MiTek®
Machinery Division

Service Bulletin

Machinery Affected:	***BLADE*™ wood processing system**
Document:	**SB206**
Title:	**Replacing the Lumber Exit Chain Shaft**
Distribution:	**Customers Upon Order**

MiTek Machinery Division
301 Fountain Lakes Industrial Drive
St. Charles, MO 63301
Phone: 800-523-3380
www.mii.com

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Revised By	R. Tucker
Approved By	M. Kanjee
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Created By	R. Tucker
Applicability	All *BLADE* saws

Purpose and Scope

This procedure describes how to replace the lumber exit chain shaft and tension the chain correctly. Failing to correctly install the shaft or tension the chain may cause the shaft to break, parts to prematurely wear, or damage to other parts. The shaft design was modified in August 2017, but correct alignment and tensioning are still imperative to prevent breakage.

The LASM jaw must be inspected before beginning this procedure to determine if a new jaw is required. Check this immediately so the part can be ordered! See page 5.

Overview

The parts included in this kit are shown in Table 1. Please ensure all parts are present before starting this procedure.

Table 1: Parts in SB206KIT

Qty.	Part Description	Part #
1	Lumber exit chain shaft	89629
1	Small snap ring for top end of shaft	379275
1	Large snap ring for bottom end of shaft	379010
1	Collar	541274
1	Key for top of shaft, 3" long	15000120012-3.00
1	Key for bottom of shaft, 1.6" long	15000160016-1.62
1	Service bulletin document	SB206

Before beginning the procedure, gather the supplies listed here:

- Snap ring pliers to fit plier holes:
  - Large snap ring hole diameter is 0.078" +/-.002)
  - Small snap ring hole diameter is 0.052" +/-.002)
- Small screwdrivers
- Hammer or mallet
- Tape measure
- Level
- Vise for holding shaft and bushing
- Red *Loctite*®

If you have any questions, call MiTek Machinery Division Customer Service at 800-523-3380.

Procedure

Lockout/Tagout Procedures

	⚠ WARNING
	**ELECTROCUTION HAZARD!** **Verify that all power to the machine has been turned off and follow approved lockout/tagout safety procedures before performing any maintenance.** **All electrical work must performed by a qualified electrician.** **If it is absolutely necessary to troubleshoot an energized machine, follow NFPA 70E for proper procedures and personal protective equipment.** **When the disconnect switch is off, there is still live power within the disconnect switch's enclosure.**

Electrical System Lockout/Tagout Procedure

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. Engage an E-stop on the machine.
2. Turn the disconnect switch handle on the machine's main electrical enclosure to the "off" position.
3. Turn the disconnect switch handle on any optional equipment with a separate disconnect switch to the "off" position.
4. Attach a lock and tag that meets OSHA requirements for lockout/tagout to all disconnect switch handles.

Pneumatic System Lockout/Tagout Procedure

	⚠ WARNING
	**HIGH PRESSURE HAZARD.** **Turn off the air switch and bleed pneumatic lines before performing any maintenance on the pneumatic system.**

