INSTALLATION MANUAL:

COR-4809201

JEEP PREMIUM FRONT 3.6 V6 LONG ARM

UPGRADE KIT 2018+, JL/JT

CLAYTON OFF ROAD

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.

INCLUDED ITEMS

4809201 Jeep Wrangler FRONT Premium 3.6 V6 Long Arm Upgrade Kit (2018+, JL/JT/)				
QTY	Part Number	Description	Class/Grade	ID Number
1	2209100	Jeep Front Left/Right Long Arm Frame Brackets	N/A	1
1	1909210	Jeep Premium Long Front Lower Control Arms	N/A	2
1	1809101	Jeep Premium Short Front Upper Control Arms	N/A	3
2	18968	5/8"-18 x 4" Zinc Finish Hex Cap Screw	Grade 8	4
4	33819	5/8" x 1.312" OD Zinc Finish Flat Washer	N/A	5
2	37312	5/8"-18 Zinc Finish Top Lock Nut	Grade C	6
2	0128794	M12-1.75 x 80mm Zinc Finish Hex Cap Screw	Class 10.9	7
4	11103710	M12 x 24mm Zinc Finish Flat Washer	Grade HV200	8
2	90683	M12-1.75 DIN 980 Zinc Finish Top Lock Nut	Class 10	9

Product Notes and Features:

- Weld-on frame brackets made of ¼" thick steel construction
- Utilizes the factory axle mounting points, no axle modification required
- Reduced suspension angles for a smoother, more controlled ride
- Longer arms to deliver greater articulation and climbing ability
    - **Lower arm dimensions: MIN = 37 $\frac{1}{4}$ ", MAX = 38 $\frac{3}{16}$ ", INSTALL = 37 $\frac{1}{2}$ "**
    - **Upper arm dimensions: MIN = 19 $\frac{7}{8}$ ", MAX = 22 $\frac{7}{8}$ ", INSTALL = 20 "**
- GIIRO Joint bushings on the axle end and Johnny Joints at the adjusters for superior off-road articulation, maximum versatility, and long-lasting reliability
- No exhaust modification necessary for 3.6 V6 JL or JT
- Currently tested and confirmed on a JL/JT with 3.6 V6 4 Door Only!

CONTROL ARM OVERVIEW

Please review the following information so you can become familiar with our purchasable options

OVERLAND PLUS

Designed for the daily driver/weekend warrior. Features dual-durometer, maintenance-free bushings for comfort on-road and capability on the trails. One of our two available front suspension systems that utilize a unique radius arm design for perfecting suspension geometry. Fully adjustable, 100% bolt on, and Made-In-The-USA with a Lifetime Warranty.

PREMIUM SERIES

Designed for the off-road enthusiast. Features both maintenance-free bushings and forged Johnny Joint adjusters for maximum versatility and flex. One of our two available front suspension systems that utilize a unique radius arm design for perfecting suspension geometry. Fully adjustable, 100% bolt on, and Made-In-The-USA with a Lifetime Warranty.

Arms, frame brackets, and hardware are identical, meaning you can swap to a different series at any point

INSTALLATION INSTRUCTIONS

TOOLS REQUIRED FOR INSTALLATION

- *Basic hand tools*
- *Metric wrench/socket set* *(10mm - 24mm)*
- *Standard wrench/socket set* *(7/16", 1/2", 15/16")*
- *MIG welder*
- *Cut-off wheel or plasma cutter*
- *Large box wrenches* *(1-7/16", 1-7/8")*
- *Jack stands and/or vehicle lift*

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

1. Position the vehicle either on the ground or on a lift. For this installation, it is recommended that the vehicle be supported by the frame. Support the front axle with an additional jack stand. Remove the front tires and disconnect the battery before welding.

