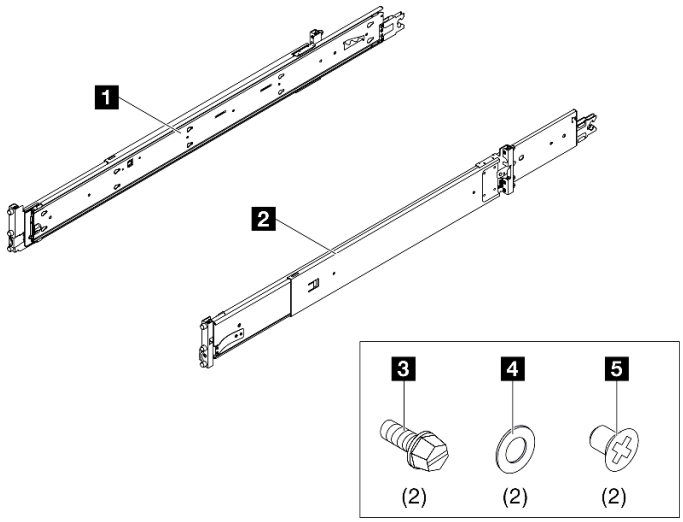
Rail Installation Guide

Rail kit parts inventory

The Toolless Rail Kit includes the following parts:



1 One left rail

2 One right rail

3 Two M5 screws

4 Two washers

5 Two M4 screws

Notes:
- This kit can be installed in both square hole and round hole rack.
- If any parts is missing, contact local service.
- The replacement in this document requires the lift handles in the server package. Have them on site beforehand.

Read these guidelines first

Read the following guidelines before installing the rail kit and server to the rack.

- The maximum rail travel distance is 960 mm (37.8 inches).
- Install the server to a rack that meets the following requirements:
  - Minimum depth of 119.8 mm (4.72 inches) between the front mounting flanges and inside of the front door.
  - Minimum depth of 176.8 mm (6.96 inches) between the chassis rear wall and inside of the rear door.
  - The maximum distance between the front and rear mounting flanges is 812.8 mm (32 inches).
  - To install the rails and a 0U PDU into the same rack, the rack must meet the following height and depth requirements:
    - 42U or higher
    - Without CMA: at least 1100-mm (43.31-inch) deep
    - With CMA: at least 1100-mm (43.31-inch) deep
  - Only install the server into a rack with perforated doors. Remove the rack doors and side panels for easy access during installation.
  - When installing multiple units, start with installing the heaviest device to the lowest part of the rack.
  - See the *User Guide* for the requirements of room air temperature.
  - Do not block any air vents. Spare at least 15 cm (6 inches) of space for proper airflow.
  - Do not leave the unoccupied space above or below an installed server in the rack empty. To prevent damage to server components, always install filler panels to cover unoccupied space to ensure proper air circulation.

– Do not leave more than one server slid out from the rack at the same time.
– Do not overload the power outlet when multiple devices are installed in the rack.

If you need to remove the rail from rack, refer to the “Hardware replacement procedures” chapter in the server *User Guide*. Search your server and select its *User Guide* at Lenovo server product portfolio page: https://pubs.lenovo.com/.

S036

18 - 32 kg (39 - 70 lb)

32 - 55 kg (70 - 121 lb)

CAUTION:
Use safe practices when lifting.

R006

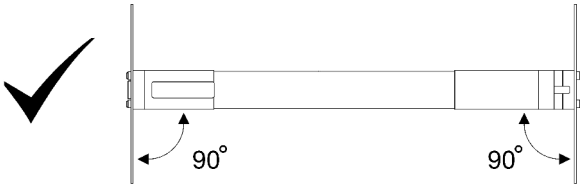
CAUTION:
Do not place any object on top of a rack-mounted device unless that rack-mounted device is intended for use as a shelf.

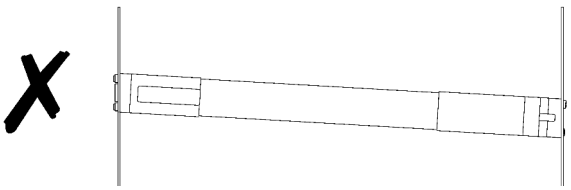
S037

CAUTION:
The weight of this part or unit is more than 55 kg (121.2 lb). It takes specially trained persons, a lifting device, or both to safely lift this part or unit.

Install the rail kit to the rack

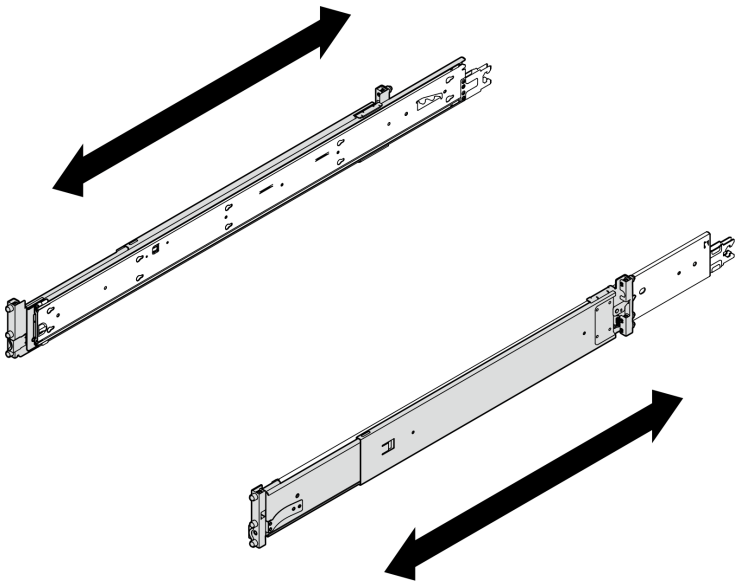
Important: Make sure both ends of the rail are seated at the same height.





