H36 Engine Stage
(Optional), Fisher Panda Generator Installation
Generator Model: PMS 4200 FCB

Process Time: 180 minutes

- **The electrical Installations may only be carried out be trained and tested personnel!**
- **Switch off all load when working on all electrical components.**
- **All load must be disconnected, in order to avoid damages to the devices. The poles of the battery ought to be removed and Shore Power ought to be disconnected**

Preparation:

1. Panda Generator Model: PMS 4200 FCB
2. 22' (10-3) AC wire
3. 6' (2 AWG) wire, color code red with 2 x 3/8" eye connectors.
4. 6-1/2' (2 AWG) wire, color code yellow with 3/8" eye connector and 5/16" eye connector.
5. 5' (2AWG) wire, color code red with 3/8" eye connector and 5/16" eye connector.
6. 2 anti siphon loop hoses, 2 fittings, 12 hose clamps for anti-siphon loop, anti-siphon valve.

10-3 wire to generator set terminal box connection:

1. Use 22' AC 10-3 wire.
2. Strip out 1-1/2 feet of 10-3 wire outer insulation then insert those 10AWG (white, black, green) wires to (label AC out) through hole at fwd end of generator box.
3. Run those AC 10AWG wires to aft top side of the generator terminal box.
4. Use appropriate socket head tools to loose 4 hex head bolts then remove the top cover of the terminal box
5. Insert AC 10 AWG wires into fitting that locates fwd starboard side of terminal box.

Generator mount installation: (before you put generator on boat) (engine stage)

1. Hoist generator up (just off ground)
2. Find slots on U profile (generator base stringer), 2 U profile at the bottom of generator box.
3. Slide mounting bolt of generator mount from bottom into slot on U profile.
4. Locate mounting bolts in the center of slot (4 places).
5. fasten designated washers and nuts to mounting blots (4 motor mounts) and secure them.
6. Hoist generator up and into boat. (port Q berth generator platform)

Documented By: Michael Hsieh Documented Date: 11-12-2004	Approved By: Joe Kerr Revised Date: 11-16-2004

H36 Engine Stage
(Optional), Fisher Panda Generator Installation

Generator mounting:(engine stage)

1. The generator will mounted as center of fwd inboard mount locates 3-1/2" from platform fwd edge and 5-1/2" outboard of inboard edge of platform. (drive belt facing fwd)
2. Align generator in position.
3. Secure the generator mounts to platform use #14 x 1" long pan head wood screws. (2 on each mount and platform thickness is 3/4")

External ventilation valve installation:(engine stage)

1. As drive belt facing forward, external ventilation loop locates at aft port side of the generator box.
2. Cut the ventilation loop hose from middle then to re-tight loosen hose clamps inside gen box and bend the hoses inward and facing up.
3. Install fittings (1/2" PVC hose bar to 3/4" hose barb fitting) to both cut ends and use #10 s/s hose clamps to secure loop hose to fittings.
4. Anti-siphon valve should be installed **at least 23.6" above waterline** .
5. Install anti-siphon hoses to fittings and use #10 s/s hose clamps to secure hoses to fittings.

External ventilation valve installation continue:(engine stage)

6. Install anti-siphon valve at the other end of hoses and use #10 hose clamps to secure the hose to valve.(2 clamps on each end).
7. Secure anti-siphon valve to upper shelf (aft vertical face) use designated fasteners (#6 x 1/2").

Coolant Expansion Tank Installation: (engine stage)

1. Attach coolant reservoir hose to gen-set fitting that labels "coolant" then secure this hose use appropriate hose clamps.
2. Attach the other end of coolant reservoir hose to coolant expansion tank, use appropriate hose clamps to secure it.
3. Mount the coolant expansion tank on upper shelf and at least 23'6" height from water line.

Exhaust Assembly Installation: (engine stage)

1. Remove plastic cover that is on exhaust fitting.
2. Apply rector seal around threads of exhaust fitting.
3. Install designated elbow fitting to exhaust fitting that is on generator box.
4. The elbow fitting should facing inboard. (install 1-1/2" hose barb to exhaust elbow)
5. Run generator exhaust hose from inboard side lower cutout of footboard panel (should have chaff guard on this cutout) outboard to generator cabin then attach exhaust hose to exhaust elbow fitting then secure the hose to fitting with 2 designated hose clamps.
6. Attach the other end of the exhaust hose to fwd end of generator water lock then secure the exhaust hose to water lock use 2 designated hose clamps.
7. Place generator water lock onto pan and against fwd face of kickboard and against inboard face of foot-board panel then secure the water lock to footboard panel use F/H #10 x 7/8" wood screws..
8. From aft port Q berth bunk side Run another exhaust hose through kickboard afterward to generator ex-haust through hull fitting then secure this end of the exhaust hose to fitting use 2 designated clamps.
9. Attach and secure the other end of exhaust hose to aft end of water lock fitting use 2 designated hose clamps.

H36 Engine Stage
(Optional), Fisher Panda Generator Installation

Fuel Line Installation: (engine stage)

1. Run 2 fuel lines from generator platform fwd cutout down then go in through footboard panel cutout then run along with footboard panel forward then inboard through fwd bunk divider cutout to fuel tank compartment.
2. At fuel tank compartment, attach the fuel pick up line to fuel outlet fitting of external fuel pump and secure that use 2 x #4 s/s hose clamps and attach another fuel line to fuel inlet fitting of the external fuel pump then secure that use 2 X #4 S/S hose clamps.
3. Mount external fuel pump on port side bunk divider and at lower and port fwd side by fuel tank use designated fasteners.
4. Mount fuel filter fwd by fuel tank that will next to engine fuel filter and use designated fasteners to secure it to aft face of aft engine bulkhead.
5. Attach external fuel pump fuel inlet line to outlet fitting of the fuel filter and secure that use 2 #4 s/s hose clamps. Attach fuel pick fuel line to fuel filter inlet fitting then secure it use 2 x #4 s/s hose clamps then run the fuel line to fuel tank generator pick up fitting and attach the fuel line to this fitting then secure it use 2 #4 s/s hose clamps. Attach the fuel return fuel line that is direct from generator sound shield, attach it to fuel tank generator return fitting and secure it use 2 x #4 s/s hose clamps.
6. At generator sound shield, attach fuel pick fuel line to fuel inlet fitting of generator box and secure that use 2 x #4 s/s hose clamps. At generator sound shield, attach fuel return fuel line to fuel outlet fitting of generator box and secure that use 2 x #4 s/s hose clamps.

