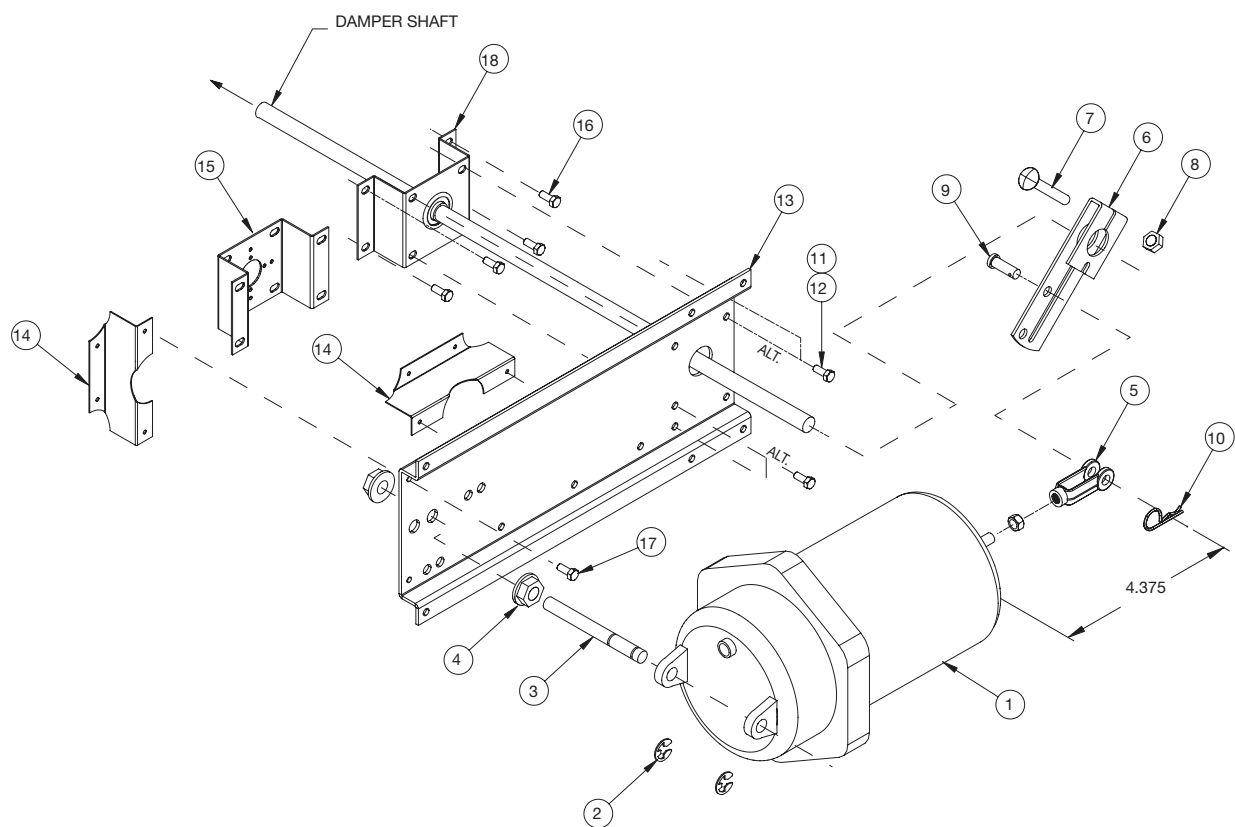


INSTALLATION INSTRUCTIONS

These instructions apply to the external field installation of Invensys actuators on Greenheck model VCD Control Dampers when they are duct mounted or sleeved.

This Invensys actuator is a large pneumatic actuator with a 20 square inch effective diaphragm area and a 4 1/2 in. stroke. It extends to its holding position when air pressure is applied and spring returns to its fail position when the air supply is interrupted. This model has a maximum air pressure of 25 psi.

Tools Required:
 Wrenches:
 (1) 3/8 in., (2) 1/2 in., (1) 7/16 in., and (1) 3/4 in.



Part Number	Quantity	Description
1	1	Actuator, MK2-7121
2	1	1/2 in. E-ring
3	1	Post 1/2 in. dia.
4	2	1/2-20 hex nut
5	1	Clevis (std w/act.)
6	1	1 in. crankarm
7	1	3/8-16 x 2 1/2 in. carriage bolt
8	1	3/8-16 spinlock nut
9	1	Clevis pin

Part Number	Quantity	Description
10	1	Cotter pin
11	4	1/4-20 x 1/2 in. bolt
12	4	1/4-20 spinlock nut
13	1	Mounting bracket
14	1	Auxiliary bracket
15	1	Standoff bracket w/ bearing
16	4	1/4-20 x 1/2 in. thread cutting screw
17	2	#10 x 1/2 in. Tek screw

INSTRUCTIONS

INVENSYS MK2-7121

These installation instructions assume the damper is already mounted in a duct or sleeve with the damper shaft extending beyond the duct or sleeve 6 inches.