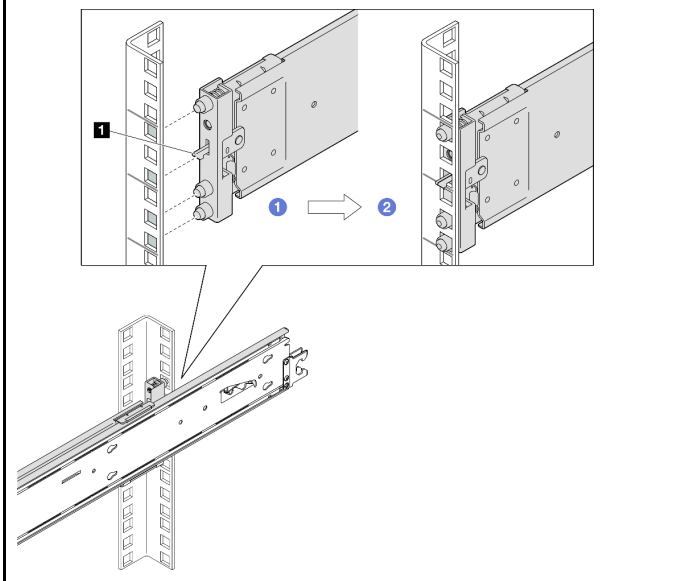
Notes:

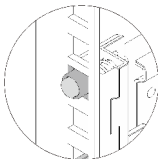
- The rails are extensible as shown in the following illustration.



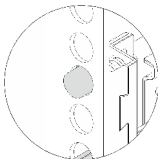
- Install the rail to the rack, starting from the rear and proceeding to the front.
- Make sure the rail is shortened to the shortest position.
- The rail mounting pins take up 2U space. Follow the U space marking on the rack when installing the rail kit.

Step 1. Install the rear mounting pins to the rack.





Square hole rack



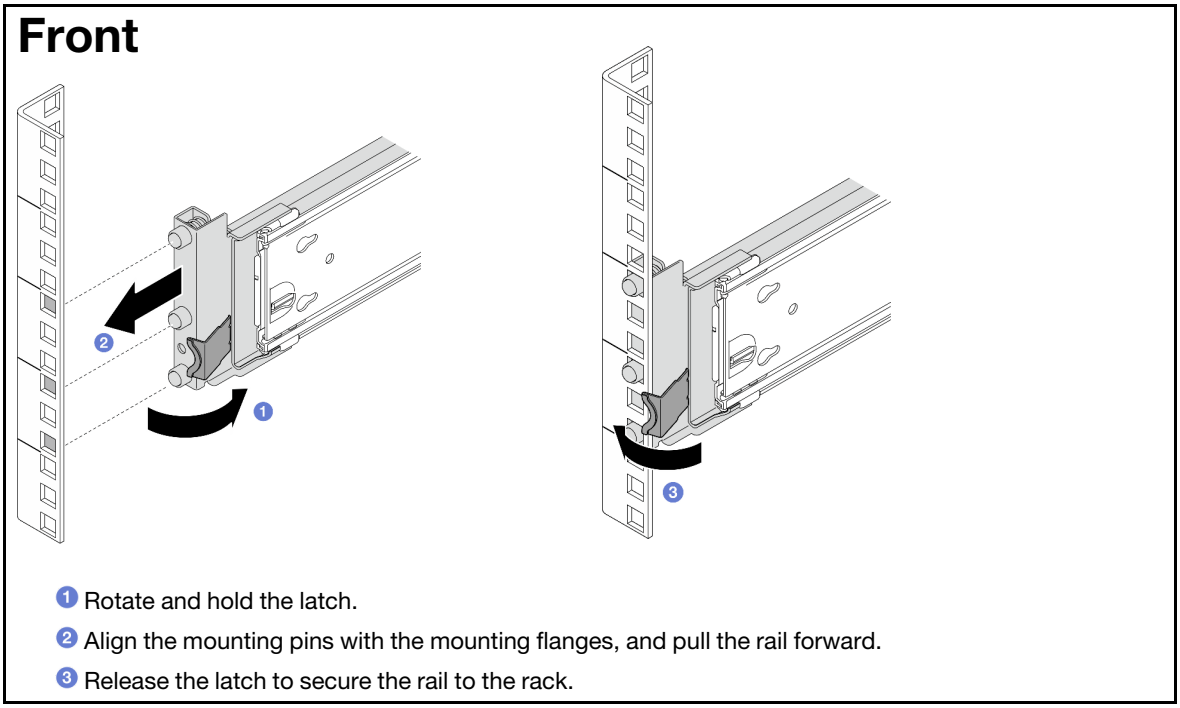
Round hole rack

1 Hook latch

1 Align the mounting pins and the hook latch with the rack flanges.

2 Push the rail in until the latch clicks into place.

Step 2. Install the front mounting pins to the rack.



1 Rotate and hold the latch.
2 Align the mounting pins with the mounting flanges, and pull the rail forward.
3 Release the latch to secure the rail to the rack.

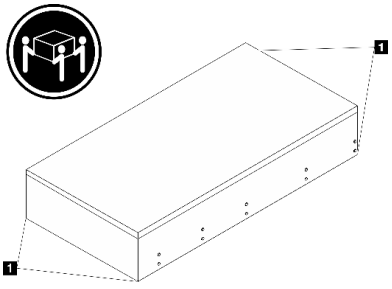
Step 3. Repeat the previous two steps on the other rail.

Install the server to rails

Step 1. Lift the server and place it on a table. Two lifting options are available:

For two-person lift, remove the following components beforehand:
- All the power supply units
- All the storage drives
- Top cover

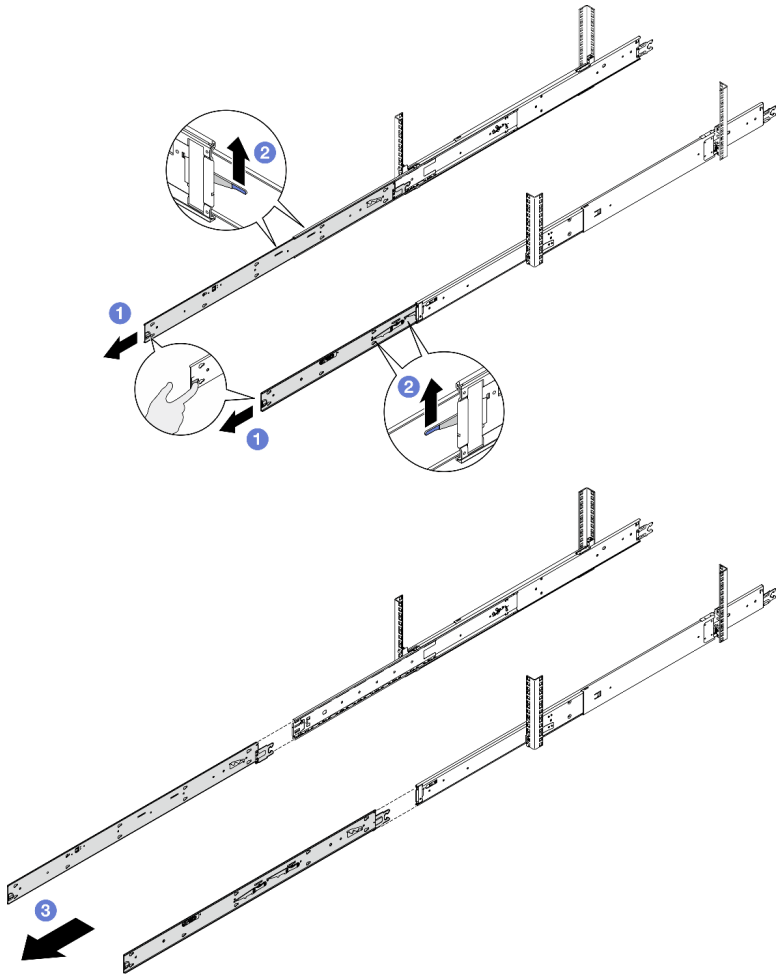
Otherwise, lift the server with three people or a lifting device.