Gen-Set water pick up installation: (engine stage)

1. Generator water pick up hose should have been installed in module stage.
2. Generator water pick up through hull fitting that locates bilge discharge area.(install 3/4" ball valve, 3/4" male NPT and nipple 2" long, 3/4" street elbow, 3/4" female filter, 3/4" male NPT and male 3/4" hose barb).
3. Attach water pick up hose to elbow then secure it use 2 x #10 s/s hose clamps.
4. Attach the other end of hose to raw water filter (inlet) then secure them together use 2 #10 s/s hose clamps.
5. Attach another hose to outlet fitting of the filter then secure them together use 2 x #10 s/s hose clamps.
6. Attach the other end of the hose from filter to 1/2" PVC hose barb to 3/4" hose barb install 1/2" water hose from here to gen-set raw water inlet fitting then secure the hose to that fitting use 2 # 10 s/s hose clamps.

Battery to generator installation (before gen-set is placed in boat):(electrical stage)

1. Insert Attach 2 AWG starter (+/-) cables (5' red (+) into through hole on fwd side of generator box (label starter battery) and 5/16" eye connector go to generator).
2. Run (+) starter cable to generator starter terminal then secure the connector to starter terminal
3. Run (-) power cable 5/16" eye connector to generator **negative terminal** then secure the connector to this terminal. Attach the other end of 5' (+) starter cable with 3/8" eye connector to generator main switch then secure the connector to terminal. Attach another (+) 2 AWG power cable (6') to the other terminal of main switch then secure the 3/8" eye connector to this terminal.
4. Mount generator main switch on the out board face of footboard panel and 9" above generator platform then use designated fasteners (4) to secure the switch to footboard panel.
5. Attach the other end 3/8" eye connector of 6' battery cable to battery fuse and secure the connector to fuse terminal. (fuse box locate at fwd end of the generator cabin).
6. Conduit all positive and negative power cables.

H36 Engine Stage
(Optional), Fisher Panda Generator Installation

AC load wire / Remote Control Panel installation:(electrical stage)

1. Attach and secure 10AWG wires to their designated terminals in terminal box then conduit those wires
2. Run the other end of 10-3 wire and remote control panel wire from generator cabin through footboard panel lower cutout (should have chaff guard on that cutout) then go through along with port side Q berth bunk divider forward then go forward through pan cutout into PVC pipe then go behind Navi station instrument panel.
3. Conduit remote control panel wire and 10-3 wire from inside generator set to PVC pipe.

AC 10-3 wire to AC panel installation:

1. With AC 10-3 wire that has been run to Navigation Station instrument panel.
2. Strips out the 10-3 insulation cover then attach those 3 wires with #10 eye connectors then clamp them.
3. On back side of AC panel, there should have 2 x single breaker for generator, you need to find out and verify those 2 breakers (front face has label on it and 50 amps total).
4. Attach AC black wire that is from gen-set to line terminal that with black wire at load terminal of the breaker.
5. Attach AC white wire that is from gen-set to line terminal that with white wire at load terminal of the breaker.
6. Attach AC ground (green) wire that is from gen-set to ground bus and secure it with designated fastener.

Conduit AC 10-3 wire.

Connection of the remote control panel. (electrical stage)

1. Remote control panel should locates on Navigation station instrument panel.
2. As standard a 7 core connection cable, 7 m long, included in the supply.
3. Those cores are numbered from 1 to 7, you can see that on core insulation.
4. The control cables are connected to gen-set and on the back side of control panel there are terminals numbered from 1 through 7.
5. Connect the cores (1~7) of the control cable to terminals (1~7) and secure them.
6. Mount the panel onto cutout use designated fasteners.

Connection of Power Control Box: (electrical stage)

1. Loose 4 fasteners that are secured on box cover then remove the cover.
2. Run power control box that is from generator set from generator cabin inward through footboard panel cutout then forward to underneath power control box then slide wire into power control box.
3. As standard a 7 core connection cable , those cores are numbered from 1 to 6 and PE (ground / green and yellow), you can see that on core insulation.
4. The control cables are connected to gen-set and on the back side of control panel there are terminals numbered from 1 through 7.
5. Connect the cores (1~6) of the control cable to terminals (1~6) and connect PE to its terminal then secure all those wires.
6. Conduit all wires.
7. Fasten the power control box cover back to power box..
8. Mount the power control box on Quarter berth inboard side footboard panel about 20 " fwd of lower footboard panel cutout then use designated fasteners to secure the power control box to footboard panel.

