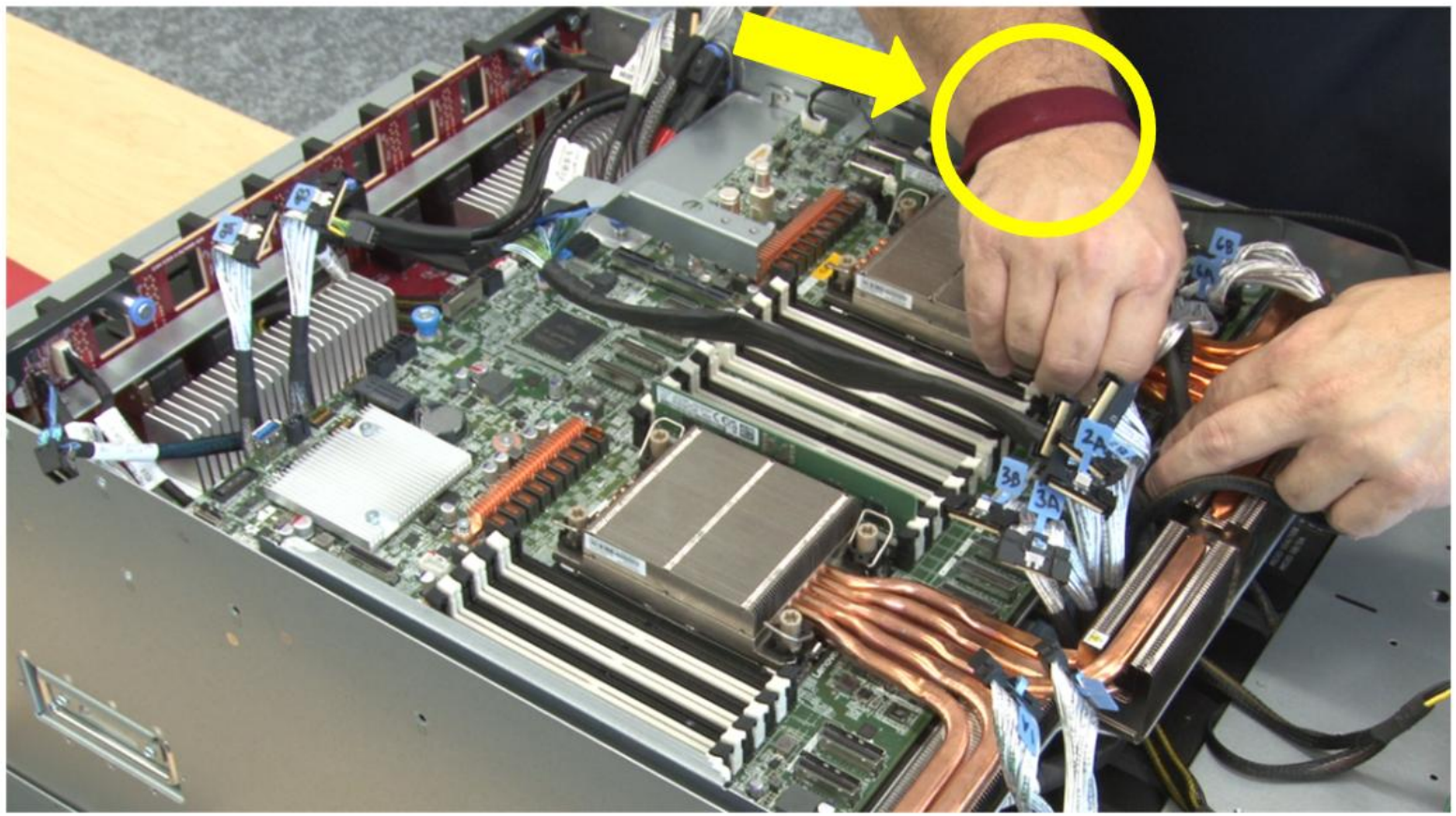
Hardware replacement tips

Part replacement highlights

Lenovo

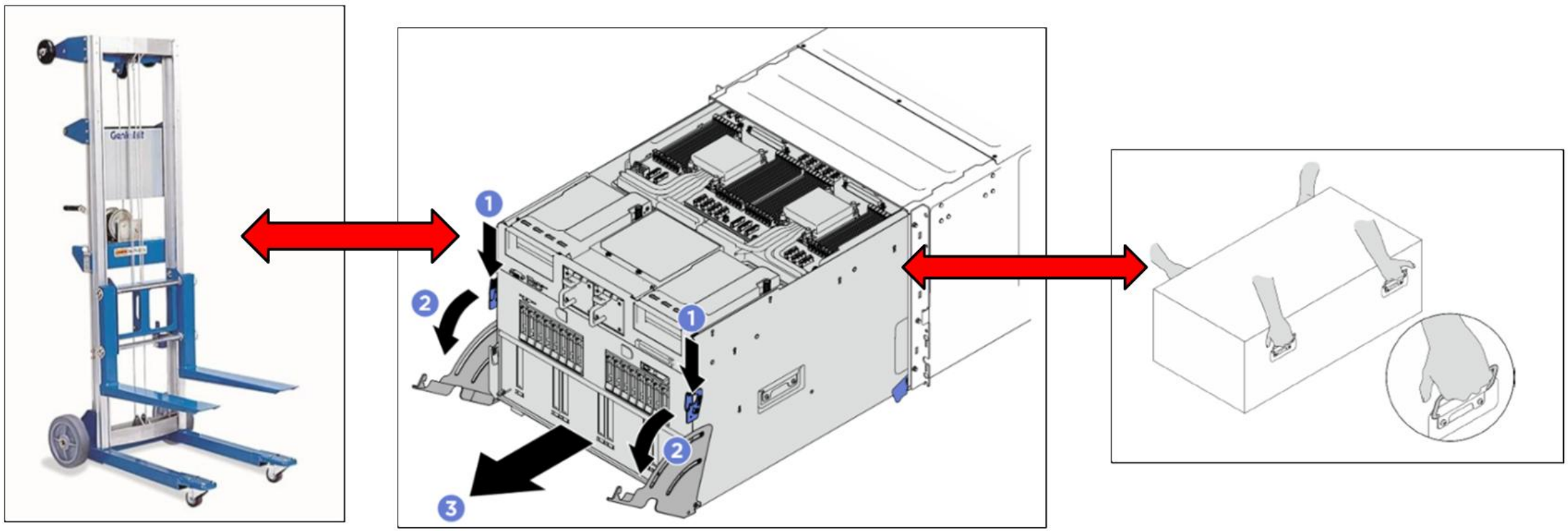
ESD wrist strap

The GPUs, switch board, and system board are extremely sensitive to ESD. Make sure you wear an ESD wrist strap when replacing any components in the system.



Removing a system shuttle

To remove a system shuttle from the SR680a V3 with B200, two people are required to hold the handles on the sides of the system shuttle. The system shuttle should be immediately moved to a lift tool. If the customer does not have a lift tool, Lenovo offers the Genie GL-8 lift tool (machine type model: 7D5YCTO1WW) as a configurable option that customers can order.

