MiTek®

SERVICE BULLETIN

Document ID:

SB246

Title:

Replacing the Saw Blade Hub and Bushing

Affected machinery: BLADE wood processing system

Distribution: Customers upon order

Applies: When replacing 1-piece or 2-piece hubs with a 2-piece. Replaces SB207.

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CAUTION: The document should only be printed in color with adequate resolution.
Graphics may be unclear and could create an unsafe condition if this recommendation is not followed.

Purpose and Scope

This service bulletin instructs how to safely replace the saw blade hub with a 2-piece hub used in the equipment referenced on the title page.The 2-piece hub consists of a hub base and hub snout.

Overview

Parts Included

The parts included in this kit are shown in Table 1. Please make sure all parts and supplies are present before starting the procedure.

Table 1: Parts in SB246KIT

Quantity	Description	Part #
1	Hub base for saw blade	88823
1	Hub snout	88824
1	Bushing (includes hardware)	547257
1 box of 50	Saw blade bolts, 1” long	325186
1	Service bulletin document for saw blade replacement	SB202
1	Service bulletin document for hub replacement	SB246
If a new motor is needed, order 474173.		

If you have any questions, call MiTek Automation Support at 1-800-523-3380.

Supplies Needed

Before beginning the procedure, gather these supplies:

- Torque wrench with capacity up to 200 in-lbs
- 5-mm hex key socket for torque wrench
- T30 Torx™ driver referred to in SB202
  (also called star or hexalobular internal shaped driver)
- Large screwdriver or small pry bar
- 2 flat head Torx screws
  (These are the same as the screws used to hold the saw blade to the hub, but these must be discarded when procedure is complete as they may be damaged.)

Continue to use the existing snap ring. If a new snap ring is needed, order PN 379008.

Procedure

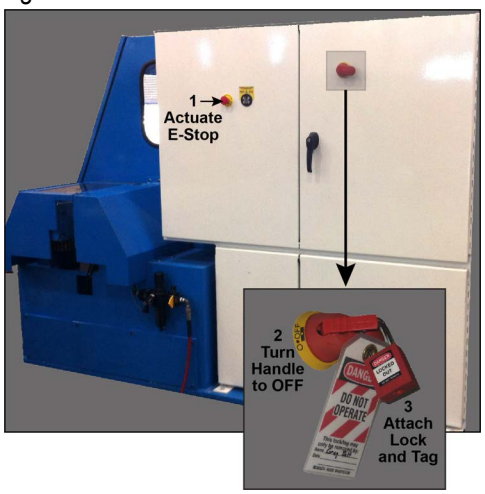
Position Saw Blade and Lockout/Tagout

	**⚠ WARNING** **ELECTROCUTION HAZARD.** **All electrical work must be performed by a qualified electrician.** **Verify that all power to the machine has been turned off and follow approved lockout/tagout safety procedures before performing any maintenance.** **If it is absolutely necessary to troubleshoot an energized machine, follow NFPA 70E for proper procedures and person protective equipment.**

Before performing maintenance on any machine with electrical power, lockout/tagout the machine properly. When working on a machine outside of the machine's main electrical enclosure, not including work on the electrical transmission line to the machine, follow your company's approved lockout/tagout procedures which should include, but are not limited to the steps here.

1. Position the saw blade assembly to make it easier to reach:
   a) Rotate the angle of the saw blade so it is in a horizontal position (flat surface on top).
   b) Adjust the elevation and stroke to a comfortable position for removing the blade and hub.
2. Engage an E-stop on the machine.

