

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.



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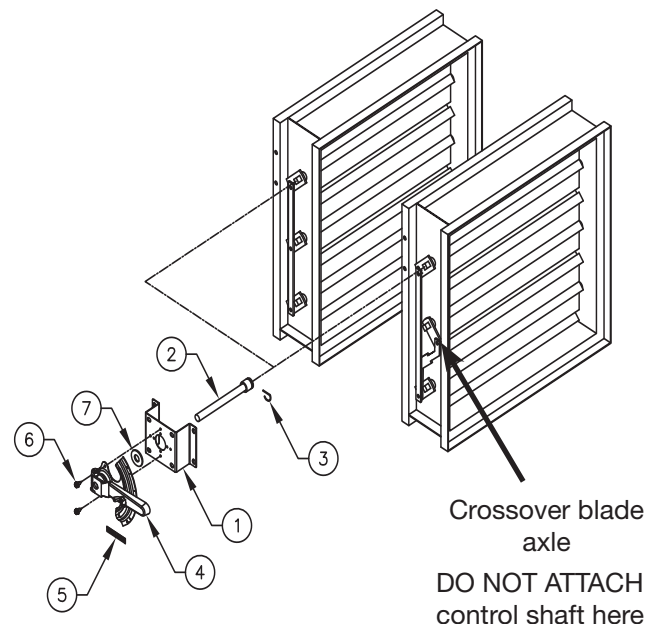
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Installation Instructions For Manual Quadrant

Part Number 828599		
No.	Qty	Description
1	1	Standoff bracket
2	1	Extension pin
3	1	Retaining clip
4	1	½ in. Manual quadrant
5	1	Open and close labels
6	2	Tek screws
7	1	Washer

Tools Required:

- 5/16 in. hex nut driver
- 3/8 in. electric drill
- 1/2 in. open end wrench



Note: For Dampers Installed In Ducts

Extended control shaft is installed from outside of duct after damper is installed. Install as shown above.

Before Installing Damper in the Duct

1. If damper has more than one blade, determine which blade axle will be driven by the extended control shaft. Always attach extended control shaft to a blade axle which is directly connected to the main linkage tiebar. DO NOT attach extended control shaft to a crossover blade axle.
2. Cut hole approximately 1 in. diameter in the duct where damper drive blade axle will be located. Hole must provide clearance for enlarged portion of the extended control shaft.

After Damper is Installed in Duct

1. Push extended control shaft through the hole in the duct and onto drive blade axle. Retainer clip should “click” into groove on the drive blade axle and hold shaft into place. Standard control shaft location is the third blade from the bottom on dampers with three or more blades. Control shaft location is the first blade from the bottom on dampers with one or two blades.
2. Install the stand off bracket with washer over the extended control shaft and screw bracket to the duct. Make sure screws do not interfere with damper linkage or blade movement. Assemble manual quadrant to the extension bracket assembly (screws provided).
3. With the damper either fully open or closed, lock manual quadrant to the extended control shaft so the manual quadrant can move the damper between open or closed.

Note: Tighten down the bolt on manual quadrant to 250 in. lb. of torque.

4. Set the damper to the desired position and tighten wing nut on the manual quadrant to hold the damper in place.

Caution

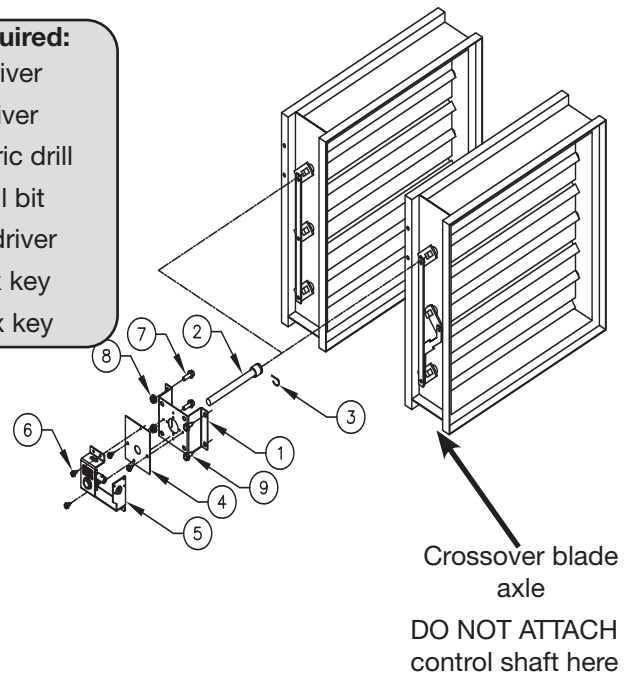
Standoff bracket with the washer is needed to support the extended control shaft. If not installed as directed, the extended control shaft may not operate the damper correctly.

