



PRODUCT: JK Wrangler Ball Joint Upgrade Set

REV: A | 04-17-2023 | II-1910

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



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

10mm Socket 21mm Socket
35mm Socket



13mm Wrench
22mm Wrench

Needle Nose Pliers



5mm Allen Wrench
3/32" Allen Wrench
3/8" Allen Wrench

Flat Head Screwdriver



Ball Joint Press

Ball Joint Separator



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.

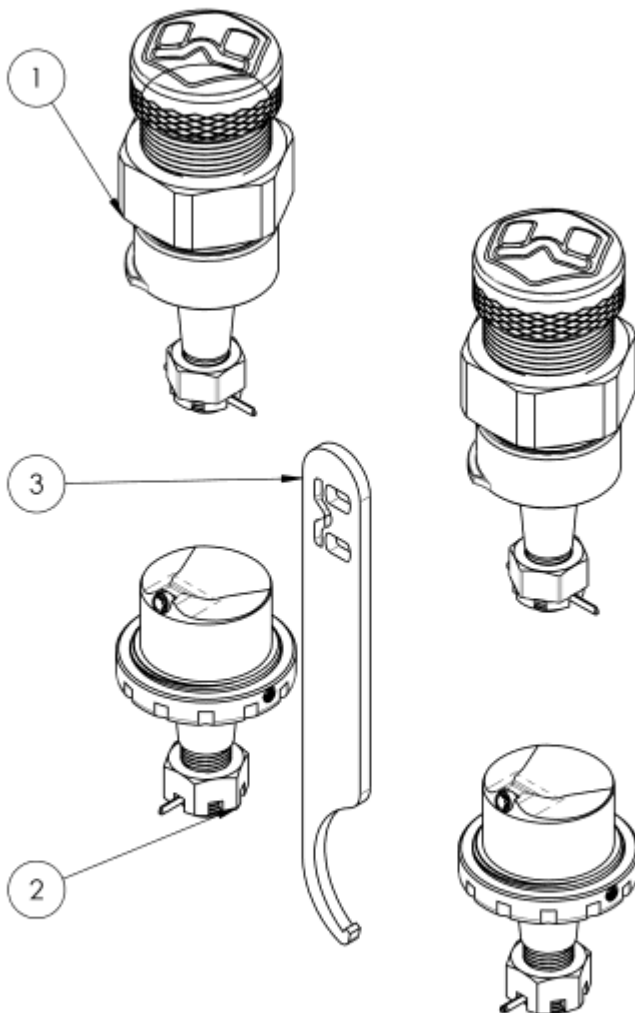
Installation Notes: Terms may be used in the body of the instructions that you may not be familiar with, if you have any questions feel free to contact us at the number below, or email techhelp@metalcloak.com

QUESTIONS: Any questions or comments about the instructions? Call us at 916-631-8071 M-F 7:00 AM – 5:00 PM PST.

Section 2: Product Components



DC-0001 Rev B SHEET 1 OF 1

	1	2	3	4	5	6	7	8
	ITEM	PART NUMBER/DESCRIPTION			QTY.			
	1	BJ-0120 UPPER BALL JOINT JK			2			
	2	BJ-0121 LOWER BALL JOINT JK			2			
E	3	BJ-0116 WRENCH, LOWER BALL JOINT, JK JL			1			
	HARDWARE KIT							
	4	FA-2026 GREASE FITTING, FLUSH MOUNT			2			
	5	FA-2032 COTTER PIN, .094 X 1.25 STL ZN			4			
	6	FA-2037 GREASE FITTING, 0.25-28 STANDARD MOUNT			2			
	7	FS-02335 SET SCREW, 10-32 X 0.187L FLAT TIP BLK OX			4			
D								
C								
B								
A					<div>  </div>			
					<div> <p>THE INFORMATION CONTAINED ON THIS DRAWING IS THE EXCLUSIVE PROPERTY OF ARMORED WORKS, LLC. UNAUTHORIZED REPRODUCTION IS PROHIBITED.</p> <p>DO NOT SCALE DRAWING</p> <p>MetalCloak A DIVISION OF ARMORED WORKS, LLC</p> </div>			
					<div> <p>PART NUMBER/DESCRIPTION</p> <p>1910 JK BALL JOINT SET</p> </div>			

