



# R-27

## Owner's Manual



25802 Pacific Highway South  
Kent, Washington 98032

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## CONGRATULATIONS

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The Ranger Tug family has a passion for boating. We are committed to continuous process improvement in all areas that affect our customer's satisfaction with our products and providing great customer service.









## SAFETY

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Safety is always a concern at Ranger Tugs. Please read all manuals to insure that equipment is used in a safe manner. We highly recommend attendance in a Coast Guard approved boating safety course. Such courses are available from the Coast Guard directly or from boating organizations. Owners should have annual inspections to ensure that all safety equipment is current.

## SYMBOL GLOSSARY

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	Attention! – Important Operating or Maintenance Instructions
	Attention! – Electrical Shock Hazard
	Fresh Water
	Black Water
	Fuel
	Standard Equipment
	Optional Equipment
	Hints

## SPECIFICATIONS (Subject to Change Without Notice)

Boat & Anchor Roller & Swim Step	30'
Length with Swim Platform on trailer	35'
Length Overall (LOA)	27'
Beam	8' 6"
Draft	26"
Displacement	6,200 lbs.
Fuel Capacity	100 US Gal
Fresh Water Capacity	40 US Gal
Black Water Capacity	30 US Gal
Sleeping Capacity	5
V-Berth Sleeping Length	6' 3" minimum
Cabin Interior Height	6" 6" minimum
Water⇔Bridge Clearance w/ Mast Deployed	12' (3.65m)
Water⇔Bridge Clearance w/ Mast Down	8'8"
Height on Trailer with with Mast Down	11'8"

# EQUIPMENT LOCATION

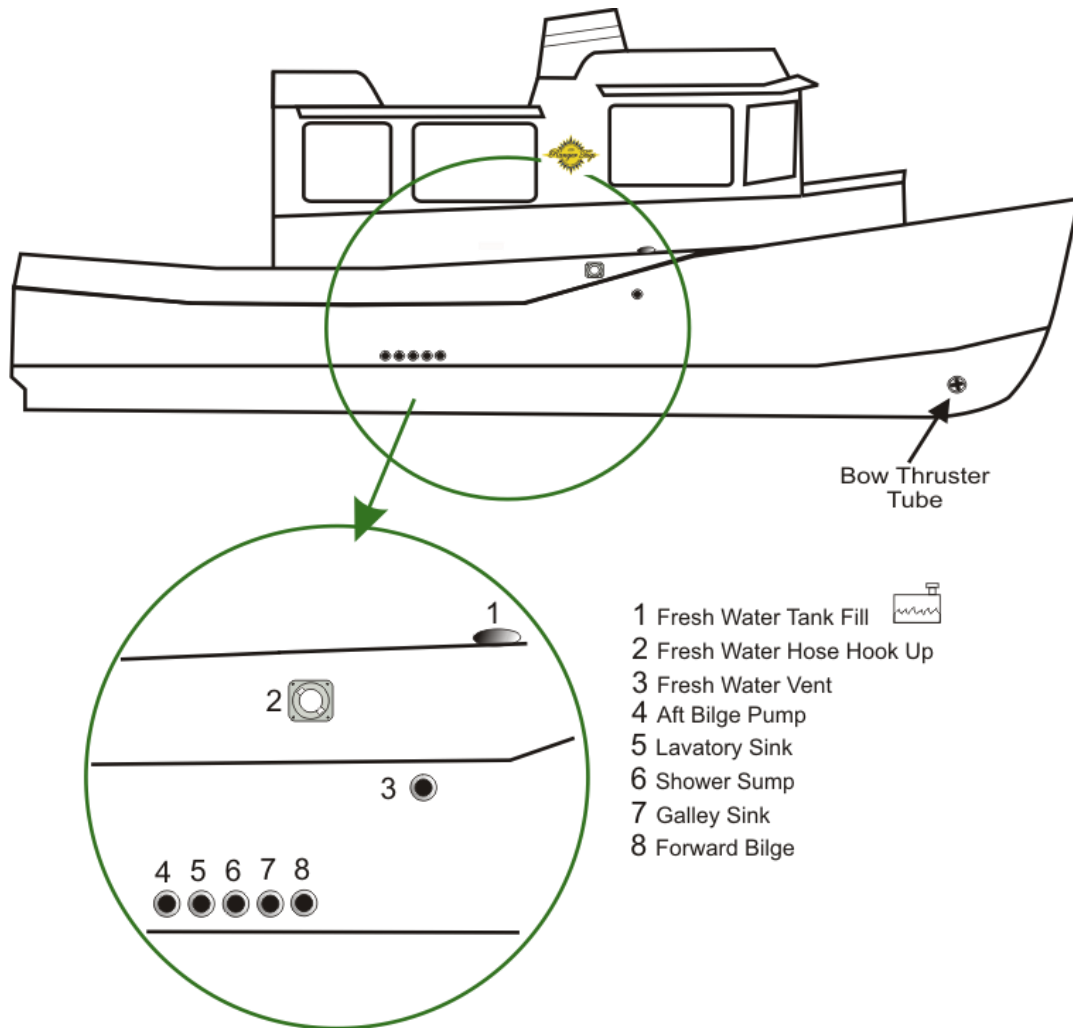
## STARBOARD FITTINGS

STD

12345678



Keep all vents, drains and exhausts clear of any obstructions to ensure proper performance of each system.



## PORT FITTINGS

STD

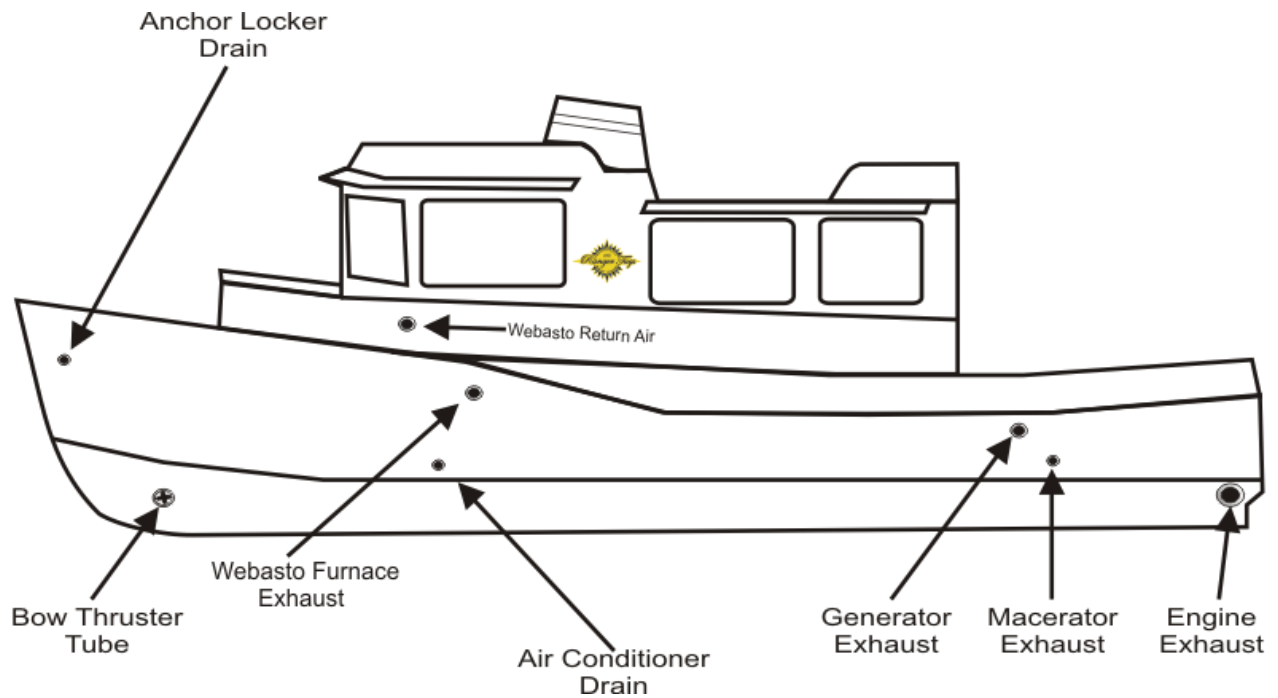
Anchor Locker Drain, Engine Exhaust & Bow Thruster

OPT

AC, Generator, Bow Thruster, Macerator & Webasto Furnace



Keep all vents, drains and exhausts clear of any obstructions to ensure proper performance of each system.



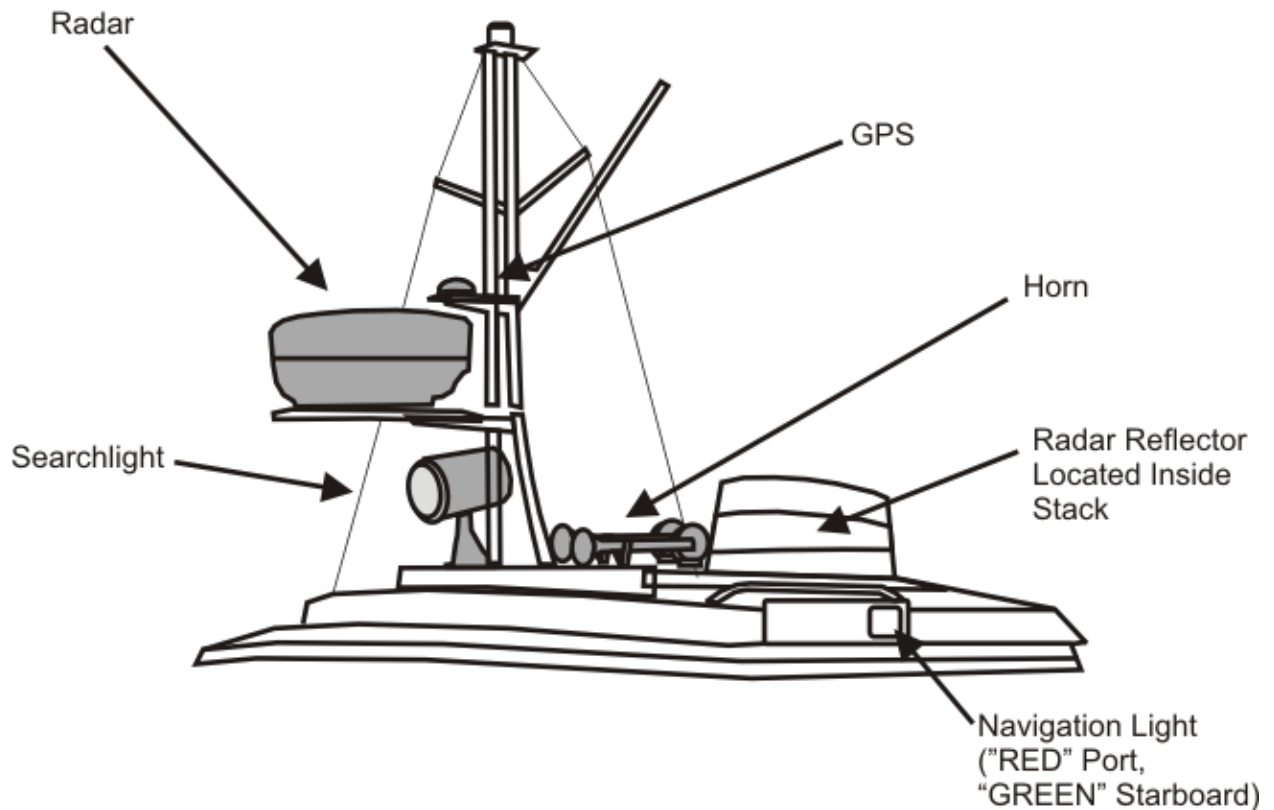
## MAIN CABIN TOP DECK COMPONENTS

**STD**

Horn, Navigation Lights, Radar Reflector, Searchlight

**OPT**

GPS & Radar





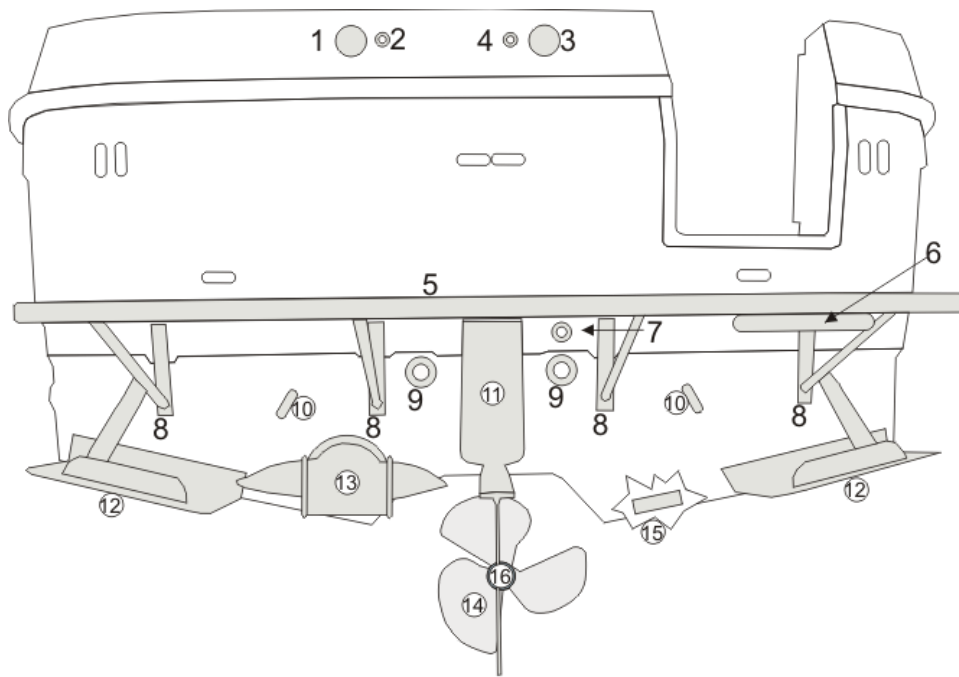
## STERN COMPONENTS



### STD

Waste Pump out Cap, Waste Pump out Vent, Diesel Fuel Cap, Diesel Fuel Vent, Fiberglass Swim Platform, Swim Platform Retracting Ladder, Swim Platform Supports, Scupper Drains, Stern Eyes, Rudder, Trim Tabs, Stern Thruster, Propeller, Prop Zinc