Installation Instructions For Cable Operator and Round Ceiling Cup

Item	Qty	Description	Part Number
1	1	Standoff bracket	651812
2	1	Extension pin	452509
3	1	Retaining clip	451738
4	1	Mounting plate	1036710
5	1	Cable operator	1036540
6	4	#10 Tek screw	415555
7	2	Cap screw	415474
8	2	Nut	415455
9	2	#14 Tek screw	417432

Tools Required:

- $\frac{5}{16}$ in. driver
- $\frac{3}{8}$ in. driver
- $\frac{3}{8}$ in. electric drill
- $\frac{1}{2}$ in. drill bit
- $\frac{1}{4}$ in. bit driver
- $\frac{1}{8}$ in. hex key
- $\frac{5}{64}$ in. hex key



VIDEO

Before Installing Damper in the Duct

1. If damper has more than one blade, determine which blade axle will be driven by the extended control shaft. Always attach extended control shaft to a blade axle which is directly connected to the main linkage tiebar. DO NOT attach extended control shaft to a crossover blade axle.
2. Cut hole approximately 1 in. diameter in the duct where damper drive blade axle will be located. Hole must provide clearance for enlarged portion of the extended control shaft.

After Damper is Installed in Duct

1. Push extended control shaft through the hole in the duct and onto drive blade axle. Retainer clip should “click” into groove on the drive blade axle and hold shaft into place. Standard control shaft location is the third blade from the bottom on dampers with three or more blades. Control shaft location is the first blade from the bottom on dampers with one or two blades.
2. Install the stand off bracket with provided cap screws, nuts, and #14 Tek screws.
3. Attach mounting plate to stand off bracket with (2) #10 Tek screws, as shown.
4. Attach cable operator to mounting plate with (2) #10 Tek screws, as shown.
5. Insert the end of the cable into the coupling on the cable operator. Tighten the set screw.
6. Use ¼ in. bit driver to rotate cable until set screws on cable operator gear are orientated such that they are accessible with a hex key. Tighten set screws.
7. Run the cable to termination point and secure the cable at 3 ft. intervals and every change in direction. Cables should be taut or nearly taut with a 4 in. minimum turn radius. For cable runs longer than 20 ft., use of conduit is recommended on straight run sections.
8. Attach the mounting bracket to the structural member such that the bottom of the bracket is flush with the top of the ceiling. (Illustration A)
9. Drill a ½ in. diameter hole in the ceiling location that lines up with the centerline of the cable.
10. Use a ¼ in. bit driver to balance your damper.
11. Select the appropriate nylon cap to cover the opening, depending on the ceiling thickness. (Illustration A)
Attach to exposed cable.

