INSTALLATION INSTRUCTIONS

PRODUCT: **RAM Lock-N-Load Game Changer, No Shock Edition**

REV: D | 03-22-2024 | II-8052

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 vehicle 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 vehicle 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

6mm Allen Wrench
7/32” Allen Wrench

5/16”, 9/16”, 9/32”, 5/8”, 3/8”
Step up to 1” Drill Bits & Drill

8mm, 9mm, 13mm, 14mm, 15mm, 18mm, 19mm, 21mm, 22mm, 24mm, 27mm, 30mm, 46mm, 9/16”, 15/16” Sockets

Rubber Mallet

16mm, 17mm, 18mm, 21mm, 22mm, 24mm, 27mm, 9/16”, 15/16” Box Wrenchs

Cutoff Wheel

Pitman Arm Removal Tool

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.
Ram Model: Instructions may apply to multiple truck models but are labeled separately where appropriate.
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 B

SHEET 1 OF 1

ITEM	PART NUMBER/DESCRIPTION	QTY.
1	7015 SWAY BAR LINK KIT, 12.25IN FRONT	1
2	8020-D TRUE RADIUS ARM, RAM 2500 FRONT	1
3	8020-P TRUE RADIUS ARM, RAM 2500 FRONT	1
4	8021 RADIUS LINK, RAM 2500 FRONT	1
5	8022 LOCK-N-LOAD RADIUS ARM KIT, RAM 2500	1
6	8023 CONTROL ARM PAIR, RAM 2500 REAR LOWER	1
7	8024 CONTROL ARM PAIR, RAM 2500 REAR UPPER	1
8	8031 SPRING SPACER PAD SET, FRONT SPRING, RAM 2500 4TH GEN LATE	1 E
9	8041 TRACK BAR DROP, FRAME SIDE FRONT, RAM 2500 4TH GEN LATE	1
10	8042 REAR TRACK BAR LIFT, AXLE SIDE REAR, RAM 2500 4TH GEN LATE	1
11	8043 BUMP STOPS, 2IN FRAME SIDE FRONT, RAM 2500 4TH GEN LATE	1
12	8044 BUMP STOP SPACER, 3IN FRAME SIDE REAR, RAM 2500 4TH GEN LATE	1
13	8045 PITMAN ARM, 3IN DROP RAM 2500 4TH GEN LATE	1

NOTE: WEBSITE OPTIONS

REAR SPRING OPTIONS:

8028 - MAX FLEX REAR SPRING

8130 - STOCK SPRING W/ SPACER

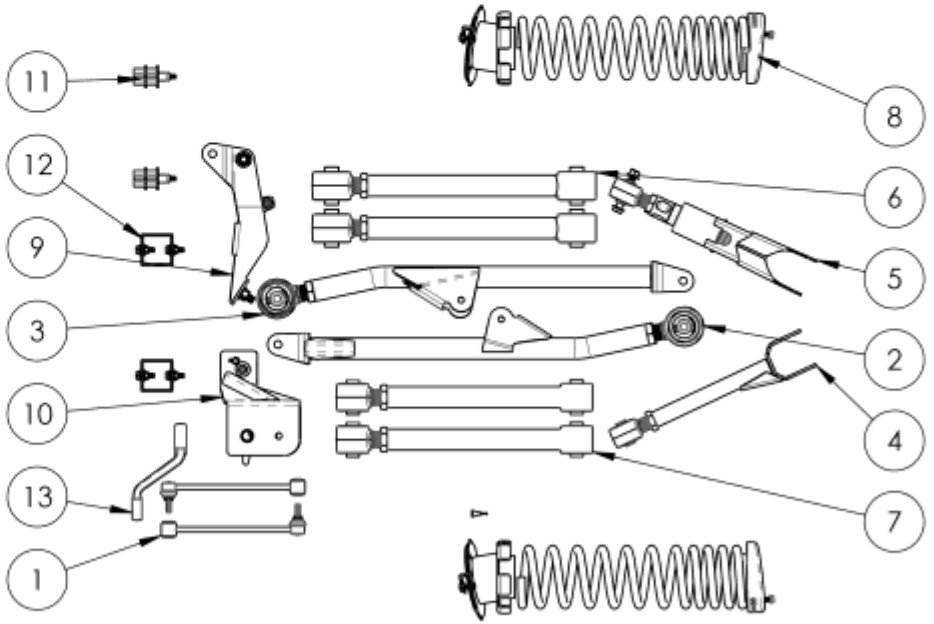
SHOCK OPTIONS:

A5501 - NO SHOCKS

A5502 - STOCK SHOCKS

A5503 - ROCKSPORT SHOCKS

A5504 - FOX SHOCKS



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METAL CLOAK
A DIVISION OF ARMORED WORKS, LLC

PART NUMBER/DESCRIPTION
8052 GAMECHANGER LIFT KIT, 4.5IN RAM 2500 4TH GEN LATE

Section 3: Installation Instructions

Step 1: Disconnect Stock Ram Front Components

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.*

Important Note: *Rams with tires larger than 35" may need trimming of fender and/or inner fender wells depending on the offset of the backspacing.*

Important Note: *The Coil Isolators are side specific and are marked passenger or driver double check before installing so that they are installed correctly.*

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Section 3: Installation Instructions

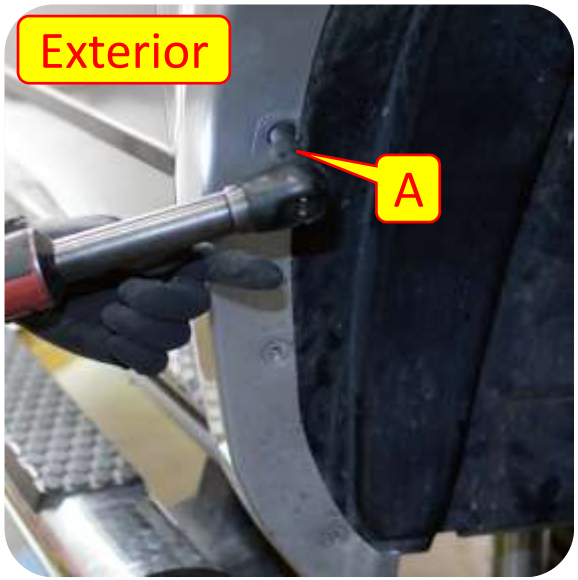
Step 1: Disconnect Stock Ram Front Components

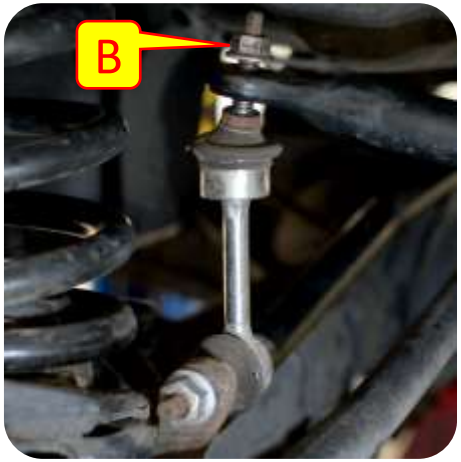
A. Using an 8mm socket remove the front inner fender liners by removing the bolts located around the fender and the two bolts located on the interior of the fender liner.

