

# Design Based Anchoring 2009 FORD F-150

## USERS MANUAL

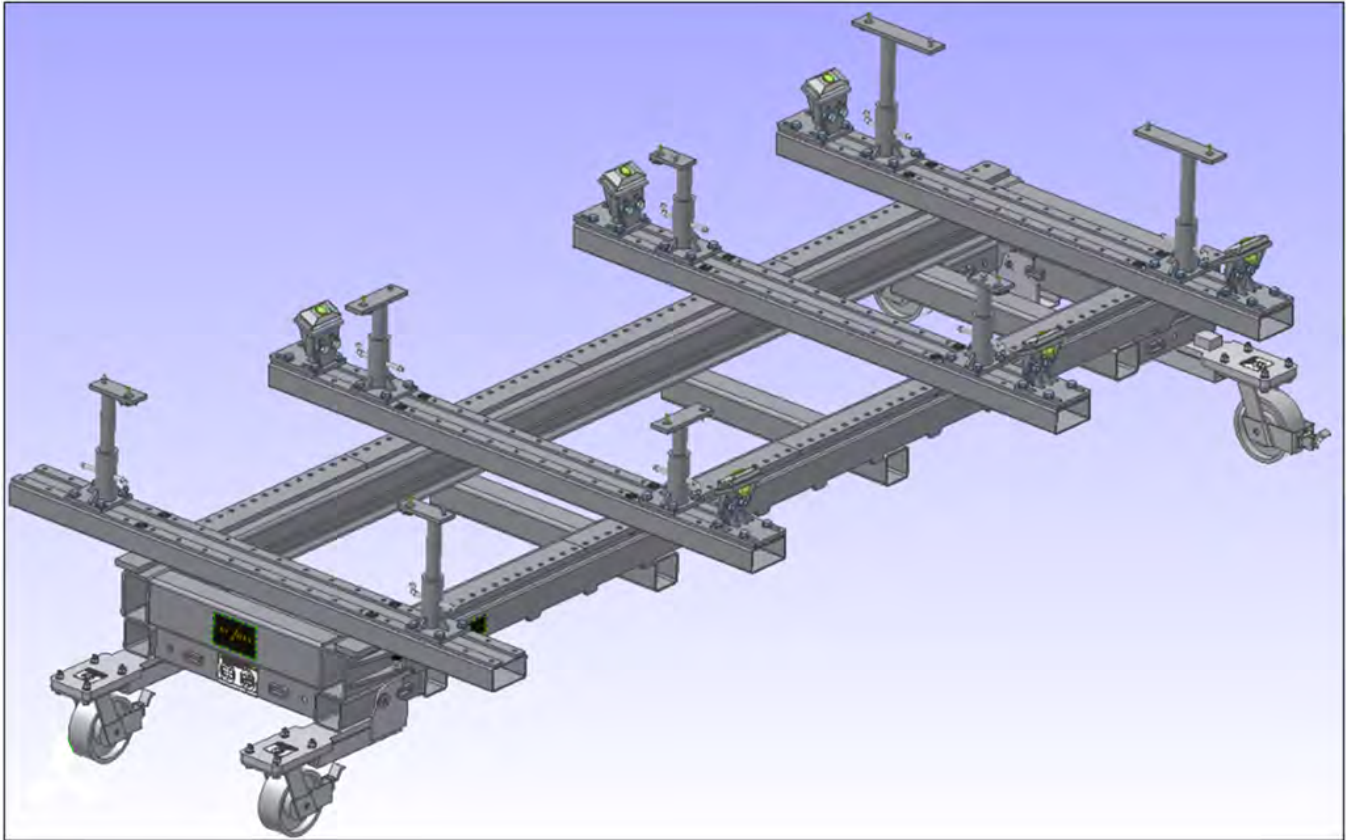




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The Ford F150 anchoring has been designed specifically for holding the cab of the 2009 Ford F150 during repair. They have been developed with input from Ford Motor Company and are part of Chief's Design Based Anchoring System. The anchors mount to the Chief Shop-Hopper which is part of Chief's Design Based Repair System.

This manual provides the operator with general setup instructions, setup pages specific to each different cab configuration, parts information, and important safety information.

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**NOTE:** Illustrations shown in this manual may vary slightly from actual product

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This manual is not intended to replace Chief Automotive training. For information concerning training, contact your authorized Chief Automotive Technologies representative.

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**IMPORTANT:**

1. DO NOT attempt to use the Ford F150 anchoring without first reading this entire manual.
2. Complete safety information is highlighted throughout this manual and is identified by: 
3. This safety alert symbol identifies safety information. Operator injury could result if these CAUTION notes are not followed.
4. Refer to the Fuzion User's Manual for information on the proper use of the Chief Shop-Hopper.

## Anchoring System Setup

**NOTE:** Refer to pages 5 through 7 of this manual for specific parts information. Refer to pages 8 through 13 of this manual for specific setup locations for the different 2009 Ford F150 cab configurations.

**CAUTION :** The anchoring system crossbars are heavy. To avoid personal injury, always use an assistant when lifting and or positioning the crossbars.

**CAUTION :** To avoid personal injury and/or property damage:

- Properly secure all bolts and pins before applying force.
- Do not use air tools to tighten bolts.

1. Position the crossbars on the Shop-Hopper per the setup page that pertains to the cab configuration being repaired. Bolt the crossbars to the Shop-Hopper as shown in Figure 1. Tighten the bolts.

2. Locate the locator base weldments on the crossbars per the setup page. Be sure that the base is turned properly so that the vertical tube is in the correct position with respect to the crossbar. Attach the locator base weldment to the crossbar with 4 bolts as shown in Figure 2. Do not tighten the bolts.

3. Drop the anchor tubes into the bases. Use the setup page to be sure that the correct tube is in the correct base. Pin the anchor tube to the base to be sure that both parts are oriented correctly per the setup page. See Figure 3.