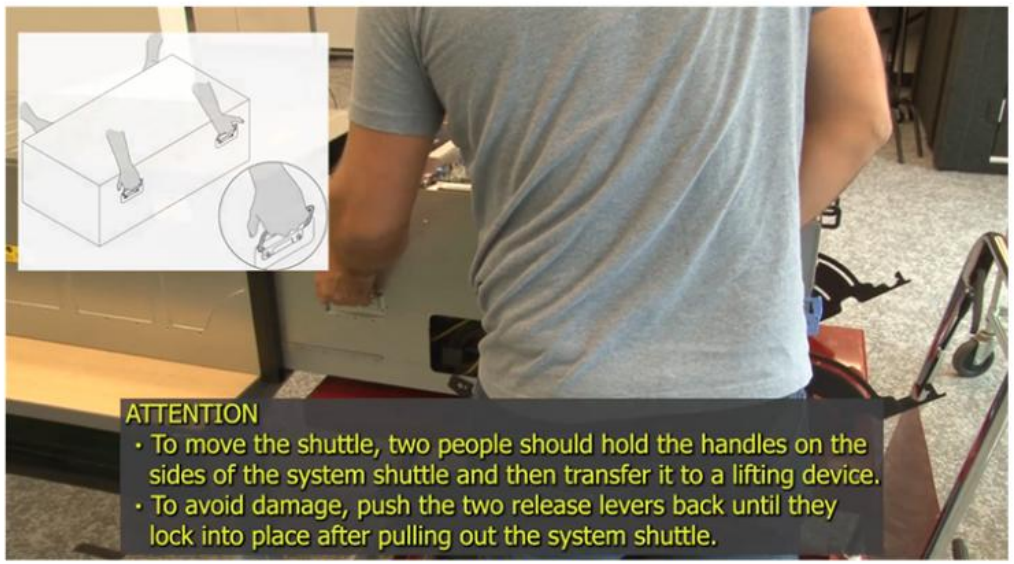


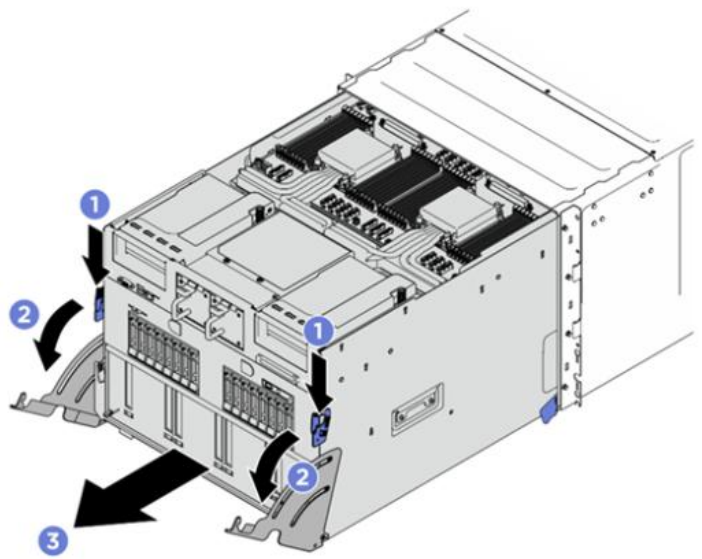
Replacing parts in a system shuttle

To replace some parts, it is necessary to remove the system shuttle from the chassis. Two people and a lifting device that can support up to 400 lb (181 kg) are required to perform this procedure.

Other parts can be replaced by simply pulling the system shuttle to the stop position. This can be done by one person without a lift tool.

For detailed instructions, refer to the Hardware replacement procedure section of the User Guide.

