



7208 – 2007-2016, MERCEDES SPRINTER NCV3, REAR OPTI-RATE 2.0” LIFT KIT

Version 1.0

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 lift kit that can be installed with basic hand tools. Four, ¼” diameter holes need to be drilled for attaching brackets to the vehicle. Two, 11/32” diameter holes will also need to be drilled to relocate the emergency brake cable brackets.
- The installation of this lift kit will require removal of brake hoses to install brake line drop brackets. Bleeding the brake system will be required.
- This suspension kit can be completely removed, allowing the vehicle to be returned back to stock configuration if desired.
- The “Opti-rate” springs in this kit ship in their fully assembled “Max Spring Rate” configuration. Refer to the spring configuration chart at the end of these instructions to set-up the springs properly per the weight of the vehicle.
 - Note, the chart is to be used as a guide, ultimately it is up to the installer & end user to tailor the springs to their liking for both ride quality and ride height.

Parts List

4008 – 2007-2016, MERCEDES SPRINTER NCV3, REAR BRAKE LINE DROP BRACKET, 2.0” LIFT KIT

- | | |
|-------------------------|---|
| • (2) 400801 | REAR BRAKE LINE DROP BRACKET, 2.0” LIFT |
| • (2) HM06-1.00-25-10.9 | M6-1.00 X 25MM LONG, GR10.9, YELLOW ZINC HEX HEAD BOLT |
| • (2) NNM06-1.00 | M6-1.00 NYLOCK NUT, CLEAR ZINC |
| • (4) WFM06 | M6 YELLOW ZINC FLAT WASHER |
| • (2) HM12-1.50-25-10.9 | M12-1.50 X 25MM LONG, GR10.9, YELLOW ZINC HEX HEAD BOLT |
| • (2) NNM12-1.50 | M12-1.50 NYLOCK NUT, CLEAR ZINC |
| • (2)WFM12 | M12 YELLOW ZINC FLAT WASHER |

3078 – 2007-PRESENT, MERCEDES SPRINTER 2500 RWD, REAR OPTI-RATE SPRING KIT

- | | |
|-------------------|---|
| • (2) 307801 | RWD OPTI-RATE REAR LEAF SPRINGS |
| • (4) UB-750-1800 | 75MM DIAMETER X 180MM LONG, M14X1.50” THD, U-BOLT |
| • (8) NLM14-1.50 | M14-1.50 LUG NUT |
| • (4) 306502-01 | OPTI-RATE SPRING, ADJUSTABLE PRELOAD SPACER (INSTALLED) |
| • (8) 306502-02 | OPTI-RATE SPRING, ADJUSTABLE PRELOAD SLIDER PAD (INSTALLED) |

- (1) 3037-HOSE-COVER SPRINTER REAR BRAKE HOSE COVER KIT

3005 – 1994-2016, MERCEDES SPRINTER, REAR BUMP STOP DROP BRACKET, 2.0" LIFT KIT

- (2) 300501 REAR BUMP STOP DROP BRACKET, 2.0" LIFT
- (4) HT5-5-10 5/16-18 X 1" LONG, HEX HEAD THREAD CUTTING SCREW

3007 – 2007-2016, MERCEDES SPRINTER NCV3, REAR LOWER SHOCK MOUNT, 2.0" LIFT KIT

- (2) 300701 REAR LOWER SHOCK MOUNT, 2.0" LIFT
- (2) 300702-01 REAR LOWER SHOCK MOUNT, 2.0" LIFT, SPACER BUNG
- (4) HM12-1.50-70-10.9 M12-1.50 X 70MM LONG, GR10.9, YELLOW ZINC HEX HEAD BOLT
- (4) NSM12-1.50 M12-1.50 STOVER NUT
- (8) WFM12 M12 YELLOW ZINC FLAT WASHER
- (2) HM08-1.25-65-10.9 M8-1.25 X 65MM LONG, GR10.9, YELLOW ZINC HEX HEAD BOLT
- (2) NSM08-1.25 M8-1.25 STOVER NUT
- (4) WFM08 M8 YELLOW ZINC FLAT WASHER

3006 – 2007-20016, MERCEDES SPRINTER NCV3, REAR SWAY BAR LINK, 2.0" LIFT KIT

- (2) 300601 REAR SWAY BAR LINK, 2.0" LIFT

3014 – 1994-2016, MERCEDES SPRINTER NCV3, REAR BRAKE PROPORTIONING EXTENSION BRACKET, 2.0" LIFT KIT

- (1) 301402 REAR BRAKE PROPORTIONING EXTENSION BRACKET

Tools Needed

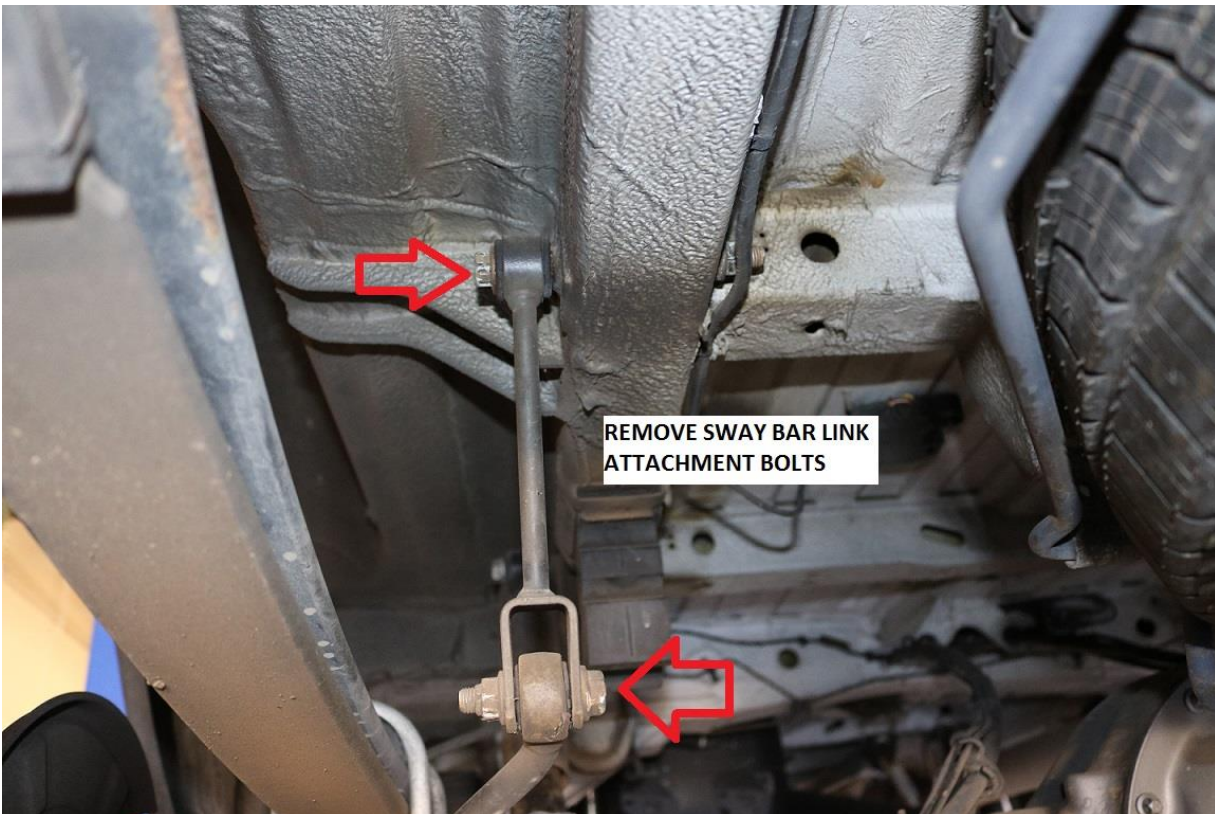
- Quality jacks and 2 jack stands.
 - Optional – Automobile lift and two screw jacks
- Simple hand tools:
 - Torque Wrench
 - Dykes or similar tool for cutting zip ties.
 - Basic wrench and socket set:
 - Metric sizes: 10mm, 13mm, 17-19mm, 21mm
 - SAE sizes: ½", 9/16", 7/32" allen
 - T55 Torx socket
- Drill with quality metal cutting 11/32" diameter drill bit. Step drill or unibit will also be needed.
- Nut driver or drill with ¼" socket bit attachment for installation of thread cutting hardware.
- Brake bleeding tool.
- DOT 4 Synthetic Brake Fluid

