

M-SERIES TUNE-UP KIT

Part# 201085K, 201055K & 201155K

Disassembly Instructions

NOTICE

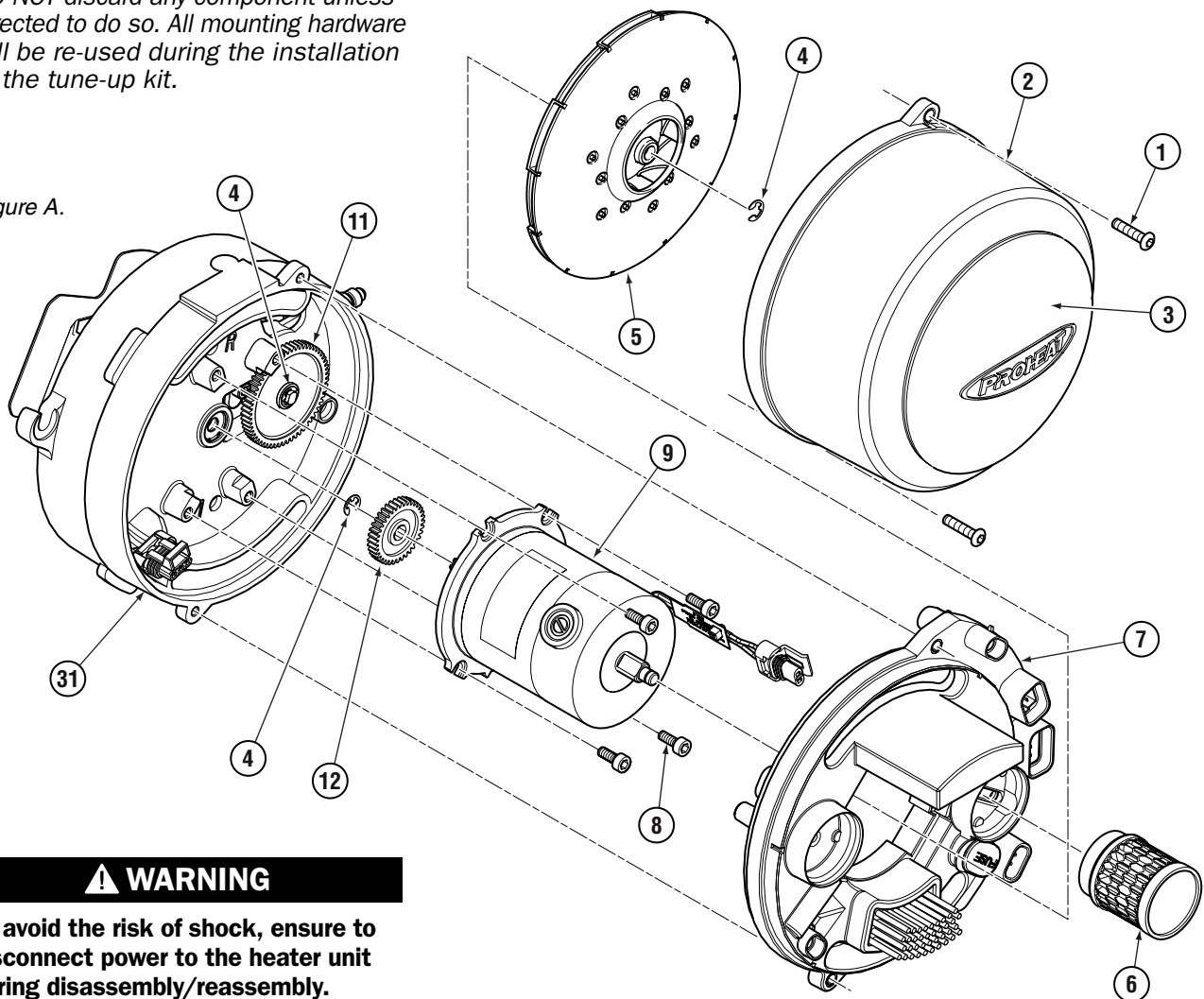
G-I PCM **ONLY** PK0056 Data Link Kit Cable and 200599K PCM Configuration Update Utility are required to complete tune-up step 17. Both are NOT supplied in tune up kit. Go to www.proheat.com for more information.