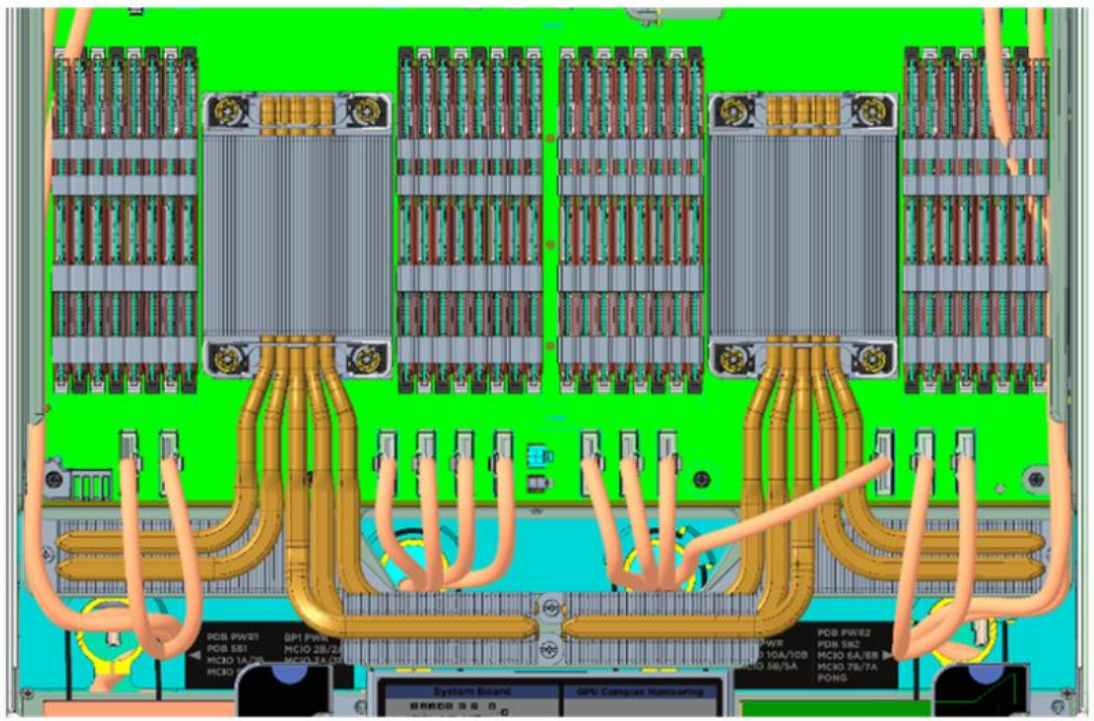


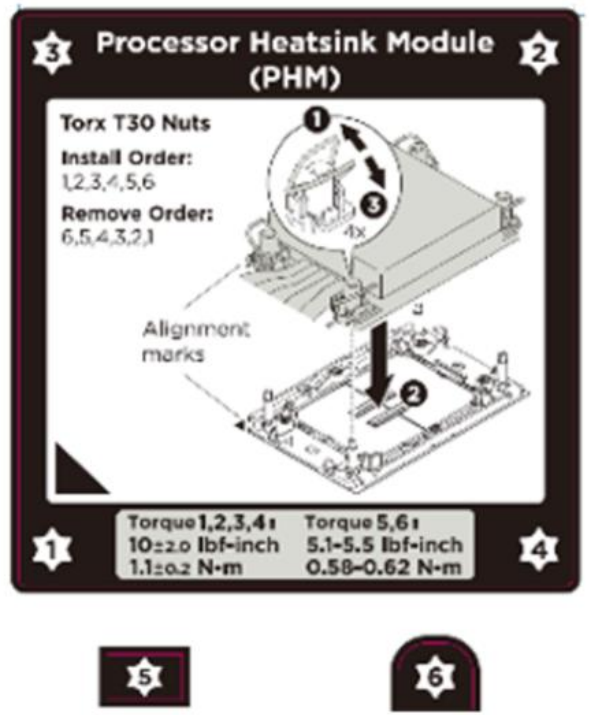


Pulling the system shuttle to the stop position

Replacing a processor heat sink

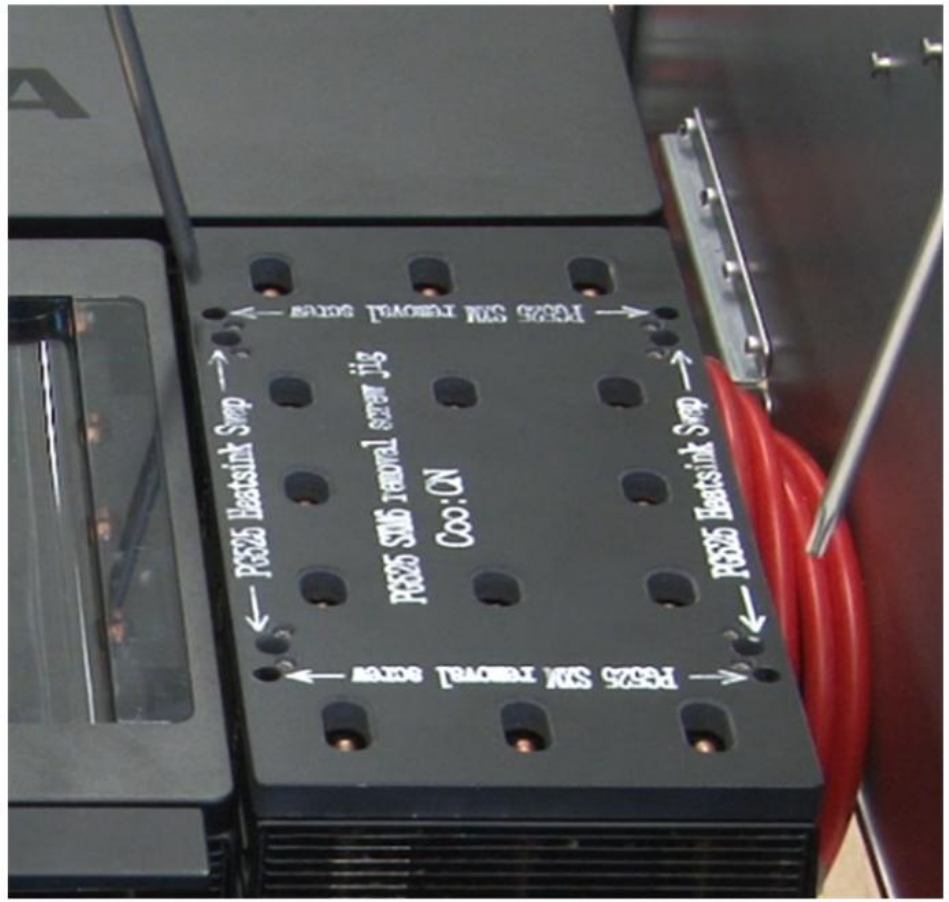
The SR680a V3 with B200 processor heat sink replacement procedure requires a Torx T30 torque screwdriver. Follow the removal and installation sequence instructions and torque settings shown on the heat sink label to remove or install a heat sink.





Replacing a B200 GPU and heat sink module

The SR680a V3 with B200 GPU heat sink replacement procedure requires two torque screwdrivers, two (300 mm) Torx T15 extension bits, and a B200 jig. Follow the removal and installation sequence instructions and torque settings shown in the user guide to remove or install a B200 GPU and heat sink module.



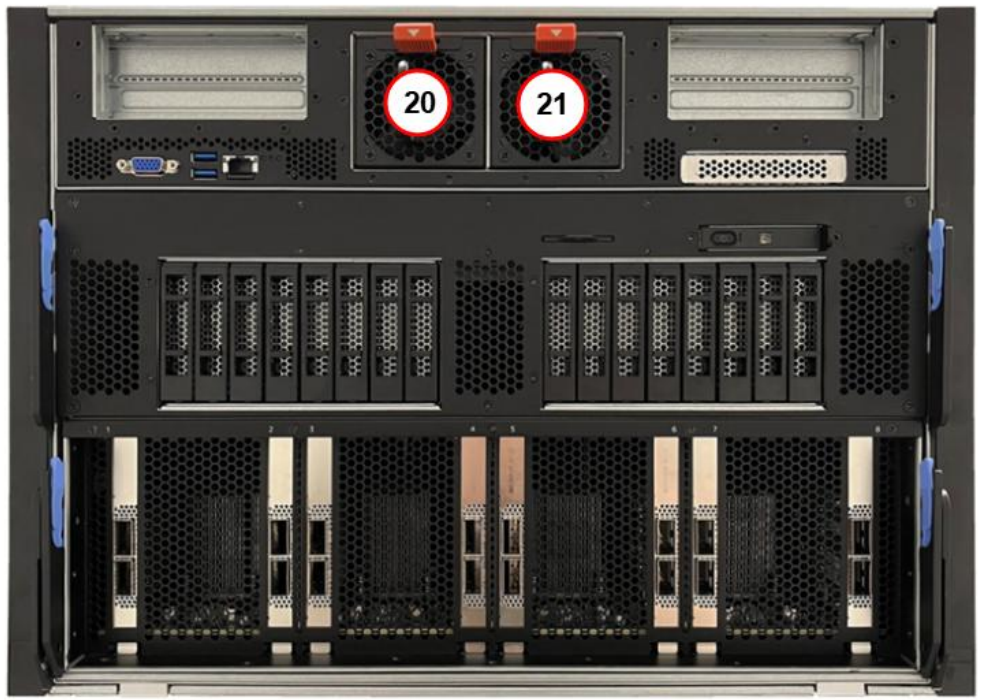
ATTENTION !

Insert the two screwdrivers into the designated (**SXM removal screw**) holes on the jig

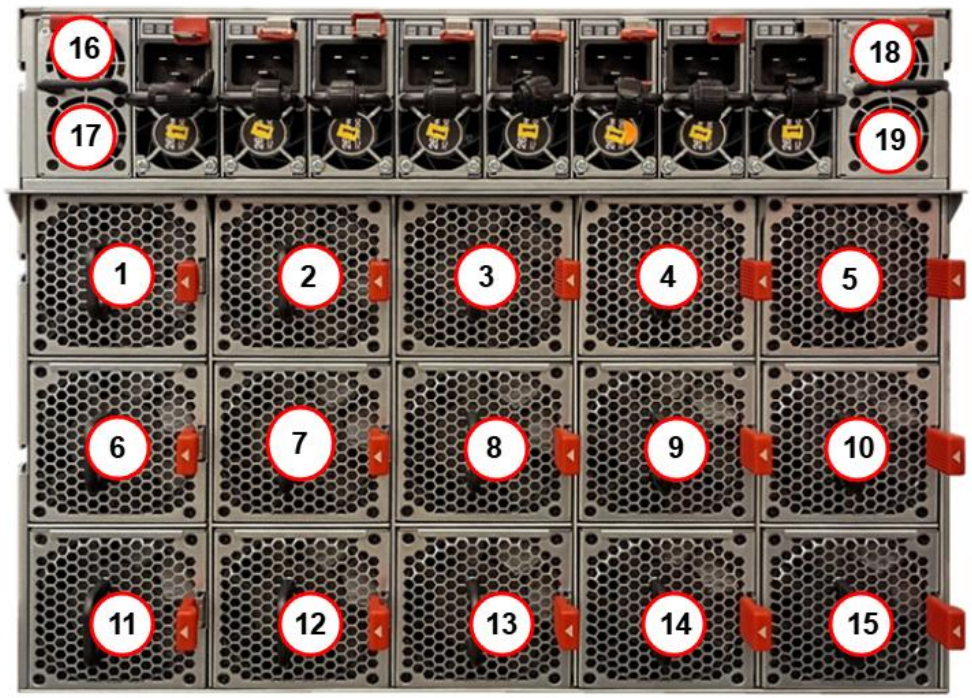
Lenovo

Replacing a fan

The SR680a V3 with B200 front and rear hot-swap fans do not have status LEDs. Make sure to check the fan error messages in XCC and the label on the fan to cross check which fan needs to be replaced.



Front fan numbering



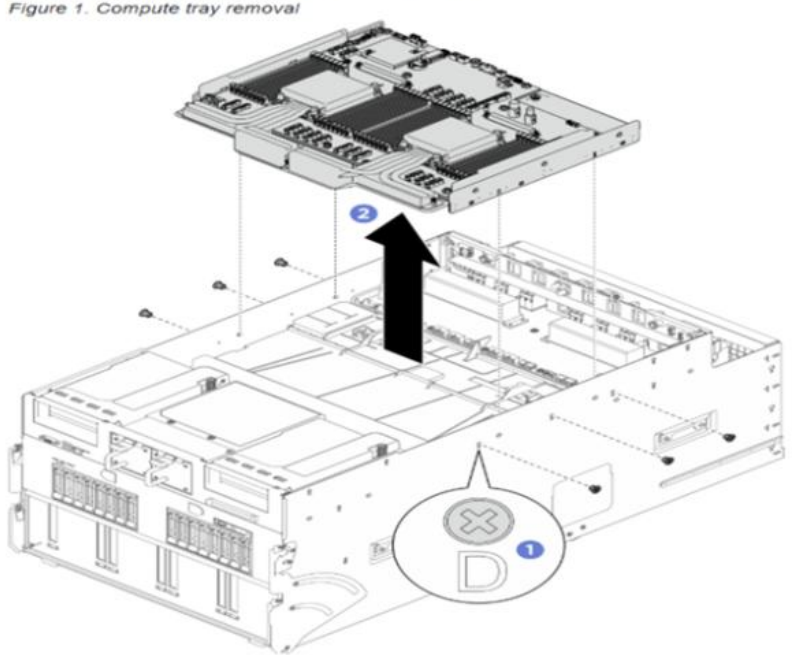
Rear fan numbering

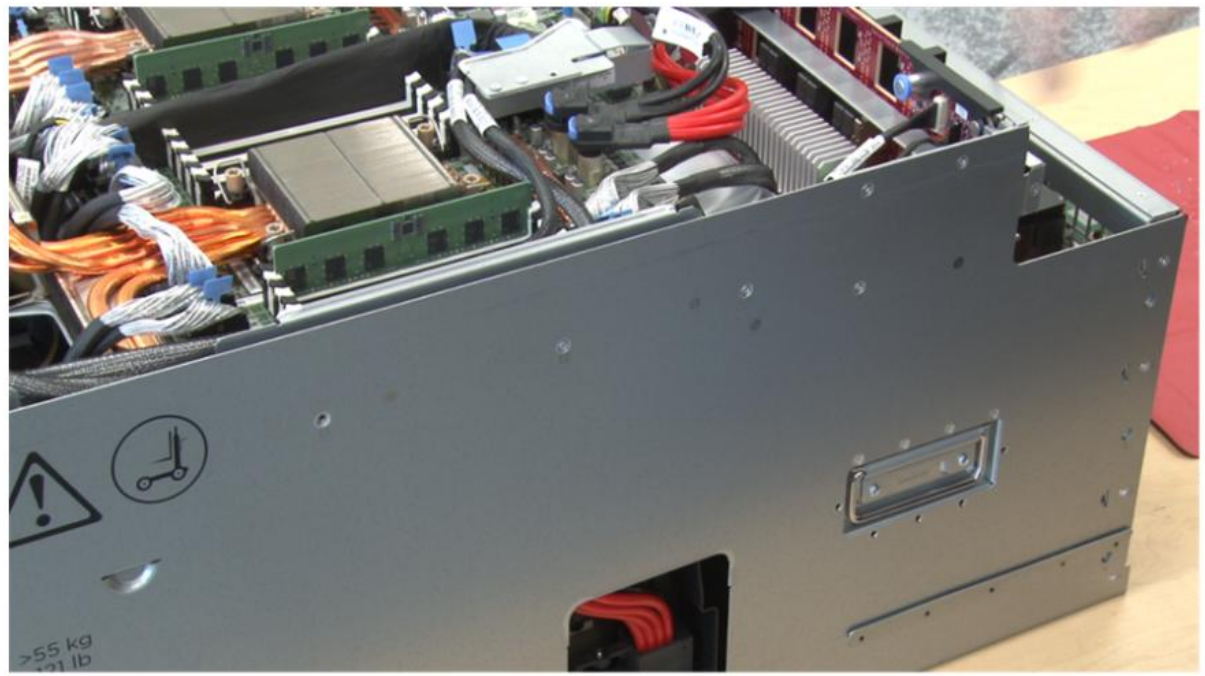
System shuttle screws

Many parts are secured to the system shuttle with screws on both sides of the shuttle. There are markings on the shuttle to indicate which screw holes correspond with specific parts. Refer to the *ThinkSystem SR680a V3 with B200 User Guide* on Lenovo Docs for more information.

3. Remove the compute tray.
   a. ❷ Unfasten the six screws marked with **D** on both sides of the system shuttle.
   b. ❷ Lift the compute tray out of the system shuttle.

Figure 1. Compute tray removal





Replacing a system I/O board

After replacing a system I/O board (with integrated RoT module), servicers must update the UEFI and LXPM firmware to the latest supported version before starting the system. If this does not happen, the system will not be able to recognize the correct firmware and will not start normally. As a result, the user will not be able to access the system OS.

Use one of the following methods to update the UEFI and LXPM firmware on the system after replacing the system I/O board:

- OneCLI commands
- A USB boot kit with UEFI firmware and LXPM firmware packages
  - For more information on how to create a USB boot kit, refer to the following GLOSSE article: How to create USB boot kit with OneCLI for RoT replacement in the field

For the complete procedures, refer to the following GLOSSE tip page:
How to do RoT Module FW update on ThinkSystem V3 machines

Updating the VPD

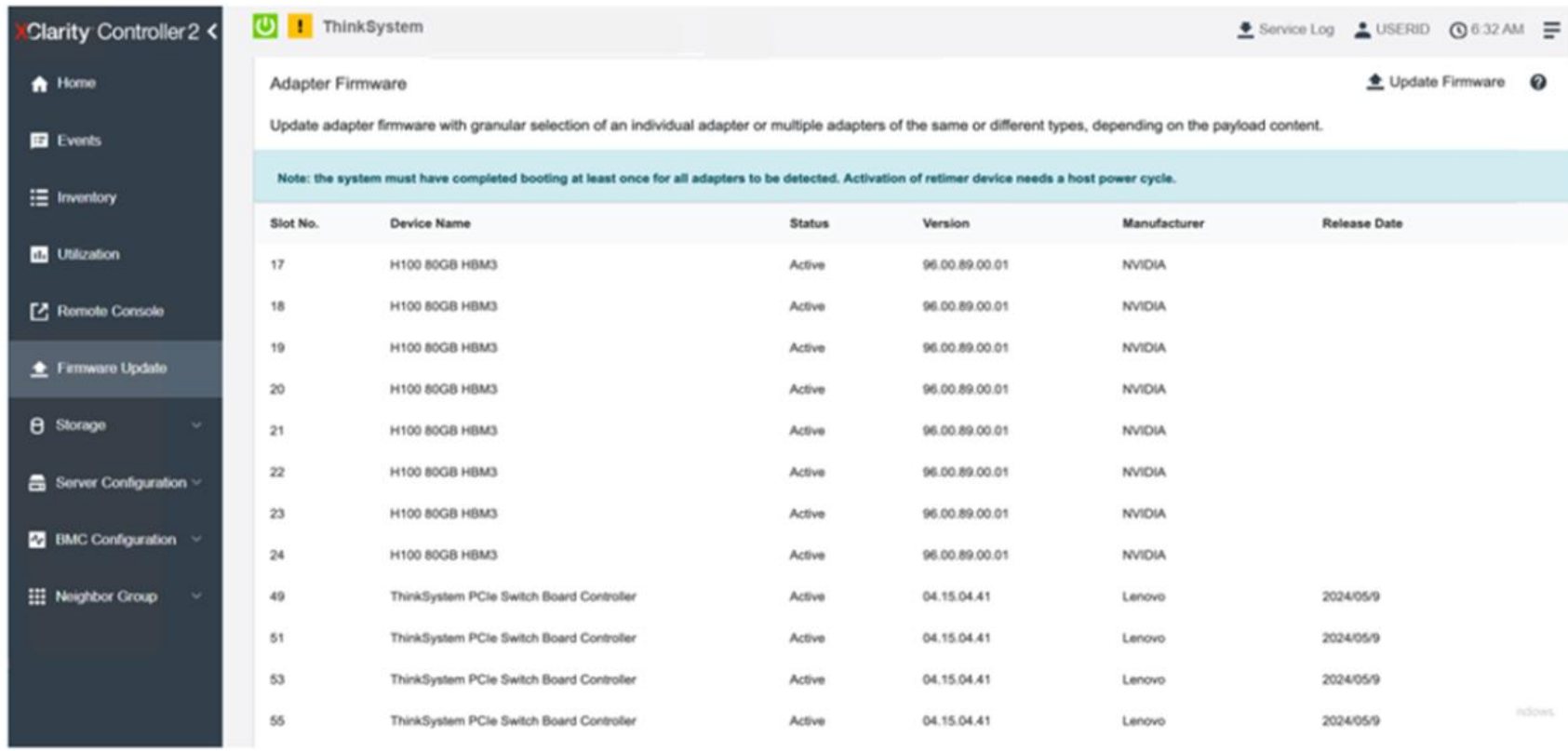
After replacing a system board, service personnel must update the VPD (machine type and serial number) on the system board. The SR680a V3 with B200 VPD update procedure is the same as that used with other ThinkSystem models (using the `onecli config set` OneCLI command).

Replacing a system I/O board does not require an update of the VPD.

For more information, refer to the *LXCE OneCLI common task* section of course ES51757B Introducing ThinkSystem tools, or the *Update the Vital Product Data (VPD)* section of the *ThinkSystem SR680a V3 with B200 User Guide* on Lenovo Docs.

Updating the GPU or GPU board firmware

There is a single firmware package for all GPU-related components. Use XCC or OneCLI to perform the task. You do not need to use any specific NVIDIA tools to perform a GPU or GPU board firmware update on an SR680a V3 with B200.



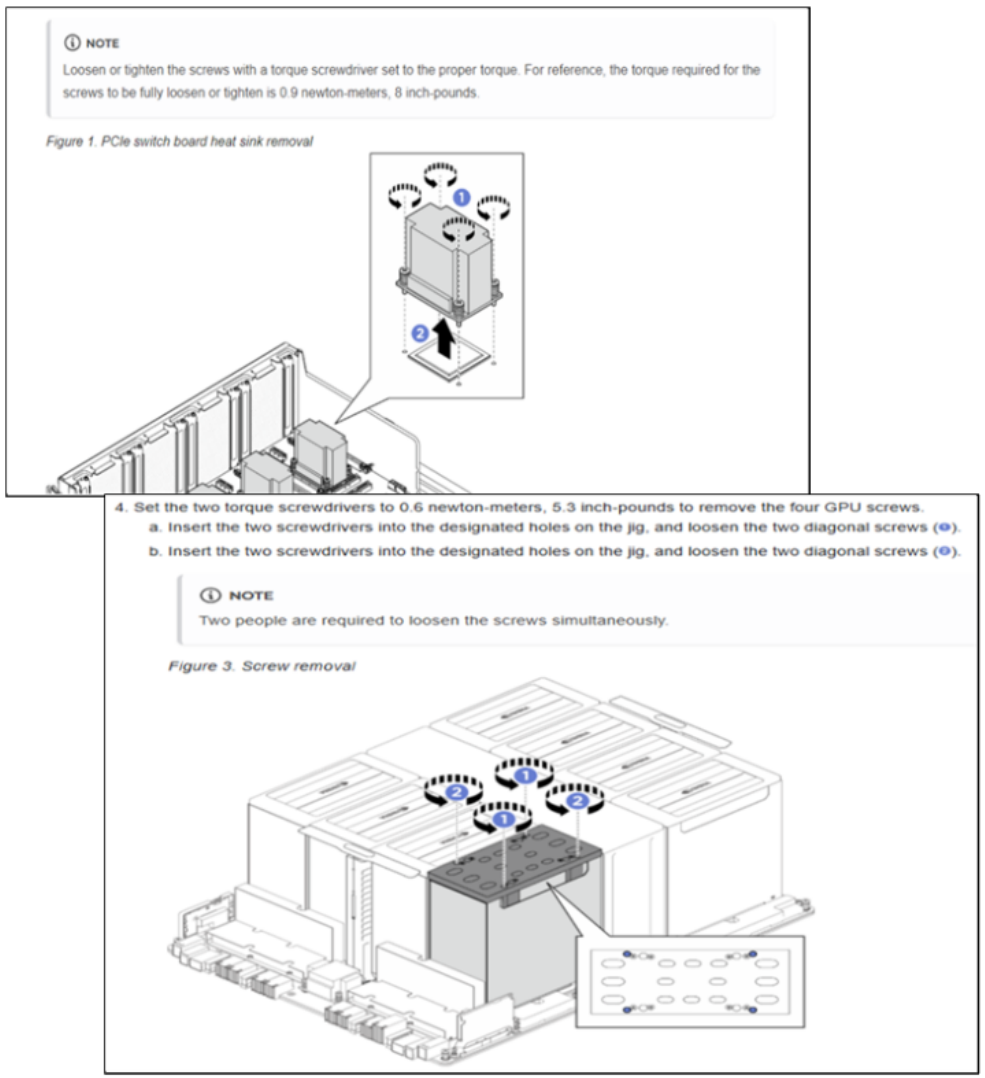
Replacing parts with a torque screwdriver