*****Photos of control arm adjusters in the following photos may not match your selected series, but the installation remains the same!*****

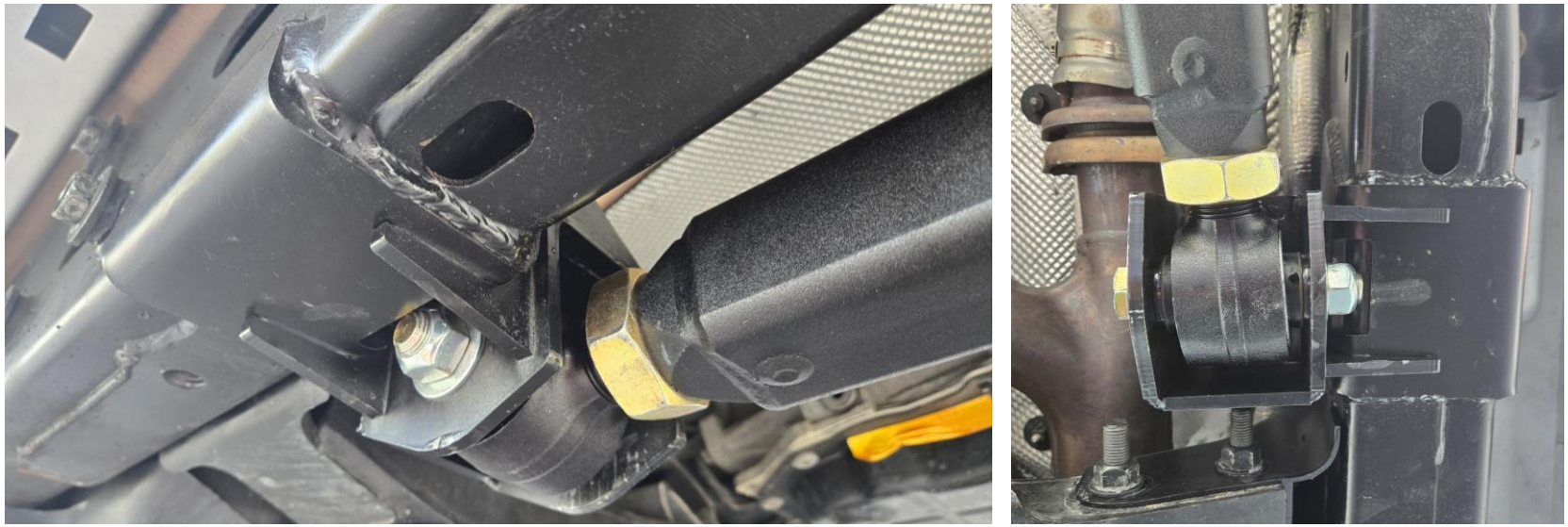

Figure 1: Installation photos

INSTALLATION INSTRUCTIONS

2. If adjustable control arms are currently installed, loosen the jam nuts while the arms are still installed. Before installing the control arm brackets, please make sure the following pre-installation checklist is completed.

PRE-INSTALLATION CHECKLIST

- ❑ Remove the plastic fuel-line shield on the passenger side (Figure 2)
- ❑ Cut off the stud on the frame for the gas tank shield (Figure 2)
- ❑ Remove the cross-member bolts and swap them around (Figure 3)
- ❑ Remove the exhaust section at the flange near the front, and the coupling before the resonator in the rear (Figure 4)
- ❑ Remove the transmission guard

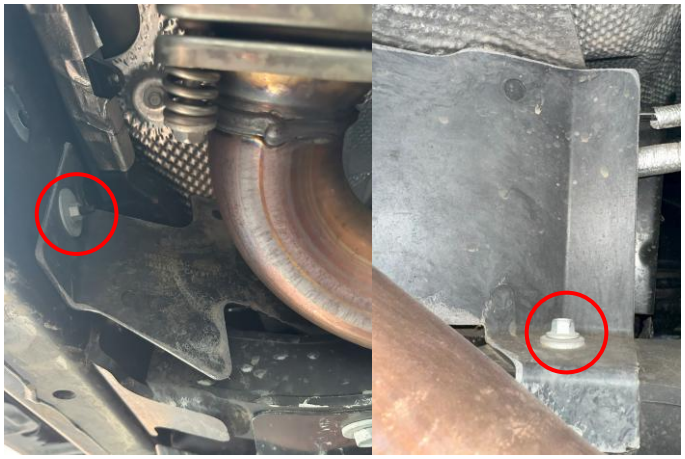

Figure 2: Fuel-line shield bolts (passenger side)