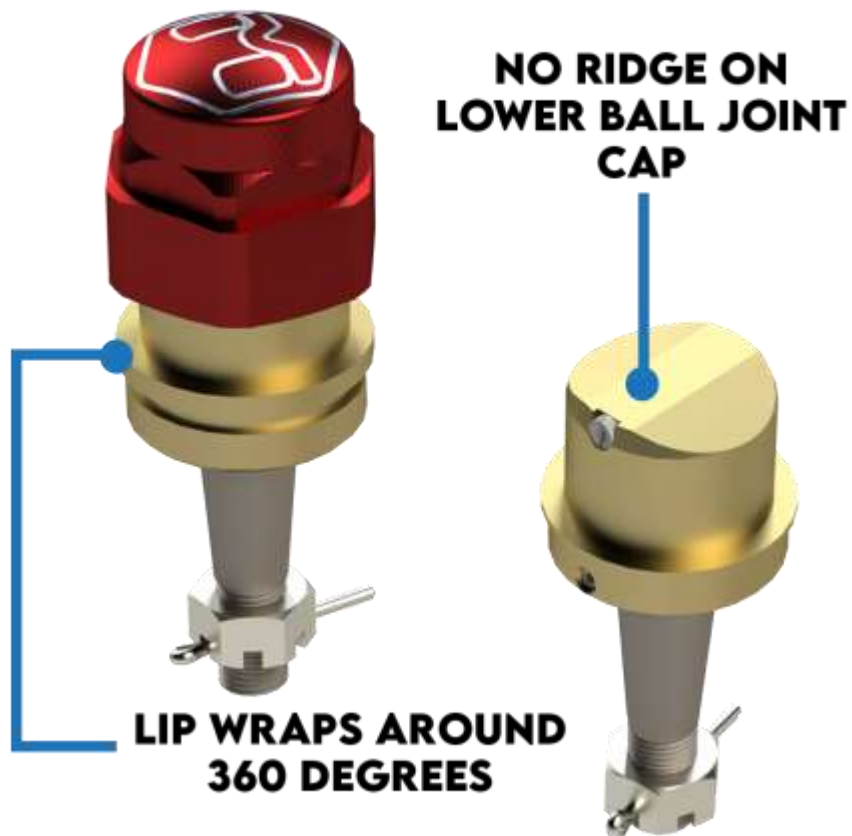
Section 3: Installation Instructions



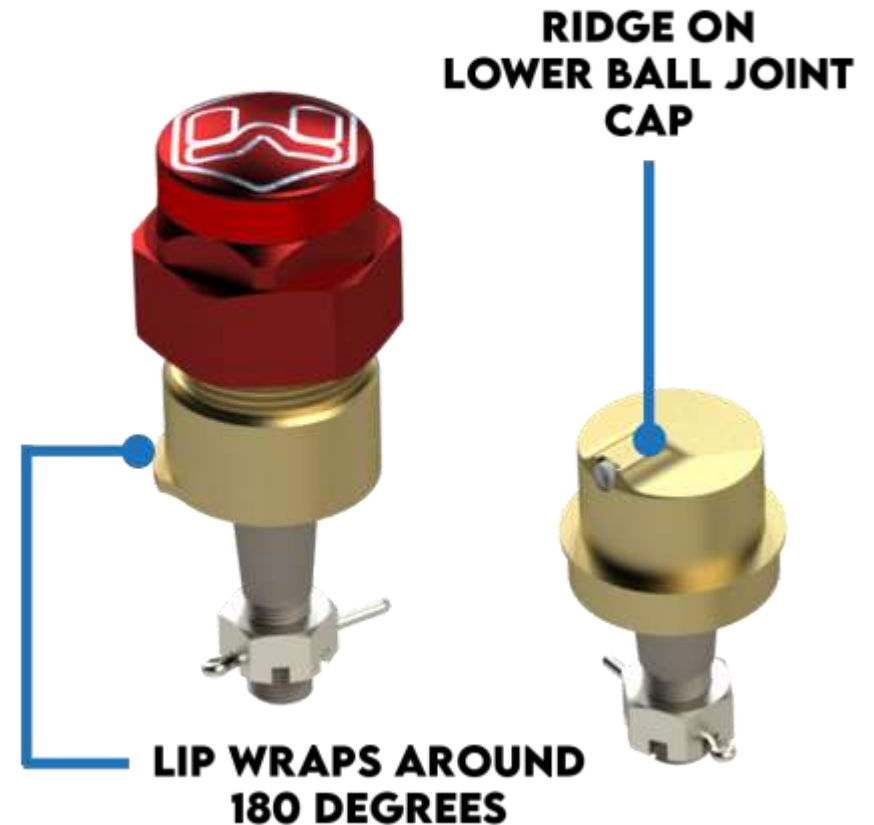
Important Note

Before starting on the ball joint install make sure you have the correct ball joints for your rig.

