

### BEFORE INSTALLING IN DUCT:

1. If the assembly is provided with un-joined jackshafting that operates more than one section, connect blade jumpers as required or bolt the two jackshafts together, depending on which is provided. Jackshafting may have been repositioned to prevent damage during shipment. If damper operator is to be mounted out of airstream, the jackshaft should extend through the bearing bracket and approximately 6" beyond frame. Secure jackshafting in place with provided clamps.
2. If applicable, link lower and upper jackshafts with the crossover bar through the ball joint on crank arm at each jackshaft. Locate crank arm close to bearing support bracket of jackshaft.
3. Improperly installed dampers and damper sections prevent blades from sealing properly (Fig. 2). Gaps between the blades and frame indicate a damper installed out of flat. Misalignment of the damper or damper sections can cause twist in the frame resulting in blade-to-linkage bind. This overloads the damper actuator or renders it inoperative.
4. We recommend lubricating moving parts with dry graphite.
5. Manual dampers should be run through a full-open to full-close cycle by hand to insure proper operation of the damper.
6. Motorized dampers should be checked by a preliminary attempt to operate with the motor. If binding occurs, disconnect one end of the driving linkage (and note its exact position beforehand) to operate damper manually and check per above. Reconnect linkage and check again.
7. Lift panels into duct (or opening) by its frame, not by any blade or hardware. Final position must be square, straight, plumb, and without twist.
8. Due to shipping and handling, dampers may arrive at the site slightly racked to twisted. Dampers are to be squared and not twisted prior to installation into square duct or sleeves.
9. Damper should be shimmed in the opening to prevent distortion of the frame by the fasteners holding it in place. Dampers with seals should be caulked to prevent leakage between the frame and duct.
10. CHECK DAMPER FOR FREE OPERATION BEFORE INSTALLATION.

### MULTIPLE-PANEL DAMPERS:

Multiple panel dampers will be tagged for ease of assembly.

Aluminum Damper assembly:

- Horizontal mullions are predrilled with bolted connections (hardware ships loose)
- Vertical mullions, jams to be screwed together with #10x $\frac{3}{4}$ " SDS, 2" max. from ends, 16" max. o.c. (see Fig. 1)

Steel Damper assembly:

- Horizontal and Vertical mullions, frames to be screwed together with #10x $\frac{3}{4}$ " SDS, 2" max. from ends, 16" max. o.c. (see Fig. 1)

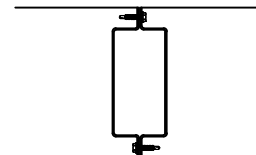


Fig. 1 Damper Mullion Assembly

### OPERATORS:

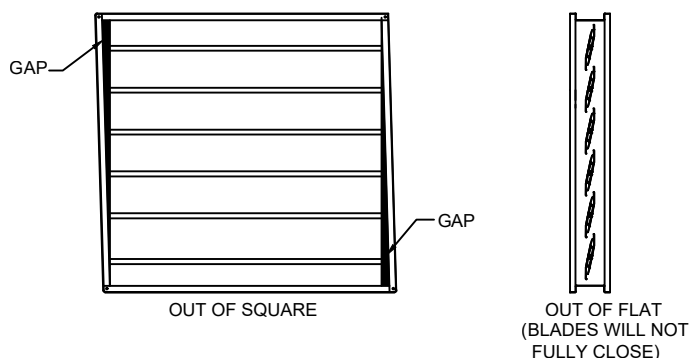
1. An extended shaft kit is supplied if no operator is specified.
2. Reference specific installation instructions supplied with damper operator for motorized dampers.

### MAINTENANCE:

In general this unit must be kept clean and free from foreign matter that may impede normal movement and seating of blades and seals (if applicable). A cleaning schedule should be established and is entirely dependent upon the environment into which the damper is placed. The damper is basically maintenance free with the above exception and regular lubrication and seal inspection as indicated below:

BEARINGS AND LINKAGE PIVOTS: Lubricate with dry graphite as required to provide free movement.

Fig. 2 Dampers Out of Square and Flat



IMPORTANT: Check Often. Use a square.

### CAUTION:

Check damper linkage to ensure that blades move freely. Make sure that linkage rods are not bent or damaged. Also check blade brackets for damage. DO NOT INSTALL IF DAMAGED!

NEVER DISCONNECT LINKAGE! If for some reason it is necessary, precision mark the linkage arm where it connects to the actuator and re-connect. If linkage has been disconnected without being marked, power motor to full stroke and push linkage rod to extend louver blades to the full open position and connect and tighten to actuator.

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