CAUTION:
Make sure to lift the server by holding the lift points.

1 Lift point

Step 2. Remove the inner rails from the intermediate rails.

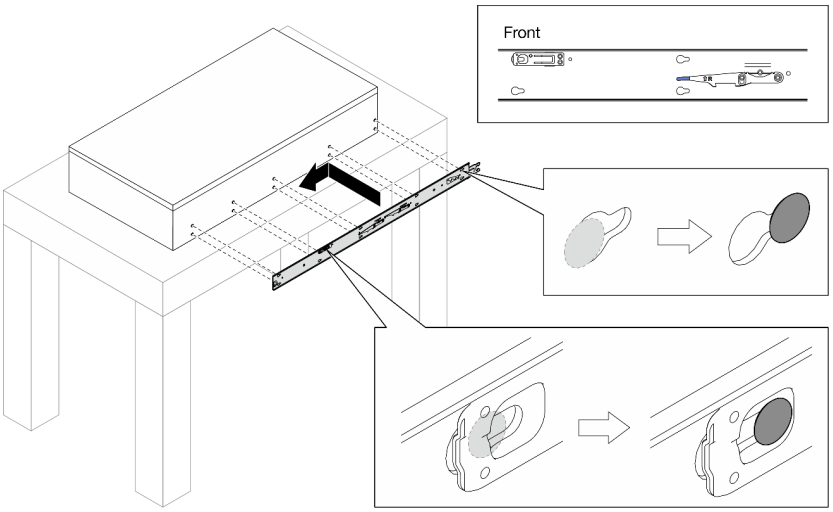


1. Pull the inner rails all the way out until they stop.
2. Lift the lock latches, and pull the inner rails to disengage them from the intermediate rails.

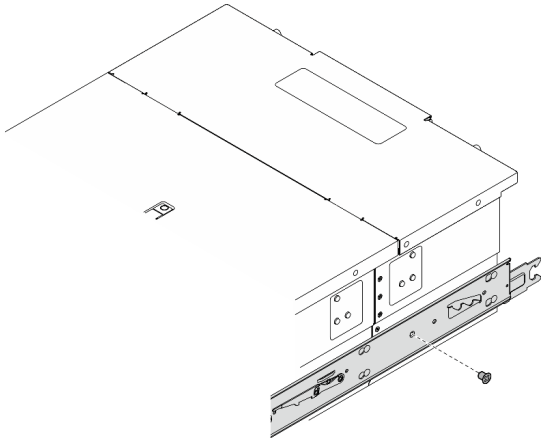
Attention: There are two pairs of lock latches on the rails. Lift the second pair of latches to proceed to slide the inner rails out.

3. Remove the inner rails.

Step 3. Align the slots on the inner rail with the corresponding T-pins on the side of the server; then, slide the inner rail forwards until the T-pins lock into place with the inner rail.

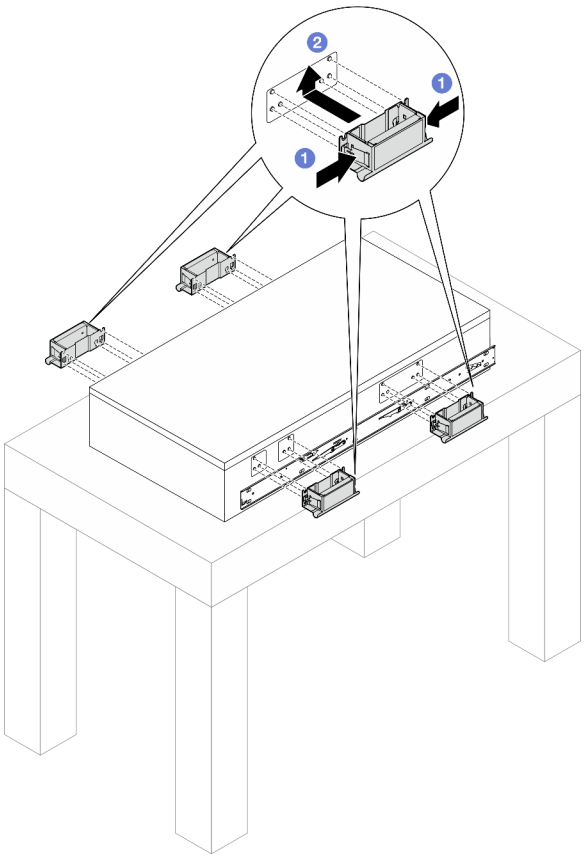


Step 4. Insert and tighten an M4 screw to secure the inner rail as shown.



Step 5. Repeat the previous two steps on the other rail.

Step 6. Attach the lift handle.



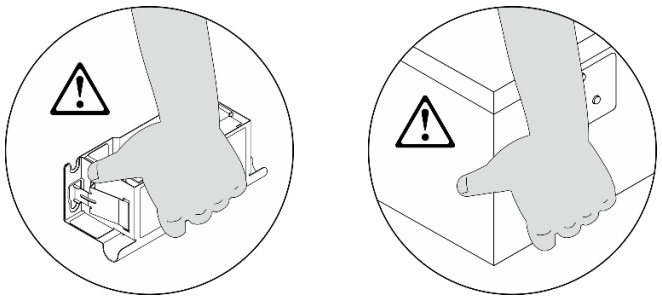
1 Pinch both flaps on the side of the handles.

2 Align the handles with the 6 posts on the sides of the server; then slide the handles up to secure them to the chassis.

