INSTALLATION MANUAL:

COR-2108112

Jeep Wrangler Front 3 Piece Crossmember
(2007-2018, JK)

CLAYTON OFF ROAD



REV: A | DATE: 10/27/2026 | AUTH: KW37

DISCLAIMER

WARNING:

Suspension systems and their components are designed to enhance your vehicle's off-road performance. This may cause your vehicle to handle differently, on and off-road. Always wear your seatbelt and take extra care when driving a modified vehicle. Failure to do so can result in loss of control which may result in a rollover causing serious injury, or even death to the driver and/or passengers of the vehicle. Regular maintenance and consistent inspections are required to keep your modified vehicle safe and functioning properly. These suspension systems and any components should be installed by certified technicians only. Attempts to install these products without proper knowledge can lead to poor performance, or possible failure, which may jeopardize the safety of the vehicle and its passengers. The installer is responsible for proper installation ensuring a safe and properly functioning vehicle. Take extra care when operating a modified vehicle and thoroughly inspect your vehicle before and after every off-road use.

Read the instruction set in its entirety before attempting the installation.

NOTE:

This product may require general welding, fabrication, and automotive mechanic skills. Welding should only be done by a competent welder. Clayton Off Road implies no guarantees or warranties and is not liable for improper installation. Some grinding and fitment may be required when installing this product. Every vehicle varies slightly, and some fabrication and/or modification may be required.

ATTENTION:

It is the customer's responsibility to thoroughly inspect all received parts to ensure they are assembled correctly and fully welded. Please carefully examine all weld seams and verify that bolt-through holes are properly aligned. Some Clayton Off Road products are permanent, non-removable, weld-on solutions. **If a defect or issue is found after installation, especially with permanent weld-on components, it may be difficult or impossible to correct.** Inspecting the part(s) received beforehand helps prevent unnecessary and avoidable complications.

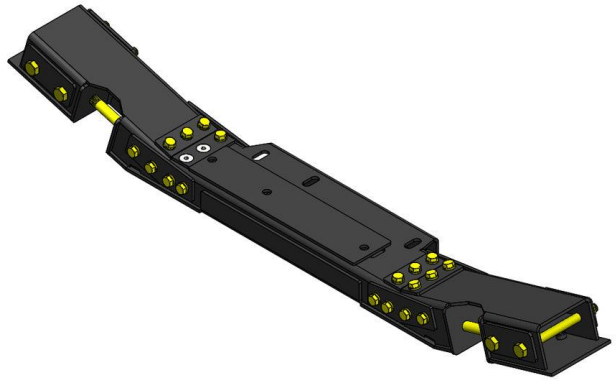
All Clayton Off Road products are engineered and tested on U.S. spec, left-hand drive vehicles. Compatibility with right-hand drive vehicles is not guaranteed. Customer verification is highly recommended to ensure proper fitment prior to purchase.

ATTENTION: TORQUE SPECIFICATION

When working on any vehicle, it is good practice to torque suspension/weight-bearing components while the vehicle is resting under its load. This instruction set, as well as any other Clayton Off Road instruction set, assumes the installer will tighten any suspension-related components properly, to the recommended torque specification, when the vehicle is resting safely under its own weight.

INCLUDED ITEMS

2108112 – Jeep Wrangler Front 3 Piece Crossmember (2007-2018, JK)			
Part Number	Description	Class/Grade	QTY
15103	3/8"-16 x 3/4" Yellow Zinc Finish SAE Hex Cap Screw	Grade 8	26
15224	1/2"-13 x 5-1/2" Hex Cap Screw	Grade 8	4
18950	9/16"-18 x 3-3/4" Yellow Zinc Finish SAE Hex Cap Screw	Grade 8	2
33818	9/16" Yellow Zinc Finish SAE Thru-Hardened Flat Washer	Thru-Hardened	4
33893	3/8" Yellow Zinc Finish Medium Split Lock Washer	High Alloy	26
37310	9/16"-18 Zinc Finish Top Lock Nut	Grade C	2
94286	3/8"-16x1" Flat Head Socket Cap Screw	N/A	8
37187	1/2"-13 Yellow Zinc Finish Steel Nylon Insert Lock Nut	Grade 8	4
2108112I	JK Cross Member Mount Plate	N/A	4
2108112E	JK Cross Member Side Plate	N/A	4
2108112FR	JK Cross Member Top Plate Right	N/A	1
2108112FL	JK Cross Member Top Plate Left	N/A	1
2108112CENTER	JK Cross Member Center	N/A	1
2108112LEFT	JK Cross Member Left CA Mount	N/A	1
2108112RIGHT	JK Cross Member Right CA Mount	N/A	1
2108112L	JK Cross Member Shim	N/A	1



Product Notes and Features:

- 3/16” thick steel crossmember that replaces the thin, weak, and vulnerable factory crossmember
- Transmission mounting holes for all JK transmission options
- Front lower control arm pockets designed to be used with Clayton long arm suspension
- Optional weld-in seam at both sides of the frame for additional strength and rigidity
- Features a removable center piece to allow for transmission servicing
- Ships in a durable black e-coat
- 9/16” lower control arm bolt hole size

NOTE: This part is meant to be installed with a Clayton front long-arm suspension kit.

