Vertical Tire Mount

2023+ Colorado & Canyon

INSTALLATIONGUIDE

NEW PRODUCT

Please visit www.aev-conversions.com to view the most current installation guide for this product.

This is a new product and we want to make sure that you receive the latest and most accurate information based on customer feedback, product revisions, and/or model year updates. We value customer feedback, so we encourage you to contact our Technical Support department if you have any suggestions on how to make the installation of this product easier or if you have any questions regarding the installation of this product. AEV's Technical Support can be reached by email at tech@aev-conversions.com or by giving us a call at (248)-926-0256.

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Last Updated: 01/04/24

PLEASE READ BEFORE YOU START

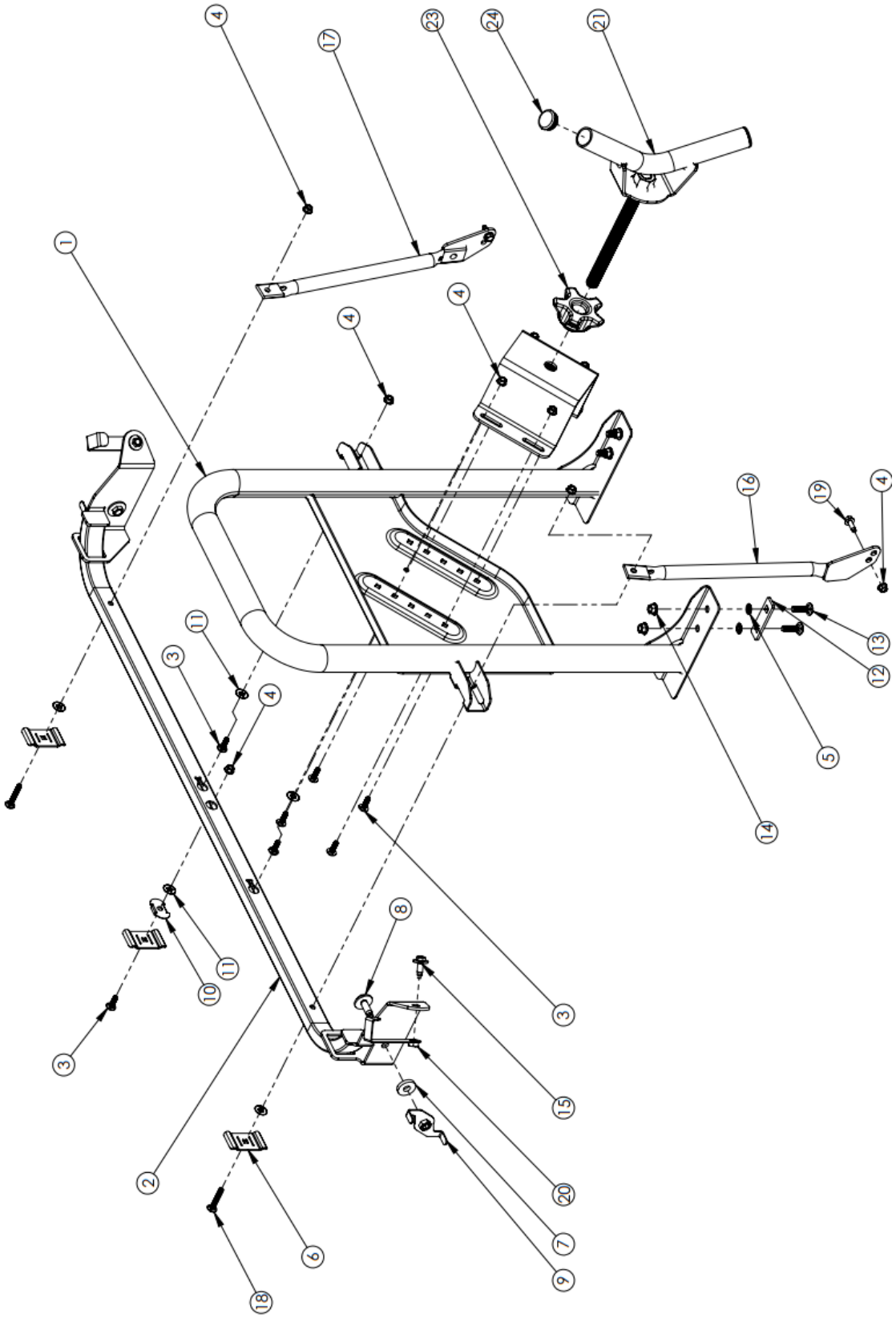
To guarantee a quality installation, we recommend reading these instructions thoroughly before beginning any work. These instructions assume a certain amount of mechanical ability and are not written nor intended for someone not familiar with auto repair.

