

# MiTek®

## SERVICE BULLETIN

**Affected machinery:**

**RoofTracker III™ roller press**

**Document:**

**SB203 rev. C**

**Title:**

**Electrical & Software Updates for  
Reset Button & Deceleration Changes**

**Distribution:**

**All customers**

MiTek Machinery Division  
301 Fountain Lakes Industrial Drive  
St. Charles, MO 63301  
Phone: 800-523-3380  
Fax: 636-328-9218  
www.mitek-us.com

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Revised By	A. McIntire
Orig. Release Date	5 December 2019
Created By	R. Tucker
Approved By	

## Purpose and Scope

MiTek has applied software and wiring changes to the *RoofTracker III* to make daily operation more efficient and convenient. These changes eliminate the need to press and hold the Reset button to move the gantry head in the opposite directions when the safety circuit detects an obstruction. Please upgrade your software as soon as possible and return the parts indicated to MiTek.

Once the software update is complete, machines with laser scanners will exhibit a faster deceleration when the scanner detects an obstacle, resulting in a smoother stop and reduced wear and tear on machine components.

## IMPORTANT: Returning Parts

A Return Goods Authorization (RGA) document is enclosed in your kit to return the two memory devices. A copy of the RGA must be placed inside the shipment box. Please package the items so that they will not be damaged during shipment. Thank you!



Contact MiTek Automation Solution Customer Service immediately upon completing this procedure, and we will arrange for Fedex to pickup the package.

MachinerySupport@mii.com or 800-523-3380

## Overview

The parts included in the kits are shown below. Please make sure all parts are present before starting this procedure.

**Figure 1: Parts in SB203KITS**

Quantity	Kit Voltage	Description	Part #
1	208V	Memory module programmed for VFD	509791-505
	230V		509791-506
	460V		509791-507
	575V		509791-508
1	-	Memory cassette programmed for safety controller	94019
4 ft	-	Wire, 18 AWG (for jumpers)	508003
16 ft	-	Wire, 16 AWG (for signal wires)	508870
1 sheet	-	Blank labels for new wires	694060
1	-	Service bulletin document	SB203
1	-	RGA document for returning memory devices	N/A
1	-	Printed electrical schematic	90635 rev. H

Before beginning the procedure, gather the supplies listed here:

Wire strippers/cutters

Slotted screwdriver

Marker

Lockout/tagout device

Phillips screwdriver



T-20 Torx tool

Wooden T for safety test (see page 12)

If you have any questions, call MiTek Machinery Division Customer Service at 1-800-523-3380.

## Procedure

### Electrical Lockout/Tagout Procedure

	 <b>WARNING</b>
	<p><b>ELECTROCUTION HAZARD.</b></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 person protective equipment.</p>

#### Procedure for Working Either on a Machine Inside the Machine's Main Electrical Enclosure or in the Electrical Transmission Line to the Machine



Before opening the main electrical enclosure or attempting to repair or replace an electrical transmission line, lockout/tagout the machine properly. 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. If you have a *Wizard PDS*<sup>®</sup> operator station mounted to the gantry head, turn that computer off now.
3. Turn the machine's disconnect switch to the Off position. This is usually required to open the main electrical enclosure's door.
4. Shut the power to the machine off at the machine's power source, which is usually an electrical service entry panel on the facility wall. One example of a locked-out power source panel is shown in Figure 2.
5. Attach a lock and tag that meets OSHA requirements for lockout/tagout to the electrical service entry panel.
6. Wait 20 seconds for the VFD to discharge any remaining power.
7. Open the door to the enclosure to which you need access. Using a multimeter, verify that the power is off.

**Figure 2: Lockout/Tagout on the Power Source Panel**



**Pneumatic System Lockout/Tagout Procedure**

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

	 <b>WARNING</b>
	<p><b>HIGH PRESSURE HAZARD.</b></p> <p>Bleed pneumatic lines before performing any maintenance on the system.</p> <p>Working on pressurized lines may cause injury.</p>

