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MODEL BRC: CANTILEVER ROTARY BRUSH CONVEYOR BELT CLEANER

CAUTION:

Before installing or adjusting, shut down and physically lockout the conveyor system.

When replacing brush strips, do not over-tighten BR-22 clip assemblies on the bristle strips. Recommended torque setting range is 5 ft-lbs minimum, 10 ft-lbs maximum.

As an added safety measure, before installation, please verify that all bristle clip assemblies are properly tightened and have not come loose in transit.

Installation:

1. Refer to figure 1.
 - A) The BRC can be mounted on either side of a conveyor, and the motor / cover can be mounted left-hand or right-hand. The frame should be located directly under the head pulley, or other location where belt is supported against excessive vertical movement.
 - B) Using the frame as a template, mark and drill out the 9/16" [14 mm] diameter mounting holes.
 - C) An opening 11" high by 9" wide is required for brush assembly to be inserted through.
 - D) Bolt the frame assembly in place using 1/2"-13 hex head cap screws, lock-washers, and nuts.

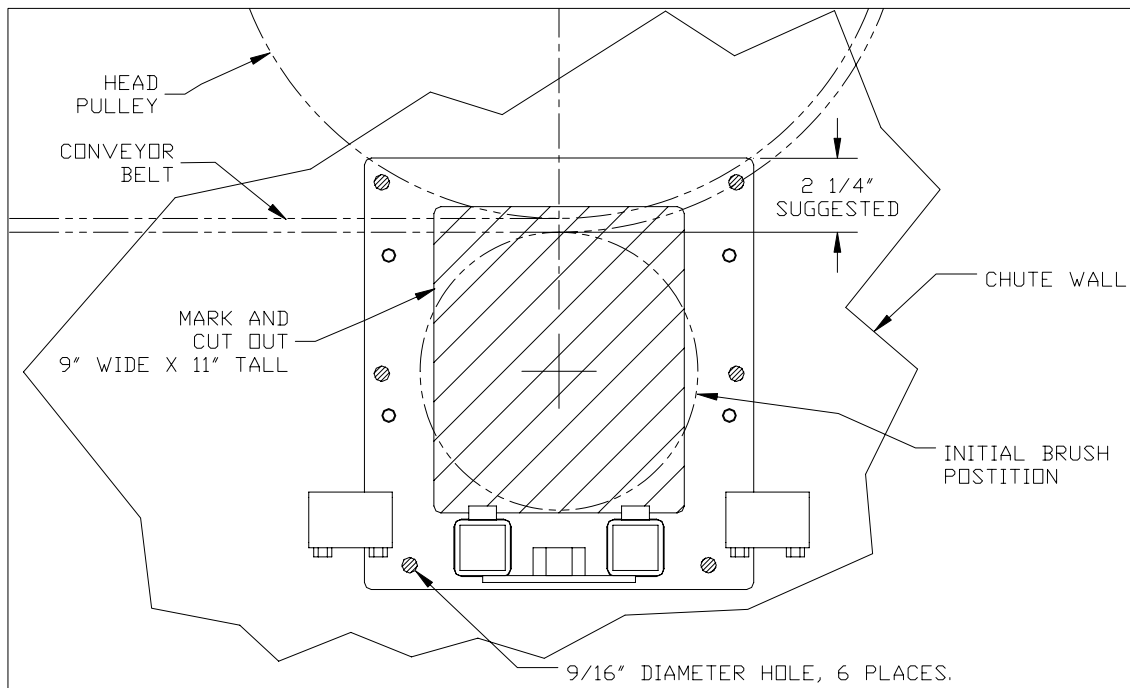
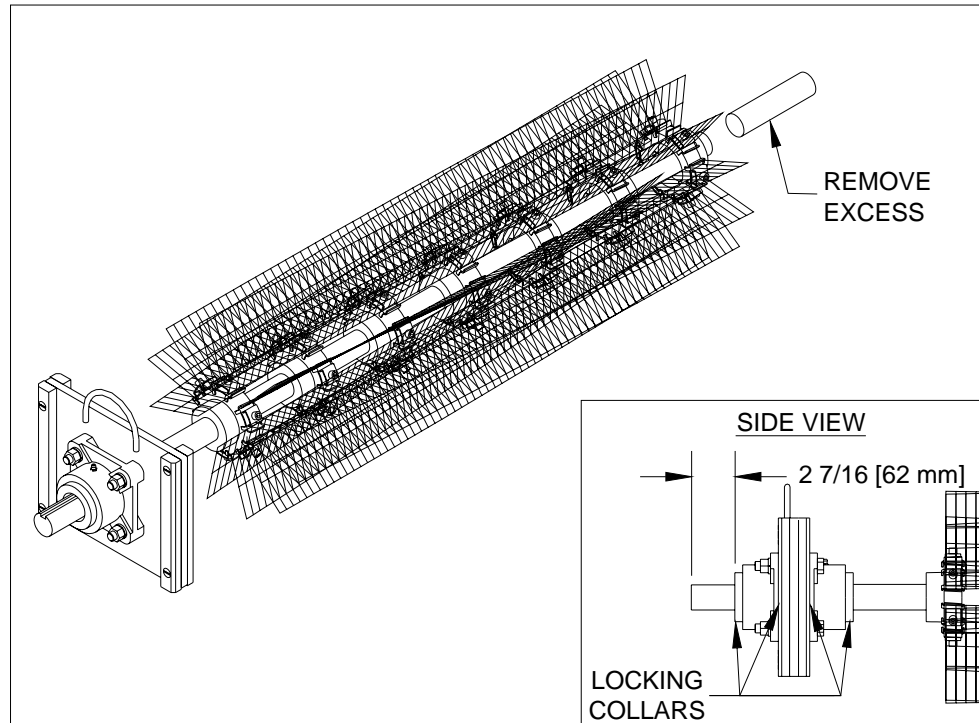