4. Roll the Shop-Hopper with anchors underneath the cab which is supported by a two-post lift.

**CAUTION :** To avoid personal injury and/or property damage:

- Always use an assistant when moving the Shop-Hopper.
- Refer to the Fuzion User's Manual for additional information on the proper and safe use of the Shop-Hopper.

Line up the anchors with the cab mount holes.



Figure 1



Figure 2

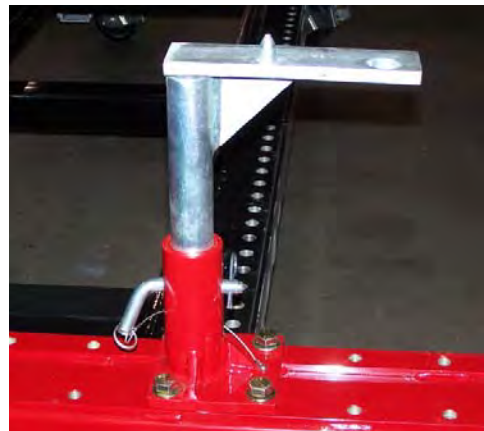


Figure 3

5. Lower the cab using the two-post lift to within 3 inches of the anchors. Unpin the anchor tubes and raise them up to the cab. Attach the anchor tubes to the cab using the 12 mm bolts and washers provided with the system. See Figure 4. Do not tighten the bolts.

6. Lower the cab using the two-post lift until the anchor tubes can be pinned to the bases. Install the pins and secure them with cotter pins. The cab should now be supported by the anchoring system. Tighten the bolts that secure the locator bases to the crossbars. Tighten the bolts that secure the anchor tubes to the cab.

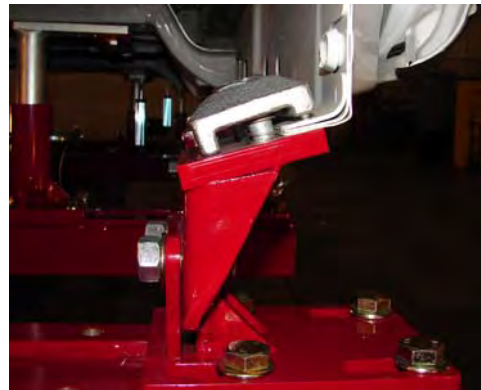
7. If the cab repair does not require any pulling or straightening, the anchor setup is complete. If pulling may be required, proceed to step 8 for installation of the pinchweld clamps.

8. Position the pinchweld clamp base assemblies approximately as shown on the setup page. With the clamp bolt and vertical adjustment bolts loose, slide the assembly from the inside out until the clamp can attach to the angled pinchweld on the cab. See Figure 5. Tighten the bolt securing the clamp to the pinchweld on the cab first. Then install and tighten the bolts that hold the base of the assembly to the crossbar. Finally, tighten the vertical adjustment bolts.

Setup of the anchoring system is complete.



**Figure 4**



**Figure 5**



### Scanner Standoffs

To assist with using Chief's Velocity Measuring System, scanner standoffs have been included in the anchoring system package. The standoffs raise the Velocity laser scanner to the appropriate height for measuring with the anchoring system. The standoffs drop into the threaded holes in the Shop-Hopper as shown in Figure 6. The scanner tray is then placed across the standoffs and the scanner placed in the tray as shown in Figure 7.

### Measuring with the Anchoring System

Each anchoring tube in the package has a hole for mounting a Velocity target. The hole corresponds to the locating pin on the top of the anchoring tube assembly. A 12 mm magnetic hole attachment fits in the hole. Extra 12 mm attachments are included with the package.

The magnetic hole attachment is placed in the hole. The appropriate target is then hung from the attachment. See Figure 8.

### Clamp Adapter

Crossbar clamps are used when making pulls while the Shop-Hopper is docked with the Fuzion. The clamps are part of the Fuzion package.

Clamp adapters are provided with the anchoring package. These adapters allow use of the crossbar clamps when the anchoring system is mounted on the Shop-Hopper. The adapters slide into the end of the anchoring crossbars. They provide the added length needed to work with the crossbar clamps. See Figure 9.



#### **CAUTION:**

- Always install the Crossbar Clamps when making pulls with the Shop-Hopper in the Fuzion deck.
- Refer to the Fuzion User's Manual for additional information on the proper and safe use of the Fuzion, Shop-Hopper, and Crossbar Clamp.

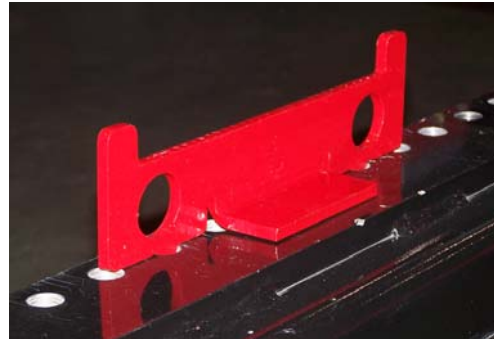


Figure 6



Figure 7

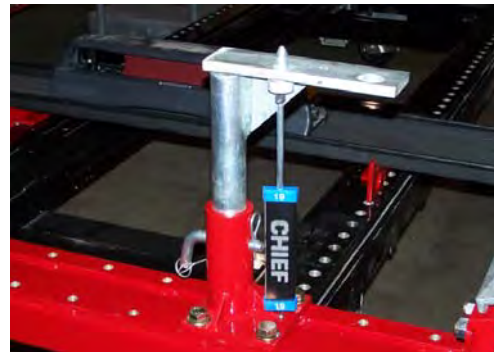
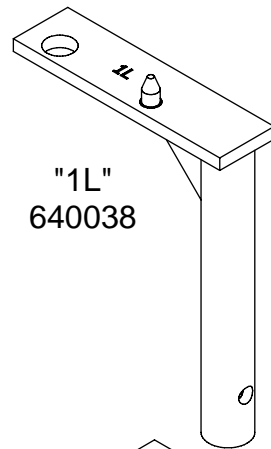