INCLUDED PARTS	QTY
Tire Carrier, Weldment	1
Bulkhead Cross Tube, Weldment	1
Mounting Kit	1

REQUIRED TOOLS

- Razor blade
- Common hand tools
- Drill
- 1/8” drill bit (pilot bit)
- 7/16” or 11mm drill bit
- ½” Drill Bit
- De-burring tool
- Rust Preventative
- Plastic trim removal tool
- T15 Torx bit
- 13mm socket and/or wrench
- 15mm socket and/or wrench
- 17mm socket and/or wrench
- Torque wrench

ITEM NO.	PartNo	DESCRIPTION	QTY.
1	A32V0100AB	TIRE CARRIER MAIN TUBE ASSEMBLY	1
2	A32V0170AB	BULKHEAD CROSS TUBE	1
3	AEV91176AA	M8 X 1.25 X 25 CARRIAGE BOLT	7
4	11546377	M8 X 1.25 HEX FLANGE NUT	11
5	16612178	M10 BOLT RETAINER	4
6	A32V1610AA	BULKHEAD BACKING PLATE	3
7	A32V1620AA	CORNER BRACKET SPACER	2
8	11547540	M12 X 1.75 X 30 HEX BOLT AND WASHER	2
9	A32V0171AA	STAKE POCKET NUT PLATE	2
10	A32V1642AA	BULKHEAD FILLER PLATE	1
11	138697003	M8 BOLT RETAINER	5
12	A32V1641AA	2 BOLT BACKING PLATE	2
13	AEV91198AA	M10 X 1.5 X 35, CARRIAGE BOLT	4
14	11546378	M10 X 1.5 HEX FLANGE NUT	4
15	11547993	M10 X 1.5 X 25 HEX SCREW & WASHER	2
16	A32V0169AD	PENCIL BRACE LH	1
17	A32V0168AD	PENCIL BRACE RH	1
18	AEV91186AA	M8 X 1.25 X 50 CARRIAGE BOLT	2
19	11603685	M8 X 1.25 X 25 HEX FLANGE BOLT	2
20	A32V0172AA	M10 FLAG NUT	2
21	A32V0120AB	TIRE CARRIER RETAINER HANDLE	1
22	A32V0130AB	WHEEL MOUNT BRACKET	1
23	ACPR1029AA	CENTER WHEEL BUSHING	1
24	CCF-1 1/2-8-12	RETAINER HANDLE PLUG	2



IMPORTANT- READ BEFORE STARTING INSTALLATION:

Disclaimer:

This truck bed tire carrier was designed to be installed in conjunction with the AEV 35" Tire & Wheel Flare Kit. This Tire Carrier installation suggests removal of the rear wheel liners, which are difficult to reinstall without removing the rear fender flares. If you do not plan to replace the Rear Fender Flares, do not remove the rear flares or wheel liner as the flare can be damaged during removal.

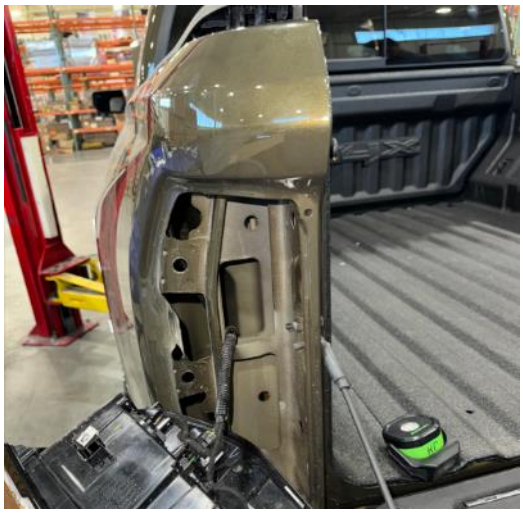
- If this tire carrier kit was purchased alongside the 35" kit, we recommend working through 35" kit installation guide until the OEM Rear Fender Flares and Wheel Well Liners are removed, then proceed with this tire carrier installation.
- If this tire carrier was not purchased with the 35" kit, the M8 nuts that secure the pencil braces in Step 14 can still be accessed but is more difficult with the wheel liners still installed. Two people are recommended for this scenario.

I. VEHICLE PREPARATION

1. Remove plastic bed caps along the bulkhead with a trim removal tool. There will be three slotted caps along the bulkhead and two circular caps on the sidewall that will need to be removed.

