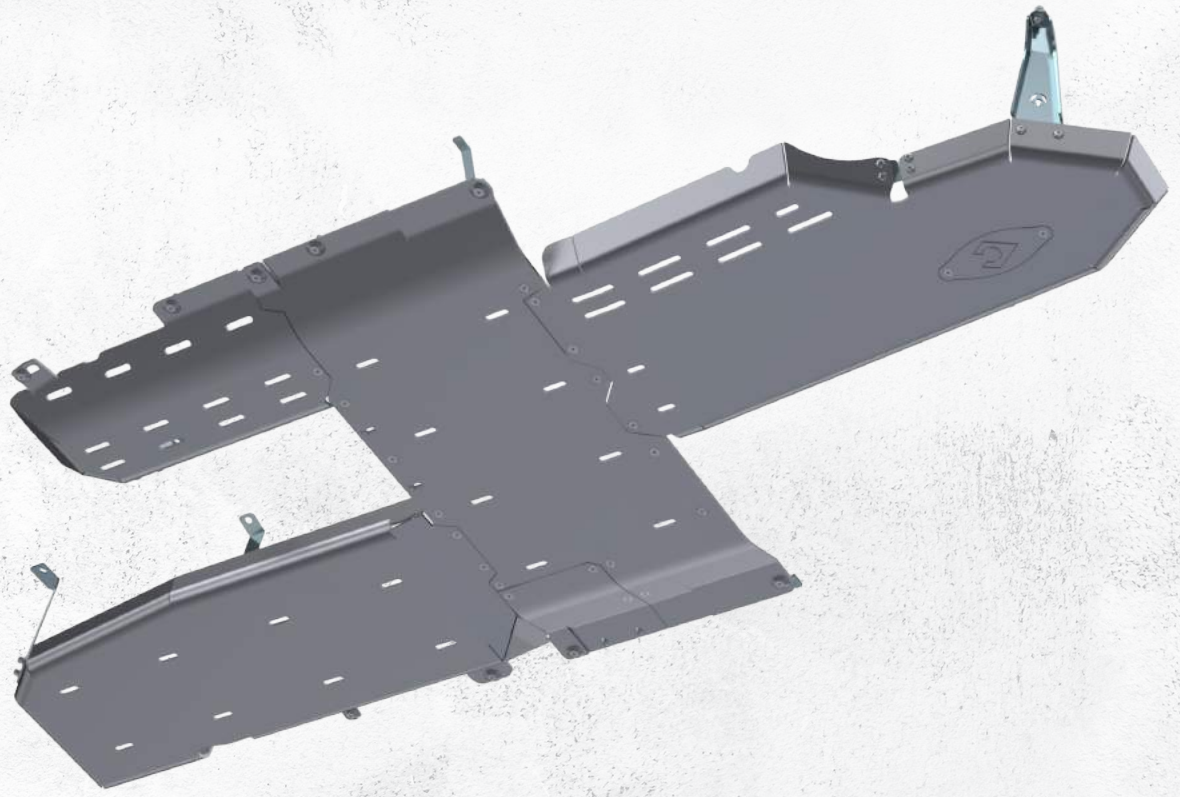
PART # JL4169

JLU FULL BELLYPAN WITH OIL DOOR - 4 DOOR 3.0L DIESEL ALUMINUM INSTALLATION INSTRUCTIONS



ESTIMATED INSTALLATION TIME

3-5 hours

REQUIRED SKILLS

- General Mechanics Skills
- Drilling

REQUIRED TOOLS & SUPPLIES

- 18mm socket
- 17mm socket
- 16mm socket
- 15mm socket
- 13mm socket (deep well)
- 10mm socket
- Ratchet strap
- 9/16 wrench and socket
- Electrical tape
- 7/32 allen wrench
- ratchet extension 2”
- ratchet extension 6”
- screw driver
- flat pry bar
- safety glasses
- jack/vehicle lift (optional)
- ball end 7/32 allen wrench (optional)
- ratchet swivel attachment (optional)

NOTES:

- This kit replaces original SKU JL4109
- This product arrives in 4 separate boxes labeled BP1089, BP1365, BP1783, and BP1875
- Component appearance in instructions may vary from those received

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WARNING MESSAGES

This product demands a basic understanding of mechanical procedures and should only be installed by individuals proficient with mechanic's tools. Any tasks involving welding or cutting parts should be performed by trained professionals. Artec Industries disclaims responsibility for mishaps arising from improper installation, or any damage or accidents resulting from cutting or welding tasks. Exercise caution and seek professional help as required

SAFETY

1. We've furnished a written installation guide, along with relevant details, to aid you in making safety-conscious decisions.
2. While these guidelines will highlight potential risks, it's crucial to exercise your personal judgment when performing any required steps.
3. Before initiating any tasks, it's essential to conduct a job safety analysis to identify specific hazards in your situation and take measures to eliminate or protect against them.
4. Before commencing the installation of this product, make sure you familiarize yourself with and fully understand all safety warnings and guidelines.

DISCLAIMERS

All Artec Industries products should be installed by a competent, certified individual following the intended installation instructions for each product. Incorrect installations not only nullify any warranties but could also lead to product damage or even damage to the vehicle it's installed on. Prior to installation, carefully read all provided instructions or manuals, and watch any associated videos. For any doubts or queries, reach out to Artec Industries before beginning the installation process.

Many products necessitate lifting and supporting the vehicle off the ground. It is the installer's responsibility to ensure this can be done safely and that the right equipment is at hand to carry out the installation. Artec Industries installation instructions presume the installer is competent to lift the vehicle safely and correctly.

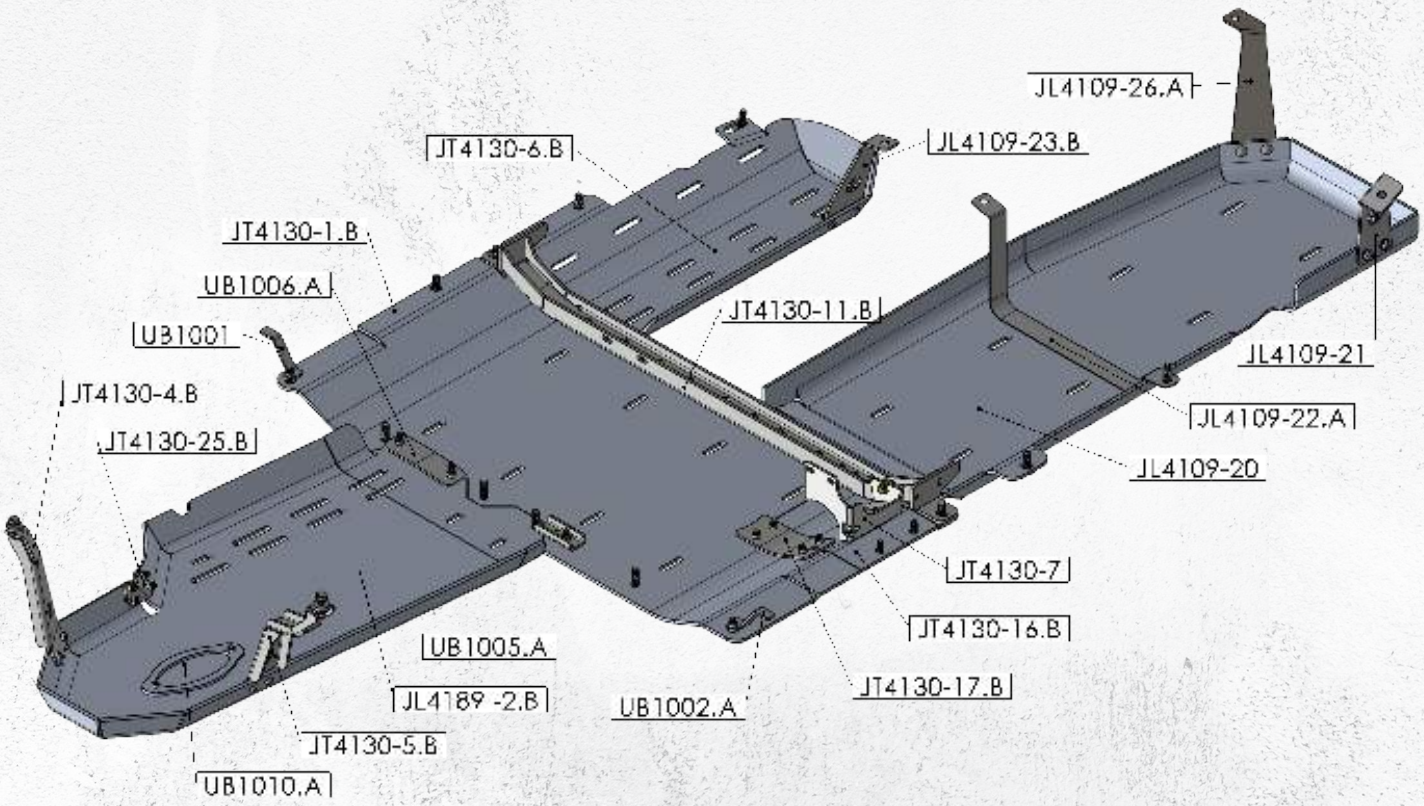
Modified vehicles won't perform identically to their stock counterparts. It's incumbent upon the vehicle owner to understand the alterations such modifications will bring to the vehicle's driving dynamics. These might encompass (but aren't limited to): changes in handling, braking, rollover angle, and potential incompatibilities with the factory-installed anti-lock braking systems, stability control systems, or traction control systems.

SPECIAL NOTES

- This product requires removal of the factory fuel tank skid which supports the plastic fuel tank. Prior to beginning installation, ensure that you have 1/4 tank of fuel or less in the vehicle.
- Unless otherwise noted, all hardware should be LOOSELY tightened by hand until the very end of installation when all components are attached.

JL4169 PARTS BILL OF MATERIALS

Please confirm you have all the listed parts below BEFORE beginning your installation. If any parts are damaged or missing, KEEP ALL ORIGINAL BOXES and PACKAGING and contact us.

