

H45cc Engine Stage Thru Hulls

Main bilge Thru Hulls:

1. Standard main bilge thru hull drillings should have been done in Breezeway .
2. Check work order sheet, if the boat will be equipped with generator or air conditioner, you need to drill thru hulls for options.

Generator thru hull: Option

1. Genset pick up thru hull drill center locates 6-1/2" fwd of main bilge port side thru hull center & 2-1/2" inboard from stringer face (no pan flange). The diameter of this thru hull drilling is 1-1/8".
2. Dremel the drilled hole and clean it then install wood doughnut and $\varnothing 7/8$ " ID of brass thru hull fitting, and caulk this fitting using 5200 white marine sealant.
3. If the boat does not equipped with generator, this location can be used as waste overboard discharge thru hull.

Air Conditioner Pick Up thru Hull: Option

1. A/C pick up thru hull drill center locates 6-1/2" fwd of main bilge starboard side macerator thru hull center & 2-1/2" inboard from stringer face (no pan flange). The diameter of this thru hull drilling is 1-1/8".
2. Dremel the drilled hole and clean it then install wood doughnut and $\varnothing 7/8$ " ID of brass thru hull fitting, and caulk this fitting using 5200 white marine sealant.

Scupper thru hull: Standard

1. Port side Scupper thru hull drill center locates 3-1/2" fwd of main bilge fwd stringer face & 3-1/2" inboard from stringer face (no pan flange). The diameter of this thru hull drilling is 2-1/2".
2. Dremel the drilled hole and clean it then install wood doughnut and scupper brass thru hull fitting, and caulk this fitting using 5200 white marine sealant
3. Offset port side scupper thru hull location to starboard side then do the same installation procedure as port side scupper thru hull installation.

Engine Pick up thru hull: Standard

1. Engine pick up thru hull drill center locates 6-1/2" fwd of main bilge port side scupper thru hull center & 2-1/2" inboard from port stringer face (no pan flange). The diameter of this thru hull drilling is 1-3/8".
2. Dremel the drilled hole and clean it then install wood doughnut and $\varnothing 1$ " brass thru hull fitting, and caulk this fitting using 5200 white marine sealant.