JL WRANLGER & JT GLADIATOR



JK WRANLGER

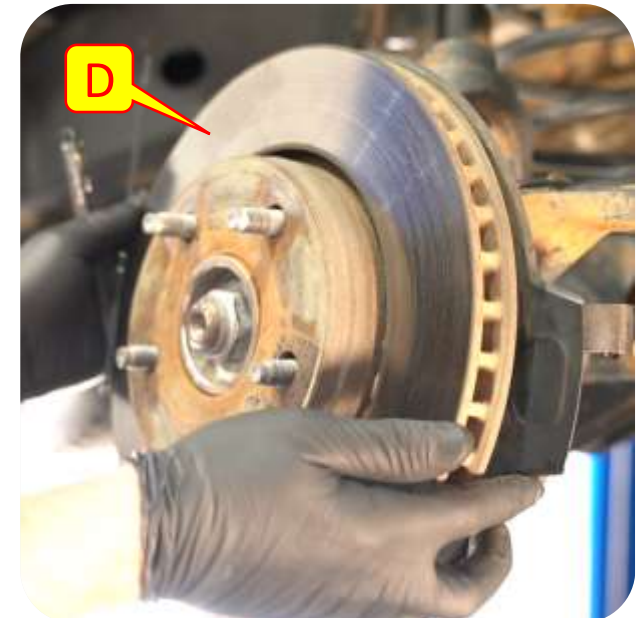
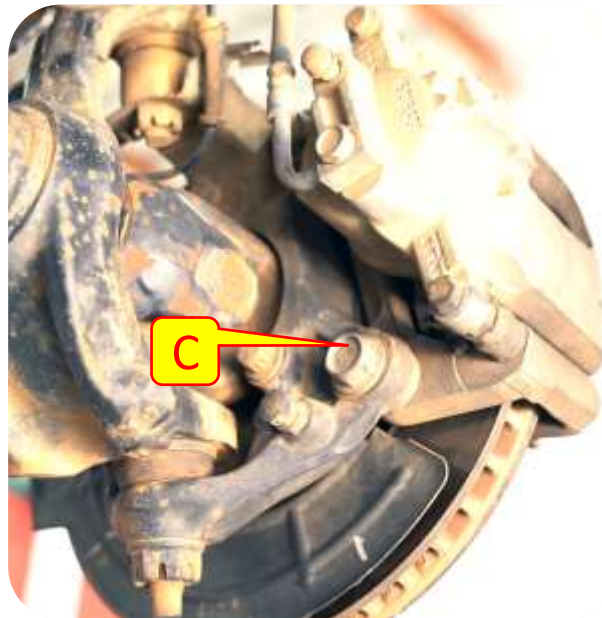
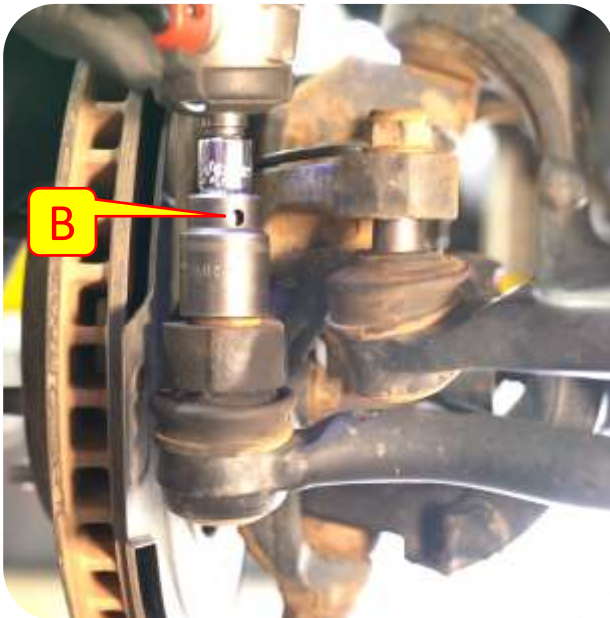


Section 3: Installation Instructions



Step 1: Axle Disassembly

- A. Lift Jeep or Axle, remove tires.
- B. Remove the steering linkage (*tie rod and drag link*) with a 21mm wrench or deep socket and tie rod separator.
- C. Remove brake caliper bolts with a 21mm wrench or socket and hang calipers out of the way.
- D. Remove the brake rotor.