Figure 8

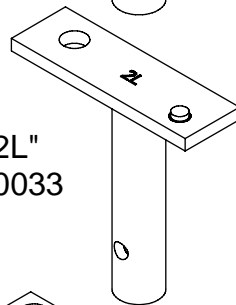


Figure 9

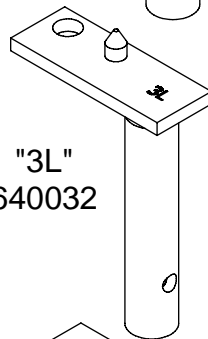
ANCHOR TUBES



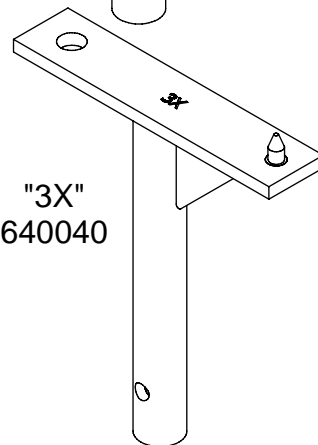
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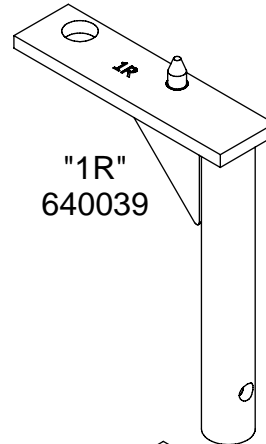
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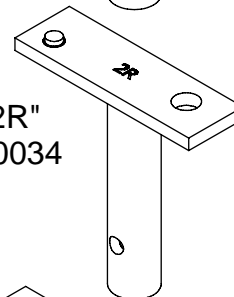
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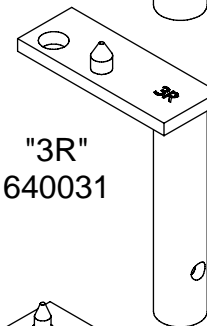
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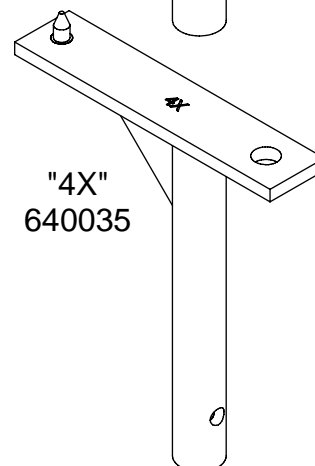
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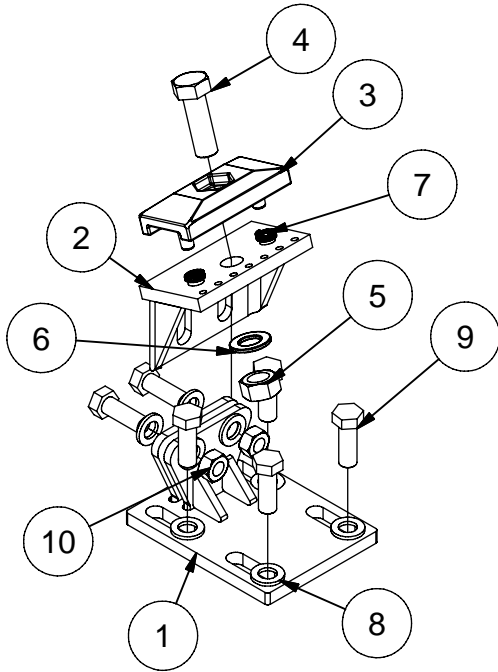
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"4X"  
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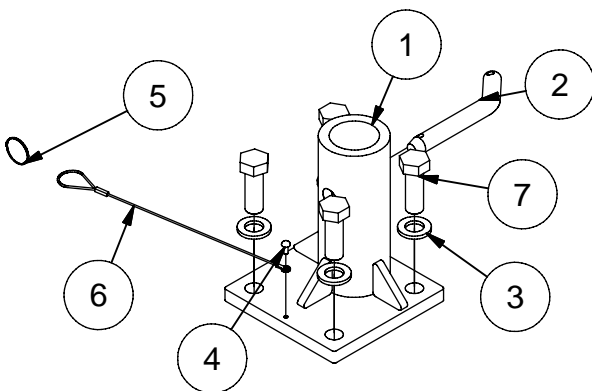


## PINCH WELD CLAMP



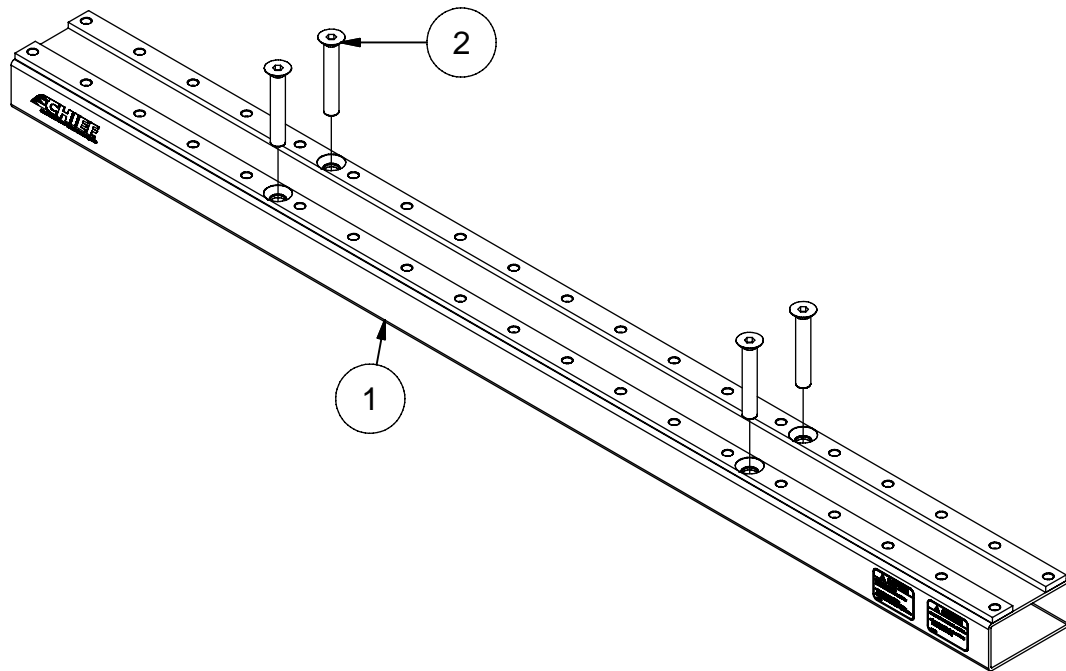
Parts List		
ITEM	P/N	DESCRIPTION
1	640025	BRACKET, ANCHOR CLAMP BASE
2	640020	CLAMP, FORD F150 WELDMENT
3	498110	PINCH JAW W/NAI LS COMPLETE
4	539006	Bolt, M20 x 2.5 x 60 Hex
5	539016	Nut, M20 x 2.5 Hex
6	601738	Washer, 3/4 Flat
7	092110	Spring, Compression, .720 x 1
8	601690	WASHER, FLAT, M16 NARROW
9	539017	M16 X 2.0 X 45MM HEX HEADBOLT
10	638123	Nut, Hex, M16 x 2.00