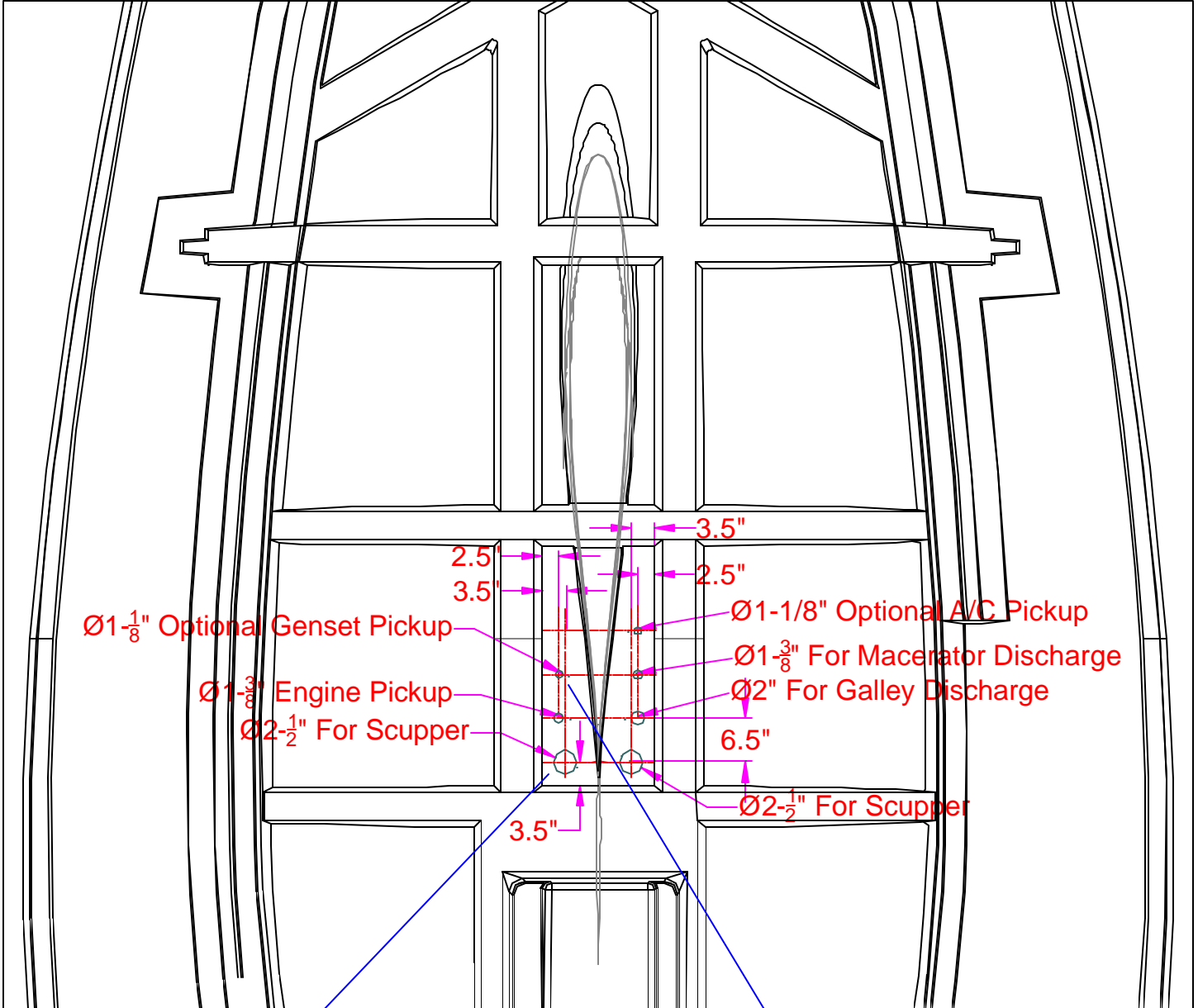
Galley Discharge thru hull: Standard

1. Galley discharge thru hull center locates 6-1/2" fwd of main bilge starboard side scupper thru hull center & 2-1/2" inboard from starboard stringer face (no pan flange). The diameter of this thru hull drilling is 2".
2. Dremel the drilled hole and clean it then install wood doughnut and $\varnothing 1$ " brass thru hull fitting, and caulk this fitting using 5200 white marine sealant.

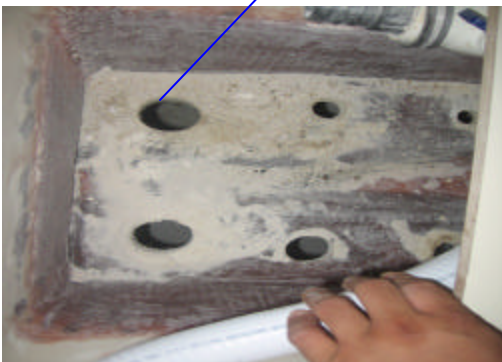
Macerator discharge thru hull: Standard

1. Macerator discharge thru hull center locates 6-1/2" fwd of main bilge starboard side galley thru hull center & 2-1/2" inboard from starboard stringer face (no pan flange). The diameter of this thru hull drilling is 1-3/8".
2. Dremel the drilled hole and clean it then install wood doughnut and $\varnothing 1$ " brass thru hull fitting, and caulk this fitting using 5200 white marine sealant