H36 Engine Stage
(Optional), Fisher Panda Generator Installation

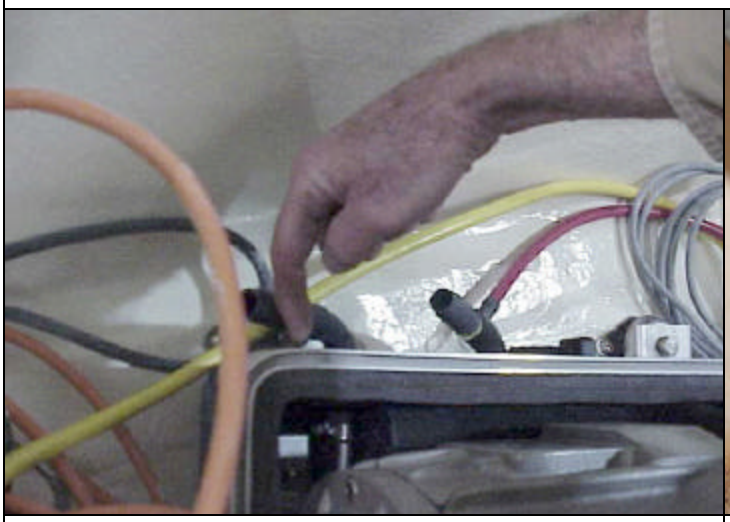


Fig 1. Cut ventilation hose and bend them upward.

Fig 2. Install fittings & coolant hoses (23.6” long), secure hoses using designated hose clamps.

Fig 3. connect anti-siphon valve to vented loop coolant hoses then secure the valve on upper shelf.

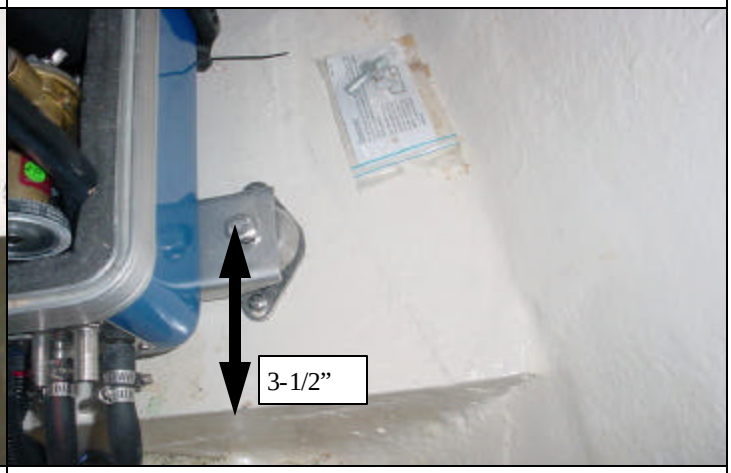


Fig 4. both of fwd generator mounts locate 3-1/2” from edge of platform

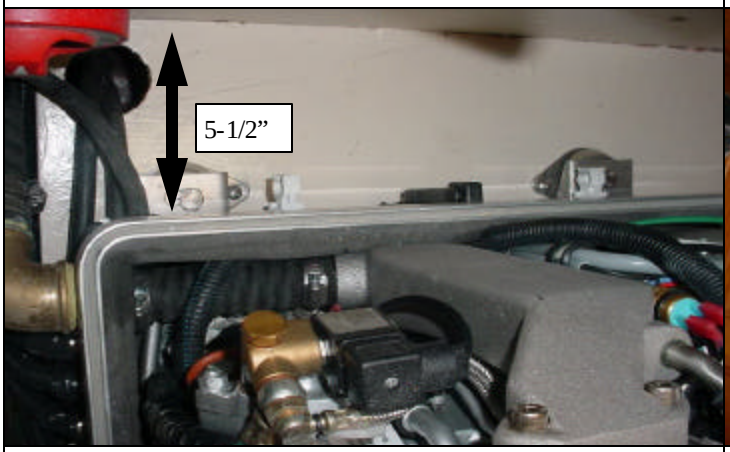


Fig 5. Inboard side generator mount is 5-1/2” from platform inboard edge.