Figure 1: Lockout at the Disconnect Switch



3. Turn the disconnect switch handle on the main electrical enclosure to the Off position. See Figure 1.

	**⚠ WARNING** **ELECTROCUTION HAZARD.** **When the disconnect switch is off, there is still live power within the disconnect switch's enclosure. Always turn off the power at the building's power source to the equipment before opening this electrical enclosure.**

Replacing the Hub and Bushing

	⚠ WARNING
	**MOVING PARTS CAN CRUSH AND CUT.** **Always verify that power to the machine has been turned off and follow approved lockout/tagout procedures.**

1. Ensure that power is locked out as previously described.

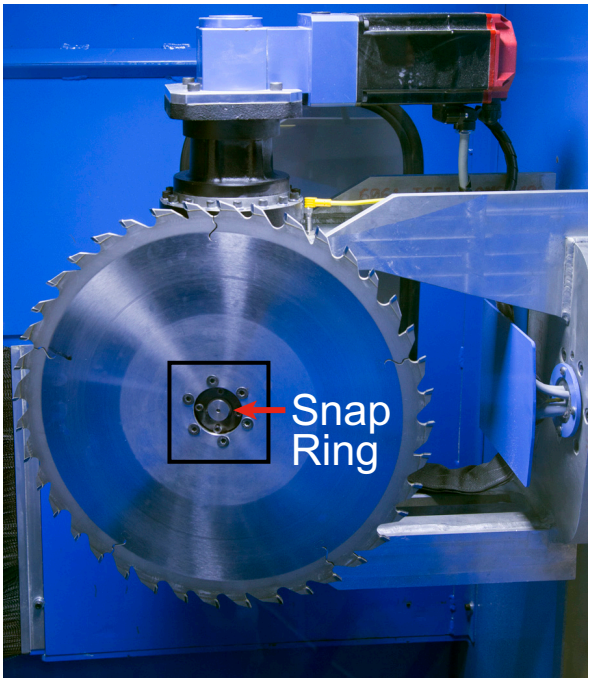
You must have a torque wrench capable of measuring 200 in-lbs before starting this procedure!

2. Remove the saw blade according to SB202 and discard the screws. The screws require a T30 Torx driver.

   Discard the old screws. Always use new screws ordered from MiTek as described in SB202.

3. Remove the snap ring and keep for reuse.

Figure 2: Remove Snap Ring



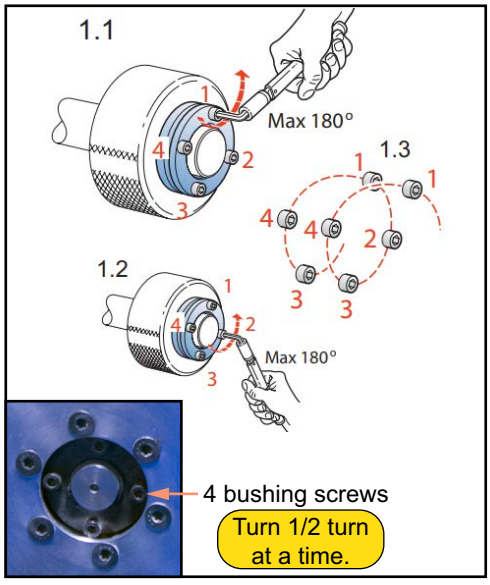
4. Remove your current hub and bushing as described here and in Figure 3 using a 5-mm hex key socket:

Failure to follow the loosening instructions carefully will result in the bushing not releasing from the motor shaft, causing motor and/or shaft damage.

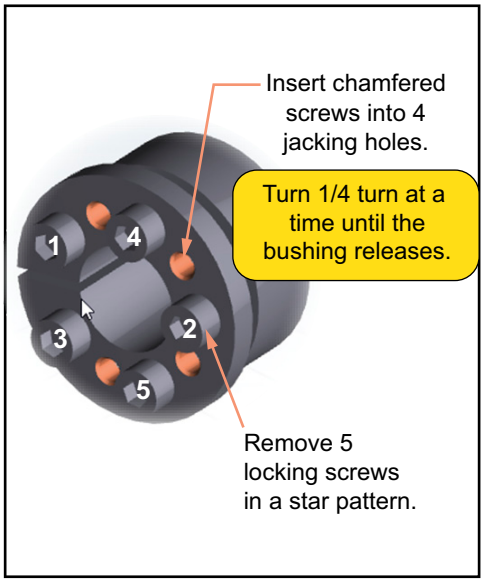
1-Piece Hub (Used prior to July 2021)	**2-Piece Hub** (New as of July 2021)
a) Loosen all 4 locking screws from the hub as shown on Figure 3. DO NOT REMOVE THEM! b) Pull the bushing/hub assembly away from the motor, and remove it.	a) Remove all 5 locking screws from the bushing as shown on Figure 3. b) Four (4) of the locking screws just removed will be used in the jacking holes. Grind the ends flat and slightly chamfer the edges to ease removal and prevent damage to the push-off surface and/or the screw threads. c) Ensure the bushing is not restricted from forward movement. d) Place the chamfered screws into the jacking holes and finger tighten. e) Tighten 1/4 turn each in a star pattern and repeat until bushing releases. f) Remove screws in jacking holes and discard.