H45cc Engine Stage Main Bilge Thru Hull Location



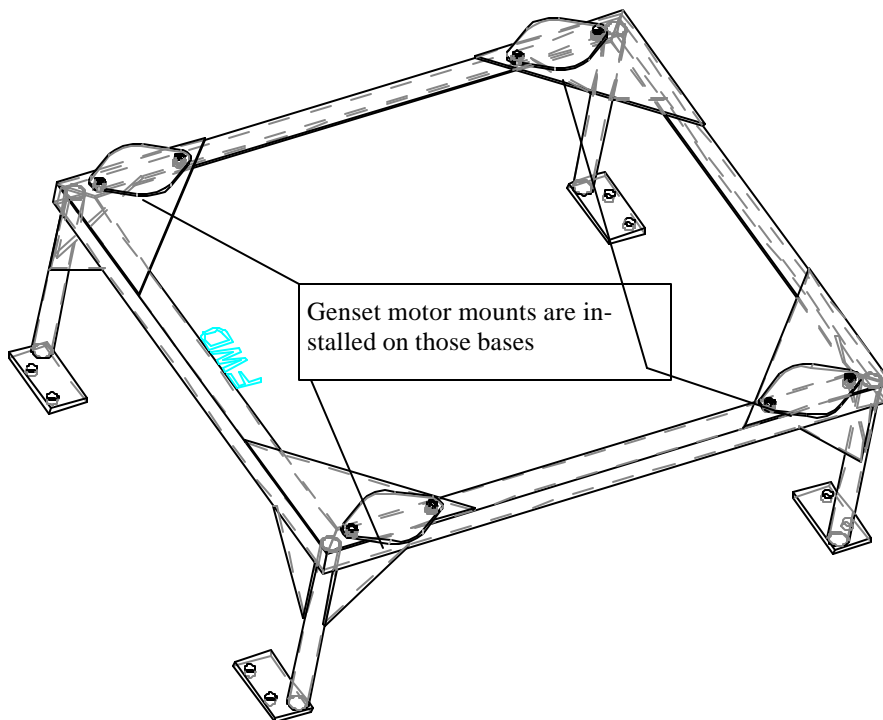
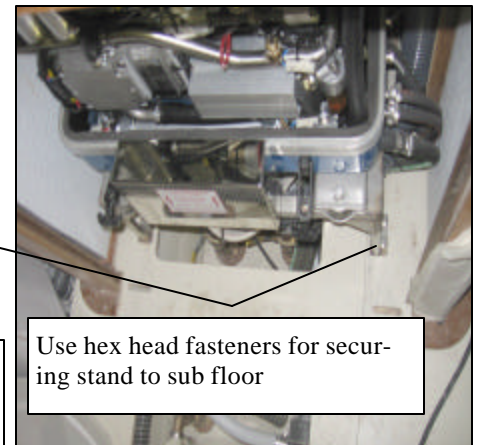
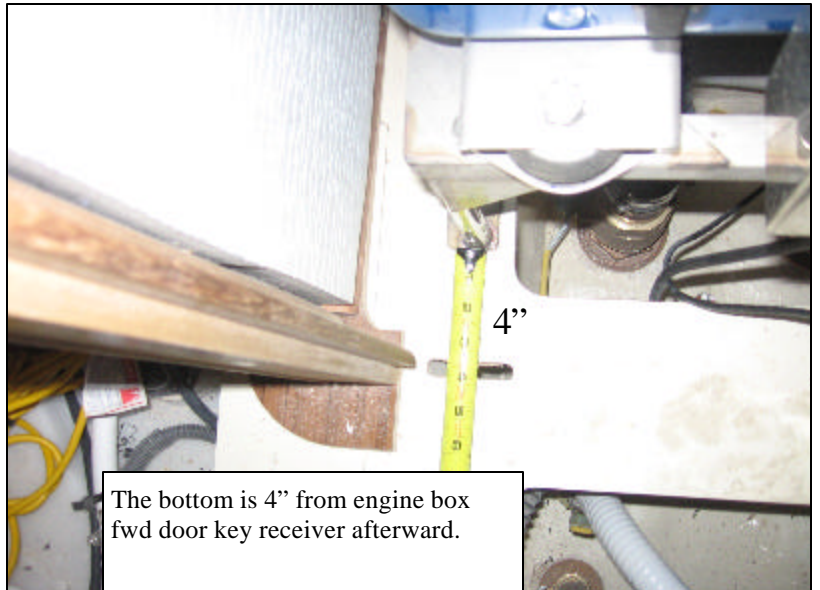
Main Cabin Main Bilge Thru Hull Location shown as above drawing



H45cc Electrical Stage Generator Installation

Generator Stand Installation :

1. Remove generator split cover off the genset, place generator on top of generator stand with 4 generator motor mounts will be sitting on support bases of generator stand. (the stand leg base plate facing out-board)
2. Secure 4 genset motor mounts to stand support bases using designated bolts & nuts.
3. Move this generator unit in engine box (fuel lines fitting should facing port side).
4. The genset to engine box mounting location, fwd leg plate fwd edge is 4" aft from sub floor key receiver and the stand is center to engine box.
5. Secure the base plate to sub floor using designated hex head fasteners.
6. Ensure there is a clearance between genset cover and scupper hose while you try to remove the cover off from generator.



