MiTek®
SERVICE BULLETIN

Document ID:
SB281

Title:
Upgrading the LASM Air Knives and End Caps

Affected machinery: BLADE II™ Saw

Distribution: All Customers with affected machinery

Applies to: All machines built from frame 492-577

CAUTION:
MiTek recommends printing this document in high resolution using color ink. Many of the graphics may be unclear and may create an unsafe condition if this recommendation is not followed.

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Part # and Rev.	SB281
Print Date	18 February 2025
Effectivity	Frames 492-577
Revision Date	
Revised By	
Orig. Release Date	8 January 2025
Created By	P. Hopper
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Purpose and Scope

This service bulletin instructs how to upgrade the dust mitigation system for the BLADE II LASM rail. This new kit adds felt into the plastic carriage dust caps, moves the air knife to the LASM wedge guides, and replaces the solid LASM rail end caps with end caps that have cleaning and inspection holes.

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 SB281KIT

Quantity	Description	Part #
16	FHCS, M3 X 0.5, 8MM LG	302112
1	SS STRIP, LASM RAIL	416081
2	GREEN STRIP, LASM RAIL	416082
1	FELT TIPS, LASM RAIL	416083
2	FTG,ELBOW,1/4X1/8NPT	434549
1	DRIVE END CAP LASM RAIL, BLADE II	76017
1	DRIVEN END CAP LASM RAIL, BLADE II	76018
1	LASM WEDGE GUIDE LEFT, BLADE II	76180-101
1	LASM WEDGE GUIDE RIGHT, BLADE II	76180-102
1	TUBING,FREELIN 95A, 1/4	779126
1	Service bulletin document	SB281

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

Supplies Needed

- Full metric and standard L hex bit set (Allen wrenches)
- 3/8” drive, metric, long, hex bit socket set (sizes 3, 4, 5, 6, 7, 8, & 10mm)
- 9/16” wrench
- 3/8” drive ratchet
- 3/8” standard bit socket set
- 7/16” wrench
- Vacuum
- Air nozzle, hose, and shop air
- cutters or snips

- Work light
- Hammer
- Needle nose pliers

Lockout/Tagout Instructions

Electrical Lockout/Tagout Procedure

The lockout/tagout instructions for the electrical systems will be referenced as necessary in this document. Service Bulletin instructions start on page 5.

Working on a Machine Outside the Machine's Main Electrical Enclosure

	⚠ 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 personal 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.**

1. If applicable, close machine software and shut down the PC using the **Power** > **Shut down** method in Windows.
2. Engage an E-stop on the machine.
3. Turn the disconnect switch handle to the Off position. See Figure 1.
4. Attach a lock and tag that meet OSHA requirements for lockout/tagout to the electrical service entry panel.
5. Open the door to the enclosure to which you need access. Using a multimeter, verify that the power is off.