Looking for a beefier crossmember but want to stay on a short-arm suspension setup? Search for **COR-2108212** on our website.

INSTALLATION INSTRUCTIONS

TOOLS REQUIRED FOR INSTALLATION

- *Hex key set- 7/16”*
- *Large adjustable wrench*
- *Metric wrench/socket set- 16, 18mm*
- *Standard wrench/socket set- 9/16, 3/4, 13/16”*
- *9/16” drill bit or reaming bit*
- *Long-travel jack stand*
- *Welder (optional)*

*****Take this product to a licensed professional if you are hesitant about the installation process!*****

1. Organize all of the components at a table or bench. The hardware included with this crossmember may seem extensive, but once everything is organized and in front of you, you can easily begin assembly.

Note the orientation of the larger components. This is the proper orientation for assembly- the “bump” of the middle section should be facing the opposite direction of the control arm pockets, as seen below.

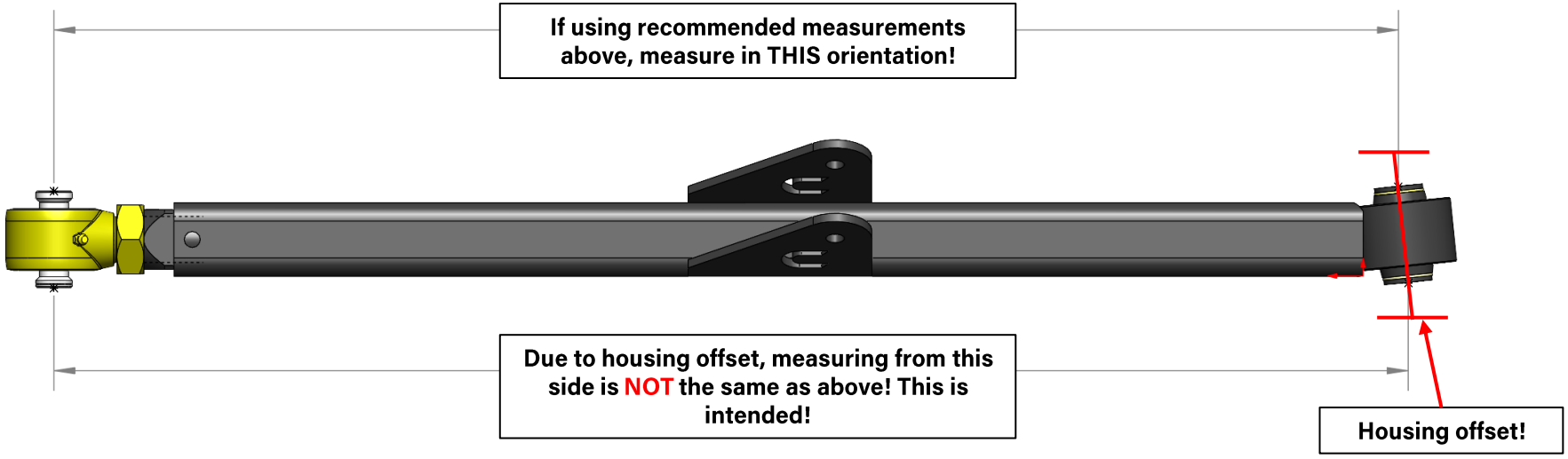


Figure 1: Crossmember components and hardware

INSTALLATION INSTRUCTIONS

2. Assuming you are installing the crossmember at the same time you are installing the long arm suspension, set the control arms to your desired length. Spin the Johnny Joint adjuster in to shorten the arm, and out to lengthen. Clayton Off Road recommends 36-3/4 ", 37", and 37-1/4" for our 2.5", 3.5", and 4.5" lift height options, respectively. **This value WILL change depending on your specific tire size and actual lift height. These measurements are simply recommendations, and fine-tuning will be required just like any properly designed lift kit.** Spin the jam nut down by hand to lock the control arm length.

When using the recommended measurements above, measure with the arm oriented as shown below. Because the arm is designed with the housing offset, the measurement will change based on which side you measure from- **so pay attention!**



INSTALLATION INSTRUCTIONS

3. When the arms are set to the desired length, it is recommended to **tape** the jam nut to the Johnny Joint adjuster. That way, the joint can be removed from the arm, installed in the crossmember, and torqued. When it comes time to reinstall the long lower control arms, the adjuster will be pre-set to the proper length from Step 2. This eases installation significantly because you will have already predetermined that both lowers are equal length, which is necessary for setting proper wheelbase.