Figure 3: Loosening the Screws on 1-Piece Hub vs 2-Piece Hub

If the hub will not release, reinstall all parts and contact Automation Support.



1-Piece Hub
(used prior to July 2021)

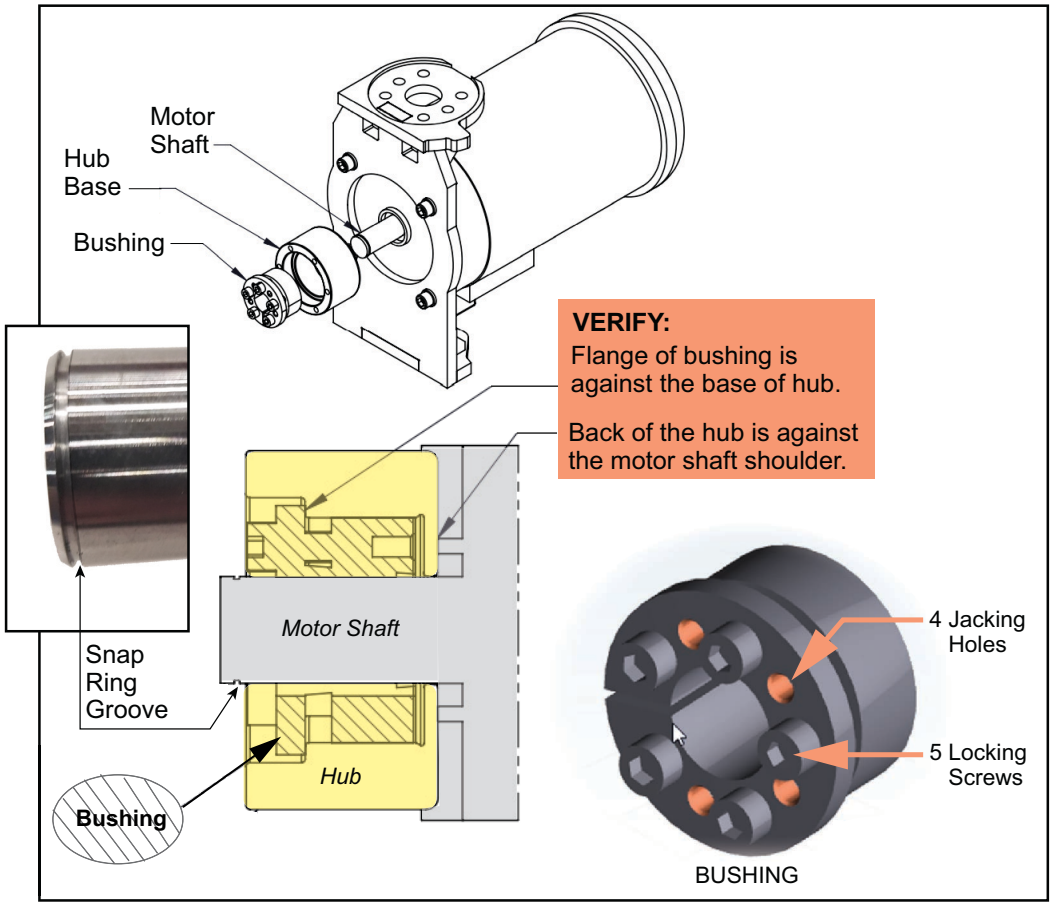


2-Piece Hub
(used as of July 2021)

Damage to the shaft includes anything that will prevent it from making constant contact with the hub and bushing. Deep scratches and nicks, bends, or out-of-round shape may cause the bushing to fail and costly damage to the machine.

