

Instructions



020-2197-00

TLA 711 Benchtop Mainframe Rackmount Installation

070-9839-00

Warning

The servicing instructions are for use by qualified personnel only. To avoid personal injury, do not perform any servicing unless you are qualified to do so. Refer to all safety summaries prior to performing service.

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General Safety Summary

Review the following safety precautions to avoid injury and prevent damage to this product or any products connected to it. To avoid potential hazards, use this product only as specified.

Only qualified personnel should perform service procedures.

While using this product, you may need to access other parts of the instrument. Read the *General Safety Summary* in other related instrument manuals for warnings and cautions related to operating the instrument.

To Avoid Fire or Personal Injury

Use Proper Power Cord. Use only the power cord specified for this product and certified for the country of use.

Connect and Disconnect Properly. Do not connect or disconnect probes or test leads while they are connected to a voltage source.

Ground the Product. This product is grounded through the grounding conductor of the power cord. To avoid electric shock, the grounding conductor must be connected to earth ground. Before making connections to the input or output terminals of the product, ensure that the product is properly grounded.

Observe All Terminal Ratings. To avoid fire or shock hazard, observe all ratings and marking on the product. Consult the product manual for further ratings information before making connections to the product.

The common terminal is at ground potential. Do not connect the common terminal to elevated voltages.

Do not apply a potential to any terminal, including the common terminal, that exceeds the maximum rating of that terminal.

Do Not Operate Without Covers. Do not operate this product with covers or panels removed.

Use Proper Fuse. Use only the fuse type and rating specified for this product.

Avoid Exposed Circuitry. Do not touch exposed connections and components when power is present.

Do Not Operate With Suspected Failures. If you suspect there is damage to this product, have it inspected by qualified service personnel.

Do Not Operate in Wet/Damp Conditions.

Do Not Operate in an Explosive Atmosphere.

Keep Product Surfaces Clean and Dry.

Provide Proper Ventilation. Refer to the manual's installation instructions for details on installing the product so it has proper ventilation.

Symbols and Terms

Terms in this Manual. These terms may appear in this manual:



WARNING. Warning statements identify conditions or practices that could result in injury or loss of life.



CAUTION. Caution statements identify conditions or practices that could result in damage to this product or other property.

Terms on the Product. These terms may appear on the product:

DANGER indicates an injury hazard immediately accessible as you read the marking.

WARNING indicates an injury hazard not immediately accessible as you read the marking.

CAUTION indicates a hazard to property including the product.

Symbols on the Product. The following symbols may appear on the product:



WARNING
High Voltage



Protective Ground
(Earth) Terminal



CAUTION
Refer to Manual



Double
Insulated

Service Safety Summary

Only qualified personnel should perform service procedures. Read this *Service Safety Summary* and the *General Safety Summary* before performing any service procedures.

Do Not Service Alone. Do not perform internal service or adjustments of this product unless another person capable of rendering first aid and resuscitation is present.

Disconnect Power. To avoid electric shock, disconnect the main power by means of the power cord or, if provided, the power switch.

Use Care When Servicing With Power On. Dangerous voltages or currents may exist in this product. Disconnect power, remove battery (if applicable), and disconnect test leads before removing protective panels, soldering, or replacing components.

To avoid electric shock, do not touch exposed connections.

Installation Instructions

These instructions provide information for installing the 020–2197–XX TLA 711 Benchtop Mainframe Rackmount kit.

You can install the rackmount to either recess the mainframe into the front of the mainframe rack or to extend it out of the front of the mainframe rack. You can recess the mainframe from 0.735 inches to 5.735 inches in 0.5-inch increments. You can extend the mainframe at specified depths from 0.57 inches to 5.57 inches in 0.5-inch increments.

The steps for installing the rackmount kits consist of installing the rackmount hardware to the mainframe and then installing the mainframe in the rack.

A list of the kit contents and replaceable parts appears at the end of this document.

You will need the following tools to install the rackmount option:

- T-15 Torx screw driver
- T-20 Torx screw driver
- #2 Phillips screw driver



WARNING. *Because of the size and weight of the mainframe, use care when lifting or moving the benchtop mainframe to avoid personal injury while performing the installation procedures. Use two people to lift or move the mainframe.*

Install the Rackmount Kit Hardware

Refer to Figure 1 on page 2 and perform the following steps to install the rackmount kit hardware:

1. Remove the rubber feet from the mainframe.
2. Determine whether you want to install the benchtop mainframe so that it extends out of the rack or is recessed within the rack.