Figure 1:

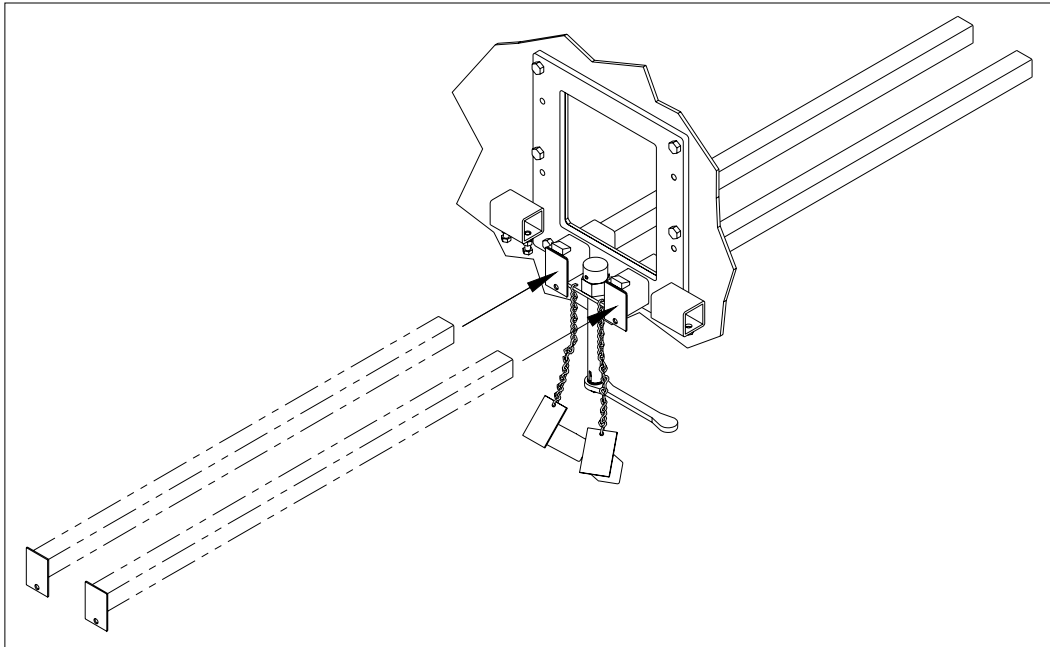
2. *Refer to figure 2.*
 - A) Inspect the brush shaft to make sure it is free of burrs and debris. Wipe clean, and lightly coat the shaft with lubricating oil.
 - B) Position the brush shaft into the bearing assembly, with approximately 2-7/16" [62 mm] of the key-slotted end showing past the bearing lock collar on that side. The slotted end of the shaft must face away from the conveyor belt. Use a 5/32" hex wrench to tighten the 8 locking-collar set screws. The recommended set-screw torque is 156 in/lbs. or 13 ft/lbs.
 - C) Position the brush onto the shaft so that the brush will be centered under the belt and head pulley. Tighten the 2 shaft set screws on each brush hub.
 - D) If the brush shaft extends too far past the end of the brush, then cut to the desired length.