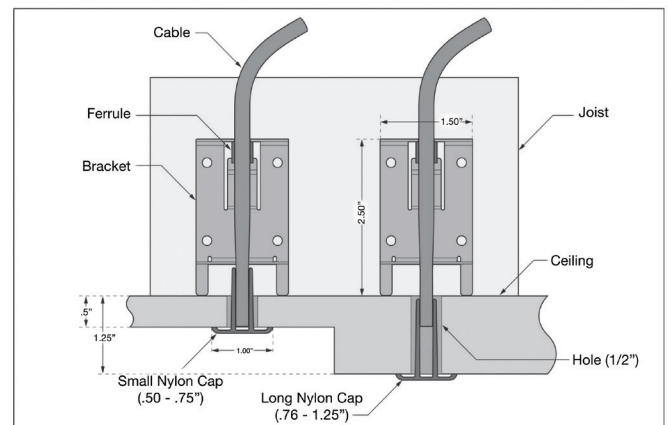


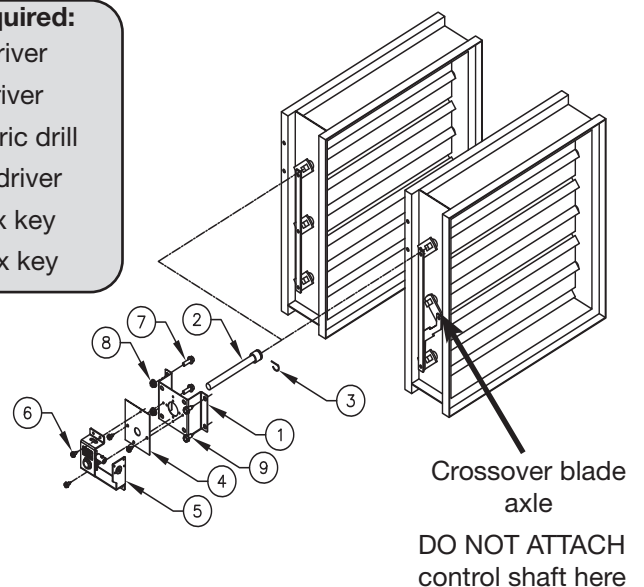
Illustration A

Installation Instructions For Cable Operator with Square Wall/Ceiling Plate

Item	Qty	Description	Part Number
1	1	Standoff bracket	651812
2	1	Extension pin	452509
3	1	Retaining clip	451738
4	1	Mounting plate	1036710
5	1	Cable operator	1036540
6	4	#10 Tek screw	415555
7	2	Cap screw	415474
8	2	Nut	415455
9	2	#14 Tek screw	417432

Tools Required:

- 5/16 in. driver
- 3/8 in. driver
- 3/8 in. electric drill
- 1/4 in. bit driver
- 1/8 in. hex key
- 5/64 in. hex key



Before Installing Damper in the Duct

1. If damper has more than one blade, determine which blade axle will be driven by the extended control shaft. Always attach extended control shaft to a blade axle which is directly connected to the main linkage tiebar. DO NOT attach extended control shaft to a crossover blade axle.
2. Cut hole approximately 1 in. diameter in the duct where damper drive blade axle will be located. Hole must provide clearance for enlarged portion of the extended control shaft.

After Damper is Installed in Duct

1. Push extended control shaft through the hole in the duct and onto drive blade axle. Retainer clip should “click” into groove on the drive blade axle and hold shaft into place. Standard control shaft location is the third blade from the bottom on dampers with three or more blades. Control shaft location is the first blade from the bottom on dampers with one or two blades.
2. Install the stand off bracket with provided cap screws, nuts, and Tek screws.
3. Attach mounting plate to stand off bracket with (2) #10 Tek screws, as shown.
4. Attach cable operator to mounting plate with (2) #10 Tek screws, as shown.
5. Insert the end of the cable into the coupling on the cable operator. Tighten the set screw.
6. Use ¼ in. bit driver to rotate cable until set screws on cable operator gear are orientated such that they are accessible with a hex key. Tighten set screws.
7. Run the cable to termination point and secure the cable at 3 ft. intervals and every change in direction. Cables should be taut or nearly taut with a 4 in. minimum turn radius. For cable runs longer than 20 ft., use of conduit is recommended on straight run sections.
8. Fasten ceiling/wall plate to framing at the termination point, aligning the depth so that the box is properly aligned with the finished surface. (Illustration B)
9. For ceiling mount applications, use a ¼ in. bit driver to balance your damper.
10. For wall mount applications, move guide and bushing to top knockout. Pull the cable out towards you to allow driver access, then balance damper. Push the cable back in place once balancing is complete.
11. Install cover plate.

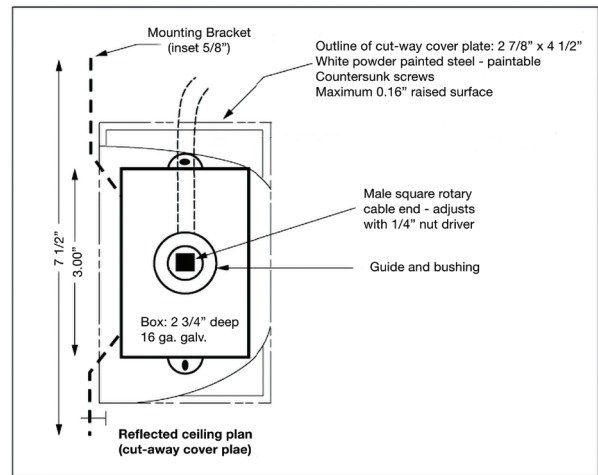


Illustration B

Our Commitment

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

Product warranties can be found online at Greenheck.com, either on the specific product page or in the literature section of the website at Greenheck.com/Resources/Library/Literature.



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