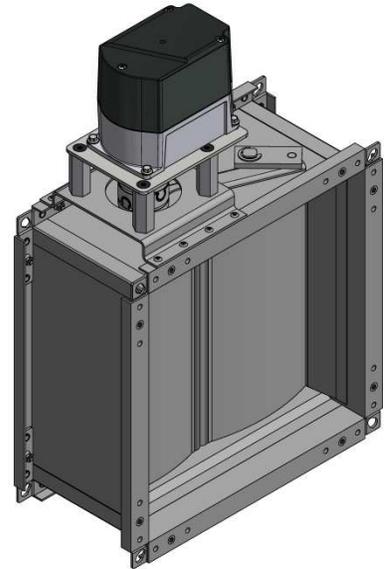


BR...LUC Lucoma Air Damper Bracket Assemblies



Product Description

A BR...LUC bracket assembly reliably mounts an SQM33, SQM45, or SQM48 actuator to any Lucoma air damper size 8" x 8" through 28" x 28".

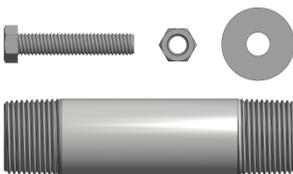
Accessories

BR-LUC-BAT



Optional bracket alignment tool ensures the SQM... actuator shaft and Lucoma air damper shaft are aligned. See step 3 on page 5 for more information.

BR-LUC-18SE



Accessory kit including components to remove the 18mm shaft extension during BR...LUC installation. Kit includes a 1" NPT x 5" pipe nipple, 3/8"-16 x 2" hex head bolt, 3/8"-16 hex nut, and 3/8" washer.

Components Supplied

Figure 1 shows all of the components that are supplied with a BR...LUC bracket assembly.

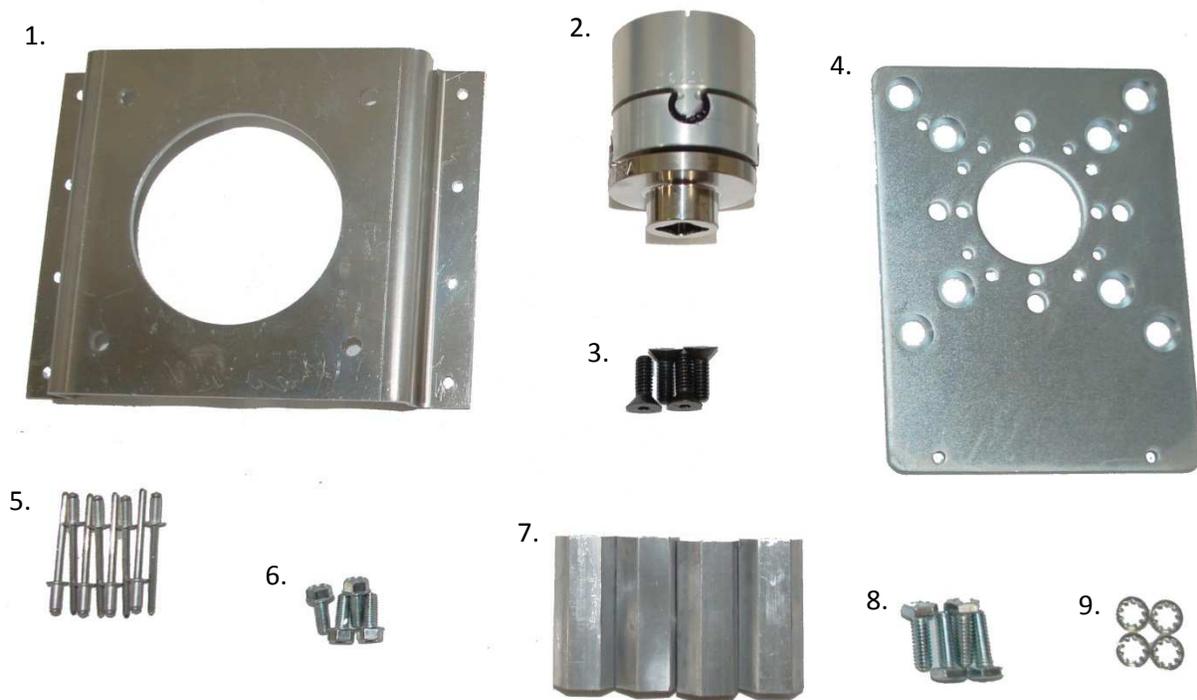


Figure 1: Components Included in a Lucoma Air Damper Bracket Assembly

1. Damper mounting bracket
2. Zero backlash coupling
3. 1/4"-20 x 3/4" flat socket head cap screws (qty 4)
4. Actuator mounting bracket
5. 5/32" pop rivets (qty 8)
6. M5 x 12mm thread-forming screws (qty 4)
7. 1.9" standoffs (qty 4)
8. 1/4"-20 x 3/4" hex head cap screws (qty 4)
9. 1/4" lock washers (qty 4)

