

GEAR MOTOR REPLACEMENT KIT INSTALLATION

MODEL RP AND SC UNITS WITH MODULATING GAS CONTROL OPTION AG39, AG40, AG41, OR AG42

- Refer to the installation manual provided with the unit for important safety information.
- These instructions are for replacing the solenoid actuator with a gear motor on heaters equipped with modulating gas control option AG39, AG40, AG41, or AG42. To facilitate replacement, the new flue duct, combustion air damper, and gear motor are factory-assembled and wired for change-out.
- Ensure that all components listed in [Table 1](#) are available before beginning installation.

Table 1. Gear Motor Replacement Kit Components

Item No.	Component	Description	Unit Size	
			100, 125, 150, 175, 200, 225,250, 300	400
			Kit PN	
			208474	208475
			Component PN (Quantity)	
1	Assembly	Flue duct and combustion air damper, with gear motor (see Figure 1)	207975 (1)	207976 (1)
2		Cover plate	41996 (1)	
3	Gasket	Venter seal	44695 (1)	
4		Flue outlet duct	31900 (1)	

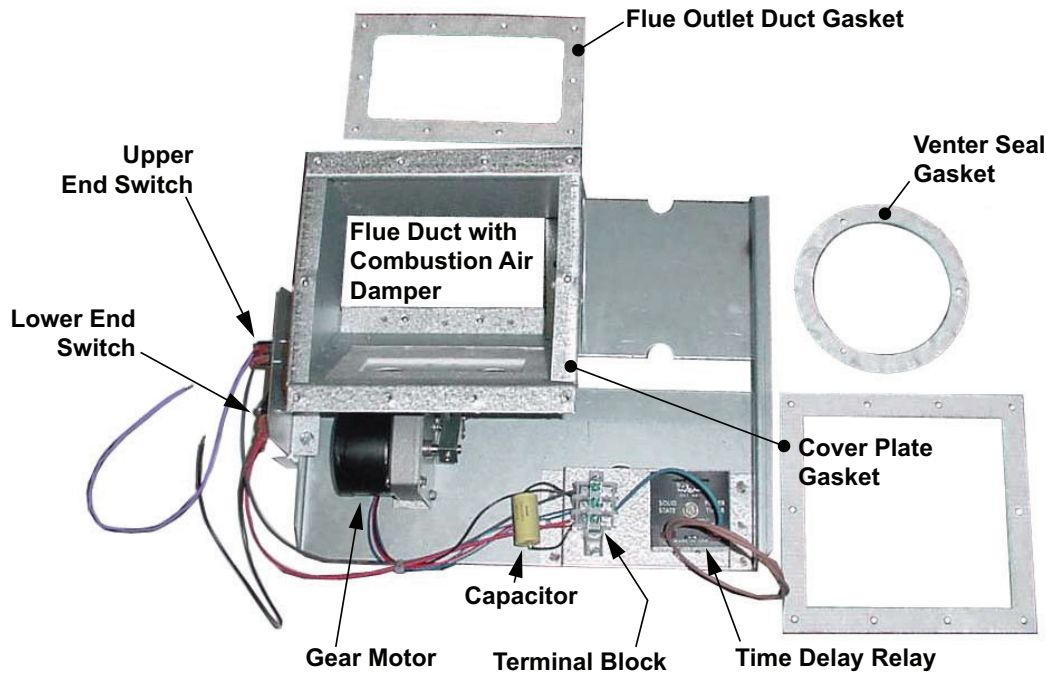


Figure 1. Replacement Flue Duct and Damper Assembly

INSTALLATION

⚠ DANGER ⚠

The replacement kit is to be installed by a qualified agency in accordance with these instructions and in compliance with all codes and requirements of authorities having jurisdiction. Failure to follow instructions could result in death, serious injury, and/or property damage. The qualified agency performing this work assumes responsibility for this installation.

INSTALLATION—CONTINUED

Install the gear motor replacement kit as follows. Item numbers in parentheses refer to [Table 1](#).

