4010-02 – 2007-PRESENT, MERCEDES SPRINTER NCV3 4X4, 3500, ENGINE SKID PLATE

Version 1.2

General Notes

- For the most up to date and current instructions, please visit our website at www.vancompass.com
- Please read all instructions thoroughly before starting installing Van Compass products.
- This skid plate can be installed with the vehicle on the ground, sitting under its own weight.
- This is a bolt on skid plate that can be installed with simple hand tools.
- Drilling is required for installation of the 4010-02 Overrun mounts.
- Note, this installation is for 3500 4x4 vehicles which do not feature the factory overrun mounts.
- This skid plate can be completely removed, allowing the vehicle to be returned back to stock configuration if desired.
- Note the front bumper will need to be trimmed for skid plate clearance.
- The vehicle's engine oil can be changed with the skid plate installed.

Parts List

4010 – 2007-PRESENT, MERCEDES SPRINTER NCV3 4X4, ENGINE SKID PLATE

- (1) 401001-02 — 4X4 ENGINE SKID PLATE, MAIN PLATE, ¼" 6061 AL
- (2) 401001-03 — REAR CROSS MEMBER SPACER WASHER
- (2) 401001-04 — REAR CROSS MEMBER SPACER, 2.875" TALL
- (2) 401001-05 — FRONT CROSS MEMBER SPACER, 2.165" TALL
- (1) 401001-06 — 4X4 ENGINE SKID PLATE, FRONT PLATE, 3/16" STEEL
- (2) CC5-6-42 — 3/8-16 UNC, GR5 CARRIAGE BOLT, 4.50" LONG
- (2) CC5-6-32 — 3/8-16 UNC, GR5 CARRIAGE BOLT, 3.50" LONG
- (4) NNC-7 — 3/8-16 UNC NYLOCK NUT
- (4) WF8-6 — 3/8" GR8 FLAT WASHER
- (4) CC5-7-12 — 7/16-14 UNC, GR5 CARRIAGE BOLT, 1.50" LONG
- (4) NNC-7 — 7/16-14 UNC NYLOCK NUT
- (4) WF8-7 — 7/16" GR8 FLAT WASHER
- (4) FM08-1.25-25 — M8-1.25 X 25MM LONG, FLAT HEAD SOCKET CAP SCREW

4010-02 – 2007-PRESENT, MERCEDES SPRINTER NCV3 4X4, ENGINE SKID PLATE, OVERRUN MOUNTS

- (1) 401002-LH — 4X4 ENGINE SKID PLATE, OVERRUN MOUNT, LEFT SIDE
- (1) 401002-RH — 4X4 ENGINE SKID PLATE, OVERRUN MOUNT, RIGHT SIDE

- (2) HM12-1.50-35-8.8 M12-1.50 X 35MM LONG, HEX HEAD BOLT, GR 8.8
- (6) WF-M12 FLAT WASHER, M12
- (2) HM12-1.50-110-8.8 M12-1.50 X 110MM LONG HEX HEAD BOLT, GR 8.8
- (2) NNM12-1.50 M12-1.50 NYLOCK NUT

Tools Needed

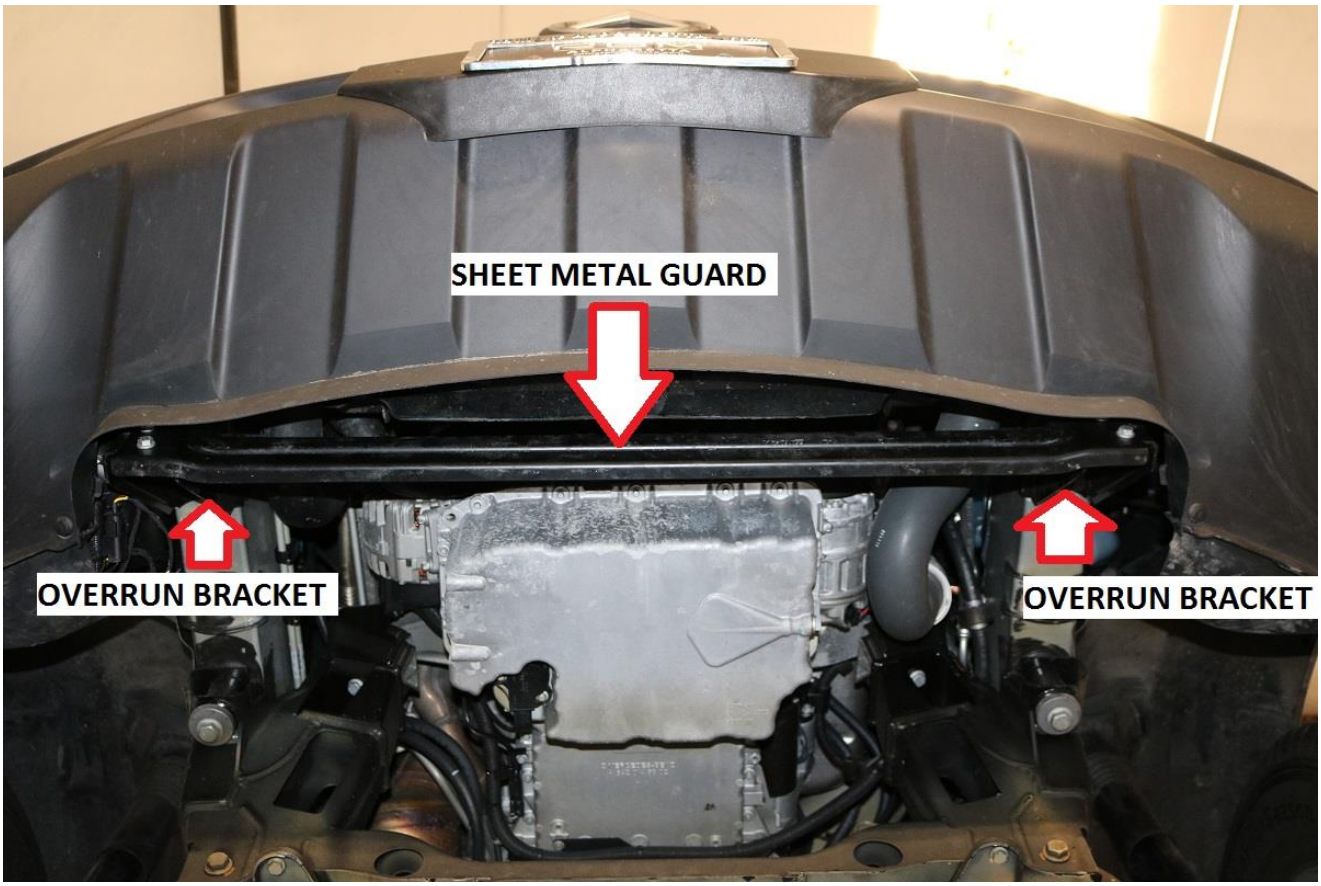
- Quality Jack
    - Optional – Automobile lift and screw jack
- Simple hand tools:
    - T-20 & T-25 Torx bit
    - Automotive trim removal tool
    - Torque Wrench
    - 5mm allen wrench
    - Basic wrench and socket set:
        - Metric sizes: 13mm, 18mm
        - SAE sizes: 9/16”, 5/8”
    - Drill and 7/16” (12mm) metal cutting drill bit
- Cutting tool for plastic bumper trimming.
    - 4-1/2” angle grinder or 3” pneumatic cut off tool
    - Die grinder or Dremel style tool

Approximate Installation Time

- 2-3 hours

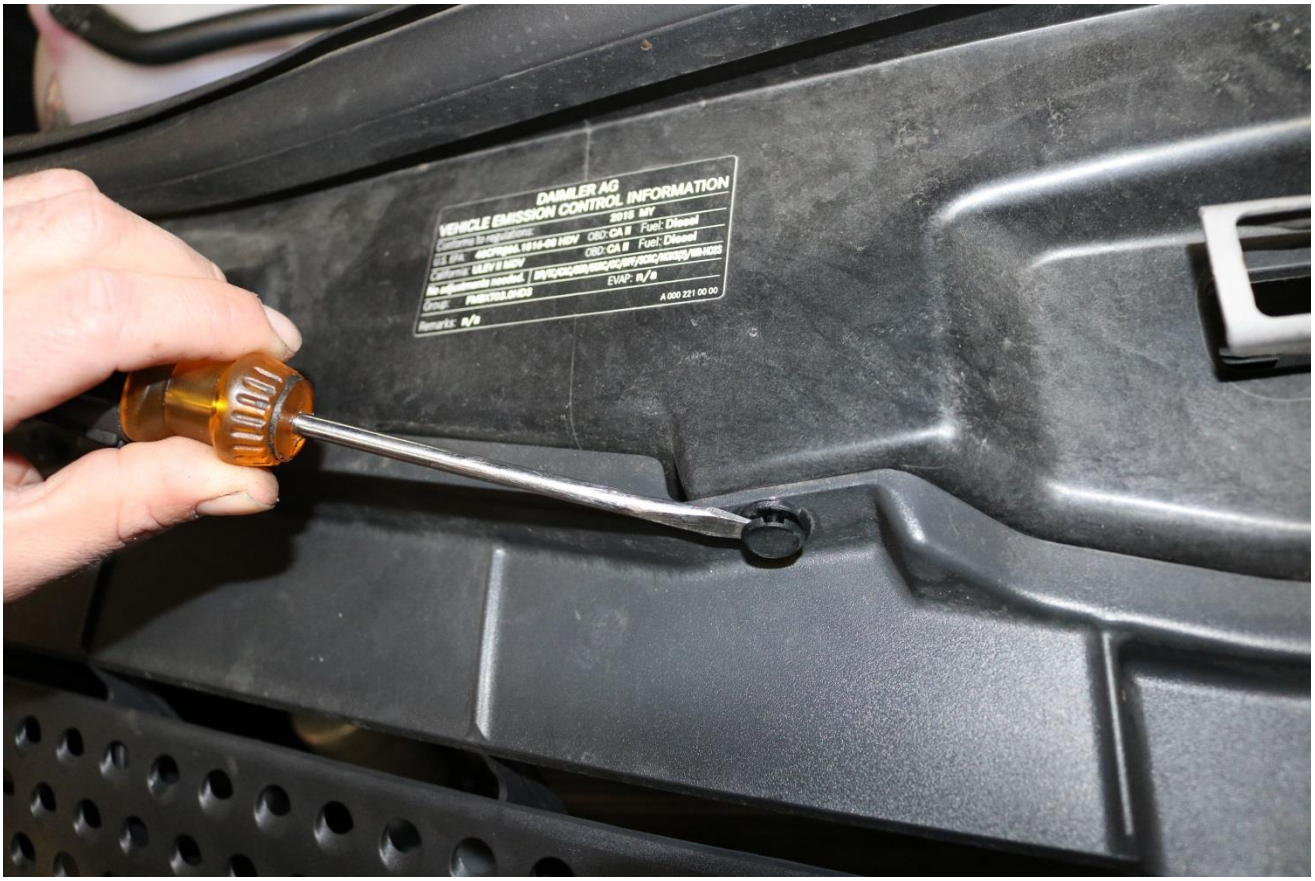
Installation

1) Note; this skid plate system can be installed with the vehicle on the ground. It does not need to be raised up for installation.
2) Begin by confirming the vehicle does not have the factory overrun brackets and sheet metal guard linking them both together behind the front bumper. Use the image below for reference.



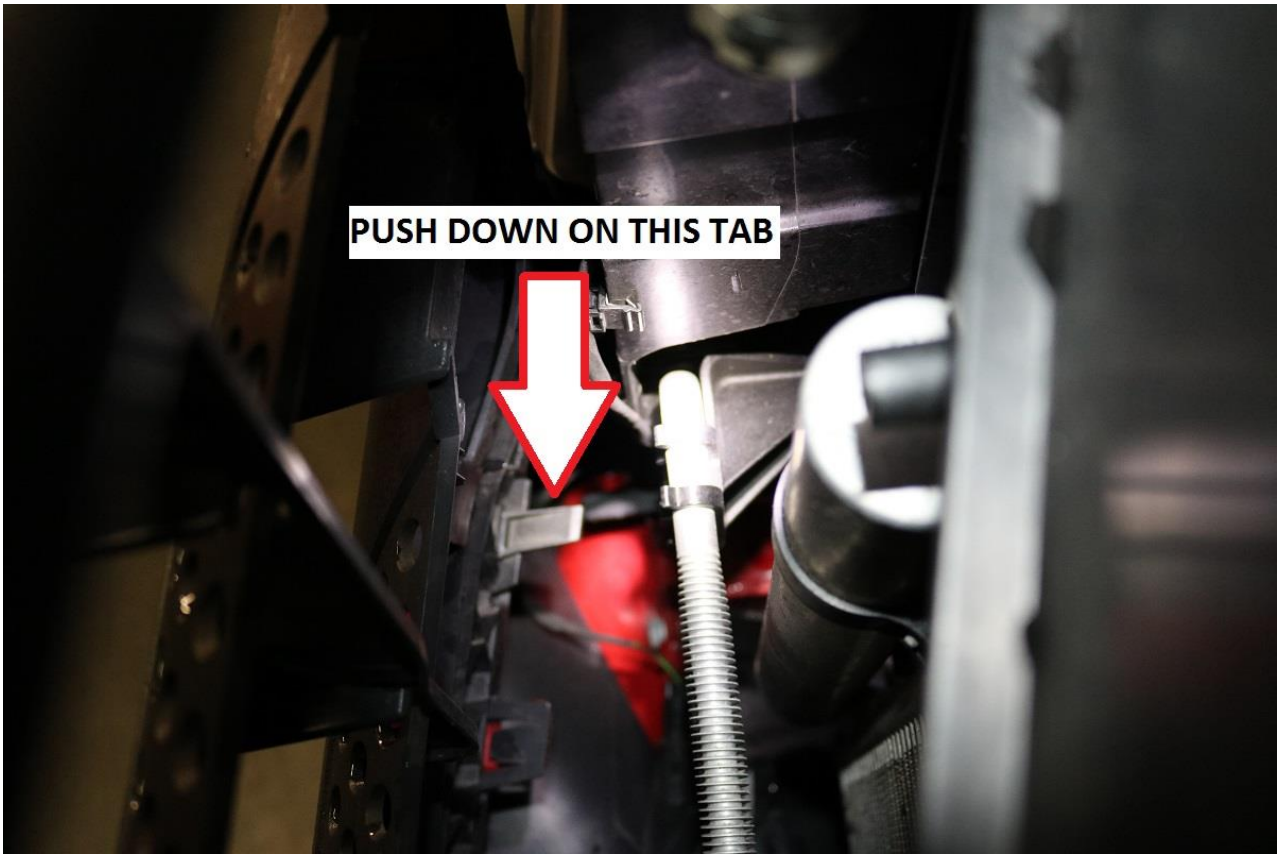
3) Begin by opening the hood and locating the two torx head screws securing the grill to the core support. Use a T-25 Torx head socket and remove these two screws. See image below for reference.

4) Next, use an automotive trim removal tool to remove the four push pin fasteners securing the top of the grill insert to the core support.
    a. Note; the center of this style of fastener must be pulled up for removal. We have found the use of a small flat nose screwdriver to work well in getting the center pin separated from the fastener housing.
    b. Once the center pin is raised slightly, use an automotive trim removal tool similar to those shown in the images below to remove the fastener from the grill.

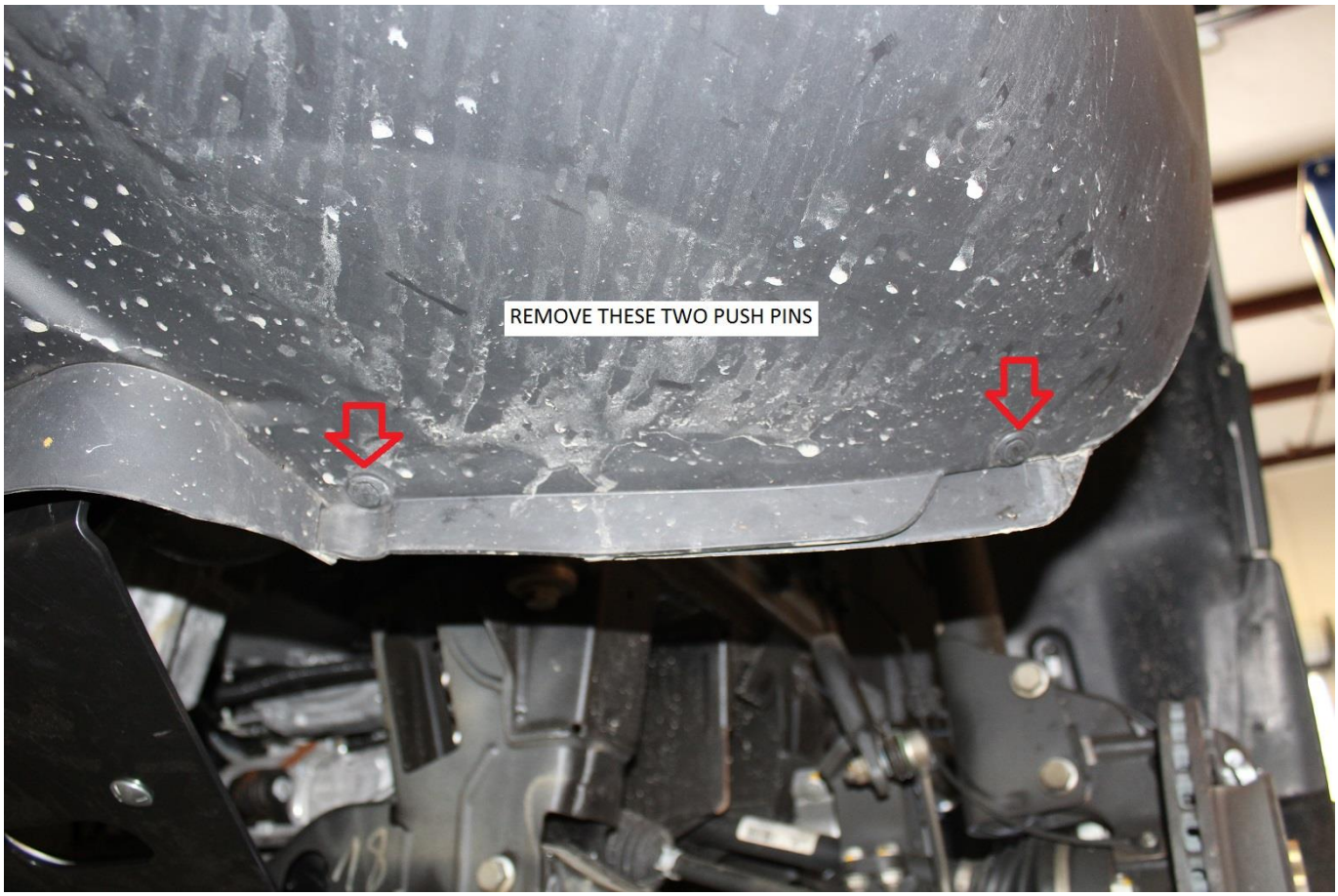


5) With the upper part of the grill separated, gently pull the top of the grill back and locate the four tabs which secure the bottom of the grill to the van.

6) Once these tabs are located, push down on them and gently pull the bottom of the grill away from the van and it should easily come free from the vehicle. We have found a long flat nose screwdriver to work well as a tool to push down on the tabs.



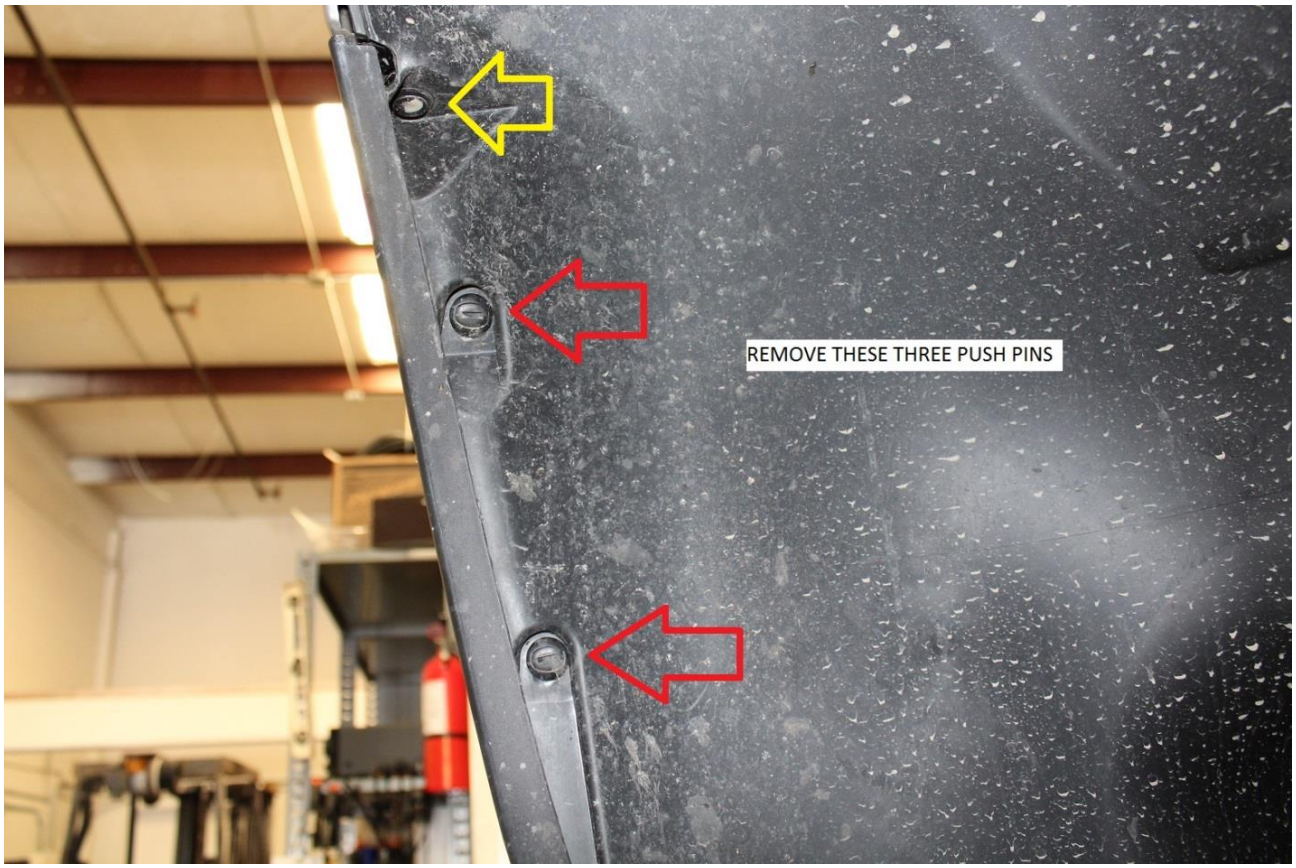
7) Locate the two push pin fasteners located near the front bottom side of the bumper cover which connects the inner fender well liner to the front bumper cover.



8) Next, using an automotive trim removal tool, pull up the head of the push pin.

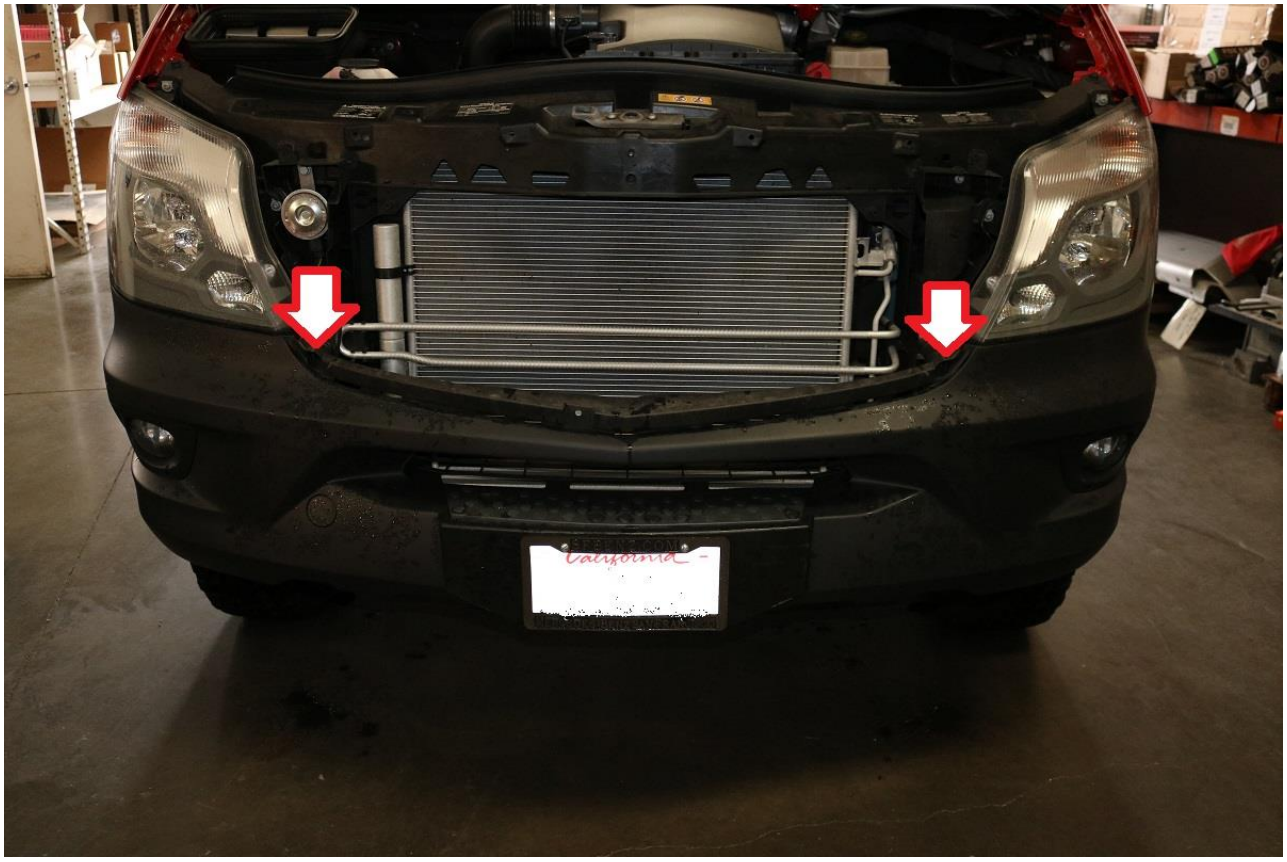
9) Using the same automotive trim removal tool, pry up under the head of the push pin body to fully removal the fastener. Remove these from both sides of the vehicle.

10) Next, on the inside of the fender well, remove the three push pin fasteners near the outer lip of the bumper cover.

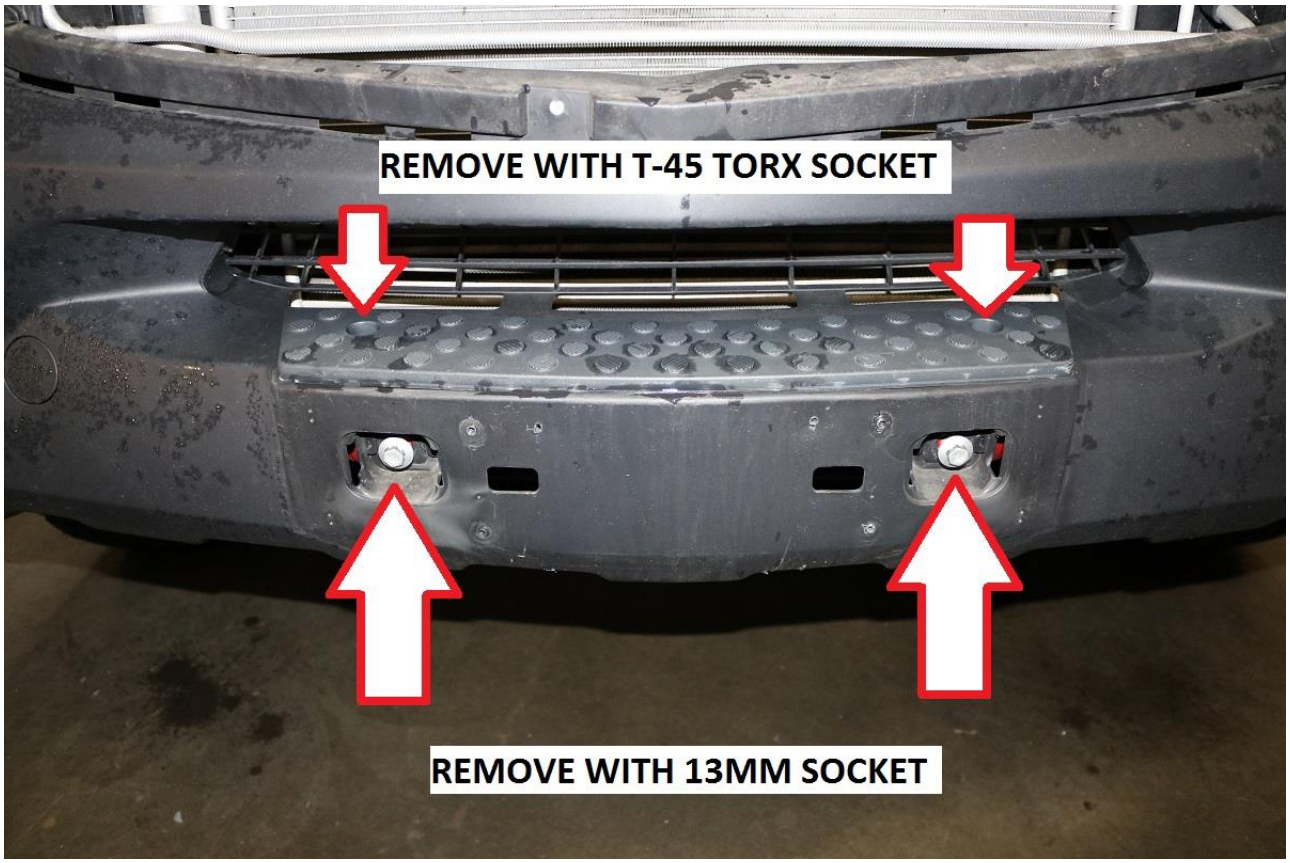


11) Remove the two Torx head bolts that are now exposed with the grill removed. Again, use a T-25 Torx socket for removal. The bolts are denoted in the image below by the two red & white arrows.

c. At this time, also remove the front license plate and license plate mount if equipped. The license plate is usually secured to the vehicle with Phillips head screws.
d. The license plate mount is typically secured to the vehicle with either Phillips head screws or T-20 torx head bolts.



12) With the front license plate and mount removed, the front bolts securing the plastic bumper cover to the chassis can be accessed. Remove these two bolts with a 13mm socket.
e. Now is also a good time to remove the T-45 torx head bolts securing the top step to the vehicle.
f. See image below for reference.



13) At this time the bumper cover is only secured to the vehicle via snap clips where the bumper meets the front fender. Pull the back corner of the bumper cover outwards to separate it from the clips. These clips are fairly tight, so a good strong pull will be needed for separation.

14) Remove the ambient air temperature sensor from it’s housing in the front bumper cover.

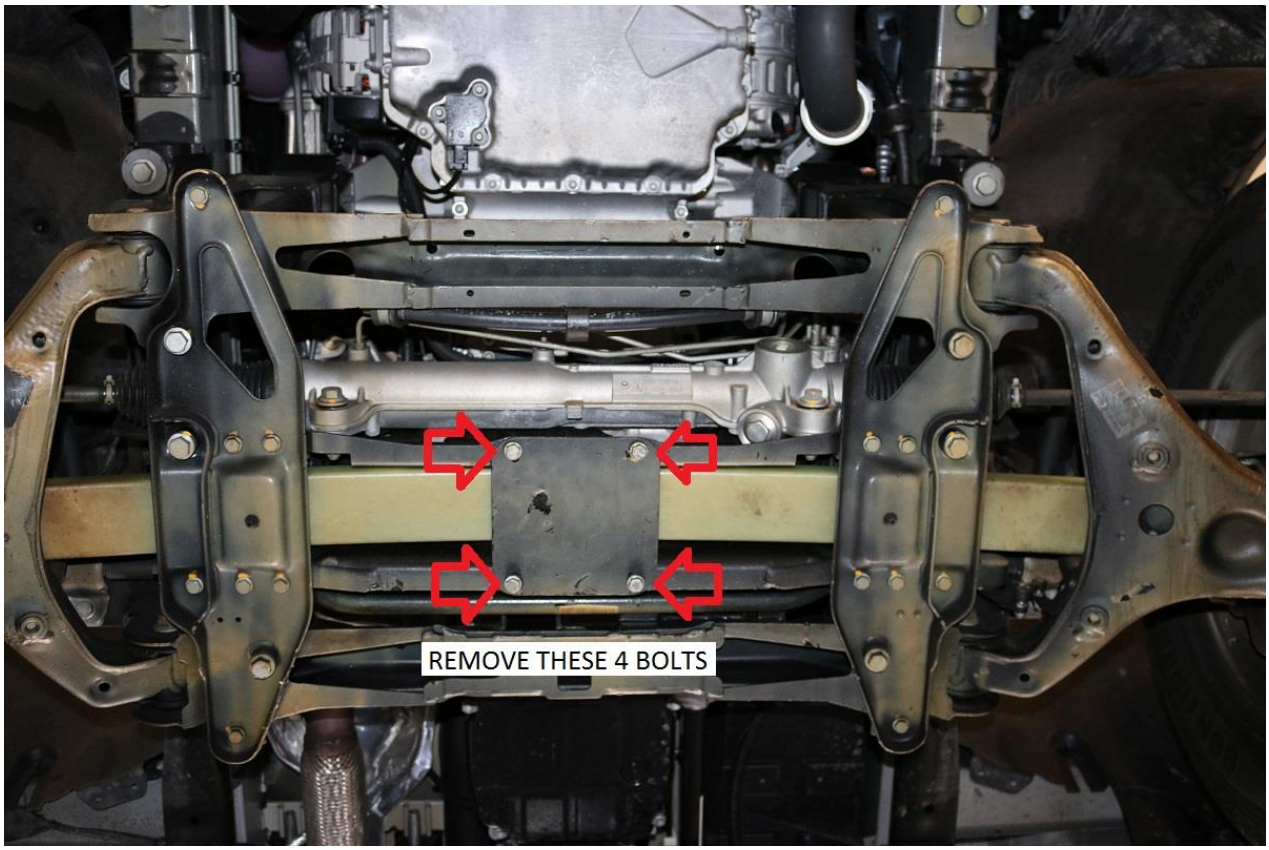
15) If the vehicle is equipped with fog lamps, disconnect the wiring at the lamps in each corner of the bumper

16) Some vehicles will also have a module on the back side of the bumper that will need to be unplugged prior to bumper cover removal. The module appears as shown below.

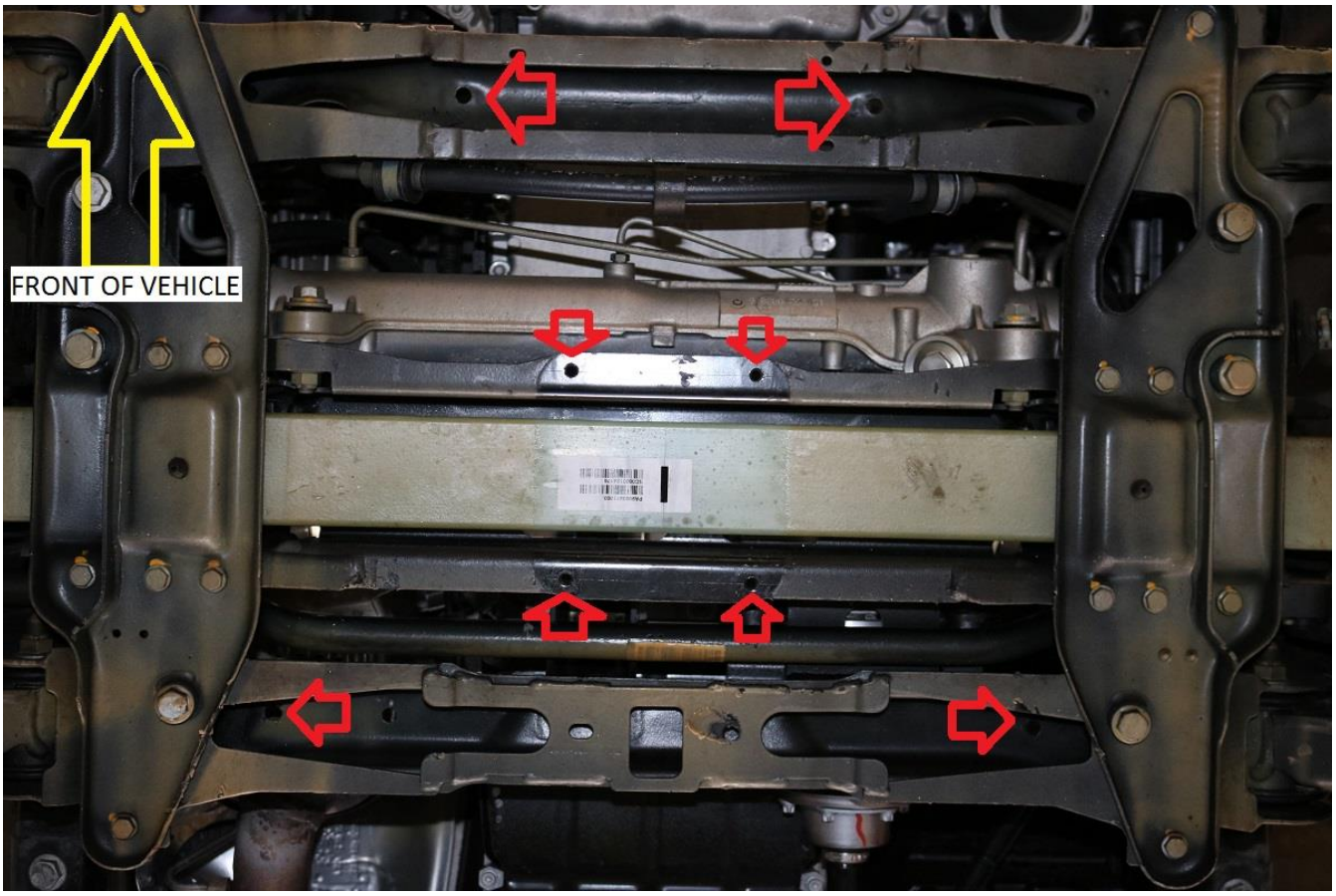
17) Remove the bumper cover from the vehicle.

18) Underneath the vehicle, remove the leaf spring skid plate by removing the 4 bolts securing it to the vehicle. Use a 13mm socket or wrench for removal.

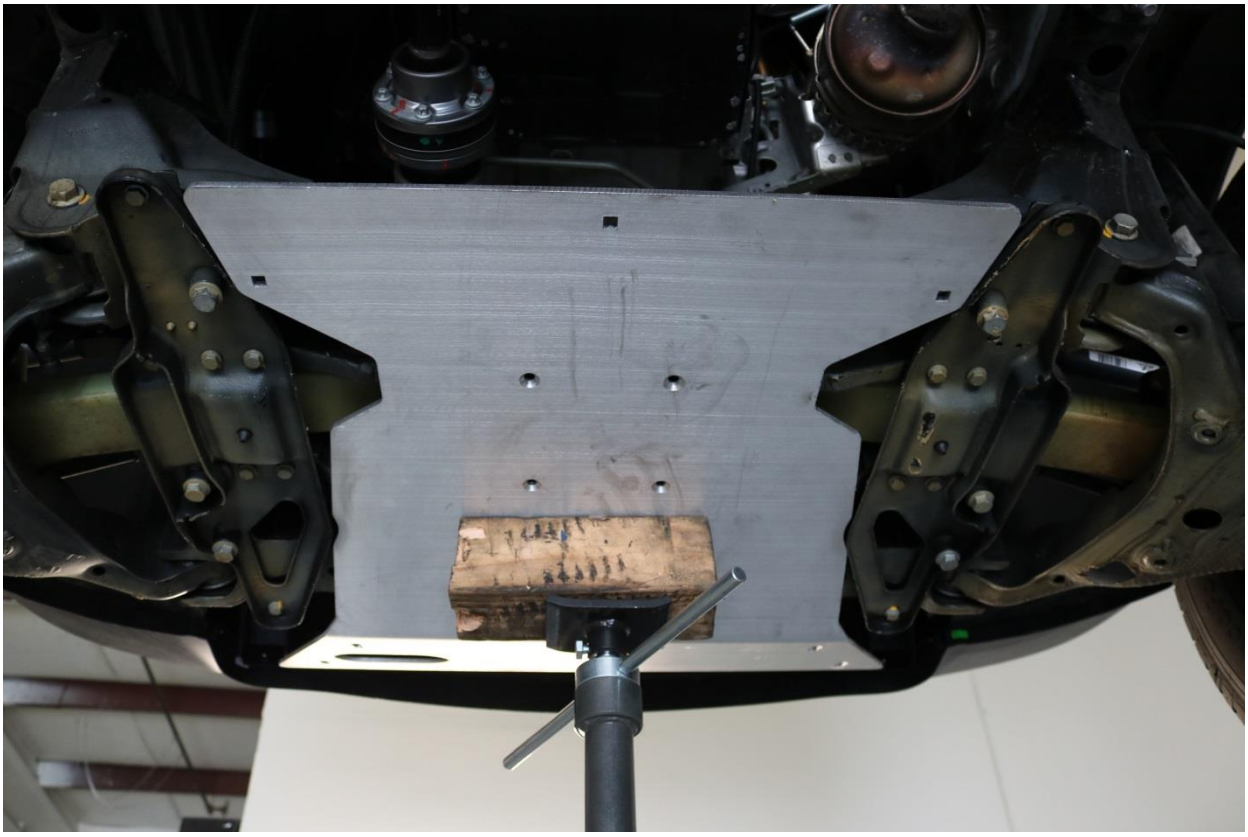
g. **NOTE** Retain these 4 bolts as they will be re-used to attach the steel front plate to the 4010-02 overrun mounts.



19) The main 401001-02 aluminum skid plate attaches to the vehicle via the factory holes noted in the image below. Take note of which holes will be utilized.



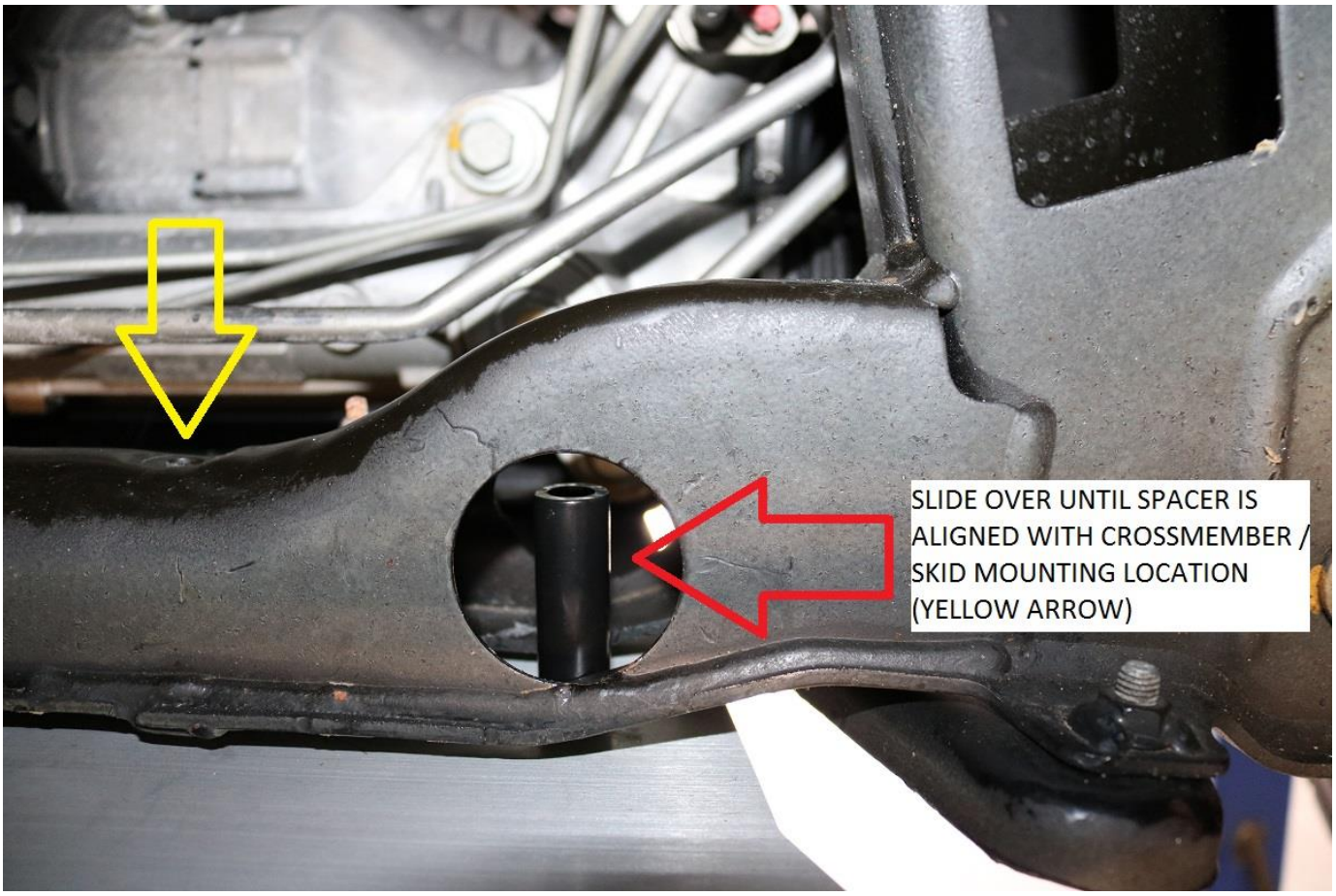
20) Raise the main aluminum skid plate into position. Try not to cover any of the mounting holes when raising it in place. Use a floor jack to lift into position.



21) Align the 4 center counter sunk holes with the holes in the chassis which retained the factory leaf spring skid plate removed in step 4.

   h. Install the M8-1.25 x 25MM long flat head socket cap screws included with the kit to locate the skid plate in place.
   i. Use a 5mm allen for installation. Thread the bolts all the way in. Un-thread 3 full revolutions to allow the skid plate to move slightly. This will make it easier to install the remaining hardware and spacers.

22) Install the 401001-05 front spacers. This is the shorter spacer. Install by placing the spacer in the access hole in the front cross member and sliding it over to line up with the mounting hole in the skid plate and cross member.

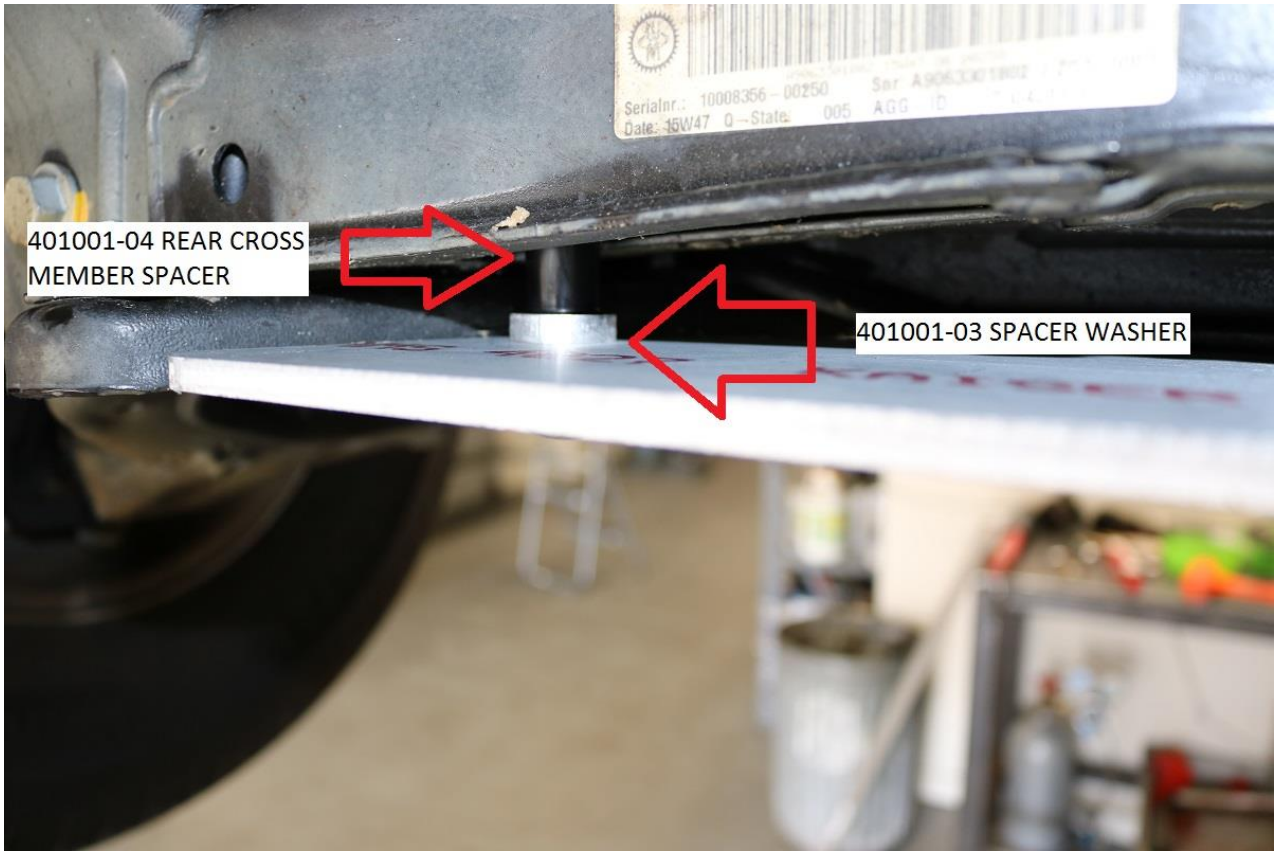


23) Install the 3/8-16 x 3.5” long carriage bolts through the spacer. Use a washer under the nylock nut. Just start the nut. Do not tighten at this time. See image below.

24) **NOTE** If installing 4011 Transmission / Transfer case skid plate, refer to those instructions at this time.

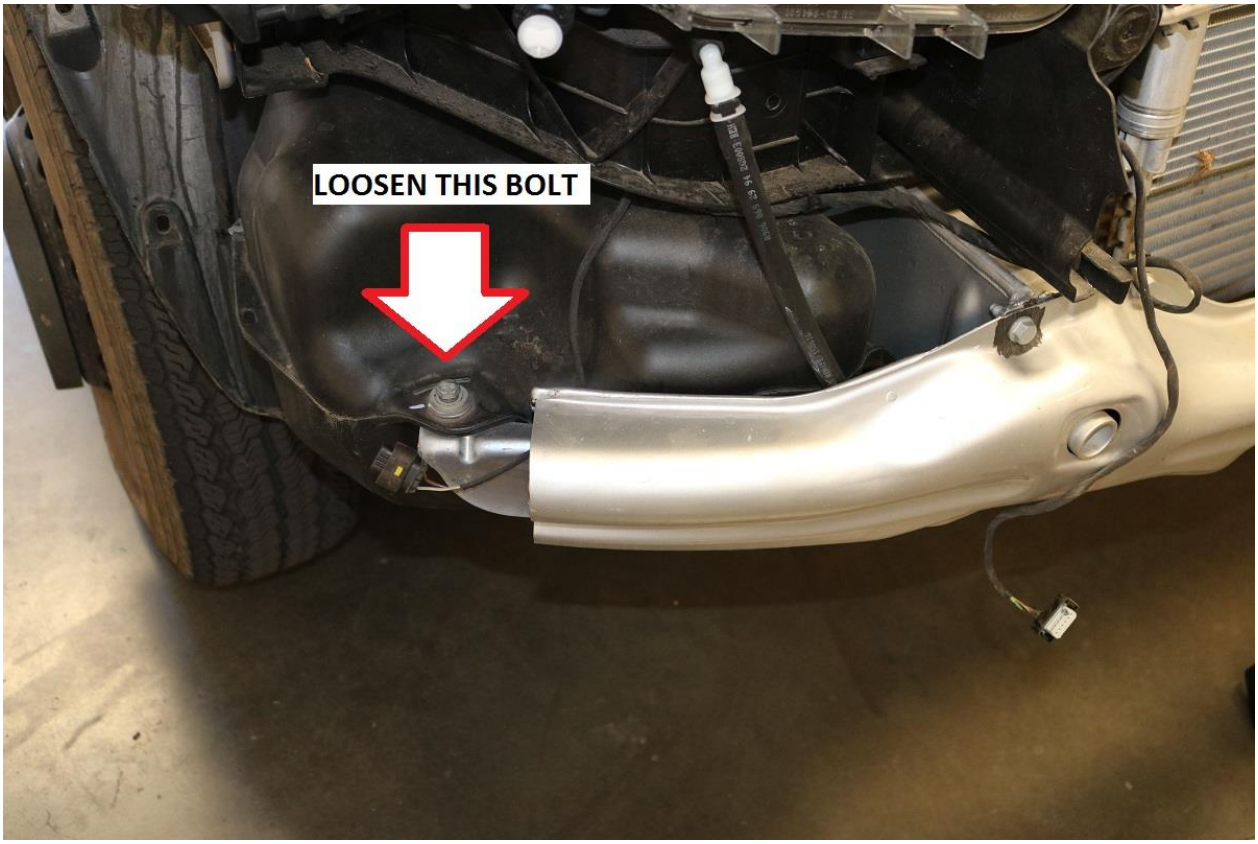
25) Install the 401001-04 rear spacers on top of the 401001-03 aluminum spacer washer. Align the spacers with the mounting hole in the skid plate / factory cross member.

j. Install the 3/8-16 x 4.5” long carriage bolts through the spacer. Use a washer under the nylock nut. Again, just start the nut. Do not tighten at this time. See image below.

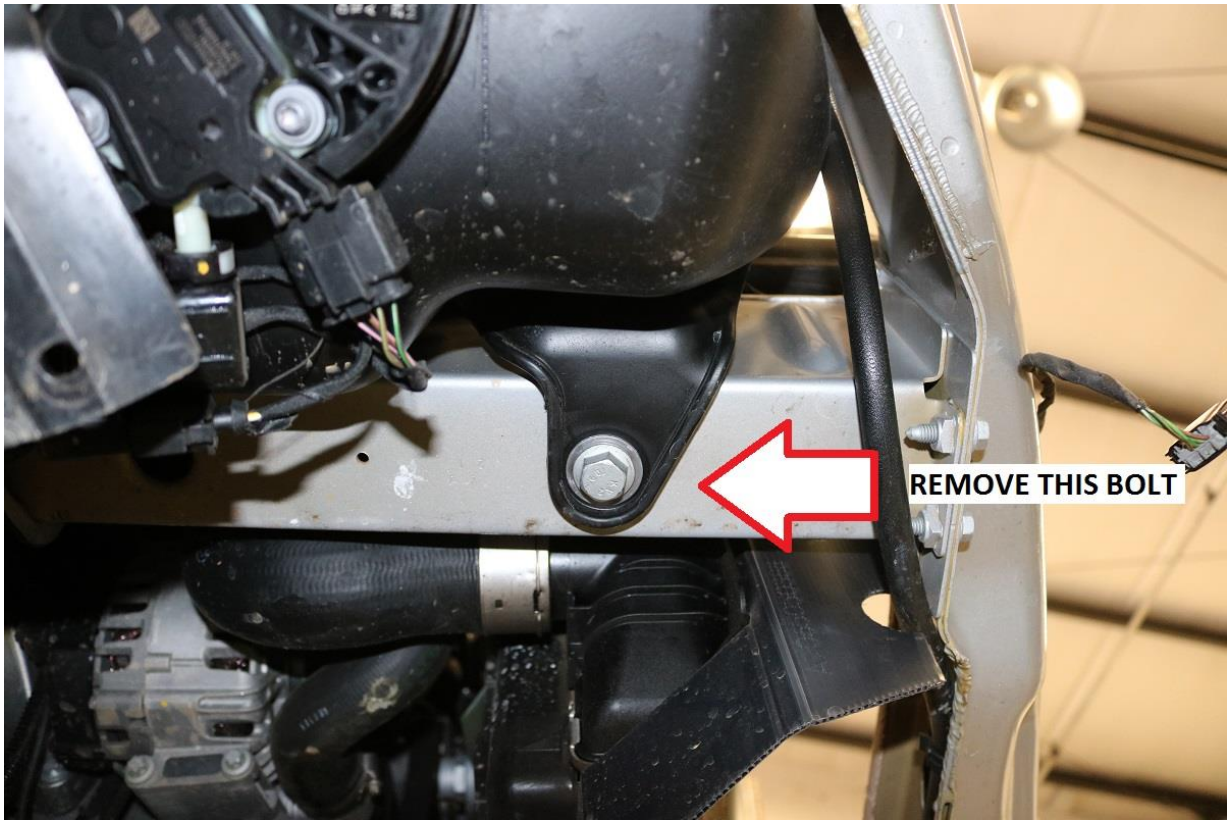


26) Snug all hardware at this time. Snug the flat head socket cap screws first, and then snug all the 3/8" nylock nuts. Use a 9/16" socket or wrench to tighten the carriage bolt hardware.

