



PRODUCT: TJ Short Arm Suspension, No Shock Edition

REV: H | 04-05-2024 | II-A0235

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

Set of Metric Sockets



Rubber Mallet

T40 and T55 Torx Wrench
or Sockets



10" Socket Extension

3/8" Flare Nut Wrench (10mm
will work) for Brake Lines



Drill
Drill Bits: 1/2", 9/16", 5/8", 7/16",
15/32"

Set of Metric Wrenches



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.

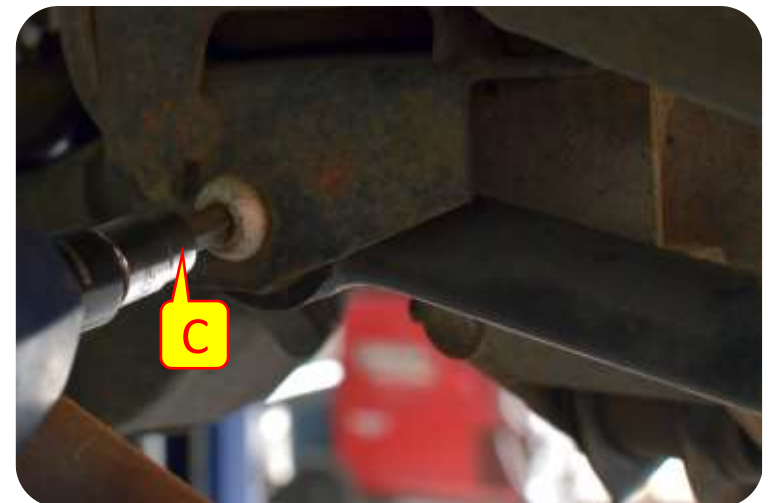
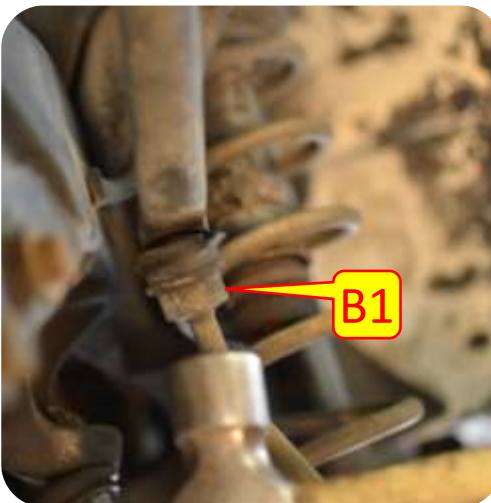
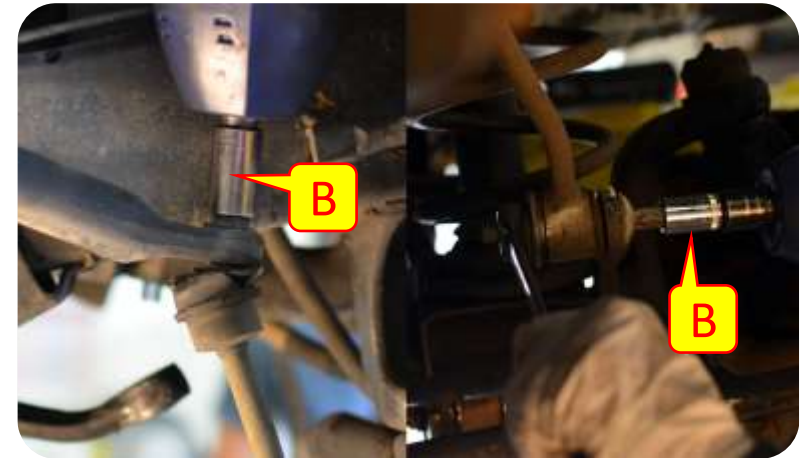
Section 3: Installation Instructions



Step 1: Disconnect Stock Components

- A. Disconnect the drag link at the pitman arm. You will need to remove the cotter pin, remove the castle nut using an 19mm wrench. The end in the pitman arm is tapered so you will need to shock it loose. You can do this by hitting the end of the pitman arm with a hammer. Save the castle nut for re-use.
- B. Disconnect the front sway bar end links. The end in the sway bar is tapered so you will need to shock it loose. You can do this by hitting the underside of the sway bar. Refer to B1.
- C. Disconnect the front track bar. The end of the track bar in the frame is also a tapered end and will need to be shocked loose. This can be accomplished by hitting the frame with a mallet.

Important Note: MetalCloak does not recommend powder coating your True Dual Rate Coils. The baking process in powder coating can, in some cases, cause the metallurgical properties of the coils to be changed, resulting in the loss of the lift properties of the coils. As such, the process of powder coating the coils will void any warranty stated or implied in relation to the coils.

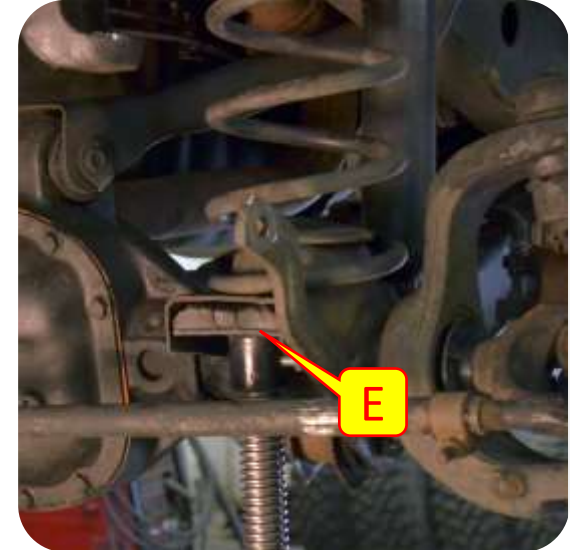
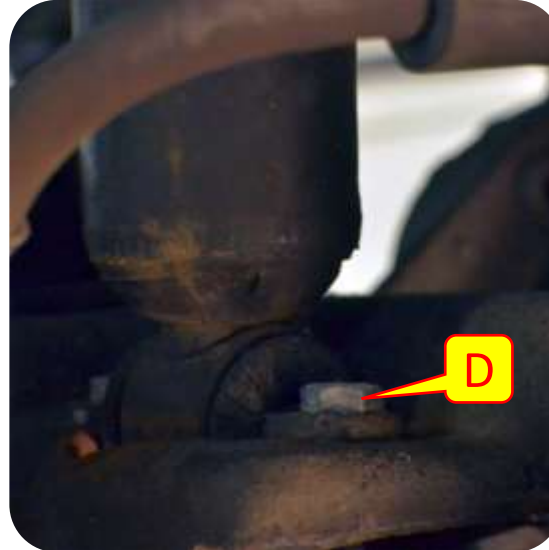


Section 3: Installation Instructions



Step 1: Disconnect Stock Components

- D. Remove the front shocks.
- E. Lower axle, be sure to watch the brake lines (ABS lines if equipped) so that they do not get over extended when lowering.
- F. Remove stock springs