NOTICE

DO NOT discard any component unless directed to do so. All mounting hardware will be re-used during the installation of the tune-up kit.

1. Disconnect the power from the heater unit then disassemble the burner head from the heat exchanger (heat exchanger not shown).
2. Remove blower housing (item 2) by removing the two M6 screws (item 1). Item 3 may vary in appearance depending on the type of heater model.
3. Remove the combustion air blower (item 5) by removing the retaining ring (item 4).
4. Remove and discard the air filter (item 6) from the PCM (item 7). Note initial location of the air filter on the PCM for reassembly.
5. Unplug the motor (item 9), solenoid (item 10), and ignition module (item 27) from the PCM (item 7) then slide off the PCM.

Figure A.



⚠ WARNING

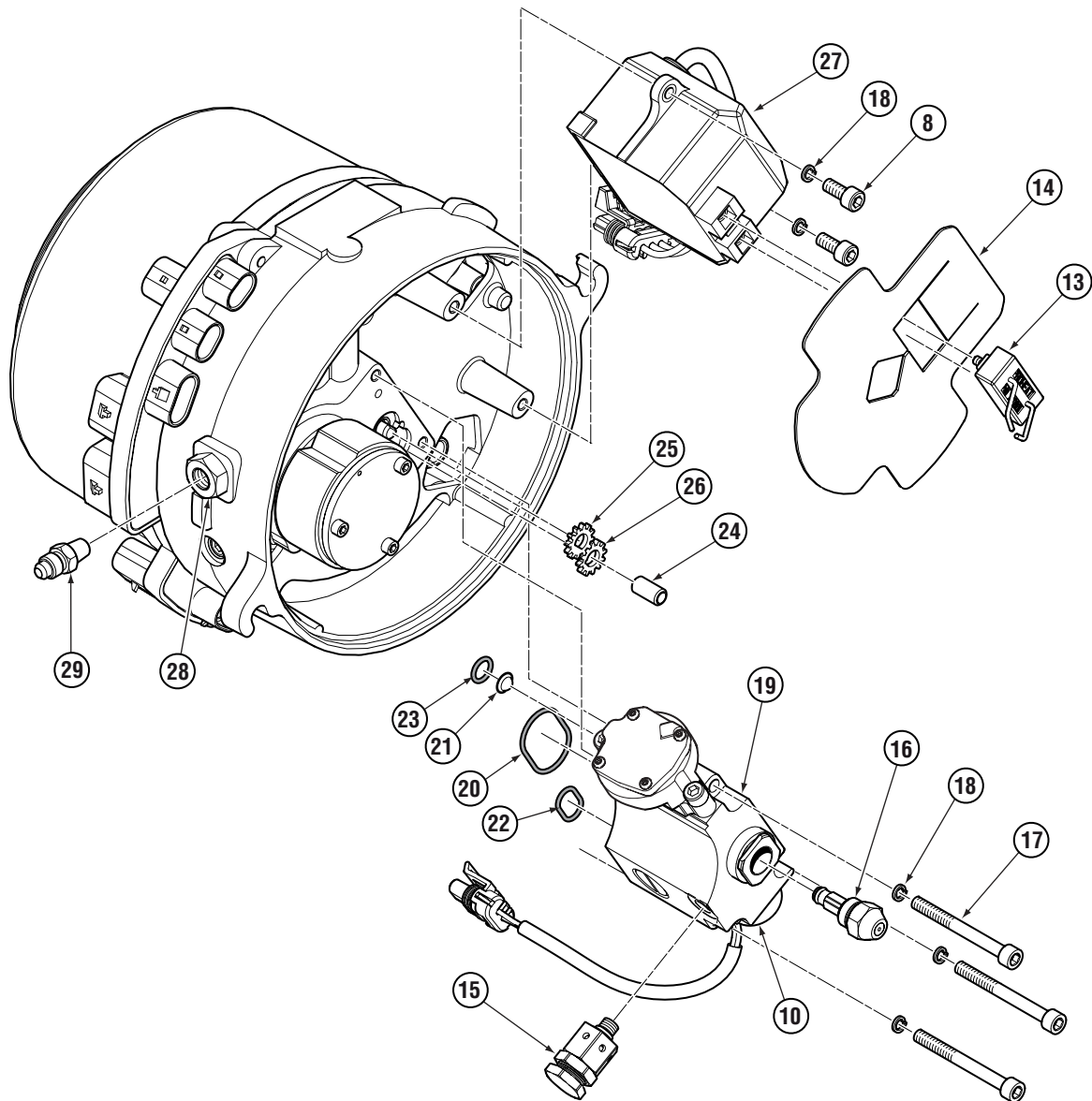
To avoid the risk of shock, ensure to disconnect power to the heater unit during disassembly/reassembly.