Figure 1

2. Remove the bed rail trim on both sides of the bed. To ease the trim removal, it is recommended to first remove the rear taillights – this gains access to the underside of the trim panel allowing the panel clips to be squeezed for easier removal. Using a plastic trim removal tool, pull directly upward away from the bed rail. Disengage each clip one by one starting from the rearward end of the bed rail trim.



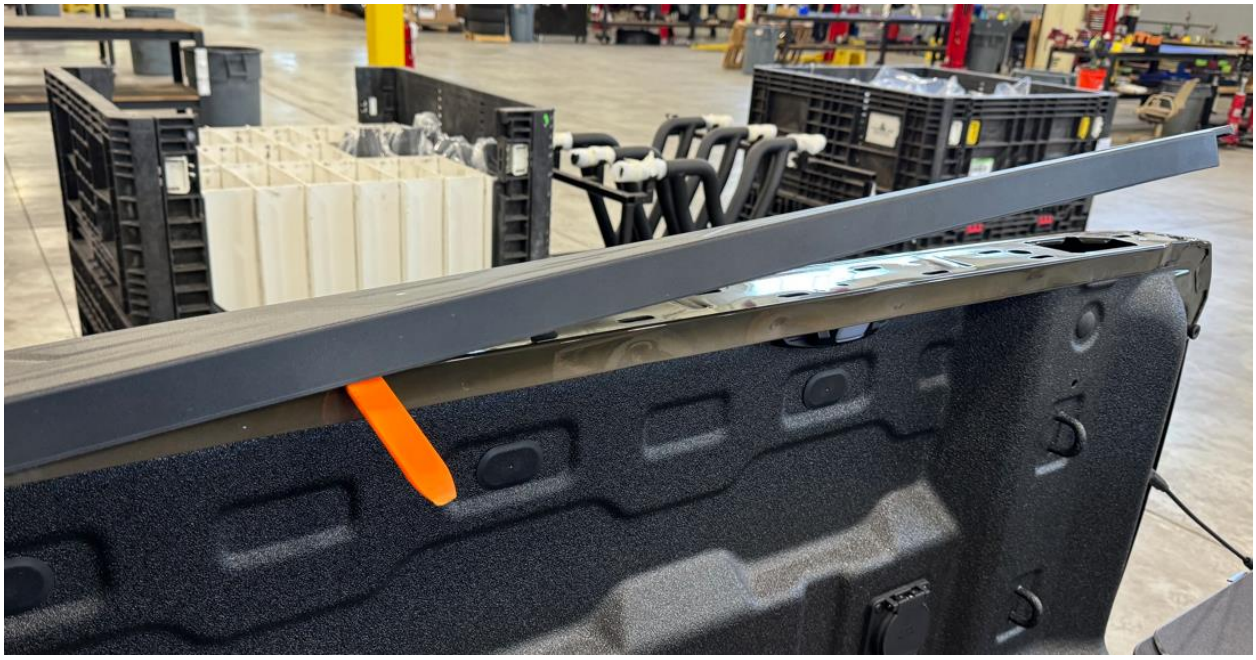


Figure 2

3. Reinstall the rear taillights once trim piece is removed – underside access is not needed beyond this step.

4. **NOTE**: Ensure you've read and understand the disclaimer at the beginning of this installation guide before proceeding. Skip this step if you are not installing the AEV 35" Tire and Fender Flare Kit – leave the wheel well liners installed.

   Remove both rear wheel-well liners with a T15 Torx Bit and trim removal tool. This will be necessary for accessing the bolts later during the VTM installation. Set these screws aside for reinstallation later.

Figure 3

II. LOCATING THE WHEEL MOUNT

1. Before beginning Tire Carrier installation, the wheel mount position needs to be set.
   - Physically measure the diameter of the inflated tire that you plan on using on the VTM since the actual diameter of tire can vary depending on the manufacturer.

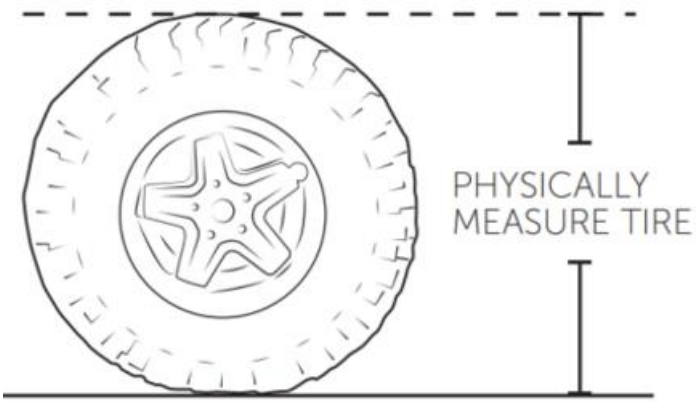


Figure 4

- Divide the diameter measurement in half to calculate the radius of the tire.
- Subtract ¼" from the radius. Use that dimension as the distance between the bed floor and the center of the wheel mount.

