
MiTek®

SERVICE BULLETIN

Document ID:
SB300

Title:
**Gripper Obstruction Sensor New Guard
and Mount**

Affected machinery: BLADE II™ saw
Distribution: Customers upon order
Sensitivity: Approved for customer use

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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Orig. Approved By	R. Tucker

Purpose and Scope

This service bulletin instructs how to replace the existing guard for the infeed rail obstruction sensor on the BLADE II saw. The new design is larger, better protecting the sensor from all sides. Two variations have been designed. One for a standard load infeed rail and one for a reverse load.

If the obstruction sensor itself needs to be replaced, refer to SB277.

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 SB300KIT-A (Standard Load)

Quantity	Description	Part #
1	Obstruction Sensor Guard (Standard)	77139-101
1	Drop Board Sensor Bracket	76473
4	Socket-head Cap Screw, 3/8-16 x 3/4"	326257
2	Lock Washer, 3/8"	364042
2	Flat Washer, SAE, 3/8", GR. 8	365123
2	Socket-head Set Screw, 1/4-20 x 1/2"	337155
1	Service bulletin document	SB300

Table 2: Parts in SB300KIT-B (Reverse Load)

Quantity	Description	Part #
1	Obstruction Sensor Guard (Reverse)	77139-102
1	Drop Board Sensor Bracket	76473
4	Socket-head Cap Screw, 3/8-16 x 3/4"	326257
2	Lock Washer, 3/8"	364042
2	Flat Washer, SAE, 3/8", GR. 8	365123
2	Socket-head Set Screw, 1/4-20 x 1/2"	337155
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If you have any questions, call MiTek Automation Support at 1-800-523-3380.

Supplies Needed



- One 3/8" and one 1/4" Hex Key
- Loctite® Threadlocker Blue 242® (for set screws)

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 4](#).

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

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

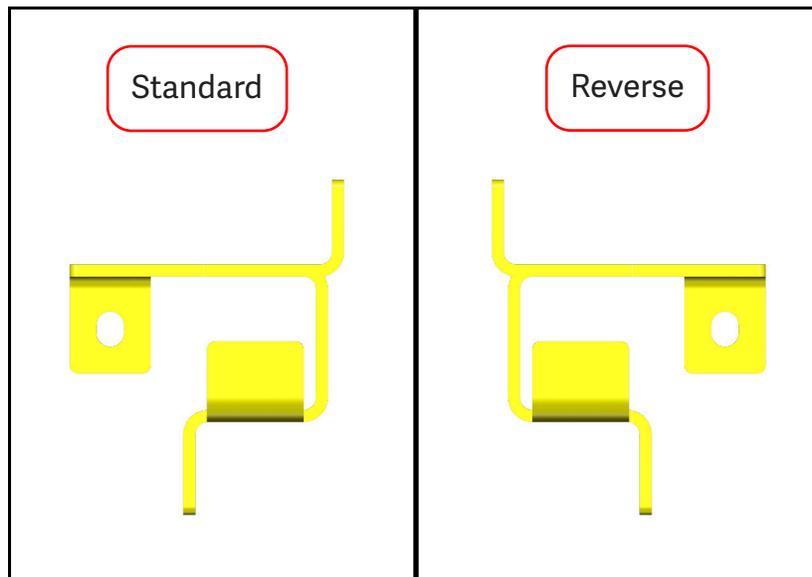
Upgrading the Obstruction Sensor Guard



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

1. Before starting this procedure, use [Figure 2](#) to ensure you have been provided the correct obstruction sensor guard for your machine's infeed rail orientation.

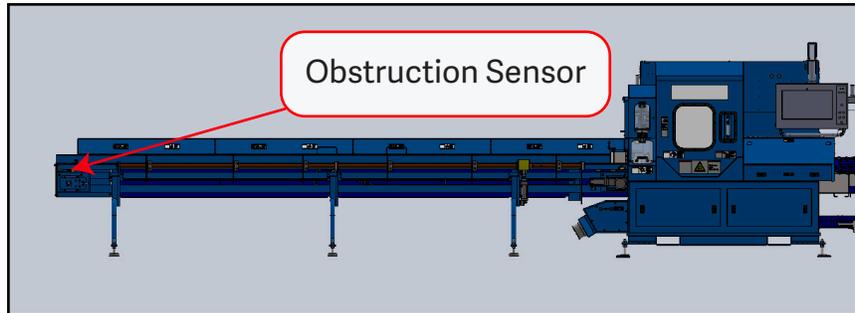
Figure 2: Standard and Reverse Load Guards



2. Lockout/tagout the electrical and pneumatic systems of the machine using the [Lockout/Tagout Instructions on page 3](#).

3. With power locked out as previously described, locate the existing obstruction sensor on the far side of the infeed rail (see [Figure 3](#)).

Figure 3: Obstruction Sensor Location



4. Remove the existing sensor bracket with the obstruction sensor attached using both a 3mm and a 1/4" hex key. See [Figure 4](#) and [Figure 5](#).

