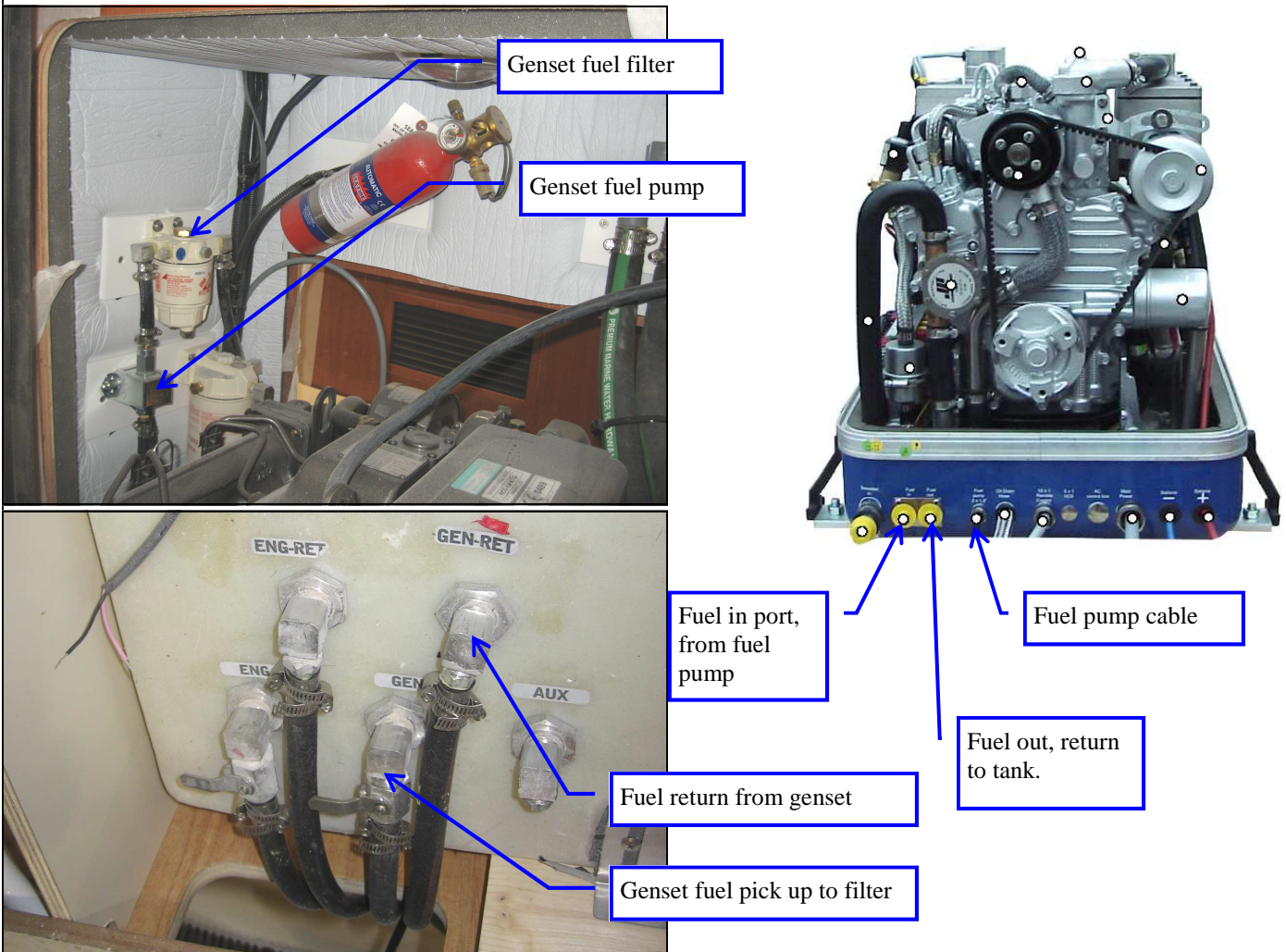


45DS Engine Stage Generator Installation (11-6-07)

Generator Fuel Line Installation:

1. Fuel tank locates inside aft cabin bunk, looking for fuel fitting set that is behind the engine fuel fitting set. Attach $\phi 1/4'' \times 19'$ fuel feed line (pre run in module) to generator fuel in fitting and secure the fuel line using 2 x #12 hose clamps.
2. Attach $\phi 1/4'' \times 18.6'$ fuel return line (pre run in module) to generator fuel out fitting and secure the fuel line using 2 x #12 hose clamps.
3. Generator fuel filter and fuel pump should has been installed in module stage. Otherwise, genset fuel filter and fuel pump need to be installed inside engine cabinet. Open forward engine box, two pieces of starboard boards can be found on the starboard side insulation, mount genset fuel filter and fuel pump on starboard board. Using #14 pan head self tapping screws for securing fuel filter and fuel pump on starboard boards.
4. Run the fuel lines from inboard side of fuel tank, forward, along wood stringer to engine cabinet. Attach and secure the pick-up fuel line to fuel filter then install fuel line between fuel filter and fuel pump. Then run the fuel line from engine cabinet forward to generator compartment. Make sure all fuel line connections are secured by 2 designated hose clamps. Run the genset return fuel line along with the pick up fuel line.
5. Complete all fuel line installation after the genset unit is installed.
6. Route and connect the fuel pump cable from genset unit to genset fuel pump.

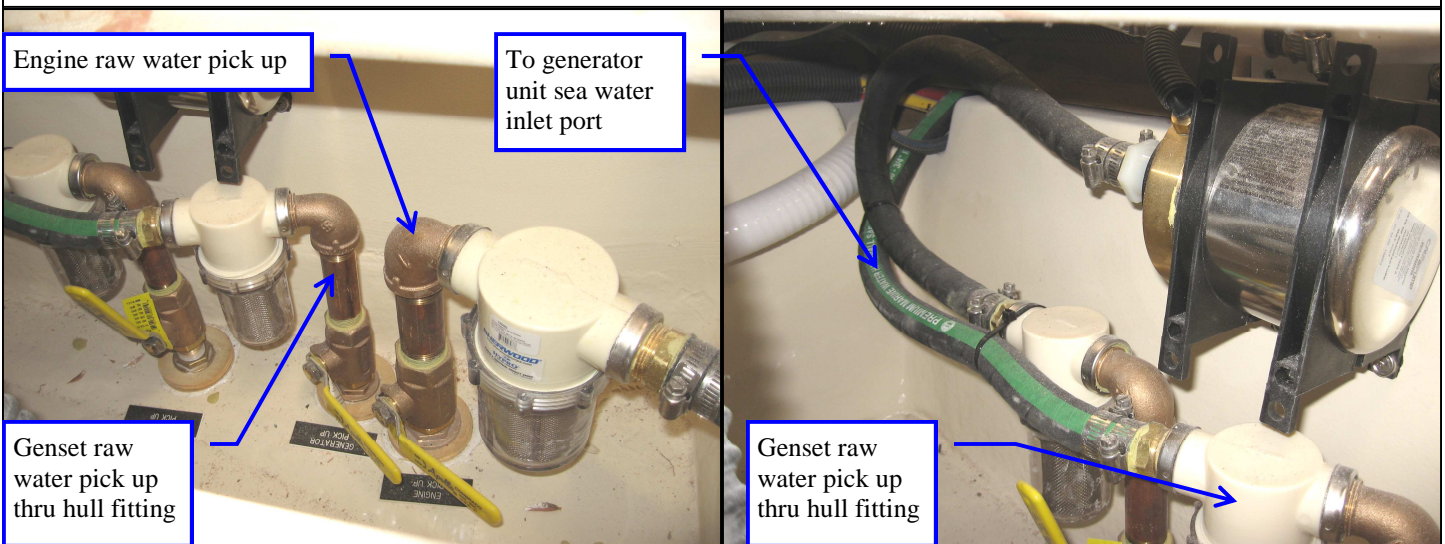


45DS Engine Stage

Generator Raw Water Pick Up Installation (11-6-07)

Generator Raw Water Pick Up Installation:

1. Generator raw water pick up thru hull assembly locates on starboard 2nd aft thru hull assembly in main discharge bilge compartment. The diameter of thru hull cutout is 1-1/8". Cut the hole in this area then caulk the back side of the fitting, then install $\phi 3/4$ " bronze with designated wood doughnut. Install $\phi 3/4$ " ball valve on the thru hull fitting with its nipple facing inboard and handle pointing afterward when close. Install $\phi 3/4$ " X $3/4$ " MPT x 2" long brass nipple on ball valve then install brass street elbow on the top side thread of the nipple with the opening facing forward. Make sure there is enough space for installing strainer. Install strainer and brass adapter ($\phi 3/4$ " x $3/4$ " barb). Attach $\phi 3/4$ " hard wall hose to brass barb adapter then run the hose to generator compartment for further installation. (secure the hose to fitting using 2 designated hose clamps as per required). Make sure the thru hull is water tight. (PS. Marine sealant #5200 should be used to caulk around the thru hull fitting)



