



4071 – 2014-PRESENT, MERCEDES SPRINTER FRONT HITCH

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 is a bolt on front hitch that can be installed with basic hand tools.
- Removal and trimming of the plastic front bumper cover is required for installation
- A small piece of the metal tow hook tube will need to be cut off for installation
- This front winch can be completely removed and the factory front bumper can be re-installed if desired.
- The front license plate is retained with this front hitch; however a license plate frame cannot be used in conjunction with this kit.
- The first half of these instructions covers installation on 2019-present VS30 chassis. The second half covers installation on a 2014-2018 NCV3 chassis.

Parts List

4071 – 2014-PRESENT, MERCEDES SPRINTER, FRONT WINCH MOUNT

- (1) 407101 MERCEDES SPRINTER VS30, FRONT HITCH
- (2) HM12-1.50-40-10.9 HEX HEAD BOLT, M12-1.50 X 40MM LONG
- (2) WF-M12 FLAT WASHER, M12
- (1) NNM08-1.25 NYLOCK NUT, M8-1.25, CLEAR ZINC
- (1) WF-M08 FLAT WASHER, M8, CLEAR ZINC
- (2) BC5-4-03 BUTTON HEAD BOLT, ¼-20 X .75" LONG
- (2) NNC-02 NYLOCK NUT, ¼-20, CLEAR ZINC
- (1) LTBL-02 BLUE LOCTITE, 2ML TUBE
- (1) 407102 MERCEDES SPRINTER NCV3, DEF TANK MOUNTING BRACKET

Tools Needed

- Simple hand tools:
 - Torque Wrench.
 - Body trim removal tools
 - Basic wrench and socket set:
 - T-25, T-30, T-45 torx
- Metric Sizes:
 - 13mm, 18mm, 19mm
- 4-1/2" Angle grinder with metal cut off wheel.

- 4-1/2" Angle grinder with flap disc, or similar sanding tool for light material removal. A small 3" pneumatic sanding tool works well.
- Die grinder with 1" drum sander or Dremel style tool with a round burr bit of sorts for plastic material trimming.

Approximate Installation Time

- 1-2 hours

Installation (2019-PRESENT VS30 Chassis)

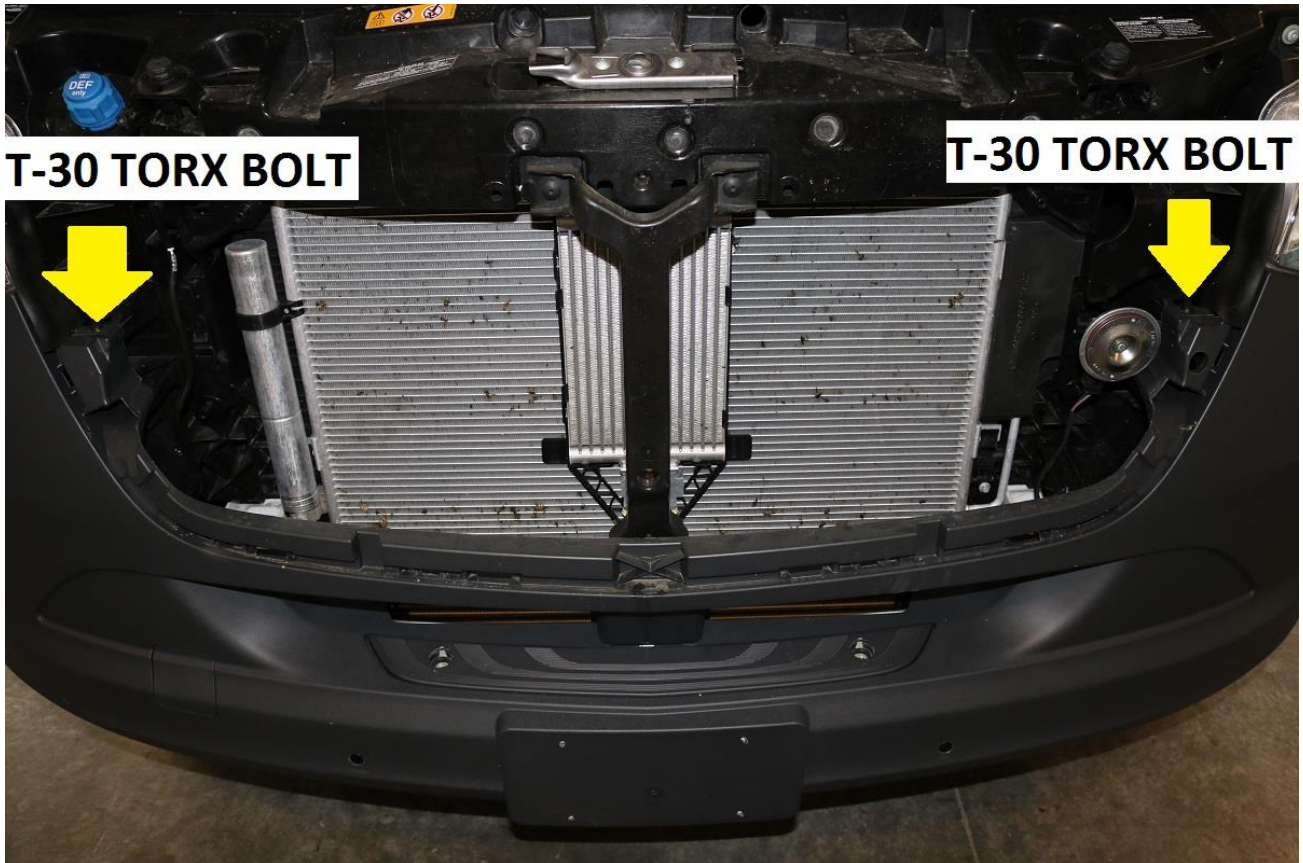
- 1) Begin by opening the hood and locating the three torx head screws securing the grill to the core support. Use a T-25 Torx head socket and remove these three screws. See image below for reference.



- 2) With the upper part of the grill separated, gently pull the top of the grill back to locate and remove the two T-30 torx head bolts securing the top of the bumper cover to the vehicle.
 - a. The first image below shows the T-30 torx bit w/ extension in place. The second image shows the location of the T-30 torx bits on both sides of the vehicle with grill removed for clarity.



**T-30 TORX SCREW
LOCATION ON DRIVER SIDE**



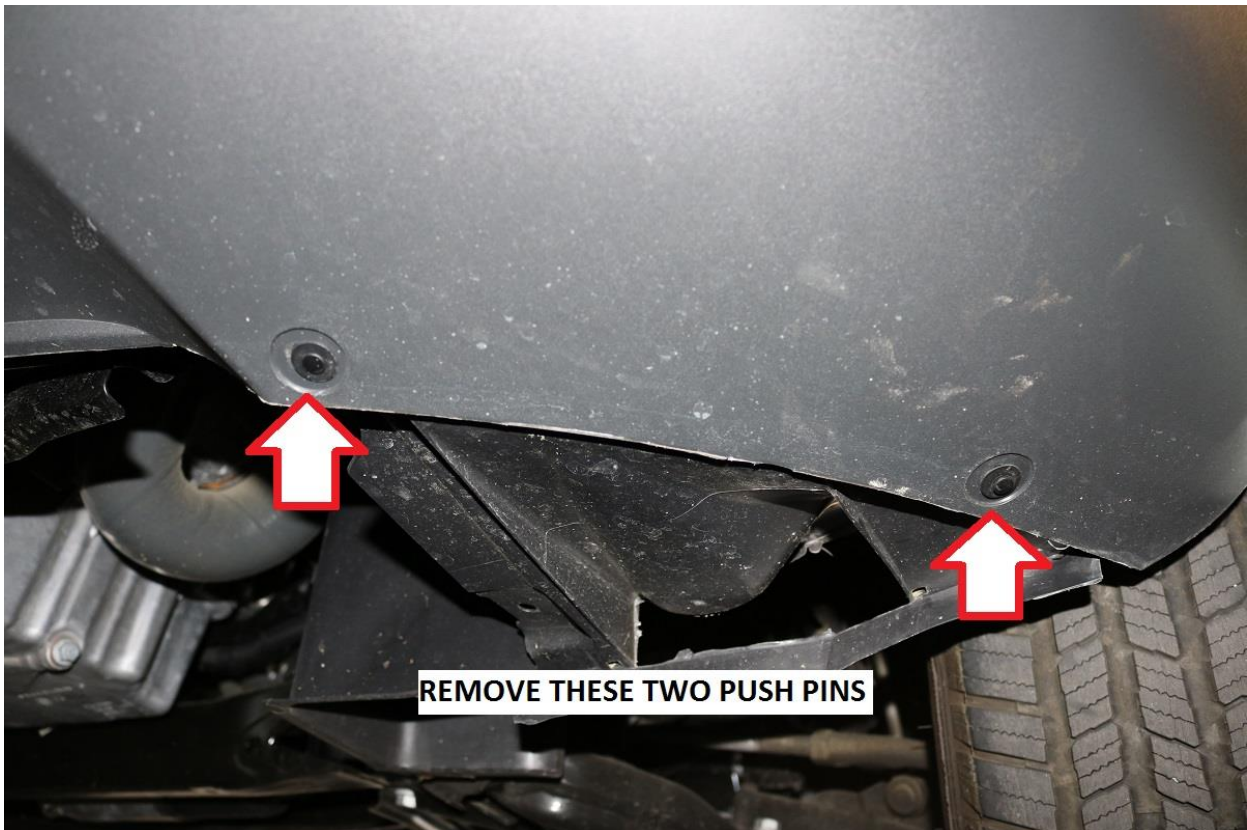
T-30 TORX BOLT

T-30 TORX BOLT

- 3) Use a small flat blade screw driver or automotive trim removal tool to pry up the plastic caps on the front step which will reveal two T-45 torx bolts



- 4) With the caps off, use a T-45 Torx bit to remove the two step bolts.
- 5) Remove the two push pins located near the front bottom side of the bumper which connect the inner fender well to the front bumper. See image below.



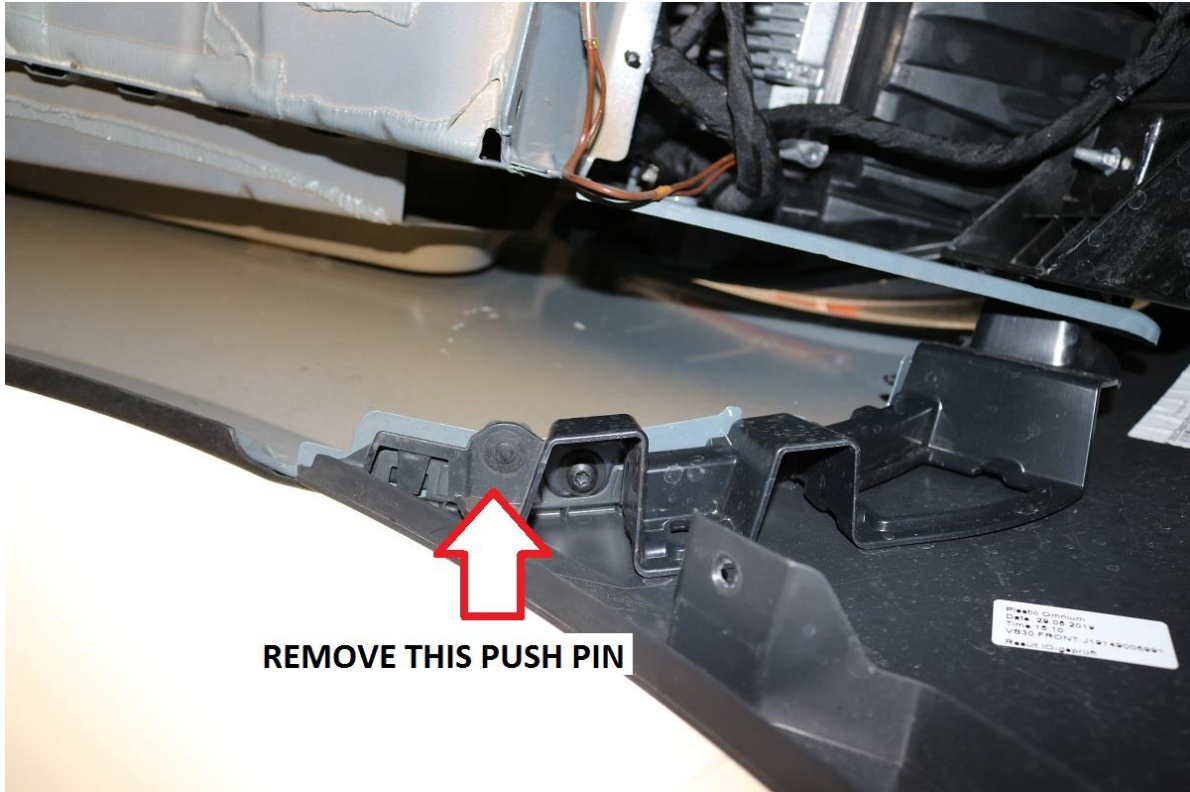
- 6) Use an automotive trim removal tool to pry up under the head of the push pin prior to prying under the body of the fastener to fully remove it.



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



- 8) Look up from the inside of the fender where the plastic bumper cover meets the metal fender and locate the last remaining push pin securing the bumper cover to the vehicle.

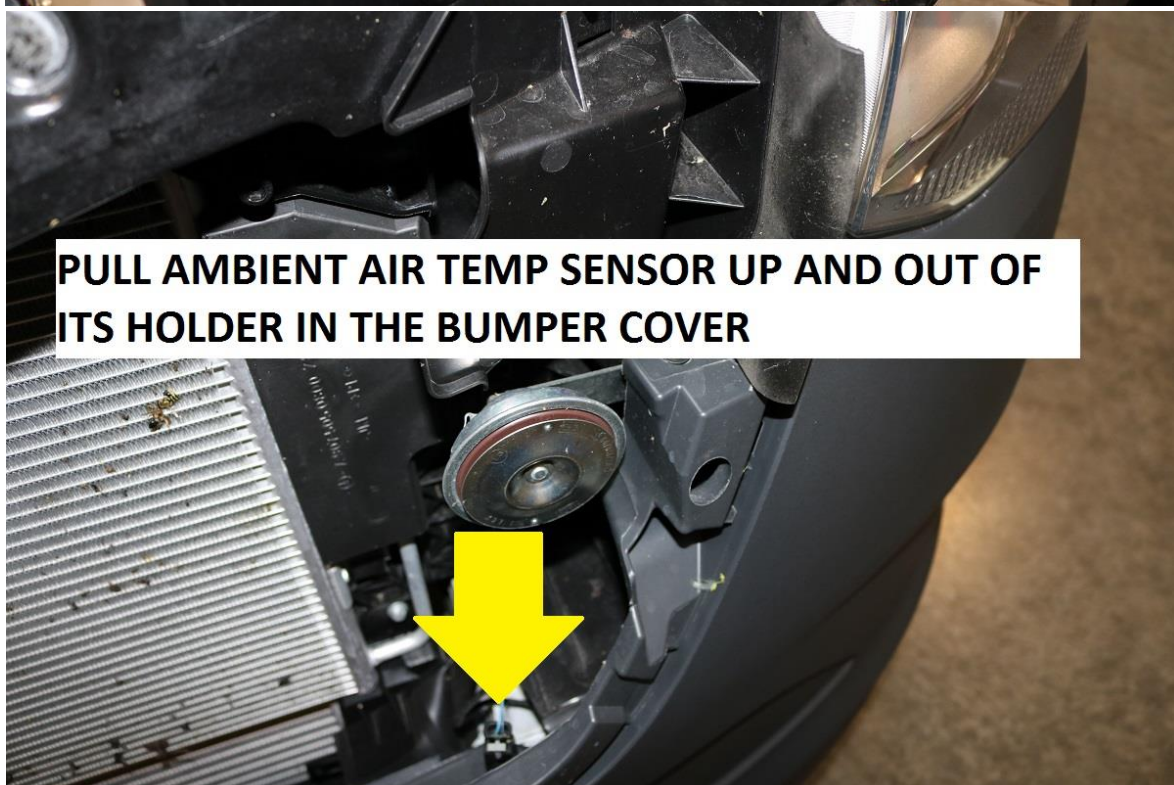
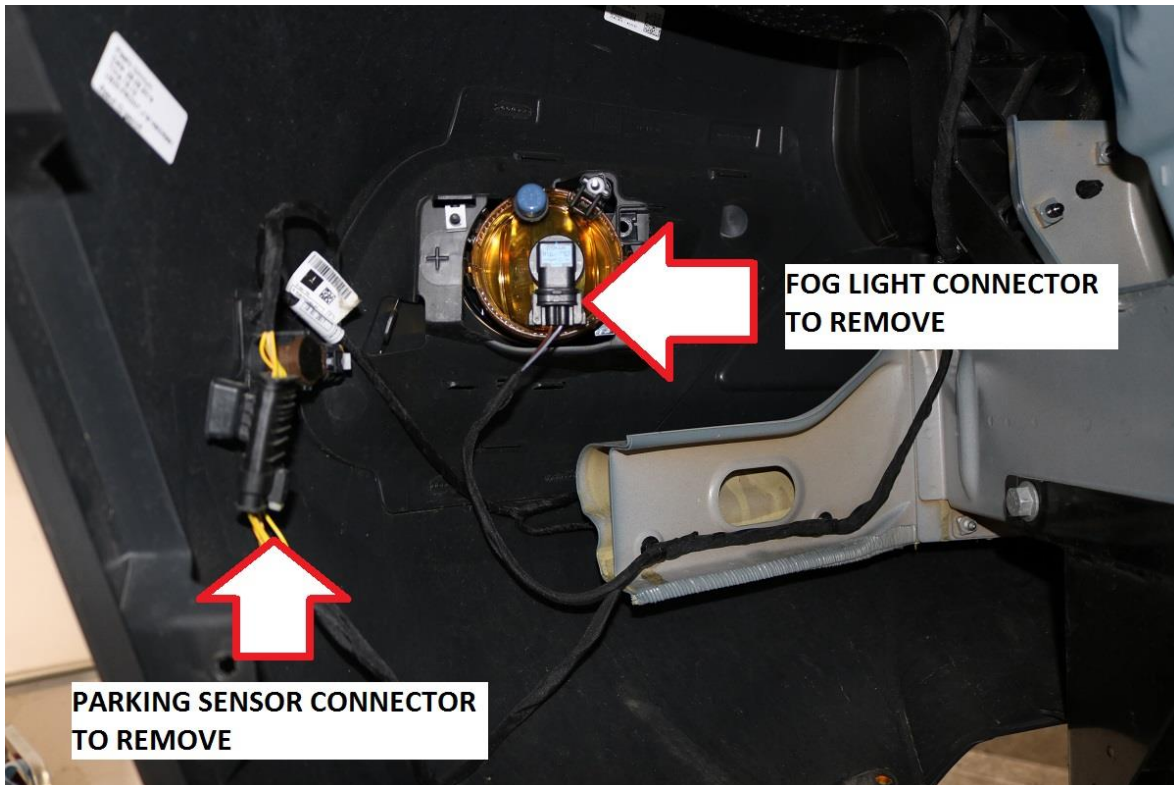


- 9) The plastic bumper cover can now be separated from the vehicle. Pull outwards on the side of the bumper cover where it meets with the bottom of the front fender. See image below for reference.
- a. Support the bottom of the fender when pulling outwards on the bumper cover.

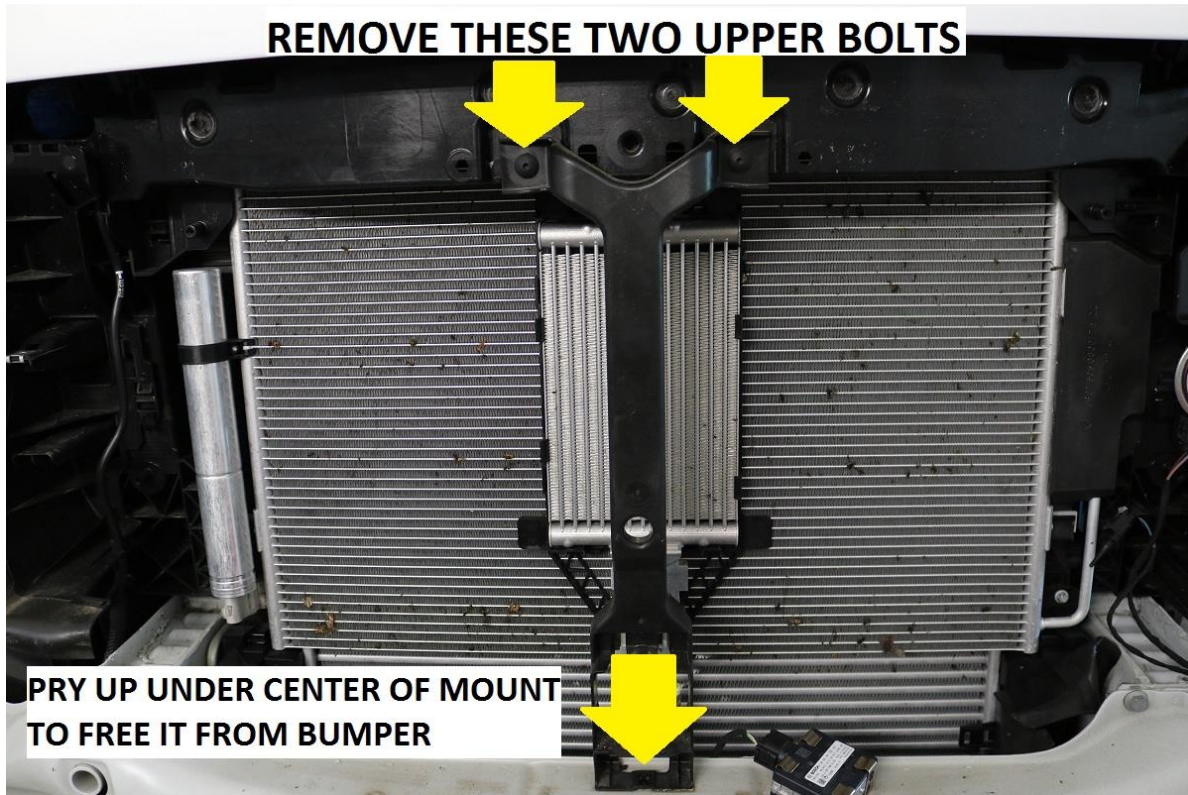


10) As the bumper cover is removed, take note to unplug the front parking sensor wiring on the driver (left hand) side of the bumper cover. There is a weather pack connector to allow for bumper cover removal.

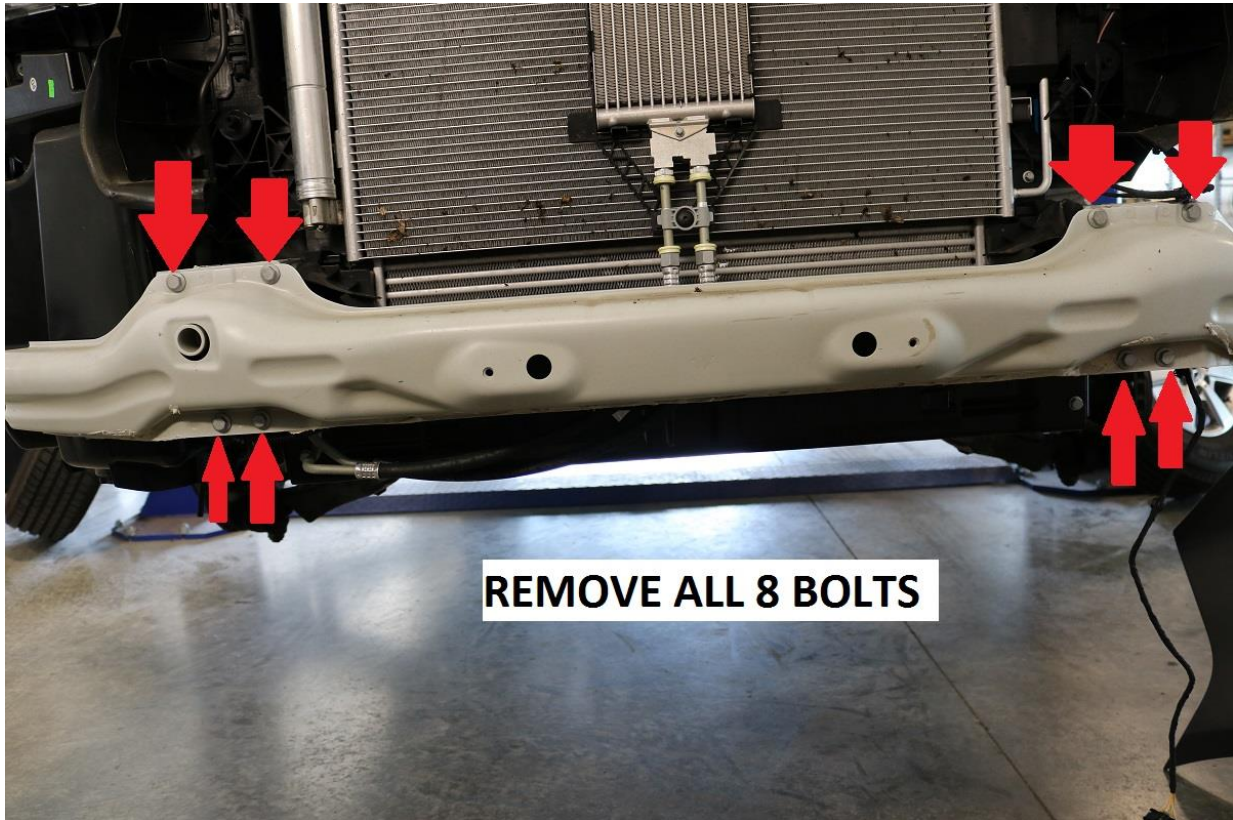
- a. If the vehicle is equipped with factory fog lights, there will be additional connectors to unplug on both sides of the vehicle for the bumper cover to be fully removed.
- b. Locate and remove the ambient air-temp sensor from its holder near the horn on the driver side.



- 11) With the bumper cover removed, separate the bottom of the plastic mounting bracket that holds the adaptive cruise control sensor to the bumper.
- Begin by unbolting the two T-25 Torx bolts at the core support.
 - Once the upper bolts are removed, use an automotive trim removal tool to pry the bottom barb fastener free of the steel bumper and remove the entire plastic mounting piece. See image below for reference.

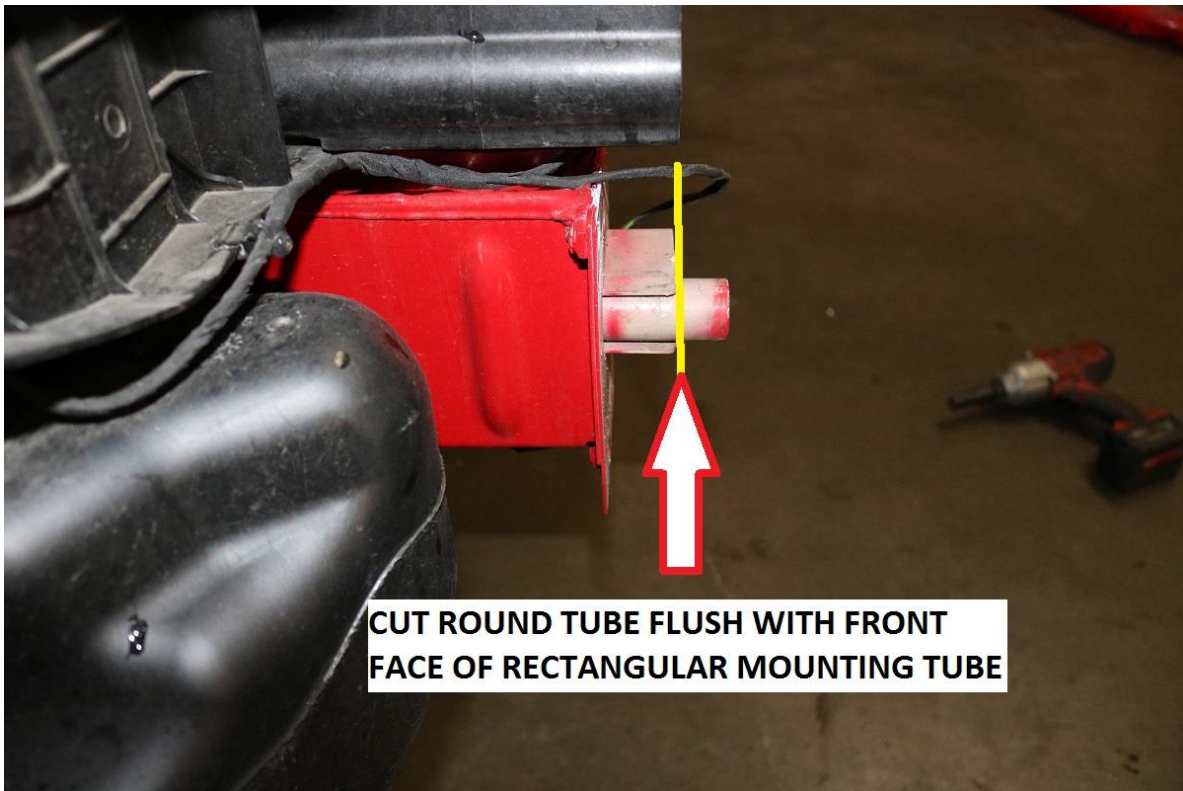


- 12) Temporarily secure this bracket with the sensor somewhere to the core support so the front bumper can be removed. Be careful not to drop the sensor as they are sensitive components.
- 13) Take note of any wiring behind the steel bumper. There are likely a couple plastic barb clips securing the collision sensor wiring to the back of the bumper. Additionally, if the vehicle is equipped with front parking sensors or fog lights, there will be wiring secured to the back of the bumper as well.
- Separate this wiring using an automotive trim removal tool.
- 14) Use a 13mm socket / wrench to remove the steel bumper from the vehicle. Remove all 8 bolts securing it to the chassis.
- Retain all 8 bolts to be re-installed later.
 - Note, some glue / undercoating used during assembly can cause the front bumper to be stuck onto the chassis. A rubber mallet or deadblow will help free it from the vehicle.
 - See image below for reference.

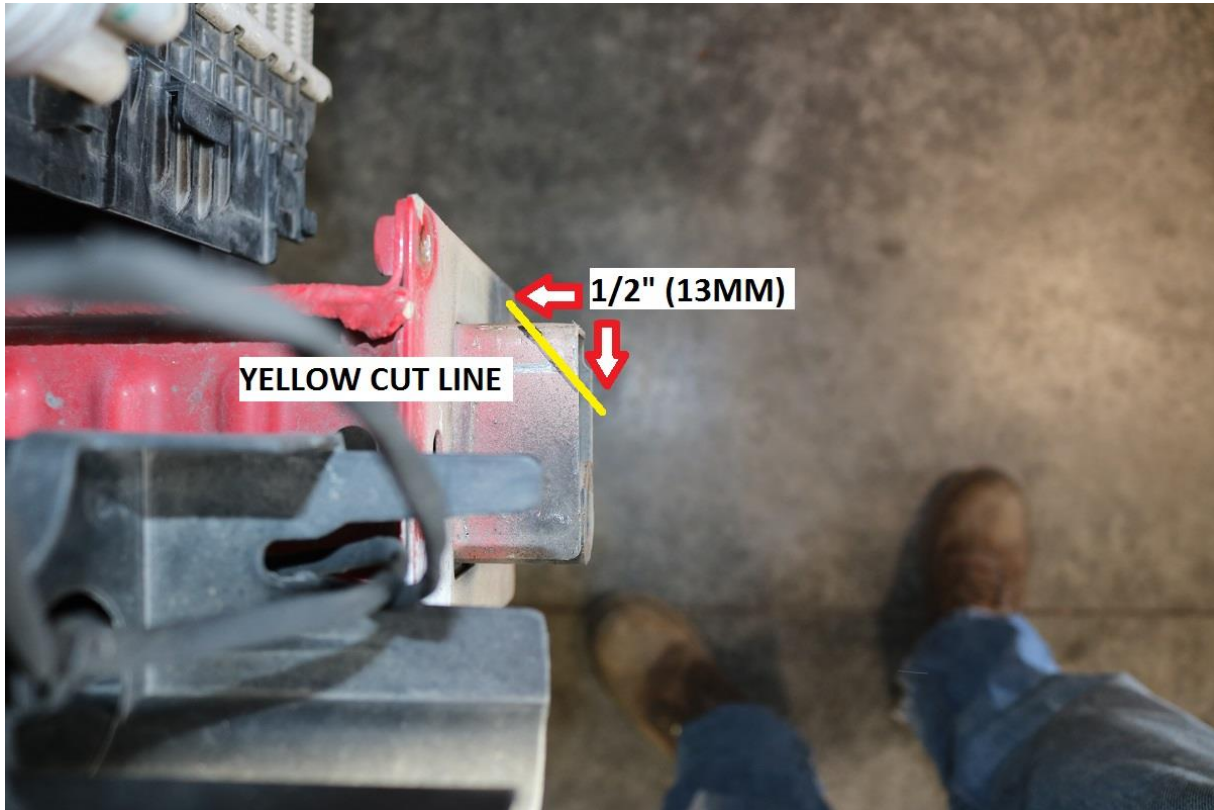


15) Use a metal cutting tool to cut the factory tow point tube flush with the rectangular mounting tube in the chassis. We recommend a 4-1/2" angle grinder with cut off wheel, but a sawzall or similar cutting tool can be used alternatively.