## ANCHOR TUBE BASE



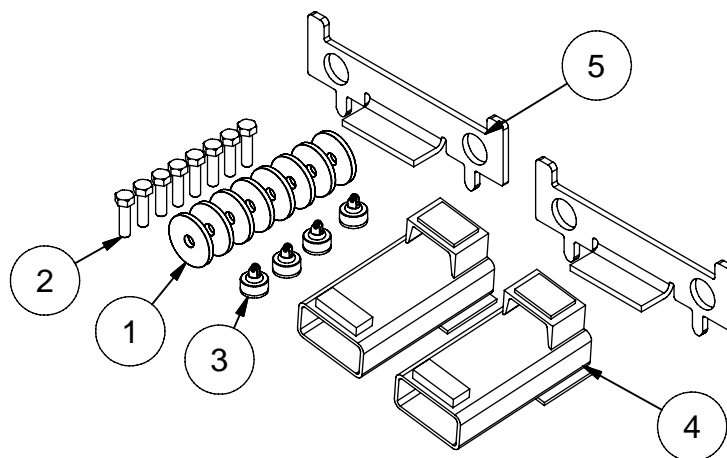
Parts List		
ITEM	P/N	DESCRIPTION
1	640005	BRACKET, FIXED LOCATOR BASE
2	640056	HEIGHT ADJUSTING PIN, DBA
3	601690	WASHER, FLAT, M16 NARROW
4	640062	#8 x 3/8 DRIVE SCREW
5	640058	SPLIT RING
6	640057	8" LANYARD
7	539017	M16 X 2.0 X 45MM HEX HEAD BOLT

## ANCHORING CROSSBAR



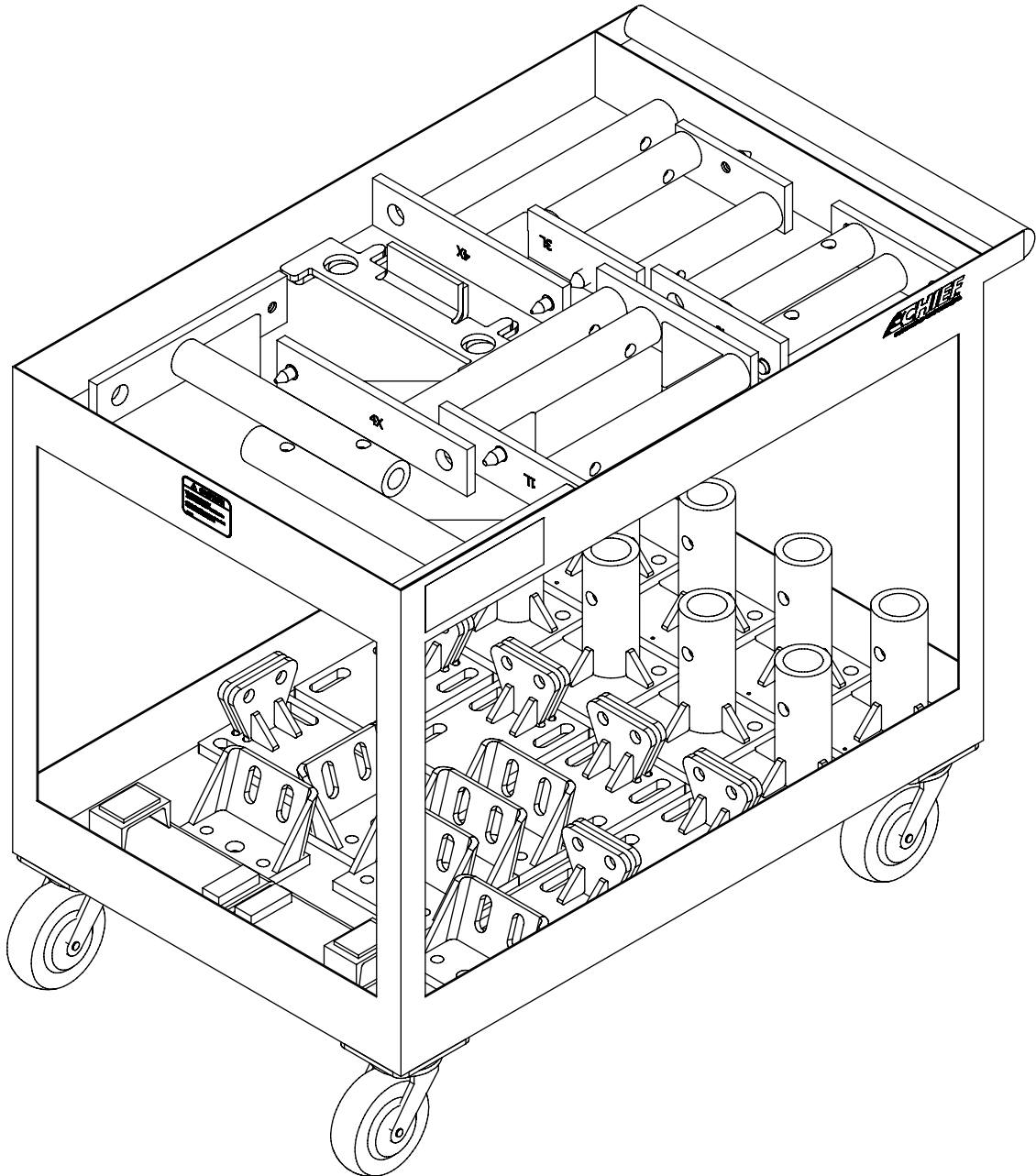
Parts List		
ITEM	P/N	DESCRIPTION
1	640010	ANCHOR CROSSBAR
2	640042	BOLT, M20 X 120 SOCKET FLAT HEAD SCREW

## OTHER PARTS

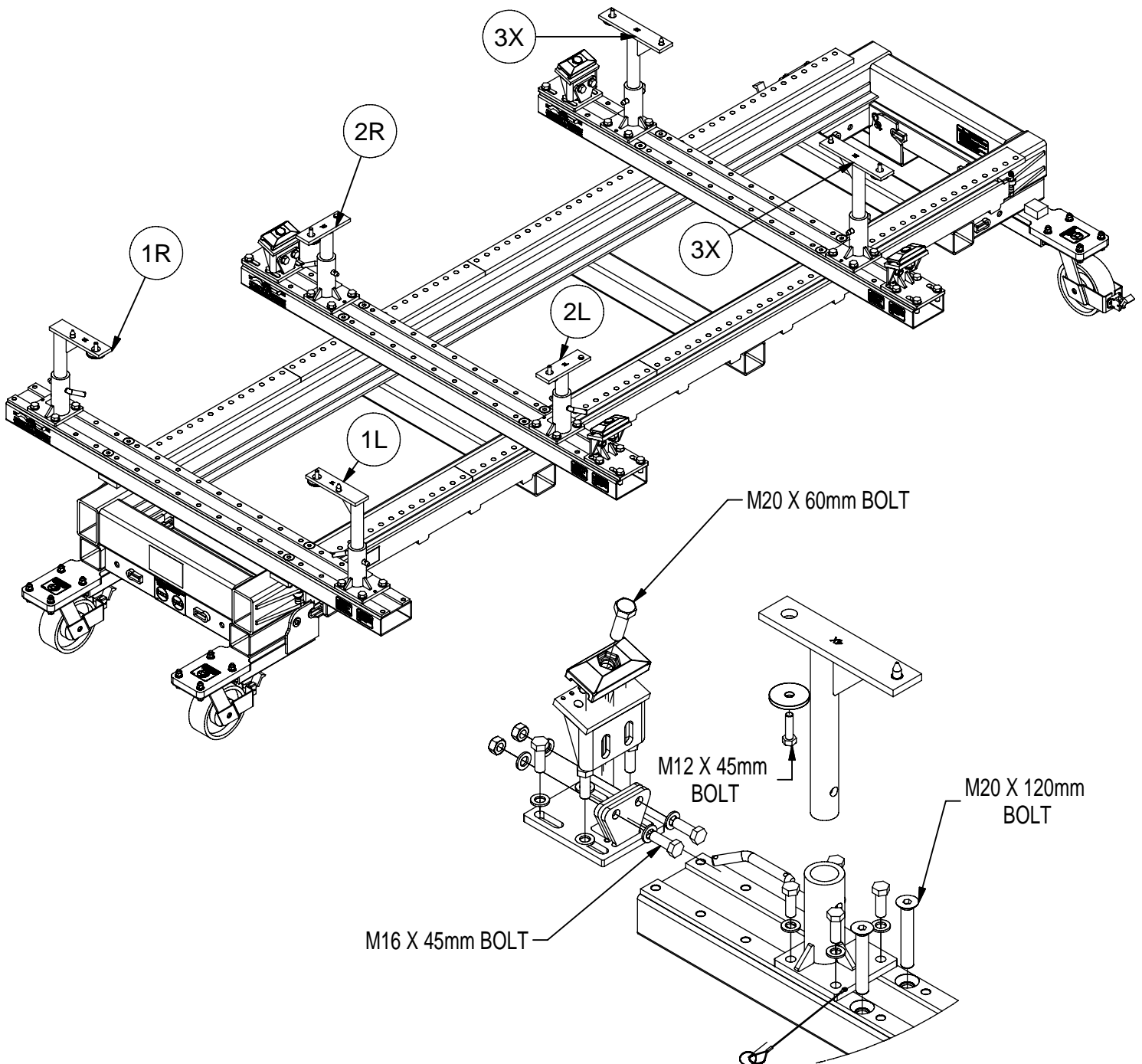


Parts List		
ITEM	P/N	DESCRIPTION
1	640043	WASHER, STRUCTURAL, .500"ID X 2.5"OD X .25"THK
2	539021	BOLT, M12 X 1.75 X 45mm
3	791982	12mm MAGNET HOLE ATTACHMENT
4	640055	CLAMP ADAPTER ASSEMBLY, CROSSBAR
5	640050	SCANNER TRAY STAND OFF