Figure 1: Disconnect Switch

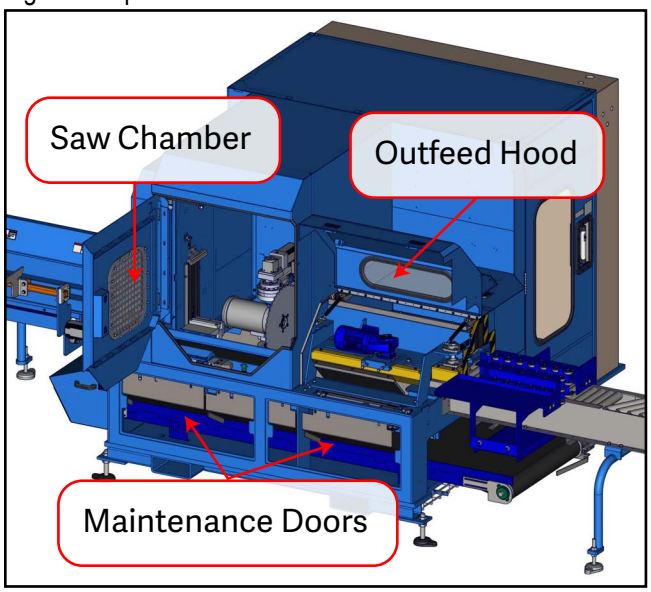
Procedure

Removing the LASM Rail

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

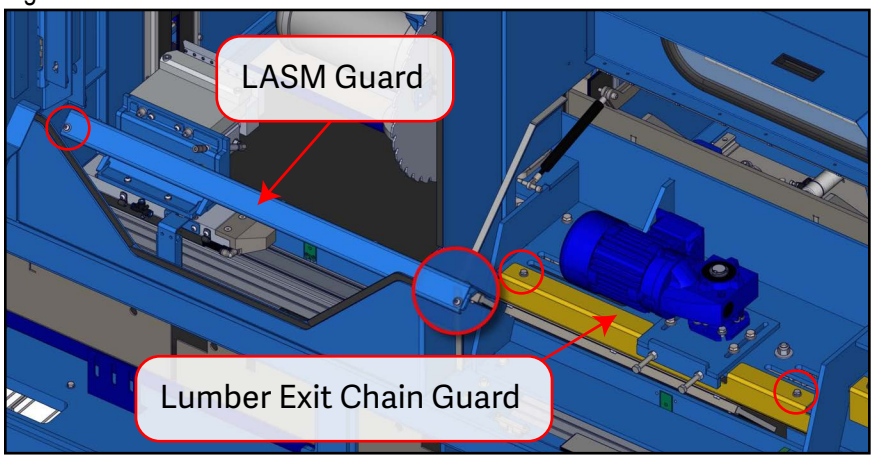
1. Lockout/tagout the electrical and pneumatic systems of the machine using the Lockout/Tagout Instructions on page 4.
2. Open the saw chamber door and outfeed hood. Remove both maintenance doors from the front side of the saw (Figure 2).

Figure 2: Open / Remove Doors for LASM Rail Access



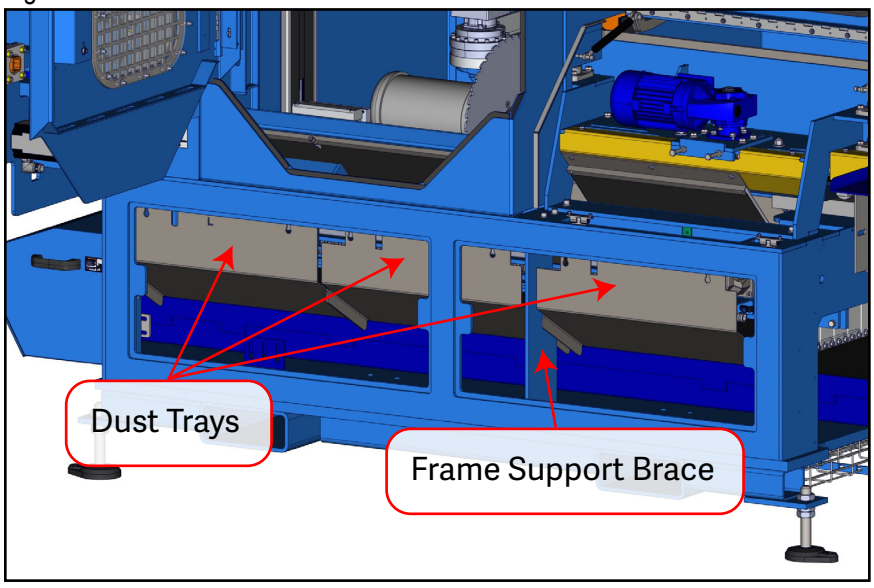
3. Remove the bolts securing the LASM and lumber exit chain guards. Remove both guards with the attached brush holders and brushes (Figure 3).

Figure 3: Dust Guard Brackets Locations



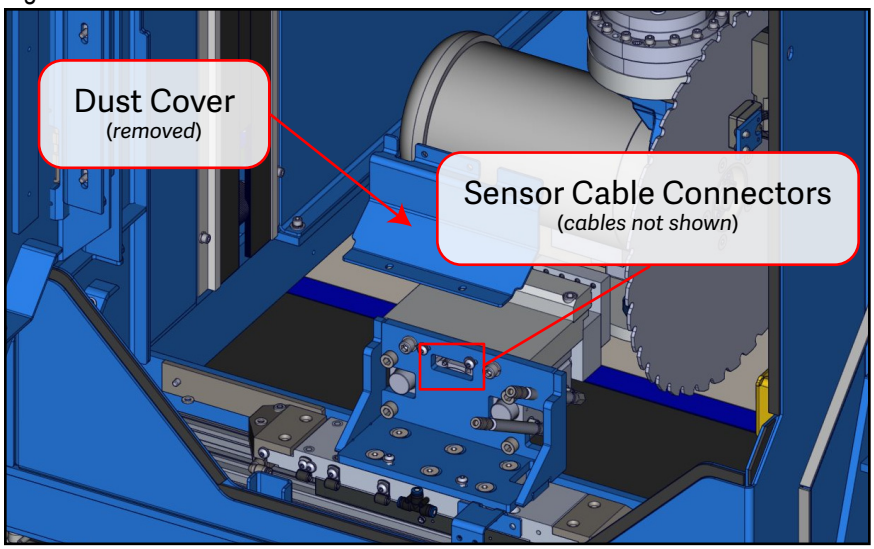
4. Remove the dust trays and vertical brace that are accessed through the maintenance doors (Figure 4).

