

# Service Bulletin

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**Machinery Affected:** *MiTek® Finish Roller, FloorTracker™, RailRider®, and Gantry Roller*

**Document:** SB197

**Title:** Replacing a Soft-Start

**Applies To:** Replacing *Square-D™* or *GE QS2 series* With an *ABB™* Soft-Start

**Distribution:** Customers, Upon Order



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Approved by	V. Carroll
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## Purpose and Scope



If the soft-start is not going to be installed immediately, store it in its package in a clean, dry place at a comfortable room temperature.

The *Square-D™* soft-start (also called *soft-starter*) that was used through 2011 on the equipment listed on the title page has become obsolete by its manufacturer. When replacing an obsolete soft-start with the *ABB™* soft-start discussed in this document, follow these instructions.

## Overview

### Parts and Supplies

The obsolete part numbers for the Square-D soft-starts are:

- 512987 for 230/415/460 V
- 512988 for 208 V

The obsolete part number for the GE QS2 series soft-start is:



- 513000 for all voltages

The obsolete part numbers are no longer available. The correct replacement parts are included in this kit and are shown in Table 1. Ensure all parts are present before starting this procedure.



Drill and bits  
Screwdrivers  
Lockout/tagout  
Clean rags  
Pen or pencil  
Vacuum or canned air

**Table 1: Parts in SB197KIT for All Voltages**

Qty.	Part Description	Part #	
1	Soft-start 45amp, 120 V	512901	
1	Fan for soft-start	512902	
1	Service Bulletin document	SB197	



## **New Electrical Schematics**



The electrical schematic for your *MiTek* equipment will change slightly due to this component change. Keep this document with your electrical schematic, or request a new schematic from MiTek Machinery Customer Service. Refer to the drawing and revision number on your existing schematic when calling to request an updated schematic.

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

## Procedure

### Electrical Lockout/Tagout Procedures



 <b>WARNING</b>	
	<p><b>ELECTROCUTION HAZARD!</b></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 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>

#### When Working 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 to the machine, 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. Turn the machine’s disconnect switch to the “off” position. This is usually required to open the main electrical enclosure’s door.
3. 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 1.
4. Attach a lock and tag that meets OSHA requirements for lockout/tagout to the electrical service entry panel.
5. Open the door to the enclosure in which you need access, and using a multimeter, verify that the power is off.

**Figure 1: Example of Power Source Locked Out**



## Installing the Replacement Soft-Start



The ABB soft-start is able to be mounted on a DIN rail, if there is room. Most machines will not have room, so these instructions assume you will be drilling holes.

1. Ensure that all wire labels are in place. If any wire labels are missing, label them correctly, according to their current wire numbers (refer to your electrical schematic).
2. Record the wire numbers in the appropriate columns in Table 2 and Table 3 on page 6.
3. Remove the damaged soft-start. Set aside the screws for later use.
4. Hold the replacement soft-start in place and mark the location of the new holes. See Figure 3.
5. Cover surrounding electrical components with a clean cloth to prevent shavings from falling into components.
6. Drill holes in the new hole locations. The hole size should match the holes from the previous soft-start.
7. Vacuum shavings or use canned air to clean off dust and debris. Do not use industrial compressed air near electrical components!
8. Screw the replacement soft-start in place.
9. Connect the wiring as indicated in Table 2 and Table 3 on page 6.
10. Adjust the potentiometer switches as they are shown in Figure 3 on page 7.
11. Keep page 6 with your electrical schematic, or request a new schematic from MiTek Customer Service by sending an e-mail to [mitekparts@mii.com](mailto:mitekparts@mii.com). Include your current schematic drawing number and revision letter.

**Table 2: Wire Identification for 3-Phase Power**

3-Phase INPUT		3-Phase OUTPUT	
Terminal # <i>Same on both soft-starts.</i>	Wire # <i>(write in)</i>	Terminal # <i>Same on both soft-starts.</i>	Wire # <i>(write in)</i>
1L1		2T1	
3L2		4T2	
5L3		6T3	
GND			

**Table 3: Wire # Identification for Control Power**

Old Terminals		CONTROL Power	
GE #	Square D #	Wire # <i>(write in)</i>	New Terminal #
A1	6		A1
A2	7		A2
2	3		See Figure 2
57	1		ST
	0		GND

**Figure 2: Control Power Wiring Diagram**

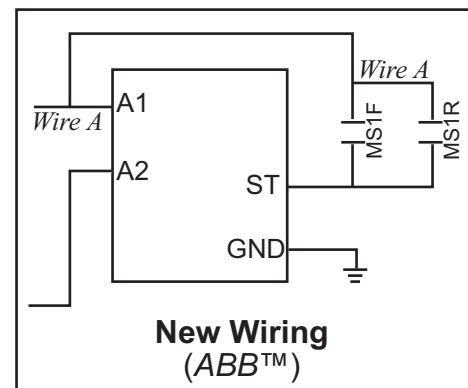
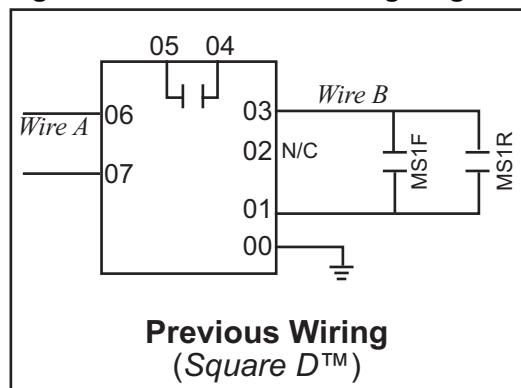


Figure 3: Adjusting the Soft-Start

**Startup Time in Seconds**  
Range: 1-20 seconds

**Stop Time in Seconds**  
(including step down voltage)  
Range: 0-20 seconds  
2% reduction occurs for each second stop ramp is increased.  
Ex: Stop ramp = 10 sec  
10 sec x 2% = 80% step down  
(20% reduction)

**Step Down Percentage**  
Signifies the initial voltage percentage that the ramping of the start cycle begins with. The percentage allows the voltage to start the machine at a lower than line voltage and ramps up for a smooth transition. (The soft-stop mode is not used.)

<b>CAUTION</b>	
	<b>Do not attempt to use the soft-STOP feature. It will affect the stopping mechanism and may cause bodily harm.</b>

END OF SERVICE BULLETIN

