441	1	RECEPT,UMNL,2 CKT	STBD FUEL SENDER	AMP
J30	028-0441	1	RECEPT,UMNL,2 CKT	BATTERY SWITCH	AMP
DS01	027-2199	1	CABLE,25,TRANSDUCER FARIA	DEPTH SOUNDER	TALON
AB01	-	REF	-	AFT BILGE BREAKER	-
FM01	-	REF	-	FIRSTMATE MODULE	-
FB01	-	REF	-	HELM FUSE BLOCK	-
SS01	-	REF	-	SHIP SYSTEMS BREAKER	-
GND1	-	REF	-	STBD ENGINE GROUND	-
GND2	-	REF	-	STBD ENGINE GROUND	-
GND3	-	REF	-	PORT ENGINE GROUND	-
TL01	-	REF	-	PORT TRIM LIMIT SWITCH	-
TL02	-	REF	-	STBD TRIM LIMIT SWITCH	-
TT01	-	REF	-	TRIM TAB PUMP RETURN	-

288 VISTA AFT SYSTEMS HARNESS ASSEMBLY



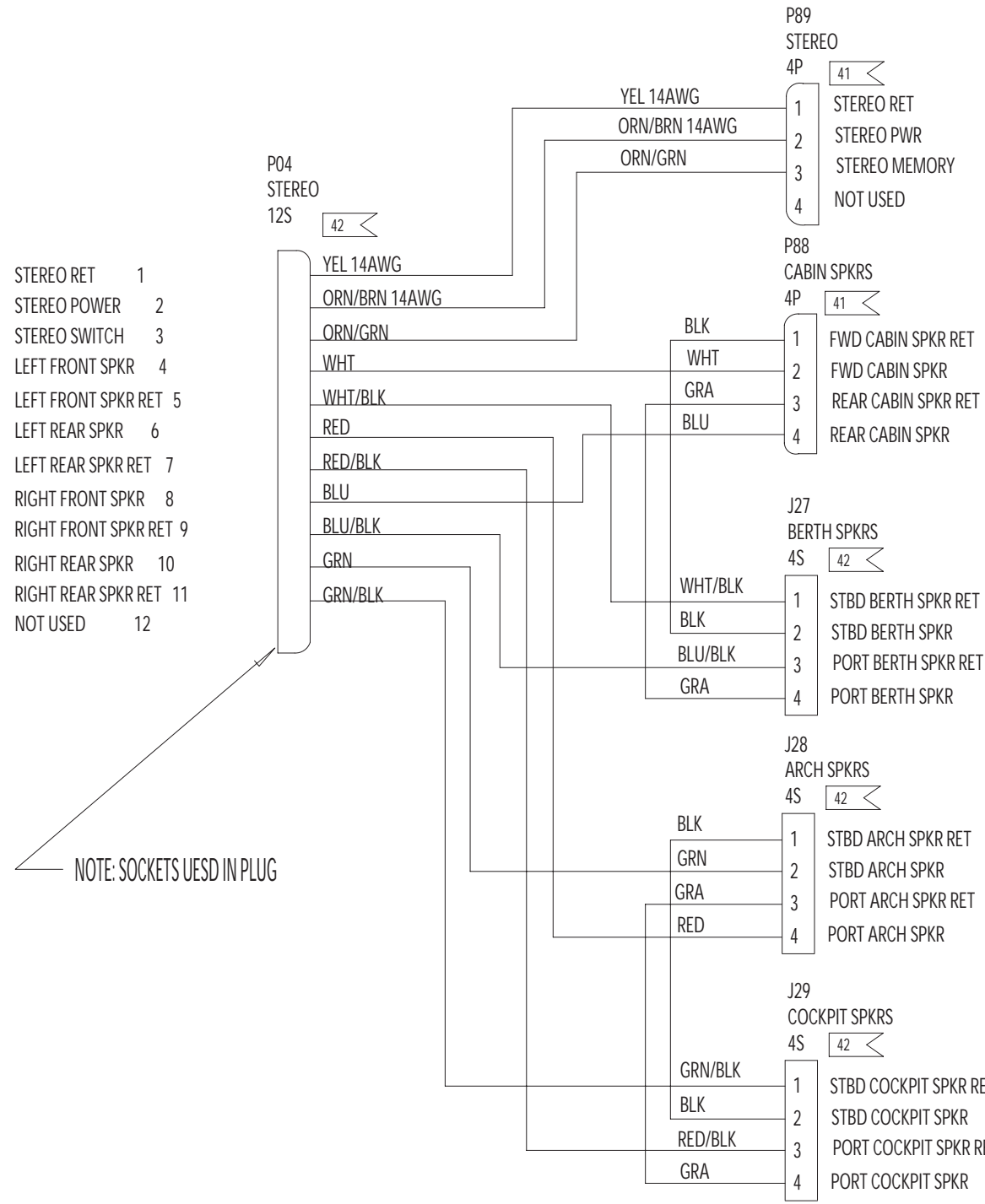
FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION
-	028-0177	2	TERM,FASTON,,250,18-14
-	028-0192	1	TERM,RING,1/4,16-14
-	028-0399	1	TERM,RING,3/8,2
-	-	1	TERM,RING,1/4,2
-	-	1	TERM,RING,1/4,4
-	028-0390	2	PIN,UMNL,18-14
-	025-3099	1	PANEL,BLANK,BATTERY SWITCH
P01	028-0447	1	PLUG,UMNL,2 CKT
CB30	028-1888	1	BREAKER,80A
CB31	028-1888	REF	BREAKER,80A
CB32	028-1880	1	BREAKER,10A
CB33	028-1881	1	BREAKER,20A
S01	028-0485	1	SWITCH, DUAL BATTERY

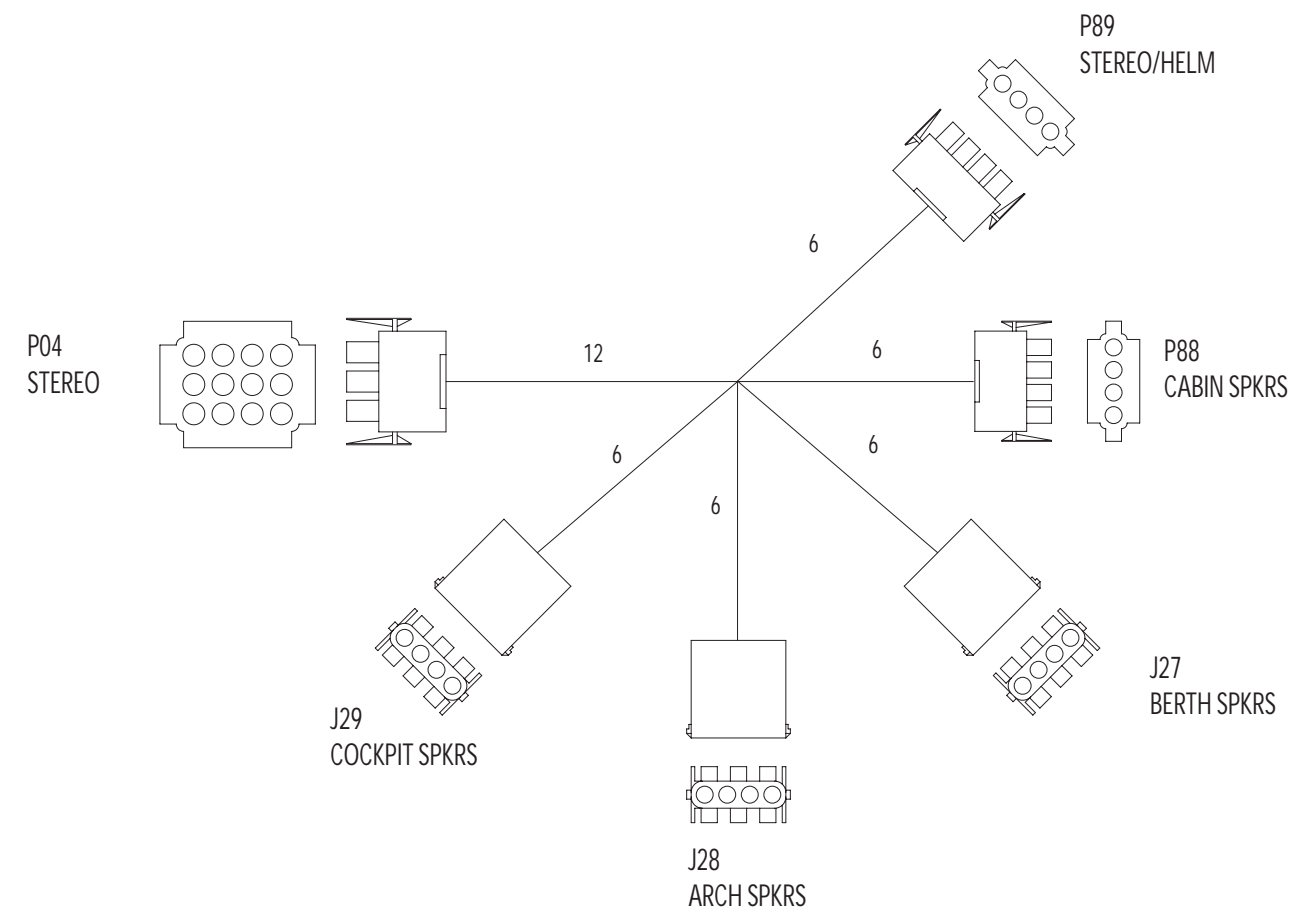
Battery Selector Switch Location
(Remove Access Door Stbd Backrest Insert)

FUNCTION	DESCRIPTION	MANUFACTURER
02	AMP	AMP
10	AMP	AMP
18	AMP	AMP
31	AMP	AMP
35	AMP	AMP
41	AMP	AMP
-	-	-
BATTERY SWITCH	AMP	AMP
SHIPS SYSTEMS	CARL SW	CARL SW
WINDLASS	CARL SW	CARL SW
BILGE	ETA	ETA
STEREO	ETA	ETA
BATT SWITCH	GUEST	GUEST

288 VISTA BATTERY SWITCH PANEL ASSEMBLY

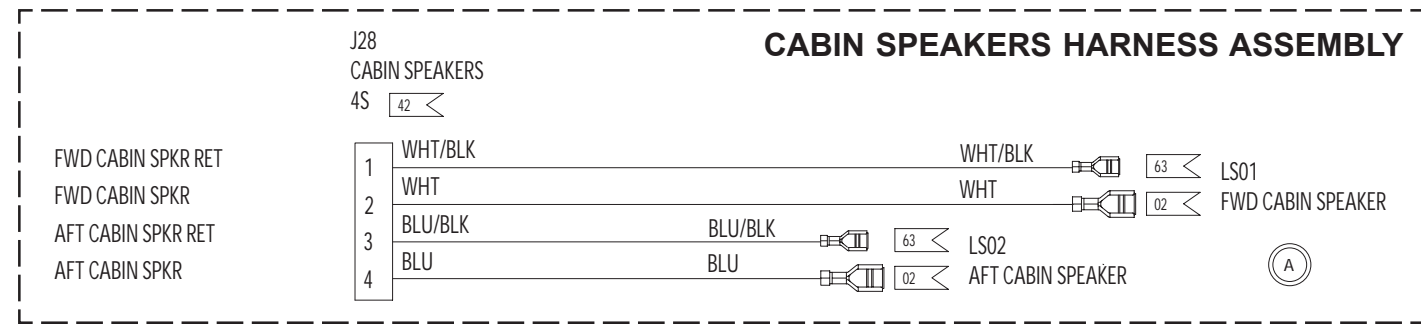


NOTE: SOCKETS USED IN PLUG

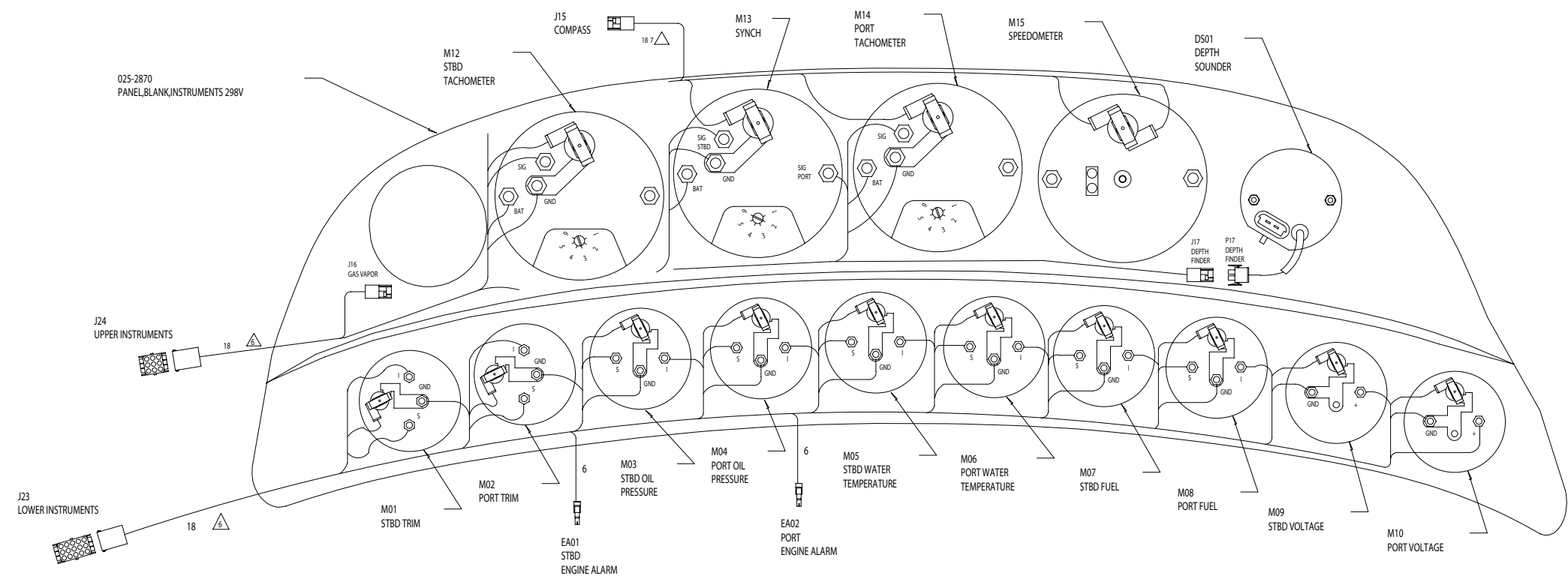


FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
	028-0390	7	PIN,UMNL,18-14	41	AMP
	028-0454	23	SOCKET,UMNL,18-14	42	AMP
P04	028-0451	1	PLUG,UMNL,12 CKT	STEREO	AMP
J27	028-0442	1	RECEPT,UMNL,4 CKT	CABIN SPEAKERS	AMP
J28	028-0442	1	RECEPT,UMNL,4 CKT	BERTH SPEAKERS	AMP
J29	028-0442	1	RECEPT,UMNL,4 CKT	ARCH SPEAKERS	AMP
P88	028-0448	1	PLUG,UMNL,4 CKT	COCKPIT SPEAKERS	AMP
P89	028-0448	1	PLUG,UMNL,4 CKT	STEREO/HELM	AMP

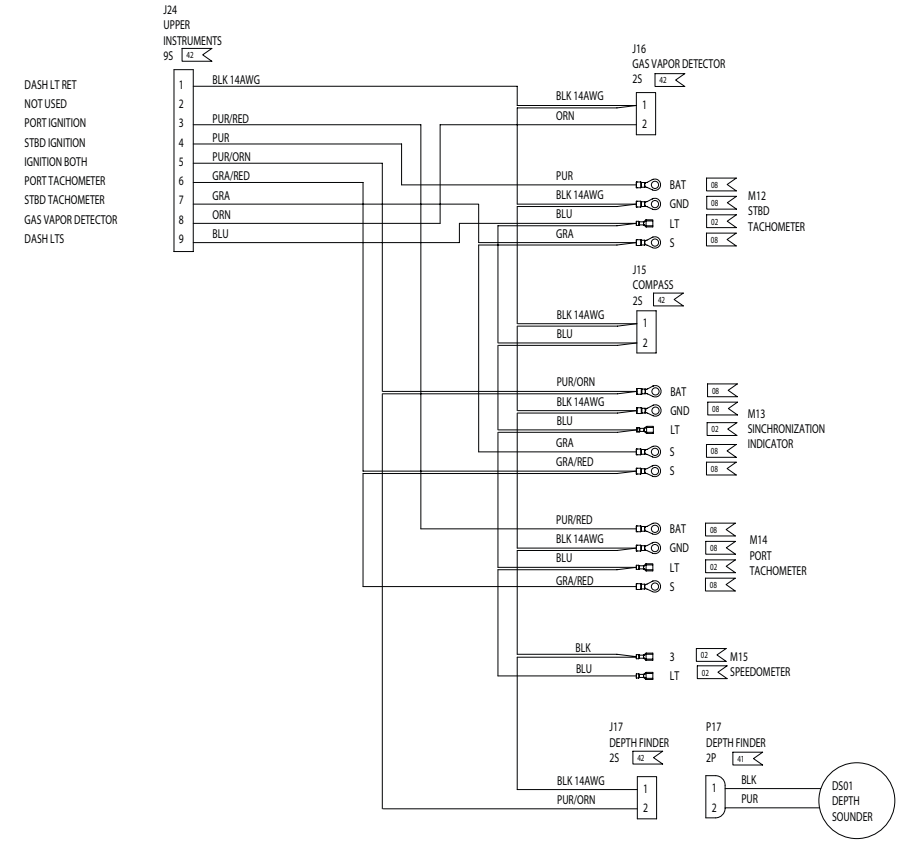
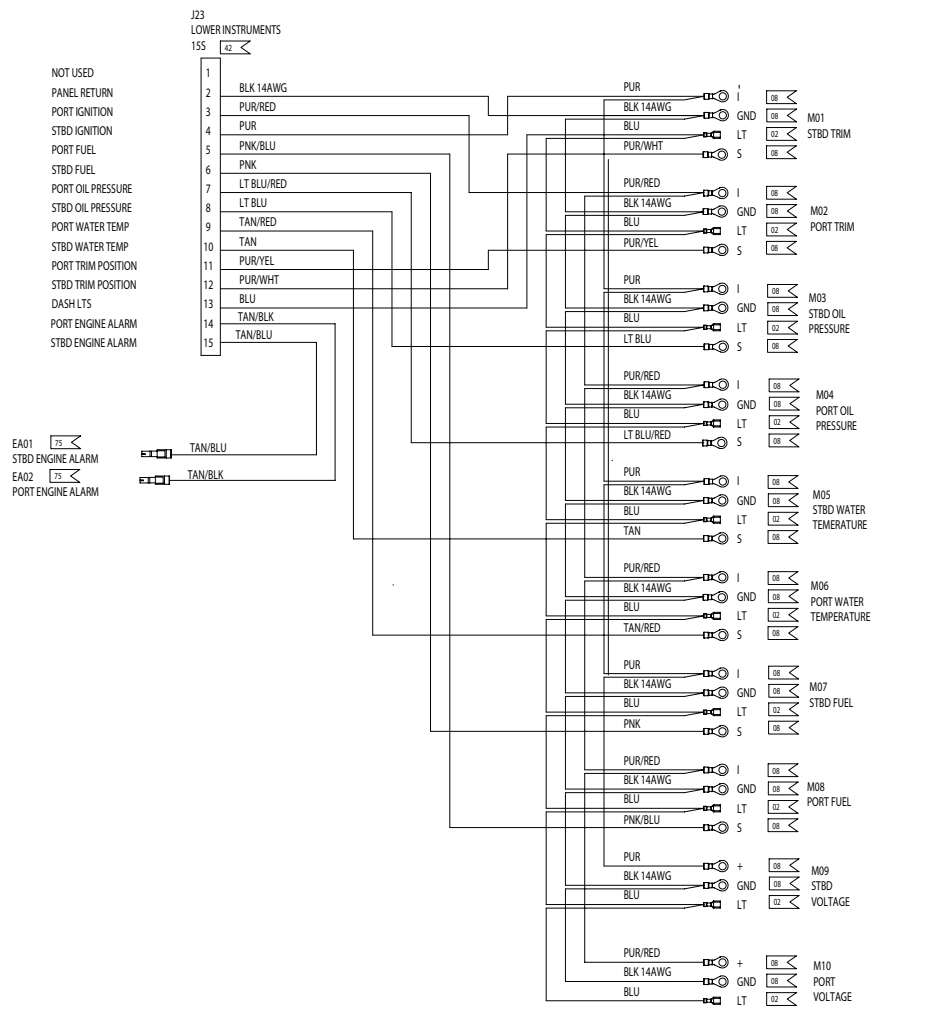


288 VISTA STEREO HARNESS ASSEMBLY

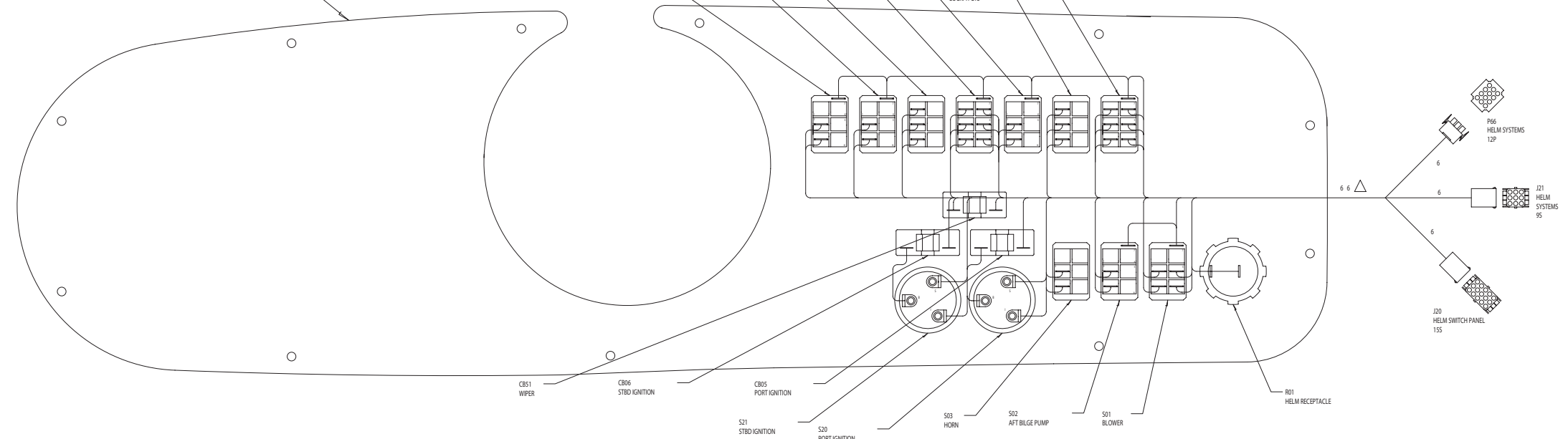
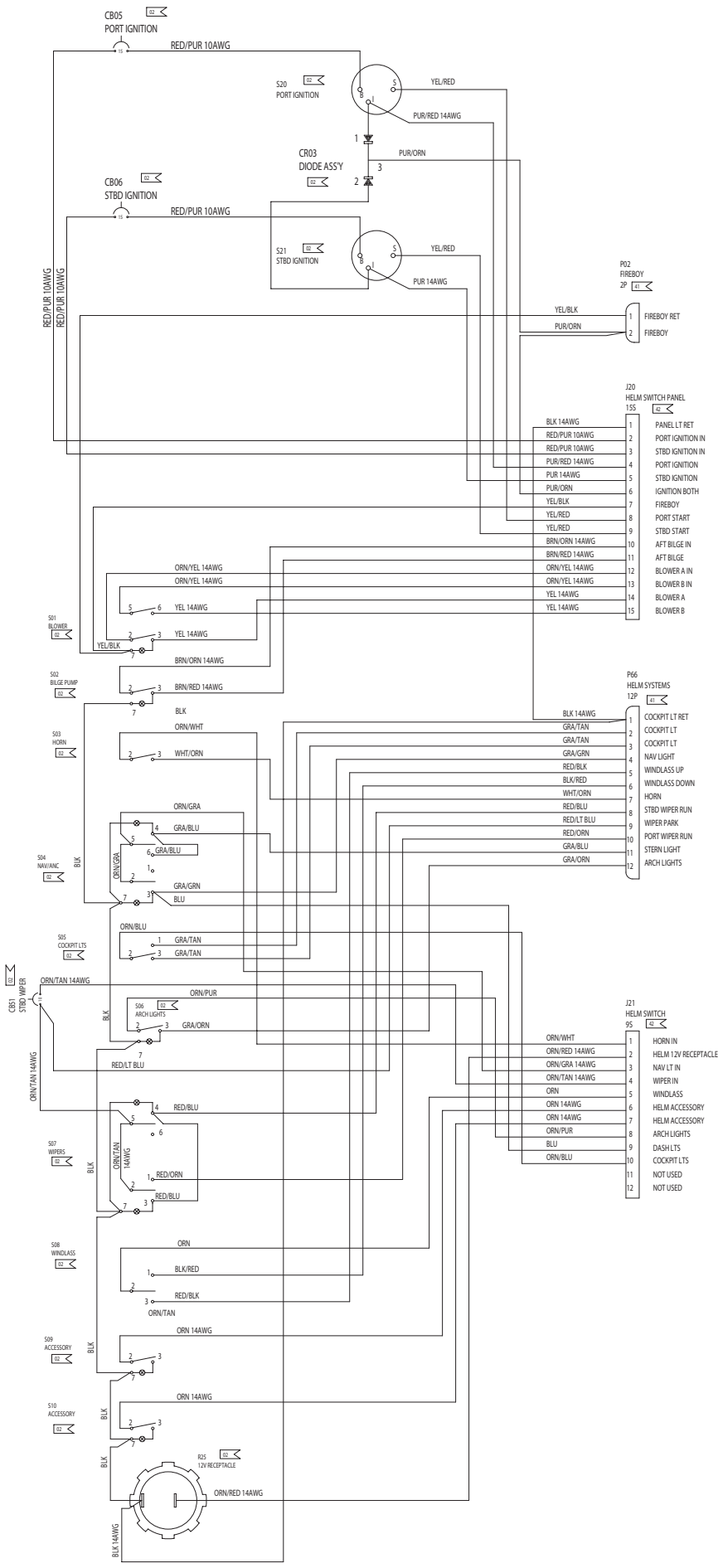


FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
	028-0177	36	TERM.FASTON_250,18-14	02	AMP
	028-0189	37	TERMINAL_RING,PG,#8,16-14	08	AMP
	028-0454	26	SOCKET,UMNL,18-14	42	AMP
	028-1823	2	TERM,BULLE,FEM,INS,156,16-14	75	MOLEX
	025-2870	1	PANEL,BLANK,INSTRUMENTS,298V		
J15	028-0441	1	RECEPT,UMNL,2 CKT	COMPASS	AMP
J16	028-0441	1	RECEPT,UMNL,2 CKT	GAS VAPOR	AMP
J17	028-0441	1	RECEPT,UMNL,2 CKT	DEPTH FINDER	AMP
P17	028-0447	1	PLUG,UMNL,2 CKT	DEPTH FINDER	AMP
J24	028-0443	1	RECEPT,UMNL,9 CKT	UPPER INSTRUMENTS	FARIA
P91	028-0448	1	PLUG,UMNL,4 CKT	SPEEDO PICKUP	FARIA
J23	028-0445	1	RECEPT,UMNL,15 CKT	LOWER INSTRUMENTS	FARIA
M12	024-0526	1	GAUGE,TACH,6000 W/HOUR,FARIA#TCH239	STBD TACHOMETER	FARIA
M13	024-0533	1	GAUGE,SYNC,FARIA#SY9762	SYNCHRONIZATION	FARIA
M14	024-0526	1	GAUGE,TACH,6000 W/HOUR,FARIA#TCH239	PORT TACHOMETER	AMP
M15	024-0522	1	GAUGE,SPEEDO,50MPH,FARIA#SE9973	SPEEDOMETER	AMP
DS01	028-1748	1	DEPTH FINDER,FARIA#DS0109	DEPTH FINDER	AMP
M01	024-0529	1	GAUGE,TRIM,FARIA#GP7766	STBD TRIM	FARIA
M02	024-0529	1	GAUGE,TRIM,FARIA#GP7766	PORT TRIM	FARIA
M03	024-0530	1	GAUGE,OIL,FARIA#GP7767	STBD OIL PRESSURE	FARIA
M04	024-0530	1	GAUGE,OIL,FARIA#GP7767	PORT OIL PRESSURE	FARIA
M05	024-0528	1	GAUGE,TEMP,FARIA#GP7765	STBD WATER TEMP	FARIA
M06	024-0528	1	GAUGE,TEMP,FARIA#GP7765	PORT WATER TEMP	FARIA
M07	024-0532	1	GAUGE,FUEL,FARIA#GP7768	STBD FUEL QUANTITY	FARIA
M08	024-0532	1	GAUGE,FUEL,FARIA#GP7768	PORT FUEL QUANTITY	FARIA
M09	024-0531	1	GAUGE,VOLT,FARIA#VP7114	STBD VOLTAGE	FARIA
M10	024-0531	1	GAUGE,VOLT,FARIA#VP7114	PORT VOLTAGE	FARIA
EA01	-	REF	STBD ENGINE ALARM	ENGINE ALARM	-
EA02	-	REF	PORT ENGINE ALARM	ENGINE ALARM	-