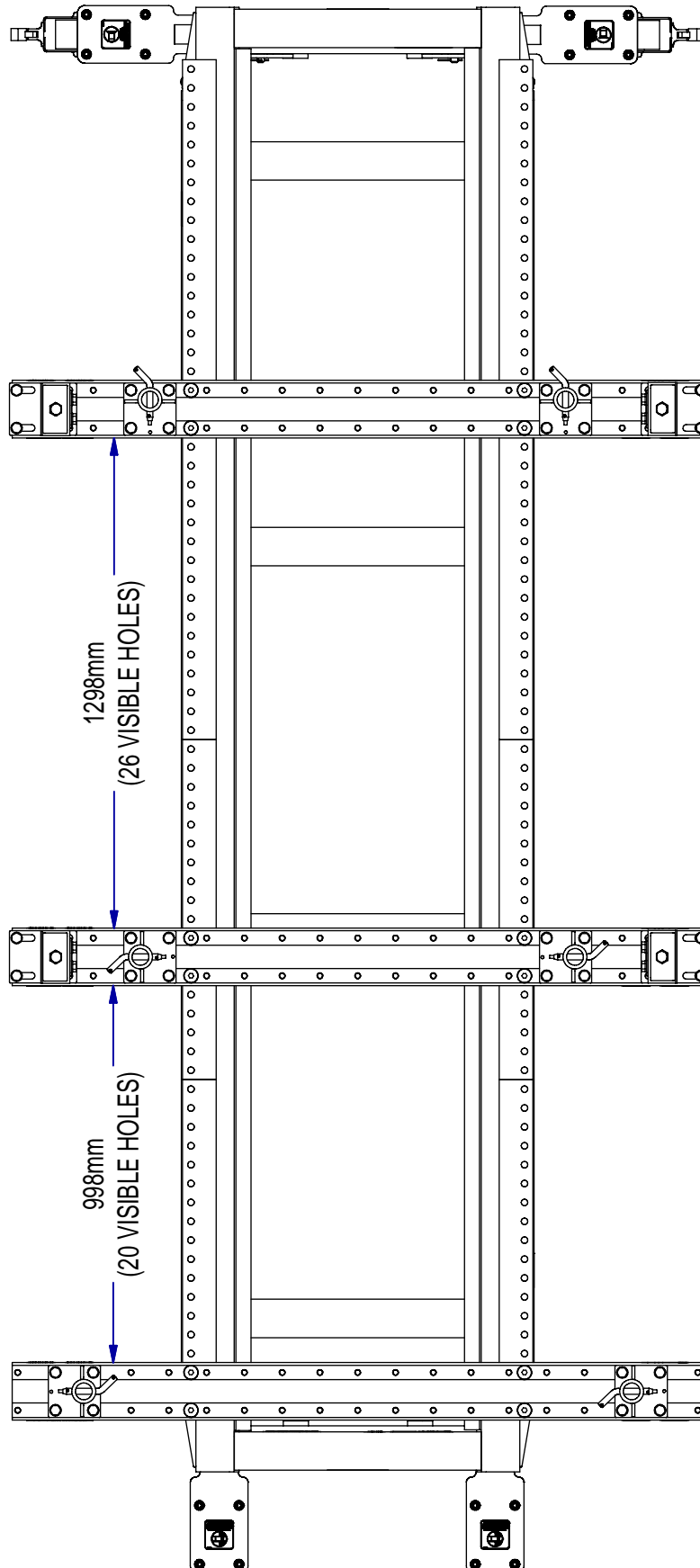
ANCHOR CART - 640063



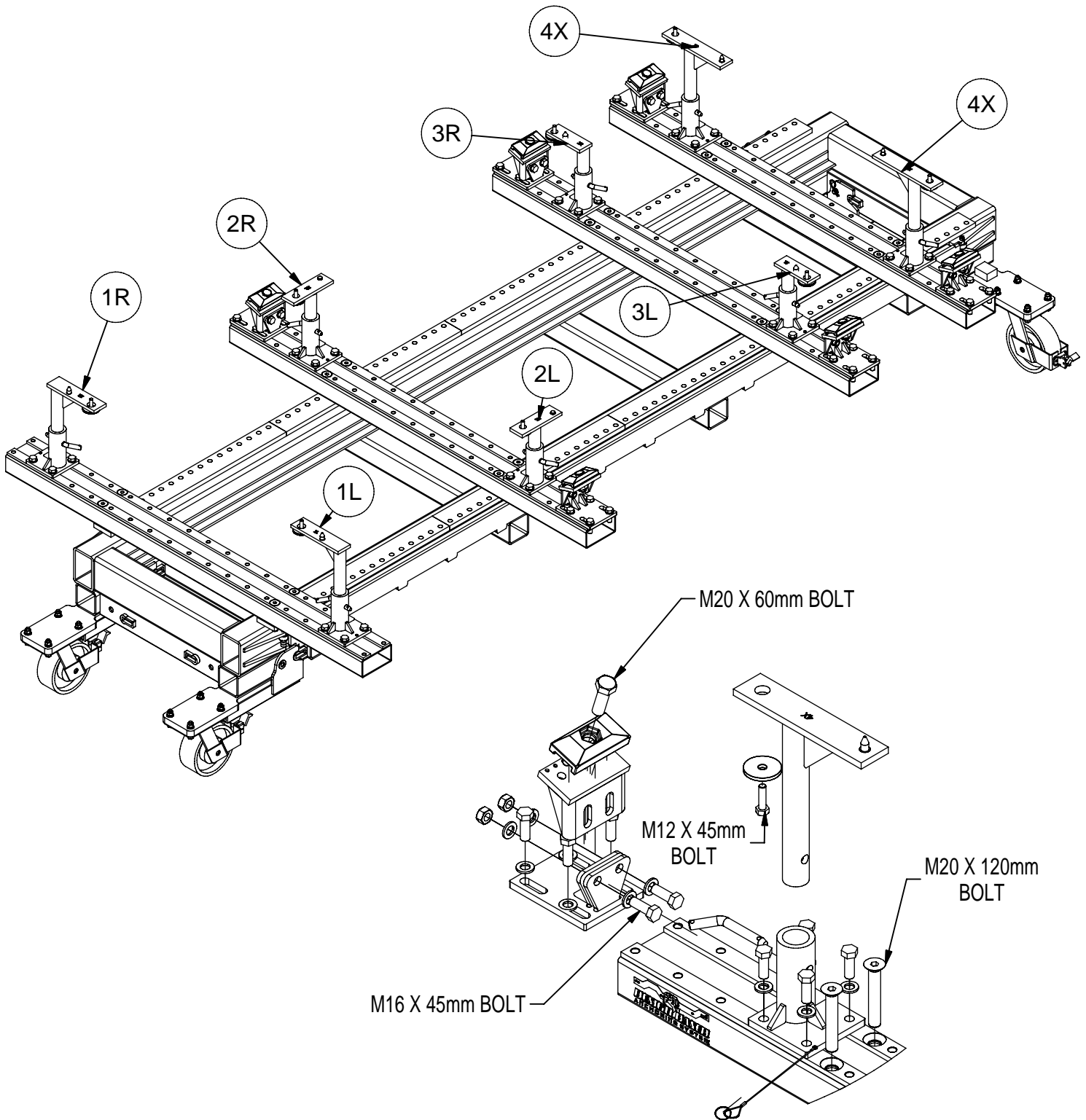
