

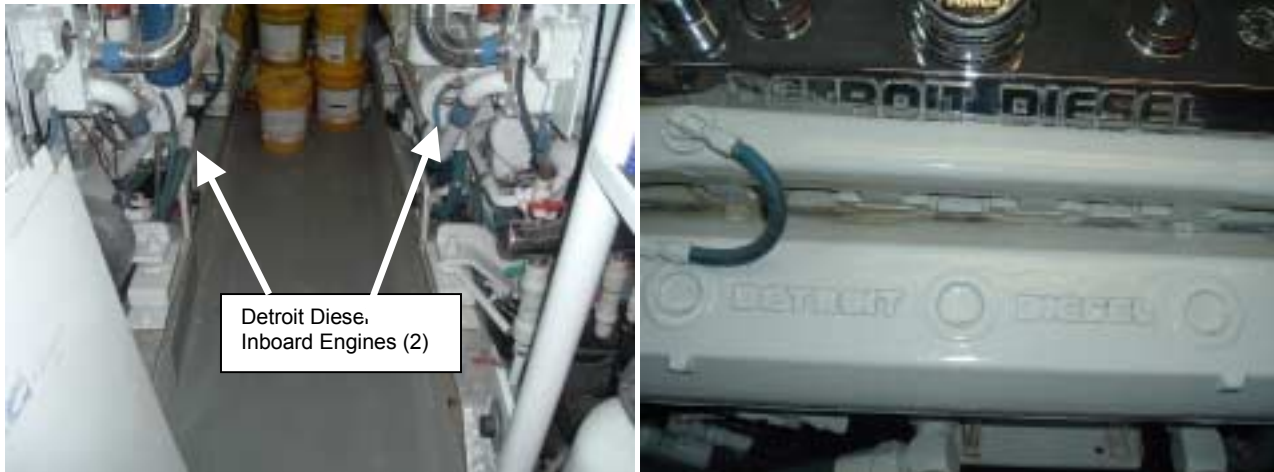
Installation Notes for Lady Susan Boat With a Detroit Diesel Engine 16V92

KIT 01-20005

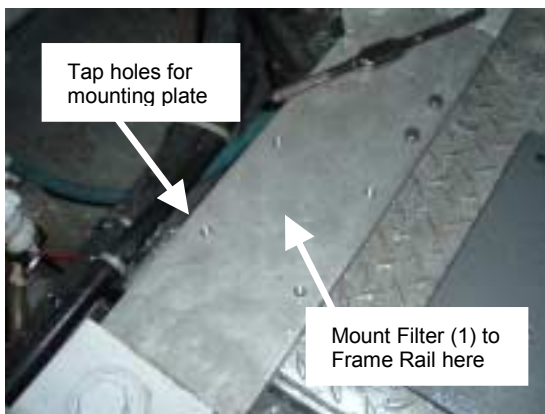
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Note: Even though a banjo fitting has been provided, some engines have been known to have different size drain plugs, requiring a different size banjo fitting. If the banjo fitting provided does not match to the specific drain plug size contact your local **puraDYN** dealer or **puraDYN** directly (866- puraDYN) for a different size banjo fitting.

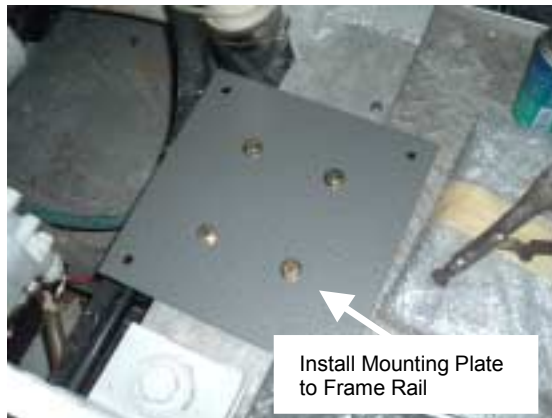
The following document is used in conjunction with the **puraDYN** Bypass Oil Filtration System Installation Manual (TF-240) that is included in the unit box, and as such, should be considered a supplemental source of information. Further, this document covers the installation of a TF-240 Bypass Oil Filtration unit on a **Lady Susan Boat with Detroit Diesel Inboard Engines**



Mounting the Unit: The TF 240 Bypass Oil Filtration units (2 total) should be mounted to the frame rail (**Picture 1**). Fasten the mounting plate to the frame rail using 3/8 -16 hardware (**Picture 2**). Mount the unit to the mounting plate (**Picture 3**). Attach with the supplied hardware.



