

Replacement Parts

Replacement Kit for Discontinued Damper Motors, Kit P/N 209423

**Description/
Application**

Use this kit when replacing damper motors identified as Model WR3405-21, P/N 66276; Model WR3402-9, P/N 97385; and Model J/C M9206-BGB-2S, an earlier version of P/N 209321. Replacement Kit **PN 209423** is designed to provide a replacement for those motors on the Reznor® Models listed below. Check the wiring diagram on the unit to determine the inlet air option installed.

Reznor® Models	with an Inlet Air Option with a 2-Position Damper Motor	Check components and follow the instructions
XE, SCE, SSCBL	Option AR7, AR8, AR14, or AR17	starting at the bottom of this page.
RGB, RGLB, RPB, RPBL		
RBA, RBL		
AHCA, AHDA, PCCA, PCDA	Option AR8, AR58, or AR61	starting on page 3.
CAUA	Option GB2 or GB30	

Components

FIGURE 1 - Damper Motor and Mounting Kit in Replacement Kit, P/N 209423 (See List of all components.)

<p>Damper Motor, Model M9208-BG-3, P/N 209351</p> 	<p>Mounting Bracket Kit, P/N 209352</p> <p>NOTE: Hardware is not shown. Depending on application, some parts will not be used.</p> 
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NOTE: Use of parts depends on model of heater being serviced. There may be unused parts.

Components of Kit P/N 209423			
Qty	P/N	Description	Application
1	209351	Damper Motor, Model J/C M9208-BG3-3	All Models Listed Above
1	209352	Motor Mounting Kit, J/C M9208-100, including bracket, 4 self-drilling screws, 3 M5x0.8 cap screws with 3 nylon insert hex nuts, a large washer, a crankarm, and a ball joint. (Depending on application, some parts will not be used.)	
5	16354	Twist-on Wire Connectors (use depends on motor being replaced)	
1	100315	Damper Motor Support with weld nuts (See FIGURE 2A .)	All Models listed above except CAUA
2	100763	Screws, 1/4-20 x 1-1/2" long, slotted head	
2	20859	Screws, #10 x 3/4" long, slotted head	
4	16246	Bolt 1/4-20 x 3/4" (for attaching the motor bracket to the support with weld nuts)	
1	123642	Shaft Extension	
4	114687	Screws, 1/4-20 x 3/4" long, slotted head (for attaching motor bracket without using the new support)	CAUA only

Installation Instructions

Select and follow the instructions that apply to the unit being serviced. (Refer to the application chart at the top of the page. Not all parts are used in all replacements; check the "Application" column in the component chart above.)

WARNING:

Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury, or death. Read the instructions thoroughly before installing or servicing this equipment. The qualified agency performing this work assumes responsibility for this installation.

Follow these instructions for Model Series XE, SCE, SSCBL, RGB, RPB, RGLB, RPBL, RBA, RBL, AHCA, AHDA, PCCA, PCDA.

1. Turn off the gas and the electric to the heater.
2. Remove the Old Damper Motor

Remove the panel that provides access to the damper motor and linkage. At the motor, disconnect the damper linkage from the damper arm and close the dampers.

If the motor has terminals, mark the wires with the motor terminal numbers and disconnect them from the motor. If the motor has its own wires, make note of the connections and disconnect the wires. Remove the motor with its mounting bracket and the motor support. Keep all the linkage.

**Installation
Instructions for Model
Series XE, SCE,
SSCBL, RGB, RPB,
RGL, RPBL, RBA,
RBL, AHCA, AHDA,
PCCA, PCDA (cont'd)**