Replacement of the following parts requires a torque screwdriver with adjustable Newton-meter settings:

- Processor heat sink
- PCIe switch board heat sink
- GPU complex and adapter plate
- GPU and heat sink module
- GPU baseboard
- GPU HMC card and CX7 card

For the Newton-meter settings required to replace the above parts, refer to the *Hardware replacement procedures* section of the *SR680a V3 with B200 User Guide* on Lenovo Docs.

Note: Replacing a part with the wrong torque setting might damage the part.



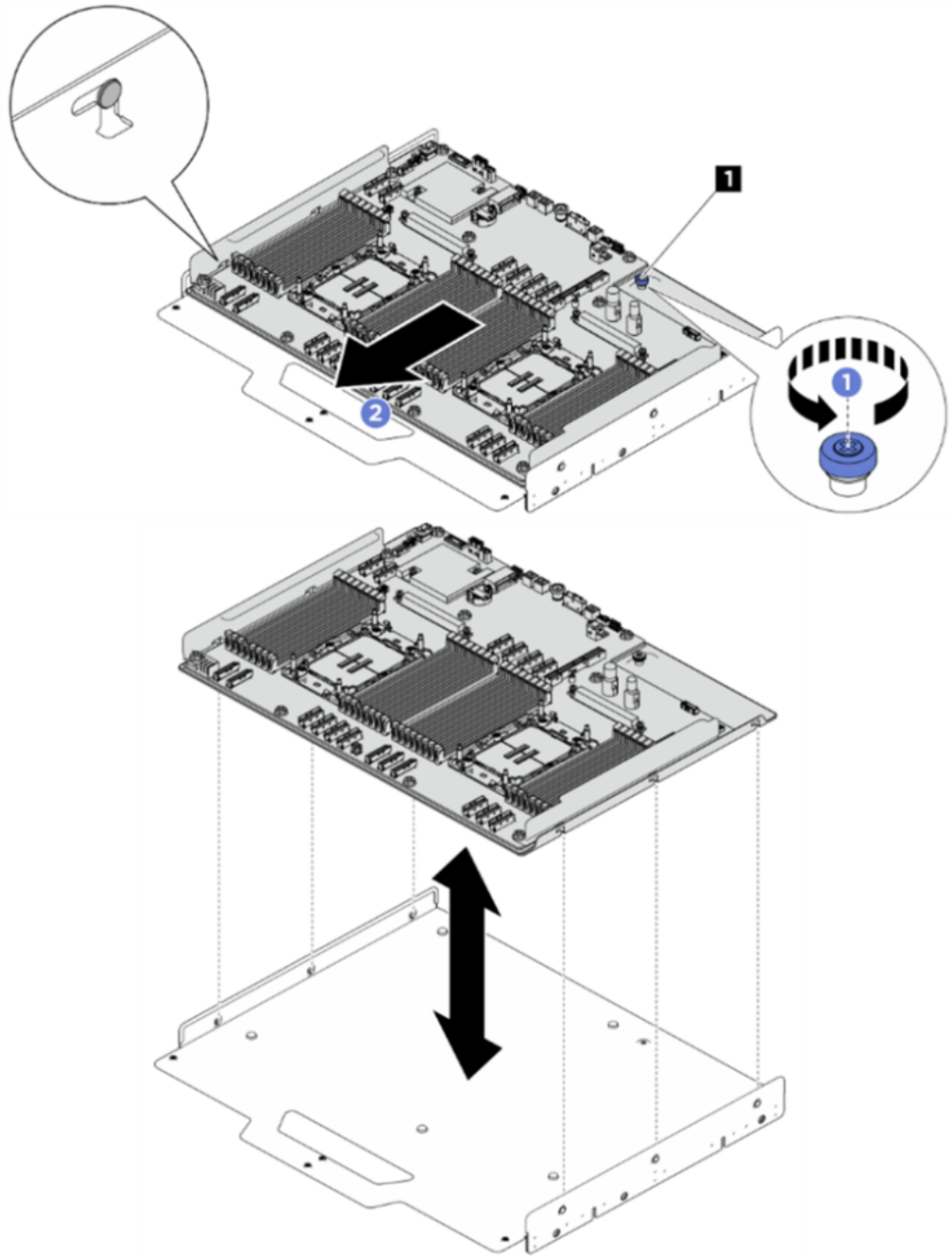
Replacing a system board

To replace a system board, servicers must first remove the system shuttle from the chassis. The following components should then be removed:

- compute tray
- processors and the heat sinks
- memory modules

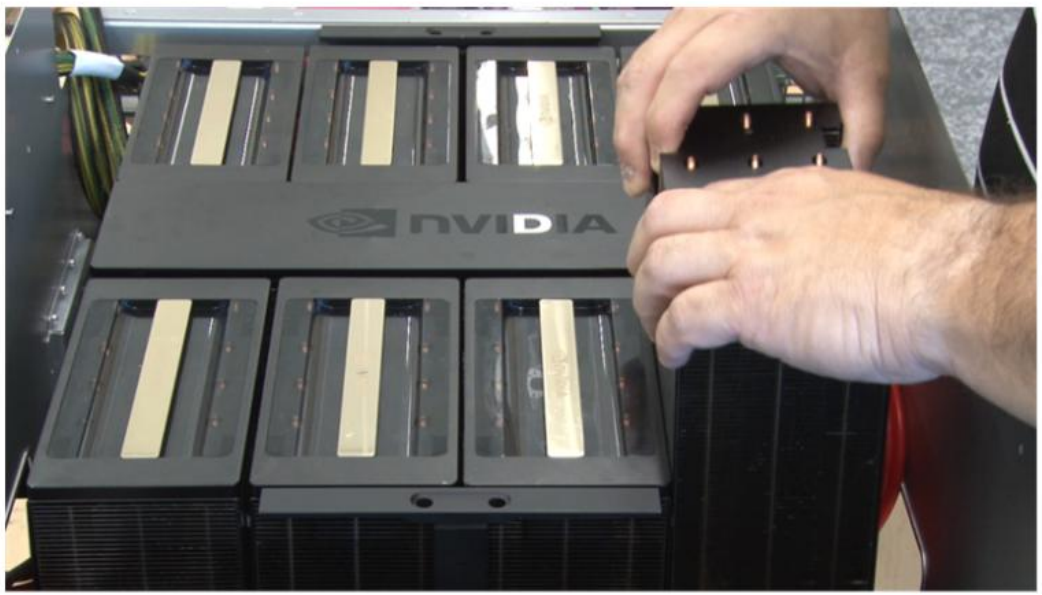
Disconnect all the cables from the system board assembly. As you disconnect the cables, make a list of each cable and record the connectors they are connected to. Use the record as a cabling checklist after installing the new system board.