1. Turn OFF gas and electric power.
2. Remove venter assembly:
 - a. On outside of cabinet, remove two upper control access panels to reveal control compartment, venter assembly, and flue duct assembly.
 - b. Carefully remove venter motor and wheel assembly from venter housing.
 - c. For model RP, disconnect rubber tubing from sensing probe on venter housing. Leave other end connected to pressure switch.
 - d. Remove venter housing.
 - e. Save all venter parts including hardware for reuse.
3. Disconnect wiring (see [Figure 2](#)):
 - a. Disconnect and discard black wire that connects combustion damper actuator coil to terminal C.
 - b. Disconnect and discard white wire that connects combustion damper actuator coil to terminal L2.
 - c. Disconnect yellow wire from upper end switch. Leave other end connected to terminal 87.
 - d. Disconnect orange wire from lower end switch. Leave other end connected to terminal 84.
 - e. Disconnect and discard black wire that connects lower end switch to terminal 88.

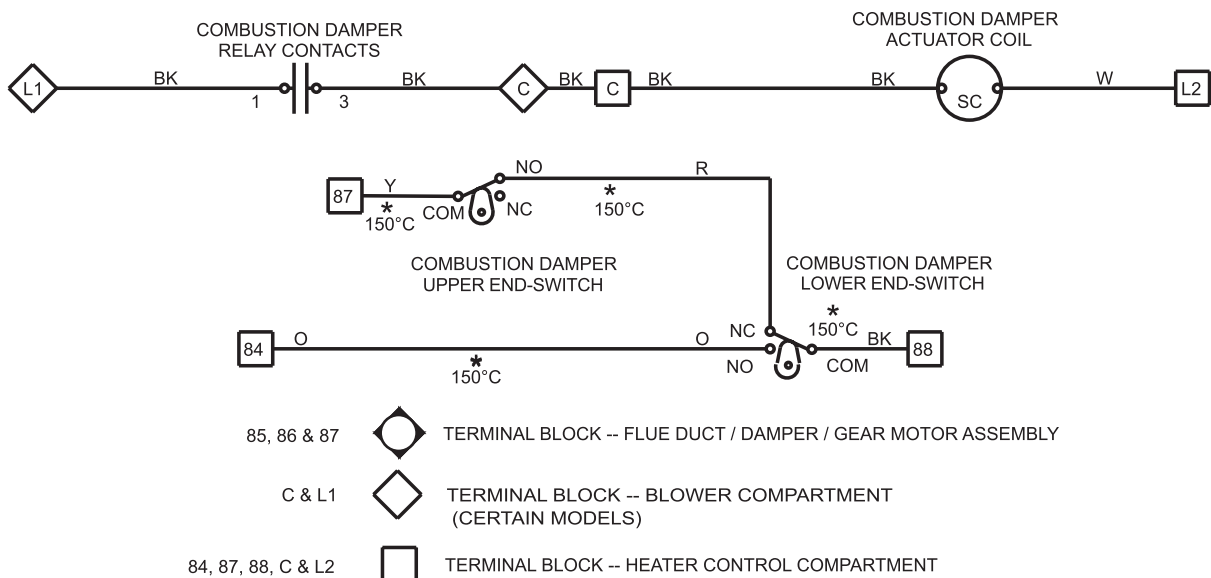


Figure 2. Typical Existing Damper Actuator Wiring Diagram

4. Remove existing flue duct and damper assembly with solenoid actuator (see [Figure 3](#)):
 - a. For model SC, disconnect rubber tubing from sensing probe on side of flue duct.
 - b. Remove and keep flue duct cover plate from existing flue duct and damper assembly.
 - c. Remove screws that secure flue duct to flue collection box and remove and discard flue duct and damper assembly with solenoid actuator.
 - d. For model SC, remove and keep sensing probe that is connected on side of flue duct.
 - e. Remove and keep restrictor plate and all hardware.
 - f. Remove and discard existing flue outlet duct gasket.