Picture 1

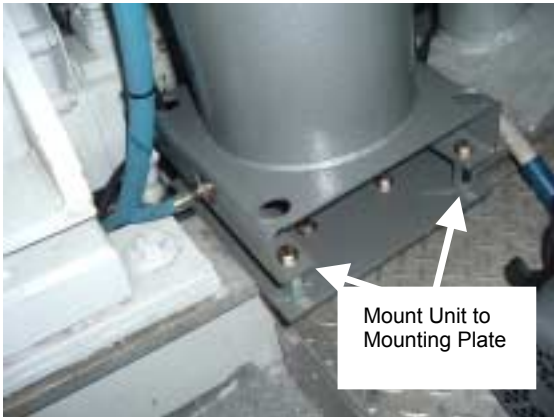


Picture 2

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Picture 3



Picture 4

Installing the pressure fittings: Remove oil galley port and install the 1/8 NPT street tee (**Pictures 5 & 6**). Install the 90° shut-off valve (**Picture 6**). Route high-pressure hose to the 90° valve on the engine. Connect hose to 90° shut-off valve and **puraDYN** Filter Unit (**See Pictures 7 & 8**).



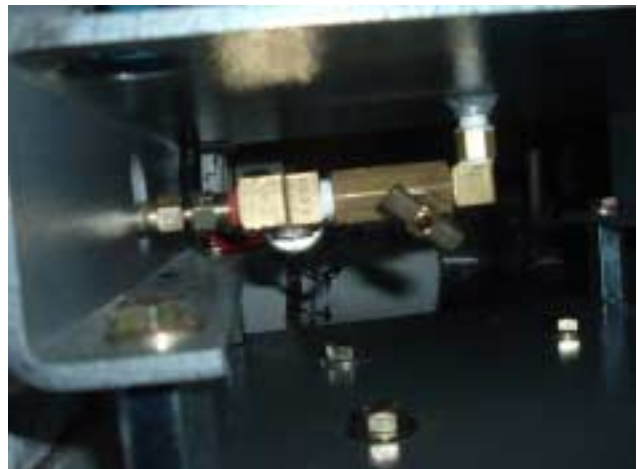
Picture 5



Picture 6



Picture 7



Picture 8

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Installing the Banjo Fitting: Remove the oil drain plug on the bottom of the oil pan. Install the fitting to the drain pan (**Picture 9**). The TF240 Bypass Oil Filtration unit oil return hose routing should not come in contact with any moving parts or sharp edges. After draining the engine oil and cleaning all surfaces, install the return fitting into the oil pan drain port. **Note:** Properly orient the fitting in order to avoid damage from road debris. Connect the oil return hose and secure in place with radiator clamps (**Picture 10**). **Note:** If necessary, cover the oil return hose with a secondary hose (or equivalent) to better protect it from getting damaged (See Installation Manual).



Picture 9



Picture 10

Installing the puraDYN Heater: Route one electrical wire to the **puraDYN** bracket for your ground (see pg 18 Installation Manual). Run the other **puraDYN** wire to ignition power using supplied electrical hardware and in-line fuse. Also, ensure that both hose and wire routing does not come in contact with moving parts, sharp edges or hot exhaust manifolds (See Installation Manual).