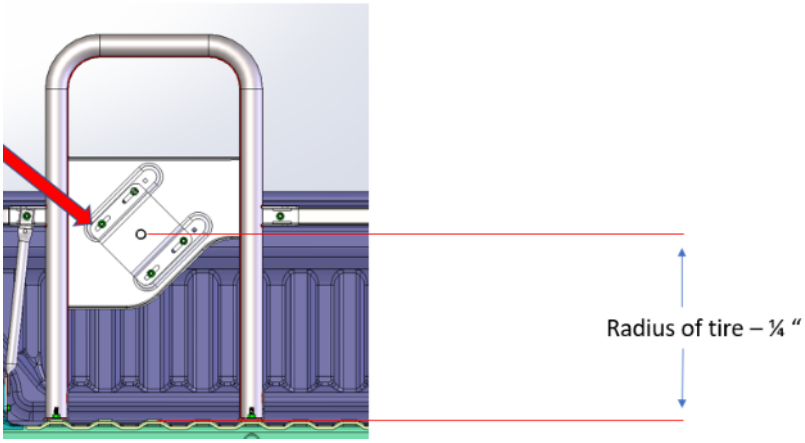


Figure 5

- Secure the wheel mount to the tire carrier weldment with the four M8 x 25mm carriage bolts and M8 flange nuts.

2. Insert the 2 round tubing plugs into the ends of the retainer handle as shown below in Figure 6.

Figure 6

III. TIRE CARRIER INSTALLATION

1. Install the bulkhead filler plate into the center slot on the bed bulkhead. NOTE: If your vehicle has spray-in bedliner, trimming some of the bedliner material on the inside edge of slot may be required for the plate to fit. Remove filler plate after fitment is confirmed.

Figure 7

2. Assemble the bulkhead backing plate and M8 x 25mm Carriage Bolt as shown below. Then, using the M8 fish-wire “snake” the assembly behind the bed bulkhead so that the backing plate and bolt are fixed into position as shown below (fig. 8). Ensure the carriage bolt is seated in bulkhead backing plate to stop the bolt from spinning. The bulkhead plate should sit vertically behind the bulkhead of the bed.

Figure 8

3. Bolt the bulkhead cross tube to the bulkhead bolt installed in the previous step using the M8 hex flange nut. Use a level on top of the bulkhead cross tube to ensure that it is level to the bed. The bulkhead cross tube will be used as a template for marking and drilling.

Figure 9

4. Checking again that the bulkhead cross tube is still level, mark the two holes in the bulkhead cross tube and the two slotted holes in the cross tube side brackets with a paint pen. NOTE: Mark the outer drill locations, shown in Figure 11 with yellow circles, closest to the outer edge of the slot on both sides of bed.

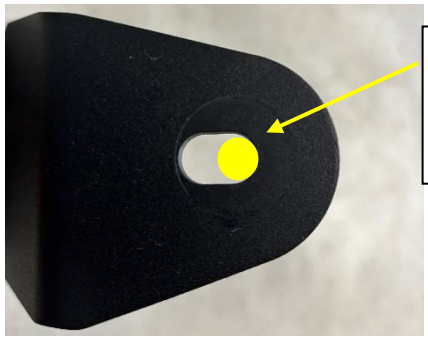


Figure 10

Figure 11

5. Using a small pilot bit and a 9mm drill bit, drill out the marked holes circled in red (Fig. 12). Then, using a small pilot bit and an 11mm drill bit, drill out the marked holes circled in yellow (Fig. 12). After the new holes are drilled, apply a rust protectant to the exposed bare metal.