Figure 4: Metal Guards and Vertical Brace



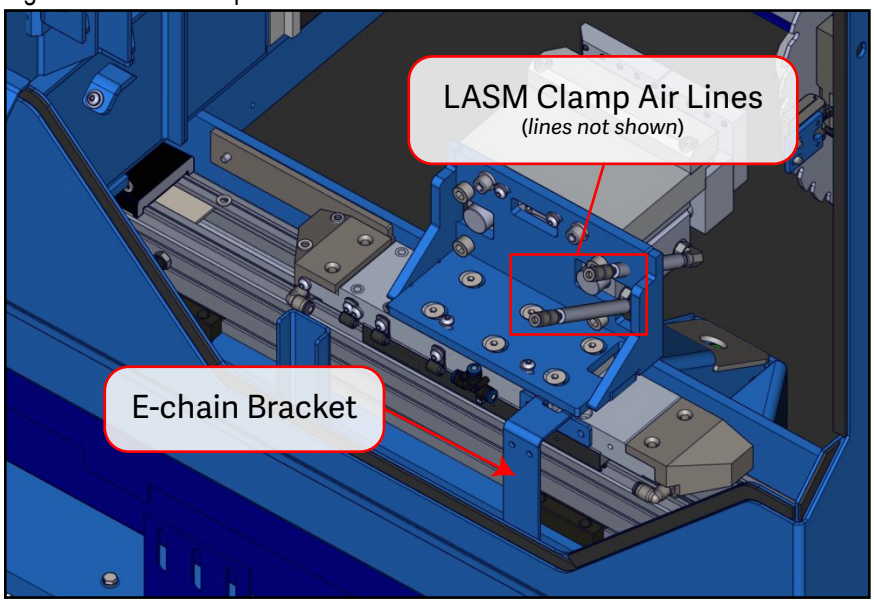
5. Remove LASM dust cover and mark sensor cable connectors (2 total) to note the correct connector for each cable.

Figure 5: Dust Cover and Sensor Cable Connectors



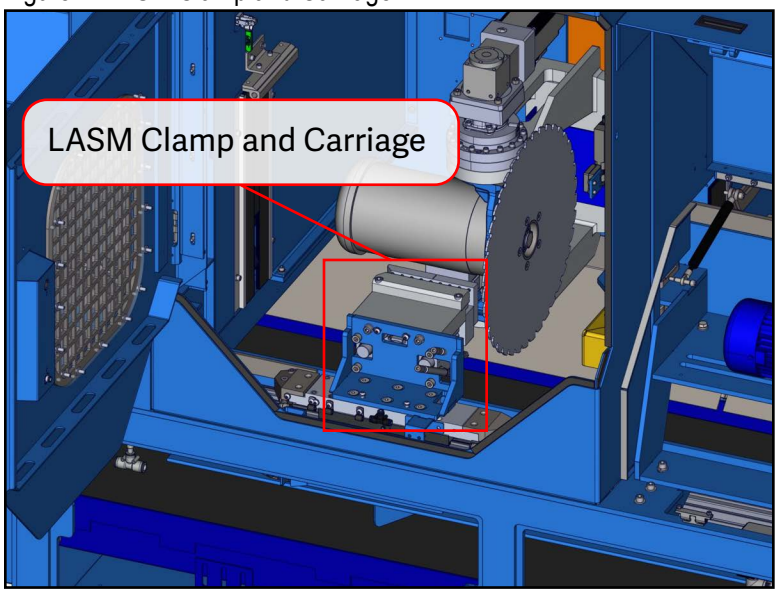
6. Remove air lines from LASM clamp and disconnect the e-chain bracket.