Approximate Installation Time

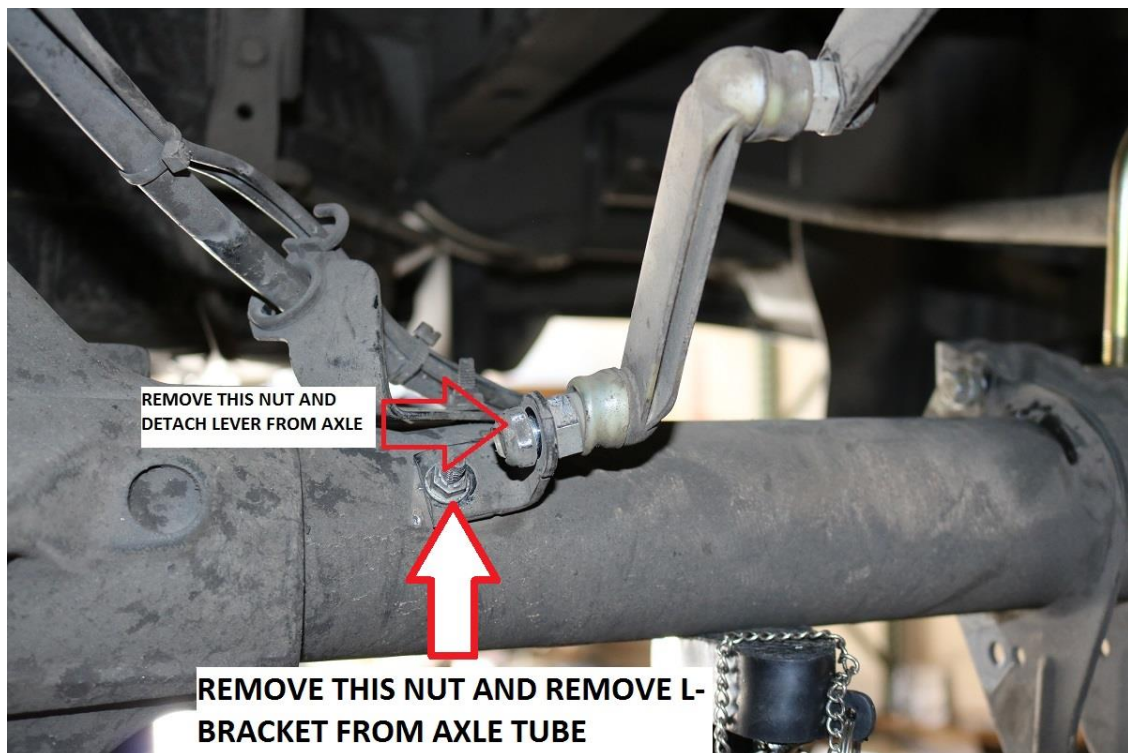
- Professional shop with automotive lift: 3-4 hours
- Driveway install with jack and jack stands: 4-5 hours

Installation

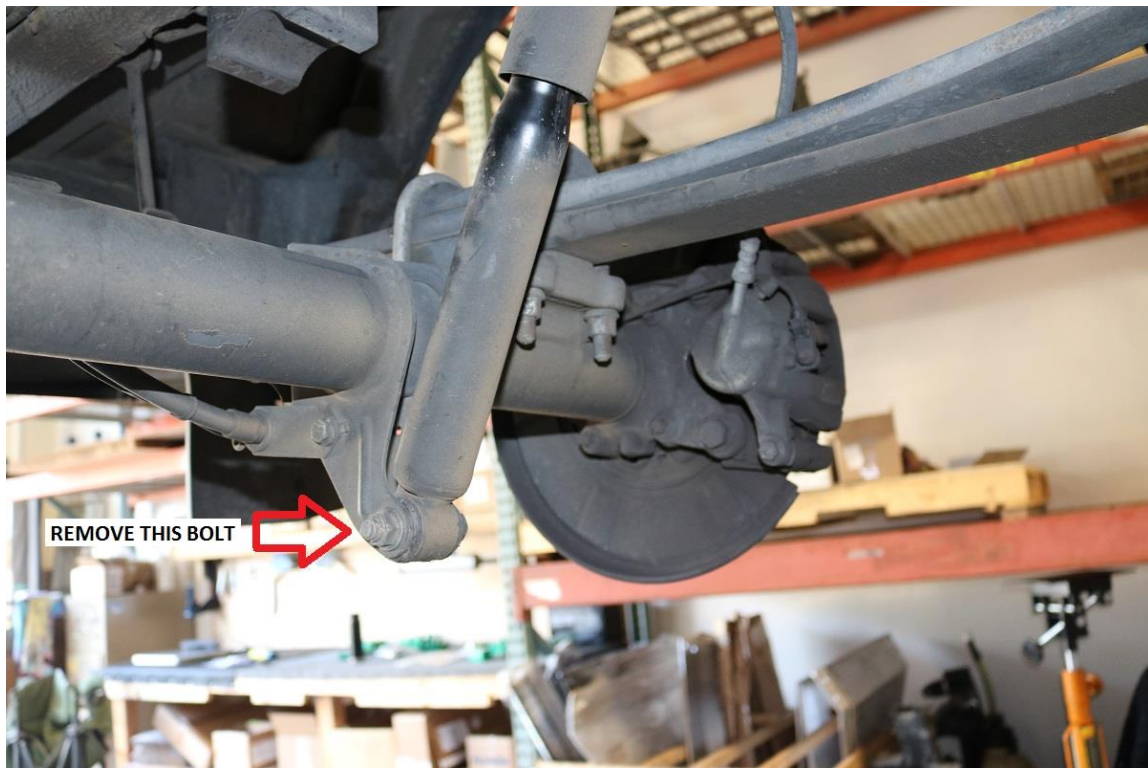
- 1) Begin by safely supporting the vehicle so that the rear suspension can hang free. This can be done with an automobile lift or a quality jack and a pair of jack stands.
- 2) With the rear suspension hanging free, remove the rear wheels / tires.
- 3) Remove the rear sway bar end links.
 - a. Begin by using an 18mm socket and wrench to remove both sway bar link attachment bolts.
 - b. Retain this hardware as it will be reused with the new, longer sway bar links included with the kit.



