R-25 Owner's Manual





Quality Craftsmanship Since 1958

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CONGRATULATIONS

Welcome to the Ranger Tugs Family and thank you for choosing Ranger Tugs! We're here to support you in getting out on the water and enjoying your new boat. This manual is intended to aid you in the safe operation of your vessel. If you have questions that are not answered in this manual, we have several additional resources available.

The Owner's Bag that you received on delivery day contains manuals for individual components. Additionally, www.TugNuts.com is the Ranger Tugs and Cutwater Boats owner's forum. There you can pose questions, meet other owners, and search through a massive database of past questions. We host an informational webinar series, see page 35 for more information. Contact information for Customer Service, Warranty, Parts Ordering, and Sales can be found on page 34.

SAFETY

Safety is always a priority at Ranger Tugs. Please read all manuals to ensure 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.

WARNING

Operating, servicing and maintaining a recreational marine vessel can expose you to chemicals including engine exhaust, carbon monoxide, phthalates, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust, service your vessel in a well-ventilated area and wear gloves or wash your hands frequently when servicing this vessel. For more information go to www.P65warnings.ca.gov/marine.

MAXIMUM CAPACITIES

8 PERSONS OR 1450 LBS.

2350 LBS, PERSONS, MOTOR AND GEAR
250 HORSEPOWER MOTOR MAX

THIS BOAT COMPLIES WITH U.S. COAST GUARD SAFETY STANDARDS IN EFFECT ON THE DATE OF CERTIFICATION

MANUFACTURER: FLUID MOTION LLC

MODEL: RANGER 25

KENT. WA

GARBAGE DISPOSAL & OIL OVERBOARD PLACARDS



- Required by the USCG in a language all passengers understand. These are installed at the factory. If damaged or missing after use they should be replaced.
- Placards are affixed to the underside of the center cockpit hatch
- Text should cover approximately the following:

GARBAGE DISPOSAL

DISPOSAL OF ALL GARBAGE PROHIBITED EXCEPT OTHERWISE SPECIFIED

THE ACT TO PREVENT POLLUTION FROM SHIPS (MARPOL ANNEX V) PLACES LIMITATIONS ON THE DISCHARGE OF GARBAGE FROM VESSELS. IT IS ILLEGAL TO DUMP PLASTIC TRASH ANYWHERE IN THE OCEAN OR NAVIGABLE WATERS OF THE UNITED STATES. IT IS ALSO ILLEGAL TO DISCHARGE GARBAGE IN THE NAVIGABLE WATERS OF THE UNITED STATES, INCLUDING THE GREAT LAKES. THE DISCHARGE OF OTHER TYPES OF GARBAGE IS PERMITTED OUTSIDE OF SPECIFIC DISTANCES OFFSHORE AS DETERMINED BY THE NATURE OF THAT GARBAGE.

TYPE OF WASTE

DISCHARGE PERMITTED

PLASTICS - INCLUDES SYNTHETIC ROPES, FISHING NETS, AND PLASTIC BAGS

PROHIBITED IN ALL AREAS

FLOATING DUNNAGE, LINING AND PACKING MATERIALS

PROHIBITED LESS THAN 25 MILES FROM NEAREST LAND

FOOD WASTE, PAPER, RAGS, GLASS, METAL, BOTTLES, CROCKERY, OR SIMILAR REFUSE

PROHIBITED LESS THAN 12 MILES FROM NEAREST LAND

COMMINUTED OR GROUND FOOD WASTE, PAPER, RAGS, GLASS, ETC.

PROHIBITED LESS THAN 3 MILES FROM NEAREST LAND

VIOLATION MAY RESULT IN HEAVY PENALTIES

OIL OVERBOARD

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 AFFECT 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.

SYMBOL GLOSSARY





Attention! – Important Operating or Maintenance Instructions



Attention! - Electrical Shock Hazard



Fresh Water



Black Water



Fuel

STE

Standard Equipment



Optional Equipment



Hints

(NW)

Northwest Edition

(LE)

Luxury Edition

SPECIFICATIONS



R-25

Length rigged (LOA) motor up	29' 8"	9 m
Length rigged (LOA) motor down	28′ 5″	8.7 m
Beam	8' 6"	2.6 m
Draft (motor down)	34"	0.9 m
Draft (motor up)	19"	0.48 m
Height on trailer (w/radar)	11′ 10″	3.6 m
Height on trailer (no radar)	11′ 3″	3.4 m
Length on trailer motor up	36′	11 m
Length on trailer motor down	34′ 6″	10.5 m
Weight, dry	6,500 lbs	2,948 kg
Bridge clearance (mast up)	10′ 6″	3.2 m
Bridge clearance (mast down)	8' 6"	2.5 m
Fuel tank capacity	99 U.S. Gal	375 L
Fresh water tank capacity	34 U.S. Gal	129 L
Black water holding tank capacity	14 U.S. Gal	53 L
Hot water tank capacity	4 U.S. Gal	15.14 L

(Subject to Change Without Notice, information on this page should not be used for navigation).