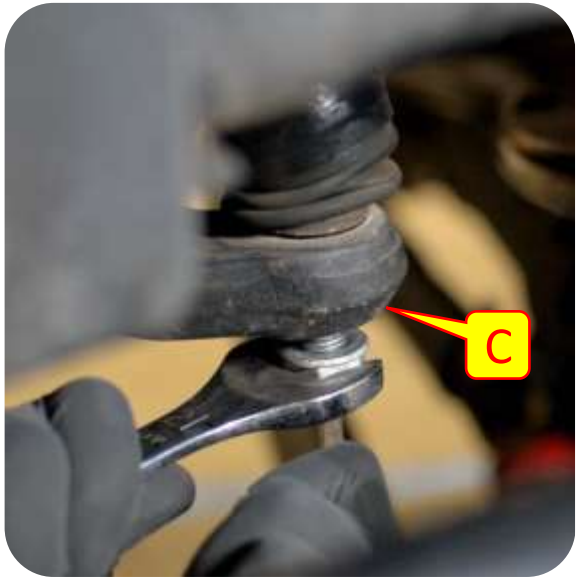
B. Using a 18mm wrench and an 8mm socket remove the sway bar end links.

C. Using a 6mm allen wrench and 21mm wrench unbolt the pitman arm from the drag link. Once unbolted you will need to use a ball peen hammer to disconnect the pitman arm from the drag link as the drag link ball joint is tapered.

D. Using a pitman arm removal tool remove the pitman arm from the steering box end.







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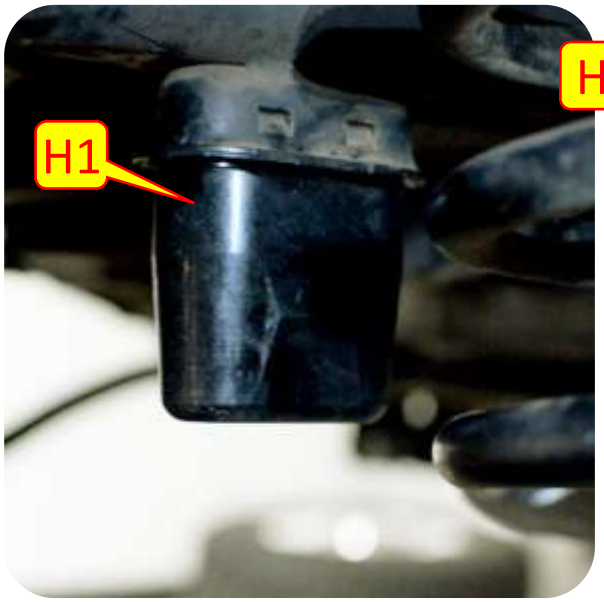
Step 1: Disconnect Stock Ram Front Components

E. Remove the driver side end of the track bar using a 27mm socket.

F. Using a 9mm socket and 18mm wrench remove the front upper shock end.

G. Using a 21mm socket remove the front lower shock end.

H. Using a rubber mallet remove the front bump stops. The bump stops have indentations that hold them in place.



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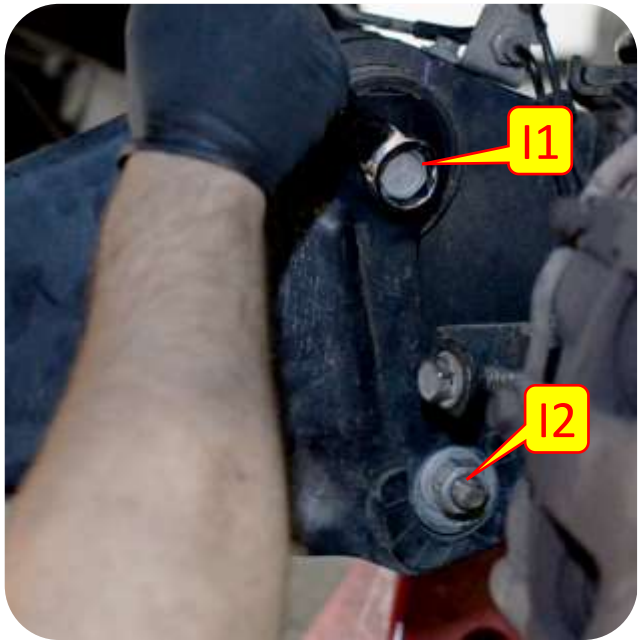
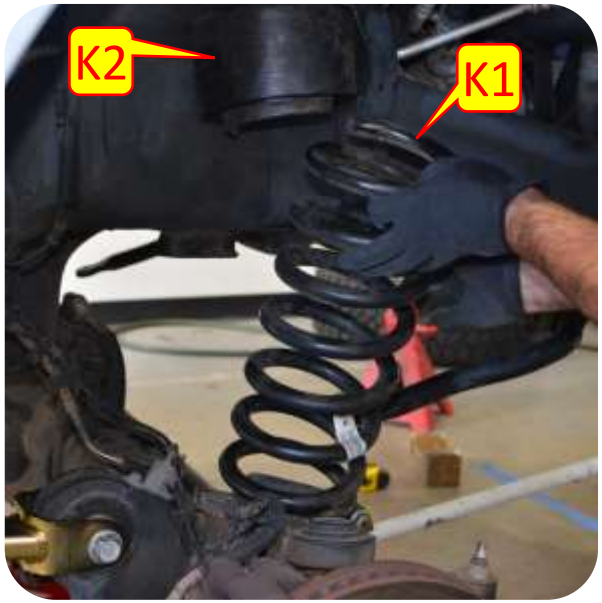
Step 1: Disconnect Stock Ram Front Components

I. Using a 27mm socket on the upper bolt and a 24mm socket and wrench on the lower bolt remove the axle ends of the control arms.