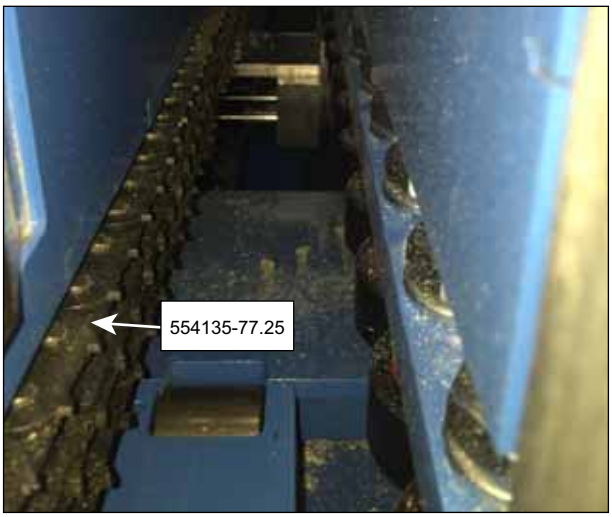
Inspect the LASM and Chain

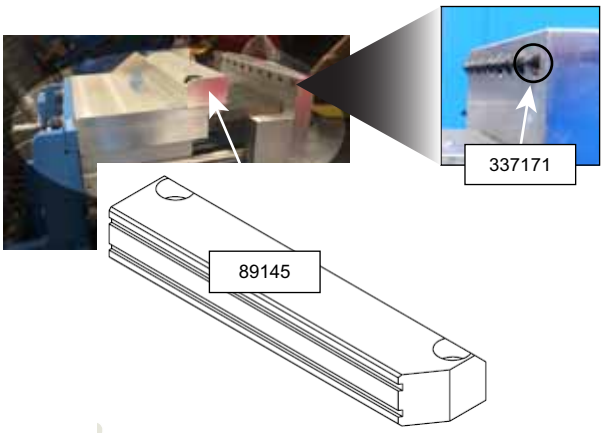
Before starting this procedure, inspect the condition of these parts. If they do not meet the quality conditions listed, order new parts prior to starting this procedure. If it is necessary that this procedure be completed prior to receiving the new parts, replace them immediately upon arrival. These parts are consumable items that should be inspected and replaced regularly to keep your saw running efficiently.

NOTICE

Allowing these parts to wear down will cause alignment and jamming issues in the near future!

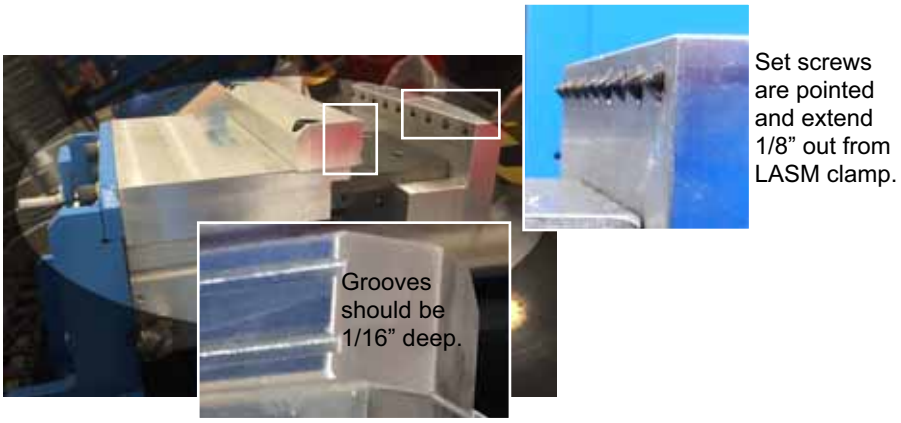
Figure 1: Part Numbers





1. Inspect the grooves in the LASM fixed jaw under the *BLADE* saw chamber. The LASM grooves must be in the condition described in Figure 2, or there will be no surface to correctly align the lumber exit chain with. If the current LASM does not meet this level of standard, order the part number shown in Figure 1.

Figure 2: Inspecting the LASM Grooves



2. Inspect the pointed set screws (teeth) on the clamp jaw as shown in Figure 2. Clean the clamp jaw and screws, while also feeling for looseness. All 9 screws should meet the specs shown in Figure 2.

   Replace or adjust the screws as needed while applying red *Loctite*®. The part number is shown in Figure 1

3. Inspect the lumber exit chain by removing the guard and ensuring the chain meets the specs show in Figure 3.

   If the current chain does not meet this level of standard, order the part number shown in Figure 1.

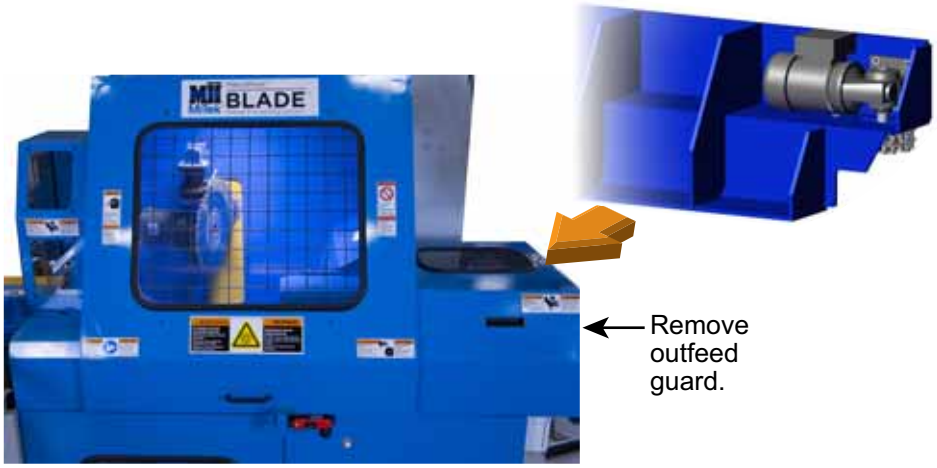
Figure 3: Inspecting the Chain Teeth

Teeth protrude 1/16" in front of LASM rail.