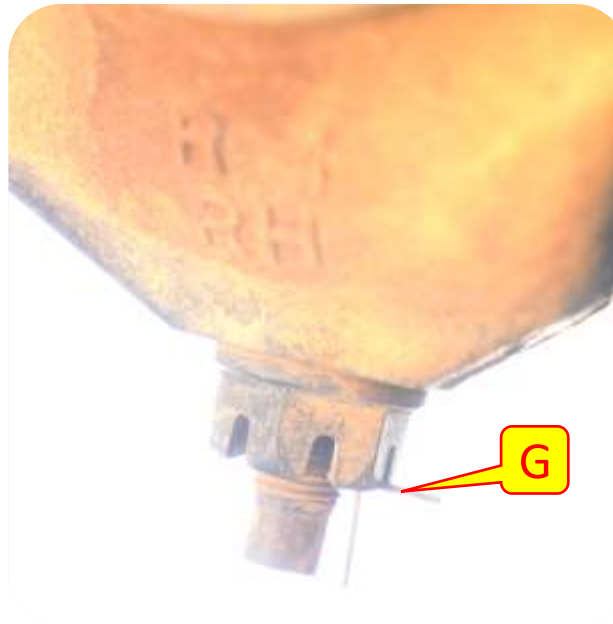
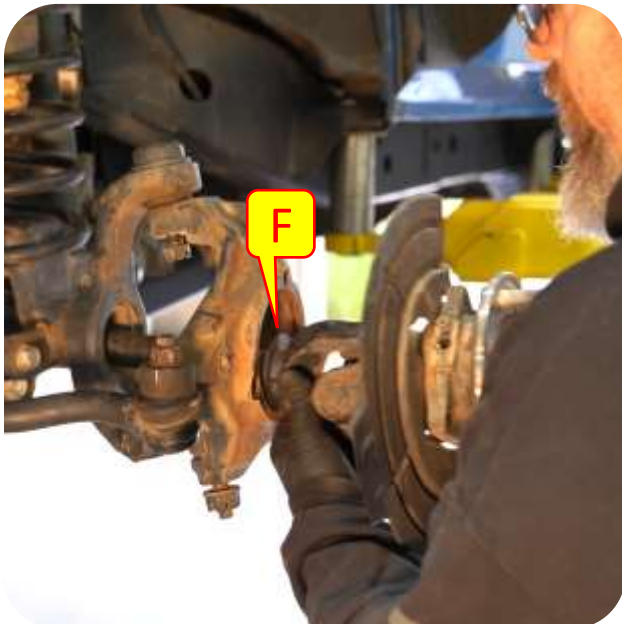
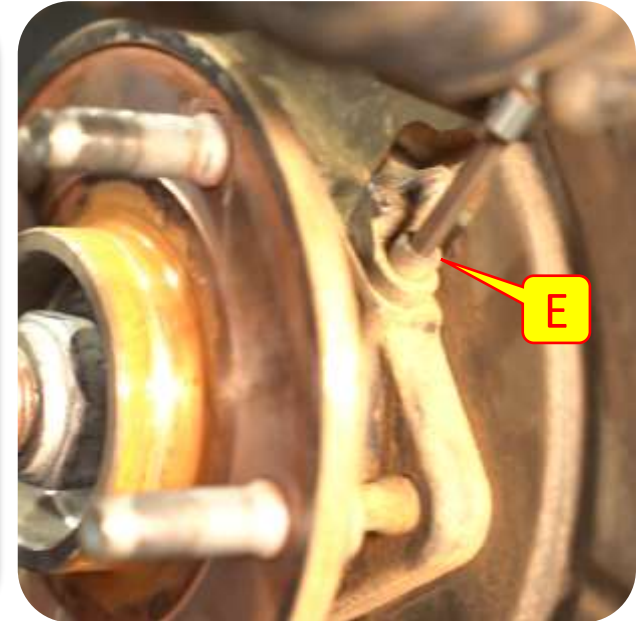


