

AirBrake® Shaft Mount Installation Instructions



Prior to installation please confirm that the following parts are present.



- Qty(1) AirBrake® assembly
- Qty(2) Shackle with screw pin
- Qty(6) Wire rope clips
- Qty(2) Thimble
- Qty(2) 1/2"-13 Eye bolt, washer, and nut
- Qty(2) Stainless steel restraining cable assembly
- Qty(1) Package of Loctite 262

CAUTION:

Prior to installation confirm the operation direction of the fan, and ensure this coincides with the direction of free rotation of the AirBrake®.

STEP 1:

NOTE:

Confirm there is at least 1.5 inches (38.1 mm) of available shaft and that there is at least 3 inches (76.2 mm) of clearance between the bottom of the shaft and the nearest obstacle.

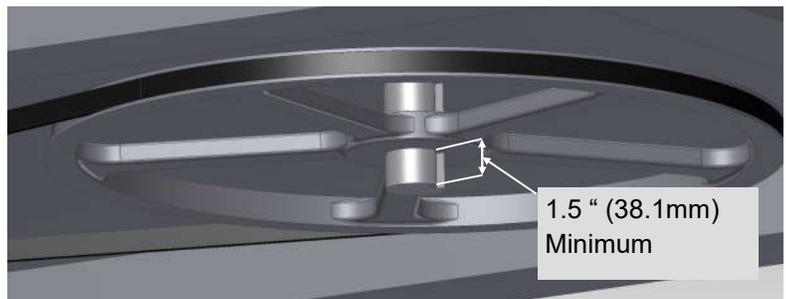


Figure 1. Minimum shaft extension.

STEP 2:

Install the AirBrake® assembly onto the fan shaft by aligning the modified setscrew with the keyway of the fan shaft. Slide the assembly onto the shaft until the bottom of the shaft comes into contact with the lip of the AirBrake® assembly.

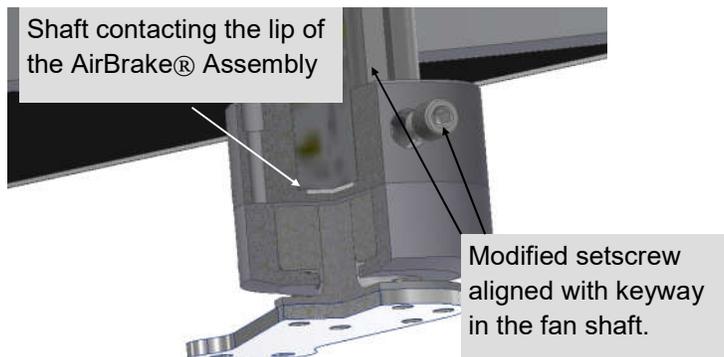


Figure 2. AirBrake® coming into contact with shaft.

STEP 3:

Apply Loctite 262 to the threads of the modified setscrew and tighten using a hex wrench to the proper torque value (see Table 1).

STEP 4:

Apply Loctite 262 to the threads of the plain setscrew and tighten using a hex wrench to 45 ft-lbs (6.2 kg-m).

STEP 5:

Insert the thimble portion of the cable assembly onto each shackle. Apply Loctite 262 to the threads of the screw pin of each shackle. Install both shackles onto the arm of the AirBrake® assembly with the head of the screw pin on the upper part of the shackle.

STEP 6:

Attach the supplied 1/2"-13 eye bolts to nearby suitable supports using supplied lock-washers and nuts. Each eye bolt should be as near to straight line opposite each other as possible, effectively creating an imaginary line through the shackle holes of the AirBrake® arm (See Figure 4). While 180° is the optimum cable placement, it is allowable for the cables to form as small an angle as 90° on the plane of the Air-Brake® arm. Secure the free ends of the restraining cables to the eyebolts by first inserting one of the supplied thimbles through each eye bolt. Pass each cable around its associated thimble and secure with three wire rope clips on each cable. See figure 5 for proper rope clip installation. Ensure that the attachment of the cable to the support will not make the cable more than plus or minus 10° out of level as illustrated in figure 6. Remove as much slack as practical from each cable. However, cables should NOT be taut. Apply Loctite 262 (or equivalent) to the threads of the rope clips and tighten the clips.

Table 1. Torque values for the modified set screw.