### OPT

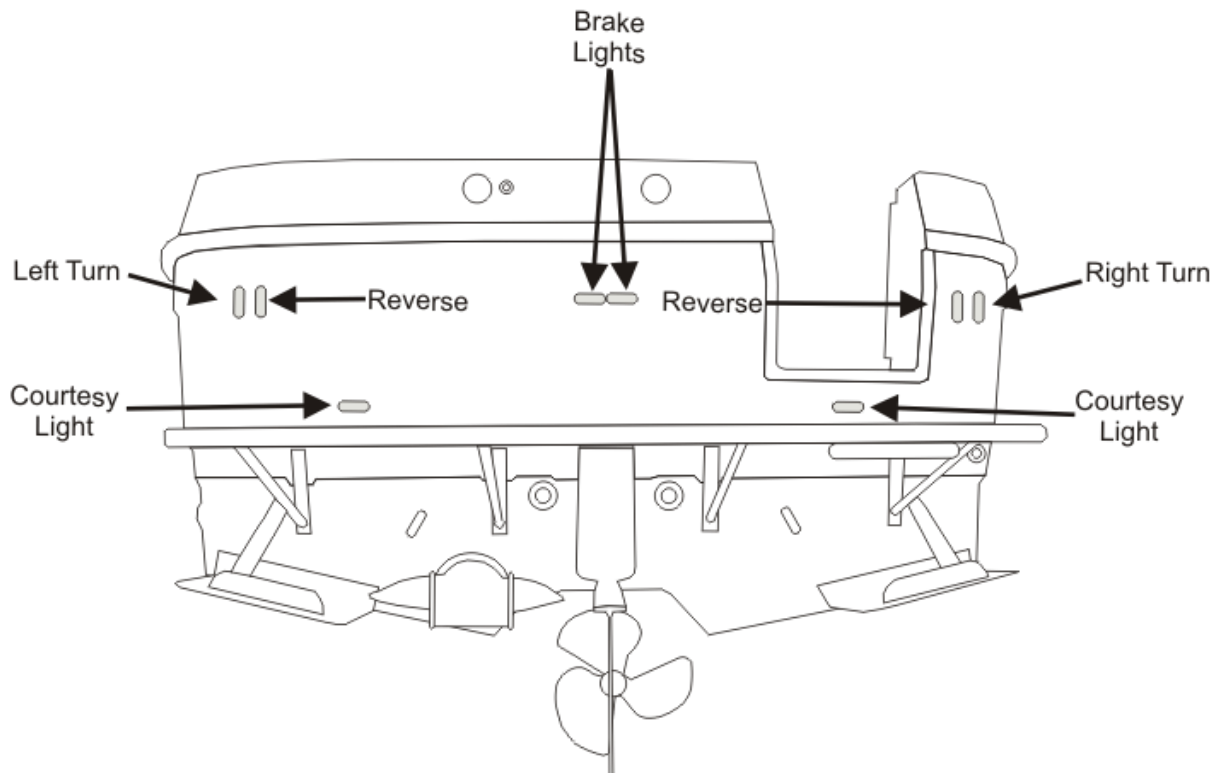
Depth Finder Transducer, Propane Locker Drain,



- |  |  |
|--|--|
| 1 Waste Pump out Cap  | 8 Swim Platform Supports, 4X                 |
| 2 Waste Pump out Vent  | 9 Scupper Drains, 2X                         |
| 3 Diesel Fuel Cap     | 10 Stern Eyes, 2X                            |
| 4 Diesel Fuel Vent   | 11 Rudder                                    |
| 5 Swim Platform  | 12 Trim Tabs, 2X                             |
| 6 Swim Platform Retracting Ladder  | 13 Stern Thruster                            |
| 7 Propane Locker Drain   | 14 Propeller                                 |
|  | 15 Transducer, Depth Finder (Internal Mount) |
|  | 16 Prop Zinc (Inspect and Replace)           |

## STERN LIGHTS

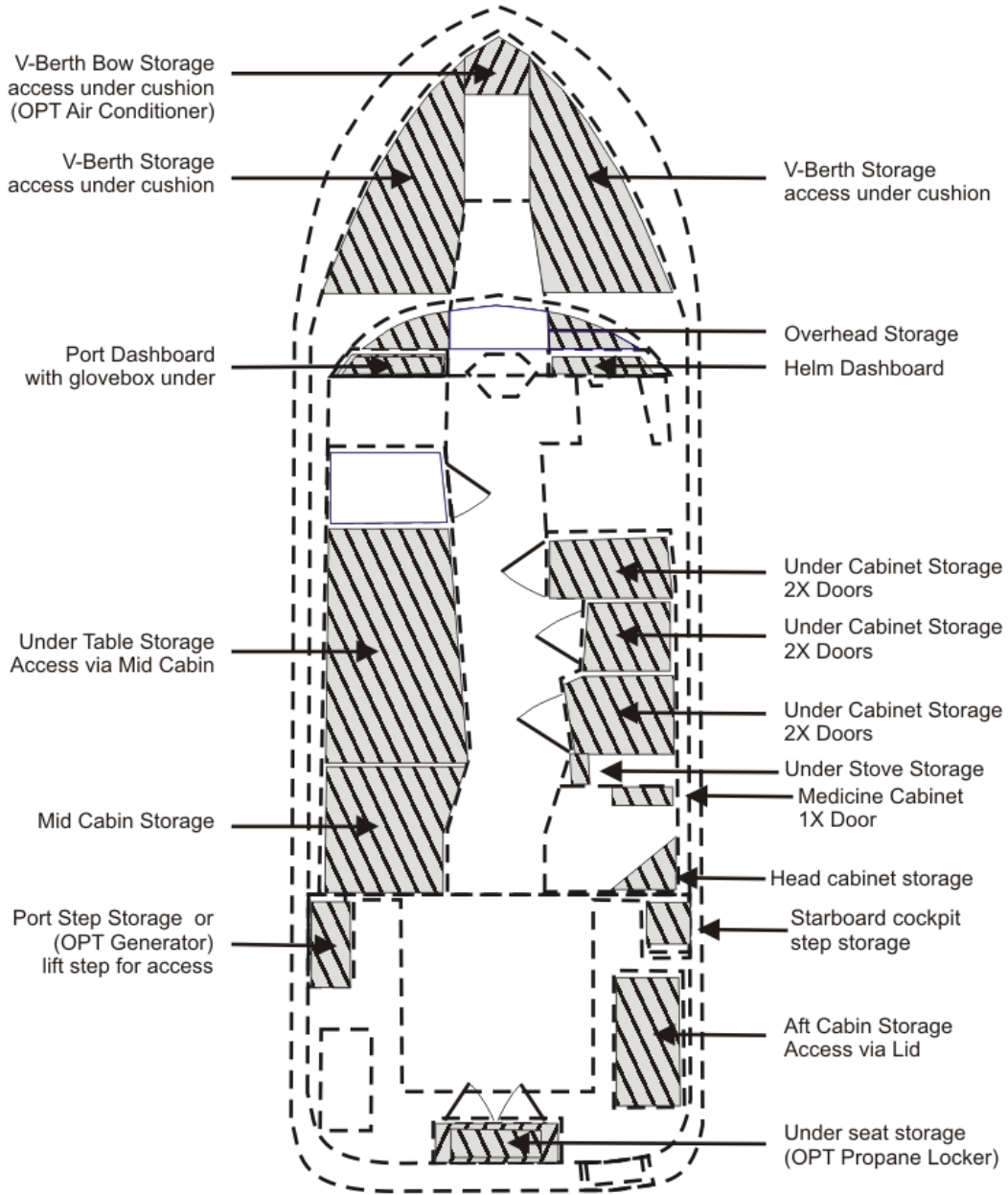
STD



# AVAILABLE STORAGE

OPT

V-berth Bow Storage, Cockpit Seat Storage, Port Step Storage



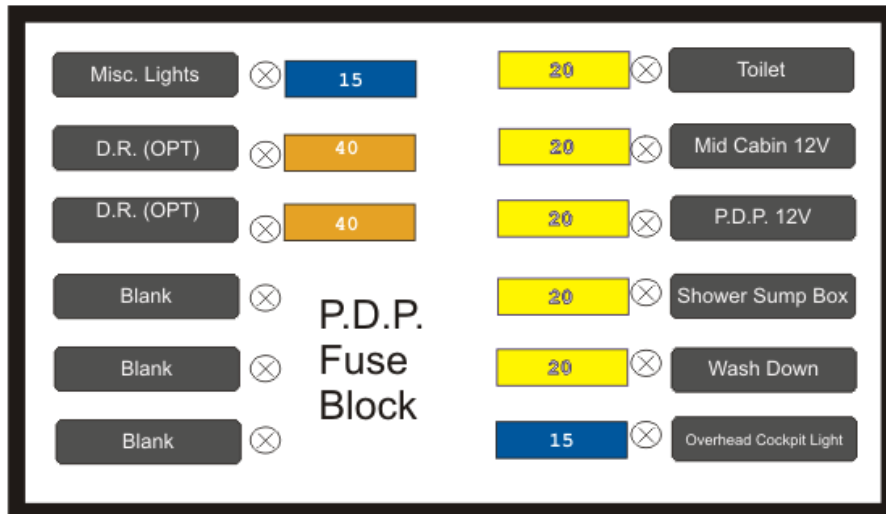
## FUSE LOCATION & VALUES

### STD

The DC fuse block is located behind a hinged access panel on the starboard side in the V-berth next to the cabin light. Fuses are automotive blade type and all values shown below are in Amps.

### STD

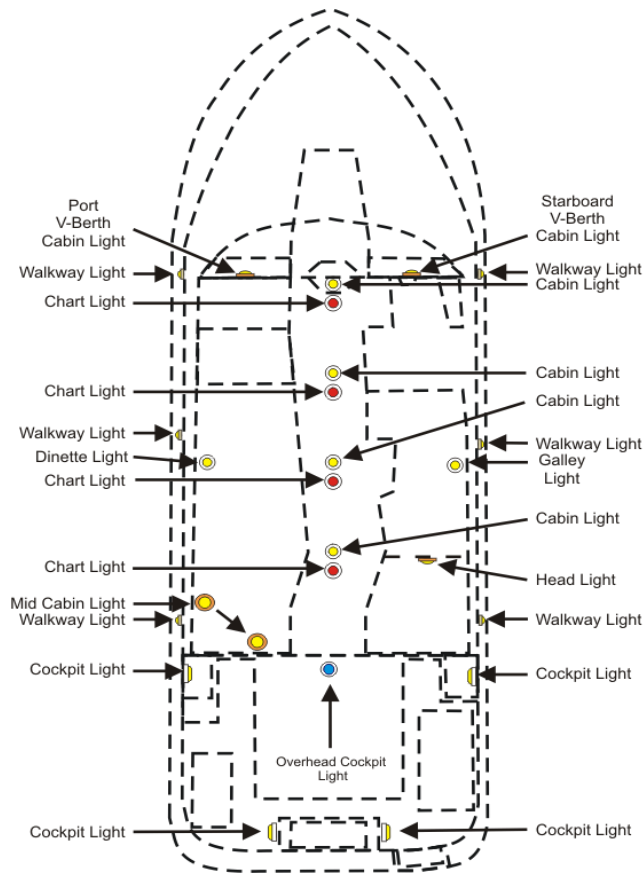
The P.D.P (Power Distribution Panel) fuse block is located underneath the port side hinged cockpit step. Fuses are automotive blade type and all values shown below are in Amps.