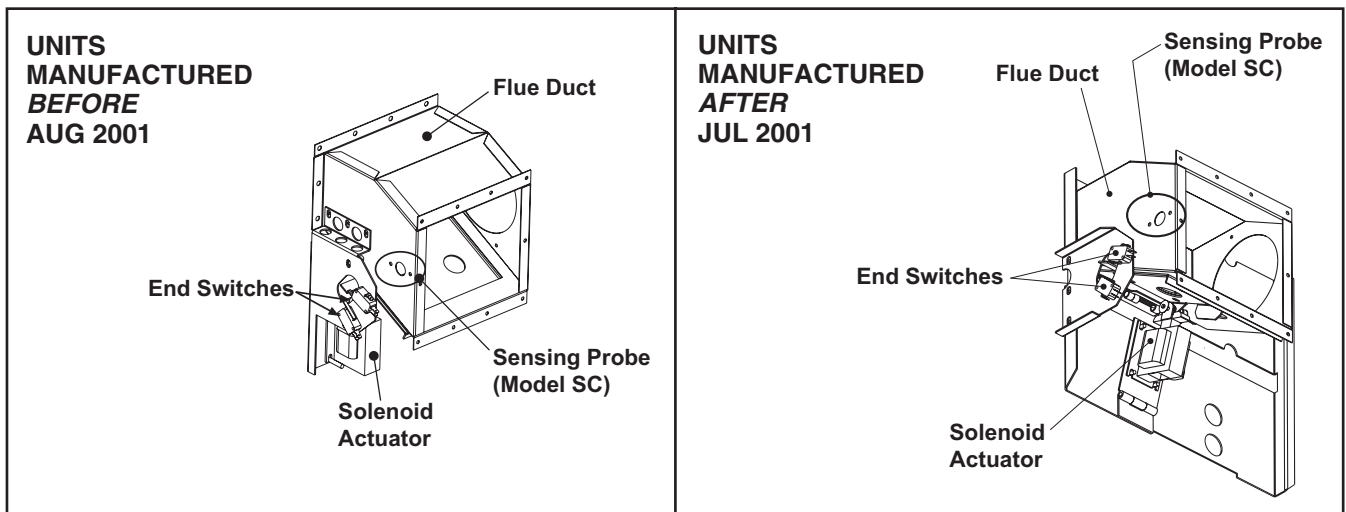


Figure 3. Existing Flue Duct and Damper Assembly

5. Install replacement flue duct and damper assembly (1) with gear motor (see [Figure 1](#)):
 - a. Install replacement flue outlet duct gasket (4) and restrictor plate removed in step 4e and secure replacement flue duct and damper assembly (1) to heater.
 - b. For model SC, install sensing probe removed in step 4d:
 - (1) Remove screws that secure patch plate to side of flue duct in replacement assembly and remove patch plate.
 - (2) Slide long sensing tube through hole and position it so that tube extends into round venter opening on side of flue duct.
 - (3) Secure sensing tube plate to flue duct using screws removed in step 5b(1).
 - (4) Install free end of rubber tubing connected to pressure switch onto metal tubing on side of flue duct. Ensure that tubing is secure.
 - c. Install replacement cover plate gasket (2) and secure flue duct cover plate removed in step 4b to front of newly-installed flue duct and damper assembly.
6. Install venter assembly removed in step 2:
 - a. Install replacement venter seal gasket (3) and orifice plate removed with venter housing and re-install venter housing.
 - b. Carefully secure venter motor and wheel assembly in venter housing.
 - c. For model RP, install free end of rubber tubing connected to pressure switch onto sensing probe on venter housing. Ensure that tubing is secure.
7. Connect wiring (see [Figure 1](#) and [Figure 4](#)):
 - a. Connect yellow wire from terminal 87 to common terminal of upper end switch.
 - b. Connect orange wire from terminal 84 to common terminal of lower end switch.
 - c. Connect purple wire from normally-open terminal of upper end switch to terminal 88.
 - d. Connect black wire from normally-open terminal of lower end switch to terminal 88.
 - e. Connect brown wire from motor run time delay relay to terminal 7.