Figure 6: LASM Clamp Air Lines and E-chain Bracket



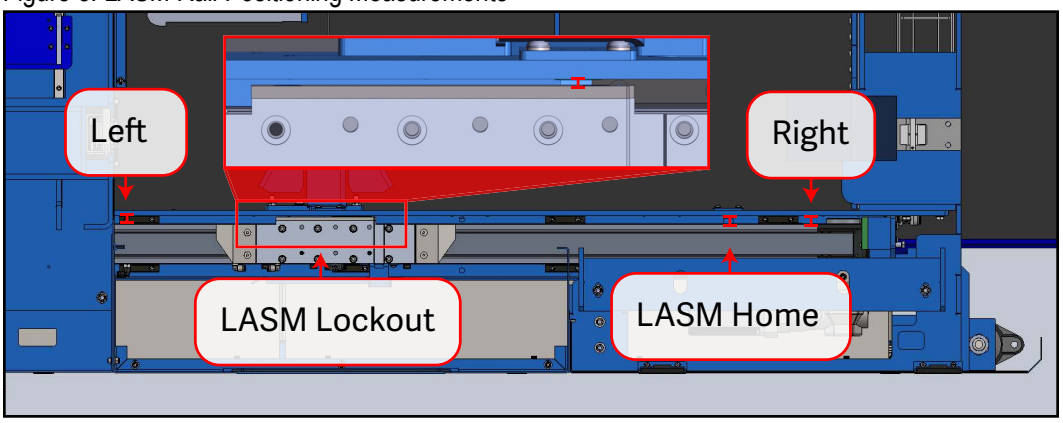
7. Remove the LASM clamp and carriage as one piece.

Figure 7: LASM Clamp and Carriage



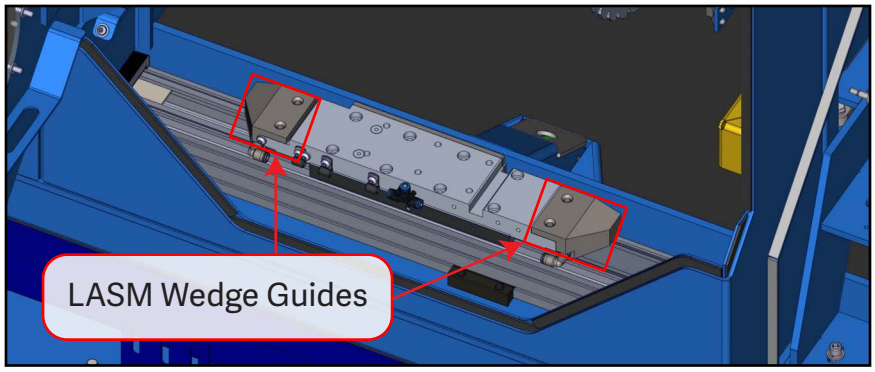
8. Measure the LASM rail to the LASM rail frame in the 4 locations shown in Figure 8 and record the distances. These measurements will be used later to ensure the LASM rail is reinstalled correctly.

Figure 8: LASM Rail Positioning Measurements



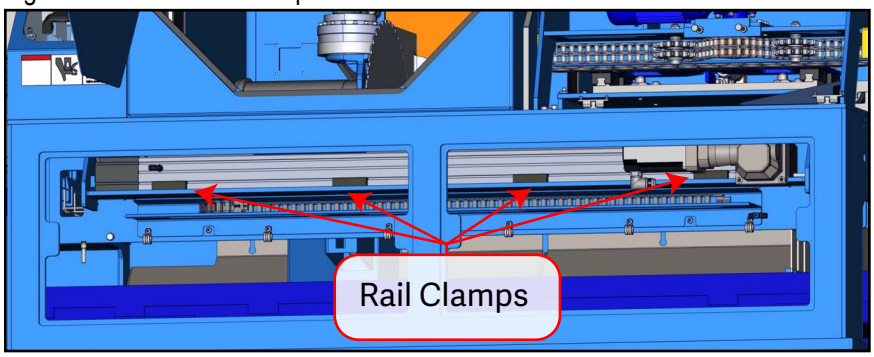
9. Remove LASM carriage spacer.
10. Remove and discard the existing LASM wedge guides (see Figure 9).