Figure 2:



3. *Refer to figure 3.*
 - A) Two brush installation guides are provided to assist in installing or removing the brush assembly. Remove the guide tube plugs. Insert each guide fully, or until tubes hit opposite wall of chute, into each guide tube at the bottom of the mounting plate. The guides may be removed after the brush is installed, or they may be left in place if the brush is raised completely off of the guides. If the guides are removed, then insert the plugs into the guide tubes on the mounting plate.
 - B) Spread a drop of axle grease along each of the 4 bearing assembly guide strips.

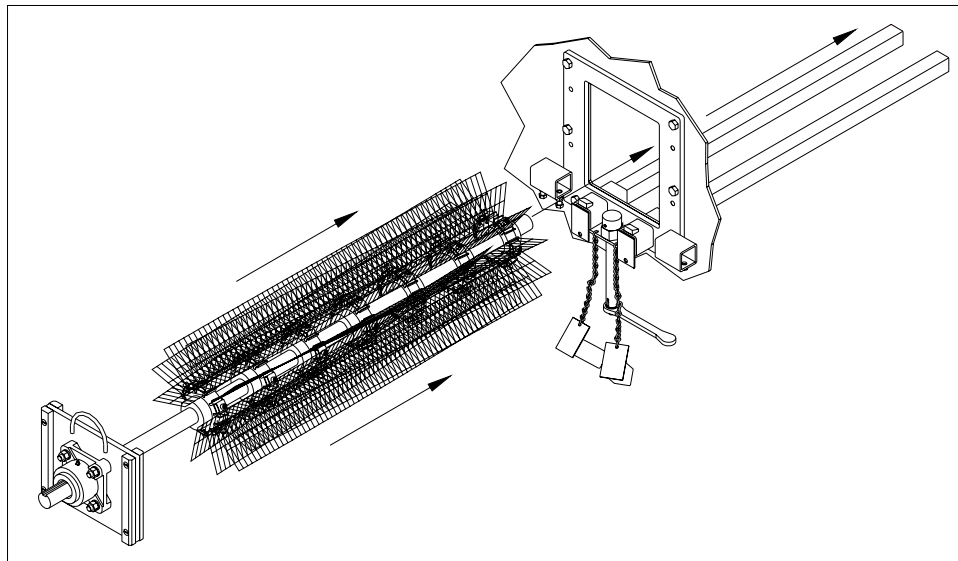
Figure 3:



4. *Refer to figure 4.*

The loop on top of the bearing assembly is provided for handling the brush and bearing assembly. The height adjuster and ratchet must be completely lowered. Insert the brush assembly through the frame and wall opening. The bearing assembly rests on two angled guide blocks located on top of the guide tubes.

