MetalCloak
Installation Instructions

PRODUCT: **TJ Lock-N-Load Long Arm Upgrade Kit**

REV: D | 04-05-2024 | II-7141

READ INSTRUCTIONS IN FULL BEFORE INSTALLATION.

QUESTIONS? CALL 916-631-8071 M-F 7:00 AM – 5:00 PM PST

The MetalCloak experience includes the ease of installation of our products. We design for most contingencies, but installation may be different based on different Jeep condition, configuration and/or year.

We are continually trying to improve our products and instructions – please help us by providing feedback and pictures if you find any part of the instructions that do not match your particular Jeep or are not easily understandable.

If you have any difficulties at all, please give us a call. Thank you and enjoy your MetalCloak Products!

IMPORTANT NOTE: We use Stainless Steel Hardware where possible. Therefore, a tube of Silver Anti-seize is provided and should be used on all bolts—only a small amount is needed.

WARRANTY INFORMATION: This article is sold without warranty expressed or implied. No warranty or representation is made as to this products ability to protect the user from injury or death. The user assumes that risk. The effectiveness, warranty and longevity of this equipment are directly related to the manner in which it is INSTALLED, USED and/or MAINTAINED. THE USER ASSUMES ALL RISK. By purchasing this product and opening the packaging, purchasers expressly acknowledge, understand and agree that they take, select and purchase these MetalCloak products from Armored Works, LLC, its affiliates and distributors and agents as is and with all faults. The entire risk as to the quality and performance of these MetalCloak products is with the purchaser. Working on your vehicle can be a dangerous activity. If you are unsure of what you are doing, please leave mechanical or safety critical work to a skilled mechanic. We take no responsibility for the incorrect use and/or installation of MetalCloak products.

Section 1: Tools & Notes on Installation

This is an advanced suspension install for experienced technicians; If you are not competent with advanced automotive mechanics, cutting, drilling, and welding it is recommended to have this system installed by a MetalCloak Authorized Installer.

Safety Warning: *Suspension systems or components that enhance the off-road performance of a vehicle may cause it to handle differently on or off-road than it did from the factory. Care must be taken to maintain control of modified vehicles during sudden maneuvers. Failure to drive the vehicle safely may result in serious injury or death to driver and passengers. MetalCloak recommends always wearing a safety belt, driving safely trying to avoid sudden maneuvers. As with any vehicle maintenance is required to keep it operating safely. Thoroughly inspect your vehicle before and after every off-road use.*

Installation Warning: *MetalCloak recommends that certified technicians perform the installations of MetalCloak products. These instructions only cover the installation of our products and may not include factory procedures for disassembly and reassembly of factory components.*

Read instructions from start to finish and be sure all parts are present before disassembling the vehicle. These instructions are only guidelines for installation and in no way meant as definitive. The installer is responsible to ensure that the vehicle is safe for use after performing modifications.

Slip yoke eliminator and CV driveshaft is required for this Long Arm System.

Exhaust modifications are required for this Long Arm System.

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Section 1: Tools & Notes on Installation

Tools Required: This list is the recommended tools for ease of installation. Other versions of the same tool can be used. For example, Allen Wrenches instead of Allen Drive Sockets.

Socket & Ratchet Wrench

Tape Measure

Grinder

Safety Glasses

½” Drill Bit
1” Hole Saw

Drill

Socket Set

Gas Welder

HOW TO USE THIS GUIDE: The installation guide contains ALL steps for installation. Please read and follow the instructions in order of each page top to bottom, and left to right.
Jeep Model: Instructions may apply to multiple Jeep models, but are labeled separately where appropriate (i.e. TJ vs. LJ).
Options: Because of the number of component options we offer, these instructions may contain steps that will not match your particular configuration. You can skip these steps.
Images: Pictures are provided and parts are labeled throughout the instructions. Each text box contains guidance based on the pictures next to it. The text will refer to alphabetical labels (A, B, etc) found in the images.
Installation Notes: Terms may be used in the body of the instructions that you may not be familiar with, if you have any questions feel free to contact us at the number below, or email techhelp@metalcloak.com
QUESTIONS: Any questions or comments about the instructions? Call us at 916-631-8071 M-F 7:00 AM – 5:00 PM PST.

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Section 2: Product Components