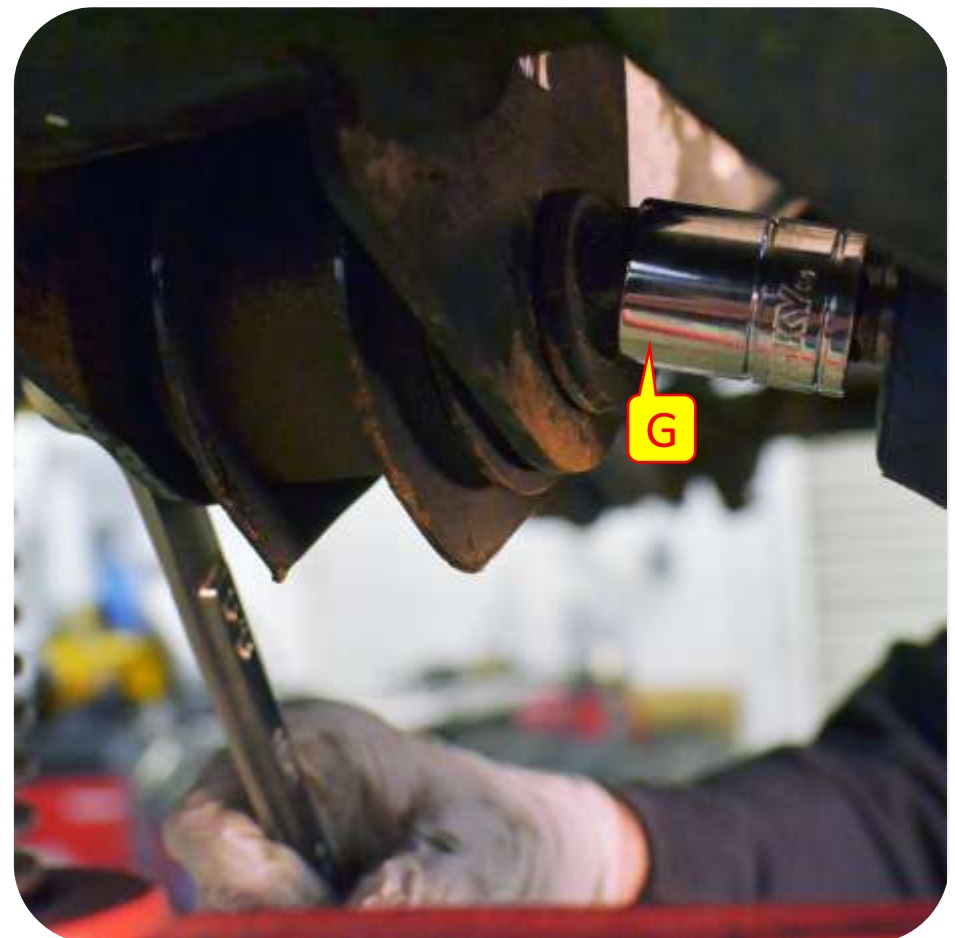
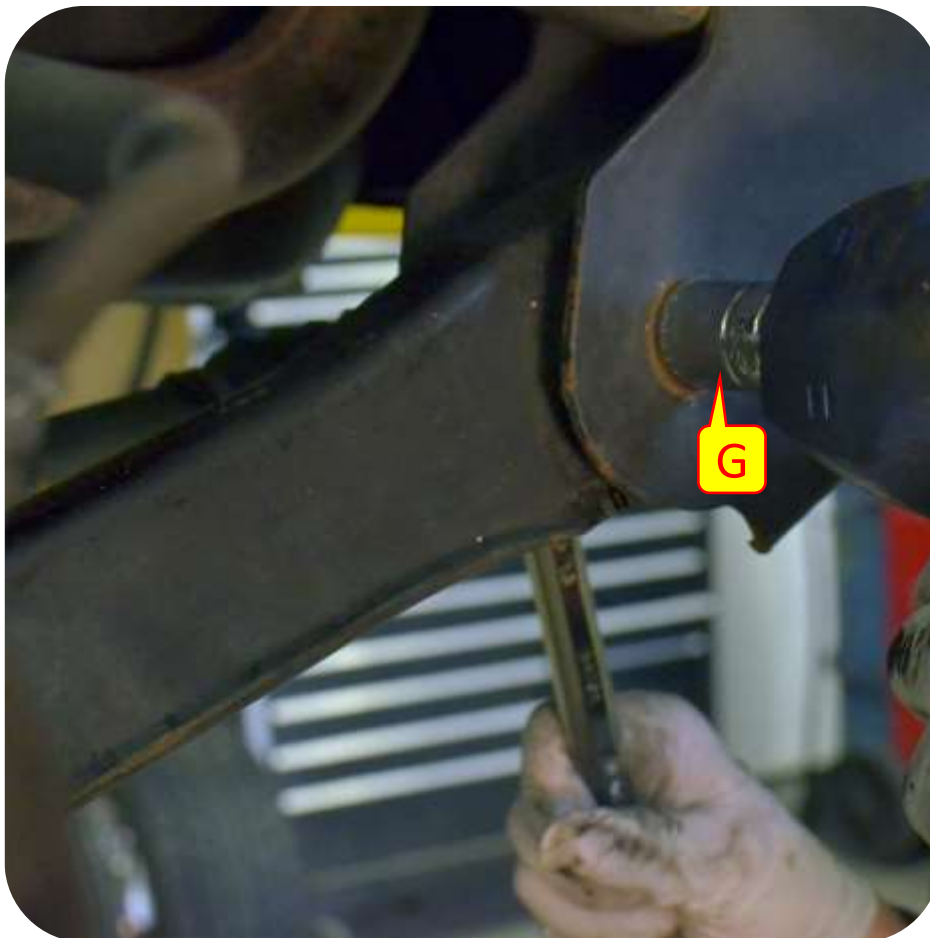
Important Note: To install lift components you will need to fully 'droop' your suspension in the front and rear (not at the same time). We strongly recommend that the vehicle be placed on an automotive lift and that all appropriate safety precautions be taken to secure the vehicle while it is off the ground. Always use the necessary axle stands (or equivalent) to support the axle when the suspension components are disconnected for safety, and to ensure the integrity of your suspension system during the installation process.

Section 3: Installation Instructions



Step 1: Disconnect Stock Components

- G. Remove the factory lower control arm using a 21mm socket and wrench. It is a good idea to mark the lower cam bolt in its original location so that you can install it back in the way it came out. You will need to save the hardware for re-use.

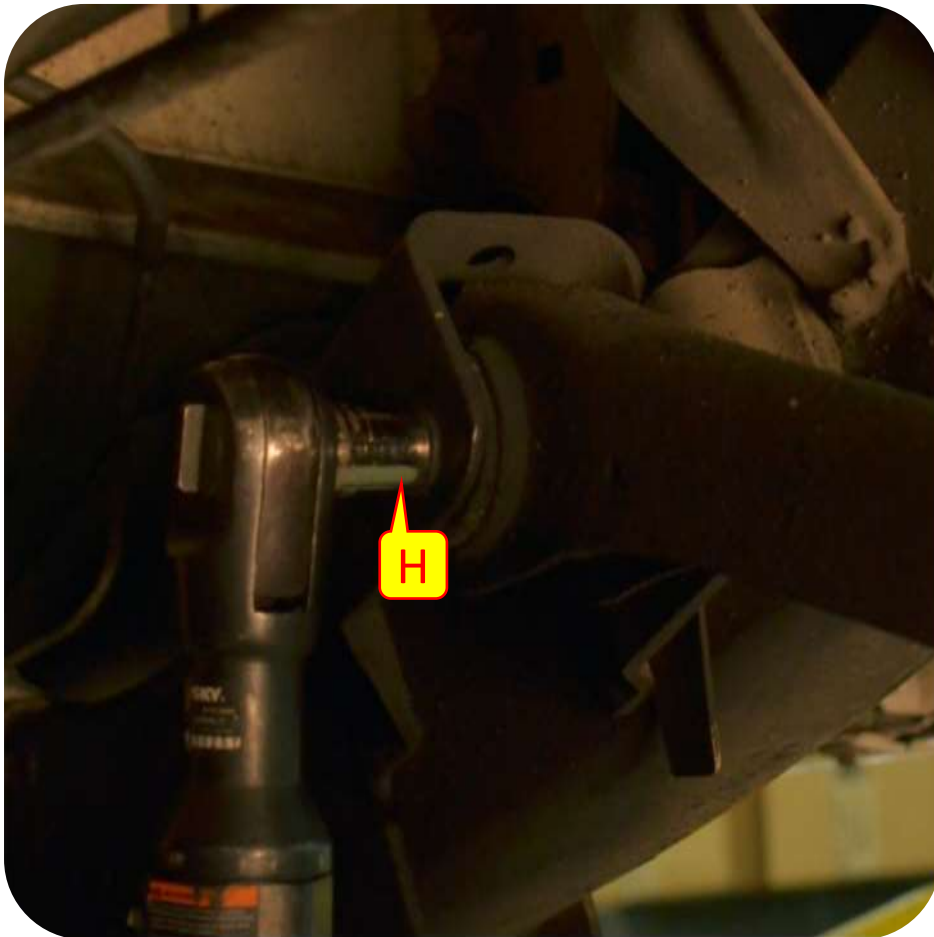


Section 3: Installation Instructions



Step 1: Disconnect Stock Components

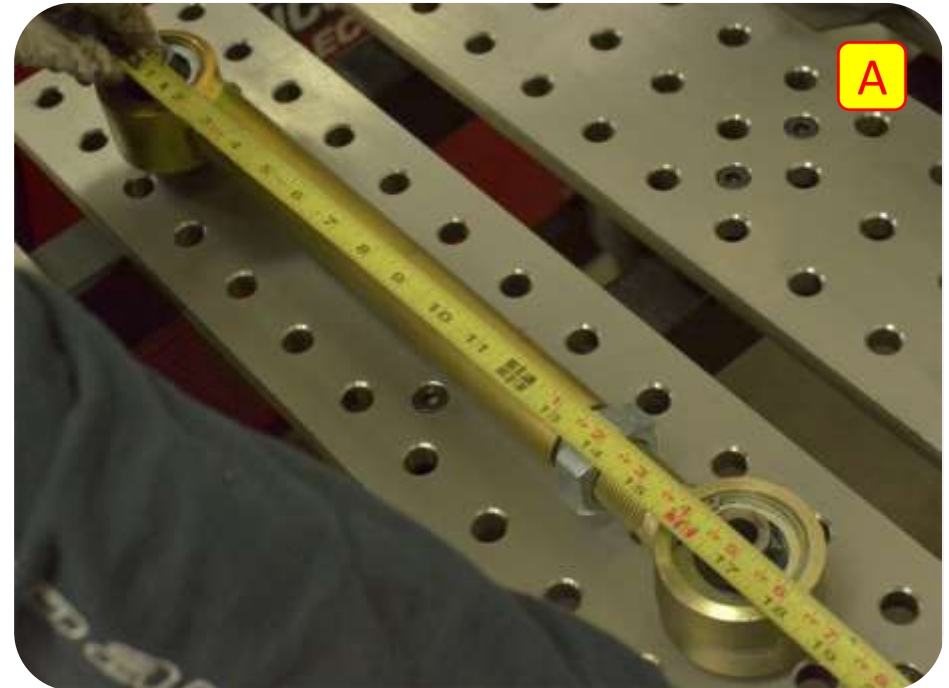
- H. Remove the stock upper control arm, the stock hardware size is 15mm at the upper and lower end of the control arm. Your new control arms come with new hardware so you will not need to save the factory hardware. You can reuse the factory tabbed nut that came off the upper end of the control arm.



Section 3: Installation Instructions

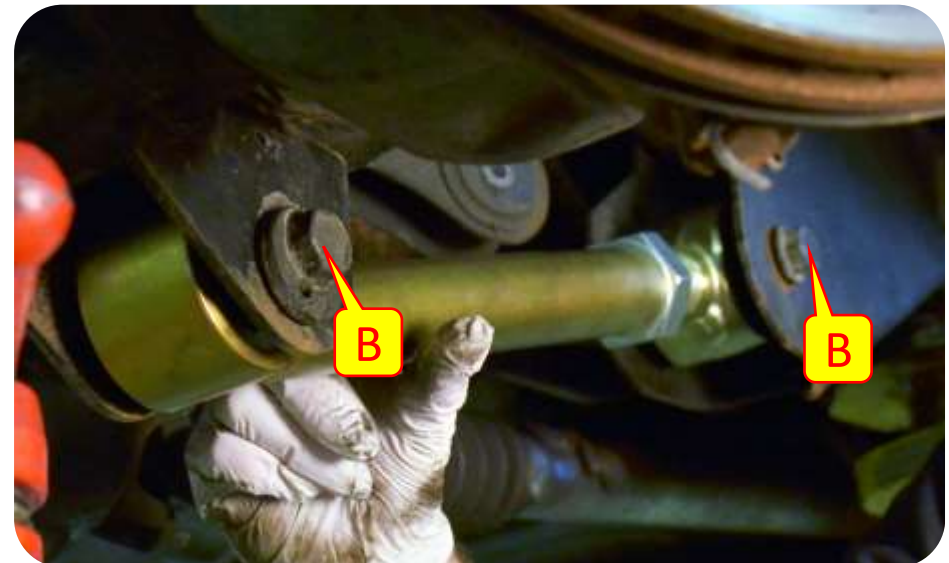
Step 2: Install MetalCloak Control Arms

- A. Set the new control arms to the suggested lengths eye to eye as shown in the chart.
- B. Install lower control arm using factory hardware with the jam nut at the frame.