Section 3: Installation Instructions



Step 1: Axle Disassembly

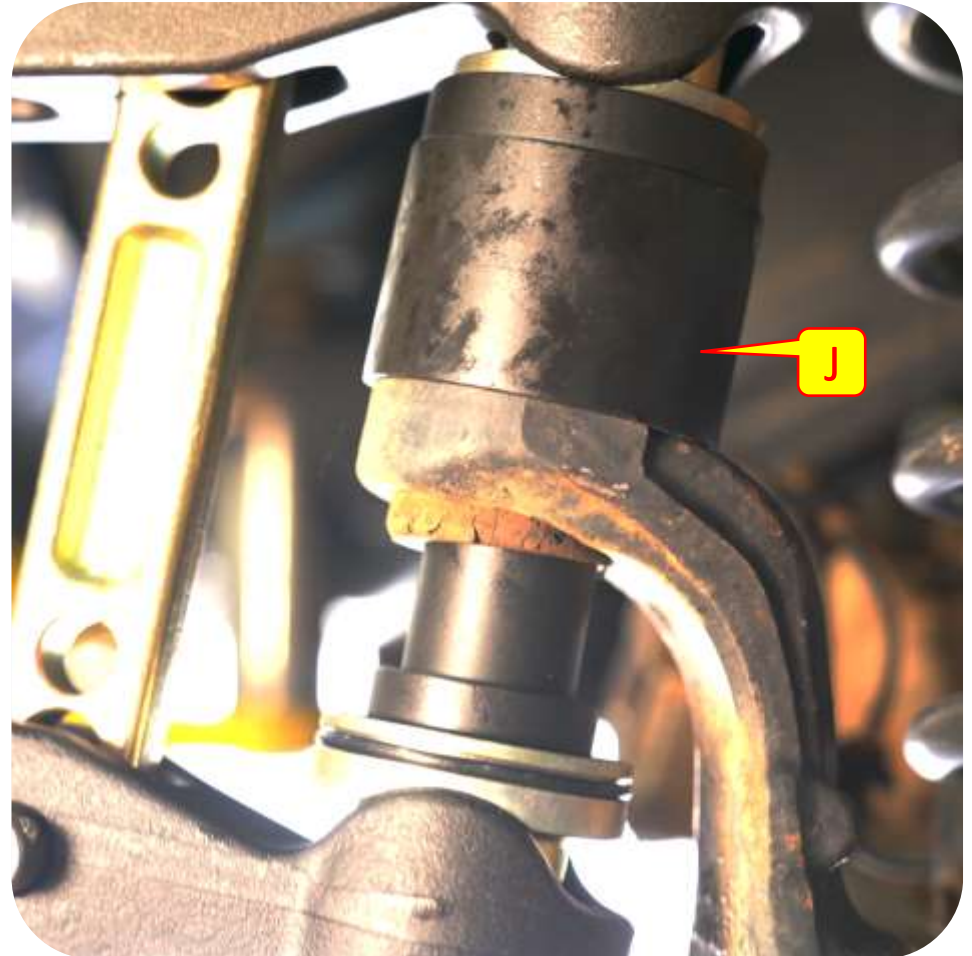
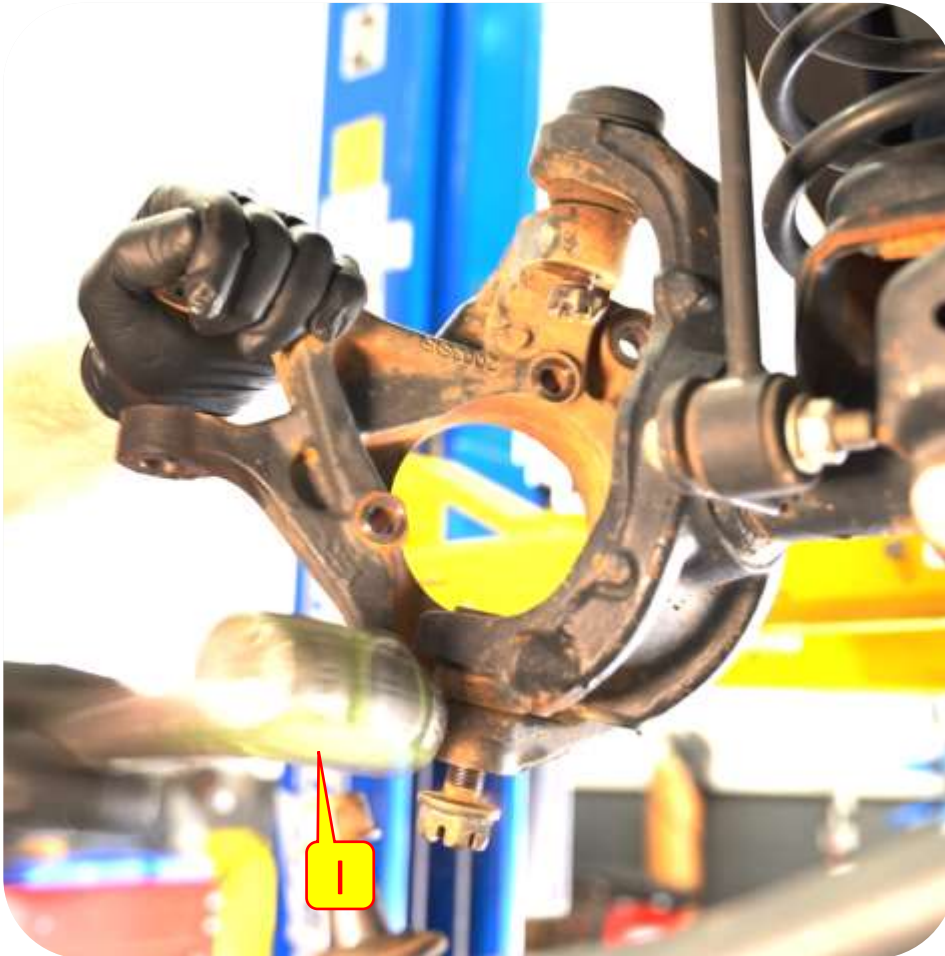
- E. Remove the ABS sensor from the wheel hub with a 5mm Allen wrench
- F. Remove axle assembly
- G. Remove the cotter pins from the old ball joints with needle nose pliers.
- H. Remove the ball joint castle nuts from the ball joint spindles using a 22mm wrench for the upper ball joint and a 28mm wrench for the lower ball joint.