NOTICE

Ignition module (item 27) and Fuel Delivery Unit (item 19) may not contain lock washers. If so, apply Loctite® 242 (item 46) on screw threads during re-installation.

6. Remove the motor (item 9) by removing the four M6 screws (item 8). Note initial orientation of motor for reassembly (refer to Figure E1 on page 6).
7. Remove and discard the Motor Gear (item 12) by removing the retaining ring (item 4). **Ensure Motor Shaft and retaining ring groove are thoroughly cleaned and free from all green Loctite® adhesive before reassembly.**
8. Turn burner head flange over and remove the ignition electrode (item 13), then the flame shield (item 14). Discard the electrode.
9. Remove the ignition module (item 27) by removing the two M6 screws (item 8) and the two lock washers (item 18).
10. Remove and discard the air relief valve (item 15) and the nozzle (item 16) from the fuel delivery unit (item 19).
11. Remove the fuel delivery unit (item 19) by removing the three M6 screws (item 17) and three lock washers (item 18).

Figure B.





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- 12.** From the fuel delivery unit, remove and discard the three O-rings (item 20, 22, 23) and the inlet screen (item 21).
- 13.** Pull out the idler shaft (item 24) and remove the two gears (item 25, 26).
- 14.** Remove the fuel inlet fitting (item 29), fuel inlet fitting(s) may vary depending on type of heater model.
- 15.** The burner head flange (item 31) with the rotary compressor (item 30) and the compressor gear (item 11) are to be discarded.
- 16.** Discard all of the remaining components as per the as per the disassembly parts checklist.

Disassembly Parts Checklist

ITEM	RE-USE	DISCARD	DESCRIPTION	QTY	UOM
1	x		Screw, M6 x 1 x 30 mm, SHCS ZP	1	ea
2	x		Housing, Blower	1	ea
3	x		Splash Guard	1	ea
4	x		Retaining Ring	2	ea
5	x		Combustion Air Blower	1	ea
6		x	Filter, Air	1	ea
7	x		PCM	1	ea
8	x		Screw, M6 x 1 x 16 , SHCS ZP	6	ea
9	x		Motor	1	ea
10	x		Solenoid, Fuel	1	ea
11		x	Gear, Compressor	1	ea
12		x	Gear, Motor	1	ea
13		x	Ignition Electrodes	1	ea
14	x		Flame Shield	1	ea
15		x	Valve, Air Relief	1	ea
16		x	Nozzle	1	ea
17	x		Screw, M6 x 1 x 60 , SHCS ZP	3	ea
18	x		Lock Washer #10 SS	5*	ea
19	x		Fuel Delivery Unit	1	ea
20		x	O-Ring, 2-025	1	ea
21		x	Screen, Inlet	1	ea
22		x	O-Ring, 2-015	1	ea
23		x	O-Ring, 2-012	1	ea
24	x		Idler Shaft	1	ea
25	x		Gear, D-Shape Hole	1	ea
26	x		Gear, Fuel Pump	1	ea
27	x		Ignition Module	1	ea
28		x	Fuel Cap	1	ea
29	x		Fitting, 4JIC-M x 1/8NPT-M STL	1	ea
30		x	Rotary Compressor	1	ea
31		x	Burner Head Flange Assembly	1	ea

* Quantity may differ. See notice on page 2.

Reassembly Instructions

NOTICE

Compressor output comes pre-set. Adjustment after installation is not required.