Figure 4: Exhaust section flanges and clamps

Figure 3: Cross-member bolts flipped around

INSTALLATION INSTRUCTIONS

3. Remove both front lower control arms and begin cutting off the lower control arm brackets from the frame. It is recommended to cut the bracket just below the weld and then grind the weld flat. Complete this step for both sides. See Figure 5 for the front lower control arm bracket on the passenger side of the vehicle (highlighted in blue).

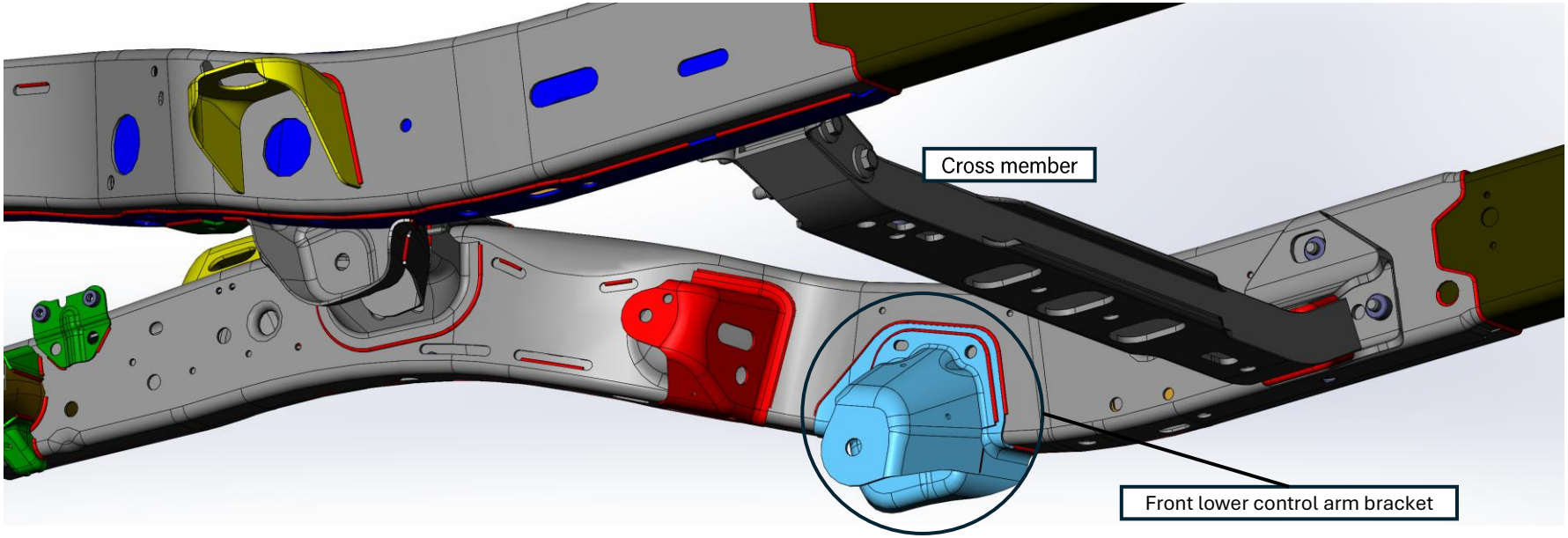

Figure 5: CAD model of original front upper and lower control arm bracket locations

INSTALLATION INSTRUCTIONS

4. Removal of the front upper control arm brackets might not be necessary depending on various suspension setup factors such as lift height, bump stops, and shocks. For a clean and finished look, remove the bracket as it won't be reused.