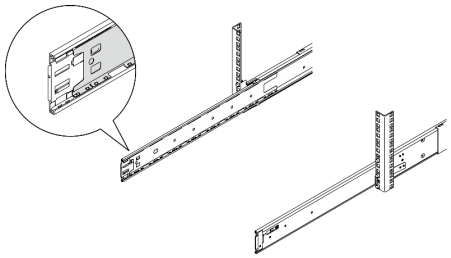
Notes:

- Make sure all 6 posts are secured.
- There are 4 lift handles in total. Make sure to install them all properly before lifting the server.

Step 7. Install the server to the rack.

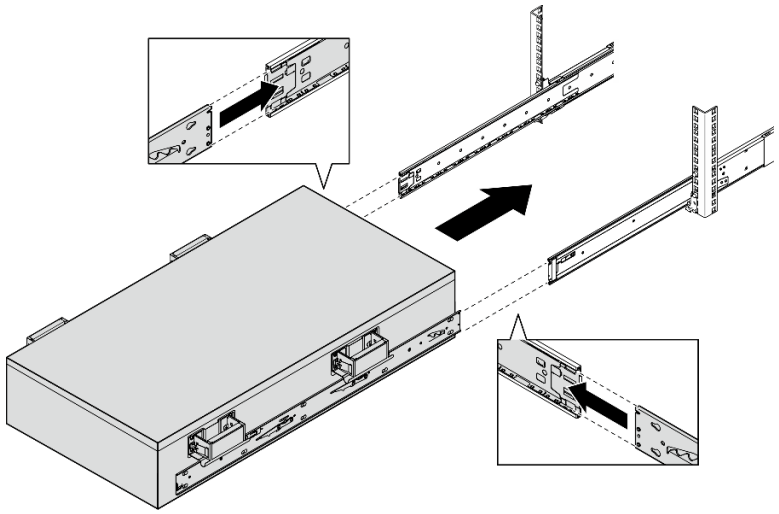


Attention: When moving the server, hold the server by its lift points or the lift handles at all time.

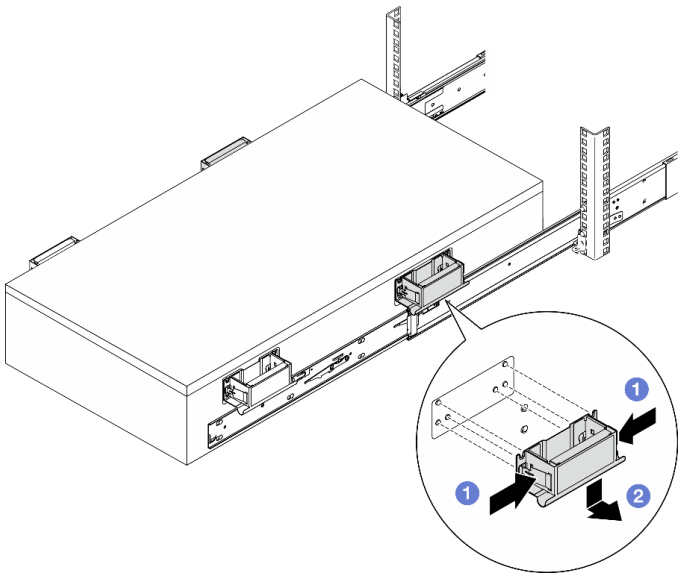


Attention: Before inner rail is inserted into intermediate rail, ensure that the ball retainer is at the foremost of the intermediate rail.

a. Align both rear ends of the inner rails with the openings in the intermediate rails, and make sure the two pairs of rails mate correctly. Then, carefully slide the server into the rack until the rails snap into place.



b. Remove the rear lift handles.

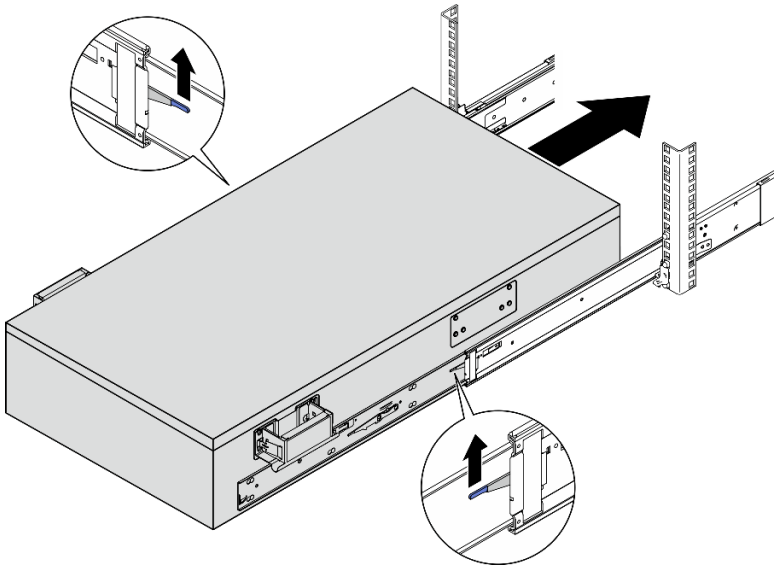


1 Pinch both flaps on the side of the handles.

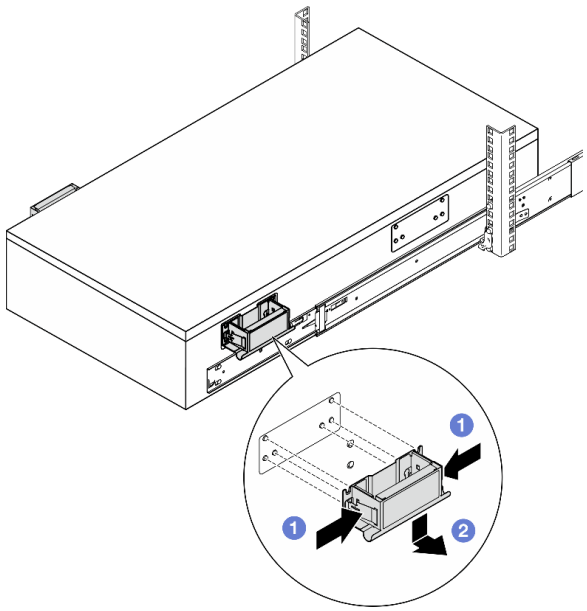
2 Align the handles with the 6 posts on the sides of the server; then, slide the handles down to remove them.

Note: Make sure to remove both rear lift handles before proceeding sliding in.

c. Lift the first pair of lock latches to proceed to slide the server in until the rails snap into place.



d. Remove the front lift handles.