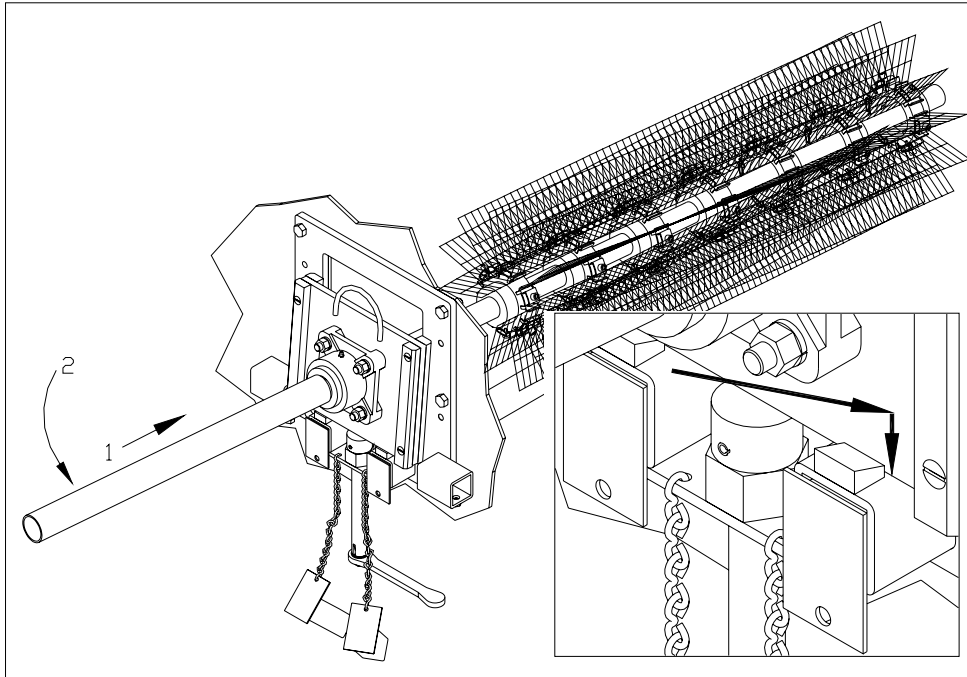
Figure 4:



5. *Refer to figure 5.*

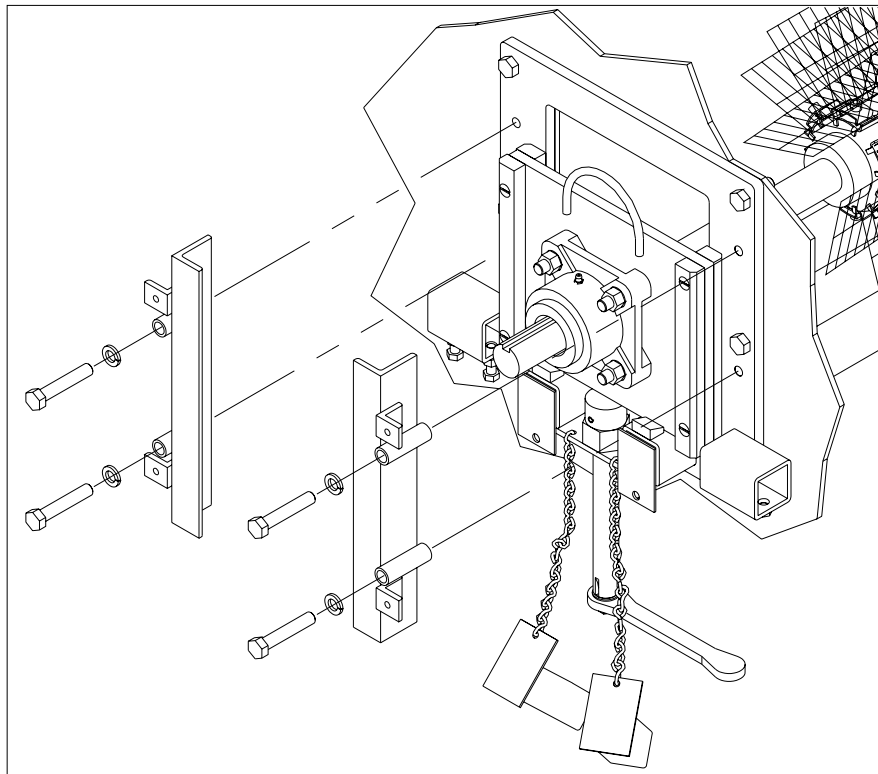
A leverage tube is provided to assist in the installation of the brush assembly. Carefully slide it onto the exposed end of the brush shaft and tilt the brush assembly into place using a downward motion on the leverage tube. The bearing plate will now be located on top of the guide tubes and behind the angled blocks. Make sure the brush assembly is centered in the opening.

Figure 5:



6. Refer to figure 6.
Using the 1/2"-13 hex-head cap screws and lock-washers provided, bolt the 2 guide weldments to the frame assembly. Remove the brush guides and insert the plugs into the guide tubes.

