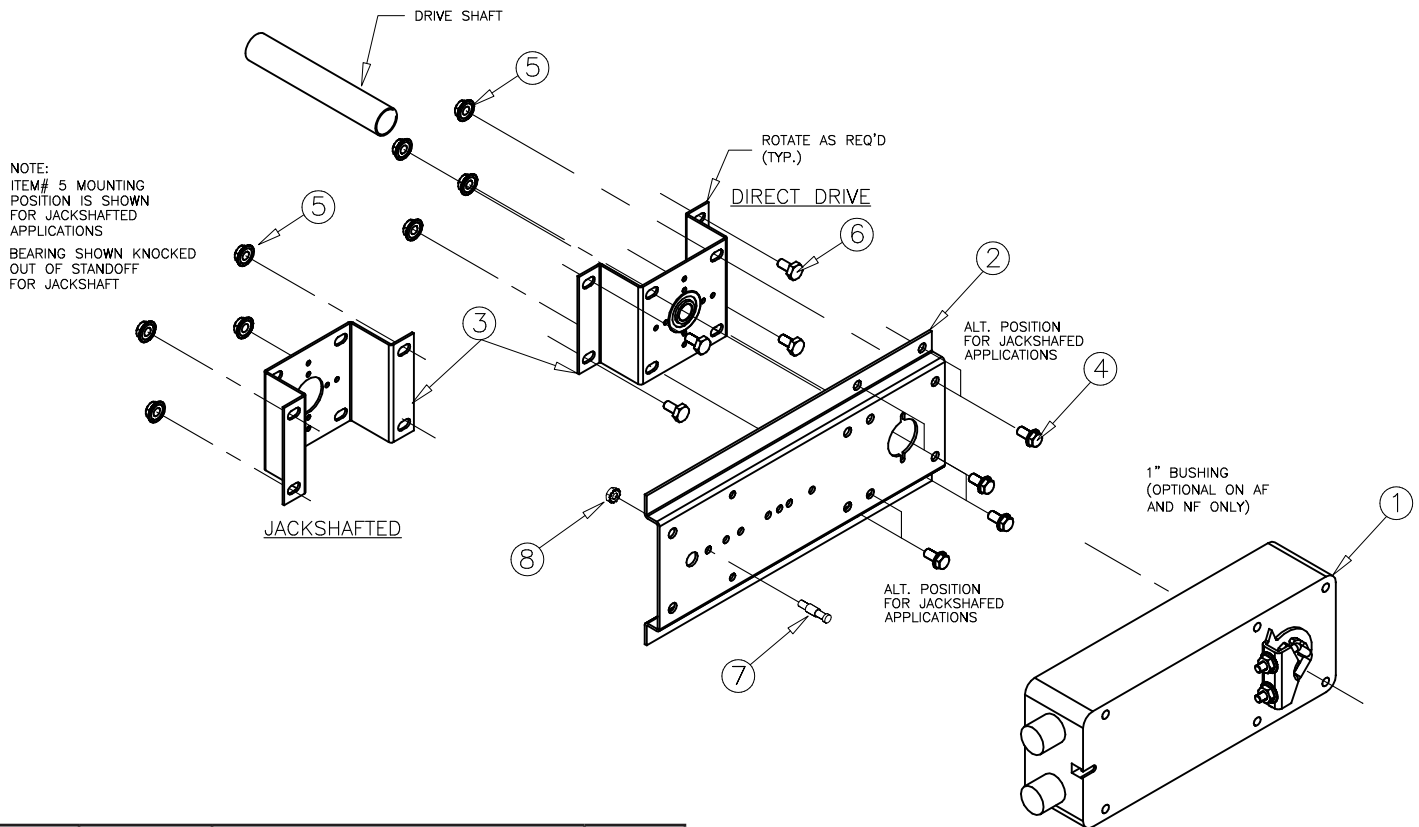


These instructions apply to the external field installation of Belimo actuators on Greenheck model VCD Control Dampers.

These models are direct drive actuators that rotate to their energized position when power is applied, and spring return to their fail position when power is disconnected.

Tools Required:
Wrenches:
(1) 3/8 in., (1) 7/16 in., and (1) 10mm



Item	Part	Description	Qty
1	-	Belimo actuator (representation)	1
2	723089	Anti-rotation bracket	1
3	815027	Standoff bracket assembly	1
4	415475	1/4-20 x 1/2 in. bolt	4
5	415455	1/4-20 spinlock nut	4
6	415586	#14 TEK screw	4
7	416122	Anti-rotation pin	1
8	415385	Keps hex nut zp	1

Instructions:

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.