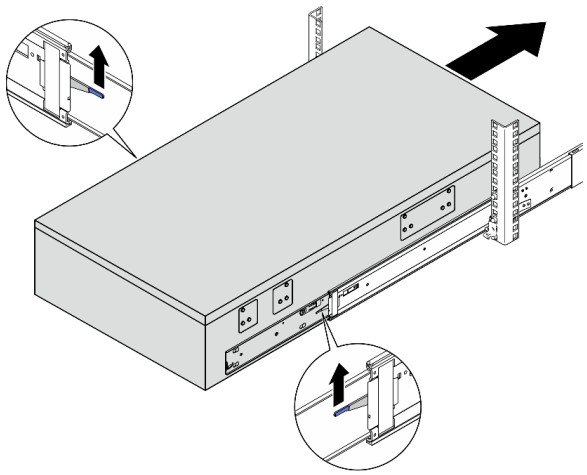
1 Pinch both flaps on the side of the handles.

2 Align the handles with the 6 posts on the sides of the server; then, slide the handles down to remove them.

Note: Make sure to remove both front lift handles before proceeding to slide the server in.

CAUTION:
Do not lift the second lock latches until all handles are properly removed.

e. Lift the second pair of lock latches to proceed to slide the server in.

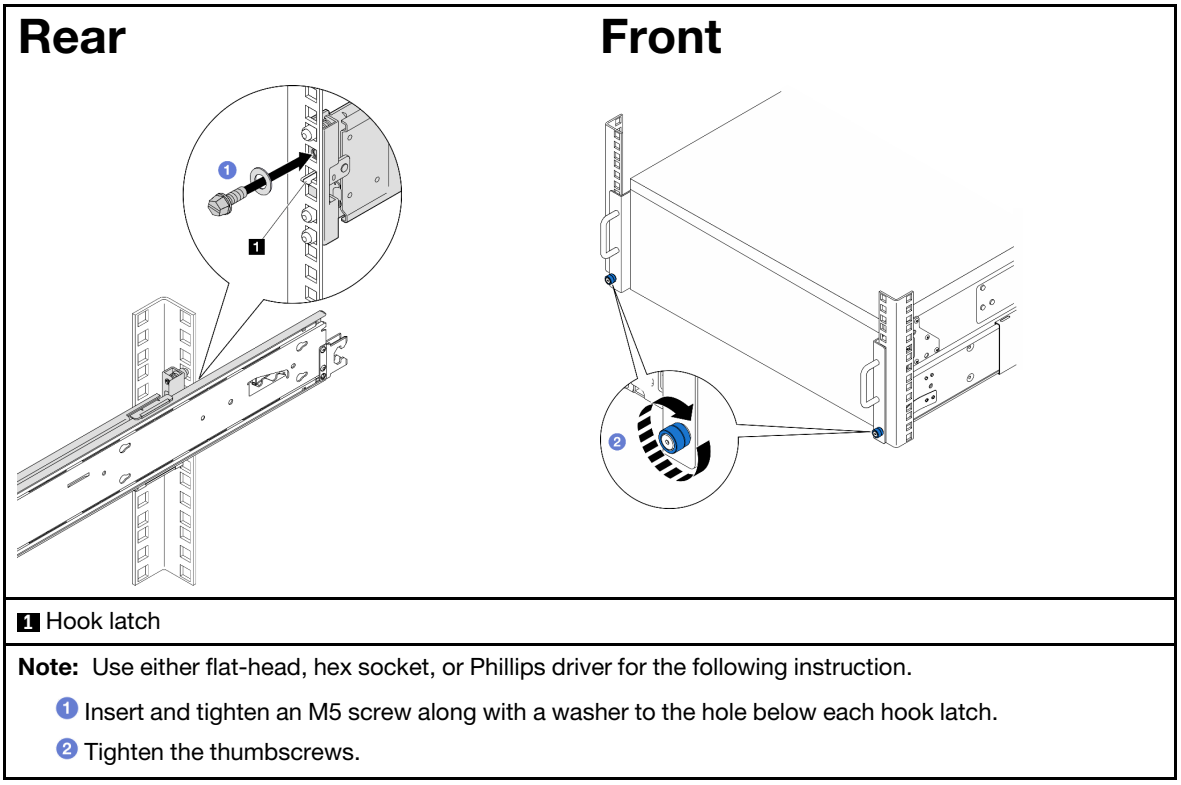


Attention: Slide the server all the way out and all the way back in to make sure the rails are working smoothly.

Step 8. Reinstall all the components that were removed previously.

(Optional) Secure the server to the rack

Step 1. Secure the server to the rack.



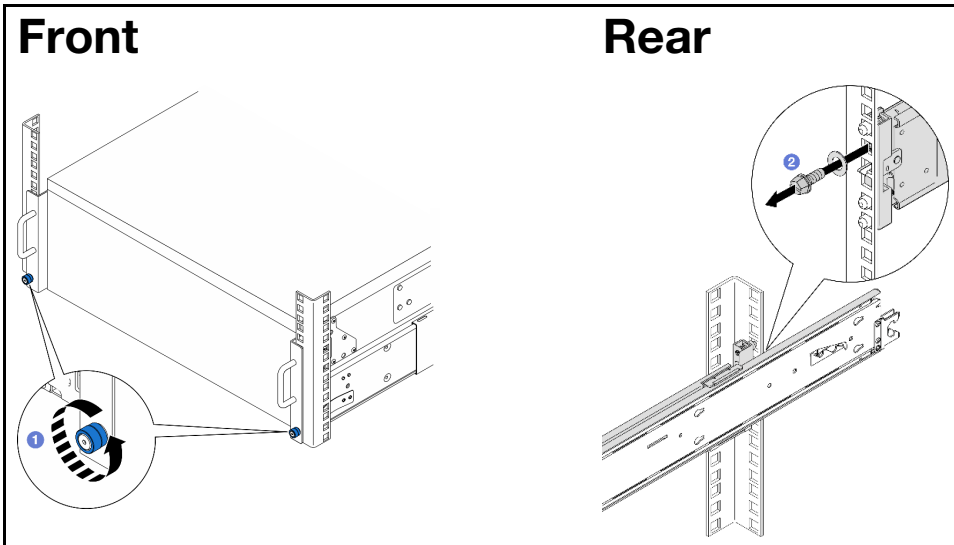
1 Hook latch

Note: Use either flat-head, hex socket, or Phillips driver for the following instruction.