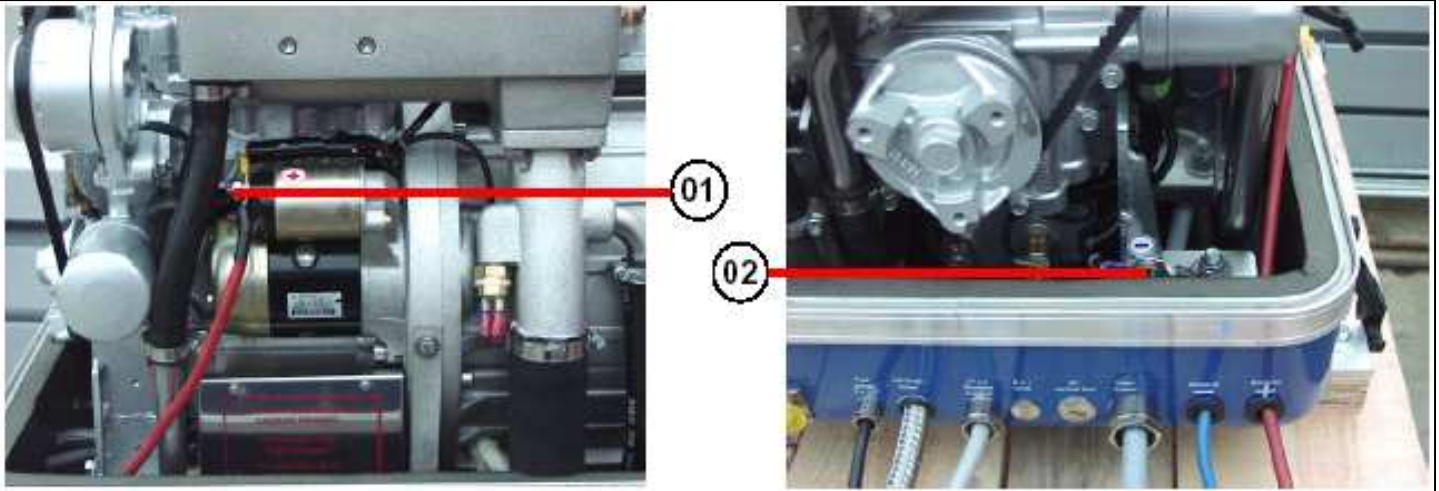
Sea water inlet port.
Use 2 designated
hose clamps for
hose connection



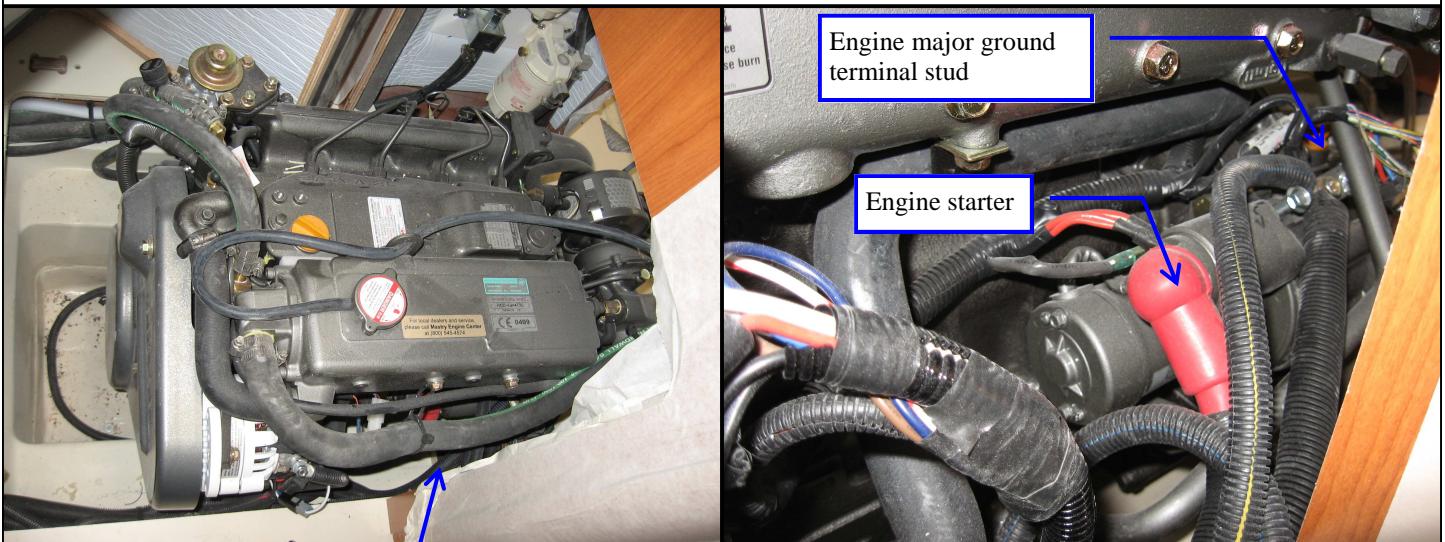
45DS Engine Stage DC Cable Installation (11-6-07)

