

BEP1-XXX-1U1 A2
Primary Belt Cleaner with Rosta Tensioner

BEP1 Primary Belt Cleaner

INSTALLATION, OPERATION, & MAINTENANCE MANUAL





IMPORTANT

BENETECH, INC HEREBY DISCLAIMS ANY LIABILITY FOR, BUT NOT LIMITED TO:

- IMPROPER INSTALLATION OF EQUIPMENT
- IMPROPER SIZING OF EQUIPMENT
- DAMAGE DUE TO CONTAMINATION OF MATERIAL
- USER'S FAILURE TO INSPECT EQUIPMENT
- USER'S FAILURE TO MAINTAIN EQUIPMENT
- USER'S FAILURE TO TAKE REASONABLE CARE OF THE EQUIPMENT
- INJURIES OR DAMAGE RESULTING FROM USE OR APPLICATION OF THIS PRODUCT CONTRARY TO INSTRUCTIONS AND SPECIFICATIONS CONTAINED HEREIN.

BENETECH, INC'S LIABILITY SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF EQUIPMENT SHOWN TO BE DEFECTIVE.

The following notations are used throughout this manual.

DANGER

Denotes immediate hazards that will result in severe personal injury or death.

WARNING

Denotes hazards or unsafe practices that could result in personal injury.

CAUTION

Denotes hazards or unsafe practices that could result in product or property damages.

IMPORTANT

Denotes instructions that must be followed for proper installation and/or operation of equipment.

NOTE

Denotes general items to assist the reader/installer/operator.

SAFETY

Review and understand all safety rules given herein along with local and governmental standards and regulations. Know and understand the American National Standards Institute (ANSI) z244.1-1982 lockout/ tagout procedures, the American National Standard for Personnel Protection - Lockout/ Tagout of Energy Sources - Minimum Safety Requirements and the Occupational Safety and Health Administration (OSHA) Federal Register, Part IV, 29 CFR Part 1910, Control of Hazardous Energy Source (Lockout/Tagout); Final Rule.

Observe all local and governmental regulations concerning entry into confined spaces, welding, cutting, grinding, wash-down procedures and all Personal Protective Equipment (PPE) regulations.

Please pay close attention to all these alerts and warnings. They have been included here for your safety and for ease of installation.

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1. General Information & References

The information and guidelines presented in this manual must be properly understood and implemented for safe and efficient operation. If you have any questions or problems that are not addressed herein, please contact our Customer Service Department or visit our website for more information.

Benetech, Inc. 1851 Albright Rd. Montgomery IL 60538

Customer Service: 800-843-2625 Website: BenetechGlobal.com

Visit our website for a list of Benetech distributors and information about our other products.

References

The following documents are referenced in this manual:

- American National Standards Institute (ANSI) z244.1-1982, American National Standard for Personnel Protection Lockout/Tagout of Energy Sources Minimum Safety Requirements, American National Standards Institute Inc., 1430 Broadway, New York, NY 10018.
- Federal Register, Volume 54, Number 169, Part IV, 29 CFR Part 1910, Control of Hazardous Energy Source (Lockout/Tagout); Final Rule, Department of Labor, Occupational Safety and Health Administration (OSHA), 32nd Floor, Room 3244, 230 South Dearborn Street, Chicago, IL 60604.

2. Safety Information

All safety rules defined in this document and all owner/employer as well as state and federal safety rules must be strictly adhered to when working on/with this, or any, conveyor belt equipment.

DANGER

Do not touch or go near the conveyor belt or conveyor accessories when the belt is running. Limbs of the body or articles of clothing could get caught and be pulled into the conveyor, resulting in severe injury or death.



DANGER

Before installing, servicing, or adjusting the belt cleaner, turn off AND lock out/tag out all energy sources to the conveyor and conveyor accessories according to ANSI standards. Failure to do so could result in serious injury or death.

DANGER

If this equipment is to be installed in an enclosed area, observe all confined space entry regulations and test the atmosphere for gas levels and dust content levels before using a cutting torch, welding equipment, or electric hand tools. Using a torch, welding, grinding, or drilling in an area with gas or dust may cause an explosion and/or fire resulting in serious injury or death.

WARNING

Before using a cutting torch, welders, or grinding equipment, cover the conveyor belt with a fire retardant/resistant cover. Make sure a water source/fire hose is readily available AND OPERATIONAL. Failure to do so can cause belt to catch fire.

WARNING

Belt cleaners are heavy and require two people to lift. Attempting to lift the belt cleaner without assistance could result in personal injuries and/or damage to the equipment.