Traditional Single Adjustable Duroflex Control Arms

Part #	Location	3.5" Kit Length	Minimum	Maximum
7050	Lower Front	16.63"	15.5"	16.63"
7050	Lower Rear	16"	15.5"	16.63"
7051	Upper Front	15"	14.88"	15.63"
7052	Upper Rear	14"	13.5"	14.63"



Note: *These measurements are just a starting point eye to eye, the final length varies between vehicles.*

Section 3: Installation Instructions



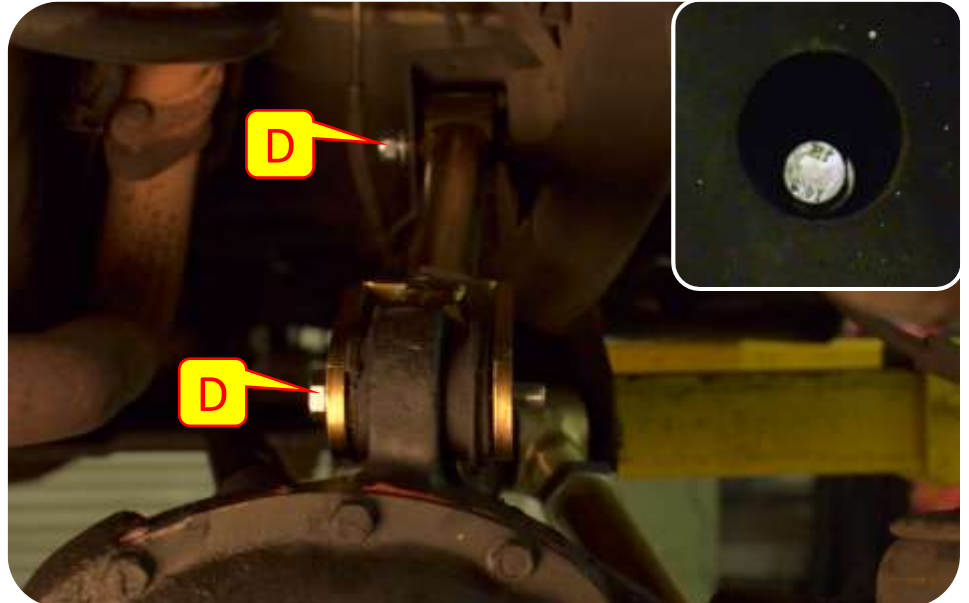
Step 2: Install MetalCloak Control Arms

- C. Set your new control arms to the suggested lengths eye to eye as shown in the chart below.
- D. Install upper control using new hardware and factory tab nut in the upper portion of the control arm between the frame and the control arm bracket.

Traditional Single Adjustable Duroflex Control Arms

Part #	Location	3.5" Kit Length	Minimum	Maximum
7050	Lower Front	16.63"	15.5"	16.63"
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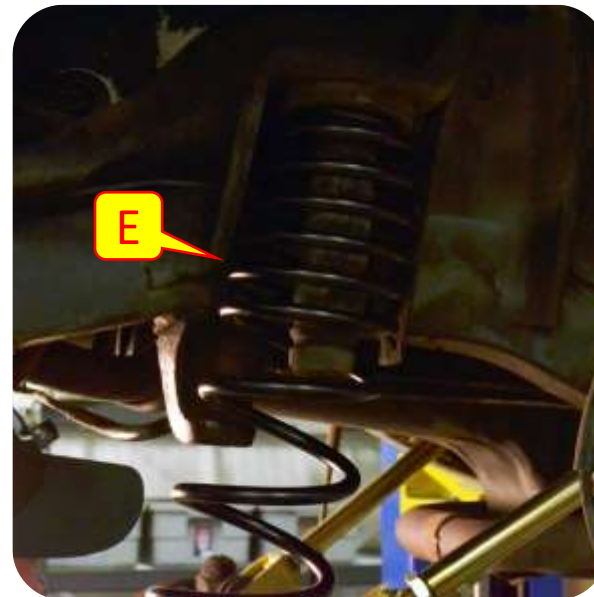


Section 3: Installation Instructions



Step 3: Install MetalCloak Coils & Bump Stops

- A. Lower your front axle so that you can gain access to your spring cup.
- B. Find the center of the spring cup by centering the bump stop washer on top of the cup. You can use your drill and bit to mark it or use a center punch.
- C. Now you will drill a 27/64" hole in the marked location.
- D. Use a 1/2"-13 tap and tap the hole.
- E. Install coil springs, you may need to drop the lower control arm from the axle to get the axle to drop down far enough to get the coil spring in.



Section 3: Installation Instructions

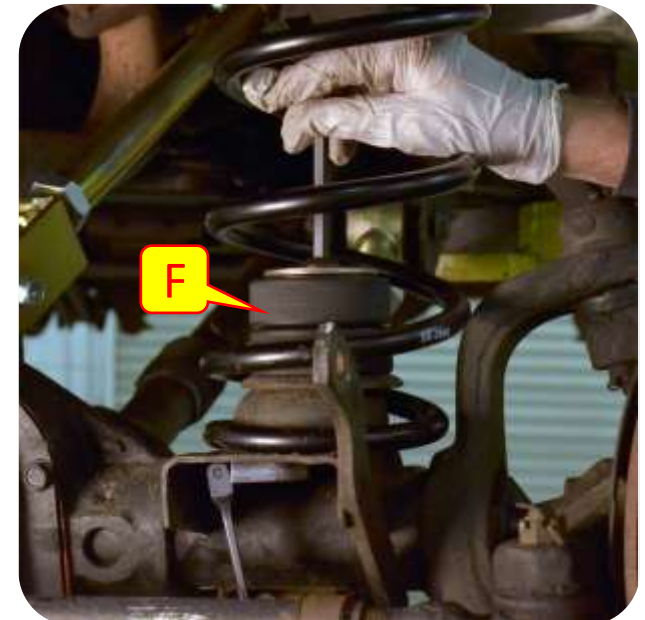


Step 3: Install MetalCloak Coils & Bump Stops

Note: Your bump height will vary depending on your set up, fenders, tire height etc.

1997+ JEEP Wrangler TJ with MetalCloak Lift Kits						
	3.5"		4"		6"	
	Front	Rear	Front	Rear	Front	Rear
Stock Fenders (not trimmed)	3"	3"	4"	4"	4"	4"
Generic Aftermarket Fenders (Poison Spyder, Xenon, Bushwacker)	1"	1"	2"	2"	2"	2"
MetalCloak Hi-Clearance Bolt-On Fender System	1"	1"	2"	2"	2"	2"

- F. Now install your bump stops. Insert the pucks, the washer and your bolt into the coil, select the appropriate bolt length so that the threads stick out of the bottom Discs approximately $\frac{3}{4}$ ", tighten with a $\frac{5}{16}$ " hex socket or wrench.

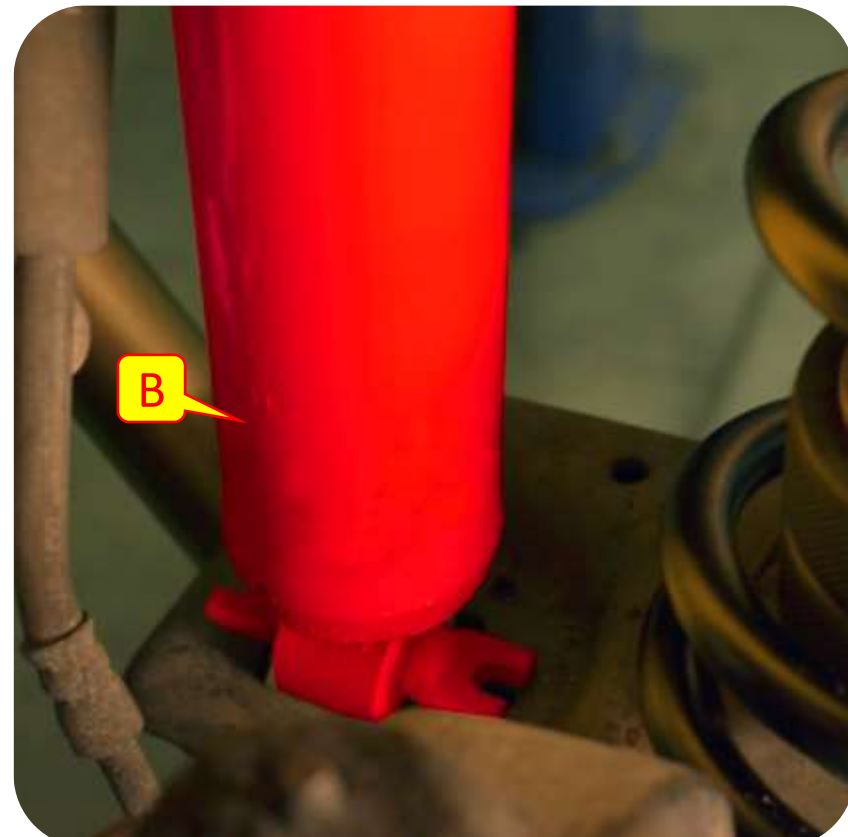


Section 3: Installation Instructions



Step 4: Install Front Shocks

- A. Install shock into the factory shock frame mount with the provided nut, washers and bushings.
- B. Push shock up into the lower mount and Install factory hardware into the lower mount of the shock.
- C. Tighten lower bolts and the single nut on the top of the shock.



