

# Service Bulletin

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Machinery Affected: Auto Deck Staging Conveyors  
Title: Replacing an Old VFD with the ACS355 VFD  
Distribution: Customers Upon Order



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Part # and Rev.	SB224
Revision Date	
Revised By	
Approved By	M. Kanjee
Print Date	26 October 2016
Orig Date Created	13 October 2016
Created By	G. Gaia
Applicability	90626-502



## Purpose and Scope

This Service Bulletin explains the process to replace the variable-frequency drive (VFD) in the Auto Deck staging conveyor with the ACS355 VFD.

Older Auto Deck staging conveyors will have the obsolete ACS150 VFD installed. Newer Auto Deck staging conveyors will have the ACS355 installed. Removal and installation is the same for both VFDs.

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 SB224KIT**

Qty.	Part Description	Part #
1	Service Bulletin Document	SB224
1	ACS355 VFD	94033-230V

Before beginning the procedure, gather the supplies listed here.

- Phillips-head screwdriver
- Slotted screwdriver
- Permanent marker

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 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>

#### When Working on a Machine Outside the Machine’s Main Electrical Enclosure

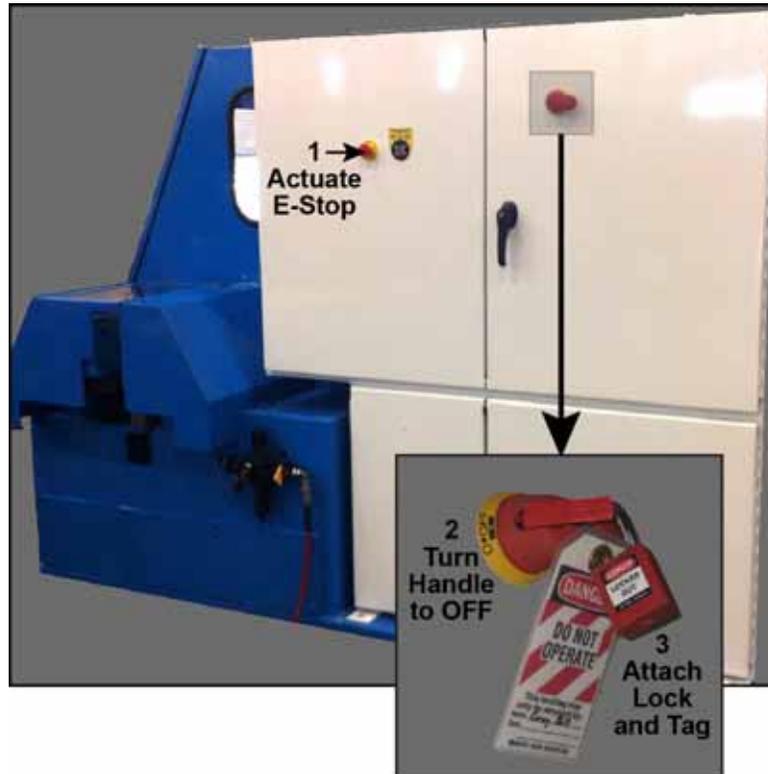
Before performing maintenance on any machine with electrical power, lockout/tagout the machine properly. When working on a machine outside of the machine’s main electrical enclosure, not including work on the electrical transmission line to the machine, follow your company’s approved lockout/tagout procedures which should include, but are not limited to the steps here.

1. Place the load arms on the *BLADE* saw infeed in the Up position.
2. Power down the *BLADE* saw computer on the saw operator interface.
3. Engage an E-stop on the machine.
4. Turn the disconnect switch handle on the *BLADE* saw’s main electrical enclosure to the Off position. See Figure 1. Turning this disconnect switch will prevent power from reaching the Auto Deck.

