

Damper Motor Replacement Kits

Applies to Model ADF with Horizontal Discharge Option AQ4

Description/Application



ADF with Option AQ4

The direct-drive damper motor used on Model ADF units with horizontal discharge has been discontinued by the manufacturer. The currently available motor cannot be used as a direct replacement on units with either of the previously used motors. The kits listed below will enable a service technician to replace a motor on a Model ADF with Option AQ4 horizontal discharge damper. Specifically, the kits are designed to replace motor P/N 124224 used prior to 4/98 (Serial No. Date Code AXD) and P/N 163101 used from 4/98 until 11/05 (Serial No. Date Code BEK).

Model ADF		300	500	700/1200
Kit P/N		163197	163196	163195
Components:	Qty			
Damper Motor Mounting Plate	1	176113	121187	175137
Damper Motor with wires, Johnson Control M9206-BGB-201	1		209351	
Damper Motor Mounting Bracket, M9000-161	1		211418	
Coated Screws, #10-16 x 5/8" lg	14		132199	
Twist-on Wire Connector (orange), Ideal Ind. #30-273	5		16354	

Kit P/N's and Components

Installation Instructions

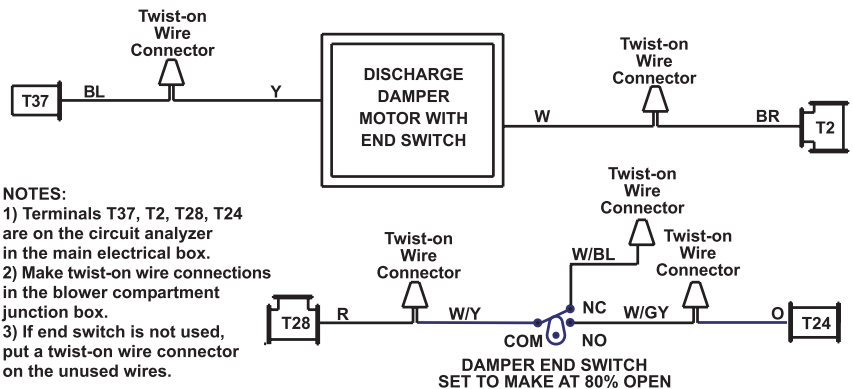
Service should be done by a qualified agency in accordance with these instructions and in compliance with all codes and requirements of authorities having jurisdiction. The qualified agency performing the work is responsible for the motor installation.

1. Turn off the gas and the electric power to the heater.
2. **Remove and Discard the Damper Motor and Motor Mounting Plate**
 - a) Remove the cover from the damper motor box (see photo above).
 - b) Disconnect the wires from the damper motor.
 - c) Loosen the setscrews from the damper shaft.
 - d) Remove the screw (slotted head screw) that attaches the damper motor to the damper motor mounting plate. Remove the motor.
 - e) Remove the mounting plate from the damper frame.
4. **Install the Replacement Mounting Plate, Motor Bracket, and Motor**
 - a) Position the new damper motor mounting plate on the damper frame. Center the damper shaft in the large hole. Secure the plate with the 5/8" long screws in the kit.
 - b) Position the motor bracket and motor on the new mounting plate. With the motor on the anti-rotation tab and lined up with the drive shaft, mark the location of the two holes in the motor bracket. Remove the motor bracket and motor. Drill two 5/32"

holes at the marks on the mounting plate. Use two screws from the kit to attach the motor bracket. Put the motor on the bracket and tighten the damper shaft setscrews.

5. Connect the Wiring

- a) Remove the blower section access panel. Inside the blower compartment, remove the junction box cover. Pull the wires going through the wall into the damper motor box so that they are in the junction box.
- b) Run all of the wires (five) from the newly installed motor through the same opening and into the blower compartment junction box.
- c) In the junction box, use the twist-on wire connectors to connect the motor wires to the wires coming from the circuit analyzer board (located in the main electrical box). Follow the list and the wiring diagram below to make the connections. NOTE: If needed, cut some length off of the wires.
 - Connect the yellow motor wire to the blue wire that is connected to T37.
 - Connect the white motor wire to the brown wire that is connected to T2.
 - Connect the white/yellow wire from the motor end switch to the red wire that is connected to T28. (Or, if end switch is not used, attach a twist-on wire connector to the wire.)
 - Connect the white/gray wire from the motor end switch to the orange wire that is connected to T24. (Or, if end switch is not used, attach a twist-on wire connector to the wire.)
 - Attach a twist-on wire connector to the unused white/blue wire from the end switch.



NOTES:
 1) Terminals T37, T2, T28, T24 are on the circuit analyzer in the main electrical box.
 2) Make twist-on wire connections in the blower compartment junction box.
 3) If end switch is not used, put a twist-on wire connector on the unused wires.

6. Replace the junction box cover and the motor box cover. Close the access panels. Turn on the power and the gas. Start the system, checking for proper operation. File this form with the heater installation manual.

KEEP THIS SHEET FOR FUTURE WIRING REFERENCE.