J. Using a 27mm socket remove the frame end of the front control arms.

K. Remove the front coils and the upper and lower spring isolators.





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Section 3: Installation Instructions

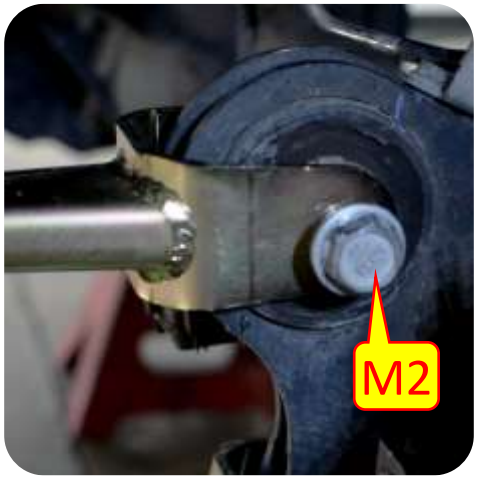
Step 2: Install Front Control Arms

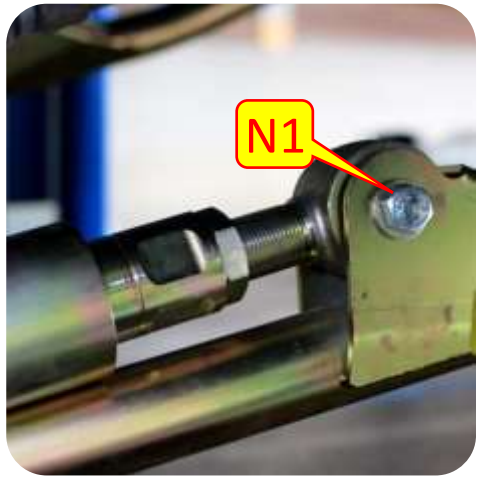
	Front Control Arms		Rear Control Arms	
	Castor Angle	Radius Arms	Lower	Upper
RAM Radius Arm Suspension	4.6 Degrees	38 1/8"	23 1/4"	21 1/4"

L. Using the stock frame side bolt and the stock lower bolt on the axle install the lower front control arms.

M. Using the stock upper bolt on the axle and the provided 22mm hardware install the radius arm on the passenger side.

N. Using the stock upper bolt on the axle and the provided 22mm hardware install the Lock-N-Load on the driver side.





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Step 3: Optional Step

Note: *If you would like to prevent metal to metal contact of the front coil and coil perch you can trim the stock lower coil pad and place it into the cup on the new coil perch.*

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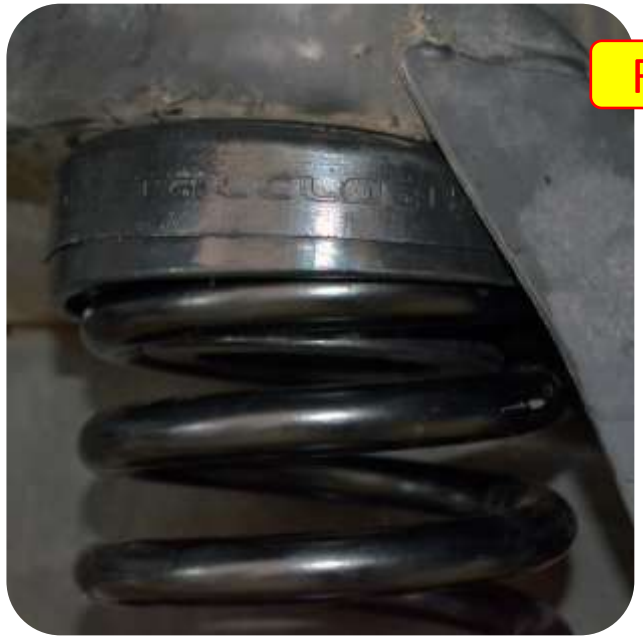
Step 3: Install Front Coils

O. Using a 14mm socket install the provided upper front coil isolator and hardware.

P. Using a 3/8 drill bit enlarge the lower stock hole located on the lower front coil perch.

Q. Install the provided coil perch and tighten the provided hardware using a 7/32 allen and 9/16 wrench. The provided flag nuts go to the upper hole on the coil perch.

R. Install the provided coil with the tightly spaced coils facing upward.



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Step 4: Install Front Bump Stops

S. Using the MetalCloak bump stop bracket mark the stock bump stop bracket with a sharpie.

T. Using a 5/16 drill bit drill the marked location on the stock bump stop bracket.

U. Using the provided 3/8” self tapping screw install the MetalCloak bump stop bracket.

V. Install the stock bump stops into the MetalCloak bump stop brackets. If you are having difficulty installing the bump stops into the bracket you can use WD-40 to help slide them into place.

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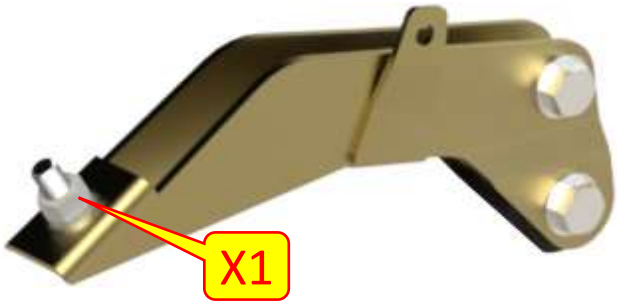
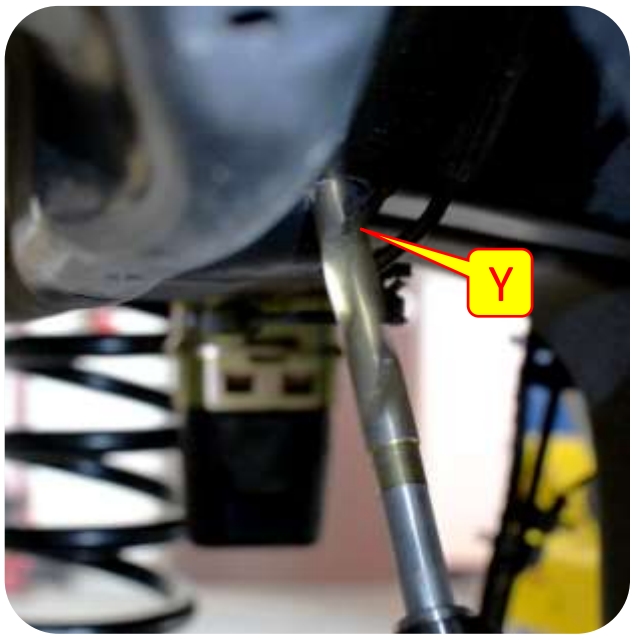
Step 5: Install Front Track Bar Bracket