WARNING

Remove all tools, parts, trash, and foreign objects from the installation area and conveyor belt before turning on the conveyor. Failure to do so can result in serious injury to personnel or damage the belt and conveyor.

NOTE

All dimensions in this manual are inches (mm).

3. Introduction to the BEP1 Belt Cleaner

The Primary Belt Cleaning System is installed on the face of the head pulley to aid in the removal of material sticking to the belt after the main material stream has been discharged from the belt. The remaining material sticking to the belt is "carried-back" by the "return strand" of the belt to nearly all areas of the conveyor. This "carry-back" is then deposited in piles under the conveyor, sticking to return idlers, gravity take-up pulleys, and/or bend pulleys.

Problems arising from this carry-back can range from mistracking of belts due to uneven build up of material on idlers, premature belt wear from the belt being dragged through material piles and into conveyor structural members, belt fires from the belt being dragged through material piles, and even complete catastrophic belt failure from pulleys seizing.

In most cases, a dual belt cleaner system is installed which includes a Secondary Cleaner immediately following the Primary Cleaner. The Secondary Cleaner removes stubborn material left on the belt by the Primary Cleaner. Installation and operating instructions for the particular type of Secondary Cleaner will be detailed in a separate manual shipped with the cleaner.

In some cases the materials used in the construction of the cleaners may not be compatible with the material being handled and contamination can occur if the product is damaged during use of even when it operates as intended. If the material handling process becomes contaminated in any way through the use of this product, it is the user's responsibility to take the necessary steps to prevent contamination.

Please contact Benetech if you suspect there may be incompatibility problems or questions about product application and use. We can provide specific recommendations for your particular situation.

Installations without Chutework

These procedures were written for equipment that is being installed on enclosed head-pulley chute-work. If the head-pulley is open (not enclosed), the equipment should be installed so that the critical dimensions are followed for proper installation.

Belt Cleaner Inspection Access

If the belt cleaner is installed on enclosed pulley chutework, an Inspection Door must be installed to allow for inspecting the equipment during operation. If the chutework does not already have access doors that allow for installing, servicing, and maintaining the equipment, an adequately sized door should be used. Inspection doors are available from Benetech or a representative. Contact Benetech for a list of Inspection Doors and part numbers. Unless specifically ordered, inspection doors are NOT included with belt cleaner.

4. Before Installing the BEP1 Belt Cleaner

- Inspect ALL shipping containers for damage and correct number of items (skids, pallets, cartons, boxes, etc.) being delivered. Report damage and/or shortages to delivery service immediately and fill out delivery service's claim form. Keep ALL damaged goods for examination. Benetech is NOT responsible for damage occurring during transit.
- 2. All Benetech belt cleaners are shipped from our facilities fully assembled. Care should be taken while dissembling the units to ensure no parts are lost or damaged as the equipment is moved to its desired location. Dispose of shipping containers in approved manner.
- 3. If any items are missing, IMMEDIATELY contact Benetech or an authorized representative.
- 4. Gather tools. Minimum tools required for installation are:
 - Tape measure/ String
 - Torch/Hole Saw
 - Level/Straight Edge
 - Welder/Drill
 - Open/Box End Wrenches
 - Socket Set
 - Marker/Soapstone (Welders chalk)
- 5. Turn off and lock out/tag out energy source according to ANSI standards (see "References") and local plant regulations.

WARNING

Before installing equipment, turn off AND lock out/tag out all energy sources to the conveyor and conveyor accessories according to ANSI standards. Failure to do so could result in serious injury or death.

6. If using a cutting torch or welding, test atmosphere for gas level or dust content. Cover conveyor belt with fire retardant cover. Verify locations of fire extinguishers and operational water hoses prior to begin cutting/welding operations.



DANGER

If equipment will be installed in an enclosed area, the atmosphere in the structure/ area must be tested for gas levels and dust content levels before using a cutting torch, welding equipment, grinding equipment or electric powered tools. Using a cutting torch, welding, drilling or grinding in an area with gas or dust may cause an explosion.

5. Installing the BEP1 Belt Cleaner Assembly

IMPORTANT

Read **ENTIRE SECTION** before beginning ANY work.

Overview of Steps for Installation of Belt Cleaner

- 1. Find center point of belt cleaner mainframe on both sides of chute work (to find center point, refer to next set of instructions).
- 2. Locate mount plate and far side mount plate on chute walls.
- 3. Install far side mount plate and tensioner
- 4. Install near side mount plate tensioner.
- 5. Install blade mounting pole and scraper blade.
- 6. Adjust tensioners and put into operation.

