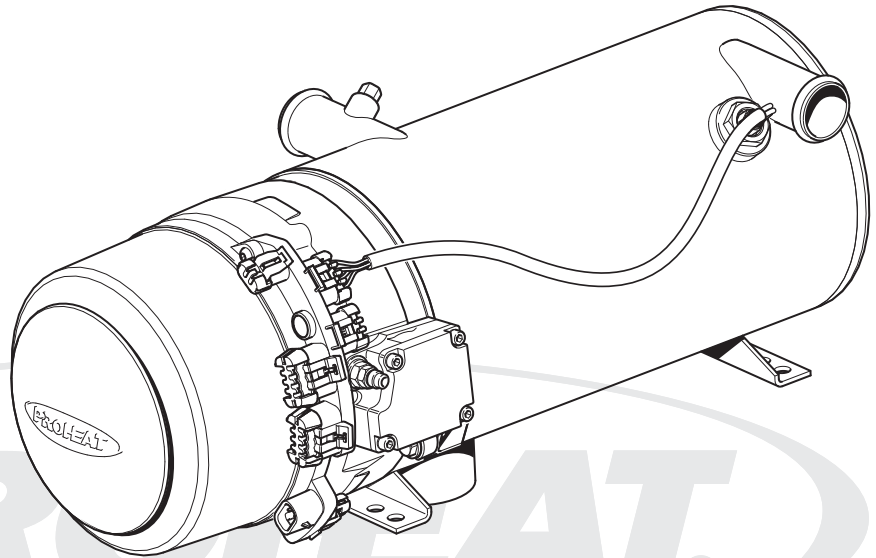


MSERIES

FALL TUNE-UP

Proheat M-Series Fall Check/Service Procedure



Your **PROHEAT** has been designed to operate with a minimum of maintenance. To ensure the efficient operation of your heater a **FALL TUNE-UP** is recommended to be performed each year.

NOTICE

A higher duty cycle may require a more frequent maintenance schedule. i.e. 2 or 3 times per year.

NOTICE

Additional information on each topic can be found in Service Manual part # SL9157.

Proper maintenance will result in the following benefits:

- Maximum heat transfer to the coolant
- Minimum battery power draw
- Long term cost savings
- Increased reliability

1 Clean Heater Enclosure

- Clean any accumulated debris or dust from the components.
- Make sure the opening around the exhaust pipe is clear.
- Visually inspect all the components for wear or damage.
- Ensure that the burner head air intake is clear.
- If used – inspect the Air intake Snorkel tube & diffuser for damage, kinks, debris or other restrictions. Ensure the air intake snorkel is secure and all clamps are tight.
- **DO NOT pressure wash.**

2 Check Exhaust System

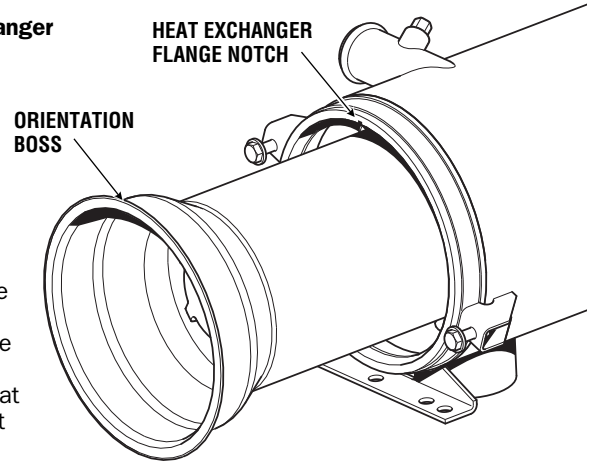
- Check the exhaust system carefully.
- Make sure the exhaust pipe is vented safely away from the vehicle.
- Check the pipe for holes, dents, restrictions or severely corroded areas.
- Ensure all heat shields and or thermal blankets are in serviceable condition.
- Ensure the exhaust pipe clamp is tight and the exhaust pipe is secure.
- Replace the exhaust pipe and clamps if necessary.