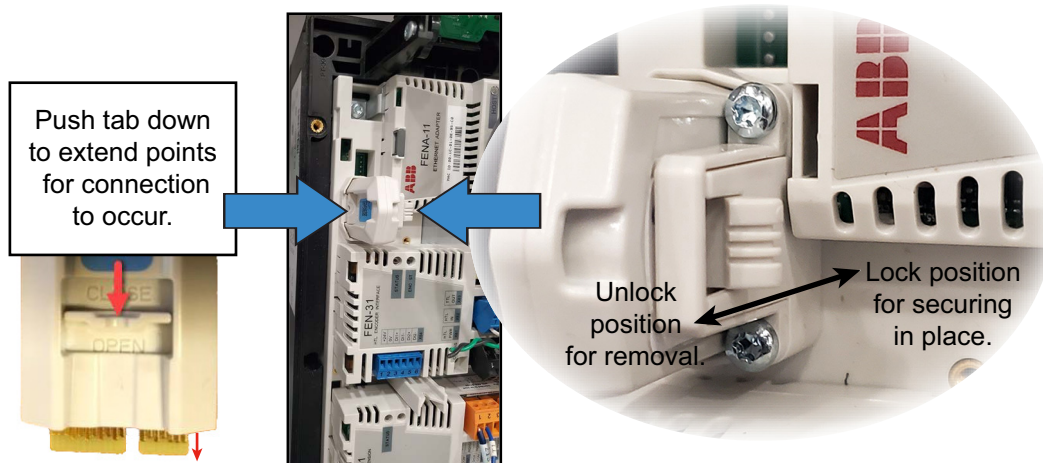


## Replacing the VFD Memory Module

The VFD must have a new program for the intended changes to take place.

1. Remove the VFD cover. Depending on the VFD model, it can be removed in one of two ways:
  - Insert a screwdriver into the notch at the bottom-center of the cover, OR
  - Remove the screws securing the cover.
2. With power locked out, remove the old VFD memory module and return it using these steps:
  - a) Place latch in Unlock position and pull out gently on the memory module.
  - b) Follow the instructions on page 2 to return the memory module to MiTek.
  - c) On the new memory module, push the tab as shown in Figure 3 to extend the points out, and place the memory module into its slot.
3. Place the latch in Lock position.

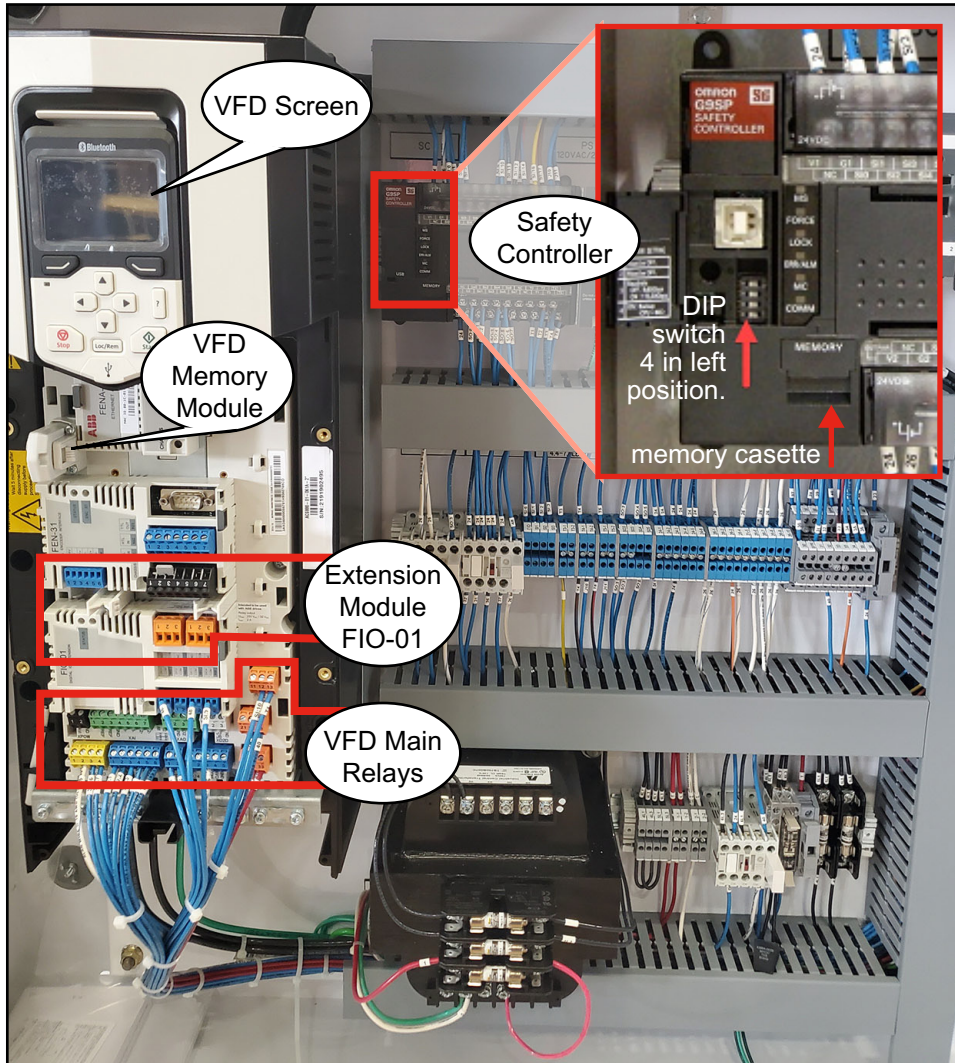
**Figure 3: Replacing the VFD Memory Module**



## Replacing the Safety Controller Memory Cassette

The safety controller must have a new program for the changes to take place.