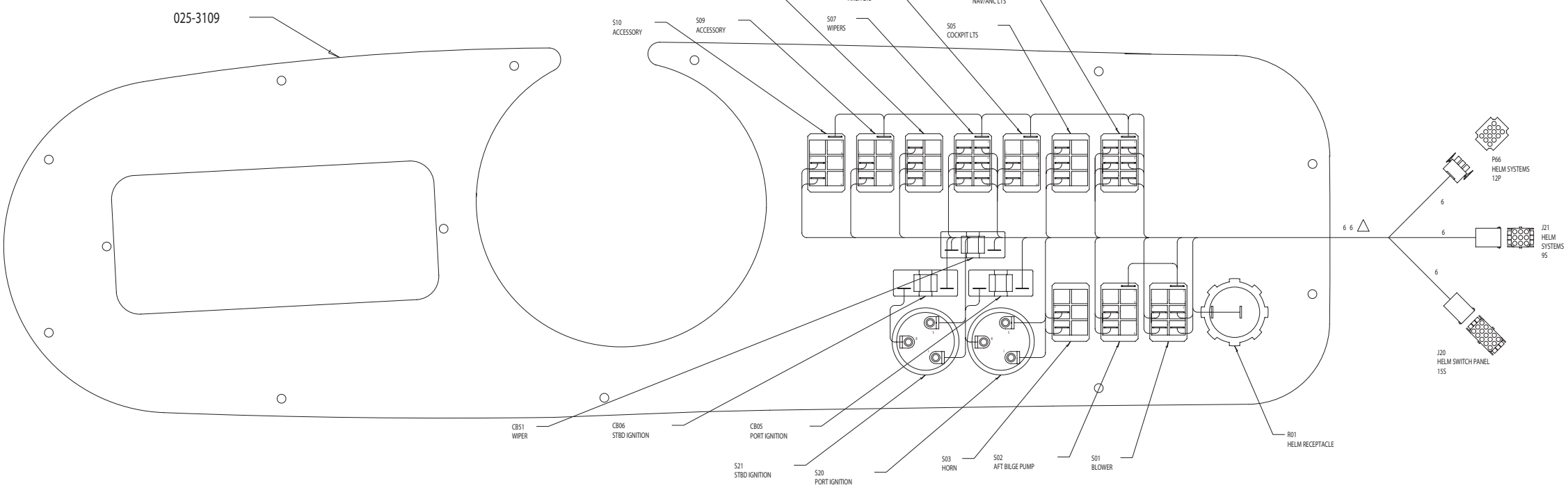
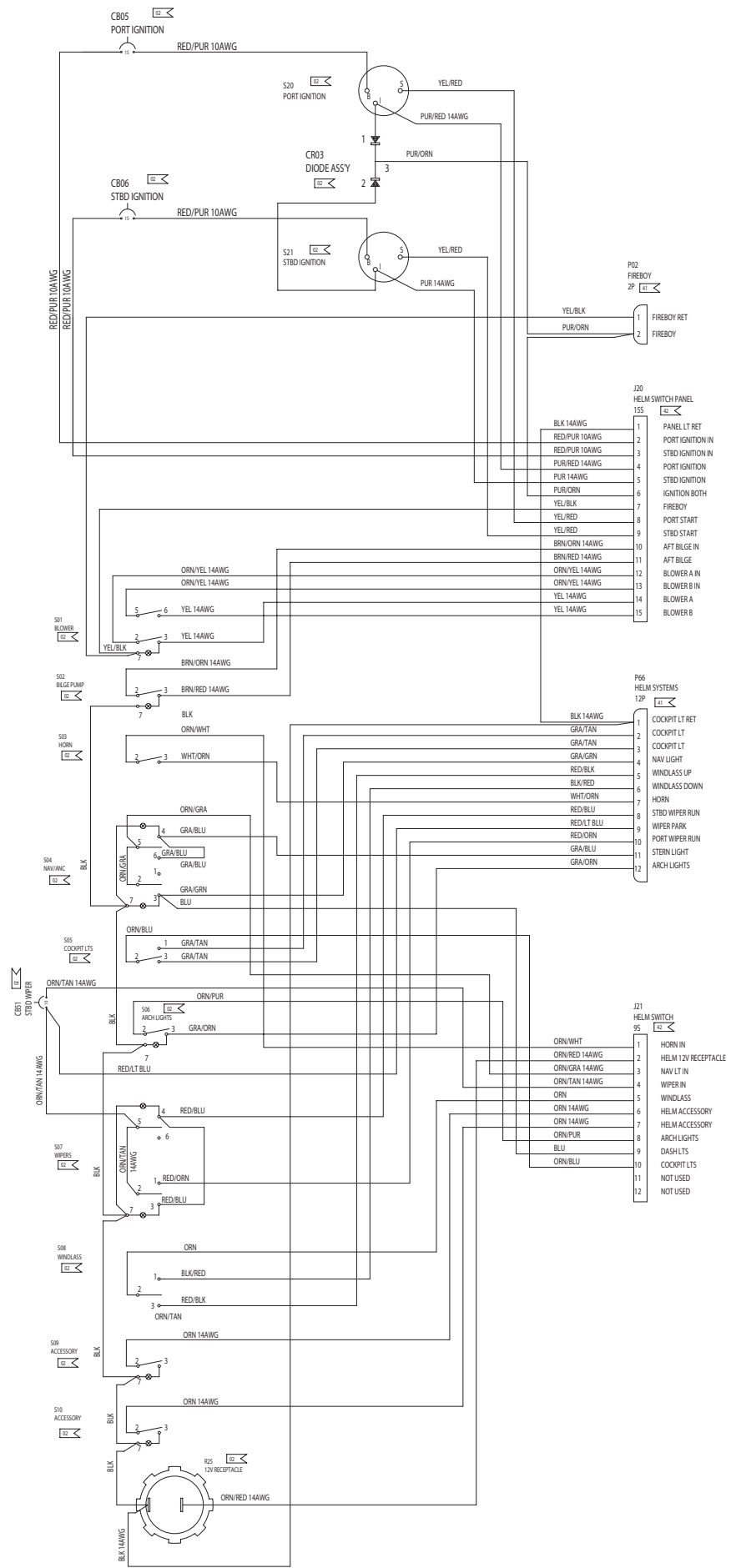
025-3108



FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
-	028-0177	49	RECEPT,FASTON,,250,18-14	02	AMP
-	028-0390	14	PIN,UMNL,18-14	41	AMP
-	028-0454	25	SOCKET,UMNL,18-14	42	AMP
-	028-0455	2	SOCKET,UMNL,12-10	43	AMP
-	025-3108	1	PANEL,BLANK,IGNITION/SWITCH 298	-	-
CB05	028-0467	1	BREAKER,15A	PORT IGNITION	MP
CB06	028-0467	1	BREAKER,15A	STBD IGNITION	MP
CB51	028-0466	1	BREAKER,10A	WIPER	MP
CR03	-	1	DIODE ASSEMBLY,DUAL IN5401	IGNITION DIODE	IR
J20	028-0446	1	RECEPT,UMNL,15 CKT	HELM SWITCH	AMP
P66	028-0451	1	PLUG,UMNL,12 CKT	HELM SYSTEMS	AMP
P87	028-0450	1	PLUG,UMNL,12 CKT	HELM SYSTEMS	AMP
R01	028-1100	1	RECEPT,12V AFI	12V RECEPTACLE	AFI
S01	028-0459	1	SWITCH,DPST,CONT III	BLOWER	CARL SW
S02	028-0457	1	SWITCH,SPST,CONT III	AFT BILGE PUMP	CARL SW
S03	028-0456	1	SWITCH,SPST,(ON) OFF CONT III	HORN	CARL SW
S04	028-0504	1	SWITCH,DPDT,CONT III	NAV/ANC LTS	CARL SW
S05	028-1135	1	SWITCH,ON-ON, CONT III	COCKPIT LTS	CARL SW
S06	028-0457	1	SWITCH,SPST,CONT III	ARCH LTS	CARL SW
S07	028-0504	1	SWITCH,DPDT,CONT III	WIPERS	CARL SW
S08	028-0469	1	SWITCH,(ON) OFF (ON) CONT III	WINDLASS	CARL SW
S09	028-0457	1	SWITCH,SPST,CONT III	ACCESSORY	CARL SW
S10	028-0457	1	SWITCH,SPST,CONT III	ACCESSORY	CARL SW
S20	025-2000	1	SWITCH,IGNITION,JO	PORT IGNITION	GENERAL
S21	025-2000	1	SWITCH,IGNITION,JO	STBD IGNITION	GENERAL

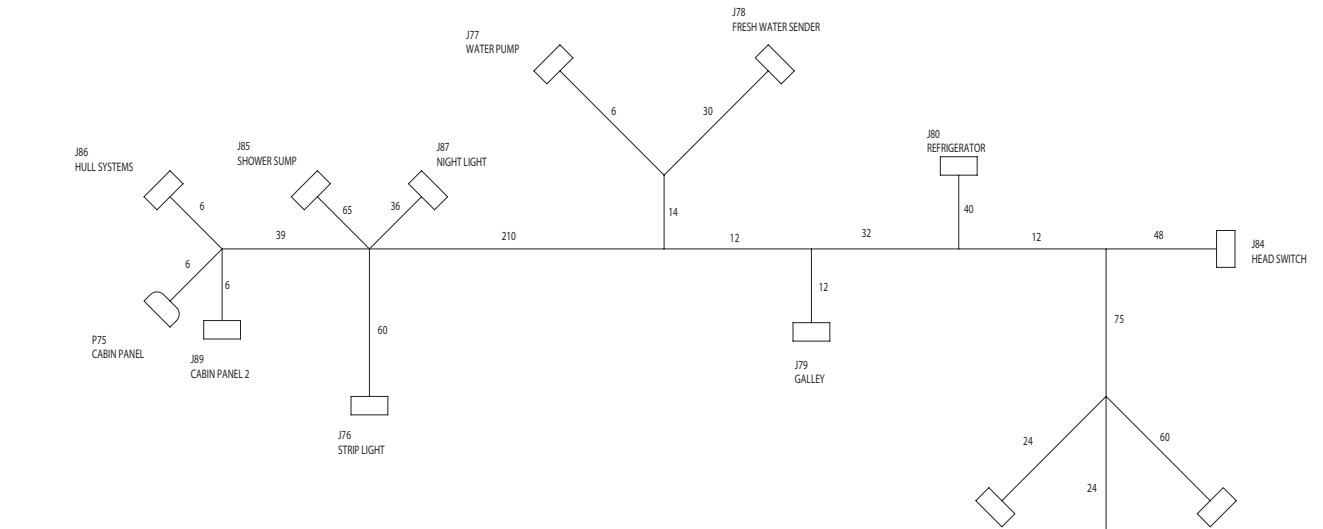
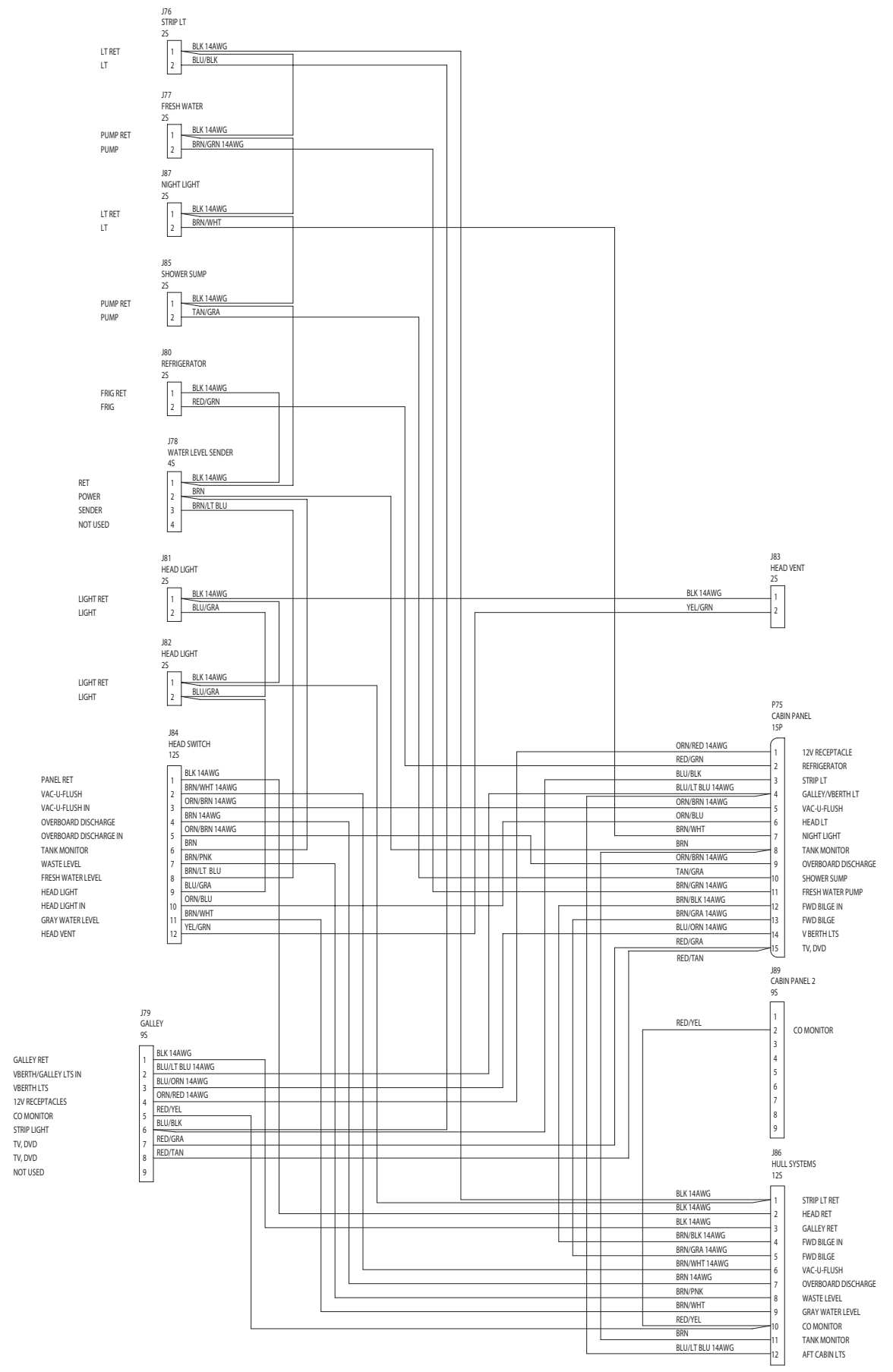
298 VISTA
IGNITION/SWITCH PANEL
ASSEMBLY W/O ELECTRONICS



FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
-	028-0177	48	RECEPT,FASTON_250,18-14	02	AMP
-	028-0390	14	PIN,UMNL,18-14	41	AMP
-	028-0454	25	SOCKET,UMNL,18-14	42	AMP
-	028-0455	2	SOCKET,UMNL,12-10	43	AMP
-	025-3109	1	PANEL,BLANK,IGNITION/SWITCH 298	-	-
CB05	028-0467	1	BREAKER,15A	PORT IGNITION	MP
CB06	028-0467	1	BREAKER,15A	STBD IGNITION	MP
CB07	028-0466	1	BREAKER,10A	WIPER	MP
CR03	-	1	DIODE ASSEMBLY,DUAL IN5401	IGNITION DIODE	IR
J20	028-0446	1	RECEPT,UMNL,15 CKT	HELM SWITCH	AMP
P66	028-0451	1	PLUG,UMNL,12 CKT	HELM SYSTEMS	AMP
P87	028-0450	1	PLUG,UMNL,12 CKT	HELM SYSTEMS	AMP
R01	028-1100	1	RECEPT,12V AFI	12V RECEPTACLE	AFI
S01	028-0459	1	SWITCH,DPST,CONT III	BLOWER	CARL SW
S02	028-0457	1	SWITCH,SPST,CONT III	AFT BILGE PUMP	CARL SW
S03	028-0456	1	SWITCH,SPST,(ON) OFF CONT III	HORN	CARL SW
S04	028-0504	1	SWITCH,DPDT,CONT III	NAV/ANC LTS	CARL SW
S05	028-1135	1	SWITCH,ON-ON, CONT III	COCKPIT LTS	CARL SW
S06	028-0457	1	SWITCH,SPST,CONT III	ARCH LTS	CARL SW
S07	028-0504	1	SWITCH,DPDT,CONT III	WIPERS	CARL SW
S08	028-0469	1	SWITCH,(ON) OFF (ON) CONT III	WINDLASS	CARL SW
S09	028-0457	1	SWITCH,SPST,CONT III	ACCESSORY	CARL SW
S10	028-0457	1	SWITCH,SPST,CONT III	ACCESSORY	CARL SW
S20	025-2000	1	SWITCH,IGNITION,IO	PORT IGNITION	GENERAL
S21	025-2000	1	SWITCH,IGNITION,IO	STBD IGNITION	GENERAL

**298 VISTA
IGNITION/SWITCH PANEL
ASSEMBLY W/ ELECTRONICS**



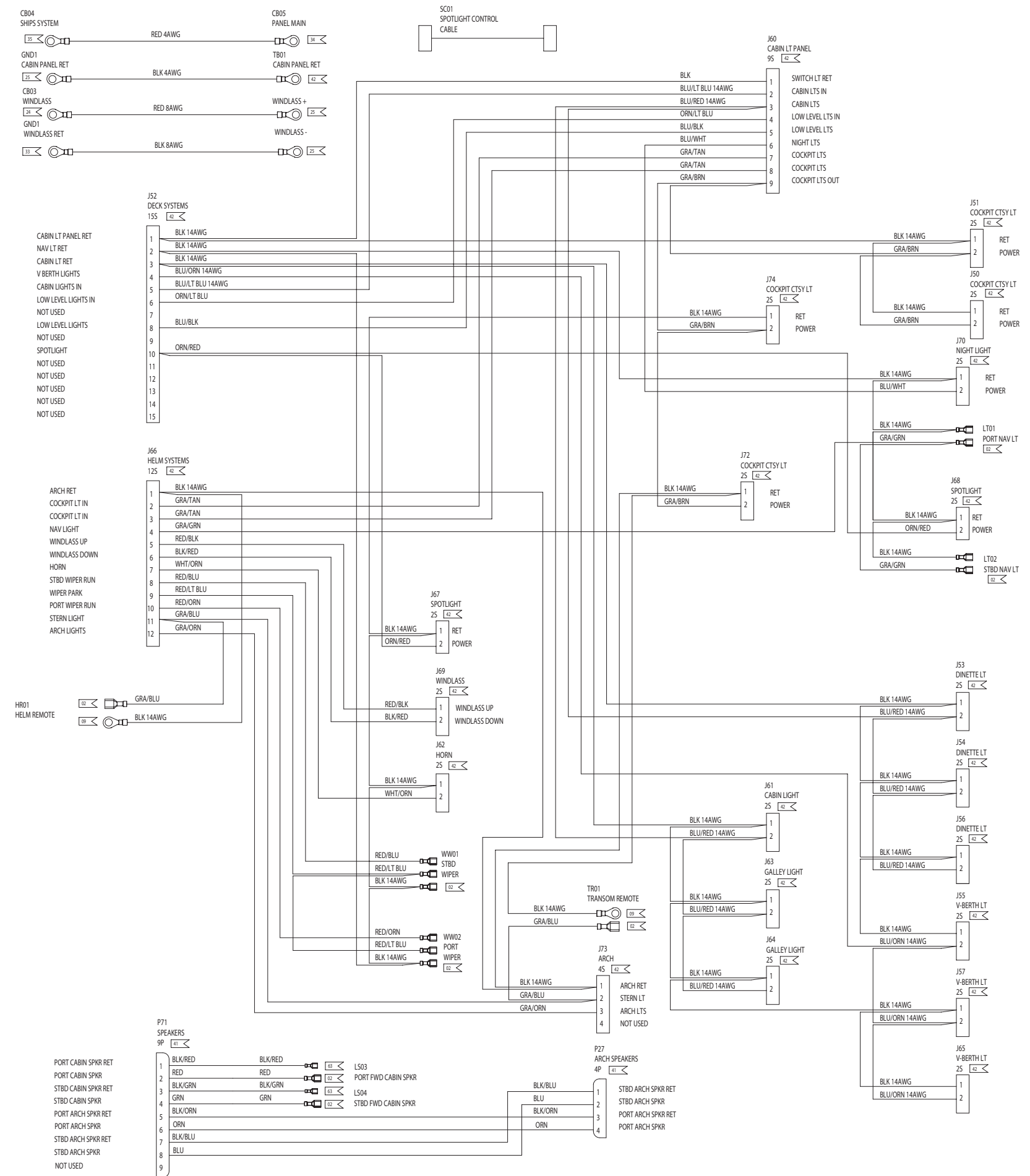
FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
J76	028-0390	15	PN,UMNL,18-14	41	AMP
J77	028-0454	50	SOCKET,UMNL,18-14	42	AMP
J78	038-0441	1	RECEPT,UMNL,2 CKT	41	AMP
J79	028-0442	1	RECEPT,UMNL,4 CKT	41	AMP
J80	028-0441	1	RECEPT,UMNL,9 CKT	41	AMP
J81	028-0441	1	RECEPT,UMNL,2 CKT	41	AMP
J82	028-0441	1	RECEPT,UMNL,2 CKT	41	AMP
J83	028-0441	1	RECEPT,UMNL,2 CKT	41	AMP
J84	028-0445	1	RECEPT,UMNL,12 CKT	41	AMP
J85	028-0441	1	RECEPT,UMNL,2 CKT	41	AMP
J86	028-0445	1	RECEPT,UMNL,12 CKT	41	AMP
J87	028-0441	1	RECEPT,UMNL,2 CKT	41	AMP
P75	028-0452	1	PLUG,UMNL,15 CKT	41	AMP
J89	028-0043	1	RECEPT,UMNL,9 CKT	41	AMP

FOUR WINNS WIRE LIST

COLOR	GA	FIRST	PN	TERM	NOTE	SECOND	PN	TERM	NOTE	FUNCTION
BLK	14	J76	1	42	SA	J86	1	42	SF	STRIP LT RET
BLK	14	J76	1	42	SA	J77	1	42	SB	FRESH WATER PUMP RET
BLK	14	J77	1	42	SB	J87	1	42	SK	NIGHT LT RET
BLK	14	J87	1	42	SK	J85	1	42	SL	SHOWER SUMP RET
BLK	14	J85	1	42	SL	J78	1	42	SC	WATER LEVEL SENDER RET
BLK	14	J78	1	42	SC	J80	1	42		REFRIGERATOR RET
BLK	14	J81	1	42	SD	J83	1	42		HEAD VENT RET
BLK	14	J81	1	42	SD	J82	1	42	SE	HEAD LT RET
BLK	14	J82	1	42	SE	J86	1	42	SF	HEAD LT RET
BLK	14	J84	1	42		J86	2	42		HEAD SWITCH RET
BLK	14	J79	1	42		J86	3	42		GALLEY RET
BLU/BLK	16	J76	2	42		J79	6	42		STRIP LT
BRN/GRN	14	J77	2	42		P75	11	41		FRESH WATER PUMP
TAN/GRN	16	J85	2	42		P75	10	41		SHOWER SUMP
RED/GRN	16	J80	2	42		P75	2	41		REFRIGERATOR
BRN	16	J78	2	42	SG	P75	8	41	SH	WATER LEVEL SENDER
BRN	16	J78	2	42	SG	J84	6	42		TANK MONITOR
BRN/LT BLU	16	J78	3	42		J84	8	42		WATER LEVEL
BLU/GRN	16	J81	2	42		J82	2	42	SI	HEAD LIGHT
BLU/GRN	16	J82	2	42	SI	J84	9	42		HEAD LIGHT
BRN/WHT	14	J84	2	42		J86	6	42		VAC-U-FLUSH
ORN/BRN	14	J84	3	42		P75	5	41		VAC-U-FLUSH IN
BRN	14	J84	4	42		J86	7	42		OVERBOARD DISCHARGE
ORN/BRN	14	J84	5	42		P75	9	41		OVERBOARD DISCHARGE IN
BRN/PNK	16	J84	7	42		J86	8	42		WASTE LEVEL
ORN/BLU	16	J84	10	42		P75	6	41		HEAD LIGHT IN
BRN/WHT	16	J84	11	42		J86	9	42		GRAY WATER LEVEL
YEL/GRN	16	J84	12	42		J83	2	42		HEAD VENT
BLU/LT BLU	14	J79	2	42		P75	4	41	SJ	VBERTH/GALLEY LTS IN
BLU/ORN	14	J79	3	42		P75	14	41		VBERTH LTS
ORN/RED	14	J79	4	42		P75	1	41		12V RECEPTACLES
RED/YEL	16	J79	5	42		J86	10	42	SM	CO MONITOR
BRN	16	P75	8	41	SH	J86	11	42		TANK MONITOR
BRN/BLK	14	P75	12	41		J86	4	42		FWD BILGE IN
BRN/GRN	14	P75	13	41		J86	5	42		FWD BILGE
BLU/LT BLU	14	J86	12	42		P75	4	41	SJ	AFT CABIN LTS
BRN/WHT	16	P75	7	41		J87	2	42		NIGHT LT
BLU/BLK	16	J79	6	42	SM	J76	2	42		STRIP LT
RED/GRN	16	P75	15	41	SP	J79	7	42		TV
RED/TAN	16	P75	15	41	SP	J79	8	42		DVD
RED/YEL	16	J89	2	42		J86	10	42	SM	CO MONITOR

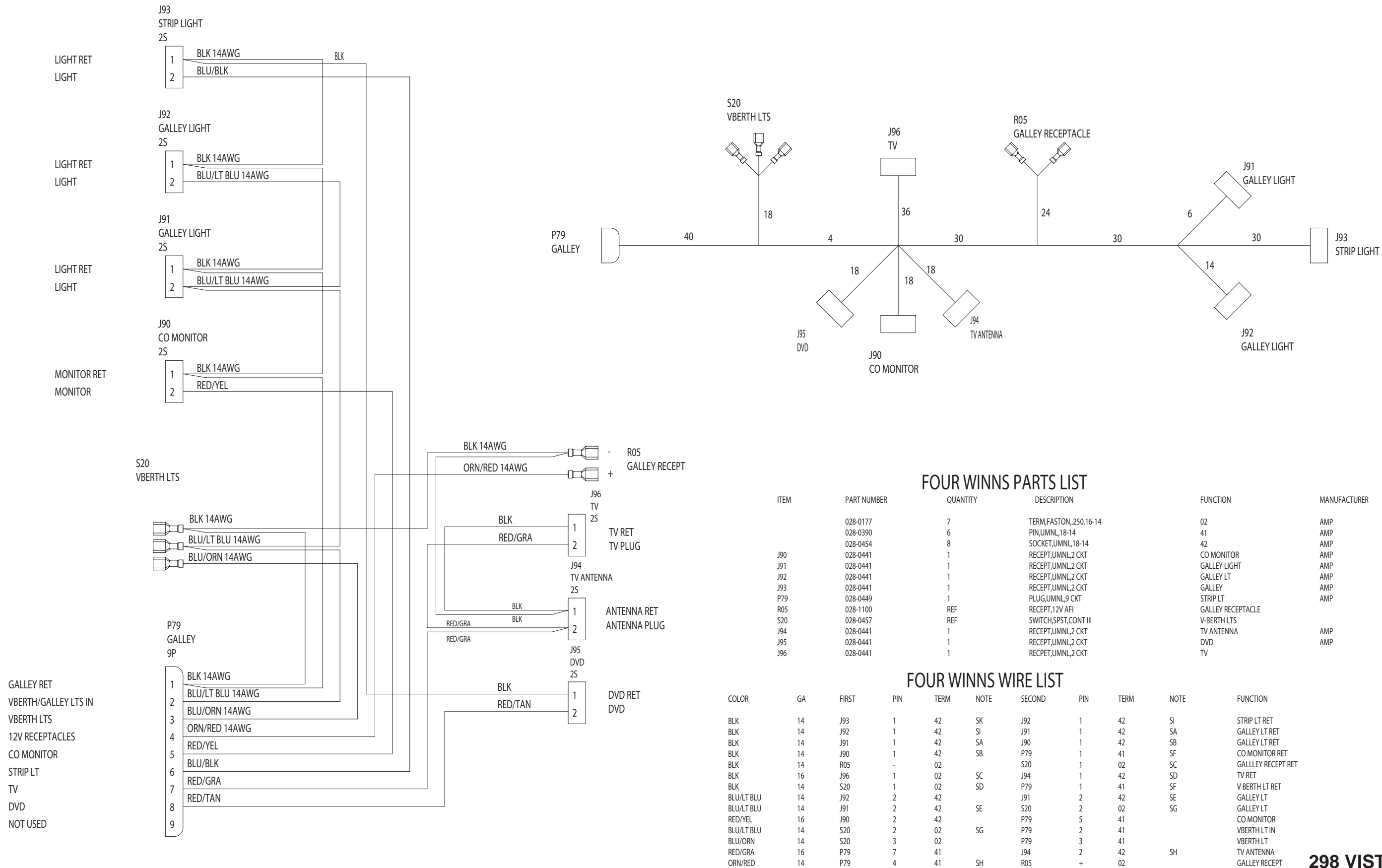
**298 VISTA
FWD HULL SYSTEMS
HARNESS ASSEMBLY**



FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
-	028-0177	14	TERM,FASTON,250,16-14	02	AMP
-	028-0191	2	TERM,RING,#10,16-14	09	AMP
-	028-0315	1	TERM,RING,1/4,8	24	AMP
-	028-0316	1	TERM,RING,3/8,8	25	AMP
-	028-0619	3	TERM,RING,3/8,4	33	AMP
-	028-0285	1	TERM,RING,#10,4	34	AMP
-	028-0286	1	TERM,RING,1/4,4	35	AMP
-	028-0390	12	PIN,UMNL,18-14	41	AMP
-	028-0454	70	SOCKET,UMNL,18-14	42	AMP
-	028-1288	2	TERM,FASTON,205,18-14	63	AMP
J50	028-0441	1	RECEPT,UMNL,2 CKT	COCKPIT CTSY LT	AMP
J51	028-0441	1	RECEPT,UMNL,2 CKT	COCKPIT CTSY LT	AMP
J52	028-0446	1	RECEPT,UMNL,15 CKT	DECK SYSTEMS	AMP
J53	028-0441	1	RECEPT,UMNL,2 CKT	DINETTE LT	AMP
J54	028-0441	1	RECEPT,UMNL,2 CKT	DINETTE LT	AMP
J55	028-0441	1	RECEPT,UMNL,2 CKT	VBERTH LT	AMP
J56	028-0441	1	RECEPT,UMNL,2 CKT	DINETTE LT	AMP
J57	028-0441	1	RECEPT,UMNL,2 CKT	VBERTH LT	AMP
J60	028-0443	1	RECEPT,UMNL,9 CKT	CABIN LT PANEL	AMP
J61	028-0441	1	RECEPT,UMNL,2 CKT	CABIN LT	AMP
J62	028-0441	1	RECEPT,UMNL,2 CKT	HORN	AMP
J63	028-0441	1	RECEPT,UMNL,2 CKT	GALLEY LT	AMP
J64	028-0441	1	RECEPT,UMNL,2 CKT	GALLEY LT	AMP
J65	028-0441	1	RECEPT,UMNL,2 CKT	VBERTH LT	AMP
J66	028-0445	1	RECEPT,UMNL,12 CKT	HELM SYSTEMS	AMP
J67	028-0441	1	RECEPT,UMNL,2 CKT	SPOTLIGHT	AMP
J68	028-0441	1	RECEPT,UMNL,2 CKT	SPOTLIGHT	AMP
J69	028-0441	1	RECEPT,UMNL,2 CKT	WINDLASS	AMP
J70	028-0441	1	RECEPT,UMNL,2 CKT	NIGHT LT	AMP
J72	028-0441	1	RECEPT,UMNL,2 CKT	COCKPIT CTSY LT	AMP
J73	028-0442	1	RECEPT,UMNL,4 CKT	ARCH	AMP
J74	028-0441	1	RECEPT,UMNL,2 CKT	COCKPIT CTSY LT	AMP
P27	028-0448	1	PLUG,UMNL,4 CKT	ARCH SPEAKERS	AMP
P71	028-0449	1	PLUG,UMNL,9 CKT	SPEAKERS	AMP
SC01	027-1700	1	CABLE ASSEMBLY,35' SPOTLIGHT	SPOTLIGHT	GUEST
LS04	-	REF	SPEAKER	PORT FWD CABIN SPKR	-
LT01	-	REF	SPEAKER	STBD FWD CABIN SPKR	-
LT02	-	REF	LIGHT,BOW SS SEPARATE	PORT NAV LT	-
LT03	-	REF	LIGHT,BOW SS SEPARATE	STBD NAV LT	-
HR01	-	REF	HELM REMOTE	STERO REMOTE	-
TR01	-	REF	TRANSOM REMOTE	STERO REMOTE	-

298 VISTA DECK SYSTEMS HARNESS ASSEMBLY



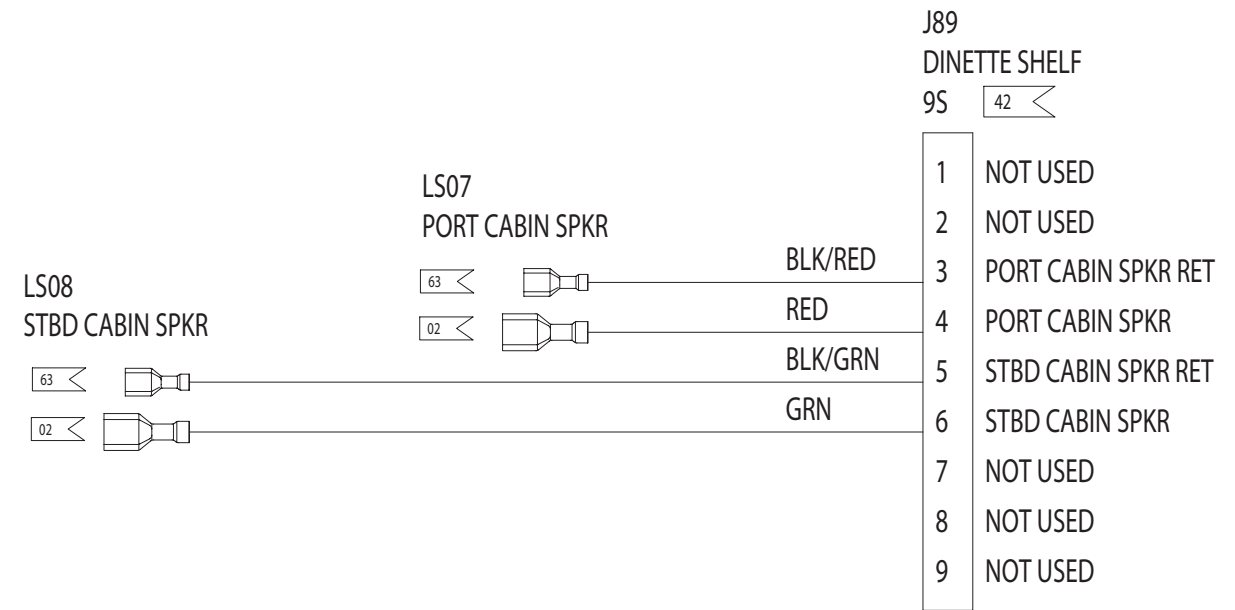
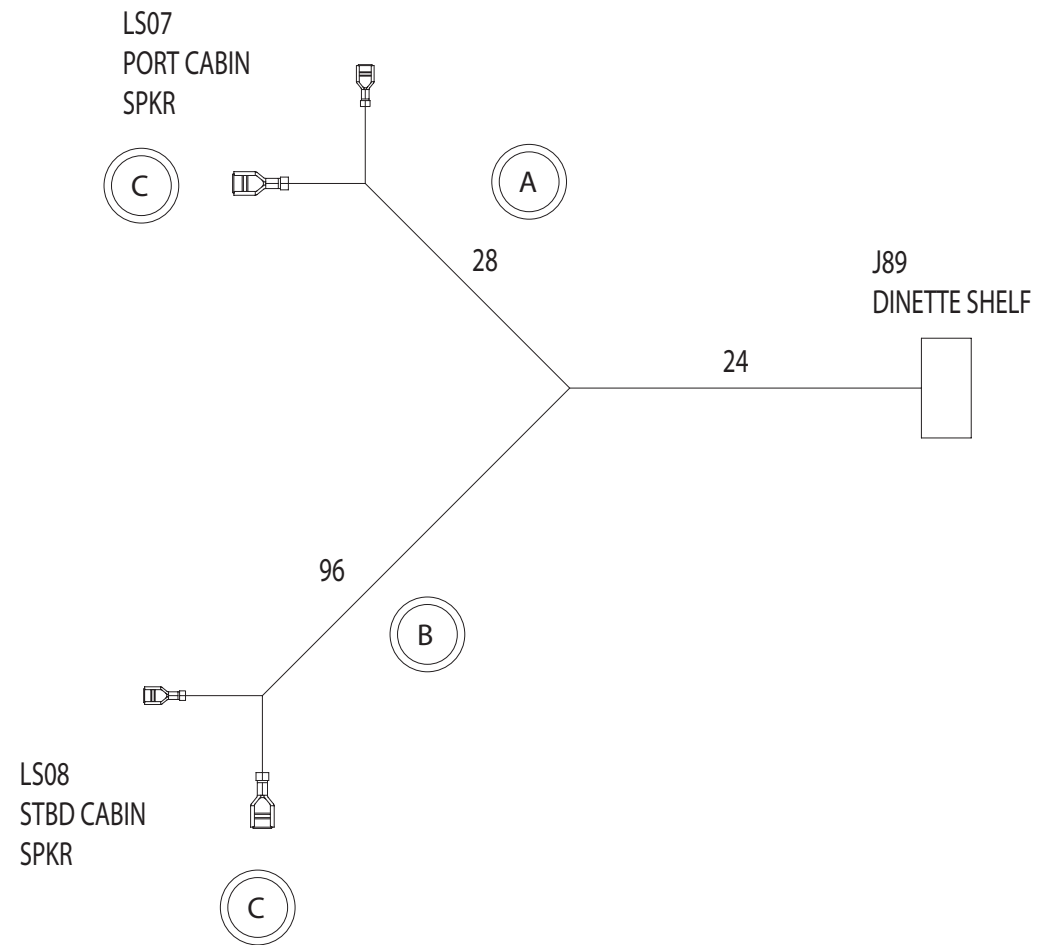
FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
	028-0177	7	TERM,FASTON,250,16-14	02	AMP
	028-0390	6	PIN,UMNL,18-14	41	AMP
	028-0454	8	SOCKET,UMNL,18-14	42	AMP
J90	028-0441	1	RECEPT,UMNL,2 CKT	CO MONITOR	AMP
J91	028-0441	1	RECEPT,UMNL,2 CKT	GALLEY LIGHT	AMP
J92	028-0441	1	RECEPT,UMNL,2 CKT	GALLEY LT	AMP
J93	028-0441	1	RECEPT,UMNL,2 CKT	GALLEY	AMP
P79	028-0449	1	PLUG,UMNL,9 CKT	STRIP LT	AMP
R05	028-1100	REF	RECEPT,12V AFI	GALLEY RECEPTACLE	
S20	028-0457	REF	SWITCH,SPST,CONT III	V-BERTH LTS	
J94	028-0441	1	RECEPT,UMNL,2 CKT	TV ANTENNA	AMP
J95	028-0441	1	RECEPT,UMNL,2 CKT	DVD	AMP
J96	028-0441	1	RECEPT,UMNL,2 CKT	TV	

FOUR WINNS WIRE LIST

COLOR	GA	FIRST	PIN	TERM	NOTE	SECOND	PIN	TERM	NOTE	FUNCTION
BLK	14	J93	1	42	SK	J92	1	42	SI	STRIP LT RET
BLK	14	J92	1	42	SI	J91	1	42	SA	GALLEY LT RET
BLK	14	J91	1	42	SA	J90	1	42	SB	GALLEY LT RET
BLK	14	J90	1	42	SB	P79	1	41	SF	CO MONITOR RET
BLK	14	R05	-	02		S20	1	02	SC	GALLEY RECEPT RET
BLK	16	J96	1	02	SC	J94	1	42	SD	TV RET
BLK	14	S20	1	02	SD	P79	1	41	SF	V BERTH LT RET
BLU/LT BLU	14	J92	2	42		J91	2	42	SE	GALLEY LT
BLU/LT BLU	14	J91	2	42	SE	S20	2	02	SG	GALLEY LT
RED/YEL	16	J90	2	42		P79	5	41		CO MONITOR
BLU/LT BLU	14	S20	2	02	SG	P79	2	41		VBERTH LT IN
BLU/ORN	14	S20	3	02		P79	3	41		VBERTH LT
RED/GRA	16	P79	7	41		J94	2	42	SH	TV ANTENNA
ORN/RED	14	P79	4	41	SH	R05	+	02		GALLEY RECEPT

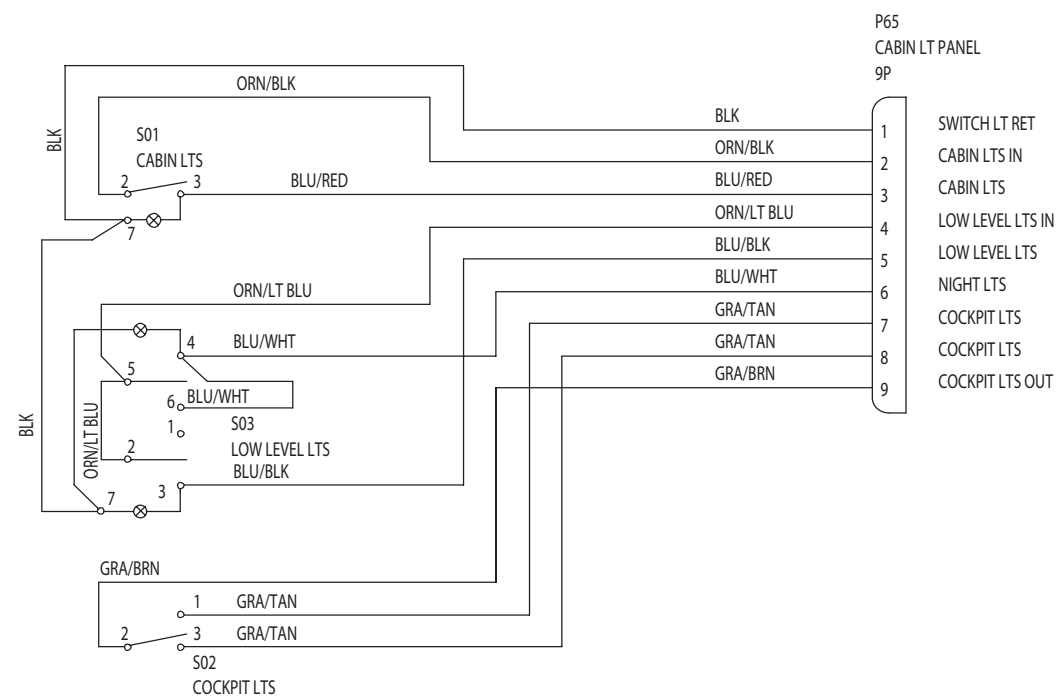
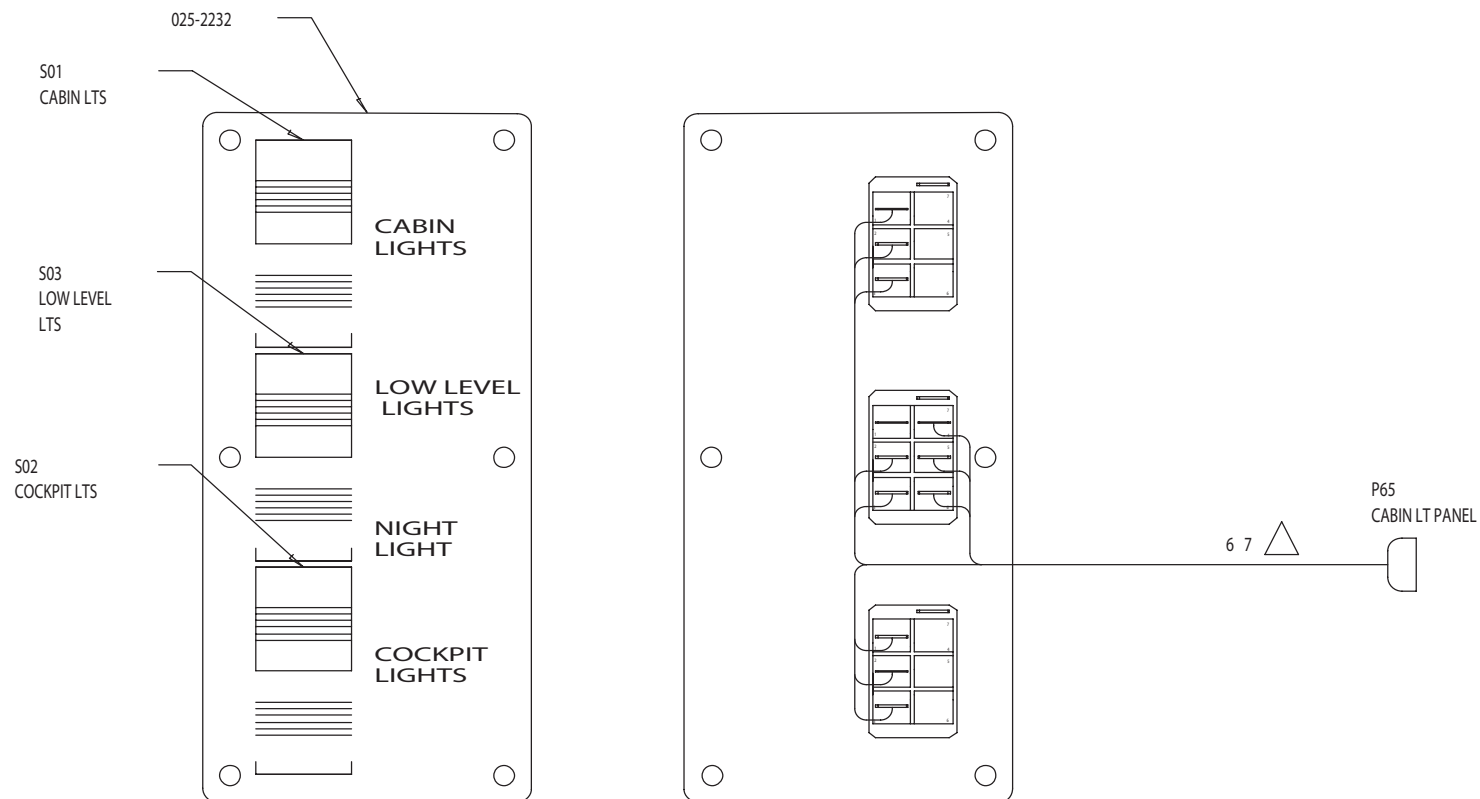
**298 VISTA
GALLEY SYSTEMS
HARNESS ASSEMBLY**



FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
-	028-0177	2	RECEPT,FASTON,,250,16-14	02	AMP
-	028-0454	4	SOCKET,UMNL,18-14	42	AMP
-	028-1288	2	TERM,FASTON,,205,18-14	63	AMP
J89	028-0443	1	RECEPT,UMNL,9 CKT	DINETTE SHELF	AMP
LS07		REF	SPEAKER	PORT CABIN SPKR	-
LS08		REF	SPEAKER	STBD CABIN SPKR	-

298 VISTA DINETTE CLOSET HARNESS ASSEMBLY

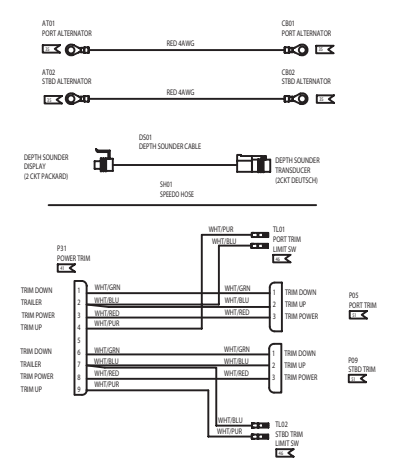
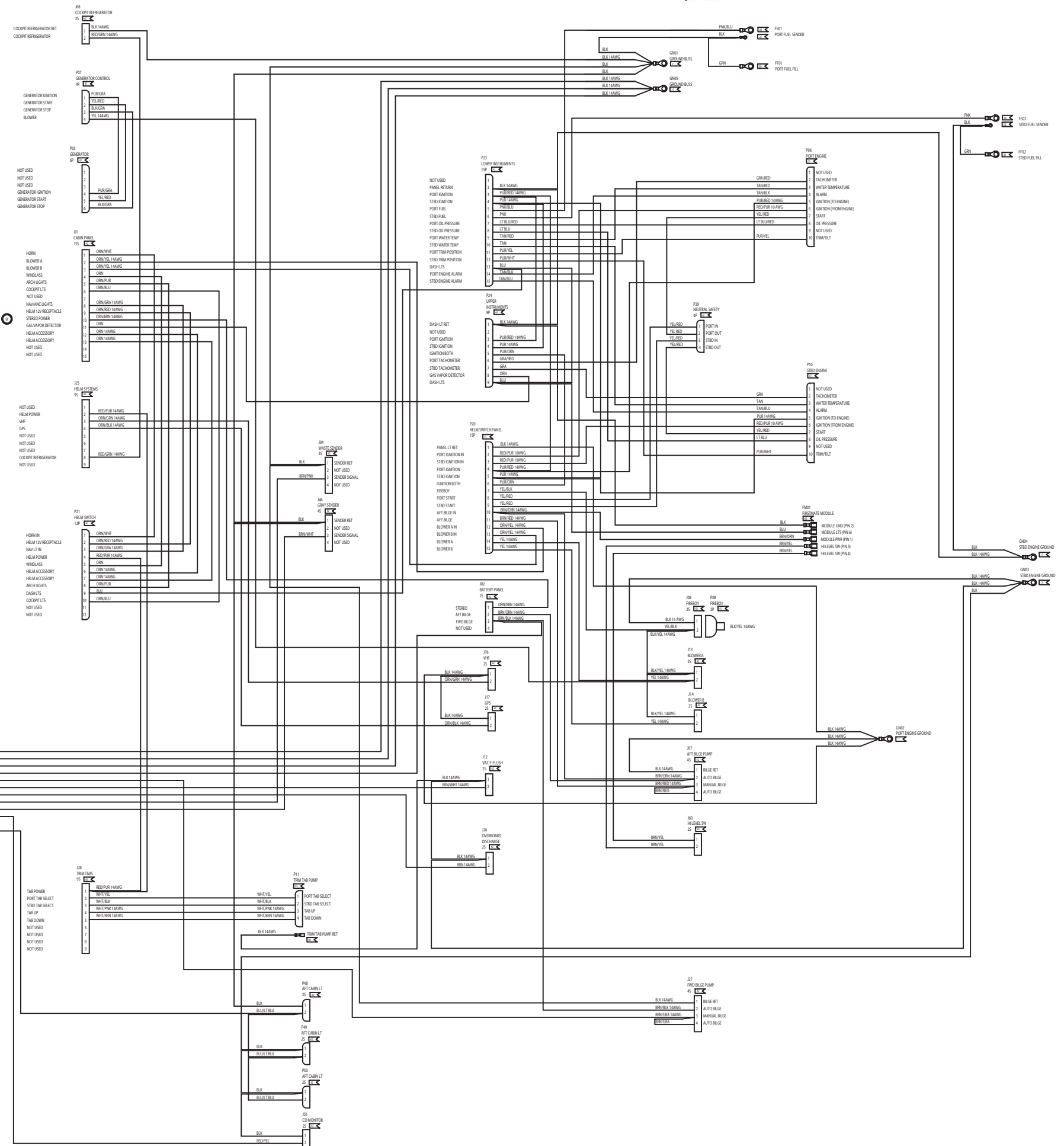


FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
	028-0177	12	RECEPT,FASTON,,250,18-14	02	AMP
	028-0390	9	PIN,UMNL,18-14	41	AMP
	025-2231	1	PANEL,BLANK,CABIN LTS	BLANK PANEL	
P65	028-0449	1	PLUG,UMNL,9 CKT	CABIN PANEL	AMP
S01	028-0457	1	SWITCH,SPST,CONT III	CABIN LTS	CARL SW
S02	028-1135	1	SWITCH, ON-ON,CONT III	COCKPIT LTS	CARL SW
S03	028-0504	1	SWITCH,DPPDT,CONT III	LOW LEVEL LTS	CARL SW

