

M SERIES

M50/M80/M90 GEAR SET

Diaphragm Compressor Models ONLY
SN beginning with 700000 & R70000
Part# 402100K

Disassembly Instructions

NOTICE

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

⚠ WARNING

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

- 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 blower fan (item 5) by removing the retaining ring (item 4).
 - 4 Unplug the motor (item 8), solenoid (item 12), and ignition module (item 13) from the PCM (item 6), then slide off the PCM.
- DO NOT remove the air filter from the PCM.

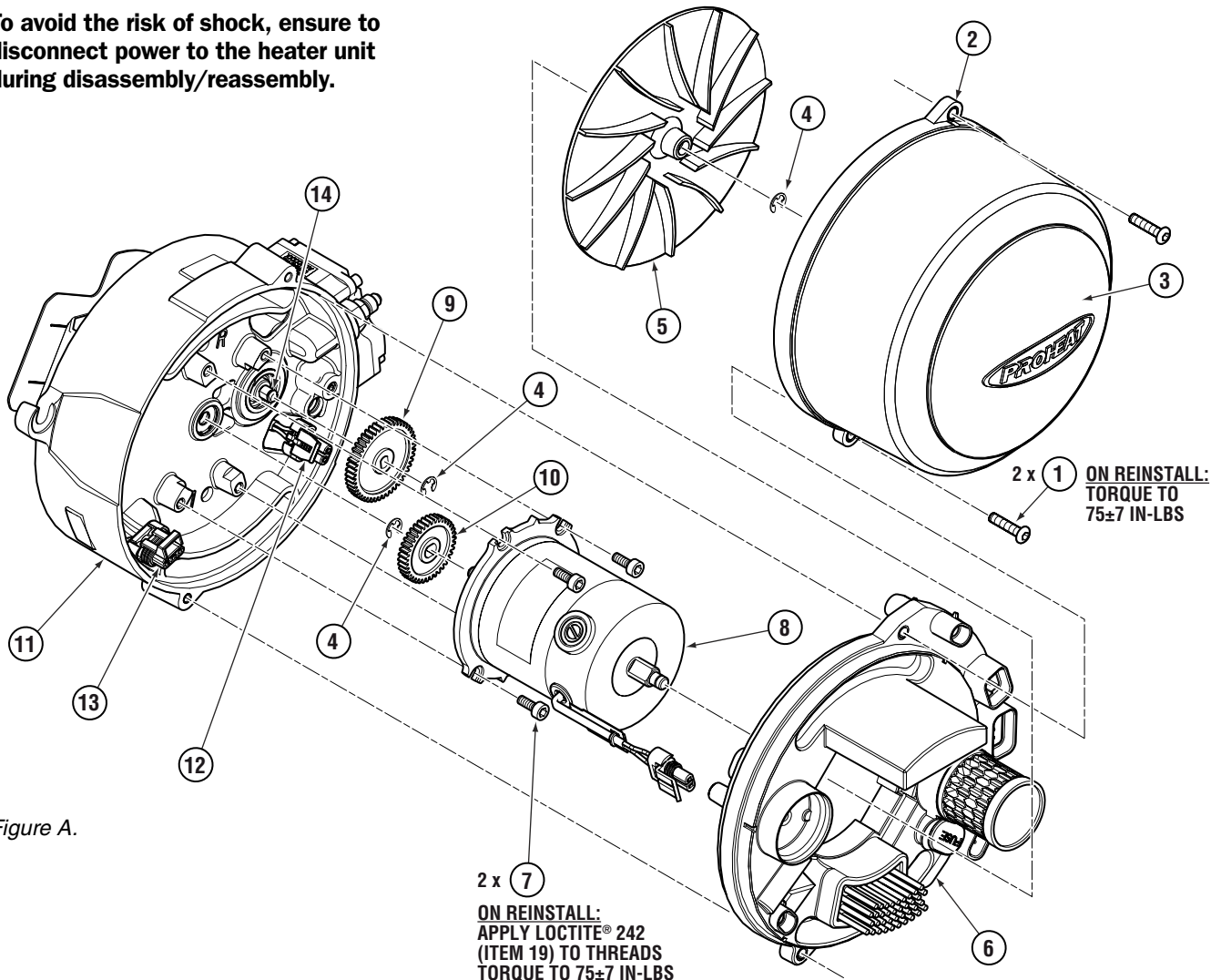


Figure A.