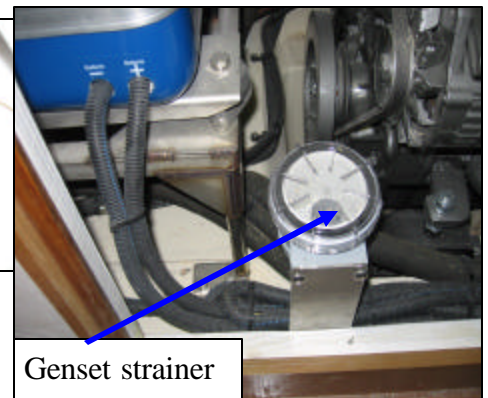
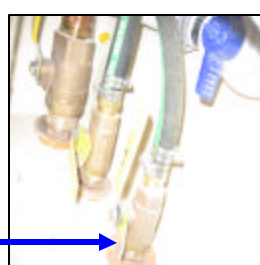
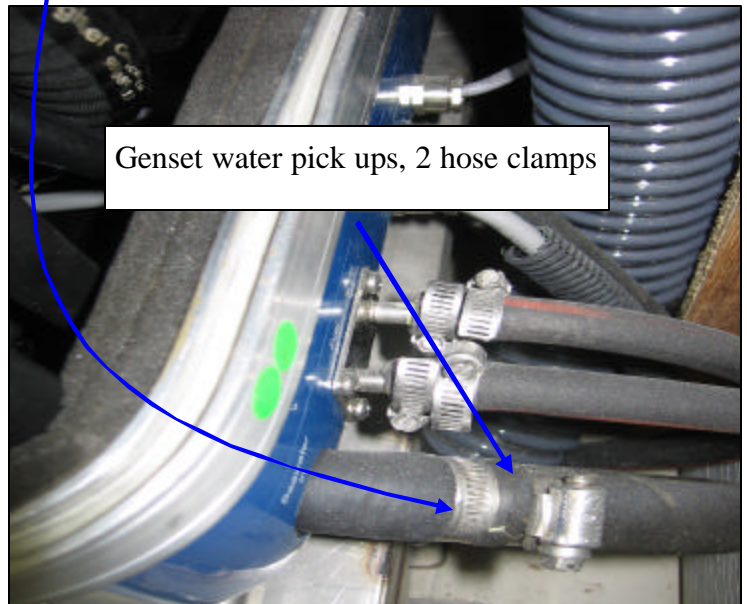
H45cc Electrical Stage Generator Installation

Generator Fuel Line Installation:

1. Attach $\phi 1/4''$ x 14' 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 $\phi 1/4''$ x 14' 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 are installed in module stage.
4. Run generator fuel pump wire from generator site to afterward to Quarter berth bunk drawer, install generator fuel pump wires to fuel pump. Conduit the wire.
5. Ensure all fuel lines to fuel tank are secured.

Generator Fresh Water Pick Up Installation:

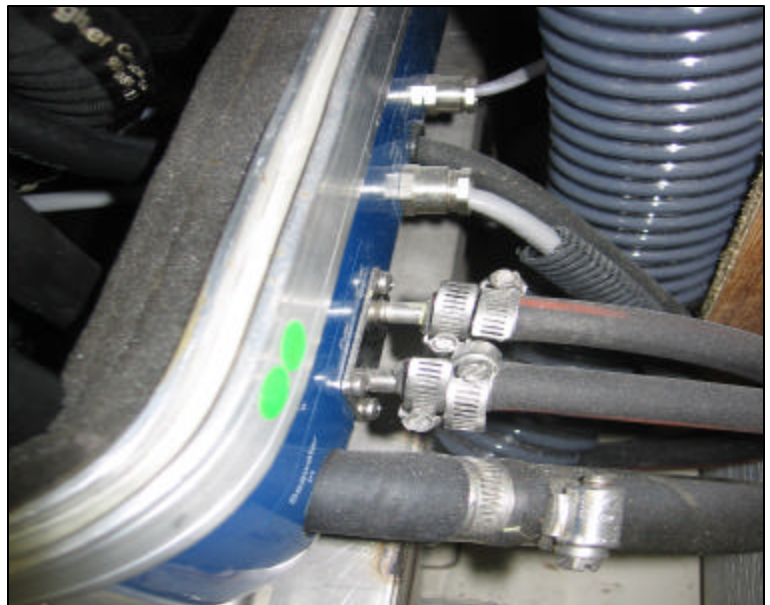
1. Attach $\phi 3/4''$ hard wall hose to generator pick up thru hull fitting, apply marine thread sealant to this fitting then install the hose to this fitting, then secure the hose using 2 designated hose clamps
2. Connect the other end of this hose to generator strainer, secure the end to strainer using designated hose clamps. Connect another $\phi 3/4''$ hard wall water hose that will go from strainer to generator sea water pick up fitting. Connect this hose to strainer and to generator pick up fitting, secure both ends of this hose using designated hose clamps.
3. Secure generator strainer mounting plate on port side of engine box access middle lower on sub floor using designated pan head fasteners then secure the strainer on mounting plate.