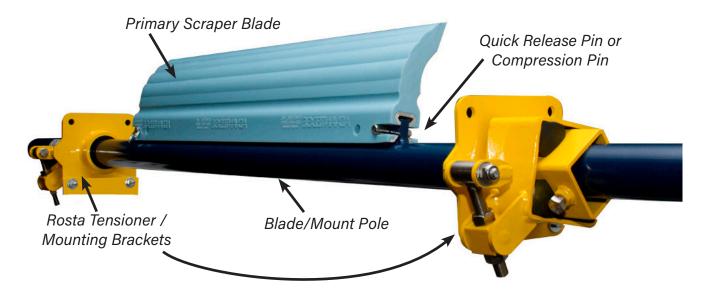


Figure 1: Belt Cleaner Assembly

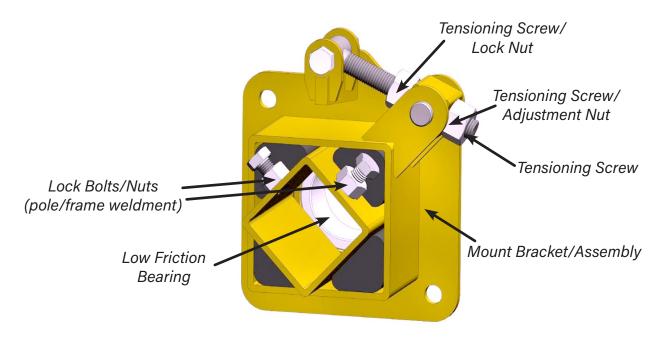


Figure 2: Rosta Spring Tensioner Assembly

Finding Centerpoint of the Belt Cleaner Mainframe

Method 1 - Using Figure 3 and Table 1

- 1. On an available side chute wall, draw horizontal line from the center point of head pulley shaft as shown in Figure 3.
- 2. Measure the head pulley diameter (with lagging) and divide by 2 and add the thickness of the belt, write these two numbers down, this is the Diameter and Radius.
- 3. Measure from the centerline of the head pulley shaft horizontally to the Radius determined from "Step 2" and add the "H" distance to that from Table 1 for the dimension ranges of the head pulley Diameter. This will be referred to as the Arc length.

"H" dimension required in Table 1

Arc Length (Radius) = Pulley Diameter with belt + H

- 4. Using the horizontal line found in "Step 1", measure and mark the Arc length distance horizontally found in "Step 3" creating an intersection. From that intersection "I", draw a second horizontal line 8-3/8" below and parallel to the line drawn in "Step 1".
- 5. Scribe the Arc length from the center of the head pulley shaft and the intersection "I" rotating clockwise through the second horizontal line. This is the Center Point of the cleaner pole and tensioner frame. All the tensioner mounting and cutout dimensions will be taken from this point. This position puts the very tip of the cleaner blade directly at the "3 o'clock" position. In some cases, it may be necessary to have the cleaner tip in a lower position due to interferences with the tensioner mounting or other obstructions. For these locations the Arc length may need to be scribed lower than the 8.36" to allow tensioner mounting.
- 6. From the Arc Radius Length, "Step 3", draw arc down intersecting the 8-3/8" as shown in Figure 3.

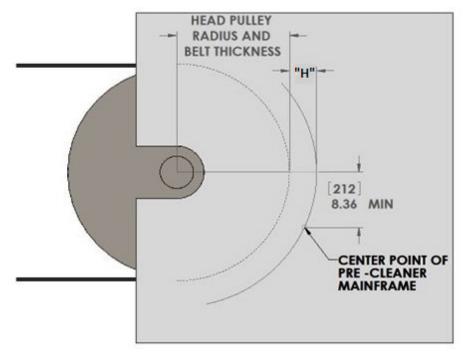


Figure 3

Intersection of lower horizontal line and arc is center point for mainframe when the cleaner tip as horizontal to the head pulley.

Table 1. Dimensions for Locating Pre-Cleaner

| Pulley Diameter* - in. (mm) | "H" Dimension – in. (mm) | | |
|-----------------------------|--------------------------|--|--|
| 12" - 14 7/8" (305-378mm) | 3.75" (95mm) | | |
| 15" - 33 7/8" (381-860mm) | 3.50" (89mm) | | |
| 34" and Larger (864mm) | 3.25" (82mm) | | |

^{*}Includes lagging & belt. For smaller diameters, contact Benetech.

Locate/Cut Access Hole for Far Side Opening

- 1. Locate and drill holes for mounting bracket. Use "H" from Table 1 and the dimensions shown in Figures 4 and 5.
 - a. Repeat for the near side mounting
 - b. If using an inspection door, install it according to the inspection door operator's manual. Ensure that the inspection door is installed close enough and is sized large enough to allow for inspection, maintenance and service of equipment.