If you want to extend the mainframe from the front of the rack, position the rackmount bracket as shown on the right side of Figure 1. If you want to recess the mainframe in the rack, position the rackmount bracket as shown on the left side of Figure 1.

3. Determine how far you want to recess or extend the mainframe and install the rackmount adapter as shown using two 8-32 screws (included with the kit). Similarly, install the other bracket on the other side of the mainframe.

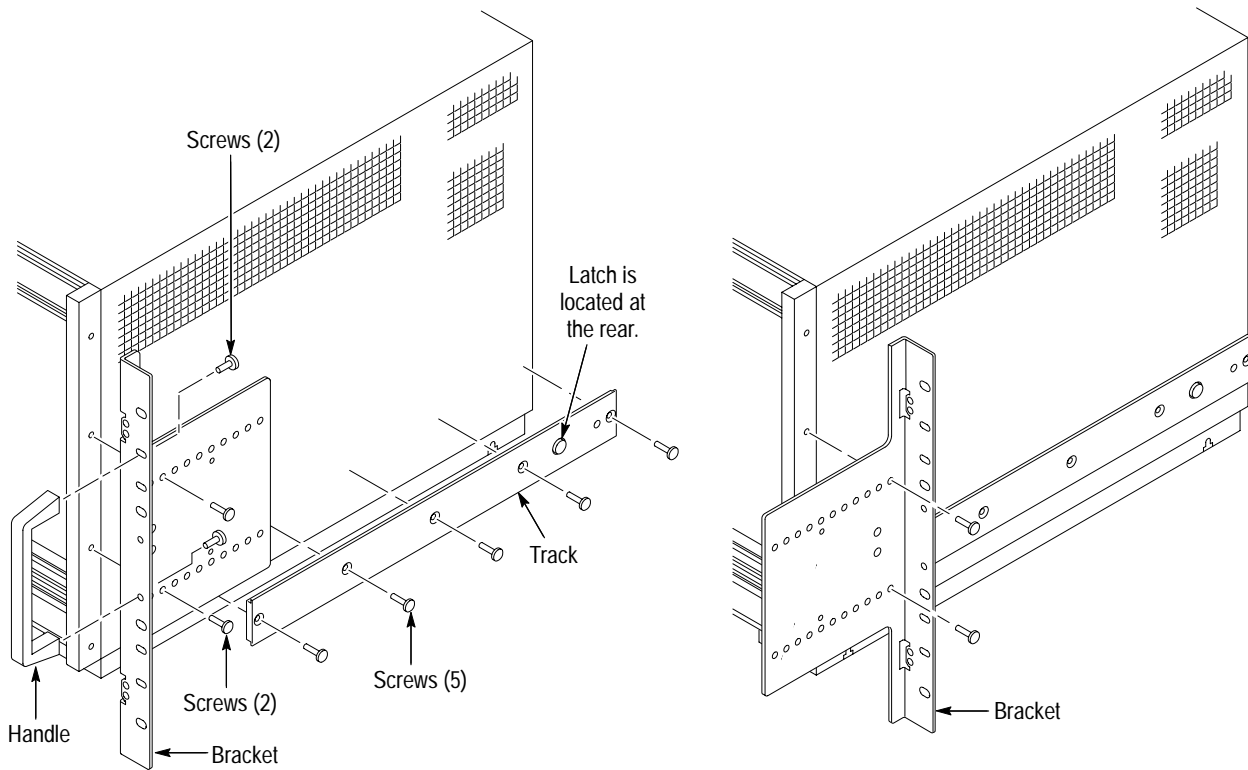


Figure 1: Installing the rackmount kit hardware

4. Remove the five 8-32 screws from both sides of the mainframe.
5. Attach the left and right inside tracks to the sides of the mainframe using five 8-32 flathead screws. Orient the button latch so that it faces away from the mainframe and toward the rear.

Install the Mainframe in the Rack

Use the following procedure to install the benchtop mainframe in the rack:

1. Identify the right and left slide-out track assemblies: find the date code label on each assembly. The assembly to be mounted in the left side of the rack (the side nearest the left side of the mainframe when it is mounted in the rack) has a date code that ends with LH (for left hand). The right assembly has a date code ending with RH.
2. Measure the distance between the front and rear rail of the rack.
3. Align the rear bracket to the right slide-out track as shown in Figure 2. Note that the rear bracket has two pairs of mount-through holes. When aligning the bracket and the track, select a pair of holes that mount the rear bracket so the flange-to-flange distance (see Figure 2) matches the front rail to rear rail spacing that you just measured in step 2.