For the complete system board assembly replacement procedures, refer to the *Hardware replacement procedures* section of the *SR680a V3 with B200 User Guide* on Lenovo Docs.



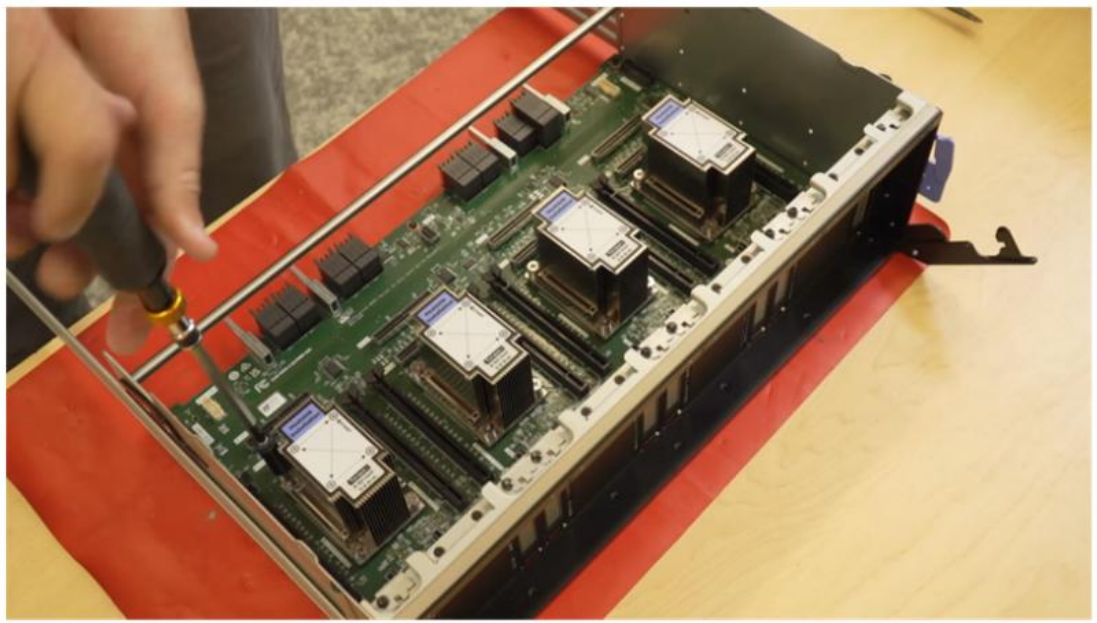
GPU module replacement tips

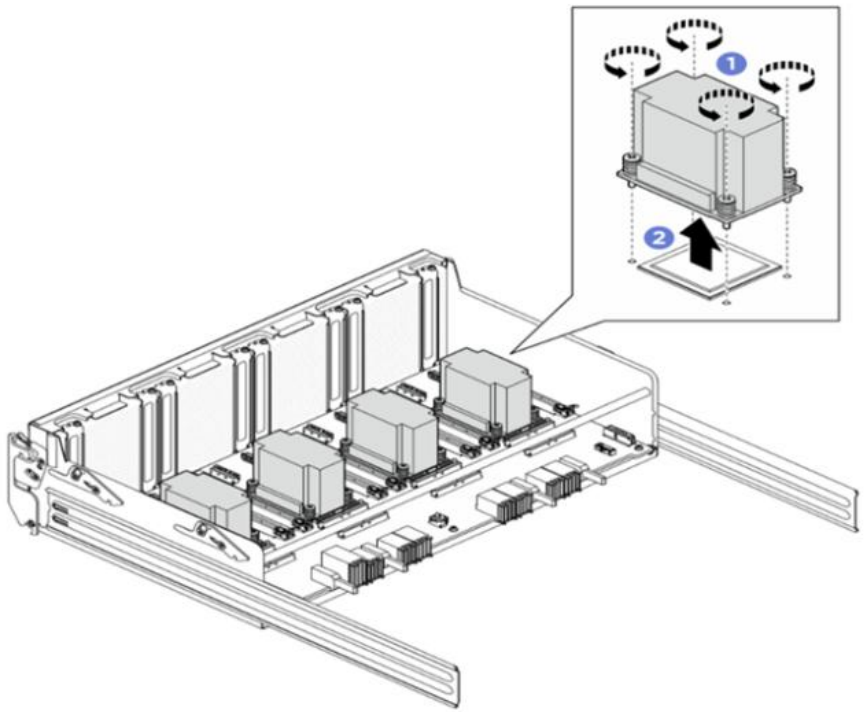
Do not move a potentially failed GPU to another slot to check whether it has failed.
If a single GPU module fails and needs to be replaced, replace the whole GPU module. Do not separate the GPU from its heat sink.



PCIe switch board replacement tips

Before removing the PCIe switch board, the heat sinks on the board must be removed. The heat sinks are screwed into threaded holes in the switch drawer.





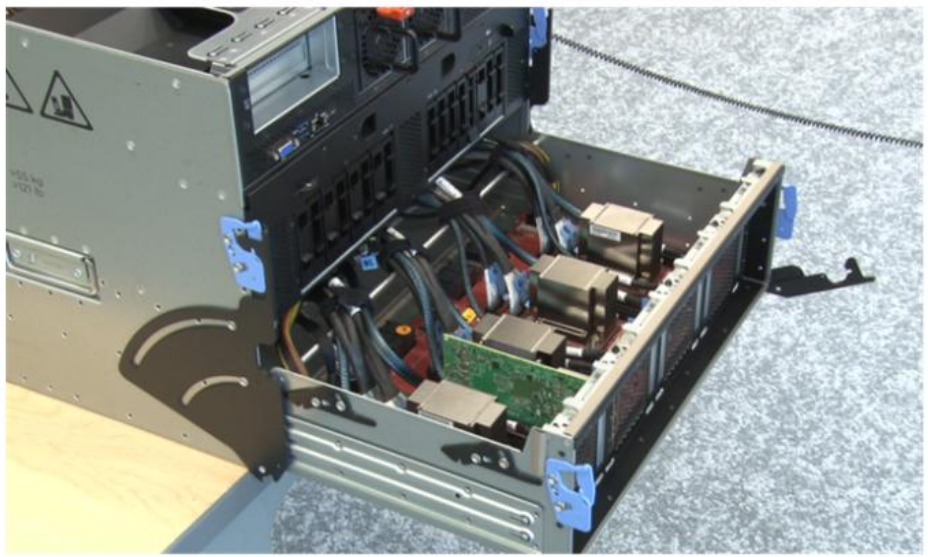
Note: For complete PCIe switch board replacement procedures, refer to the *Hardware replacement procedures* section of the *SR680a V3 with B200 User Guide* on Lenovo Docs.