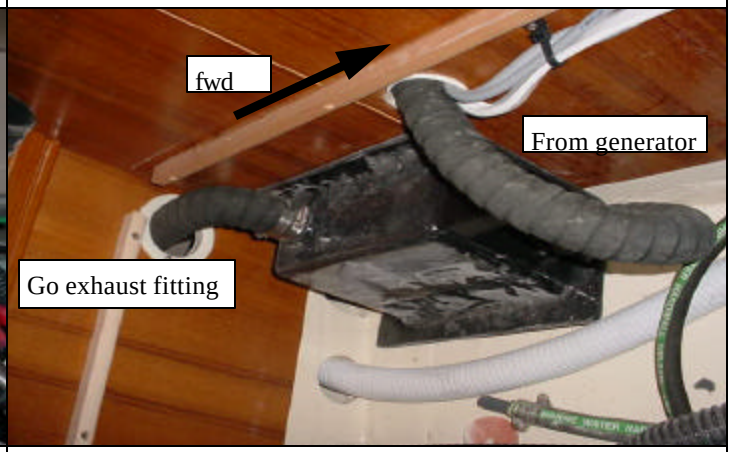


Fig 6. Run generator exhaust hose and water lock location

H36 Engine Stage
(Optional), Fisher Panda Generator Installation

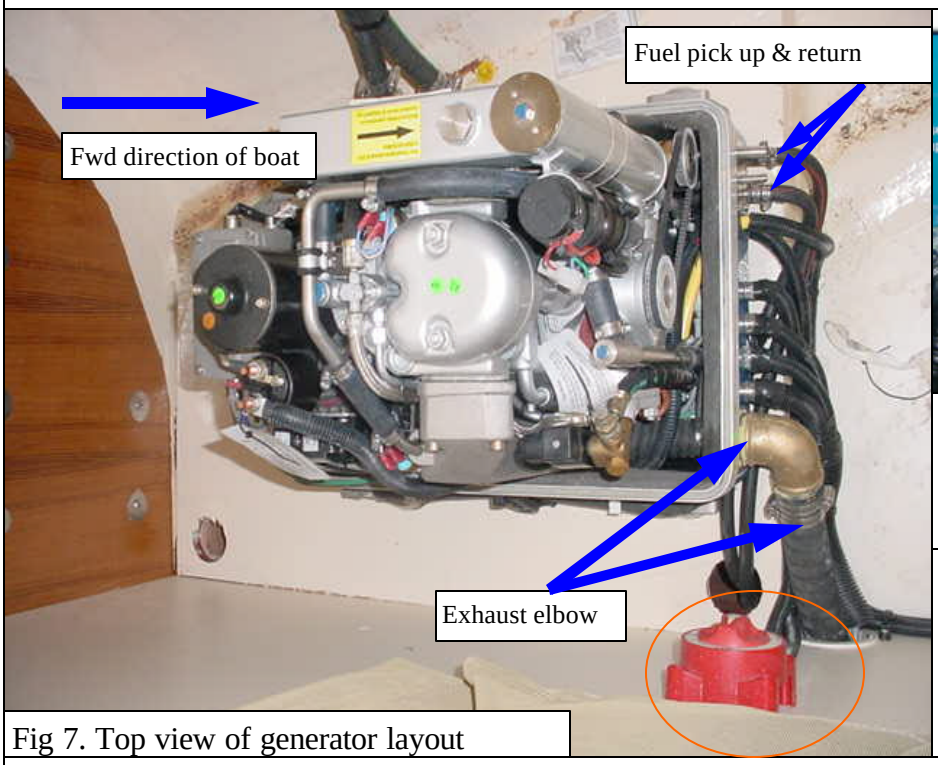


Fig 7. Top view of generator layout

Fig 8. each fuel line requires 2 hose clamps for securing. Generator starter cable requires conduit.

Generator starter main switch locates on inboard side bulkhead face. All cables to this switch require conduit.

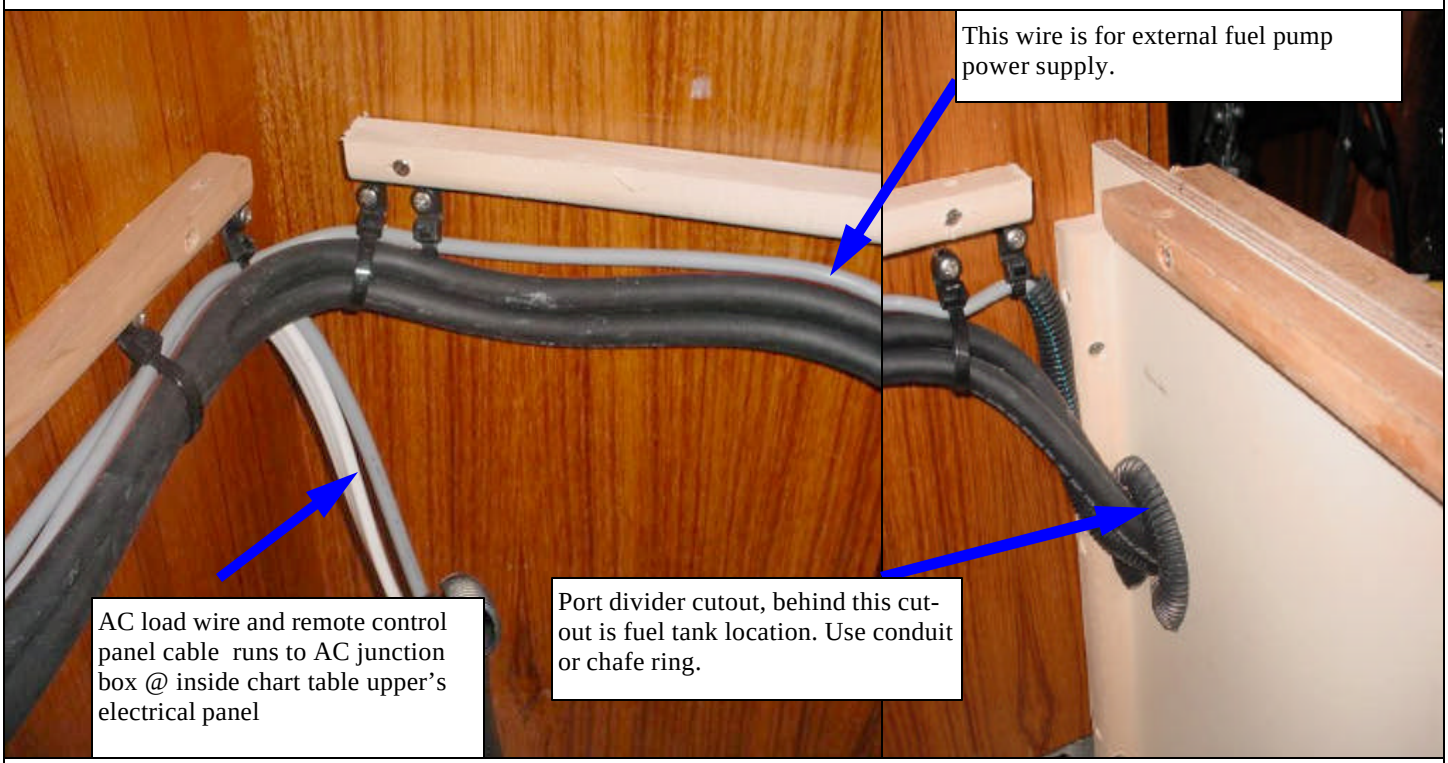
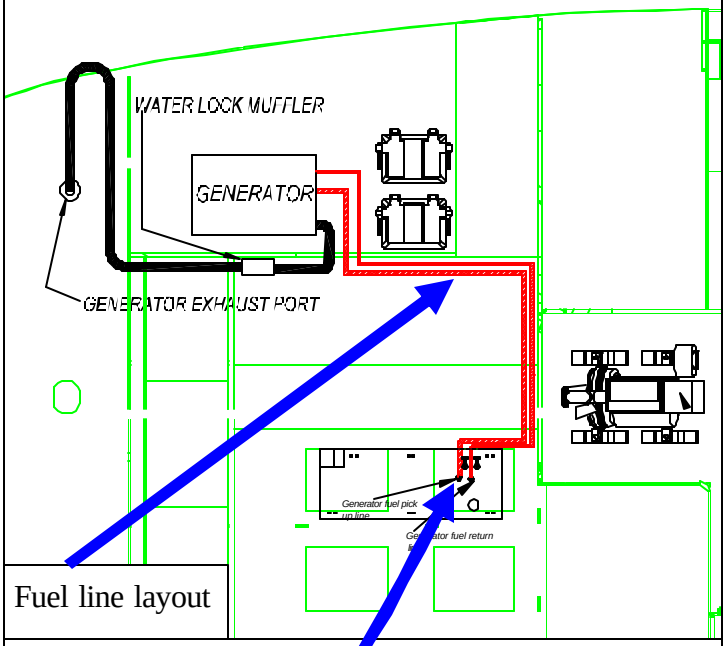
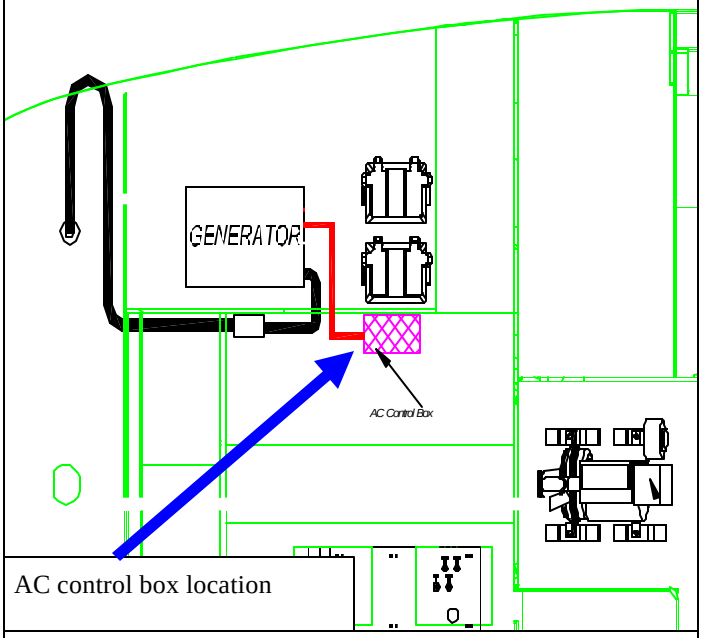