Section 3: Installation Instructions

Step 1: Axle Disassembly

- I. Using a mallet remove the steering knuckle.
- J. Using a ball joint press, press out the old ball joints.



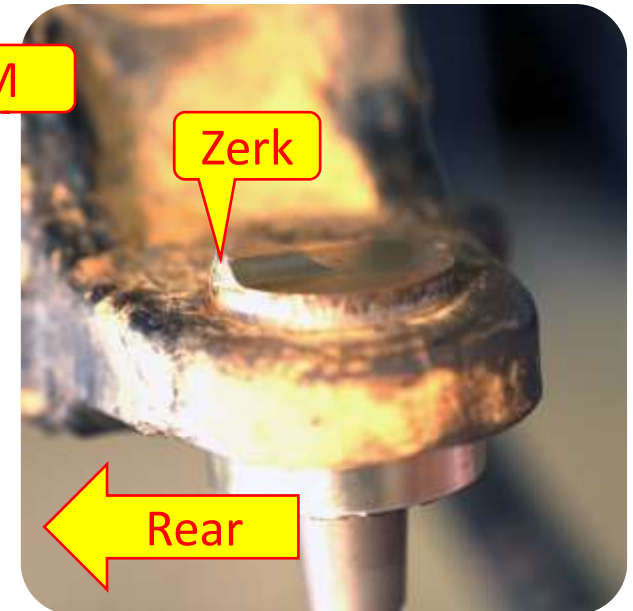
Section 3: Installation Instructions



Step 2: Ball Joint Installation

Important Note: DO NOT orient the zerk fitting hole to the inside or the fitting will not clear the C for installation.