While setting the lower control arms to the same length is still possible without the joint pre-installed at the crossmember, it is highly recommended that you follow this step to be as accurate as possible when setting the wheelbase.



Figure 2: Taping jam nuts in place to set control arm length

INSTALLATION INSTRUCTIONS

4. Locate the two crossmember pocket housings and install the control arm as seen below. The grease fittings in the joints can be pointed upward to prevent damage. **Because this mounting location needs to be a tight fit, you may need to drill/ream the through-hole with a 9/16" drill bit.** Use the provided 9/16"-18 bolts and washers, feed the bolt through the bracket, the joint, and out the bracket. Note that the bolt feeds through the threaded insert side of each bracket. Use the access slot in the brackets to install the locking nut with a washer.

Do not tighten the bolt yet. When the crossmember is installed in the vehicle, it will be easier to apply the necessary torque specification to the bolt.

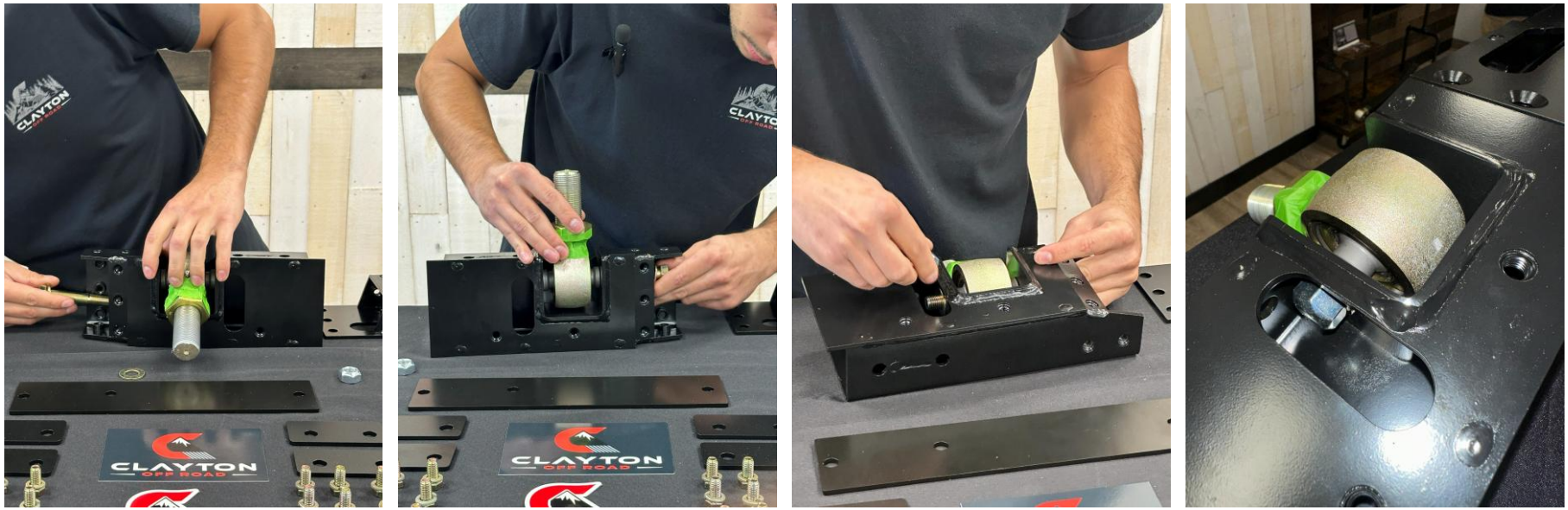


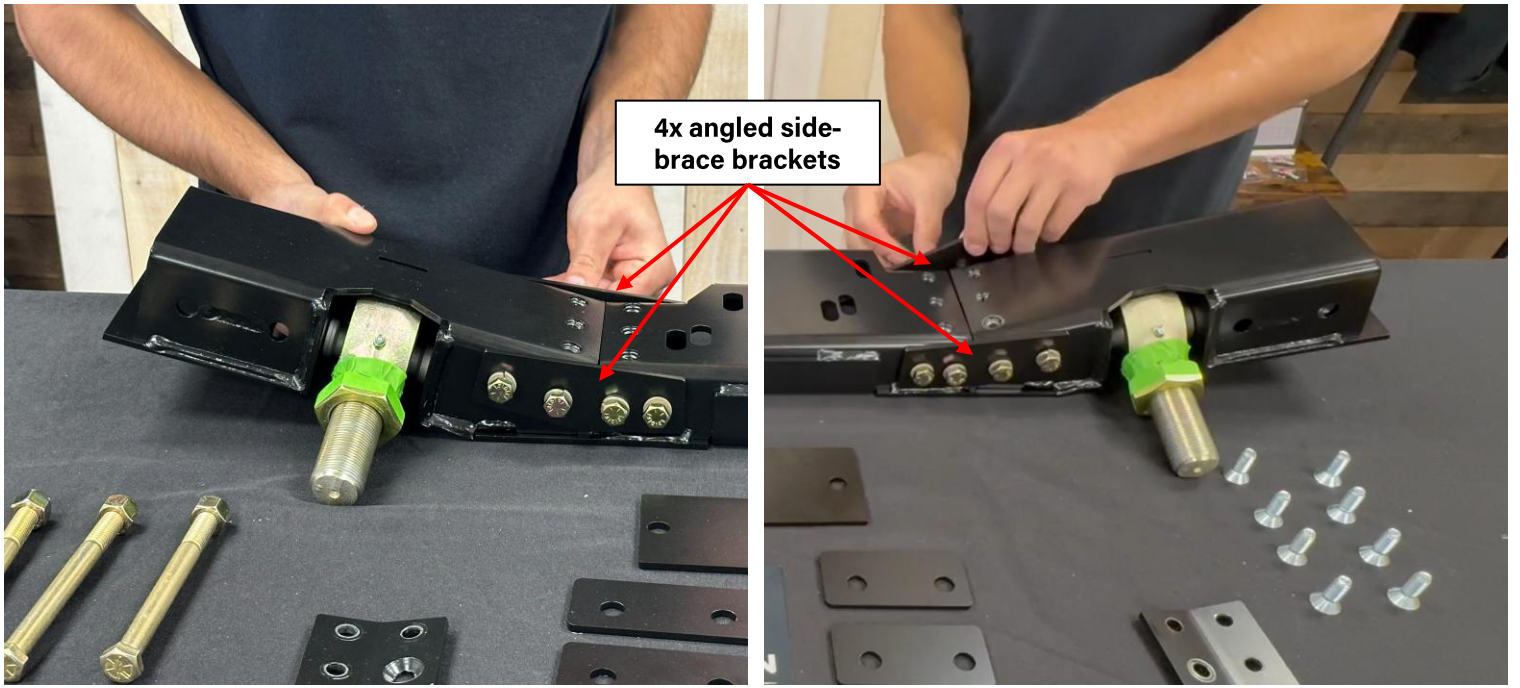
Figure 3: Installing Johnny joints into control arm pockets

INSTALLATION INSTRUCTIONS

5. You may now begin the assembly of the crossmember. Line up the control arm pocket housings with the main crossmember. **Again, note the orientation of the middle bracket.** The "bump" should be facing the opposite direction of the control arm pocket.

Using all four of the angled side-bracing brackets (2x on each side), install them to link the control arm pocket brackets and the middle main crossmember together using 16x of the 3/8"-16 x ¾" bolts and lock washers. The holes in the side-bracing brackets are offset, so note their orientation as shown below. Use a 9/16" socket on the bolts.

You can snug these bolts down, but a required torquing procedure will be listed at the end of these instructions.



NOTE: While all of the hardware will be torqued to specification in a later step, **using blue threadlocker on all of the smaller fasteners** (3/8" bolts) is recommended for peace of mind when assembling the new crossmember.



Figure 4: Installing side-bracing brackets

INSTALLATION INSTRUCTIONS

6. Install the top-bracing brackets at the top of the crossmember. **Note that one bracket has 2x countersunk holes.** This bracket is installed on the passenger side of the crossmember. The countersunk hardware allows for clearance of the transmission for certain JK models.

Use both top-bracing plates and a total of 10x 3/8″-16 x ¾″ bolts and lock washers, then 2x 3/8″-16 x 1″ countersunk bolts. Use a 9/16″ socket on the hex bolts, and a 7/16″ hex key on the countersunk bolts.

You can snug these bolts down, but a required torquing procedure will be listed at the end of these instructions.