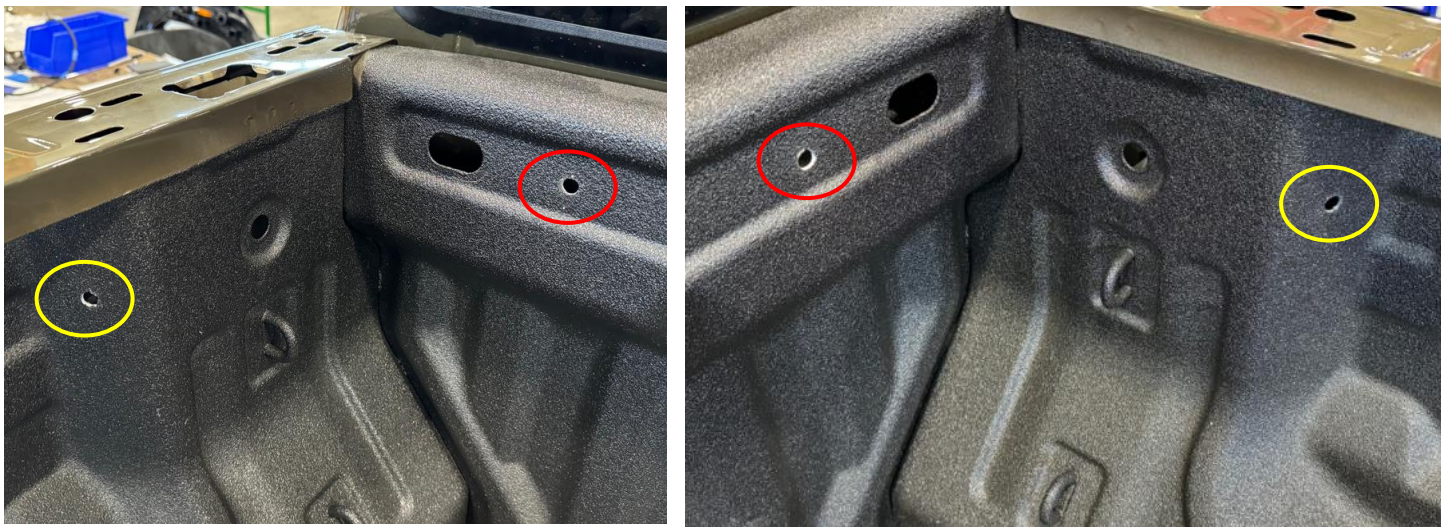


Figure 12

6. Assemble two bulkhead backing plate and M8 x 50mm carriage bolt assemblies – as seen in Step 2. Then, using the fish wire again, “snake” the assembly behind the bulkhead and pull the bolt through the drilled holes on the bulkhead. After the M8 x 50mm bolts and backing plates are installed in drilled holes, place M8 bolt retainers on all three M8 carriage bolts sticking through the bulkhead to prevent the bolts from falling through the backside of the bulkhead as seen in Figure 13. The backing plates should be in the position shown in Figure 14.

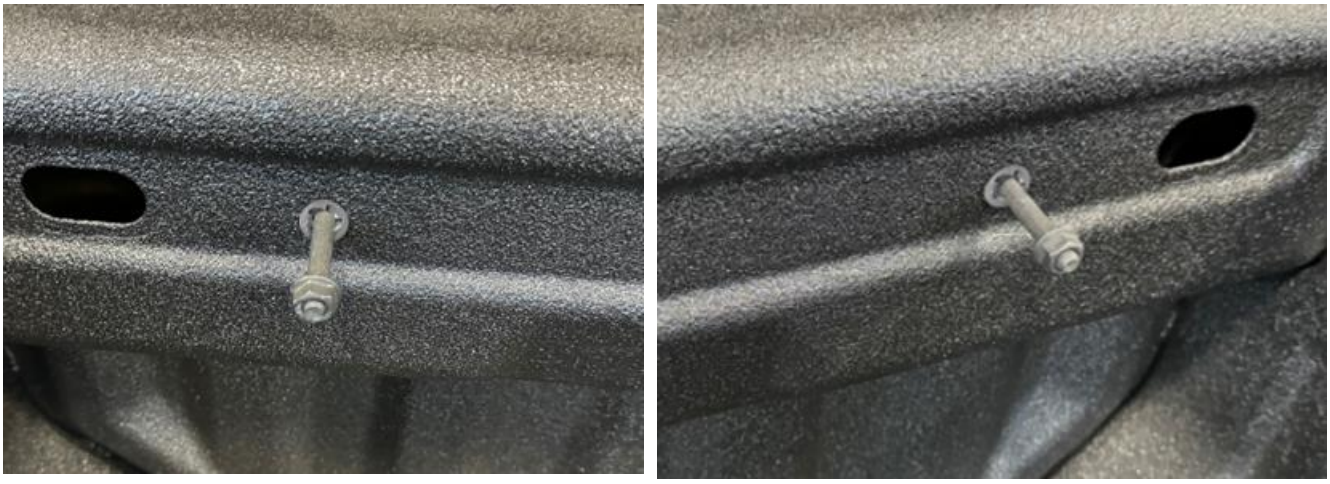


Figure 13

Figure 14

7. Place the bulkhead cross tube onto the three bolts coming out of the bulkhead. Using an M8 hex flange nut, loosely secure the bulkhead cross tube with the center M8 X 25 carriage bolt. Ensure the circular spacers are in position between the bulkhead cross tube and bed sidewall pocket. The spacers fill the recessed pocket on the side of the bed (Fig. 17).

