

MiTek®

SERVICE BULLETIN

Affected machinery:

MatchPoint® BLADE™ Wood Processing System

Document:

SB217

Title:

Replacing the Expansion Relay With a BSR23 Model

Applicable Frame Numbers:

Frame 218 and earlier

Distribution:

Customers upon order

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Purpose and Scope

The Expansion Relay module (a secondary safety relay) has changed. When replacing the previous model with a BSR23 Sentry Expansion Relay, use this procedure.

If replacing a BSR23 Sentry Expansion Relay with the same kind, these instructions are unnecessary. Install and wire it the same as the module being removed. The schematic on page 9 may be helpful.

Overview

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

Table 1: Parts in SB217KIT

Quantity	Description	Part #
2	Expansion Relay module	514240
1	Jumper bar, 10 poles	518120
2	End stops	518192
8 ft	Electrical wire: blue	508006
5 ft	Electrical wire: white w/blue	508006
1 sheet	Labels, blank, write-in	694060

Before beginning the procedure, gather the supplies listed here:

- Small slotted screwdriver
- Phillips screwdriver (for terminal connections)
- Wire cutters and strippers
- Pen or thin marker for labels

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

Procedure

Electrical Lockout/Tagout Procedure

	 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 person protective equipment.</p>

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. 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 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: Lockout/Tagout on the Power Source Panel



Removing the Existing Expansion Relay

1. *From the Expansion Relay module:*
 - a) Remove the wire from terminal B1 labeled 50, and replace the label with a new label that reads 50-2.
 - b) Remove the wire from terminal 101 labeled 50, and replace the label with a new label that reads 50-3.
 - c) Remove the wire from terminal B2 labeled 52, and replace the label with a new label that reads 52-2.
 - d) Remove both ends of the 5 jumpers labeled 50. Keep them for reuse if they are long enough.
2. *Between the Expansion Relay module and the Main Safety Relay:* Remove both ends of the following wires and discard:
 - Terminals 505, 507, 510
3. *From the Expansion Relay module only:* Detach that end of the following wires but leave the other end attached to the Safety Relay.
 - Terminals 509, 511
4. Ensure all remaining wires are removed from the existing Expansion Relay, then remove the Expansion Relay from the DIN rail. It detaches with the same method shown in Figure 4 for the new Expansion Relay.



For new wires or wires with a name change, write the correct wire number on two blank labels and attach one to each end of the wire.

Figure 2: Remove Expansion Relay



Installing the Jumper Bar

There is a group of terminals that require a jumper bar rather than a separate wire to connect each terminal. The jumper bar is included, but it may need to be customized. This step requires a jumper bar with 4 poles (posts).

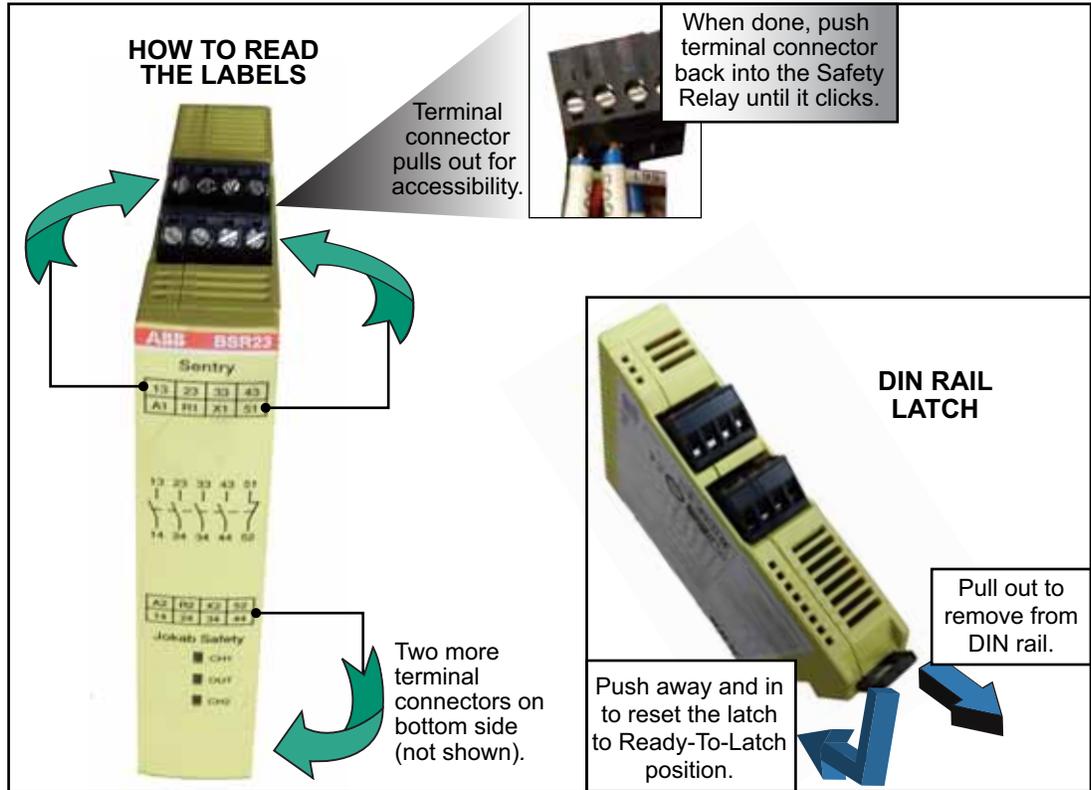
1. If it has more than 4 poles, break off the unnecessary sections so it looks like Figure 3.
2. Loosen the terminal screws and insert the jumper bar so one pole enters each of the four terminals listed in Table 2 on page 7.
3. Tighten the terminal screws.