NOTE. *If necessary, refer to the rackmount kit instructions for detailed installation information.*

4. Attach the rear bracket to the right slide-out track using two 10-32 screws and a bar nut as shown in Figure 2. Leave the screws loose so that you can adjust the overall length of the slide-out track assembly when installing the mainframe in the rack.
5. Repeat steps 3 and 4 to assemble the left slide-out track assembly.

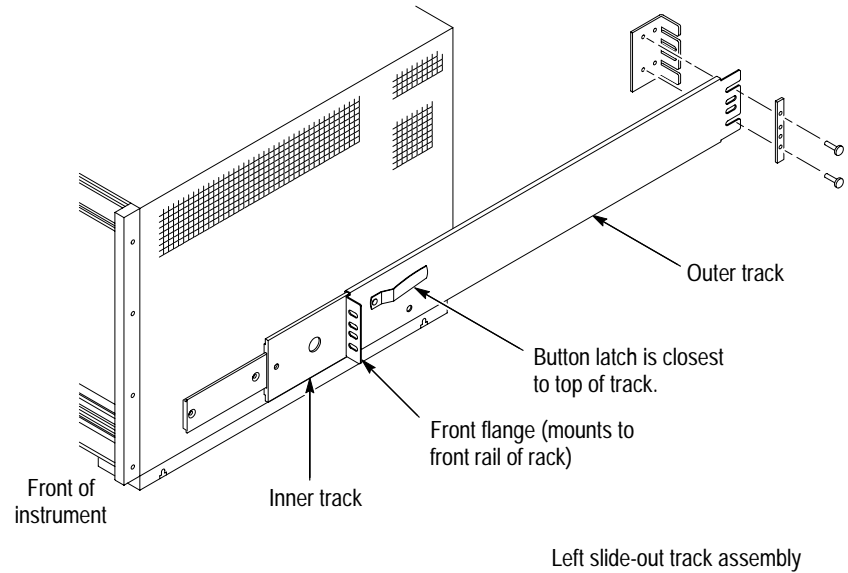


Figure 2: Assembling the slide-out track assemblies

6. Select the mounting position in the rack: select two 0.5-inch spaced holes in the front rail and verify that the 1.5-inch and 14.00-inch clearances exist relative to the mounting holes as shown in Figure 3.

NOTE. The 14-inch vertical clearance is only valid for the mainframe without the rubber feet and cable tray.

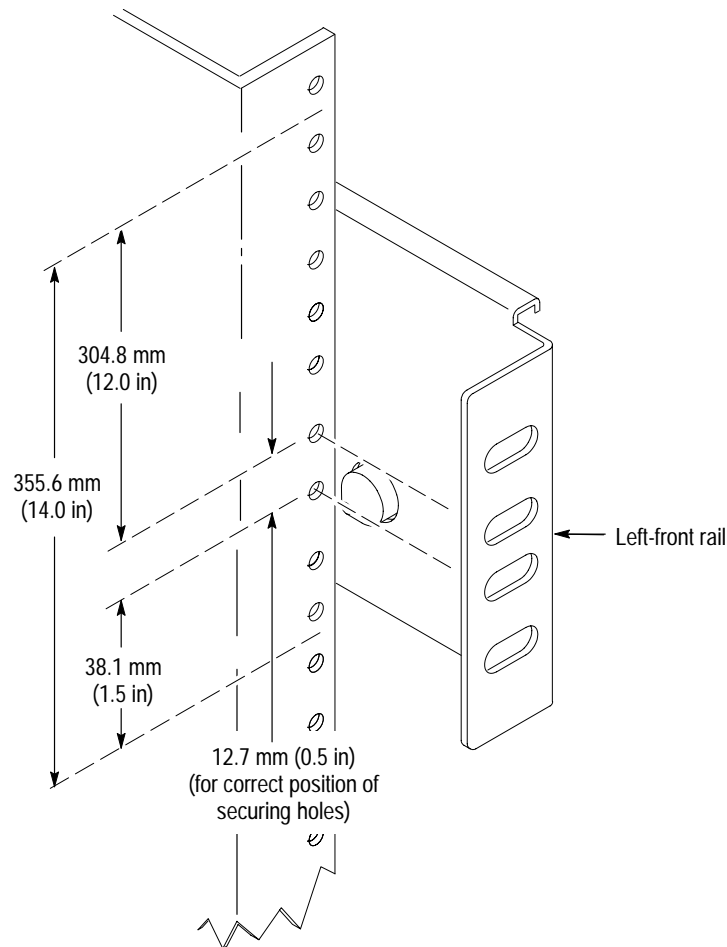


Figure 3: Vertical clearance for rack installation (standard mainframe)