Figure 9: LASM Carriage Spacer with Wedge Guides



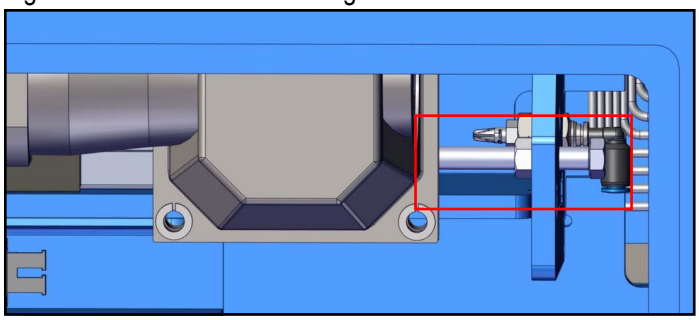
11. Remove LASM motor cable and LASM rail chamber air lines (on left and right ends of the rail).
12. Remove bolts (16 total) from clamp blocks (see Figure 10).

Figure 10: LASM Rail Clamps



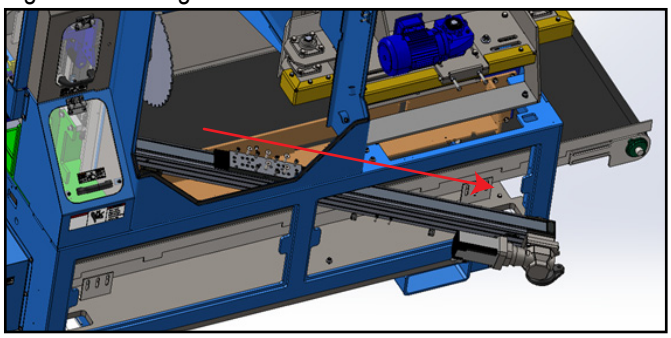
13. Loosen the LASM rail tensioning bolt (on the motor end) to allow the rail to be released from the frame.

Figure 11: LASM Rail Tensioning Bolt



14. Pull rail forward and downward and pull rail out of lower right door opening (see Figure 12).

Figure 12: Pulling LASM Rail from Saw



Cleaning the LASM Rail, Adding New Felt Strips, and Installing the new End Caps

While cleaning the LASM rail, inspect all components. Replace stripped or rounded bolts as needed.