Figure 3: Reduce the Jumper Bar to 4 Poles



Getting to Know the New Expansion Relays

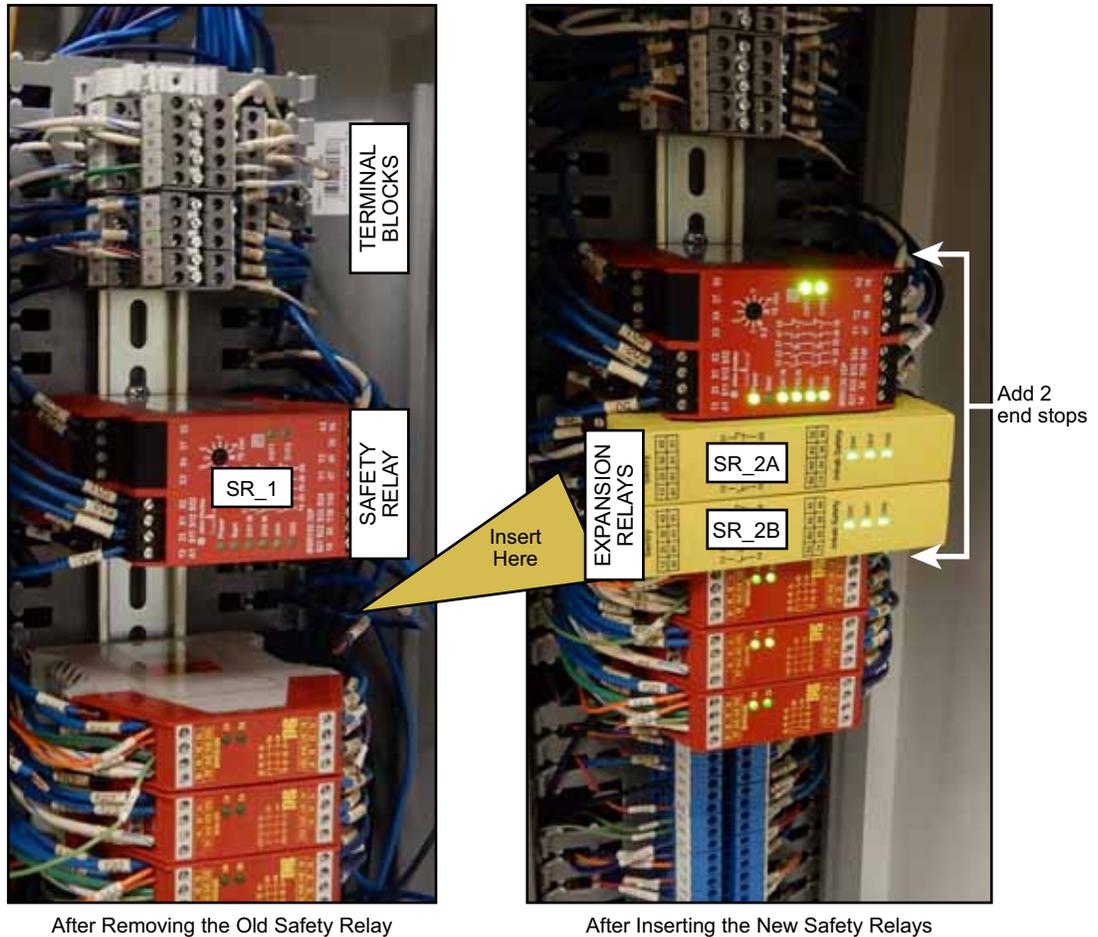
Figure 4: Using the New Expansion Relays