## MAIN CABIN AND COCKPIT LIGHTS

**STD**

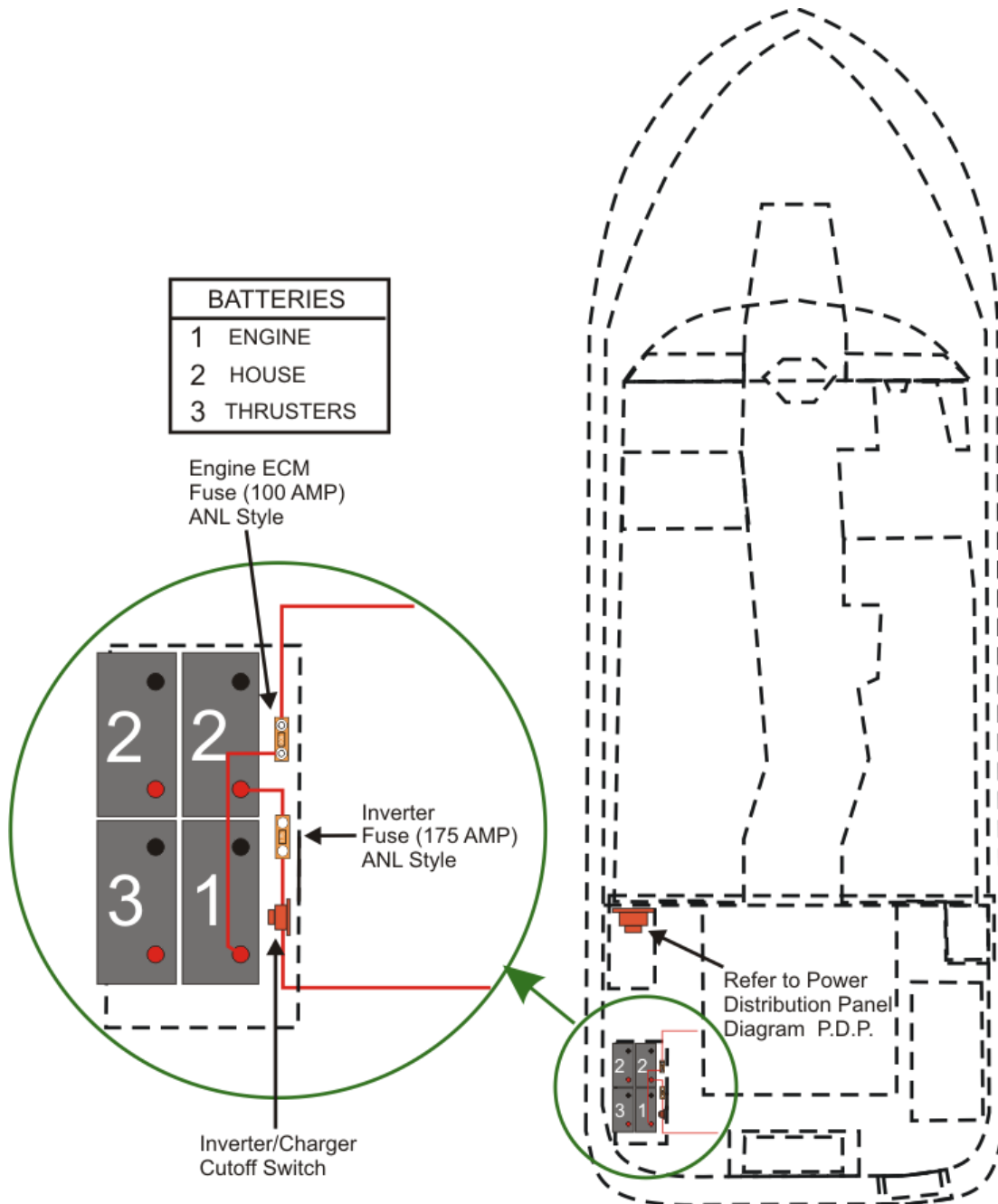
	On Light Fixture	DC Distribution Panel (On First)	Main Cabin Door Switch	Helm or Transom Door Switch	Helm Switch Panel
V-Berth Cabin Lights	✓	✓			
Chart Lights		✓			
Cabin Lights			✓		
Walkway & Cockpit Lights				✓	✓
Galley Light	✓				
Head Light	✓				
Mid Cabin Lights	✓				
Dining Area Light	✓				
Overhead Cockpit Light			✓		



# BATTERY COMPARTMENT

STD

House Batteries, Engine Battery, Thruster Battery, Inverter/Charger, Engine ECM Fuse (100 AMP), Inverter Fuse (175 AMP), Inverter/Charger Cutoff Switch



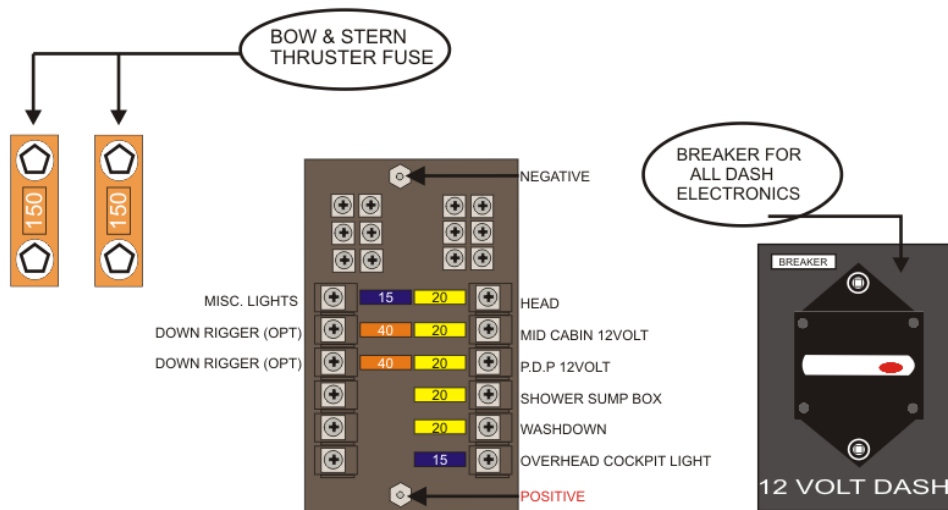
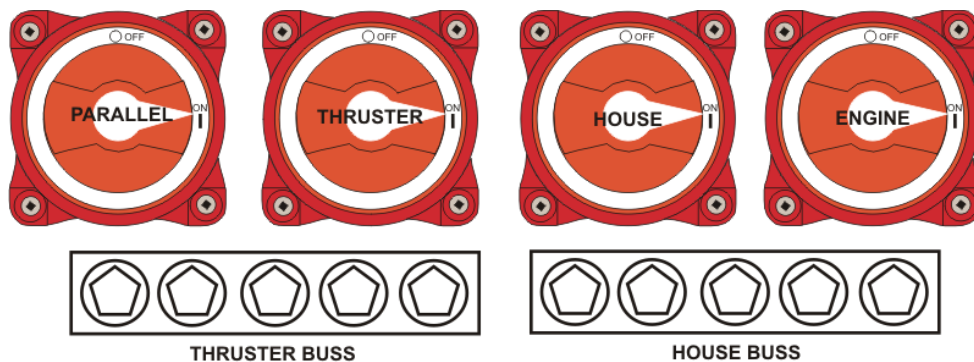
## POWER DISTRIBUTION PANEL (P.D.P)

**STD**

This Power Distribution Panel is located underneath the port side hinged cockpit step.

Once the EMERGENCY PARALLEL switch is placed in the on position the power from the HOUSE batteries will be transferred to the ENGINE battery. Use only for EMERGENCY.

All fuses hooked directly to the battery switches are labeled and powered all the time whether the switch is set to the on or off position.



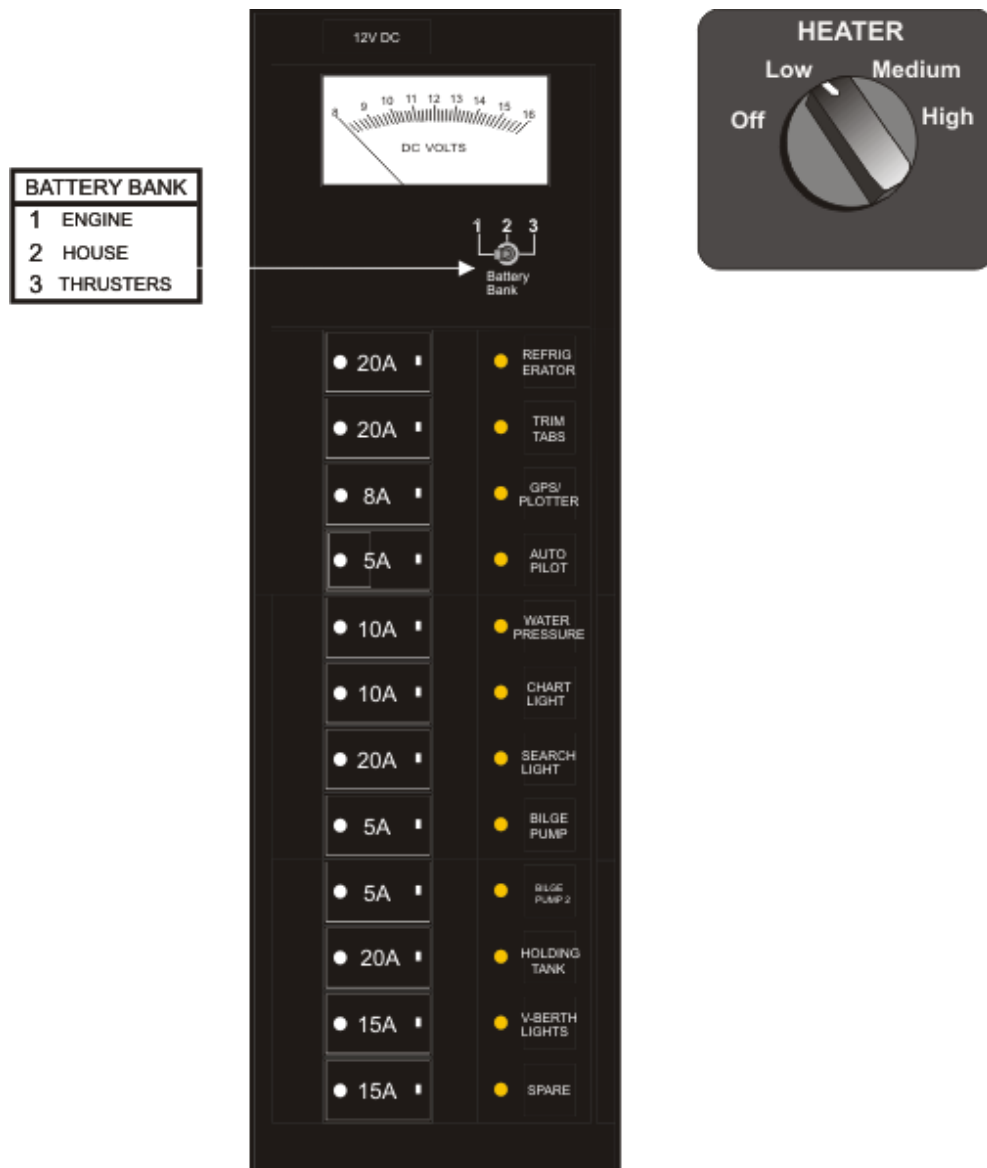
## DC DISTRIBUTION PANEL, DC BANK METER, HEATER CONTROL

STD

The bilge pumps operate automatically with electronic float switches when all switches and breakers are in the OFF position.

However, the BILGE PUMP and BILGE PUMP2 will run *continuously* once their switches are placed in the on position. Monitor the outflow accordingly. Do not run when dry.

The Heater Control will operate the fan speed of the Heater Craft Heater. The Heater Craft Cabin Heater will only warm as the engine reaches normal operating temperature.