Removing the Shaft Assembly

1. After ensuring all power is locked out, remove the outfeed guard.

Figure 4: Outfeed Guard Removed



Refer to...

See Figure 5 for graphical representation of the following steps.

Make sure you have inspected the LASM as instructed on page 5.

2. Remove the lumber exit chain using these steps:

    a) Back off the lumber exit chain tension bolt.

    b) Loosen the 4 gearbox mounting bolts and push the gearbox assembly over to release tension on the chain.

    c) Remove the master link on the lumber exit chain and remove the chain. Set aside for later use.

3. Remove the shaft assembly from the gearbox using these steps:

    a) While supporting the assembly from the bottom, remove the top snap ring using correctly sized snap ring pliers, as indicated in the supplies list.

    b) Push the entire assembly down and out of the gearbox. Do not use extreme force as it will damage the gearbox! The shaft, keys, and snap rings should be discarded, but do not damage the sleeve in the gearbox.

    c) Loosen the 2 set screws on the collar and remove the collar for later use.

Machines prior to frame #71 do not have a collar, but the collar will be added during assembly.

4. Remove the bottom snap ring using correctly sized snap ring pliers, as indicated in the supplies list. Discard the snap ring.

5. Remove the sprocket and bushing from the shaft using these steps. It may be difficult to break them free, but take care not to damage the bushing or sprocket.

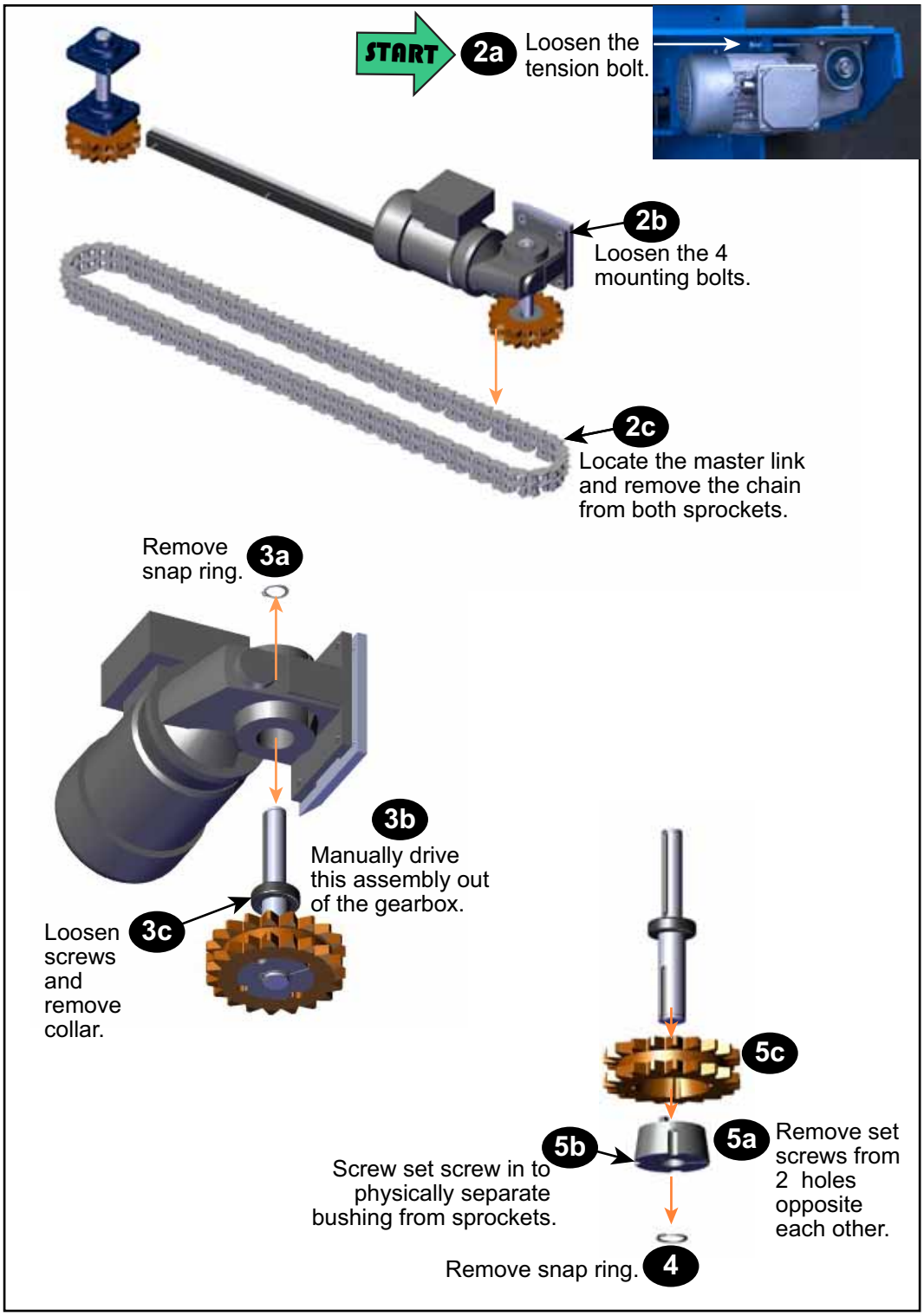
    a) Place the shaft in a vise for stability. In the bushing, locate the 2 slots with set screws. These slots are opposite from one another. Remove both set screws to loosen the hold the bushing has on the shaft.