Figure 6:

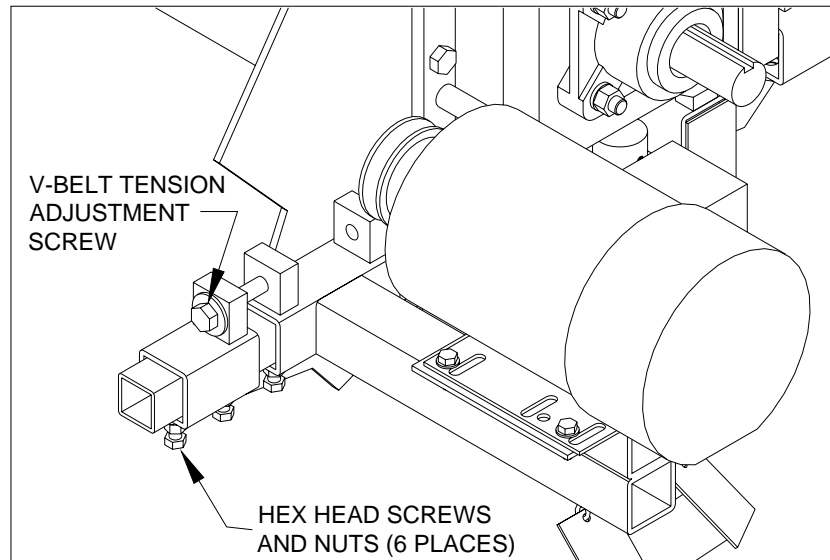


7. Refer to figure 7.
- Place the motor mount assembly into the frame assembly by fitting the motor support arm into the support arm tube on either the left-hand or right-hand side of the frame.
 - The frame's motor support arm tube has two hex-head cap screws on the bottom to hold the motor support arm to the frame. Tighten the cap screws and then tighten the hex nuts on the cap screws to lock the cap screws in place. Do not over-tighten.
 - Attach the motor to the mounting plate with the 5/16"-18 x 1" cap screws, washers, and hex nuts provided. Note: line up the motor on the plate using the mounting holes closest to the motor shaft.
 - Select the drive sheave based on the belt speed or desired brush speed. The brush surface speed should be approximately twice the belt speed and not slower than 200 RPM. The slowest acceptable cleaning speed should be used. The following speeds are based on a 10" diameter brush:

Drive Sheave Diameter (inches)	3.35	4.95	6.25
Brush Speed Revolutions per Minute	300	440	560
Brush Speed Feet per Minute	785	1152	1466

- Attach the drive sheave to the motor shaft using the 7/8" shaft bushing provided. The sheave and bushing fits best with the bushing screws facing toward the motor. Note: the drive sheave lines-up with the shaft sheave.

Figure 7:



8. Refer to figures 7 and 8.
- Install the cover weldment to the frame guide weldments using the 1/4"-20 x 3/4" cap screws and washers provided.
 - Attach the large sheave to the brush shaft with the 1-15/16" shaft bushing provided. Note: line-up the large sheave with the drive sheave.
 - Add the v-belt to the two sheaves.
 - Loosen, slightly, the screws holding the motor support weldment and the tension adjuster on the motor support arm, and move the assemblies to snug up the belt.
 - Tighten the screws on the tension weldment, and turn the adjusting screw to further move the motor assembly and tighten up the v-belt.
 - Tighten the screws on the motor support weldment, and snug up the jam nuts.

Figure 8:

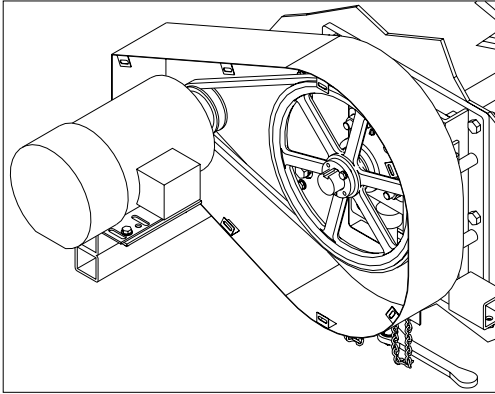
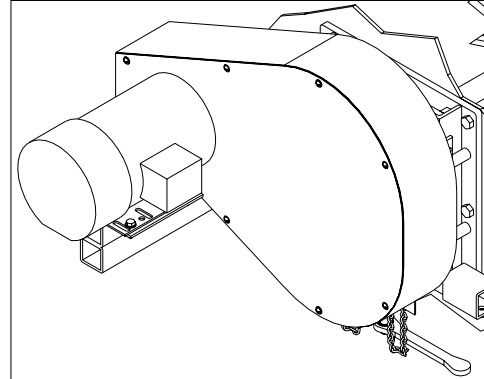