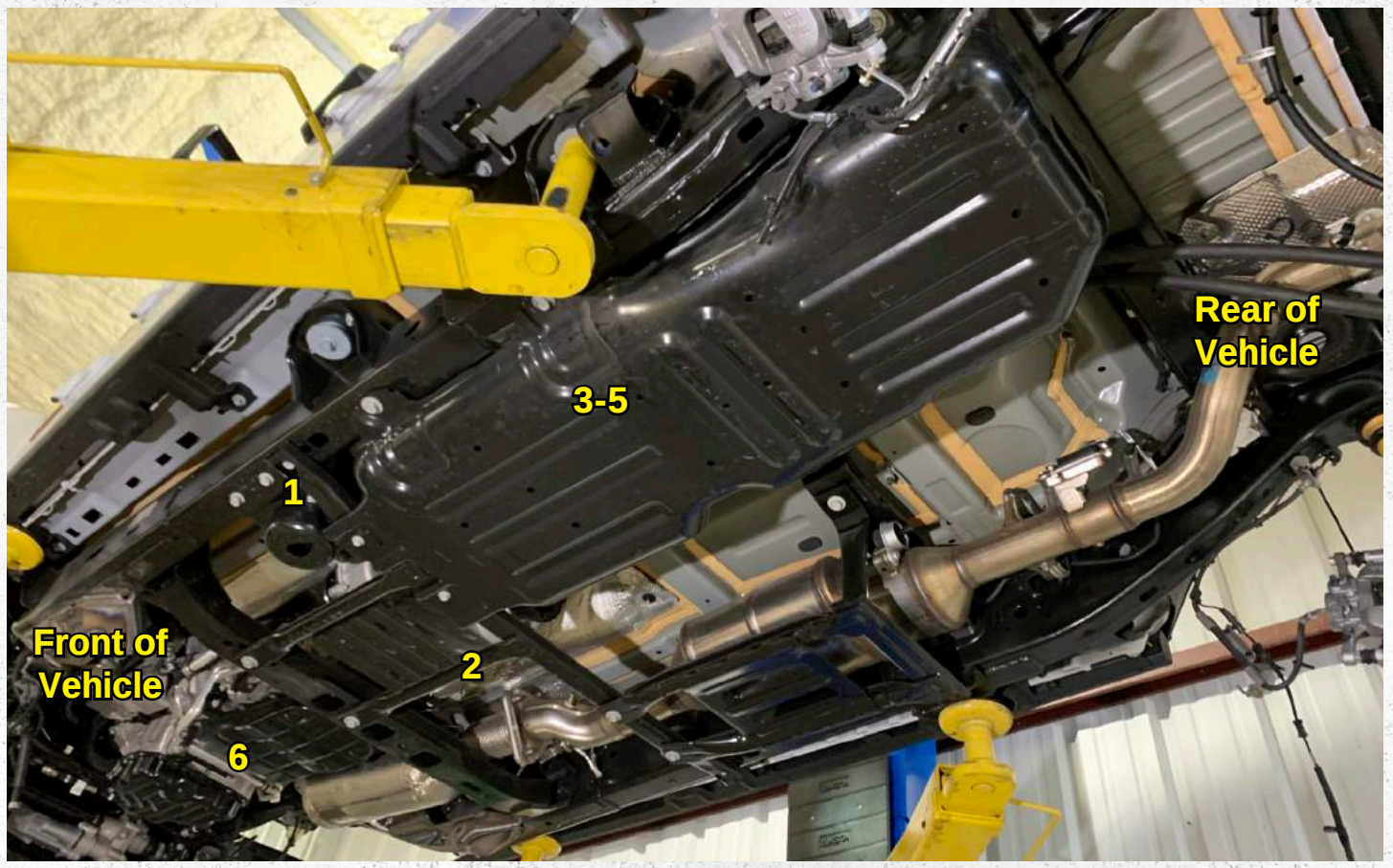


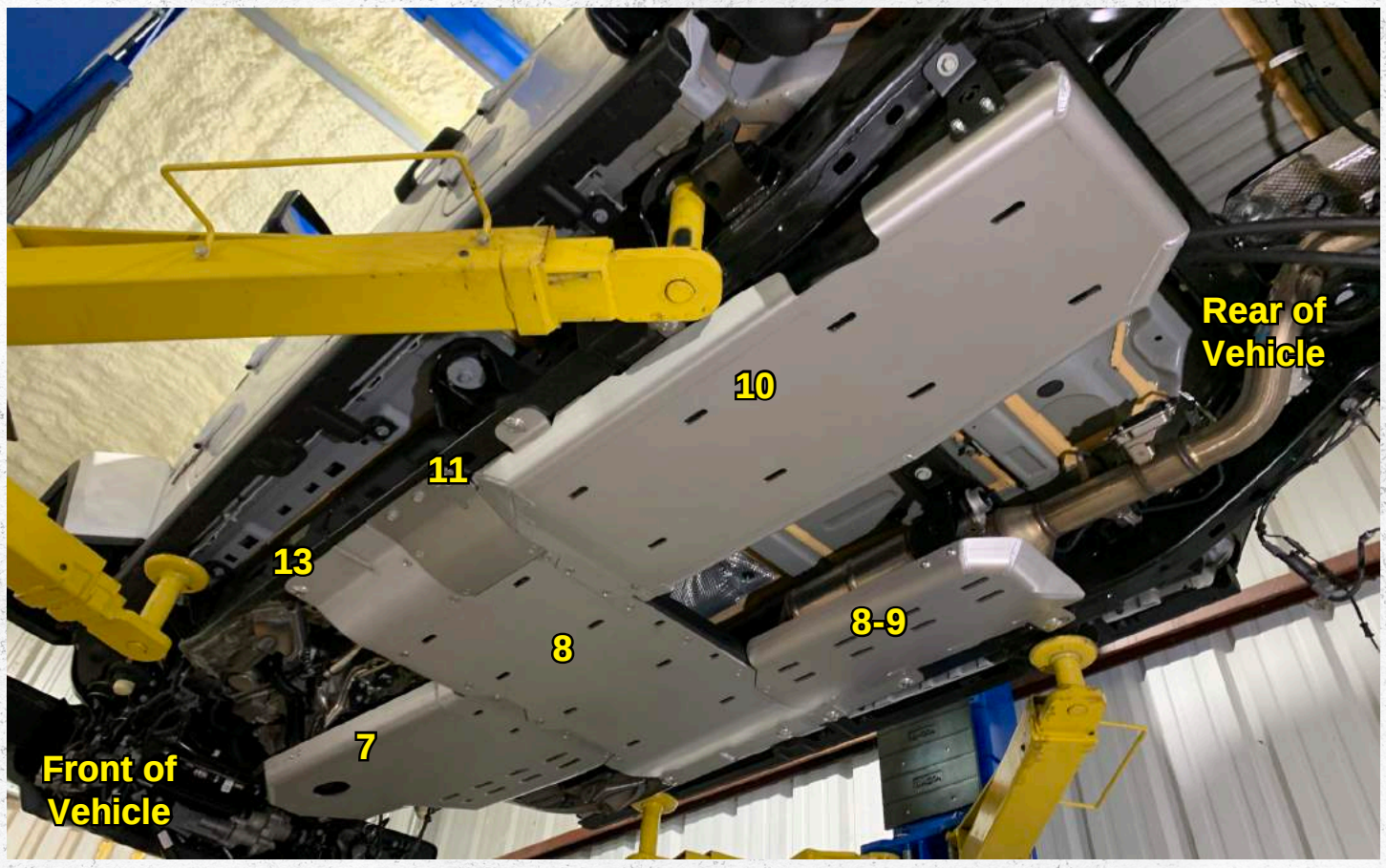
NOTE: The part numbers indicated above end in a "." and "letter" which indicate the revision number for the part. The etched part number on your physical parts do not need to match the above drawing revision exactly.

HK4109 HARDWARE BILL OF MATERIALS

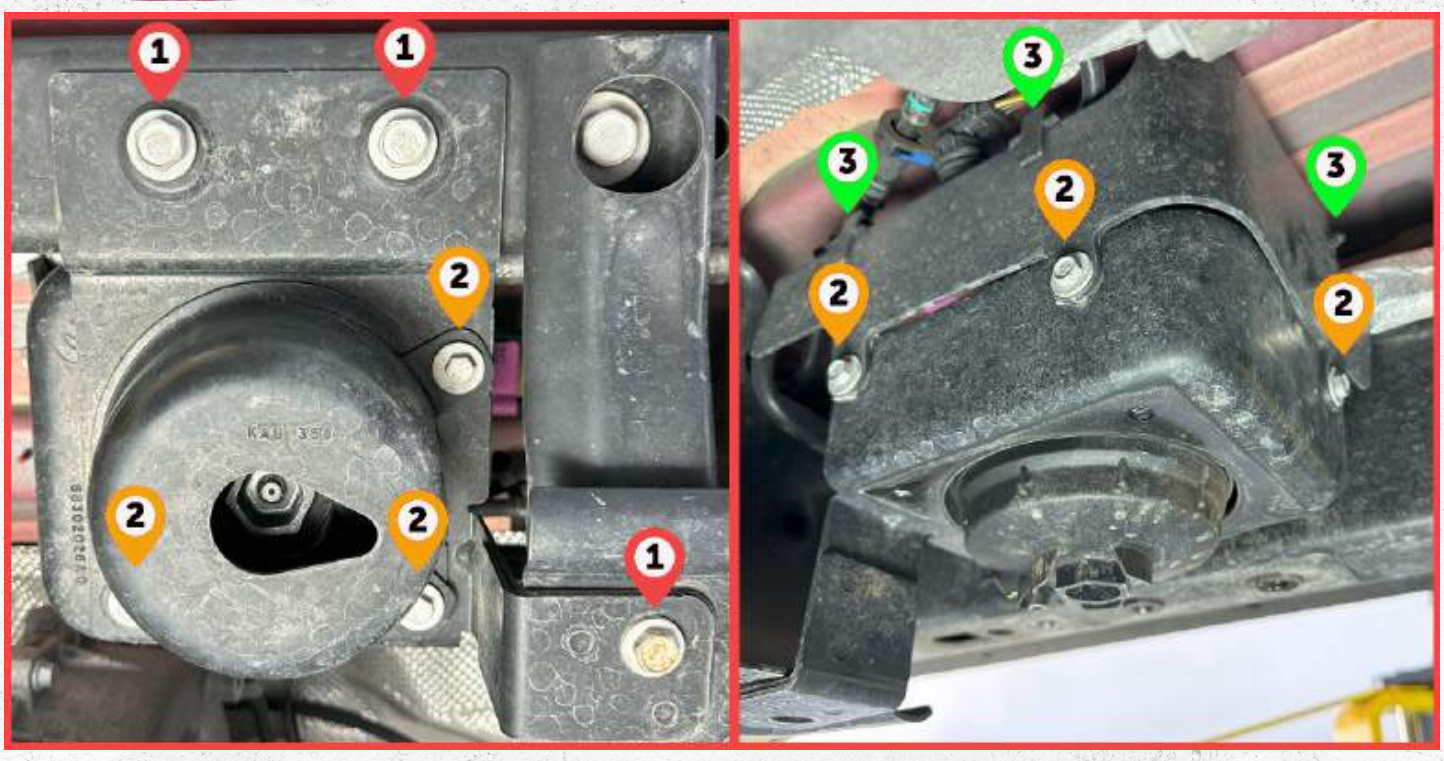
PART NUMBER	DESCRIPTION	QTY.
HW0147	.375" Countersunk Aluminum Washer	9
HW0141	CUSTOM M12 - 1.5 x 40mm long flat head	11
HW0061	3/8 x 1 flat head bolt	12
HW0058	3/8"-16 x 1.0" Long Grade 8 Hex Head Cap Screw Yellow Zinc	1
HW0059	3/8" Flat Washer Type 1 Yellow Zinc	5
HW0185	3/8" x 1.5 Countersink Allen Head Bolt - Zinc	5
HW0101	3/8 x 16 x 1 Button Head Cap Screw Alloy Steel Zinc Plated	6
HW0105	3/8 x 1in carriage bolt	4
HW0019	3/8"-16 Nylock Insert Hex Nut Clear Zinc	4
HW0136	M10 - 1.5 x 40mm long Hex Head Bolt	2
HW0137	M10 washer	2
HW0035	3/8" 16 x .75" long button head screws ZINC plated	4
HW0135	M10 x 1.5mm - Flange Lock Nut	2
HW0202	M10-1.5x30mm,Button Head Hex Drive Screw	2
HW0215	1.15"x.25" Thick, .0415" Hole, Steel Spacer - ZINC PLATED	2