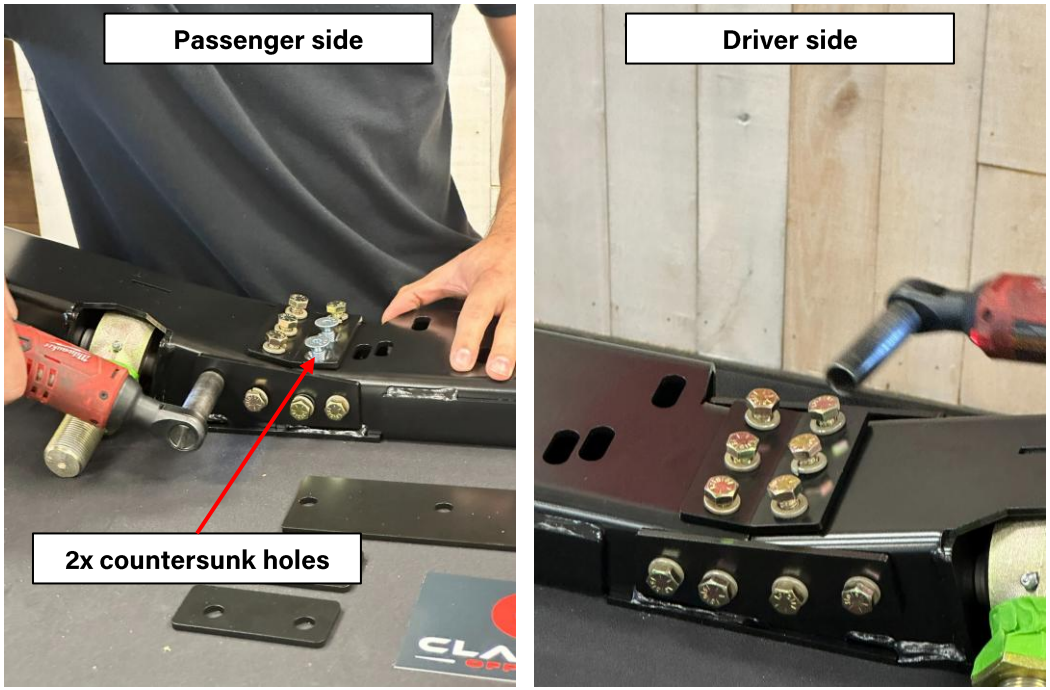


Figure 5: Installing top-bracing brackets

INSTALLATION INSTRUCTIONS

7. Flip the crossmember 180-degrees to access the bottom. This side will be facing the ground when the member is fully installed in the vehicle. Note that the remaining hardware (other than the long ½"-13 x 5.5" bolts) are 6x 3/8-16 x 1" countersunk bolts.

Install the 4x rear-most countersunk bolts on both sides of the crossmember at this time. **Do not install the countersunk bolts closest to the joints yet, as they will be in the way when it comes to torquing the control arm bolts.**

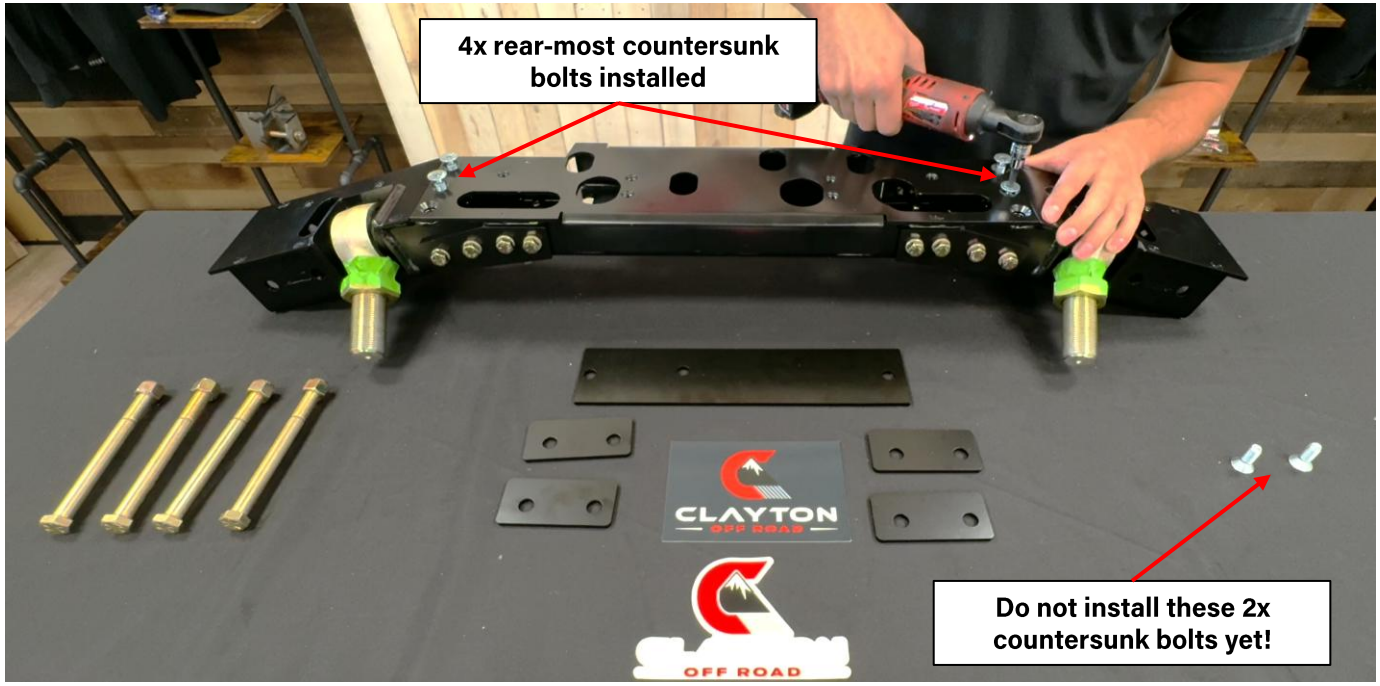


Figure 6: Bottom countersunk hardware

INSTALLATION INSTRUCTIONS

8. The remaining components will be used when the crossmember is installed in a later step. With the bulk of the hardware and components assembled, follow the torque specification chart below. Take your time and work your way around the crossmember to ensure all of the bolts are tightened properly. **Note that torquing of the 1/2"-13 and 9/16"-18 bolts will come in a later step.**

Hardware can still come loose, even after torquing. Use proper torque tools and paint pen on all hardware. Inspect after 500 miles.