EQUIPMENT LOCATION



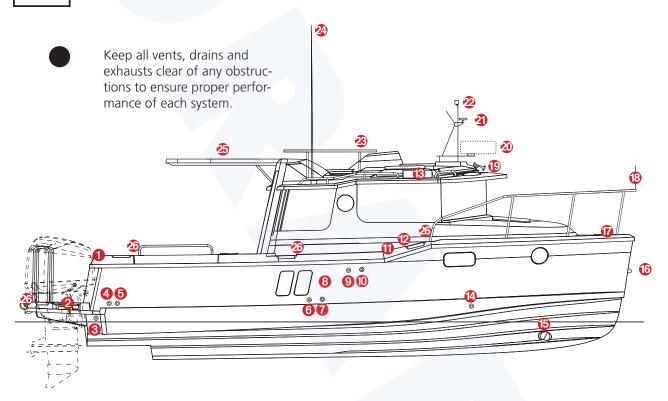
STARBOARD FITTINGS

STE

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 21 22 23 24 25 26

OPT

20



- 1 Fuel Fill
- 2 Swim Ladder
- **3** Cockpit Drain
- 4 Aft Bilge Drain
- 6 Mid Bilge Drain
- 6 Macerator Thru-Hull
- **7** Galley Sink Drain
- **13** Trailering Side Marker Light
- Waste Tank Vent
- Water Tank Vent

- **1** Waste Pump Out
- Water Fill
- Nav Light
- Head Sink Drain
- **1** Bow Thruster
- **1** Bow Eye
- Windlass
- Burgee Pole
- Horn
- Radar (OPT)

- TV Antenna
- Anchor and Running Lights
- Solar Panel
- VHF Antenna
- Bimini Top
- Cleat(s)

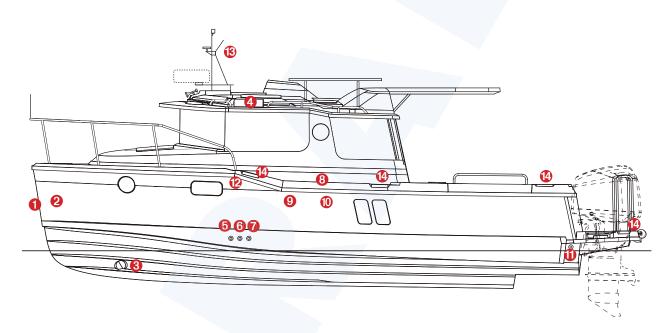
PORT FITTINGS



STE

1 2 3 4 6 7 8 9 10 11 12 13 14

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



- Bow Eye
- 2 Anchor Locker Drain
- **3** Bow Thruster
- 4 Nav Light
- **6** AC Drain (LE)
- 6 Forward Bilge Drain

- **7** Shower Drain
- Webasto Fuel Fill (NW)
- Webasto Exhaust (NW)
- Trailering Side Marker Light
- **1** Cockpit Drain
- Webasto Intake (NW)

- Mast
- Cleats

STERN COMPONENTS

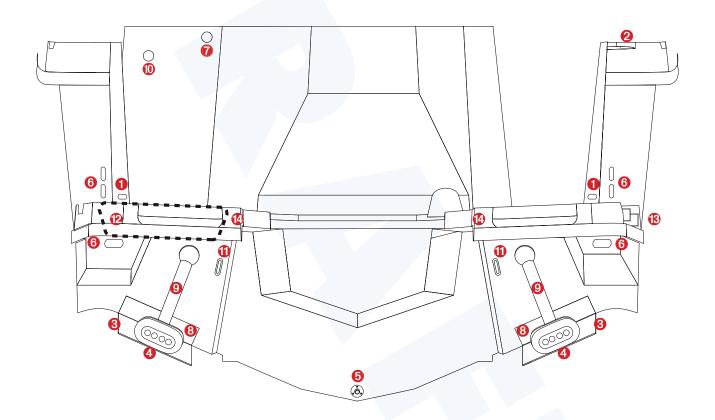


STE

1 2 3 4 5 6 7 8 9 10 11 13 14

OPT

12



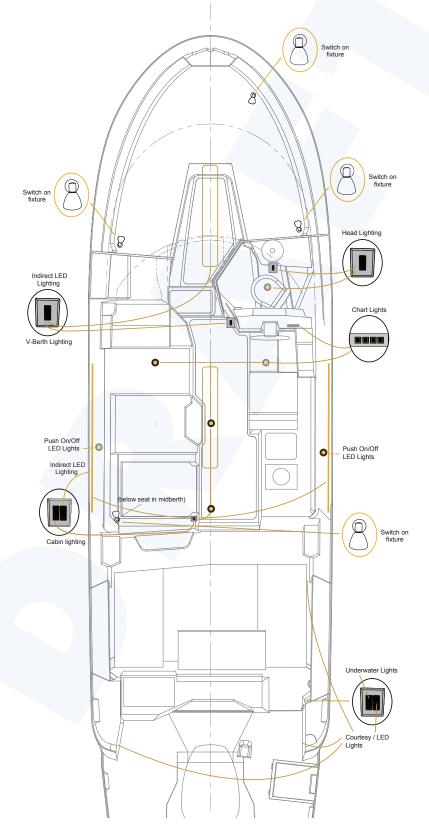
- **1** Swim Platform Courtesy Lights
- 2 Fuel Fill
- **3** Trim Tabs
- 4 Underwater Lights
- **5** Drain Plug

- **6** Trailer Turn/Brake Lights
- **7** Flagstaff Mount
- 8 Trim Tab Zinc
- **9** Trim Tab Ram
- Shore Power Receptacle
- ① D-rings
- Kicker Bracket (OPT)
- Swim Ladder
- Integrated Aft Fenders