7. Select the mounting method according to the rack type.

To mount the slide-out tracks with the front and rear flanges outside of the front and rear rails, use method A shown in Figure 4 when doing step 8. Add a bar nut to the installation only if the rails have untapped holes.

To mount with front and rear flanges inside of the rails, use mounting method B shown in Figure 4 when doing step 8. This mounting method assumes untapped holes.

8. Using the mounting method determined from the previous step, secure the right slide-out track assembly to the front and rear rails. Seat the screws fully, but lightly, to adjust the mounting later.
9. Tighten the screws left loose in step 4 to fix the front to rear flange spacing of the slide-out track assembly.

10. Repeat steps 6 through 9 to mount the left slide-out track assembly.

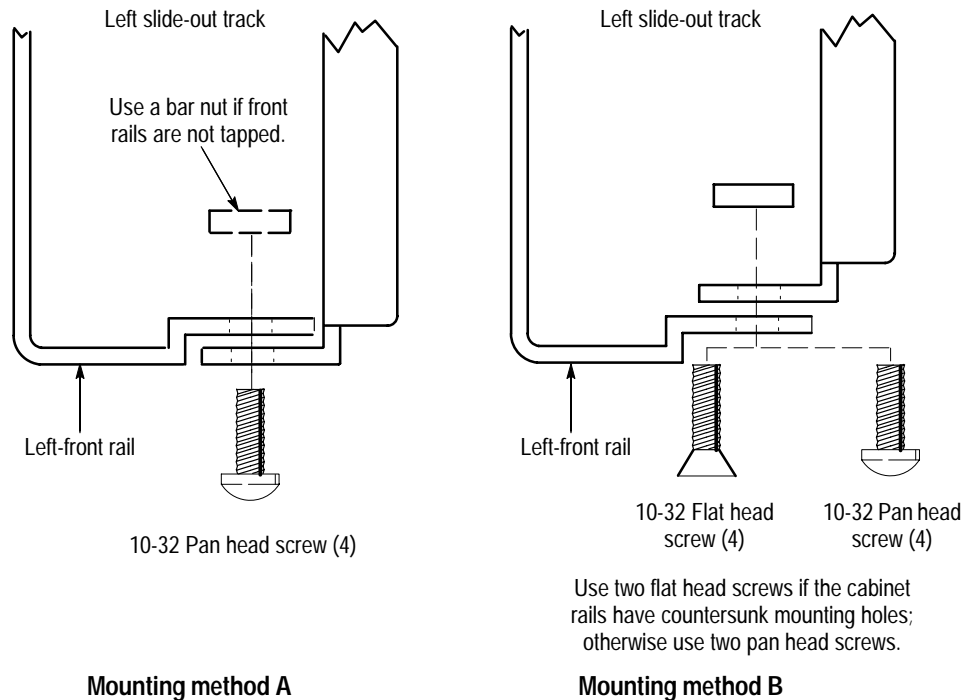


Figure 4: Installing the slide-out track assemblies in the rack (top view)



WARNING. Installing the benchtop mainframe in the rack requires at least two people. Because of the size and weight of the mainframe, installing the mainframe alone can result in personal injury or equipment damage. One person should be on the left side of the mainframe with one hand holding the left front handle and with the other hand underneath the mainframe. The other person should do likewise on the right side of the mainframe.

11. Fully extend the inner tracks of each slide-out section out of the front of the rack until they lock.
12. Lift the mainframe and insert the left and right tracks that extend from the rear of the mainframe into the ends of the tracks that you just extended. Make sure that the tracks mounted on the mainframe slip just inside the inner tracks that you extended earlier.
13. Slide the mainframe back until it stops.
14. Push to release the button latches, located on the outside of each track, and continue to slide the mainframe all the way back into the rack cabinet.