DC Cable Wiring:

1. Before install the genset unit in place, run DC cable (+) 2ga X 8'6" long to battery switch panel, attach this cable with engine start terminal stud, then secure the cable. (no loose connections).
2. Run the other end of the cable to genset compartment for further installation.
3. Run the DC ground cable (-) 2ga X 5'6" long from engine compartment along with under-floor stringer to generator compartment. Attach and secure the end of ground cable to (Yanmar) engine major ground terminal stud. Make sure there is no loose connections and all cables are conduit. Run the other end of the ground cable to generator compartment for further installation.
4. Do not install genset ground cable on ground buss bar on wood stringer.



01. Connection positive starter battery cable (+), the cable connects to battery switch panel
02. Connection negative starter battery cable (-), the cable connects to engine major ground

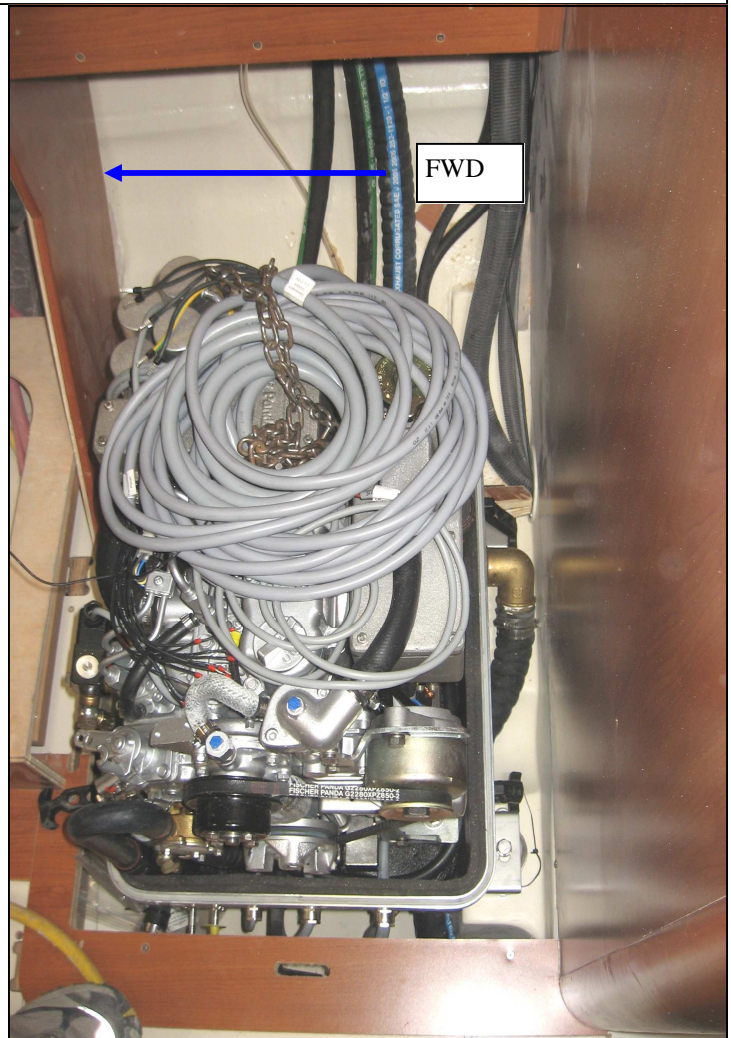
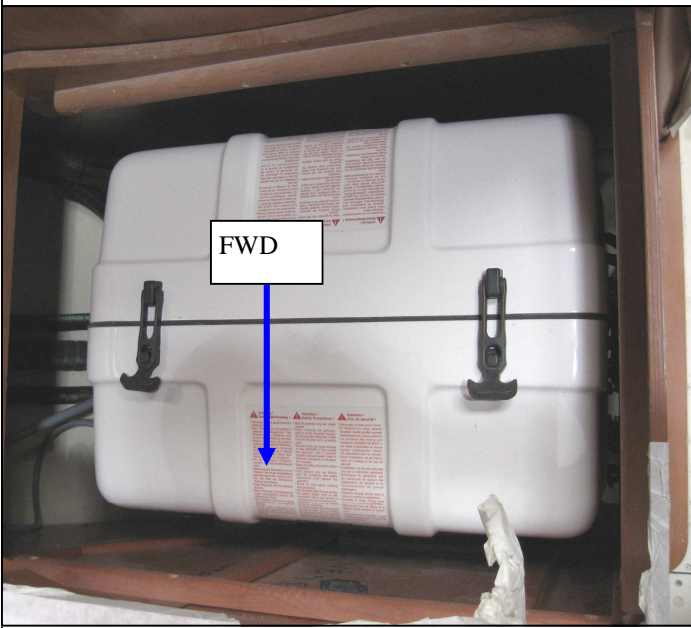