## AC DISTRIBUTION PANEL & ROTARY SWITCH

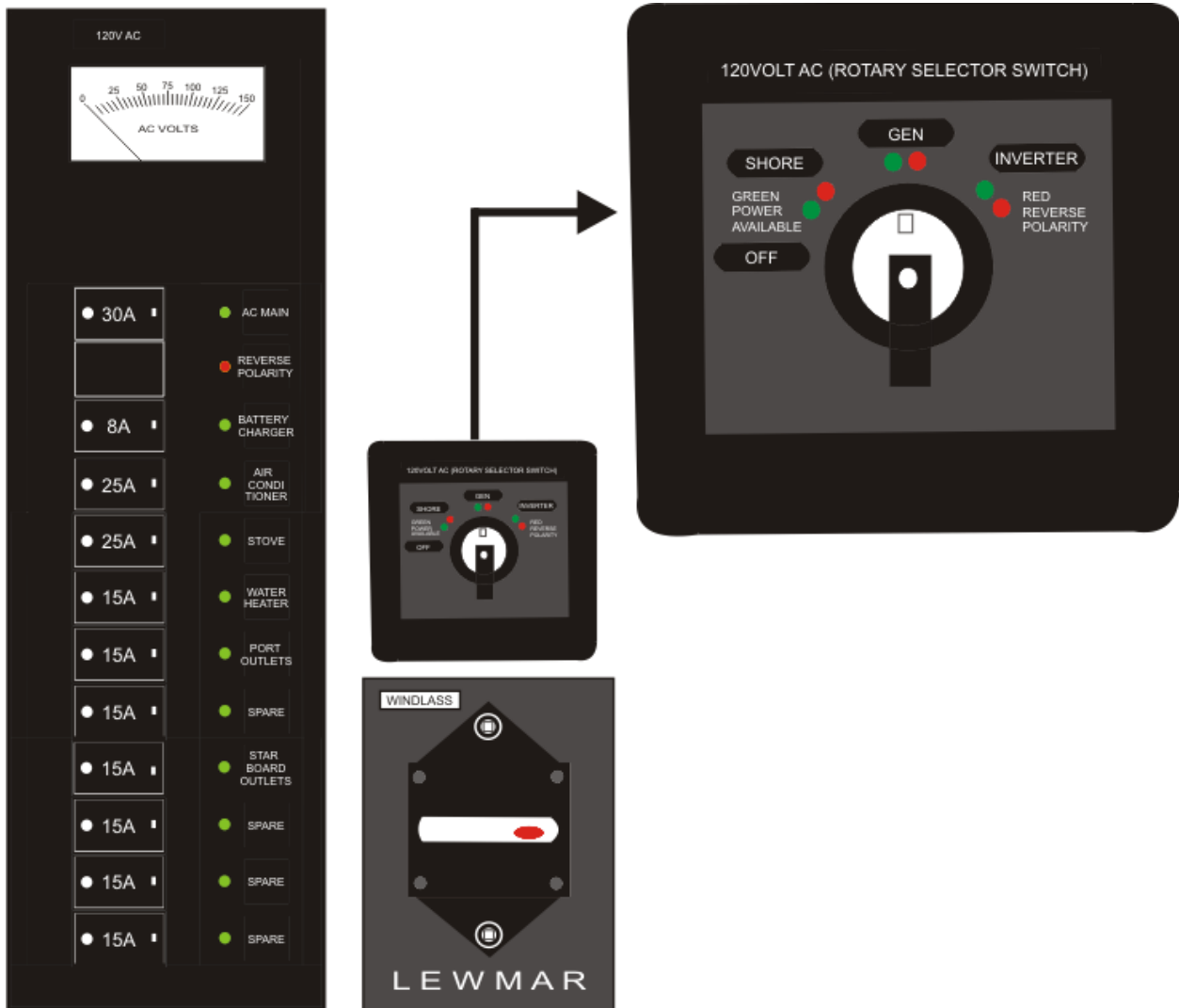
STD

AC Distribution Panel, Windlass Breaker

OPT

AC Rotary Selector Switch. Available with Generator

The AC Rotary Switch Selector Switch will determine which source of incoming 120 Volt power to use for your AC Distribution Panel.



## FUEL SYSTEM, ENGINE, GENERATOR & WEBASTO FURNACE

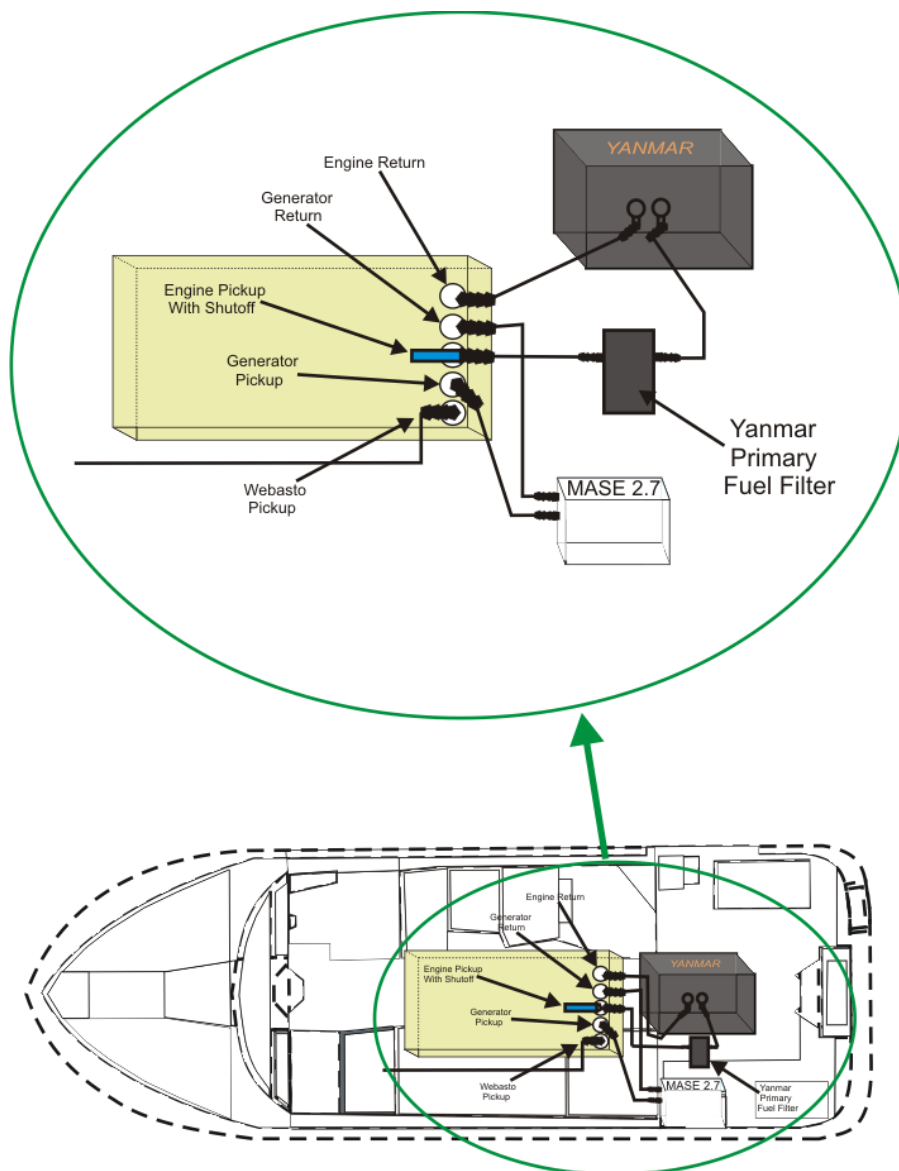
STD

Yanmar 4BY2-180

OPT

Mase 2.7 KW Diesel Generator, Webasto Furnace

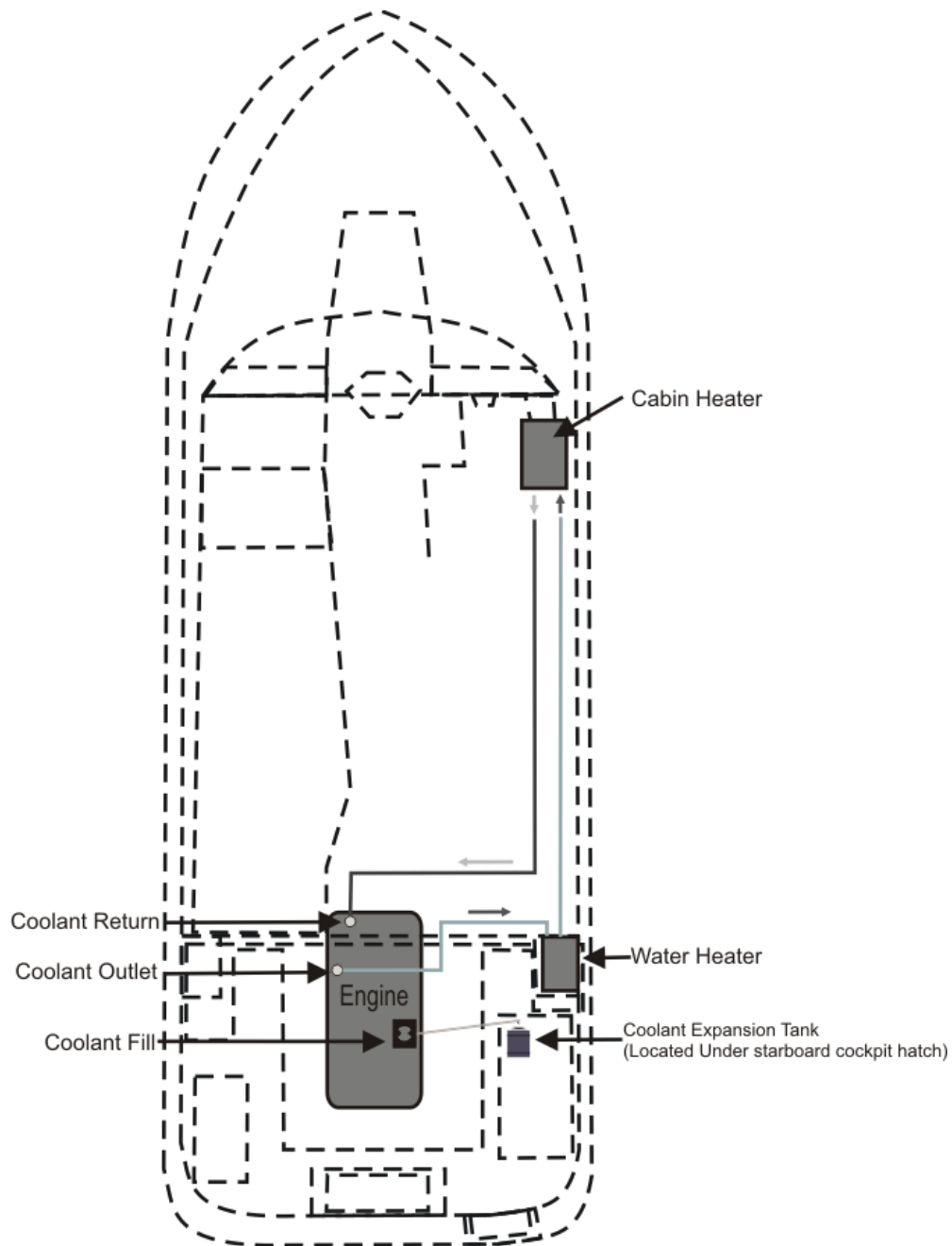
- There is a secondary on engine fuel filter that is not shown on this drawing. You will be able to find information about this filter in the diesel engine manual supplied with your boat.
- Fuel shutoff and all fuel fittings are located inside the hatch as you enter the main cabin.



## CLOSED ENGINE COOLING SYSTEM

**STD**

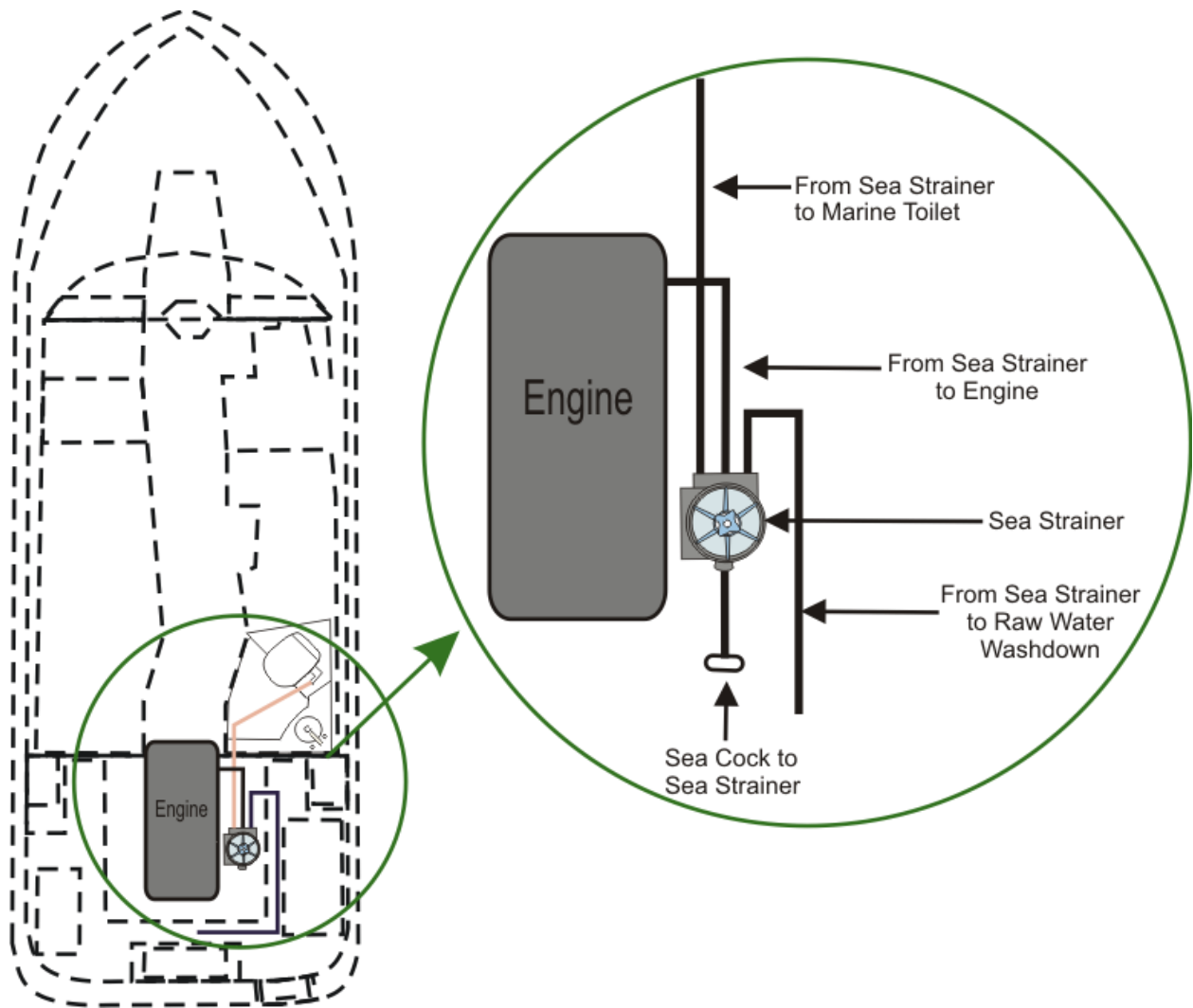
Provides alternate heating system for the Fresh Water Heater and provides primary heating source for the Forced Air Cabin Heater. This system is also designed to provide cooling to the internal components of your engine. Please refer to your engine operations manual for more information.