Recommended Installation Tools

The following tools / supplies are recommended for bracket assembly installation:

- Drill
- 5/32" drill bit
- 1/4" and 5/32" hex keys
- 7/16" and 3/4" open end wrenches
- 8mm socket, 1/4" drive
- 6-7" ratchet extension, 1/4" drive
- Pop rivet installation tool
- Loctite #242 (blue)

If the Lucoma air damper has the 18mm shaft extension and mounting bracket attached (see step 1 below), the following additional tools are recommended:

- 1" NPT pipe nipple, 5" long
 - 3/8"-16 hex head bolt, 2" long
 - 3/8"-16 hex nut
 - Thick 3/8" washer with outer diameter of at least 1.25"
 - 11/64" drill bit
 - 5/16" drill bit
 - 3/8"-16 tap
- } Accessory kit with part number BR-LUC-18SE

Installation Procedure

1. Lucoma air dampers may include an 18mm round shaft extension and a mounting bracket attached as shown in Figure 2 below.

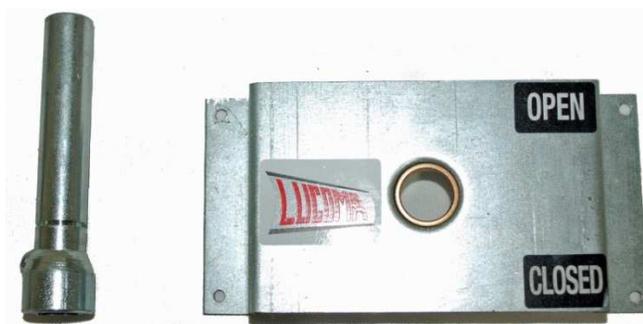


Figure 2: 18mm Shaft Extension and Lucoma Mounting Bracket

Both the 18mm shaft extension and mounting plate must be removed before installation of the BR...LUC bracket assembly. If the damper does not have either of these pieces, skip to step 3. Use the 11/64" drill bit to drill out the center of the four rivets mounting the Lucoma bracket to the damper. Once the centers are drilled out, the top and bottom of the rivet should fall off easily. After the rivets have been completely removed, pull the Lucoma mounting bracket off of the shaft extension.

2. Using the 5/16" drill bit, drill a hole approximately 2" deep in the center of the 18mm shaft extension. Then, tap the hole with the 3/8"-16 tap. The shaft extension should appear as shown in Figure 3.



Figure 3: Tapped Hole in Shaft Extension

Slide the 1" NPT pipe nipple over the shaft extension (see Figure 4a). Then, screw the 3/8"-16 hex nut most of the way onto the 3/8"-16 screw. Slide the 3/8" washer onto the screw after the nut. Next, thread the screw into the tapped hole of the shaft extension until the nut and washer are flush against the pipe nipple. The damper will appear as shown in Figure 4b below.



Figure 4: Ready to Remove Shaft Extension

Using the 9/16" open end wrench, tighten the hex nut against the washer. This should begin pulling off the shaft extension. Continue tightening the hex nut until the shaft extension has been completely removed. Lift the pipe nipple and shaft extension off of the damper. The 14mm square shaft should now be exposed as shown in Figure 5.

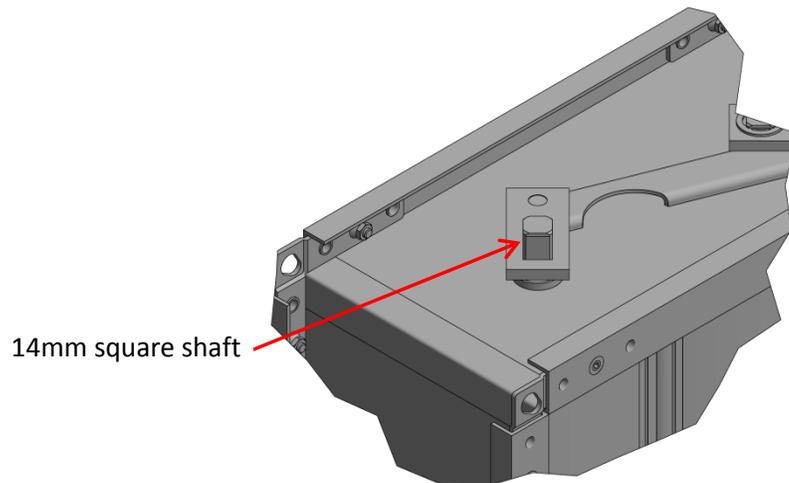


Figure 5: 14mm Square Shaft Exposed

3. The next step is to drill holes for the damper mounting bracket. This is easily done with the optional BR-LUC-BAT alignment tool, but can be done without the tool. The two methods for drilling the holes are as follows:

With BR-LUC-BAT alignment tool

Slide the alignment tool over the longest 14mm square shaft of the Lucoma damper. Then, slide the damper mounting bracket over the alignment tool, and line up the edge of the bracket with the edge of the damper as shown in Figure 6.

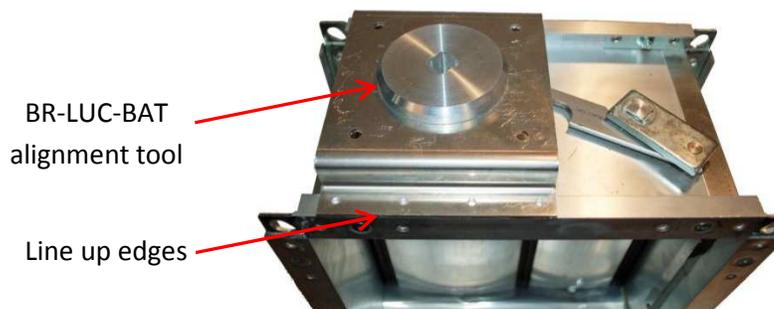


Figure 6: Aligning Bracket with Alignment Tool

Without alignment tool

Slide the coupling over the longest 14mm square shaft of the Lucoma damper. Then, place the damper mounting bracket over the coupling so that the coupling is in the center of the large hole in the bracket. Line up the edge of the bracket with the edge of the damper as shown in Figure 7 below.



Figure 7: Aligning Bracket with Coupling

4. Once the bracket is in place, put the 5/32" drill bit in the drill. The eight holes on the damper mounting bracket are also 5/32" and will be used as a guide for the drill bit. Spin the drill a few times in each of the eight holes to mark the center (if mounting on an 8" x 8" damper, only six of the holes in the bracket will be used as shown in Figure 8). Next, remove the bracket and the coupling or alignment tool. Still using the 5/32" drill bit, drill eight holes through the lip of the damper at the eight marked positions.

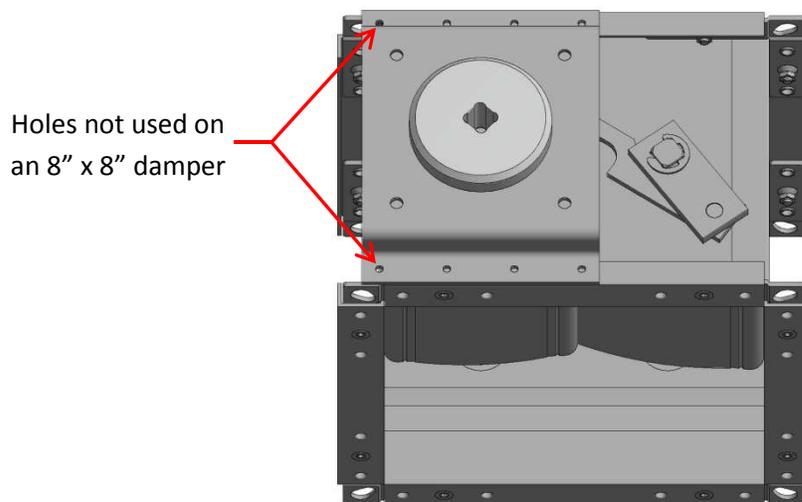


Figure 8: Only Six Holes Used on an 8" x 8" Air Damper

5. Open the damper to its fully open position. Slide the coupling over the damper shaft so that the keyway (for SQM48 actuators) or flat of the "D" (for SQM33 and SQM45 actuators) points towards the nearest side of the damper as shown in Figure 9 below. Note that on 3-blade dampers, the coupling is mounted to the center 14mm shaft, so the keyway or flat of the "D" may point towards either side of the damper.