1. Apply Loctite® 592 (item 47) to the fuel inlet fitting (item 29), then re-install into the fuel inlet port (see Figure C1 for elbow style fuel fittings). Ensure fuel inlet port is clean and free of debris prior to installation.
2. Install the two fuel pump gears (item 25, 26) and idler shaft (item 22) into the compressor flange (item 48) ensuring the area is clean and free of debris. Lubricate both fuel pump gears with diesel fuel prior to installation. Gears should spin freely after installation.
3. Install the provided plug (item 40) into the fuel delivery unit (item 19). Ensure to lubricate the plug O-ring with diesel fuel prior to tightening.

Figure C.

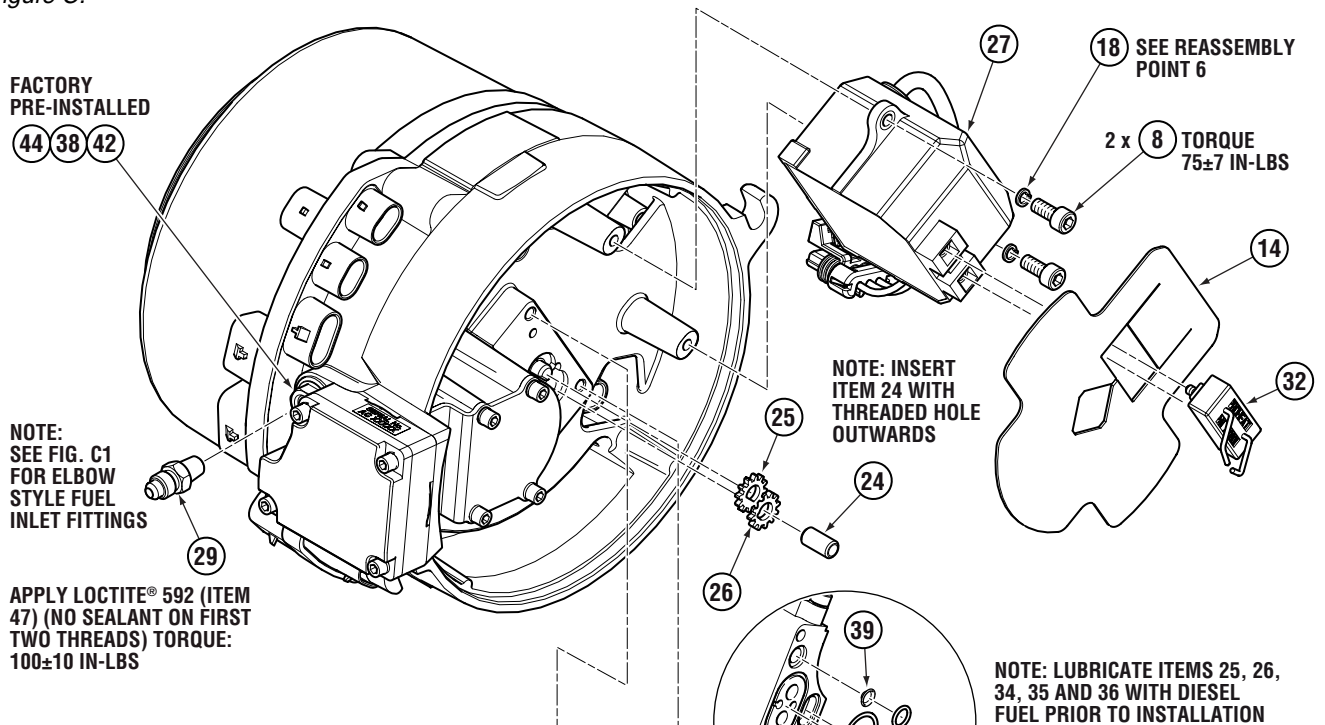
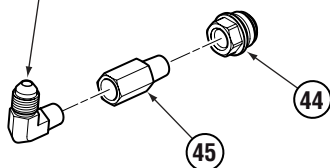
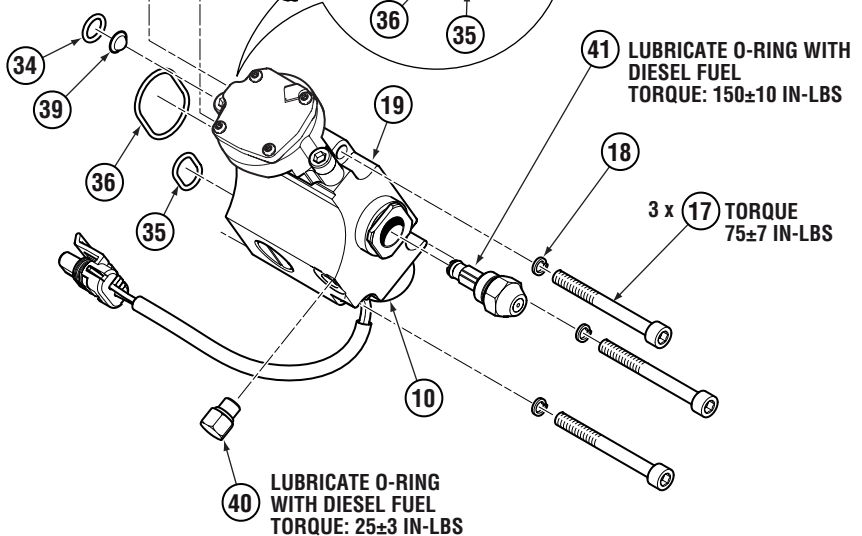


