

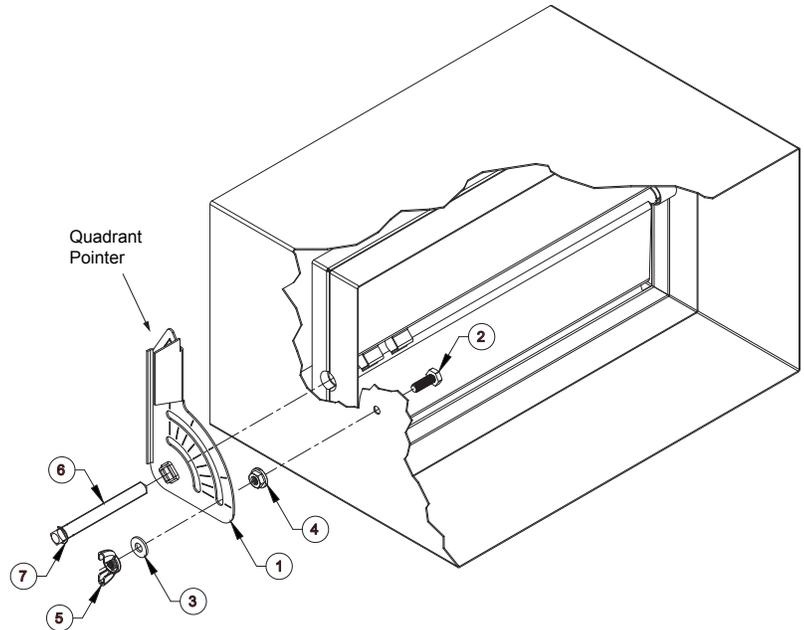
## Installation, Operation and Maintenance Manual

Please read and save these instructions for future reference. Read carefully before attempting to assemble, install, operate or maintain the product described. Protect yourself and others by observing all safety information. Failure to comply with these instructions will result in voiding of the product warranty and may result in personal injury and/or property damage.

### Tools Required:

Hammer  
 5/16 in. driver  
 Electric drill  
 9/16 in. drill bit  
 7/16 in. wrenches (2)

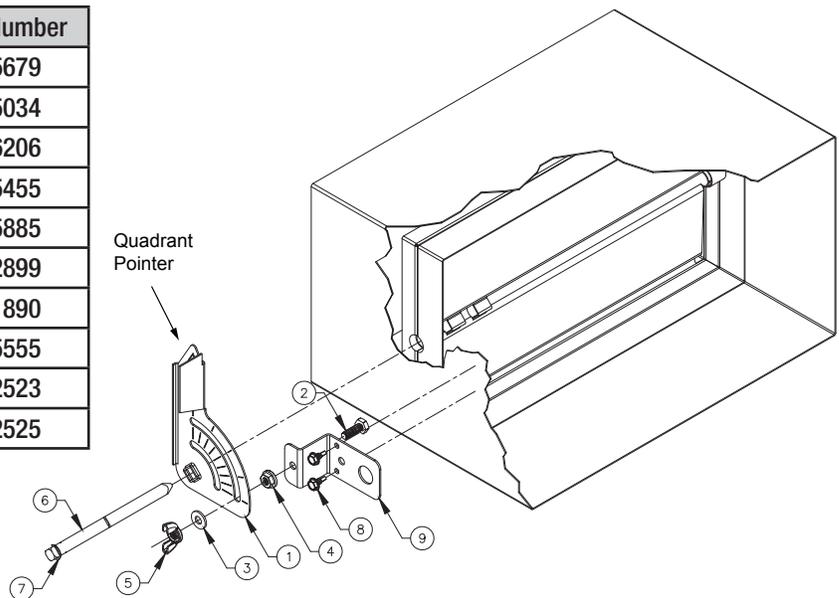
Item	Qty	Description	Part Number
1	1	Manual Quadrant	475679
2	1	Bolt	415034
3	1	Flat washer	416206
4	1	Hex nut	415455
5	1	Wing nut	415885
6	1	Axle pin	454136
7	1	Axle clip	451890



### Installation Instructions Without Standoff Bracket

1. Install the damper in the duct. Place fasteners so that they do not interfere with operation of the blades. The end of the blade that has the lances will accept the quadrant drive pin. Place that side of the damper on the side of the duct where the quadrant is to be located.
2. Cut a hole through the duct over the lanced blade axle bearing. The hole should be large enough for the axle pin to slide through (approximately 9/16 in. diameter).
3. Slide the axle pin through the quadrant. Align the quadrant pointer with the blade as shown and then insert the pin into the damper blade lances.
4. Pound the axle pin into the damper blade until the quadrant is approximately 3/4 in. (19mm) away from the duct.
5. Rotate the quadrant and blade until the blades are at the full closed position. (The quadrant pointer will be approximately perpendicular to the centerline of the duct).
6. While holding the quadrant and blade in the closed position and using the end of the outer quadrant arc as a guide, drill a 1/4 in. (6mm) diameter hole through the duct. Drill the hole at the end of the arc that is furthest from the quadrant pointer.
7. Rotate the quadrant out of the way and insert the bolt from the inside of the duct. Secure the bolt to the duct using the hex nut.
8. Rotate the quadrant and blade back and position the quadrant over the bolt. Apply the flat washer and wing nut onto the bolt.
9. Pound the axle pin into the blade until the axle clip is within 1/8 inch (3mm) of the quadrant.
10. Using the quadrant lever, cycle the damper while checking for proper operation. Verify that the blade is free floating within the frame. Resolve any interference issues that prevent smooth operation.
11. Set the damper blade to the desired position and tighten the wing nut.

Item	Qty	Description	Part Number
1	1	Manual Quadrant	475679
2	1	Bolt	415034
3	1	Flat washer	416206
4	1	Hex nut	415455
5	1	Wing nut	415885
6	1	Axle pin	452899
7	1	Axle clip	451890
8	2	Tek screw	415555
9	1	1½ in. Standoff bracket	742523
	1	2 in. Standoff bracket	742525



## Installation Instructions With Standoff Bracket

1. Install the damper in the duct. Place fasteners so that they do not interfere with operation of the blades. The end of the blade that has the lances will accept the quadrant drive pin. Place that side of the damper on the side of the duct where the quadrant is to be located.
2. Cut a hole thru the duct over the lanced blade axle bearing. The hole should be large enough for the axle pin to slide through (approximately  $\frac{9}{16}$  in. diameter).
3. Insert the bolt into the standoff bracket as shown and secure using the hex nut.
4. Using the outer arc of the quadrant, attach the quadrant to the standoff bolt and apply the flat washer and wing nut. Slide the standoff assembly to the end of the arc that is furthest from the quadrant pointer and tighten the wing nut. Slide the axle pin through the quadrant.
5. Align the quadrant pointer with the blade as shown and then insert the axle pin into the damper blade lances. Pound the axle pin into the damper blade until the axle clip is approximately  $2\frac{1}{4}$  in. (57mm) away from the duct.
6. Rotate the quadrant and blade until the blades are at the full closed position. (The quadrant pointer will be approximately perpendicular to the centerline of the duct).
7. Repositioned the standoff bracket as shown, then, attach the standoff bracket to the duct using two self- drilling TEK screws.
8. Using the quadrant lever, cycle the damper while checking for proper operation. Verify that the blade is free floating within the frame. Resolve any interference issues that prevent smooth operation.
9. Set the damper blade to the desired position and tighten the wing nut.

## Our Commitment

*As a result of our commitment to continuous improvement, Venco reserves the right to change specifications without notice.*



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