    b) Using one of the set screws just removed, place it in the third set screw hole on the bushing (located at 90 degrees to the other two), and tighten it down until it drives the bushing and sprocket apart. The bottom key should come out with the bushing.

    c) Remove the sprocket.

    d) Keep the bushing, sprocket, and set screws. Discard the key.

Figure 5: How to Disassemble the Outfeed Drive Assembly
(Numbers correspond to the textual steps.)



Machines made prior to frame #71 do not currently have a collar.

Installing the New Shaft Assembly

1. Assemble and insert the shaft into the gearbox using these steps:

    a) Insert the new 3" key (supplied) into the top slot of the new shaft (supplied), on the narrow end.

    b) Slide the shaft through the gearbox, from the bottom side, with the narrow end of the shaft facing up. Do not use force as it will damage the gearbox!

2. Using your snap ring pliers, install the new small snap ring (supplied) in the groove near the top of the shaft. Make sure it is sitting in the groove all the way around. Lower the shaft until the snap ring is resting on top of the gearbox.

Refer to...

Refer to Figure 6 for graphical representation of this procedure.

3. Install the new collar using these steps:

    Even if your machine didn't have a collar on the previous shaft, add the new collar now.

    a) Place the collar onto the new shaft, and slide it up so the collar is pushed up against the bottom of the gearbox.

    b) Tighten the 2 set screws on the collar. They will cause the collar to clamp tightly onto the shaft.

4. Slide the sprocket on from the bottom of the shaft.

5. Install the bushing by using these steps:

    a) Insert the new 1.62" key (supplied) in the bushing key slot, and slide the bushing onto the shaft from the bottom of the shaft, with the narrow end toward the top.

    b) Place a set screw in each of the 2 holes that are opposite each other, but do NOT tighten them yet.