## SEA STRAINER SYSTEM

STD

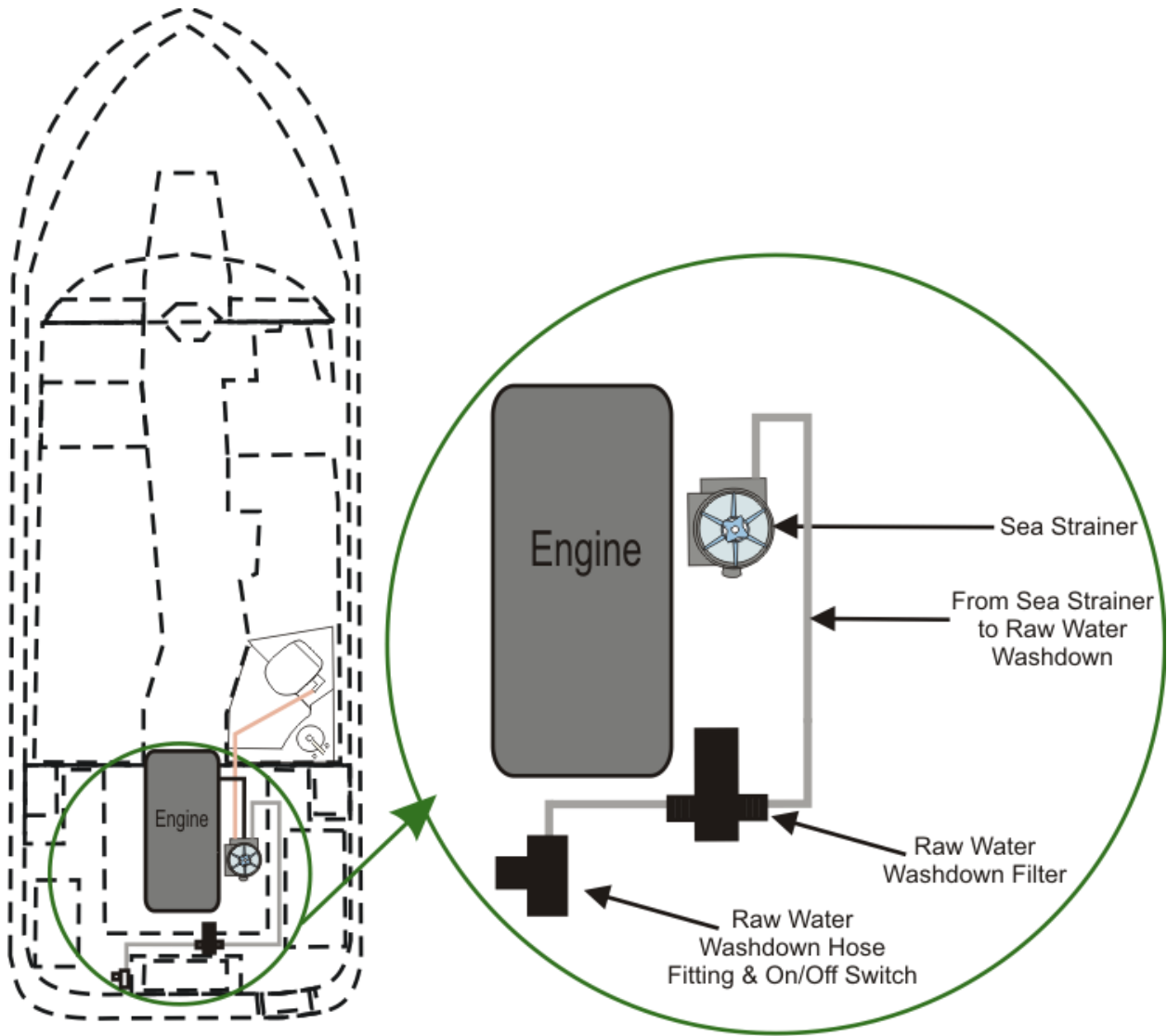
Multi Port Sea Strainer for Engine, Marine Toilet and Raw Water Washdown



# RAW WATER WASH DOWN

STD

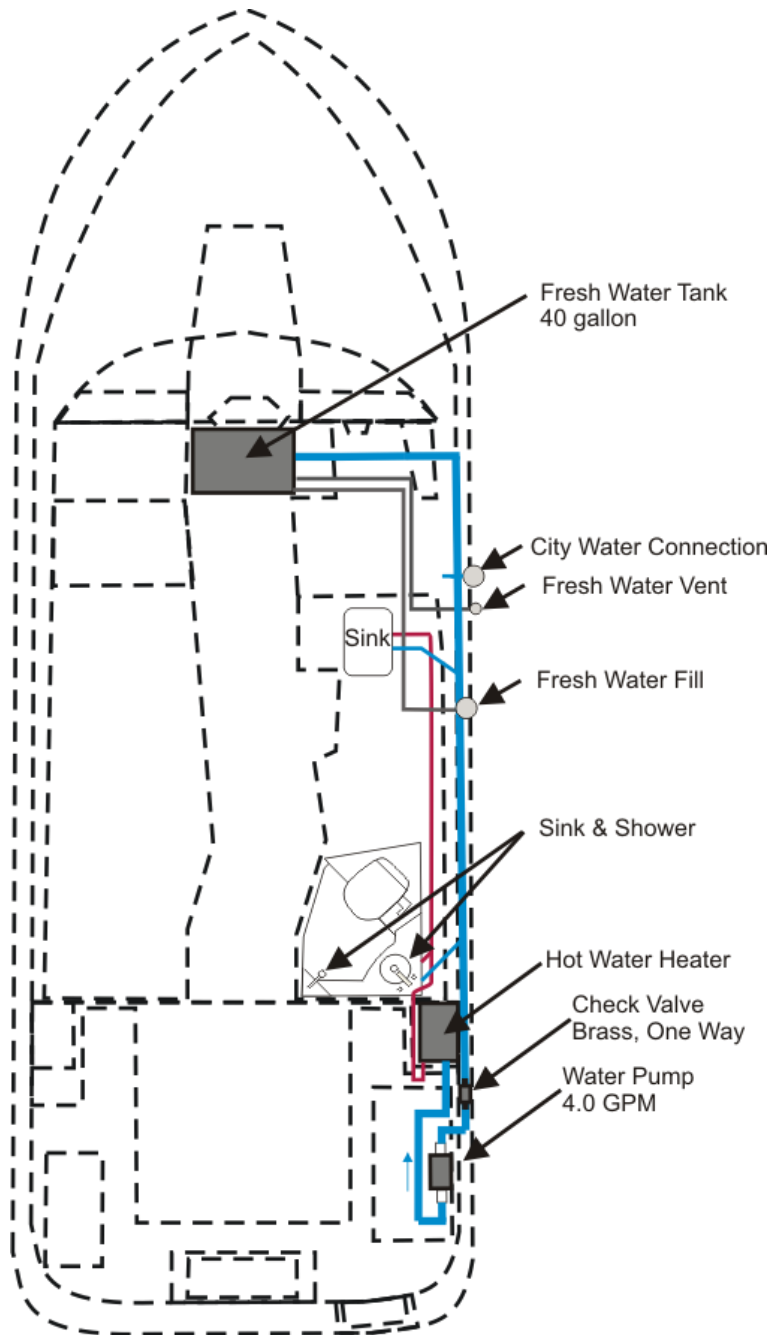
Johnson Aqua Jet 5.2 GPM



## FRESH WATER PLUMBING SYSTEM

STD

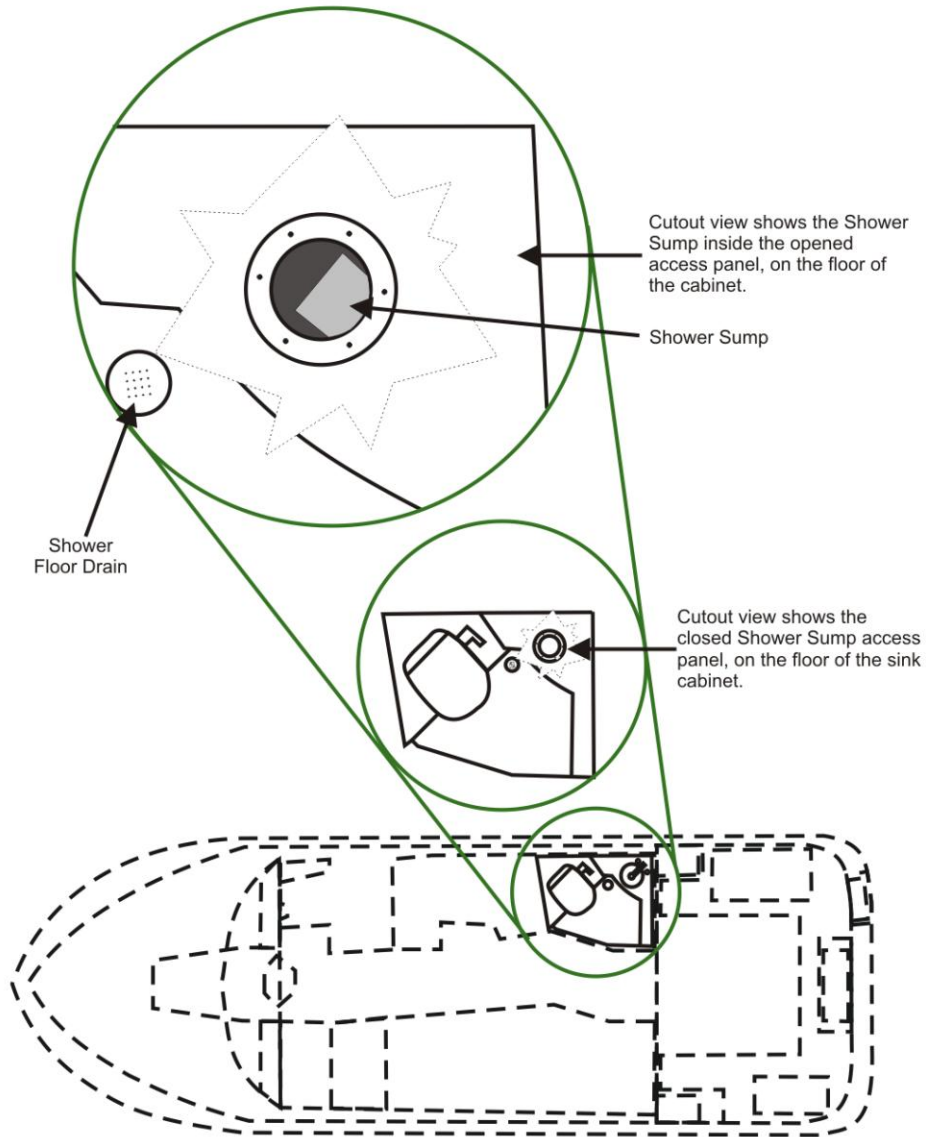
40 Gallon Fresh Water Tank, 6 Gallon Hot Water Heater, 4.0 GPM Fresh Water Pump, Self Regulated Dockside Water Fitting,



## SHOWER SUMP

STD

12V, 500 GPH (This should be inspected for debris on a regular basis if shower is used frequently.)