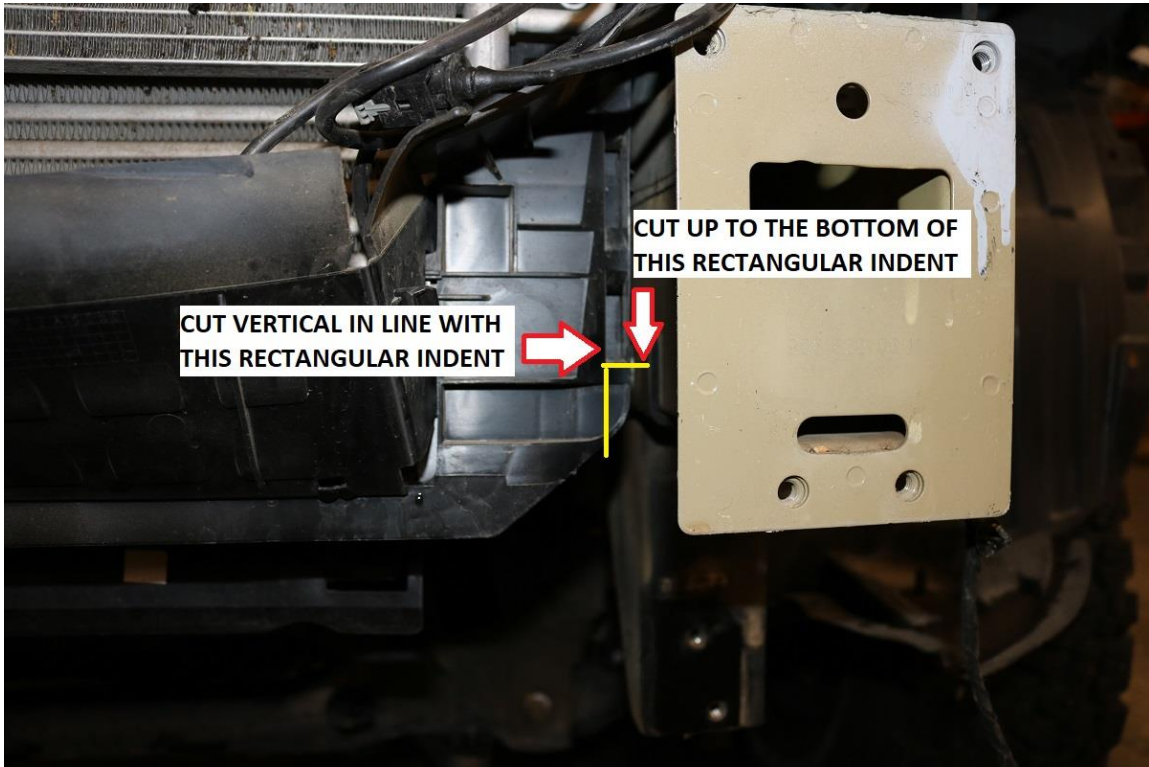
a. See images below for reference.



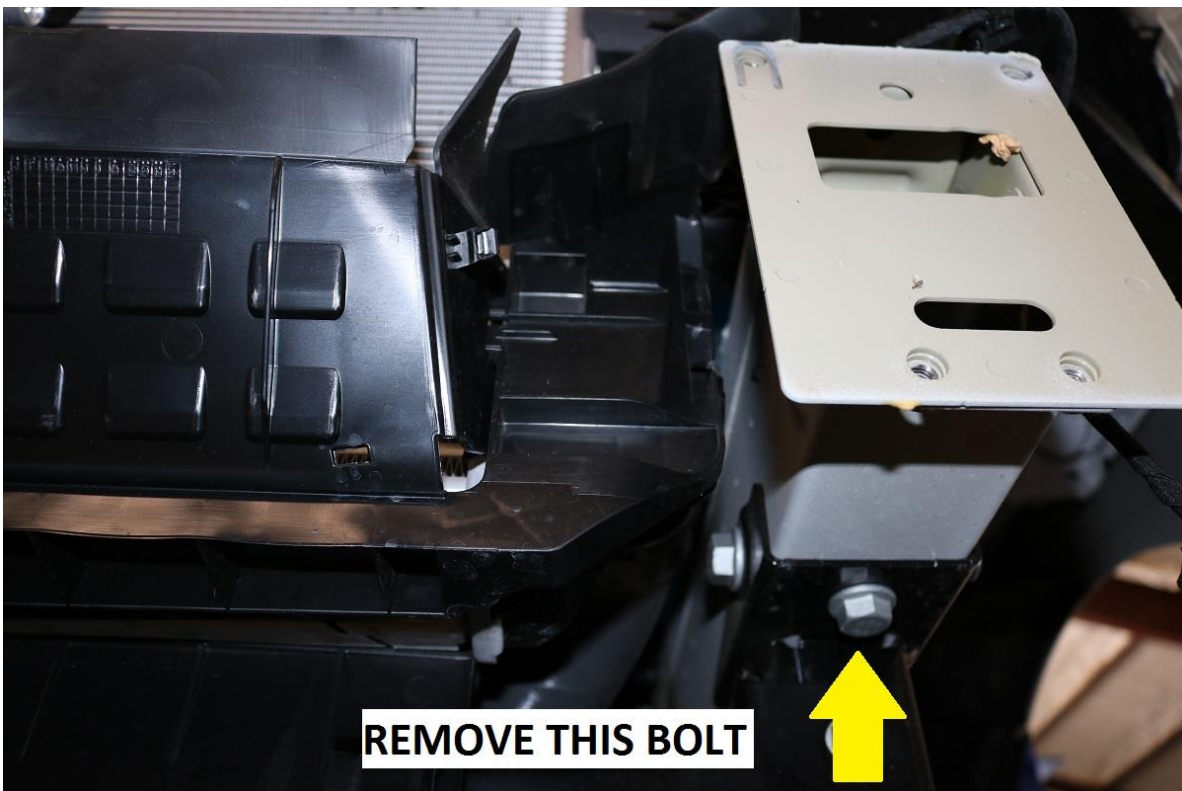
- 16) On the inside edge of the rectangular protrusion of the factory tow point, mark a diagonal cut line $\frac{1}{2}$ " (13mm) back and $\frac{1}{2}$ " outwards and cut the inner corner piece off the rectangular mounting tube of the tow point.
- a. See image below for reference.



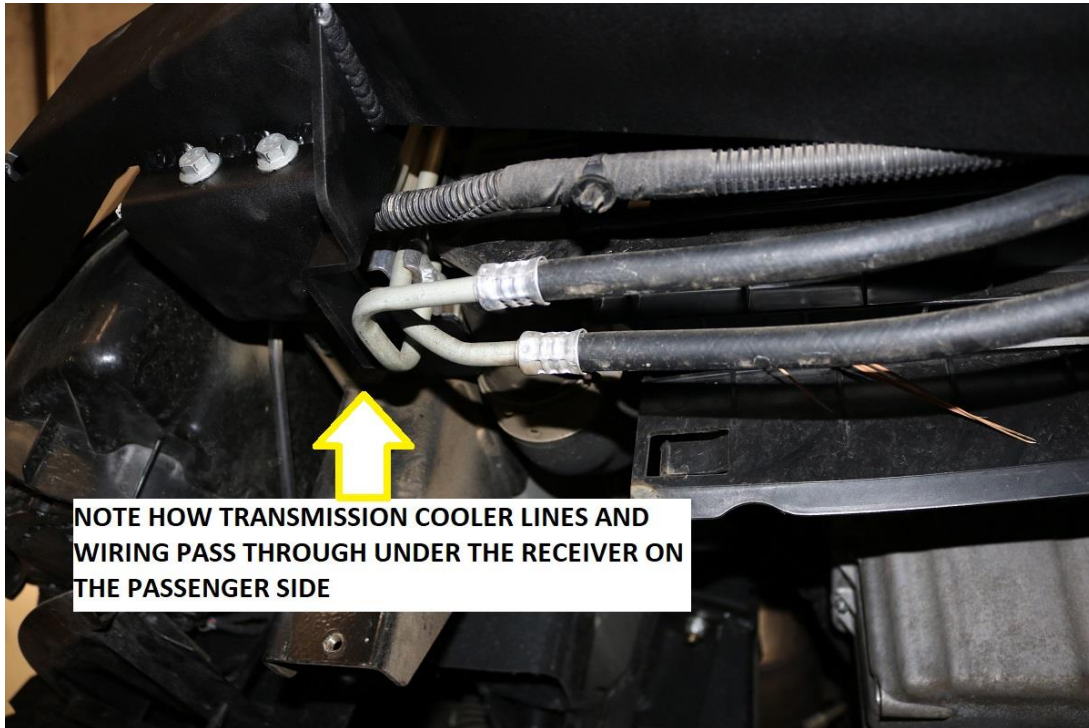
- 17) After cutting and cleaning up any rough cut edges, paint any exposed areas of bare metal with a quality paint to prevent corrosion.
- 18) A small piece of the intercooler and lower air damn needs to be trimmed for the receiver to fit. See the following two images below for cut reference. The cut only needs to be made on the driver (left hand) side of the vehicle.
- a. After cutting, deburr any rough edges of plastic with a small Dremel or file.



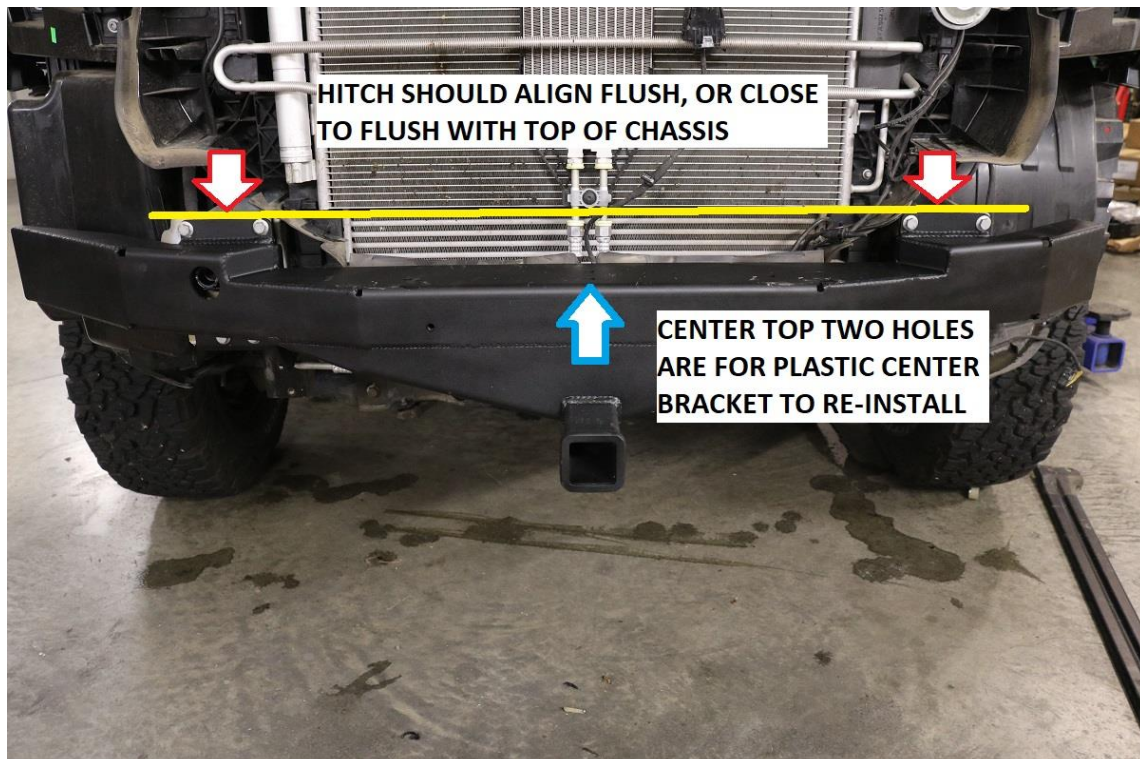
- 19) On the underside of the chassis, just behind the front attachment point of the steel bumper, locate the lower bolt of the front over run mount. Use an 18mm socket / wrench to remove the bolt on each side of the vehicle.
- Note; most 2500 vans will have this bolt in place. On 3500 vehicles, there are typically no overrun mounts fitted, but the bottom threaded hole for them will be in the chassis. Our kit includes new bolts to tie the winch mount into this location.
 - See image below for reference.



- 20) Fit the front hitch to the vehicle. It is helpful to have another person aide in fitting the mount to the vehicle. Take care to clear the transmission cooler lines on the passenger (right hand) side.
- Start one of the OEM bumper bolts removed in step 21 on each side of the hitch so it is held in place.



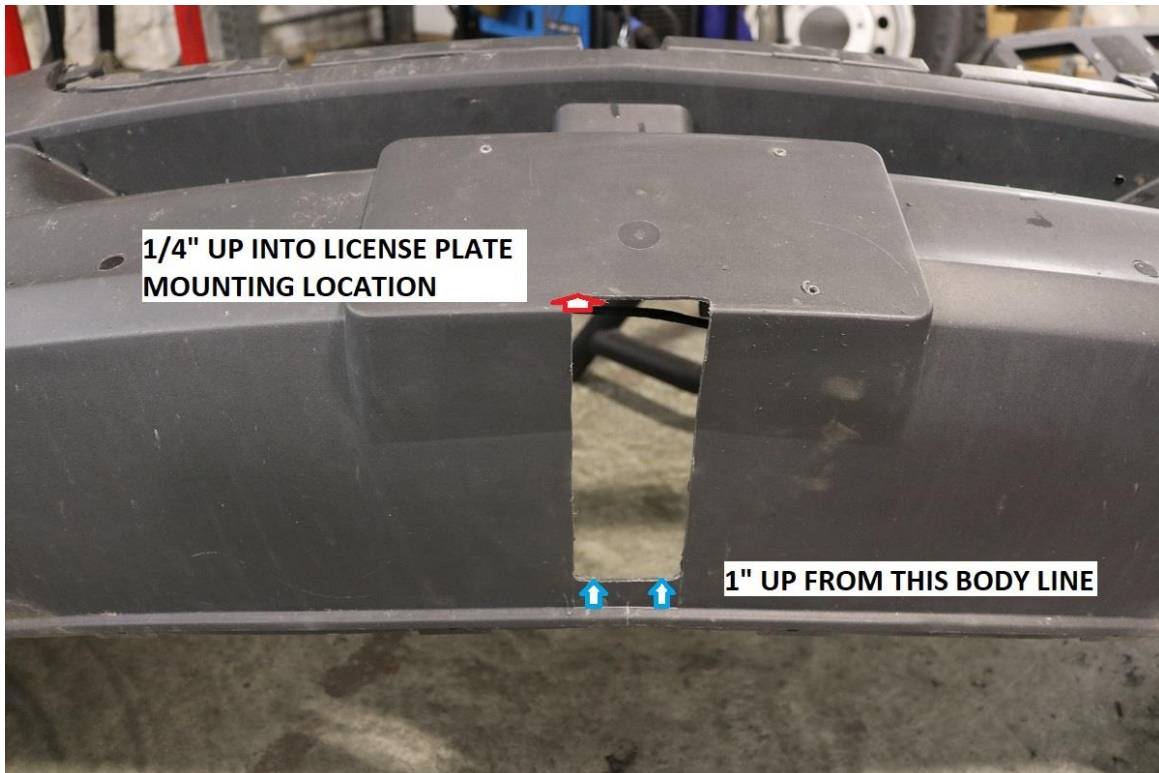
- Install the 6 remaining 13mm bumper bolts. Start all bolts but do not tighten at this time.
- Move to the underside of the winch mount and install the new included M12-1.50 x 40mm long bolts provided in the kit. Use a washer under the bolt head. Again, do not fully tighten at this time.
- Pull the top of the hitch up as high as it will go. It should end up approximately flush with the top of the front chassis mounts. Tighten the 13mm front bolts to 25 ft-lbs (34 N.m)



- 24) Move to the underside of the winch mount and torque the M12 bolts in the over run mounts. Use a 19mm socket / wrench and torque the bolts to 52 ft-lbs (70 N.m)
- 25) Reinstall the plastic center bracket which holds the adaptive cruise control sensor. Clip it into the rear mounting hole on the top of the hitch.
 - a. Use the same T-25 Torx bolts to re-secure it to the core support.
- 26) The front hitch is now installed. Now it is time to make the cuts in the plastic front bumper cover for the hitch to protrude through.
- 27) On the backside of bumper cover, sand off the tab circled in the image below so it is flush.



- 28) Mark on center a 2-3/4" wide rectangle as shown in the image below.
 - a. The top of the cut out should be approximately 1/4" (6.5mm) above the bottom of the license plate protrusion.
 - b. The bottom of the cut should be approximately 1" (25mm) from the lower air damn.



- 29) Re-install the front bumper cover in the reverse order of removal. Remember to plug in all electrical components.
 - a. Fog Lights
 - b. Ambient air temperature sensor.
 - c. Parking sensors
- 30) Re-install the two T-45 Torx bolts removed in Step 7.
- 31) Re-install the grill with all corresponding fasteners.
- 32) Note the license plate will either need to be trimmed slightly along the bottom edge or moved up $\frac{1}{4}$ " (6.5mm). We recommend moving it up $\frac{1}{4}$ " and drilling new mounting holes.



Installation is Complete for VS30 Chassis.

Installation (2014-2018 NCV3 Chassis)

- 33) 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.



- 34) 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.

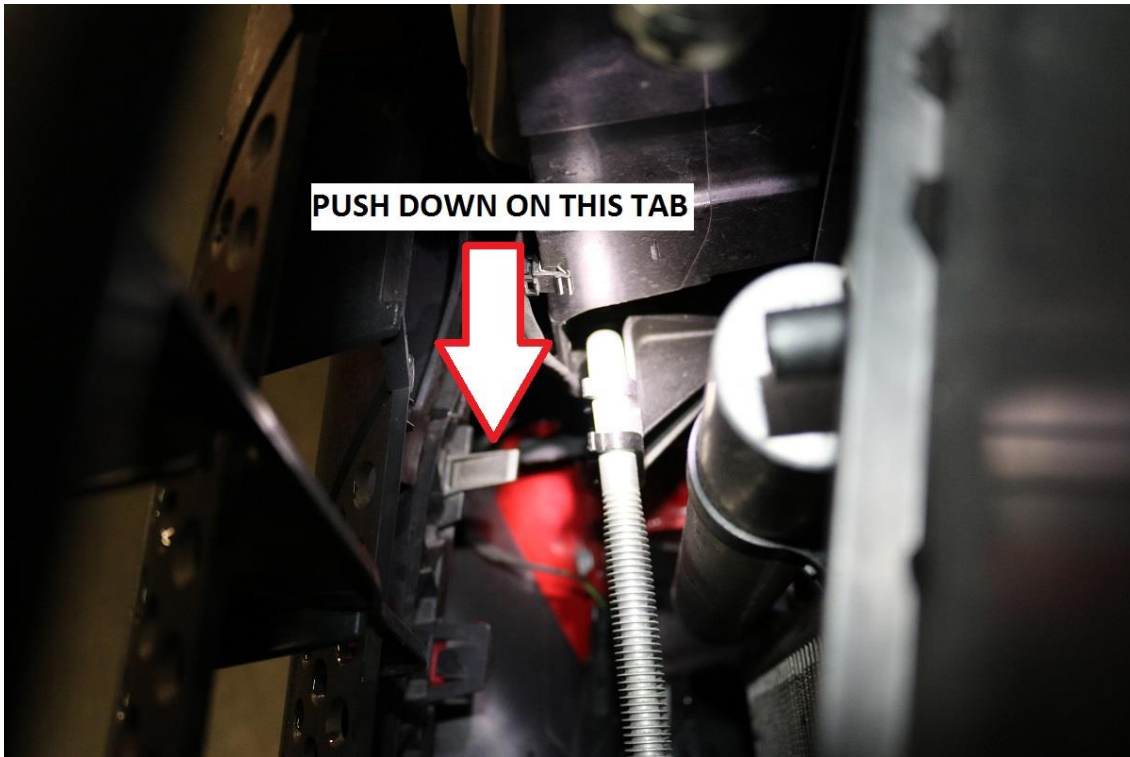




35) With the upper part of the grill separated, gently pull the top of the grill back and locate the four tabs which secure the bottom of the grill to the van.



36) 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.



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



38) This style of push pin is a 2 step removal process.

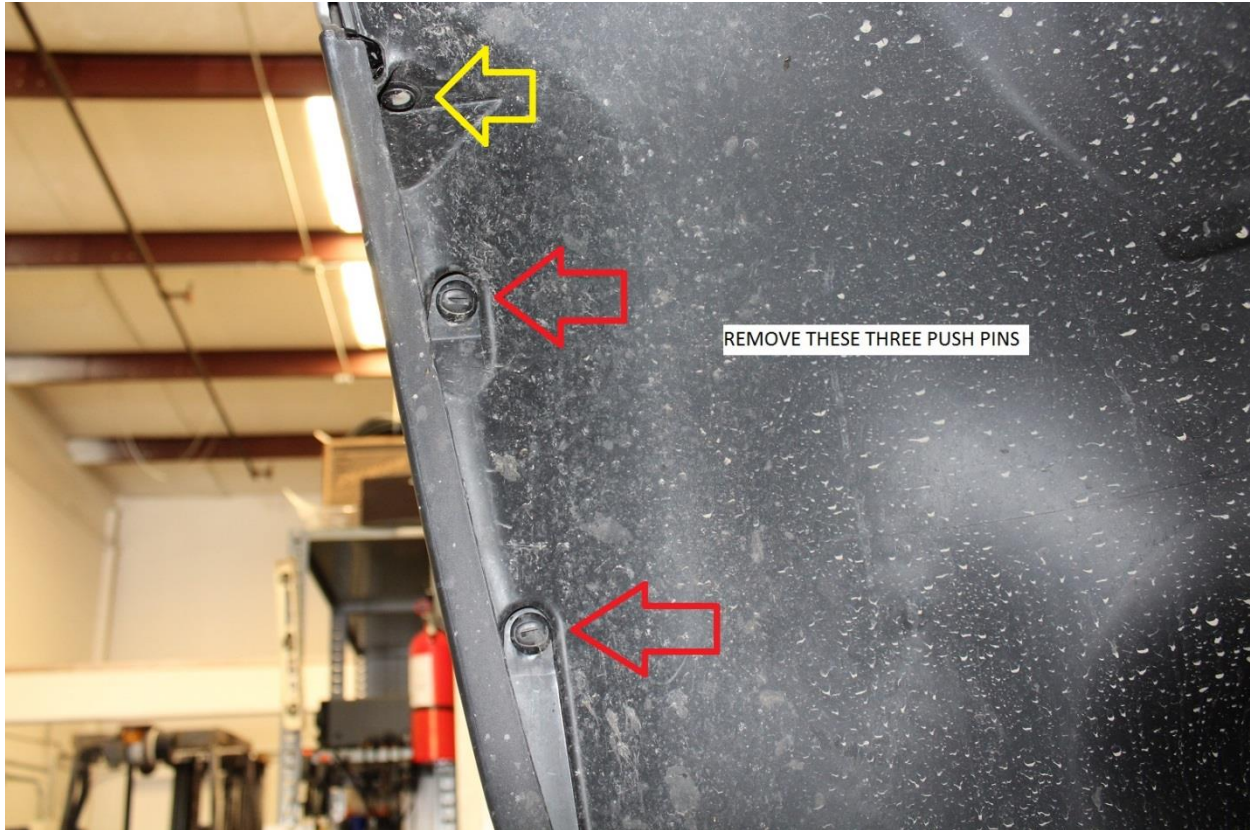
c. Use an automotive trim removal tool, pull up the head of the push pin.



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



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



41) Again, make sure to remove these pins on both sides of the vehicle.



42) 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.