STEP LOCATION GUIDE

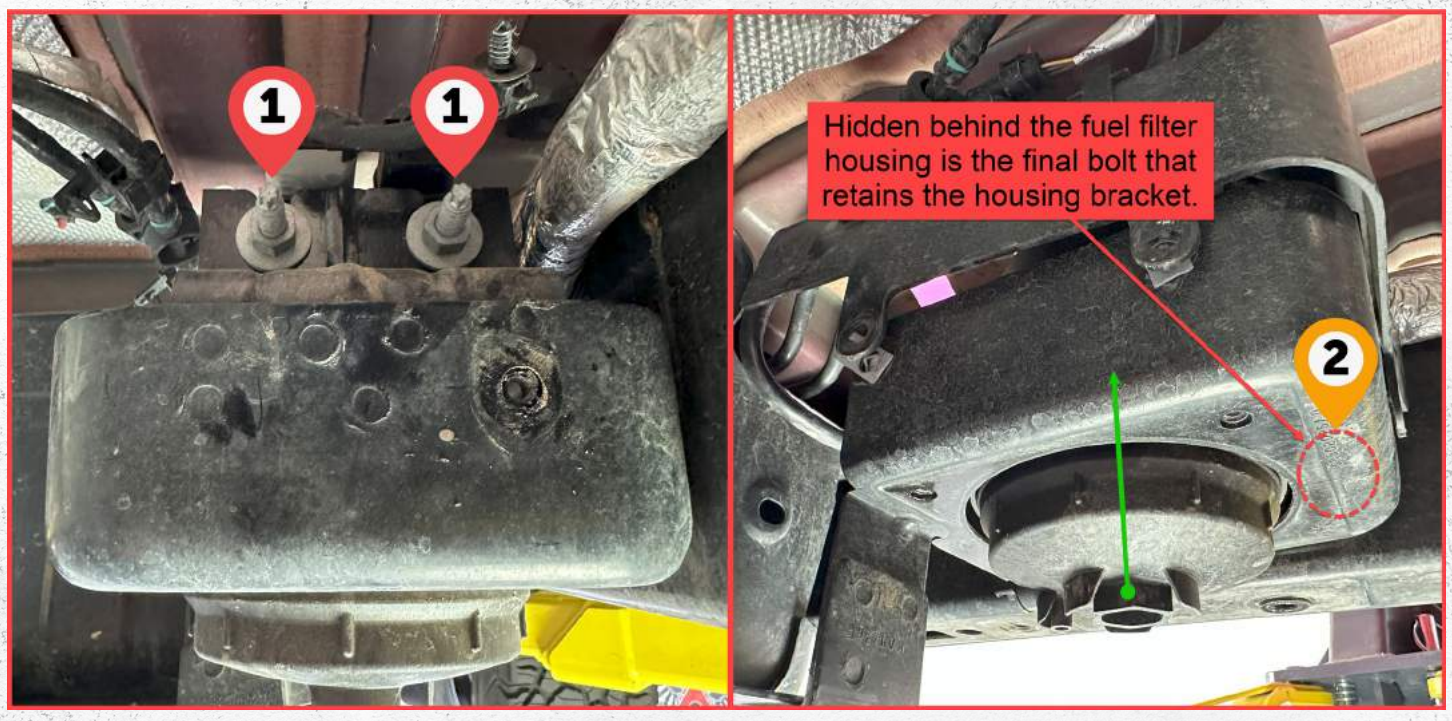




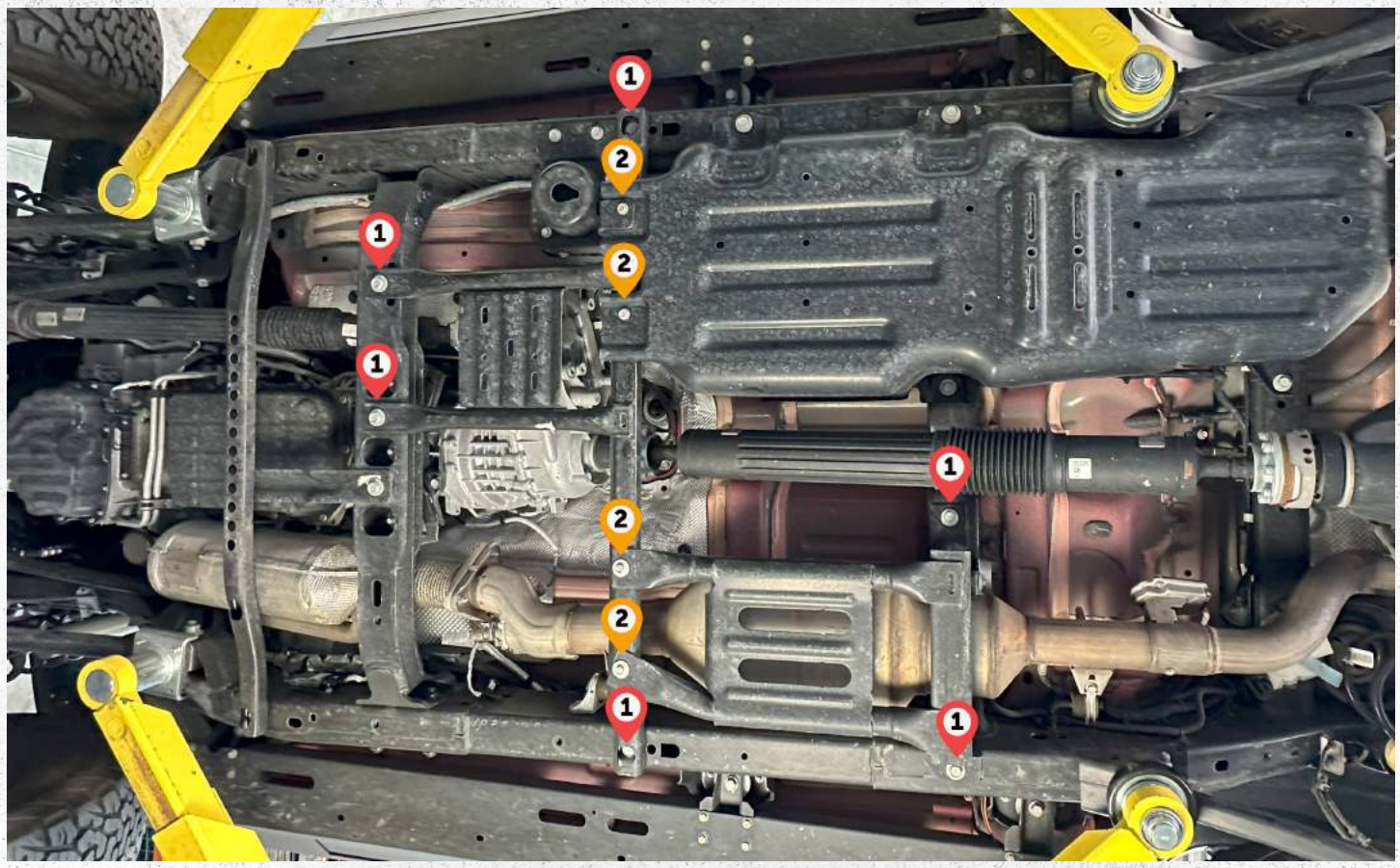
DISASSEMBLY INSTRUCTION GUIDE



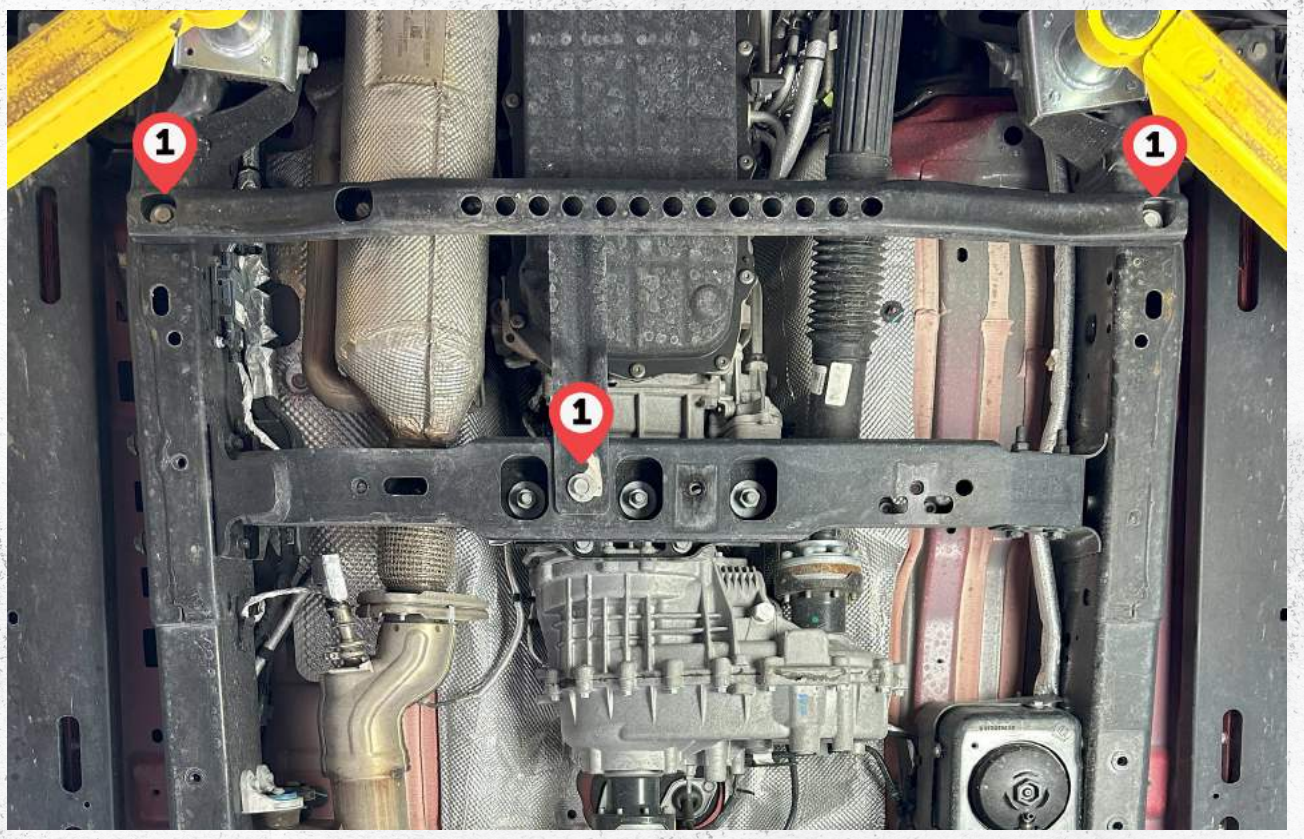
Step 1: From left to right: Disassemble the fuel filter skid by removing 3 – 8mm bolts ❶ using a 13mm socket AND 3 – 5mm bolts ❷ with a 10mm socket. Once the fuel filter skid is out of the way, remove the plastic shield by first disconnecting the plastic Christmas tree tabs ❸ from the plastic shield. Then remove 3 – 5mm screws ❷ using a 10mm socket. Keep 2x ❶ OEM hardware.