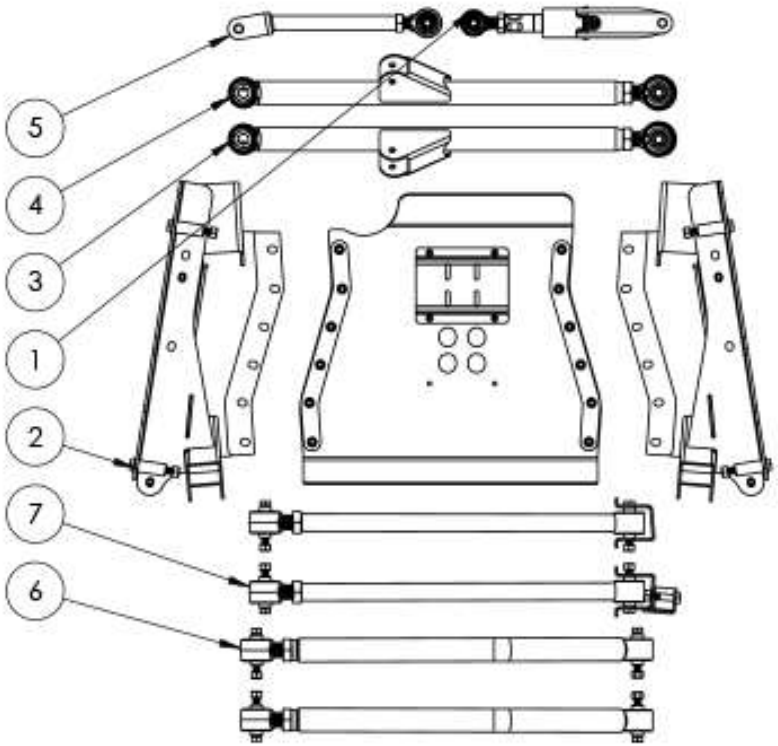
DC-0001 REV A

SHEET 1 OF 1

ITEM	PART NUMBER/DESCRIPTION	QTY.
1	7075 LOCK-N-LOAD RADIUS ARM LINK, TJ	1
2	7087 LONG-ARM FRAME MOUNT SYSTEM, TJ	1
3	7090 CONTROL ARMS, LOWER LONG-ARM, FRONT TJ-LJ	1
4	7090-P CONTROL ARM, LOWER LONG-ARM, FRONT PASS TJ-LJ	1
5	7091 RADIUS ARM, FRONT TJ-LJ	1
6	7092 CONTROL ARMS, LOWER LONG-ARM, REAR TJ	1
7	7093 CONTROL ARMS, UPPER LONG-ARM, REAR TJ	1

REQUIRED MODIFICATIONS:
CUT/GRIND (FRAME BRACKETS)
WELD (FRAME SLEEVES, REAR AXLE MOUNTS)
SLIP-YOKE ELIMINATOR

OPTION 1: CENTER SECTION
7088 LONG-ARM SKID PLATE, EARLY TJ (1997-2002)
7089 LONG-ARM SKID PLATE, LATE TJ-LJ (2003-2006)



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METAL CLOAK
A DIVISION OF ARMORED WORKS, LLC

PART NUMBER
DESCRIPTION

7141 LOCK-N-LOAD LONG-ARM UPGRADE, TJ

Section 3: Installation Instructions

Step 1: Removal of Factory Lower Control Arm Mounts on Frame

A. Support vehicle by frame *(preferably on a lift)* Support both axles with jack stands and remove the following components; Wheels, shocks, track bars, sway bar end links, coil springs, lower control arms, bump stops, rear drive shaft, and exhaust system behind the catalytic converter

B. Cut off the (4) factory lower and (4) factory upper control arm mounts from the frame.

C. Grind sharp areas smooth and repaint

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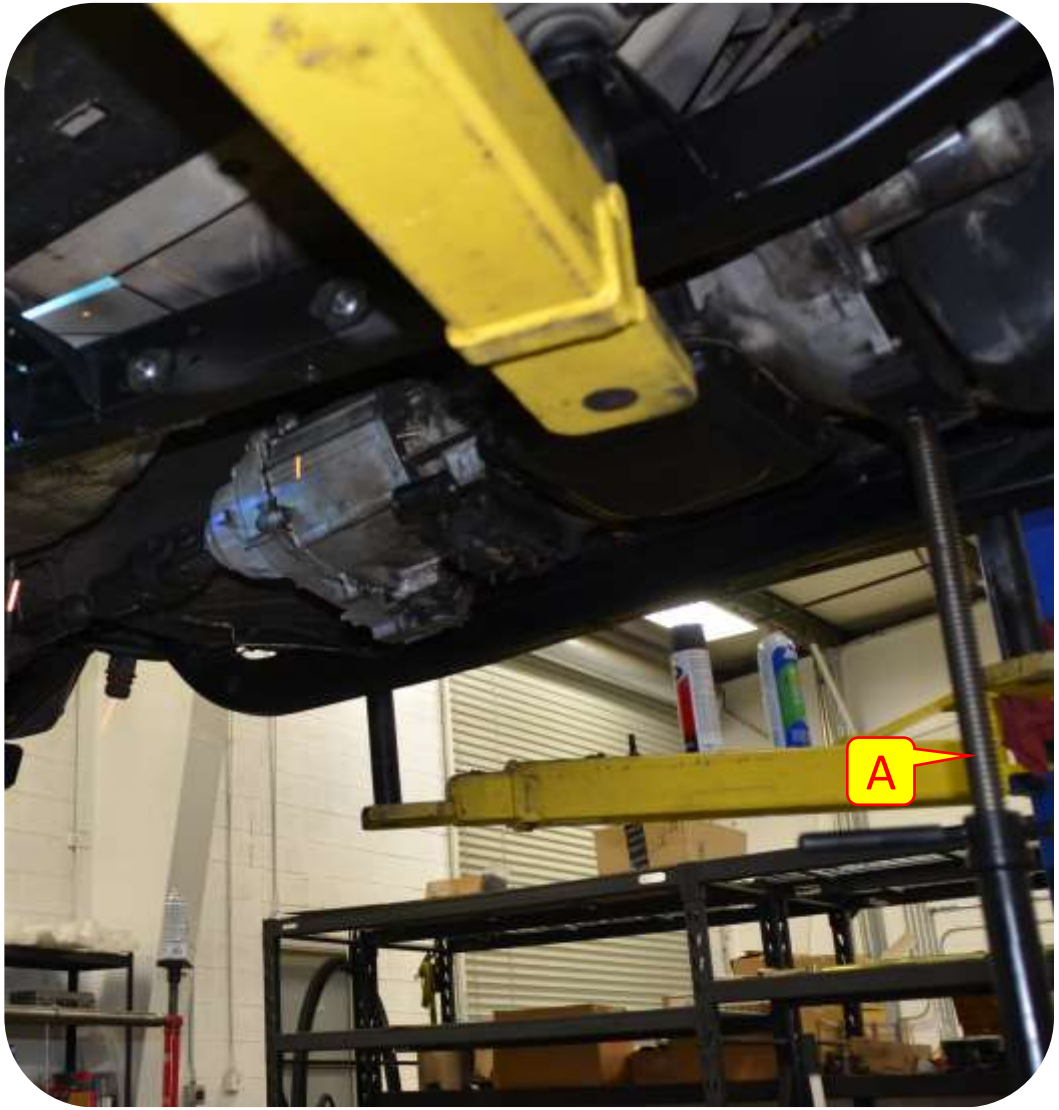
Step 2: Removal of Crossmember

