
MiTek[®]

SERVICE BULLETIN

Document ID:
SB283

Title:
Printing Speed Retrofit

Affected machinery: *Hornet II™* saw

Distribution: INTERNAL USE ONLY

Applies to: All *Hornet II™* saws prior to frame HG2-033 that do not already have the retrofit installed

CAUTION:

MiTek recommends printing this document in high resolution using color ink. Many of the graphics may be unclear and may create an unsafe condition if this recommendation is not followed.

MiTek Automation
Phone: 800-523-3380
Fax: 636-328-9218
www.mitek-us.com

Part # and Rev.	SB283 - INTERNAL USE ONLY
Print Date	20 March 2025
Effectivity	See <i>Applies to field</i>
Revision Date	
Revised By	
Orig. Release Date	13 March 2024
Created By	A. Moll
Approved By	D. Brames

Purpose and Scope

This service bulletin instructs how to upgrade the Hornet II saw to facilitate faster printing.

Overview

Parts Included

The parts included in this kit are shown in [Table 1](#). Please make sure all parts and supplies are present before starting the procedure.

Table 1: Parts in SB283KIT

Quantity	Description	Part #
1	3ft Ethernet Cable (Green)	508196
1	PROFINET interface module (IM155-6PN-HF)	504925
1	BusAdapter BA 2xRJ45	504881
3 FT	3ft 18GA Dark Blue Wire	508003-06
3 FT	3ft 18GA White/Blue Wire	508003-10
1	Schematics	90668 Rev J
1	Service bulletin document	SB283

If you have any questions, call MiTek Automation Support at 1-800-523-3380.



Supplies Needed

- MiTek-issued laptop with the TIA Portal software installed
- USB Drive #1
- USB Drive #2
 - USB Drives to be provided by engineering
- An additional ethernet cable for connection to the PLC
- Wire labels
- Standard wire stripper
- Terminal flat-head screwdriver

Reference Information

Printer	IP Address	Credentials
Edge Printer	12.23.12.131	Username: admin Password: 073205380
Bottom Plate Printer	172.23.12.132	Username: admin Password: 073205380

PLC	IP Address	Credentials
PLC600	172.23.12.120	Username: mitek Password: Engineer1

PLC Program Upgrade Files	Directory	Purpose
Hornet II v2.19.0.1.3.XX.zap19	FLK Drive\Machinery\ENG > Machinery > Software > PLC-ARC\IP0074 Hornet Saw GEN2\Siemens Gen 2\PLC Project\	Firmware Update File NOTE: The firmware version may vary.

Lockout/Tagout Instructions

Electrical Lockout/Tagout Procedure

The lockout/tagout instructions for the electrical systems will be referenced as necessary in this document. Service Bulletin instructions start on [page 5](#).

 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 personal protective equipment.</p>

Working on a Machine Outside the Machine's Main Electrical Enclosure

 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 personal protective equipment.</p> <p>When the disconnect switch is off, there is still live power within the disconnect switch's enclosure. Always turn off the power at the building's power source to the equipment before opening this electrical enclosure.</p>

1. If applicable, close machine software and shut down the PC using the **Power > Shut down** method in Windows.
2. Engage an E-stop on the machine.
3. Turn the disconnect switch handle to the Off position. See [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: Disconnect Switch