Figure 9:



9. *Refer to figure 9.*

- A) Install the cover plate with the # 10-24 screws and washers provided.
- B) Wire the electric motor to rotate the brush against the travel of the conveyor belt. The brush should turn on and off with the operation of the conveyor.

Operation and Maintenance of the BRC:

10. Brush Engagement:

- A) The BRC works best when the least amount of effective brush pressure is applied, and when the bristles are straight, not bent over.
- B) The brush pressure, or engagement to the belt, will need adjustment as the bristles wear.
- C) The brush engagement is adjusted up or down by turning the ratchet assembly on the frame.
- D) When adjusting the brush engagement, it may be necessary to adjust the v-belt tension. See step 8 – D of the installation instructions, above.

11. Bearing Lubrication:

- A) The shaft bearings are factory packed with high quality lithium based grease.
- B) For re-lubrication, a # 2 consistency lithium based grease is recommended. This should be formulated from high quality mineral oil with rust and oxidation inhibitors, EP additives, and the grease should have a minimum viscosity of 500 SSU (Saybolt Seconds Universal) at 100°F.
- C) Add grease until it starts to purge out the bearing seals. The initial charge is 0.6 ounces per bearing, and added grease at re-lubrication should be approximately 0.06 ounces (10% of initial charge).
- D) Recommended greasing interval is 1 to 4 weeks for most applications, and daily to 1 week when excess moisture is present.

12. Removal of the Brush Assembly:

- A) Turn off and lock out all power to the BRC and the conveyor.
- B) Remove the cover plate.
- C) Remove the large sheave and v-belt from the brush shaft.
- D) Use the height adjuster to completely lower the brush assembly.
- E) Remove the cover weldment.
- F) Remove the guide tube plugs, and insert the brush installation guides completely into the guide tubes on the mounting plate.
- G) Remove the guide weldments from the frame assembly.
- H) Use the height adjuster to slowly raise the brush assembly until it tips, both releasing the bearing plate and resting the brush on the installation guides.
- I) Carefully lift and pull out the bearing / brush assembly.

J) To re-install, reverse steps 12.A through 12H. Referring to steps 8 through 10 above, adjust the v-belt tension and brush engagement as needed.

13. Replacement Parts (refer to Figure 10). Please contact our sales department for pricing and availability.

Caution:

Do not substitute parts of inferior design and/or materials when repairing the BRC.
Use only genuine Conveyor Components Company parts to be assured of continued safe operation of the BRC.

Item	Part Number	Description	Item	Part Number	Description
1	BRC-1	Frame Assembly	10	20040186	V-belt
2	BRC-2	Bearing Assembly	11	Per Order	Brush Shaft
3	BRC-3	Motor Support Assembly	12	Per Order	Model HS Brush Assembly
4	BRC-4	Cover Assembly	13	Per Order	Model HB Replacement Bristle Strip Set
5	20046517	Motor: 1 HP, 3 PH, 1160 RPM	14	BRC-6	Brush Guide (each)
6	20046513	Bushing: 7/8	15	BRC-7	Leverage Tube
7	20046515	Bushing: 1 7/16	16	BRC-8	Plug Tube and Chain Assembly (each)
8	20046514	Shaft Sheave: 12.75" diameter	17	20040354	10-24 U Nut (each, 8 used on cover)
9		Drive Sheaves:	18	22011088	12 x 1/2 RHM Screw (each, 8 used on cover)
	20046512	6.25" diameter	19	20013063	#10 SAE Washer (each, 8 used on cover)
	20046511	4.95" diameter	20	22011090	1/4-20 x 3/4 HHC Screw (each, 4 used on cover)
	20046510	3.35" diameter	21	20203061	1/4 Washer (each, 4 used on cover)

Figure 10:

