

# PRODUCT: JL 4xE Rack System, Injection Mold Bumper

REV: B | 09-25-2023 | R74030

# **READ INSTRUCTIONS IN FULL BEFORE INSTALLATION. QUESTIONS? CALL 916-760-4575 M-F 7:00 AM – 5:00 PM PST**

The ARS 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 Jeep or are not easily understandable.

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

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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.



**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.

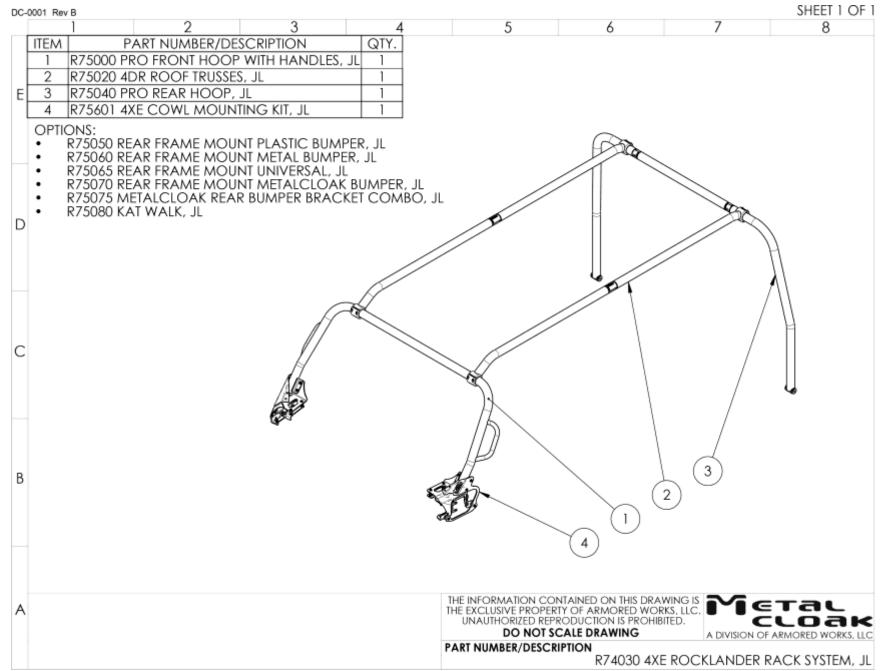
**Jeep Model:** Instructions may apply to multiple Jeep models but are labeled separately where appropriate (i.e. TJ vs. LJ). **Options:** Because of the number of component options we offer, these instructions may contain steps that will not match your configuration. You can skip these steps.

**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.

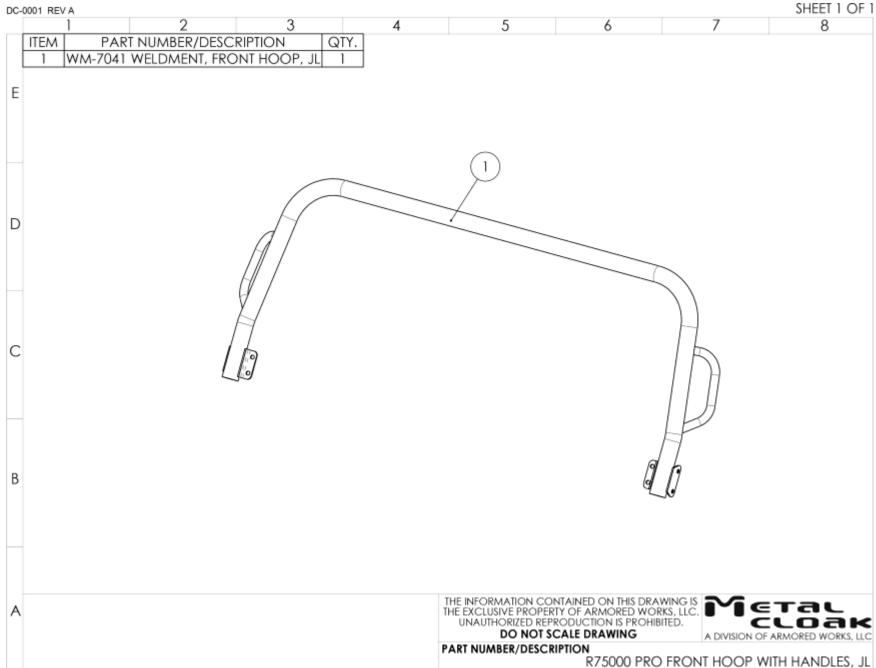
**Installation Notes:** Terms may be used in the body of the instructions that you may not be familiar with, if you have any questions feel free to contact us at the number below, or email techhelp@metalcloak.com

QUESTIONS: Any questions or comments about the instructions? Call us at 916-760-4575 M-F 7:00 AM - 5:00 PM PST.