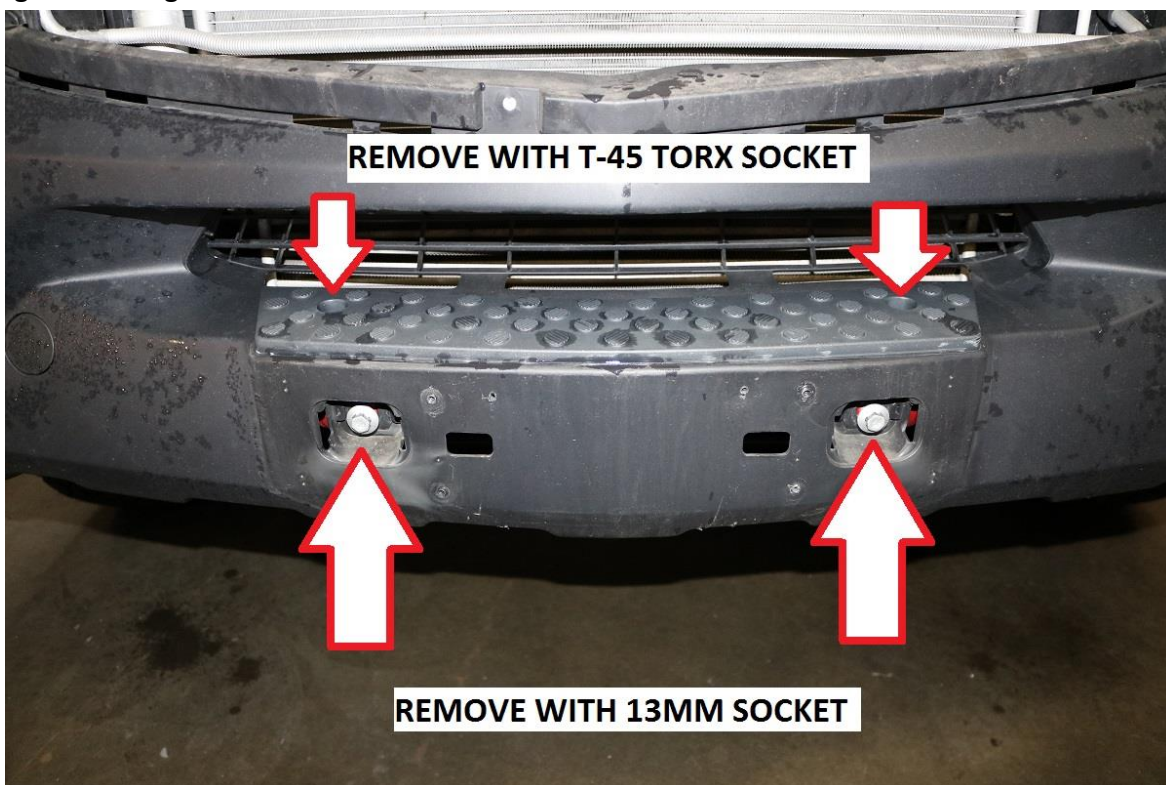
d. At this time, also remove the front license plate and license plate mount if equipped. The license plate is usually secured to the vehicle with Phillips head screws.

- e. The license plate mount is typically secured to the vehicle with either Phillips head screws or T-20 torx head bolts.



- 43) 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.

- f. Now is also a good time to remove the T-45 torx head bolts securing the top step to the vehicle.
g. See image below for reference.



44) 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.



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



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

47) 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.



48) Remove the bumper cover from the vehicle.

49) Remove the bolt securing the DEF tank to the main bumper. Use a 13mm socket / wrench for removal.

50) Remove the 8 bolts securing the bumper to the vehicle. Again, use a 13mm socket / wrench for removal. See image below for reference.

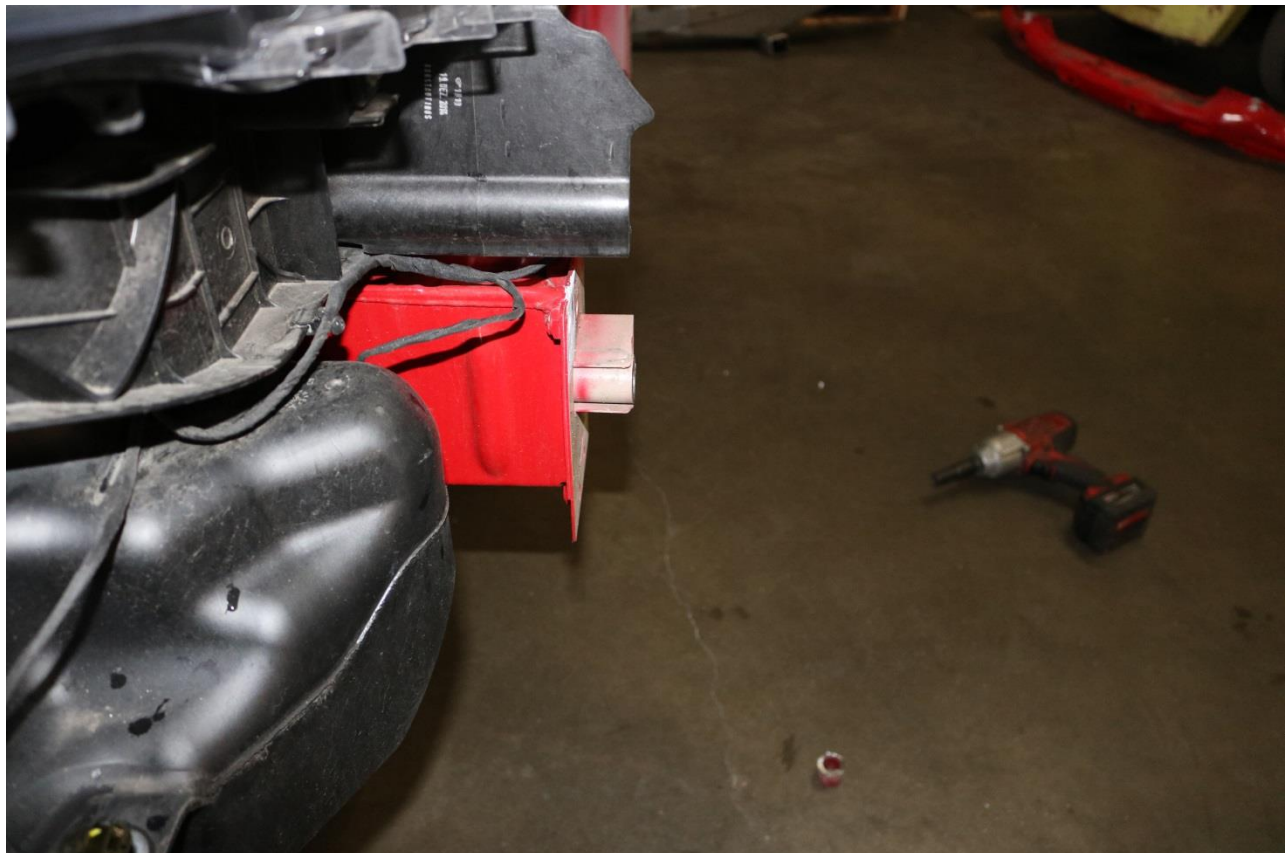
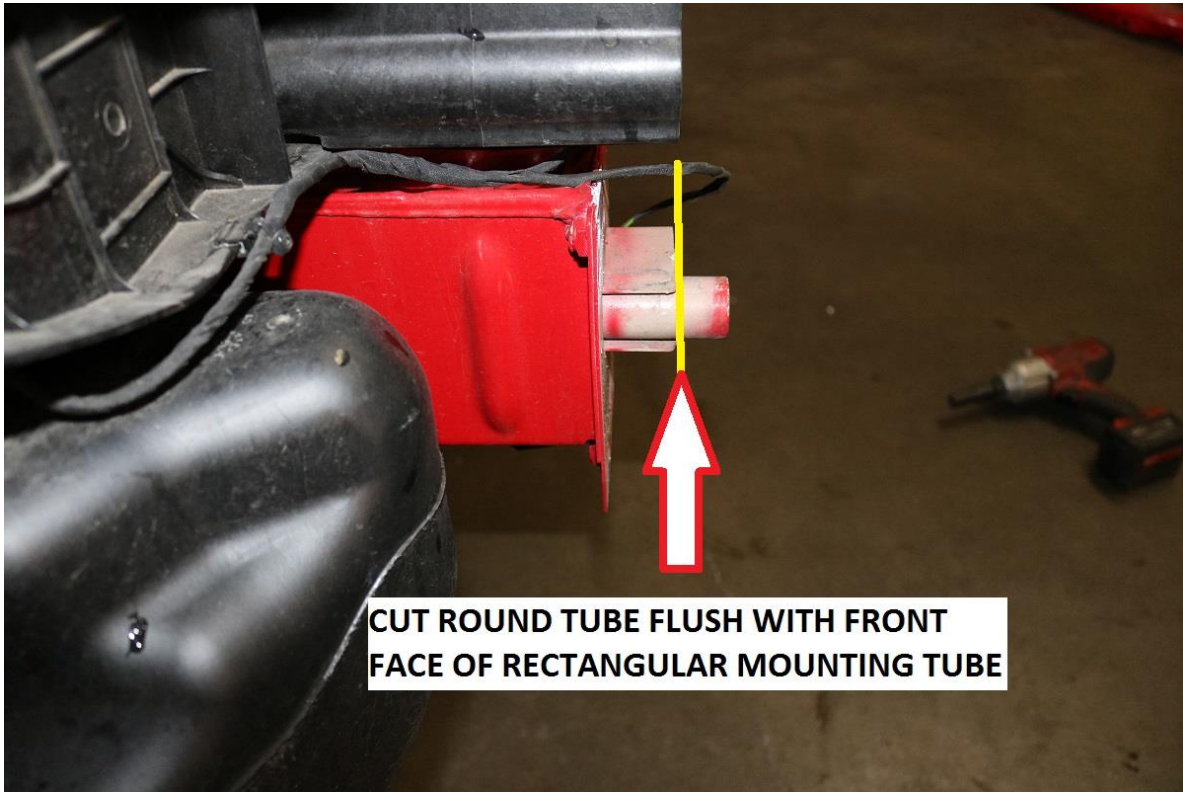


51) Remove bumper from vehicle. Note, some of the glue / undercoating used during assembly can cause the front bumper to be stuck onto the chassis. A rubber mallet or deadblow will help free it from the vehicle.



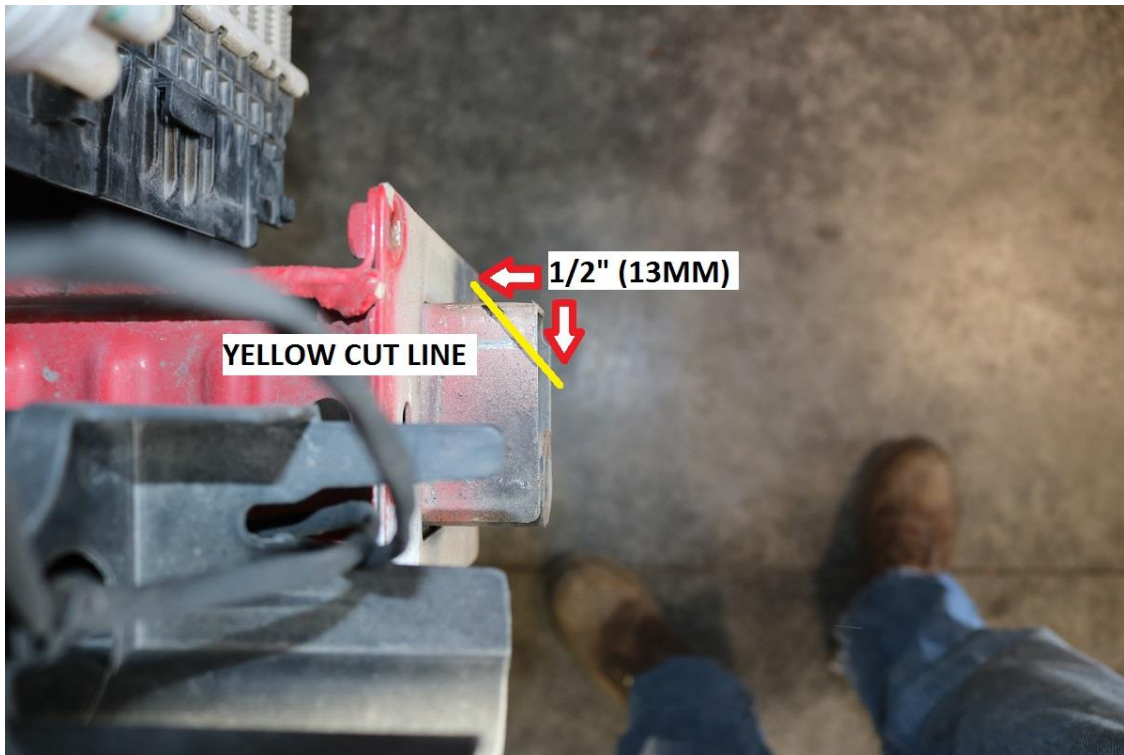
52) Using a metal cutting tool to cut the factory tow point tube flush with the rectangular mounting tube in the chassis. We recommend a 4-1/2" angle grinder with cut off wheel, but a sawzall or similar cutting tool can be used alternatively.

h. See images below for reference.