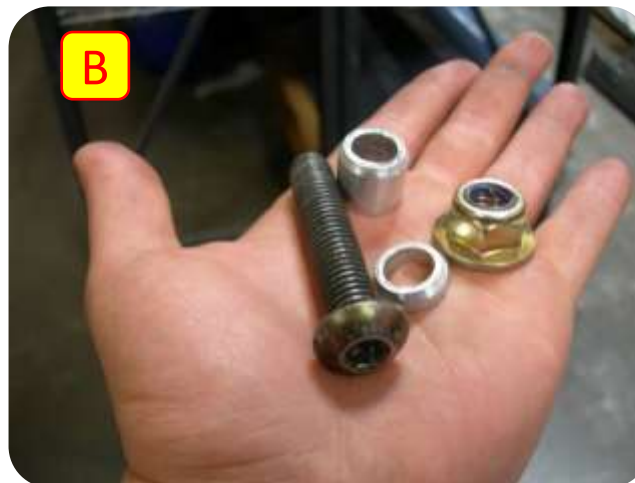
Section 3: Installation Instructions



Step 5: Install MetalCloak Front Sway Bar Quick Disconnects

- A. Install the bracket to the sway bar by inserting the 9/16" Hex Bolt with washer, backed by the 9/16" Hex Locknut. Tighten the bracket by using an open-ended wrench to hold the Hex Bolt while using a socket and wrench to tighten the nut.
- B. Attach the sway link to the bracket by inserting the 5/16" Button Cap Screw through the bracket and assembling the spacers with the biggest spacer positioned closer to the frame and the smaller spacer located farthest from the frame and the sway link positioned between them as shown. The Button Cap Screw is then backed by the 3/4" Hex Flange Nut
- C. Tighten the assembly by using a 5/16" Allen wrench to hold the Button Cap Screw while using a 3/4" socket and wrench to tighten the Hex Flange Nut.

Note: The Upper components are installed outboard (to put the rod away from the frame).

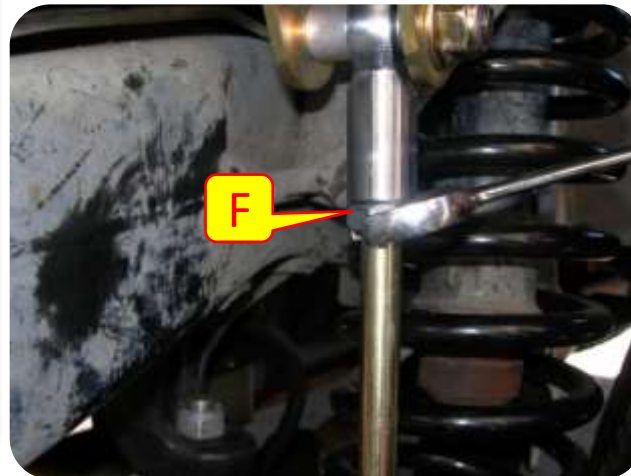


Section 3: Installation Instructions



Step 5: Install MetalCloak Front Sway Bar Quick Disconnects

- D. The lower components are installed inboard.
- E. Install the lower Quick Disconnect Pin in the stock location. Point the Pin toward the center of the vehicle. A hammer may be needed to tightly set it in.
- F. Adjust the length of the adjustable links to set the sway bar at the desired length (usually leveled at a positive degree incline).
- G. Back the Quick Disconnect Pin with the washer and the 3/4" Hex Flange Nut and tighten with socket and ratchet wrench.
- H. Slide the lower sway bar link through the Quick Disconnect Pin Screw and insert the Hitch Pin.



Section 3: Installation Instructions



Step 5: Install MetalCloak Front Sway Bar Quick Disconnects

- I. The provided brackets can be installed on the frame as in the desired location by using a 9/32" drill bit to drill 2 holes. There is no exact location, but the goal is to keep the sway bar clear of the tires when stowed. Install the self-tapping screws through the frame by using an electric drill with a 1/2" socket.

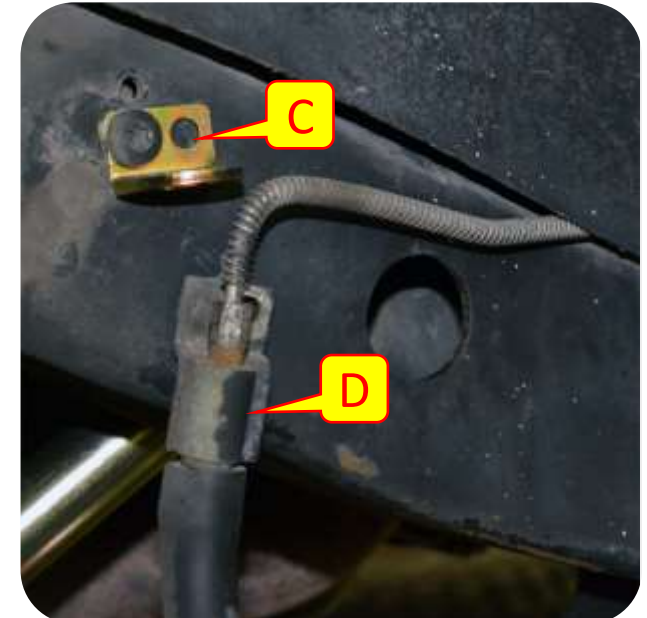
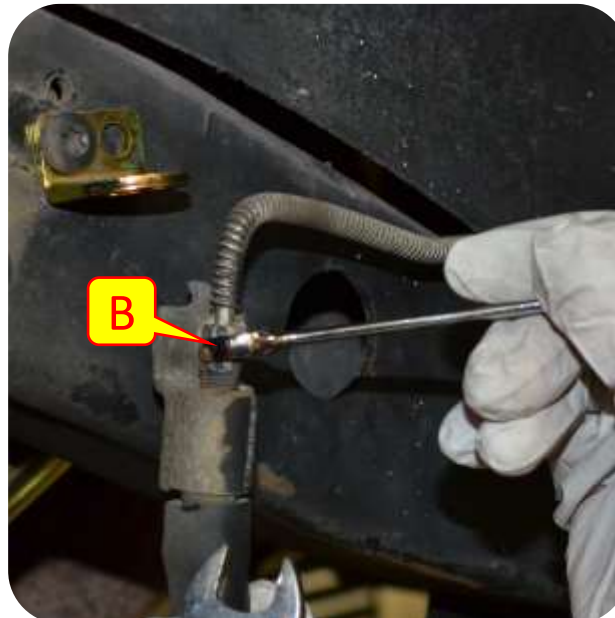


Section 3: Installation Instructions



Step 6: Install MetalCloak Brake Lines

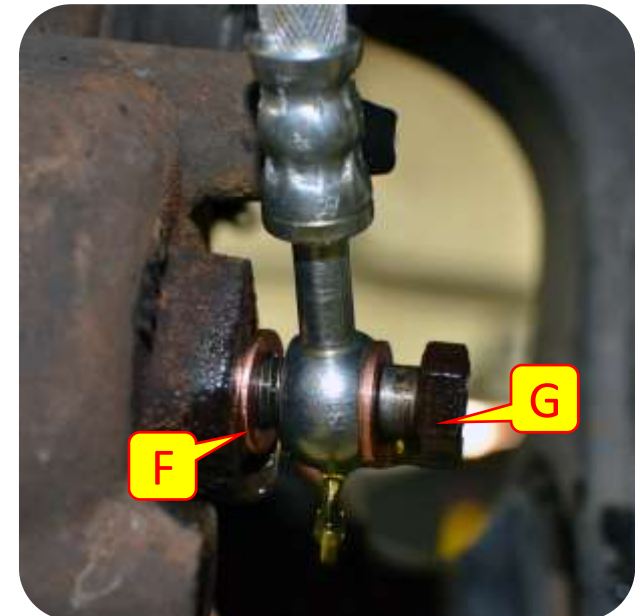
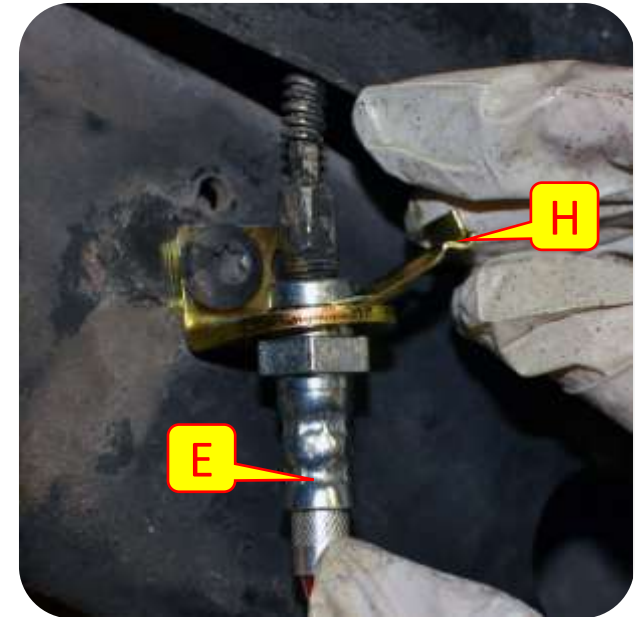
- A. Remove brake hose mounting screw from the frame using T-40 socket or wrench.
- B. Disconnect the hard line from the soft brake line using 3/8" line or box wrench.
- C. Install the new brake line L bracket using the factory T-40 put the hard line through it.
- D. Remove the brake line from the caliper using a 14mm box end wrench. Save the banjo bolt and discard the copper washers.