W. Install the front track bar bracket in the stock location and align the bracket in preparation for drilling.

X. Mark the hole on the frame with a sharpie for drilling.

Y. Drill the hole with a small drill bit working your way up to a 5/8 drill bit. **BE CAREFUL NOT TO DRILL THROUGH THE OIL PAN. MetalCloak recommends protecting the oil pan with a piece of wood or sheet metal when drilling the hole.**





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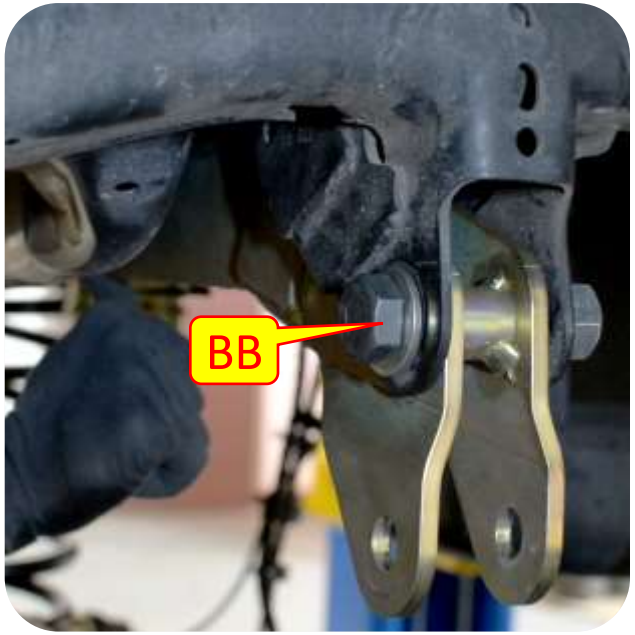
Step 5: Install Front Track Bar Bracket

Z. Using a 9/16 socket and wrench tighten the track bar bracket *(at the drilled location)*.

AA. Using a 15/16 socket and wrench tighten the upper track bar bracket bolt.

BB. Using a 27mm socket and wrench tighten the bolt in the track bar stock location.



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Step 6: Install Front Shocks & Extensions

CC. Remove the rubber isolators and washers off the top of the shock. Save all hardware for reinstallation.

DD. Thread the shock extension on the top of the shock.

EE. Install one of the stock washers and rubber isolators onto the shock extension.

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Step 6: Install Front Shocks & Extensions

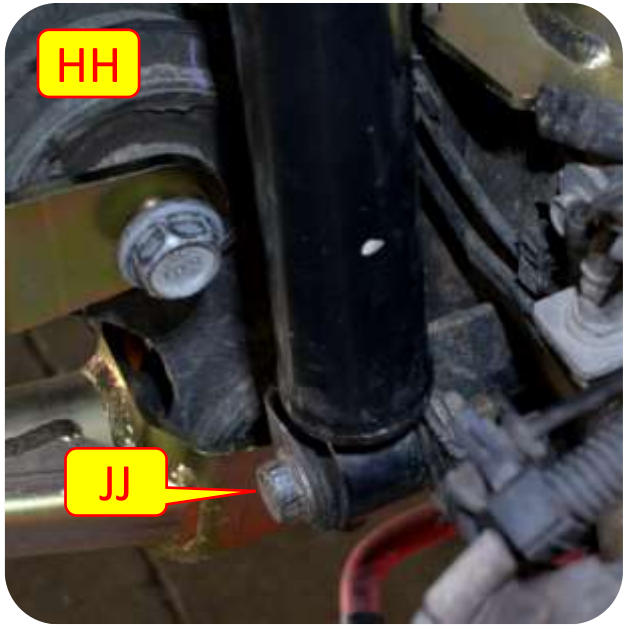
FF. Install the upper shock in the stock location.

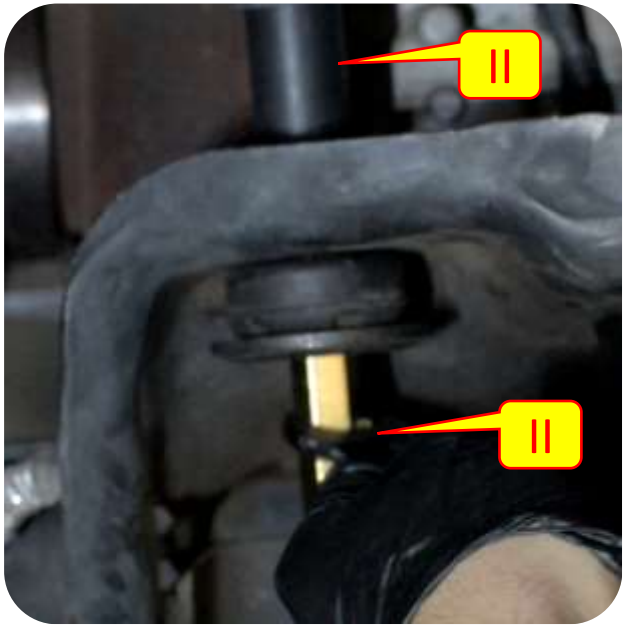
GG. Install the other rubber isolator and washer onto the top of the shock extension and install the stock nut.

HH. Install the lower end of the front shock into the stock location and using the stock hardware.

II. Tighten the upper nut using a 16mm wrench on the shock extension and a 18mm wrench on the nut.

JJ. Using a 21mm socket tighten the lower shock bolt.