Fig 9. Fuel lines and generator fuel pump cable are ran along Q Berth port side bunk compartment, tie wrapping them and secure tie wraps along battens on divider bulkhead.

H36 Engine Stage
(Optional), Fisher Panda Generator Installation



Fuel line layout



AC control box location

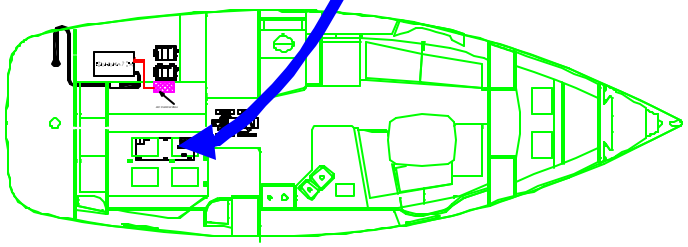
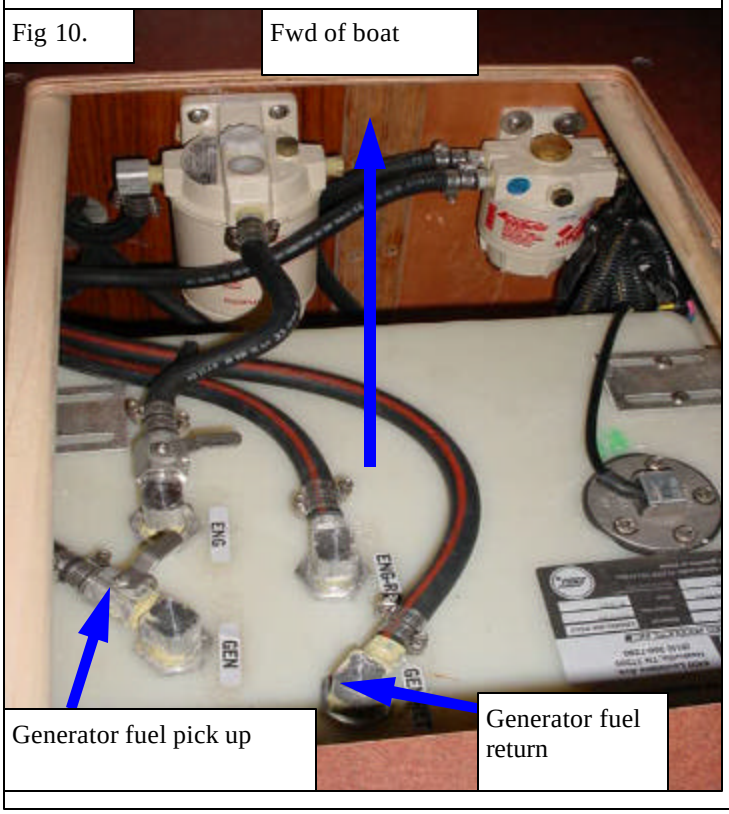


Fig 10.