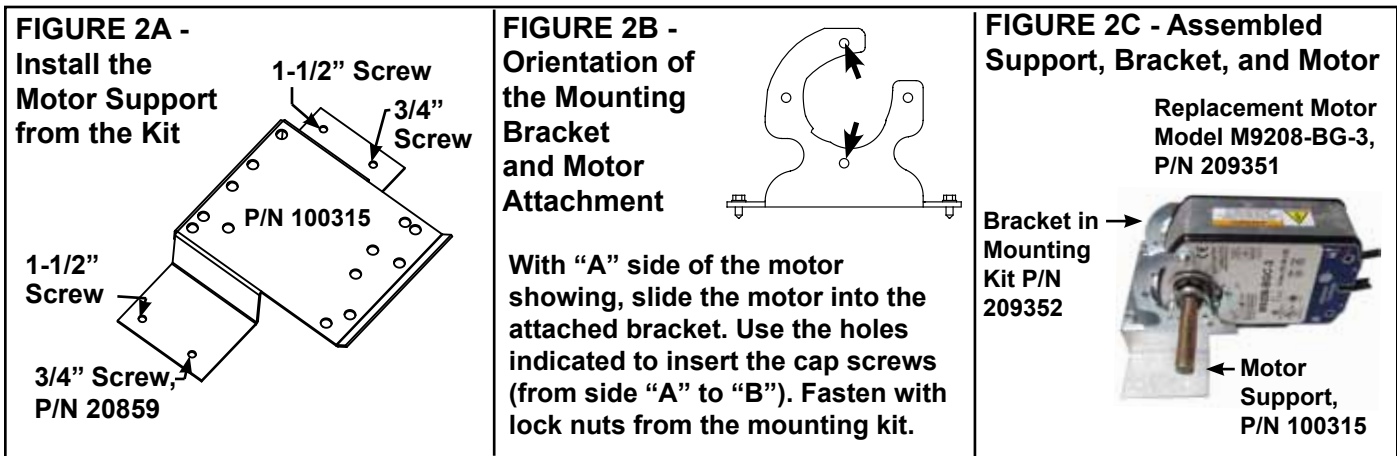
3. Attach the New Motor Support, Mounting Bracket, and Damper Motor (See FIGURES 2A, 2B, and 2C.)

a) Attach Motor Support with Weld Nuts (See FIGURES 2A and 2C) - In the same location as the removed damper motor support, use the screws provided (two 1/4-20x1-1/2" long and two #10x3/4" long) to attach the new motor support.

b) Attach the Bracket from the Mounting Kit - Remove the bracket from the mounting kit.

In the orientation shown in FIGURE 2B and 2C, position it on the installed support with the left side of the bracket section extended slightly over the outer side of the support. Line up the holes with the weld nuts and attach using the four 1/4-20x3/4" bolts (P/N 16246).

c) Attach the Damper Motor to the Bracket (Refer to FIGURES 2B and 2C.) - Remove two M5 cap screws and two nylon insert hex nuts from the mounting kit. With the "A" side of the motor facing out, slide the motor into the bracket. Line up the motor holes with the holes indicated in FIGURE 2B. Slide the cap screws from side "A" to "B" through the bracket and the motor. Fasten with the nuts using the recommended torque of 15-20 lbin (1.7-2.3 NM).



4. Wiring

The new motor comes with its own wires. Use the twist-on wire connectors to connect the wires attached to the new motor to the wires that were connected to the terminals or wires on the original motor. The motor wires will be one of two colors listed.

- Connect the yellow or black motor wire to the wire marked "D" (the wire that was attached to the "D" terminal on the old motor).
- Connect the white or red motor wire to the wire marked "T" (the wire that was attached to the "T" terminal on the old motor).

If the end switch is used:

- Connect the white/blue or black/blue wire to wire marked "NC" (the wire that was attached to the "NC" terminal on the old motor).
- Connect the white/gray or black/gray wire to wire marked "NO" (the wire that was attached to the "NO" terminal on the old motor).
- Connect the white/yellow or black/red wire to wire marked "COM" (the wire that was attached to the "COM" terminal on the old motor).

If the end switch is not used, put a twist-on wire connector on each of the other three motor wires (white/blue or black/blue; white/gray or black/gray; white/yellow or black/red).