1. Insert and tighten an M5 screw along with a washer to the hole below each hook latch.
2. Tighten the thumbscrews.

Remove the server from rack

Step 1. Disengage the sever if it has been secured to the rack.



1 Loosen the thumbscrews.

Note: Use either flat-head, hex socket, or Phillips driver for the following instruction.

2 Remove the washer and the M5 screw on both sides.

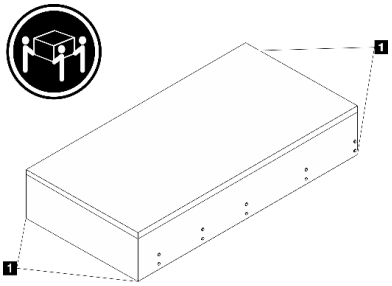
Remove the server from rails

Step 1. Determine the lifting method. Two lifting options are available:

For two-person lift, remove the following components beforehand:

- All the power supply units
- All the storage drives
- Top cover

Otherwise, lift the server with three people or a lifting device.

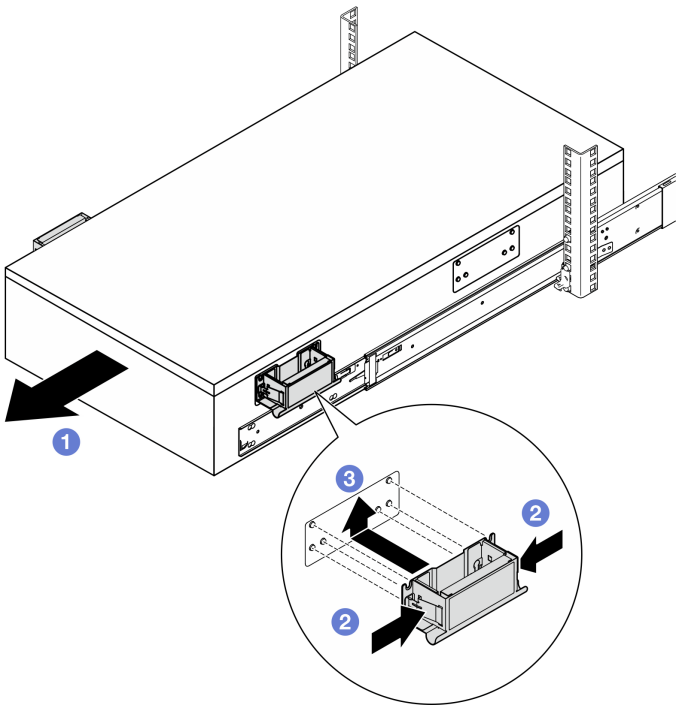


CAUTION:
Make sure to lift the server by holding the lift points.

1 Lift point

Step 2. Remove the server along with the inner rails from rack

a. Install the front lift handle.



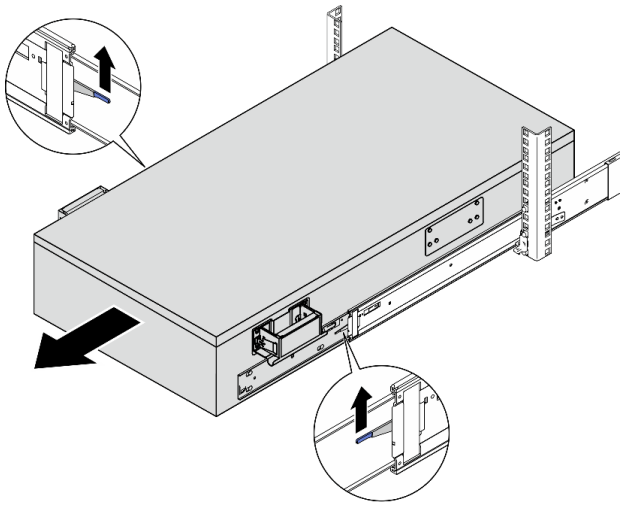
1 Slide the server out until it stops.

2 Pinch both flaps on the side of the handles.

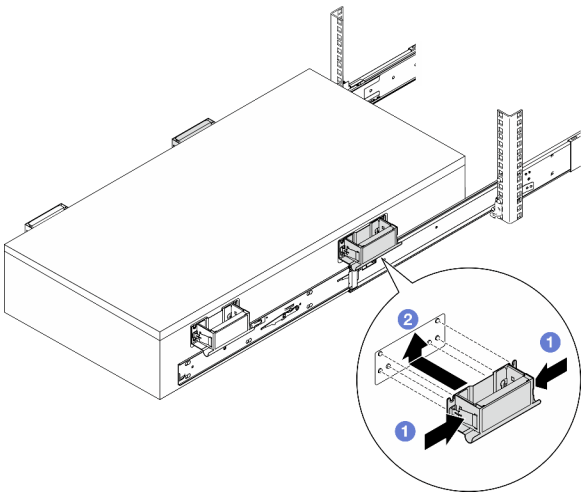
3 Align the handles with the 6 posts on the sides of the server; then slide the handles up to secure them to the chassis.

CAUTION:
Make sure to install both front lift handles first before proceeding sliding out.

b. Lift the first lock latches up to proceed sliding out.



c. Attach the rear handles.