A. Support the transmission and transfer case and remove the stock crossmember.



Note: *The "Rubicon" model TJ's will require relocation of the compressor. The factory compressor bracket may be reused by drilling a hole and mounting it to the seat belt bolt on the underside of the vehicle.*

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Section 3: Installation Instructions

Step 3: Install MetalCloak Skid Plate System

A. Install side plates using factory holes to locate.

B. Once the side plate is mounted mark holes on frame rail.

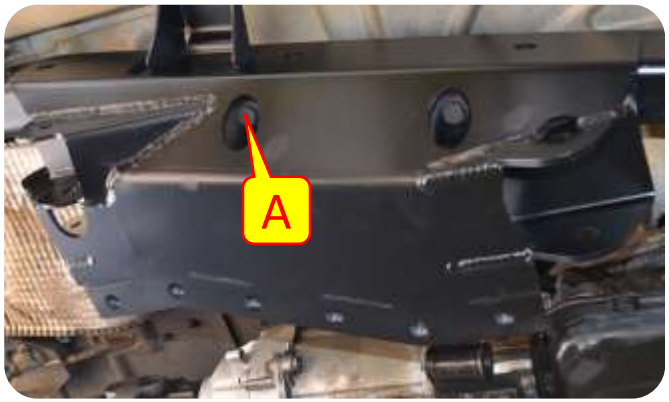
C. Remove side plates and cut holes in outside frame rail for sleeves using 1” hole saw.

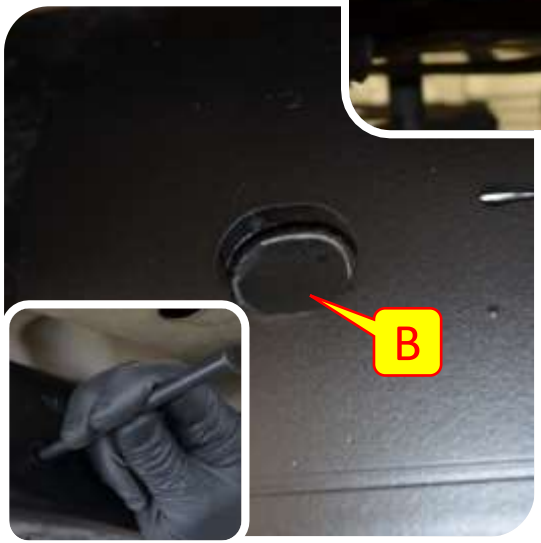
D. Prepare frame rail surface for welding and install frame sleeves.

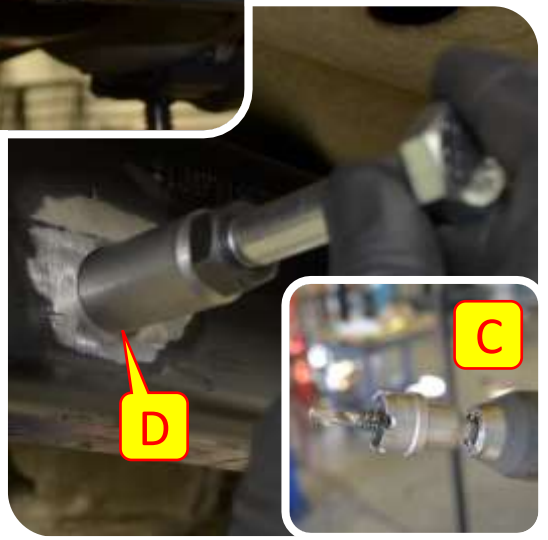
E. Weld in frame sleeves.

F. Use welded frame sleeve as guide to drill a ½” hole through inside frame rail.

G. Grind welded areas flush and repaint bare surfaces.







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Step 3: Install MetalCloak Skid Plate System

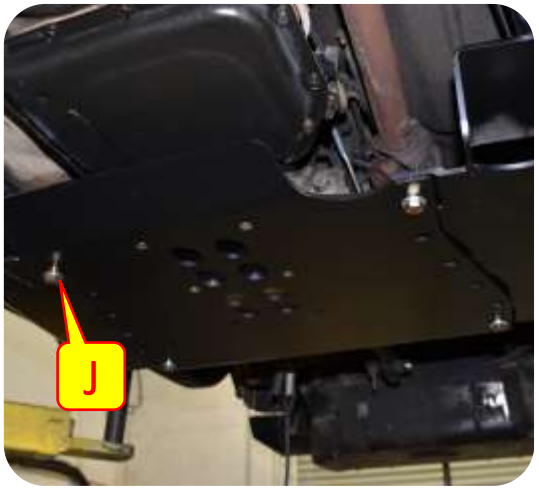
G. Chase bolt holes with drill bit to remove any burs.

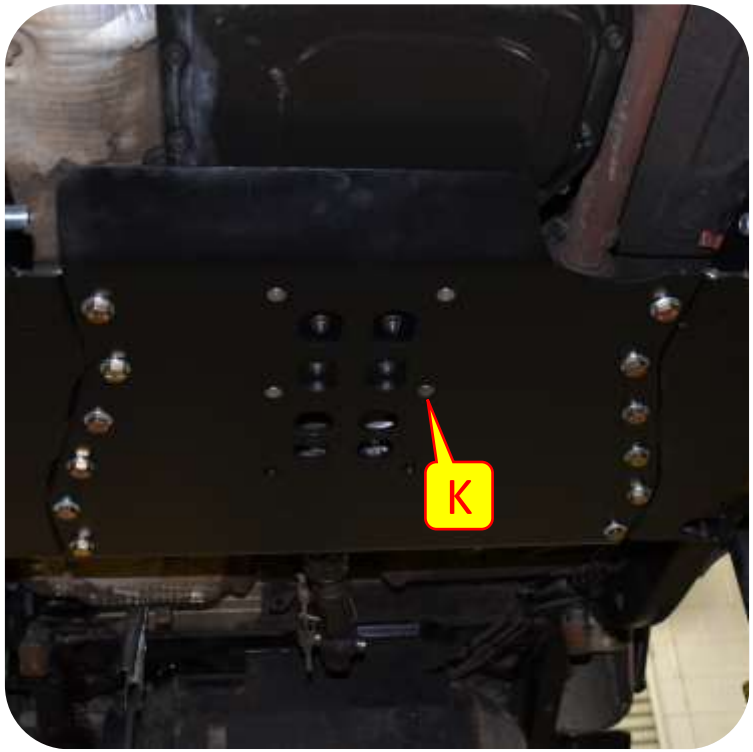
H. Bolt side plates on to frame rails

I. Install transmission mount adapter on center section

J. Install center section to frame rails

K. Lower transmission and bolt to center section.





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Section 3: Installation Instructions

Step 4: Install MetalCloak Front Control Arms

A. Adjust front lower control arms' length to an initial setting of 37.5" from eye to eye.

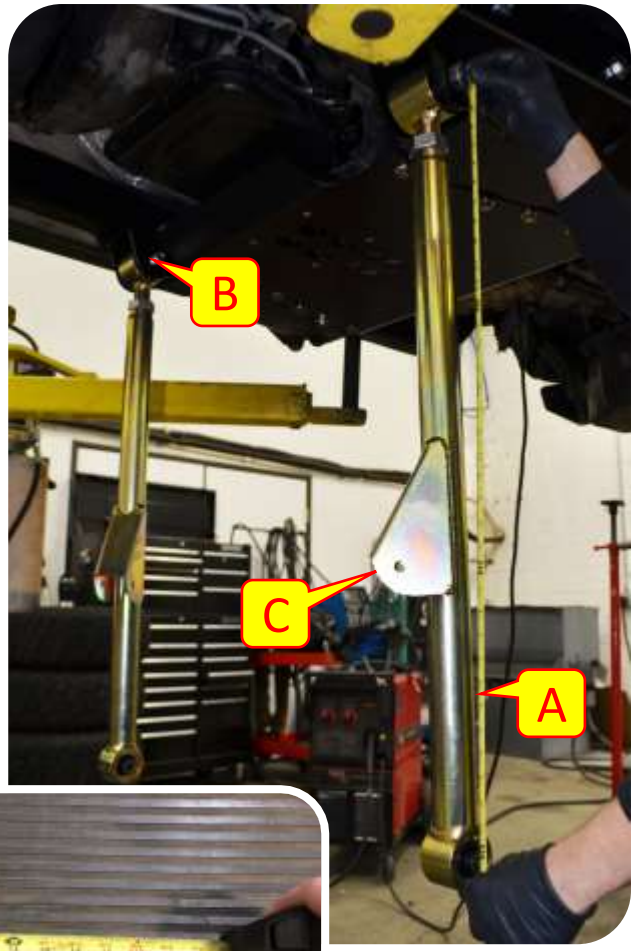
B. Install adjustable side of arm to the cross member with supplied hardware.

C. Position the arms so the welded-on brackets for the front upper arms and Lock-N-Load are on top and bending towards each other.

D. Adjust the front upper control arm and Lock-N-Load lengths to an initial setting of 16-3/8" from eye to eye. Install front upper arms with the non-adjustable side into the lower control arm brackets with supplied hardware. *(See Lock-N-Load set up)*

E. The upper arms will be used to adjust final caster and pinion angle.

F. Attach front lower control arms to axle with the supplied hardware, attach upper arms to axle with supplied hardware.



Note: *Final arm lengths may vary from around 37.5" to 38" eye to eye depending on lift, axle squareness and differential clearance to track bar.*

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Section 3: Installation Instructions

Step 5: Setup for Lock-N-Load

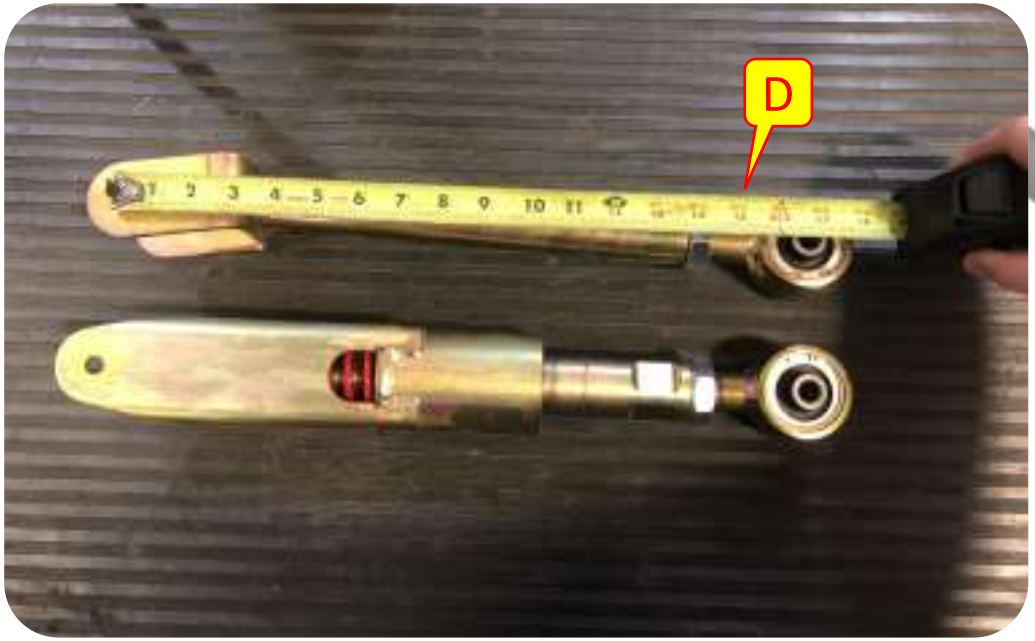
Note: *These Instructions are for the Lock-N-Load upper control arm. The Lock-N-Load was designed specifically for radius arm suspensions. The Lock-N-Load control arm is for use on radius arm suspensions and is **ONLY** installed on the passenger side upper control arm location.*