INSTALLATION—CONTINUED

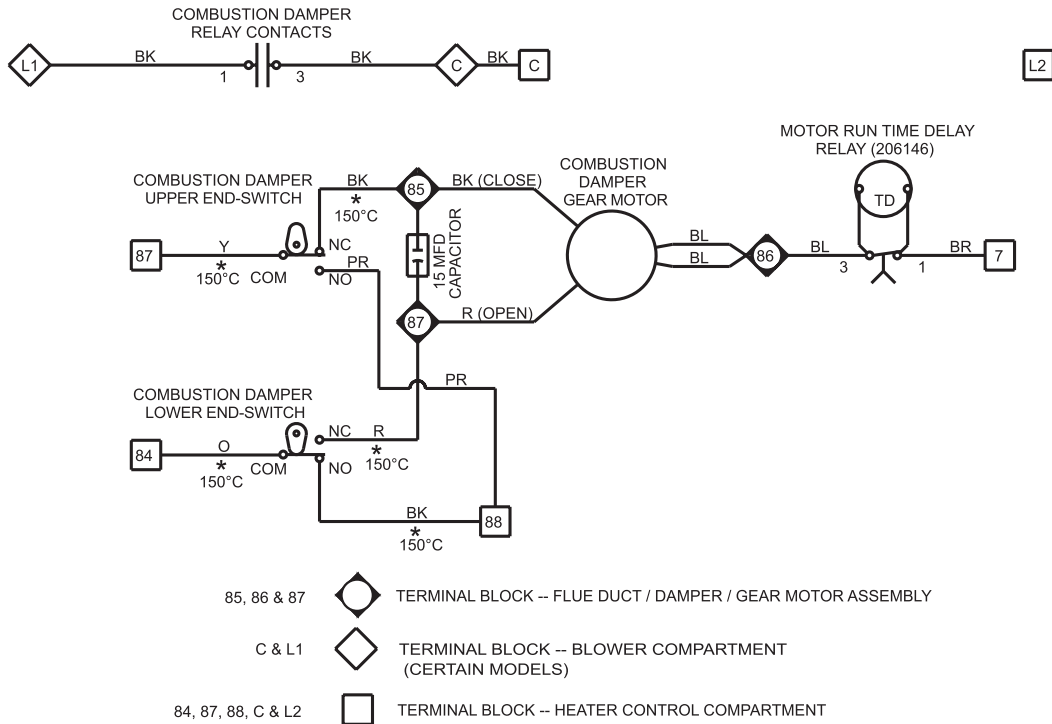


Figure 4. Replacement Gear Motor Wiring Diagram

8. Turn ON electric power and gas.

NOTE: The gear motor is factory-set to fully close the damper and to open it with approximately 1-1/8 inch (29 mm) between the upper edge of the damper and the duct assembly.

9. Set system control to call for heat and vary control settings to observe for proper opening and closing of damper. If damper door does not fully close or open properly, loosen adjustment screws shown in **Figure 5, DETAIL A** and slide end switch back and forth until proper operation is obtained. If necessary, carefully bend metal blade shown in **Figure 5, DETAIL B**.

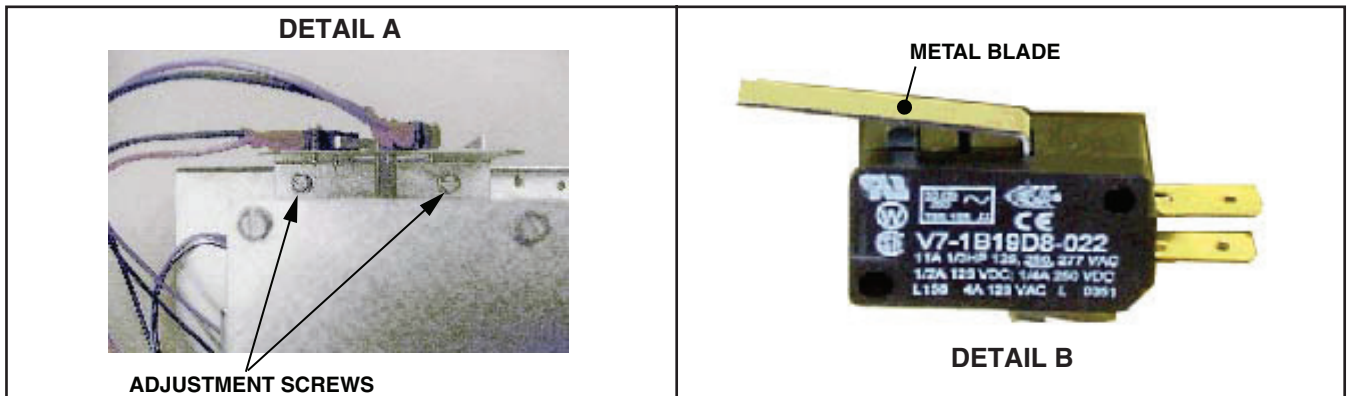


Figure 5. End Switch Adjustment

10. When newly-installed combustion air damper is operating correctly, replace access panels and check for proper operation of heater.

NOTE: Keep these instructions with the wiring diagram provided with the unit.

Specifications and illustrations subject to change without notice or incurring obligations.

Latest version of this manual is available at www.reznorhvac.com.

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