Approx location of engine starter underneath the hose

45DS Engine Stage Generator Installation (11-6-07)

Genset Unit Installation:

1. , Loosen screws that secure chart foot step and loosen screws that secure chart seat assembly . Remove the step and bunk assembly. Make sure the compartment is clear.
2. Place $\phi 1\text{-}1/2''$ x 9' long corrugated hose in hull (between generator bed). Install brass elbow on the genset exhaust port with barb fitting facing all cable port position. Then install $\phi 1\text{-}1/2''$ x 4' long corrugated hose the brass elbow. Secure the hose to brass elbow using 2 designated hose clamps.
3. Lower and position the genset unit in this compartment with exhaust port facing aft and vented loop hose facing outboard.
4. Check the level of the generator unit, do any adjustment to the height of motor mount as necessary. After the unit is set in place and level, mark mounting hole location.
5. Secure the motor mount to glass stringer using #14 x 1" long pan head self tapping screws.
6. The positive (+) battery cable connected directly to the solenoid switch of the starter. The negative (-) battery cable must be connected to the relay at the engine foot of the aggregate. Please use the connection clamps witch are included. The holes are made through to the generator capsule in the appropriate location to allow the cables to pass through.



45DS Engine Stage

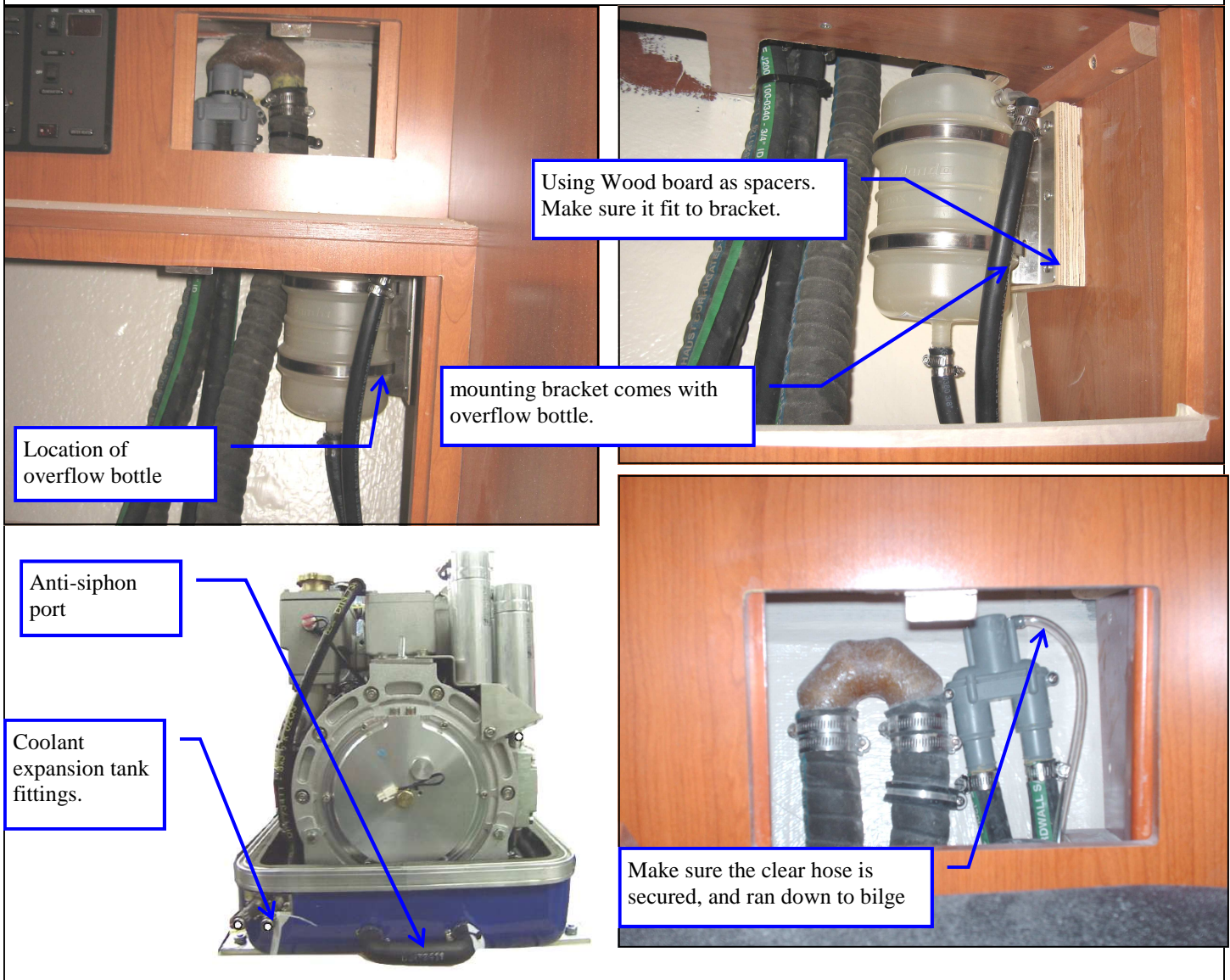
Anti-siphon and Overflow Bottle Installation (11-6-07)