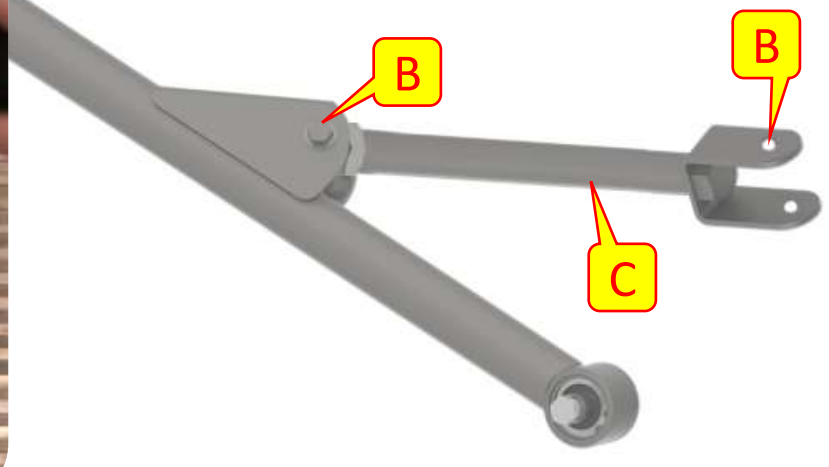
A. With Jeep on flat surface block front and rear wheels to keep from moving.

B. Remove the bolts holding in the upper control arm on the passenger side.

C. Remove control arm.

D. Measure the length of the passenger side control arm from eye to eye *(this measurement is what you will set the Lock-N-Load to)*.





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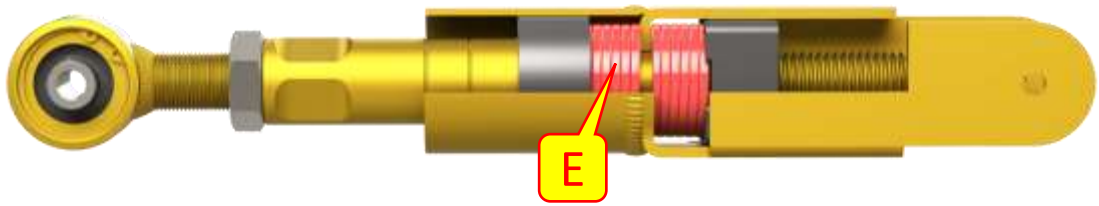
Step 5: Setup for Lock-N-Load

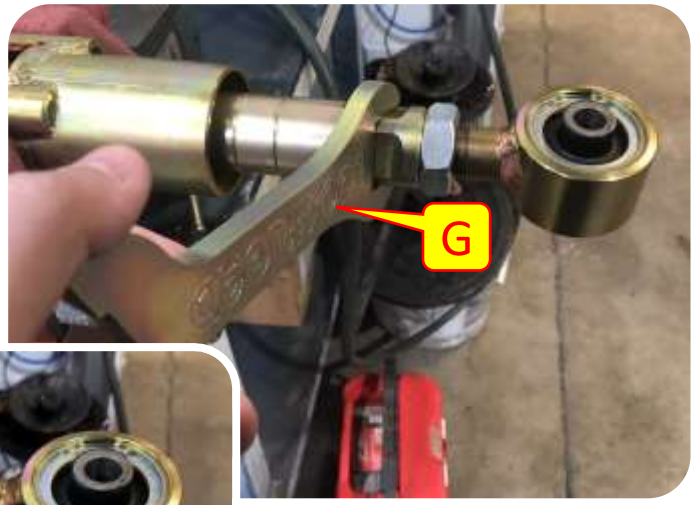
E. Take the Lock-N-Load control arm and make sure that it is in the Locked position *(springs are completely compressed)*.

F. If the Lock-N-Load is not in the locked position you may place the square section of the Lock-N-Load body in a vise and gently clamp to hold.

G. Using an 1 ¼" wrench turn the adjustment of the control arm clockwise until the line on the arm corresponds with the lock position.

H. Adjust the coupler on the control arm to the earlier recorded measurement *(eye to eye length)* and tighten jam nut with a 1 ½" wrench.





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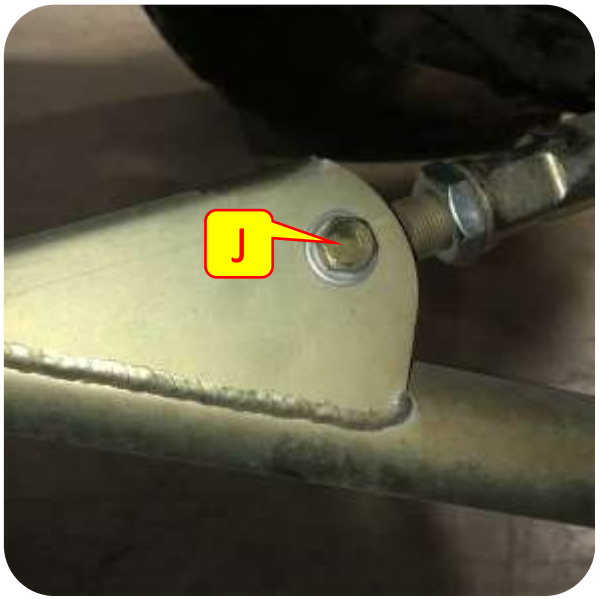
Step 5: Setup for Lock-N-Load