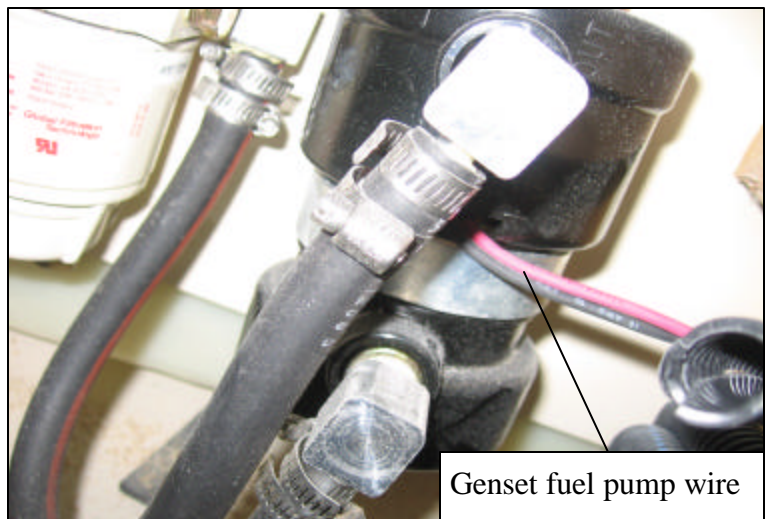
H45cc Electrical Stage Generator Installation

Generator Fuel Line Installation:

1. Attach $\phi 1/4'' \times 14'$ 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 $\phi 1/4'' \times 14'$ 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 are installed in module stage.
4. Run generator fuel pump wire from generator site to afterward to Quarter berth bunk drawer, install generator fuel pump wires to fuel pump. Conduit the wire.
5. Ensure all fuel lines to fuel tank are secured.



Inside QB Bunk port lower drawer shelf , engine fuel filter, genset fuel filter and fuel pump

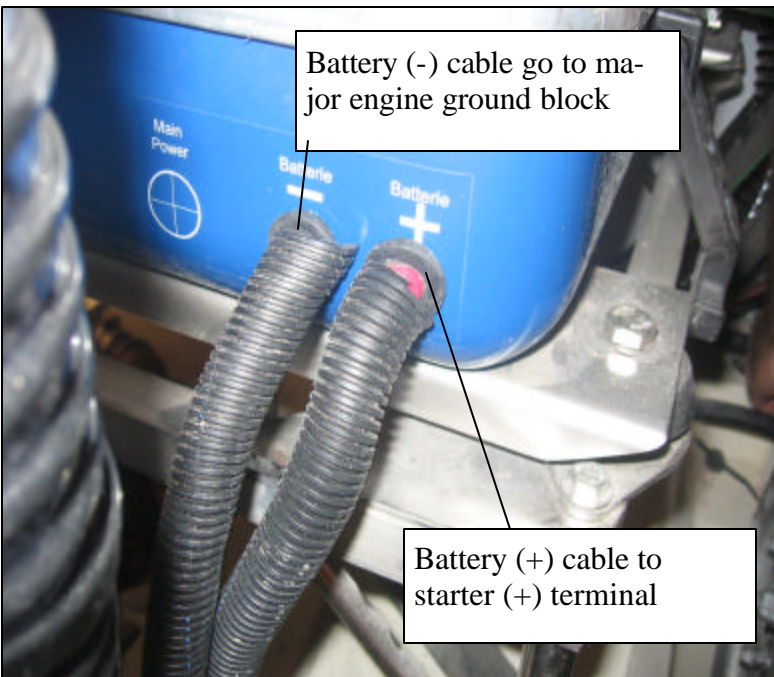
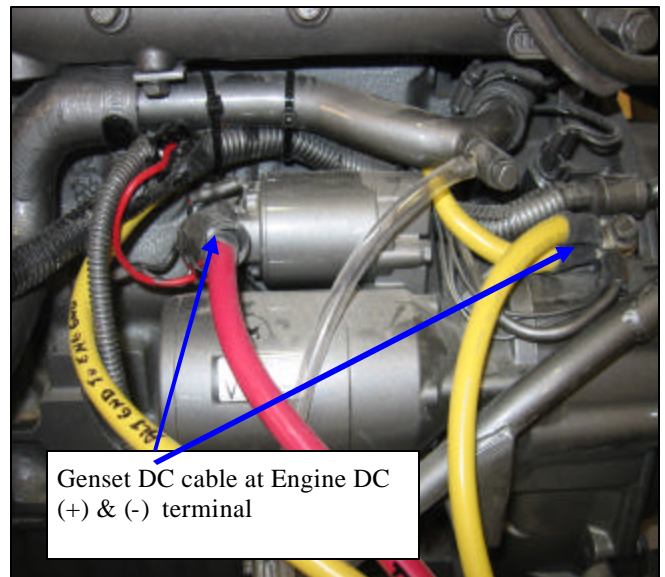
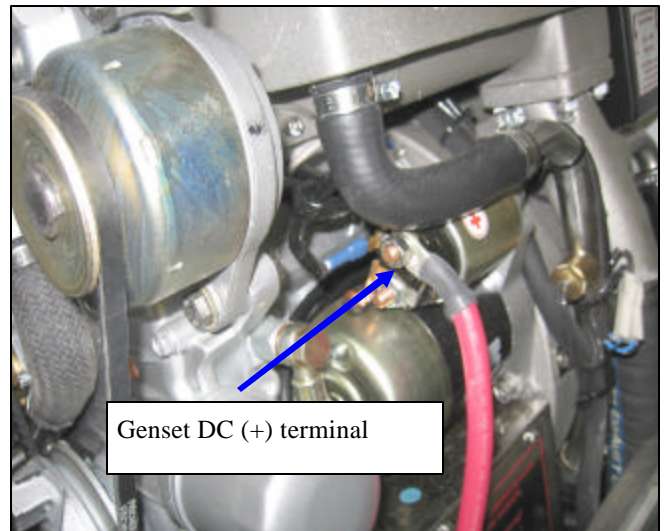
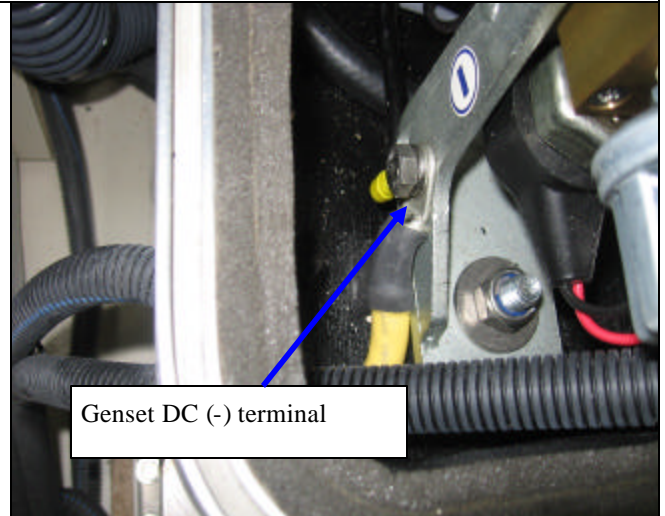