Table 1: JK 3 Piece Cross Member Hardware Torque Specifications

Description/Use	Tool Size	Torque (ft-lbs)
3/8"-16 countersunk bolts (Crossmember assembly)	7/16" hex key	25
3/8"-16 hex bolts (Crossmember assembly)	9/16" wrench or socket	40
1/2-13" hex bolts (Crossmember to frame bolts)	¾"	80
9/16"-18 hex bolts (control arm pocket bolts)	13/16"	146

NOTE: While all of the hardware will be torqued to specification in a later step, **using blue threadlocker on all of the smaller fasteners** (3/8" bolts) is recommended for peace of mind when assembling the new crossmember.



INSTALLATION INSTRUCTIONS

9. You will now set up the vehicle for the crossmember installation. Park the vehicle on flat ground (or a 4-post lift). Remove the transfer case guard by removing the 4x 18mm bolts (A-D), the exhaust crossover guard, which is fastened by 3x 18mm bolts (E-G), and the two gas tank skid plate bolts at the old crossmember (H-I). This results in a total of 9x, 18mm bolts removed.



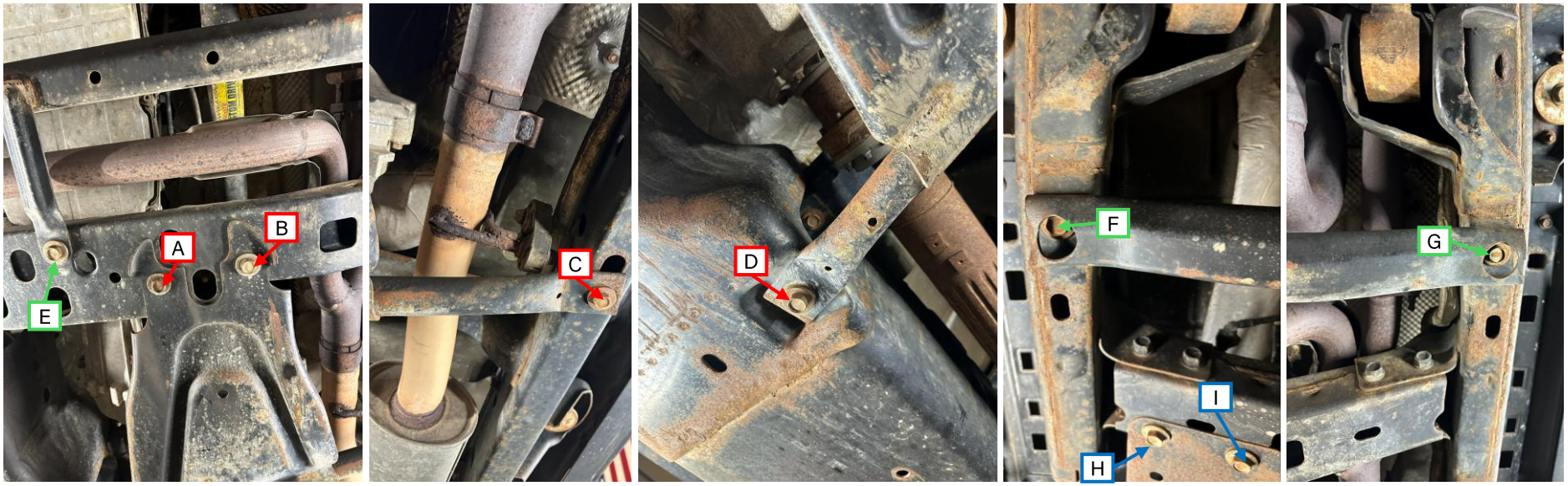


Figure 7: Original bolts to remove

INSTALLATION INSTRUCTIONS

10. Now that the factory skid plates are removed, you can remove the original crossmember. **Support the transmission at the transfer case housing so that the mounts at the crossmember flex upward slightly.** This will take the weight of the drivetrain off the crossmember so it can be safely removed.

Next, remove the 3x 16mm nuts that fasten the transmission mount to the original crossmember. **Save these nuts for later.** Finally, remove the 4x 18mm bolts that fasten the crossmember to the frame rails. There are 2x bolts on both sides.