Figure 13: Overview of LASM Rail

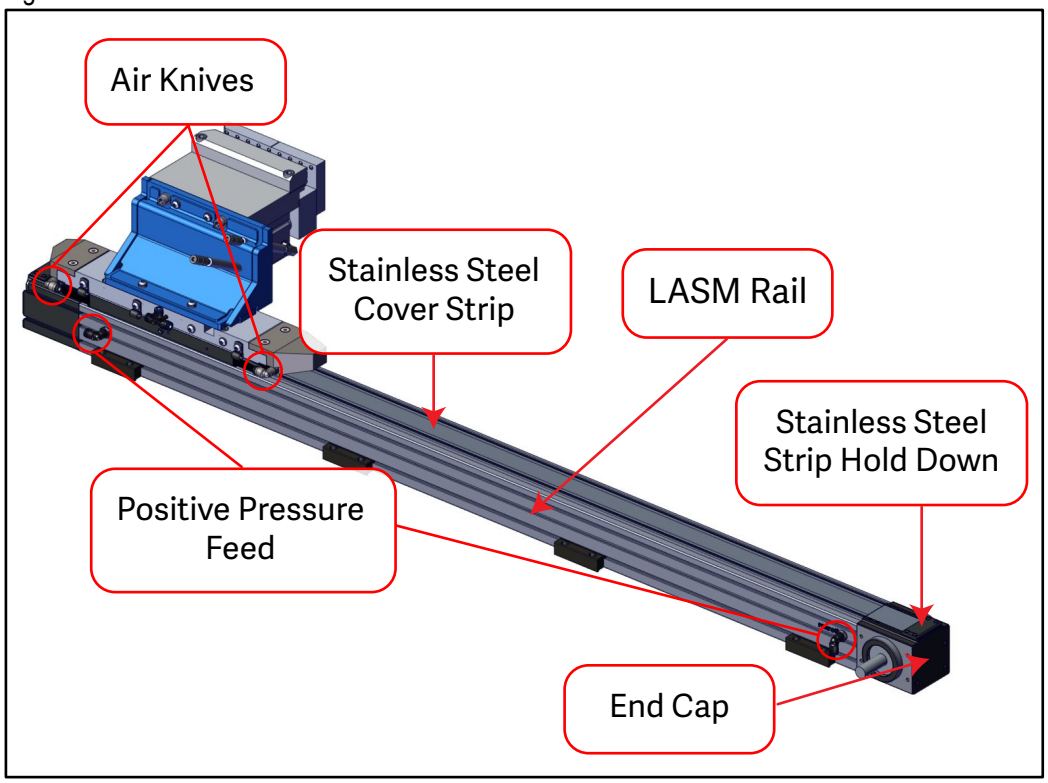
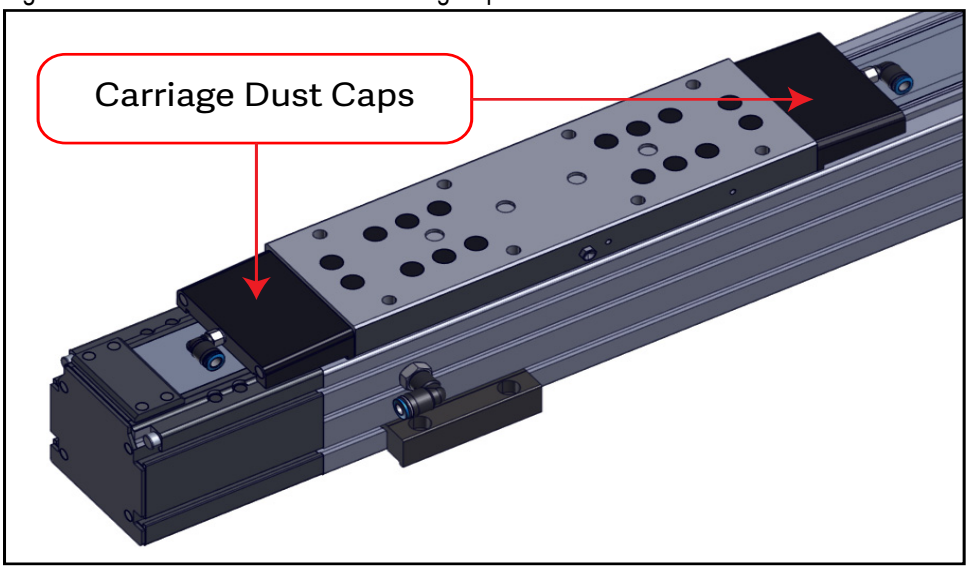
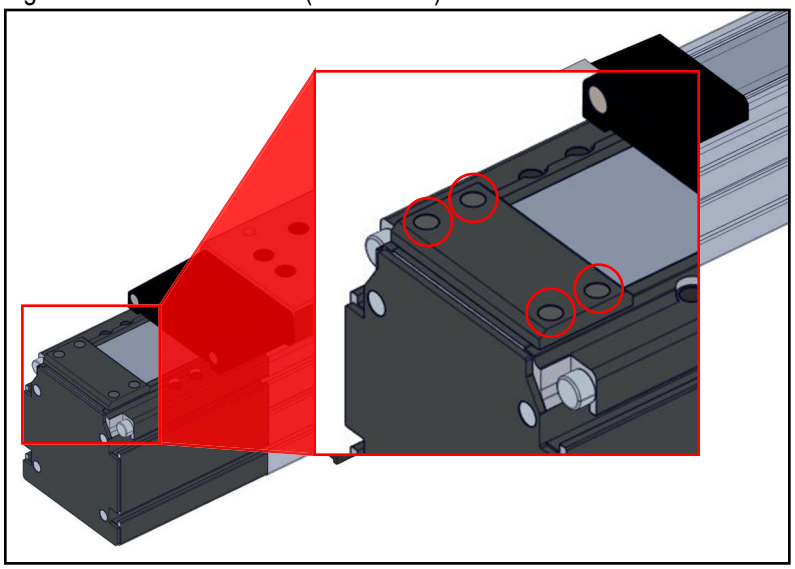


Figure 14: Overview of LASM Rail Carriage Spacer



1. Using a pressurized air hose, remove dust and debris from the rail. Clean your work area of debris before continuing.
   - Be careful not to aim the hose directly at the top of the rail. This may cause the stainless steel strip to lift and allow dirt inside.
2. Remove and discard the driven end LASM rail end cap using a hex key.
3. Remove the drive end LASM rail end cap. This has an ID tag with the Serial and Model number for the rail. **DO NOT DISCARD**!
4. Remove the 4 bolts securing the stainless steel strip hold-downs on both ends. Set aside for reuse. The infeed side of the rail is shown in Figure 15.

