

Service Bulletin

Machinery Affected: *RoofTracker III™, Auto 8™, Auto 10™, AutoPress 14LRT™, RailRider Pro®*
Document: SB232
Title: Replacing a Laser Scanner
Application: STI OS32C-BP Laser Scanners
Distribution: Customers Upon Order




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Applicability	Gantries with OS32C-BP scanners

Purpose and Scope

MiTek uses laser scanners on its gantry heads to detect obstructions. If the path of a gantry head is obstructed, the laser scanner triggers an emergency stop, preventing a collision. Proper functioning of the laser scanner prevents equipment damage and injuries. This procedure explains how to replace a laser scanner.

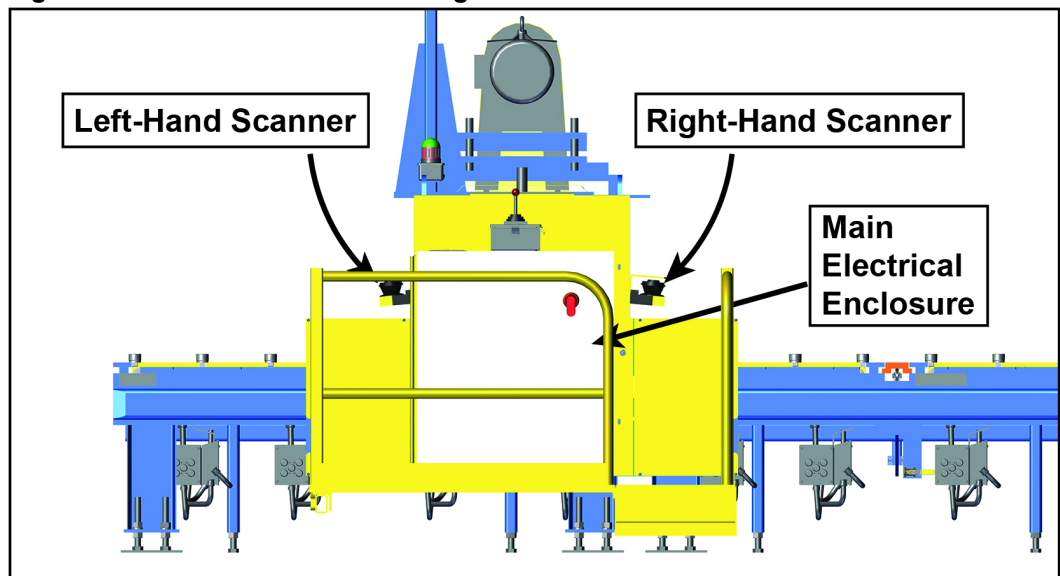
NOTICE	
	<p>When you handle the laser scanner, avoid touching the scanner window, shown on page 8.</p> <p>Touching the scanner window may leave fingerprints, which interfere with operation.</p>

Note on Scanner Orientation

Some gantry heads have one program for the left-hand scanner and a different program for the right-hand scanner.

Distinguish the left-hand scanner from the right-hand scanner by standing at the end that has the main electrical enclosure, regardless of where the controls are located. Figure 1 shows the proper position for identifying scanners on a *RoofTracker III*.

Figure 1: Left-Hand Scanner and Right-Hand Scanner



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 SB232KIT

Qty.	Part Description	SB Kit #	Part #
1	Service bulletin document	All	SB232
1	Laser scanner window cleaning kit	All	515730
1	Laser scanner (7' RailRider Pro Left) (Australia)	SB232KIT-A	92284-501
	Laser scanner (7' RailRider Pro Right) (Australia)	SB232KIT-B	92284-502
	Laser scanner (7' RailRider Pro)	SB232KIT-C	92284-503
	Laser scanner (Auto 8/10 Left)	SB232KIT-D	92284-504
	Laser scanner (Auto 8/10 Right)	SB232KIT-E	92284-505
	Laser scanner (AutoPress 14LRT Left)	SB232KIT-F	92284-506
	Laser scanner (AutoPress 14LRT Right)	SB232KIT-G	92284-507
	Laser scanner (RoofTracker III Top Chord Left)	SB232KIT-H	92284-508
	Laser scanner (RoofTracker III Top Chord Right)	SB232KIT-I	92284-509
	Laser scanner (RoofTracker III Bottom Chord)	SB232KIT-J	92284-510
	Laser scanner (7' 6" RailRider Pro)	SB232KIT-K	92284-511
	Laser scanner (8' RailRider Pro)	SB232KIT-L	92284-512
	Laser scanner (12'6" RoofTracker III Bottom Chord)	SB232KIT-M	92284-513

Before beginning the procedure, gather the supplies listed here:

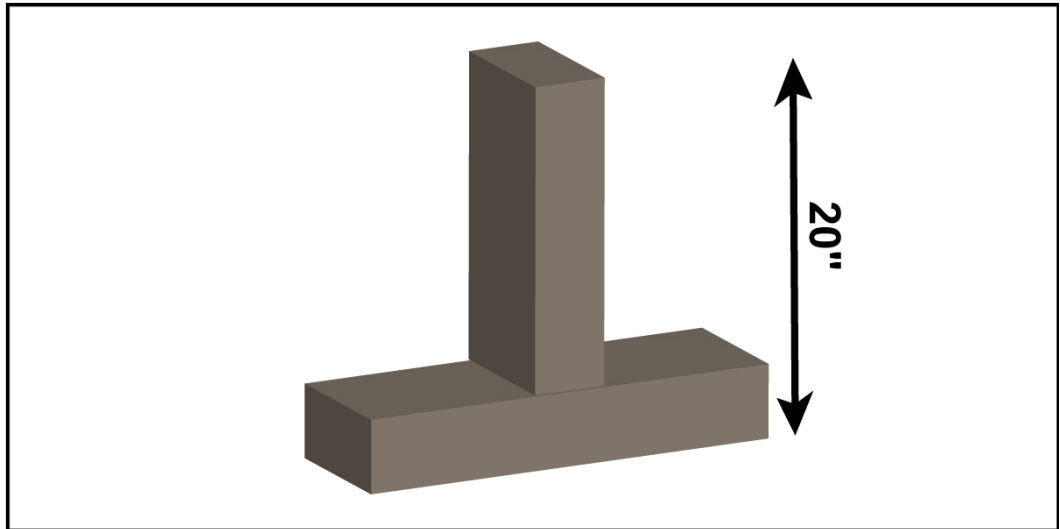
- Socket set
- Allen wrench set
- Tape measure
- Wooden T (see page 4)

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

Creating a Wooden T

An object is necessary to trip the laser scanner and test it after installation. The simplest object is a wooden T. Permanently fasten two pieces of wood together to form a T. The T should be a minimum of 20" tall. The T should be able to stand upside down on its own. See Figure 2.



Figure 2: Wooden T



Procedure





Electrical Lockout/Tagout Procedures

	 WARNING
	<p>ELECTROCUTION HAZARD!</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>All electrical work must be performed by a qualified electrician.</p> <p>If it is absolutely necessary to troubleshoot an energized machine, follow NFPA 70E for proper procedures and personal protective equipment.</p>

Working on a Machine Outside the Machine’s Main 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 here.

1. Move the gantry head to the middle of the table.
2. Engage an E-stop on the gantry head.
3. Turn the disconnect switch handle on the gantry head’s main electrical enclosure to the Off position. See Figure 3.

	 WARNING
	<p>ELECTROCUTION HAZARD.</p> <p>When the disconnect switch is off, there is still live power within the disconnect switch’s enclosure. Always turn off power at the building’s power source to the equipment before opening this electrical enclosure!</p>

4. Attach a lock and tag that meets OSHA requirements for lockout/tagout.

Figure 3: Lockout/Tagout on Sample Electrical Enclosure



Main electrical enclosure on a RailRider Pro shown above.

Removing the Old Laser Scanner

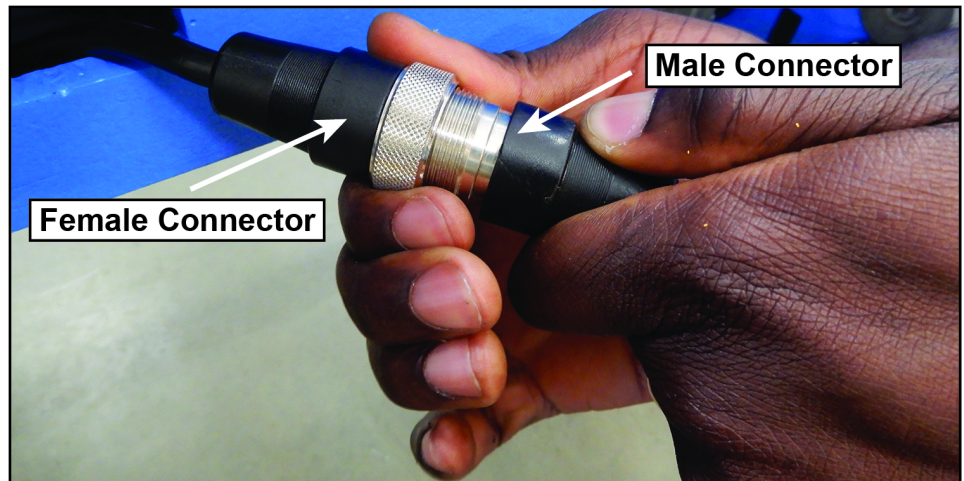
1. Support the scanner with one hand.
2. Remove the two screws and lock washers holding the laser scanner mount to the frame. The screws are circled in white in Figure 4.
Save all hardware during removal for reuse later.

Figure 4: Screw Locations on Laser Scanner Mount



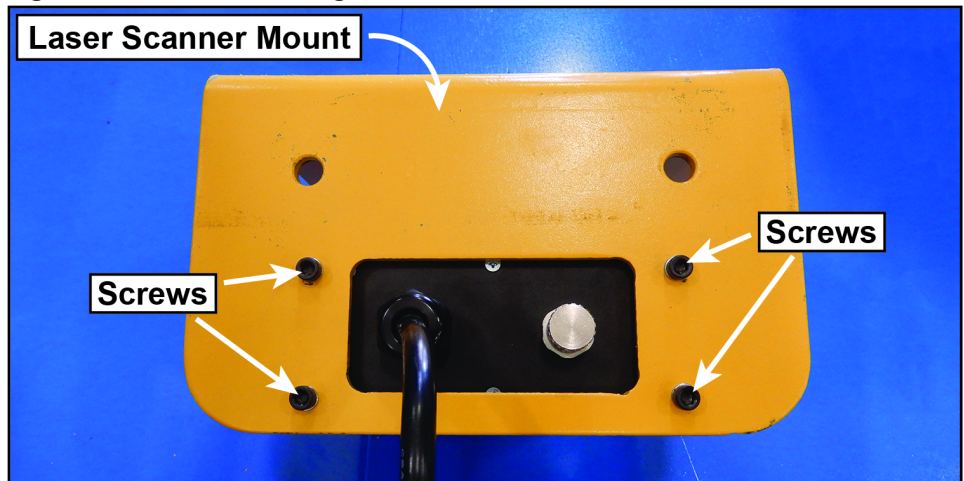
3. On the rear of the scanner, unscrew the ring that joins the male connector to the female connector. See Figure 5. Detach the cable connector.
You may need to pull the cable gently to remove the connector from the inside of the frame.

Figure 5: Cable on Rear of Scanner



4. Set the laser scanner on a stable surface. Remove the four screws and washers attaching the laser scanner to the mount. See Figure 6.

Figure 6: Screws Attaching Scanner to Mount



Installing a New Laser Scanner



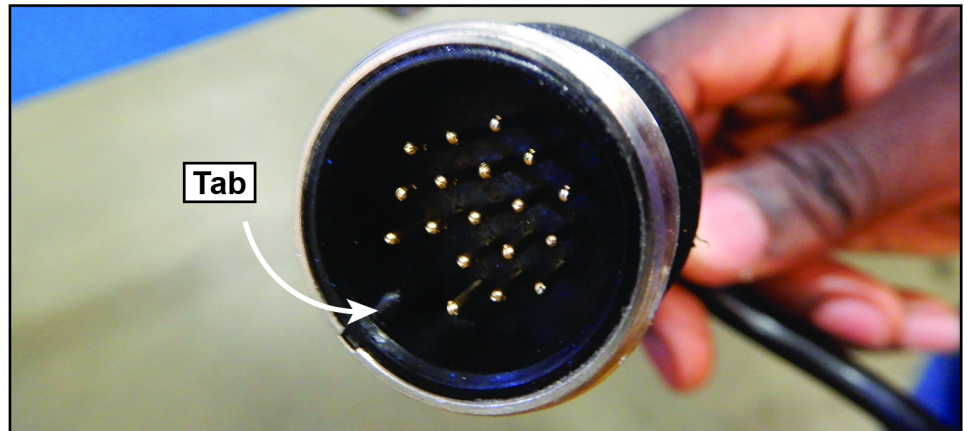
Avoid touching the scanner window, shown in Figure 7.



To distinguish left-hand from right-hand scanners on some gantry heads, see page 2.

1. Use the four screws and washers removed earlier to attach the new laser scanner to the mount.
2. Support the scanner. Align the tab in the male end of the cable connector, shown in Figure 2, to the slot in the female end of the cable connector. Push the connectors together. Tighten the ring.

Table 2: Male Cable Connector



3. Push the excess cable back into the cavity in the gantry head frame.
If you are working on a gantry head with a roller, make sure that the cable is positioned so that it does not work its way into contact with the roller.
4. Attach the laser scanner mount using the two screws and lock washers removed earlier.
5. Clean dust and fingerprints from the laser scanner window using the cleaner and cloth included in the service bulletin kit. NEVER use thinner, benzene, or acetone for cleaning because it could damage the window. See Figure 7 for the location of the laser scanner window.



Figure 7: Laser Scanner Window Location





Testing the Function of the Laser Scanner



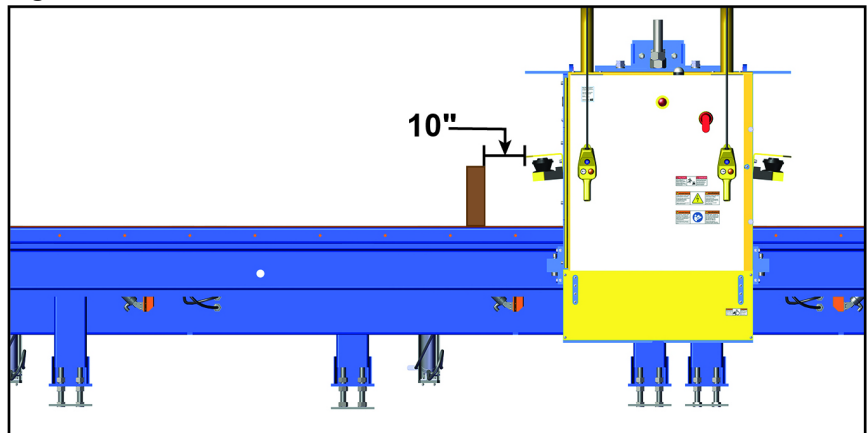
Customer Service is available at **800-523-3380** Monday through Friday.

	 WARNING
	<p>If your equipment fails any part of this function check, lockout/tagout the equipment and call MiTek Machinery Division Customer Service immediately.</p> <p>Operating equipment that has failed the function check may result in severe injury or death.</p>

	 WARNING
	<p>Only the person performing the test should be in the restricted zone during testing.</p> <p>If the equipment fails to stop as anticipated, severe injury or death may occur to a bystander in the restricted zone.</p>

1. Check the function of the laser scanners while the gantry head is stopped using the following steps.
 - a) Remove the lock and tag. Restore power to the gantry head.
 - b) Place the wooden T on the tables 10" from the laser scanner as shown in Figure 8.

Figure 8: First Position of Wooden T

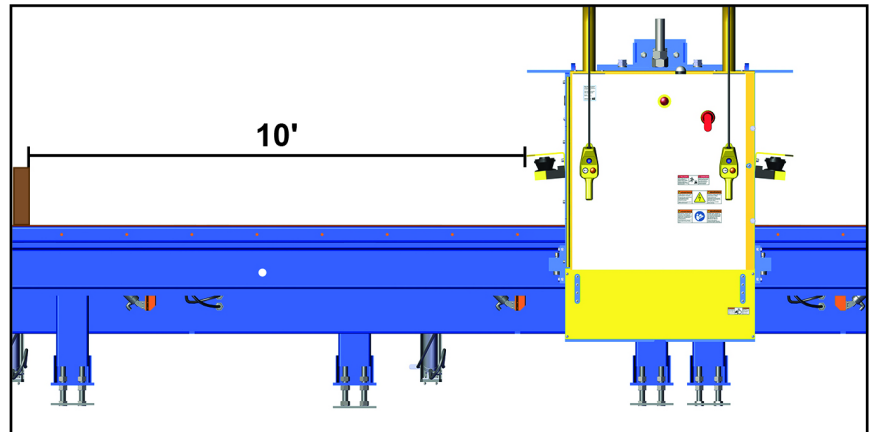


- c) Reset the safety circuit.
- d) Use the operator controls to try to move the gantry head toward the wooden T.
 - The gantry head should not move.
- e) If you replaced both laser scanners, repeat steps b through d on the other side of the gantry head.

2. Check the function of the laser scanners while the gantry head is moving using the following steps.

- a) Place the wooden T on the tables 10' from the gantry head as shown in Figure 9.

Figure 9: Second Position of Wooden T



- b) Use the operator controls to move the gantry head toward the wooden T. Do not release the controls until the gantry head stops.
 - The gantry head should slow and then stop short of the wooden T.
 - c) After the gantry head stops, release the controls. Try to move the gantry head in the direction of the wooden T.
 - The gantry head should not move.
 - d) Reset the safety circuit.
 - e) If you replaced both laser scanners, repeat steps a through d on the other side of the gantry head.
3. Remove the wooden T. Resume operation.