Procedure

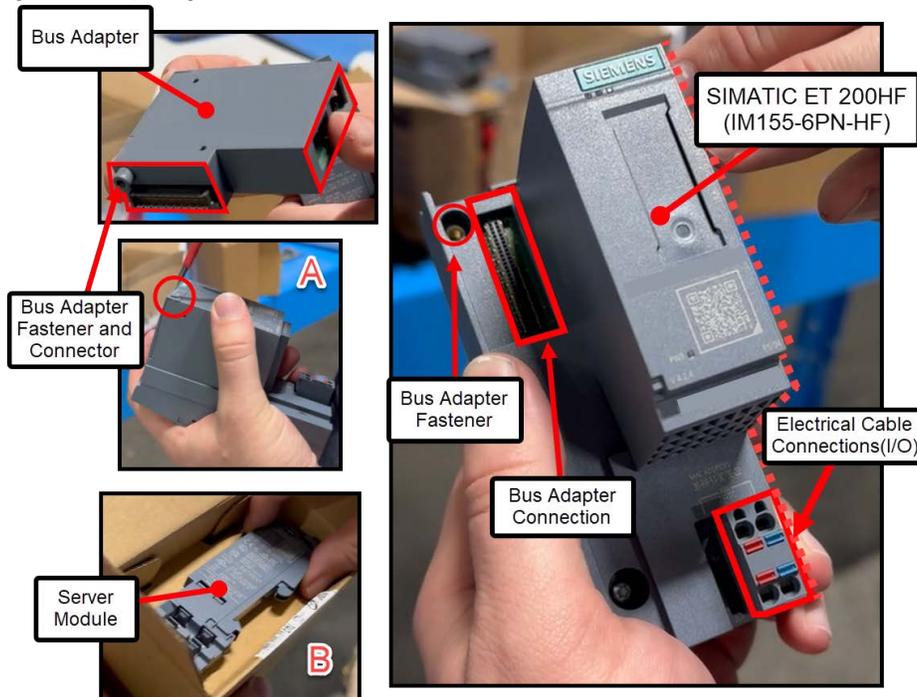
Preparing the PROFINET Interface Module Addition



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

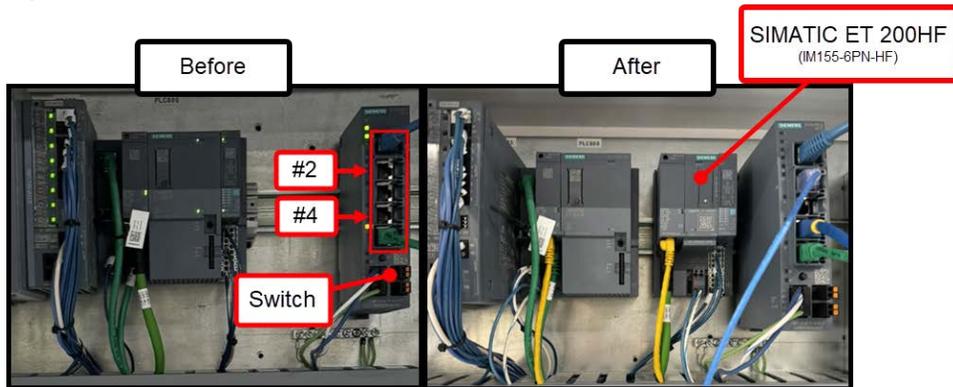
1. Lockout/tagout the electrical systems of the machine using the [Lockout/Tagout Instructions on page 3](#).
2. Gather the Siemens PROFINET interface module (IM155-6PN-HF), the bus adapter, and a terminal flat-head screwdriver.
3. Install the bus adapter onto the PROFINET interface module.
 - a) Insert the bus adapter connector into the bus adapter connection on the PROFINET interface module and gently press down.
 - b) Fasten the bus adapter to the module using a flat-head screwdriver and the fastener as shown in inset A in [Figure 2](#).