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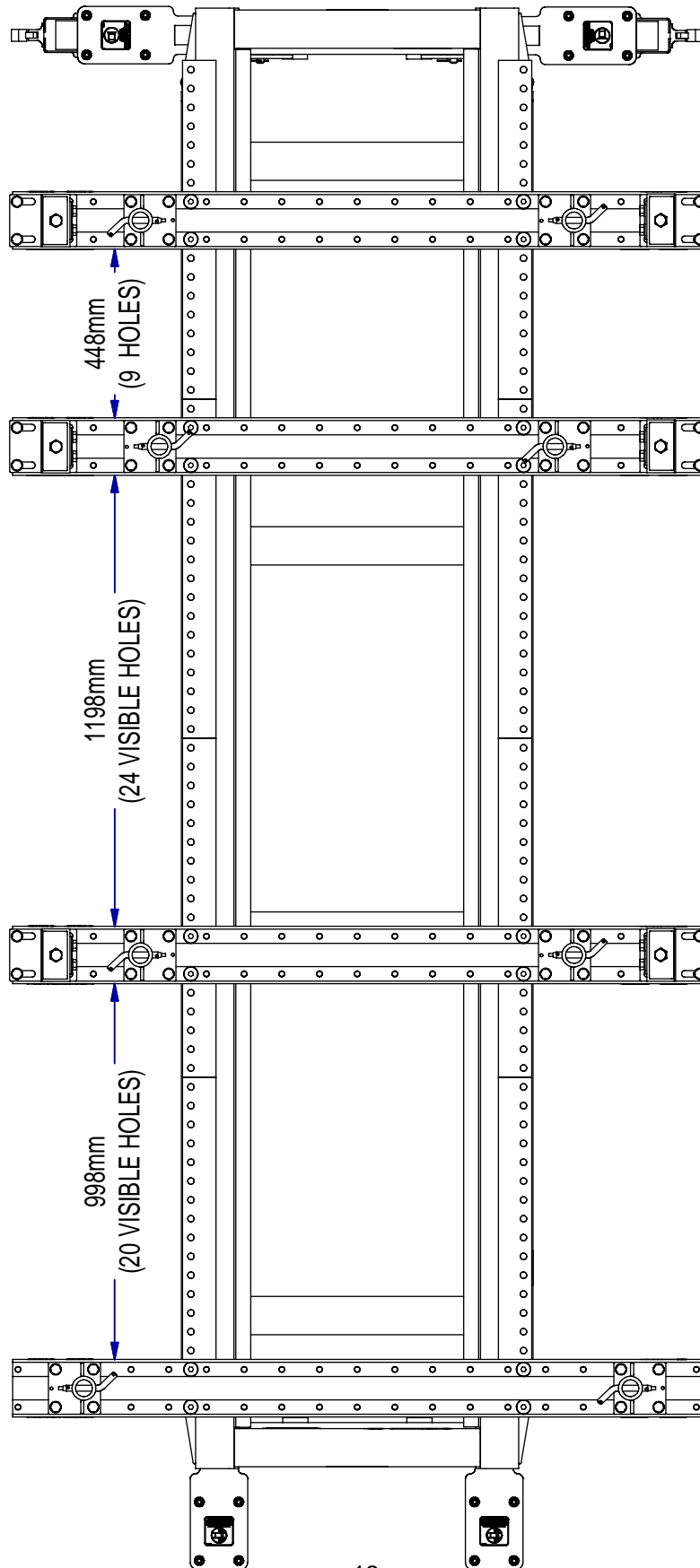
## REGULAR CAB



