



ECM CONVERSION KIT INSTALLATION INSTRUCTIONS

I. REMOVAL OF ORIGINAL BELT OR DIRECT DRIVE BLOWER ASSEMBLY

- A. Turn off power to the unit.
- B. Disconnect power to the unit.
- C. Remove Fan & Limit from the unit. Dis-connect wiring to Fan & Limit. Dis-connect T-Stat wire from R & W on the Fan Center that goes to T & T on the Oil Primary. Remove Oil Primary from the burner and dis-connect the Blue & White wires from the harness (L1 & L2). Loosen Strain Relief and pull SJT cable through Strain Relief leaving Strain Relief in place.
- D. Dis-connect Blower Cable from the Blower Assembly.
- E. Remove Blower hold-downs (save screws) and remove Blower Assembly.
- F. Pull Blower Cables through the Rear Separator and out the front of the vestibule.
- G. Un-screw 4 x 4 box from casing & remove the wire harness. The Fan & Limit and Heyco bushing must be saved, as they will be used with the new ECM Assembly.

IMPORTANT: Retain all screws and cable clamps from the old blower so they can be used in the installation of the new ECM blower and Control Panel Assembly.

II. INSTALLATION OF ECM BLOWER CONVERSION

- A. Examine all items needed for ECM conversion for shipping damage and to be sure all parts needed for the conversion were included in the kit. Fig. 1 shows all items needed for the lowboy conversion. For a lowboy unit each kit will contain, 1 ECM blower assembly, 1 ECM control panel assembly and blower block-offs. For a highboy unit each kit will contain, 1 ECM blower assembly and 1 ECM control panel assembly. NOTE: Blower Block offs are included in all lowboy ECM conversion kits to be used in installations where the original blower opening was larger than the new conversion blower assembly. If the opening is smaller than the new ECM blower assembly, refer to the Blower Opening Modification Chart on page 3 of the instruction manual.
- B. For a lowboy conversion, place new ECM blower assembly to the left side of the unit on the floor so as to have enough space to run new blower cables through the holes in the rear separator and pouch front. Fig. 2. Do not put the blower in it's mounted place at this time due to the fact that you will need space to feed wires through the rear separator and pouch front holes. To convert a Highboy unit, install new blower assembly into proper location and secure to blower pan with the blower hold-downs used on the original blower not forgetting to attach the ground wire. Insert the new motor cables through the hole in the blower pan where the original motor wiring went.

- C. On a Lowboy unit, before inserting new blower cables through the holes in the rear separator and pouch front, tape the cable with the blue and white wires, 3” down from the top of the 6-pin molex plug cable (Fig. 3). Back feed a wire from the vestibule area through the pouch front and rear separator holes to attach new blower wiring for pulling wires through to the vestibule.
- D. Once you have the new blower assembly wires ran into the vestibule, insert the new ECM blower conversion into the proper location and install blower hold-downs remembering to make sure ground wire is re-attached.
- E. To install new control panel assembly you must first remove one screw holding the circuit board to the 4x4 junction box. Open the circuit board that will still be hinged to the junction box, and with the original nuts and bolts from the original 4x4 box install new junction box. Fig. 4 and Fig. 5. Re-connect outside power, close cover and replace screw.
- F. Attach fan and limit into original location using screws that were used in the mounting of the original fan and limit. Fig. 6. Take the Blue/White SJT cable from 9-pin connector and insert on the limit side of the Fan & Limit (White to the bottom, Blue to the top). Replace Heyco bushing.
- G. NOTE: For wiring refer to the Wiring Diagram or the ECM Operation Manual (MO-434) supplied with conversion kit. Attach the motor power cable (Blue & White wires) to the board. The White wire (common) will attach to the #2 terminal on the common strip. The Blue wire (line voltage) will attach to the S2 terminal. NOTE: On an L16 or L20 conversion, the blue wire will attach to the black wire on the Inductor then the other side of the Inductor will attach to the S2 terminal.
- H. Connect the 6-pin molex plug to the 6-pin plug on the circuit board. Fig. 8
- I. Remove the oil primary and connect the White wire from the 9-pin molex plug to the White wire (L 2) on the oil primary. Connect the Red wire from the 9-pin molex plug to the black wire (L 1) on the oil primary. Place a wire nut on the Orange wire from the 9-pin molex plug as it will not be utilized Fig. 9. Install oil primary to the original location on the oil burner.
- J. Connect the two Yellow wires from the 9-pin molex plug to the T & T terminals on the oil primary. Fig. 10.
- K. Make sure the ground wire and cables are secured in their proper locations like they were in the original blower installation.