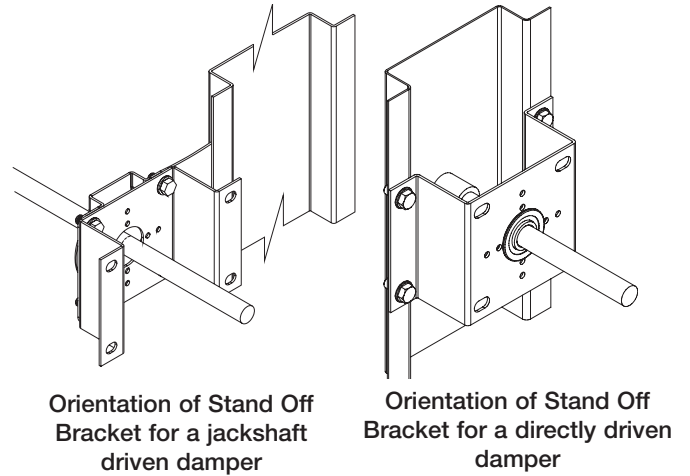
1. Install the stand off bracket.

Dampers with a jackshaft

1a. Jackshaft supplied is typically 1 in. (25mm) diameter. For these applicaitons the bearing must be removed from the stand-off bracket (item 3). Mount the stand-off bracket (item 3) with (4) thread studs and (4) 1/4 -20 spinlock screws.

Dampers without a jackshaft (Shaft Extension)

1b. Mount the stand off bracket (item 3) spanning across the damper frame flanges. Orient the anchor bracket perpendicular to the damper on the duct or sleeve so that the bracket shaft hole is centered on the shaft extension. Fasten to the damper frame with (4) #14 Tek screws (item 6) or equal, supplied by others. Be sure not to run the screws into the damper linkage, which is between the flanges.



2. If the fail rotation of the damper is counter clockwise, this is a Left Hand installation and the universal clamp should be on the side labeled CCW on the actuator (usually shipped in this orientation). If the fail rotation of the damper is clockwise, this is a Right Hand installation and the universal clamp should be on the side labeled CW on the actuator.

To change the universal clamp from one side to the other side, remove the retaining clamp and then the universal clamp from the actuator. Replace the universal clamp on the correct side of the actuator making sure that the corresponding tab is pointing to 0° and the spline pattern of the clamp fits onto the actuator. Slip the clamp on and then lock in place using the retaining clamp.

Note: All fail rotations refer to the damper shaft rotation needed to achieve the desire blade fail position. If fail position is closed, make sure damper blades are fully close and ensure blade seals are compressed prior to tightening the actuator clamp to the damper extension pin or jackshaft. Inspect the damper blades and the damper shaft to determine the proper damper shaft rotation for the desired blade fail position.

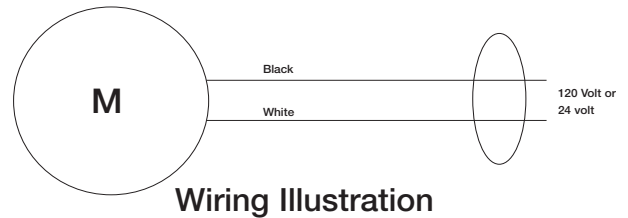
3. Slide the actuator and the mounting bracket onto the damper shaft making sure the anti-rotation strap is in the slot on the actuator. Mount the mounting bracket to the stand off bracket using (4) 1/4 in.-20 x 1/2 in. bolts and (4) 1/4 in. - 20 Spinlock nuts, included with this kit. Use the outer four holes of the mounting bracket for jackshafted models and the inner four holes for directly driven models.

Note: The mounting bracket may be attached in three positions: parallel with the duct, perpendicular up from the duct, or perpendicular down from the duct. Choose a position that offers the most clearance for the application.

4. Verify that the damper is in its fail position. Tighten the universal clamp to the damper shaft.

5. The wiring illustration to the right identifies actuator electrical connections. Wiring should be per an approved project or job wiring diagram and must comply with all applicable electrical codes.

6. Apply power to the actuator. The damper blades should fully open or close and return to the fail position when power is disconnected. No adjustments are required.



Model	Volts	Running	Holding
AFBUP	24-240	7W	3.5W
AFBUP-S	24-240	7W	3.5W
AFB24-MFT	24	7.5W	3W
AFB24-MFT-S	24	7.5W	3W
FSAF-24	24	7.5W	2W
FSAF-24S	24	7.5W	2W
FSAF-120	120	9.5W	3.5W
FSAF-120S	120	9.5W	3.5W
FSAF-230	230	11W	3.5W
FSAF-230S	230	11W	3.5W
FSNF-24	24	18W	6W
FSNF-120	120	18W	6W
FSNF-230	230	18W	6W
NFB24-SR	24	3.5W	2.5W
NFB24-SR-S	24	3.5W	2.5W