## SUPER CAB

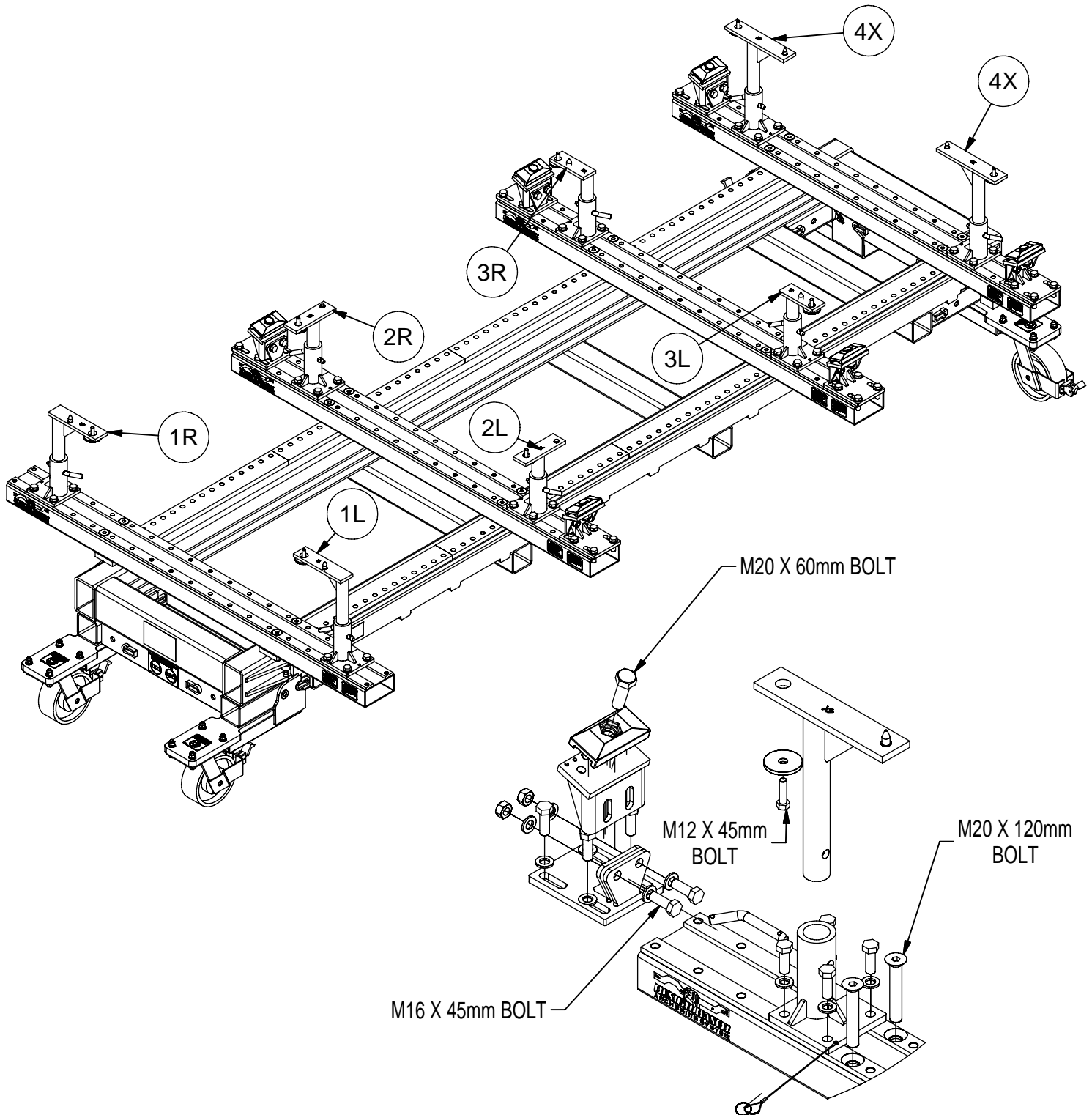


## SUPER CAB

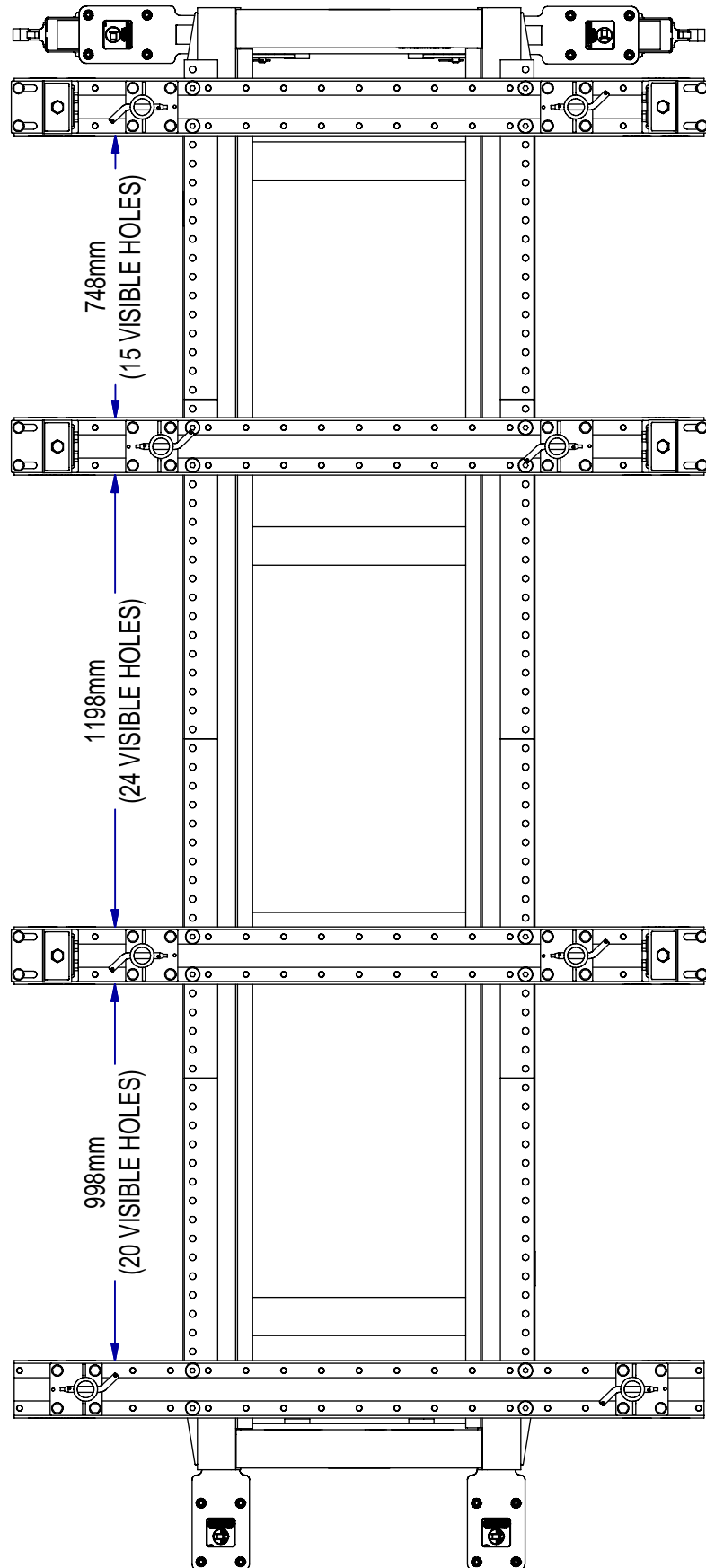




## CREW CAB



## CREW CAB









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