Section 3: Installation Instructions

Step 6: Install MetalCloak Brake Lines

- E. Install new brake line onto the factory hard line that is sticking through the L bracket. Leave the nut hand tight.
- F. Put the new copper washer on the banjo bolt, now insert the banjo bolt through brake line and install the other copper washer.
- G. Thread the banjo bolt into caliper and tighten. Do not over tighten otherwise you will crush the copper washers and they will not seal properly.
- H. Once the brake line is properly routed you can tighten the hard line to the soft line and install the brake line clip.



Note: Check brake line clearance when the vehicle is on the ground by cycling the steering.

Section 3: Installation Instructions



Step 7: Bleed Brake Lines

Important Note: *Before driving bleed brake lines.*

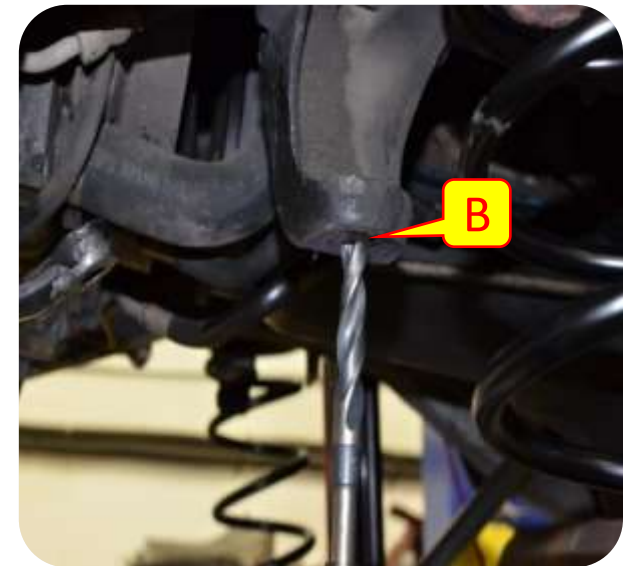
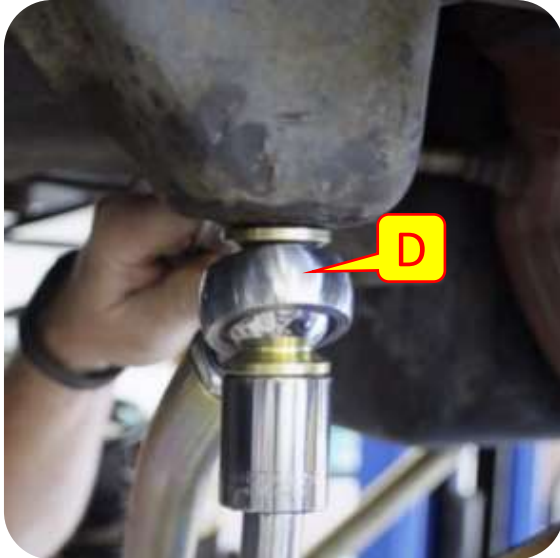
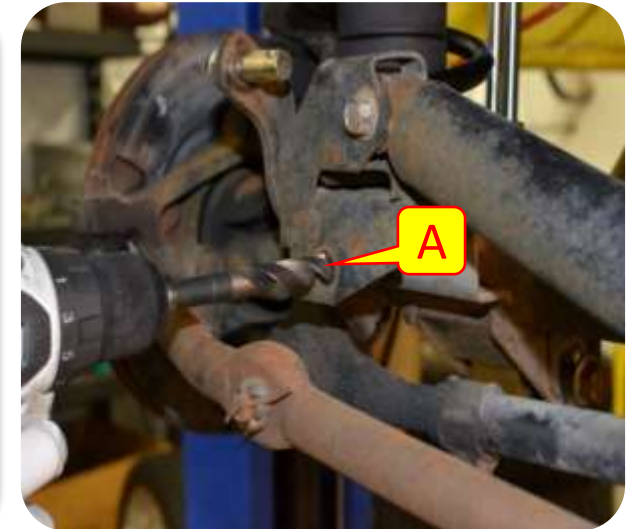


Section 3: Installation Instructions



Step 8: Install MetalCloak Front Track Bars

- A. Use a 14mm drill bit and re-drill front track bar bolt hole on the passenger side on the axle.
- B. Use a 5/8" drill bit and re-drill front track bar driver side on the frame.
- C. Install the new track bar in the factory location on the axle using the supplied 14mm bolt and tab nut.
- D. You will install the driver side track bar end once the vehicle is on the ground and the axle is centered under the vehicle.



Torque Specifications:

Track Bar Lower Bolt – 120-130

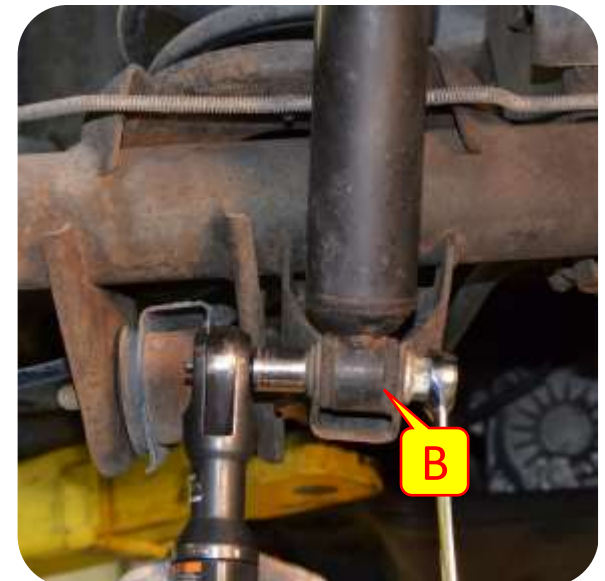
Track Bar Upper Bolt - 150

Section 3: Installation Instructions



Step 9: Disconnect Rear Stock Components

- A. Remove the factory sway bar end links with a 18mm socket and a 15mm wrench. Discard the end link, save hardware for re-use.
- B. Remove the factory shocks with long extension with a 13mm socket up top and the bottom with a 15mm socket and a 18mm wrench.
- C. Lower axle and remove coil springs and any previously installed spacers. You will reuse the coil spring isolator.
- D. Remove the upper track bar bolt with a 15mm socket and a 18mm wrench. Save the nut and bolt for re-use.
- E. Remove the lower track bar bolt with a T-55 socket, keep for re-use.

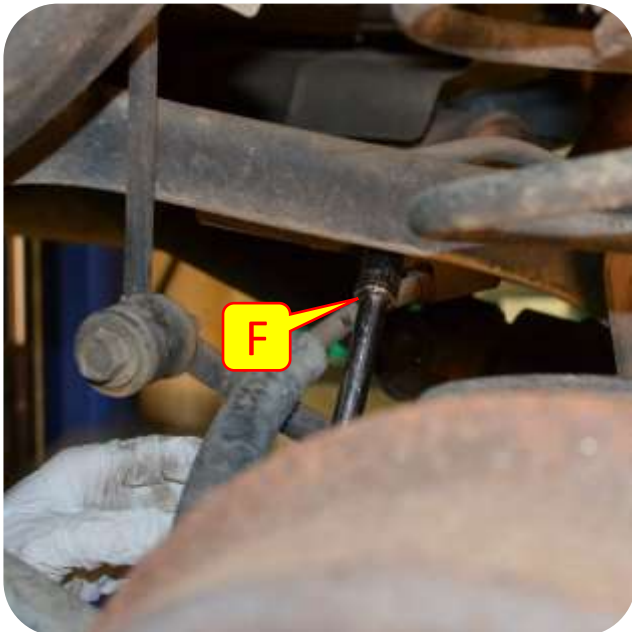


Section 3: Installation Instructions



Step 9: Disconnect Rear Stock Components

- F. Remove the E-brake from the upper control arms using a 13mm socket. Remove brackets from the E-brake cables.
- G. Un-bolt upper control arms using a 15mm socket and wrench. Discard bolts but keep the tab nut to install later.

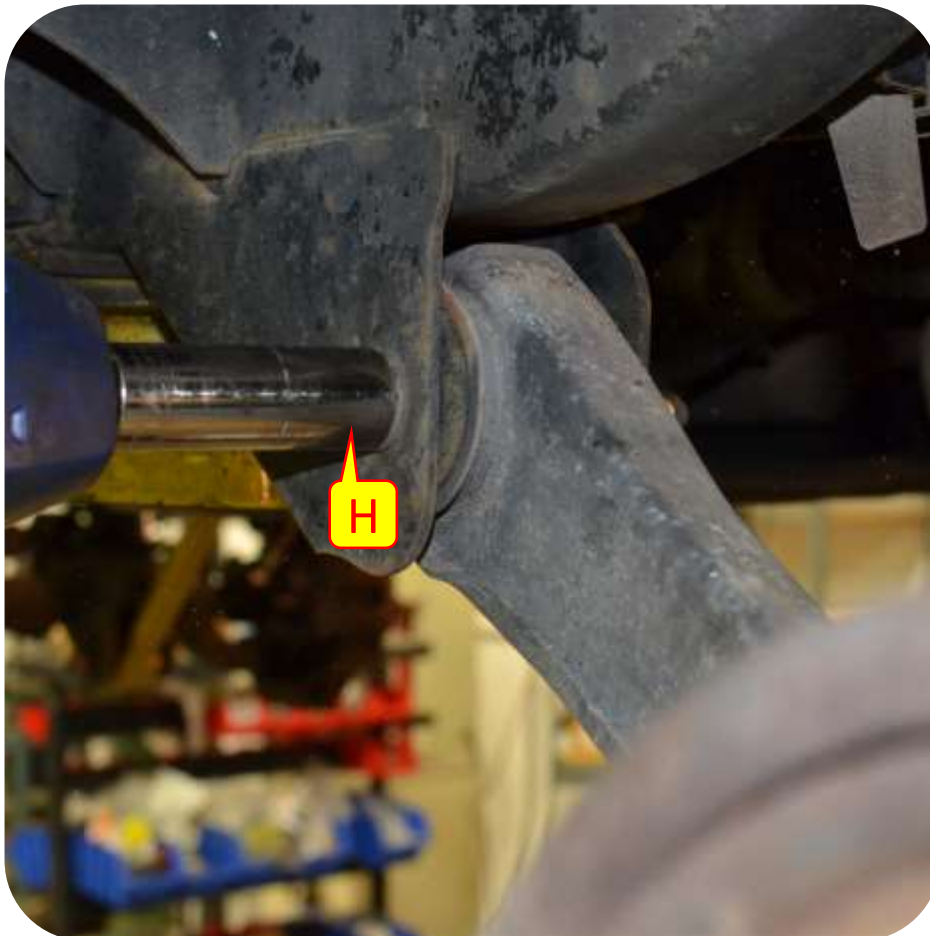


Section 3: Installation Instructions



Step 9: Disconnect Rear Stock Components

- H. Remove the factory lower control arm using a 21mm socket and wrench. It is a good idea to mark the lower cam bolt in its original location so that you can install it back in the way it came out. You will need to save the hardware for re-use.