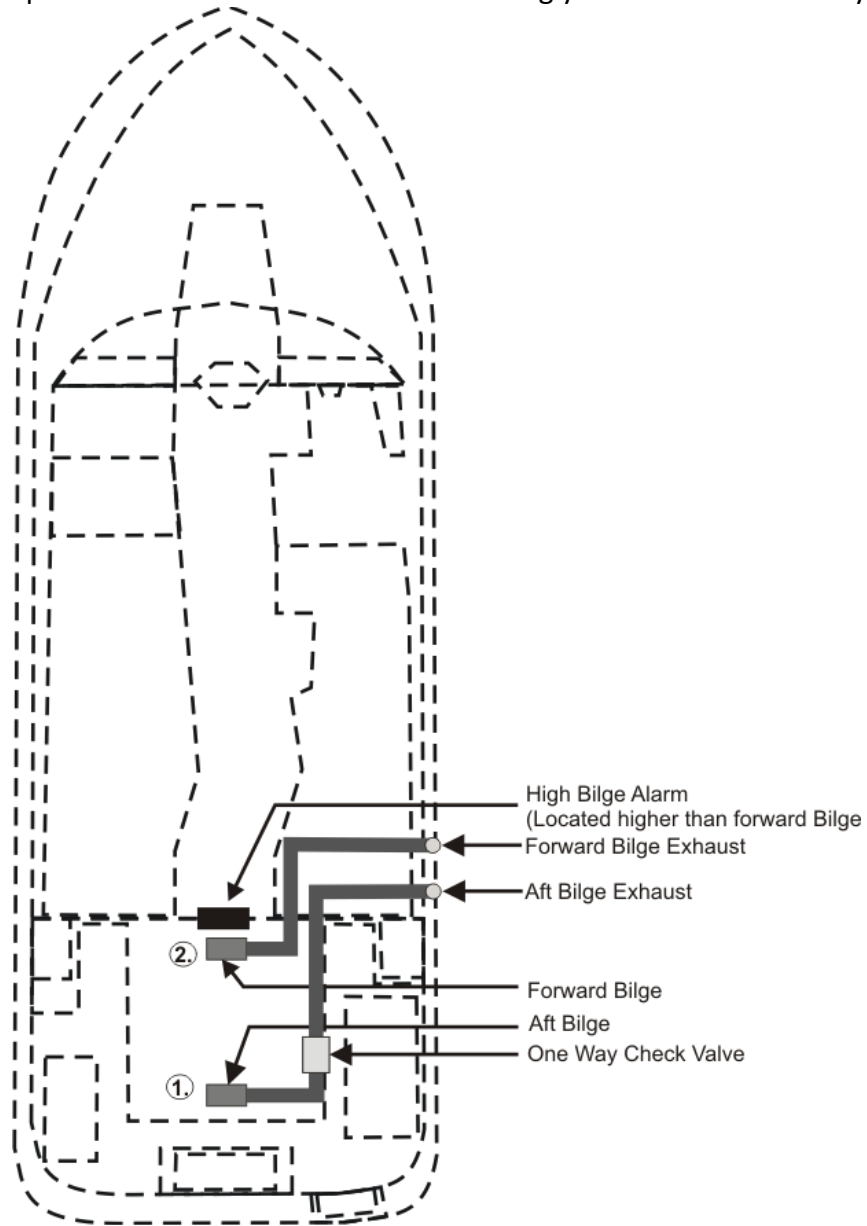
## BILGE PUMP SYSTEM

STD

12V 750GPH

□ The bilge pumps operate automatically with electronic float switches when all switches and breakers are in the OFF position.

However, the BILGE PUMP and BILGE PUMP2 will run *continuously* once their switches are placed in the on position. Monitor the outflow accordingly. Do not run when dry.





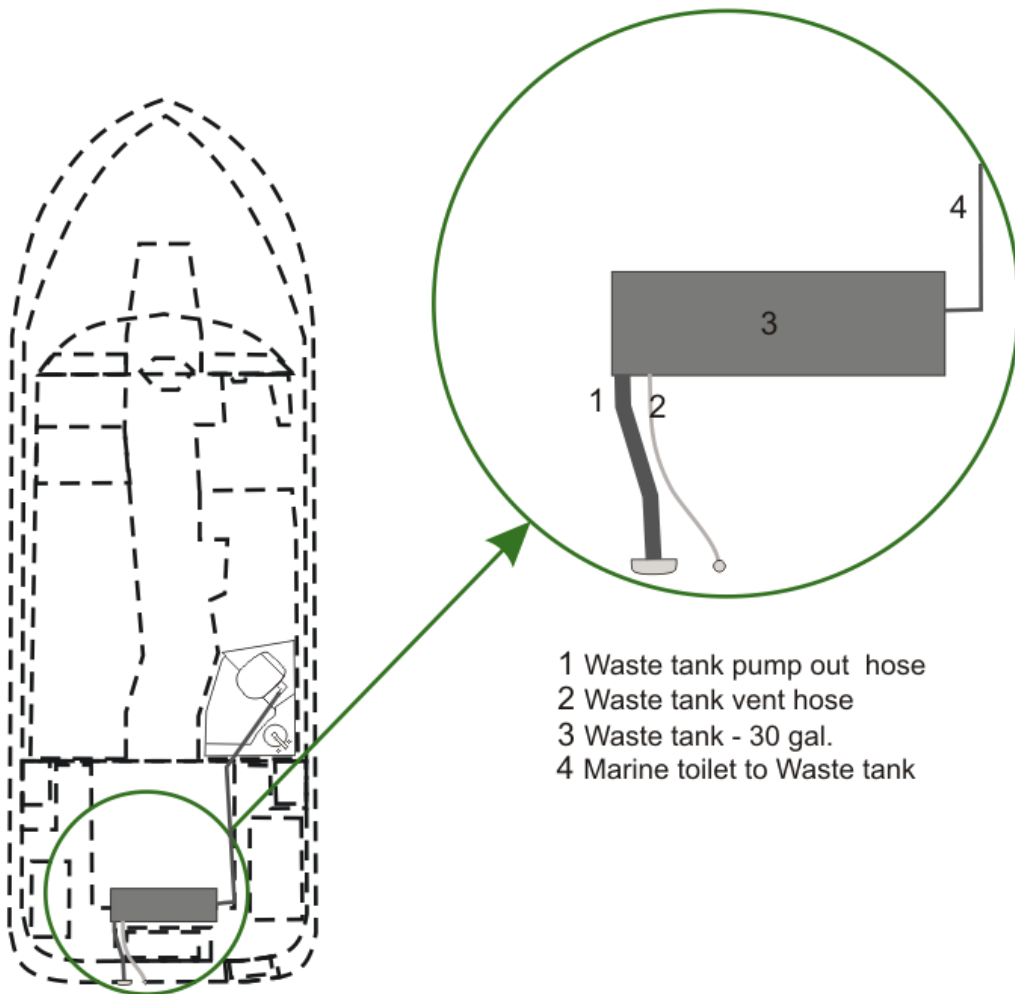
## WASTE SYSTEM

STD



30 Gallon Tank with Pump Out and Vent

- Waste tank fill level can be checked by lifting the engine access hatch and viewing the translucent waste tank.
- Waste tank pump out stations are widely available. Please follow the directions carefully for the pump out equipment you are using to avoid damage to the waste system.



## WASTE SYSTEM WITH MACERATOR PUMP

OPT



30 Gallon Tank with Macerator Pump Out, Standard Pump Out, and Vent

● Waste tank fill level can be checked by lifting the engine access hatch and viewing the translucent waste tank. Pump out can be done with the macerator or standard pump out. The Y-Valve that switches between the two can be accessed through the Engine Hatch, aft of the engine.

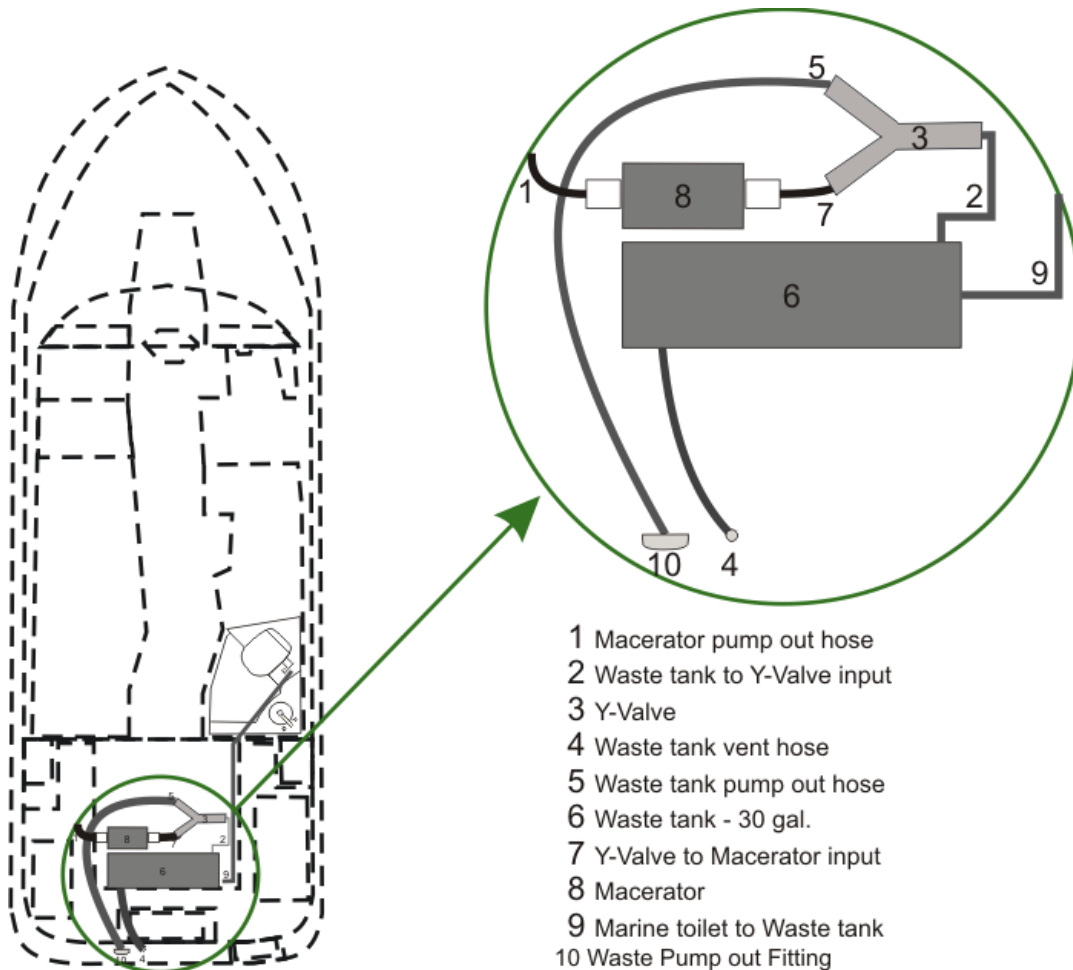


Waste tank pump out stations are widely available.

Please follow the directions carefully for the pump out equipment you are using to avoid damage to the waste system.



Boat owner is responsible for following all applicable laws when using the macerator system to pump out into the surrounding waters.



## **MAST SET UP AND TAKEDOWN**

### **MAST SET UP PROCEDURE**

1. Remove the two black plastic wing nuts from the mast base.
2. Remove the two mast tie down cables from their storage positions in the roof clips.
3. With the mast tie down cables still loose, raise the mast off of the stainless steel support bar.
4. Secure the stainless steel retaining bar in the appropriate clip attached next to the v-berth escape hatch.
5. Raise the mast to its full extension and ensure that it fits correctly over the mounting studs on the roof mounting plate.
6. Attach the two black plastic wing nuts to the mounting studs and hand tighten securely.
7. Attach the two mast tie down cables to their appropriate clips on the port and starboard side of the roof.
8. Make sure the mast tie down cables are adjusted properly.