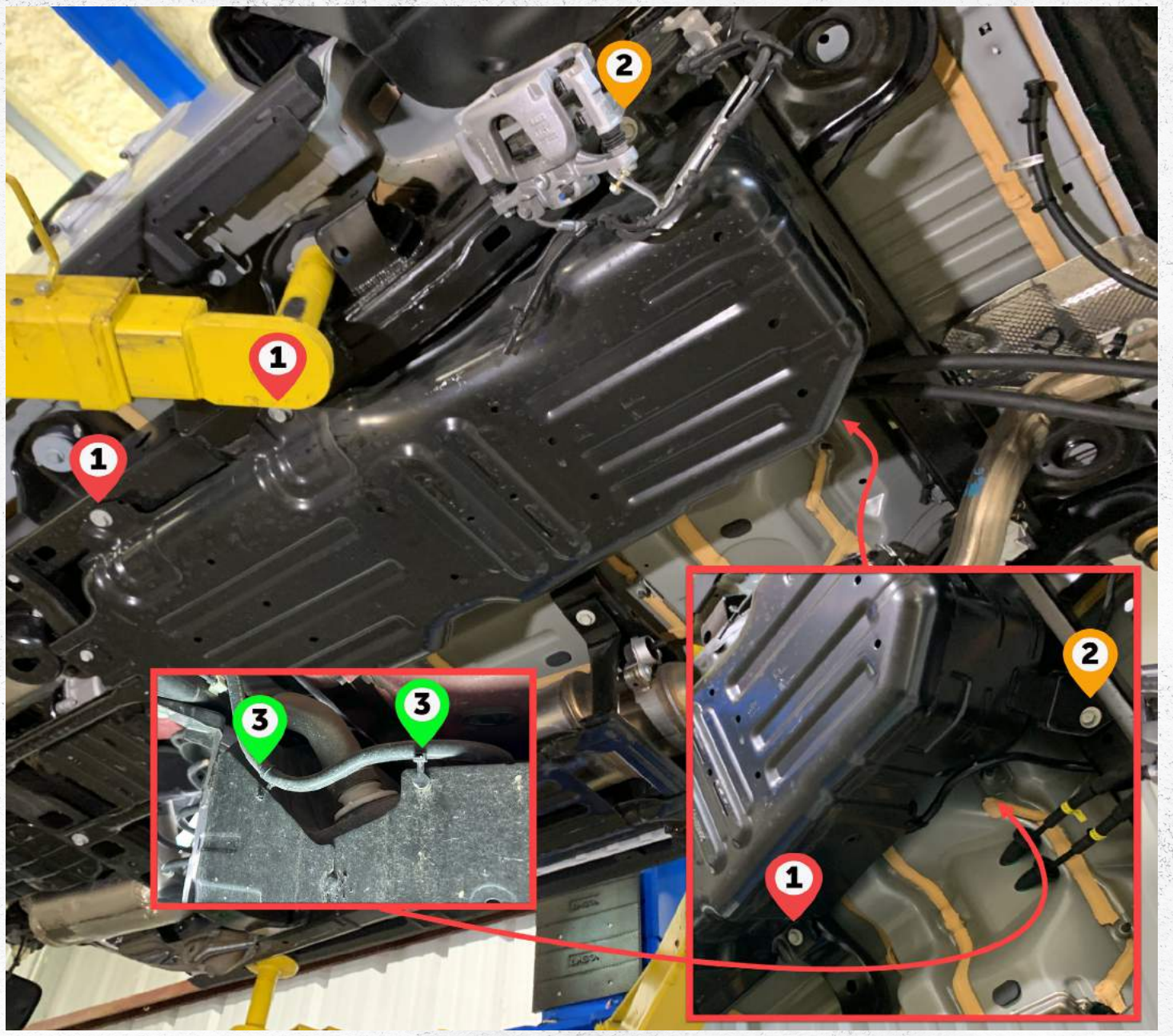
Step 2: Remove the fuel filter housing bracket by first taking the 2 – 8mm nuts ❶ off using a 13mm deep well socket. Once the fuel filter housing is free, push it upward far enough to allow access to the 1 – 8mm bolt ❷, using a 13mm socket. NOTE: having a swivel here makes removing that bolt easy.



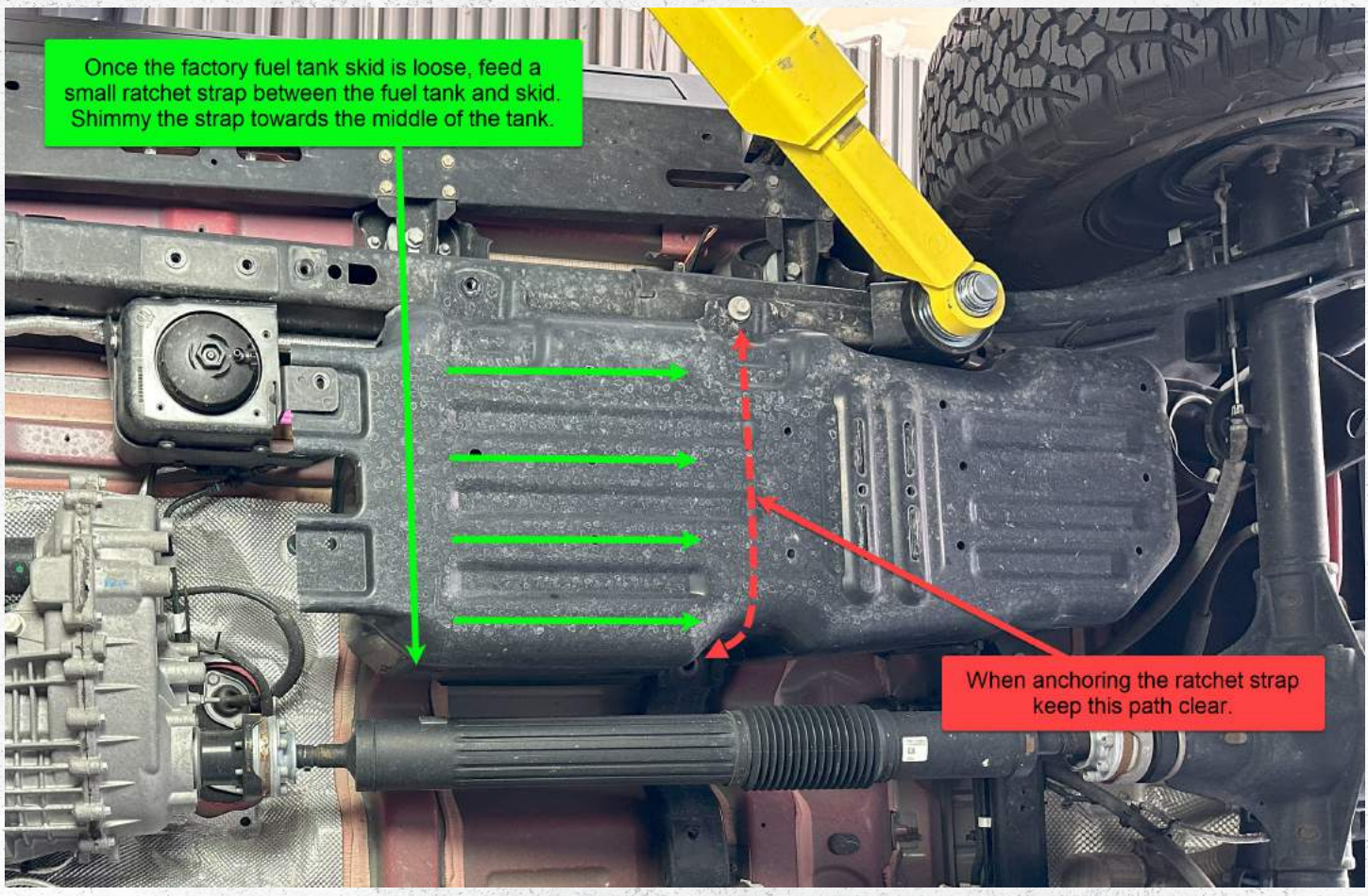
Step 3: Remove transfer case & exhaust skid by removing 4 - 8mm bolts ❷ using 13mm socket AND 6 - 12mm bolts ❶ using a 18mm socket.



Step 4: Remove the transmission skid by removing 3 – 12mm bolts ❶ using a 18mm socket.

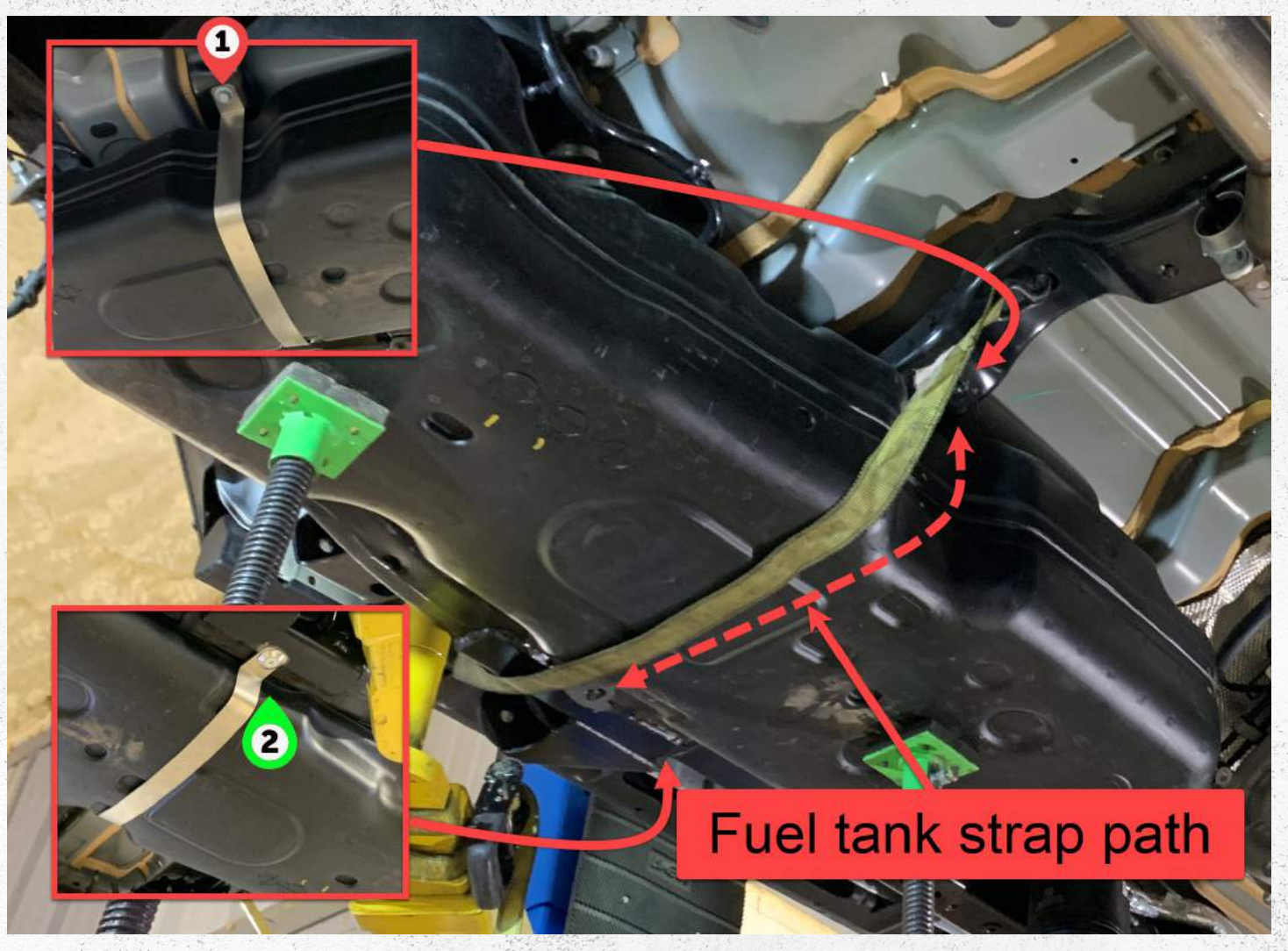


Step 5:
A: Remove fuel tank skid by removing 3 - 12mm bolts ❶ using a 18mm socket.
B: Loosen 2 - 12mm bolts ❷ using the same 18mm socket.
C: Detach the clips holding the fuel lines to fuel tank skid ❸