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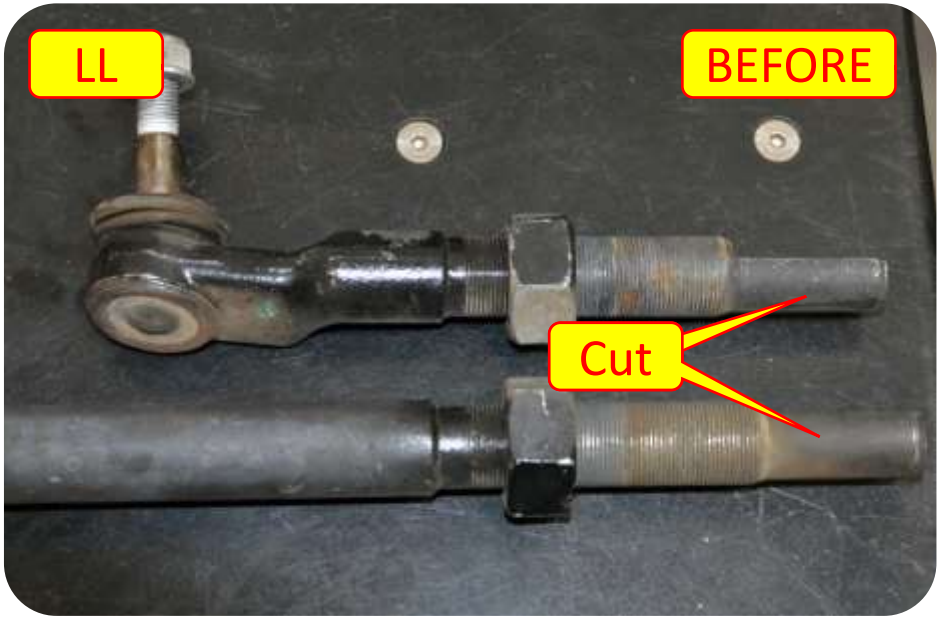
Step 7: Drag Link Modifications

Note: *Due to a RAM recall your drag link adjustment may be welded together. The welds will need to be cut to modify the drag link.*

KK. If your draglink adjustment is welded together then you must cut the welds using a cutoff wheel. This will allow you to remove the drag link ends from the hex adjustable bar.

LL. Using the cutoff wheel remove the box ends of the drag link ends.

MM. Reassemble the drag link in preparation for reinstallation.



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Step 8: Pitman Arm Installation

NN. Reinstall the factory sway bar end links using a 18mm wrench and 8mm socket.

OO. Reinstall the passenger side of the drag link.

PP. Install the steering box end of the pitman arm using a 46mm socket. Use red Loctite on the nut before installation.

QQ. install the drag link to the pitman arm using a 21mm wrench and 6mm allen wrench.

Important Note: *Make sure your wheels are straight then turning the drag link adjuster, either using your hand or an adjustable wrench until the steering wheel is level.*

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Step 9: Front Track Bar Installation

RR. Install the front track bar into the track bar bracket using the factory hardware and tighten with a 27mm socket and wrench.

SS. Adjust the caster angle and toe as needed *(4.6 degrees)*. Once set, tighten all hardware. Finally, tighten the jam nuts on all control arms.

Note: *When lifting any vehicle, basic dynamics are changed. It is important for you to take your vehicle to a professional for alignment after installation. When doing so, make sure he is setting caster for a lifted vehicle (not stock specs).*

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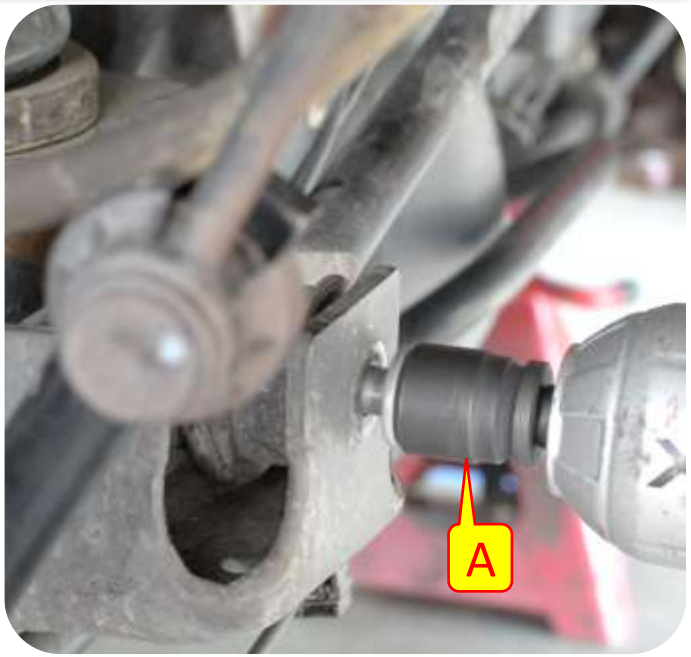
Step 10: Disconnect Stock Ram Rear Components

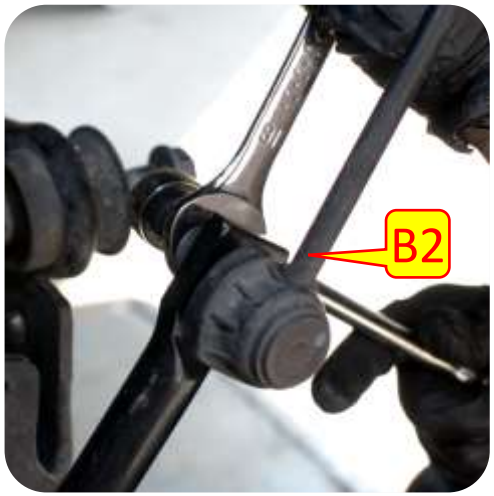
Important Note: *Make sure you support the rear axle with jack stands.*