Section 3: Installation Instructions

Step 10: Install MetalCloak Control Arms

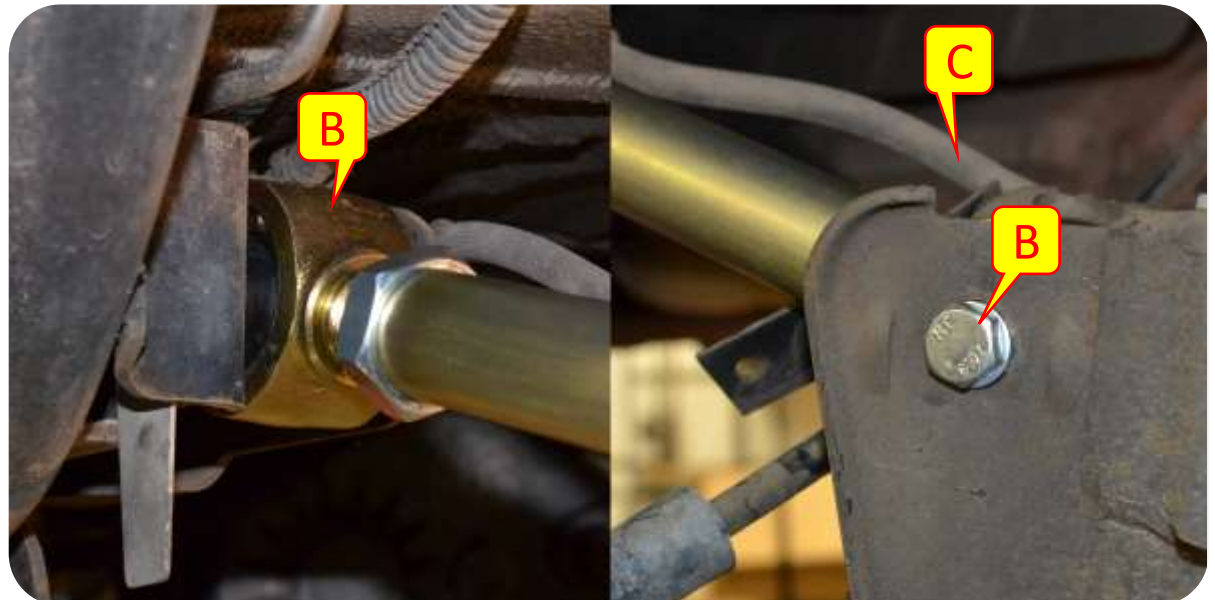
- A. Set your new control arms to the suggested lengths eye to eye as shown in the chart.
- B. Install upper control arm using new hardware and the factory tab nut.
- C. The E-brake cable should go in between the upper and lower control arms.

Traditional Single Adjustable Duroflex Control Arms

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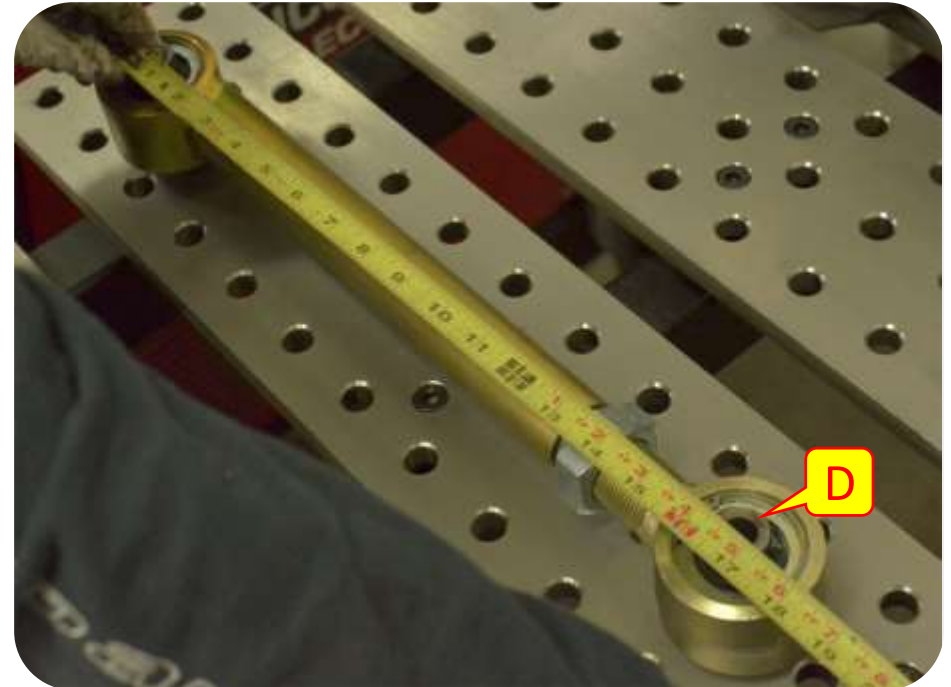
Important Note: If you chose the option of upgrading your hardware & joint to the larger bolt size (M12) drill out the frame size bracket to 15/32". Otherwise, use the stock sized hardware in the stock hole.



Section 3: Installation Instructions

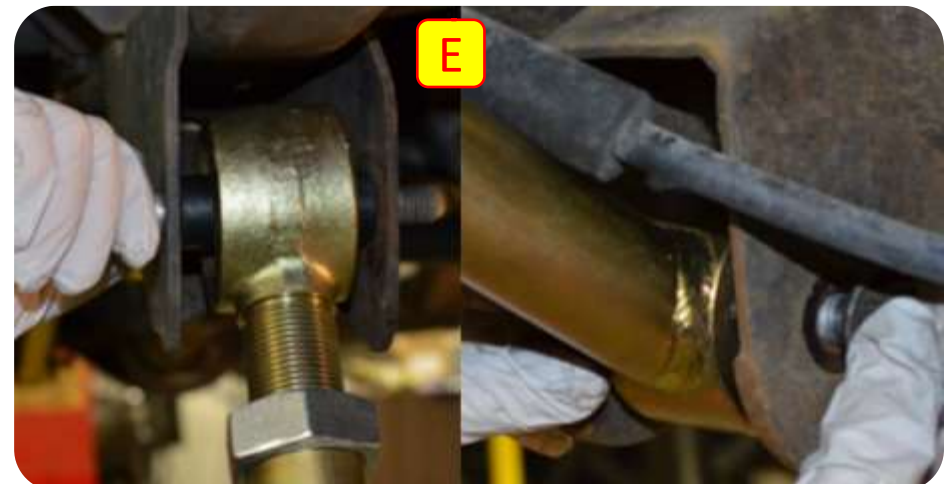
Step 10: Install MetalCloak Control Arms

- D. Set the new control arms to the suggested lengths eye to eye as shown in the chart.
- E. Install lower control arm using factory hardware.



Traditional Single Adjustable Duroflex Control Arms

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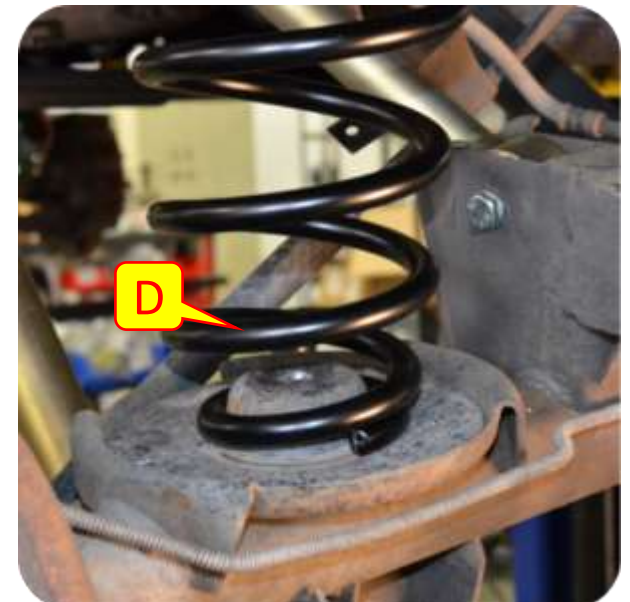


Note: *These measurements are just a starting point eye to eye, the final length varies between vehicles.*

Section 3: Installation Instructions

Step 11: Install MetalCloak Coils & Bump Stops

- A. Lower your front axle so that you can gain access to your spring cup.
- B. Find the center of the spring cup by centering the bump stop washer on top of the cup. You can use your drill and bit to mark it or use a center punch.
- C. Drill the center of the lower coil spring cup out to 1/2".
- D. Install coil springs, you may need to drop the lower control arm from the axle to get the axle to drop down far enough to get the coil spring in.