I. Install the squared section of the Lock-N-Load into the axle bracket and attach with given hardware.

J. Place back side of control arm into the radius arm bracket and attach with Lock-N-Load hardware.

K. Torque to spec *(75lbs)*.



Note: *To unlock for off-road use loosen jam nut and spin Lock-N-Load adjuster until corresponding line shows unlocked; Tighten jam nut and go wheeling.*

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Step 1: Rear Factory Control Arm Brackets

Note: *Factory control arms should already be removed and rear axle should be properly supported by stands.*

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Step 1: Rear Factory Control Arm Brackets

A. Remove upper factory rear control arm brackets from axle.

IMPORTANT NOTE: ***THE LOWER BRACKETS REMAIN ON THE AXLE! DO NOT REMOVE THE LOWER BRACKETS!***

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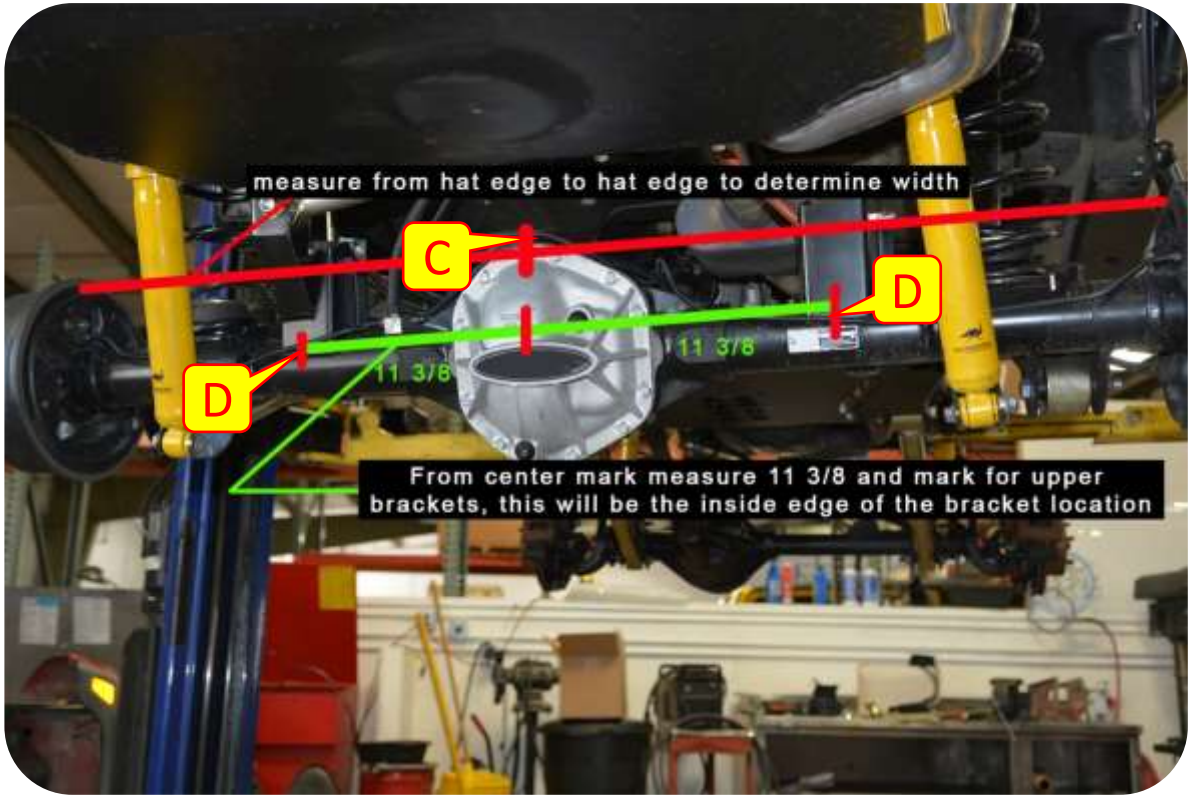
Step 2: Installing Rear Control Arm Brackets

B. Remove factory rear track bar.

C. Measure axle width to find axle center and mark.

D. From the axle center mark use a tape measure to measure 11 3/8” out to both driver and passenger sides from the center and mark *(this will be the placement for the inside edge of the MetalCloak replacement axle brackets)*.



Note: *The differential may not be the actual center.*

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Step 2: Installing Rear Control Arm Brackets

E. Temporarily place the MetalCloak replacement axle brackets onto the mark made on step D and mark bracket location and remove replacement axle brackets.