MAIN CABIN AND COCKPIT LIGHTS



STE



FUEL SYSTEM

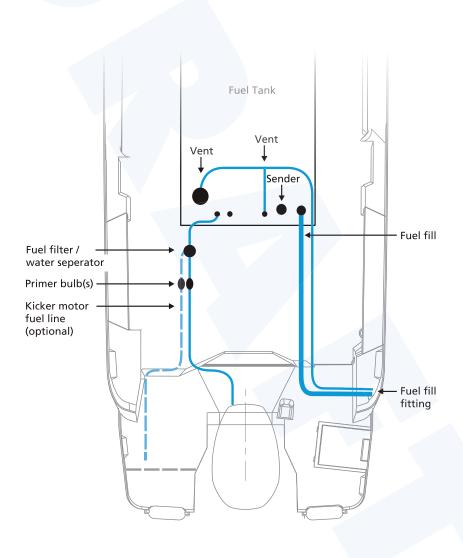


STE

Yamaha 250 HP

OPT

Yamaha 9.9 HP Kicker Motor



Standard Fuel System

RAW WATER / SEA STRAINER SYSTEM

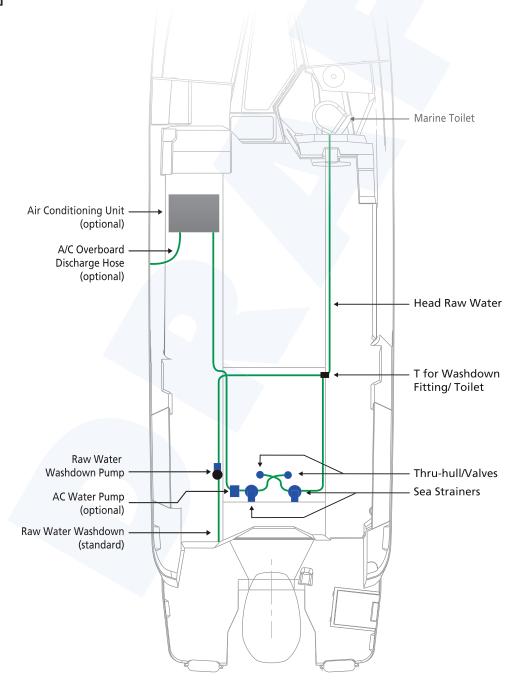


STE

• Sea strainer for toilet in head and raw water wash down pump.

OPT

A/C Raw water supply

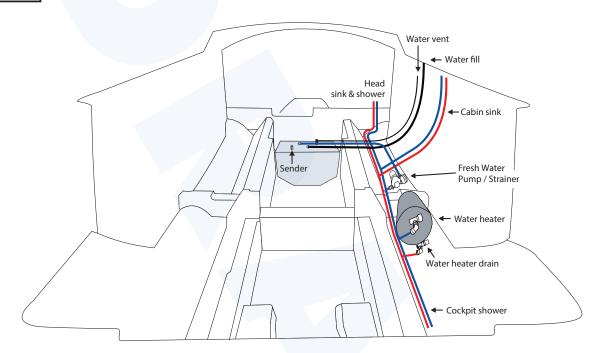


FRESH WATER PLUMBING SYSTEM



STE

34 Gallon Fresh Water Tank, 4 Gallon Hot Water Heater, 3.5 GPM Fresh Water Pump.



Disinfecting The Fresh Water System

The information contained in this appendix provides supplementary data about disinfecting a potable water system.

A SUGGESTED METHOD OF DISINFECTION

Perform the following steps in the order indicated:

- Flush entire system thoroughly by allowing potable water to flow through it;
- b. Drain system completely;
 c. Fill entire system with a chlorine solution having a strength of at least 100 parts per million, and allow to stand for one (1) hour. Shorter periods will require greater concentrations of chlorine solution. See Table I
 d. Drain chlorine solution from entire system;
- Flush entire system thoroughly with potable water;
- f. Fill system with potable water.

 Table I shows how much disinfecting agent is required to make up various quantities of 100 parts per million chlorine

TABLE I - CHLORINE CONCENTRATIONS

Amount of chlorine compound required for 100 ppm solution

Solution (Gallons)	Chlorinated Lime 25% (ounces)	High Test Calcium Hypochlorite 70% (ounces)	Liquid Sodium Hypochlorite 1% (quarts)
5	0.3	0.1	0.2
10	0.6	0.2	0.4
15	0.9	0.3	0.6
20	1.2	0.4	0.8
30	1.8	0.6	1.2
50	3.0	1.0	2.0
100	6.0	2.0	4.0

NOTE: This table contains information taken from the Handbook on Sanitation of Vessel Water Points, Public Health Service Publication No. 274 - Reprinted June 1963.

SHOWER SUMP



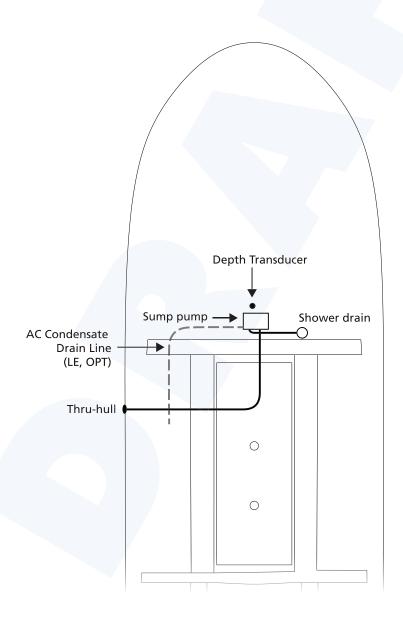
STE

12V, 1000 GPH

(This should be inspected for debris on a regular basis if shower is used frequently.)