Section 3: Installation Instructions



Step 11: Install MetalCloak Coils & Bump Stops

Note: Your bump height will vary depending on your set up, fenders, tire height etc.

1997+ JEEP Wrangler TJ with MetalCloak Lift Kits						
	3.5"		4"		6"	
	Front	Rear	Front	Rear	Front	Rear
Stock Fenders (not trimmed)	3"	3"	4"	4"	4"	4"
Generic Aftermarket Fenders (Poison Spyder, Xenon, Bushwacker)	1"	1"	2"	2"	2"	2"
MetalCloak Hi-Clearance Bolt-On Fender System	1"	1"	2"	2"	2"	2"



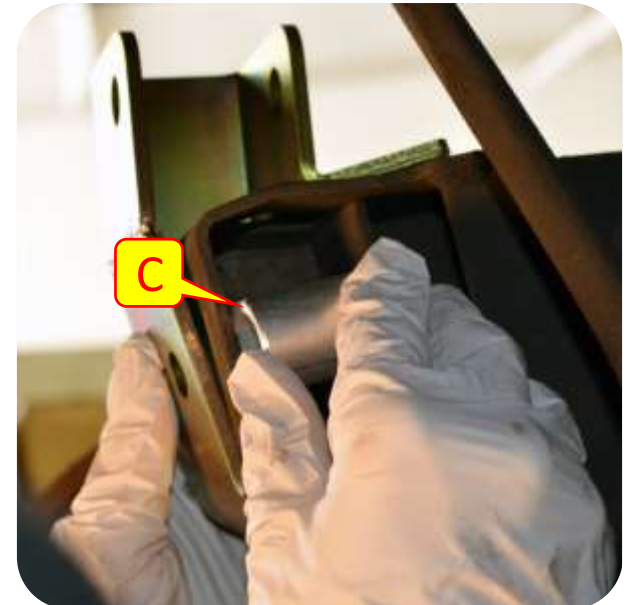
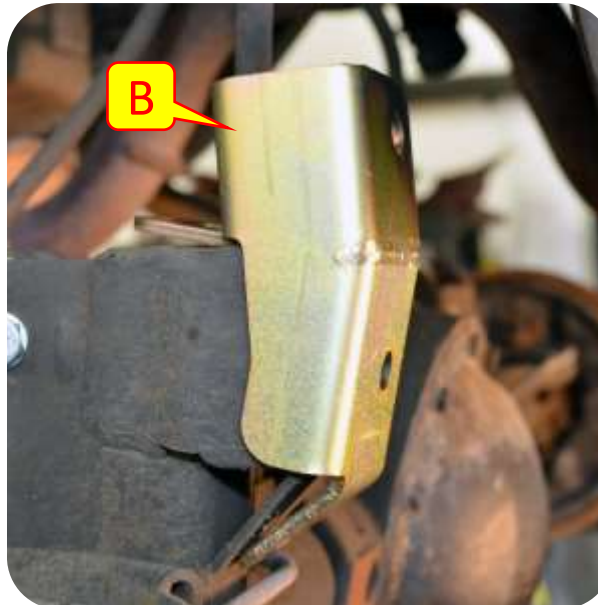
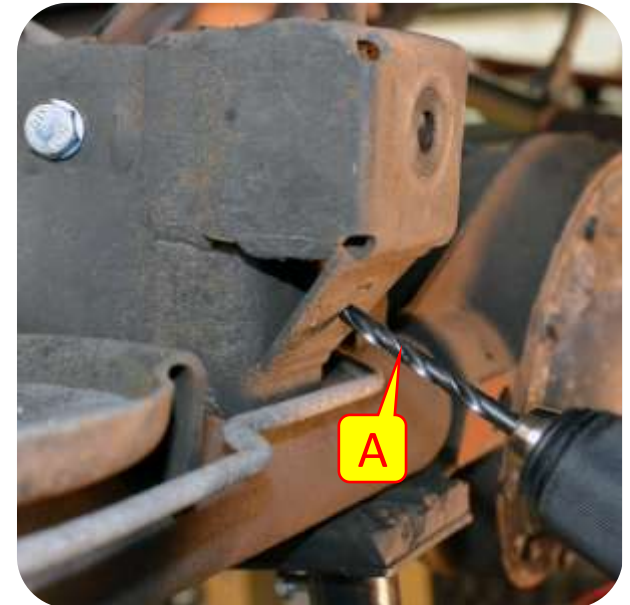
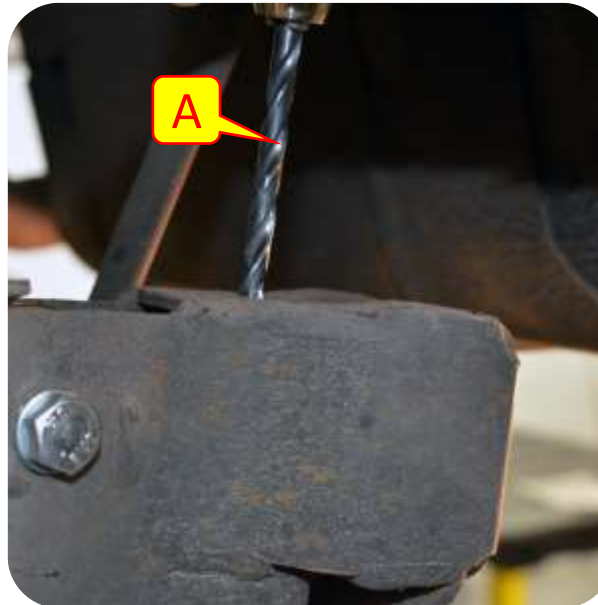
- E. Insert the pucks, the washer and your bolt into the coil, select the appropriate bolt length so that the threads stick out of the bottom.
- F. Put the nut on the underside of the coil spring cup using a 3/4" wrench.



Section 3: Installation Instructions

Step 12: Install MetalCloak Rear Track Bar Bracket & Track Bar

- A. Drill the two preexisting holes in the factory track bar bracket with a 5/16" drill bit.
- B. Install the new track bar bracket on top of the factory bracket .
- C. Insert the aluminum spacer into the factory track bar bracket

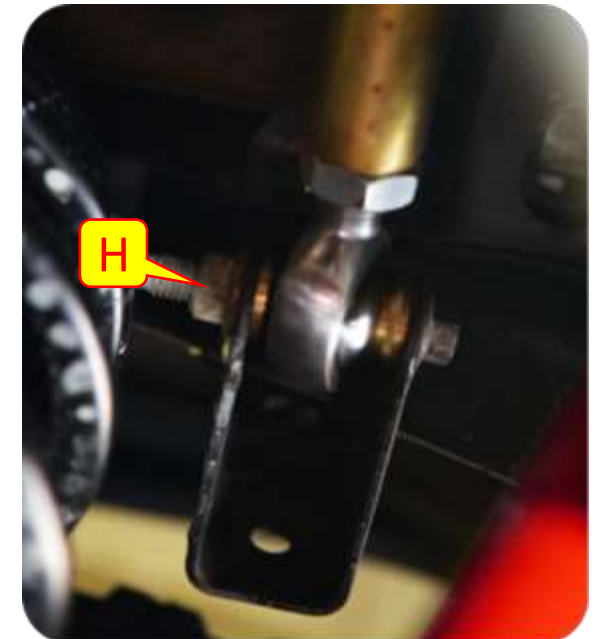
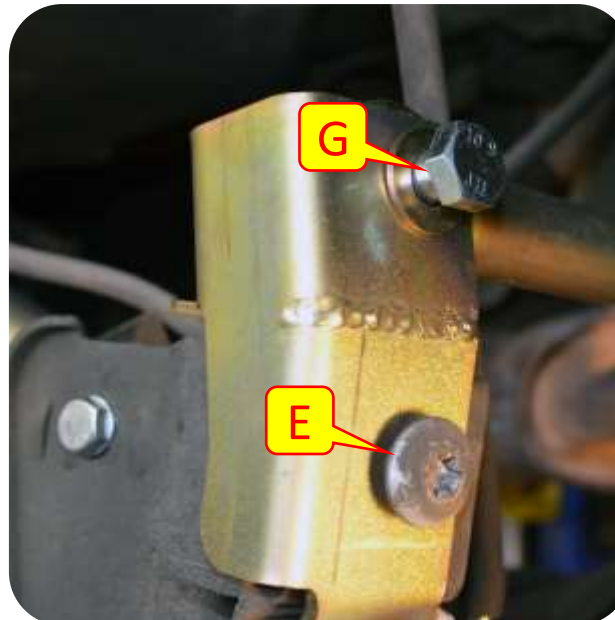
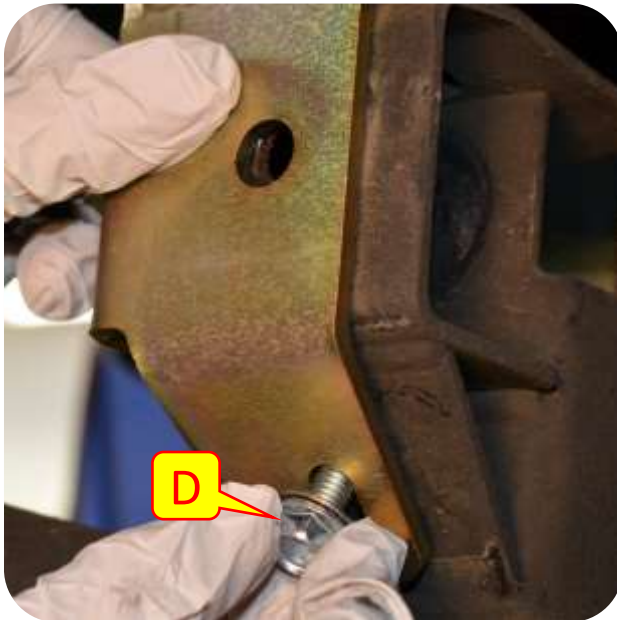


Section 3: Installation Instructions



Step 12: Install MetalCloak Rear Track Bar Bracket & Track Bar

- D. Install nuts and bolts into the holes that were previously drilled.
- E. Install the factory T-55 track bar bolt through the new bracket
- F. Tighten all hardware.
- G. Install the fixed side of the MetalCloak track bar to the axle side bracket using a 22mm socket.
- H. Adjust the frame end of the track bar to fit into the frame bracket and install the frame end of the track bar using the stock hardware. This will be done once the vehicle is on the ground.