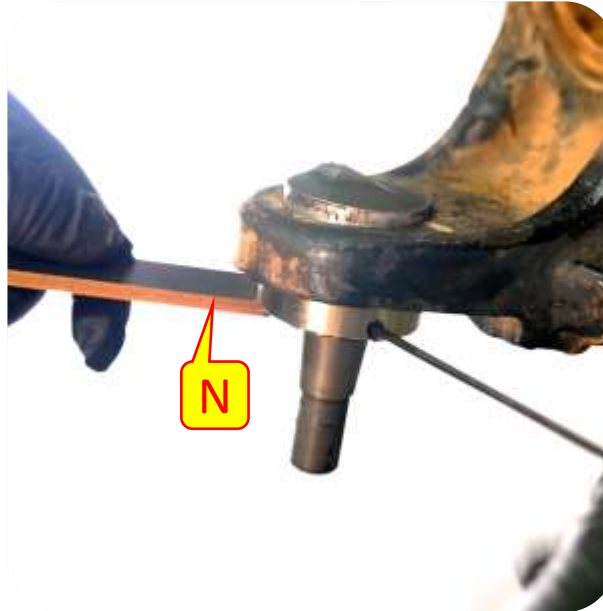
- K. Using the ball joint press, press in the MetalCloak upper ball joint, orienting the load bearing flange (*the lip that wraps around 180°*) to the outside.
- L. Install the upper ball joint locknut and torque to 90 ft./lbs. Wrap the nut with several layers of painter's tape to protect the finish from marring and tighten with a 2" wrench.
- M. Make sure that the zerk fitting is NOT installed and **press in the lower ball joint, orienting the tension adjuster set screw and zerk fitting hole to the rear.**



Section 3: Installation Instructions

Step 2: Ball Joint Installation

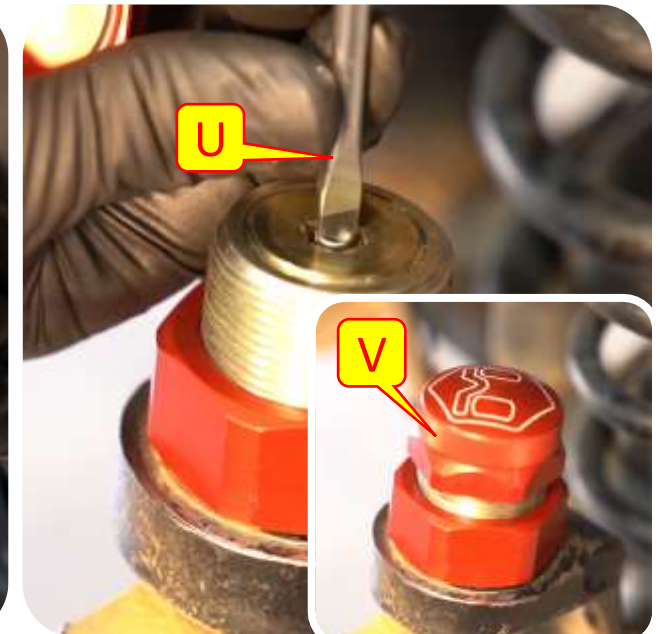
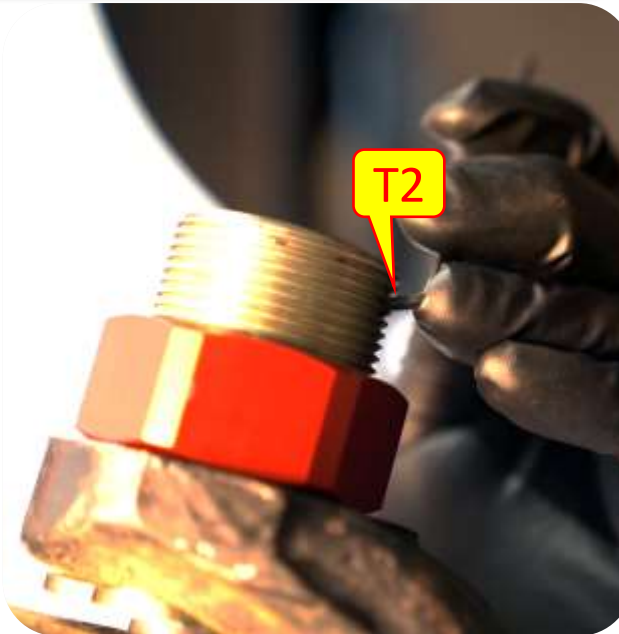
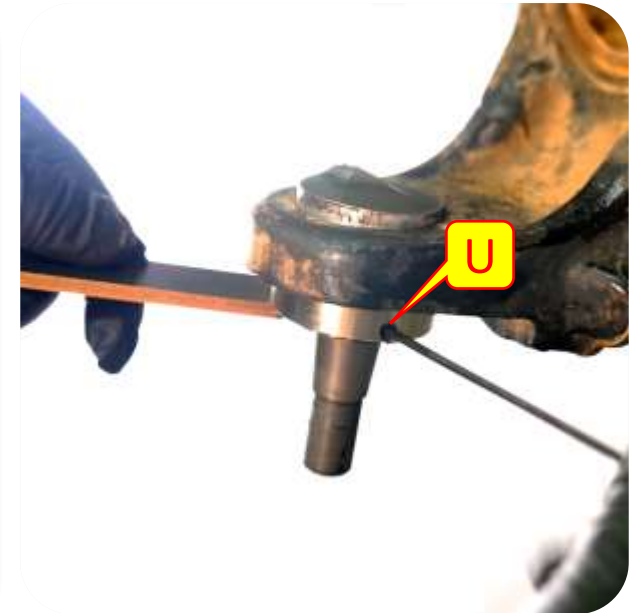
- N. Snug the lower ball joint tensioner with the included laser cut spanner wrench.
- O. Reinstall the knuckle and torque the ball joint castle nuts to factory torque specs.
- P. Insert the cotter pins and bend the two halves of the pin around the castle nut to prevent removal.
- Q. Install the low profile zerk fittings into the ball joints with a flathead screwdriver.
- R. Using a needle adapter, pump grease into each zerk fitting until it is observed coming out of the ball joint at the wiper seals. If grease backs up around the needle tip, reseal the needle in the zerk fitting.