Figure C1.
Elbow Style Fitting Installation

ELBOW FITTING (NOT INC.) APPLY LOCTITE® 592 (ITEM 47) (NO SEALANT ON FIRST TWO THREADS). TORQUE: 100±10 IN-LBS TIGHTEN TO ORIENT



ADAPTOR FITTING (ONLY REQUIRED IF ITEM 29 IS AN ELBOW STYLE FITTING) APPLY ITEM 47 TO MALE THREADS. (NO SEALANT ON FIRST TWO THREADS) TORQUE: 100±10 IN-LBS

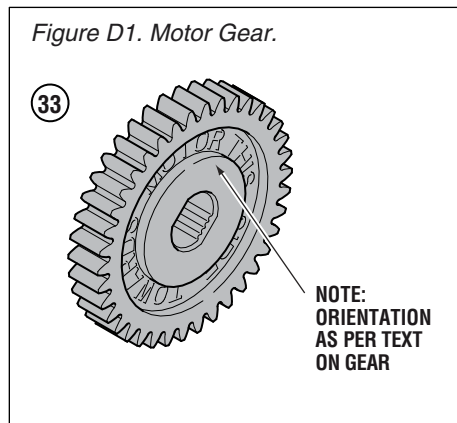


4. Install O-rings (item 34, 35, 36) and inlet screen (item 39) onto the fuel delivery unit (item 19). Ensure to lubricate all O-rings with diesel fuel prior to installation. Re-install the fuel delivery unit (item 17) using the original screws (item 15) and lock washers (item 16). If no lock washers, apply Loctite® 242 (item 46) to screw threads prior to tightening.
5. Re-install the ignition module (item 27) using the two original screws (item 8) and lock washers (item 18). If no lock washers, apply Loctite® 242 (item 46) to screw threads prior to installation.
6. Install the new nozzle (item 41) into the fuel delivery unit (item 19), then re-install the heat shield (item 14) and the new ignition electrode (item 32).
7. Orient the Motor Gear (item 33) as noted in Figure D1 with appropriate side facing Motor flange as per gear text. Install by hand and secure to the Motor Shaft with a new retaining ring (item 43). If gear cannot be installed by hand, a 13 mm deep socket and soft hammer can be used to lightly tap gear onto shaft. Support Motor shaft from fan side as shown in Figure D.

NOTICE

Ensure Motor Shaft and retaining ring groove are thoroughly cleaned and free from all green Loctite® adhesive before reassembly.

Figure D1. Motor Gear.



NOTICE

DO NOT apply lubricants or Loctite® to motor shaft or gear during installation.

