



3078– 2007-PRESENT, MERCEDES SPRINTER 2500 RWD, OPTI-RATE REAR LEAF SPRINGS

Version 1.1

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.
- These leaf springs can be installed with basic hand tools.
- These springs can be completely removed, allowing the vehicle to be returned back to the stock spring configuration if desired.
- These springs are designed to be a 2" rear lift spring on RWD Sprinter vans to restore the factory (unloaded) nose down "rake" no matter the weight configuration of the vehicle and are meant to be used in conjunction with our Striker lift kit for proper suspension geometry.
- Note; while not recommended, these springs can be installed on a non-lifted RWD Sprinter but the end user can expect a significant "nose down rake" if that configuration is fitted to the vehicle. Rear Striker lift kit components are still required for this spring to function properly.
- These springs 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

3078 – 2007-PRESENT, MERCEDES SPRINTER 2500 RWD, OPTI-RATE REAR LEAF SPRINGS

- | | |
|-----------------------|---|
| • (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 |

Tools Needed

- Quality jacks and 2 jack stands.
 - Optional – Automobile lift and screw jack
- Simple hand tools:
 - Torque Wrench

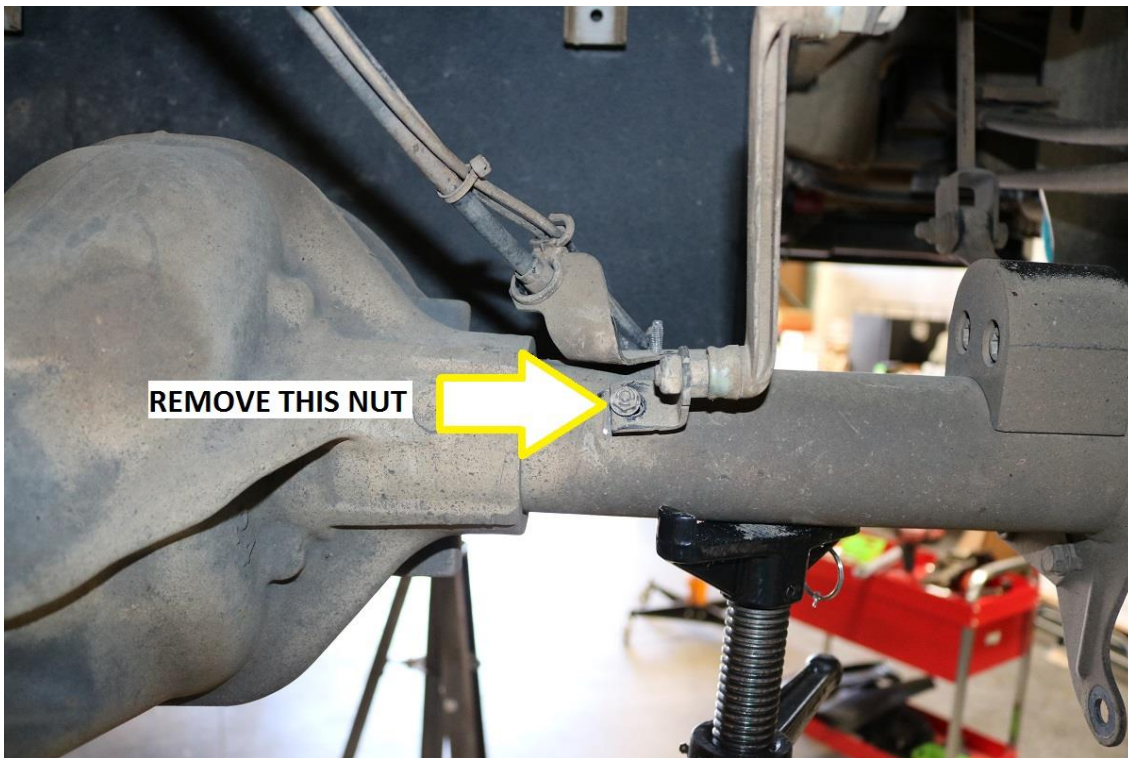
- Dykes or similar tool for cutting zip ties.
- Basic wrench and socket set:
 - Metric sizes: 10mm, 18mm, 19mm, 21mm
 - SAE sizes: 9/16", 7/32" allen

Approximate Installation Time

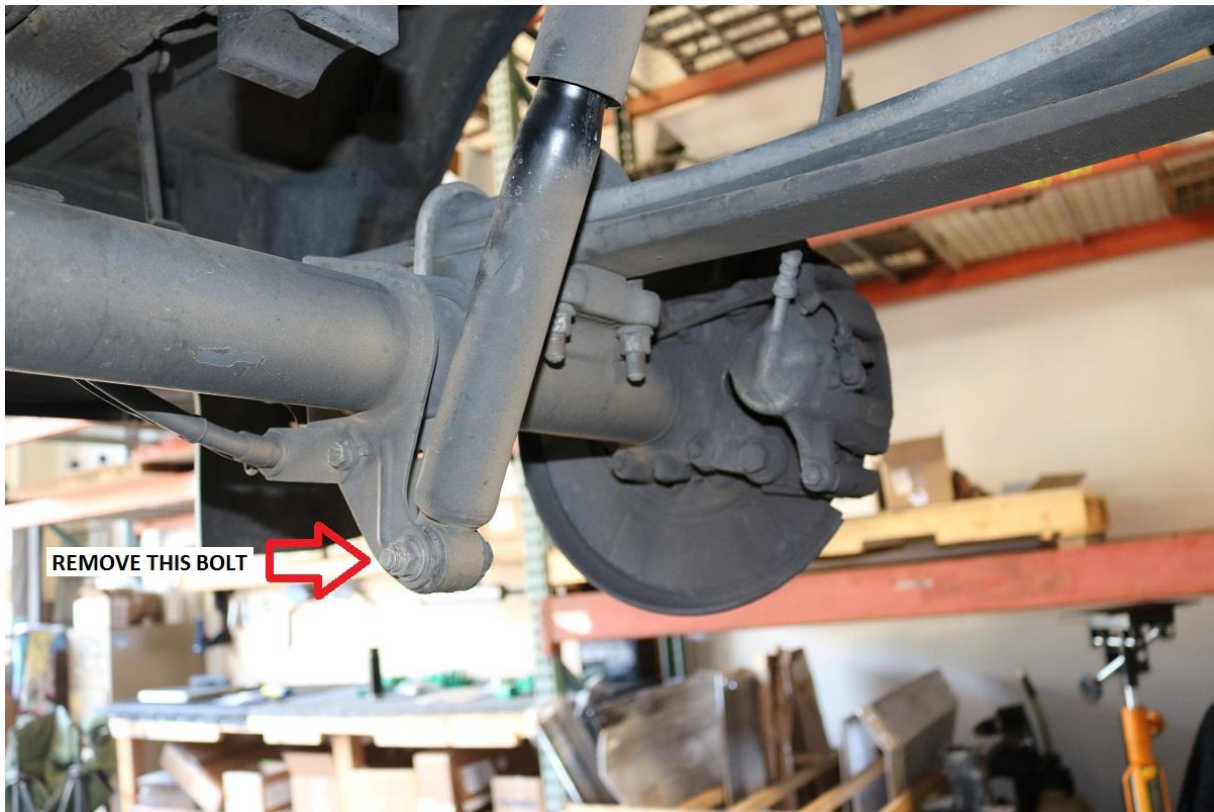
- Professional shop with automotive lift: 1-2 hours
- Driveway install with jack and jack stands: 2-4 hours

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) Unless otherwise stated, work on one side of the vehicle at a time.
- 4) If equipped, disconnect the headlight adjuster bracket at the axle by removing the 10mm nut securing the L-bracket to the axle. Retain the nut for future use.



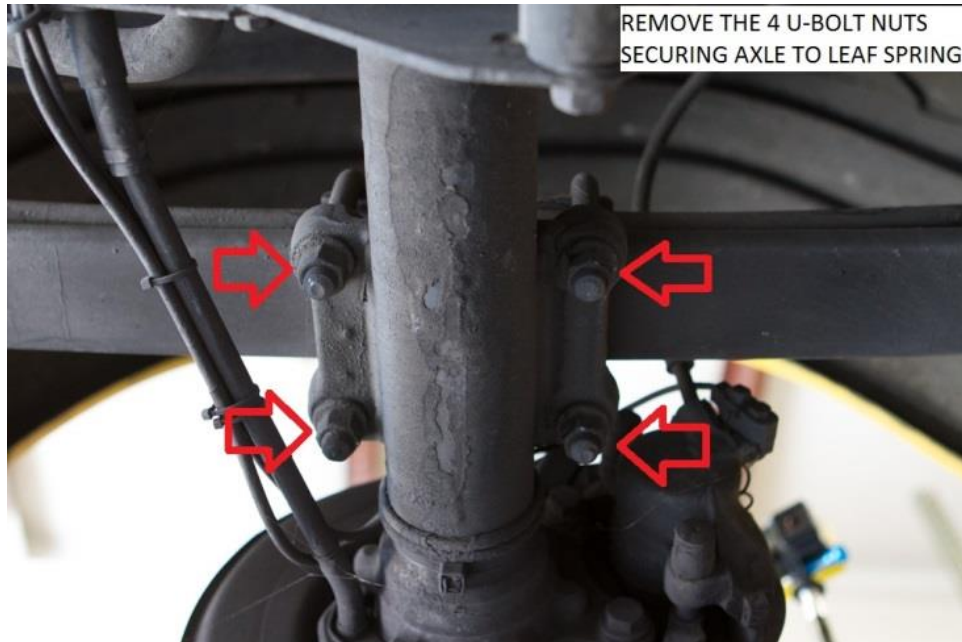
- 5) Support the axle and disconnect the lower shock bolt. Use an 18mm socket and wrench for removal. Once the shock is removed, allow the axle to hang freely again. Note that the springs will limit the downward travel with the shocks removed.
 - a. Retain the lower shock bolt / nut as it will be re-used.