Remove the crossmember from the frame mounts. Snake the crossmember out from the driver-side mount, then pull it out and away from the passenger-side mount. You may need to bend the factory gas tank skid plate slightly down to allow for clearance. **When removing, be mindful of the transmission mount studs so as not to hit them.**

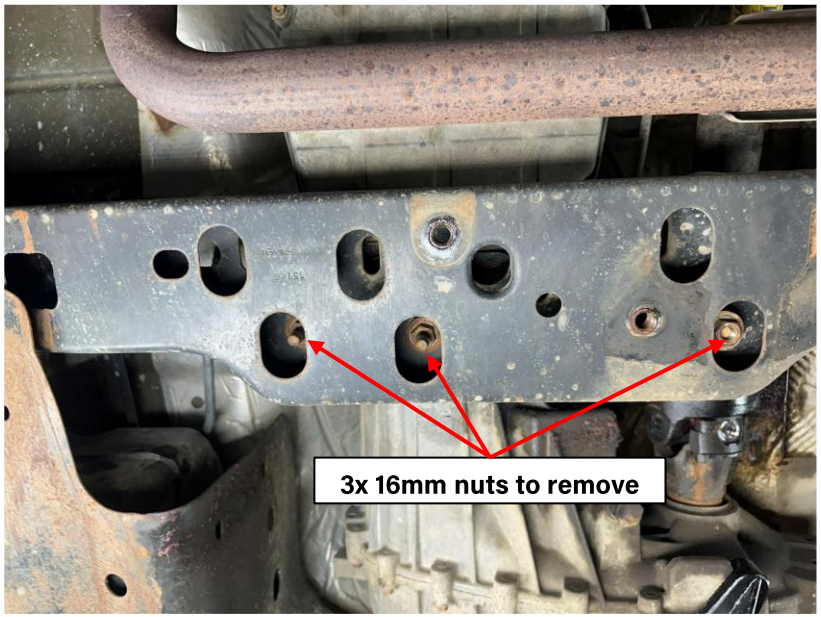




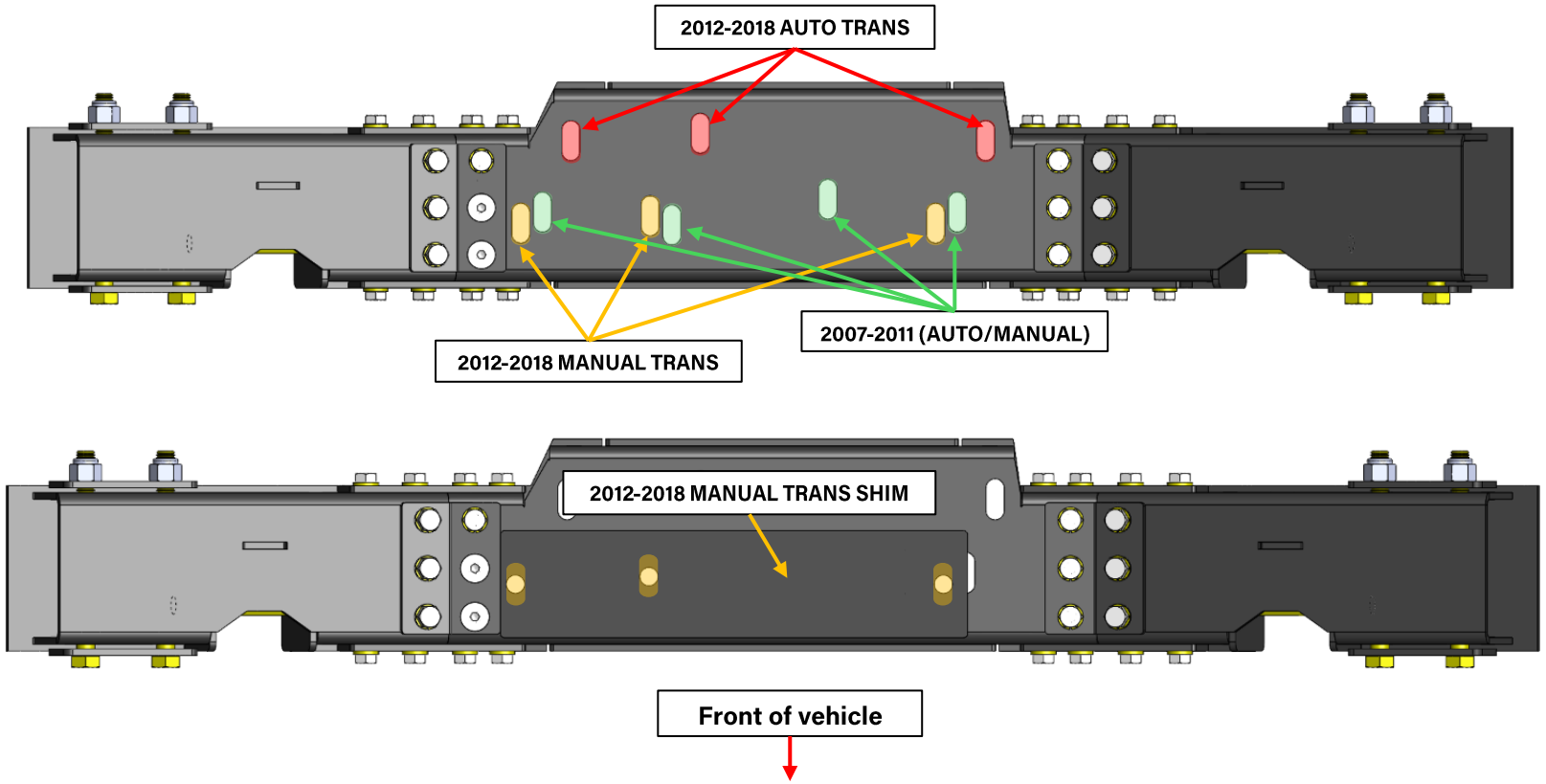
Figure 8: Original crossmember removal

STOP! With the original crossmember removed, it may be a good idea to replace the transmission mount if it is worn. While the new crossmember's center section is removable, it is still easier to replace this rubber mount with the crossmember completely removed.



INSTALLATION INSTRUCTIONS

11. The new crossmember works for multiple vehicle transmission options. Before you proceed, please read the diagram below to understand which holes the transmission mount will feed through. **2012+ MANUAL VEHICLES WILL USE THE PROVIDED SHIM AS SEEN IN THE BOTTOM FIGURE. DO NOT FORGET THIS SHIM IF YOUR VEHICLE HAS A MANUAL TRANSMISSION AND IS A 2012+ JK.**



INSTALLATION INSTRUCTIONS

12. Lift the crossmember into the original mounting location. Note the orientation of the new crossmember; the **bump-out** will be facing the rear of the vehicle. Install the long 1/2"-13 bolts with the bolt heads facing the front of the vehicle, along with the **4x clamp plates. Use 2x plates on either side. As you are lifting the new crossmember into position, be mindful of the transmission mount studs. Do not force the crossmember into place, as it might hit the transmission studs and break them.**

Note that there is an offset to the clamp plates. Orient them as shown and install with the long bolts. Torque the 1/2-13 long bolts to 80 ft-lbs. If the factory crossmember mounts are rusty or warped, grind the inside of the mounts and/or bend the ears open slightly, and use a rubber mallet to align the holes of the mounts and the new crossmember.

Note that in the installation below, ½" washers were used at the crossmember. These washers are not included in the kit.



Figure 9: New crossmember installation

INSTALLATION INSTRUCTIONS

13. Modification of the factory gas tank skid plate may be required depending on if the tab is already bent. In the installation below, the factory gas tank skid was bent enough that the holes didn't line up at the crossmember connection. It is generally recommended to trim the gas tank skid plate before the control arm pocket so as not to interfere with the joint when it's flexing. See the figure below and make similar modifications if you plan on reusing the original gas tank skid plate.