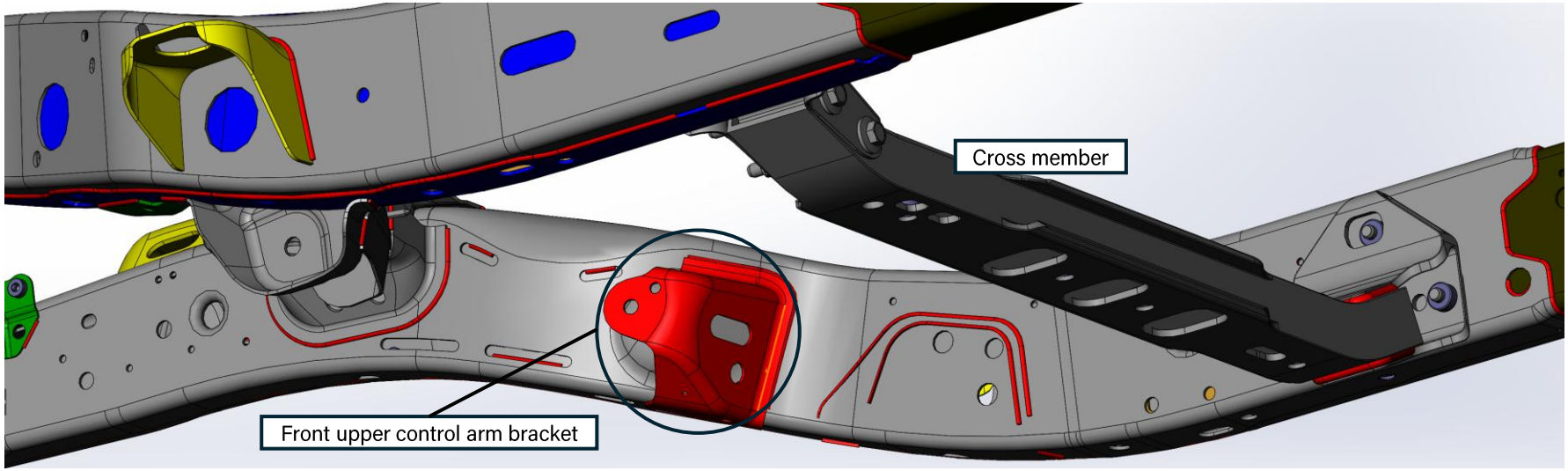

Figure 6: CAD model of original front upper control arm bracket location (front lower bracket already removed)

NOTE: At full flex, the upper radius arm on aggressive suspension setups (taller lifts with longer travel) may rub against this bracket, so removing it is the worry-free option.

INSTALLATION INSTRUCTIONS

5. Once the control arm brackets are cut off and the welds are ground flat, prepare the area for welding. Remove any paint and clean the bare metal surface.

Position the lower control arm brackets on the frame rail. Using the slotted hole on the frame, **measure back 3/16" and slide the bracket over the rail at this location. Mark this location with a sharp tool. Make sure that the cross member bolt head is on the opposite side of the cross member!**