Section 3: Installation Instructions

Step 3: Ball Joint Adjustment

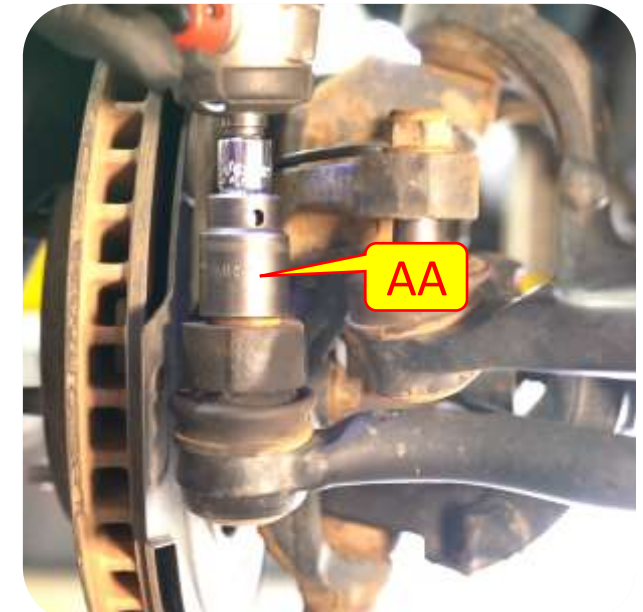
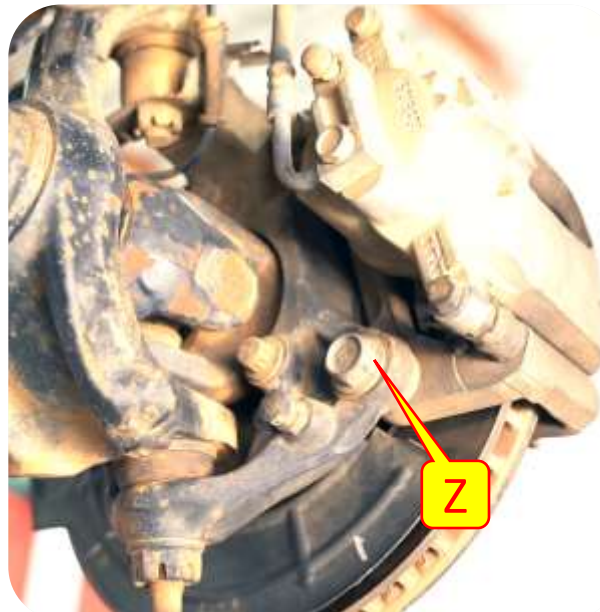
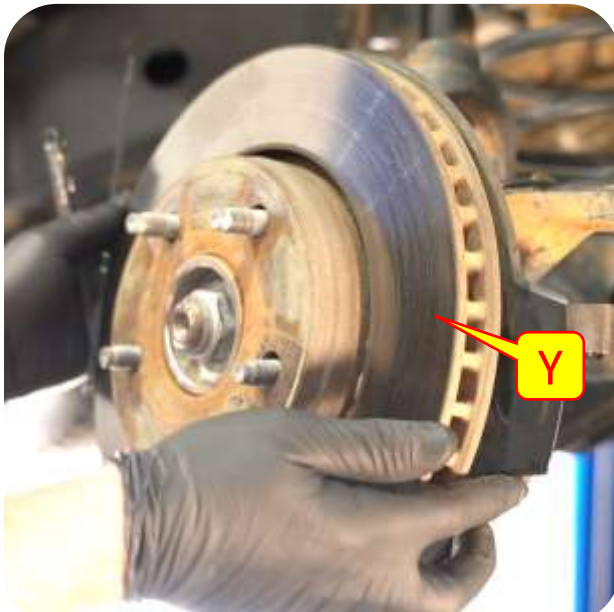
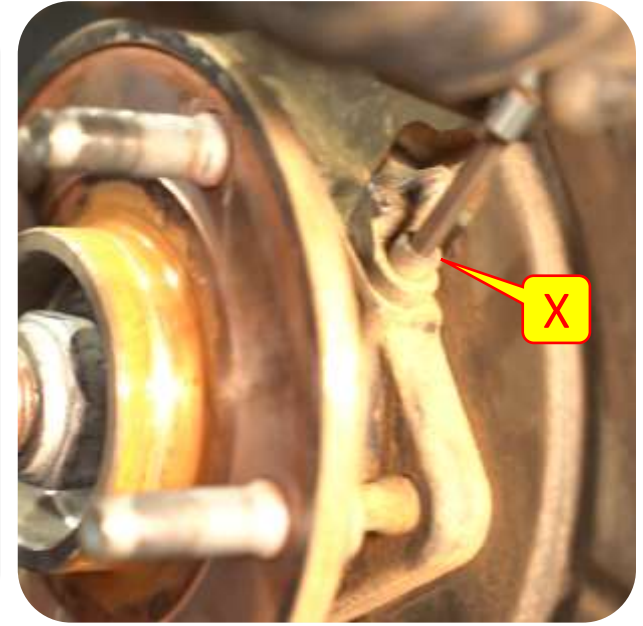
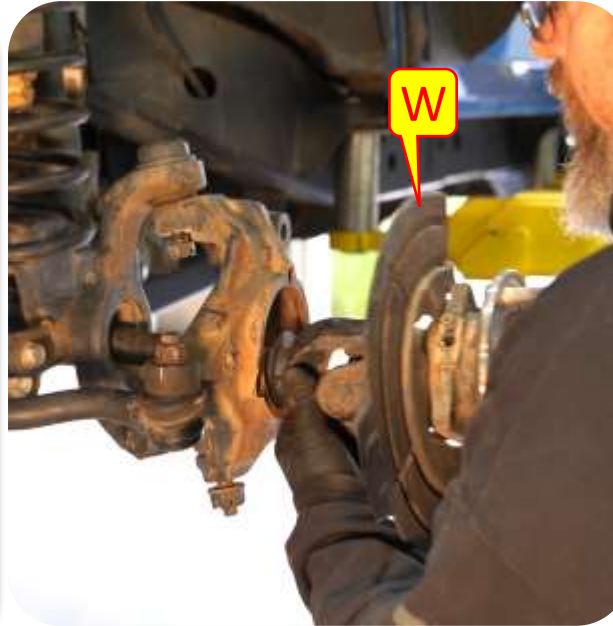
- S. At this point, the knuckle should be suspended between the two ball joints. Using the laser cut spanner wrench, tighten the lower ball joint tensioner and secure the set screw with a 3/32" Allen wrench (*Image shown without knuckle installed*).
- T. Once the lower ball joint is tightened and secured, Preload is applied to the upper joint. Tighten the upper ball joint preload nut with a 3/8" Allen wrench (T1) while pivoting the knuckle back and forth by hand. When the knuckle's rotation starts to feel tight, stop and back the preload nut out 1/8 turn (45 degrees) and secure the set screw with a 3/32" Allen wrench (T2).
- U. Install the grease cert with a flat head screwdriver.
- V. Install the upper ball joint dust cap



Section 3: Installation Instructions

Step 4: Axle Assembly

- W. Reinstall the axle assembly
- X. Reinstall the ABS sensor from the wheel hub with a 5mm Allen wrench.
- Y. Reinstall the brake rotor.
- Z. Re install brake caliper bolts with a 21mm wrench or socket and hang calipers out of the way.
- AA. Reinstall the steering linkage with a 21mm wrench or deep socket.



Section 3: Installation Instructions



Step 4: Axle Assembly

- A. Lift Jeep or Axle, remove tires.
- B. Remove the steering linkage (*tie rod and drag link*) with a 21mm wrench or deep socket and tie rod separator.
- C. Remove brake caliper bolts with a 21mm wrench or socket and hang calipers out of the way.
- D. Remove the brake rotor.