As previously stated, an alternate lower blade tip and tensioner frame location may be needed. For these locations the Arc length may need to be scribed lower than the 8.36" dimension to allow tensioner mounting. For interferences with flanges, sensors, floor grating, or other obstructions preventing the cleaner from being located in a position other than the blade tip being at the "3 o'clock" position, the installation location can be changed. The center point of the Pole and Frame can be lower than the specified 8.36" as needed using Table 3. Additionally, the angle the tip of the cleaner makes as compared with the "3 o'clock position should never be more than 25-30 degrees. Figure 4 shows the relationship between the Pulley Radius, Arc Length, and Angle.

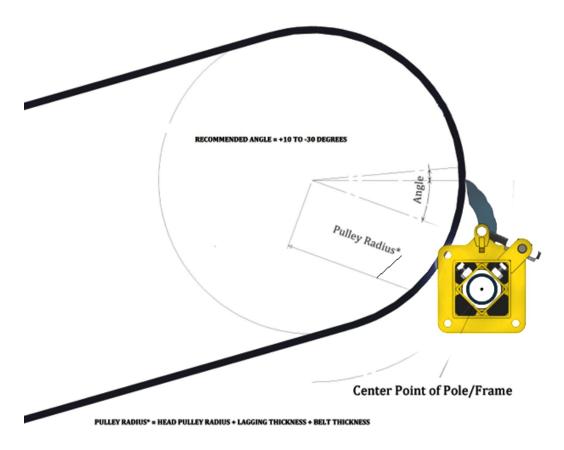


Figure 4

Figure 4 shows the relationship of the frame center point when the primary cleaner blade tip is in the 3 o'clock position.

For positioning the blade tip at both the 3 o'clock and lower simplified alternate positions, Figure 5 shows the X, Y, positioning along with the primary cleaner cutout location. The associated charted dimensions are shown in Table 2.

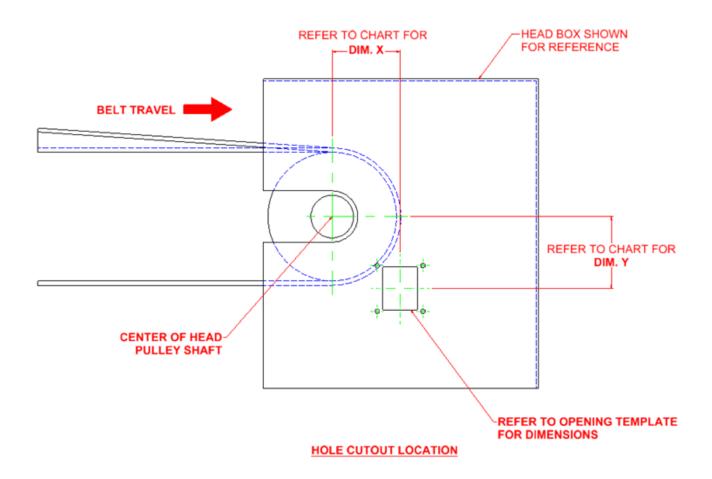


Figure 5 X and Y Hole Center location and Cutout for Mounting Template

For Alternate positions of the Primary Cleaner center point, a simplified positioning process using X and Y coordinates from the head pulley center shaft and the head pulley size can be used. To simplify the positioning, we have chosen 4 listed "Y" coordinate options for the horizontal line below the centerline of the head pulley. 8.36, 9.36, 10.36 and 11.36 allowing lower mounting than the recommended position. The Primary Cleaner center point is found using the X and Y coordinates shown on Table 2.