Genset fuel pump wire

H45cc Engine Stage Generator

DC cable Installation:

1. Run DC (+) 2 AWG thru generator base thru “battery hole” to capacitor terminal stud (+), secure the cable ring to this copper stud then run the other end of this cable to engine starter terminal and attach this end with engine starter cable (the cable bridges between starter and engine battery). Secure 2 cables to engine starter terminal stud.
2. Run DC (-) 2 AWG thru generator base thru “battery hole” ground plate (-), secure the cable ring to this plate using designated fastener. then run the other end of this cable to engine major ground terminal. Attach this ring with engine (-) cable that bridges between engine ground and battery ground. Secure 2 cables to engine ground terminal stud.
3. Conduit all DC cables from generator base to engine starter and to engine ground terminal.



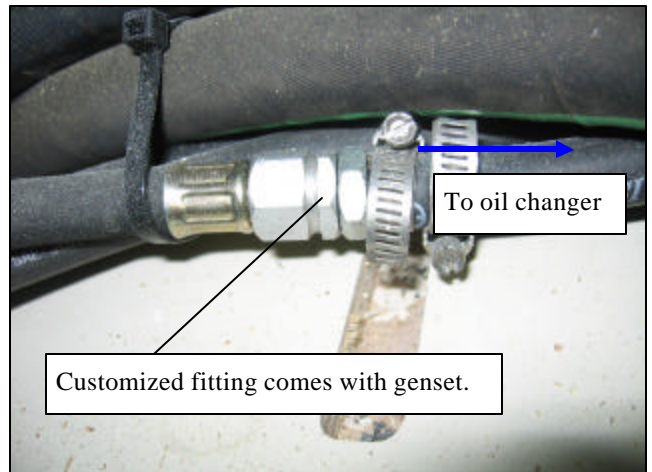
H45cc Engine Stage Generator

Generator Oil Drain to Oil Changer Installation: (option)

1. Generator comes with oil drain hose installed.
2. Fasten designated converting fitting to generator oil drain hose fitting then connect another designated oil drain hose that bridges genset oil drain hose and oil changer. Secure the hose to oil drain fitting and to oil changer fitting using 2 pieces of #12 hose clamps on each end of hoses.
3. Use tie wraps to hold oil drain hose on pan surface. Cut tie wrap ends.

Vented Loop Valve Installation:

1. Connect both vent loop hoses to both genset fittings and secure the hoses using designated hose clamps.
2. Connect both vent valve to loop hoses and secure the hoses using designated hose clamps.
3. Mount the vent loop valve on engine box starboard side bulkhead.