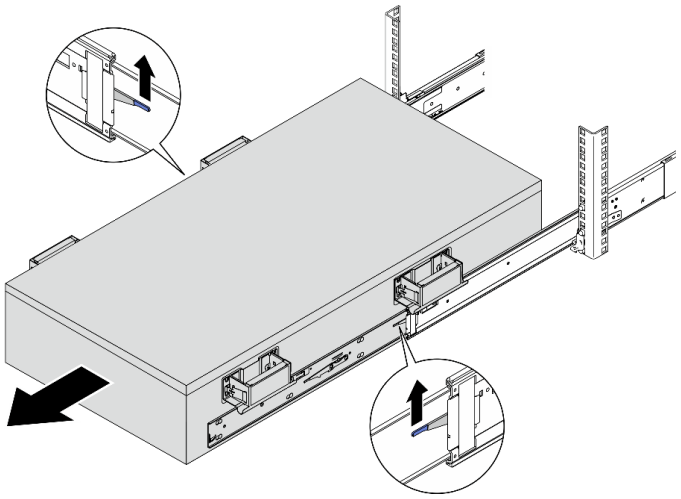


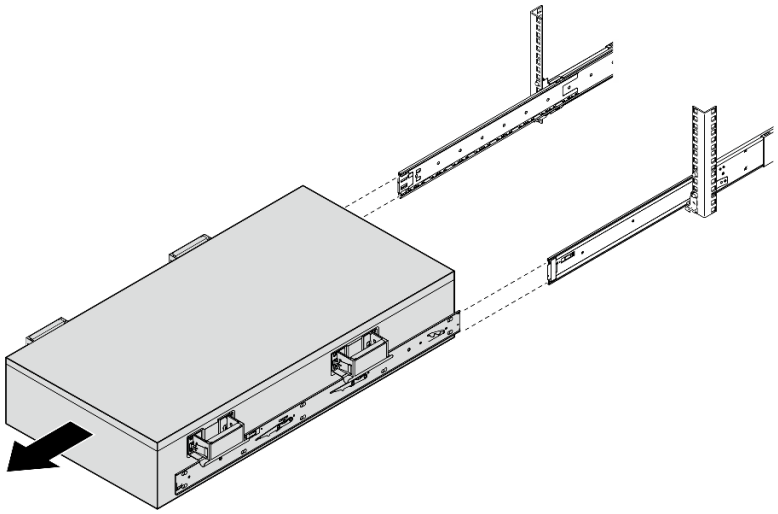
1 Pinch both flaps on the side of the handles.

2 Align the handles with the 6 posts on the sides of the server; then slide the handles up to secure them to the chassis.

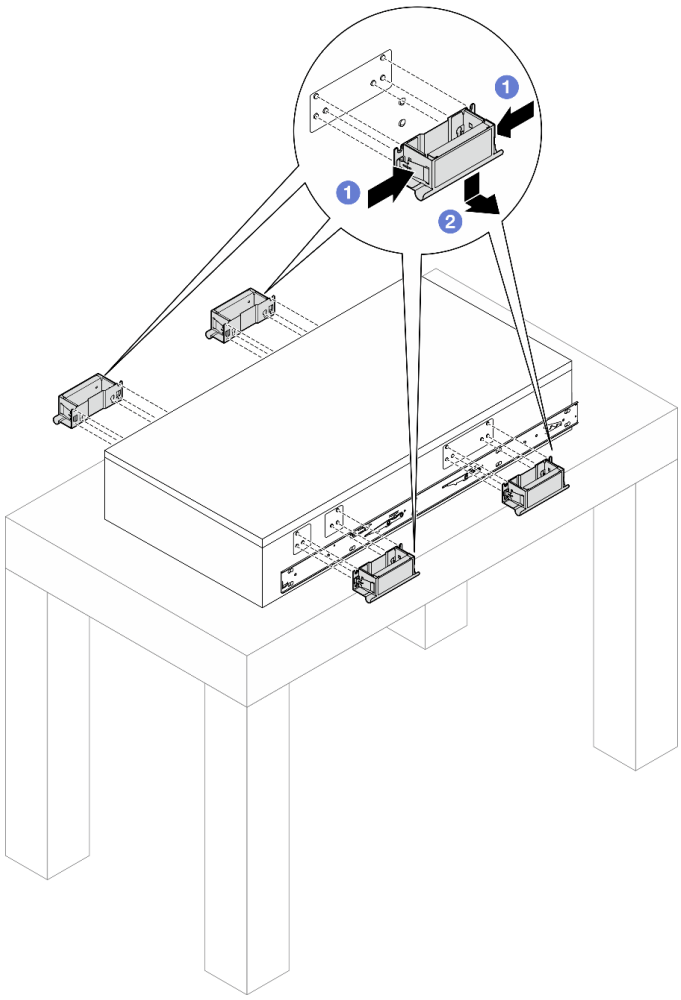
CAUTION:
Make sure to install both rear lift handles first before proceeding sliding out.

d. Lift the second lock latches up and remove the server completely from the rack; then place it on a table.





Step 3. Remove the lift handles.

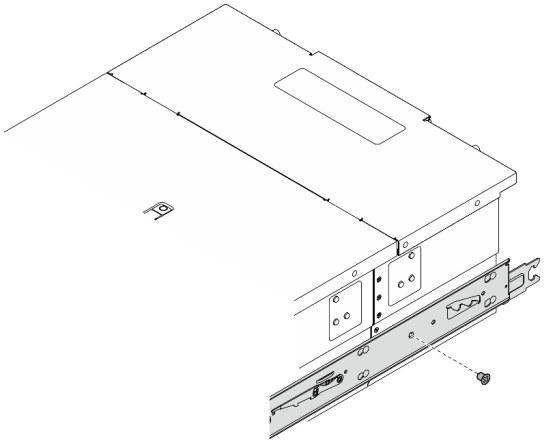


1 Pinch both flaps on the side of the handles.

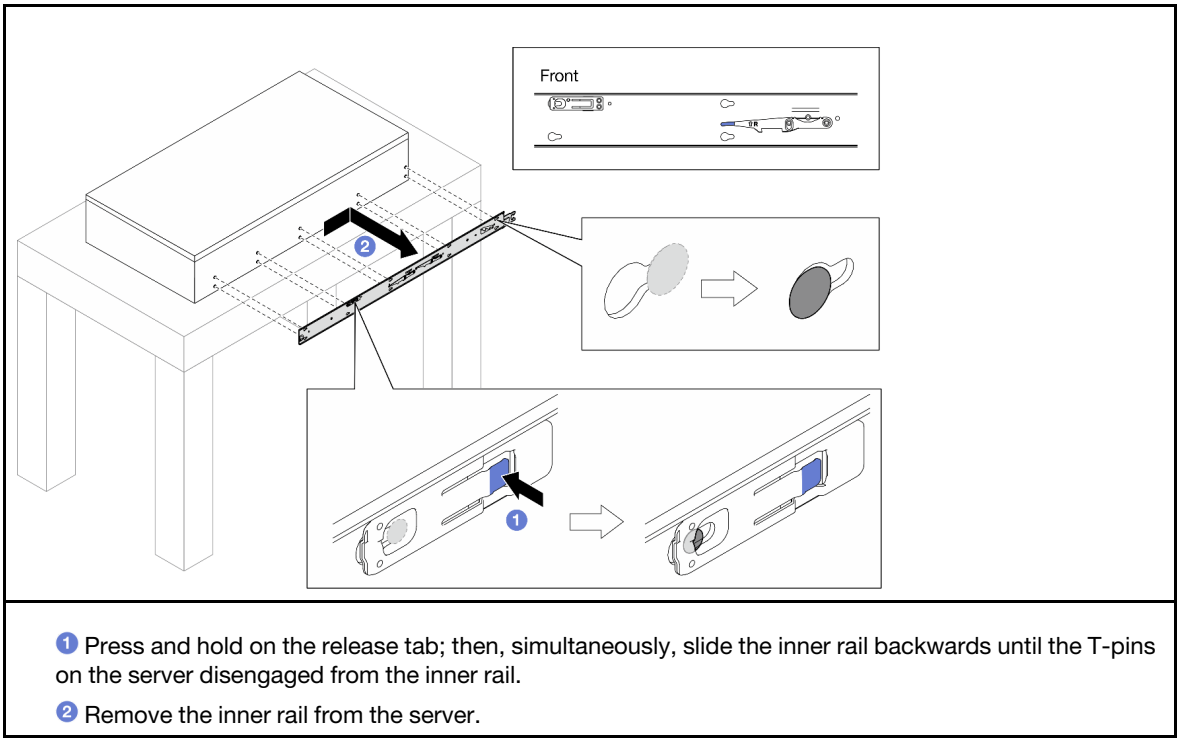
2 Align the handles with the 6 posts on the sides of the server; then, slide the handles down to remove them.

