MiTek®

SERVICE BULLETIN

Document ID:

SB251

Title:

Saw Blade Replacement

Affected machinery: BLADE II and BLADE

Distribution: Customers upon order

Applies to: All machines that use the new 1-Piece hub with 5 bolt saw blade pattern (previous saw blade used 6 bolts)

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Approved By	R. Tucker

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 install a new saw blade in the BLADE II and BLADE wood processing systems. Resharpening specs are also provided for future use.

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 SB251KIT

Quantity	Description	Part #
1	Saw blade, 17”	811071
1 box of 25	Saw blade bolts, 1” long	325188
1	Service bulletin document	SB251

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

Supplies Needed

- Socket Wrench
- Torque wrench with capacity up to 220 in-lbs
- T40 Torx™ driver compatible with wrench
  (also called star or hexalobular internal shaped driver)

Lockout/Tagout Procedure

Electrical 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.** **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.**

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 include in this service bulletin.

Figure 1: Example of a Disconnect Switch in the Off Position

Pneumatic or Hydraulic System Lockout/Tagout

	⚠ WARNING
	**HIGH PRESSURE HAZARD.** **Bleed pneumatic lines before performing any maintenance on the system.** **Working on pressurized lines may cause injury.**

After lockout/tagout of the electrical power, turn off or close the system's air shut-off valve and attach a lock and tag.

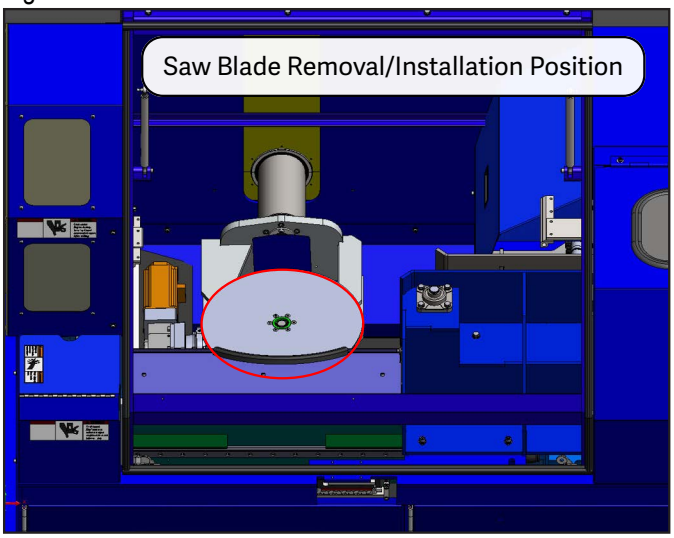
Procedure

Removing and Installing Saw Blade

	⚠ 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. Use the machine software to position the saw head to prepare for saw blade removal:
   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.