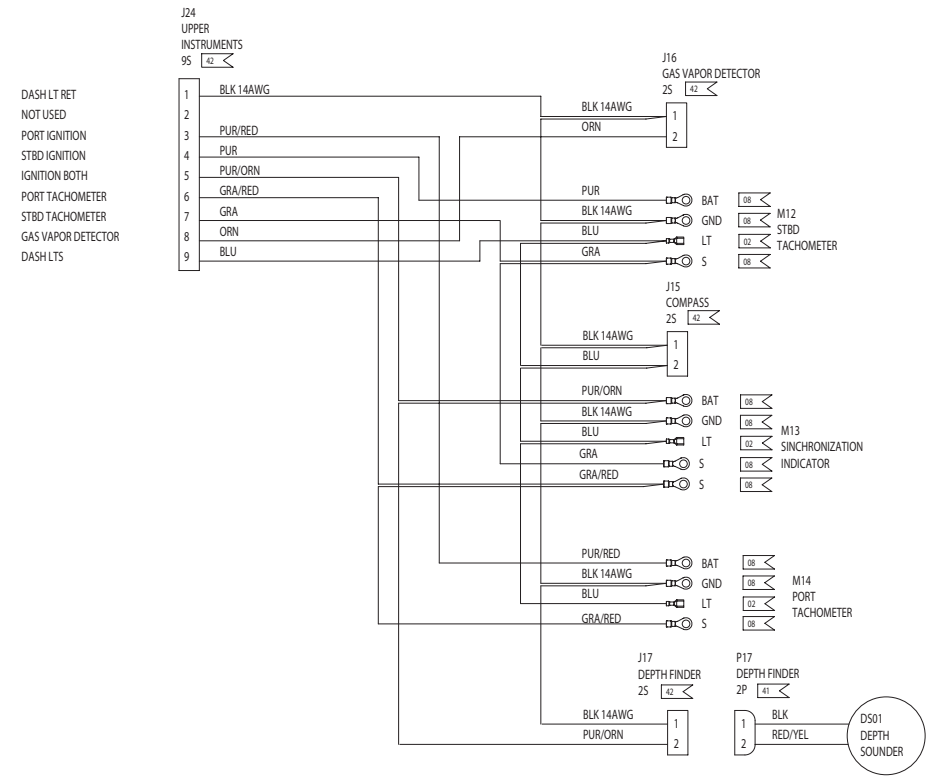
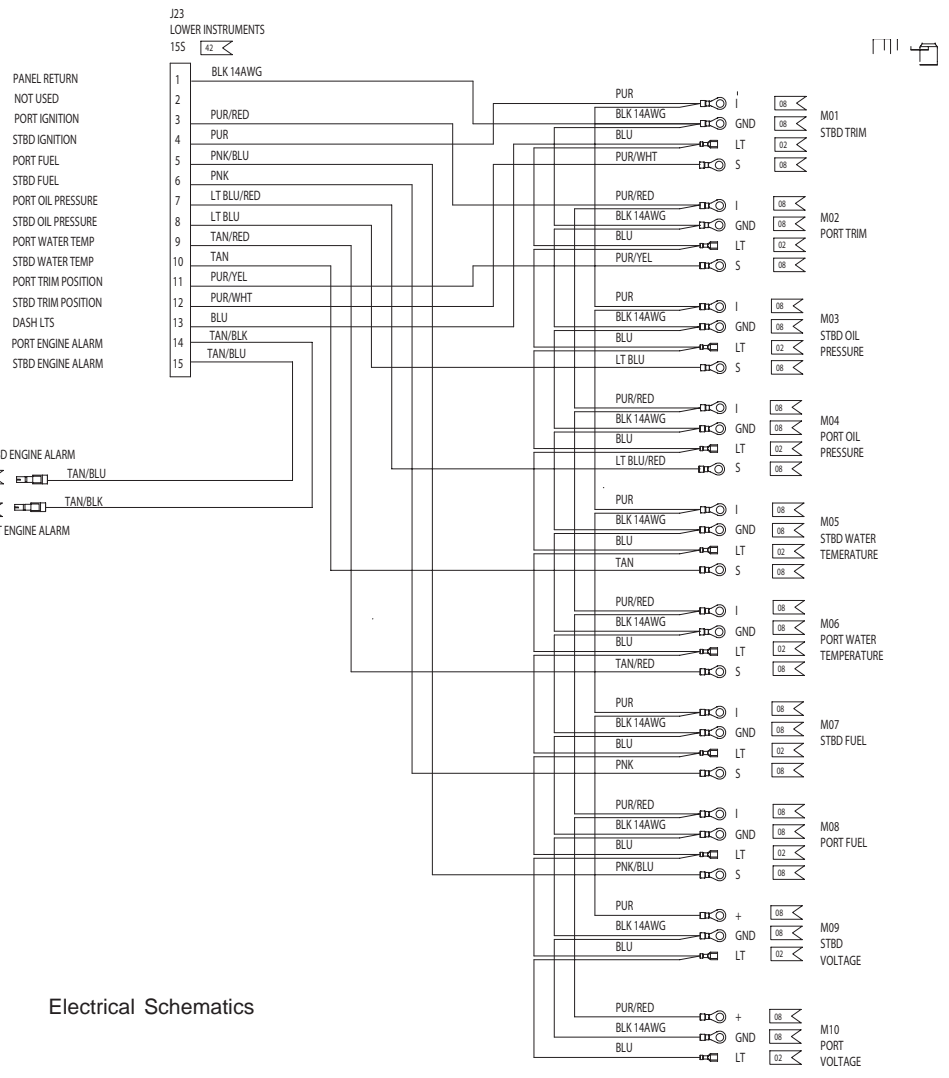
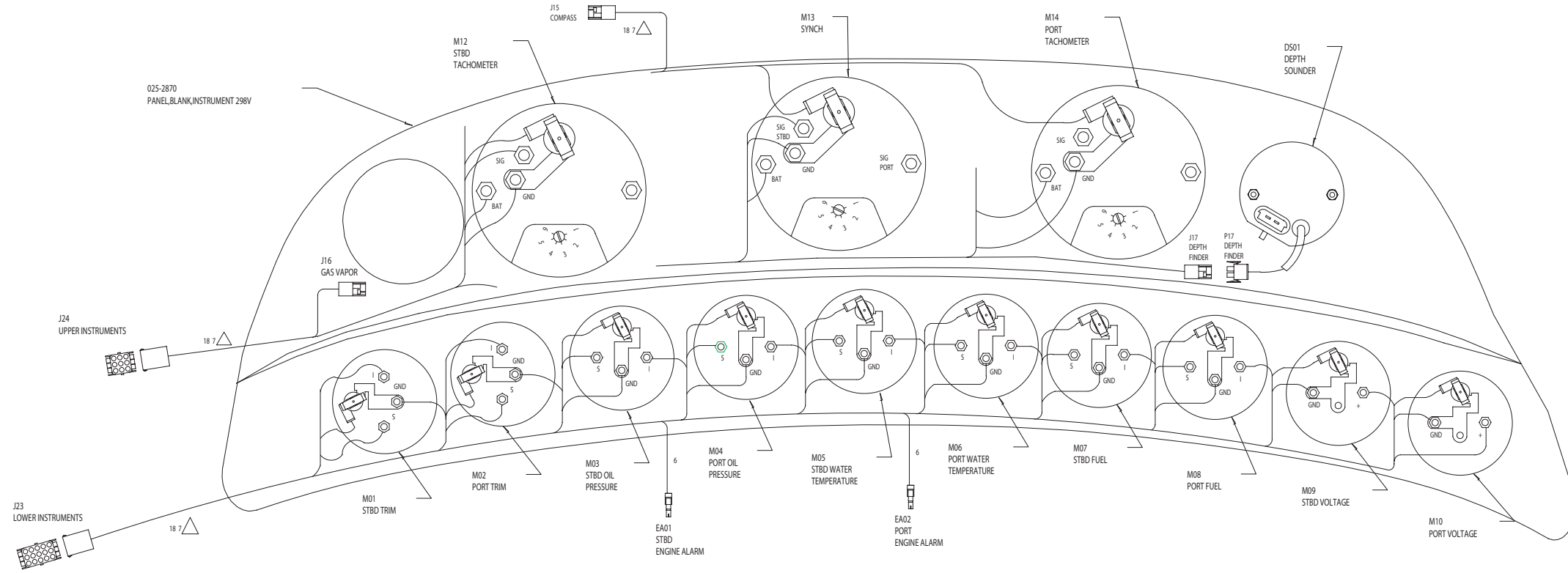
FOUR WINNS WIRE LIST

COLOR	GA	FIRST	PIN	TERM	NOTE	SECOND	PIN	TERM	NOTE	FUNCTION
BLK	16	P65	1	41		S01	7	02	SA	SWITCH LT RET
ORN/BLK	16	P65	2	41		S01	2	02		CABIN LTS IN
BLU/RED	16	P65	3	41		S01	3	02		CABIN LTS
ORN/LT BLU	16	P65	4	41		S03	5	02	SB	LOW LEVEL LTS IN
BLU/BLK	16	P65	5	41		S03	3	02		LOW LEVEL LTS
BLU/WHT	16	P65	6	41		S03	4	02	SC	NIGHT LTS
GRA/TAN	16	P65	7	41		S02	1	02		COCKPIT LTS
GRA/TAN	16	P65	8	41		S02	3	02		COCKPIT LTS
GRA/BRN	16	P65	9	41		S02	2	02		COCKPIT LTS OUT
BLK	16	S01	7	02	SA	S03	7	02		SWITCH LT RET
ORN/T BLU	16	S03	5	02	SB	S03	2	02		LOW LEVEL LT JUMPER
BLU/WHT	16	S03	4	02	SC	S03	6	02		NIGHT LT JUMPER



FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
-	028-0177	6	TERM.FASTON_250,18-14	02	AMP
-	028-0201	1	TAB.FASTON_250,18-14	04	AMP
-	028-0191	5	TERM.RING#10,16-14	09	AMP
-	028-0197	5	TERM.RING#3,16-14	11	AMP
-	028-0315	4	TERM.RING 1/4,4	35	AMP
-	028-0356	2	TERM.RING#6,16-14	22	AMP
-	028-0453	2	PIN.UMNL_12-10	40	AMP
-	028-0390	72	PIN.UMNL_18-14	41	AMP
-	028-0454	66	SOCKET.UMNL_18-14	42	AMP
-	028-0159	6	SOCKET.CMNL_20-14	45	AMP
-	028-0211	4	RECEPT.SOCKET_156,16-14	46	AMP
-	-	24	VENDOR TERMINATED	51	-
AT01	-	REF	ALTERNATOR	PORT ALTERNATOR	-
AT02	-	REF	ALTERNATOR	STBD ALTERNATOR	-
CB01	-	REF	BREAKER,70A,ETA	PORT BREAKER	-
CB02	-	REF	BREAKER,70A,ETA	STBD BREAKER	-
DS01	027-1504	25'	CABLE, TRANSDUCER	DEPTH CABLE	-
SH01	024-0073	415'	TUBE, SPEEDO, CT101033	SPEEDOMETER HOSE	NEW AGE
FF01	-	REF	FILL FUEL, SS	PORT FUEL FILL	-
FF02	-	REF	FILL FUEL, SS	STBD FUEL FILL	-
FS01	-	REF	SENDER.FUEL SW	PORT FUEL SENDER	-
FS02	-	REF	SENDER.FUEL SW	STBD FUEL SENDER	-
GN01	-	REF	BUSS BAR,3/8" X 2	GROUND BUSS	-
GN02	-	REF	ENGINE GROUND	ENGINE GROUND	-
GN03	-	REF	ENGINE GROUND	STBD ENGINE GROUND	-
GN04	-	REF	ENGINE GROUND	STBD ENGINE GROUND	-
GN05	-	REF	BUSS BAR,3/8" X 2	GROUND BUSS	-
J01	028-0446	1	RECEPT.UMNL_15_CKT	CABIN PANEL	AMP
J02	028-0442	1	RECEPT.UMNL_4_CKT	BATTERY SWITCH	AMP
J04	028-0442	1	RECEPT.UMNL_4_CKT	WASTE LEVEL SENDER	AMP
J08	028-0441	1	RECEPT.UMNL_2_CKT	FIREBOY	AMP
J12	028-0441	1	RECEPT.UMNL_2_CKT	VAC-U-FLUSH	AMP
J13	028-0441	1	RECEPT.UMNL_2_CKT	BLOWER A	AMP
J14	028-0441	1	RECEPT.UMNL_2_CKT	BLOWER B	AMP
J16	028-0441	1	RECEPT.UMNL_2_CKT	VHF	AMP
J17	028-0441	1	RECEPT.UMNL_2_CKT	GPS	AMP
J22	028-0441	1	RECEPT.UMNL_2_CKT	WARNING HORNS	AMP
J25	028-0443	1	RECEPT.UMNL_9_CKT	HELM POWER	AMP
J26	028-0441	1	RECEPT.UMNL_2_CKT	OVERBOARD DISCHARGE	AMP
J27	028-0442	1	RECEPT.UMNL_4_CKT	FWD BILGE	AMP
J28	028-0443	1	RECEPT.UMNL_9_CKT	TRIM TABS	AMP
J46	028-0442	1	RECEPT.UMNL_4_CKT	GRAY WATER LEVEL	AMP
J51	028-0441	1	RECEPT.UMNL_2_CKT	CO MONITOR	AMP
J68	028-0441	1	RECEPT.UMNL_2_CKT	COCKPIT FRIG	AMP
P03	-	1	PLUG.UMNL_6_CKT	GENERATOR	AMP
P05	-	1	PLUG.TRIM,OMC	PORT TRIM	OMC
P06	-	1	PLUG.ENGINE,OMC IO	PORT ENGINE	OMC
P07	028-0448	1	PLUG.UMNL_4_CKT	GENERATOR CONTROL	AMP
P08	028-0447	1	PLUG.UMNL_2_CKT	FIREBOY JUMPER	AMP
P09	-	1	PLUG.TRIM,OMC	STBD TRIM	OMC
P10	-	1	PLUG.ENGINE,OMC IO	STBD ENGINE	OMC
P11	028-0111	1	PLUG.CMNL_4	TRIM TABS	AMP
P20	028-0452	1	PLUG.UMNL_15_CKT	HELM SWITCH PANEL	AMP
P21	028-0451	1	PLUG.UMNL_12_CKT	HELM SWITCH PANEL	AMP
P23	028-0452	1	PLUG.UMNL_15_CKT	LOWER INSTRUMENTS	AMP
P24	028-0449	1	PLUG.UMNL_9_CKT	UPPER INSTRUMENTS	AMP
P29	028-0448	1	RECEPT.UMNL_4_CKT	NEUTRAL SAFETY	AMP
P31	028-0449	1	PLUG.UMNL_9_CKT	PORT/STBD POWER TRIM	AMP
P48	028-0161	1	PLUG.CMNL_2_CKT	CABIN LT	AMP
P49	028-0161	1	PLUG.CMNL_2_CKT	CABIN LT	AMP
P50	028-0161	1	PLUG.CMNL_2_CKT	CABIN LT	AMP
P86	028-0451	1	PLUG.UMNL_12_CKT	HULL SYSTEMS	AMP
J60	028-0441	1	RECEPT.UMNL_2_CKT	HULL SW	AMP
FM01	-	REF	FIRSTMATE MODULE	FIRSTMATE CONTROL	-



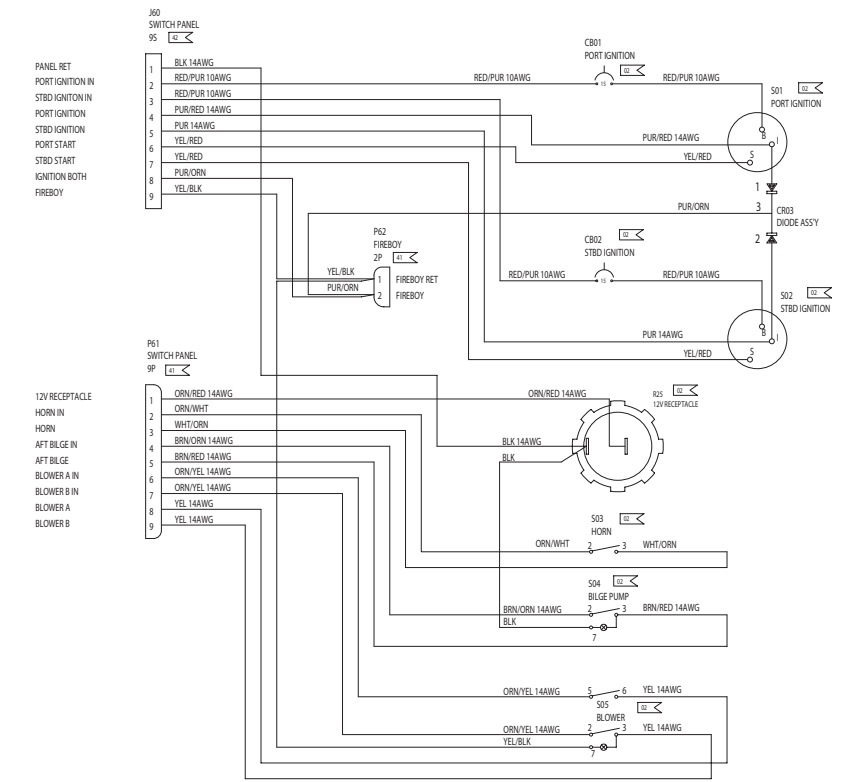
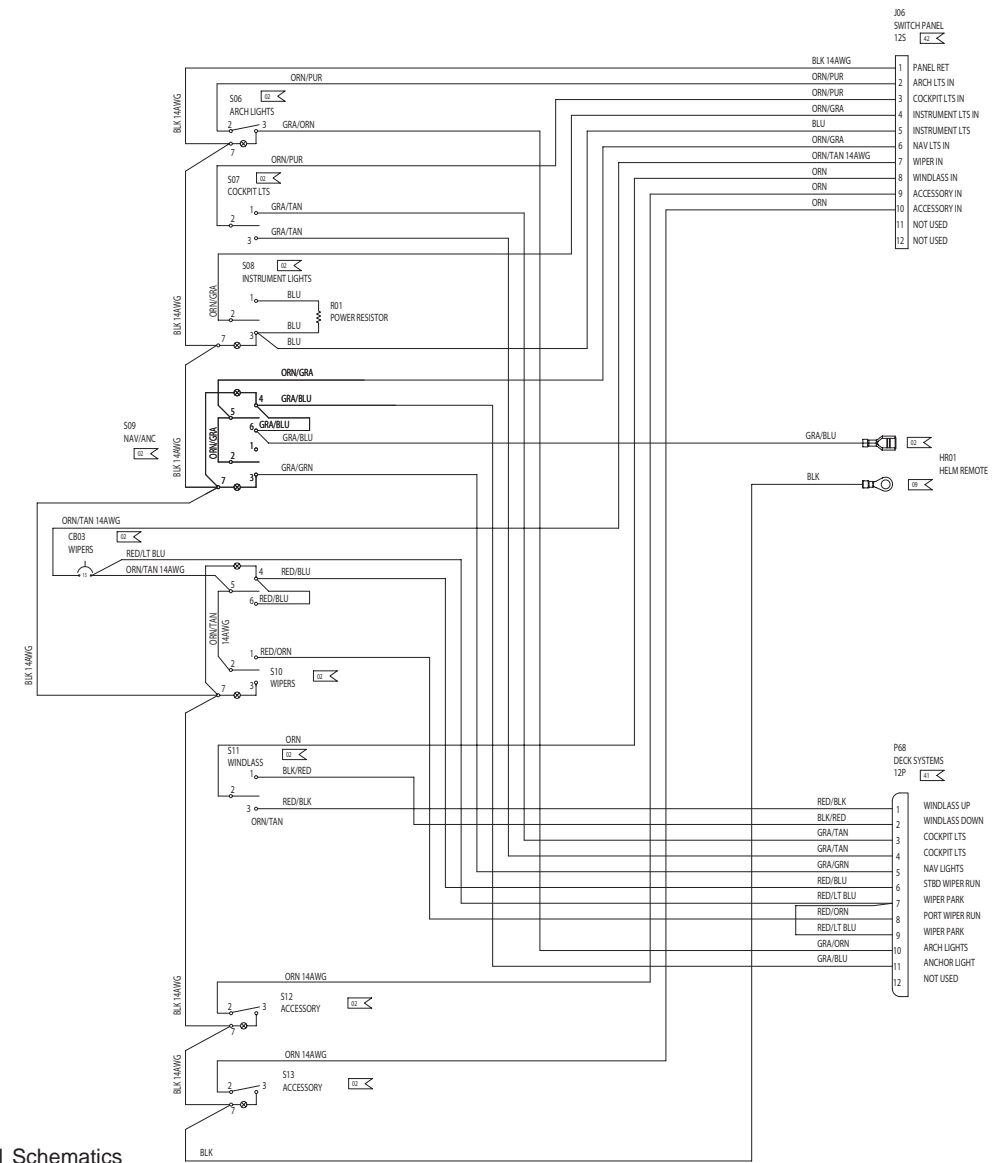
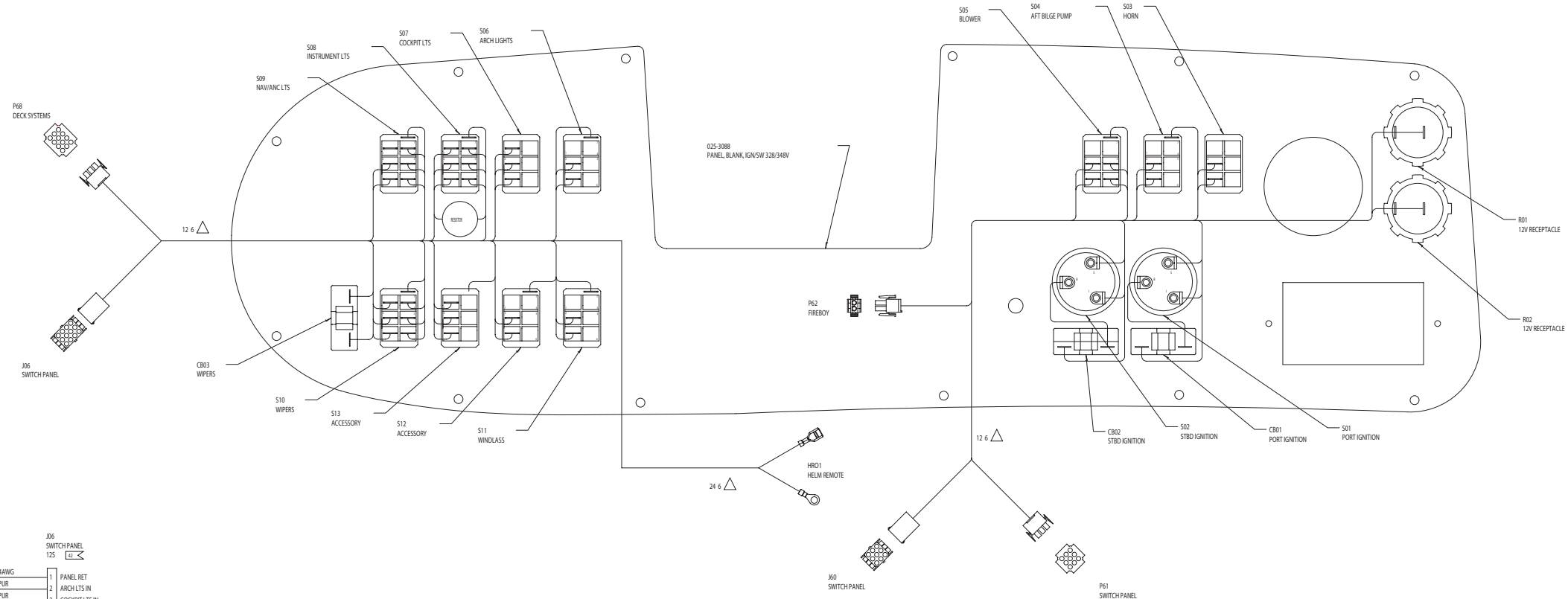
FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
-	028-0177	36	TERM.FASTON,250,18-14	02	AMP
-	028-0189	37	TERMINAL,RING,PG#8,16-14	08	AMP
-	028-0454	24	SOCKET,UMNL,18-14	42	AMP
-	028-1823	2	TERM.BULLET,FEM,INS,156,16-14	75	AMP
-	025-2870	1	PANEL,BLANK,INSTRUMENTS,298V	-	-
J15	028-0441	1	RECEPT,UMNL,2 CKT	COMPASS	AMP
J16	028-0441	1	RECEPT,UMNL,2 CKT	GAS VAPOR	AMP
J17	028-0441	1	RECEPT,UMNL,2 CKT	DEPTH FINDER	AMP
P17	028-0447	1	PLUG,UMNL,2 CKT	DEPTH FINDER	AMP
J23	028-0445	1	RECEPT,UMNL,15 CKT	LOWER INSTRUMENTS	AMP
J24	028-0443	1	RECEPT,UMNL,9 CKT	UPPER INSTRUMENTS	AMP
M12	024-0526	1	GAUGE,TACH,6000 W/HOUR,FARIA#TCH239	STBD TACHOMETER	FARIA
M13	024-0533	1	GAUGE,SYNCF,FARIA#S9762	SYNCHRONIZATION	FARIA
M14	024-0526	1	GAUGE,TACH,6000 W/HOUR,FARIA#TCH239	PORT TACHOMETER	FARIA
DS01	028-1748	1	DEPTH FINDER,FARIA#DS0109	DEPTH FINDER	FARIA
M01	024-0529	1	GAUGE,TRIM,FARIA#GP7766	STBD TRIM	FARIA
M02	024-0529	1	GAUGE,TRIM,FARIA#GP7766	PORT TRIM	FARIA
M03	024-0530	1	GAUGE,OIL_PRESS,FARIA#GP7767	STBD OIL PRESSURE	FARIA
M04	024-0530	1	GAUGE,OIL_PRESS,FARIA#GP7767	PORT OIL PRESSURE	FARIA
M05	024-0528	1	GAUGE,TEMP,FARIA#GP7765	STBD WATER TEMP	FARIA
M06	024-0528	1	GAUGE,TEMP,FARIA#GP7765	PORT WATER TEMP	FARIA
M07	024-0532	1	GAUGE,FUEL,FARIA#GP7768	STBD FUEL QUANTITY	FARIA
M08	024-0532	1	GAUGE,FUEL,FARIA#GP7768	PORT FUEL QUANTITY	FARIA
M09	024-0531	1	GAUGE,VOLT,FARIA#VP7114	STBD VOLTAGE	FARIA
M10	024-0531	1	GAUGE,VOLT,FARIA#VP7114	PORT VOLTAGE	FARIA
EA01	-	REF	ENGINE ALARM	STBD ENGINE ALARM	-
EA02	-	REF	ENGINE ALARM	PORT ENGINE ALARM	-



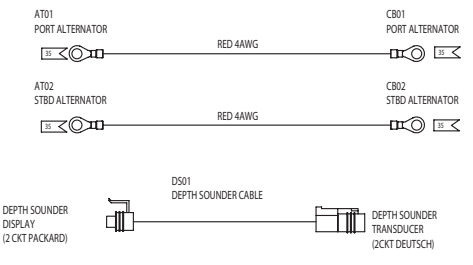
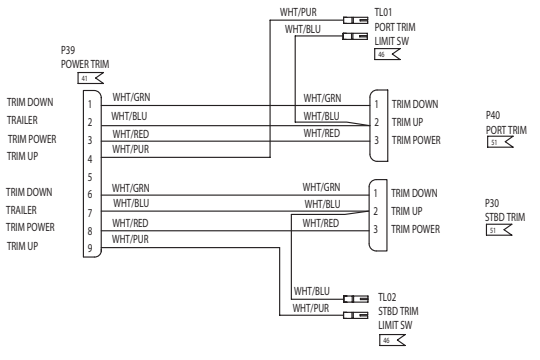
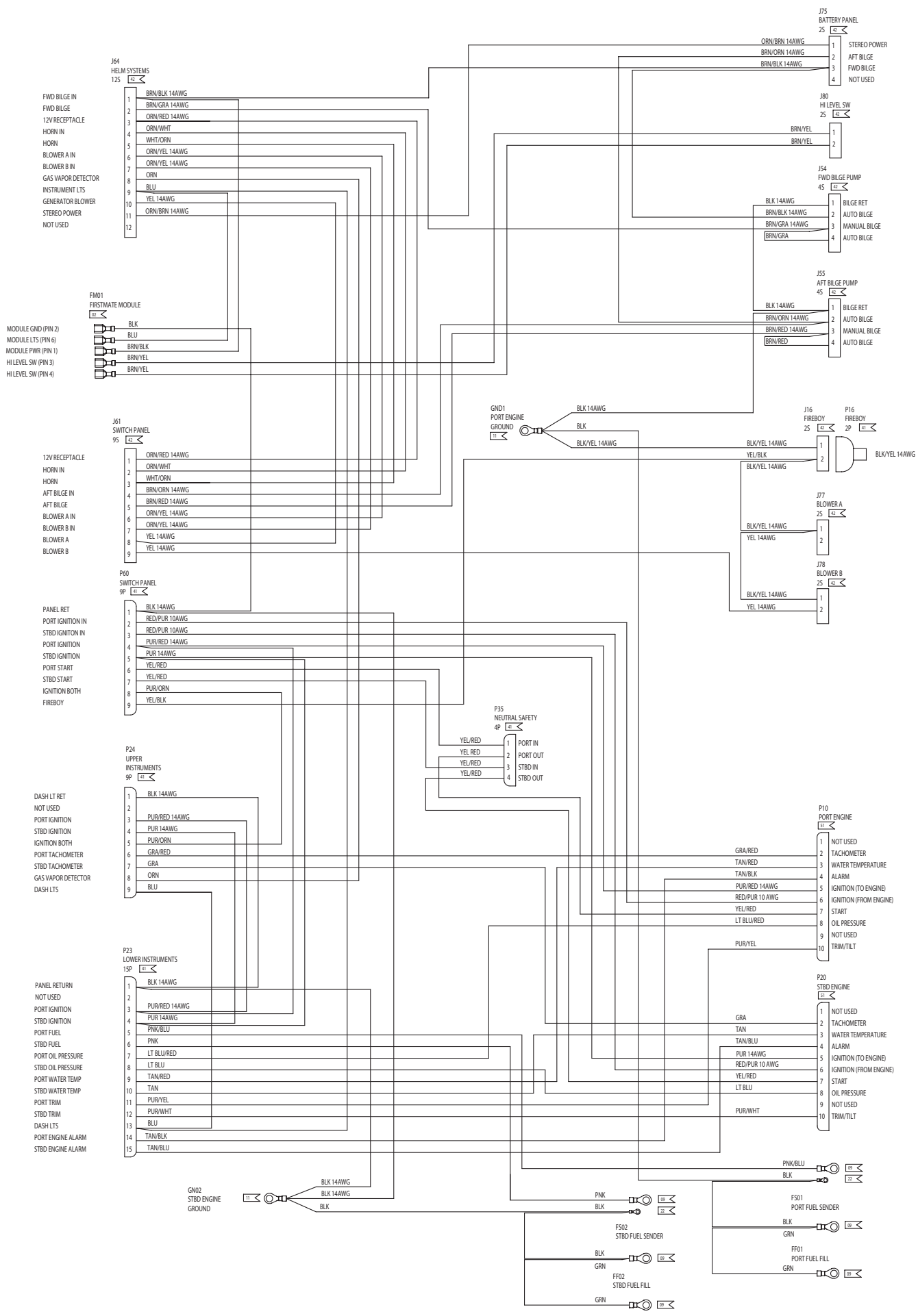
FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
-	028-0177	47	TERMFASSTN_250,18-14	02	AMP
-	028-0179	6	TERMFASSTN_250,12-10	07	AMP
-	028-0189	2	TERMRING_#8,16-14	08	AMP
-	028-0191	20	TERMRING_PGI10	09	AMP
-	028-0390	19	PIN_UMNL,18-14	41	AMP
-	028-0454	2	SOCKET_UMNL,18-14	42	AMP
-	028-0455	1	SOCKET_UMNL,12-10	43	AMP
-	025-3088	1	PANEL, BLANK IGN/SWITCH, 328/348V	-	-
CB01	028-0467	1	BREAKER, 15A	PORT IGNITION	MP
CB02	028-0467	1	BREAKER, 15A	STBD IGNITION	MP
CB03	028-0466	1	BREAKER, 10A	WIPER	MP
J06	028-0445	1	RECEPT, UMNL, 12 CKT	SWITCH PANEL	AMP
J60	028-0444	1	RECEPT, UMNL, 9 CKT	SWITCH PANEL	AMP
P61	028-0449	1	PLUG, UMNL, 9 CKT	SWITCH PANEL	AMP
P62	028-0447	1	PLUG, UMNL, 2 CKT	SWITCH PANEL	AMP
P68	028-0450	1	PLUG, UMNL, 12 CKT	DECK SYSTEMS	AMP
R01	-	1	RESISTOR, LIGHT POWER	LIGHT DIMMER	-
R25	028-1100	1	RECEPT, 12V AFI	12V RECEPTACLE	AFI
S01	028-1286	1	SWITCH, IGNITION I/O	PORT IGNITION	GENERAL
S02	028-1286	1	SWITCH, IGNITION I/O	STBD IGNITION	GENERAL
S03	028-0456	1	SWITCH, SPST, (MOM) CONT III	HORN	CARL SW
S04	028-0457	1	SWITCH, SPST, CONT III	BILGE PUMP	CARL SW
S05	028-0459	1	SWITCH, DPST, CONT III	BLOWER	CARL SW
S06	028-0457	1	SWITCH, SPST, CONT III	ARCH LIGHTS	CARL SW
S07	028-1135	1	SWITCH, SPST, ON-ON CONT III	COCKPIT LTS	CARL SW
S08	028-0504	1	SWITCH, DPDT, CONT III	INSTRUMENT LTS	CARL SW
S09	028-0504	1	SWITCH, DPDT, CONT III	NAV/ANC LTS	CARL SW
S10	028-0504	1	SWITCH, DPDT, CONT III	WIPERS	CARL SW
S11	028-0469	1	SWITCH, SPDT, (ON) OFF (ON)	WINDLASS	CARL SW
S12	028-0457	1	SWITCH, SPST, CONT III	ACCESSORY	CARL SW
S13	028-0457	1	SWITCH, SPST, CONT III	ACCESSORY	CARL SW
HRO1	-	REF	HELM STEREO REMOTE	-	-