Fwd of boat



Generator fuel pick up

Generator fuel return

The illustrations show AC control box and fuel line runs of generator

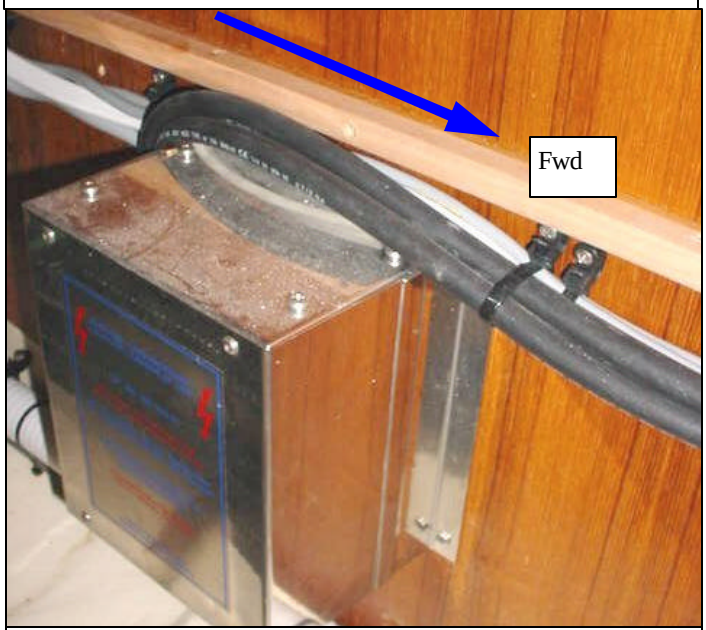
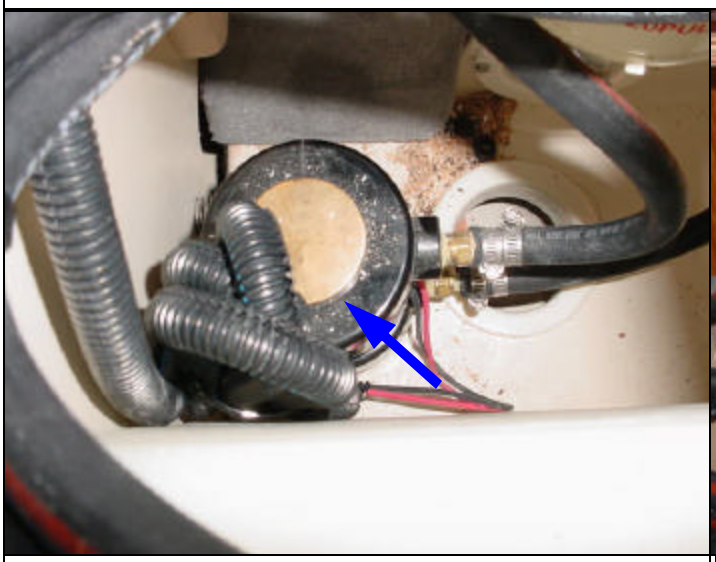
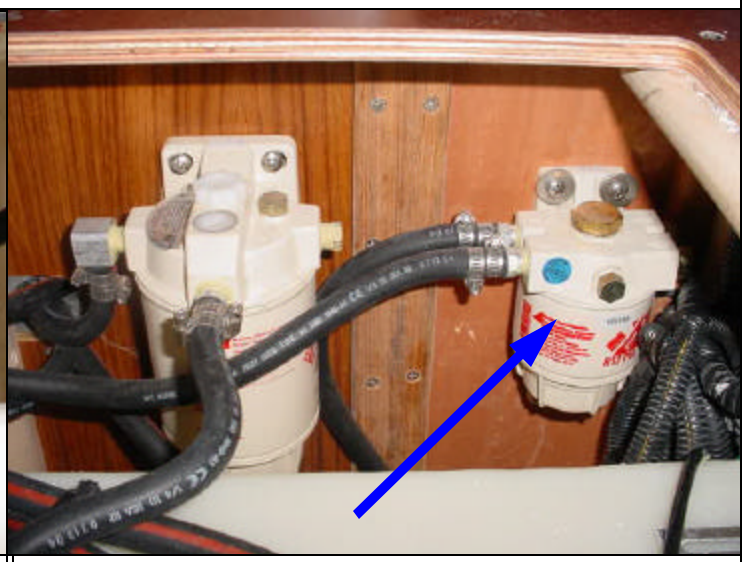


Fig 15. Mount AC control box bunk port side compartment footboard panel lower face, secure the box using phil pan head #8 self tapped screws

H36 Engine Stage
(Optional), Fisher Panda Generator Installation



Generator fuel pump locates under fuel filter.



Mount generator Fuel filter next to engine fuel filter.

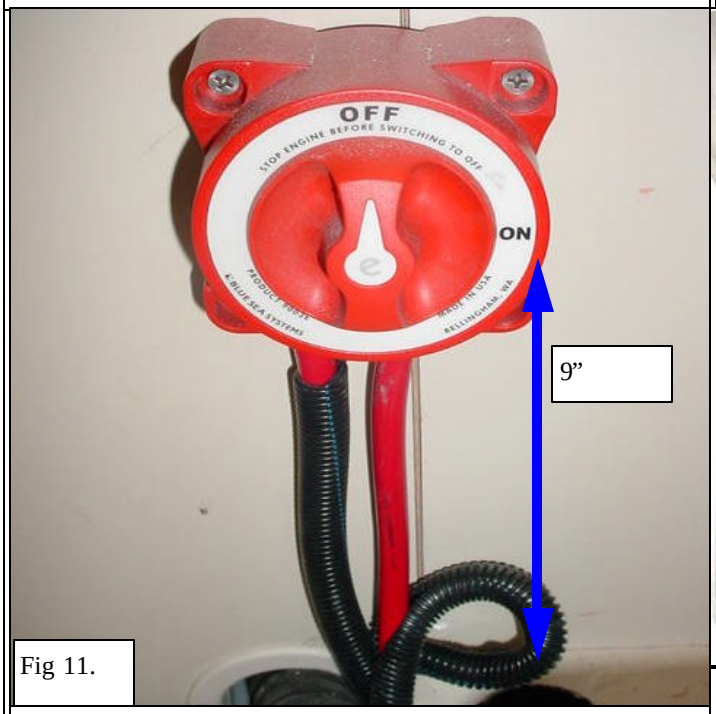


Fig 11.