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

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

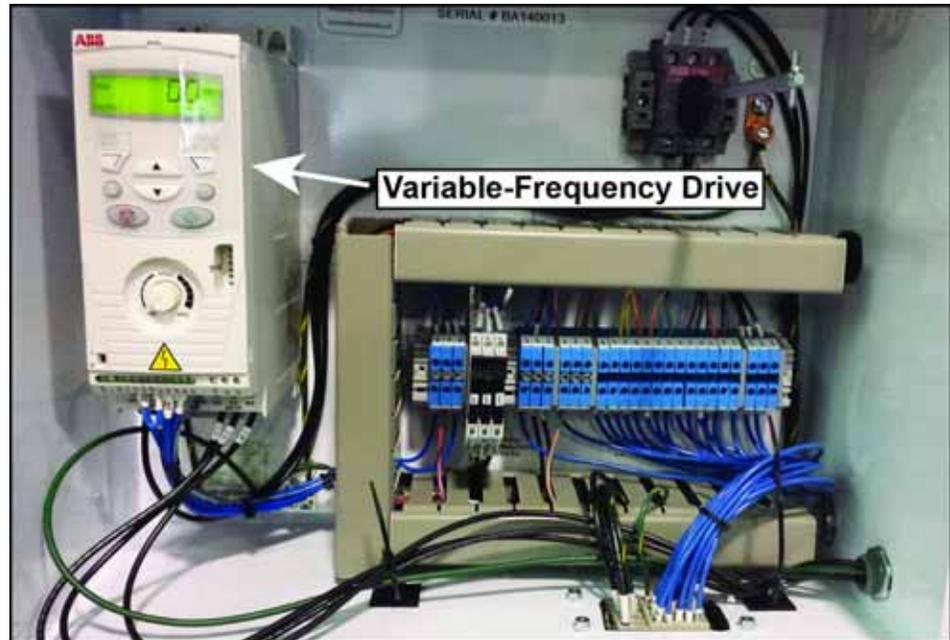
Figure 1: Lockout/Tagout on the Main Electrical Enclosure



## Removing the Old VFD

1. Turn the disconnect switch on the Auto Deck electrical enclosure to the Off position.
2. Open the enclosure to locate the old VFD. See Figure 2.

**Figure 2: Locating the Old VFD in the Auto Deck Enclosure**



*Obsolete ACS150 VFD shown*

3. Perform the following steps to remove all wires from the old VFD.
  - a) Remove the front cover from the bottom of the VFD by gently squeezing the sides and then pulling down and slightly forward on the cover.
  - b) Make sure you can see all of the letters and numbers on the labels on the wires. If any are worn, use a permanent marker to mark them correctly according to Table 2 on page 8 and Table 3 on page 9.
  - c) Disconnect all of the blue DC wires. Save the jumper. The jumper is wire 30.
  - d) Disconnect all of the black 3-phase wires.
  - e) Disconnect the yellow-and-green ground wire. Save the screw and washer.
4. Loosen the 2 top screws (See Figure 3) and 2 bottom screws (not shown) on the old VFD but do not remove them.
5. Remove the old VFD.

**Figure 3: Disconnecting Wires**



*Obsolete ACS150 VFD shown*

## Installing the New VFD



**Note:** MiTek ships the ACS355 VFD with correct parameters installed. Do not alter the parameters.

1. Perform the following steps to place the ACS355 VFD into the enclosure.
  - a) Place the new VFD in the same position as the old VFD. See Figure 4.

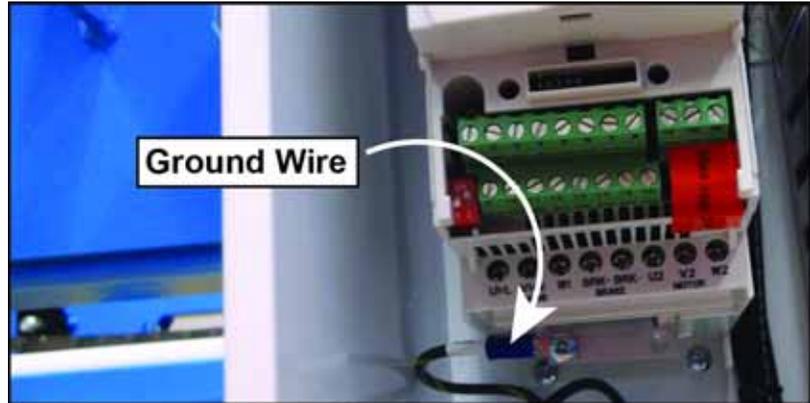
**Figure 4: Placing the New VFD**



- b) Tighten the top screws.
    - c) Tighten the bottom screws.
2. Remove the front cover if it is installed already. See Figure 4.

3. Reconnect wires to the new VFD using the following steps.
  - a) Reconnect the yellow-and-green ground wire, as shown in Figure 5.

**Figure 5: Reconnecting the Ground Wire**

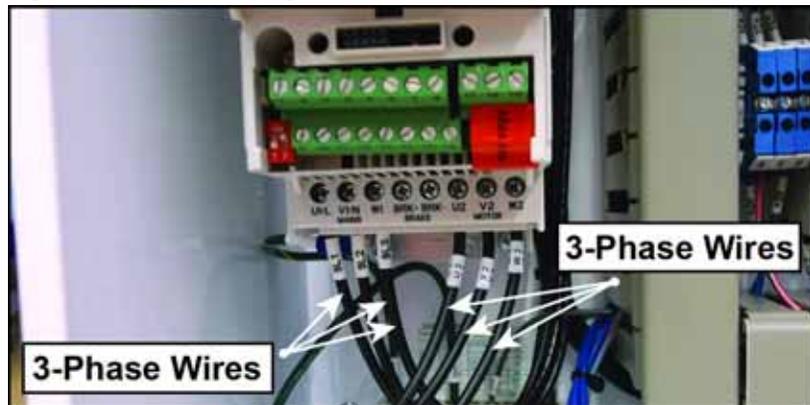


- b) Reconnect the 6 black 3-phase wires using Table 2. Figure 6 shows the reconnected 3-phase wires.