328 VISTA IGNITION/SWITCH PANEL ASSEMBLY

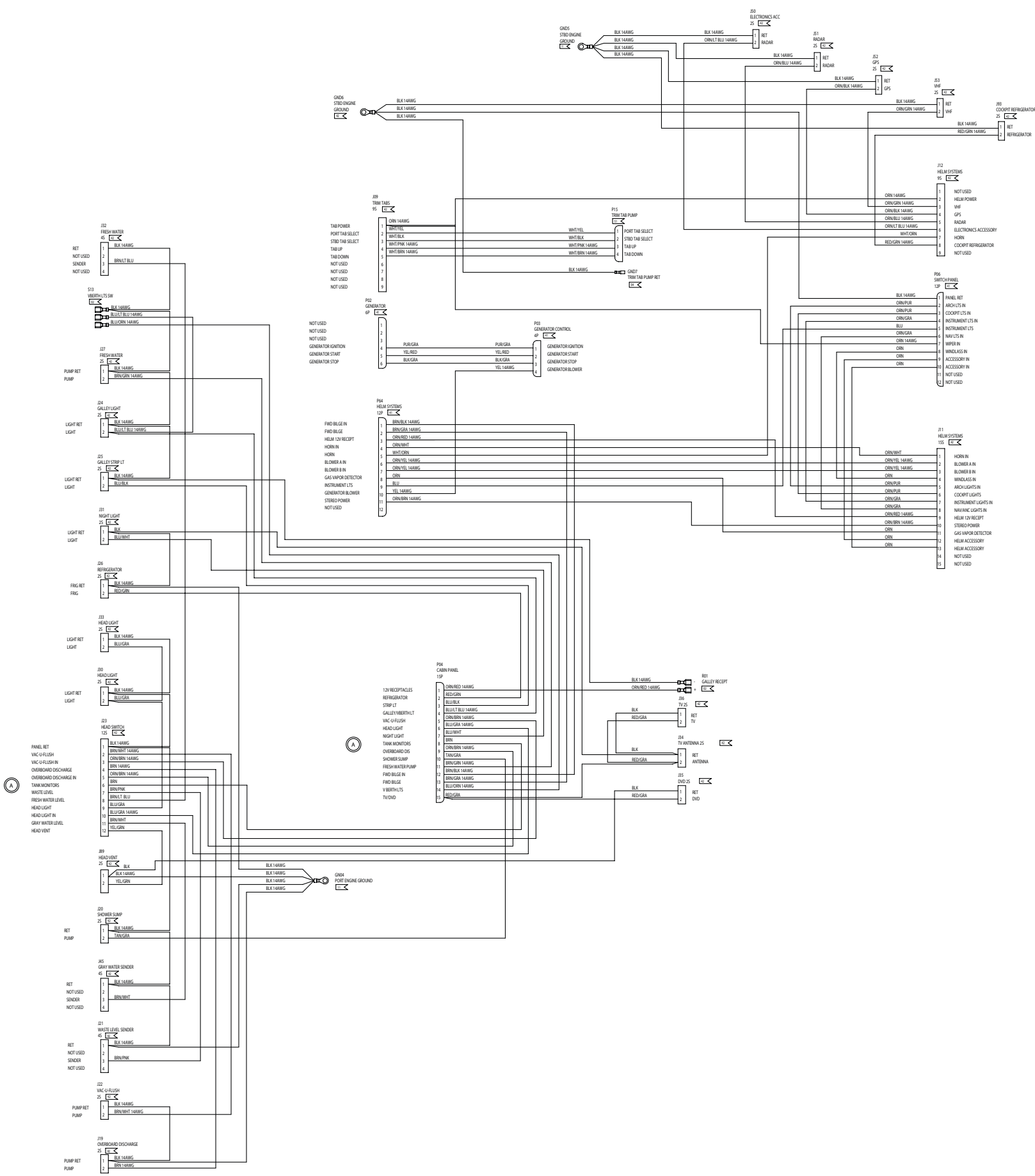
Page 2



FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
-	028-0177	9	TERM,FASTON,.250,18-14	02	AMP
-	028-0191	6	TERM,RING,#10,16-14	09	AMP
-	028-0197	3	TERM,RING,3/8,16-14	11	AMP
-	028-0356	2	TERM,RING,#6,16-14	22	AMP
-	-	4	TERM,RING,1/4,4	35	AMP
-	028-0453	2	PIN,UMNL,12-10	40	AMP
-	028-0390	46	PIN,UMNL,18-14	41	AMP
-	028-0454	37	SOCKET,UMNL,18-14	42	AMP
-	028-0211	4	RECEPT,SOCKET,.156,16-14	46	AMP
-	-	26	VENDOR TERMINATED	51	-
AT01	-	REF	ALTERNATOR,65A	PORT ALTERNATOR	-
AT02	-	REF	ALTERNATOR,65A	STBD ALTERNATOR	-
CB01	-	REF	BREAKER,70A	PORT ALTERNATOR	-
CB02	-	REF	BREAKER,70A	STBD ALTERNATOR	-
D501	027-1504	1	CABLE,TRANSDUCER	DEPTH SOUNDER	PORTAGE WIRE
FS01	-	REF	FUEL SENDER,SW	PORT FUEL SENDER	-
FS02	-	REF	FUEL SENDER,SW	STBD FUEL SENDER	-
FF01	-	REF	FUEL FILL,SS	PORT FUEL FILL	-
FF02	-	REF	FUEL FILL,SS	STBD FUEL FILL	-
GND1	-	REF	GROUND,ENGINE	PORT ENGINE GROUND	-
GND2	-	REF	GROUND,ENGINE	STBD ENGINE GROUND	-
GND3	-	REF	GROUND,ENGINE	STBD ENGINE GROUND	-
J16	028-0441	1	RECEPT,UMNL,2 CKT	FIREBOY	AMP
J54	028-0442	1	RECEP,UMNL,4 CKT	FWD BILGE	AMP
J55	028-0442	1	RECEPT,UMNL,4 CKT	AFT BILGE	AMP
J61	028-0443	1	RECEPT,UMNL,9 CKT	SWITCH PANEL	AMP
J64	028-0445	1	RECEPT,UMNL,12 CKT	HELM SYSTEMS	AMP
J75	028-0442	1	RECEPT,UMNL,4 CKT	BATTERY PANEL	AMP
J77	028-0441	1	RECEPT,UMNL,2 CKT	BLOWER A	AMP
J78	028-0441	1	RECEPT,UMNL,2 CKT	BLOWER B	AMP
J80	028-0441	1	RECEPT,UMNL,2 CKT	HI WATER LEVEL SWITCH	AMP
P10	-	1	PLUG,ENGINE,IO	PORT ENGINE	OMC
P16	028-0447	1	PLUG,UMNL,2 CKT	FIREBOY JUMPER	AMP
P20	-	1	PLUG,ENGINE,IO	STBD ENGINE	OMC
P23	028-0452	1	PLUG,UMNL,15 CKT	LOWER INSTRUMENTS	AMP
P24	028-0449	1	PLUG,UMNL,9 CKT	UPPER INSTRUMENTS	AMP
P30	-	1	PLUG,TRIM/TILT	STBD TRIM	OMC
P39	028-0449	1	PLUG,UMNL,9 CKT	PORT/STBD TRIM	AMP
P40	-	1	PLUG,TRIM/TILT	PORT TRIM	OMC
P60	028-0449	1	PLUG,UMNL,9 CKT	SWITCH PANEL	AMP
P35	028-0448	1	PLUG,UMNL,4 CKT	PORT/STBD NEUTRAL SAFETY	AMP
FM01	-	REF	FIRSTMATE CONTROL MODULE	FIRSTMATE	-

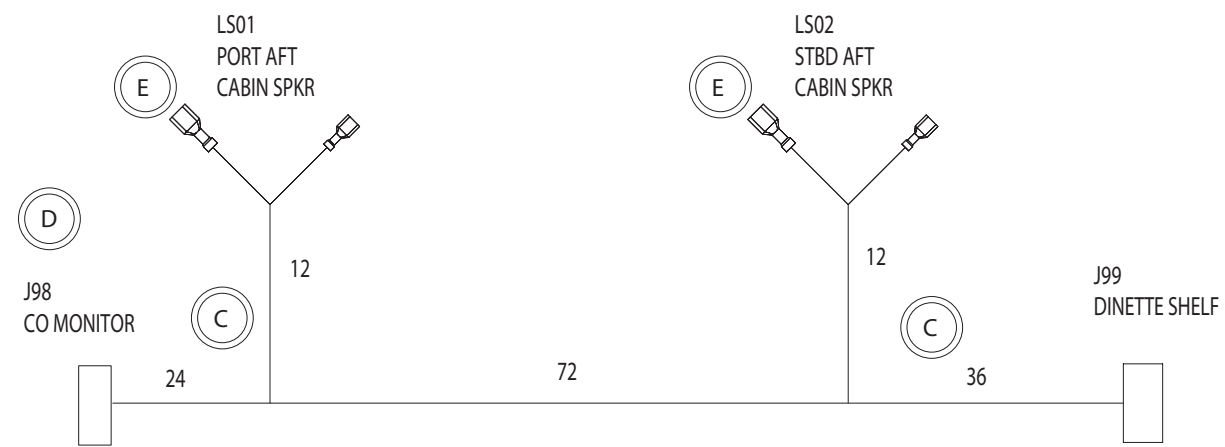
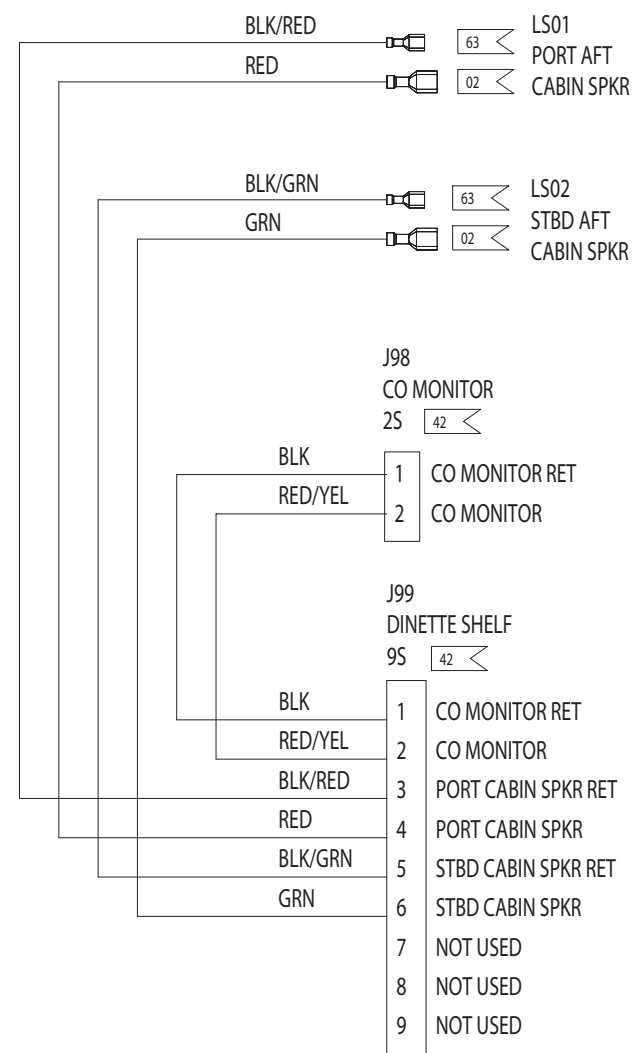
328 VISTA ENGINE SYSTEMS HARNESS ASSEMBLY



FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
-	028-0177	13	RECEPT,FASTON,,250,18-14	02	AMP
-	028-0191	1	TERM,RING,#10,16-14	09	AMP
-	028-0286	1	TERM,RING,1/4,6	16	AMP
-	028-0285	2	TERM,RING,#10,6	34	AMP
-	028-0619	1	TERM,RING,3/8,6	37	AMP
-	028-0390	8	PIN,UMNL,18-14	41	AMP
-	028-0454	64	SOCKET,UMNL,18-14	42	AMP
-	028-0159	6	SOCKET,CMNL,20-14	45	AMP
-	028-1288	2	TERM,FASTON,,205,18-14	63	AMP
J41	028-0441	1	RECEPT,UMNL,2 CKT	SPOTLIGHT	AMP
J42	028-0441	1	RECEPT,UMNL,2 CKT	SPOTLIGHT	AMP
J50	028-0441	1	RECEPT,UMNL,2 CKT	PORT CABIN LT	AMP
J51	028-0441	1	RECEPT,UMNL,2 CKT	GALLEY LT	AMP
J52	028-0441	1	RECEPT,UMNL,2 CKT	PORT V BERTH LT	AMP
J53	028-0441	1	RECEPT,UMNL,2 CKT	CENTER CABIN LT	AMP
J54	028-0441	1	RECEPT,UMNL,2 CKT	FWD CABIN LT	AMP
J55	028-0441	1	RECEPT,UMNL,2 CKT	CENTER V BERTH LT	AMP
J56	028-0441	1	RECEPT,UMNL,2 CKT	NIGHT LIGHT	AMP
J59	028-0441	1	RECEPT,UMNL,2 CKT	WINDLASS	AMP
J61	028-0441	1	RECEPT,UMNL,2 CKT	STBD CABIN LT	AMP
J62	028-0441	1	RECEPT,UMNL,2 CKT	STBD FWD CABIN LT	AMP
J63	028-0441	1	RECEPT,UMNL,2 CKT	STBD V BERTH LT	AMP
J64	028-0446	1	RECEPT,UMNL,15 CKT	CABIN PANEL	AMP
J65	028-0443	1	RECEPT,UMNL,9 CKT	CABIN LT PANEL	AMP
J68	028-0445	1	RECEPT,UMNL,12 CKT	STBD SW/DECK SYS	AMP
J69	028-0441	1	RECEPT,UMNL,2 CKT	CO MONITOR	AMP
J80	028-0442	1	RECEPT,UMNL,4 CKT	ARCH	AMP
J82	028-0441	1	RECEPT,UMNL,2 CKT	COCKPIT LT	AMP
J83	028-0441	1	RECEPT,UMNL,2 CKT	COCKPIT LT	AMP
J84	028-0441	1	RECEPT,UMNL,2 CKT	COCKPIT LT	AMP
J85	028-0441	1	RECEPT,UMNL,2 CKT	HORN	AMP
LS03	-	REF	SPEAKER	CABIN SPEAKER	-
LS04	-	REF	SPEAKER	CABIN SPEAKER	-
P27	028-0448	1	PLUG,UMNL,4 CKT	ARCH SPEAKERS	AMP
P66	028-0161	1	PLUG,CMNL,2 CKT	AFT AFT CABIN LT	AMP
P67	028-0161	1	PLUG,CMNL,2 CKT	FWD AFT CABIN LT	AMP
P70	028-0161	1	PLUG,CMNL,2 CKT	CABIN LT	AMP
P85	028-0450	1	PLUG,UMNL,9 CKT	SPEAKERS	AMP
SC01	027-1700	1	CABLE ASSEMBLY,35' SPOTLIGHT	SPOTLIGHT	GUEST
LT01	-	REF	LIGHT,PORT NAV	PORT NAV LT	-
LT02	-	REF	LIGHT,STBD NAV	STBD NAV LT	-
WW01	-	REF	WIPER,AFI 2000	STBD WIPER	-
WW02	-	REF	WIPER,AFI 2000	PORT WIPER	-

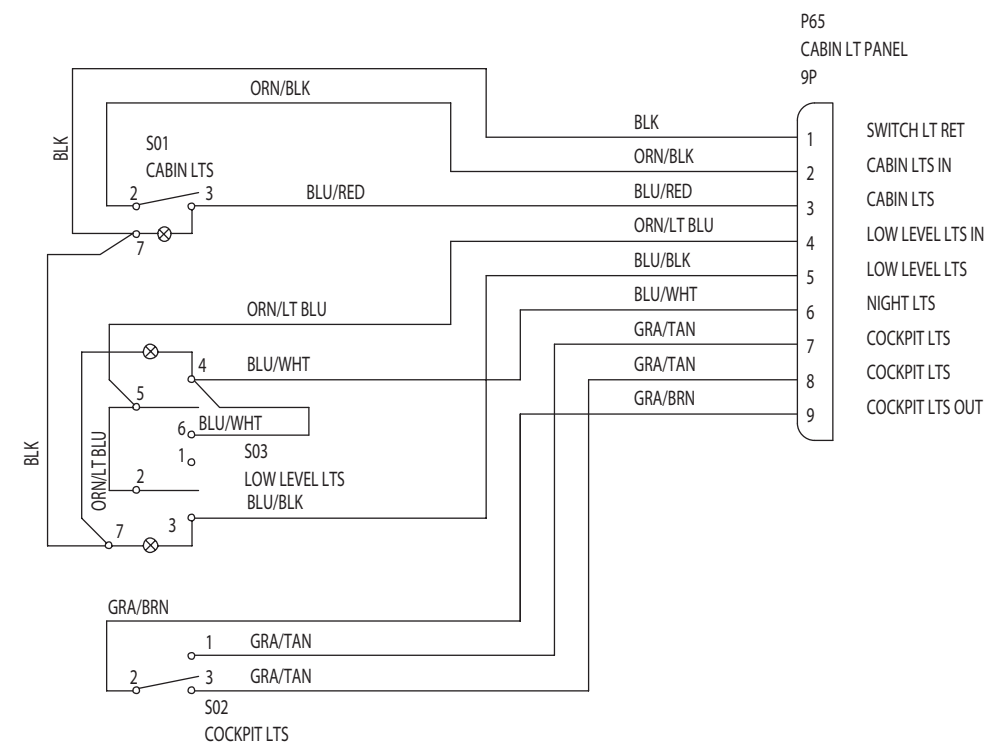
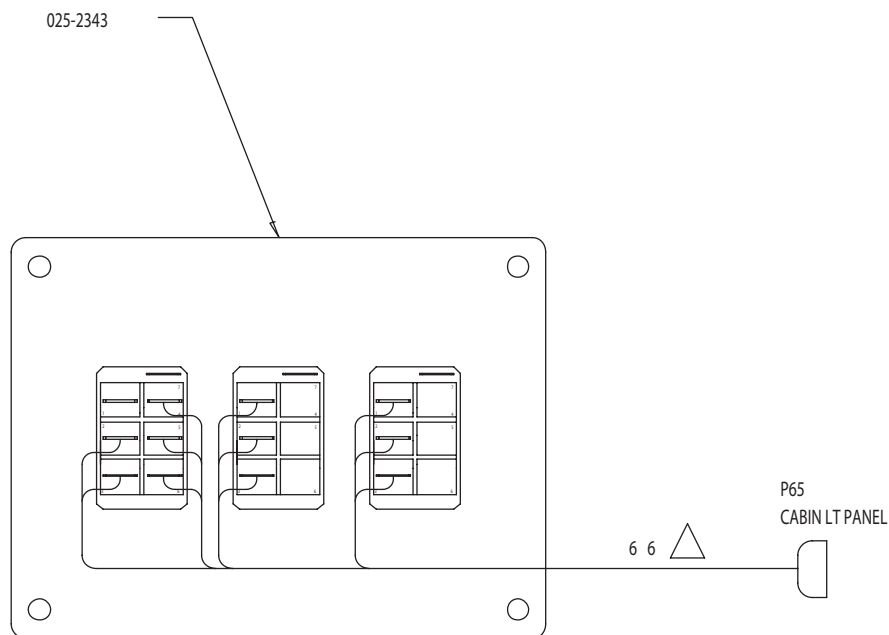
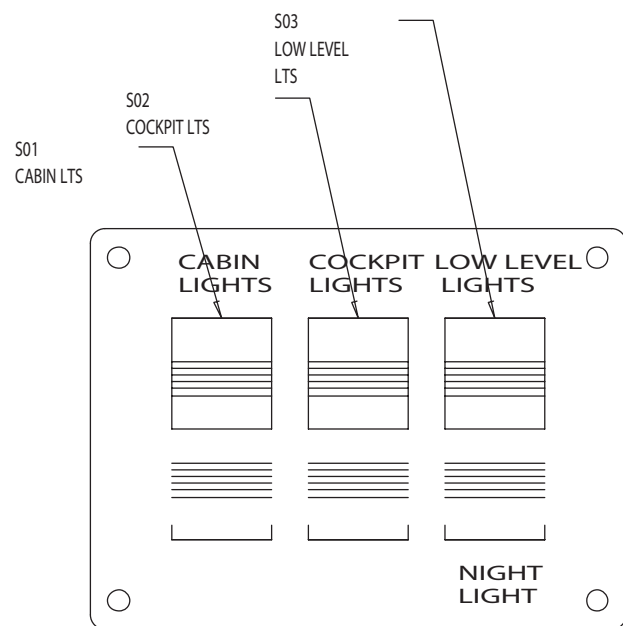
328/348 VISTA AFT SYSTEMS HARNES ASSEMBLY



FOUR WINNS PARTS LIST

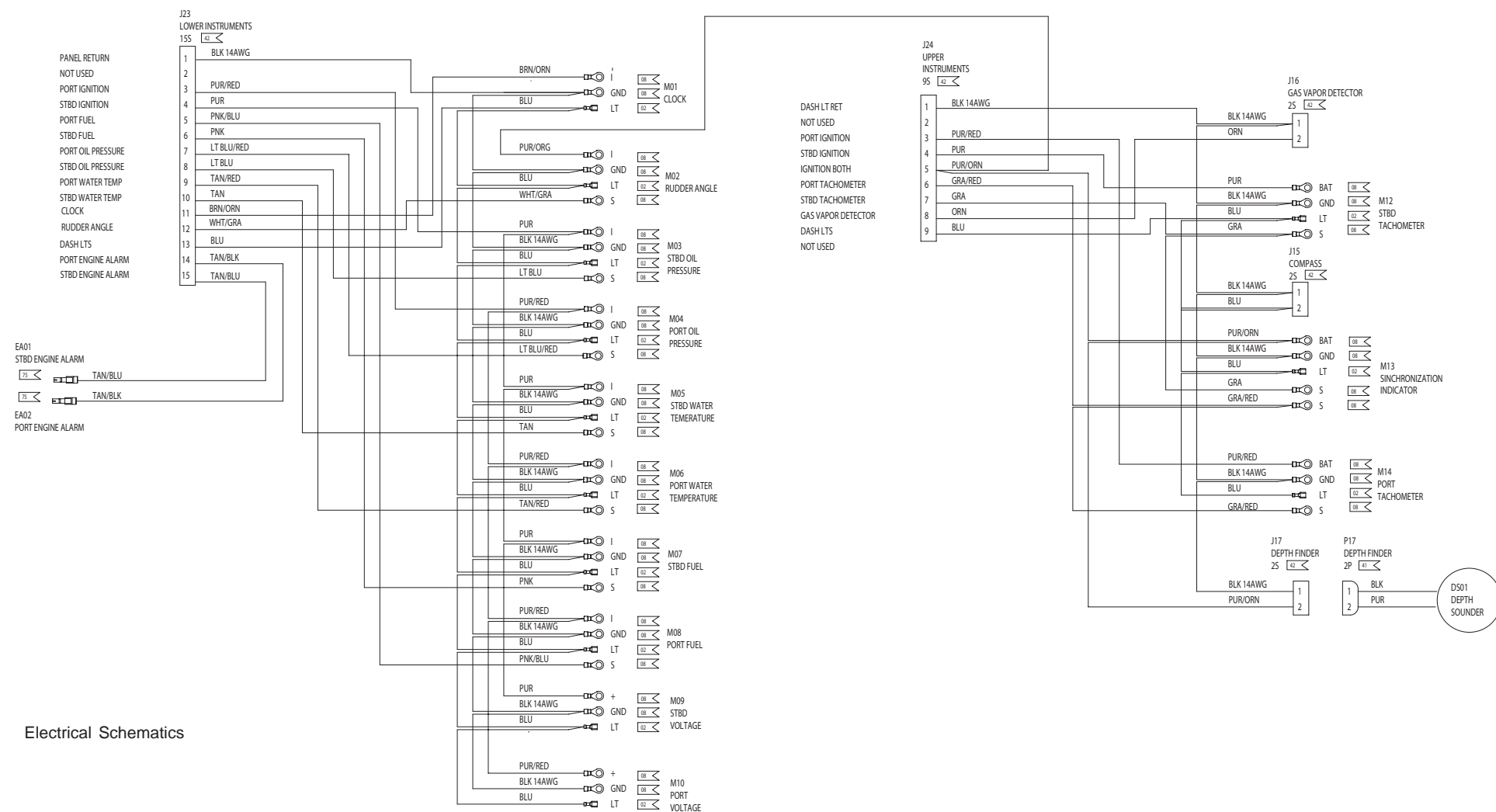
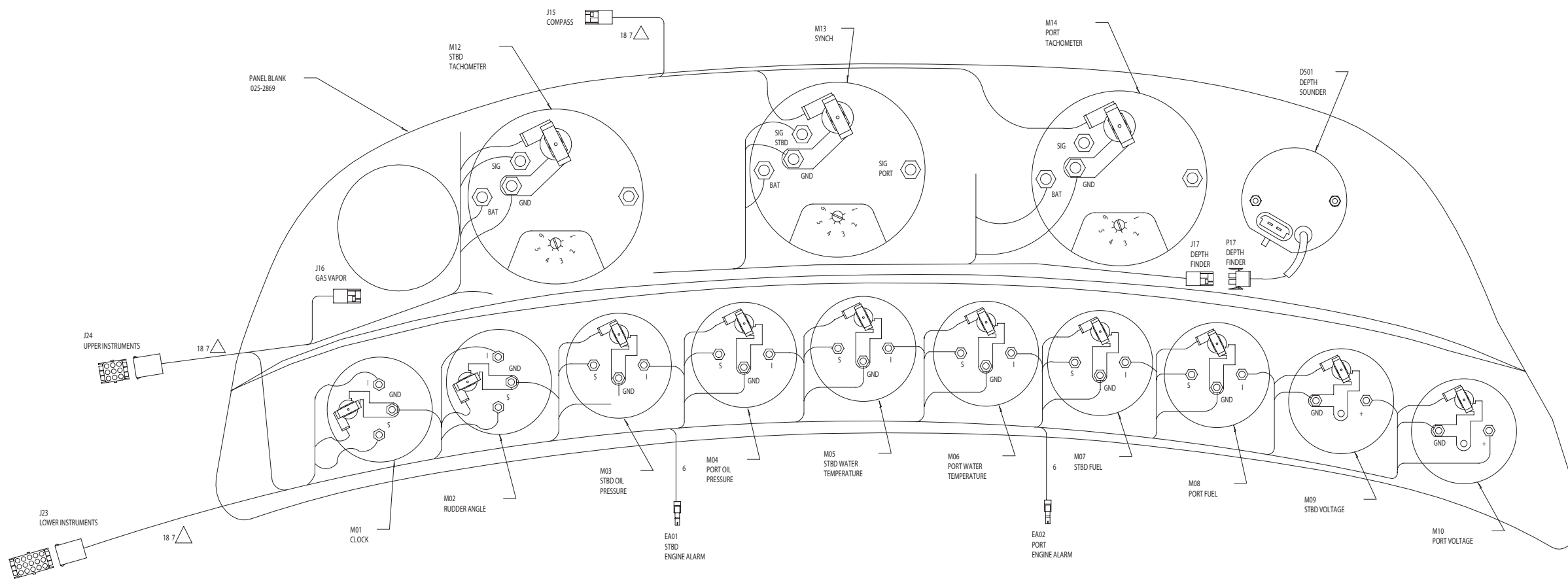
ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
-	028-0177	2	RECEPT,FASTON,,250,16-14	02	AMP
-	028-0454	8	SOCKET,UMNL,18-14	42	AMP
-	028-1288	2	TERM,FASTON,,205,18-14	63	AMP
J98	028-0441	1	RECEPT,UNNL,2 CKT	CO MONITOR	AMP
J99	028-0443	1	RECEPT,UNNL,9 CKT	DINETTE SHELF	AMP
LS01	-	REF	SPEAKER	SPEAKER	
LS02	-	REF	SPEAKER	SPEAKER	