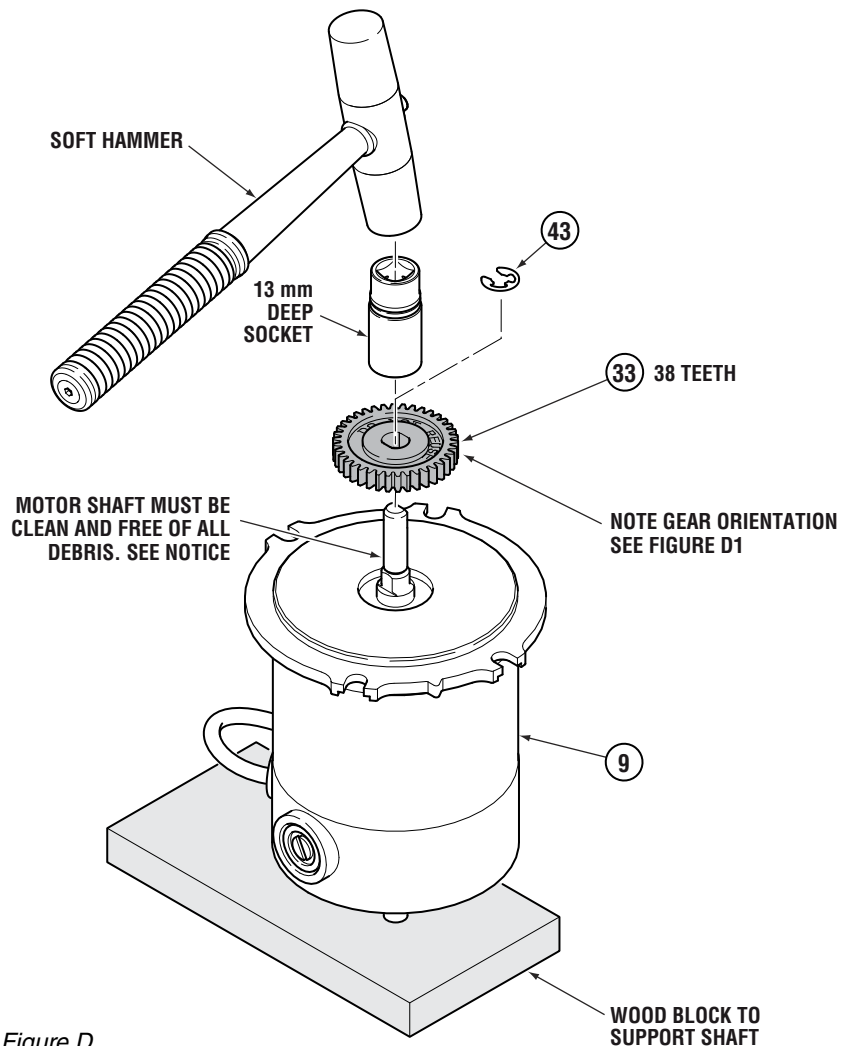
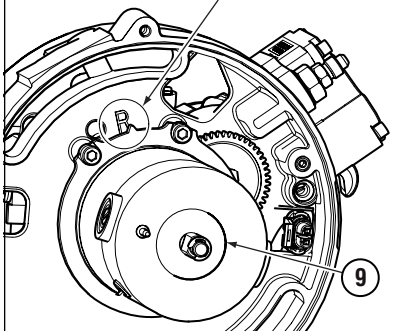


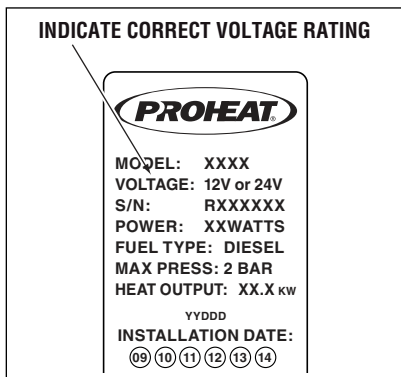
Figure D.

Figure E1. Motor Orientation.

RIGHT HAND 'R' ORIENTATION SHOWN



INDICATE CORRECT VOLTAGE RATING



8. Re-install the motor (item 9) using the four original M6 screws (item 8). Motor must be mounted according to its original position (see Figure E1). Ensure to apply Loctite® 242 (item 46) to the screw threads prior to installation.
9. Re-install the PCM (item 7) and the new air filter (item 37), then re-connect the motor (item 9), solenoid (item 10), and ignition module (item 27) to their respective terminals. Ensure the air filter is re-installed in its original location and that the PCM is orientated correctly.
10. Re-install the combustion air blower (item 5) using a new retaining ring (item 43). Spin the combustion air blower by hand until it spins freely.
11. Re-install the blower housing (item 2) ensuring its correct orientation, then secure with the two original M6 screws (item 1).
12. Install the PCM plugs (item 49) according to the instructions provided in the kit. (*Plug kit not shown.*)
13. Using a permanent marker, scratch off the incorrect voltage rating from the S/N decal as shown in Figure E inset.