Installing the New Expansion Relays

The Expansion Relay just removed is being replaced with two Expansion Relays. They are labeled SR2A and SR2B in Figure 5.

Figure 5: Components in Enclosure



1. Place the two Expansion Relays into the location just vacated by the old expansion relay, facing the direction shown in Figure 5.
 - The two modules are identical. They become SR2A and SR2B once in place on the DIN rail for communication purposes.
 - Ensure the DIN Rail Latch on each Expansion Relay is reset per Figure 4.
 - Hook the left side over the DIN rail, then push the right side in until it clicks.
 - The new or surrounding components can slide up or down to make room for the new Expansion Relays and 2 end stops.
2. Add two end stops in the locations shown in Figure 5. Flex the end stops until they snap onto the DIN rail.
3. Reconnect the wires as shown in the table on page 7 and in the schematic on page 9.



KEY:
 Outlined cells are part of the same terminal connector.

Colors are for visual navigation



LABELING:
 For new wires or wires with a name change, write the correct wire number on two blank labels and attach one to each end of the wire.

Wire Color & Origination		Terminal Numbers			
		Wire #	Safety Relay	Exp. Relay SR2A	Exp. Relay SR2B
4-pole jumper bar	JMPR		43		
4-pole jumper bar	JMPR		33		
4-pole jumper bar	JMPR		23		
Previous #50 (or new) blue jumper wire and jumper bar	JMPR & 50		13		
Previous #50 (or new) blue jumper wire: Add/change label	50-2	13			
Previous #50 (or new) blue jumper wire: Add/change label	50-3	23			
Blue wire to reconnect	513		14		
Blue wire to reconnect	514		24		
Blue wire to reconnect	515		34		
Blue wire to reconnect	51		44		
Present if Skewed Conveyor/ automated outfeed connected	14			14	
Blue wire to reconnect	123			24	
Blue wire to reconnect	101			34	
Blue wire to reconnect	105			44	
Present if Skewed Conveyor/ automated outfeed connected	13			13	
Blue wire to reconnect	121			23	
Blue wire to reconnect	100			33	
Blue wire to reconnect	104			43	
Previous #50 (or new) blue jumper wire: Add/change label	50		51		
Blue wire to reconnect	509		X1		
New blue/white wire: Add label	52		R1		
2 new blue wires: Add labels	510	24	A1	A1	
New blue/white wire: Add label	52			R1	52-3
Previous #50 (or new) blue jumper wire: Add/change label	50			51	50-8
New blue wire: Add label	509A		X2	X1	
Blue wire to reconnect	511		R2	Jumper wire only: R2	
Previous #50 (or new) blue jumper wire: Add/change label	511		R2		
Blue/white wire to reconnect	52		A2		
Black/white wire to reconnect	520		52		
Red/green wire to reconnect	518			52	
Blue wire to reconnect	517			X2	
New blue/white wire add label	52			A2	52-4

Verifying Completion

1. After completing the previous steps, restore power to the machine, but leave an E-stop activated.
2. Verify that the E-stop warning on the touch screen enclosure is illuminated.
3. Verify that the blue RESET pushbutton is illuminated, indicating it needs to be reset. Do not attempt to operate the saw if this light is not illuminating.
4. Reset the E-stop and press the blue RESET button on the touch screen enclosure.
5. Press the Home button on the BLADE Home screen to send all axes to their home positions.
6. Do not operate the saw if any of these verification steps fail!

	 WARNING
 	CRUSH OR CUT HAZARD Do not operate the equipment until the E-stop warning and homing functionality have been verified.

ELECTRICAL SCHEMATIC LOCATED ON PAGE 9.

Figure 6: New Schematic