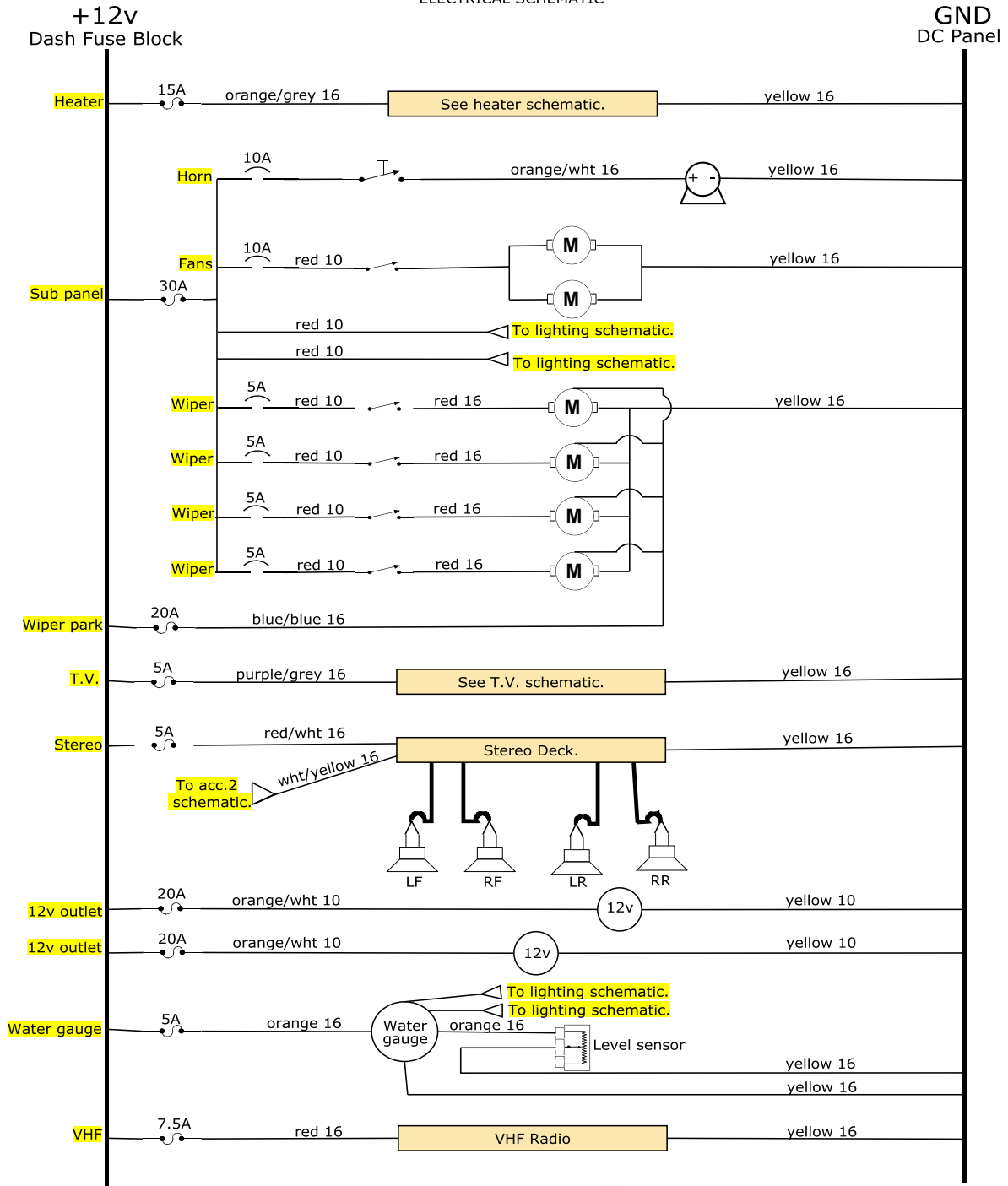
### **MAST TAKE DOWN PROCEDURE**

1. Remove the mast tie down cables from their clips on the port and starboard side of the roof.
2. Remove the two black plastic wing nuts from the mast base mounting studs.
3. Carefully lower the mast onto the stainless steel support bar.
4. Attach the black plastic wing nuts back onto the screws on the mast mounting plate and secure them for storage by hand tightening.
5. Attach the two mast tie down cables to their storage positions in the roof clips.
6. Recommend securing the mast with a tie down.

# RANGER TUG R-27 WIRING SCHEMATIC (ACC. 1)

## *Ranger Tug R-27 Accessories 1*

ELECTRICAL SCHEMATIC



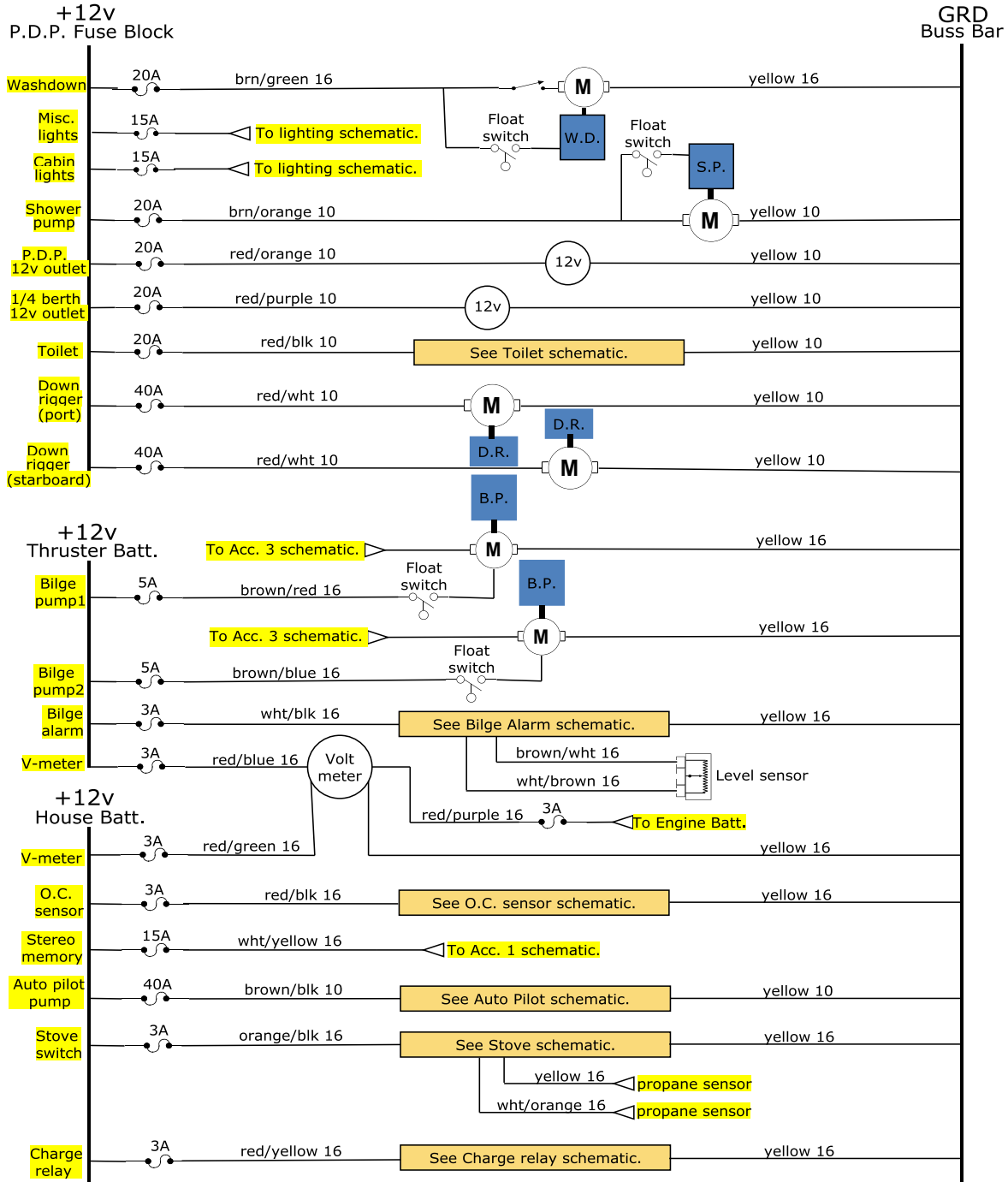
**LIQUID INDUSTRY LLC**

10-21-10

# RANGER TUG R-27 WIRING SCHEMATIC (ACC. 2)

## *Ranger Tug R-27 Accessories 2*

ELECTRICAL SCHEMATIC

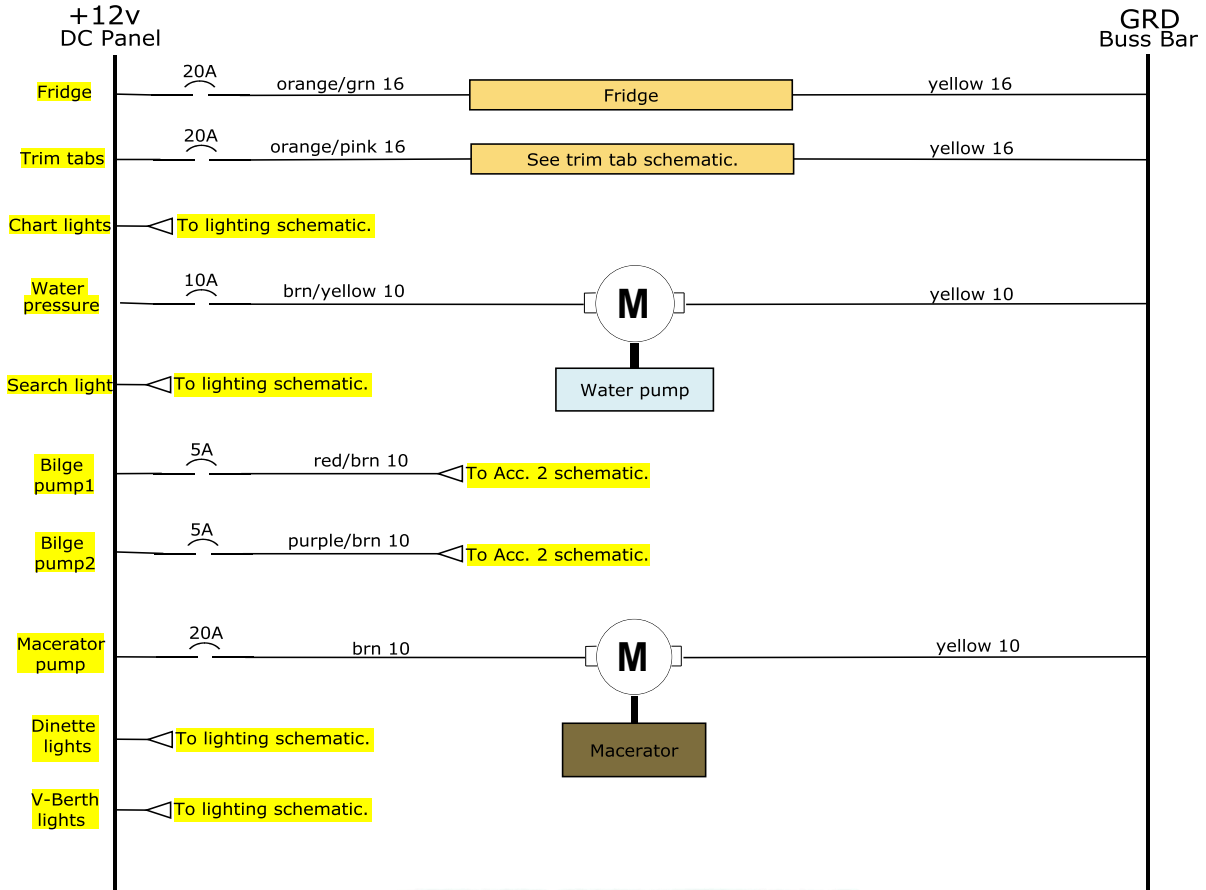


**LIQUID INDUSTRY LLC**

10-21-10

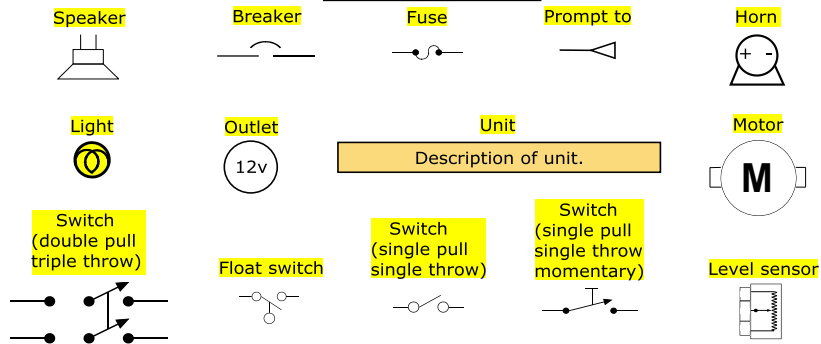
# RANGER TUG R-27 WIRING SCHEMATIC (ACC. 3)