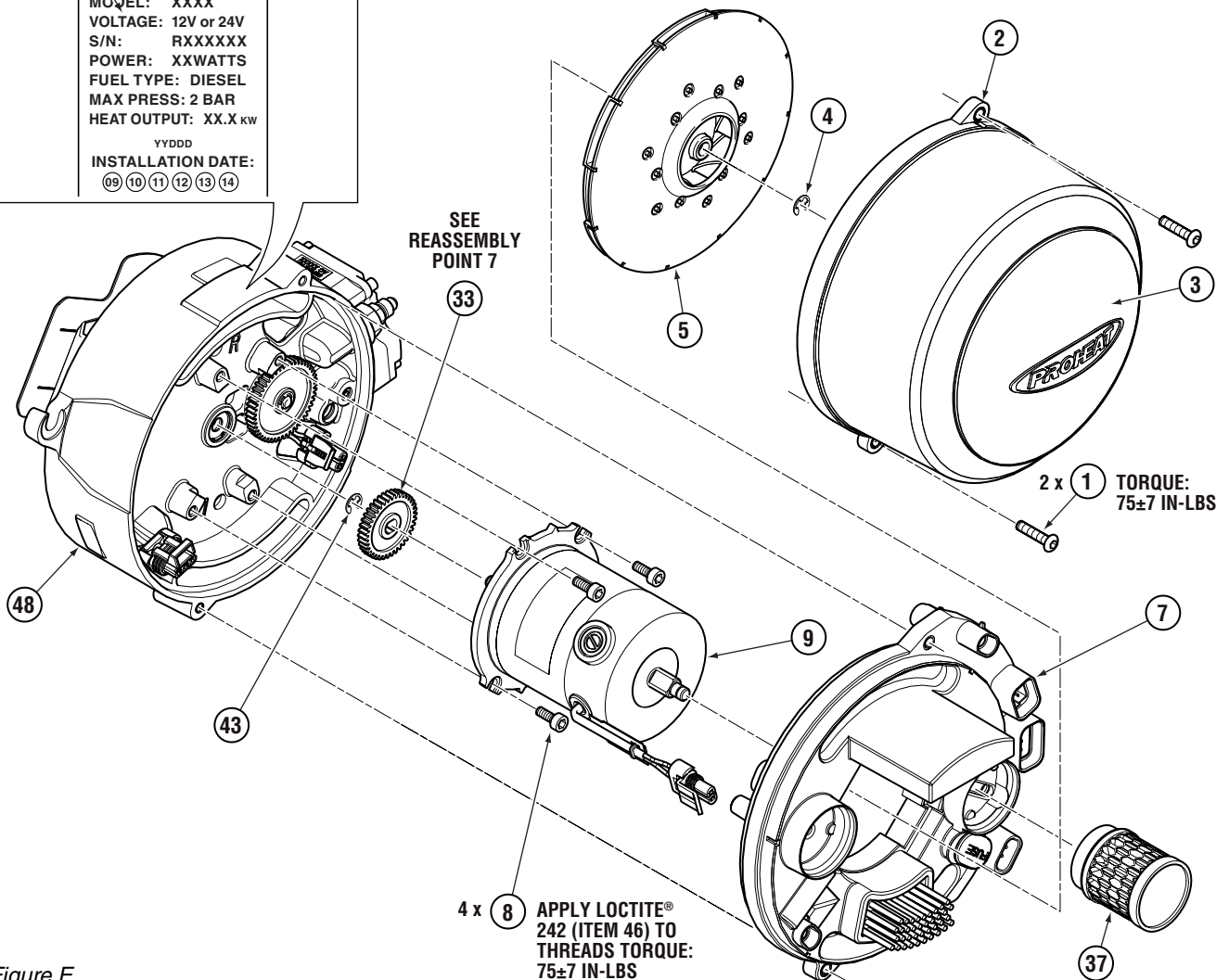


Figure E.