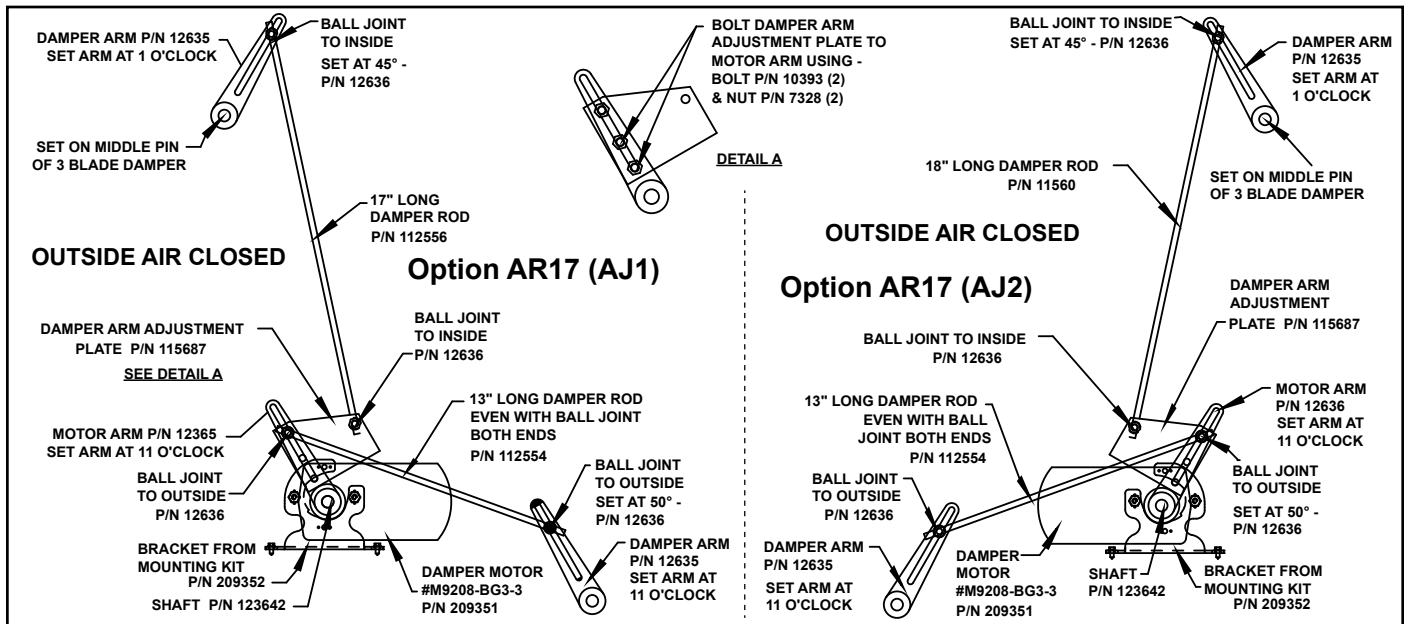
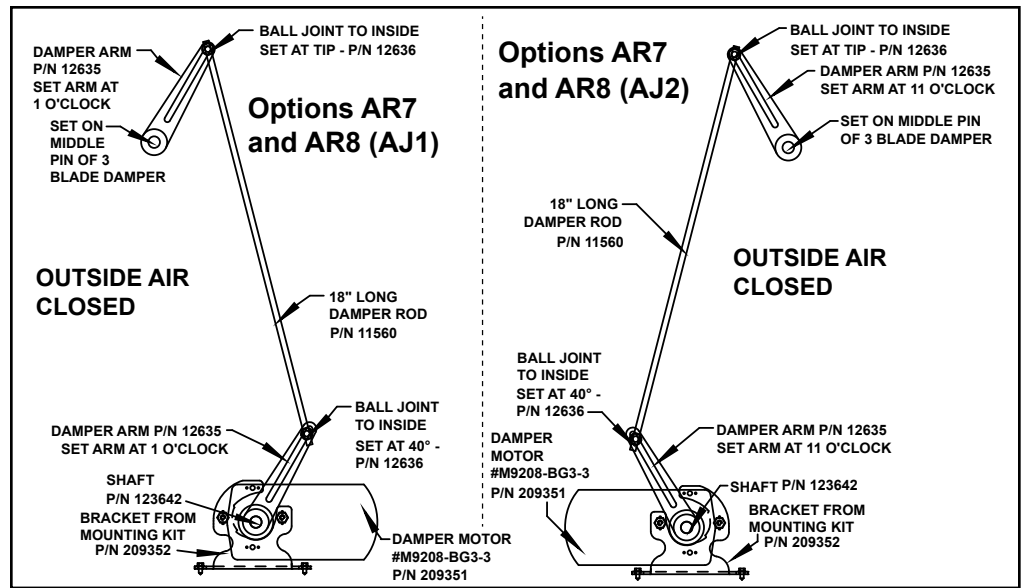
5. Connect the Linkage (Refer to illustrations in FIGURE 2D.)

On the "B" side of the motor, insert the shaft. Slide the shaft through the motor and attach with the coupler. Re-connect the linkage to the shaft.

- 6.** Turn on the electric power. Turn on the gas. Cycle the unit, checking for proper operation and verifying that the damper is 80% open before the blower motor activates. If the damper is not 80% open when the blower motor activates, adjust the end switch with the adjustment screw on the damper motor. The switch is factory set to activate the blower motor when the arm reaches the 20° position, but is adjustable from 10° to 90°. There is an adjustment screw on either side of the damper motor. Adjust as needed to achieve the 80% open damper before the blower motor activates. (Refer to the manufacturer's instructions with the motor.) When system is operating correctly, close the access panel.