Keyway Width	Torque
3/4 inch	150 (ft-lbs)
5/8 inch	100 (ft-lbs)
1/2 inch	50 (ft-lbs)
3/8 inch	20 (ft-lbs)
1/4 inch	6 (ft-lbs)
20 mm	19.4 (kg-m)
18 mm	15.3 (kg-m)
16 mm	11.4 (kg-m)
14 mm	7.6 (kg-m)

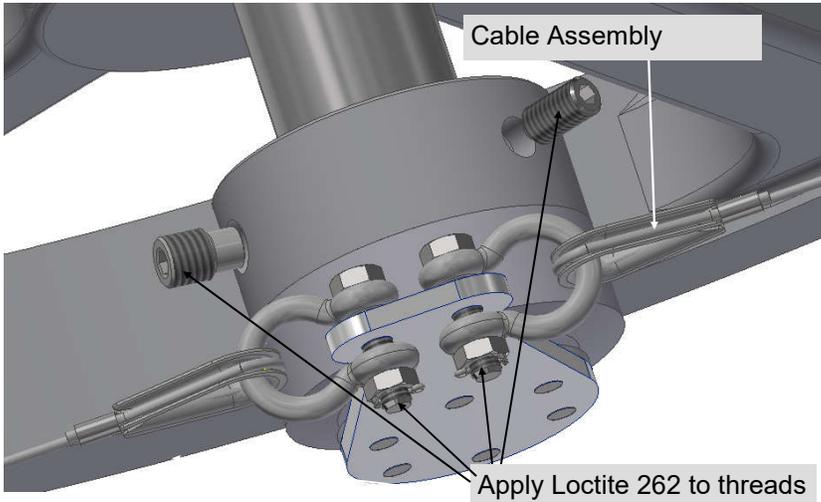


Figure 3. Installation of set screws and shackle.

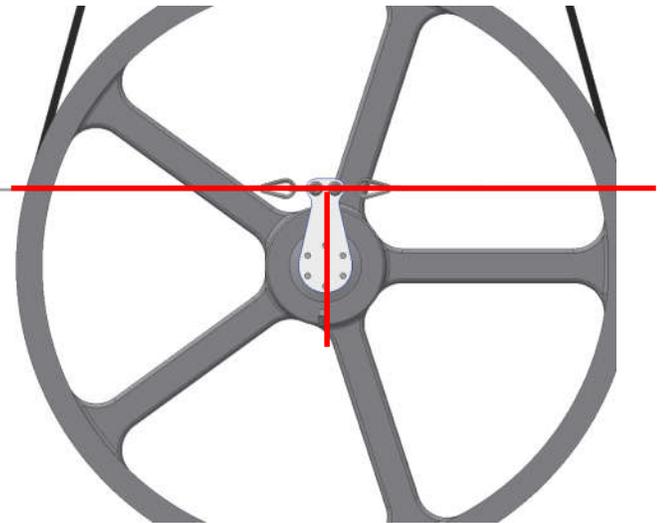


Figure 4. Straight line installation.

STEP 7.

After installation of the restraining cables, check by hand for free rotation of the fan in the normal direction. Then, again by hand, attempt to rotate the fan in the backwards direction and ensure the AirBrake® is working properly. In the normal rotation direction of the fan, it is likely that both cables will be very slightly slack. In the backwards direction one cable should be taut. Ensure that neither cable may be in contact with any edge or surface (moving or stationary) which might lead to fraying and failure of the cable.

STEP 8.

Install all required guards and confirm there is sufficient clearance for the AirBrake®.

STEP 9.

After all of the necessary guards have been installed, run the fan at full speed, ensure that the cables are not overly tight and are positioned properly with all things working correctly.

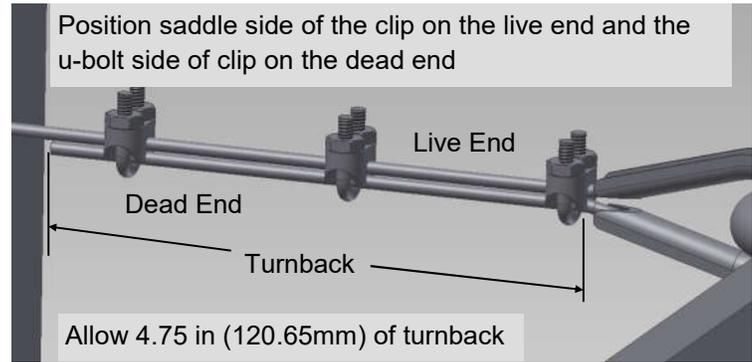


Figure 5. Proper installation of wire rope clips.

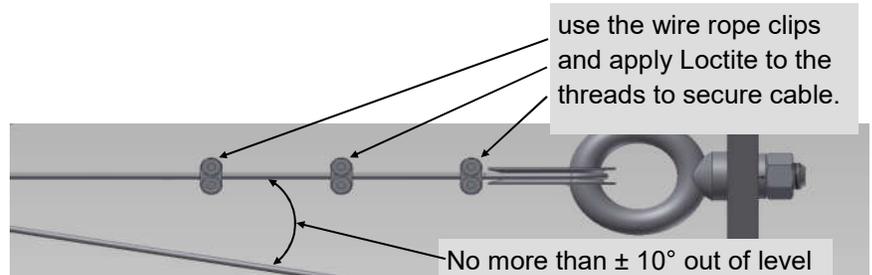


Figure 6. Restraining cable angle tolerance.

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