Note: Make sure to remove all 4 lift handles.

Step 4. Loosen and remove an M4 screw in the corresponding hole on both inner rails as shown.



Step 5. Remove the inner rail from the server.



1 Press and hold on the release tab; then, simultaneously, slide the inner rail backwards until the T-pins on the server disengaged from the inner rail.

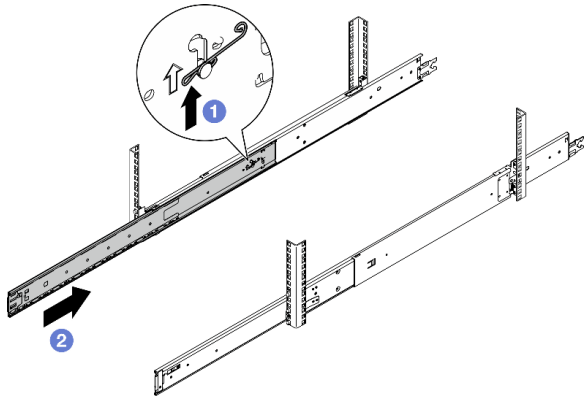
2 Remove the inner rail from the server.

Step 6. Repeat the previous two steps on the other rail.

Remove the rails from the rack

Before removing the rail from the rack, there are two options to retract the rails into fully retracted state.

Option 1

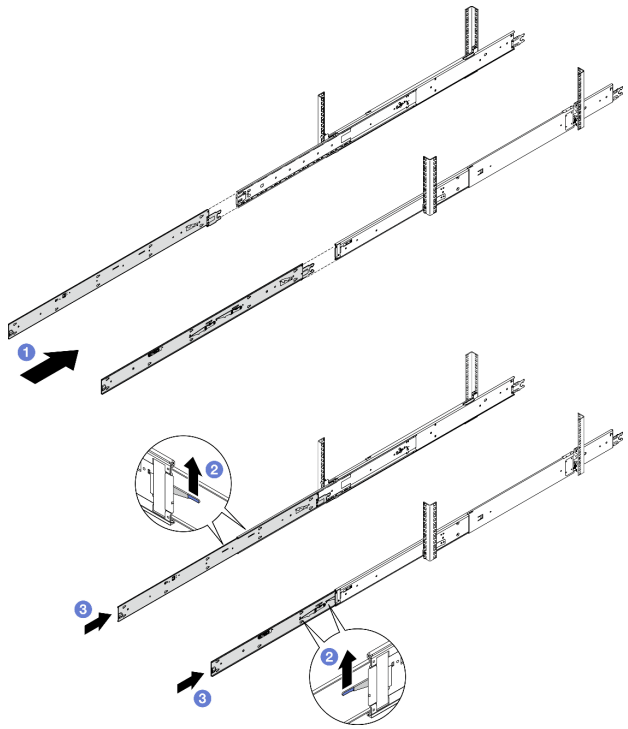


1 Lift the release spring.

2 Retract the intermediate rail to fully retracted state.

3 Repeat the previous steps to the other rail.

Option 2

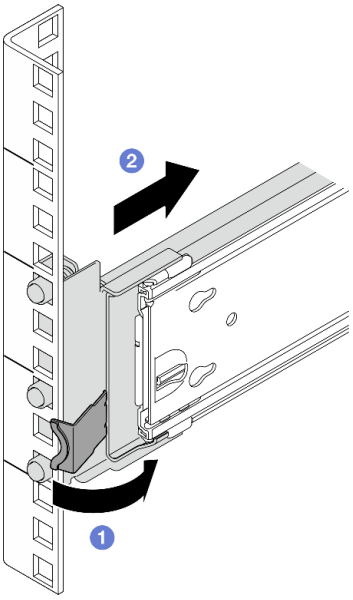


1. Insert the inner rail into the intermediate rail until it stops.
2. Lift the lock latches up.

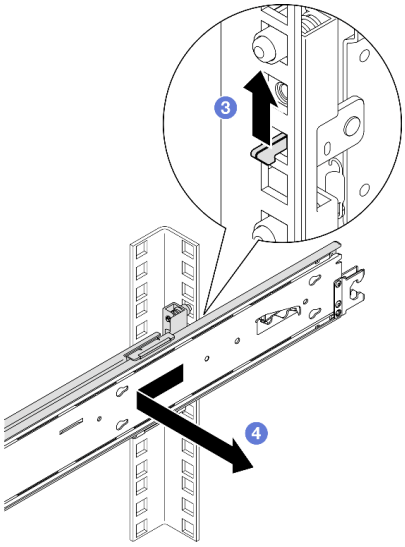
Attention: There are two pairs of lock latches on the rails. Lift the second pair up again.

3. Push the inner rail in to fully retracted state.
4. Repeat the previous steps to the other rail.

Front



Rear



1. Rotate and hold the latch on the front end.
2. Push the rail forward and remove the rail from the front mounting flanges.
3. Pull the hook latch up to disengage the rear end of the rail.
4. Remove the rail from the rear mounting flanges.

First Edition (September 2023)

© Copyright Lenovo 2023.

LIMITED AND RESTRICTED RIGHTS NOTICE: If data or software is delivered pursuant to a General Services Administration (GSA) contract, use, reproduction, or disclosure is subject to restrictions set forth in Contract No. GS-35F-05925.

Printed in China
(1P) P/N: 1PSP47B45777