Starter switch locates inside generator cabinet in-board divider bulkhead face, 9” up from platform where the exhaust hose run through.

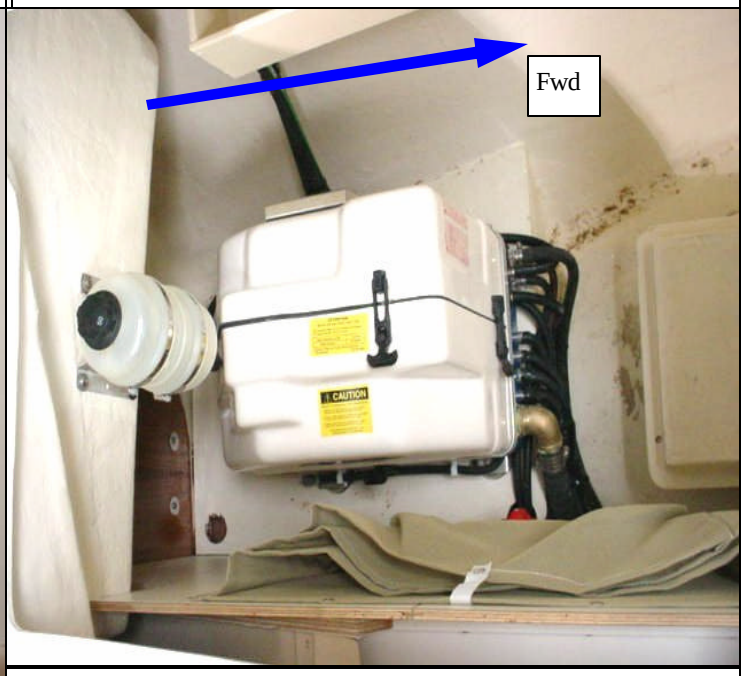


Fig 12. Coolant expansion tank is mounted upper aft side face of generator cabin. Secure that use 4 pieces of x #14 pan head wood screws.

H36 Engine Stage
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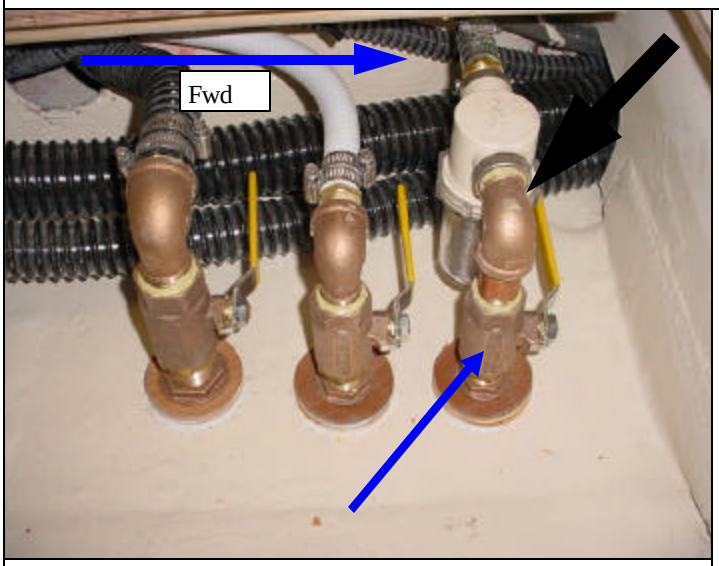
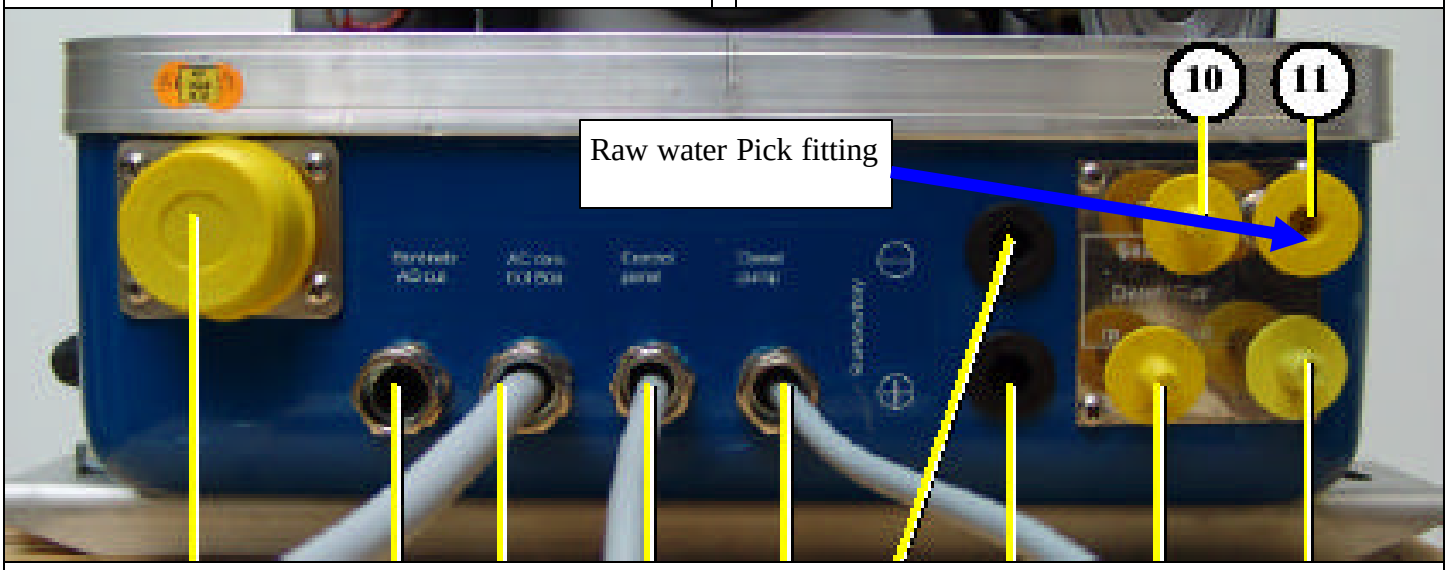


Fig 13. Generator pick up thru hull assembly includes ø3/4” thru hull fitting, ball valve, 2” nipple, street elbow and raw water strainer. Install ball valve handle facing outboard. Apply marine sealant #5200 to caulk around thru hull fitting & wood doughnut.