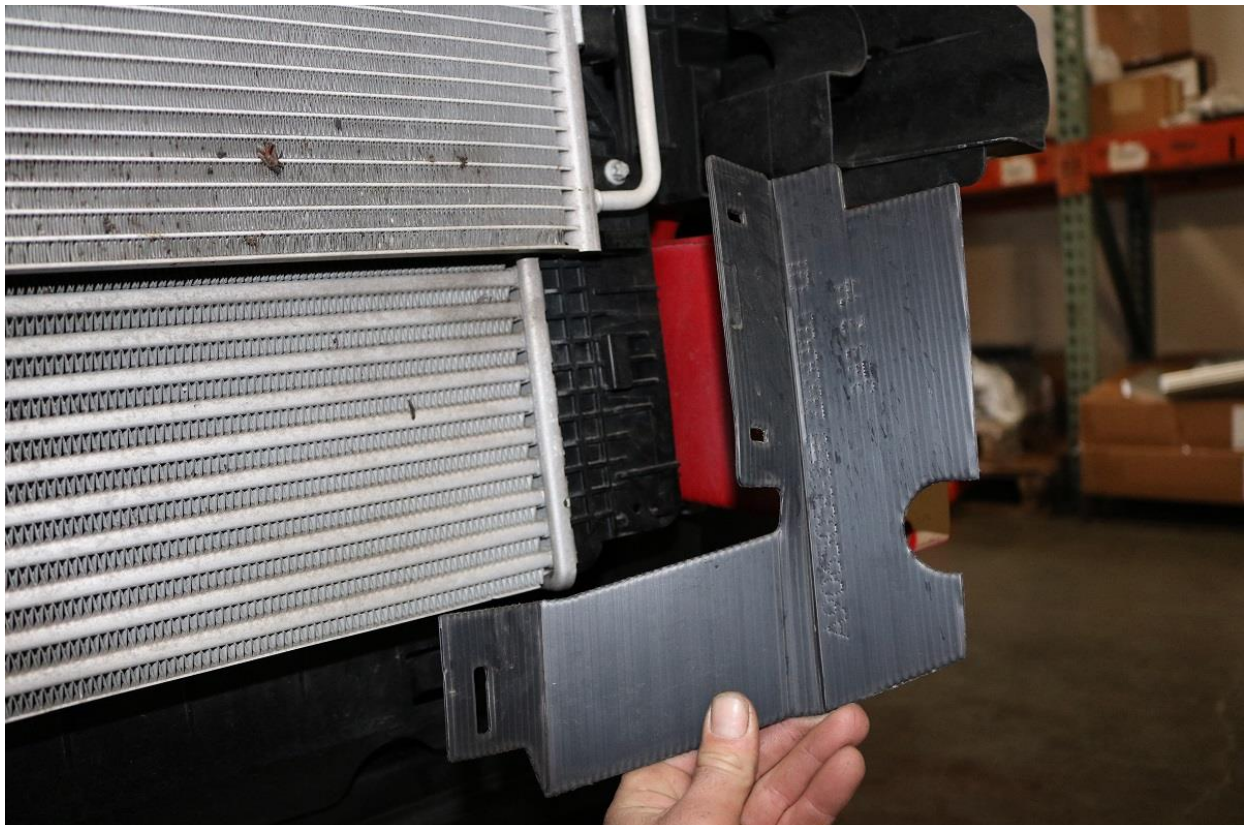
53) Next, on the inside edge of the rectangular protrusion of the factory tow point, mark a diagonal cut line $\frac{1}{2}$ " (13mm) back and $\frac{1}{2}$ " outwards and cut the inner corner piece off the rectangular mounting tube of the tow point.

i. See image below for reference.

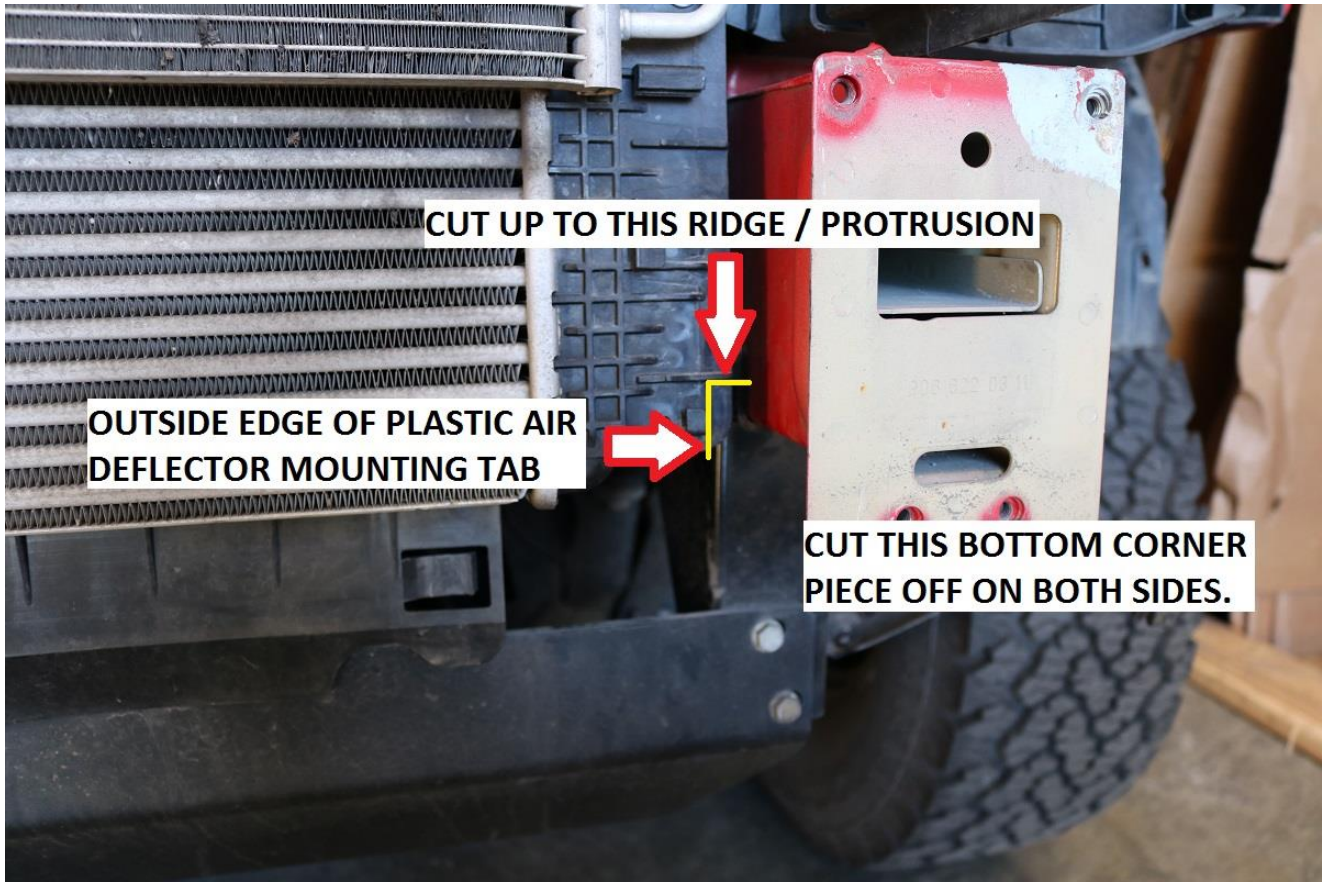


54) After cutting and cleaning up any rough cut edges, paint any exposed areas of bare metal with a quality paint to prevent corrosion.

55) Remove the plastic / cardboard air deflector pieces at the lower corners of the radiator / intercooler.

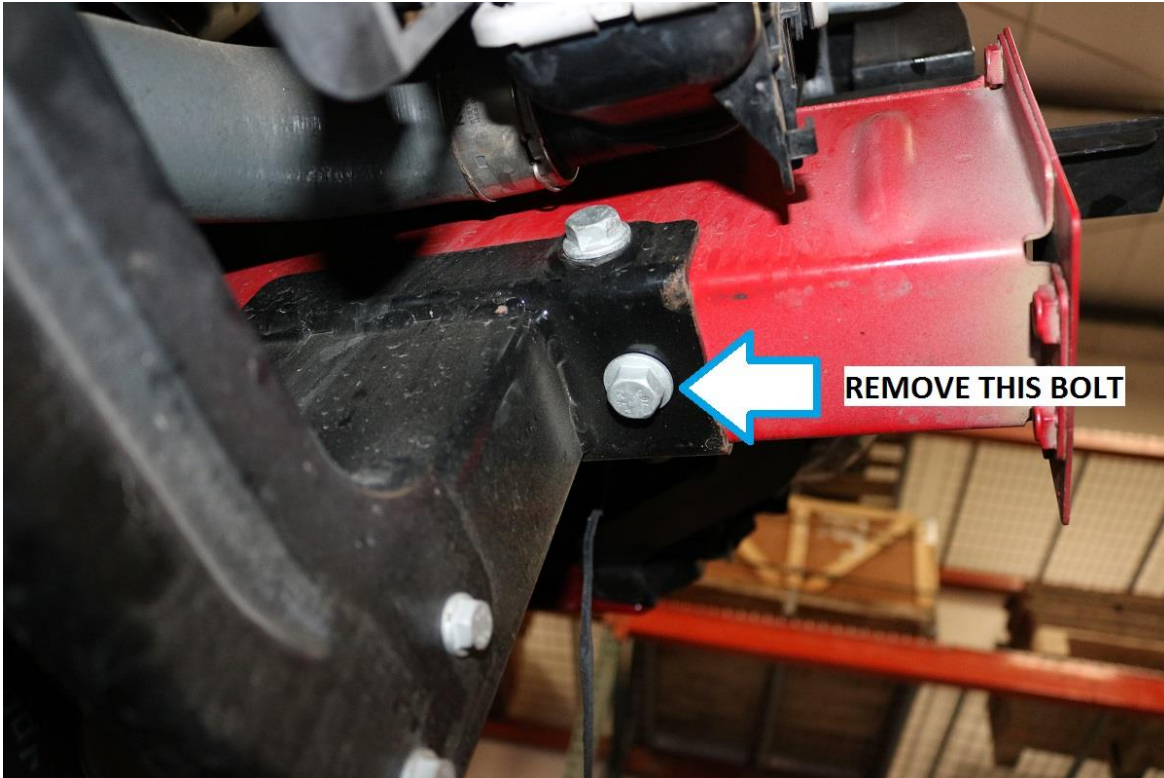


56) A small piece of the intercooler needs to be trimmed for the hitch to fit. See the following two images below for cut reference.