Figure 2: Preparing the Interface Module



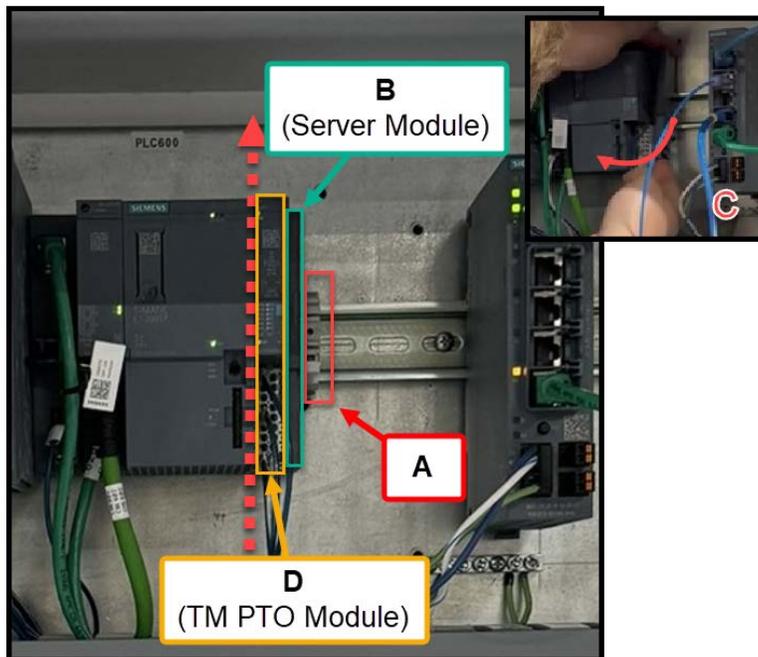
Preparing the HMI Enclosure

Figure 3: HMI Enclosure Before and After



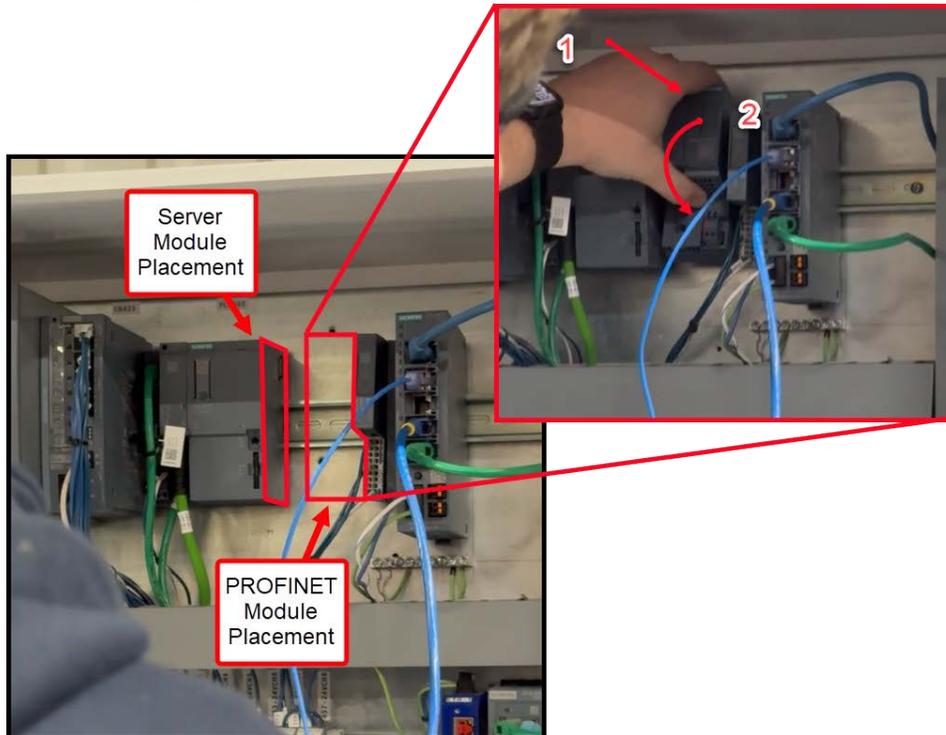
1. With power locked out as previously described, open the HMI enclosure.
2. Using an ethernet cable, connect the MiTek-issued laptop to port #4 on the switch, labeled in [Figure 3](#). This allows connection to the PLC for the firmware update.
3. Remove the terminal block end labeled A in [Figure 4](#).
4. Adjust the position of the TM PTO module and the server module (items B and D in [Figure 4](#)) to the right, further down the track, leaving enough room to add the new interface module.
 - a) Push down on the top of each module, then use a wiggling motion to move it down the track. See inset C in [Figure 4](#).