Figure 4: Existing Sensor Bracket

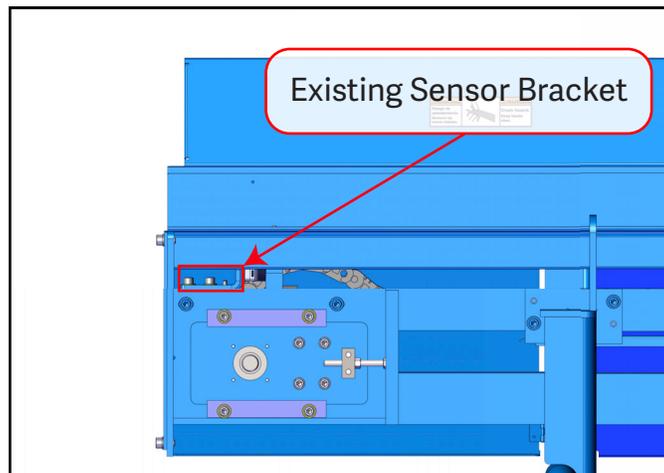
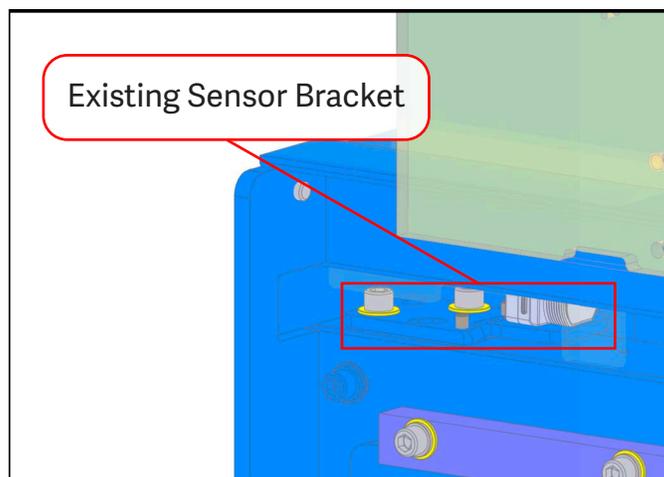
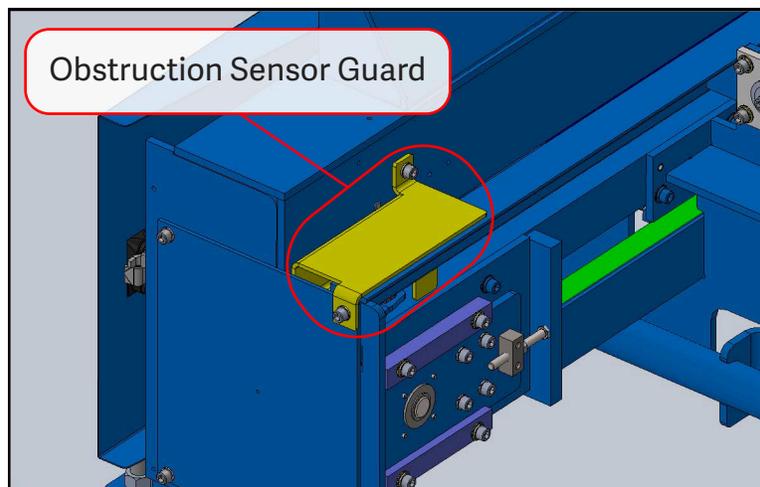


Figure 5: Existing Sensor Bracket (Angled View)



5. Remove the sensor from the bracket by removing the two M3 x 0.5 x 25 socket-head cap screws.
6. Affix the provided sensor bracket to the sensor and reinsert the M3 x 0.5 x 25 socket-head cap screws.
7. Attach the updated bracket with sensor to the infeed rail using two of the provided 3/8-16 x 3/4" socket-head cap screws with two 3/8" flat washers, and then the two 1/4-20 x 1/2" socket-head set screws.
 - Be sure to use Loctite Threadlocker Blue 242 to secure the set screws.
8. Affix the new obstruction sensor guard to the infeed rail using the remaining two 3/8-16 x 3/4" socket-head cap screws and the two 3/8" lock washers (Figure 6).

Figure 6: New Guard (Standard Load Pictured)



9. Remove lockout/tagout devices and power on the machine.

Adjusting the Sensor

1. To begin adjusting the sensor, switch the saw to MANUAL mode.
2. From the software home screen, select **Gripper > Move Min** to move the gripper toward the saw chamber.
3. Activate an E-stop.

4. The red laser from the sensor should be visible and as close to the center as possible on the reflective plate on the back of the gripper assembly (see [Figure 7](#)). See below sub-steps for further instruction if needed:
 - a) To adjust the sensor from left to right, loosen the bracket bolts and slightly move the bracket.
 - b) To adjust the sensor up and down, adjust the set screws to raise and lower the bracket. Be careful not to raise the sensor bracket too far and place pressure on the sensor cable connector.

Figure 7: Red Laser Visible on Reflective Gripper Plate



5. Tighten the two bolts to fully secure the sensor bracket. The set screws do not need to be adjusted further.
6. The yellow and green lights on the side of the sensor should be lit, indicating there is no obstruction present (see [Figure 8](#)).

Figure 8: Gripper Obstruction Sensor Adjustment



7. Use a piece of board to test the sensor. If the sensor is blocked, the yellow light should turn off and the green light will remain lit.

8. Release the E-stop and select **Gripper > Move Max** from the software home screen to move the gripper away from saw chamber. Verify the red laser is positioned within the reflector boundaries as it the gripper travels to max position.
9. The yellow and green lights, indicating no obstruction, should also be lit with the gripper in the max position (closest point to the sensor).

END OF SERVICE BULLETIN