Figure 15

Figure 16

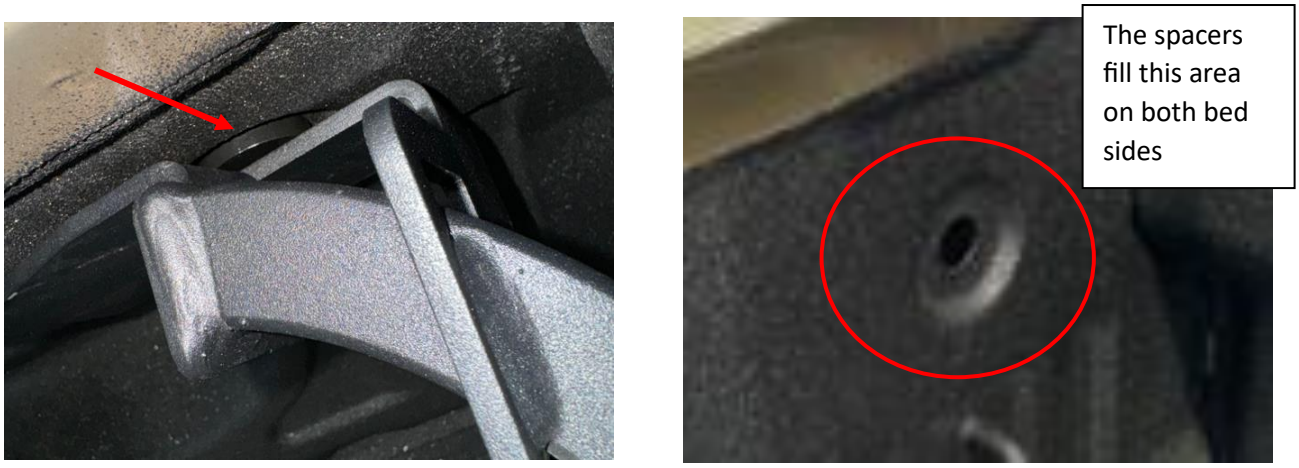


Figure 17

8. When the cross tube is in position, place the flag nut through the bed space above the cross-tube corner bracket and use an M10 X 25mm bolt to secure the flag nut through the outer slotted hole in the bracket (Fig. 18). Do this for both sides of the bed.

Figure 18

9. Insert the stake pocket nut plate into the stake pocket hole on topside of the bed rail. Align the nut plate to the inner cross tube bracket hole and secure with an M12 x 30mm bolt. Do this for both sides of the bed.

10. Insert two M8 x 25mm carriage bolts into the remaining bulkhead cross tube keyed slots – they will slide to the right and fit into the keyhole. Then install the M8 bolt retainer to help hold the bolt in place (Fig. 19).

Figure 19

11. Place the tire carrier main assembly onto the carriage bolts on the bulkhead cross tube. The left-hand pencil brace will need to be installed at the same time as it uses the same bulkhead bolt for attachment (Fig. 20). Loose install the right-hand pencil brace on the other side of the bulkhead cross tube. Loosely secure with M8 hex flange nuts. The pencil braces will be used to locate the drill holes at the bottom sidewall of the bed. These will be removed in the next step.

Figure 20

12. With the main assembly and pencil braces in position tight to the bulkhead tube, mark the four holes for the tire carrier feet on the bed floor. Next, mark the lower holes on the pencil brace plate to the lower bedside walls. NOTE: For the left-hand pencil brace, push the pencil brace forward towards the truck bulkhead and mark the hole. There is a bracket in the wheel well on this Left-Hand side that could potentially get in the way of tool access to secure the nut in later steps, so it is best to have this hole as far forward in the side wall as possible. Do the opposite for the right-hand pencil brace, you want to mark and drill this hole as far rearward in the bed sidewall as possible. (Fig. 23).

Figure 21

13. Once the holes are marked, remove the tire carrier main assembly and pencil braces. Drill the four bed floor holes to ½" and drill the side wall pencil brace holes to 11mm. After holes are drilled, apply rust protectant on bare metal surfaces. NOTE: Be cautious to not drill too deep into the bed floor. There is the risk of hitting underbody components if the drill bit passes through too far.