Figure 4: Arranging Components



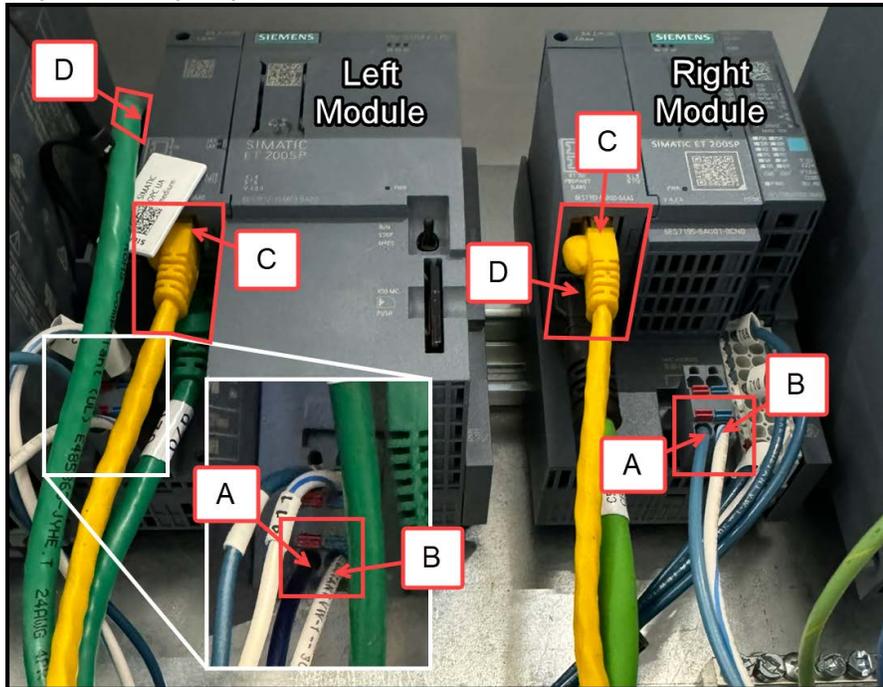
5. Install the PROFINET interface module on the rail, in the space referenced in [Figure 5](#).
 - a) Position the top of the interface module first at an angle, then pivot it down to secure, as seen in the inset in [Figure 5](#).

Figure 5: Installing Both Modules



6. Ensure the PROFINET interface module, TM PTO module, and server module are flush against one another on the rail.
7. Install the server module that was included with the Siemens PROFINET interface module (labeled B in [Figure 2](#)) on the rail, near left module, in the space referenced in [Figure 5](#).
8. Ensure the left module and the server module are flush against one another on the rail.
9. Verify the module positioning before proceeding. See [Figure 6](#) for an example of proper module placement.

Figure 6: Wiring Diagram

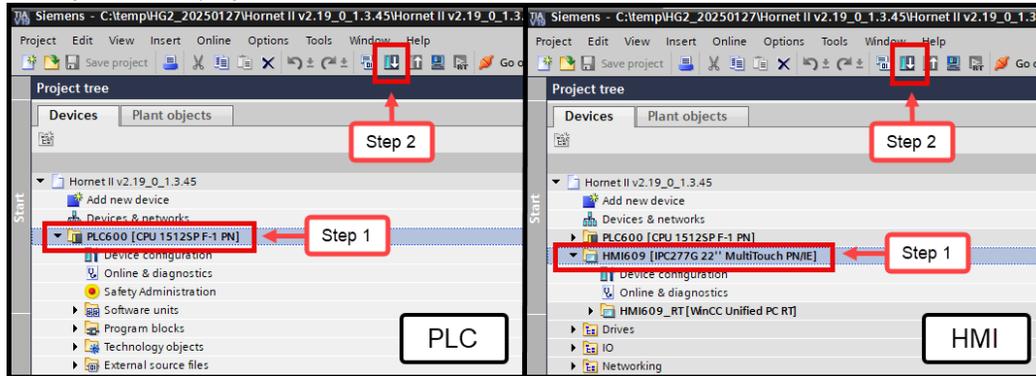


10. Change the wiring configuration according to [Figure 6](#).
 - a) Install an ethernet cable from Port C on the Left Module to Port C on the Right Module.
 - b) Using the blue electrical wire, install a cable from Port A on the left module to Port A on the Right Module.
 - c) Using the blue and white electrical wire with the tracer, install a cable from Port B on the module to Port B on the Right Module.
 - d) Label both wires using the wire labels according to schematic 90668 Rev J.
11. Remove lockout/tagout devices and power the saw back on.

Performing the PLC Firmware Update

1. Open the Siemens TIA Portal software on your MiTek-issued laptop.
2. Ensure that there is an ethernet connection from your MiTek-issued laptop and port 4 of the HMI switch. See [Step 2](#) under [Preparing the HMI Enclosure on page 6](#).
3. In the TIA Portal, open the *Hornet II v2.19.0.1.3.XX.zap19* project.
 - See [Supplies Needed](#) for the file location of the latest project for downloading if necessary.
4. Select the PLC600 folder, then press the download button. See [Figure 7](#).
5. Once the PLC update is complete, select the HMI609 folder, then press the download button. See [Figure 7](#).