The shower sump box is located underneath the removable v-berth step positioned just outside the head door.



BILGE PUMP SYSTEM



STE

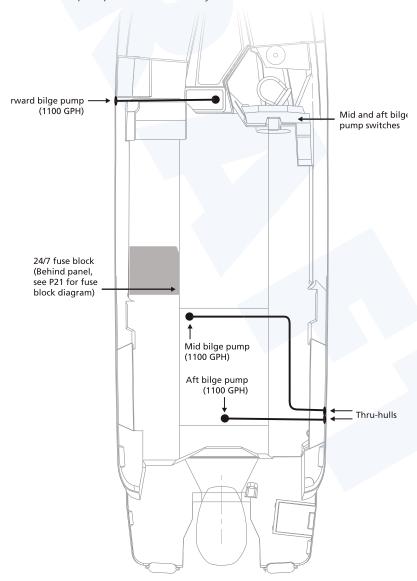
12V 1100 GPH



The bilge pumps operate automatically by checking for water every 2.5 minutes even with battery switches and breakers in the OFF position.

However, the bilge pumps will run continuously once their switches are placed in the on position. Monitor the outflow accordingly. Do not run when dry.

- Manual switches are located at the helm for the mid and aft pumps.
- The forward pump is automatic only.



WASTE SYSTEM WITH MACERATOR PUMP



STE

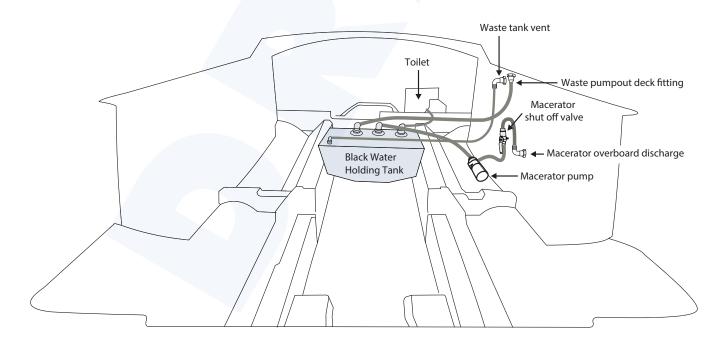


14 Gallon Tank with standard pump out, and vent

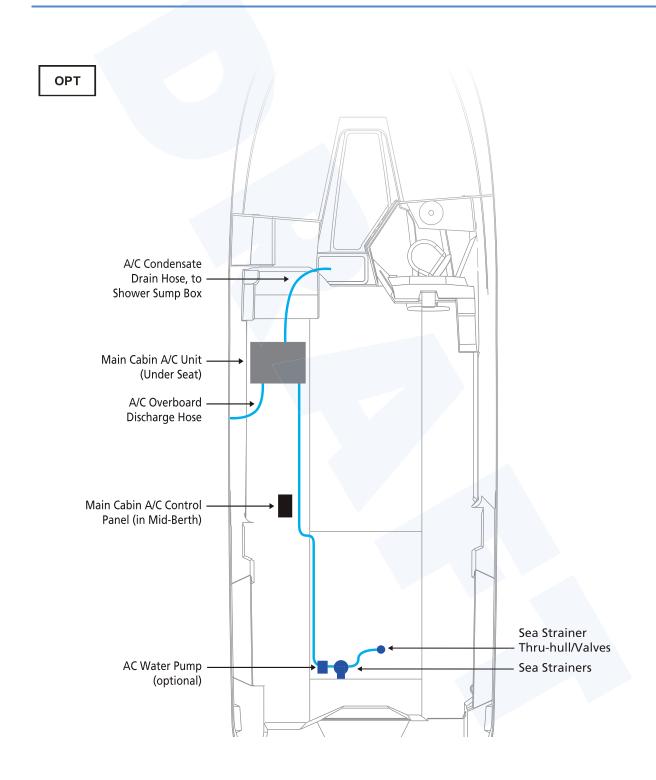
STE

Macerator pump

- 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. Do not operate the macerator within a marina or waters where overboard discharge is prohibited.
- The macerator switch is located on the switch panel at the helm. See diagram on P23.
- The macerator shutoff valve is accessed under the galley sink above the pump area.



AIR CONDITIONING



WEBASTO FURNACE

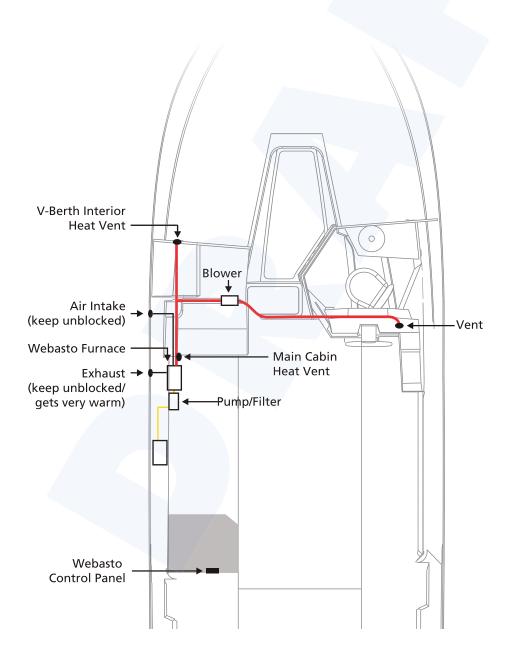
OPT

Webasto furnace is located under the forward passenger seat.