328/348 VISTA DINETTE CLOSET HARNESS ASSEMBLY



FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
	028-0177	12	RECEPT,FASTON,,250,18-14	02	AMP
	028-0390	9	PIN,UMNL,18-14	41	AMP
	025-2343	1	PANEL,BLANK,CABIN LTS	4	
P65	028-0449	1	PLUG,UMNL,9 CKT	CABIN PANEL	AMP
S01	028-0457	1	SWITCH,SPST,CONT III	CABIN LTS	CARL SW
S02	028-1135	1	SWITCH, ON-ON,CONT III	COCKPIT LTS	CARL SW
S03	028-0504	1	SWITCH,DPDT,CONT III	LOW LEVEL LTS	CARL SW



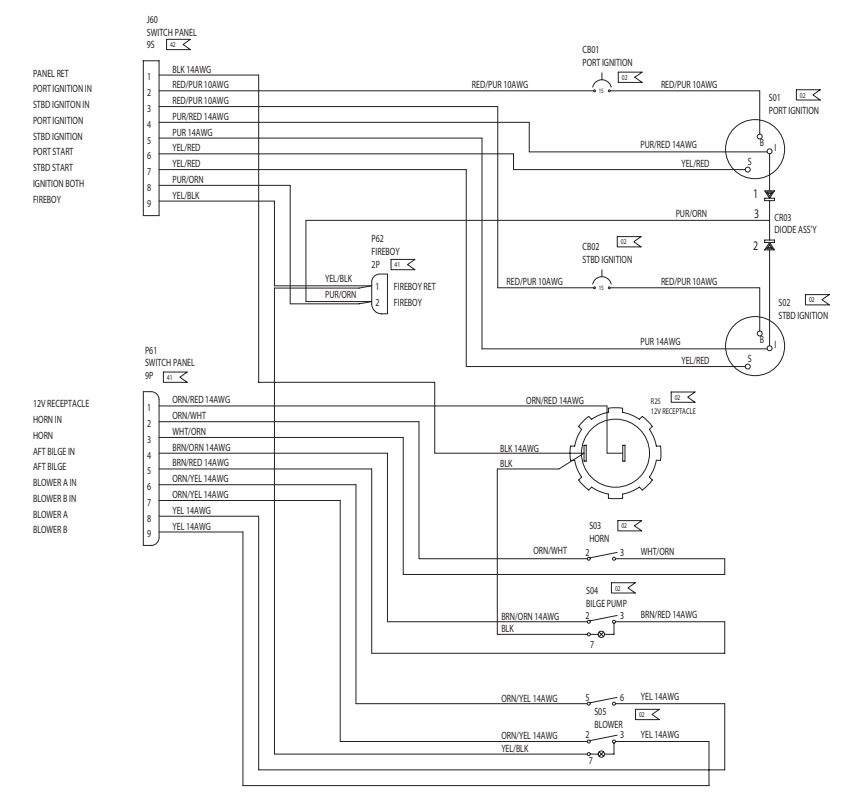
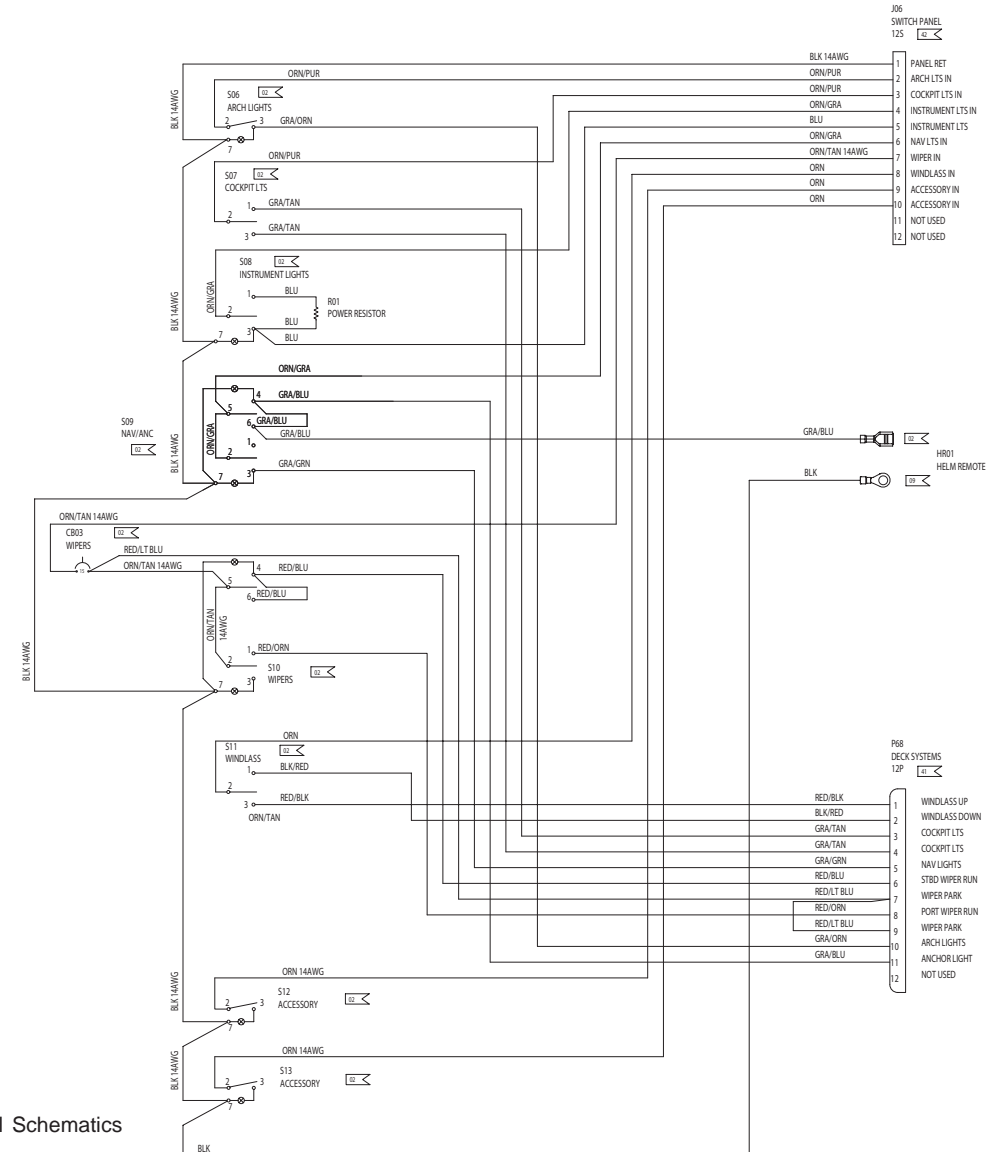
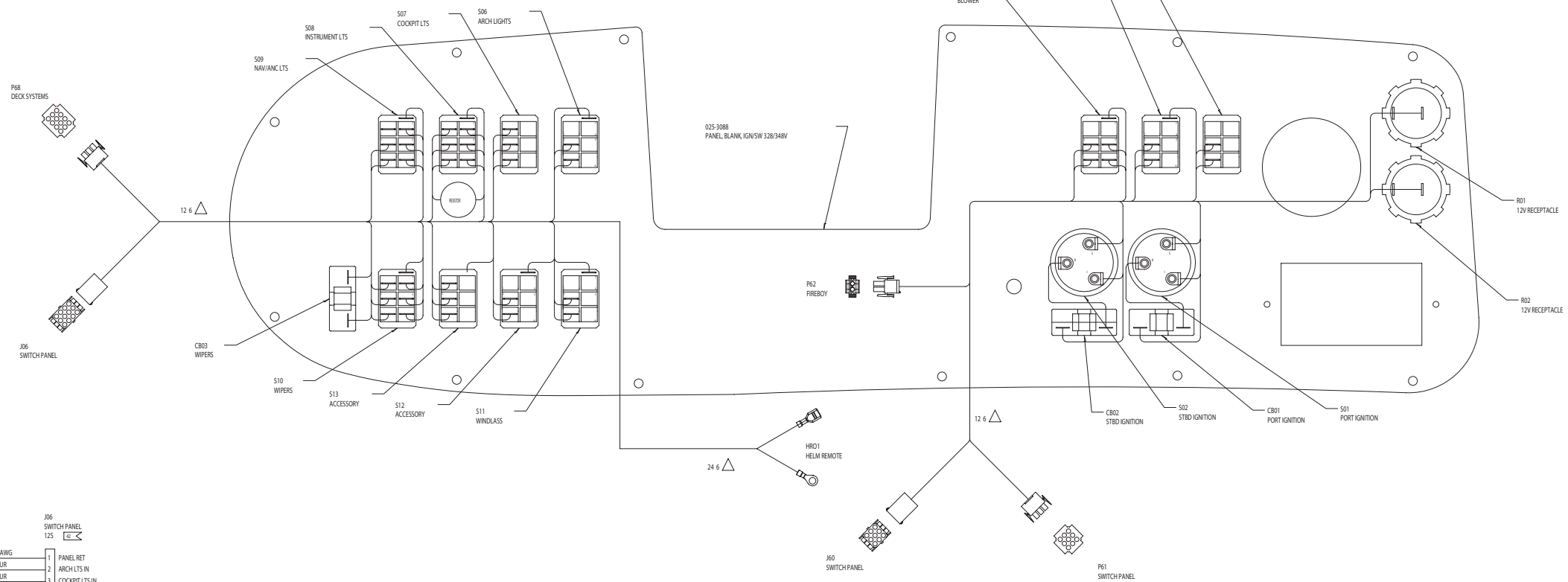
FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
-	028-0177	36	TERM,FASTON,.250,18-14	02	AMP
-	028-0189	37	TERMINAL,RING,PG,#8,16-14	08	AMP
-	028-0454	24	SOCKET,UMNL,18-14	42	AMP
-	028-1823	2	TERM,BULLET,FEM.,156,16-14	75	MOLEX
-	025-2869	1	PANEL,BLANK, INSTRUMENTS,338V	-	-
J15	028-0441	1	RECEPT,UMNL,2 CKT	COMPASS	AMP
J16	028-0441	1	RECEPT,UMNL,2 CKT	GAS VAPOR	AMP
J17	028-0441	1	RECEPT,UMNL,2 CKT	DEPTH FINDER	AMP
P17	028-0447	1	PLUG,UMNL,2 CKT	DEPTH FINDER	AMP
J23	028-0446	1	RECEPT,UMNL,15 CKT	LOWER INSTRUMENTS	AMP
J24	028-0443	1	RECEPT,UMNL,9 CKT	UPPER INSTRUMENTS	AMP
M12	024-0526	1	GAUGE,TACH,6000 W/HOUR,FARIA#TCH239	STBD TACHOMETER	FARIA
M13	024-0533	1	GAUGE,SYNC,FARIA#S9762	SYNCHRONIZATION	FARIA
M14	024-0526	1	GAUGE,TACH,6000 W/HOUR,FARIA#TCH239	PORT TACHOMETER	FARIA
D501	028-1748	1	DEPTH FINDER, FARIA#DS0109	DEPTH SOUNDER	FARIA
M01	024-0534	1	CLOCK, FARIA #CL1060	CLOCK	FARIA
M02	024-0525	1	GAUGE,RUDDER,FARIA#DP7769	RUDDER ANGLE	FARIA
M03	024-0530	1	GAUGE,OIL,FARIA#GP7767	STBD OIL PRESSURE	FARIA
M04	024-0530	1	GAUGE,OIL,FARIA#GP7767	PORT OIL PRESSURE	FARIA
M05	024-0528	1	GAUGE,WATER TEMP,FARIA#GP7765	STBD WATER TEMP	FARIA
M06	024-0528	1	GAUGE,WATER TEMP,FARIA#GP7765	PORT WATER TEMP	FARIA
M07	024-0532	1	GAUGE,FUEL,FARIA#GP7768	STBD FUEL QUANTITY	FARIA
M08	024-0532	1	GAUGE,FUEL,FARIA#GP7768	PORT FUEL QUANTITY	FARIA
M09	024-0531	1	GAUGE,VOLTAGE,FARIA#VP7114	STBD VOLTAGE	FARIA
M10	024-0531	1	GAUGE,VOLTAGE,FARIA#VP7114	PORT VOLTAGE	FARIA
EA01	-	REF	STBD ENGINE ALARM	STBD ENGINE ALARM	-
EA02	-	REF	PORT ENGINE ALARM	PORT ENGINE ALARM	-

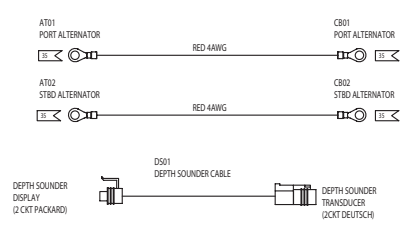
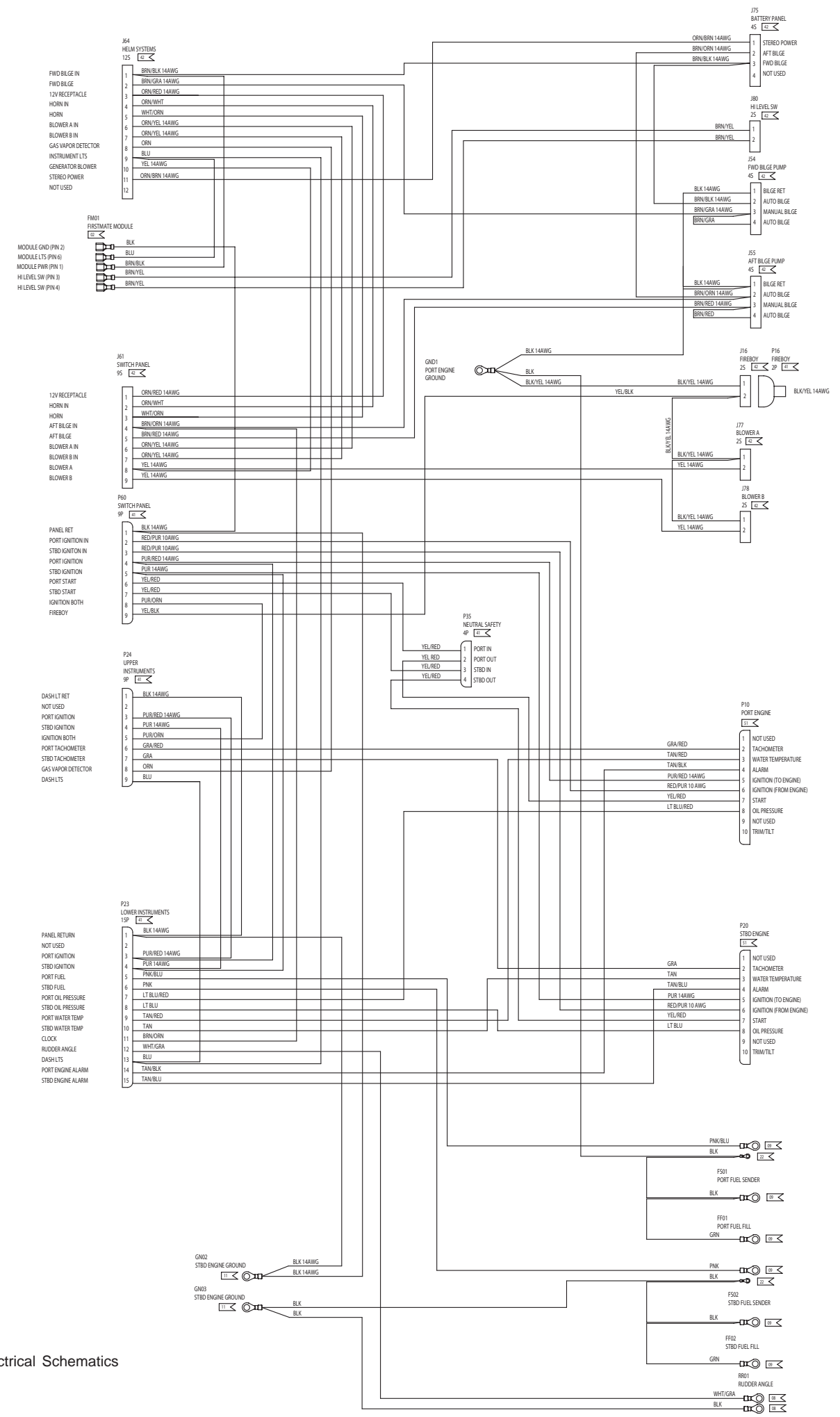
348 VISTA
INSTRUMENT
PANEL ASSEMBLY

FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
-	028-0177	47	TERM.FASTON_250,18-14	02	AMP
-	028-0179	6	TERM.FASTON_250,12-10	07	AMP
-	028-0189	2	TERM.RING,#8,16-14	08	AMP
-	028-0191	20	TERM.RING,PG#10	09	AMP
-	028-0390	19	PIN,UMNL,18-14	41	AMP
-	028-0454	2	SOCKET,UMNL,18-14	42	AMP
-	028-0455	1	SOCKET,UMNL,12-10	43	AMP
-	025-3088	1	PANEL,BLANK,IGN/SWITCH, 328/348V	-	-
CB01	028-0467	1	BREAKER,15A	PORT IGNITION	MP
CB02	028-0467	1	BREAKER,15A	STBD IGNITION	MP
CB03	028-0466	1	BREAKER,10A	WIPER	MP
J06	028-0445	1	RECEPT,UMNL,12 CKT	SWITCH PANEL	AMP
J60	028-0444	1	RECEPT,UMNL,9 CKT	SWITCH PANEL	AMP
P61	028-0449	1	PLUG,UMNL,9 CKT	SWITCH PANEL	AMP
P62	028-0447	1	PLUG,UMNL,2 CKT	SWITCH PANEL	AMP
P68	028-0450	1	PLUG,UMNL,12 CKT	DECK SYSTEMS	AMP
R01	028-1100	1	RESISTOR,LIGHT POWER	LIGHT DIMMER	AFI
R25	028-1100	1	RECEPT,12V AFI	12V RECEPTACLE	AFI
S01	028-1286	1	SWITCH,IGNITION,IO	PORT IGNITION	GENERAL
S02	028-1286	1	SWITCH,IGNITION,IO	STBD IGNITION	GENERAL
S03	028-0456	1	SWITCH,SPST,(MOM) CONT III	HORN	CARL SW
S04	028-0457	1	SWITCH,SPST,CONT III	BILGE PUMP	CARL SW
S05	028-0459	1	SWITCH,DPST,CONT III	BLOWER	CARL SW
S06	028-0457	1	SWITCH,SPST,CONT III	ARCH LIGHTS	CARL SW
S07	028-1135	1	SWITCH,SPDT,ON-ON CONT III	COCKPIT LTS	CARL SW
S08	028-0504	1	SWITCH,DPDT,CONT III	INSTRUMENT LTS	CARL SW
S09	028-0504	1	SWITCH,DPDT,CONT III	NAV/ANC LTS	CARL SW
S10	028-0504	1	SWITCH,DPDT,CONT III	WIPERS	CARL SW
S11	028-0469	1	SWITCH,SPDT,(ON) OFF (ON)	WINDLASS	CARL SW
S12	028-0457	1	SWITCH,SPST,CONT III	ACCESSORY	CARL SW
S13	028-0457	1	SWITCH,SPST,CONT III	ACCESSORY	CARL SW
HR01	-	REF	HELM STEREO REMOTE	-	-



348 VISTA
IGNITION/SWITCH
PANEL ASSEMBLY



FOUR WINNS PARTS LIST

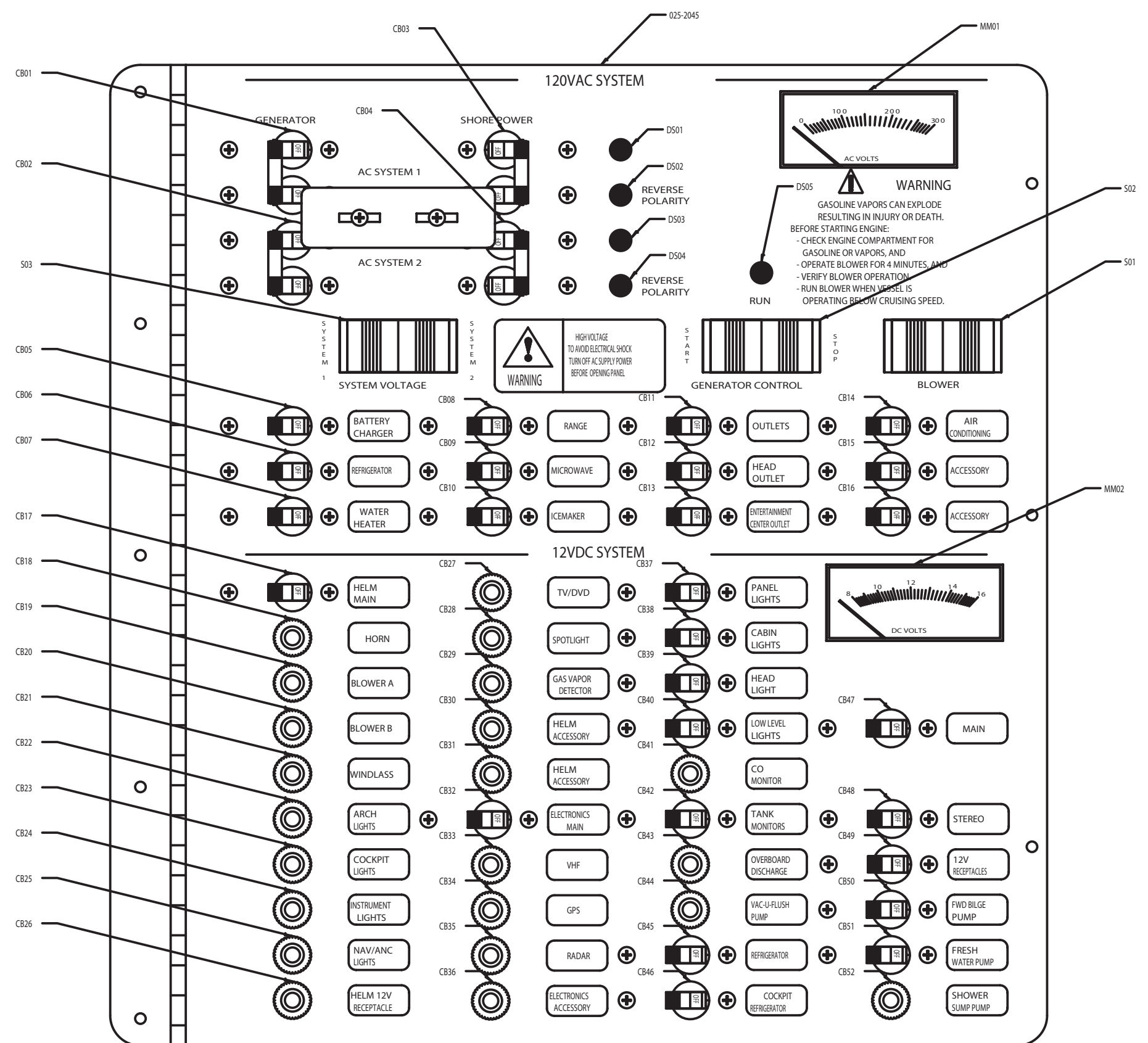
ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
-	028-0177	5	TERM,FASTON,,250,18-14	02	AMP
-	028-0189	2	TERM,RING,#8,16-14	08	AMP
-	028-0191	6	TERM,RING,#10,16-14	09	AMP
-	028-0193	3	TERM,RING,3/8,16-14	11	AMP
-	028-0356	2	TERM,RING,#6,16-14	22	AMP
-	-	4	TERM,RING,1/4,4	35	AMP
-	028-0453	2	PIN,UMNL,12-10	40	AMP
-	028-0390	46	PIN,UMNL,18-14	41	AMP
-	028-0454	38	SOCKET,UMNL,18-14	42	AMP
-	-	26	VENDOR TERMINATED	51	-
AT01	-	REF	ALTERNATOR,65A	PORT ALTERNATOR	-
AT02	-	REF	ALTERNATOR,65A	STBD ALTERNATOR	-
CB01	-	REF	BREAKER,70A	PORT ALTERNATOR	-
CB02	-	REF	BREAKER,70A	STBD ALTERNATOR	-
DS01	027-1504	1	CABLE,TRANSDUCER	DEPTH SOUNDER	PORTAGE WIRE
FS01	-	REF	FUEL SENDER,SW	PORT FUEL SENDER	-
FS02	-	REF	FUEL SENDER,SW	STBD FUEL SENDER	-
FF01	-	REF	FUEL FILL,SS	PORT FUEL FILL	-
FF02	-	REF	FUEL FILL,SS	STBD FUEL FILL	-
GND1	-	REF	GROUND,ENGINE	PORT ENGINE GROUND	-
GND2	-	REF	GROUND,ENGINE	STBD ENGINE GROUND	-
GND3	-	REF	GROUND,ENGINE	STBD ENGINE GROUND	-
J16	028-0441	1	RECEPT,UMNL,2 CKT	FIREBOY	AMP
J54	028-0442	1	RECEPT,UMNL,4 CKT	FWD BILGE	AMP
J55	028-0442	1	RECEPT,UMNL,4 CKT	AFT BILGE	AMP
J61	028-0443	1	RECEPT,UMNL,9 CKT	SWITCH PANEL	AMP
J64	028-0445	1	RECEPT,UMNL,12 CKT	HELM SYSTEMS	AMP
J75	028-0448	1	RECEPT,UMNL,4 CKT	BATTERY PANEL	AMP
J77	028-0441	1	RECEPT,UMNL,2 CKT	BLOWER A	AMP
J78	028-0441	1	RECEPT,UMNL,2 CKT	BLOWER B	AMP
J80	028-0441	1	RECEPT,UMNL,2 CKT	HI LEVEL WATER SWITCH	AMP
P10	-	1	PLUG,ENGINE,IO	PORT ENGINE	OMC
P16	028-0447	1	PLUG,UMNL,2 CKT	FIREBOY JUMPER	AMP
P20	-	1	PLUG,ENGINE,IO	STBD ENGINE	OMC
P23	028-0452	1	PLUG,UMNL,15 CKT	LOWER INSTRUMENTS	AMP
P24	028-0449	1	PLUG,UMNL,9 CKT	UPPER INSTRUMENTS	AMP
P60	028-0449	1	PLUG,UMNL,9 CKT	SWITCH PANEL	AMP
P35	028-0448	1	PLUG,UMNL,4 CKT	PORT/STBD NEUTRAL SAFETY	AMP
FM01	-	REF	FIRSTMATE CONTROL MODULE	FIRSTMATE	-