A. Using a 21mm socket and wrench disconnect the rear track bar on the axle side.

B. Remove the rear sway bar end links using a 18mm socket and wrench.

C. Using a 9mm socket and 18mm wrench remove the rear shocks.





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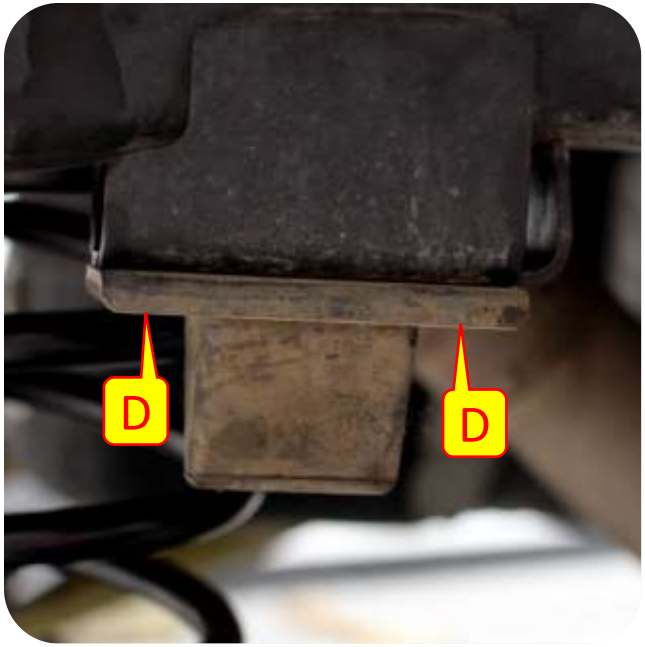
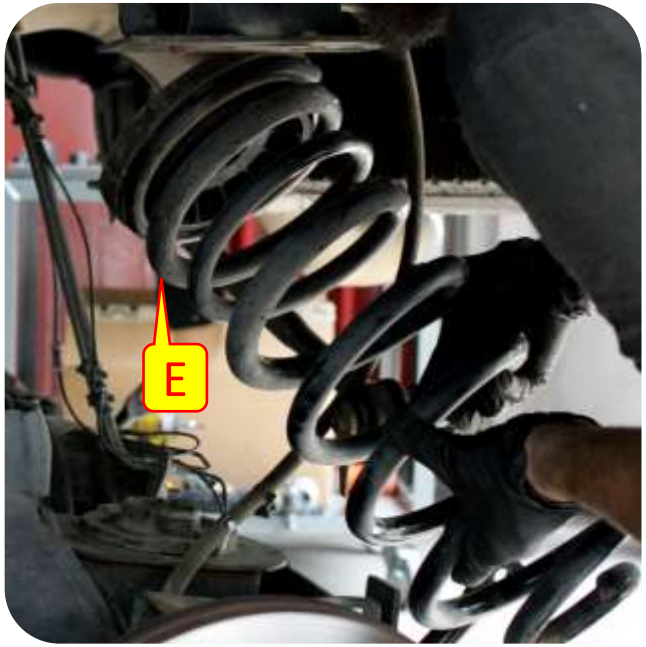
Step 10: Disconnect Stock Ram Rear Components

D. Remove the rear bump stops using a 6mm allen wrench.

E. Remove the rear coils.

F. Disconnect the brake line mount from the driver side stock control arm using a 13mm socket and remove the mount from the brake line.





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Section 3: Installation Instructions

Step 11: Install the Rear Control Arms

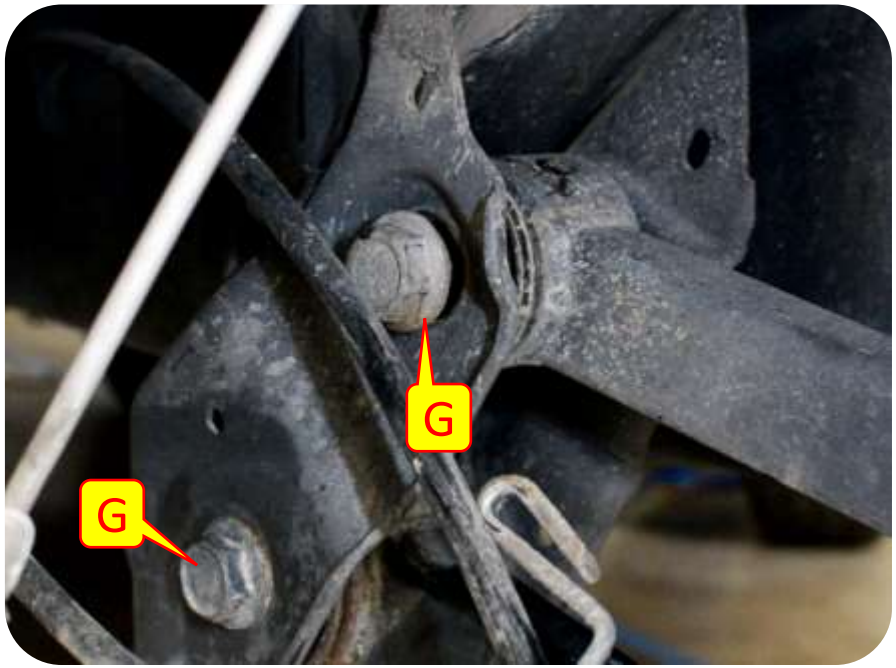
Important Note: *Remove and install the rear control arms one side at a time.*

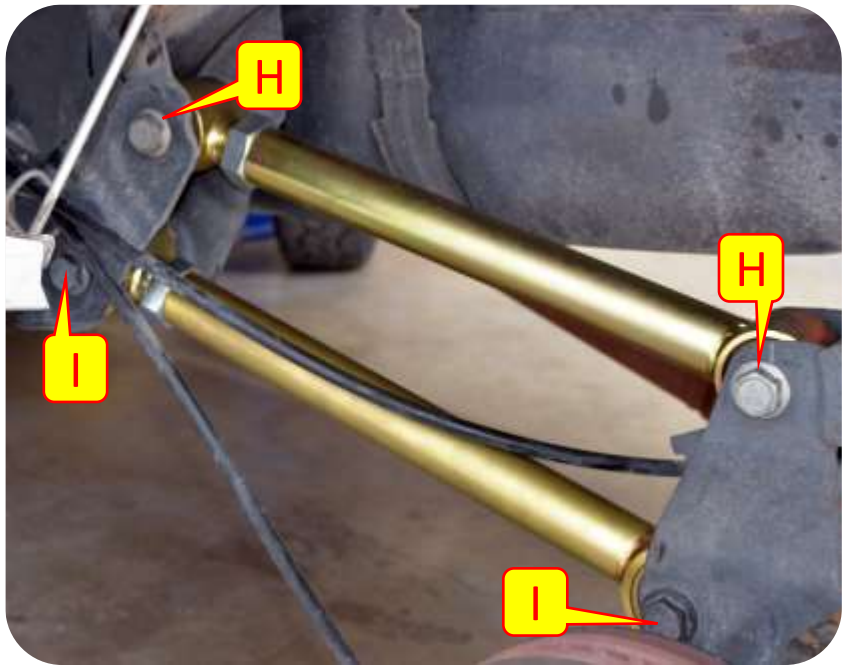
		Front Control Arms	Rear Control Arms	
	Castor Angle	Radius Arms	Lower	Upper
RAM Radius Arm Suspension	4.6 Degrees	38 1/8"	23 1/4"	21 1/4"