3 Check Heat Exchanger

- Remove the burner head assembly and combustion tube to access the inside of the heat exchanger.
- Inspect and clean the inside and outside of the combustion tube.
- To maintain optimum heat output, clean any combustion deposits that may have accumulated on the heat exchanger fins.
- Use a wire brush to loosen the deposits and a vacuum to suck them out.
- Ensure exhaust pipe is clean and free from restriction.

• Alternate heat exchanger cleaning method:

The inside of the heat exchanger & exhaust pipe may be cleaned using a pressure washer or steam cleaner. Ensure all exposed electrical connectors are protected from the water and do not get wet. DO NOT pressure wash or steam clean the outside of the heat exchanger or any part of the burnerhead.



4 Check Cooling System

- Check all heater hoses and connections for signs of leakage, cracks, hardening or any other damage.
- Repair or replace as required.

5 Check Power Source

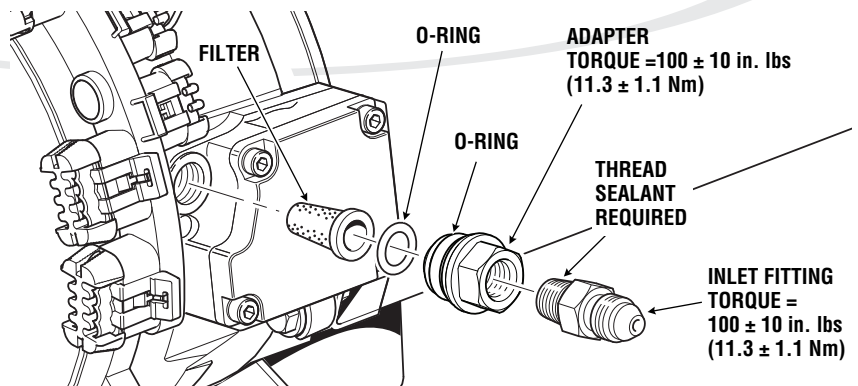
- Check the condition of the power source and connections. The heater will not function properly with a faulty power source or corroded connections.
- Check that all of the seals on the power connector are present and in good condition. Replace if necessary.

6 Check Fuel System

- Check the fuel system for damage, cracks or hardening from aging or leakage.
- Make sure the clamps on the fuel lines are secure.

7 Check Fuel Filter

- Remove and inspect filter. Clean or replace as necessary.
- Clean O-ring and seat.

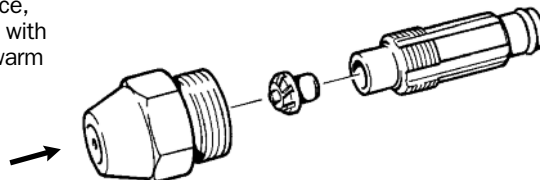


8 Clean Nozzle

- Inspect Fuel Nozzle stem and O-ring for contamination and/or damage. Replace if damaged.
- Disassemble Nozzle, inspect and clean distributor (a soft bristled brush may be used), fuel orifice, air passages, head and stem with electrical contact cleaner or warm soapy water.

• DO NOT use a welding torch tip cleaner.

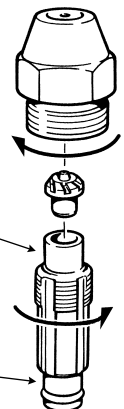
BLOW THIS DIRECTION WHEN USING COMPRESSED AIR.