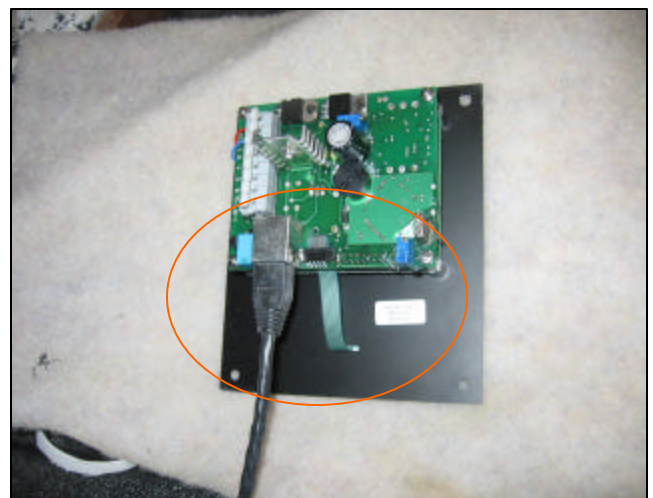
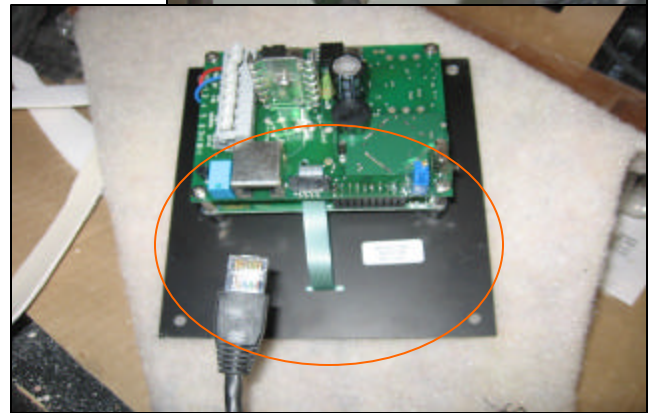
H45cc Engine Stage Generator

Generator engine coolant overflow bottle Installation:

1. Genset coolant overflow fittings are next to vent loop fittings, connect coolant overflow hoses to both fittings then secure the hoses using #10 hose clamps.
2. Run overflow hoses to engine box AC platform port fwd corner.
3. Connect overflow hose to overflow bottle and secure the hoses using designated hose clamps.
4. Install the bottle's mounting bracket to the bottle then mount the bottle to almond L platform then secure the platform on AC platform.

Remote Panel Installation :

1. Run generator remote wire from AC power box (the wire has been pre installed on generator) to chart locker cabinet, run the wire up to electrical panel and run the wire next to macerator switch.
2. Attach the remote wire to jack and mount this panel on electrical panel secure the panel using 4 x #10 x 3/4" wood screws pan head.