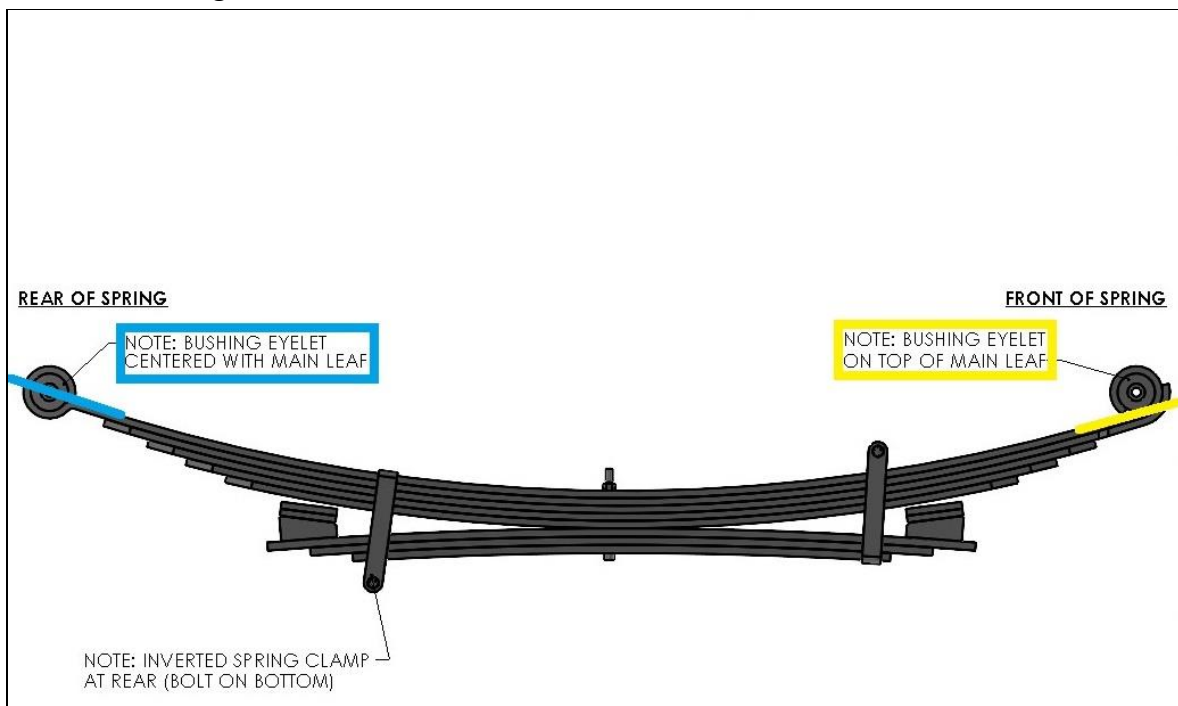
- 6) With the lower bolt removed, proceed to removing the upper bolt. Use a 21mm socket and retain the hardware as it will be reused.
 - a. Remove the shock from the vehicle.
- 7) Remove the lower sway bar link bolt on both sides of the vehicle. Use an 18mm socket / wrench for removal. Retain the hardware as it will be re-installed.