## *Ranger Tug R-27 Accessories 3* ELECTRICAL SCHEMATIC

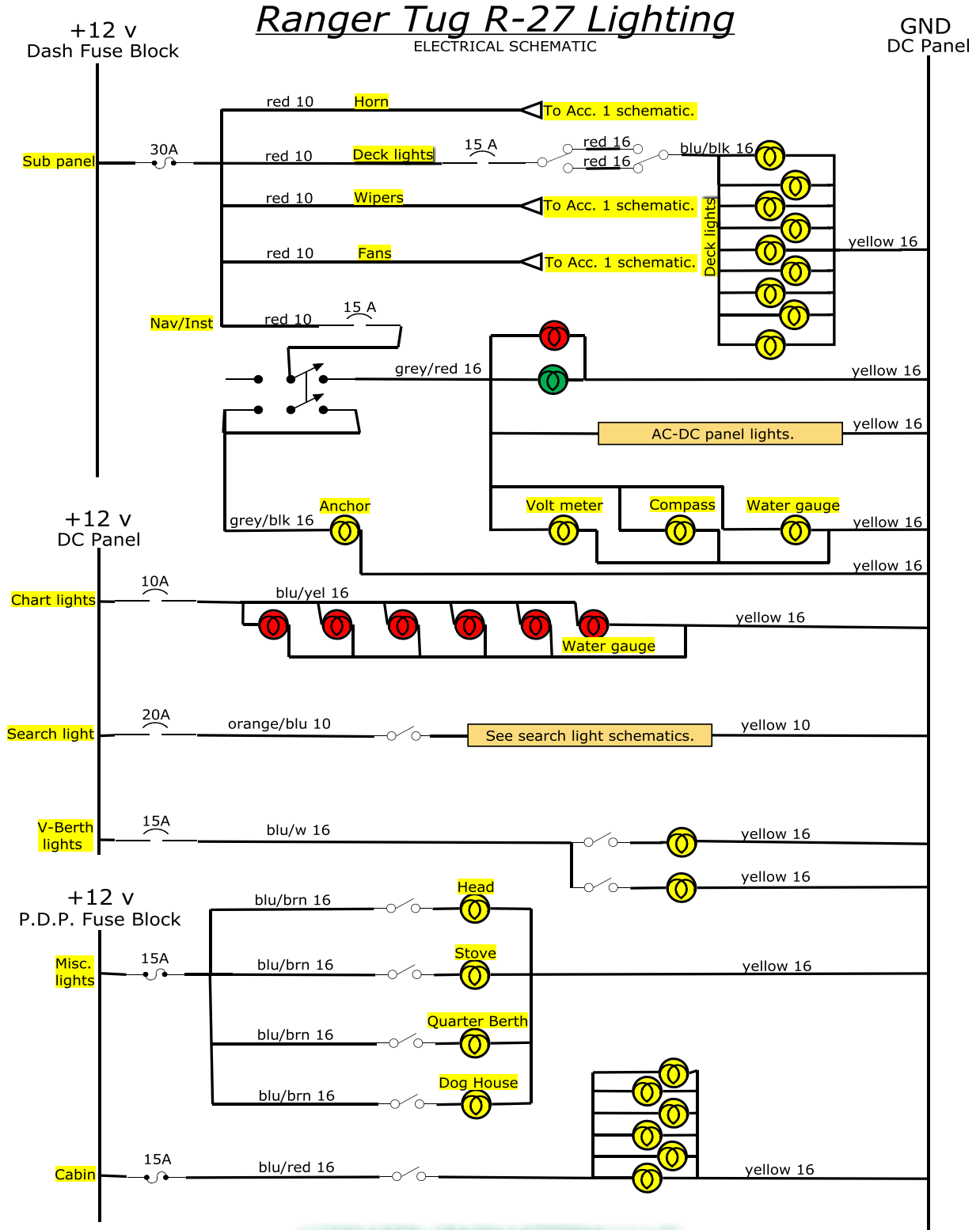


**LIQUID INDUSTRY LLC**  
10-21-10

### SYMBOL KEY



# RANGER TUG R-27 WIRING SCHEMATIC (LIGHTING)

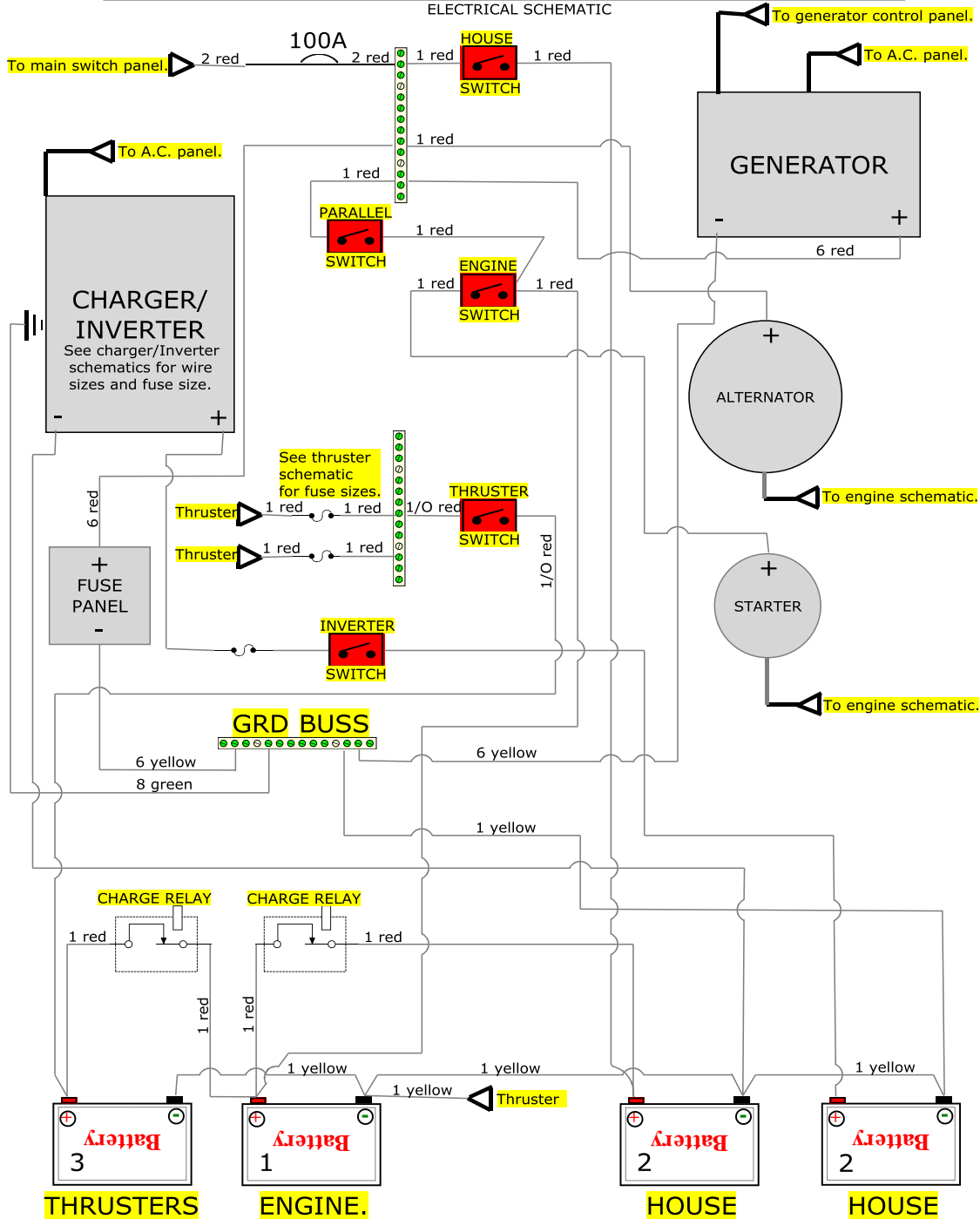


**LIQUID INDUSTRY LLC**  
10-21-10

# RANGER TUG R-27 WIRING SCHEMATIC (P.D.P.)

## *RANGER TUG R-27 POWER DISTRIBUTION*

ELECTRICAL SCHEMATIC



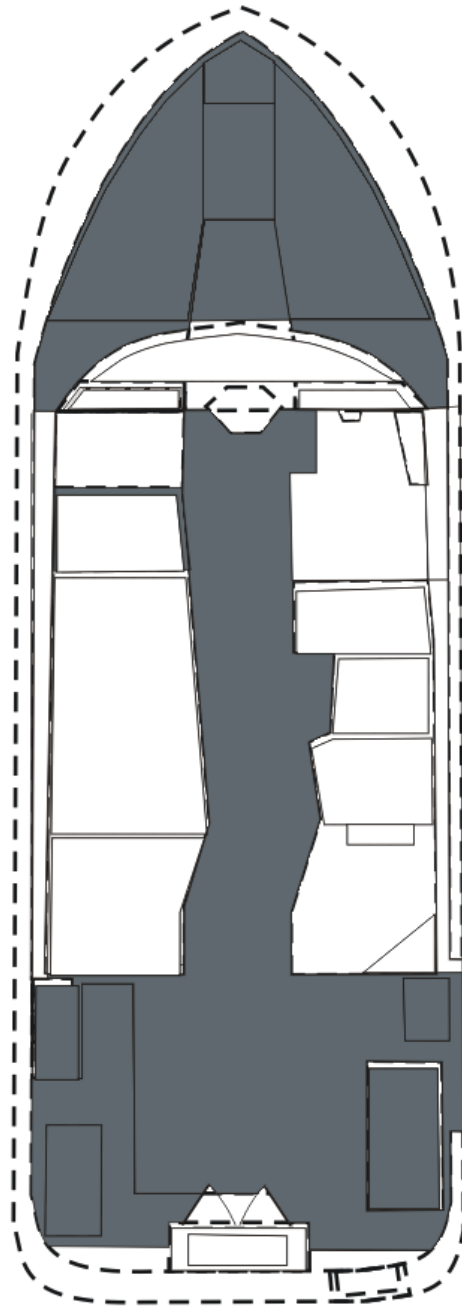
**LIQUID INDUSTRY LLC**

10-21-10



# RANGER TUG R-27 WORKING DECK

STD



# CARE AND MAINTENANCE

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The following checklists are examples and are not all inclusive and are provided only as a guide. Please customize to your personal needs. Consult your engine and trailer user manuals for additional information.

## EXAMPLE OF A PREPARATION FOR THE ROAD CHECKLIST

### TOW VEHICLE – PRIOR TO USE

- Test Lights.
- Check brakes.
- Check tire pressure and condition.
- Check hitch related electrical connections.

### TRAILER – PRIOR TO USE

- Check registration
- Check rollers and bed rails.
- Check wheel bearings and lubricate as required.
- Check winch.
- Test electrical connection and lights.
- Check tire pressure and condition.
- Check safety chains.
- Check boat straps.
- Check braking system.
- Check hitch for proper connection and lock down.
- Install safety chains (cross under hitch).
- Remove tire blocks.

### BOAT – PRIOR TO USE WITH TRAILER

- Lower mast.
- Lower VHF antenna.
- Secure the Bimini awning frame.
- Raise and secure swim platform ladder.
- Set all switches and breakers to the OFF position, Including Thruster/Windlass cutoff switch
- Close and secure all windows, ports and vents.
- Lock cabin.
- Center rudder.
- Remove Drain Plug

## EXAMPLE OF A SPRING PRE-LAUNCH CHECKLIST

### CLEANING:

- Remove debris from scuppers and scupper drains.
- Clean hull using a mild biodegradable detergent and then wax.
- Clean topsides and decks using a mild biodegradable detergent and then wax.
- Clean and polish all bright work.
- Clean and oil teak.
- Clean windows, ports, and hatches.
- Clean bimini cover.
- Check and clean anchor, rode, and anchor storage compartment.

### INSPECTION:

- Check Drain Plug
- Check spare parts and tools and replace as necessary.
- Check wiper blades.
- Check swim platform.
- Inspect and test trim tabs.
- Check condition of bottom paint.
- Check windlass.
- Verify electronics for correct operation.
- Check all inside and outside lights.
- Macerator Y-Valve in proper position and secured.
- Inspect and verify position of all sea cocks and shut off valves.
- Check alarms for proper operation.
- Check fluid levels.

### SAFETY EQUIPMENT

- Sound signaling device.
- Check flares and their expiration dates.
- Check personal floatation devices.
- Check fire extinguishers and their fill dates.
- First aid kits.

### GALLEY:

- Check stove for proper operation.
- Check everyday utensil stock.

### DOCUMENTS:

- Registration sticker.
- Insurance papers and Passports.
- Boat Inspection sticker.
- Charts and float plan forms.

## EXAMPLE OF WINTER STORAGE CHECKLIST

### GENERAL MAINTENANCE:

- Fill Fuel Tank and add a fuel stabilizer.
- Empty and clean black water tank.
- Empty fresh water tank use a **non-toxic** antifreeze per manufacturer's directions.
- Winterize black and fresh water tanks as necessary based on weather.
- Check bilge area for oil and for proper operation
- Check zincs and replace as necessary.
- Check impeller.
- Check and clean water strainer.
- Clear barnacles and debris from hull fittings.
- Trickle charge batteries every 30-60 days.
- Vent boat to prevent mildew.
- Check trailer tire pressure and condition.
- Check trailer braking system.
- Check trailer bearings.
- Remove Drain Plug.
- Turn off all battery cutoff switches.

### ENGINE:

- Flush sea strainer system with fresh water.
- Check all fluid levels.
- Check all hose fittings.
- Check engine maintenance requirements.
- Inspect and verify position of all sea cocks and shut off valves.

### GALLEY:

- Empty, clean and freshen refrigerator.
- Remove all dry food from storage.

## REFERENCE MATERIAL

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The following table contains a list of reference materials provided by Ranger Tugs that are contained under separate manuals.

<b>EQUIPMENT</b>	<b>ORIGINAL MANUFACTURER</b>
Navigation System	Garmin
Engine	Yanmar 4BY2-180
Furnace, diesel	Webasto
Trim Tabs	Bennett
Thrusters	Side Power
Search Light	Jabsco
Raw Water Wash Down	Johnson Pump
Water Pump	Johnson Pump
Heater	Heater Craft
Water Heater	Seaward Products
Refrigerator	Nova Kool
Y-Valve	Jabsco
Compass	Ritchie
Power Cord	Marinco
Kitchen Faucet	ITC
Head Faucet	ITC
Sea Strainer	Marine Hardware
Battery Charger/Inverter	(Pro Mariner)
AC Rotary Switch	Blue Sea
AC Distribution Panel	Blue Sea
DC Distribution Panel	Blue Sea
Steering System	Ultraflex
Windlass	Lewmar
Generator	Mase

# CONTACTS

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## *Customer Service –*

Andrew Custis Customer Service Manager

Phone 253-839-5213

[andrewcustis@rangertugs.com](mailto:andrewcustis@rangertugs.com)

## *Web Site –*

[www.rangertugs.com](http://www.rangertugs.com)