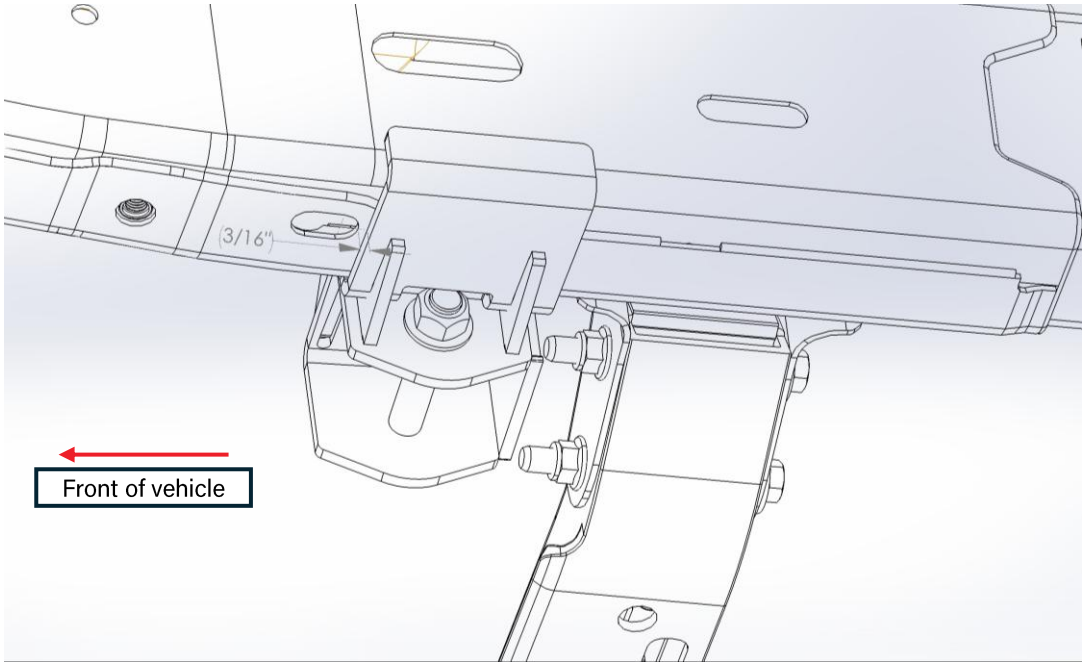

Figure 7: CAD model of bracket installed over frame rail (driver side)

INSTALLATION INSTRUCTIONS

6. Secure the brackets so that they sit flush on the frame rail by using a mallet or dead-blow hammer. Before welding, confirm that the bracket sits 3/16″ behind the slot in the frame.

Weld completely around the entire outside edge of the frame rail bracket. Be mindful of the coolant and brake lines when welding on the brackets. Unclip and move them out of the way or shield them using a piece of scrap metal.

Figure 8: Bracket welded along edge to frame rail and area painted black

TIP: The cross-member can be removed to gain additional clearance when welding but is not required.

INSTALLATION INSTRUCTIONS

7. Install one lower control arm. The lower arms set the wheelbase of the axle. Set their length to the install length found at the beginning of this document. Ensure they are both the **same length.** Put the arms side by side and run a bolt through both ends to ensure they are equal in length.

Reuse the original hardware from the previous lower control arms on the axle. Use the supplied 5/8"-18 x 4" bolts along with washers and top lock nuts for the frame bolts.

Next, loosely install the short upper control arm using the supplied M12-1.75 x 80mm bolt, washers, and hardware at the radius linkage "C" mount. Set their length to the install length found at the beginning of this document. Reuse the original hardware for the upper control arm mount to the axle.