NOTE: Clayton Off Road offers a 3/16" thick, heavy-duty gas tank skid plate to replace the old and rusty factory skid. **Visit our website and navigate to COR-4108204 (4-door ONLY) or COR-4108202 (2-door ONLY).**



Figure 10: Factory gas tank skid plate to new crossmember

INSTALLATION INSTRUCTIONS

14. With the hardware started, you may now torque the bolts to specification. Use Table 1 (from Step 8) for helpful specs and sizes. Tighten the joint bolts using a 7/8" wrench at the access slot to hold the nut, and a 13/16" socket with a 6" extension for the bolt head. You may need a swivel socket or adapter for easier access to the bolt head from the pockets. **Torque the 9/16" joint bolts to 146 ft-lbs.** Finally, install the remaining countersunk bolts left out from Step 7.



Figure 11: Torquing the adjuster bolts

INSTALLATION INSTRUCTIONS

15. Reinstall the transmissicrossmemberer nuts onto the studs. **Tighten the nuts to 35 ft-lbs.** Use a 16mm socket.

At this point, the new crossmember is installed, and you are ready to start the suspension work. One of the benefits of this crossmember is that it can be installed at home in your driveway, then driven to a shop with a lift to complete the suspension work (if you are unfamiliar with the process). If you are installing the long arm suspension now, please proceed to the **Jeep JK Long Arm Upgrade Kit Instructions (COR-4808322)** for a more step-by-step guide. You can find this document within the Instructions tab on our website under the part number listing.

FINAL NOTE: Welding both end-pieces of the crossmember to the frame rails is an optional upgrade for those who have an aggressive driving style and are looking for more strength and rigidity out of their crossmember. If you choose to weld the crossmember ends to the frame, make sure you grind off any paint/rust at the weld locations so the welds don't become contaminated. Be sure to repaint the welded areas. **It's always a good idea to disconnect the vehicle's battery before welding.**



Figure 12: Crossmember fully installed

INSTALLATION INSTRUCTIONS

16. The crossmember installation is now complete. Proceed with the **Jeep JK Long Arm Upgrade Kit Instructions (COR-4808322)** for a step-by-step guide on how to install the suspension components.



Figure 13: Installation complete