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NOTICE

Ensure to rotate combustion air blower by hand until it spins freely. This seats the fuel pump gear pack and avoids a Code 12 on startup. For more information, refer to the manual at www.proheat.com

14. Remove combustion tube to access the inside of the heat exchanger. Clean any combustion deposits that may have accumulated on the heat exchanger fins with a wire brush. Use a vacuum to suck the combustion deposits out. Ensure that the exhaust pipe is clean and free from restriction.
15. Clean the combustion tube with a wire brush. Reinstall combustion tube into the heat exchanger ensuring that the orientation boss is at the 12 o'clock position as shown in Figure H.
16. Re-install the burner head onto the heat exchanger using the original mounting hardware.
17. Connect all electrical connections into the PCM.

NOTICE

G-I PCM ONLY. Connect the PK0056 Data Link Kit Cable to the PCM as shown in Figure F. Configure the PCM as instructed in 200599K software. Disconnect Data Link Kit cable and ensure to replace plug.

18. Operate heater for a minimum of two cycle to ensure functionality. Inspect for fuel leaks around exterior of burner head and heat exchanger.

Figure F.

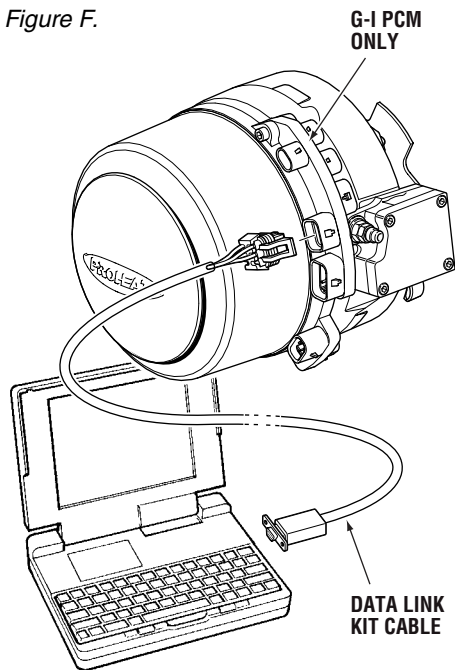


Figure G.

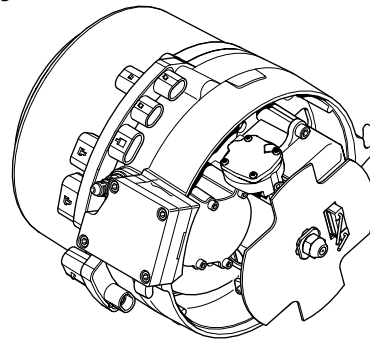
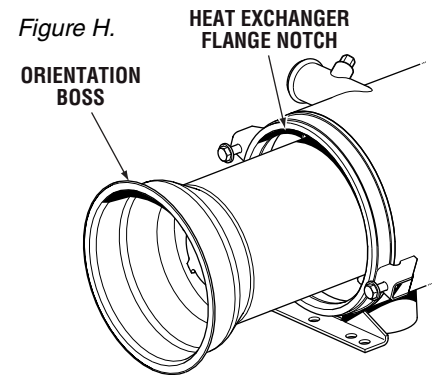


Figure H.



Reassembly Parts Checklist

ITEM	DESCRIPTION	QTY	UOM
32	Ignition Electrodes	1	ea
33	Gear, Motor	1	ea
34	O-Ring, 2-012	1	ea
35	O-Ring, 2-015	1	ea
36	O-Ring, 2-025	1	ea
37	Filter, Air	1	ea
38	O-Ring, 2-110	1	ea
39	Screen, Inlet	1	ea
40	Plug 5/16-24 Orb	1	ea
41	Nozzle	1	ea
42	Filter, Fuel	1	ea
43	Retaining Ring	2	ea
44	Fuel Cap	1	ea
45	Adapter 1/8 MNPT x 1/8 FNPT	1	ea
46	Loctite® 242 (.5 ml Tube)	1	ea
47	Loctite® 592 (6 ml Tube)	1	ea
49	Burner Head Flange & Compressor	1	ea
50	Kit, PCM Plugs	1	ea