348 VISTA ENGINE SYSTEMS HARNES ASSEMBLY

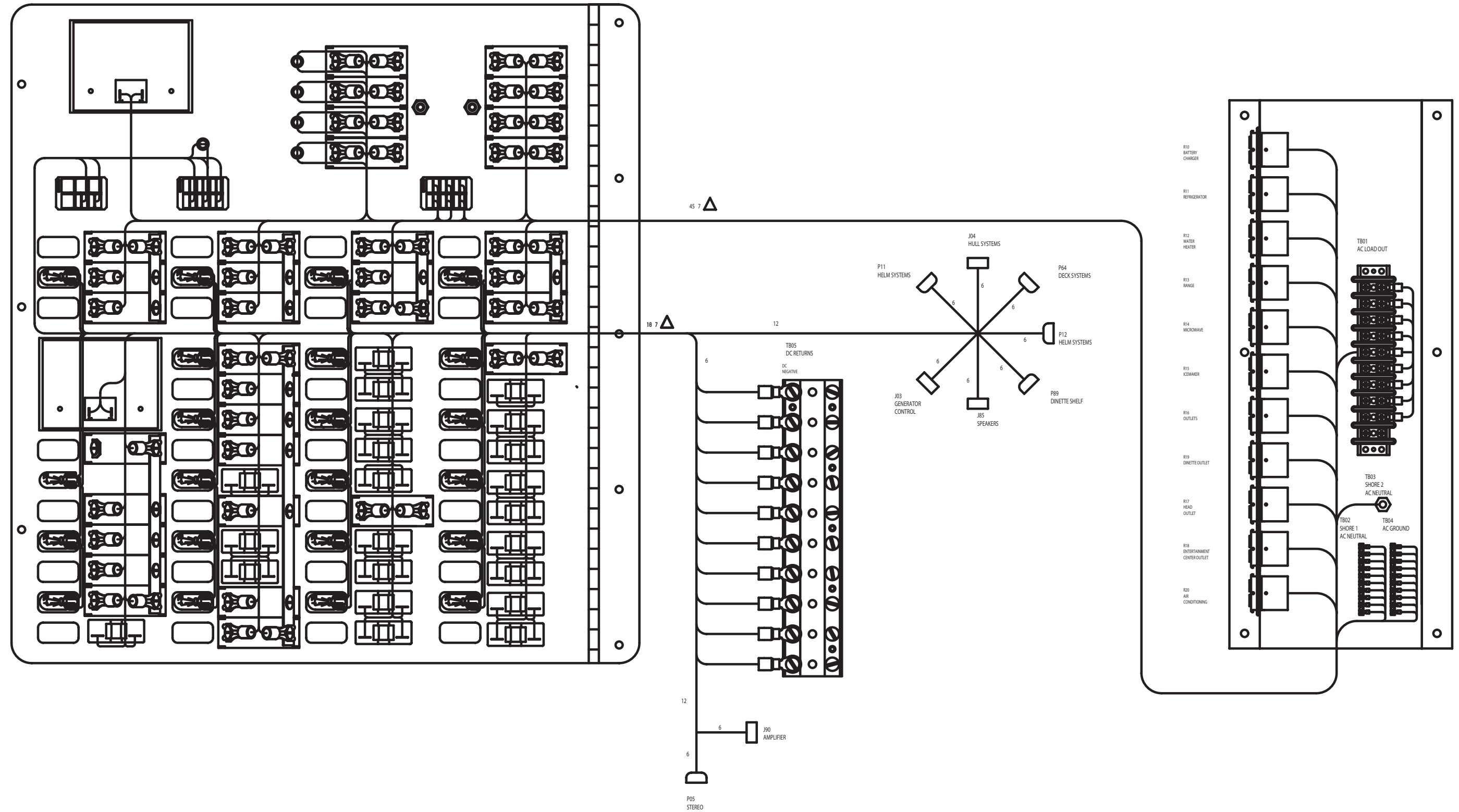
FOUR WINNS PARTS LIST

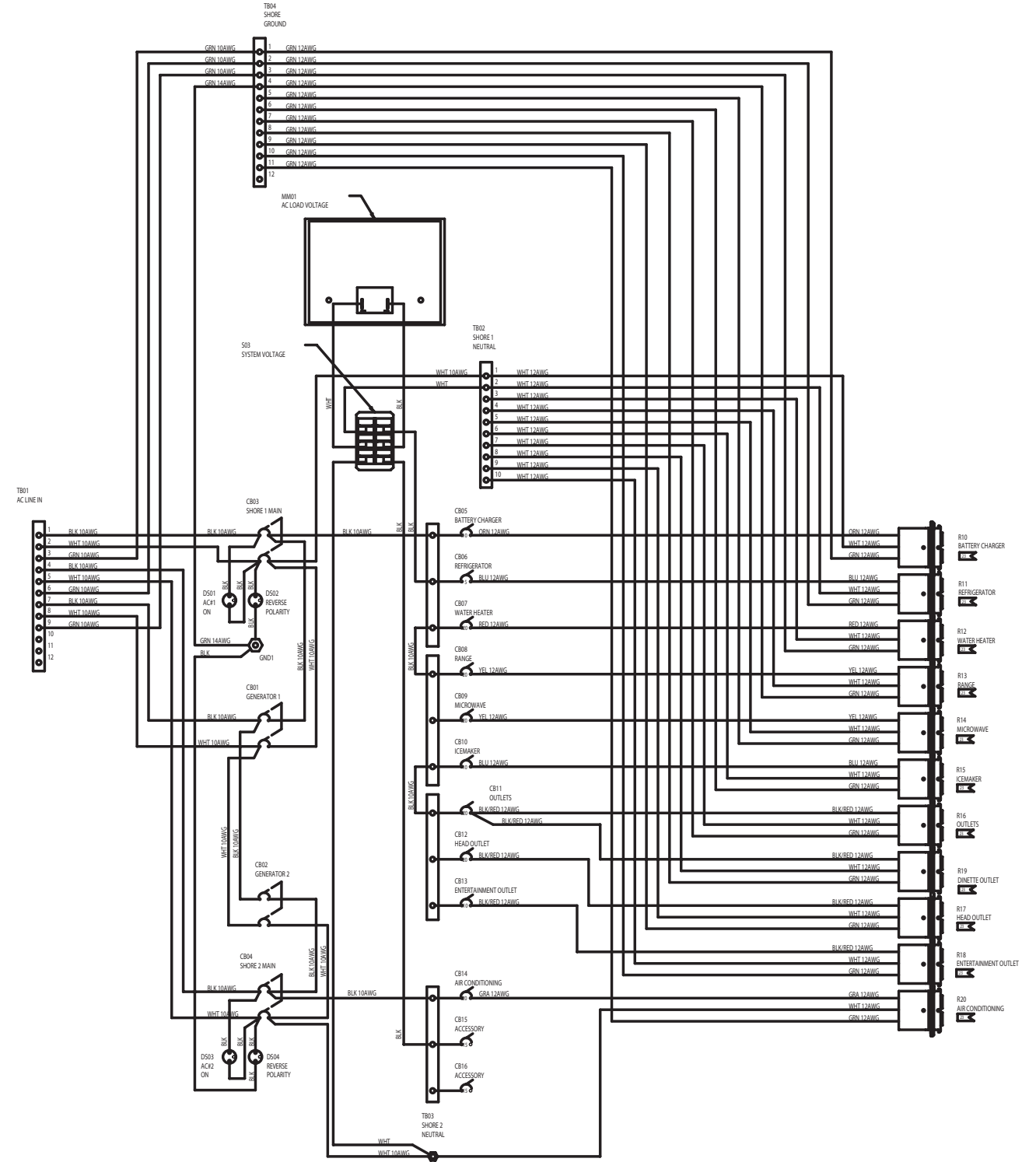
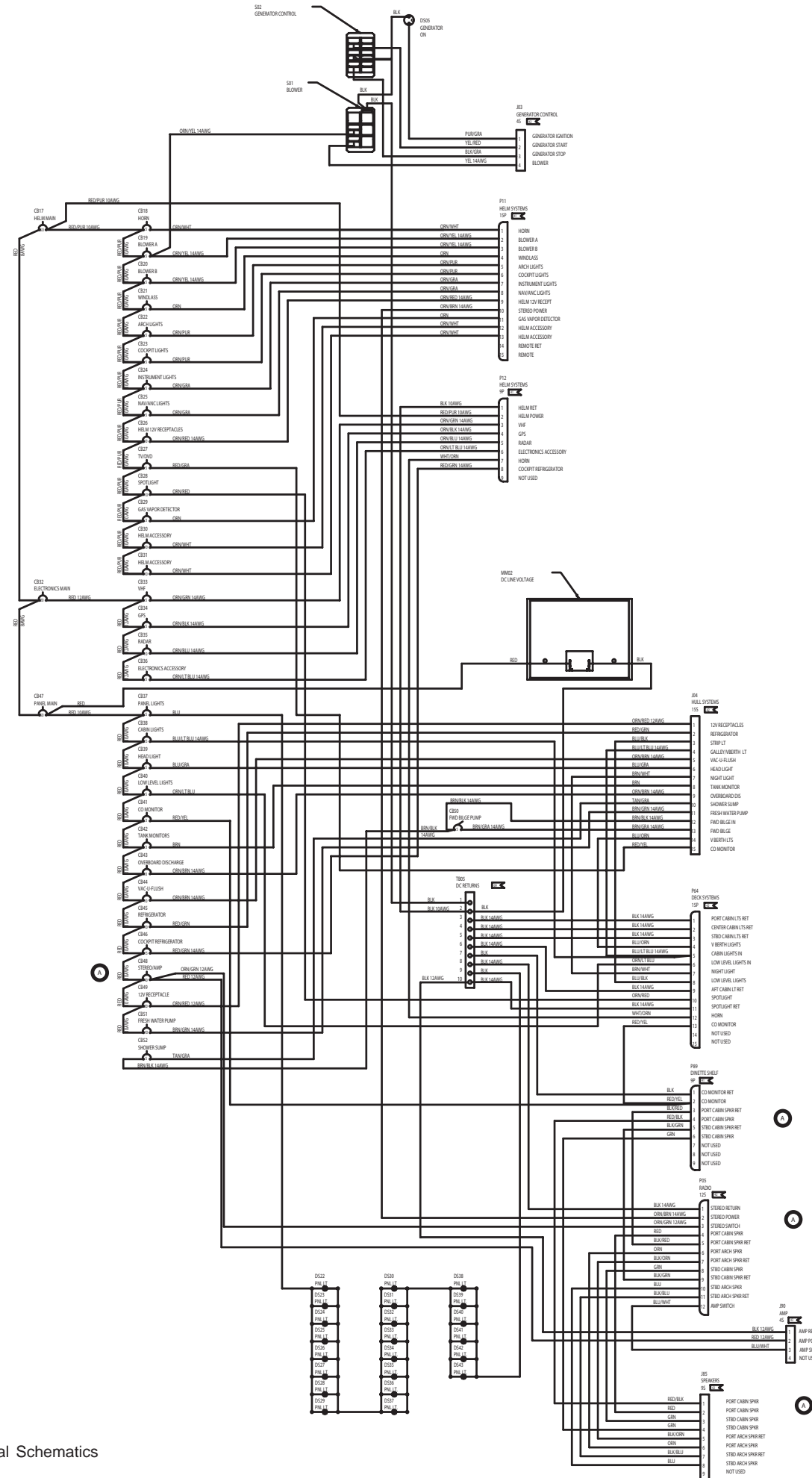


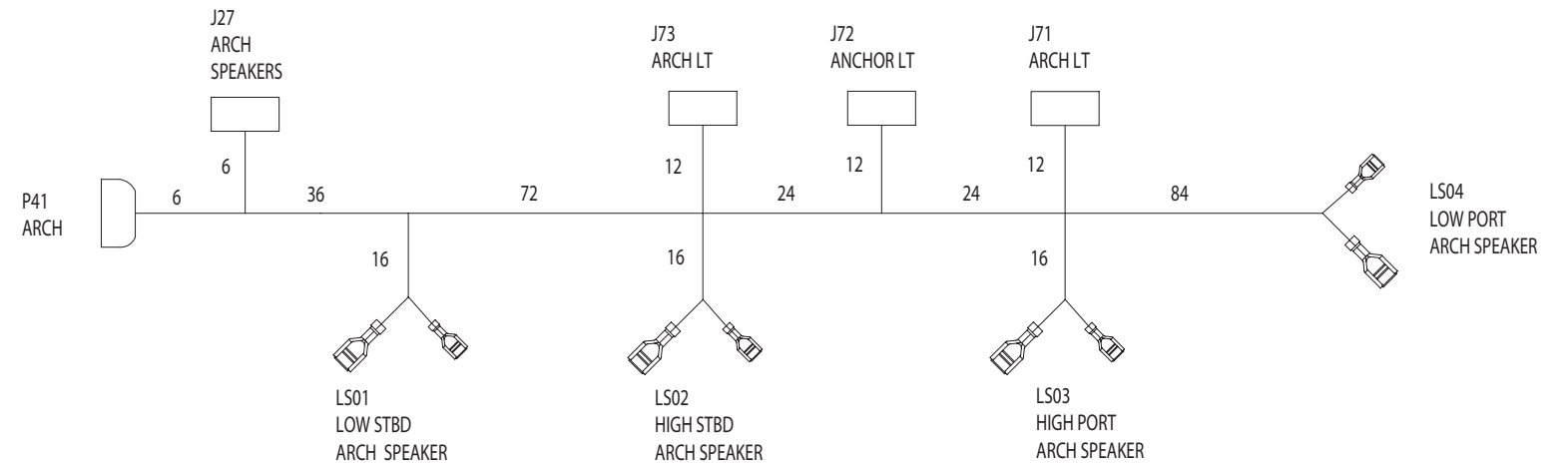
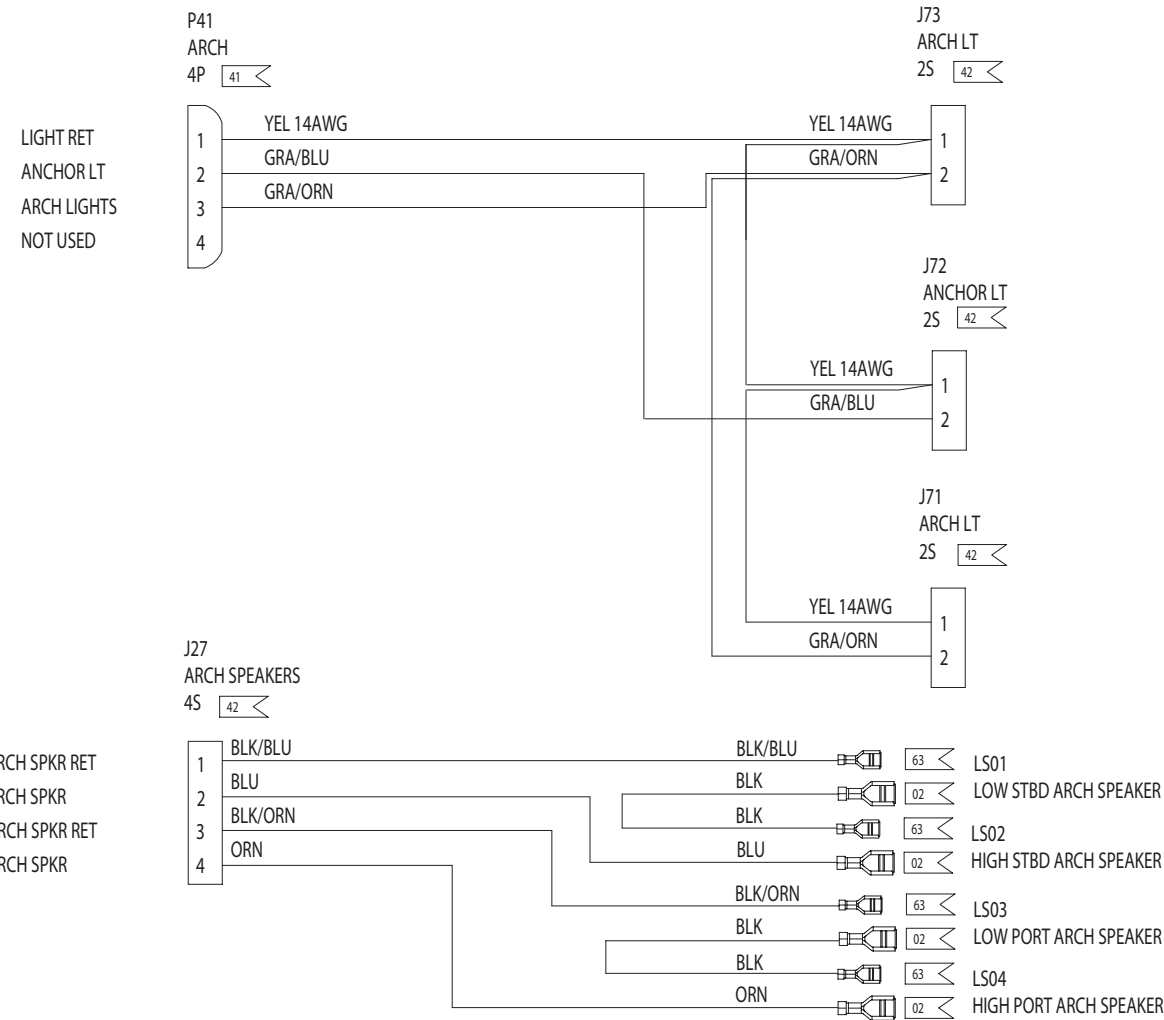
ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
-	028-0177	33	TERM.FASTON_250,18-14	02	AMP
-	028-0179	21	TERM.FASTON_250,12-10	07	AMP
-	028-0189	28	TERM.RING,#8,16-14	08	AMP
-	028-0191	20	TERM.RING,#10,16-14	09	AMP
-	028-0195	83	TERM.RING,#10,12-10	13	AMP
-	028-0198	6	TERM.RING,#10,8	17	AMP
-	028-0498	33	TERM.ANDERSON,30A	23	ANDERSON
-	028-0453	1	PIN,UMNL,12-10	40	AMP
-	028-0390	14	PIN,UMNL,18-14	41	AMP
-	029-0454	35	SOCKET,UMNL,18-14	42	AMP
-	025-2045	1	PANEL,BLANK,AC/DC 298/328V	-	-
CB01	028-0484	1	CKT BKR 30A DP	GEN MAIN	CARL SW
CB02	028-0484	1	CKT BKR 30A DP	GEN MAIN	CARL SW
CB03	028-0484	1	CKT BKR 30A DP	SHORE 1	CARL SW
CB04	028-0484	1	CKT BKR 30A DP	SHORE 2	CARL SW
CB05	028-0416	1	CKT BKR 10A	BATTERY CHARGER	CARL SW
CB06	028-0415	1	CKT BKR 5A	REFRIGERATOR	CARL SW
CB07	028-0418	1	CKT BKR 20A	WATER HEATER	CARL SW
CB08	028-0418	1	CKT BKR 20A	RANGE	CARL SW
CB09	028-0418	1	CKT BKR 20A	MICROWAVE	CARL SW
CB10	028-0416	1	CKT BKR 10A	ICE MAKER	CARL SW
CB11	028-0418	1	CKT BKR 20A	OUTLETS	CARL SW
CB12	028-0418	1	CKT BKR 20A	HEAD OUTLET	CARL SW
CB13	028-0416	1	CKT BKR 10A	ENTER CENTER OUTLET	CARL SW
CB14	028-0418	1	CKT BKR 20A	AIR CONDITIONING	CARL SW
CB15	028-0417	1	CKT BKR 15A	AC ACCESSORY	CARL SW
CB16	028-0417	1	CKT BKR 15A	AC ACCESSORY	CARL SW
CB17	028-0403	1	CKT BKR 50A	HELM MAIN	CARL SW
CB18	028-0393	1	CKT BKR 5A	HORN	MP
CB19	028-0393	1	CKT BKR 5A	BLOWER A	MP
CB20	028-0393	1	CKT BKR 5A	BLOWER B	MP
CB21	028-0393	1	CKT BKR 5A	WINDLASS	MP
CB22	028-0393	1	CKT BKR 5A	ARCH LIGHTS	MP
CB23	028-0393	1	CKT BKR 5A	COCKPIT LIGHTS	MP
CB24	028-0393	1	CKT BKR 5A	INSTRUMENT LIGHTS	MP
CB25	028-0393	1	CKT BKR 5A	NAV/ANC LIGHTS	MP
CB26	028-0396	1	CKT BKR 10A	HELM 12V RECEPTACLE	MP
CB27	028-0393	1	CKT BKR 5A	TV/DVD	MP
CB28	028-0396	1	CKT BKR 10A	SPOTLIGHT	MP
CB29	028-0239	1	CKT BKR 3A	GAS VAPOR DETECTOR	MP
CB30	028-0396	1	CKT BKR 10A	HELM ACCESSORY	MP
CB31	028-0396	1	CKT BKR 10A	HELM ACCESSORY	MP
CB32	028-0397	1	CKT BKR 20A	ELECTRONICS MAIN	CARL SW
CB33	028-0393	1	CKT BKR 5A	VHF	MP
CB34	028-0393	1	CKT BKR 5A	GPS	MP
CB35	028-0396	1	CKT BKR 10A	RADAR	MP
CB36	028-0393	1	CKR BKR 5A	ELECTRONICS ACCESSORY	MP
CB37	028-0415	1	CKT BKR 5A	PANEL LIGHTS	CARL SW
CB38	028-0417	1	CKT BKR 15A	CABIN LIGHTS	CARL SW
CB39	028-0415	1	CKT BKR 5A	HEAD LIGHT	CARL SW
CB40	028-0415	1	CKT BKR 5A	LOW LEVEL LIGHTS	CARL SW
CB41	027-0393	1	CKT BKR 5A	CO MONITOR	MP
CB42	027-0415	1	CKT BKR 5A	TANK MONITORS	CARL SW
CB43	028-0396	1	CKT BKR 10A	OVERBOARD DISCHARGE	MP
CB44	028-0396	1	CKT BKR 10A	VAC-U-FLUSH	MP
CB45	028-0416	1	CKT BKR 10A	REFRIGERATOR	CARL SW
CB46	028-0417	1	CKT BKR 15A	COCKPIT REFRIGERATOR	CARL SW
CB47	028-0403	1	CKT BKR 50A	PANEL MAIN	CARL SW
CB48	028-1887	1	CKR BKR 40A	STEREO	CARL SW
CB49	028-0397	1	CKT BKR 20A	12V RECEPTACLE	CARL SW
CB50	028-0415	1	CKT BKR 5A	FWD BILGE PUMP	CARL SW
CB51	028-0416	1	CKT BKR 10A	FRESH WATER PUMP	CARL SW
CB52	028-0393	1	CKT BKR 5A	SHOWER SUMP	CARL SW
DS01	028-0531	1	INDICATOR-NEON	SHORE 1 OK	SOLICO
DS02	028-0530	1	INDICATOR-NEON	SHORE 1 REV	SOLICO
DS03	028-0531	1	INDICATOR-NEON	SHORE 2 OK	SOLICO
DS04	028-0530	1	INDICATOR-NEON	SHORE 2 REV	SOLICO
DS05	6411-N3	1	INDICATOR-NEON	GENERATOR	SOLICO
J03	028-0442	1	RECEPT,UMNL,4 CKT	GENERATOR ON	AMP
J04	028-0446	1	RECEPT,UMNL,15 CKT	CABIN PANEL	AMP
J85	028-0442	1	RECEPT,UMNL,9 CKT	CABIN PANEL	AMP
MM01	2W-AVV-300	1	METER,AC VOLTS 0-300	AC LINE VOLTAGE	MODUTEC
MM02	2W-DVV-15	1	METER,DC VOLTS 0-15	DC LINE VOLTAGE	MODUTEC
P05	028-0451	1	PLUG,UMNL,12 CKT	RADIO	AMP
P11	028-0452	1	PLUG,UMNL,15 CKT	HELM SYSTEMS	AMP
P12	028-0450	1	PLUG,UMNL,9 CKT	HELM SYSTEMS	AMP
P64	028-0452	1	PLUG,UMNL,15 CKT	DECK SYSTEMS	AMP
P89	028-0450	1	PLUG,UMNL,9 CKT	DINETTE SHELF	AMP
J90	028-0442	1	RECEPT,UMNL,4 CKT	AMPLIFIER	AMP
R10	028-0500	1	HOUSING,ANDERSON,4WAY PNL MT	BATTERY CHARGER	ANDERSON
R11	028-0500	1	HOUSING,ANDERSON,4WAY PNL MT	REFRIGERATOR	ANDERSON
R12	028-0500	1	HOUSING,ANDERSON,4WAY PNL MT	WATER HEATER	ANDERSON
R13	028-0500	1	HOUSING,ANDERSON,4WAY PNL MT	RANGE	ANDERSON
R14	208-0500	1	HOUSING,ANDERSON,4WAY PNL MT	MICROWAVE	ANDERSON
R15	028-0500	1	HOUSING,ANDERSON,4WAY PNL MT	ICE MAKER	ANDERSON
R16	028-0500	1	HOUSING,ANDERSON,4WAY PNL MT	OUTLETS	ANDERSON
R17	028-0500	1	HOUSING,ANDERSON,4WAY PNL MT	HEAD OUTLET	ANDERSON
R18	028-0500	1	HOUSING,ANDERSON,4WAY PNL MT	ENTERTAINMENT OUTLET	ANDERSON
R19	028-0500	1	HOUSING,ANDERSON,4WAY PNL MT	DINETTE OUTLET	ANDERSON
R20	038-0500	1	HOUSING,ANDERSON,4WAY PNL MT	AIR CONDITIONING	ANDERSON
S01	028-0457	1	SWITCH,SPST,CONT III	BILGE BLOWER	CARL SW
S02	028-1179	1	SWITCH,SPST,(ON) OFF ON CONT III	GENERATOR CONTROL	CARL SW
S03	028-1769	1	SWITCH,DPDT,CONT III	VOLTAGE SELECTOR	CARL SW
TB01	028-0440	1	TERM BLOCK,10 POS	AC LINE IN	BUSS
TB02	028-0302	1	BUSS BAR,10 POS	SHORE 1 NEUTRAL	BUSS
TB03	-	1	GROUND STUD	SHORE 2 NEUTRAL	-
TB04	-	1	BUSS BAR,12 POS	SHORE GROUND	-
TB05	028-0302	1	BUSS BAR,10 POS	PANEL DC RET	BUSS
-	-	1	COVER,.080 ABS BLACK	COVER AC SECTION	-
-	-	3	BRACKET,SUPPORT,SHORT	SUPPORT COVER	-
-	-	1	BRACKET,SUPPORT,LONG	SUPPORT COVER	-



298/328/348 VISTA
AC/DC PANEL ASSEMBLY
(1 OF 3)