- 15.** Tighten the four screws that you left loose at the rear of the rack when you performed step 8 and pull the mainframe part way out of the rack. (Tighten the 10-32 screws using 28 inch-lbs of torque.)
- 16.** Be sure that the screws that you left loose at the front of the rack are loose enough to allow the slide-out track assemblies to seek the normal positions.
- 17.** Tighten the screws and push the mainframe all the way into the rack. If the tracks do not slide smoothly, readjust the level using the method described in steps 15 and 16. (Tighten the 10-32 screws using 28 inch-lbs of torque.)
- 18.** Install the proper power cord at the rear of the mainframe.

Replaceable Parts

This section contains a list of the replaceable parts for the 020–2197–XX TLA 711 Benchtop Mainframe Rackmount Kit. Use this list to identify and order replacement parts.

Parts Ordering Information

Replacement parts are available through your local Tektronix field office or representative.

Changes to Tektronix products are sometimes made to accommodate improved components as they become available and to give you the benefit of the latest improvements. Therefore, when ordering parts, it is important to include the following information in your order:

- Part number
- Instrument type or model number
- Instrument serial number
- Instrument modification number, if applicable

If you order a part that has been replaced with a different or improved part, your local Tektronix field office or representative will contact you concerning any change in part number.

Change information, if any, is located at the rear of this manual.

Using the Replaceable Parts List

This section contains a list of the mechanical and/or electrical components that are replaceable for the 020–2197–XX TLA 711 Benchtop Mainframe Rackmount Kit. Use this list to identify and order replacement parts. The following table describes each column in the parts list.

Parts list column descriptions

Column	Column name	Description
1	Figure & index number	Items in this section are referenced by figure and index numbers to the exploded view illustrations that follow.
2	Tektronix part number	Use this part number when ordering replacement parts from Tektronix.
3 and 4	Serial number	Column three indicates the serial number at which the part was first effective. Column four indicates the serial number at which the part was discontinued. No entries indicates the part is good for all serial numbers.
5	Qty	This indicates the quantity of parts used.
6	Name & description	An item name is separated from the description by a colon (:). Because of space limitations, an item name may sometimes appear as incomplete. Use the U.S. Federal Catalog handbook H6-1 for further item name identification.
7	Mfr. code	This indicates the code of the actual manufacturer of the part.
8	Mfr. part number	This indicates the actual manufacturer's or vendor's part number.

Abbreviations Abbreviations conform to American National Standard ANSI Y1.1–1972.

Mfr. Code to Manufacturer Cross Index The table titled Manufacturers Cross Index shows codes, names, and addresses of manufacturers or vendors of components listed in the parts list.

Manufacturers cross index

Mfr. code	Manufacturer	Address	City, state, zip code
06540	NEW HAVEN MFG CORPORATION	AMATOM ELECTRONIC HARDWARE DIV 446 BLAKE ST	NEW HAVEN, CT 06515-1238
06666	GENERAL DEVICES	PO BOX 39100	INDIANAPOLIS, IN 46239
0J9P4	DELTA ENGINEERING & MFG. CO.	19500 SW TETON	TUALATIN, OR 97062
0KB01	STAUFFER SUPPLY CO	810 SE SHERMAN	PORTLAND, OR 97214-4657
80009	TEKTRONIX INC	14150 SW KARL BRAUN DR PO BOX 500	BEAVERTON, OR 97077-0001

Replaceable Parts

Replaceable parts list

Fig. & index number	Tektronix part number	Serial no. effective	Serial no. discont'd	Qty	Name & description	Mfr. code	Mfr. part number
5-0	020-2197-00			1	COMPONENT KIT:RACKMOUNT KIT, SILVER GRAY, TLA711	80009	020-2197-00
-1	950-0991-00			2	47017-73000:HANDLE ALUMINUM BLK	06540	950-0991-00
-2	212-0157-00			14	SCREW,MACHINE:8-32 X 0.5,FLH,100 DEG,STL CD PL,TORX	0KB01	ORDER BY DESCRIPTION
-3	407-4481-00			2	BRACKET:RACKMOUNT BRACKET,0.125 CRS,1010.1018 ALLOY,EG COATED,SILVER GRAY,TLA711	0J9P4	OBD
-4	212-0671-00			4	SCREW,MACHINE:10-32 X 0.625,FLH,100 DEG, STL,CD PL,TORX	0KB01	ORDER BY DESCRIPTION
-5	351-0800-00			1	GUIDE,SLIDE:CHASSIS TRACK,SAFETY CONTROLLED	06666	CTS-124
-	070-9839-00			1	MANUAL TECH: INSTRUCTIONS, TLA 711 BENCHTOP MAINFRAME RACKMOUNT INSTALLATION, DP	80009	070-9839-00