The control panel is located at the quarter berth power management center.

The fuel pump and filter are beneath the passenger seat, inside of the black box.

To access the heater/pump the seat must be removed. The fuel filter should be changed during the annual maintenance. Filter change intervals may vary depending on usage.



SOLAR PANEL



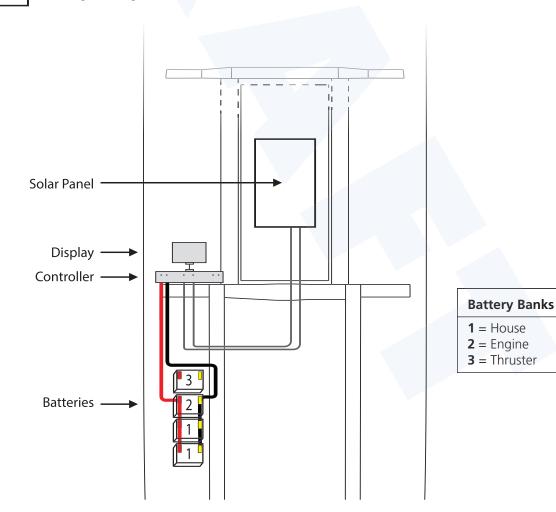
STE

Solar panel, with display panel

- Keep panel clean and completely uncovered for best results.
- The solar panel is designed to provide charging to the house & engine batteries.
 - (Northwest Edition) 90% of solar charging is dedicated to the house battery and 10% is dedicated to the engine battery.
 - (Luxury Edition) 100% of solar charging is dedicated to the house battery.
- The green light on the solar display indicates proper operation.
- The solar display is located in the mid-berth.
- The controller is located in the mid-berth next to the 24/7 fuse block.
- (Northwest Edition) There is an inline fuse on top of the batteries for solar charging.
- (Luxury Edition) Batteries are wired to the DC to DC charger

OPT

For Luxury edition with the lithium battery option, see P29 for wiring schematic and DC to DC charger configuration.



BATTERY CONFIGURATION

OPT

STE



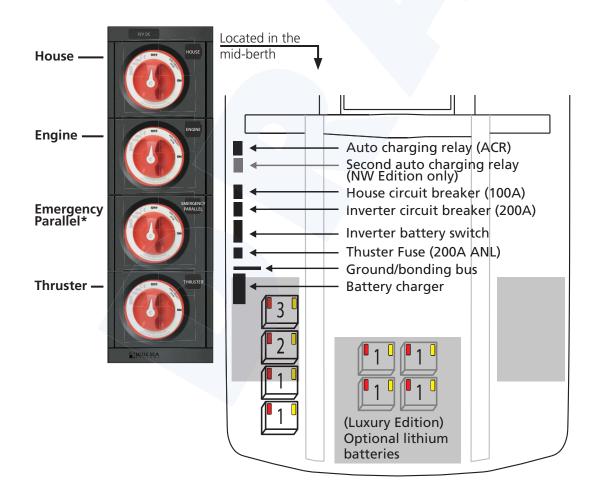
(NW) 2 house batteries, 1 engine battery, 1 thruster battery.

(LE with dockside A/C) 2 house batteries, 1 engine battery, 1 thruster battery.

(LE) With lithium battery option - 6 total lithium house batteries, 1 engine battery, 1 thruster battery.

House, engine, emergency parallel and thruster switches are located in the mid-berth. Inverter battery switch and circuit breaker are located in the port side lazarette

(*) The EMERGENCY PARALLEL switch is used in the event that the engine battery drops below the level of charge necessary to start the engine. Use only for EMERGENCY starting of the engine. Once the EMERGENCY PARALLEL switch is placed in the on position the power from the THRUSTER battery will be transferred to the ENGINE battery. Once the engine is running, turn the EMERGENCY PARALLEL switch to the off position.



Battery Banks

- **1** = House
- **2** = Engine
- **3** = Thruster

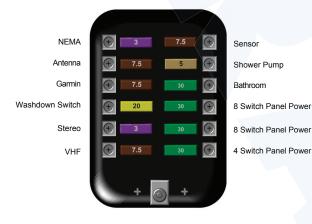
FUSE BLOCK LOCATION & VALUES



STE

- Dash fuse blocks are located behind the hinged wood access panel in the head.
- The 24/7 fuse block is located in the mid-berth behind a removable panel secured with Velcro in the aft inboard corner.
- The windlass circuit breaker is located behind the hinged wood access panel in the head
- Fuses are automotive blade type and all values shown below are in Amps.

Dash Fuse Block #1



Dash Fuse Block #2



24/7 Fuse Block



WINDLASS

* To reset, reinsert arm "up" into the breaker.

To test, press button and the arm should flip down.

AC DISTRIBUTION PANEL

STE

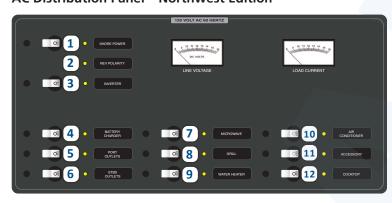
AC Distribution Panel



Shore power and battery charger breakers must on in order for the batteries to charge while on shore power.