Table 2. X and Y Dimensions for Locating Pre-Cleaner

| Pulley DIM. Plus Lagging Plus Belt Thickness | For DIM. Y= 8.36" Below Head Pulley Centerline | For DIM. Y = 9.36" Below Head Pulley Centerline | For DIM. Y = 10.36" Below Head Pulley Centerline | For DIM. Y = 11.36" Below Head Pulley Centerline |
|--|--|---|--|--|
| | DIM. X = BELOW | DIM. X = BELOW | DIM X = BELOW | DIM. X = BELOW |
| 12.00 | 5.02 | 2.73 | | |
| 12.50 | 5.49 | 3.52 | | |
| 13.00 | 5.93 | 4.18 | | |
| 13.50 | 6.35 | 4.76 | 1.71 | |
| 14.00 | 6.76 | 5.29 | 2.87 | |
| 14.50 | 6.76 | 5.29 | 2.87 | |
| 15.00 | 7.15 | 5.78 | 3.70 | |
| 15.50 | 7.53 | 6.24 | 4.39 | |
| 16.00 | 7.90 | 6.68 | 4.99 | 1.79 |
| 16.50 | 8.26 | 7.10 | 5.54 | 3.00 |
| 17.00 | 8.61 | 7.51 | 6.06 | 3.87 |
| 17.50 | 8.95 | 7.90 | 6.54 | 4.58 |
| 18.00 | 9.29 | 8.28 | 6.99 | 5.22 |
| 18.50 | 9.63 | 8.66 | 7.43 | 5.79 |
| 19.00 | 9.96 | 9.02 | 7.85 | 6.32 |
| 19.50 | 10.28 | 9.38 | 8.26 | 6.82 |
| 20.00 | 10.60 | 9.73 | 8.66 | 7.29 |
| 20.50 | 10.92 | 10.07 | 9.04 | 7.75 |
| 21.00 | 11.23 | 10.41 | 9.42 | 8.18 |
| 21.50 | 11.54 | 10.75 | 9.78 | 8.60 |
| 22.00 | 11.85 | 11.07 | 10.14 | 9.01 |
| 22.50 | 12.15 | 11.40 | 10.50 | 9,41 |
| 23.00 | 12.45 | 11.72 | 10.85 | 9.80 |
| 23.50 | 12.75 | 12.04 | 11.19 | 10.17 |
| 24.00 | 13.05 | 12.35 | 11.53 | 10.55 |
| 25.00 | 13.64 | 12.98 | 12.19 | 11.27 |
| 26.00 | 14.23 | 13.59 | 12.84 | 11.97 |
| 27.00 | 14.80 | 14.19 | 13.48 | 12.65 |
| 28.00 | 15.37 | 14.79 | 14.10 | 13.31 |
| 29.00 | 15.94 | 15.37 | 14.72 | 13.96 |
| 30.00 | 16.50 | 15.96 | 15.32 | 14.60 |
| 31.00 | 17.06 | 16.53 | 15.93 | 15.23 |
| 32.00 | 17.62 | 17.11 | 16.52 | 15.85 |
| 33.00 | 18.17 | 17.67 | 17.11 | 16.46 |
| 34.00 | 18.72 | 18.24 | 17.69 | 17.06 |
| 35.00 | 18.99 | 18.52 | 17.98 | 17.36 |
| 36.00 | 19.54 | 19.08 | 18.55 | 17.96 |
| 37.00 | 20.08 | 19.63 | 19.12 | 18.55 |
| 38.00 | 20.62 | 20.19 | 19.69 | 19.13 |
| 39.00 | 21.16 | 20.74 | 20.25 | 19.71 |
| 40.00 | 21.70 | 21.28 | 20.81 | 20.29 |
| 41.00 | 22.23 | 21.83 | 21.37 | 20.86 |
| 42.00 | 22.76 | 22.37 | 21.93 | 21.42 |
| 43.00 | 23.30 | 22.91 | 22.48 | 21.99 |
| 44.00 | 23.83 | 23.45 | 23.03 | 22.55 |
| 45.00 | 24.36 | 23.99 | 23.57 | 23.11 |

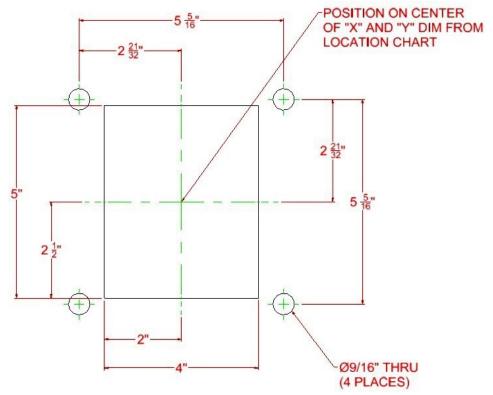


Figure 6: Drilling and Cutout layout for Tensioner Mounting Template

Figure 6 shows the additional dimensioned cutouts and drilling for the Primary cleaner and Rosta tensioner once the center X,Y position is located.

NOTE

Mounting Bracket can be installed in multiple positions (angles) if space is limited.

- 2. Loosely bolt far side mounting bracket and tensioner to chute wall. (Figure 2)
- 3. Loosely bolt near side mount bracket and tensioner to chute wall. (Figure 2).

NOTE

Mounting Bracket and Rosta Spring Tensioner can be disassembled if required or necessary for installation.

WARNING

Belt cleaner is very heavy and requires a hoist or several people to lift. Attempting to lift belt cleaner without assistance could result in serious injury.