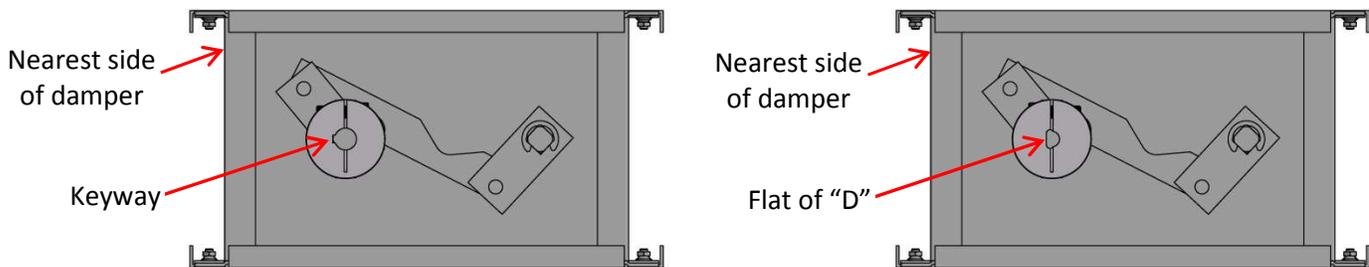


Figure 9: Coupling Alignment

Once the coupling is in the proper position, raise it up off of the damper's linkage approximate 1/16" as shown in Figure 10. Then, tighten both set screws with approximately 120 in-lb of torque using the 5/32" hex key.

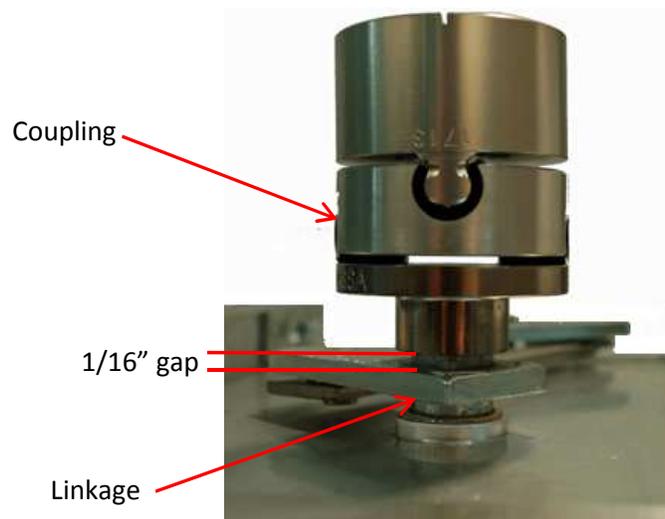


Figure 10: Coupling 1/16" Above Damper Linkage

6. Mount the four standoffs to the actuator mounting bracket using the four 1/4"-20 flat socket head screws, the 5/32" hex key, and the 3/4" open end wrench. Use blue Loctite (#242) on the four screws. The screws should go through the four outermost holes on the actuator mounting bracket as shown in Figure 11.

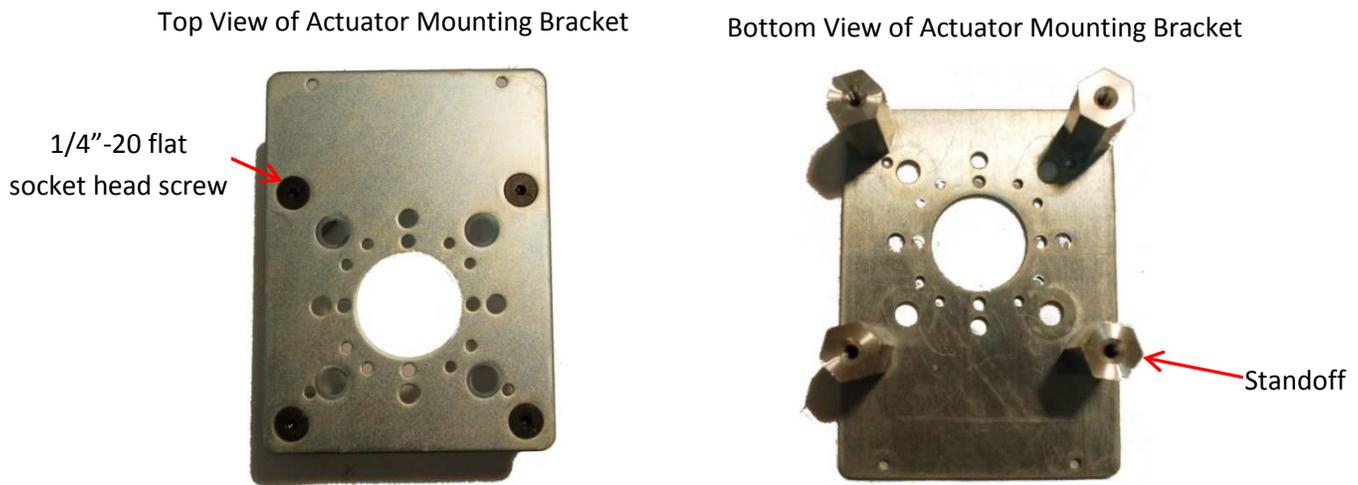


Figure 11: Standoffs Mounted

7. Assemble damper mounting bracket to standoffs using the four 1/4"-20 hex head cap screws, four 1/4" lock washers, and the 7/16" open end wrench. Make sure to mount the damper bracket so that its mounting ears are parallel to the long edge of the actuator mounting bracket as shown in Figure 12.