INSTALLATION INSTRUCTIONS

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- 5 Remove the motor (item 8) by removing the four M6 screws (item 7). Note initial orientation of motor for reassembly (refer to Figure C2 on page 3).
- 6 Remove and discard the motor gear (item 10) by removing the retaining ring (item 4). Ensure motor shaft and retaining ring groove are thoroughly cleaned and free from all Loctite before reassembly.
- 7 Remove and discard the compressor gear (item 9) by removing the retaining ring (item 4). Ensure compressor shaft and retaining ring groove are thoroughly cleaned and free from all Loctite before reassembly.

Disassembly Parts Checklist

ITEM	RE-USE	DISCARD	DESCRIPTION	QTY	UOM
1	x		Screw, M6 x 1 x 30mm, SHCS ZP	2	ea
2	x		Housing, Blower	1	ea
3	x		Splash Guard	1	ea
4	x		Retaining Ring	1	ea
5	x		Fan Blade	1	ea
6	x		PCM	1	ea
7	x		Screw, M6 x 1 x 16 , SHCS ZP	4	ea
8	x		Motor	1	ea
9		x	Gear, Compressor	1	ea
10		x	Gear, Motor	1	ea
11	x		Burner Head Flange & Compressor	1	ea
12	x		Solenoid	1	ea
13	x		Ignition Module	1	ea
14	x		Compressor Shaft	1	ea

Reassembly Instructions

- 1 Apply Loctite® primer 7649 (not included) onto the new motor gear (item 15) and compressor gear (item 16) drive hubs, and let sit for 3 minutes.
- 2 Apply Loctite® 620 (item 18) to the motor shaft as outlined in Figure B. Secure the motor gear (item 15) onto the motor shaft with a new retaining ring (item 17).
- 3 Apply Loctite® 620 (item 18) to the compressor shaft as outlined in Figure C. Orient the compressor gear (item 16) six nipples facing out as shown in Figure C1, then secure to compressor shaft with a new retaining ring (item 17).
- 4 Re-install the motor (item 8) using the four original M6 screws (item 7). Motor must be mounted according to its original position (see Figure C2). Ensure to apply Loctite® 242 (item 19) to the screw threads prior to installation.
- 5 Re-install the PCM (item 6) ensuring correct orientation, then re-connect the motor (item 8), solenoid (item 12), and ignition module (item 13) to their respective terminals.
- 6 Ensure the air filter is still attached to the PCM. Re-install the fan blade (item 5) using a retaining ring (item 4).

NOTICE

Ensure to rotate fan blade by hand until it spins freely.

For more information, refer to the manual at www.proheat.com

- 7 Re-install the blower housing (item 2) ensuring its correct orientation, then secure with the two original M6 screws (item 1).
- 8 Re-install the burner head onto the heat exchanger using the original mounting hardware (Re-torque screws to 100±10 in-lbs). (Heat exchanger not shown.)
- 9 Restore power to the fully reassembled heater unit and operate for a minimum of two cycles to ensure functionality. Inspect for fuel leaks around exterior of burner head and heat exchanger.

Figure B.