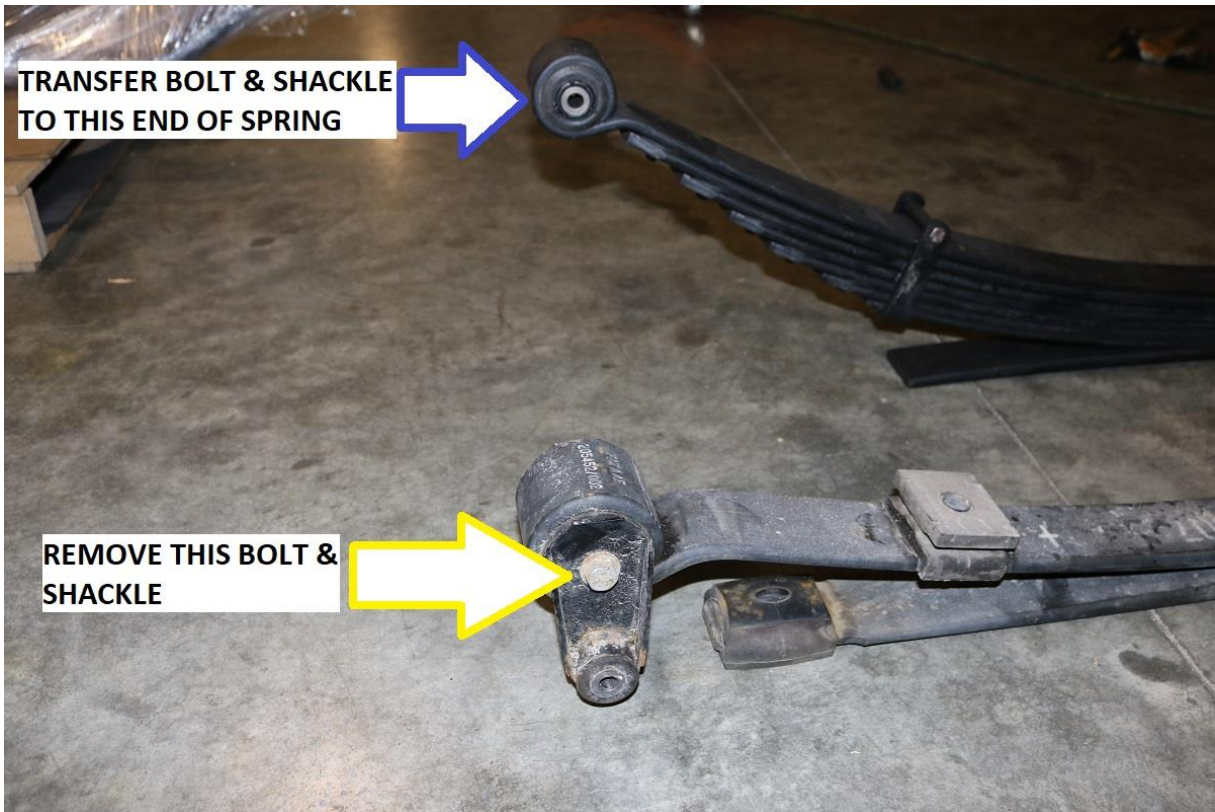
- 8) Remove the 4 u-bolt nuts securing the leaf spring to the axle housing. Use a 19mm socket for U-bolt nut removal.



- 9) Remove the forward leaf spring bolt using an 18mm socket / wrench.
- 10) 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.
- 11) At this time, refer to the lift kit installation instructions and install the 4008 Rear Brake Line Drop Bracket.
- 12) 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.
- a. See drawing below for reference.