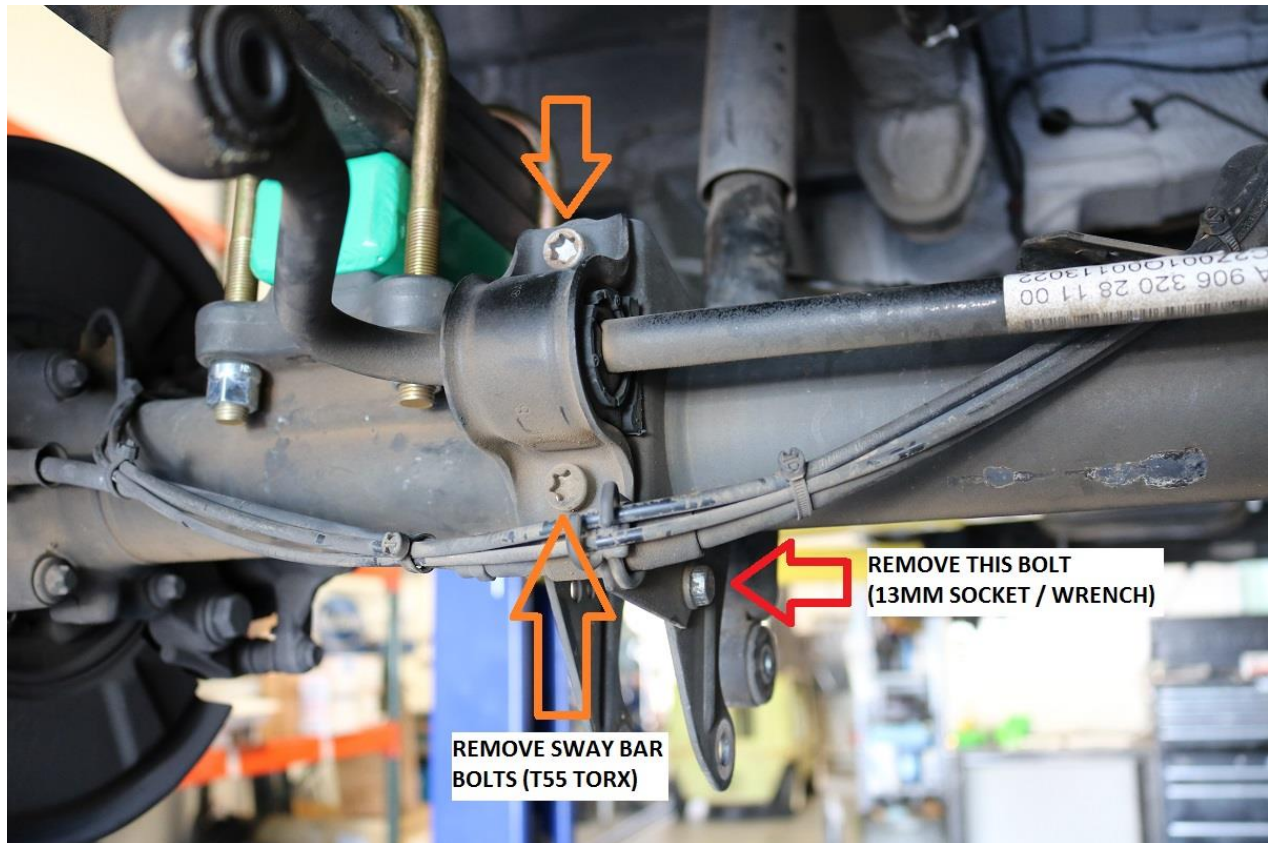
- 4) If equipped, disconnect the brake portioning lever. Retain the nut for future use.
 - a. Completely remove the small L-bracket on the axle tube by removing the nut securing it to the axle. Use a 10mm socket / wrench for removal. Retain this nut.



- 5) Support the axle and disconnect the lower shock bolt. Use an 18mm socket and wrench for removal. Once the shock is removed, allow the axle to hang freely again. Note that the springs will limit the downward travel with the shocks removed.



- 6) Remove the emergency brake cable brackets at the axle. Use a 13mm socket / wrench for removal. Retain this hardware as it will be reused. See image below



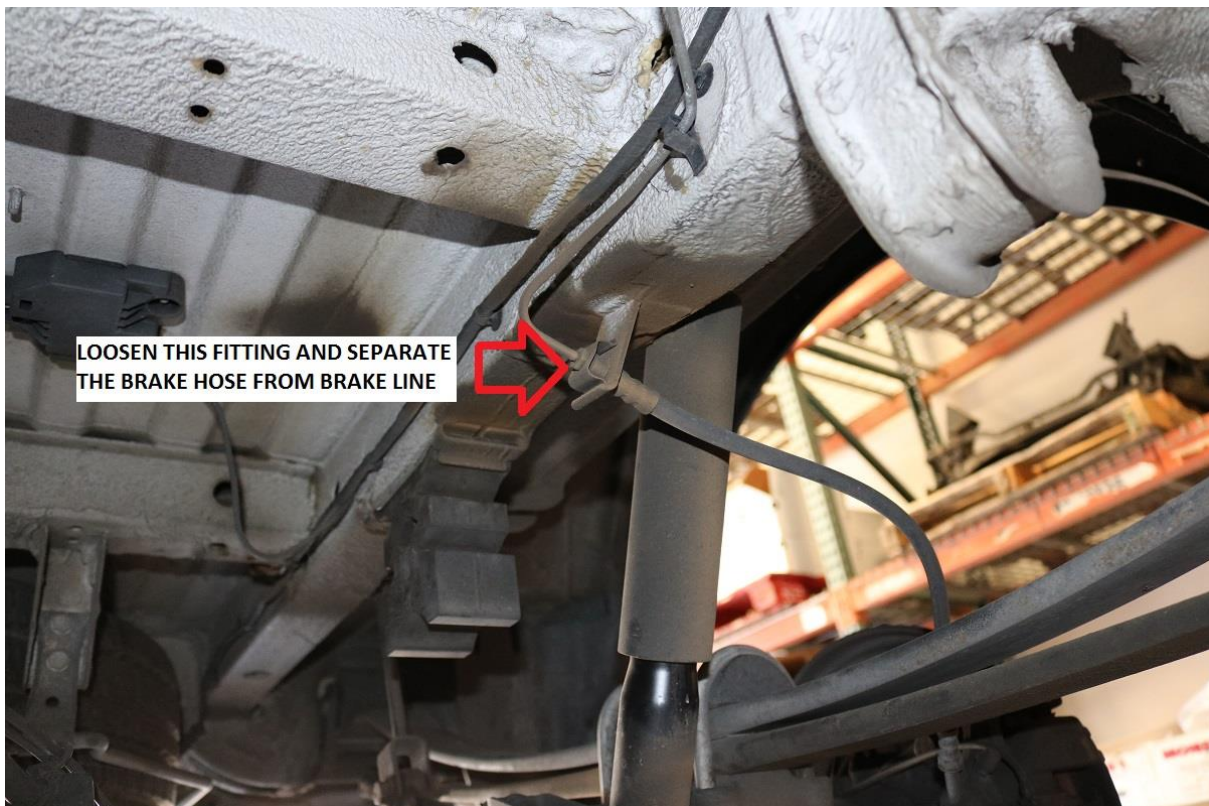
- 7) Reference the above image and remove the 4 Torx bolts securing the rear sway bar to the axle. Use a T55 Torx socket to remove the bolts. Remove the sway bar.
- 8) Remove the bump stops. Some Windex or similar glass cleaner to lubricate the rubber bump stops helps make removal easier.
 - a. Note – Bump stop designs vary by year and wheelbase options. However, they all attach to the chassis in the same manner. A pry bar can be useful in bump stop removal. See images below.



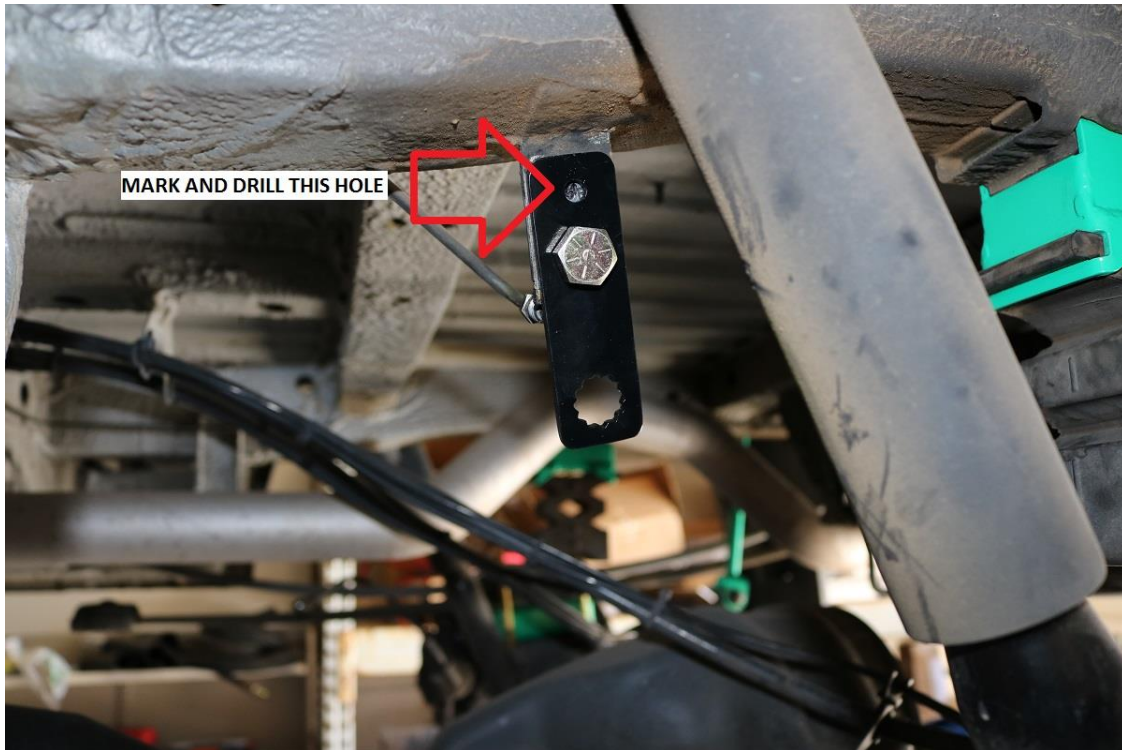


4008 Rear Brake Line Drop Bracket Installation

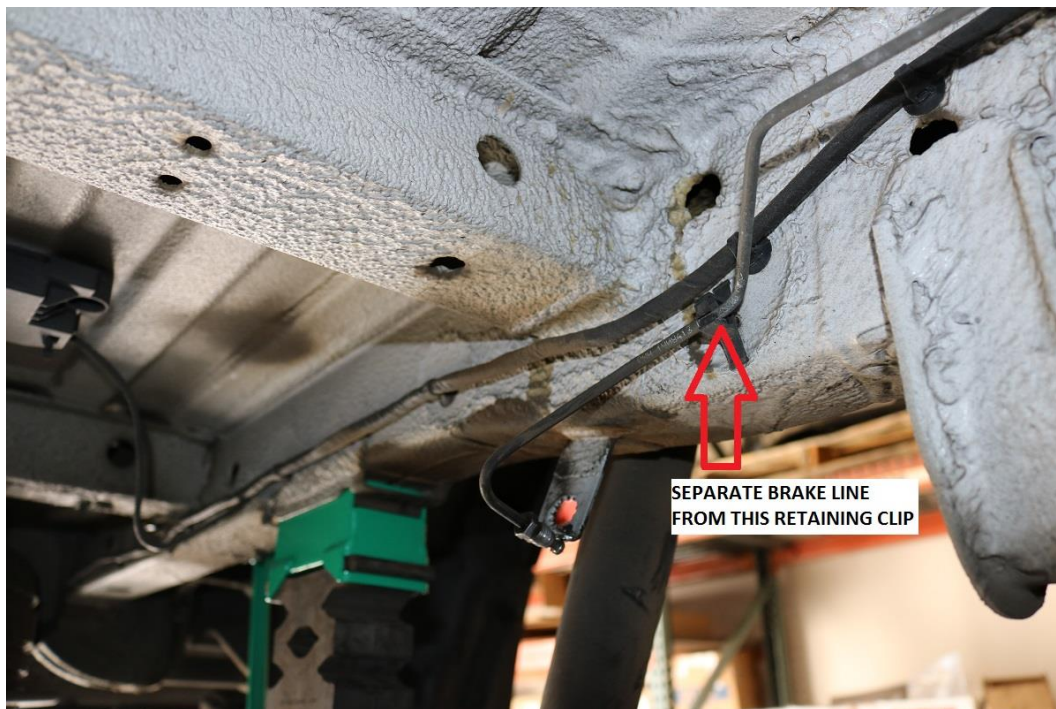
- 1) Installation of the rear brake line drop brackets can be done on both sides of the vehicle simultaneously.
- 2) Use an 11mm brake line wrench and disconnect the brake hose from the brake line at the chassis. See image below.



- 3) Fit the 400801 brake line drop bracket as shown below. Use the M12-1.50 x 25mm long bolt provided with the kit to align the bracket as shown. Mark the top hole and drill using a ¼" (6mm) drill bit.

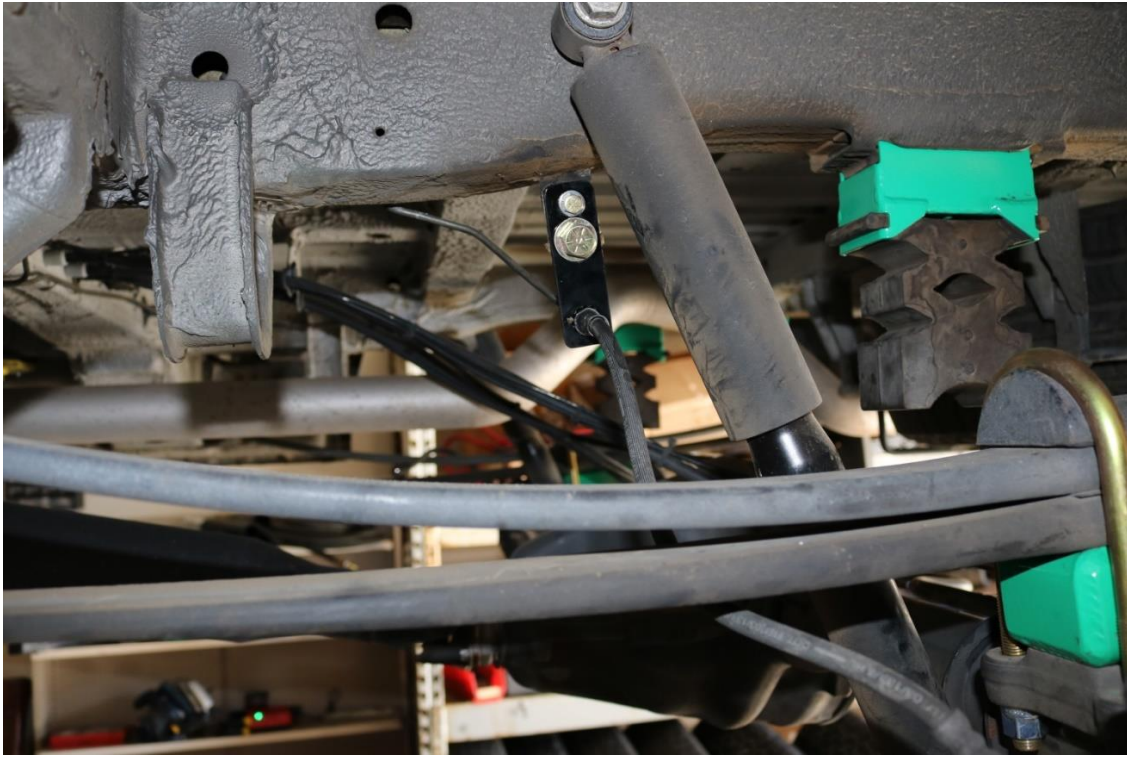


- 4) Once the upper hole is drilled, install the brake line drop bracket.
a. Use a washer under both the bolt head and nylock nut of the 6mm bolt.
b. Use a washer under just the bolt head of the 12mm bolt.
- 5) Separate the brake hard line from the chassis retaining clip nearest the end of the brake line. Use a flat nose screw driver or similar tool to depress the clip and allow the brake line to come free.



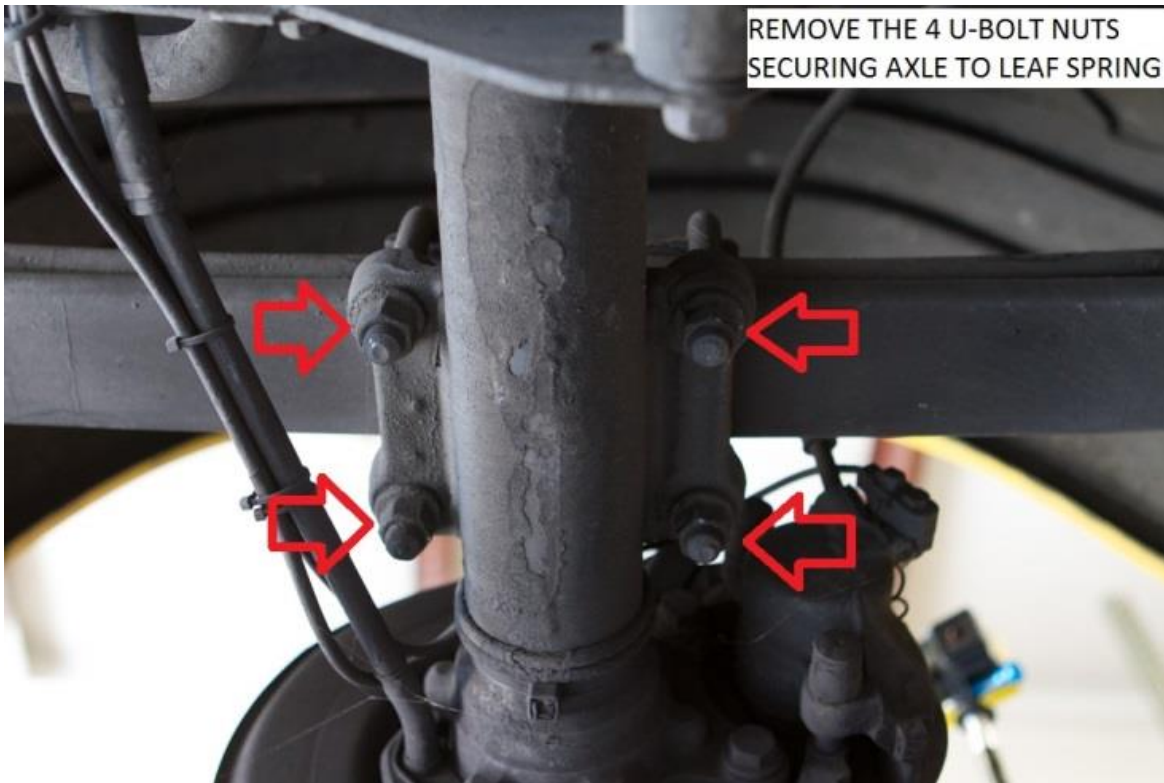
- 6) Relocate the brake hose below the leaf spring as shown and re-connect the brake line as shown.