27) Remove the floor jack supporting the main skid plate.
28) Move to the top side of the vehicle and locate the outer DEF tank mounting bolt on the passenger (right hand) side of the vehicle. Loosen this bolt 8-10 full turns with a 13mm socket / wrench.



29) On the underside of the vehicle, still on the passenger side, locate the lower mounting bolt for the DEF tank. Remove this bolt using an 18mm socket / wrench. See image below for reference.



30) The 4010-02 Overrun bracket s are left and right specific for ease of installation. The longer bracket which features the rear mounting hole is to be installed on the right side (passenger side of the vehicle where the DEF tank is located). Re-use the factory M12 bolt removed in the previous step. Snug bolt with an 18mm socket / wrench but do not fully tighten at this time.

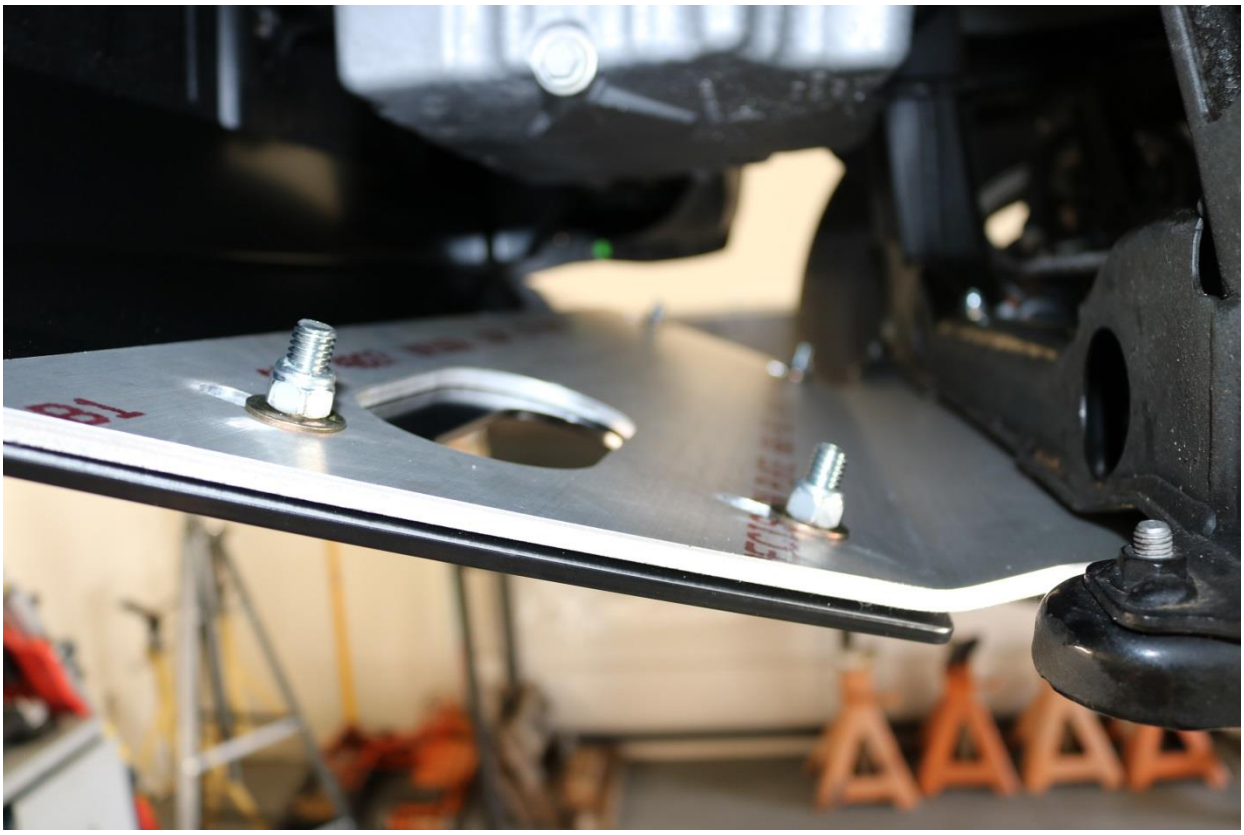
31) Using the Overrun bracket as a guide, drill the rear vertical mounting hole using a 1/2” (13mm) drill bit. See image below for reference.

32) Install the included nut tab with the tab pointed downward through the hole in the chassis just behind the overrun bracket. See image below for reference.

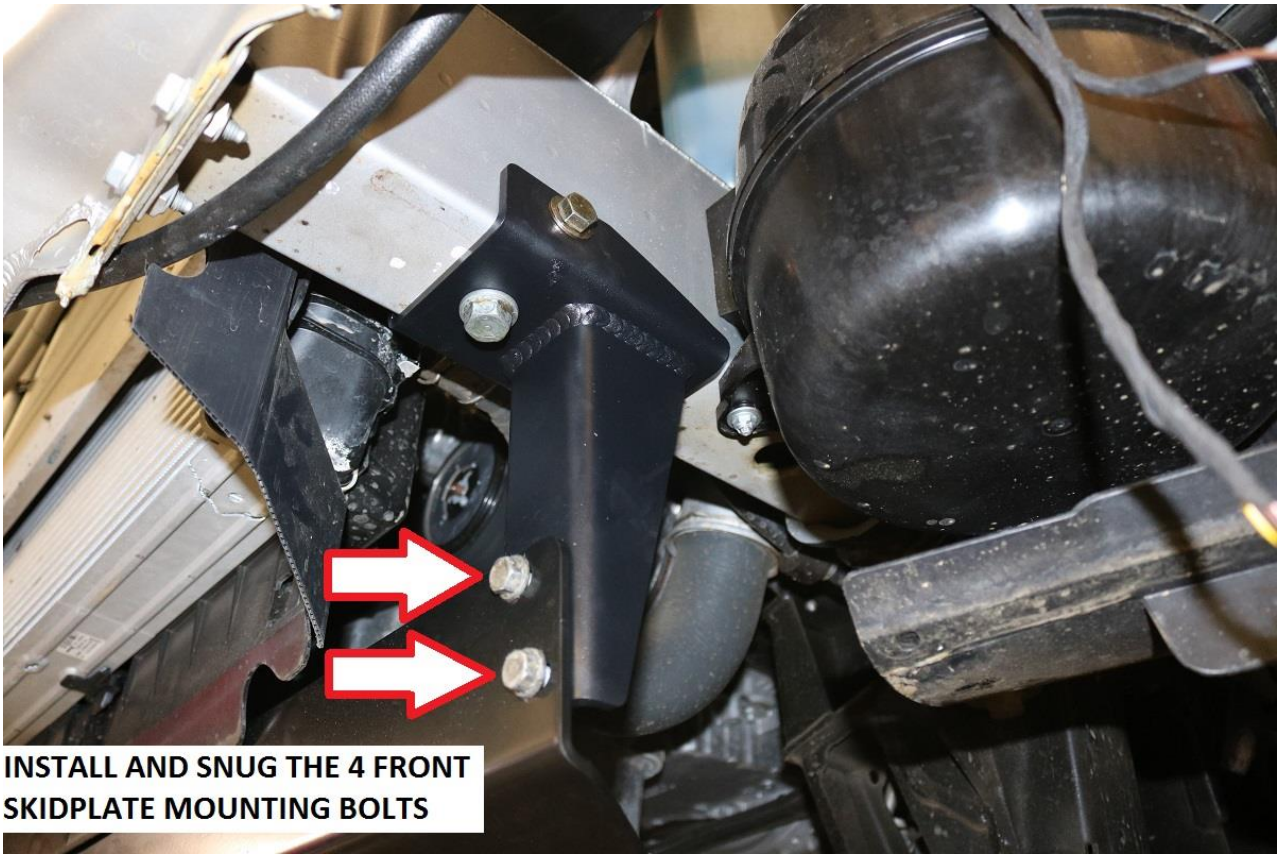
33) Start the included M12-1.50 x 35mm long hex head bolt in the rear mounting hole of the overrun bracket. Snug bolt but do not fully tighten at this time. Be sure to use a washer under the bolt head.

34) On the driver (left hand) side of the vehicle, locate the threaded hole on the bottom side of the "frame rail" and install the smaller overrun mount using the M12-1.50 x 35mm long bolt provided in the kit. Use a washer under the bolt head and snug so the bracket is sitting flush on the bottom of the chassis.

35) With the driver side bracket in place, we recommend installing the front steel portion of the skid plate to square up the overrun brackets.
36) Raise the front steel plate into place and install the 7/16-14 x 1.50” long carriage bolts included in the kit. Use a washer under the nut and start the nut. Install all four bolts.
    k. Once all four bolts are started, tighten the nylock nuts until there is about 1/8” (3-4mm) between the steel front plate and the aluminum main plate.
    l. Note; this front plate can be awkward to install individually. A second person makes installation much easier.



37) Align the front mounting holes and attach the front plate to the vehicle using the factory leaf spring skid plate bolts removed in step 4.