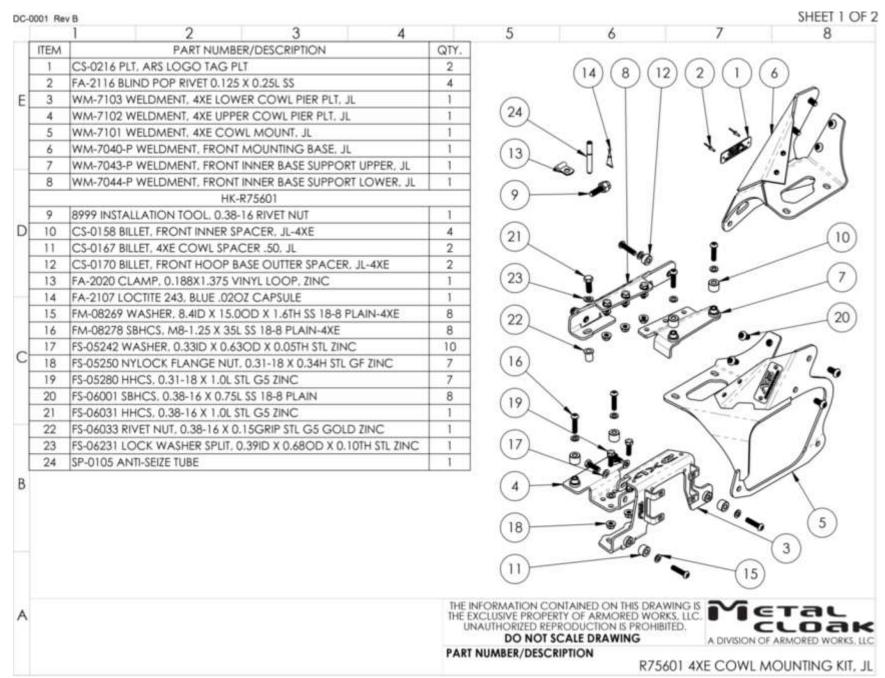




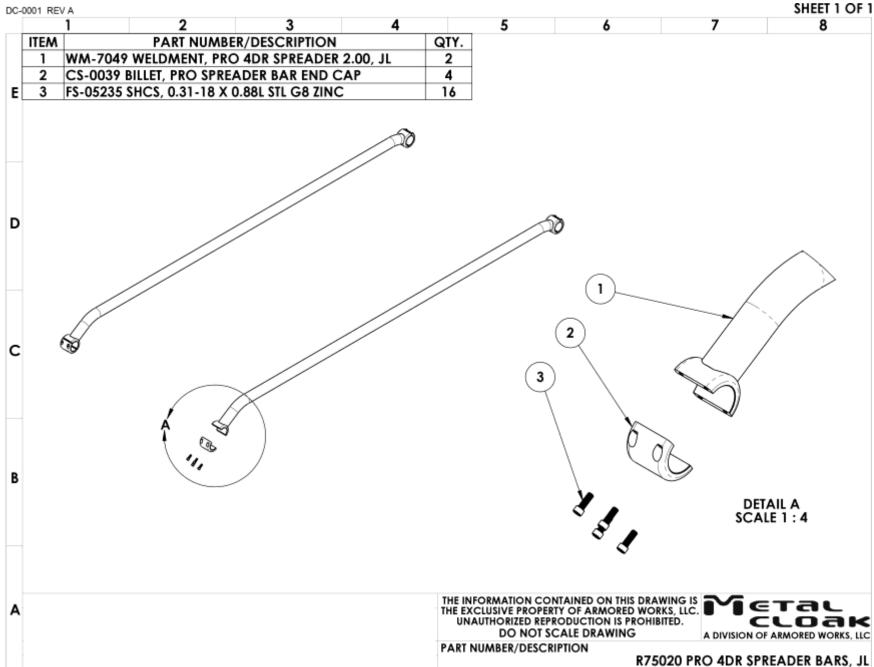




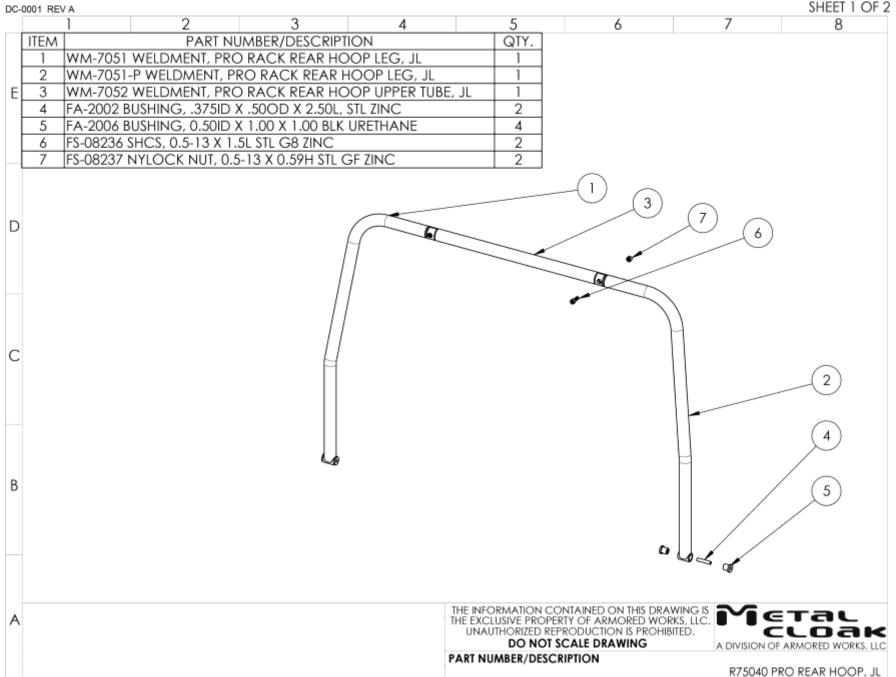




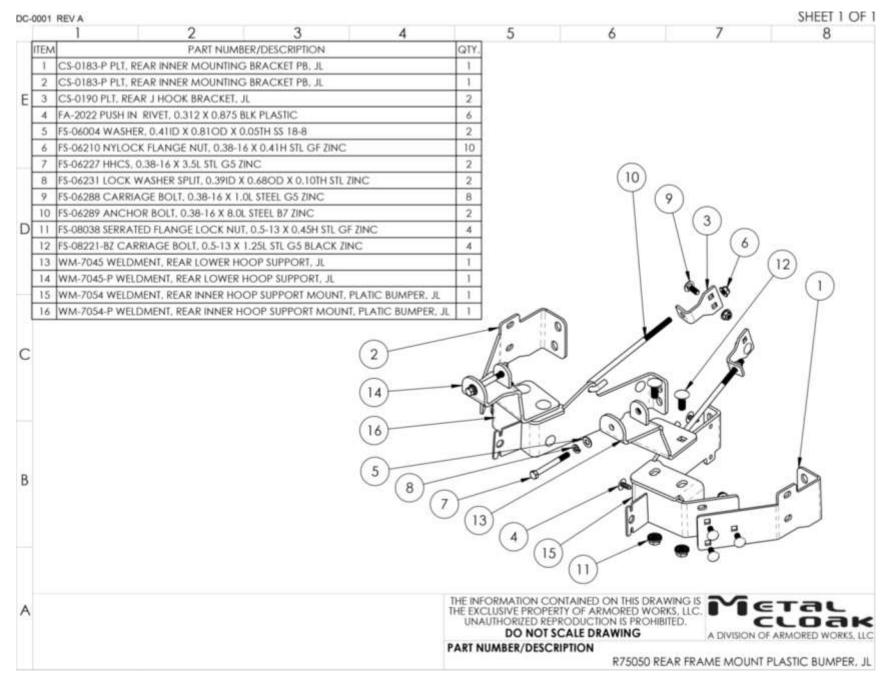








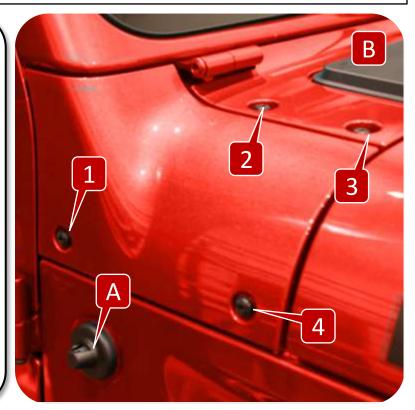






#### **Step 1:** Front Hoop Passenger Bracket Installation

- A. Remove antenna.
- B. Using a T40 torx wrench remove the four stock torx bolts from the side panel and hood cowl.
- C. Remove the cowl cover.
- D. Using cutters remove the plastic tab underneath the hood cowl.
- E. Mask area around holes and use a dremel enlarge the T40 torx holes on the hood cowl making sure they are large enough to fit the upper bracket's 1/2" standoffs. Do NOT use a drill to open the holes.







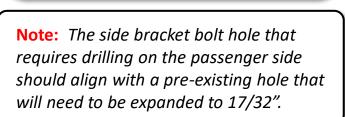


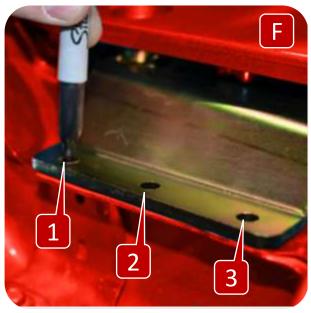


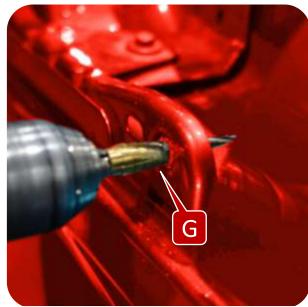


#### **Step 1:** Front Hoop Passenger Bracket Installation

- F. Mark the three upper bracket holes.
- G. Enlarge the two outer flange stock bolt holes to 13/32".
- H. Install the side bracket and hold into place with the provided allen bolts.
- Mark the 4 side bracket holes in preparation for drilling.
- Remove both the upper and side brackets.













#### **Step 1:** Front Hoop Passenger Bracket Installation

- K. Center punch and drill a pilot hole on the three upper bracket marked locations and step up to a 5/16" drill bit.
- L. Center punch and drill a pilot hole on the one side bracket marked location and step up to a 17/32" drill bit. We recommend opening the hood to gain better access to the marked location.
- M. Paint any exposed metal to prevent rusting.
- N. Using the provided installation tool install the rivet nut into the 17/32" hole. Use a 9/16" socket and 11/16" wrench for the installation tool.

**Note:** The passenger side has two layers of steel that must be drilled through.











#### **Step 1:** Front Hoop Passenger Bracket Installation

O. Using a clamp hold the side panel securely to help prevent movement when cutting.

**Note:** The marked locations are the parts that will need to be removed from the side panel.



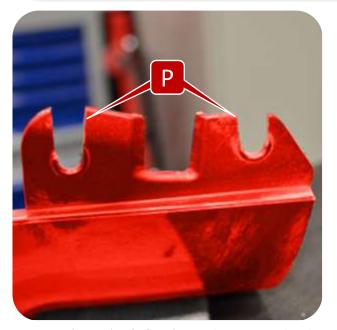






#### **Step 1:** Front Hoop Passenger Bracket Installation

- O. Using the cut off wheel cut the notches on the front of the plastic side panel. The notches need to be wide enough to fit snuggly around the bracket standoffs (approx. 1/2" Wide). If cuts are too wide the panel can rattle against the bracket.
- P. Using a cut off wheel cut off the plastic standoffs on the back of the side panel (Do not trim flush, leave 1/8" of material, test fit and shave off material till you reach the desired fitment. should be slightly snug).
- Q. Using a cut off wheel cut off the previously marked center bracket.







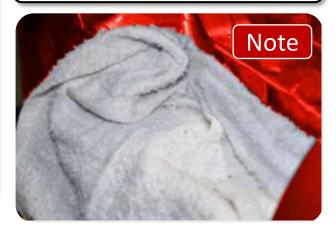
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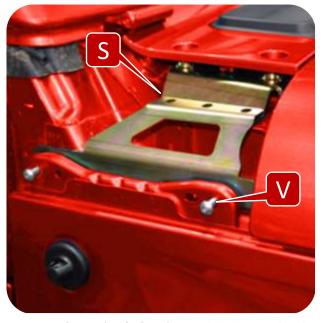


#### **Step 1:** Front Hoop Passenger Bracket Installation

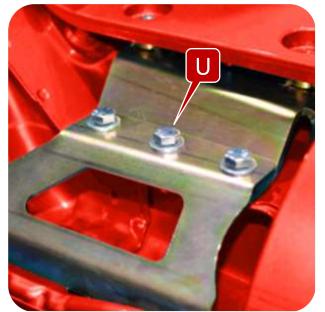
- Install the upper and side brackets. The side bracket sits on top of the upper bracket.
- T. Place a spacer washer between each of the three holes of the two brackets.
- U. Loosely install the provided bolts, washers and nuts into the three bolt holes. (There are nine total washers: one washer on top, one as a spacer, one on the bottom).
- V. Install two of the provided allen bolts into the drilled-out stock locations to hold the side bracket into place before tightening the hex head bolts.

**Note:** MetalCloak recommends placing a shop towel over the cowl area before installing the brackets to make sure the hardware does not fall.









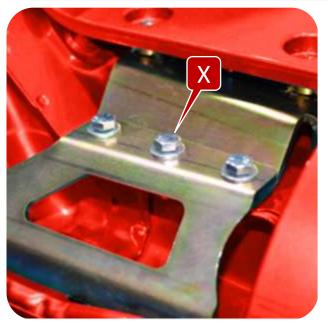
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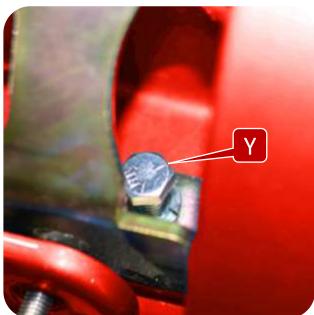


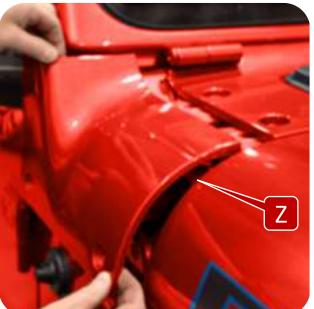
#### **Step 1:** Front Hoop Passenger Bracket Installation

- W. Install the provided bolt and split washer into the rivet nut.
- X. Using a 1/2" socket and wrench tighten the three bracket bolts.
- Y. Using a 9/16" socket tighten the rivet nut bolt.
- Z. If the allen head bolts do not move freely you must unbolt and readjust the bracket. Once the allen head bolts move freely remove the two bolts and reinstall the plastic hood cowl.







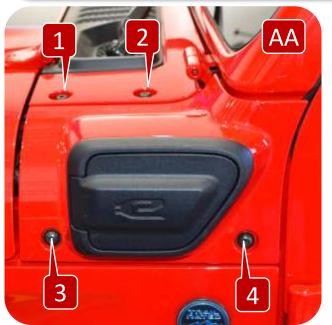


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- AA. Using a T40 torx wrench remove the four stock torx bolts from the side panel and hood cowl.
- BB. Remove the cowl cover.
- CC. Disconnect the plug from the cowl cover.

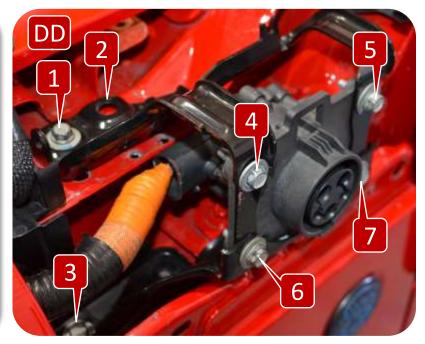








- DD. Disconnect the 7 bolts on the charging port bracket using a 10mm socket and remove upper and lower OEM brackets, these will not be used.
- EE. Mask area around holes and use a Dremel enlarge the T40 torx holes on the hood cowl making sure they are large enough to fit the upper bracket's 1/2" standoffs. Do NOT use a drill to open the holes.
- FF. Install the upper pier plate using two factory bolts and drill out the other holes with a 21/64" drill bit.





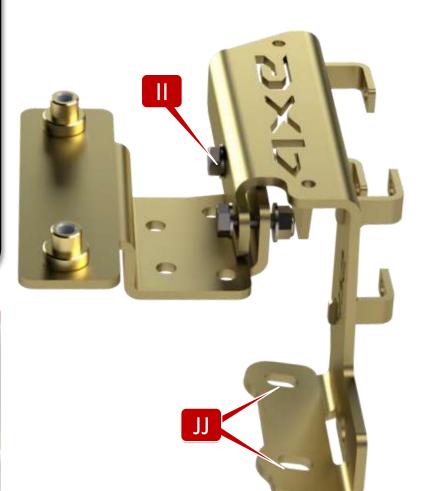




- GG. Using a 1/2" socket and wrench tighten the provided bolts in the drilled-out holes and using a 10mm socket tighten the factory hardware on the upper pier plate.
- HH. Using the factory bolts install the charging port to the lower pier plate.
- II. Install the lower pier plate over the top of the upper pier plate and loosely install the provide hardware.
- JJ. Using the factory hardware install the bottom of the lower pier plate.





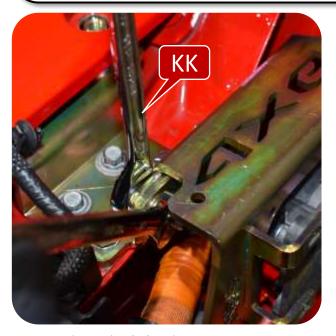




#### **Step 2:** Front Hoop Driver Bracket Installation

- KK. Using two 1/2" wrenches tighten the upper and lower pier plate attaching bolts.
- LL. Tighten all charging port and pier plate hardware.

MM.Attach the charging port wiring to the lower pier plate by inserting the factory plastic rivets into the holes located on top of the bracket.

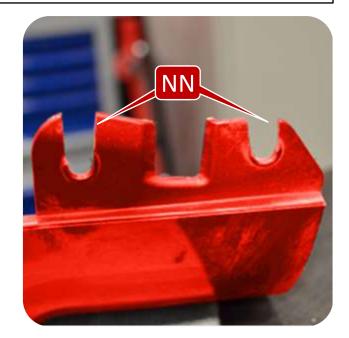




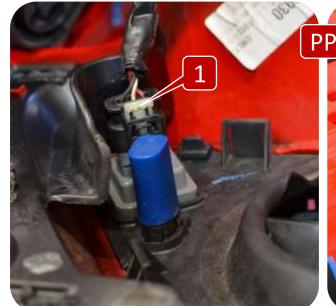




- NN. Using the cut off wheel cut the notches on the front of the plastic side panel. The notches need to be wide enough to fit around the bracket standoffs (approx. 1/2" Wide).
- OO. Using a cut off wheel cut off the plastic standoffs on the back of the side panel. (Do not trim flush, leave 1/8" of material, test fit and shave off material till you reach the desired fitment. should be slightly snug.)
- PP. Reconnect the charging port plug to the cowl cover and reinstall the cowl cover onto the Jeep.









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**Step 3:** Front Hoop Mounting Base Installation

**Note:** ARS highly recommends using blue lock tight on the four allen head bolts when installing the front hoop mounting base.

- QQ. Place the larger provided spacers into the top T40 bolt locations.
- RR. Loosely install the hoop mounting base into the top spacers using the provided longer allen bolts and washers. Do not fully tighten.
- SS. Place the provided smaller spacers into the stock T40 bolt locations.
- TT. Loosely install the mounting base into the side spacers using the provided longer allen bolts and washers. Do not fully tighten.









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#### **Step 4:** Front Hoop Installation

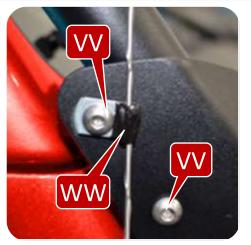
- UU. Install the finishing caps into the front hoop.
- VV. Using the provided allen head bolts (use anti-seize) attach the hoop to the mounting brackets.
- WW.On the passenger side insert the antenna into the provided antenna clamp and secure to the mounting bracket using the provided hoop allen bolt. Tighten with a 7/32" allen wrench.
- XX. Using a 5mm allen wrench tighten the 4 allen bolts. Repeat on other side.



**Note:** ARS recommends having a second pair of hands help install the front hoop.











#### **Step 5:** Rear Hoop Preparation

- YY. Install the bushing ends into the end of the rear hoop.
- ZZ. Install the bushing sleeve into the rear hoop bushing ends.

AAA.Using a 3/8" allen socket or wrench install the cross bar to the hoop ends.





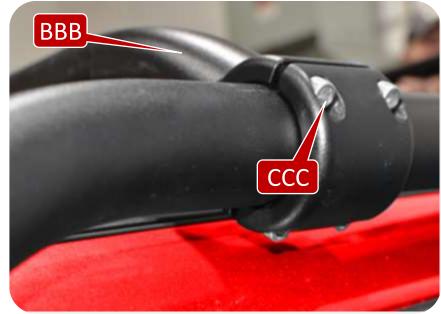


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#### **Step 5:** Rear Hoop Preparation

- BBB.Place the spreader bars with the engineered bend facing the front hoop.
- CCC. Install the spreader bar clamp ends to the front hoop using the provided allen head bolts. **DO NOT FULLY TIGHTEN**.
- DDD.ARS recommends having a second person help install the spreader bar clamps to the rear hoop using the provided allen head bolts. **DO NOT FULLY TIGHTEN.**







**Step 5:** Rear Hoop Preparation

**Note:** When installing the rear hoop make sure the rear hoop is evenly spaced from the Jeep tub, use a square to make sure the rear hoop is straight vertically, and make sure there is clearance for the gas cap to open and close.