CAUTION

Belt cleaner blades should be centered to clean area narrower than conveyor belt width. This allows movement of belt and prevents damage to edge of belt.

Installing the Belt Cleaner Blade

- 1. Remove blades from pole/frame weldment as follows: (See Figure 7)
 - Remove Pins / Bolt Assemblies Item #3.
 - Pull Blade (Item #2) off pole weldment (Item #1).
 - Reverse procedure for reassembly after pole weldment is installed in chute.

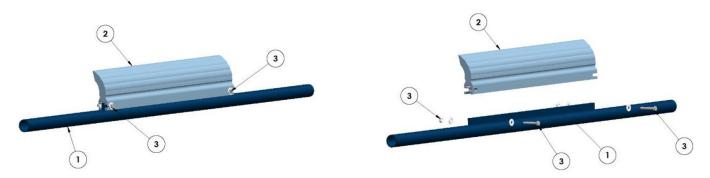


Figure 7: Pin and Blade Removal

- 2. Slide pole weldment (Item #1) into chute wall holes and through the plastic bearing in each tensioner/mounting bracket (Figure 2 and Figure 7)
- 3. Reattach blade to frame. Insert pin/bolt assemblies on each end of blade ensuring blade is bolted/pinned to the frame.
- 4. Rotate frame until the tip of the blade is in contact with the conveyor belt. Ensure that the blade is centered on the conveyor belt surface.
- 5. Verify that the pole weldment and blade are in the proper position and that the blade tip is in the recommended operating position.
- 6. Tighten pole/frame lock bolts and nuts, securing pole/frame in tensioner on both near and far side.

Setting Tensioner Up for Adjustment and Putting Cleaner into Operation

- 1. Ensure the blade tip is in contact with the head pulley across the full width of the blade. (hand tighten tensioning/adjustment nuts on both tensioner/mounting brackets)
- 2. Loosen tensioning lock nuts on both tensioner/mounting brackets. Begin turning the tensioning Nut until the blade is just engaging the belt surface. Note this is the Zero Starting Point to begin turning the Nut by revolution for tensioning.
- 3. Starting on near side, adjust tensioning bolt until Rosta spring resistance is activated. Note "zero" position of Rosta by measuring the length of the exposed actuating bolt (when the Rosta is actuated the nut will be much harder to turn - mark zero with paint, tape, or some other marking so service and maintenance can be performed and proper tensioning can be measured at later dates).

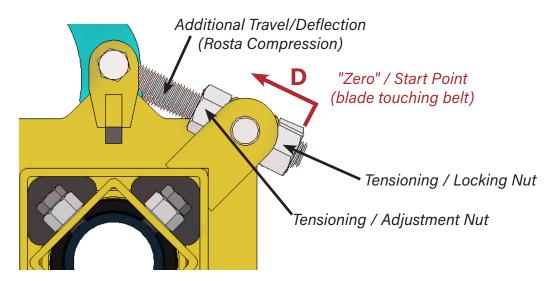


Figure 8: Rosta Tensioner Adjustment

IMPORTANT

Important: Note "Zero" setting of Rosta joint before applying additional tension/compression to the Rosta spring assembly, mark for future reference

Performing Tensioner Adjustment

- 1. Ensure the blade tip is in contact with the head pulley across the full width of the blade. (hand tighten tensioning/adjustment nuts on both tensioner/mounting brackets as previously described)
- 2. With the nut face marked as described in "Setting the Tensioner Step 3", and the cleaner lightly engaged, begin rotating the Nut per the blade width and number of Nut Rotations shown in Table 3.

Table 3. Blade Tensioner Compression Distance Chart

| | Blade Width | Compression Distance, D; inches (mm) | | | | | |
|------------|-------------|--------------------------------------|------------|--------------|------------------|-------------|--------------|
| Belt Width | | Dual Tensioner | | | Single Tensioner | | |
| | | Min. | Max. | | Min. | Max. | |
| in. (mm) | in. (mm) | in. (mm) | in. (mm) | Nut Rotation | in. (mm) | in. (mm) | Nut Rotation |
| 18 (450) | 16 (400) | **** | **** | 1 | **** | *** | |
| 24 (600) | 22 (550) | 0.0508 (2) | 0.1016 (4) | 1.5-2 | 0.1016 (4) | 0.2032 (8) | 4 |
| 30 (750) | 28 (700) | 0.0508 (2) | 0.1016 (4) | 2 | 0.1016 (4) | 0.2032 (8) | 4 |
| 36 (900) | 34 (850) | 0.0508 (2) | 0.1016 (4) | 2 | 0.1016 (4) | 0.2032 (8) | 5 |
| 42 (1050) | 40 (1000) | 0.0508 (2) | 0.1016 (4) | 2.5 | 0.1016 (4) | 0.2032 (8) | 5 |
| 48 (1200) | 46 (1150) | 0.0762 (3) | 0.127 (5) | 2.5 | 0.154 (6) | 0.2540 (10) | 5.5 |
| 54 (1400) | 52 (1350) | 0.0762 (3) | 0.127 (5) | 2.5 | 0.154 (6) | 0.2540 (10) | 6 |
| 60 (1600) | 58 (1550) | 0.0762 (3) | 0.127 (5) | 3 | 0.154 (6) | 0.2540 (10) | 6 |
| 72 (1800) | 70 (1750) | 0.1016 (4) | 0.154 (6) | 3.5 | 0.2032 (8) | 0.2540 (10) | 6.5 |
| 84 (2200) | 82 (2150) | 0.127 (5) | 0.1778 (7) | 4 | 0.2540 (10) | 0.3556 (14) | 7 |