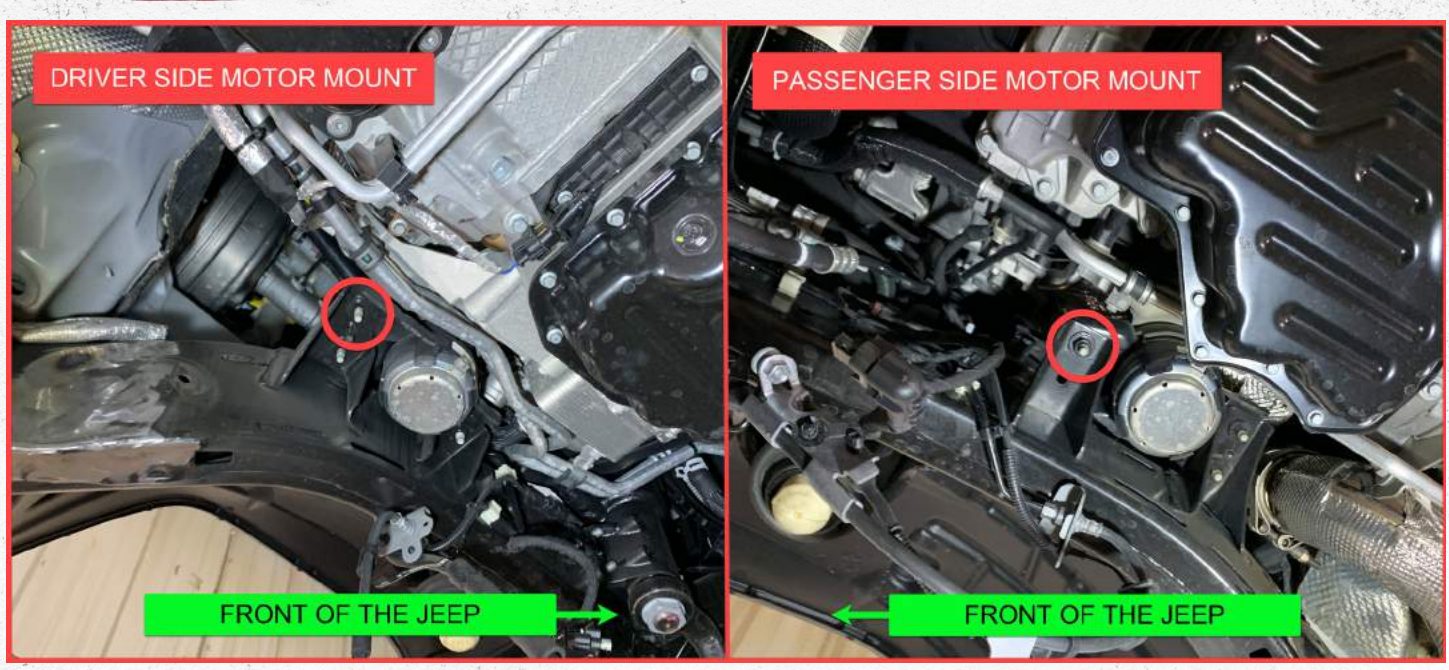


Step 6. Using a small ratchet strap you will suspend the tank so that you can remove the factory fuel tank skid. Make sure to anchor the ratchet strap to something substantial. After suspending the tank you can remove the fuel tank skid. This can take some time, and can be frustrating but it is necessary. For easiest removal, it helps to have less than 1/4 tank of fuel, as noted in the SPECIAL NOTES on page 2.

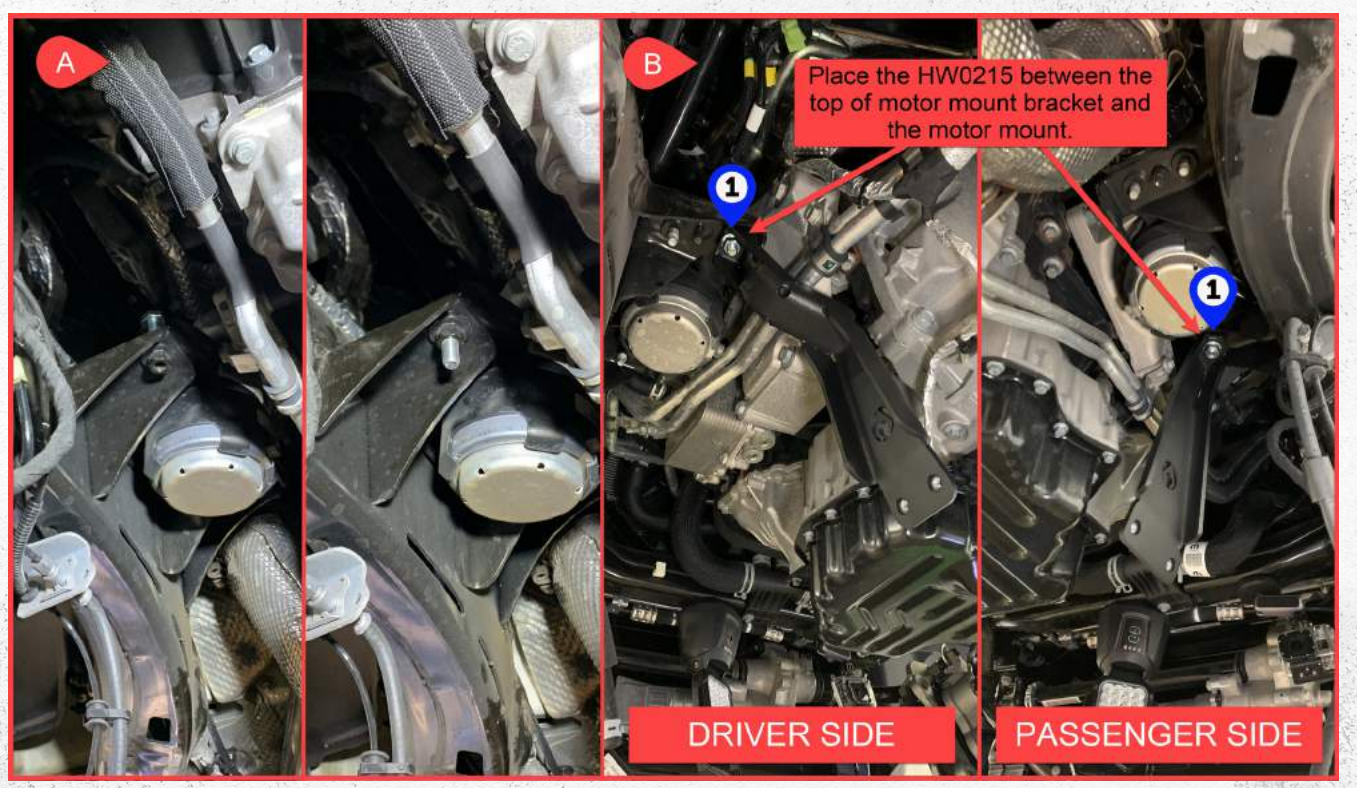
SAFETY NOTE: When manipulating the skid and fuel tank, be careful not to damage or puncture the fuel tank. The fuel tank skid can be heavy and awkward to drop. Have a second person assist or use a jack to support the skid as you remove it. Ensure the ratchet strap is securely holding the fuel tank in place before attempting to remove the skid plate.



Step 7: Once the factory fuel tank skid has been removed, install the fuel tank strap JT4130-22 by installing 1 - OEM 12mm bolt ❶ with a 18mm socket AND 1 - 12mm x 40mm counter sink bolt & counter sink washer ❷ using the 7/32 allen wrench. The fuel tank strap hardware can be tightened at this stage. Once the fuel tank strap is mounted you can remove the ratchet strap.



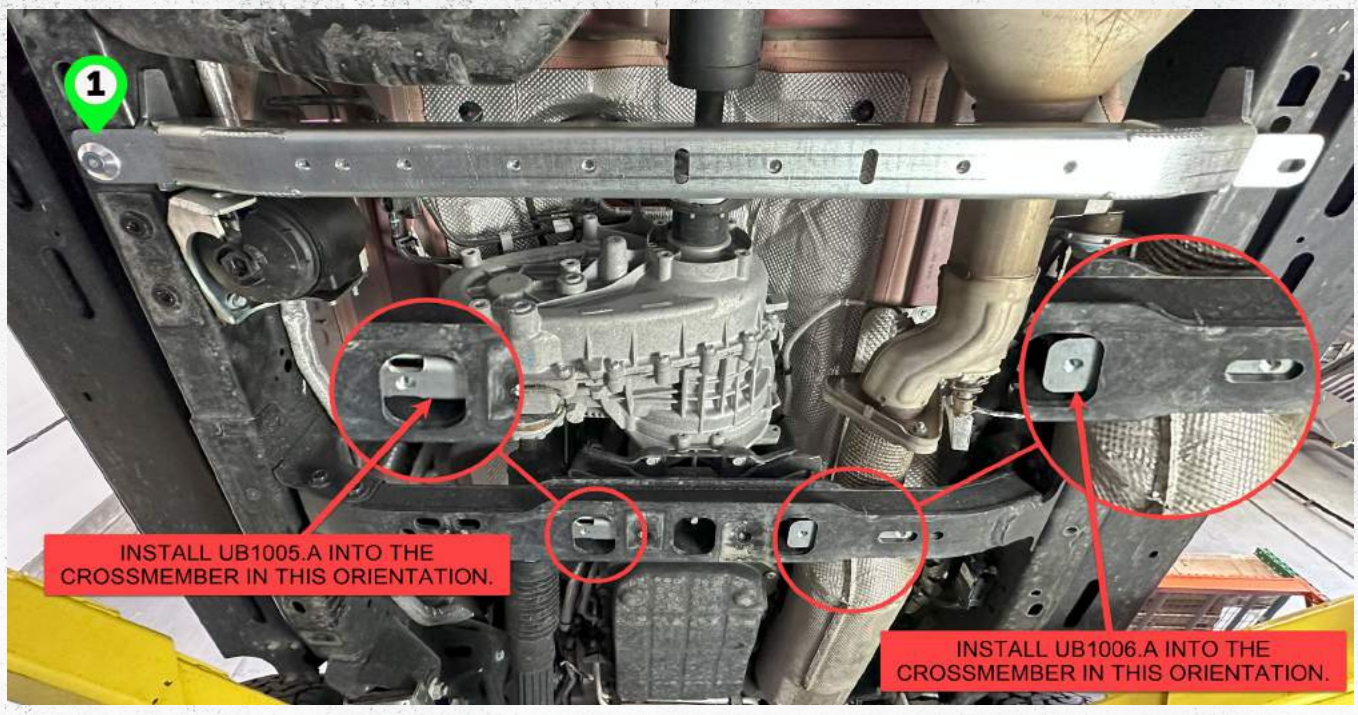
Step 8. To install the motor mount skid brackets, first remove the factory 10mm bolts from these two locations (RED) circled



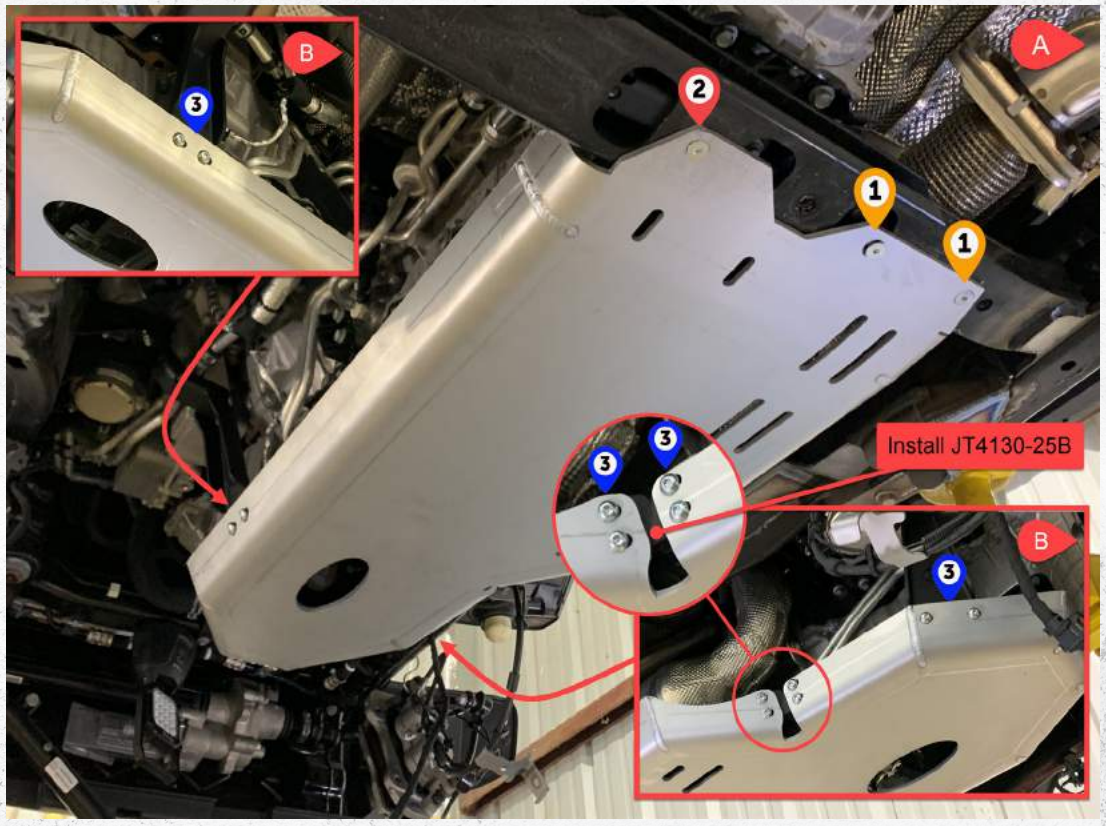
Step 9.

A: After removing the 2 factory 10mm bolts, replace them with 2 – M10 x 40mm bolts and 2 – 10mm zinc plated flat washers using a 17mm socket or wrench. Tighten these bolts BEFORE assembling the brackets.

B: ***Loosely*** install brackets as shown above with the HW0215 spacers using 2 – M10 flange nuts ❶ with a 15mm socket. NOTE: recommend applying blue Loctite to the threads of the M10 x 40mm bolts before installing them into the motor mounts



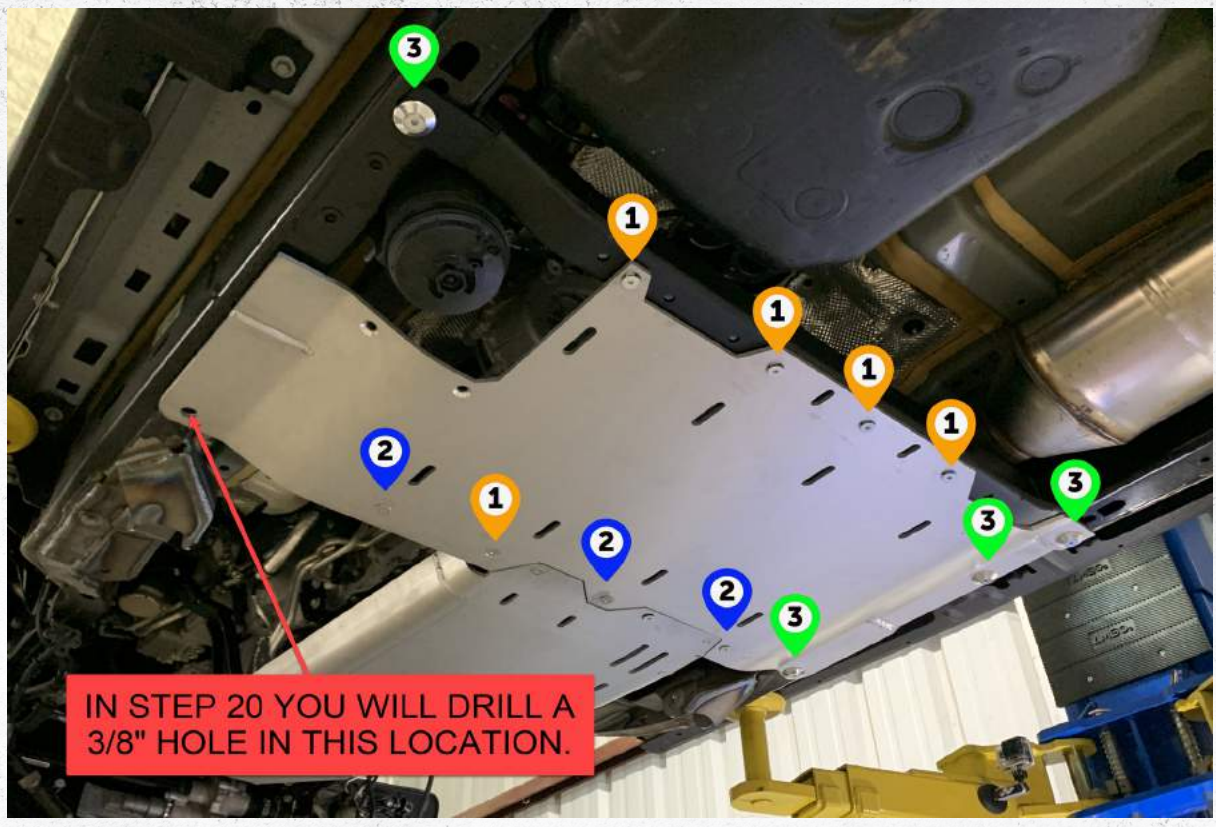
Step 10. *Loosely* install the provided crossmember using 1- M12 x 40 flathead bolt with the tapered washer ❶ as shown above. Insert the 2 nut plates as shown above.



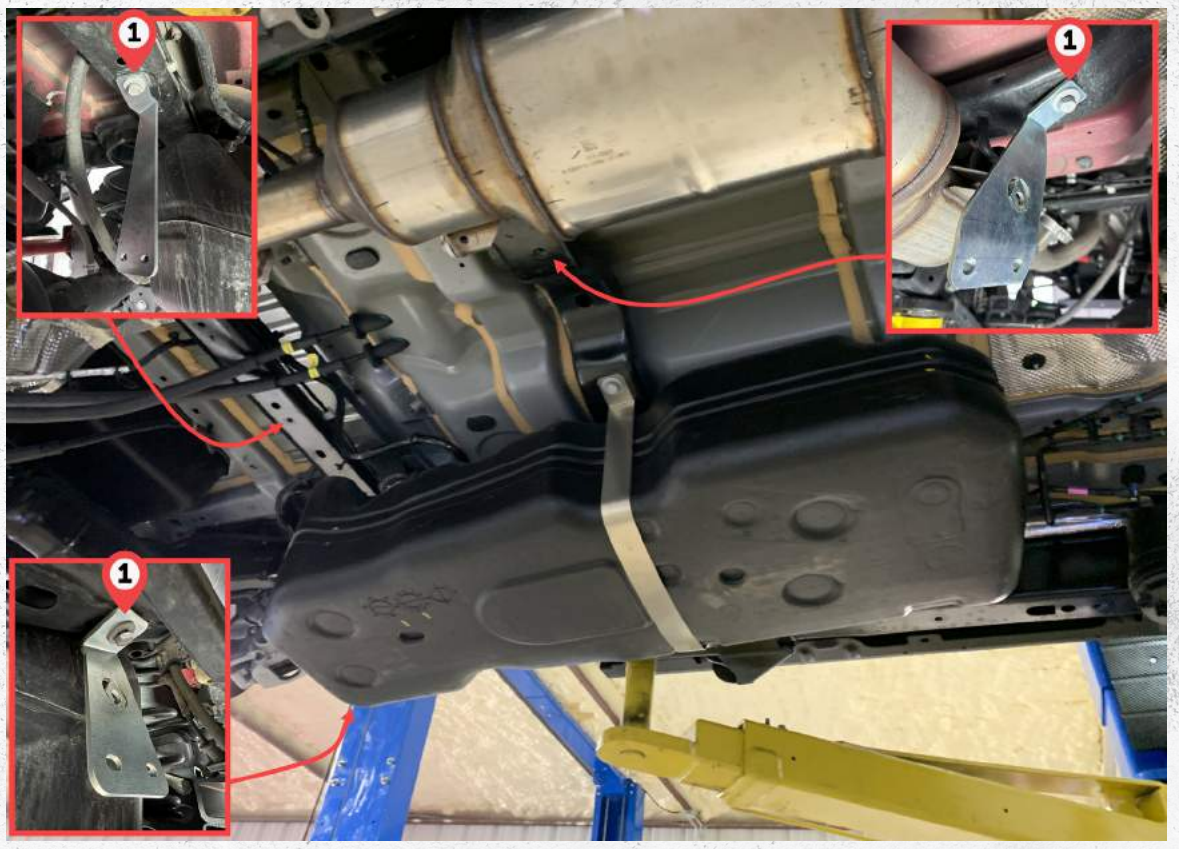
Step 11.

A: *Loosely* install the engine skid starting at the crossmember using 2 – 3/8" x 1" flathead bolts ❶ and 1- M12 x 40mm flathead bolt ❷ using the 7/32 allen wrench.

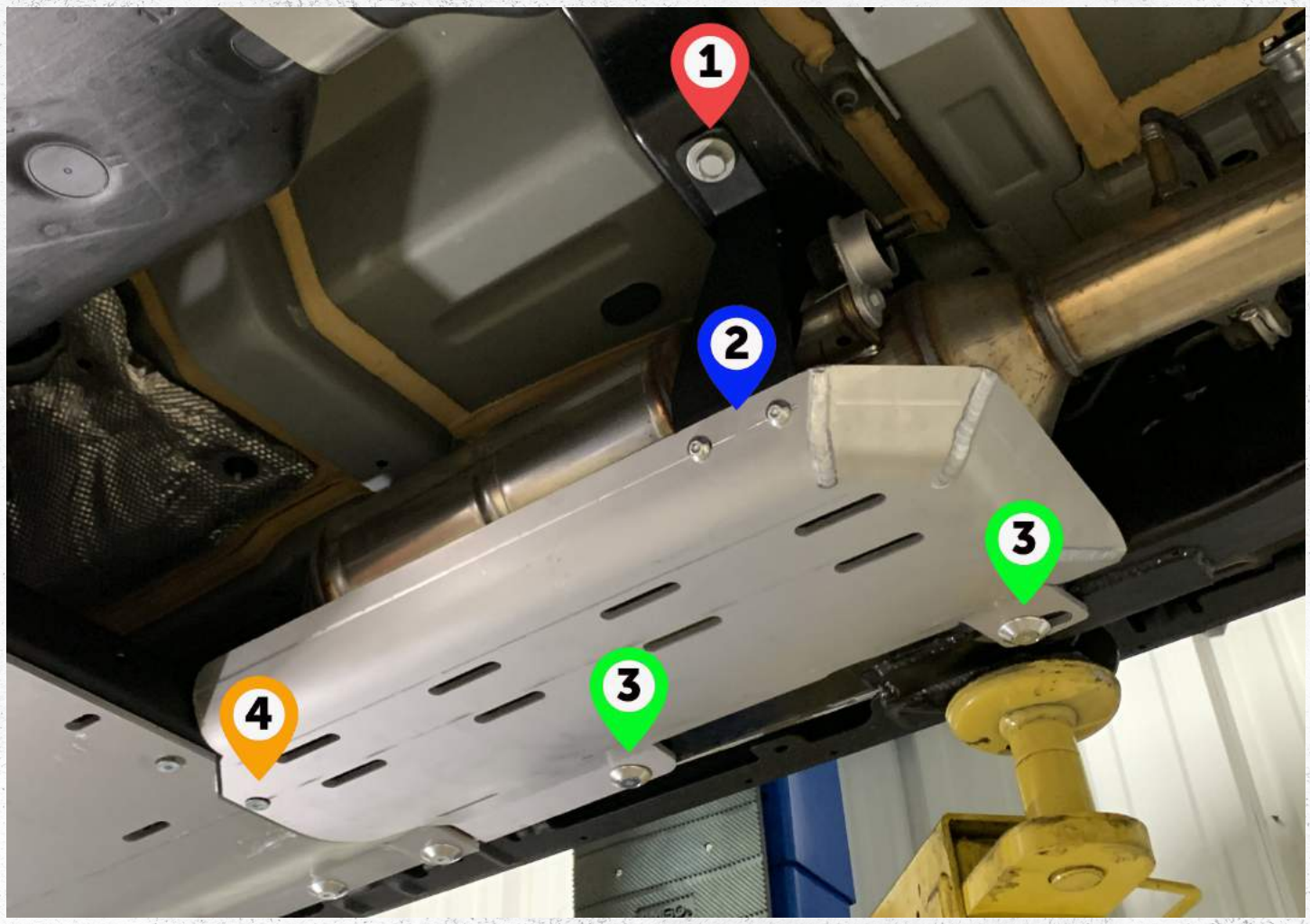
B: *Loosely* attach the engine skid to the motor mount brackets using 4 x 3/8" x ¾" buttonhead bolts with the 3/8" gold zinc plated washers ❸ using the 7/32 Allen wrench. Using 4 x 3/8" x ¾" button-head bolts with the 3/8" gold zinc plated washers ❸, loosely attach JT4130-25B to the engine skid with the 7/32 Allen wrench.