HOLD UPRIGHT TO ASSEMBLE

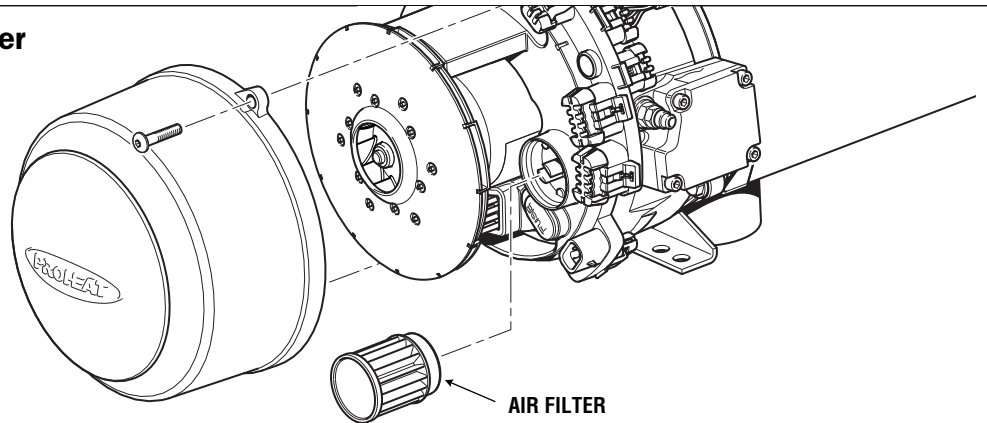
TORQUE TO 30 IN. LBS. (3.5 Nm)

LUBRICATE O-RING WITH DIESEL FUEL



9 Compressor Air Filter

- Replace inlet air filter annually or more often if dusty conditions are encountered.
- Ensure the air filter is seated correctly into the PCM.



10 Compressor

(Diaphragm Compressor Shown.
For Rotary Vane Compressor please see the M-Series Service manual.)

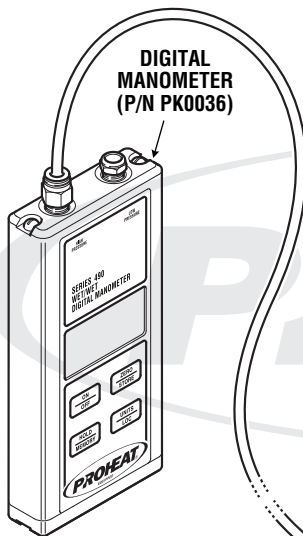
- **Important: Complete steps 8 and 9 prior to step 10 compressor check.**
- Ensure Blower Housing Cover is installed before testing.
- Disconnect all external harnesses at the PCM.
- Disconnect fuel supply line.
- Remove Burner Head Assembly.
- Remove Ignition Module Electrodes and Flame Shield.

- Ensure the Temperature Sensor is disconnected from the PCM.
- **Note: Disconnecting the Temperature Sensor will cause the heater to go directly into purge when started and prevent combustion.**
- Install air pressure test gauge (PK0036).
- Install ignition electrodes.
- Reconnect Power & Switch Harness only.
- Start heater and read the air pressure on the gauge.