^{****} Contact Benetech, or a representative for balde/widths less than 22 inches

- 3. Continue to turn the lower nut to adjust the exposed length of the tensioning bolt. Keep turning until you get the movement/deflection required according Table 3 (continuing to turn the nut increases the blade/belt contact pressure). Set tension level according to Figure 8 and Table 3
- 4. Repeat for the far side tensioner.
- 5. Check near side tensioner compression again (it is common for the tension/adjustment to change when the other side is being adjusted).
- 6. Repeat steps 4 and 5 until both tensioners are set at the recommended settings.

NOTE

All BEP1 Primary Cleaners are supplied with dual Rosta Tensioners. If only one Rosta Tensioner is to be used, disengage the tensioning nuts/bolts on the tensioner that is not being used.

WARNING

Excessive or improper tensioning of the belt cleaner can create premature wear of cleaner blades, damage to belt cover and excessive heat.

DANGER

Excessive heat created by excessive friction due to cleaners being improperly tensioned can create situations were fire and or explosions can occur

WARNING

Failure to remove tools from installation area and conveyor belt before turning on energy source can cause serious injury to personnel and damage to belt.

DANGER

Do not touch or go near the conveyor belt or conveyor accessories when the belt is running. Limbs of the body or articles of clothing could get caught and be pulled into the conveyor, resulting in severe injury or death.



6. Belt Cleaner Operation and Maintenance

1. Once installation is complete turn on conveyor belt for 1/2 hour, then turn off. Tighten all mounting nuts, bolts, etc. Check for belt condition and proper tensioner settings. Read just if necessary.

DANGER

Before installing, servicing, or adjusting the belt cleaner/tensioner, turn off and lock out/tag out all energy sources to the conveyor and conveyor accessories according to ANSI standards. Failure to do so could result in serious injury or death.



- 2. Periodic inspection and maintenance MUST be performed on a regular basis to ensure the equipment is functioning properly.
 - a. Inspect belt cleaner for proper wear pattern. A small amount of "run-in" wear is normal. This will stop once blades wear to conveyor belt contour. The blade should wear evenly during operation - if it doesn't adjust tension on one or both sides. If this does not correct the problem, contact Benetech.
 - b. If excess or uneven wear patterns appear, material builds up badly on blades or frame, or some other problem exists, consult a specialist or contact Benetech for support.
 - c. During inspection remove any material build-up from belt cleaner.
 - d. Make sure all fasteners are tight on tensioners and mounting blocks. Tighten if necessary.
 - e. Check compression/rotation of Rosta springs. Re-tension if necessary. Note that as the blades wear out the tensioners will need to be adjusted
 - f. Check blades for excessive wear. All Benetech blades come with visible wear lines or patterns on the back of the blades indicating when scraper blades should be replaced.
 - g. Replace blades when necessary.
 - h. Remove equipment from service if there is any indication it is not functioning properly. Call Benetech or a representative for assistance.

NOTE

Maintenance inspection should be performed no less than weekly. Some applications may require more frequent maintenance inspections.

WARNING

Failure to remove tools from installation area and conveyor belt before turning on energy source can cause serious injury to personnel and damage to belt.

DANGER

Do not touch or go near the conveyor belt or conveyor accessories when the belt is running. Limbs of the body or articles of clothing could get caught and be pulled into the conveyor, resulting in severe injury or death.



7. Troubleshooting

NOTE

Conveyor equipment is subject to a wide variety of bulk materials characteristics and performs under extreme operating conditions. It is not possible to predict all circumstances that may require troubleshooting. Contact Benetech or a representative if you are experiencing problems other than those listed in the "Troubleshooting" section below. Do not return the equipment to operation until the problem has been identified and corrected.