- a. NOTE – If the brake hose is simply too strained to install at this time, wait to re-attached it to the brake hard line until after the lift blocks have been installed. Lift block installation is the next step.

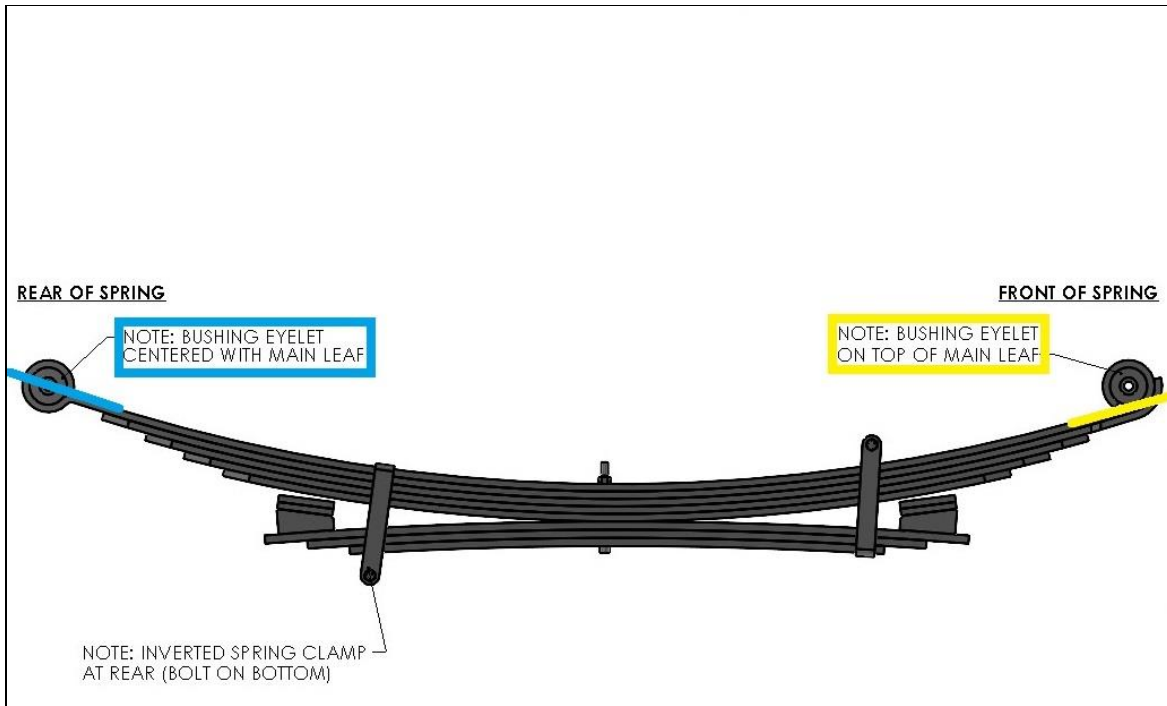


3078 Opti-Rate Spring Installation

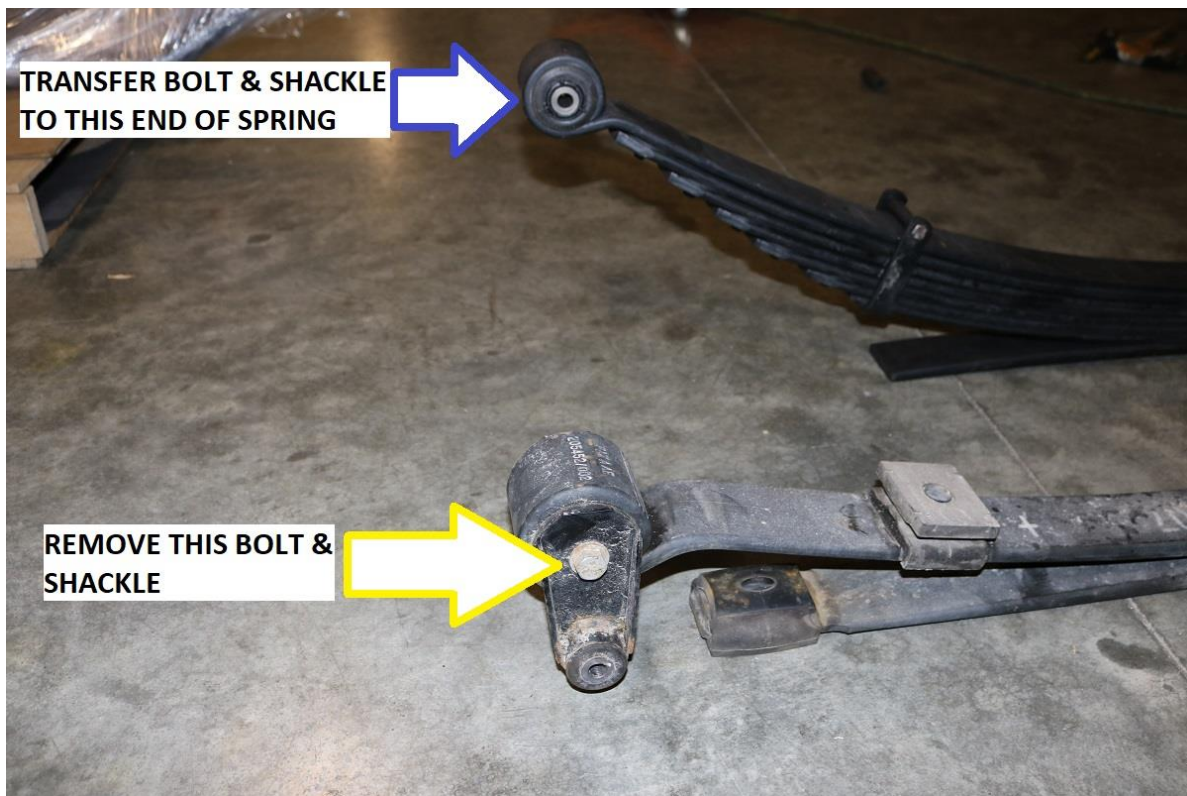
- 7) Install the rear springs one side at a time. Starting on the driver side, support the rear axle with a floor jack towards the driver's side of the axle. Remove the 4 U-bolt nuts securing the leaf spring to the axle housing using a 19mm socket.



- 8) Remove the forward leaf spring bolt using an 18mm socket / wrench.
- 9) Remove the lower shackle bolt and lower the leaf spring onto the axle. Remove the axle and shackle assembly from the vehicle. Note it is often easier to have a helper aide in spring removal. Place the factory spring next to the Opti-rate spring.
- 10) Take note of the difference between the front and rear spring eyes. The spring eye with the main leaf on center with the bushing is the rear of the spring. The spring eye with the bushing on top of the main leaf is the front of the spring. Additionally, the inverted clamp is the rear of the spring.
 - b. See drawing below for reference.



11) Remove the bolt securing the shackle to the rear of the leaf spring.