Figure 7: Applying the PLC and HMI Files



Performing the Firmware Update on Both Printer Controllers

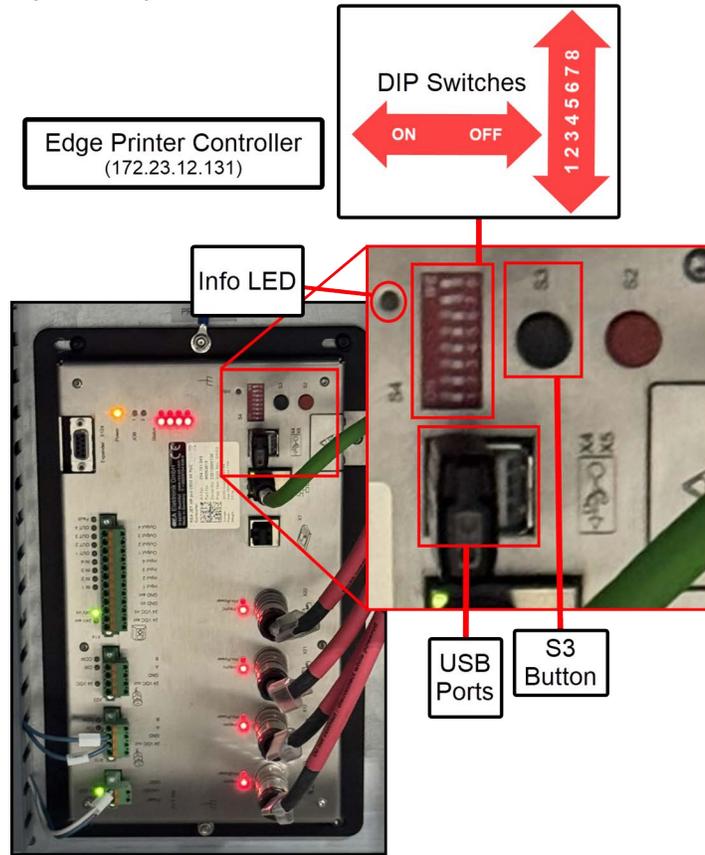
1. Open the printer controller enclosure (Figure 8) below the HMI so both controllers may be accessed.

Figure 8: Printer Controller Enclosure



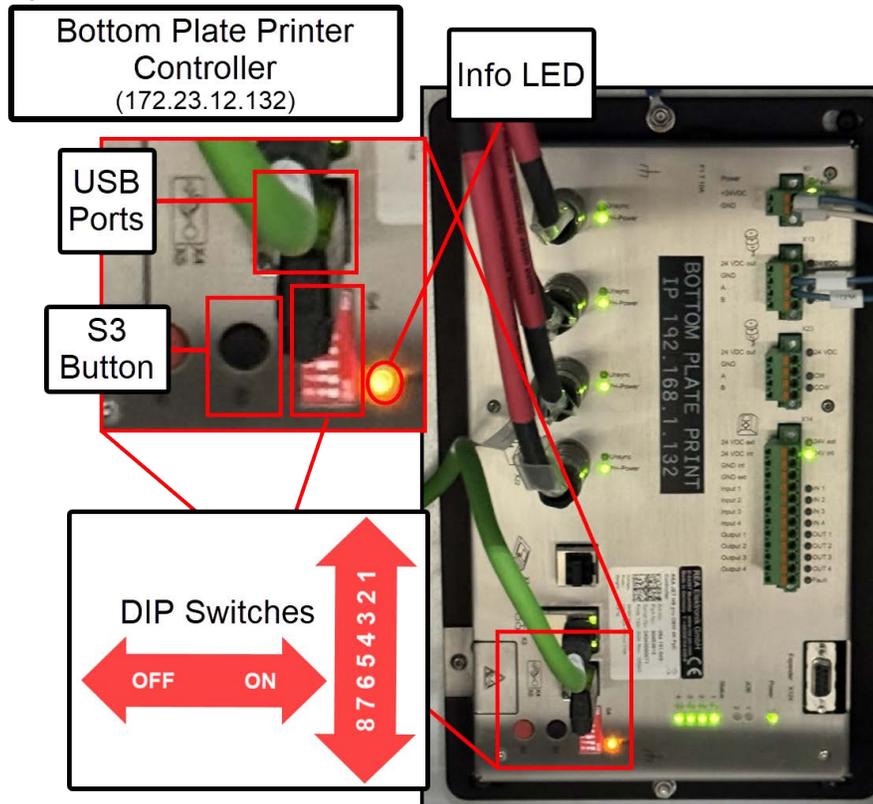
2. Insert USB Drive #1 into one of the USB ports on the Edge Printer Controller. The Edge Printer Controller is on the LEFT side when facing the enclosure opening.
3. Move dip switches 7 and 8 to the ON position (left) and all other switches to the OFF (right) position. See Figure 9.