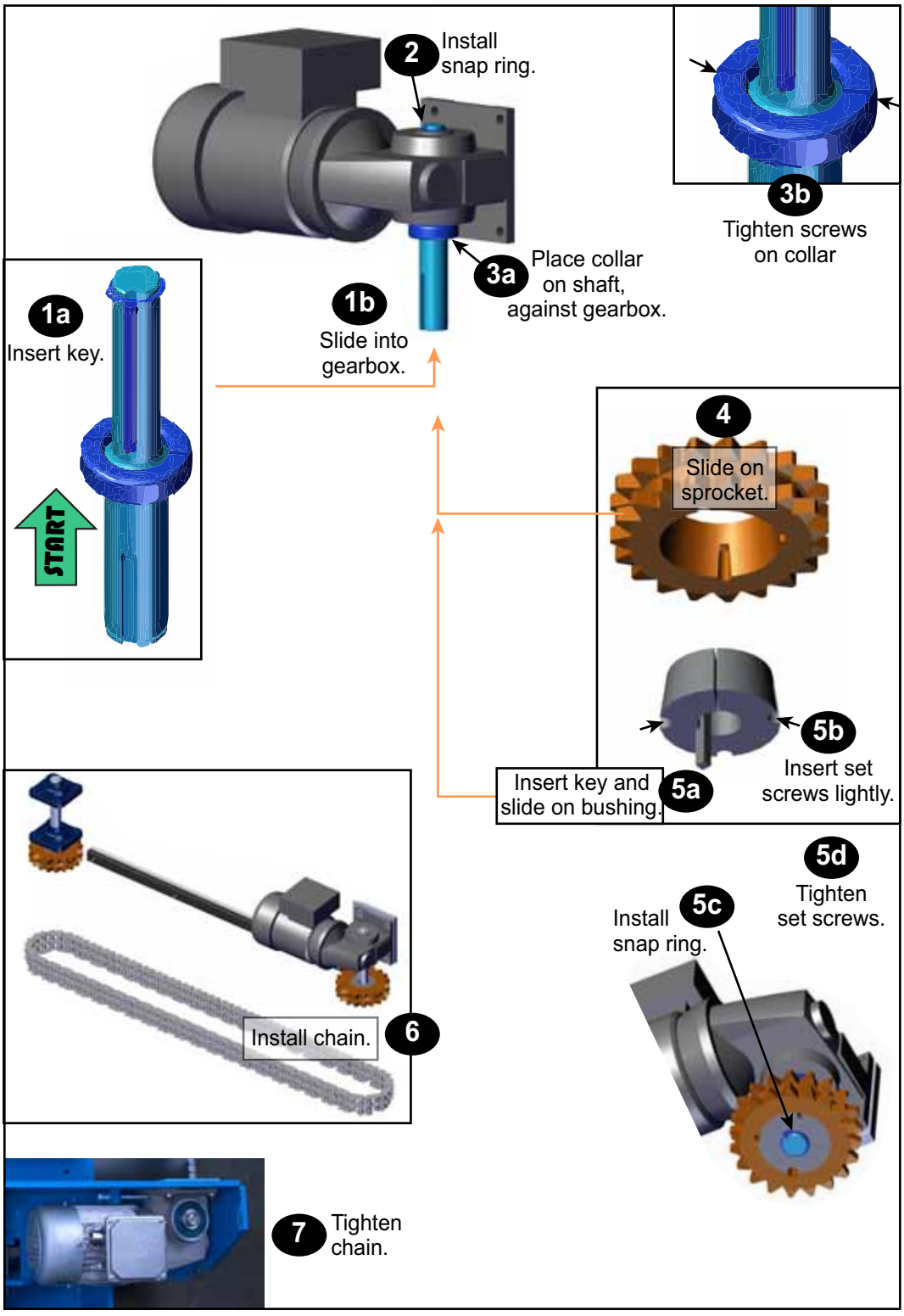
    c) Using the snap ring pliers, install the new large snap ring (supplied) in the groove near the bottom of the shaft. Make sure it is sitting in the groove all the way around.

    d) Tighten both set screws on the bushing.

6. Place the chain back onto the sprockets and reconnect the master link. Ensure it is fully seated on the sprocket teeth.

7. Using the tension bolt and 4 mounting screws, adjust the chain tension so there is no sag and you can pull the chain about 1/2" away from the chain guard at the center of its span when pulling firmly with your hand.

Figure 6: How to Assemble the Outfeed Drive Assembly
(Numbers correspond to the textual steps.)



8. Verify correct alignment:

   The chain and chain guide location should not have been affected by this procedure, but this is a good time to verify the parts are aligned. Alignment of outfeed parts prevent jams, premature wear, and the destruction of other parts.

   a) Verify that the LASM fixed jaw is in good condition so it can be used as the fixed point of alignment. See page 5.

   b) Check that the complete motor and shaft assembly is level and the shaft is perfectly vertical. If not, adjust by loosening the 4 mounting bolts.

   c) If the lumber exit chain does not satisfy all of the following requirements, refer to the BLADE equipment manual to correct it.

      - Lumber exit chain must be level and even between sprockets, meaning both sprockets must be in line with each other and not putting the chain in a bind.
      - Lumber exit chain must be a straight line between the sprockets and parallel to the LASM fixed jaw. If it is not, refer to your manual.

   d) Ensure there is not any sag or wave in the lumber exit chain. If the chain guide does not fulfill all of the following requirements, refer to BLADE equipment manual to correct it.

      - The chain guide should help prevent chain sag and keep the chain in a straight path between sprockets.
      - The chain should not hit the chain guide during operation.

END OF SERVICE BULLETIN