F. Remove any surface coating on axle to prepare for welding.

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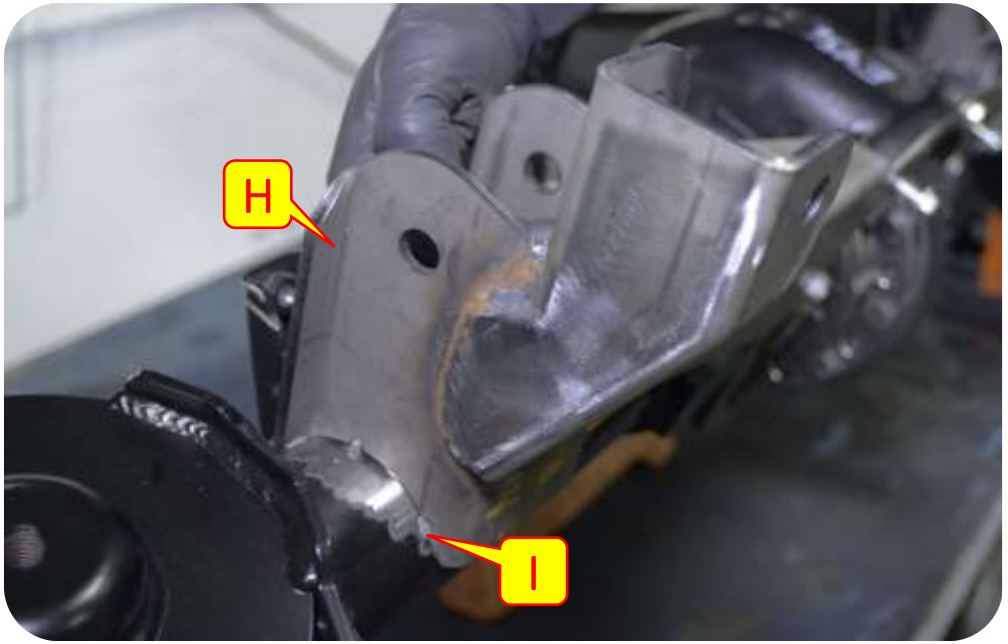
Step 2: Installing Rear Control Arm Brackets

G. Set the pinion of the axle to be exactly horizontal using an angle finder.

H. Center the axle brackets at the previously marked locations.

I. Using the angle finder rotate axle brackets 11 degrees towards the pinion and tack the brackets into place *(be sure the pinion is still horizontal before tacking)*.



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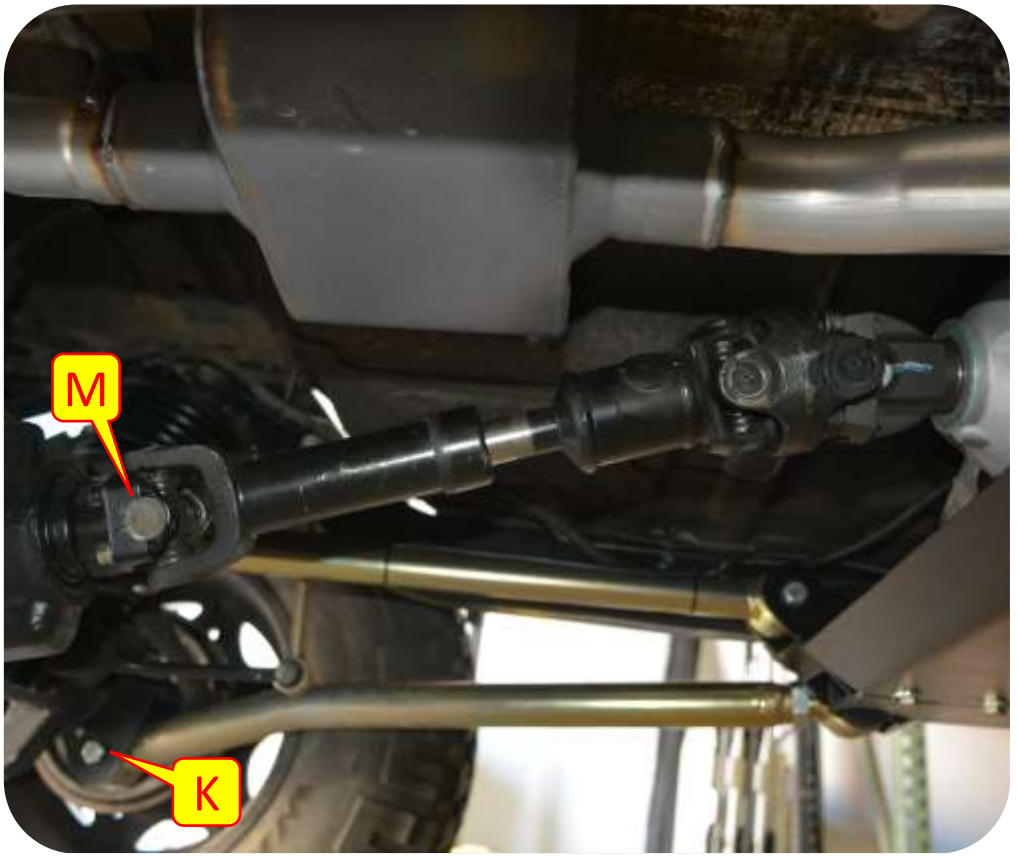
Step 3: Installing Rear Control Arms

J. Preset the MetalCloak long arm control arms. The rear lower control arms should be set to 33 ½" eye to eye and the upper rear control arms should be set to 31" eye to eye for reference.

K. Loosely attach rear upper and lower control arms to the axle with provided hardware.

L. Attach rear fixed side of track bar to axle side bracket.

M. Install rear drive shaft.



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Step 3: Installing Rear Control Arms

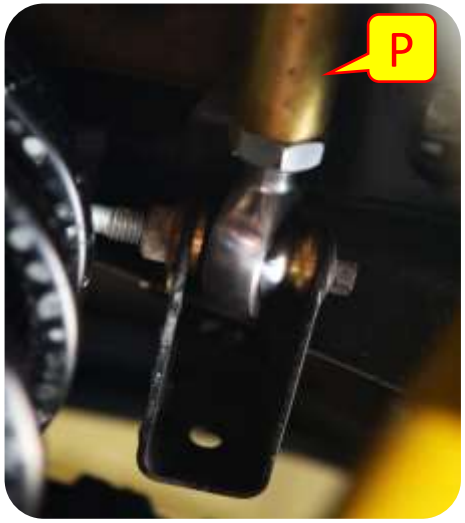
N. Remove stands and lower Jeep onto the ground.