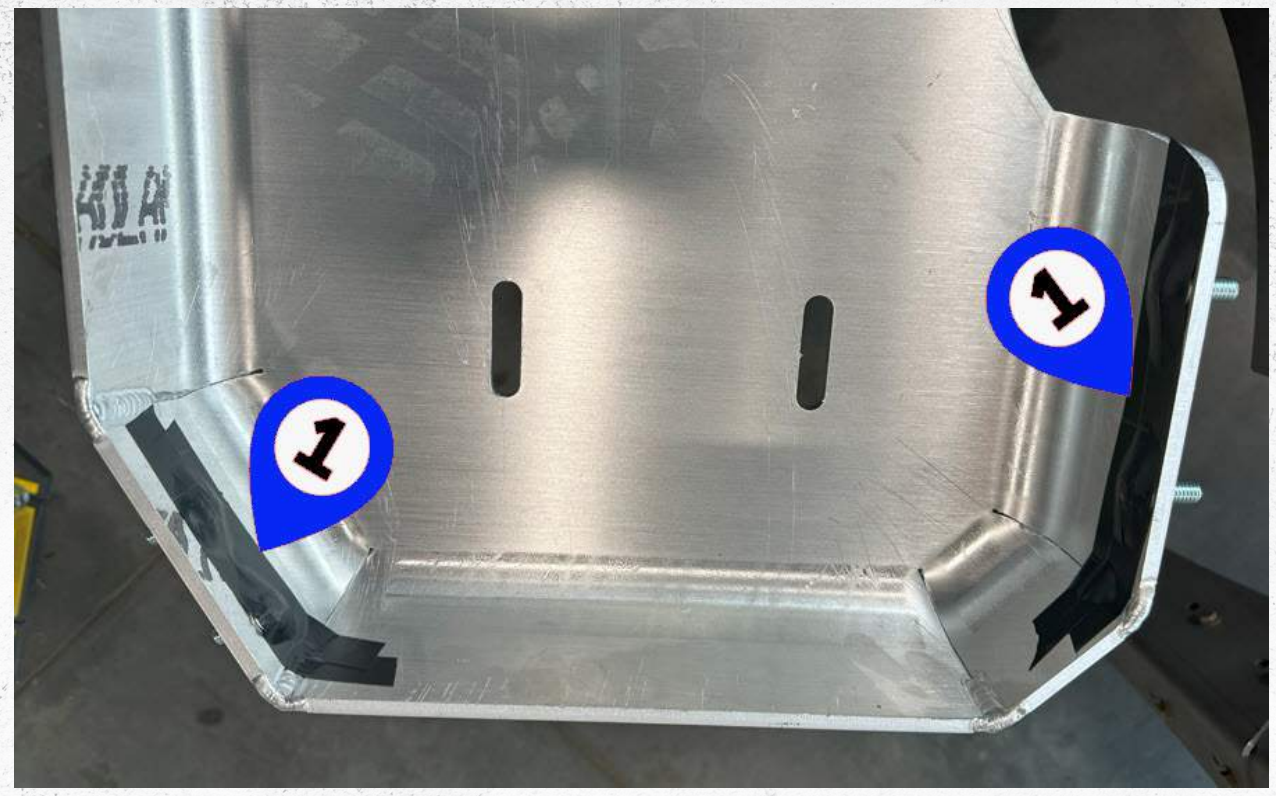
Step 12. Continue by *loosely* securing T-case skid onto support crossmember using 5 – 3/8 x 1" counter sink bolts ❶, and 6 – M12 X 40mm bolts ❷/❸ using the 7/32 Allen wrench.
❸ locations also use a tapered washer.



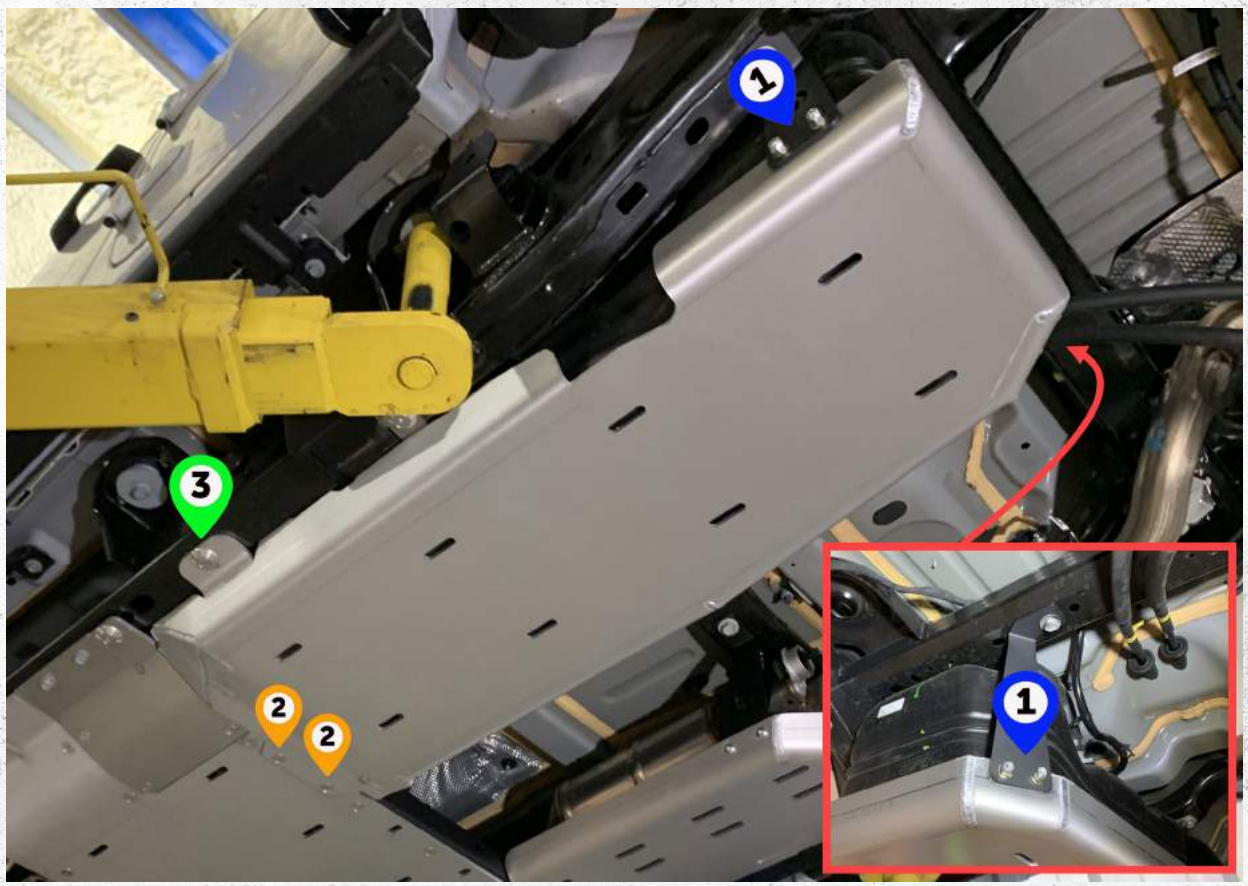
Step 13. *Loosely* install fuel tank inner and outer support brackets AND the exhaust inner bracket onto frame using 3 – OEM 12mm bolts ❶ (removed from original skid) with 18mm socket/wrench.



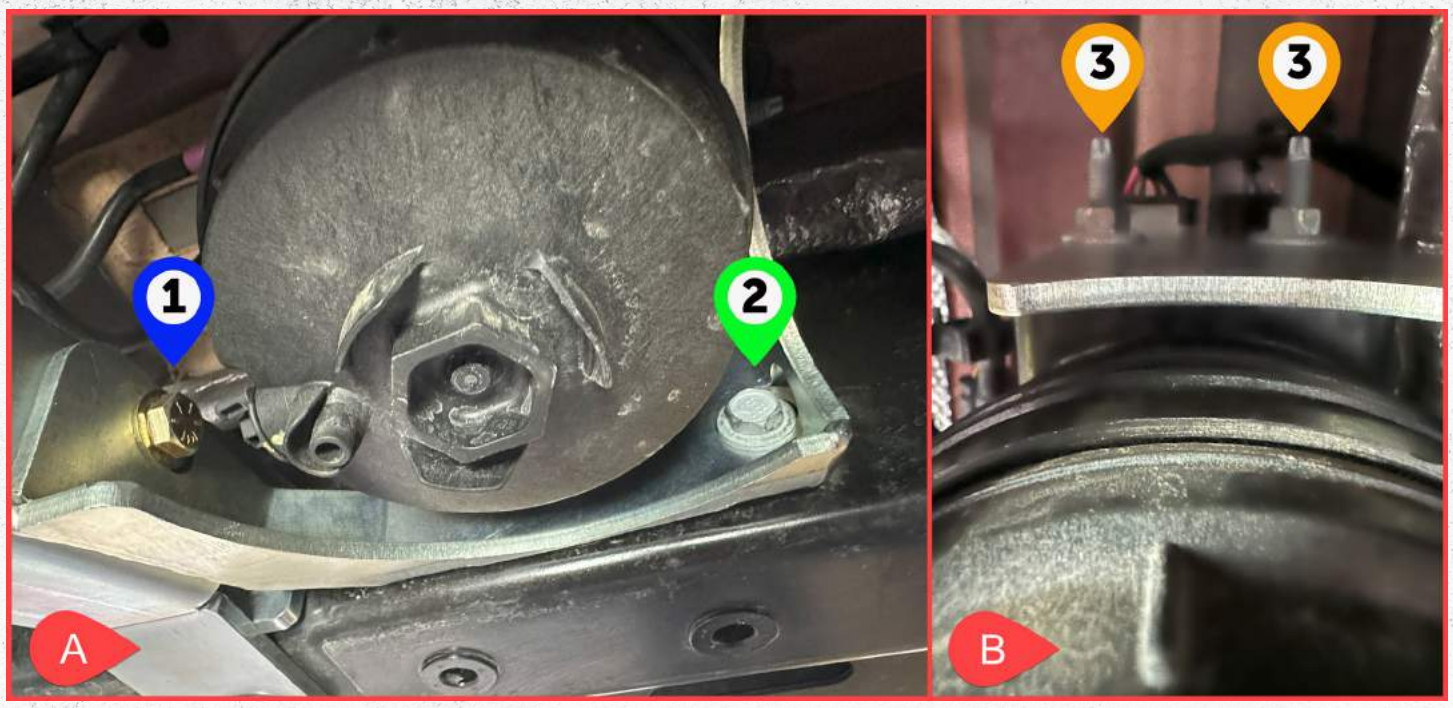
Step 14. *Loosely* install the exhaust skid with 1 – 3/8 x 1" flathead bolt ❹, 3 – M12 x 40mm flathead bolts with tapered washers ❸ and 2 – 3/8 x 3/4" buttonhead bolts with flat washers ❷ using the 7/32 Allen wrench. Use the OEM M12 bolt ❶ in this location.