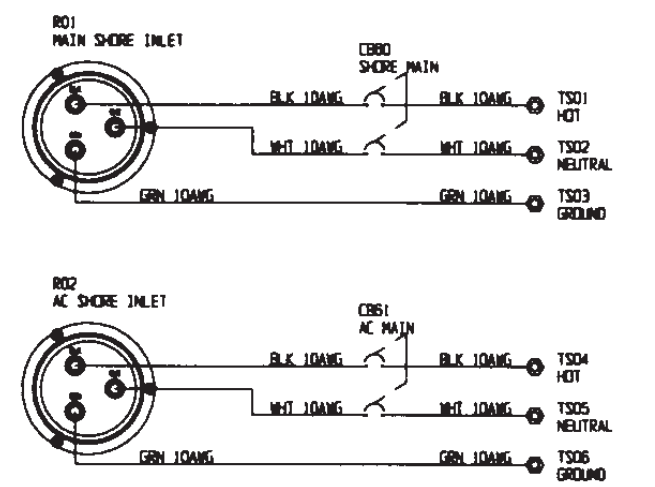
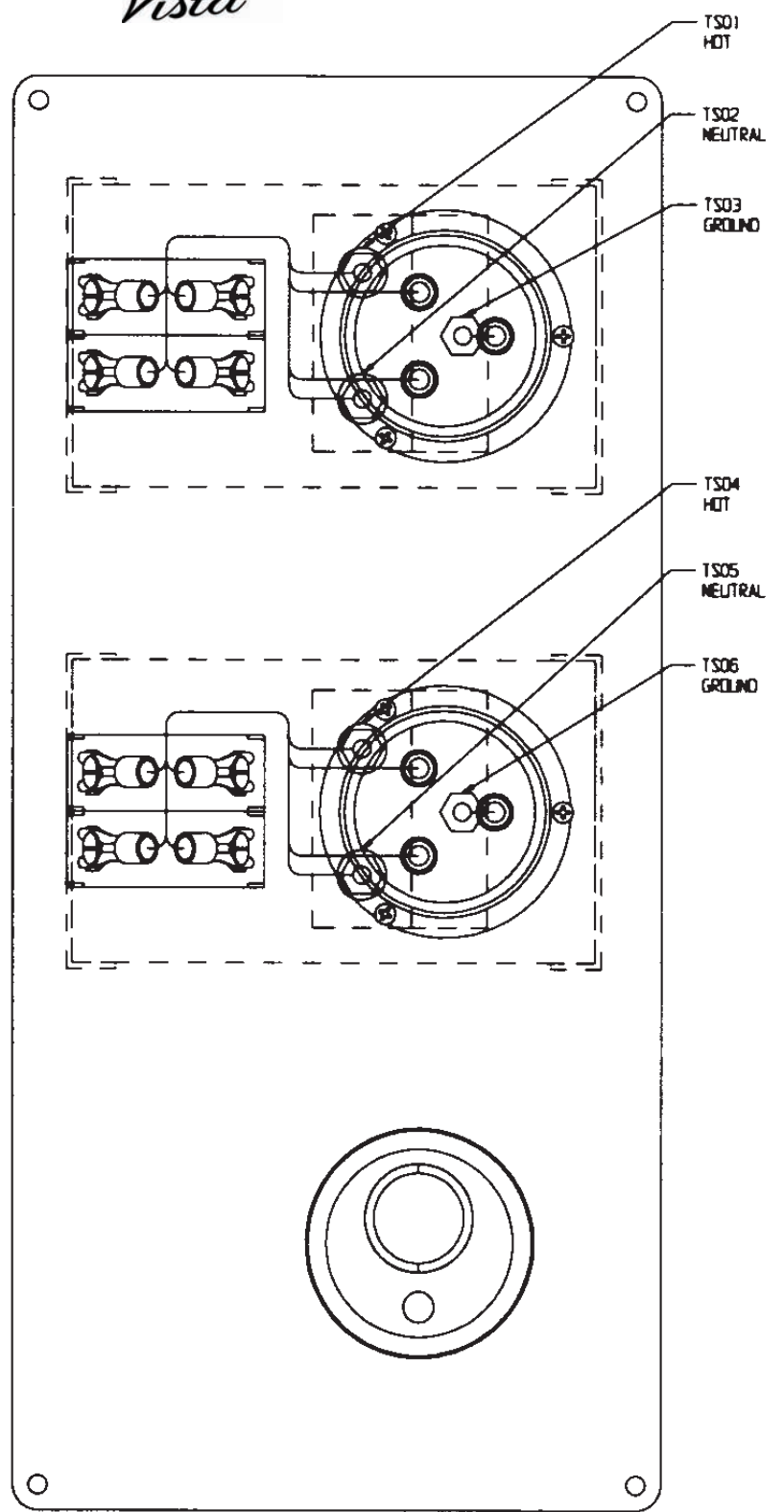
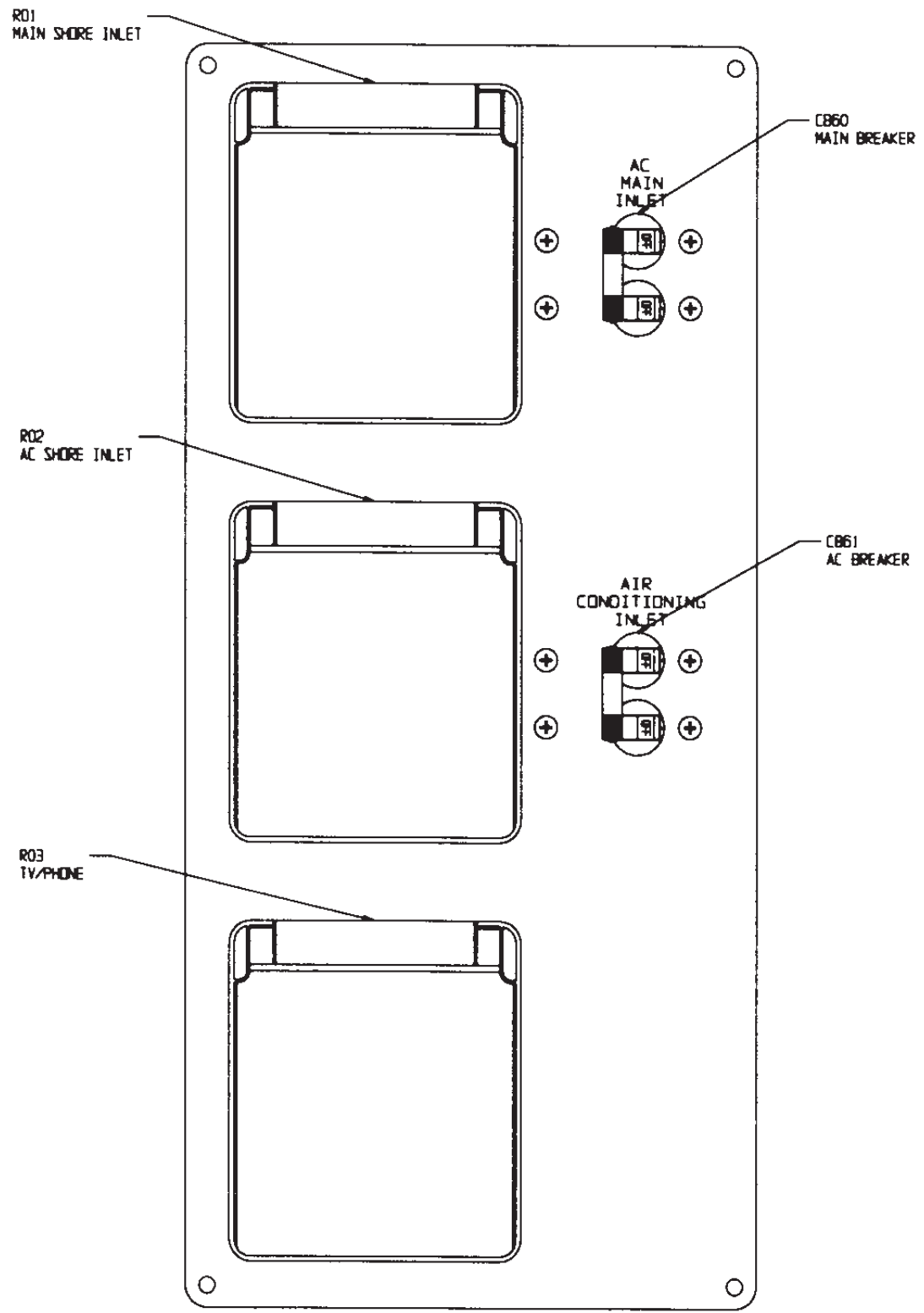




FOUR WINNS PARTS LIST

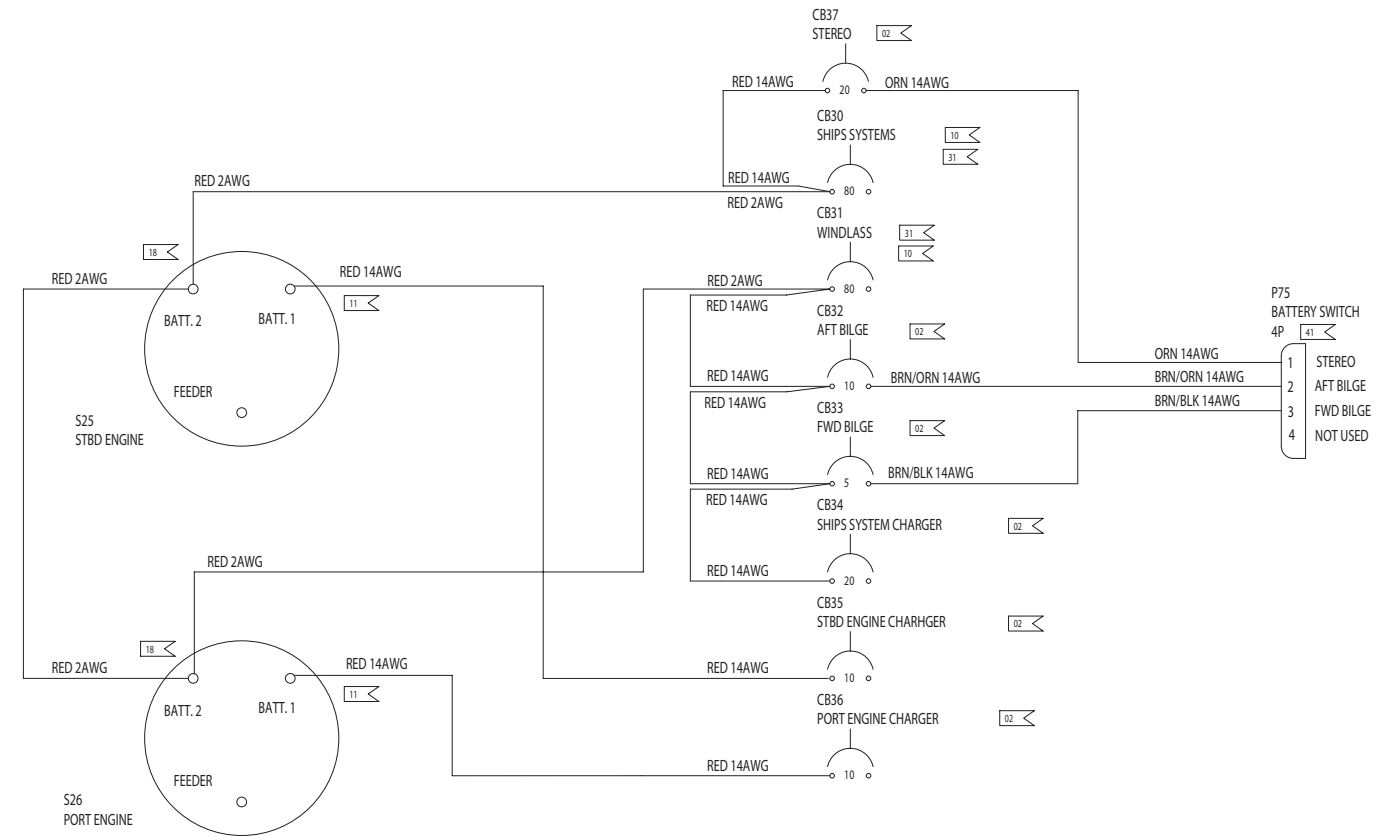
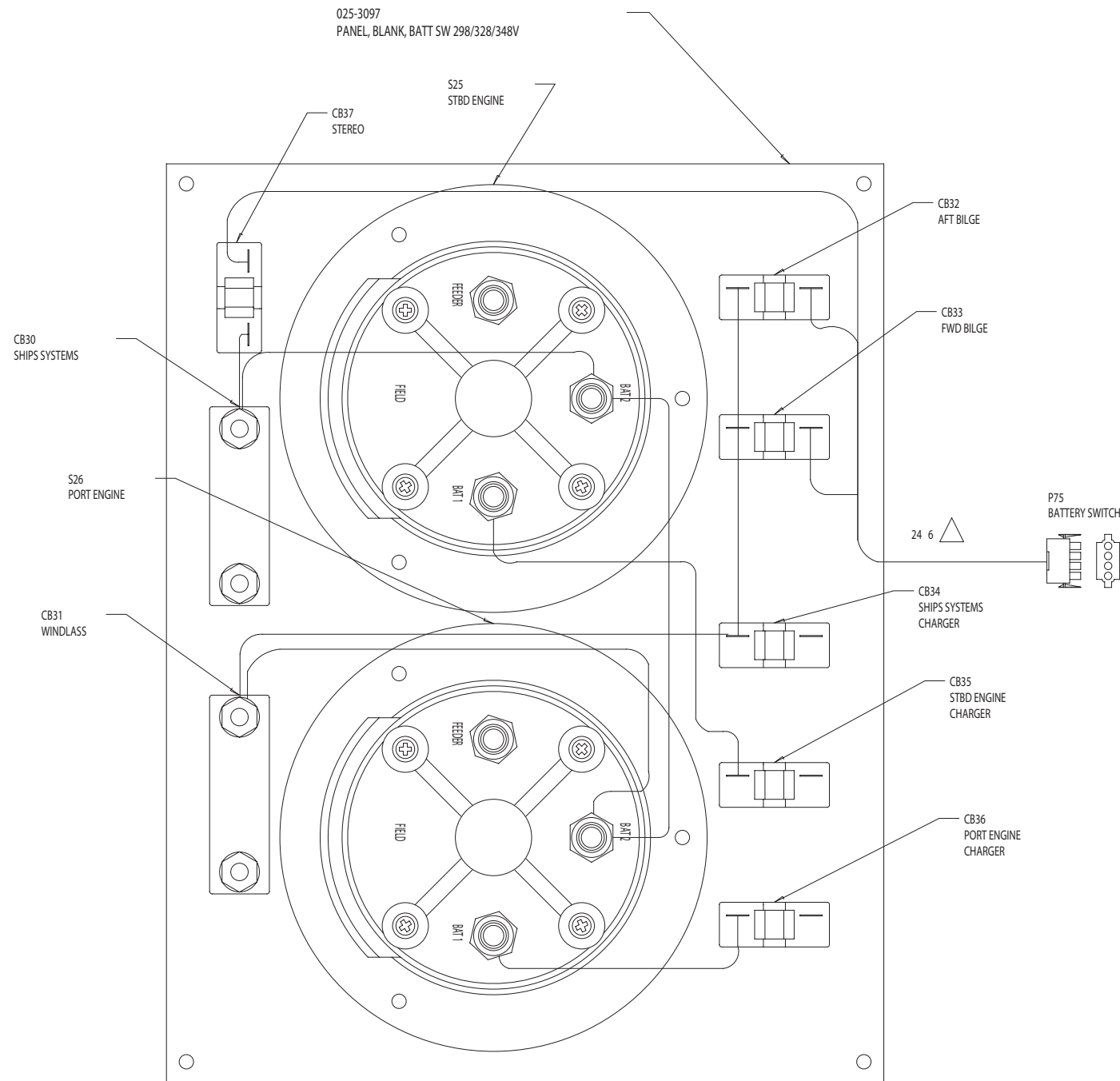
ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
-	028-0177	4	RECEPT,FASTON,,250,16-14	02	AMP
-	028-0390	3	PIN,UMNL,18-14	41	AMP
-	028-0454	10	SOCKET,UMNL,18-14	42	AMP
-	028-1288	4	RECEPT,FASTON,,205,20-16	63	AMP
J27	028-0442	1	RECEPT,UMNL,4 CKT	ARCH SPEAKERS	AMP
P41	028-0447	1	PLUG,UMNL,4 CKT	ARCH	AMP
J71	028-0441	1	RECEPT,UMNL,2 CKT	ARCH LT	AMP
J72	028-0441	1	RECEPT,UMNL,2 CKT	ANCHOR LT	AMP
J73	028-0441	1	RECEPT,UMNL,2 CKT	ARCH LT	AMP
LS01	REF	1	LOW STBD ARCH SPEAKER	-	-
LS02	REF	1	HIGH STBD ARCH SPEAKER	-	-
LS03	REF	1	HIGH PORT ARCH SPEAKER	-	-
LS04	REF	1	LOW PORT ARCH SPEAKER	-	-

298/328/348 VISTA ARCH SYSTEMS HARNESS ASSEMBLY

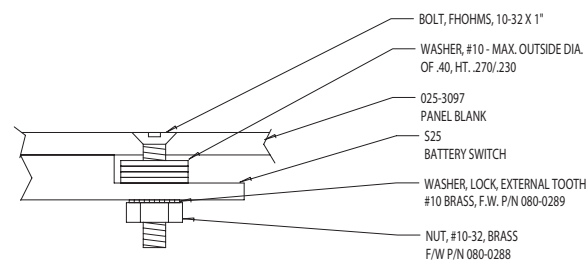


FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
	028-0200	14	TERM. SS. #10, 12-10	21	APP
	025-2082	1	PANEL, BLANK, SHORE INLET	BLANK PANEL	CARL SW
CB60	028-0484	1	BREAKER, 30A, DP	SHORE MAIN	CARL SW
CB61	028-0484	1	BREAKER, 30A, DP	SHORE AC	PAR1NCO
R01	085-0057	1	INLET, DOCKSIDE POWER		PAR1NCO
R02	085-0057	1	INLET, DOCKSIDE POWER		PAR1NCO
R03	085-1100	1	INLET, PHONE/TV	PHONE/TV	
TS01		1	SCREW, #10-24 X 1/2", BRASS	SHORE MAIN HOT	
TS02		1	SCREW, #10-24 X 1/2", BRASS	SHORE MAIN NEUTRAL	
TS03		1	SCREW, #10-24 X 1/2", BRASS	SHORE MAIN GROUND	
TS04		1	SCREW, #10-24 X 1/2", BRASS	SHORE AC HOT	
TS05		1	SCREW, #10-24 X 1/2", BRASS	SHORE AC NEUTRAL	
TS06		1	SCREW, #10-24 X 1/2", BRASS	SHORE AC GROUND	



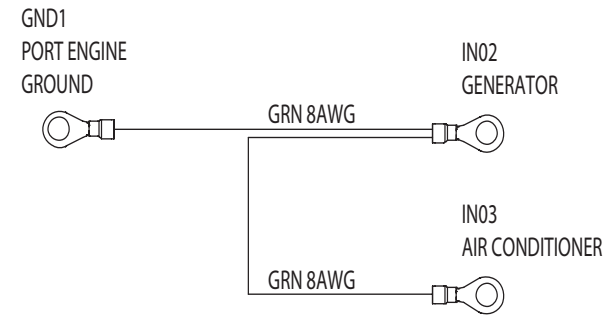
BATTERY SWITCH MOUNTING DETAIL



FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
-	028-0177	9	TERM,FASTON,,250,18-14	02	AMP
-	028-0399	4	TERM,RING,3/8,2	18	AMP
-	028-0193	2	TERM,RING,3/8,16-14	11	AMP
-	-	2	TERM,RING,1/4,2	31	AMP
-	028-0192	2	TERM,RING,1/4,16-14	10	AMP
-	028-0390	3	PIN,UMNL,18-14	41	AMP
-	025-3097	1	PANEL,BLANK,BATTERY SWITCH	-	-
P75	028-0448	1	PLUG,UMNL,4 CKT	BATTERY SWITCH	AMP
CB30	028-1888	1	BREAKER,80A	SHIPS SYSTEMS	CARL SW
CB31	038-1888	1	BREAKER,80A	WINDLASS	CARL SW
CB32	028-1880	1	BREAKER,10A	AFT BILGE	-
CB33	028-1879	1	BREAKER,5A	FWD BILGE	-
CB34	028-1881	1	BREAKER,20A	SHIPS SYSTEM CHARGER	-
CB35	038-1880	1	BREAKER,10A	STBD ENGINE CHARGER	-
CB36	028-1880	1	BREAKER,10A	PORT ENGINE CHARGER	-
CB37	028-1881	1	BREAKER,20A	STEREO POWER	-
S25	028-0485	1	SWITCH,DUAL BATTERY	STBD ENGINE SWITCH	GUEST
S26	028-0485	1	SWITCH,DUAL BATTERY	PORT ENGINE SWITCH	GUEST

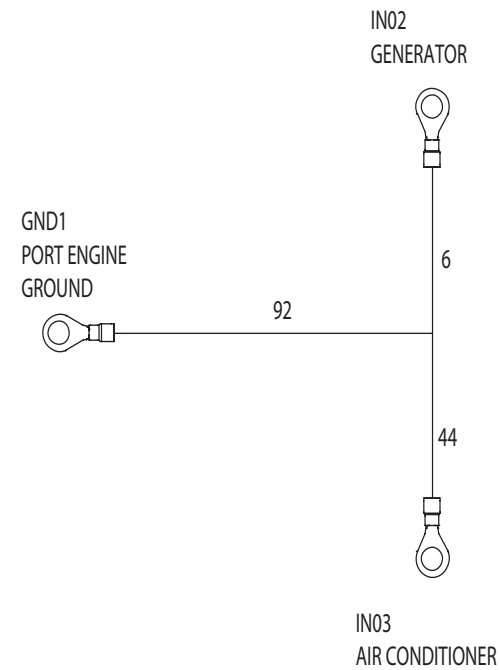
298/328/348 VISTA BATTERY SWITCH PANEL ASSEMBLY



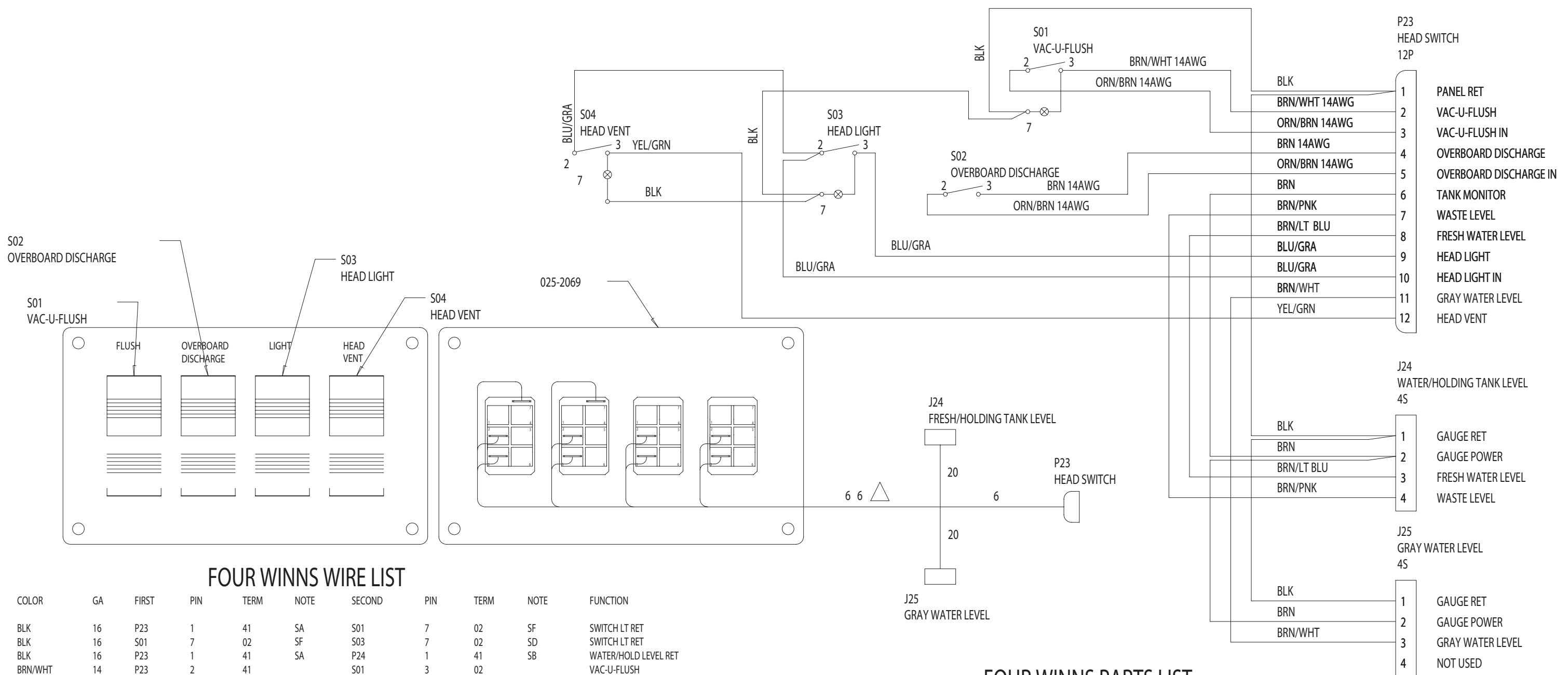
FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
	028-0198	2	TERM,RING,#10,8	17	AMP
	028-0316	1	TERM,RING,3/8,8	25	AMP
GND1		REF	ENGINE GROUND		
IN02		REF	THRU HULL,GENERATOR	GENERATOR	
IN03		REF	THRU HUL,AIR CONDITIONING	AIR CONDITIONING	

FOUR WINNS WIRE LIST



COLOR	GA	FIRST	PIN	TERM	NOTE	SECOND	PIN	TERM	NOTE	FUNCTION
GRN	8	GND1	1	25		IN02	1	17	SA	GENERATOR BONDING
GRN	8	IN02	1	17	SA	IN03	1	17		AC BONDING



FOUR WINNS WIRE LIST

COLOR	GA	FIRST	PIN	TERM	NOTE	SECOND	PIN	TERM	NOTE	FUNCTION
BLK	16	P23	1	41	SA	S01	7	02	SF	SWITCH LT RET
BLK	16	S01	7	02	SF	S03	7	02	SD	SWITCH LT RET
BLK	16	P23	1	41	SA	P24	1	41	SB	WATER/HOLD LEVEL RET
BRN/WHT	14	P23	2	41		S01	3	02		VAC-U-FLUSH
ORN/BRN	14	P23	3	41		S01	2	02		VAC-U-FLUSH IN
BRN	14	P23	4	41		S02	3	02		OVERBOARD DISCHARGE
ORN/BRN	14	P23	5	41		S02	2	02		OVERBOARD DISCHARGE IN
BRN	16	P23	6	41		J24	2	42	SC	WATER/HOLD LEVEL +
BRN/PNK	16	P23	7	41		J24	4	42		WASTE LEVEL
BRN/LT BLU	16	P23	8	41		J24	3	42		FRESH WATER LEVEL
BLU/GRA	16	P23	9	41		S03	3	02		HEAD LT
BLU/GRA	16	P23	10	41		S03	2	02	SE	HEAD LT IN
BRN/WHT	16	P23	11	41		J25	3	42		GRAY LEVEL
BLK	16	J24	1	42	SB	J25	1	42		GRAY LEVEL RET
BRN	16	J24	2	42	SC	J25	2	42		GRAY LEVEL +
BLK	16	S03	7	02	SD	S04	7	02		SWITCH LT RET
BLU/GRA	16	S03	2	02	SE	S04	2	02		HEAD VENT IN
YEL/GRN	16	S04	3	02		P23	12	41		HEAD VENT

FOUR WINNS PARTS LIST

ITEM	PART NUMBER	QUANTITY	DESCRIPTION	FUNCTION	MANUFACTURER
	028-0177	11	RECEPT,FASTON,250,18-14	02	AMP
	028-0390	12	PIN,UMNL,18-14	41	AMP
	028-0454	7	SOCKET,UMNL,18-14	42	AMP
	025-2069	1	PANEL,BLANK,CABIN LTS		HEAD PANEL
J24	028-0441	1	RECEPT,UMNL,4 CKT		WASTE/HOLDING LEVEL
J25	028-0441	1	RECEPT,UMNL,4 CKT		GRAY WATER LEVEL
P23	028-0449	1	PLUG,UMNL,9 CKT		HEAD SWITCH
S01	028-0457	1	SWITCH,UNLIT ON OFF,CONT III		VAC-U-FLUSH
S02	028-0456	1	SWITCH, UNLIT (ON) OFF,CONT III		OVERBOARD DISCHARGE
S03	028-0457	1	SWITCH,SPST ON OFF,CONT III		HEAD LIGHT
S04	028-0457	1	SWITCH,SPST,ON OFF,CONT III		HEAD VENT

**298/328/348 VISTA
HEAD SWITCH
PANEL ASSEMBLY**



 **FOUR WINNS®**

A GENMAR COMPANY

PART # 090-2791