Tie off all lines with tie wraps. Fill engine with oil. Start engine and check all connections for oil leaks. Open metering jet sample valve and verify that oil flow is present. After five minutes of engine operation, touch the bottom center of the PFT Bypass Oil Filtration unit and verify that it is warm to the touch. Shut engine off and check oil level. Place **puraDYN** Installation Manual (PFT8 through PFT60) in the documentation holder mounted to the equipment

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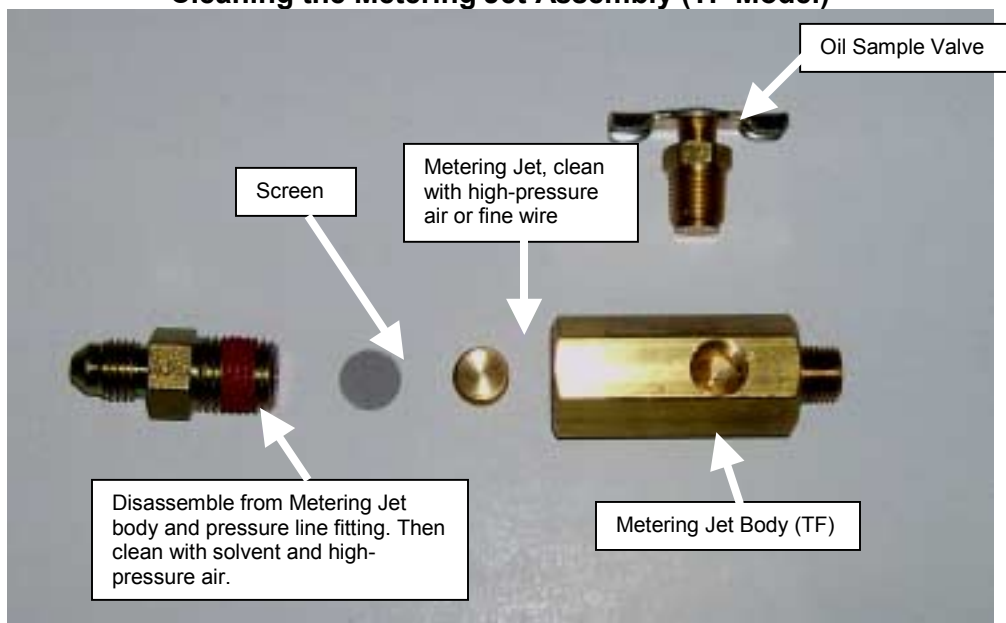
TROUBLESHOOTING SECTION

The **paraDYN** system has been engineered in a quality system certified to ISO 9001:2000. It is manufactured from the highest quality materials available with superior workmanship. If, however, your **paraDYN** unit is not functioning properly, check the following conditions as indicated:

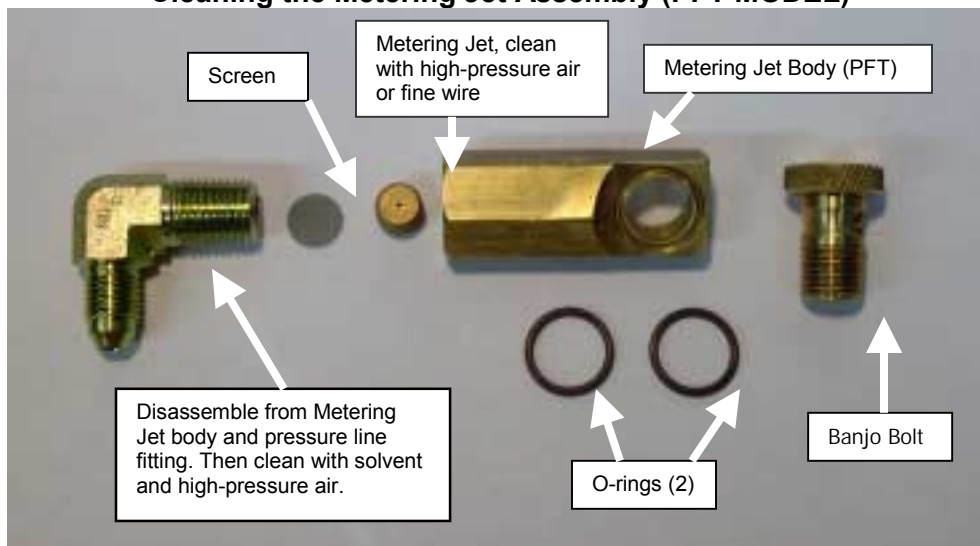
1) Restricted oil Flow:

- Pressure line may be clogged.....blow line out with high air pressure (**do this first**)
- Shutoff valve maybe closed..... open valve
- Filter may be dirty and clogged.....replace with new filter
- Metering jet screen maybe clogged.....clean screen thoroughly
- If metering jet is clogged.....clean metering jet thoroughly

Cleaning the Metering Jet Assembly (TF Model)



Cleaning the Metering Jet Assembly (PFT MODEL)



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2) Oil coming out of vapor tube:

- If there is a sharp bend, dip or trap in return hose, re-route hose to eliminate. (Oil returns by gravity.)
- Make sure the oil return line is always dropping into a non-pressurized location on the engine.
- For best results, the oil return line should be located below the oil level in pan.
- If oil comes out of vapor tube, the problem could be internal backpressure from a malfunctioning engine and must be corrected by the engine dealer.

3) If the top of the puraDYN unit is not warm after 5 (five) minutes of operation:

- Check in line fuse...if good, check power source and ground. With the ignition on and engine off, use voltmeter to check for proper voltage across the two wires.
 - a) 12-volt system: should read between 12-13 Volts
 - b) 24-volt system: should read between 24-26 Volts
- If voltage is correct, the heater element is burned out and needs to be replaced.

Heating Element Electrical Connections

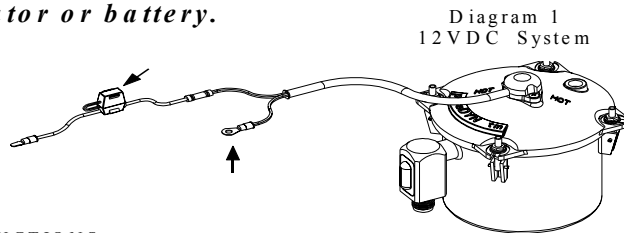
Make sure the voltage to the heating element matches the voltage for which the element is rated. The heating elements are dual voltage compatible, designed to operate on 14VDC or 28VDC and 110VAC or 220VAC.

As an example, for the 12-volt system (see Diagram 1), take two black wire leads from the heater using one of the terminal rings and attach it to a ground, usually located on the frame. Take two green wire leads from the heating element and connect to a positive. You may need to run the wire along the frame rail. Wire the unit through the firewall following the wire harness and route our wire going to the fuse box. When you reach the fuse box, you will need to find an accessory fuse that can handle a minimum of 15 amps. **Be sure to select a power source that is "OFF" when the engine is "OFF". Also install our in-line fuse holder, prior to installing the final connection, which acts as a fuse-link to protect the heating element.**

WARNING !!! Never connect the heating element directly to the ignition system , brake system , engine control module, alternator or battery.

1. Choose a power source that is ignition-controlled; i.e., off when the engine is off, on when the engine is running.

3. Connect second lead of the heating element to a fuse in the fuse box on the accessory side (note amperage draw).



WIRING INSTRUCTIONS

12V— Tie the two green leads together and connect to POSITIVE. Tie the two black leads together and connect to NEGATIVE or GROUND.

24V Tie two green leads together and insulate with wire nut or equivalent. Connect first black lead to POSITIVE. Connect second black lead to NEGATIVE or GROUND. **Caution: Green leads will have power.**

110V— Tie two white leads together and connect to HOT. Tie two black leads together and connect to NEUTRAL. Ground unit to earth ground.

220V— Tie two white leads together and insulate with wire nut or equivalent. Connect first black lead to HOT. Connect second black lead to NEUTRAL. **Caution: White leads will be hot! Ground unit to earth ground.**

SPECIFICATIONS	
12VDC	12.5 amps
24VDC	6.25 amps
110VAC	1.36 amps
220VAC	.068 amps