**Figure 4: Enclosure Overview & Safety Controller Steps**





230-volt enclosure shown. 460-volt enclosure may vary slightly.

### Installing the Memory Cassette into the Safety Controller

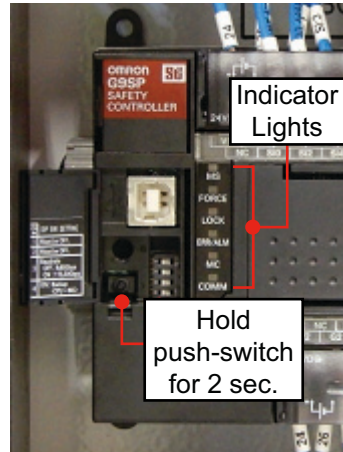
1. With the power locked out, locate the safety controller shown in Figure 4 and verify that the DIP switch 4 is in the off (left) position.
2. Remove the old memory cassette from the safety controller and follow the instructions on page 2 to return it to MiTek.
3. Insert the new memory cassette into the safety controller.



 <b>WARNING</b>	
	<p><b>ELECTROCUTION HAZARD.</b></p> <p>All components have electrical power during these next steps.</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 person protective equipment.</p>

4. With the main enclosure door open, remove the lock and tag from the gantry head’s power source. Turn on the machine’s disconnect switch at the 3-phase fuses to restore power to the gantry head. All components are now powered.
5. Press the push-switch shown in Figure 5 for at least two seconds. The MC indicator light should flash yellow and the input terminal lights should flash in a repeated sequence to indicate that the program has finished downloading to the safety controller.
6. After the terminal input lights start flashing in sequence, cycle power at the machine’s disconnect switch.

**Figure 5: Push-Switch**



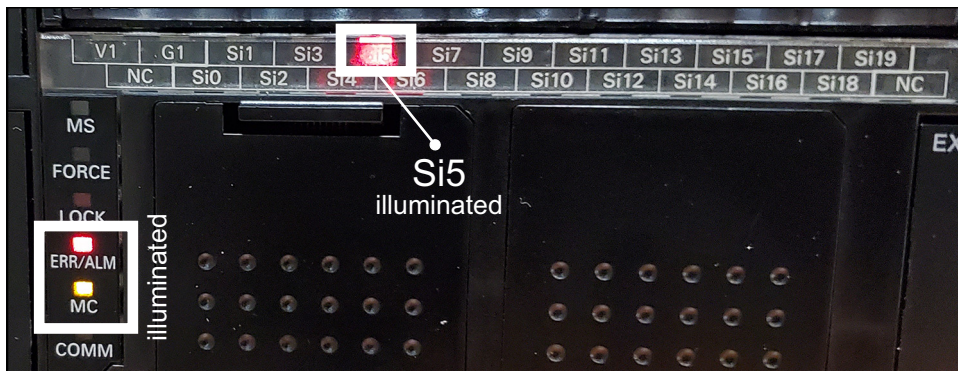
After you cycle power, you may proceed after:

- The MS indicator light turns green.
- The LOCK indicator light turns yellow.



*If the lights look like Figure 6, there is a password issue and the procedure cannot be completed. Contact MiTek immediately at the number on page 2.*

**Figure 6: Do NOT Continue if Indicators Look Like This**







## Rewiring for Software Change Compatibility

Some minor wiring changes must be made for the machine to accept the program changes.