Generator exhaust thru hull assembly is mounted port side aft hull, the assembly contains ø1-1/2” chrome thru hull fitting, brass elbow with 1.5" FPT x 1.5" barb. The thru hull diameter is 2”.



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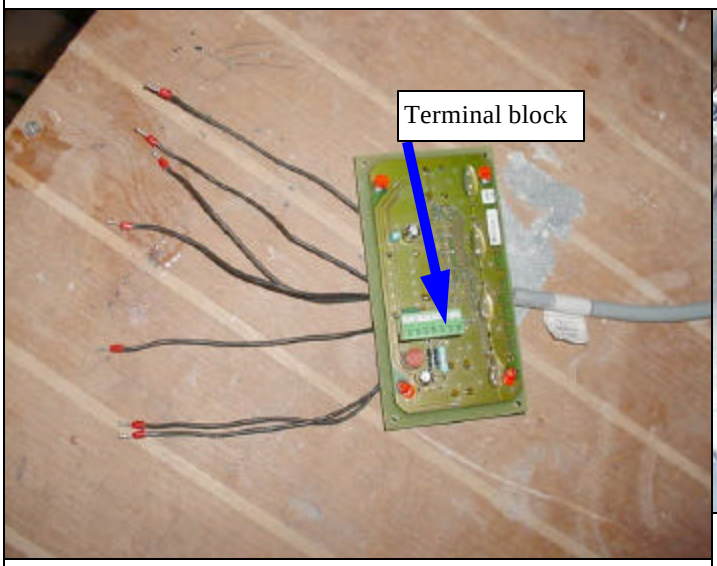


Fig 14. Generator remote control panel and remote control cable wires.

1. Those cores are numbered from 1 to 7, you can see that on core insulation.
2. The control cables are connected to gen-set and on the back side of control panel there are terminals numbered from 1 through 7.
3. Connect the cores (1~7) of the control cable to terminals (1~7) and secure them.
4. Mount the panel onto cutout use fasteners pro-

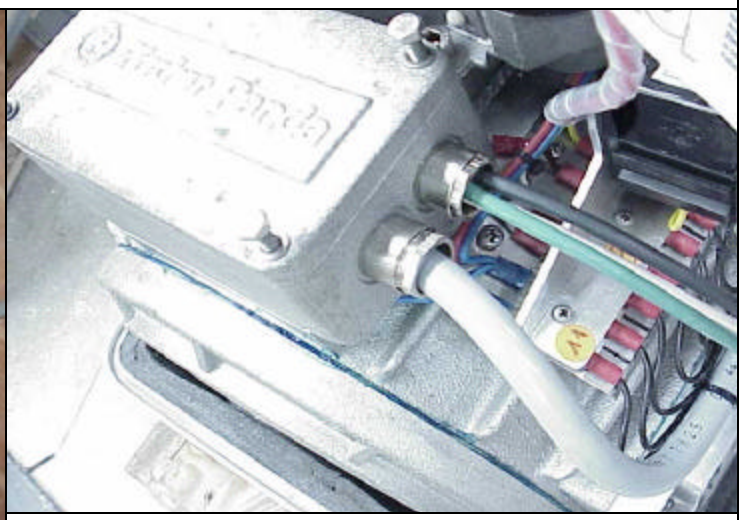
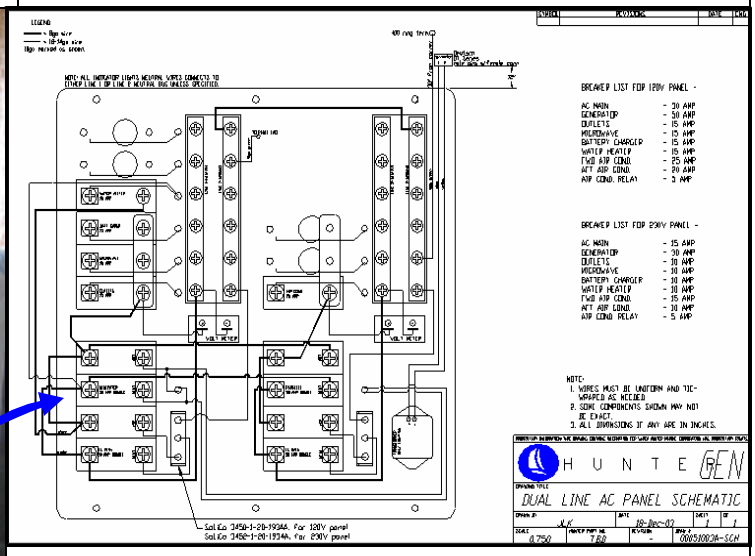


Fig 16.
Strip out 1-1/2 feet of 10-3 wire outer insulation then insert those 10AWG (white, black, green) wires to (label AC out) through hole at fwd end of generator box. Run those AC 10AWG wires to aft top side of the generator terminal box.



Install 110V load wire to AC junction box (AC panel), use 50 amps breaker that has been pre-installed inside this junction box.