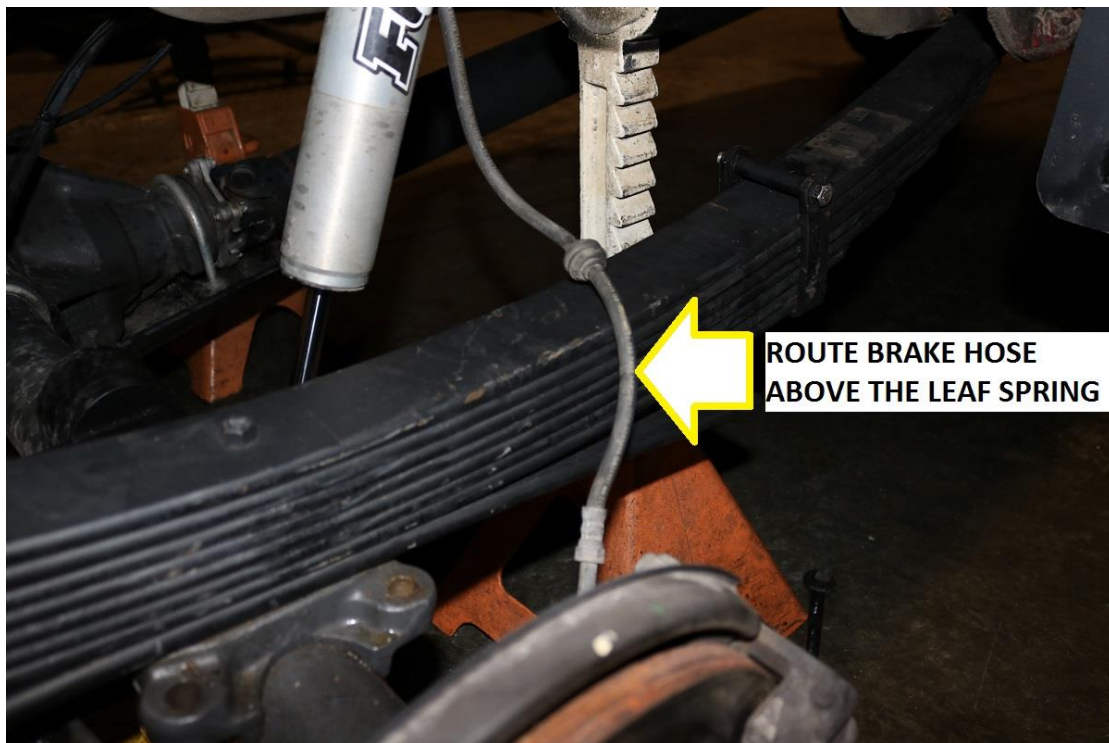
12) Bolt the shackle onto the rear of the new Opti-rate springs. Bolt the shackle on so it is perpendicular to the arch of the main spring.

c. Torque the shackle bolt to 100 ft-lbs.

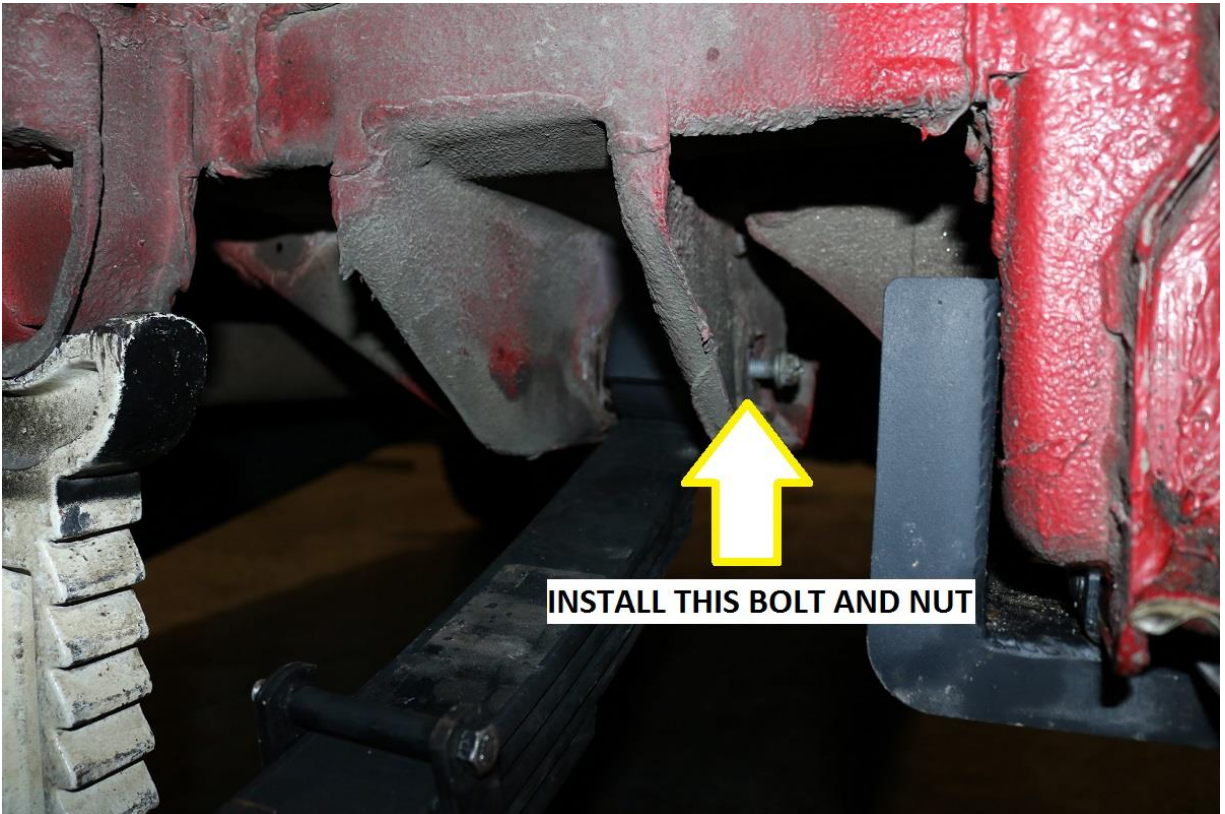


13) Install the leaf springs into the vehicle. We have found it easiest to install the springs upside down and then rotating them up into position once under the vehicle.

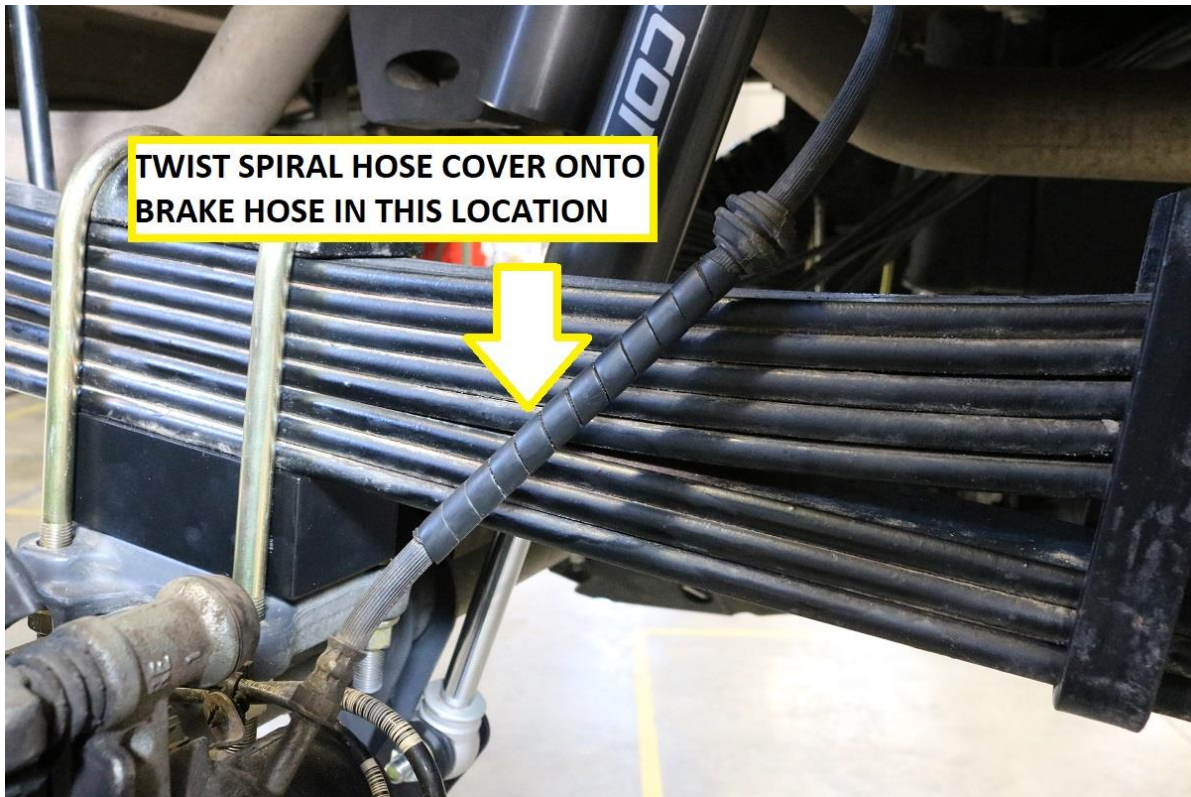
- d. Be sure to route the brake hose over the spring. Again, RWD vans require 4008 drop brackets to be installed. Refer to those instructions included in the Striker lift kit now if they haven't been installed already.



14) Once the springs are rotated into position. Install the forward spring bolt in the spring hanger, install the nut but do not fully tighten at this time.



- 15) Jack the axle up or down accordingly to be able to install the lower shackle bolt. Once aligned, install the bolt and nut but do not fully tighten at this time.
- 16) Make sure the leaf spring center pin falls into the spring perch pocket on the axle and jack up the axle to the point where the leaf spring takes on some load.
- 17) At this point, install the new U-bolts and nuts included with the kit. Snug up all the nuts but do not fully tighten at this time. Use a 19mm socket / wrench to tighten.
- 18) Repeat this procedure for the passenger side.
- 19) Twist the spiral hose cover onto the brake hose in the location shown in the image below. Position a piece over each brake hose where it touches the leaf spring. This is to protect the brake hose against any potential chaffing that might occur over time.



20) Torque U-bolt nuts to 125 ft-lbs (169 N.m).

3005 Rear Bump Stop Drop Bracket Installation

21) Installation of the bump stop drop brackets can be done on both sides of the vehicle simultaneously.

22) Position the rear bump stop drop bracket in place as shown and mark the two mounting holes with a sharpie or transfer punch.





23) Since there is groove where the mounting holes land, a step drill will need to be used for drilling. Center punch the hole locations and drill with a step drill bit to a diameter of $\frac{1}{4}$ " (7mm).





24) With both holes drilled, position the bump stop drop bracket in place and secure it to the chassis using the 5/16-18 x 1" long thread cutting screws included with the kit. Use a nut driver or drill with a 1/4" bit adapter and a 1/2" socket to install the screw. Try to keep the drill / driver as straight as possible when cutting the threads.



- 25) Use drill / driver to snug bolts into place. Do not fully tighten using drill / driver. Torque bolts to 13 ft-lbs (17 N.m).
- 26) With drop brackets installed and hardware torqued to spec, thoroughly coat the rubber bump stops with Windex or a similar glass cleaner.



- 27) Install bump stop into the drop bracket. Install one edge at a time. Bend the bump stop in the middle to get the second side started. Installation can be tricky as the bump stops fit very tightly both in the factory location and in the drop brackets.





28) Once the second side is started, a screw driver, some wiggling and some additional lubricant will be needed to get the bump stop fully seated in the bracket.



3007 Rear Lower Shock Mount Installation

29) Installation of the rear lower shock mounts can be done on both sides of the vehicle simultaneously.

30) Fit the rear lower shock mount as shown below.



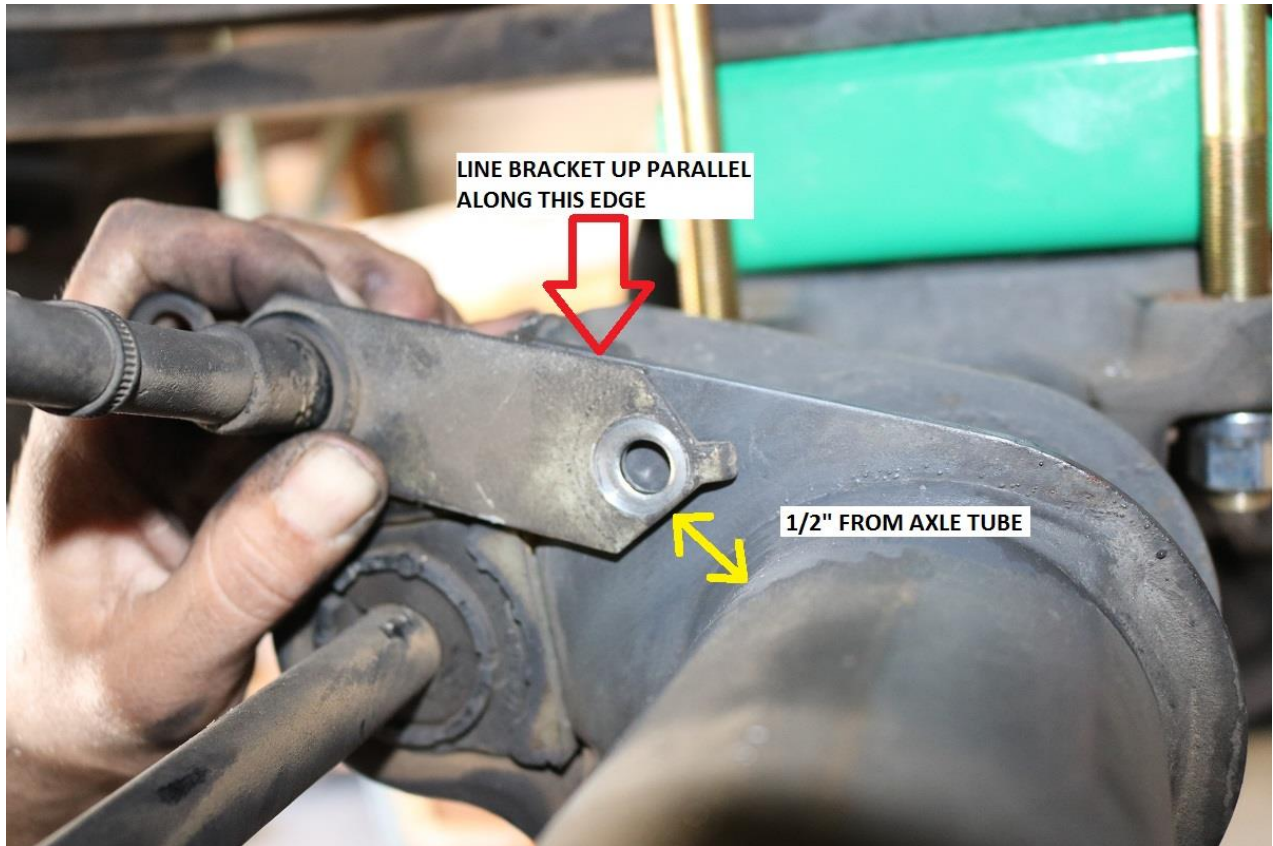
- 31) Install M8-1.25 x 65mm long bolt provided as shown above to locate bracket in place. Use a washer under the bolt head.
- a. Install the 300702-01 spacer bung as shown with the M12-1.50 x 70mm long bolt to finalize the bracket's location. Again use a washer under the bolt head.
 - b. Install the corresponding Stover nuts on the bolts along with washers.
 - c. Fit the shock into place and snug all hardware. Use a 19mm socket / wrench for the M12 bolts. Use a 13mm socket / wrench for the M8 bolts.



- 32) Torque hardware in the following order.
- a. M12-1.50 torque to 52 ft-lbs. (70 N.m)
 - b. M8-1.25 torque to 15 ft-lbs (20 N.m)

3006 Rear Sway Bar Link Installation

- 33) The E-brake / ABS cable bracket needs to be relocated above the sway bar as shown below. Note that the small indexing tab on the E-brake / ABS cable bracket will flatten out when the attachment bolts are torqued to spec.
- 34) Position the E-brake / ABS cable bracket as shown below. Mark and drill the mounting hole using an 11/32" (9mm) drill bit.