Symptoms and Corrective Actions

Insufficient Cleaning and Excessive Carry Back

Tension of cleaner on belt is set too low. Increase tension to recommended settings or higher if necessary as bulk material conditions may have changed (monitor closely and return to original/recommended settings when possible).

Blades are Worn

Blades are designed to wear during operation. Clear indicator lines or blade pattern indicate when blades are to be removed from service and replaced.

Noise or Vibration

Tension is set too high or uneven between the two tensioners. Correct or equalize tension on both tensioners as necessary. If this does not correct the problem, blade type or urethane type may not match application. Cleaner may also be incorrectly mounted or other damage to the cleaning system may have occurred. Contact Benetech or a representative.

High Blade Wear Rate Requiring Frequent Blade Replacement or Changeouts

Cleaner tension on belt is set too high. Reduce tensioner setting. If problem persists contact Benetech or a representative.

Unusual Wear or Damage to Blades

Check belt splice(s) and repair as necessary. Observe belt operation and check for irregularities. If the cleaning system is damaged replace it. If blades are worn out, replace them. If blades are not worn, check mainframe location.

Blade or System Corrosion/Chemical Degradation

Blade urethane may not match application. Contact Benetech or a representative.

Other Problems

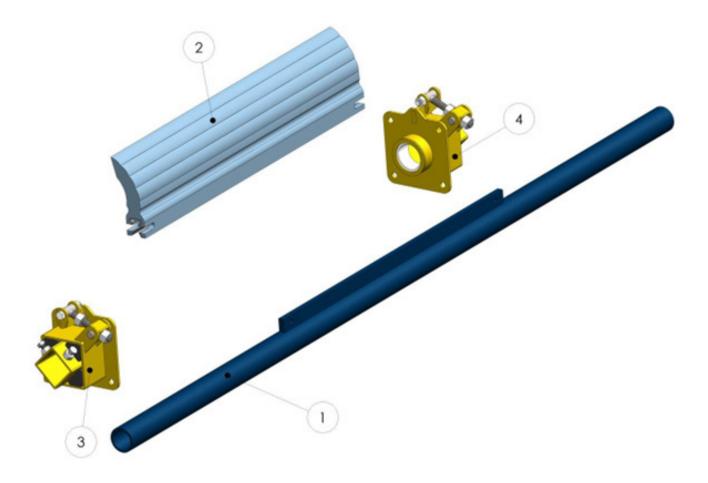
Contact Benetech or a representative.

8. Part Numbers

This section provides product names and corresponding part numbers for the Benetech BEP1-XXX-1U1B2 Production Class Primary Belt Cleaner System. For a more detailed parts list please contact Benetech.

BEP1-XCX-1U1A2 Production Class Primary Belt Cleaner System

| Item | Description | Part No. | Qty |
|------|---|------------------------------|-----|
| 1 | Mainframe Pole Weldment | BEP1LXXX | 1 |
| 2 | Benetech AdvantEdge Blade | BAPR1-XXX-1U1 | 1 |
| 3 | Rosta Tensioner and Mount Bracket (RHS) | BSTZ100R, BSTZ200R, BSTZ300R | 1 |
| 4 | Rosta Tensioner and Mount Bracket (LHS) | BSTZ100L, BSTZ200L, BSTZ300L | 1 |
| NS | Operator's Manual | Contact Benetech, Inc. | 1 |



Blade Types



■ Baby Blue: Standard Urethane

■ Navy Blue: Chemical Resistant

■ Pink: High-Temperature

■ Yellow: Abrasion Resistant

ADIANTEDEE 1

HARDER, STIFFER URETHANE FORMULATION

Provides cleaning efficiency and extended wear-life of a metal blade without the disadvantages.

FLEX ARCS

Provides blade flexibility for better belt contact, higher wear resistances and lower friction.

RETROFITS TO COMPETITIVE BRANDS

Sizes available to retrofit any major brand cleaner with the benefits of the AdvantEdge blade.

WAVE PROFILE

Ensures a variable attack angle to prevent tip bull-nosing and smooths out pressure changes from the tensioner.

Visual Wear Indication: 25% / 50% / 75% / 100%.

WORN OUT BLADE CHECK

When the bubbles are gone the blade is ready to change out. This patented design uses more of the blade's urethane than any blade on the market.

Results: Less waste, less service.

WEAR LENGTH

Our centerline wear path is longer than the competition.

Longer life line = Longer life.



ROSTA TENSIONER

- Self-contained
- Easy to set up at installation and simple to re-tension
- Provides constant cleaning pressure as blades wear



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