57) Remove the lower bolts on the front over run mounts. Use an 18mm wrench for removal.

- j. Note, older models and 3500 models will not have a bolt located on the driver (left hand) side of the vehicle.



58) Install the front hitch; be sure the DEF tank outer mounting point is sitting on top of the hitch.

- k. The hitch should be positioned between the frame and lower DEF tank mounting bolt. See image below for reference. Note, the factory shoulder washer is removed in the image below.

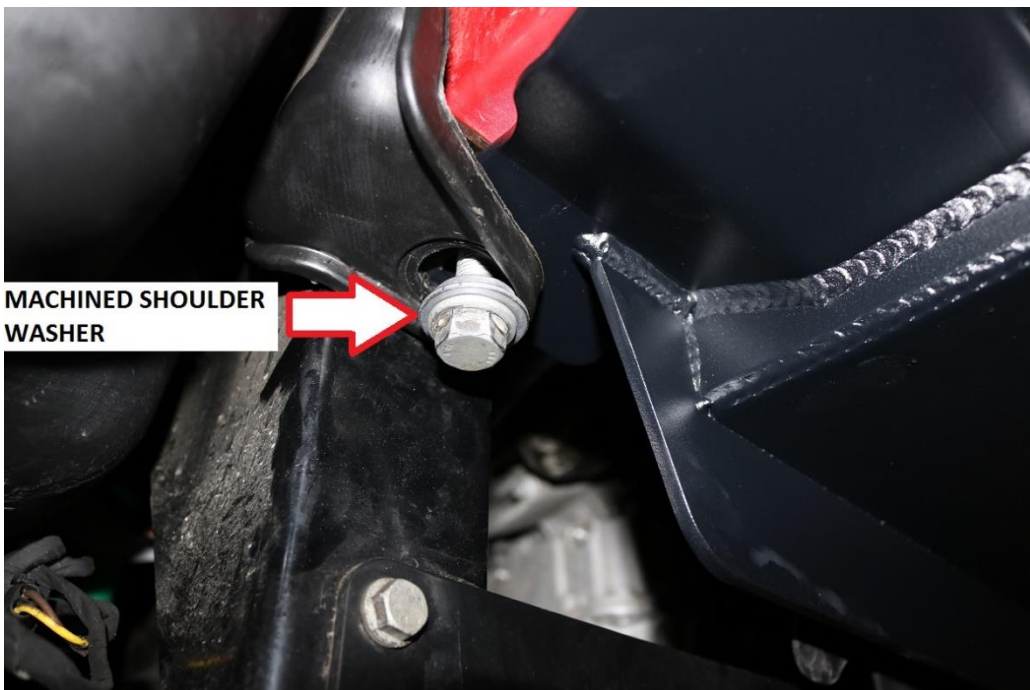


59) Secure the hitch to the chassis using the included M8-1.25 bolts. Be sure to use a dab of blue Loctite on all hardware. Start and snug down all the front hardware first. Use a 13mm socket / wrench for installation.

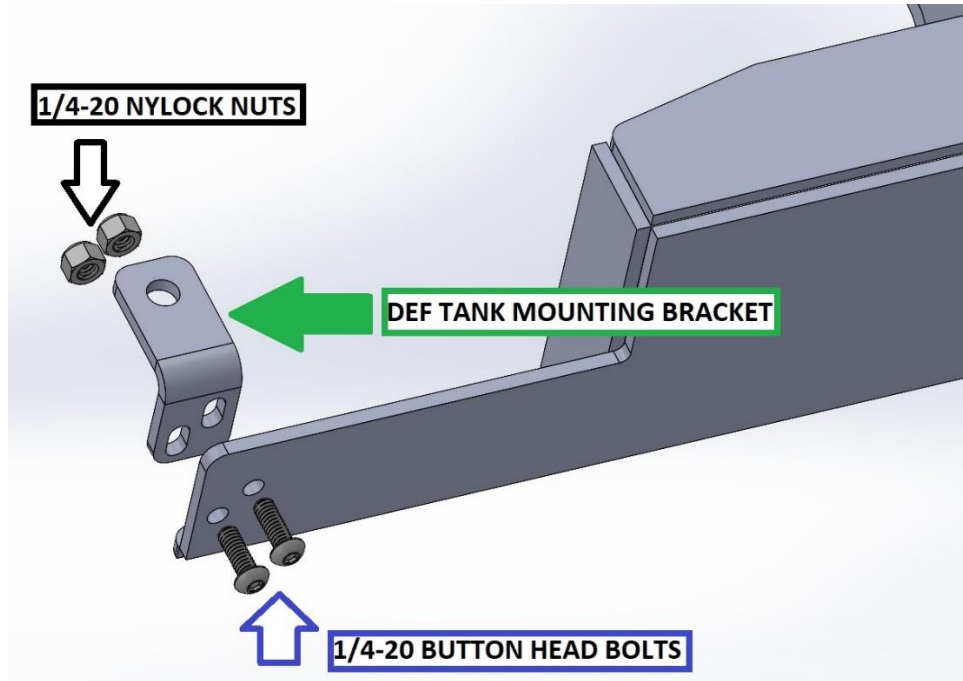
- I. Note, the front holes are oversized the same as the factory bumper holes were. Try to align the top mounting plates of the hitch with the top mounts on the chassis. See image below for reference.



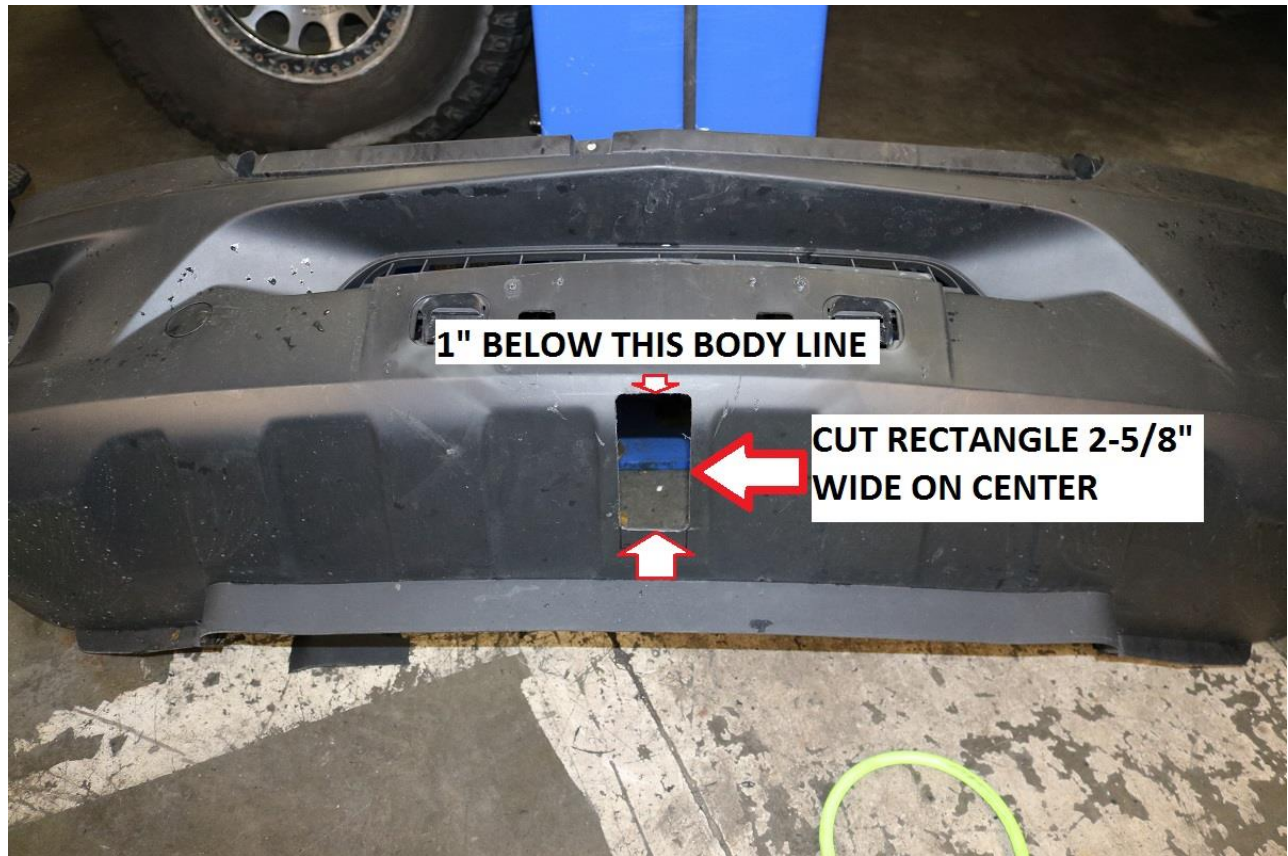
60) Install the included M12-1.50 x 40mm long bolts in replace of the lower over run bolts removed in step 25. Note, it is easier to align the lower DEF tank mounting bolt from by unseating the machined shoulder washer and installing it on the bolt rather than try to align the DEF tank with the winch mount. Be sure to use an included washer under the bolt head. Again, use a dab of blue Loctite on the threads.



- 61) Fit the 407102 DEF tank mounting bracket to the passenger side of the front hitch.
- Use the 1/4-20 x .750" long button head bolts provided.
 - Start the 1/4-20 nylock nut on the backside and snug the hardware just to the point where the bracket can still be adjusted up & down.
- 62) Secure the DEF tank the mounting bracket utilizing the OEM M8 bolt removed in step 49 and the included M8-1.25 nylock nut with washer under the nut.



- 63) Snug all bolts but do not fully tighten.
- 64) Torque the lower over run bolts with an 18mm socket / wrench to 52 ft-lbs (70 N.m).
- 65) Torque the smaller bolts (13mm wrench size) to 22 ft-lbs (30 N.m).
- 66) The front hitch is installed. Now it is time to make the cut in the front bumper cover for the hitch to protrude through.
- 67) Mark on center a 2-5/8" wide by 7" long (66mm X 178mm) rectangle as shown in the image below.
- The top of the cut out should be approximately 1" (25mm) from the bottom of the main center body line of the front bumper cover.
 - The bottom of the cut out should be approximately 2-1/2" (64mm) from the lower air damn.



68) Separate the front step tread plate from the front bumper cover. On the underside of the step tread plate there are two portions of the mount which need to be removed. At the outer ends of the front mounting surface of the step tread, locate the outer portions which bend towards the front mounting surface of the tread plate.



69) Use a small air sander, or angle grinder with sanding disc, or a Dremel style tool to remove these “wings.” This will allow the tread plate to sit flat on the front hitch. See images below for reference of the finished modification.



70) Check fit the step tread plate on the front hitch to make sure the holes line up properly in the hitch.



71) Snap the step tread plate back into place on the front bumper cover and re-install the front bumper cover in the reverse order of removal.

72) Remember to plug in all electrical components.

- o. Fog lights.
- p. Module on back side of bumper (see step 16)
- q. Ambient air temperature sensor

73) Re-install the two torx head bolts removed in step 11.

74) Re-install the grill along with all corresponding fasteners.

75) Trim the license plate mount as shown below.



76) Note; the license plate may need to be shifted up slightly to clear the front receiver tube. The plate will need to be shifted up even higher if a license plate frame is desired. We do not recommend installing a license plate frame with the front hitch.

- r. We have found the easiest way to shift the license plate up is to enlarge the mounting holes of the license plate to approximately 3/8" (10mm).

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 in compliance. 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.