FIGURE 2D - Damper Linkage Arrangements with Replacement Damper Motor, P/N 209351, Model J/C 9208-BG3-3 on Model Series XE, SCE, SSCBL, RGB, RPB, RGLB, RPBL, RBA, RBL, AHCA, AHDA, PCCA, PCDA

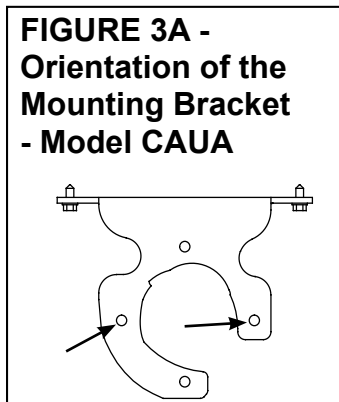
NOTE: Motor, motor bracket, and shaft are from this replacement kit. Other parts shown were already on the unit.



Installation Instructions for Model Series CAUA

Follow these instructions for Model CAUA equipped with a Mixing Box with Option GB2 or GB30, Two-Position Damper Motor.

1. Turn off the gas and the electric to the heater.
2. **Remove the Old Damper Motor**
Remove the panel on the end of the mixing box that provides access to the damper motor and linkage. At the motor, disconnect the damper linkage and close the dampers. **If the motor has terminals, mark the wires with the motor terminal numbers** and disconnect them from the motor. If the motor has its own wires, make note of the connections and disconnect the wires.
Remove the motor with its mounting bracket. Do not remove the motor support or any other damper linkage.
3. **Attach the New Bracket and the Replacement Damper Motor (Refer to FIGURES 3A and 3B.)**
 - a) Remove the bracket from the mounting kit. Position the bracket in the orientation shown in **FIGURE 4A** and match the holes on the right side with the existing holes. Mark the two new holes on the left side. Remove the bracket and drill two 13/64" diameter holes. Attach the bracket with the four 1/4-20 x 3/4" long screws (P/N 114687) provided.



Installation Instructions for Model Series CAUA (cont'd)

b) Attach the Damper Motor to the Bracket (See FIGURES 3A and 3B.)

Requires two M5x0.8 cap screws and two nylon insert hex nuts from the mounting kit.

With the "B" side of the motor facing out, slide the motor into the installed bracket. Line up the motor holes with the holes indicated in **FIGURE 4A**. Slide the cap screws from "A" to "B" through the bracket and the motor. Fasten with the nut using the recommended torque of 15-20 lbin (1.7-2.3 NM).

c) Attach the Crankarm (FIGURES 3B and 3C)

Starting at the "A" side of the motor, slide the M5 cap screw through the parts from the mounting kit in this sequence:

M5 Cap Screw > Crankarm > through Damper Motor from Side "A" to "B" > Large Washer > Fasten with the nut using the recommended torque of 15-20 lbin (1.7-2.3 NM)

FIGURE 3B - Attach Replacement Motor and Crankarm



- Attach the bracket, with four 1/4x20 x 3/4" screws.
- Attach motor with two M5 cap screws and locknuts.
- Attach crankarm with one M5 cap screw, large washer with stops, and a locknut.

4. Wiring

The new motor comes with its own wires. Use the twist-on wire connectors to connect the wires attached to the new motor to the wires that were connected to the terminals or wires on the original motor. The motor wires will be one of two colors listed.

- Connect the yellow **or** black motor wire to the wire marked "D" (the wire that was attached to the "D" terminal on the old motor).
- Connect the white **or** red motor wire to the wire marked "T" (the wire that was attached to the "T" terminal on the old motor).

Put a twist-on wire connector on each of the other three motor wires (white/blue or black/blue; white/gray or black/gray; white/yellow or black/red).

5. Connect the Linkage

Reconnect the linkage to the shaft on the new damper motor.

FIGURE 3C - View of Replacement Actuator and Linkage in a CAUA Mixing Box

(View from "inside" the mixing box.)

NOTE: Linkage parts vary depending on the size of the unit.



6. Turn on the electric power. Turn on the gas. Cycle the unit, checking for proper operation and verifying that the damper is 80% open before the blower motor activates. If the damper is not 80% open when the blower motor activates, adjust the end switch with the adjustment screw on the damper motor. The switch is factory set to activate the blower motor when the arm reaches the 20° position, but is adjustable from 10° to 90°. There is an adjustment screw on either side of the damper motor. Adjust as needed to achieve the 80% open damper before the blower motor activates. (Refer to the manufacturer's instructions with the motor.)
When system is operating correctly, close the access panel.

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