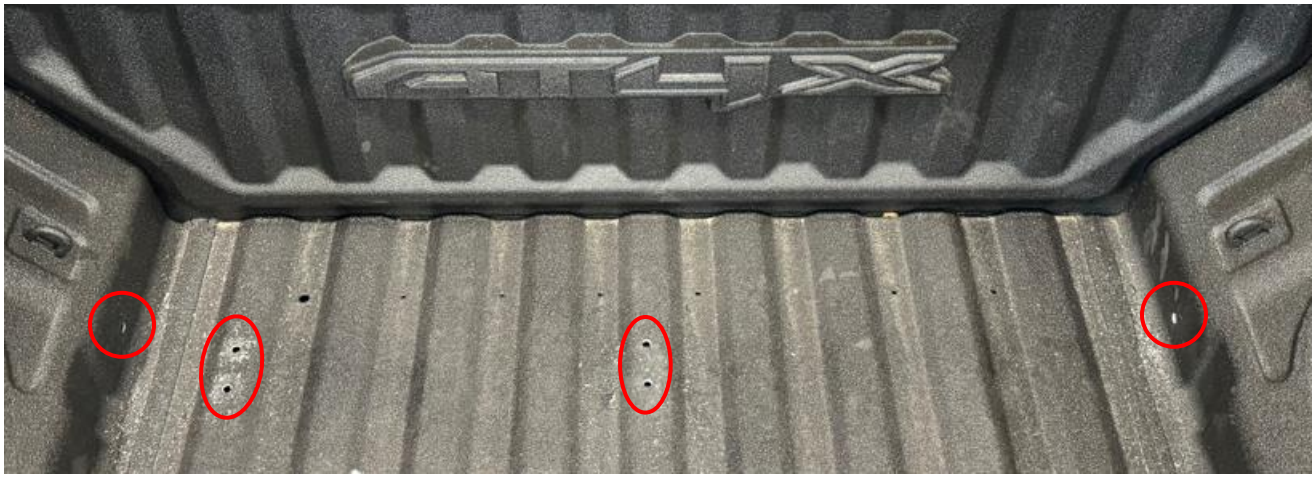


Figure 22

14. Reinstall the tire carrier main assembly and pencil braces after holes have been drilled. Insert an M8 x 25mm hex flange bolt through lower pencil brace end on both sides and secure with M8 flange nuts on the inside of the wheel well. In both Figures 24 and 25, the wheel well liners are removed. NOTE: These bolts can still be accessed if wheel liners are still installed but will be more difficult to reach. If needed, remove a few of the wheel liner screws to help accessibility.

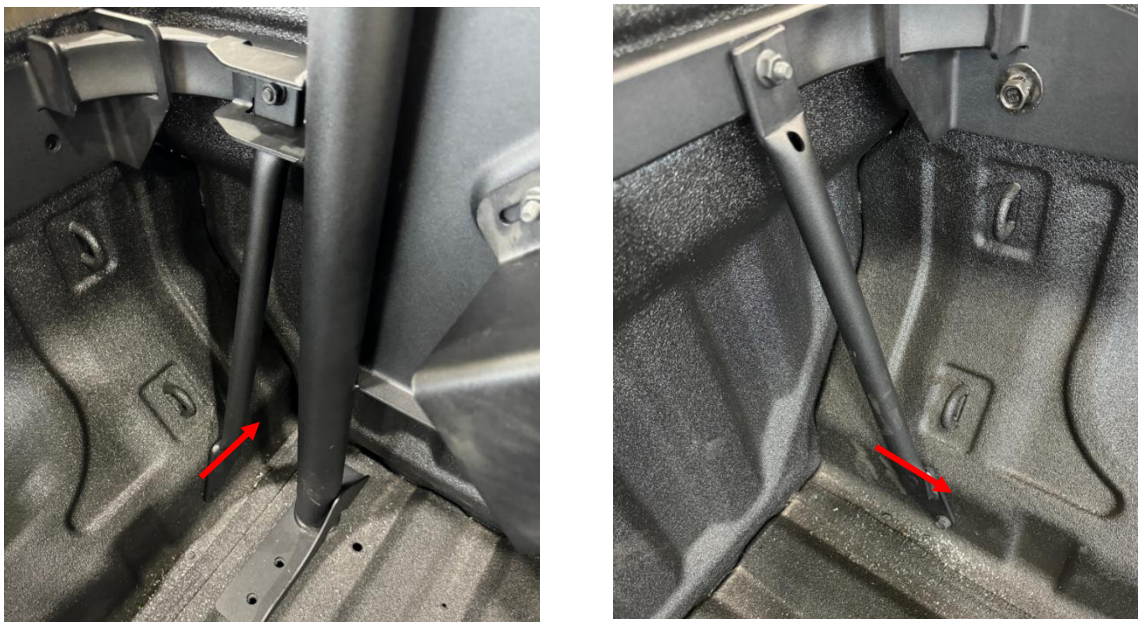
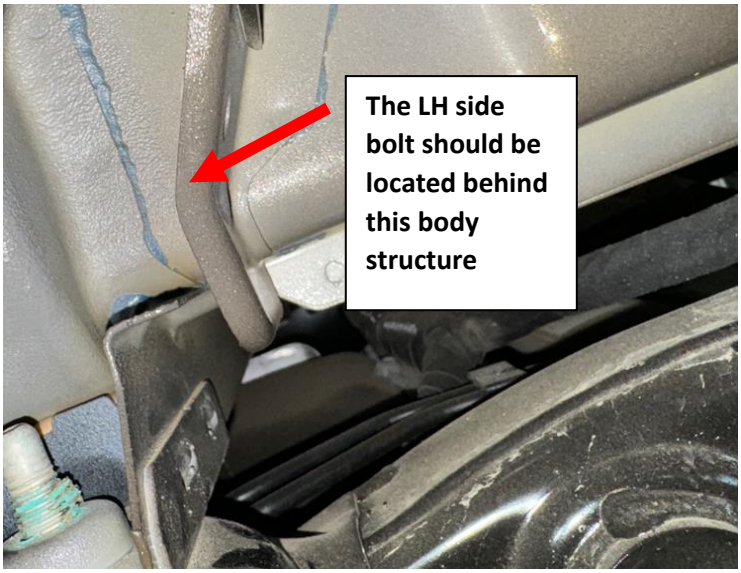


