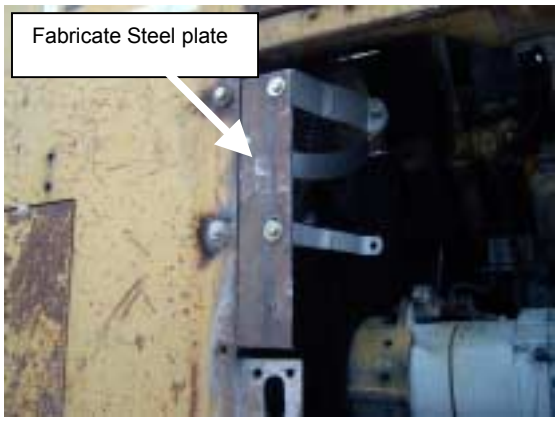
Installation Notes for 988B Loader
With a Cat 3408 Engine

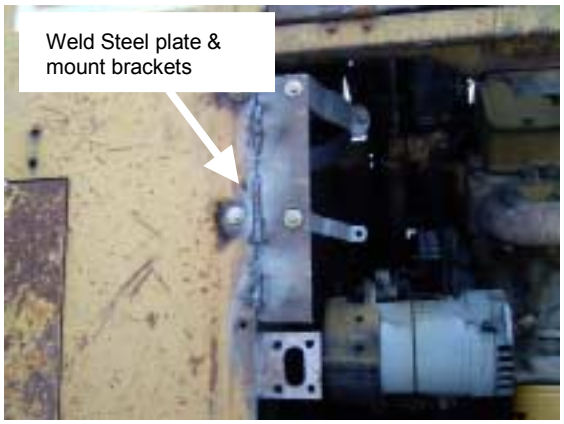
KIT 01-50015 DOC 19-00094

The following document is used in conjunction with the **pura**DYN Bypass Oil Filtration System Installation Manual (PFT 40) 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 PFT 40 Bypass Oil Filtration unit on a **988B Loader with CAT 3408 Engine**

Mounting the Unit: The PFT 40 Bypass Oil Filtration System should be mounted to the door latch steel bracket housing (**Picture 1**). Fabricate steel plate and drill clearance holes (4) in the steel. Mount the W-clamps to the steel bracket (**Picture 2**). Attach unit to W-clamps with the supplied hardware (**Pictures 3 & 4**).



Picture 1



Picture 2

Picture 3

Picture 4

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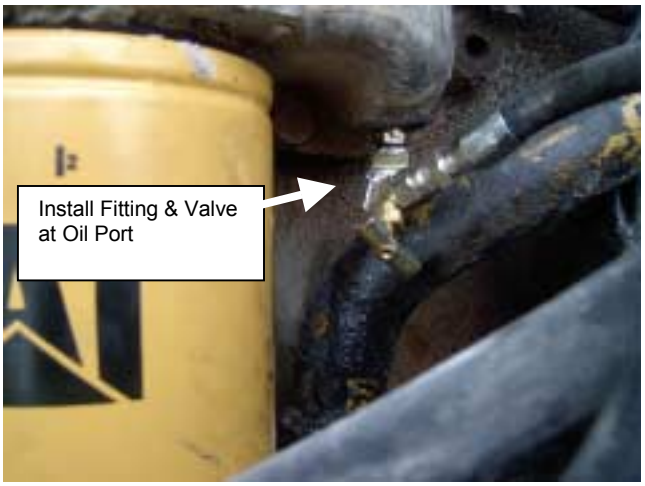
Installing the pressure fittings: Remove the oil port bolt and install the O-ring bushing, ¼" pipe reducer and the 90° shut-off valve (supplied) (**Picture 6**). Route 3/16" high-pressure hose to the 90° shut off valve on the engine and to the metering jet on the PFT 40 **pura**DYN Unit.

Picture 5



Picture 6

Installing the Banjo Fitting: Remove the oil drain valve on the side of the oil pan (**Picture 7**). Install the 1" pipe fitting and 45° JIC fitting to the drain pan (**Picture 8**). The PFT 40 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. Note: If necessary, cover the oil return hose with a secondary hose (or equivalent) to better protect it from getting damaged.

Picture 7

Picture 8

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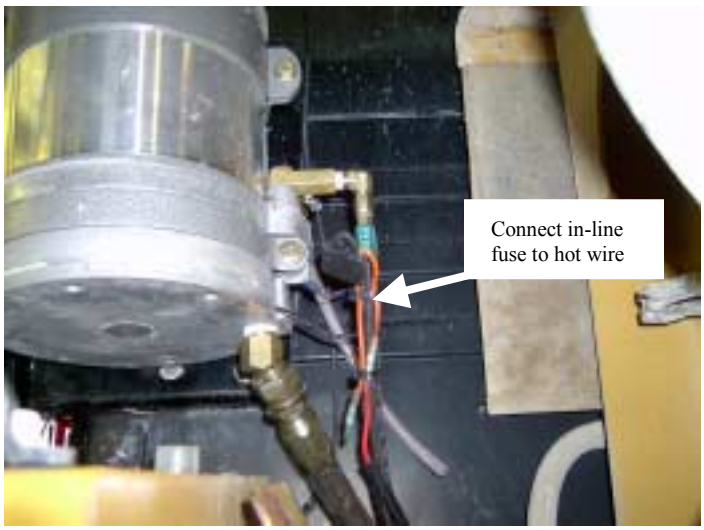
Installing the puraDYN Heater: Route one electrical wire to the **pura**DYN base bracket for your ground. Run the other **pura**DYN wire to ignition power using supplied electrical hardware and in-line fuse. Also, ensure that both hose and wire routing does not come in contact with moving parts, sharp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