The ELCI Breaker REMOTE SWITCH is located in the mid-berth near the A/C distribution panel. The ELCI breaker is utilized while on shore power. After connecting to shore power, turn on the ELCI breaker REMOTE SWITCH and verify that the "rev polarity" light is not RED indicating reverse polarity.

AC Distribution Panel – Northwest Edition



- 1. Shore Power
- 2. Reverse Polarity (light)
- 3. Inverter
- 4. Battery Charger
- 5. Port Outlets
- 6. Starboard Outlets
- 7. Microwave
- 8. Grill
- 9. Water Heater
- 10. Air conditioner
- 11. Accessory
- 12. Cooktop

AC Distribution Panel – Luxury Edition



- 1. Shore Power
- 2. Reverse Polarity (light)
- 3. Inverter
- 4. Battery Charger
- 5. Port Outlets
- 6. Starboard Outlets
- 7. Microwave

- 8. Grill
- 9. Water Heater
- 10. Air conditioner
- 11. Cooktop
- 12. Accessory
- 13. Cooktop

AC Distribution Panel – Luxury Edition with Generator



- 1. Shore Power
- 2. Reverse Polarity (light)
- 3. Generator
- 4. Inverter
- 5. Battery Charger
- 6. Port Outlets
- 7. Starboard Outlets
- 8. Microwave
- 9. Grill
- 10. Water Heater
- 11. Air conditioner
- 12. Cooktop
- 13. Accessory
- 14. Cooktop

12V HELM CONTROL OPERATION



The bilge pumps operate automatically with electronic float switches regardless of battery switch position.

However, the aft and mid pumps will run continuously once their switches are placed in the on position. Monitor the outflow accordingly. Do not run when dry.

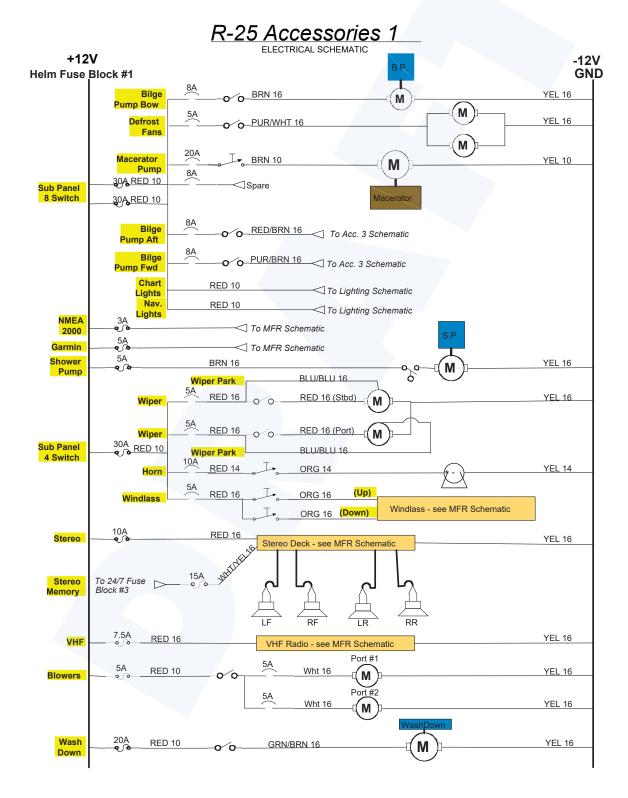
The bilge pump switches control the two bilge pumps located in the center cockpit lazerette. The switch labled FWD BILGE controls the pump labled 'Mid bilge pump' on page 15.





RANGER TUG R-25 WIRING SCHEMATIC (ACC. 1)

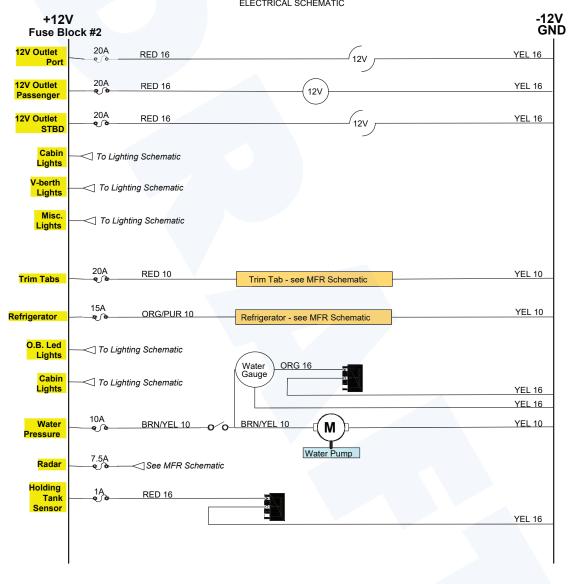




RANGER TUG R-25 WIRING SCHEMATIC (ACC. 2)