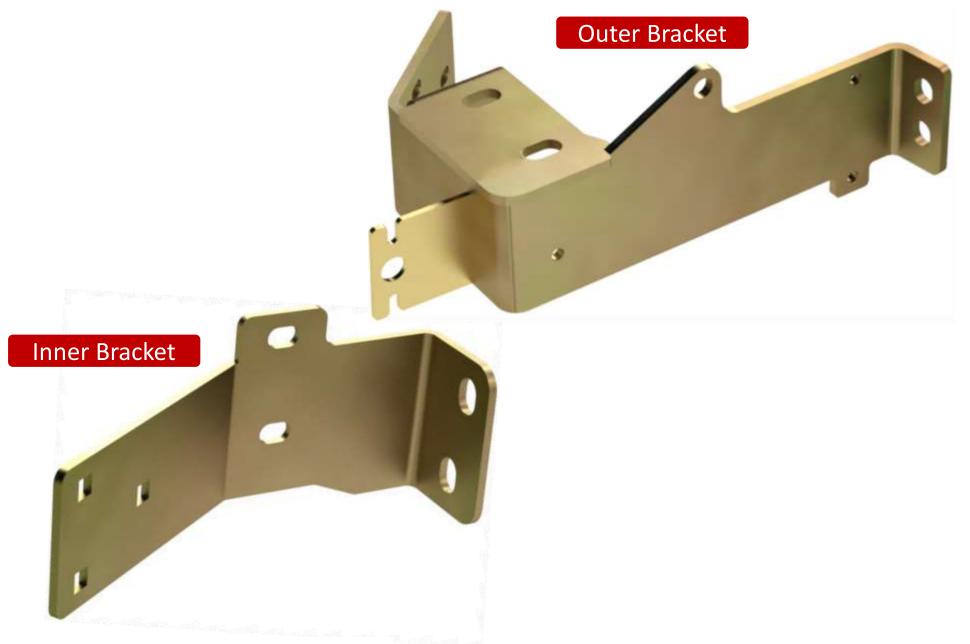








Step 6: Rear Hoop Mounting Brackets (Injection Mold Bumper)

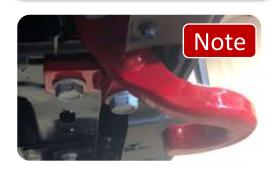




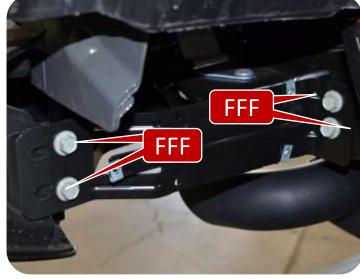
#### Step 6: Rear Hoop Mounting Brackets (Injection Mold Bumper)

**Note:** When working on the driver side, you will need to use a 21mm socket to remove the bumper hook.

- EEE. Using an 8mm socket remove the 3 bolts mud shield.
- FFF. Using a 16mm socket remove the 4 bolts bumper outer bracket. **SAVE ALL HARDWARE.**
- GGG.Using a 7mm socket remove the inner brackets 2 bolts.
- HHH.Using a 21mm socket remove the inner brackets 2 bolts. A breaker bar maybe required.









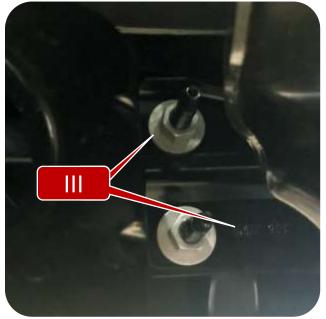




#### Step 6: Rear Hoop Mounting Brackets (Injection Mold Bumper)

- III. Using a 16mm wrench remove the 2 bumper nuts that holds the inner bumper bracket into place. Save All Hardware.
- JJJ. Using a 10mm socket remove the bolt located on the underside of the bumper.

KKK. Remove the inner bracket.









Step 6: Rear Hoop Mounting Brackets (Injection Mold Bumper)

LLL. Loosely install the provided inner support bracket reusing the stock 21mm hardware.

MMM.Loosely Install the stock inner bumper bracket 16mm nuts.