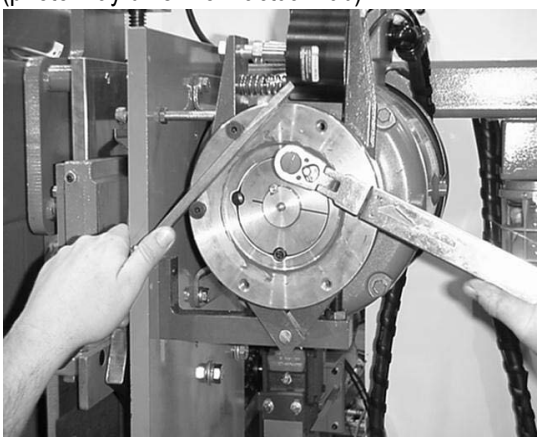
6. If bushing/hub assembly fails to release, perform these steps:
   a) Add lubrication around the hub on the shaft.
   b) Try walking/wiggling the hub off of the shaft.
   c) Use a 2- or 3-jaw puller on the hub to pull straight out.
7. Pull the bushing and hub off of the shaft.
8. Clean and inspect the following parts:
   a) Clean lubrication and debris from the motor shaft, the hub base, and the hub snout with a soft cloth and solvent.
   b) Clean the saw blade, front and back, so it mates flat against the hub.
   c) Inspect the motor shaft. If any damage is visible, remove the motor/shaft assembly and contact MiTek for a new motor/shaft assembly. The part number is shown in Table 1.
   d) Remove the bushing and hardware from its package and clean ONLY with a clean, soft cloth. Do NOT use solvent on the bushing.
9. Assemble the hub and bushing as shown in Figure 4.
   - Do NOT add lubricant to the shaft. The shaft must be clean and dry.
10. Tighten the 5 locking screws finger tight. They are included in this kit.

Figure 4: Assembling and Aligning the Bushing



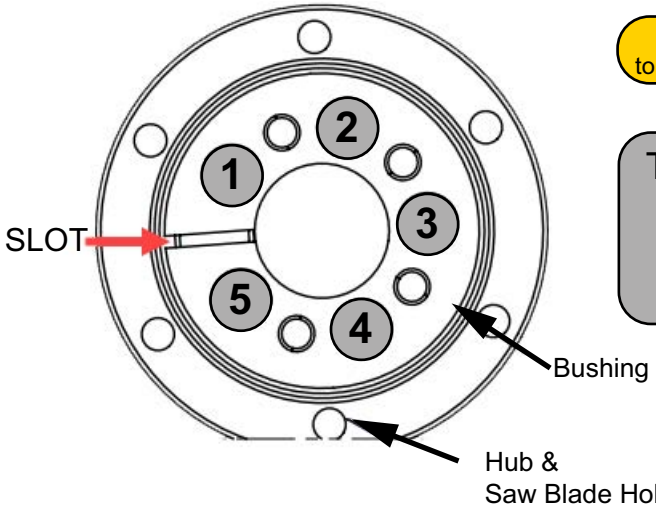
11. Hold the hub still as shown in Figure 5.
    a) To hold hub in position, fasten two screws to the saw hub. Use old saw blade screws. Do NOT reuse these screws on a saw blade!
    b) Position a large screwdriver or small pry bar between the two screws, as shown in Figure 5.
    c) Hold the hub in place with a screwdriver or small pry bar.

Figure 5: Holding the Hub Still
(photo may differ from actual hub)



12. Using an 5-mm hex socket, tighten the bushing bolts 1/4 turn at a time, using the phased method as described here:

Figure 6: Tighten and Torque Bushing Bolts in This Order



Always calibrate your torque wrench prior to use.

Tighten bushing bolts 1/4 turn at a time, in this order!

TO CHECK THE TORQUE **AFTER** INSTALLATION (between blade changes):

It is not necessary to re-torque the hub bushing bolts after initial installation unless the hub itself feels loose. If you feel it's necessary to check the torque on the hub bolts, only set the torque wrench to 156 in-lbs. If the bolts turn at 156 in-lbs, repeat all of step 12.