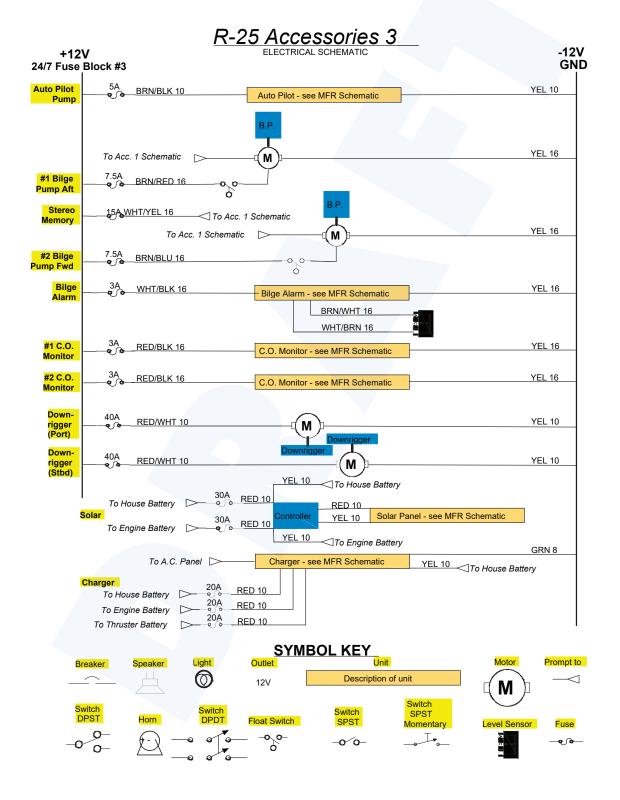


R-25 Accessories 2 ELECTRICAL SCHEMATIC



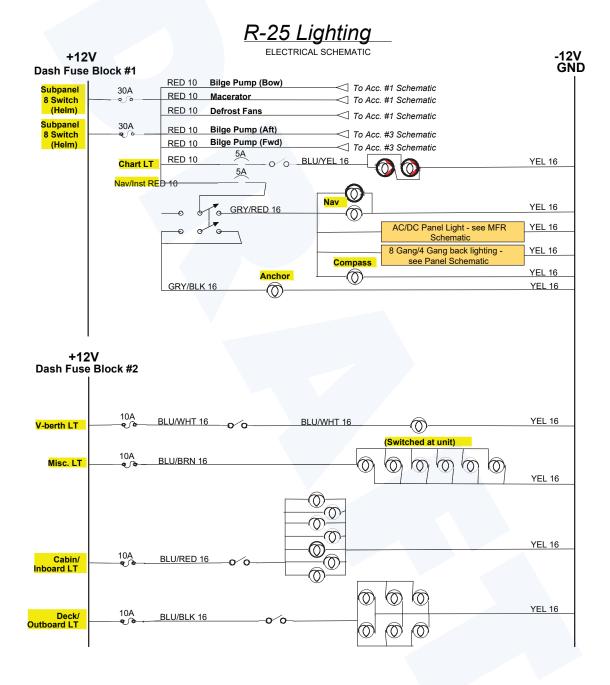
RANGER TUG R-25 WIRING SCHEMATIC (ACC. 3)



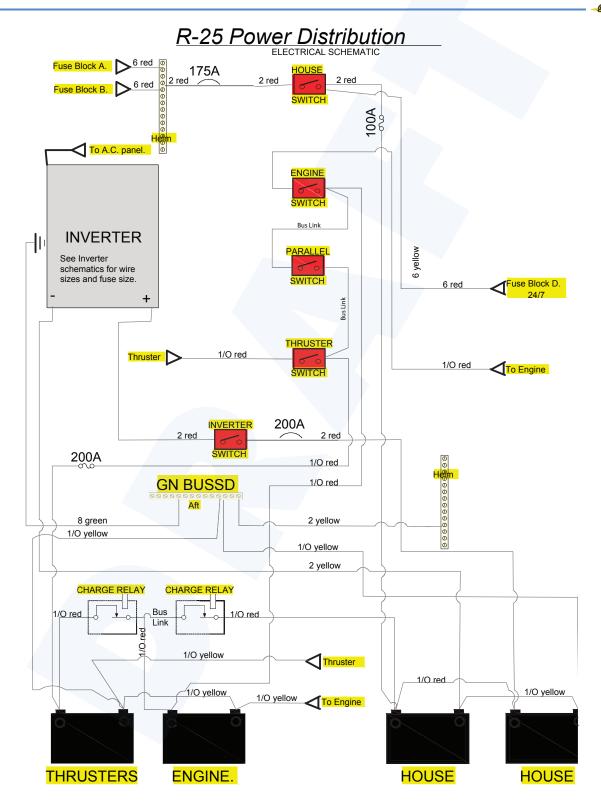


RANGER TUG R-25 WIRING SCHEMATIC (LIGHTING)





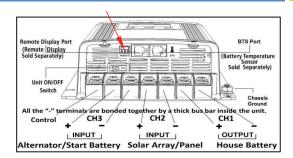
RANGER TUG R-25 WIRING SCHEMATIC NW & LE WITH DOCK-SIDE A/C (P.D.P.)