Figure 23



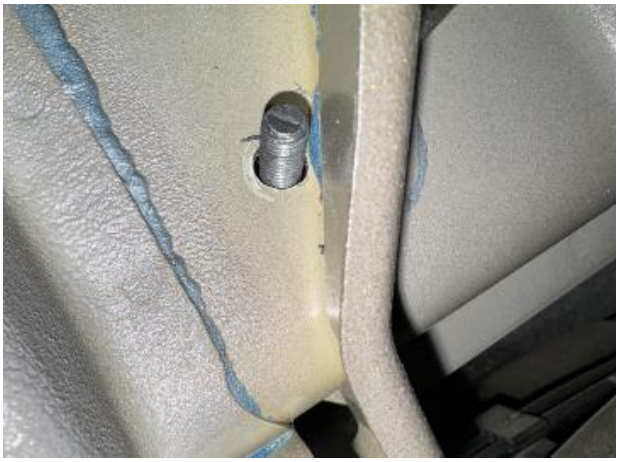


Figure 24

Figure 25

15. Use the 2-bolt backing plate and two M10 x 35mm carriage bolts to build the bracket assembly shown in Figure 26. Use M10 bolt retainers to secure bolt to the backing plate. Two of these assemblies are required. These backing plates will be inserted through the

bottom side of the truck bed floor as seen in Figure 27 and the nuts will be threaded on the topside of the truck bed as seen in Figure 28.

Figure 26

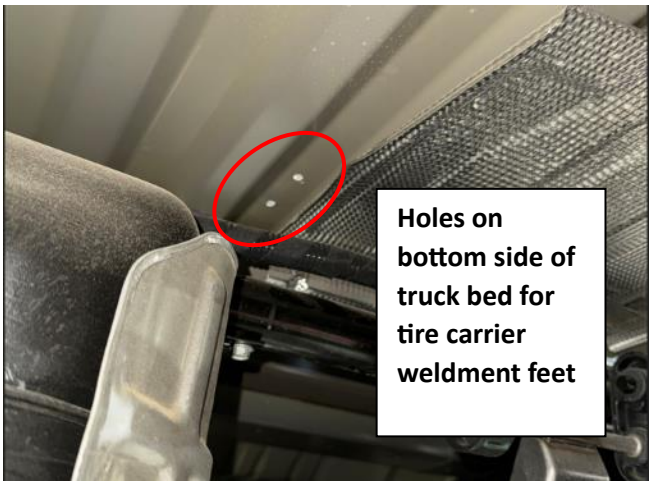


Figure 27

Figure 28

16. Once the tire carrier weldment is in place and all fasteners are torqued to specification (found in Table 1 below), the spare tire can be mounted. Slide the tire carrier bushing onto the retainer handle and insert the handle through the center of the wheel as seen in Figure

29. Thread the retainer handle onto the tire carrier weldment until there is 6mm of compression of the tire around the main hoop tube.

Figure 29

Table 1

Bolt Size	Torque Spec (NM)	Torque Spec (ft lb)
M8	22	16
M10	58	43
M12	100	73

17. Reinstall plastic bed rail covers on both sides of truck bed after each fastener is torqued to spec.

18. Tire Carrier installation is complete.

Figure 30