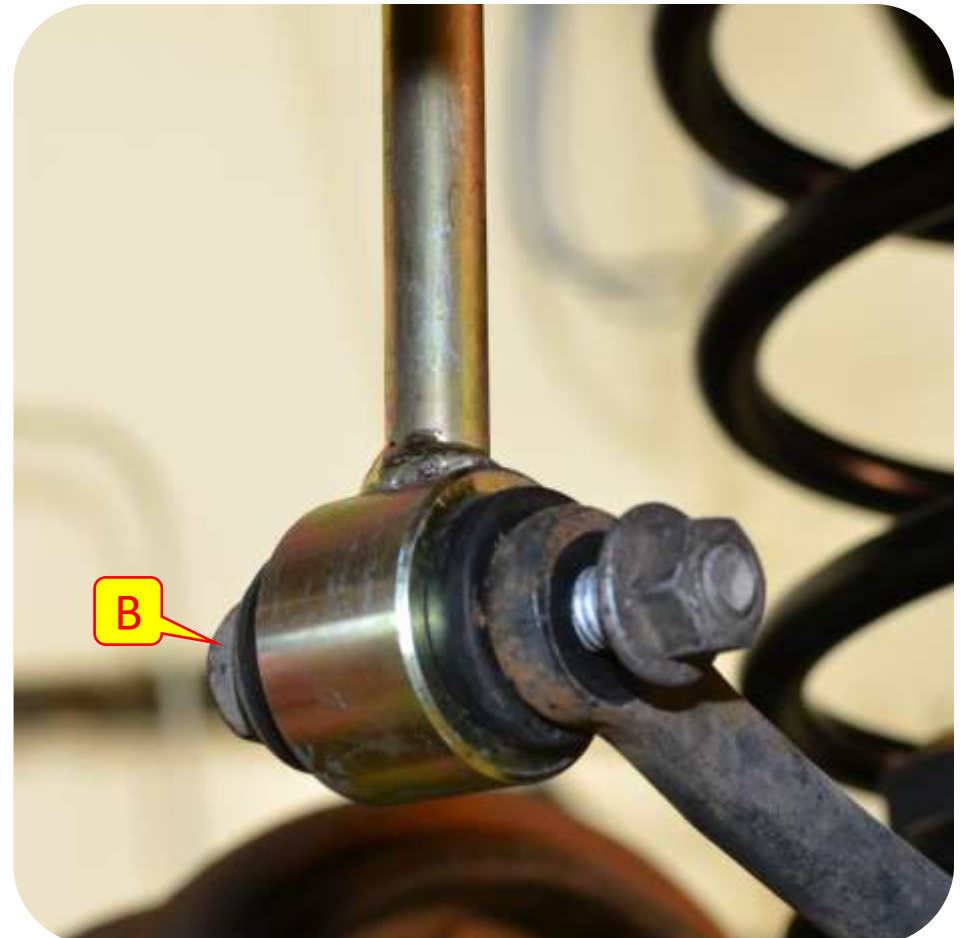
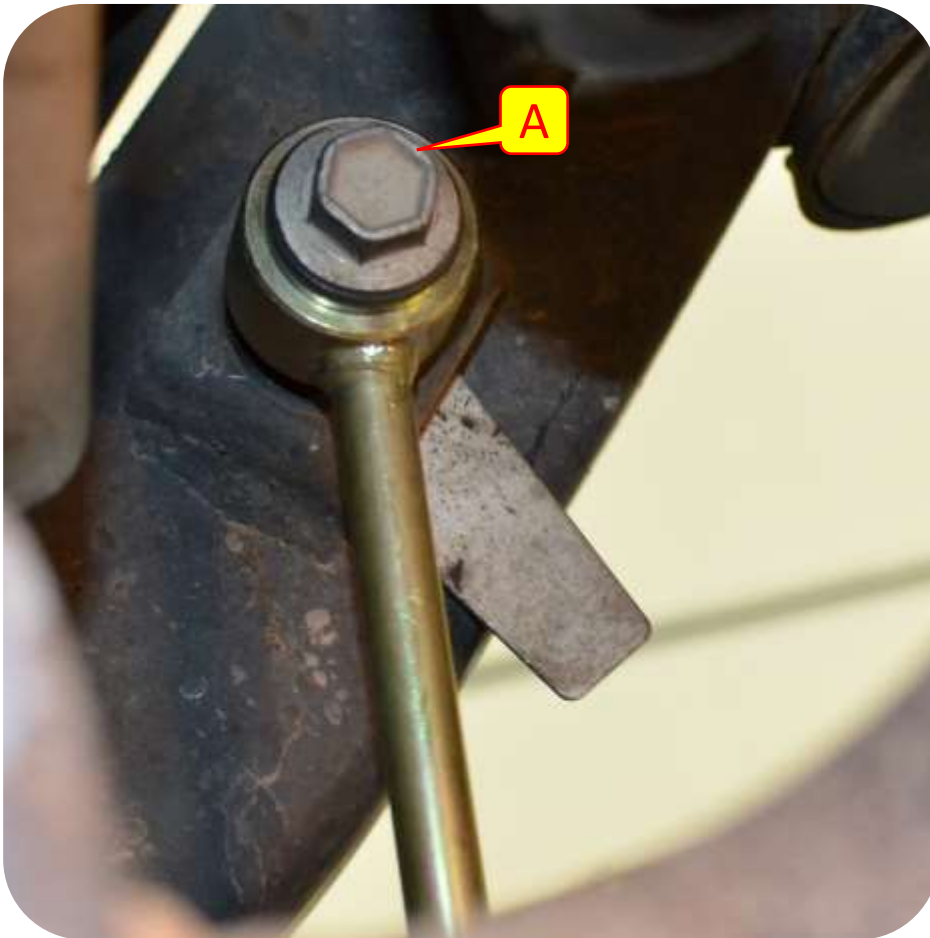


Section 3: Installation Instructions



Step 13: Install MetalCloak Sway Bar End Links

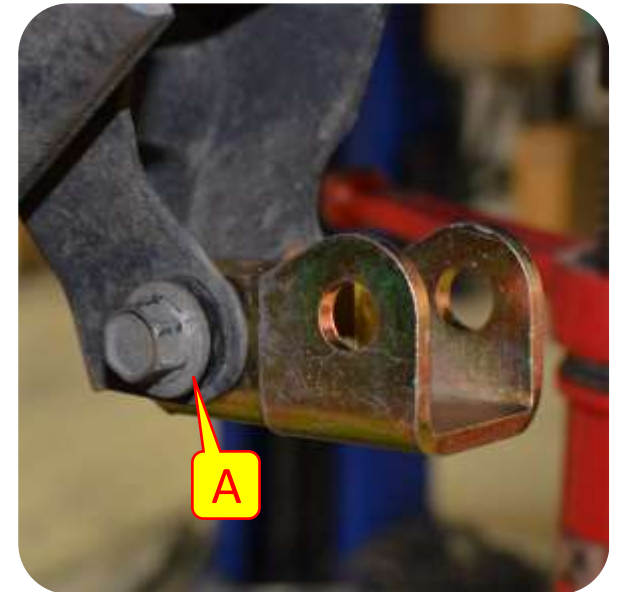
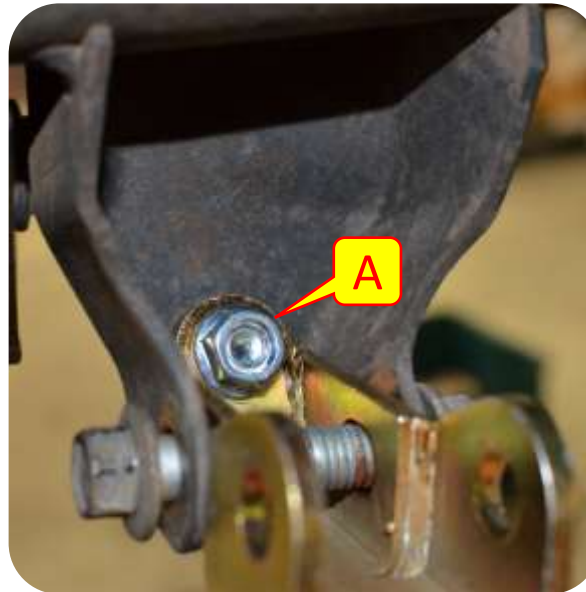
- A. Install the new sway bar end links using the factory hardware.
- B. The lower end of the end link will mount on the outside of the sway bar.



Section 3: Installation Instructions

Step 14: Install Rear Shocks and Bolt on Shock Mount

- A. Install lower shock extension using the supplied hardware along with the factory lower shock bolt. The new bolt will go through a pre-existing hole in the factory lower shock mount.
- B. Push the bottom end of the shock up into the installed shock extension using the supplied hardware.
- C. Install the top end of the shock in the stock location.
- D. Tighten all hardware.



Section 3: Installation Instructions



Step 15: Center Axles and & Adjust Track Bars

- A. Remove stands and lower Jeep onto the ground.
- B. Center vehicle over the axles. Measuring carefully using like points on each side of the vehicle until centered.
- C. Adjust the frame side of the front & rear track bar to fit into the factory track bar bracket on the frame and bolt into place.
- D. Go over vehicle and tighten all hardware.