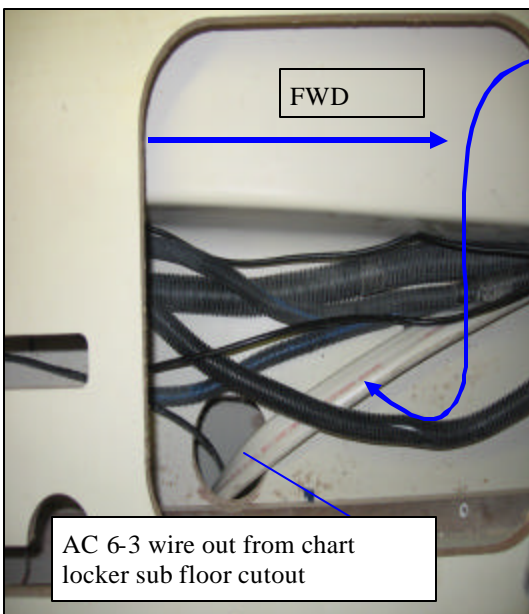
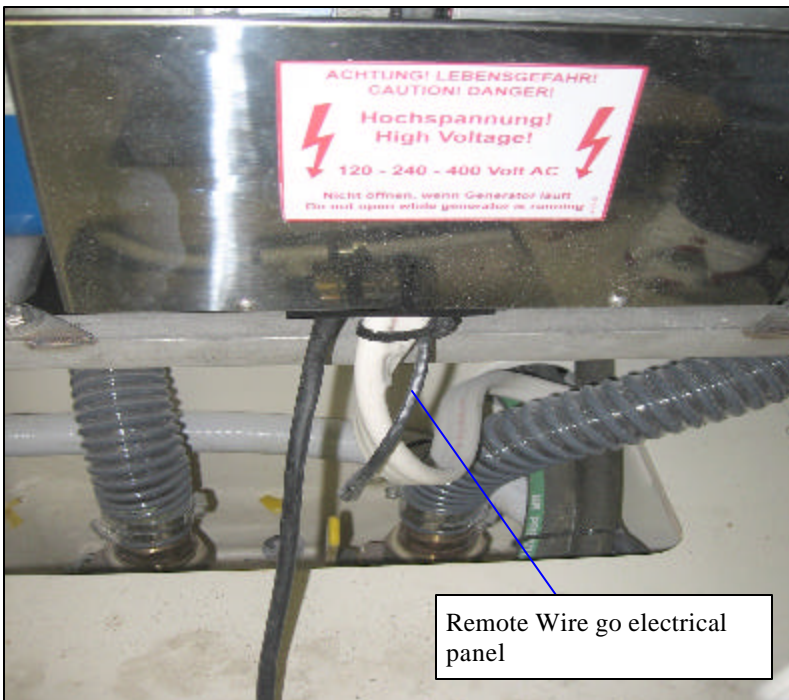
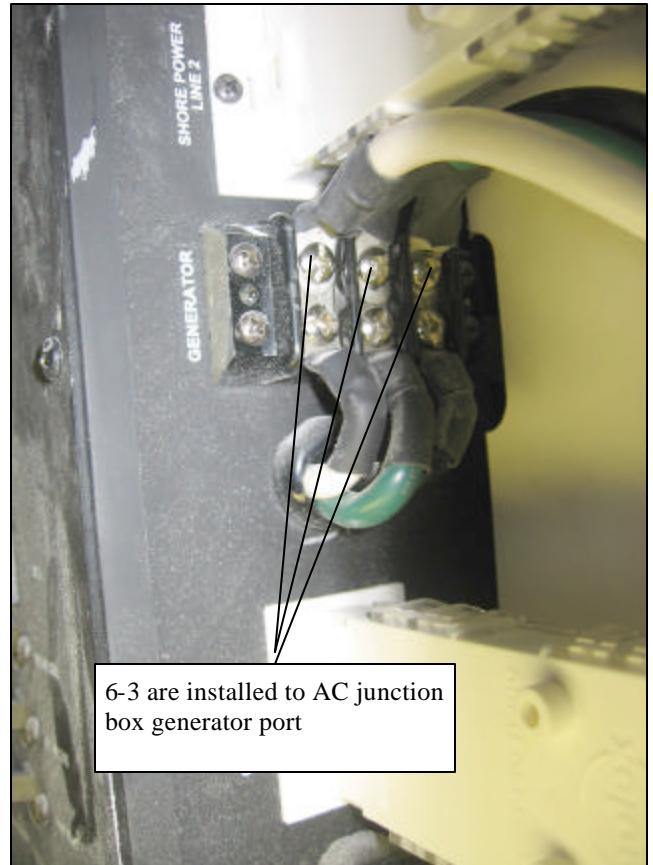


Genset remote panel is mounted on this location

H45cc Engine Stage Generator

AC 6-3 Wire Installation :

1. Run AC 6-3 wire from generator AC box down to pan then outboard to sub floor cutout then run forward thru chart locker fwd bulkhead then to port side bunk then up to AC junction box fwd corner.
2. Make 1/4" ring connector at the end of 6-3 wires and apply heat shrink on ring connector.
3. Secure 6-3 wires on AC junction box terminal marked "generator" bus terminal.



H45cc Engine Stage Generator

Generator Exhaust Assembly Installation :

1. Connect $\phi 1\text{-}1/2''$ corrugate generator exhaust hose to genset exhaust manifold, apply marine sealant at the ID end of the hose ,attaché and secure the hose to manifold using designated hose clamp.
2. Connect the other end of this hose to plastic muffler, secure this end of exhaust hose to muffler and secure the hose to muffler using 2 designated hose clamp.
3. Connect corrugated $\phi 1\text{-}1/2'' \times 10'$ long generator exhaust hose to the other end of the plastic muffler, secure the hose to muffler using designated 2 hose clamps.
4. Run exhaust hose that is from muffler thru this pan compartment outboard thru sub floor cutout up to washer cabinet outboard then attach the thru hull end of this hose to genset exhaust thru hull, secure the hose to thru hull fitting using 2 designated hose clamps.
5. Looping the this exhaust hose 20' height from exhaust thru hull fitting, secure the loop using tie wrap, ensure to cut tie wrap end off.