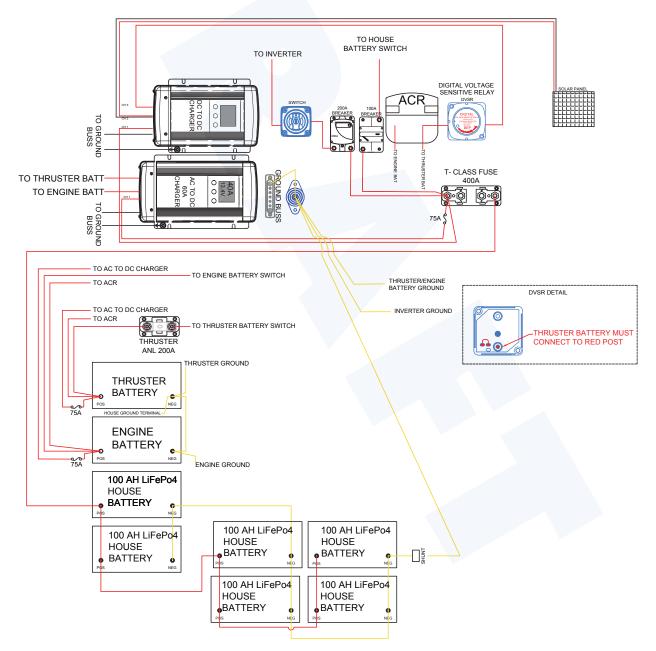


RANGER TUG R-25 WIRING SCHEMATIC (LITHIUM BATTERY OPTION)

R-25 LiFePo4 CHARGER SETUP

- AC TO DC CHARGER SET UP Press and hold info button to enter set up.
- Press set to select lithium.
- Set bulk charge to 60 amps.
- Set bulk voltage to 14.4
- Set termination current 6 A
- CH2&3 set to flooded
- DC TO DC CHARGER SET UP Press and hold info button to
- enter set up.
 Press set 3 times to select lithium. Press next to save setting.
- Set bulk voltage to 14.4
- set float voltage to 13.8
- Set bulk charge to 50 amps Set termination current 7 A

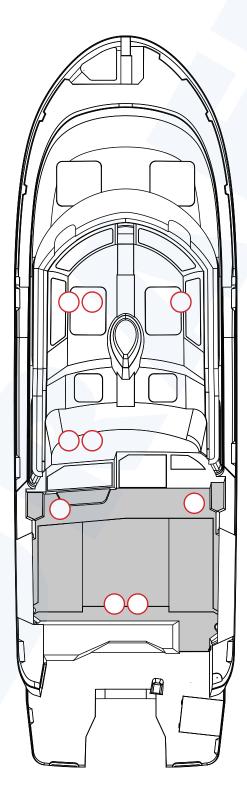




RANGER TUG R-25 WORKING DECK



STE



- The red circles signify a seating or deck area with adequate handholds for occupancy.
- The gray shaded area denotes the working deck area.

CARE AND MAINTENANCE

TOW VEHICLE & TRAILER - PRIOR TO USE





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

	Test Lights.
	Check brakes.
	Check tire pressure and condition.
	Check hitch related electrical connections.
	Check lug nuts for proper torque.
	Check that winch and safety chain is secure to the boat.
	Verify tie-down straps are secure.
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.
	Clear counter tops.
	Lock fridge latch.
	Check engine is up!
	Lock cabin.
	Remove Drain Plug.
	Secure all moorage lines and fenders

EXAMPLE OF A SPRING PRE-LAUNCH CHECKLIST



CL	E.	Α	N	I	N	G
----	----	---	---	---	---	---

	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.
INSPEC	TION
	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 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 flotation devices/throw cushions. Check fire extinguishers and their fill dates. Boat hook. Lines/fenders. First aid kits.
GALLEY	
	Check stove for proper operation. Check everyday utensil stock.
DOCUM	TENTS

Registration sticker.Insurance papers and Passports.

Boat Inspection sticker.Charts and float plan forms.

EXAMPLE OF WINTER STORAGE CHECKLIST



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,
or remove all water from the system.

		-			
Winterize black	c and fresh	water tanks	as necessar	y based or	n weather.

									,	
Check	bilge	area	for	oil	and	for	proper	operation		

- ☐ Check zincs and replace as necessary.
- ☐ Check and clean water strainer.
- ☐ Clear barnacles and debris from hull fittings.
- ☐ Trickle charge batteries every 30-60 days.
- ☐ Vent boat to prevent mildew.
- ☐ Remove Drain Plug.

GENERAL MAINTENANCE

☐ Turn off all battery cutoff switches.

ENGINE

- ☐ Flush engine(s) with fresh water.
- ☐ Check all fluid levels.
- ☐ Check all hose fittings.
- ☐ Check impeller.
- ☐ Check engine maintenance requirements.

GALLEY

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

CONTACTS



Primary Contact

Phone: (253) 839-5213 Fax: (253) 929-6204 Ranger Tugs Factory Office 47 37th st NE Auburn, WA, 98002

Customer Service

Kenny Marrs, Customer Service Manager Phone: 253-839-5213 kennymarrs@rangertugs.com

Warranty

Phone: 253-839-5213 Warranty@rangertugs.com

Parts Ordering

Phone: 253-839-5213 (ext 2)

Web Site

www.RangerTugs.com

ONLINE RESOURCES



As The Prop Turns

Our informational webinar series covers a variety of cruising related topics. From power management to basic Garmin chartplotter operation, we continue to grow this resource.

You can find As the Prop Turns on the Ranger Tugs YouTube channel and on our website at the link below:

https://www.rangertugs.com/ownership-experience/live-webinar/

Or scan this QR code:



WARNING LABEL LOCATIONS





R-25 EPA & Coast Guard Compliance



Seating



Shock & Fire Hazard



Carbon Monoxide



Maximum Capacities



Carbon Monoxide & Prop Warning



Carbon Monoxide



Inspect for Fuel Leaks



Prop Warning



47 37th St NE Auburn, Washington, 98002

Phone 253-839-5213 Fax 253-839-5218 **www.rangertugs.com**