- 35) Secure the E-brake / ABS cable bracket to the axle using the OEM hardware removed in step 5. Tighten the bolt using a 13mm socket / wrench. Torque to 21 ft-lbs (29 N.m)
- 36) Re-install the rear sway bar onto the axle. Use the four T55 Torx bolts removed in step 6. Torque to 88 ft-lbs (120 N.m).
- 37) Install the 300601 rear sway bar links using the OEM sway bar link hardware removed in step 3. Torque the sway bar link bolts to 78 ft-lbs. (106 N.m).



3014 Rear brake proportioning extension bracket installation

- 38) Install the new brake proportioning wind assist bracket as pictured below. Reuse the factory nut to secure the bracket to the stud on the axle tube. Use a 10mm socket / wrench and snug the bracket down. Reuse the factory nut to attach the lever arm to the extension bracket. Torque the nut to 15 ft-lbs (20 N.m)



- 39) Refill the master cylinder with DOT 4+ Synthetic Brake Fluid. Refer to owner's manual for certainty.
- 40) Bleed the rear brakes using the factory recommended sequence. Ensure there is good pedal feel and all air is eliminated from the system. Failure to eliminate all air from the braking system is not only dangerous, but will also trigger an ABS warning light on the instrument cluster.
- 41) If an approximate weight is known for the vehicle, now is the time to configure the adjustable preload spacer (APS). The following chart is to be used as a guide but ultimately it is up to the installer / end user to configure the springs to their preference for both ride height and ride quality.

MERCEDES SPRINTER 2500 OPTI-RATE SPRING CONFIGURATION	
WEIGHT OF VEHICLE	OPTI-RATE CONFIGURATION
7,499 LBS & UNDER	NO APS INSTALLED
7,500 LBS - 8,700 LBS	APS BLOCK + 1 SLIDER PAD INSTALLED
8,701 LBS & UP	APS BLOCK + 2 SLIDER PADS INSTALLED



**NO APS INSTALLED:
7,499 LBS & UNDER**



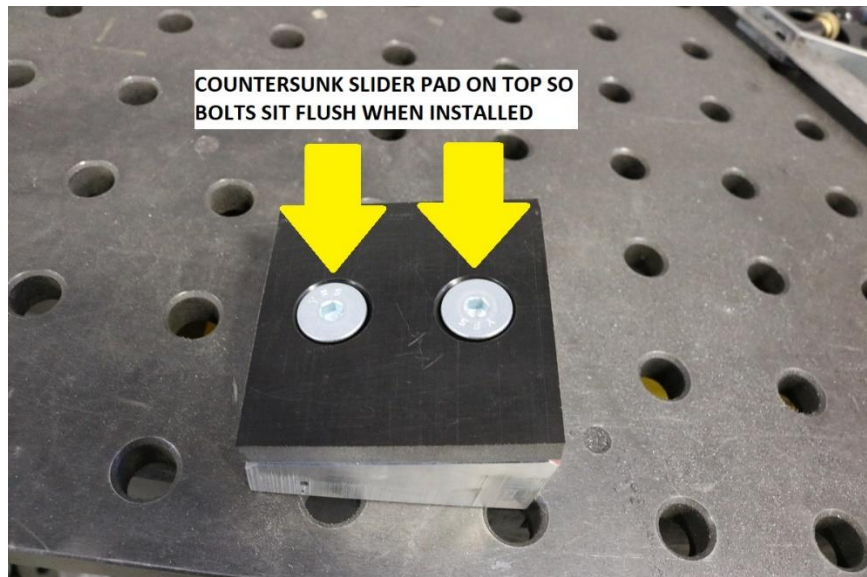
**APS INSTALLED WITH
SINGLE SLIDER PAD:
7,500 - 8,700 LBS**



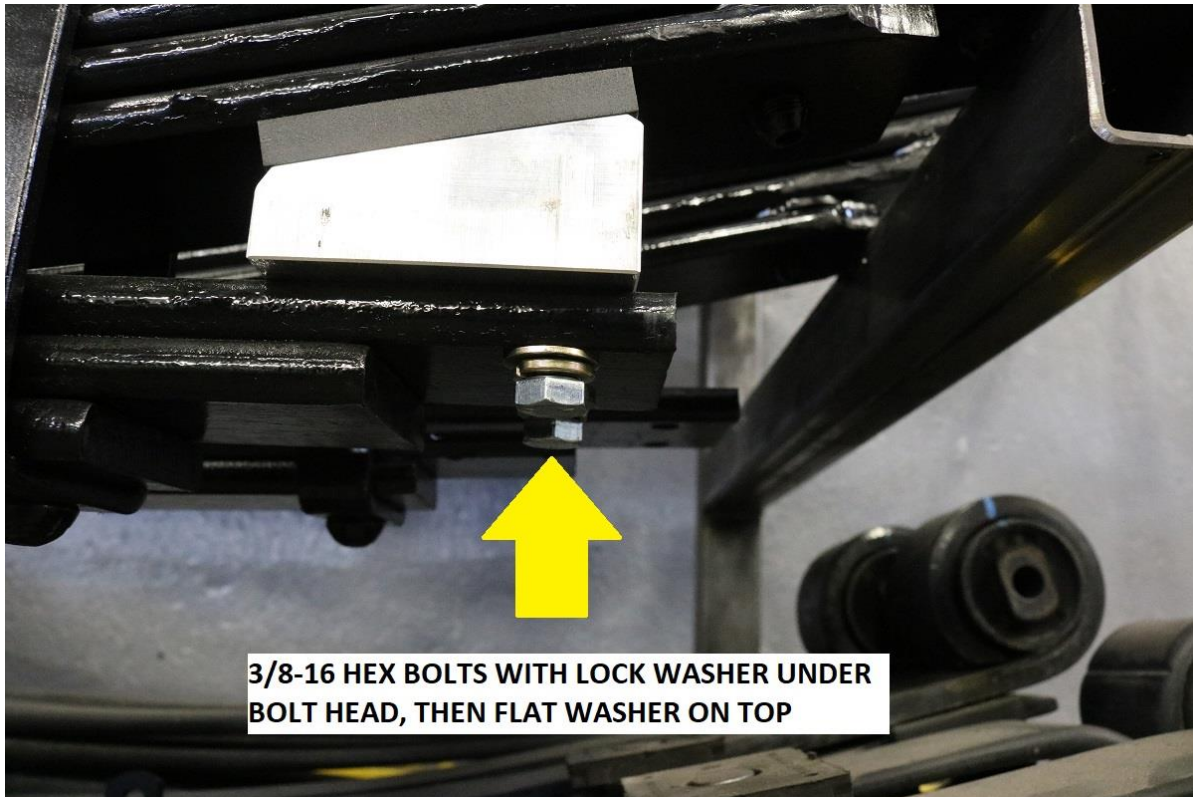
**APS INSTALLED WITH
2X SLIDER PAD:
8,701 LBS & UP**

42) Note; **ALWAYS** install the slider pad with the countersunk holes on top as shown below.

- a. Torque countersunk bolts to 15 ft-lbs (20 N.m) with a 7/32" allen wrench.



- b. Torque the APS to the leaf spring with a 9/16" socket to 20 ft-lbs (27 N.m) Be sure to use a washer and lock washer under the bolt head as shown.



- 43) Re-install wheels / tires and lower van to ground. OEM torque spec for wheel bolts on factory steel wheels are as follows: 177-187 ft-lbs (240-250 N.m)
- 44) Torque the lower shackle bolt and front leaf spring bolt to 100 ft-lbs. (135 N.m)
- 45) Double check U-bolt torque to 125 ft-lbs (169 N.m).
- 46) Once on the ground and sitting at ride height, adjust overload engagement pucks as needed for optimum ride height & ride quality.
- 47) Re-install wheels / tires and lower van to ground. OEM torque spec for wheel studs is as follows:
- a. 2500 SRW: 177-187 ft-lbs (240-250 N.m)
 - b. 3500 DRW: 140-150 ft-lbs (190-200 N.m)
- 48) Double check all 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, of 8778 Plata Ln. STE B. Atascadero, Ca 93422 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 California.

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.