Figure 9: Edge Printer Controller



4. Briefly press the black button labeled S3 on the Edge Printer Controller, as seen in [Figure 9](#).
 - a) The Info LED should begin to flash, indicating that the firmware update is in progress.
5. Insert USB Drive #2 into one of the USB ports on the Bottom Plate Printer Controller. See [Figure 10](#). The Bottom Plate Printer Controller is on the RIGHT side when facing the enclosure opening.
6. Move dip switches 7 and 8 to the ON position (right) and all other switches to the OFF (left) position. Note that the Bottom Plate Printer Controller is in a different orientation than the Edge Printer Controller. See [Figure 10](#).

Figure 10: Bottom Plate Printer Controller

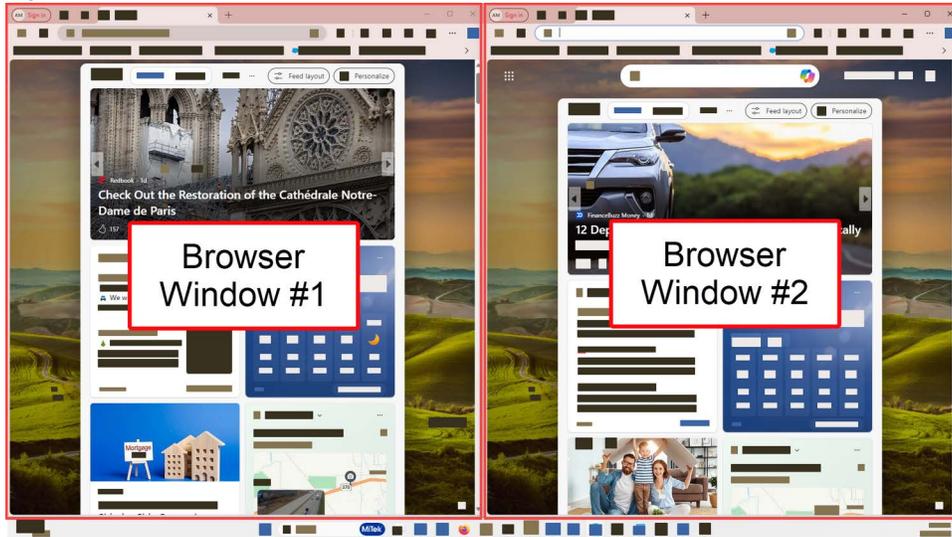


7. Briefly press the black button labeled S3 on the Bottom Plate Printer Controller, as seen in [Figure 10](#).
 - a) The Info LED should begin to flash, indicating that the firmware update is in progress.
8. Verify that the firmware update is complete before removing the respective USB drives from the controllers.
 - a) The update may take up to 15 minutes to complete.
 - b) The Info LED will no longer illuminate when the update is complete.

Applying the Slice Files

1. On the HMI, open two browser windows. Use the Windows snap feature to display the windows side-by-side in a horizontal orientation.