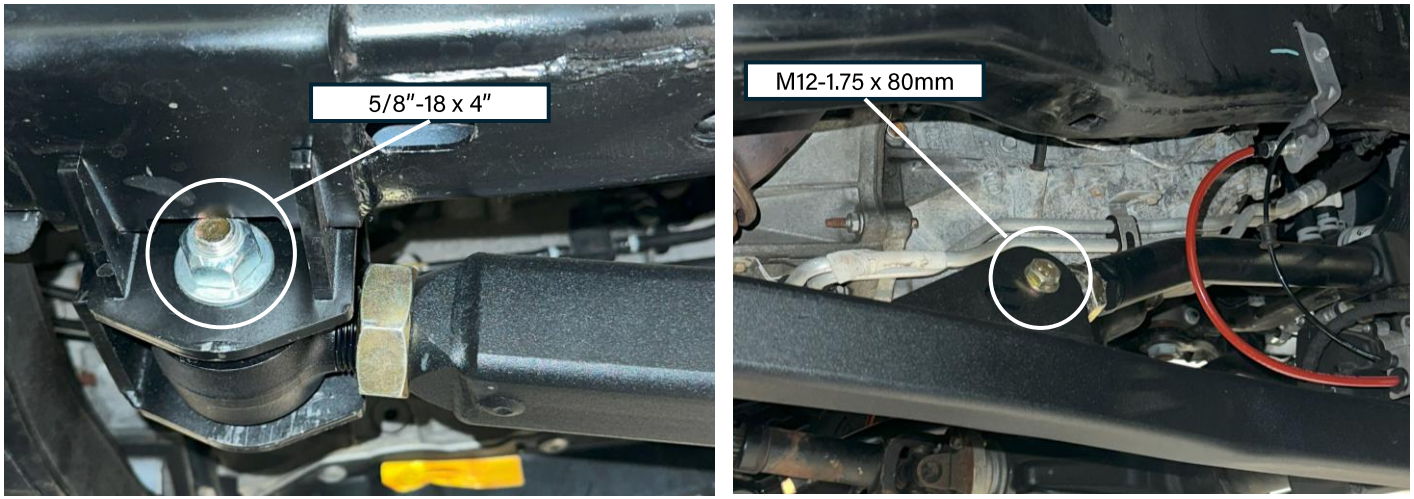

Figure 9: Frame bracket with lower arm (adjuster end) installed using supplied hardware

NOTE: Make sure that both upper and lower arm adjusters are positioned on the frame side, and that the upper arm mount is angled inward.

INSTALLATION INSTRUCTIONS

8. Install the other lower control arm (same length as the first side) using supplied and original hardware. **Leave this side's upper control arm out for now.** Visually check the wheelbase positioning by comparing the axle and frame coil buckets and shock positioning. Adjust the wheelbase length as needed by threading in/out **both lower control arm adjusters equally.**

Next, set the vehicle at ride height. Reinstall this side's tire and use a jack stand to support the other end. To set the pinion and caster angle:

- Support the pinion with a car jack
- Remove the upper control arm bolt at the "C" mount
- Use the jack to set the desired caster and pinion angle (use a digital angle finder). We recommend 5.5°-6°
- Lengthen or shorten the upper control arm adjuster to achieve the desired angle and tighten
- Installing the other upper control arm on the other side to fit, without touching the jack. **The upper control arms do not need to be the same length and can vary slightly!**

Figure 10: Passenger side lower and upper control arms installed

INSTALLATION INSTRUCTIONS

9. Torque all hardware. Refer to the table below for helpful torque specifications. It is recommended to retorque all bolts after the first 500 miles of driving.

Table 1: COR Long Arm Torque Specifications

Bolt Location	Wrench Size	Torque (ft-lbs)
Upper Control Arm Radius Link Bolt (M12-1.75 x 80mm)	19mm	100
Upper Control Arm Axle Bolt (Factory Size)	18mm	80
Lower Control Arm Frame Bolt (5/8”-18 x 4”)	15/16”	190
Lower Control Arm Axle Bolt (Factory Size)	21 and 24mm	190

INSTALLATION INSTRUCTIONS

10. Tighten down the jam nuts on the upper and lower control arms. Use a 1–7/8" wrench for the lower control arm jam nuts, and a 1-7/16" wrench for the upper control arm jam nuts. Use a breaker bar to gain additional leverage. Tighten all jam nuts down as tight as humanly possible.

Please note that not all wrenches are created with the same tolerances. If your wrenches are too loose around the jam nut, Clayton Off Road offers tight, wrap-around wrenches for purchase. Please search for the wrenches using the SKUs below.

Figure 11: COR Wrench-ends for control arm jam nuts (COR-2500125, COR-2500100)

INSTALLATION INSTRUCTIONS

11. Once the frame and brackets are painted, reinstall the exhaust and cross-member (if it was removed). Please follow the post-installation checklist to complete the installation. As always, feel free to contact us with any questions you may have about the installation.

POST-INSTALLATION CHECKLIST:

- ❑ Frame brackets are properly welded entirely to the frame
- ❑ The work area is fully painted
- ❑ Exhaust is reinstalled at the two flanges and the clamp
- ❑ Coolant/brake lines are put back into place and are not damaged
- ❑ All hardware is torqued to specification (see Step 9)
- ❑ Control arm jam nuts are as tight as possible
- ❑ Lug nuts are torqued to the manufacturer's specification
- ❑ A licensed shop has professionally aligned the vehicle
- ❑ Retorque all hardware after 500 miles of driving

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