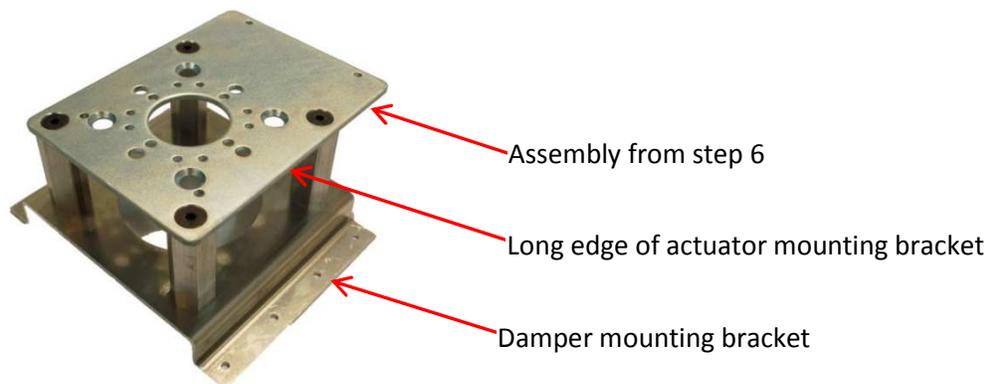


Figure 12: Damper Mounting Bracket Assembly

8. Place the completed bracket assembly over the coupling, and line up the eight holes on the damper mounting bracket with the drilled holes on the lip of the air damper. One end of the actuator mounting bracket sticks out from the rest of the bracket assembly. Make sure that the keyway or flat of the "D" in the coupling is facing away from that end of the actuator mounting bracket. Once properly oriented, install a pop rivet in each of the eight holes. Note that only six rivets will be used on an 8" x 8" air damper. Once complete, the assembly should look as shown in Figure 13.

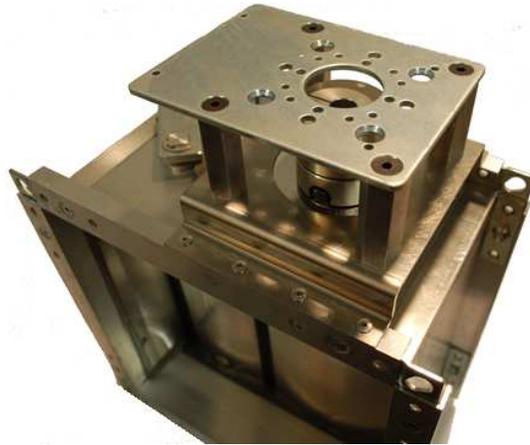


Figure 13: Bracket Assembly Mounted to Air Damper

9. Using the 8mm socket and ratchet extension, mount the actuator on top of the bracket assembly with the four M5 x 12mm thread-forming screws. Finally, tighten the clamp screw on the coupling with approximately 150 in-lb of torque. The completed bracket assembly should look as shown in Figure 14.

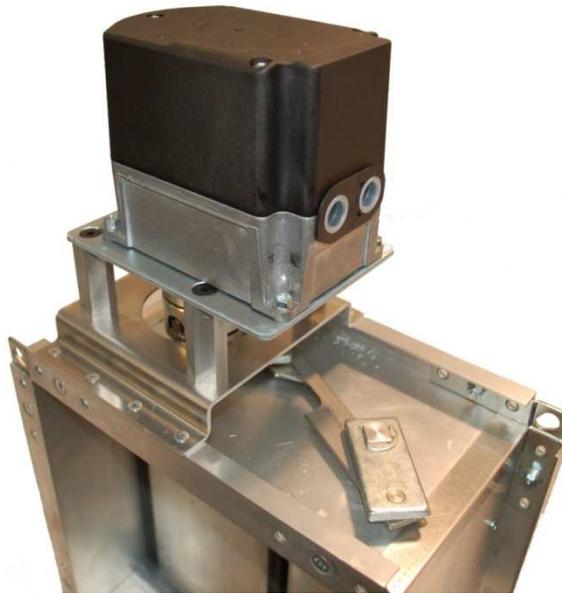


Figure 14: Completed Bracket Assembly

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