**Table 2: Locations of 3-Phase Wires**

Terminal	U1/L	V1/N	W1	BRK	BRK	U2	V2	W2
Wire	9L1	9L2	9L3			U2	V2	W2

**Figure 6: Reconnecting 3-Phase Wires**

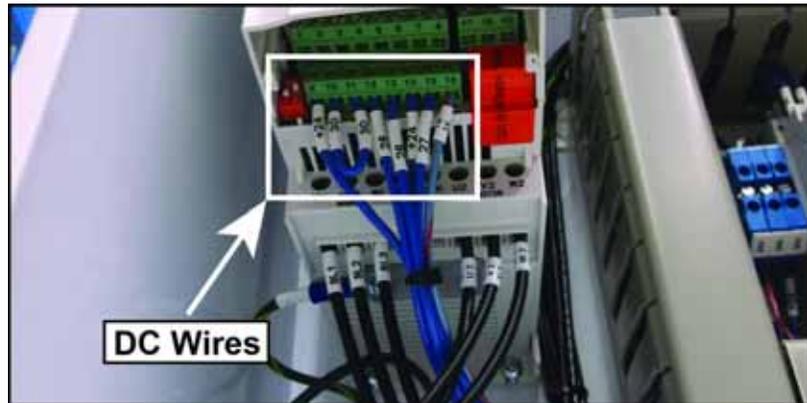


- c) Reconnect the blue DC wires using Table 3. Figure 7 shows the reconnected DC wires.

**Table 3: Locations of DC Wires**

Terminal	9	10	11	12	13	14	15	16
Wire	+24	30	30	25	26	+24	27	16

**Figure 7: Reconnecting the DC Wires**



- d) Replace the front cover on the VFD after reconnecting all of the wires.
4. Close the electrical enclosure door on the Auto Deck staging conveyor.
  5. Turn the red disconnect switch handle on the Auto Deck electrical enclosure to the On position.

## Starting the New VFD

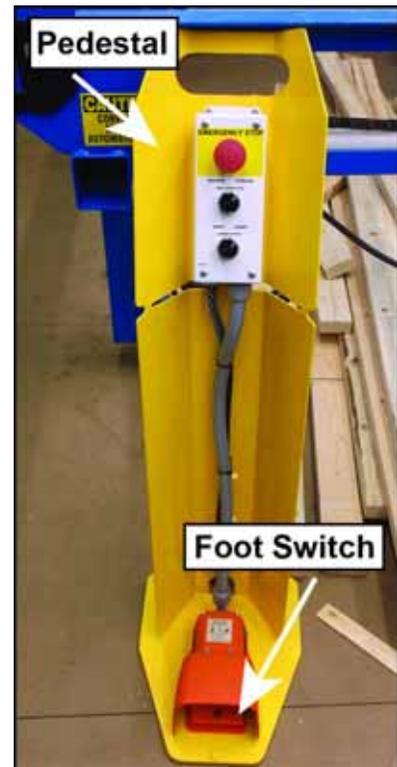
1. Perform the following steps on the *BLADE* saw to start the VFD on the Auto Deck correctly.
  - a) Disengage the E-stop on the *BLADE* saw main electrical enclosure.
  - b) Remove the lock and tag, and turn the red disconnect switch handle on the *BLADE* saw main electrical enclosure to the On position. This will restore power to the Auto Deck as well as the *BLADE* saw.
  - c) Press the Reset button on the saw operator interface.
  - d) Turn the black selector switch on the saw operator interface to Manual Mode.
  
2. Perform the following steps using the Auto Deck pedestal to check if the Auto Deck functions.



**Note:** the load arms on the *BLADE* saw infeed should be in the Up position at this point.

- a) Disengage the E-stop.
- b) With *Reverse* selected, step on the foot switch. The chains should move in a counterclockwise direction.
- c) Select *Forward*.
- d) With *Forward* selected, step on the foot switch. The chains should move in a clockwise direction.
- e) If the above steps are successful, continue operation.

**Figure 8: Locating the Auto Deck Control Pedestal**



**END OF SERVICE BULLETIN**