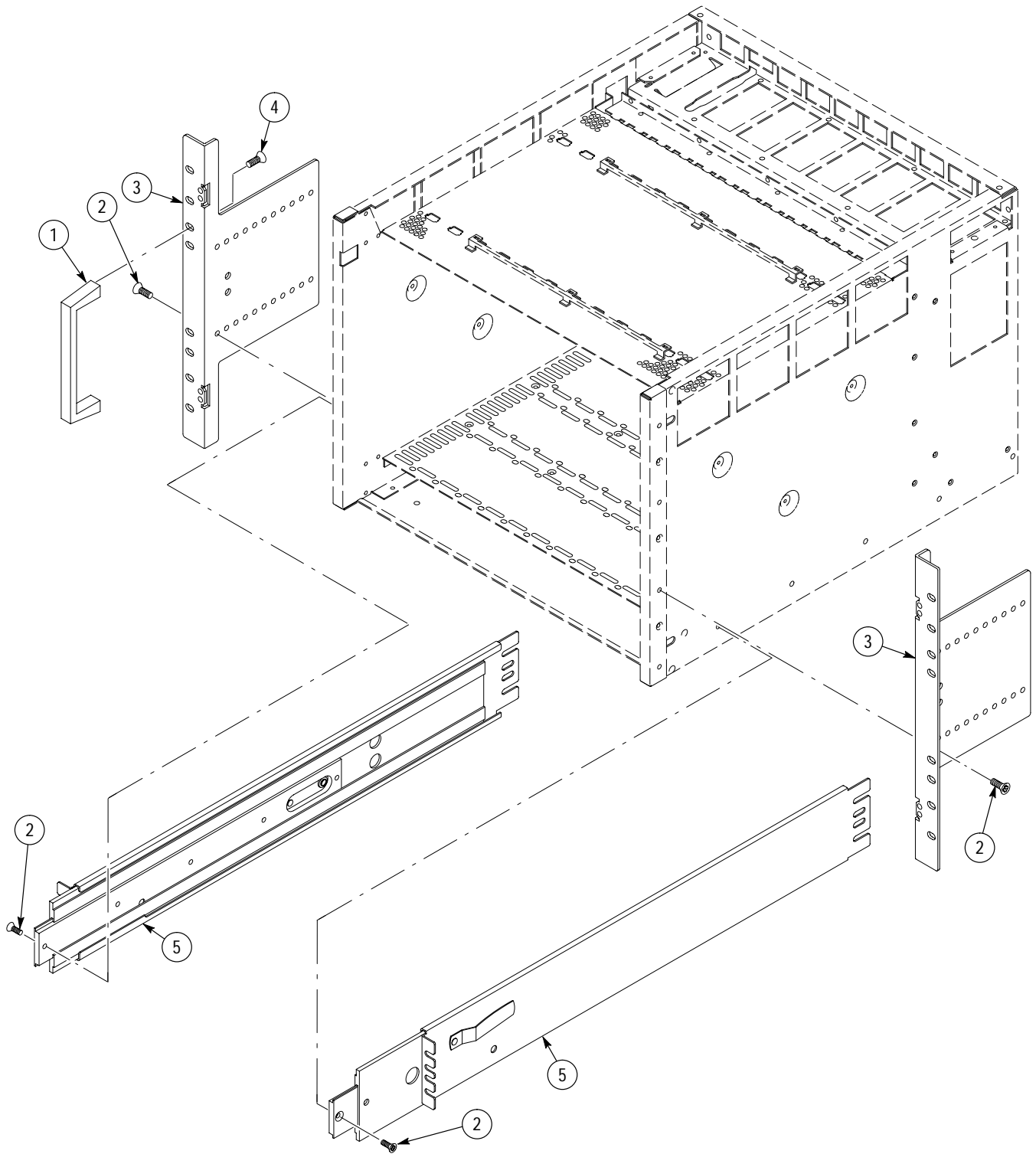


Figure 5: Rackmount assembly