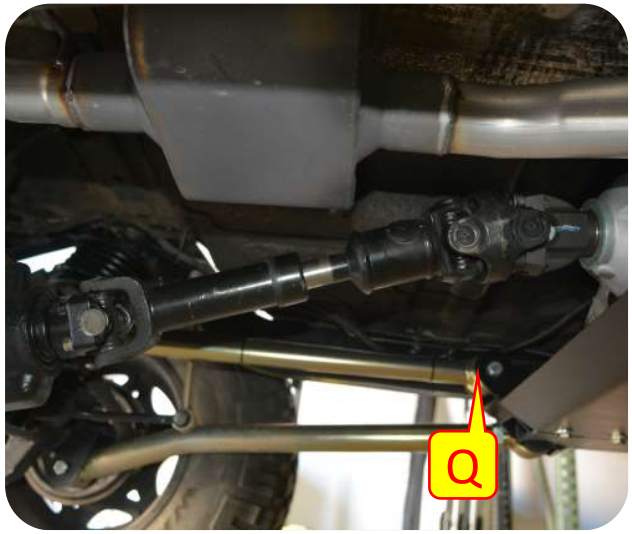
O. Center vehicle over rear axle. Measuring carefully using like points on each side of the vehicle until centered.

P. Adjust the frame side of the rear track bar to fit into the factory track bar bracket on the frame and bolt into place.

Q. Adjust the upper control arm lengths to adjust to the correct pinion angle.

R. When the control arm lengths have been adjusted re-lift the Jeep and support with stands.





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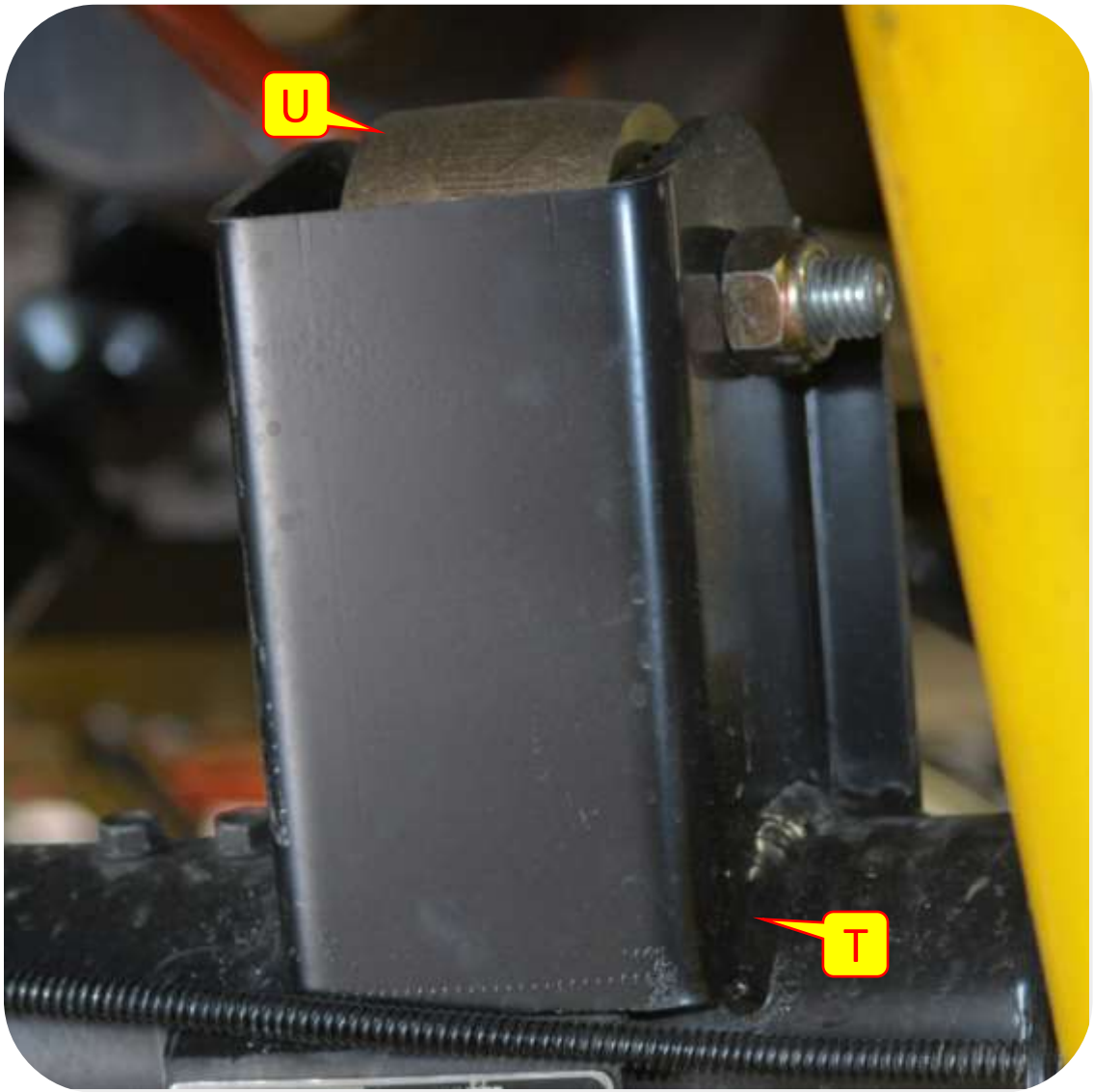
Step 3: Installing Rear Control Arms



S. Remove bolts holding the rear control arms in the axle brackets and remove control arms.

T. Weld brackets into place.

U. Re-install the rear control arms back into axle brackets with provided hardware.

Note: *Heat from welding may damage Duroflex Joints. Disconnect the rear control arms prior to welding on brackets and wait for welds to cool.*

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Step 4: Tighten all hardware

Lower Jeep and Tighten ALL hardware.

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