Anti-siphon Loop:

1. Connect both vent loop hoses to both genset fittings and secure the hoses using designated hose clamps.
2. The loop hoses $\varnothing 3/4''$ come with 5'' long. Make sure the air vent will be mounted as high as possible. The required height for the air vent is 23.6'' above waterline.
3. Connect both vent valve to loop hoses and secure the hoses using designated hose clamps.
4. Mount the vent loop valve on hull sheer near by engine exhaust thru hull assembly.
5. Attach and connect the clear 1/4'' hose to air vent and run it down to bilge for drain out. Make sure the the clear hose held in place, don't let water drain on furniture or any other electrical instruments.

Generator engine coolant overflow bottle Installation:

1. Mount and install overflow bottle on NAV station from inside electrical middle cabinet. Using wood board as spacer, secure the wood boards underneath the chart locker aft outboard edge. Then secure the bottle using fasteners kits provided.
2. Genset coolant overflow hose fittings are next to vent loop fittings, connect coolant overflow hoses to both fittings then secure the hoses using #10 hose clamps.
3. Connect overflow hose to overflow bottle and secure the hoses using designated hose clamps.



45DS Engine Stage Generator Installation (11-6-07)

Genset Exhaust Thru Hull Assembly:

1. Behind Nav station electrical panel, measure 6" forward from fwd vanity bulkhead and 38" down from hull flange at this area. Mark this location and cut a $\phi 1-7/8$ " hole on this location (hull sheer).
2. Caulk around back side the $\phi 1-1/2$ " chrome thru hull then install the thru hull fitting on hull sheer with wood doughnut.
3. Install brass elbow, $\phi 1-1/2$ "MPT x $1-1/2$ " Barb on the exhaust thru hull fitting with the barb opening facing upward. Make sure the fitting assembly is water tight.
4. Exhaust hoses and 180° fiberglass tube will be installed later.

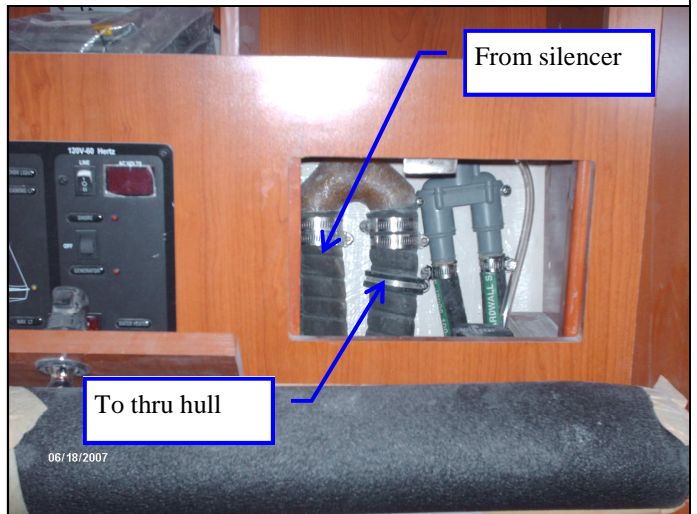
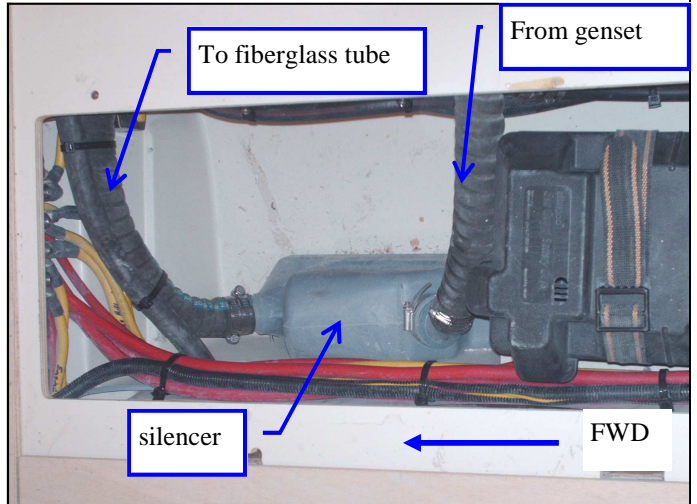
Generator Exhaust System Installation:

1. The generator exhaust system must remain completely independent and separate from the exhaust system of any other unit(s) on board. The exhaust hose has an inner diameter of (1.5"). The water lock must be installed at the lowest point of the exhaust system. The exhaust hose descends from the capsule to the water lock. Then the hose rises via the "goose neck" to the silencer.
2. Since brass elbow $\phi 1-1/2$ " and 4' long corrugated hose has been installed on exhaust port, attach the other end of the corrugated hose to silencer. Secure the connection using 2 designated hose clamps.
3. Attach the 9' long corrugated hose to outlet port of the silencer, secure the hose using designated hose clamps.
4. Install the fiberglass 180° tube on the other end of the corrugated hose that near by overflow bottle. Secure the glass tub using designated hose clamps.
5. Install the short piece corrugated hose between exhaust thru hull elbow and fiberglass tube, secure the hose using designated hose clamps. Make sure the fiberglass is mounted 24" above waterline as manufacturer's required.
6. Make sure the pipe thread sealant is used all hose connections. **Make sure there is no leak of exhaust.**



Optional genset with exhaust thru hull fitting on starboard side sheer. The picture on the left shows the genset's exhaust thru hull fitting, wood doughnut, brass $\phi 1-1/2$ " FPT x $\phi 1-1/2$ " Barb Street elbow. Make sure NO exhaust will leak at this connection.

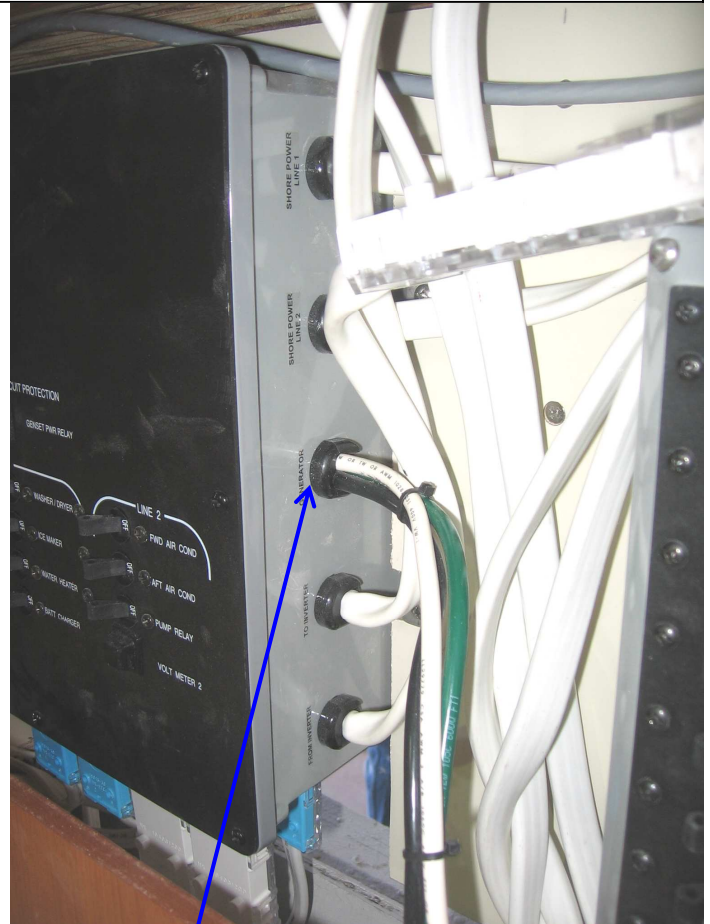
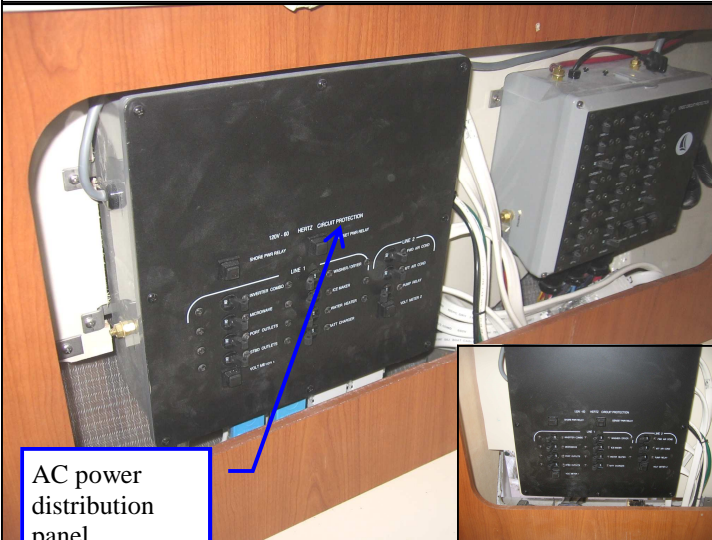
45DS Engine Stage Exhaust System Installation (11-6-07)