G. Using a 30mm socket remove the upper and lower control arms.

H. Install the upper rear control arms using the stock hardware.

I. Install the lower rear control arms using the stock hardware.



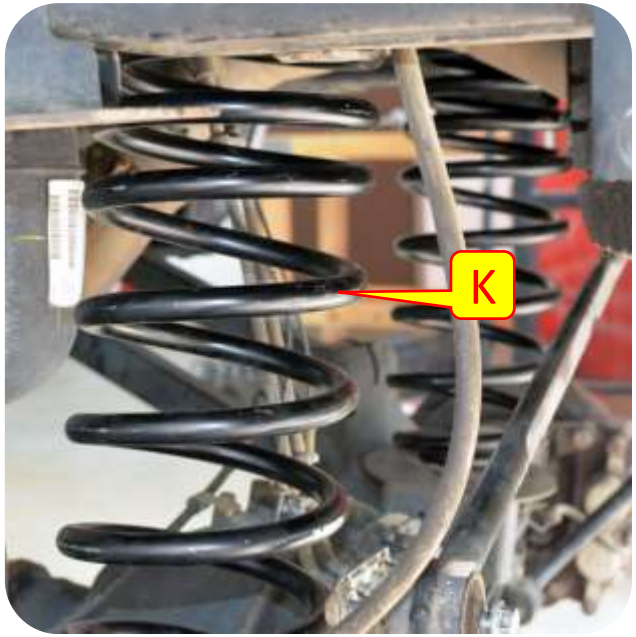


Step 12: Install Rear Coils

J. Install the upper rear coil isolator onto the coil.

K. Install the rear coils into the stock location.

L. Rotate the rear coil until the lower pig tail butts up against the coil isolator.



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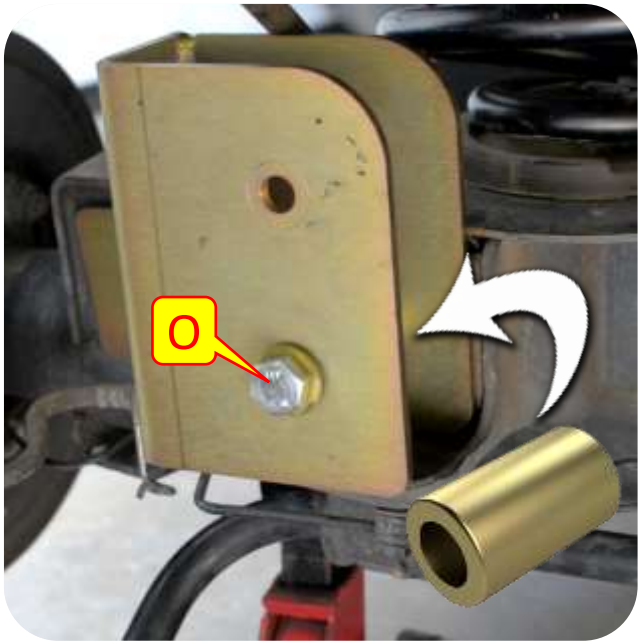
Step 13: Install Rear Track Bar Bracket

M. On the backside of the rear bump stop axle perch drill out the existing hole working your way up to a 1” bit.

N. Using a 9/16 drill bit drill out the existing hole on the front of the rear bump stop axle perch.

O. Install the rear track bar bracket using the provided bolt, washer, spacer, and flag nut in the stock track bar location.

P. Install the provided spacer and bolt through the 1” hole in the back of the rear bump stop perch.



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Step 13: Install Rear Track Bar Bracket

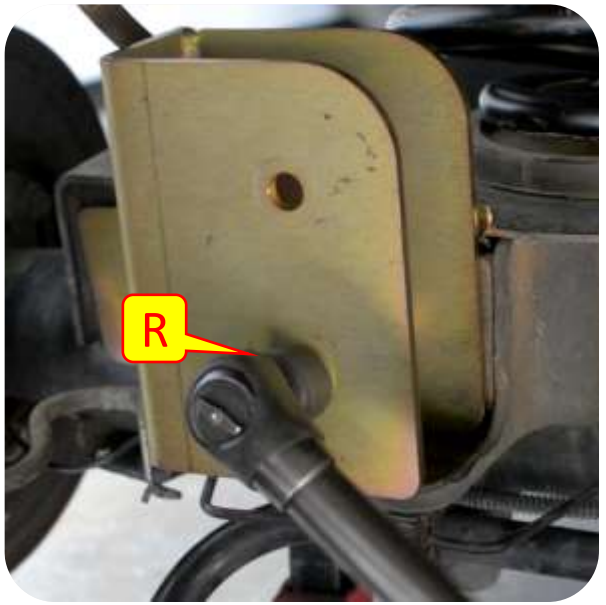
Q. Using a 19mm socket and wrench fully tighten the rear bump stop perch bolt.

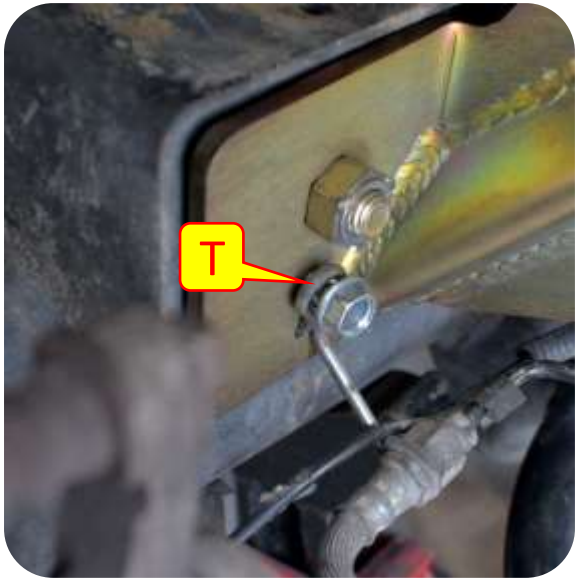
R. Using a 22mm socket tighten the track bar bracket bolt.

S. Using a 9/32” drill bit drill out the hole for the brake line on the rear bump stop perch.

T. Using the provided self taping bolt install the brake line bracket and tighten using a 13mm socket.

U. Install the Rear track bar using a 21mm socket and wrench.





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Step 14: Install Rear Shocks & Extensions

V. Remove the rubber isolators and washers off the top of the shock. Save all hardware for reinstallation.

W. Thread the shock extension on the top of the shock.

X. Install one of the stock washers and rubber isolators onto the shock extension.

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Step 14: Install Rear Shocks & Extensions

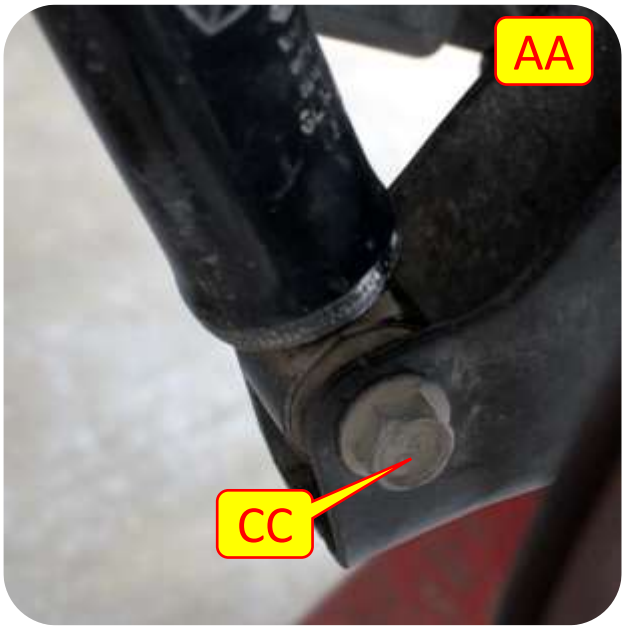
Y. Install the upper shock in the stock location.