Picture 9



Picture 10

Picture 11

Picture 12

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 System and verify that it is warm to the touch. Shut engine off and check oil level. Place **pura**DYN Installation Manual (PFT8 through PFT60) in the documentation holder mounted to the equipment

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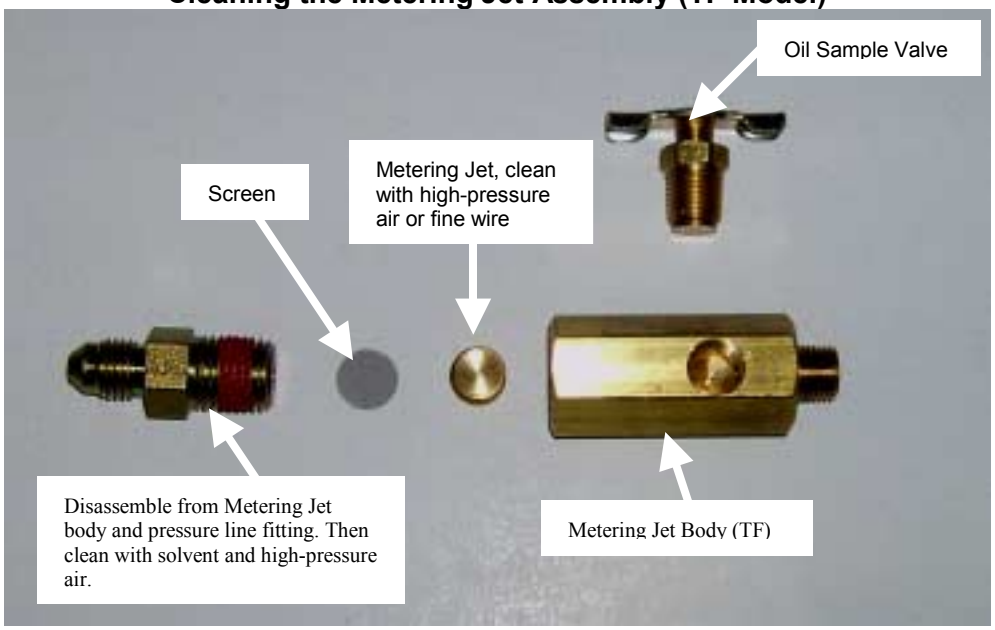
TROUBLESHOOTING SECTION

The **pura**DYN 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 **pura**DYN 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)"

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.

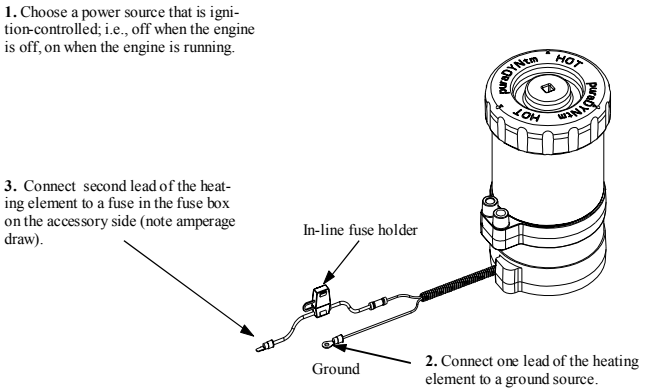
3) **If the top of the puraDYN unit is not warm after 5 (five) minutes of operation:**
   - Check in line fuse…if good, check power source and ground. With the ignition on and engine off, use voltmeter to check for proper voltage across the two wires.
     a) 12-volt system: should read between 12-13 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 single voltage compatible, designed to operate on 14VDC or 28VDC / 110VAC or 220-VAC.

As an example for the 12-volt system, take one of the lead wires from the heater using one of the terminal rings and attach it to a "good" ground, normally located on the frame. Run the second lead to the accessory side of the fuse panel. 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 terminal that is "OFF" when the ignition 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 or battery.



Oil Analysis Procedures

The **pura**DYN Filter Technologies Oil Management Program includes an oil-analysis schedule that assists our customers in achieving the benefits of extended oil drain intervals and longer service life for their engines and equipment.

Oil analysis is the key to achieving the benefits that result from optimized oil life (with reasonable safety precautions) and extended drain intervals. In addition, oil analysis is the only economical way to measure wear or contamination in the engine or equipment. Of primary importance is the interpretation of the test data, which is easy to read and self-explanatory.

The **pura**DYN oil analysis is conducted by an independent laboratory and is reported in an easy to understand format which includes the following data:

* **Spectrographic metals**
* **TBN & TAN**
* **Wear metals**
* **Contaminant metals**

This data must be monitored to fully evaluate the lubrication system. The analysis will provide a "picture" and warning, if necessary, of any existing or potential problems.