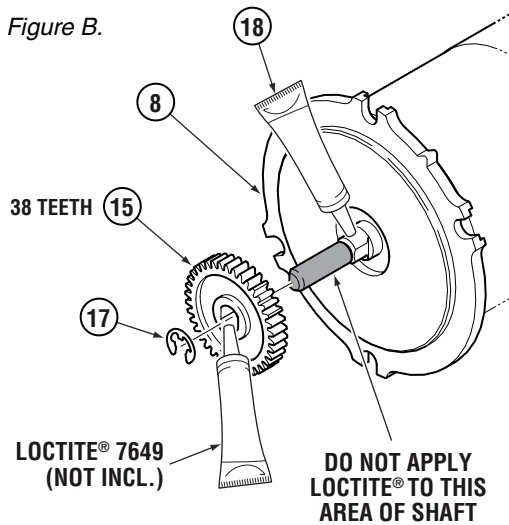


Figure C.

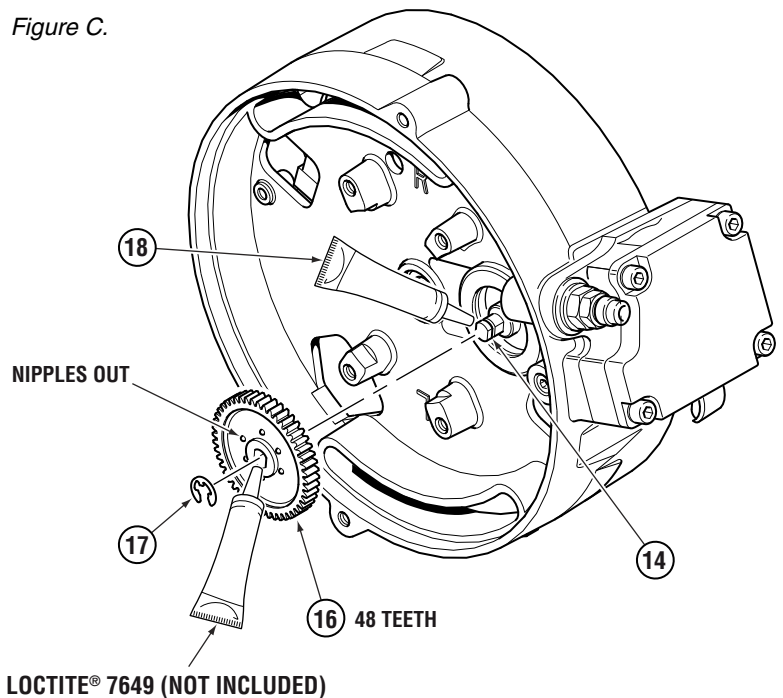


Figure C1. Compressor Gear.

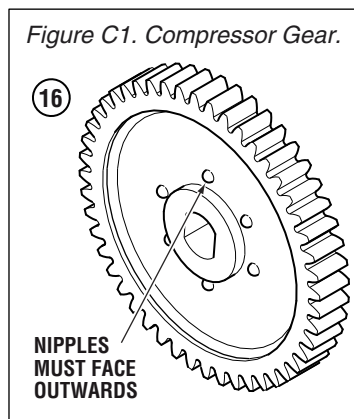
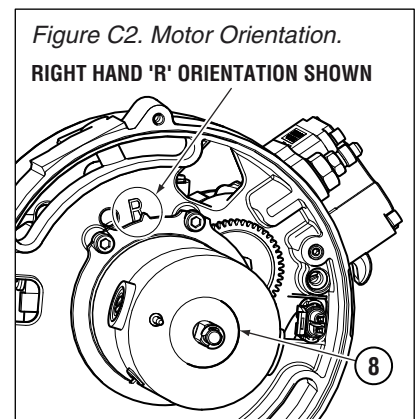


Figure C2. Motor Orientation.
RIGHT HAND 'R' ORIENTATION SHOWN



Reassembly Parts Checklist

ITEM	DESCRIPTION	QTY	UOM
15	Gear, Motor, 38 Teeth	1	ea
16	Gear, Compressor, 48 Teeth	1	ea
17	Retaining Ring	2	ea
18	Loctite® 620 (.5 ml Tube)	1	ea
19	Loctite® 242 (.5 ml Tube)	1	ea