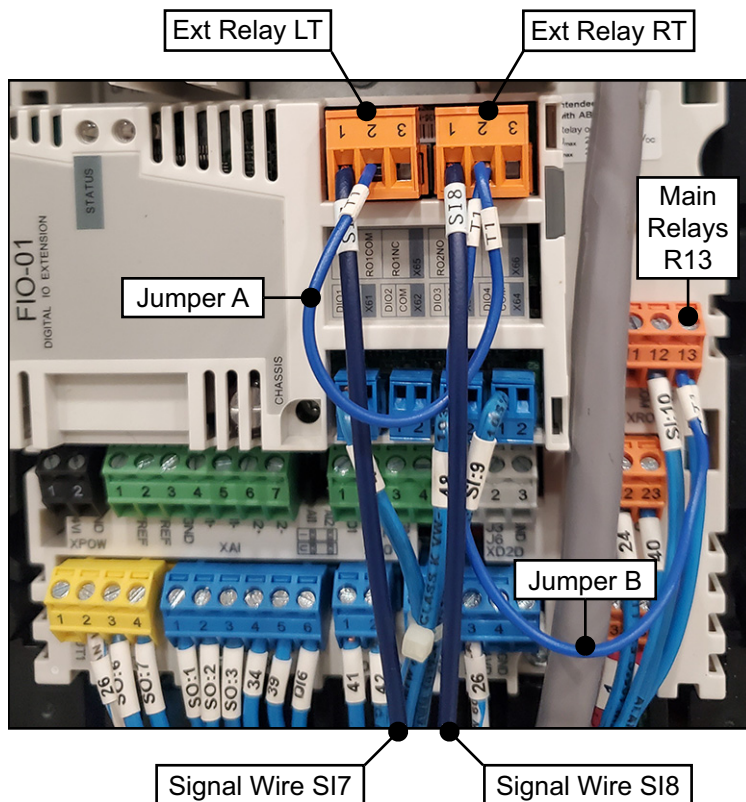
1. Lockout/tagout out as previously described on page 4, and locate the VFD in the main electrical enclosure. It is shown on page 10.
2. Make the wiring changes according to Figure 7. All supplies needed are included.
3. Gently tug on newly installed wires to ensure they are securely attached.
4. Reinstall the VFD cover.



It is easiest to connect the wires by removing the terminal block, connecting the wires, then putting the terminal block back in place.

TIP: 16-gauge wires are larger in diameter than 18-gauge wires.

Figure 7: Wire Connection Points



### JUMPER A

Wire: 18 AWG cut as needed

Label: T1

Connect:

Ext. Relay LT, terminal 2 to  
Ext Relay RT, terminal 2  
shares terminals with existing wires

### JUMPER B

Wire: 18 AWG cut as needed

Label: T1

Connect:

Ext. Relay RT, terminal 2 to  
Main Relay R13  
shares terminals with existing wires

### SIGNAL WIRE S17

Wire: 16 AWG cut as needed

Label: S17

Connect:

Ext. Relay LT, terminal 1 to  
Safety Controller SI7

### SIGNAL WIRE S18

Wire: 16 AWG cut as needed

Label: S18

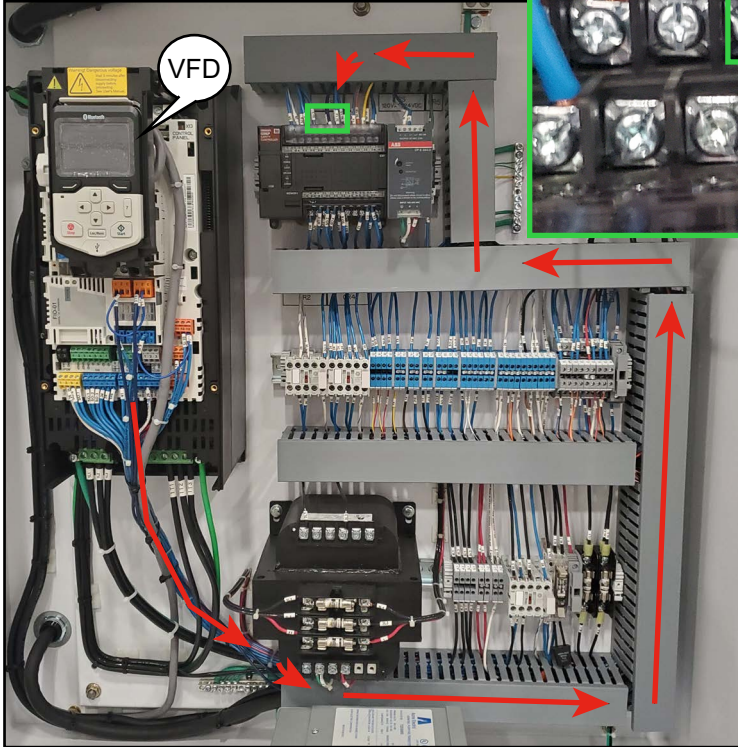
Connect:

Ext. Relay RT, terminal 1 to  
Safety Controller SI8

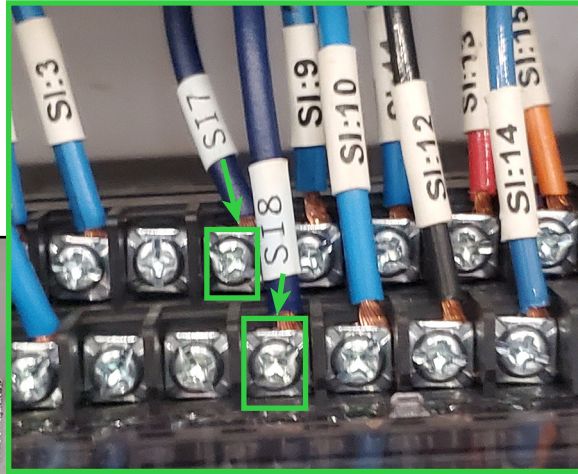
Continue on to see proper routing of signal wires

Figure 8: Routing the Wires to the Safety Controller

Wire Routing





Termination Points for Signal Wires



460-volt enclosure shown.  
230-volt enclosure may vary slightly.

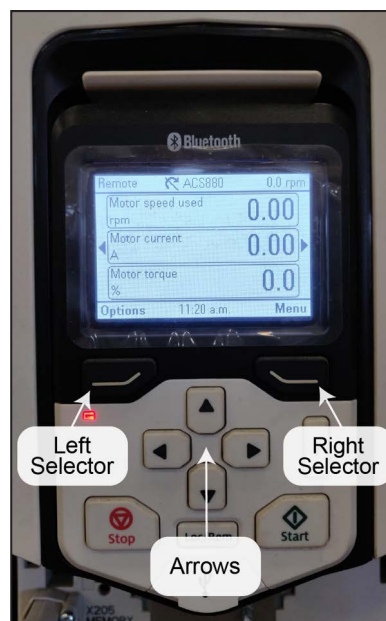
## Setting the Supply Voltage

	 <b>WARNING</b>
	<p><b>ELECTROCUTION HAZARD.</b></p> <p>All components have electrical power during these next steps.</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 person protective equipment.</p>

1. With the 3-phase electrical enclosure door open, restore power to the machine.
2. If the VFD displays **Fault 5093**, cycle the power again to clear the fault.
3. If the VFD displays **Warning A6A6**, perform these steps to set the correct supply voltage:

- a) Press the Left Selector to select **Hide**, and the display will change screens.
- b) Select **Menu**.
- c) Select **Parameter**.
- d) Select **Complete list**.
- e) Arrow to **95** and select it.
- f) Arrow to **95.01** and select it.
- g) Arrow to the appropriate voltage according to Table 1 and select it.
- h) Press **Back** until you reach **Exit**, and select it.

**Figure 9: VFD Interface**





4. Close all enclosure doors.

**Table 1: Supply Voltage Settings**

Machine Voltage	Supply Voltage Setting
208	208-240
230	208-240
415	380-415
460	500
575	525-600

## Test for Safety and Proper Operation

1. Test that the gantry head E-stop scanner activates the E-stop when an obstacle is in its path. Even if the machine seems to be working fine, the E-stop capabilities must be tested! We suggest using a wooden T as described in the *RoofTracker III* equipment manual.

	 <b>WARNING</b>
	<p><b>CRUSH HAZARD!</b></p> <p>The success of the procedures performed must be verified as described in the Safety Test section of the equipment manual. Not testing properly could result in an E-stop failing to stop the machine.</p>

2. If it does not E-stop properly, contact MiTek Automation Solutions Customer Service immediately and do not attempt to use the machine. Lockout/tagout the machine until the issue is resolved.
3. Perform all additional safety tests from the safety chapter of the *RoofTracker III* manual to verify that the gantry head operates correctly.

## New Operating Method

### Reset Button

Upon the completion of this service bulletin, the gantry head controls will operate differently. When the gantry head is traveling in either direction, if the scanner observes an obstacle in the direction it is traveling, it will slow down, then stop before reaching the obstruction. Movement in the opposite direction from the obstacle is unaffected. With the obstacle detected, you can move the gantry head in the opposite direction without pressing the Reset button to allow you to safely remove the obstacle.

### Beacon Light

- The light blinks yellow (amber) when the machine is running.
- **NEW!** The light turns off when ONE scanner is tripped, letting you know the gantry head can move in only the direction opposite of what it was just traveling.
- The light blinks red when an E-stop pushbutton is activated or when BOTH scanners are tripped.
- The light is green when ready to operate.

## New Schematics

New electrical schematics came with this kit. Replace your old schematics with these updated pages so maintenance personnel are always working from the correct set.

**END OF SERVICE BULLETIN**