Figure 2: Saw Head Position for Saw Blade Removal

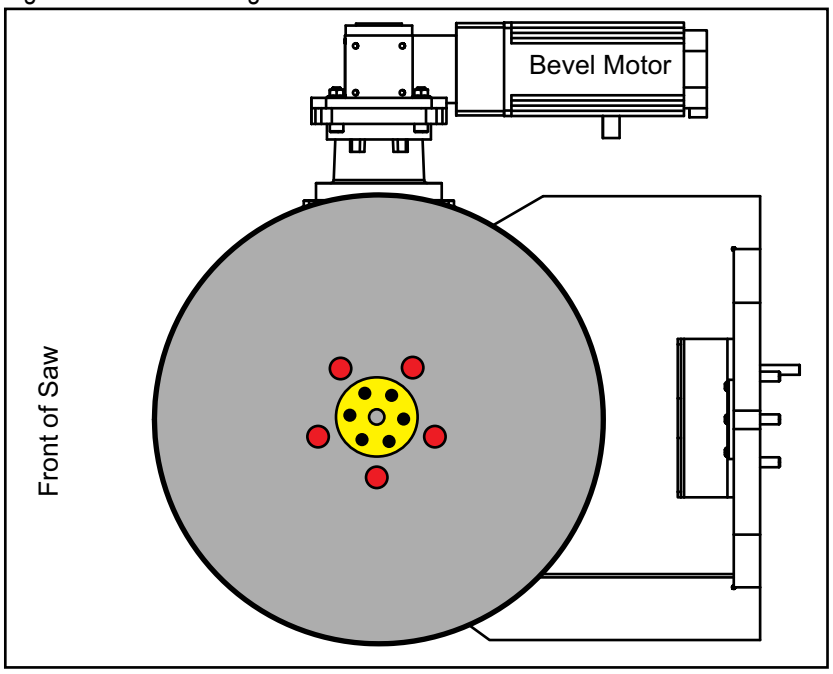


2. Activate an E-stop on the machine.
3. After blade motion has stopped, press the **Request to Unlock** button next to the saw chamber door and open the door.
4. Turn the disconnect switch handle on the main electrical enclosure to the OFF position and lockout/tagout the machine. See Figure 1.

	**⚠ CAUTION** **CUT HAZARD.** **Saw blades are sharp. Wear gloves and eye protection when handling blade.**

5. Use socket wrench and T40 driver to loosen and remove the 5 bolts securing the saw blade (shown in red in Figure 3). Discard the bolts.

Figure 3: Bolts Securing Saw Blade



6. Remove the saw blade and follow the below instructions to determine whether it should be discard or kept for resharpening:
   a) Measure the diameter of the blade from outside edge of tooth to outside edge of tooth. If the diameter is less than 16-5/8”, discard it.
   b) If the diameter is greater than 16-5/8”, place the saw blade in a safe location for sharpening.

Hub Bushing Bolts Reminder
It is not necessary to re-torque the hub bushing bolts 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, refer to SB252 to properly re-torque the hub bushing bolts. If the bolts do not turn at 156 in-lbs, no further action is needed.

7. Prepare the surfaces:

	⚠ WARNING
	**Mounting surfaces and hardware must be clean and dry when installing saw blade.** **Dust, dirt, and lubrication may cause the blade to come loose, causing injury or death.**

   a) Blow off dust from the hub and the bolt threads. Remove all pitch and debris from threads.

   b) Wipe down the mounting surface on the new saw blade and the hub. Use a 320-grit emery cloth, if necessary, to remove pitch.

   c) Ensure all parts are clean, dry, and free of lubricants.

   d) If using a used saw blade, measure its diameter from outside edge of tooth to outside edge of tooth. If the diameter is less than 16-5/8”, discard it.

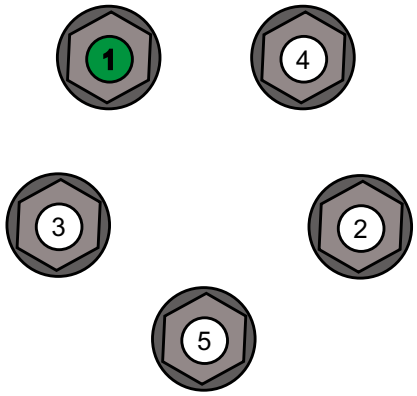
8. Place the supplied new or sharpened saw blade so the holes align with the holes in the hub and the teeth hook points downward when cutting a straight cut. See Figure 5 for the correct orientation.

	⚠ WARNING
	**Use ONLY the bolts described in Table 1.** **Use NEW bolts every time the blade is replaced.** **Do NOT use thread adhesive.** **TORQUE to specifications given in Figure 5!** **Ensure the bolts are fully embedded and flush against the saw blade surface.**

9. Using new bolts supplied in this kit, install all 5 bolts.
   - Use the torque wrench and T40 driver and bolts listed in *Supplies Needed*.
   - Do NOT use thread adhesive.
   - Hand tighten all 5 bolts in the order shown in Figure 4.
   - Using a torque wrench, tighten the bolts in the order shown in Figure 4 until they all reach the recommended torque shown in Figure 5.


A torque wrench should be calibrated on a yearly basis to ensure accuracy.