38) Use a 13mm socket / wrench and snug all front mounting hardware.

39) Next, mark and drill the outer horizontal mounting bolt for the overrun mount. Drill from the outside in using a 1/2” (13mm) drill bit and drill straight through the chassis.

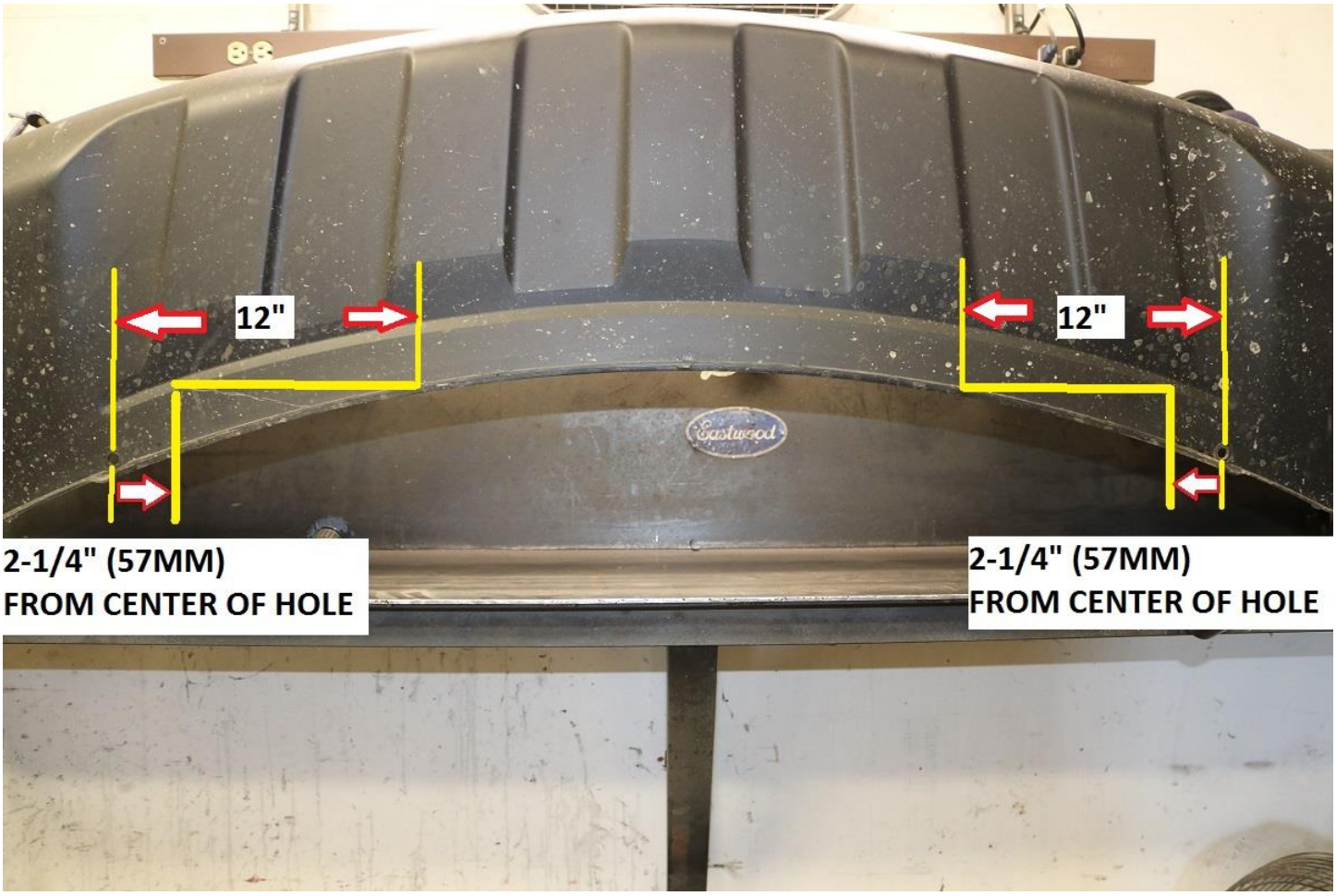
a. Note; on vehicles equipped with a front DEF tank on the passenger side, drilling this hole can be difficult without DEF tank removal and can be omitted as it is not integral to bracket integrity.
b. Once drilled, touch up any exposed areas of metal with paint to prevent corrosion.
c. Install the M12-1.50 x 110mm long hex head bolt included with the kit. Use a washer under both the bolt head and nylock under the nut. See above image for reference.

40) Snug the front mounting bolts. Use a 13mm wrench and tighten. It will be difficult to fit a torque wrench in there so we recommend snugging bolts, then giving an additional 1/8 to ¼ turn for final installation.
    m. For reference, torque spec for the front mounting bolts is 22 ft-lbs (30 N.m)
    n. Torque the upper DEF tank mounting which was loosened in step 28 with a 13mm socket to 22 ft-lbs (30 N.m)
    o. Torque the vertical M12-1.50 x 35mm long over run mounting bolts with an 19mm socket / wrench to 35 ft-lbs (47 N.m)
    p. Torque the horizontal M12-1.50 x 110mm long bolt on the driver side with a 5/8” socket / wrench to 35 ft-lbs (47 N.m)
41) Torque all hardware in the following order:
    q. M8-1.25 x 25mm flat head socket cap screws – 15 ft-lbs (20 N.m)
    r. 3/8-16 Carriage bolts – 20 ft-lbs (27 N.m)
    s. 7/16-14 Carriage bolts – 52 ft-lbs (70 N.m)

Front Bumper Trimming

42) Trim the front bumper as shown to clear the front skid plate.

a. Note, the following cut instructions are to be used as a guideline; final trimming and measurements must be finalized on the vehicle.
b. From the bottom, innermost push pin mounting hole, measure 2-1/4” towards center and mark a vertical line.
c. Measure over 12” from center of hole and mark a line. Connect the cut lines as shown below.



43) Cut on the trim lines and clean up any edges with a file or sander. Finished cut should appear as shown below.

44) Test fit the trimmed bumper on the vehicle. Trim further if needed for the bumper to re-install smoothly.
45) Re-install bumper in the reverse order of removal. Reference steps 16 through 3 for re-installation.
46) Double check all skid plate torque specs after 100 miles of driving.

Installation is Complete

RELEASE OF LIABILITY

I, the customer, do hereby release and forever discharge Van Compass LLC, their agents, employees, successors and assigns, and their respective heirs, personal representatives, affiliates, successors and assigns, and any and all persons, firms or corporations liable or who might be claimed to be liable, whether or not herein named, from any and all claims, demands, damages, actions, causes of action or suits of any kind or nature whatsoever, whether known or unknown, fixed or contingent, which I now have or may hereafter have or claim to have, as a result of or in any way relating to the following: Parts sold & installed by Van Compass LLC or parts sold & installed by end-user; any parts sold online, any parts sold online or installed by a re-seller, any parts installed by an installation shop.

It is understood and agreed that this payment is made and received in full and complete settlement and satisfaction of the aforesaid actions, causes of action, claims and demands; that this Release contains the entire agreement between the parties; and that the terms of this Agreement are contractual and not merely a recital. Furthermore, this Release shall be binding upon the undersigned, and his respective heirs, executors,

administrators, personal representatives, successors and assigns. This Release shall be subject to and governed by the laws of the State of Idaho.

PRODUCT SAFETY WARNING:

Van Compass LLC strongly recommends the installation of products be done by a certified mechanic. If this does not occur, be certain the person(s) installing the product read, understand and follow all instructions and warnings pertaining to the application before installation. Do not add, alter, or fabricate any factory or aftermarket parts to increase vehicle height over the intended height of the Van Compass LLC product purchased. Mixing component brands is not recommended.

Installation of suspension lift kits or any other lifting kits or devices will raise the center of gravity. For this reason, Van Compass LLC urges that extreme caution be used when encountering driving conditions which may cause vehicle imbalance. Furthermore, the driver's field of vision and judgment will not be as good due to the height of the vehicle. Due to the installation of larger tires, the speedometer will read slower than the actual speed being traveled and more distance will be required to stop the vehicle. It is the owner's responsibility to caution and warn any potential driver of the vehicle about these driving and handling conditions. Van Compass LLC will not be held liable or responsible for damages or personal injuries resulting from the use of lifting devices and or related products. The tires and rims should be changed to sufficiently increase the vehicle's total overall width and stability to help accommodate lifting devices.

Van Compass LLC aftermarket suspension products and accessories modify a vehicle for uses which exceed conditions anticipated by the vehicle manufacturer. The uses include the high performance demands required during off-road. These conditions vary in the degree of extremity and cannot be controlled by the vehicle or product manufacturer. If the components within the suspension system or accessories become worn due to frequent and/or extreme use, the safety and reliability of the vehicle is at risk. The maintenance of aftermarket equipment to ensure the vehicle occupants safety is entirely your responsibility. Do not purchase Van Compass LLC products unless you are willing to accept this responsibility. Do not install any Van Compass LLC suspension products or accessories unless you feel competent at installing the product without causing present or future injury to yourself or other vehicle occupants; seek an authorized installation center.

Most states have some type of law limiting vehicle height. The amount of lift allowed, and how the lift can be achieved, varies greatly. Several states offer exemptions for farm and commercial registered vehicles. It is the vehicle owner's responsibility to check state and local laws to ensure that their vehicle will be incompliance. Van Compass LLC reserves the right to make changes in design, materials and specifications as deemed necessary without prior notice and without assuming obligation to modify any product previously manufactured. Obligation or liabilities will not be assumed with respect to similar products previously advertised.

This Release of Liability and Product Safety Warning has been read and fully understood by the undersigned and has been explained to me.