1. Install the stand off bracket.

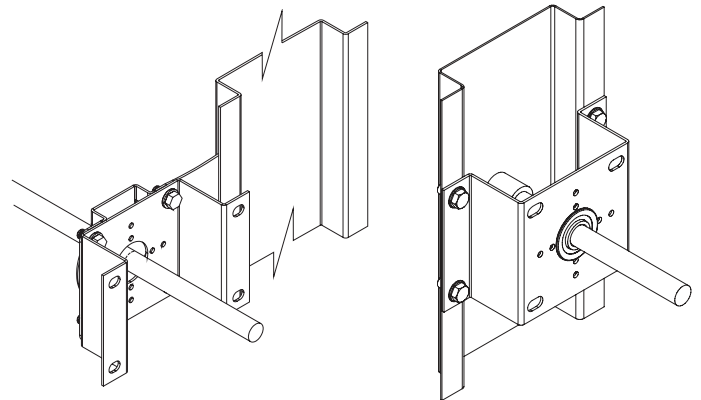
Dampers with a jackshaft

- 1a. Mount the stand off bracket, #15, onto the jackshaft bracket with (4) 1/4-20 X 1/2 in. thread cutting screws, #16. Orient the bracket perpendicular to the damper on the duct or sleeve so that the bracket shaft hole is centered on the jackshaft.

Dampers without a jackshaft (Shaft Extension)

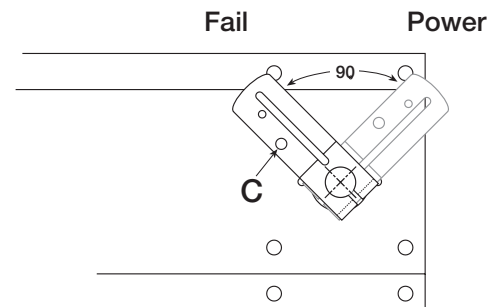
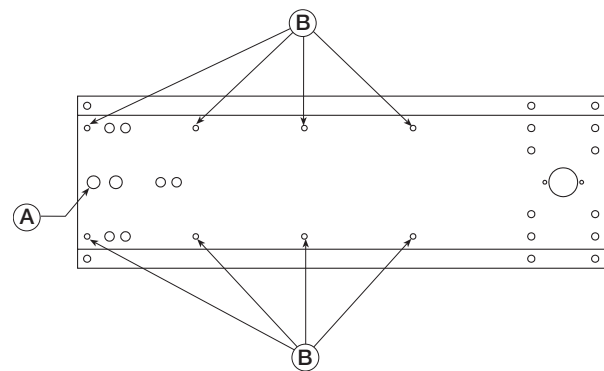
- 1b. Mount the stand off bracket spanning across the damper frame flanges with (4) #14 Tek screws, or equal, supplied by others. Orient the bracket perpendicular to the damper on the duct or sleeve so that the bracket shaft hole is centered on the shaft extension. Be sure not to run the screws into the damper linkage, which is between the flanges.
2. Assemble the mounting post, part #3, to the mounting bracket, part #13, with the (2) 1/2-20 hex nuts supplied. Use the hole illustrated "A" in the drawing to the right.
3. Attach the auxiliary bracket, #17, to the mounting bracket into two of the 6 holes labeled "B" in the drawing to the right with (2) #10 Tek screws supplied.
4. Mount the mounting bracket to the stand off bracket using (4) 1/4-20 x 1/2 in. bolts and (4) 1/4 - 20 Spinlock nuts included with this kit. Use the outer four holes of the mounting bracket for jackshafted models and the inner four holes for directly driven models. Fasten the auxiliary bracket to the duct on sleeve using (2) #10 Tek screws provided.
5. Locate the center of the hole of the clevis approximately 4 3/8 in. away from the face of the actuator.
6. Mount the actuator to the post using two E-rings supplied.
7. Note the damper shaft rotation for fail direction and orient the linkage appropriately. Position the crankarm in one of the positions shown in the illustrations to the right.
8. Attach the crankarm to the clevis on the actuator with the clevis pin and the hitch pin supplied through hole "C" shown to the right.
10. Run the supply pressure to the actuator and regulate it to a maximum of 25 psi.
11. Apply air pressure to the actuator.

The damper blades should fully open or close and return to the fail position when air pressure is disconnected, if they do not, adjustments can be made by changing the distance from the actuator face to the center of the hole in the clevis.

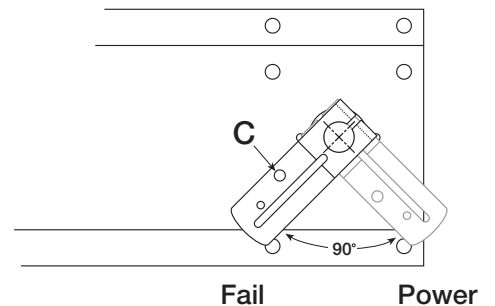


Orientation of Stand Off Bracket for a jackshaft driven damper

Orientation of Stand Off Bracket for a directly driven damper



Crankarm orientation for counterclockwise fail rotation



Crankarm orientation for clockwise fail rotation