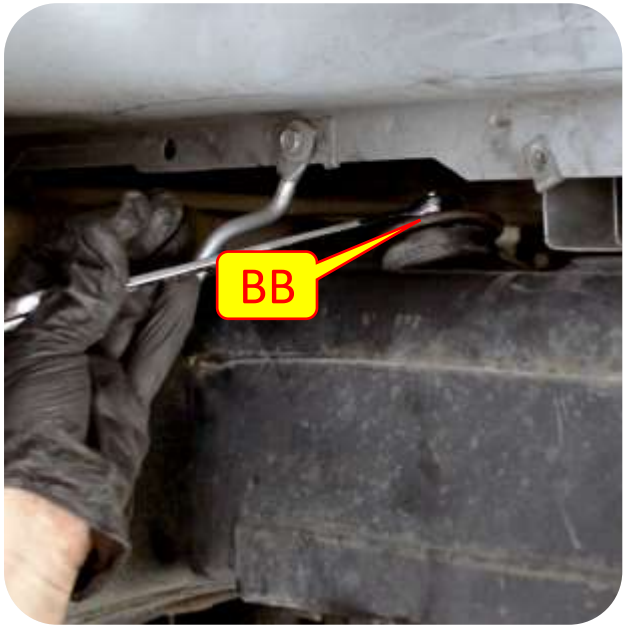
Z. Install the other rubber isolator and washer onto the top of the shock extension and install the stock nut.

AA. Install the lower end of the front shock into the stock location and using the stock hardware.

BB. Tighten the upper nut using a 16mm wrench on the shock extension and a 18mm wrench on the nut.

CC. Using a 21mm socket tighten the lower shock bolt.





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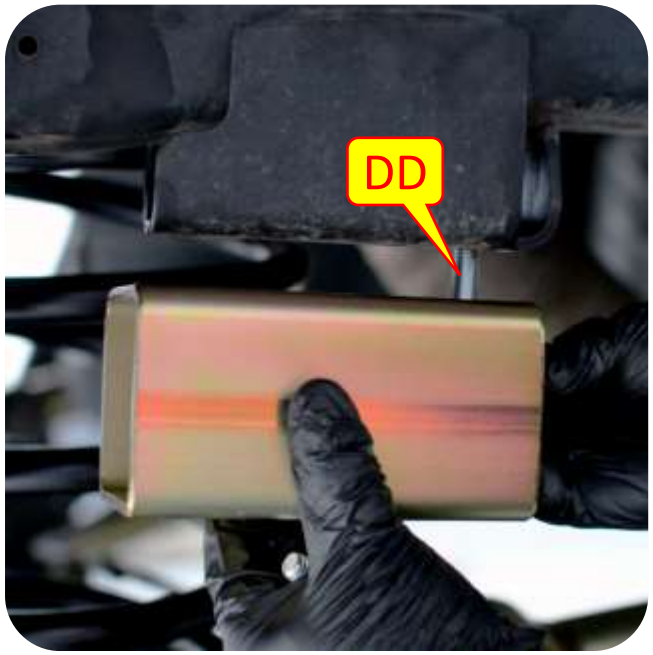
Step 15: Install Rear Bump Stops

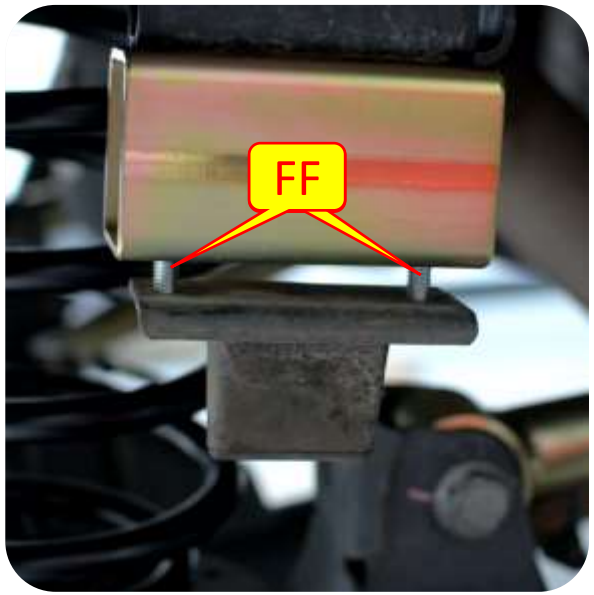
DD. Install the rear bump stop brackets into the stock location using the provided hardware.

EE. Using a 15mm socket tighten the bump stop bracket.

FF. Using the provided hardware attach the stock bump stops to the bump stop bracket.

GG. Using a 15mm socket and 17mm wrench tighten the bump stop to the bracket.





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Step 16: Install Rear Sway Bar End Links

HH. Install the sway bar end links into the stock locations.

II. Using a 18mm socket and wrench tighten the sway bar end links. MetalCloak recommends using red Loctite on the threads.

JJ. Set the pinion angle to be equal to an angle of the output at the transfer case for SWB *(short wheelbase)* or at the carrier bearing if LWB *(long wheelbase)* Once set, tighten all hardware. Finally, tighten the jam nuts on all control arms.

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Step 17: Rear Pinion Angle Adjustment *(if required)*

KK. The Control Arm lengths given are recommended as starting points ***ONLY***. Your vehicle will tell you if the pinion needs to be adjusted. When you drive the truck for the first time after installing the lift, if you notice rear drive line vibrations, pay attention to when the vibrations occur.

LL. If you notice vibrations during acceleration this would indicate that your pinion is too high. You can correct this condition by adjusting your rear upper control arms to a shorter length or by increasing the length of your rear lower control arms.

MM. If you notice Vibrations during Deceleration this would indicate that your pinion is too low. You can correct this condition by increasing the length of your rear upper control arms, or by adjusting the rear lower arms to a shorter length.

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