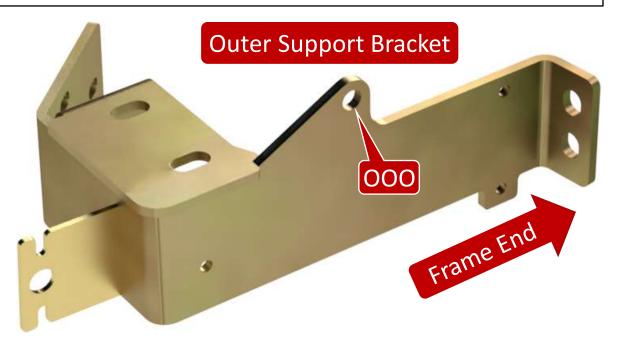


#### **Step 6:** Rear Hoop Mounting Brackets (Injection Mold Bumper)

NNN.Loosely install the rear hoop support bracket to the outer support bracket using the 1/2" carriage bolts.

OOO.Install the provided anchor bolt to the outer support bracket making sure the threaded end faces the frame end.

PPP. Install the provided J hook bracket to the anchor bolt.











**Step 6:** Rear Hoop Mounting Brackets (Injection Mold Bumper)

QQQ.Install the outer bracket to the frame making sure the anchor bolt goes on top of the frame (QQQ1) and the rear lower hoop bracket goes between the bumper and the Jeep body (QQQ2).

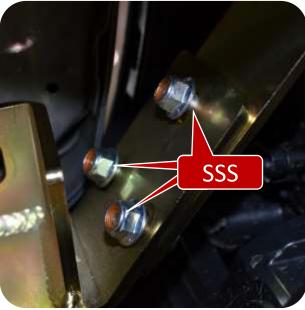
RRR.Using the stock 16mm bolts loosely install the outer support bracket.

SSS. Using the provided carriage bolts and 9/16" nylock nuts connect the inner and outer support brackets together and tighten.











#### **Step 6:** Rear Hoop Mounting Brackets (*Injection Mold Bumper*)

UUU. Tighten the 21mm inner support bracket bolts and torque to 30 ftlbs.

VVV. Tighten the 16mm inner support bracket nuts and torque to 30 ftlbs.

WWW.Reinstall the stock 7mm bolts into the outer support bracket.

XXX. Loosely install the provided nuts to the 1/2" carriage bolts.

YYY. Make sure the rack bracket clears the jeep body then tighten the 1/2" carriage bolts (S) with a 3/4" socket and torque to 30 ftlbs.









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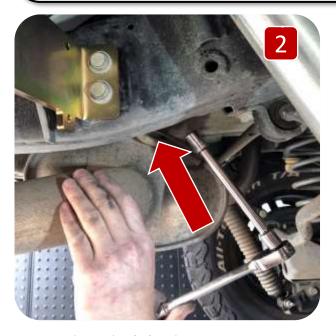


**Step 6:** Rear Hoop Mounting Brackets (Injection Mold Bumper)

ZZZ. To install the anchor bolt and bracket you will need to disconnect a muffler bracket located above the muffler you can see the bracket looking through the hole above the frame bracket (1). To gain access to the bolt we recommend going above the muffler (2).

AAAA.Remove the nut clip on the muffler bracket.











**Step 6:** Rear Hoop Mounting Brackets (Injection Mold Bumper)

BBBB.When installing the anchor bracket make sure the bracket hook faces the rear of the Jeep.

CCCC.Install the provided carriage bolt to install the anchor bolt bracket and tighten with a 9/16 socket (bolt shown is a prototype).

DDDD.Using a 9/16 socket tighten the anchor bolt to the bracket.







Step 6: Rear Hoop Mounting Brackets (Injection Mold Bumper)

EEEE.Using a 5/16 drill bit enlarge the 3 stock bolt hole locations on the mud guard.

FFFF.Using the provided plastic rivets install the mud guard.

GGGG. Using a 10mm socket reinstall the bumper bolt.

HHHH.Using a 9/16" socket install the rear hoop into the mounting brackets.









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#### **Step 7:** Spreader Bar Installation

**Note:** ARS recommends using anti-seize on the spreader bar bolts.

- IIII. Make sure the spreader bars are 40" on center.
- JJJJ. Using a 1/4" allen wrench tighten the front spreader bar bolts. Torque to 24ftlbs.
- KKKK.Using a 1/4" allen wrench tighten the rear spreader bar bolts. Torque to 24ftlbs.