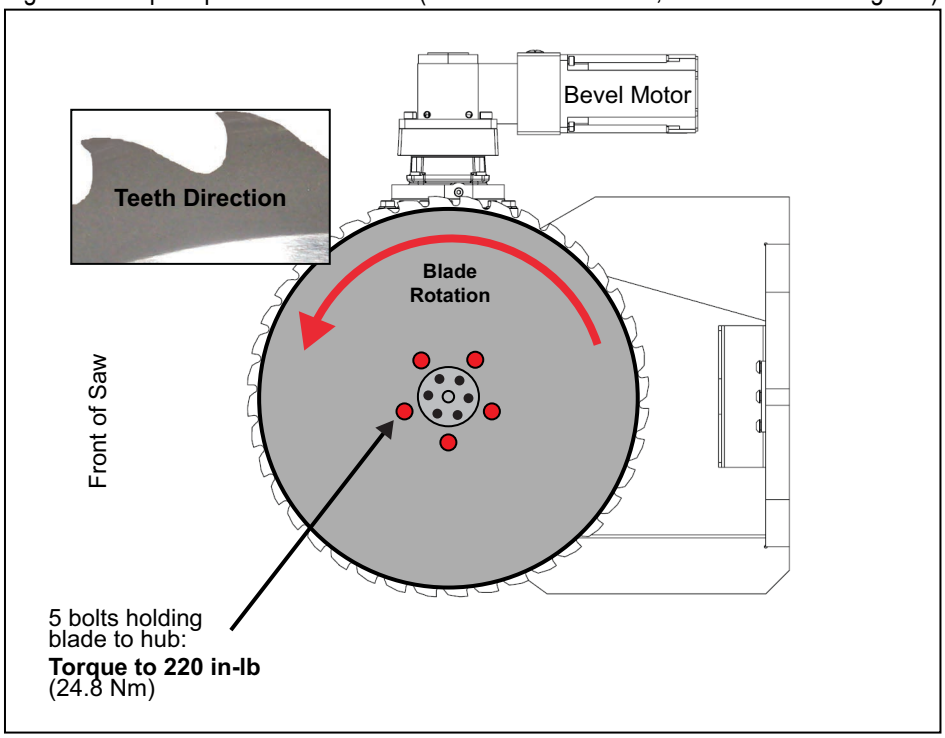
Figure 4: Tighten Saw Blade Bolts in This Pattern



- Once properly torqued, all bolts should sit flush with the surface of the blade. If the bolts are protruding or skewed, repeat step 9 with new bolts.

10. By hand, carefully rotate the blade to observe its motion. It should not have any wobble or vibration when rotating.

Figure 5: Torque Specs for Saw Blade (view from side of saw, with blade at 90 degrees)



11. Close the saw chamber door.
12. Power on machine:
    a) Remove lockout/tagout and switch the disconnect switch to the ON position. See Figure 1.
    b) Release E-stop and press Reset switch on the HMI.
13. Use the machine software to start the saw blade rotation and observe its motion. It should not have any wobble or vibration when rotating.

Check the saw blade every shift for the following and replace or repair when needed:

- Cracks, warping, missing or dull teeth, etc.
- Observe any wobble or vibration during rotation.
- Check that the bolts holding the blade to the hub are secure.

14. Calibrate the stroke and LASM axes per your BLADE II or BLADE manual.

Specs for Sharpening the Saw Blade

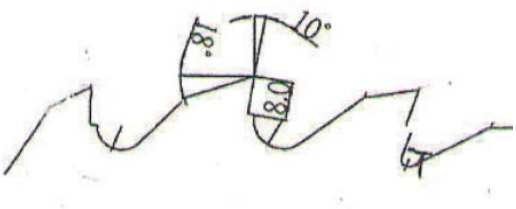
Saw blades can be sharpened to significantly extend their life. They must be sharpened by a reputable blade sharpener that is familiar with carbide tips. It is important to meet the specifications etched into each saw blade. If any specification is not met, it can cause the saw blade to cut inefficiently, inaccurately, and/or rotate out of balance. The specifications are further defined in Table 2.

Table 2: Saw Blade Specifications

Spec Description	Dimension	
Tip-to-tip diameter	425 mm min. 432 mm max.	(16-5/8" min.) (17" max.)
Kerf (blade thickness)	4.8 mm	(.189”)
Z= qty of teeth	40	
Ø = diameter of center hole	75 mm	
SK = keyways	0	
Hook	10º	
Face angle	0º	
Top angle	15º	
Angle left-to-right (or right-to-left) of ATB*	10º	
RPM max	4500 rpm	
Model # of saw blade	as shown on saw blade	
ATB	indicates an alternating top bevel	
Serial # of saw blade	as shown on saw blade	

* ATB = Alternating Top Bevel

Figure 6: Saw Blade Tips Diagram



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