Figure 15: Hold-Down Bolts (Infeed Side)

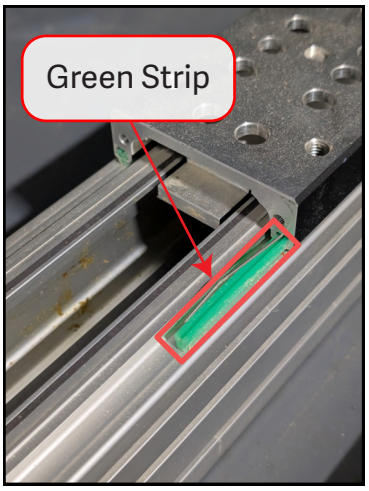


5. Remove the plastic cap covers from the carriage dust caps to expose the bolts.
6. Remove bolts with an extended shank 3mm hex drive socket and remove dust caps.
7. Remove the stainless steel strip and carefully set it aside. Do not bend or crease the strip. Replace as necessary.
   - **Do not remove the belt beneath the stainless steel strip!**

Removing the belt that is beneath the stainless steel strip will cause damage to the rail, rendering it useless, and requiring it to be replaced.

8. Inspect the rail for excessive dust, wear, or failures.
   - If an excessive amount of dust is found in the rail, inspect the air knife and carriage air lines and regulators.
   - If one or both of the green LASM strips (Figure 16) show signs of wear, replace them with the provided new green strips. They should easily be pushed in or out of position.

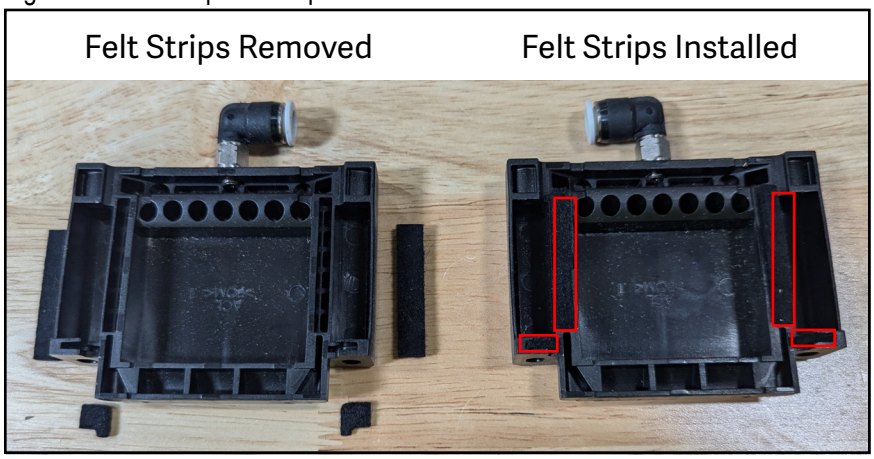
Figure 16: Green LASM Strip



9. Slide the LASM carriage from end to end while using pressurized air to clean the rail of dirt and dust.
10. Use air hose to clean out the LASM carriage.
    - Tip: Use a vacuum at the other side of the rail, then point the air gun into it by slightly deflecting the belt to better remove dust and debris.
11. Clean work area of all dirt and dust. Be careful to not lose any bolts.
12. Use a lithium-based Grade 2 grease, such as *Mobilux*™ EP 2, and grease the carriage and move it back and forth as you inject more.
13. Use a clean cloth to wipe the magnetic strips on the LASM rail that hold the stainless steel strip in place.
14. If reusing the stainless steel strip, clean both sides with a clean cloth.

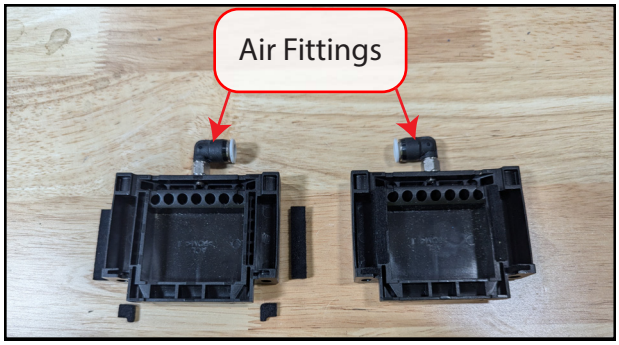
15. Clean the dust caps and remove old felt strip inserts. Ensure no felt strips are missing. See Figure 17 for an image and approximate location of felt strips.

Figure 17: Dust Cap Felt Strips Location



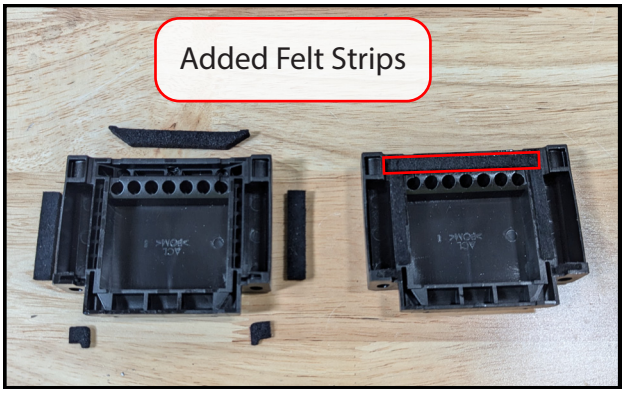
16. Remove the air fitting from each dust cap shown in Figure 18.

Figure 18: Dust Cap with Old Air Fitting



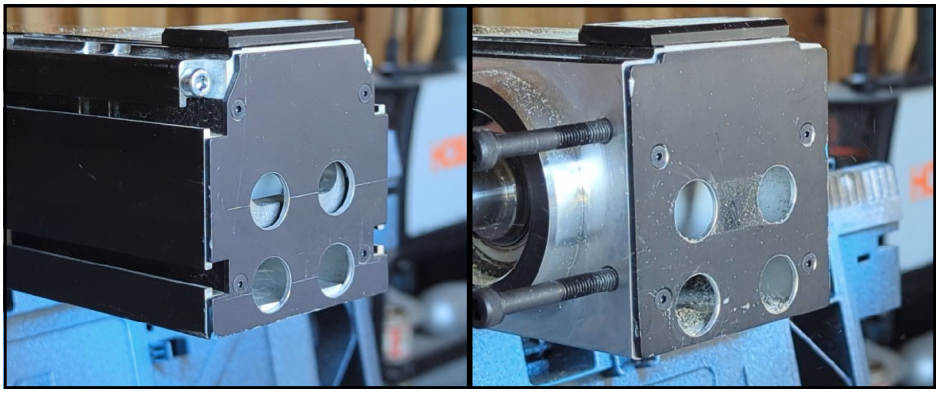
17. Insert the felt strips supplied in the SB281 kit as shown in Figure 19.

Figure 19: Dust Caps with New Felt Strips



18. Insert the stainless steel strip through the first dust cap, reinstall it into the carriage, then insert it through the second dust cap.
19. Place the stainless steel strip onto the magnetic strips on the rail.
20. Apply light downward pressure on the dust cap while tightening it to the carriage.
21. Reinstall the plastic cap covers on the dust caps.
22. Secure the stainless steel strip by replacing the hold downs.
23. Ensure there are no gaps between the stainless steel strip and the magnetic strips on the rail.
24. Install the new LASM rail end caps (Figure 20).

Figure 20: New LASM Rail End Caps Installed



Reinstalling the LASM Rail with New Wedge Guides

Reverse removal instructions in Removing the LASM Rail on page 5 and make certain to correctly follow the below steps:

1. Ensure the LASM rail is pushed lightly against the left stop using the tensioning bolt referenced in step 13).
2. After reinstalling the LASM carriage spacer referenced in step 9, install the new aluminum wedge guides using a hex key.
   - Some airlines may need to be trimmed.
3. Use the measurements taken in step 8 to ensure the forward and rearward position of the rail is correct, so the LASM can accurately clamp boards.

Once the LASM rail has been installed, calibrate the saw.

It is recommended to clean the ends of the LASM rail once a week, or when an appreciable amount of dust has accumulated.

It is recommended to blow air through the top holes so that the dust flows out of the bottom holes.

END OF SERVICE BULLETIN