- L. Thermostat wiring; If the t-stat has 5 wires, connect W-to-W, Y-to-Y, G-to-G, put a jumper between RH and RC at the T-stat then connect R-to-R. If the t-stat has 4 wires, connect W-to-W, Y-to-Y, G-to-G and R-to-R.
- M. Attach new Wiring Diagram to unit. Re-establish power to the unit. Refer to the ECM Operation Manual (MO-434) for you're On and Off Blower Delay Time Switch Settings and CFM Tables. Setting tables for Blower Delay, Heating and Cooling speeds and temperature rise are listed according to unit. Follow this manual for adjustments and sequence of operation. Refer to the Oil Fired Furnace Installation and Operation Manual (MO-100G) to make sure all safety controls are working properly.

BLOWER OPENING MODIFICATION CHART

UNIT	SIDE BLOCK OFF	TOP BLOCK OFF	TOP CUT OUT
OL2	NONE	NONE	1-1/8 x 12-1/2
OH2	NONE	NONE	NONE
OC2	NONE	NONE	1-1/16 x 12-1/2*
OH3	NONE	NONE	NONE
OL5	NONE	NONE	1-1/8 x 12-1/2
OH5****	NONE	NONE	NONE
OC5	2 x 14	NONE	NONE**
OL11	2-1/2 x 14	NONE	NONE
OH11	5/8***	NONE	NONE
OL16	3-1/4 x 16	3-1/2 x 18	NONE
OL20	3-1/4 x 16	3-1/2 x 18	NONE

*MUST BE CUT OUT TOWARD REAR OF FURNACE.

**BLOWER MUST BE MOUNTED SO THAT SCROLL IS FACING FRONT AND IS EVEN WITH FRONT EDGE OF BLOWER OPENING.

***EXTEND BLOWER HANGERS BY THIS AMOUNT SO THAT THE BLOWER CAN BE MOUNTED IN THE EXISTING BRACKETS.

****H5 CANNOT BE CONVERTED FROM 9-9 B.D. TO 11-9T D.D., ONLY FROM 11-9T B.D. TO 11-9T D.D., IN WHICH CASE NO MODIFICATIONS NEED TO BE MADE TO THE BLOWER OPENING OR MOUNTING.

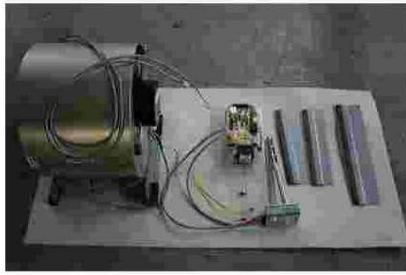


Figure 1



Figure 2

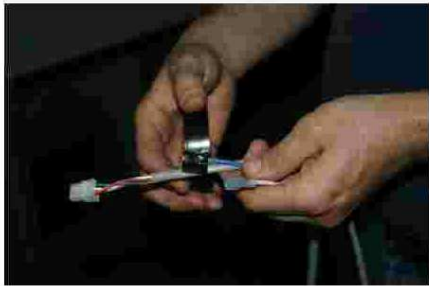


Figure 3



Figure 4



Figure 5



Figure 6



Figure 7



Figure 8



Figure 9