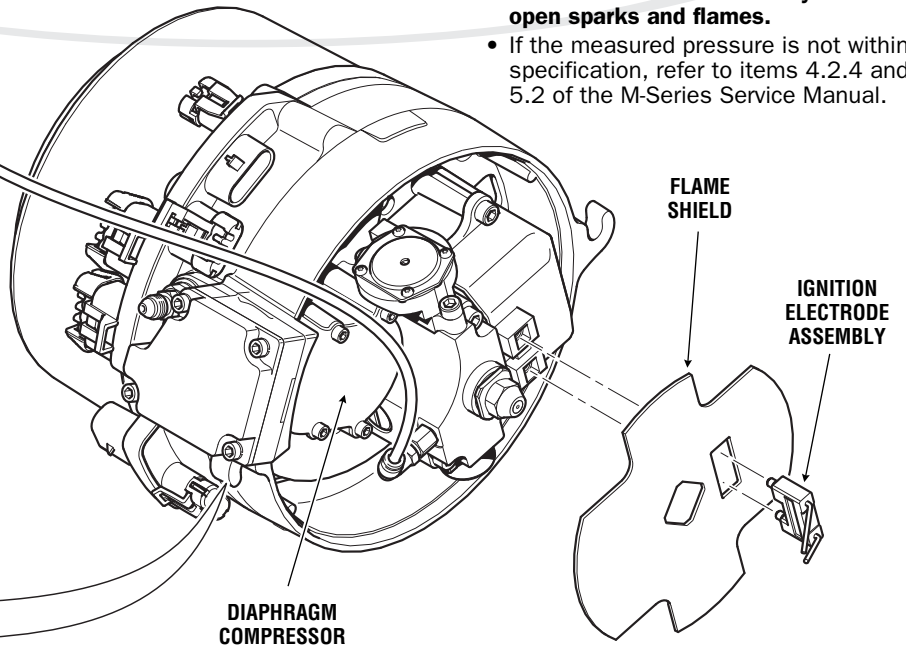
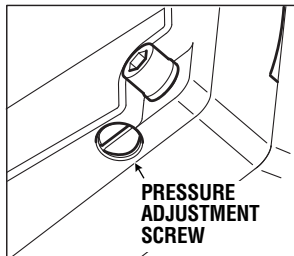
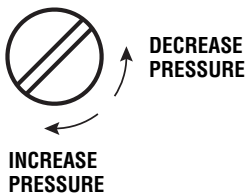
⚠ WARNING

Flammable. Point Nozzle away from face, open sparks and flames.

- If the measured pressure is not within specification, refer to items 4.2.4 and 5.2 of the M-Series Service Manual.



PRESSURE ADJUSTMENT SCREW



MODEL	AIR PRESSURE (DIAPHRAGM COMPRESSOR)
M50	6.0 ± 0.1 PSI (41.4 ± 0.7 kPa)
M80/90	2.9 ± 0.1 PSI (20.0 ± 0.7 kPa)
M105/125	3.65 ± 0.1 PSI (25.1 ± 0.7 kPa)

11 Electrical System

- Check the internal and the external wire harnesses for missing or damaged seals, damage and corrosion. Replace if required. Check PCM for missing electrical connector plugs. Replace as necessary.

NOTICE

Inspect the Proheat Control Module (PCM) to ensure that all connectors have plugs or have an electrical connection.

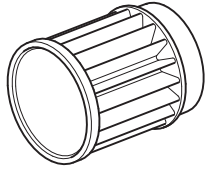
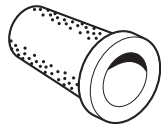
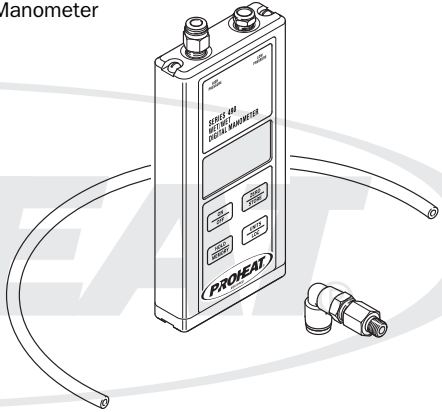

12 Timer/Toggle Switch Supplemental/Preheat

- Check heater operation under specified heater on signals.

13 Operation Test

- Run the system for at least 15 minutes or until the heater cycles "OFF" and then "ON" again.
- Inspect the following during the test:
 - Combustion process:**
 - For smoke and raw fuel odor from the exhaust pipe.
 - Fuel system leaks
 - Coolant system:**
 - For leaks

Replacement Parts/Test Equipment

PART #	QTY	DESCRIPTION
200610K	1	Air Filter Element 
880035K	1	Fuel Filter 
PK0036	1	Digital Manometer 
PK0091	1	Remote On/Off Switch 
PK0071	1	Test Gauge Adapter (Rotary Vane Compressor Only) 