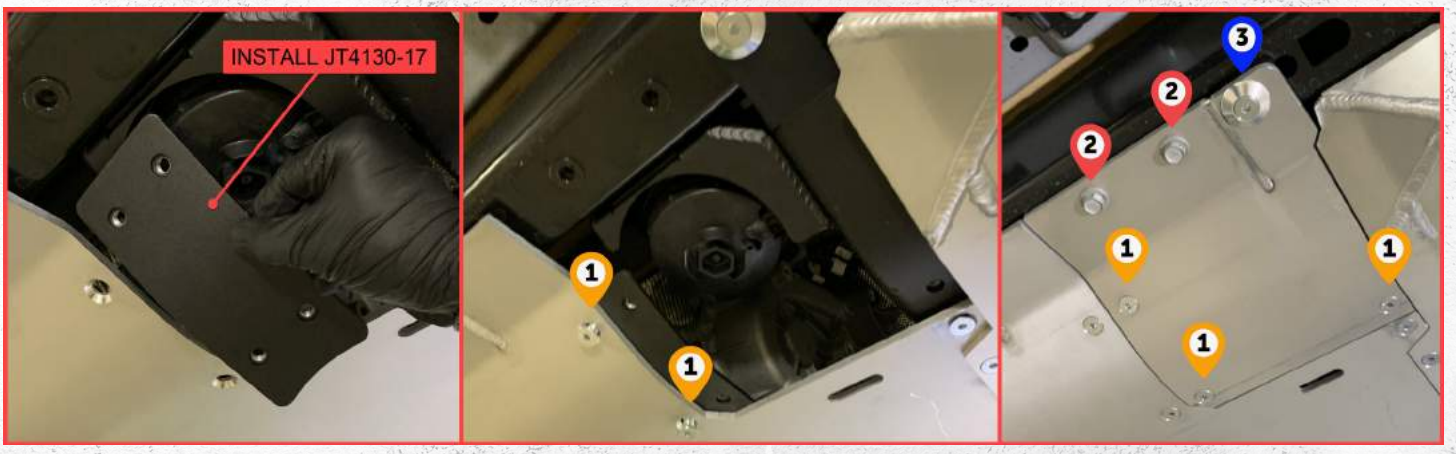
Step 15. Using tape secure 4 - 3/8" x 1" carriage bolts to the fuel tank skid prior to installing the fuel tank skid onto frame and support crossmember. ❶ Electrical tape works well.



Step 16. Using the 7/32 Allen wrench *loosely* assemble the gas tank skid with 2 – 3/8 x 1" flathead bolt ❷, 1 – M12 x 40mm flathead bolts with tapered washers ❸ AND 4 – 3/8 nyloc nuts ❶ using 9/16 socket or wrench.

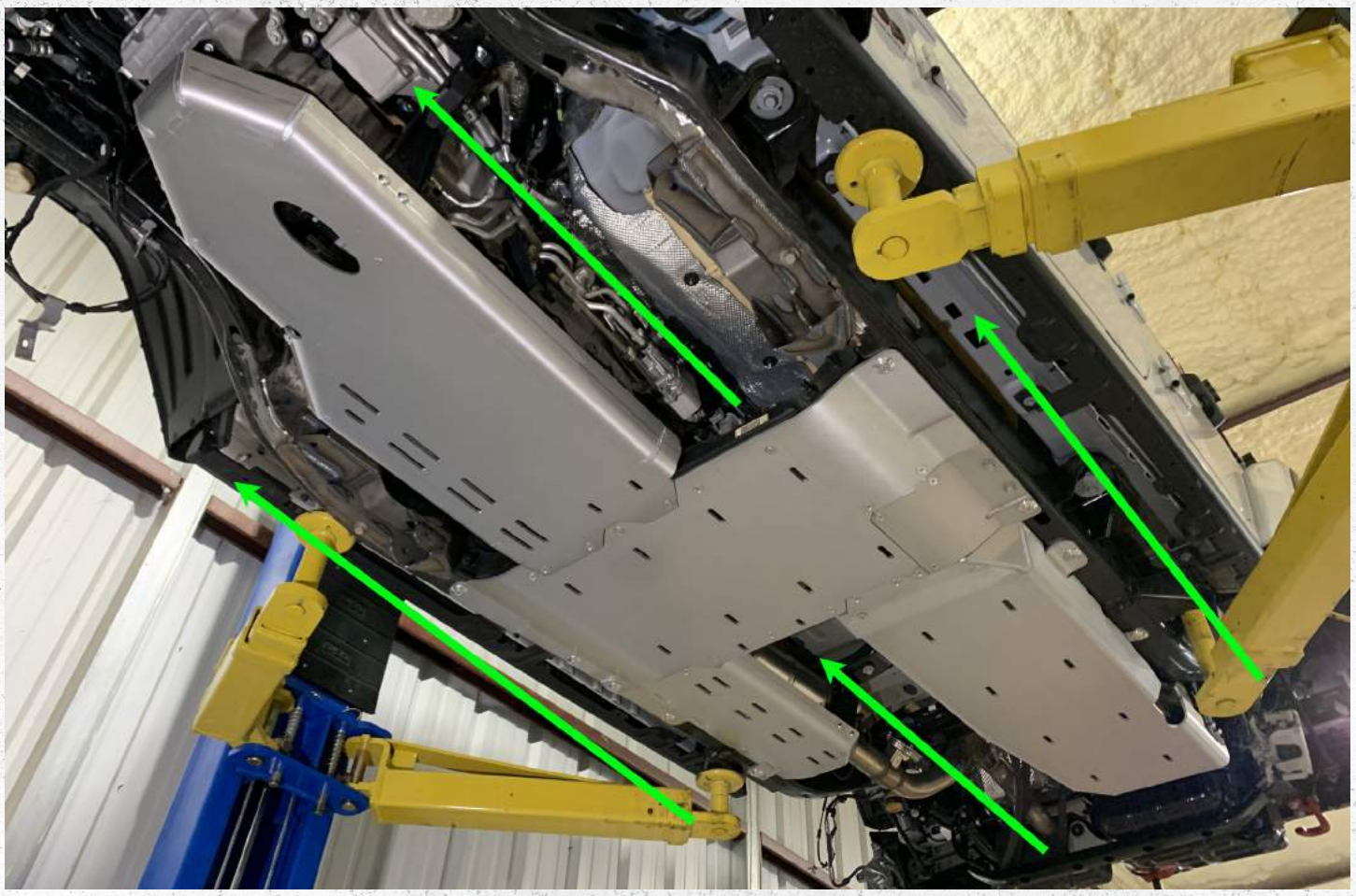


Step 17.
A: *Loosely* install the JT4130-7 Fuel filter skid support bracket using 1 – OEM M5 bolt ❷ with a 13mm socket AND 1 – 3/8 x 1" grade 8 yellow zinc bolt with a 1 – 3/8 yellow zinc flat washer ❶ using a 9/16 socket. Once both bolts are installed, go ahead and tighten them.
B: Attach the fuel filter housing to the bracket with the OEM M5 nuts ❸ using a 13mm socket. Verify fit and clearance and tighten the nuts. Once the 13mm nuts are tight, go ahead and tighten ❶ & ❷

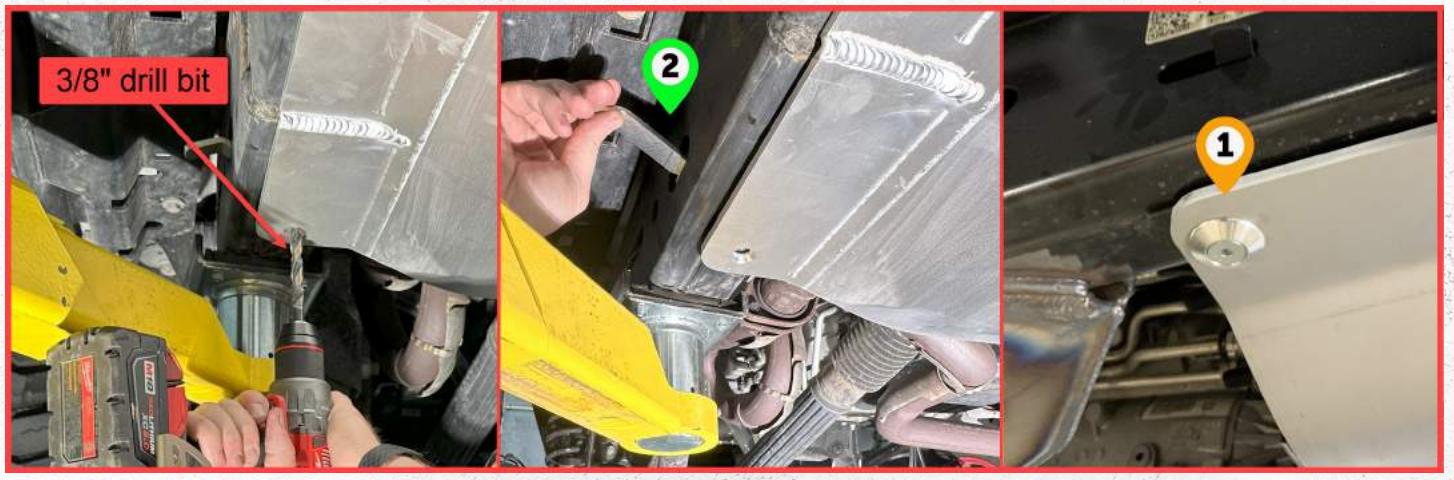


Step 18.
A: *Loosely* attach the JT4130-17 fuel filter skid nut plate to the transmission skid with 2 – 3/8 x 1" flathead bolt ❶ using the 7/32 Allen wrench.
B: Install the fuel filter skid with 3 - 3/8 x 1" flathead bolt ❶ AND 1 - M12 x 40mm flathead bolts with tapered washer ❸ using the 7/32 Allen wrench. Using a 16mm socket *loosely* install the OEM M10 bolts ❷

Verify everything has been assembled LOOSELY, unless otherwise instructed, before continuing to step 19.



Step 19. Starting from the rear of the vehicle while working your way forward to the front end, tighten/torque all skid and bracket hardware that was previously loosely installed on fuel tank skid, T-case skid, and engine oil skid.



Step 20. Once the skid plates are tightened, drill a 3/8” hole in the location shown.

Step 21. Insert UB1002 3/8” driver side nut plate ❷ into the frame as shown. Using ❶ 1 - 3/8 x 1.5” counter sink bolt with a tapered washer complete the transfer case skid assembly. Verify all hardware is tight.

CONCLUSION AND MAINTENANCE GUIDE

CONCLUSION

Congratulations on finishing the installation for your Artec Industries Alpha Series Aluminum Bellypan.

Before driving your vehicle, inspect all bolts again to ensure proper tightness.

If you used a vehicle lift, take proper care to ensure you lower your vehicle safely.

Now take your vehicle out and enjoy the outdoors in confidence.

MAINTENANCE / CARE

- After 500 miles, inspect all components and hardware to ensure they are properly fastened.
- If driving during the winter where salt is used on the roads, thoroughly and frequently wash underside of vehicle to prevent salt based corrosion.
- If removal of skid panels is required for vehicle maintenance, and bolts will not loosen, tap the bolt heads with a small sledge hammer using moderate force. This will allow the threads to loosen.
- Spray wax or similar products can be used to create a protective barrier on raw metals to protect against long term corrosion.

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