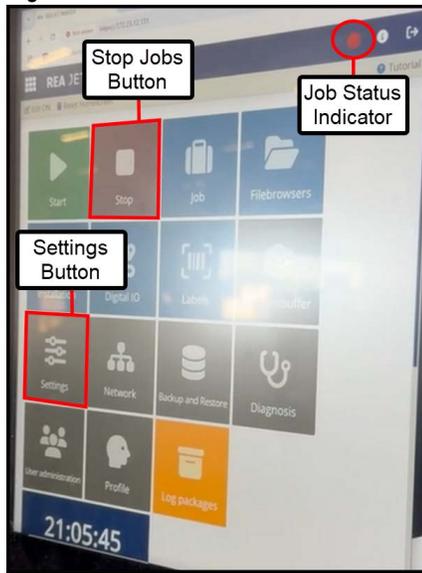
Figure 11: Browser Windows



2. In the browser window on the **left**, navigate to <https://172.23.12.131>. This window will be for the *Edge Printer*.
 - a) When prompted for the username and password, enter the following:
 - Username: **admin**
 - Password: 073205380
3. In the browser window on the **right**, navigate to <https://172.23.12.132>. This window will be for the *Bottom Plate Printer*.
 - a) When prompted for the username and password, enter the following:
 - Username: **admin**
 - Password: 073205380
4. Both browsers should be open to the REAJET webGUI as seen in [Figure 11](#).
 - a) Ensure both controllers have a red Job Status Indicator before starting any firmware updates. This indicates that all print jobs are stopped.
5. If the indicator is not red, use the Stop Jobs Button to stop all print jobs.
6. Insert USB Drive #1 into the USB port on the HMI, then navigate to the drive in the file explorer. Verify it contains the following two files:
 - `uselptprerelease-true-1.0~49622.hru`
 - `update-titan-add-on-print-large-images-via-slicing-2.1.0~49760.hru`

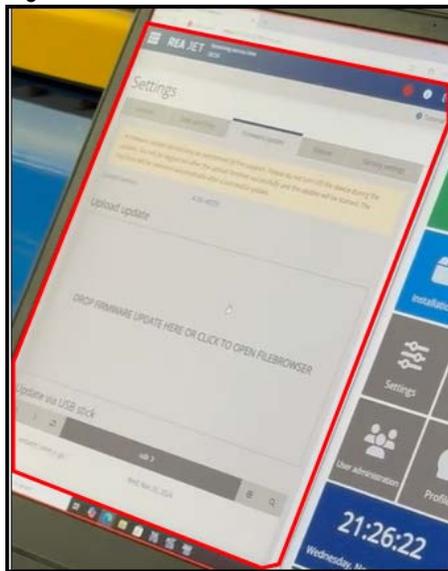
Keep the file explorer open to USB Drive #1 for later use in this procedure.

Figure 12: REAJET webGUI



- From the REAJET webGUI for the Edge Printer Controller (172.23.12.131), click the Settings button. See [Figure 12](#).

Figure 13: Firmware Tab



- Click on the Firmware Update tab.
- From the file explorer opened to USB Drive #1 (performed in Step 6), drag and drop the **uselptprerelease-true-1.0~49622.hru** file to the firmware update box in the REAJET webGUI.
- The REAJET webGUI should indicate that a firmware update is in progress.
- From the REAJET webGUI for the Bottom Plate Printer Controller (172.23.12.132), click the Settings button. See [Figure 12](#).
- Click on the Firmware Update tab.

13. From the file explorer opened to USB Drive #1 (performed in Step 6), drag and drop the **uselptprerelease-true-1.0~49622.hru** file to the firmware update box in the REAJET webGUI.
 - a) Both controllers can be upgraded at the same time if desired to expedite the process.
14. The REAJET webGUI should indicate that a firmware update is in progress.
15. Repeat Steps 7 through 14, this time applying the **update-titan-add-on-print-large-images-via-slicing-2.1.0~49760.hru** file instead.
 - a) The GUI for either controller may need to be refreshed. See Steps 1 through 3 under [Applying the Slice Files](#) for more information.
 - b) Note that this update may take 30 minutes or longer to complete. The INFO LED should flash while the update is in progress will no longer illuminate when the update is complete.
 - c) Manually restart the controller when the update is complete.
 - d) Both controllers can be upgraded at the same time if desired to expedite the process using both USB drives.
16. Once both slice files are applied on both controllers, the firmware update is complete.
 - a) Remove both USB drives from either controller.
17. Move all dip switches on both controllers to the OFF position.
 - For the Bottom Plate Printer, see [Figure 10](#).
 - For the Edge Printer, see [Figure 9](#).
18. Ensure proper functionality by performing some test cuts that feature printing.

END OF SERVICE BULLETIN