45DS Engine Stage

Generator Output Installation (11-6-07)

1. The AC connections for the generator are pre-installed for the manufacturer. The installation of the 380/230/120V power system starts at the connection terminal box of the generator, all the required terminals are mounted
2. Route the AC cable from generator site outboard then forward to main cabin AC junction panel behind salon bunk back rest.
3. On the AC distribution panel, a AC cable with plug can be found that comes out generator port. Attach the genset power output cable to this cable.
4. Make sur to conduit the cables all the way. Secure the conduited cable using tie wraps wherever is needed.

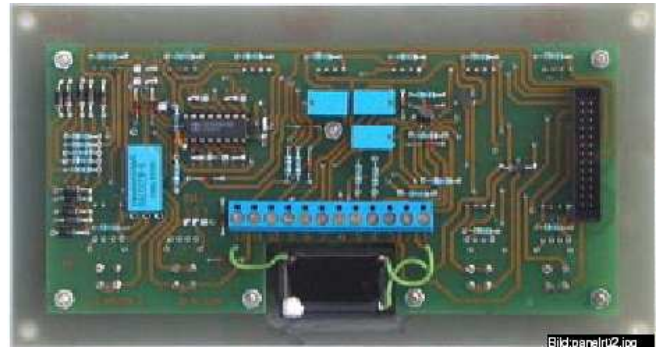
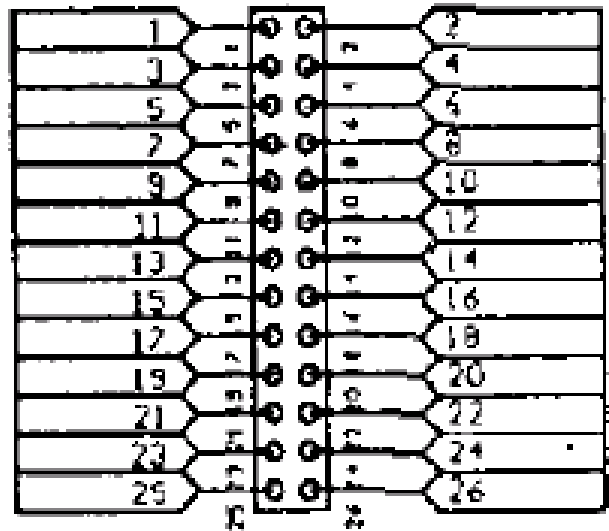


45DS Engine Stage

Remote Control Panel Installation (11-6-07)

Remote Control Panel Installation :

1. Mount and install remote control panel on ABS frame then secure the assembly on access lid cutout. Secure the frame and panel using e fasteners provided.
2. As standard a 12 core connection-cable, 7m long, is included in the supply. Cores are numbered from 1 to 11 and the 12th core is coloured (yellow/green). The control cables are securely connected to the genset. On the back of the control panel there are terminals numbered from 1 - 12. Connect the cores of the control-cable in respective order.
3. Makes sure here is no loose connection, otherwise, resulting in damage to the parts may occur.



Remote control cable port