Cable replacement tips

Cable routing on the SR680a V3 with B200 is more complex than on other systems. Although there are labels on cables and next to each connector, service engineers might still get confused when replacing cables.

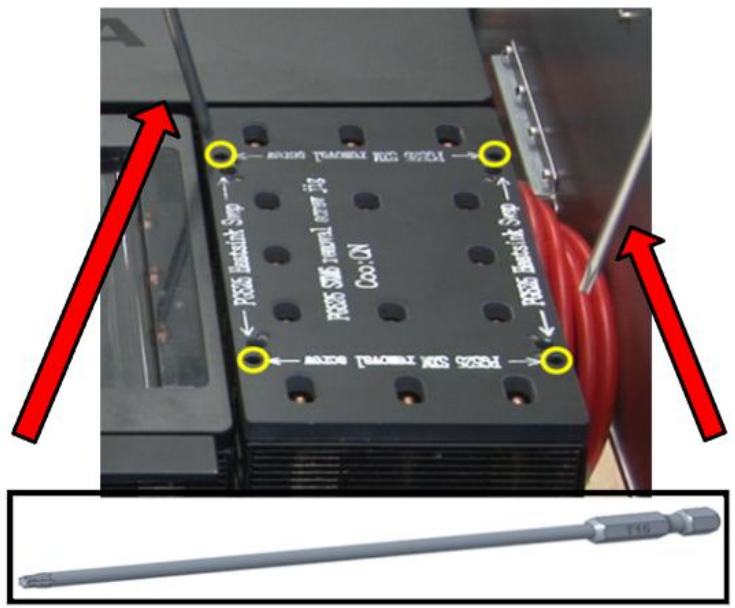
When replacing a system board, GPU board, or switch board in the SR680a V3 with B200, it is recommended that you take pictures of the cable routing before disconnecting anything.

For more information about SR680a V3 with B200 cable routing, refer to the *Internal cable routing* section of the *SR680a V3 with B200 User Guide* on Lenovo Docs.

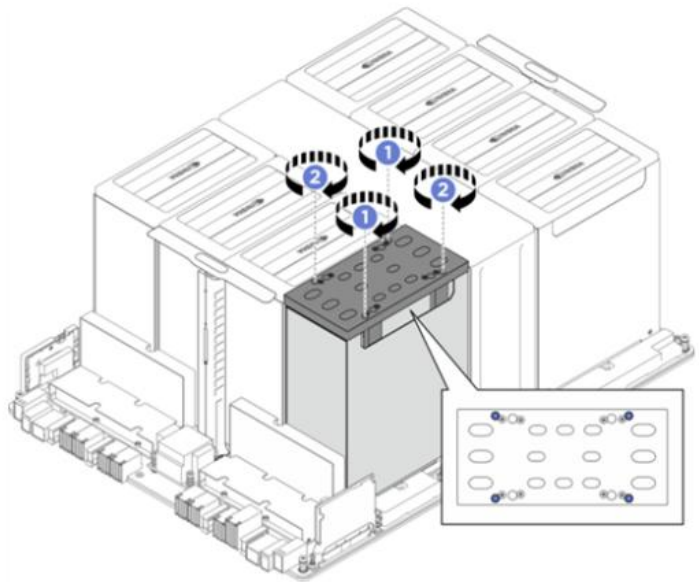


NVIDIA GPU and heat sink module replacement tips

When replacing an NVIDIA B200 GPU and heat sink module, you will need two (300 mm) Torx T15 extension bits to reach the screws on the module. Make sure to follow the sequence set out in the user guide to unfasten or fasten screws. The GPU might be damaged if the wrong screw is unfastened or fastened.



A Torx T15 extension bit (300 mm)

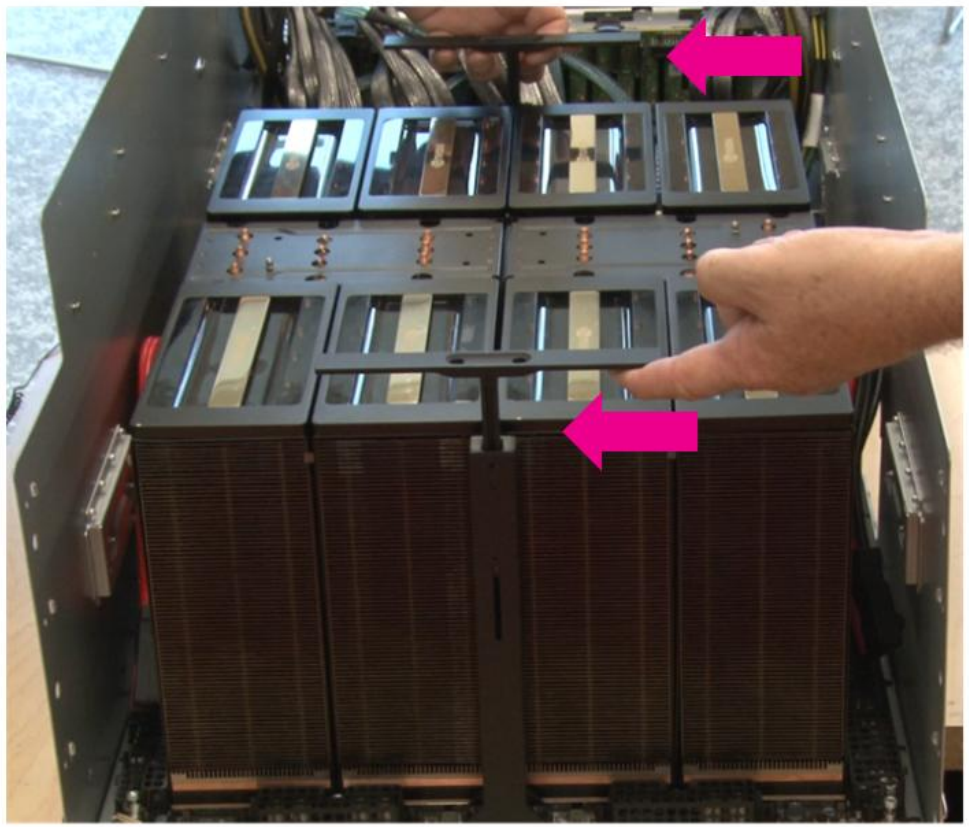


NVIDIA B200 GPU screw removal and installation sequence

The screws marked in green should be fastened/unfastened

GPU complex handles

To replace an NVIDIA B200 GPU complex, unfasten the screws and then hold the handles to replace the B200 GPU complex. Do not hold the edge of the GPU heat sinks or the GPU board.



NVIDIA B200 GPU complex handles

Summary

This course enabled you to:

- Describe the ThinkSystem SR680a V3 with B200 and its components
- List the SR680a V3 with B200 specifications
- Describe the SR680a V3 with B200 configurations
- Describe the SR680a V3 with B200 management tools
- Describe the problem determination steps and explain how to troubleshoot issues with the SR680a V3 with B200