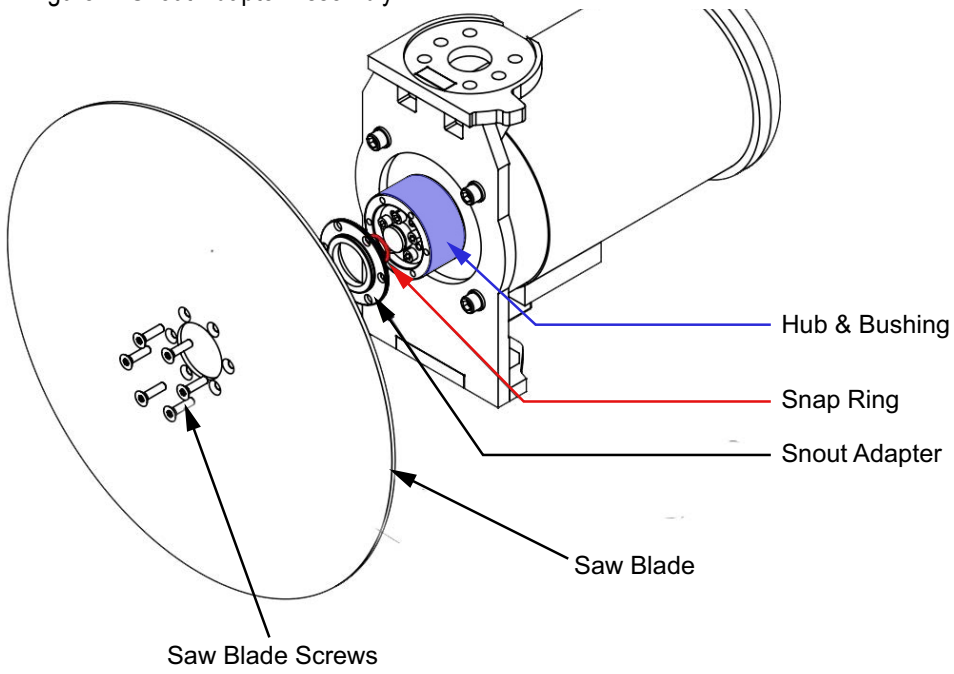
If the bolts do not turn at 156 in-lbs, no further action is needed.

    a) Set the torque wrench to **164 in-lbs** (13.7 ft-lbs or 18.5Nm)
    b) Beginning with bolt #1, tighten each bolt 1/4 turn in the order shown.
    c) Repeat until quarter turns can no longer be achieved.
    d) Complete the pattern two more times, torquing the screws correctly.
    e) Reset the torque wrench to **156 in-lbs** (13 ft-lbs or 17.6 Nm)
    f) Repeat the pattern one more time and ensure that none of the screws turn at this torque.
    g) If they do turn at the lower torque, reset the wrench to the higher torque and repeat the previous steps.

13. Install the snap ring onto the motor shaft.

14. Install the snout adapter. See Figure 7 and follow these guidelines:
    a) Fit the snout adapter onto the hub.
       - Ensure the larger surface of the snout adapter is against the hub.
       - If all components are in good condition, the hub snout should slide on easily. Do NOT hammer it on! This may cause bushing failure.
    b) Spin the snout adapter inside the hub before attaching the saw blade.
       - If the snout does not spin in the hub, it is crooked in the bore. Take it off and try again, ensuring it slides on straight.
    c) Align the holes with the tapped holes in the hub.

Figure 7: Snout Adapter Assembly



15. Attach the saw blade and snout to the hub using the 1” bolts and service bulletin SB202 instructions, both supplied in this kit.

	⚠ WARNING
	**Use only 1-in. long saw blade screws. These are longer than screws supplied in SB202 prior to July 2021. Do <u>not</u> use the shorter screws with this hub! They must be 1 in. long.** **Torque them according to SB202.**

16. Calibrate the stroke and LASM axes per your BLADE manual or web site.
17. Remove lockout/tagout devices and test. Refer to service bulletin SB202 to test that the saw is ready for operation.

END OF SERVICE BULLETIN