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

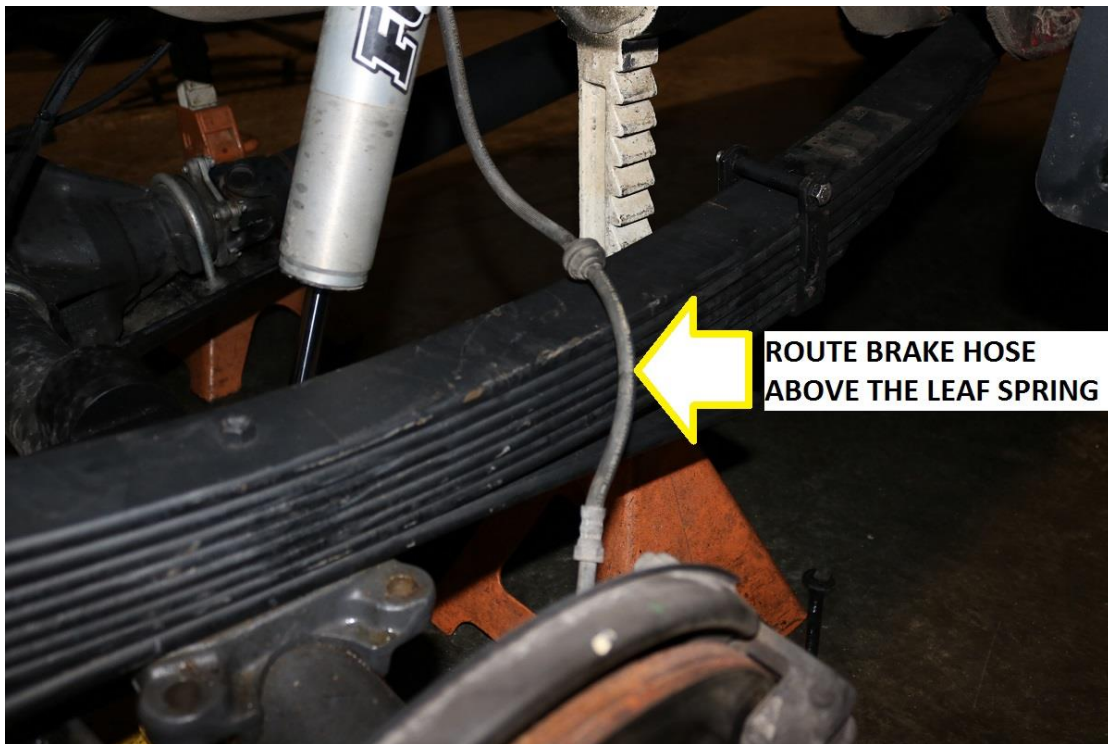


- 14) Bolt the shackle onto the rear of the new Opti-rate springs. Bolt the shackle on so it is perpendicular to the arch of the main spring.
- a. Torque the shackle bolt to 100 ft-lbs.

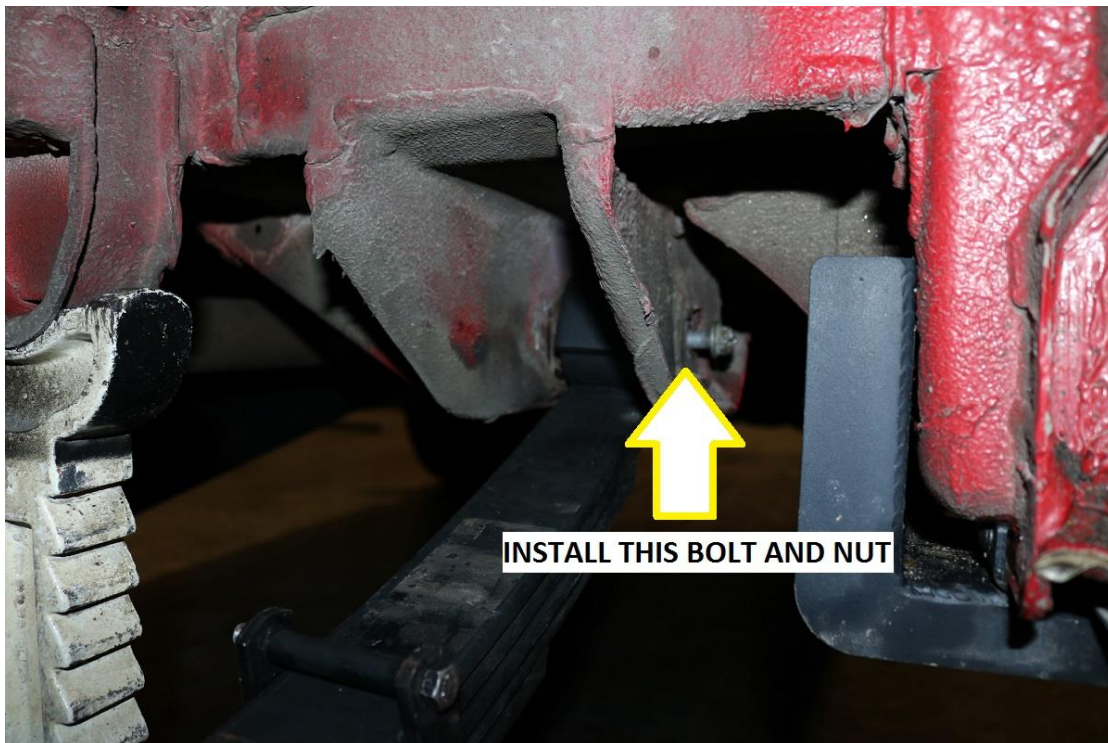


- 15) Install the leaf springs into the vehicle. We have found it easiest to install the springs upside down and then rotating them up into position once under the vehicle.

- a. 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.

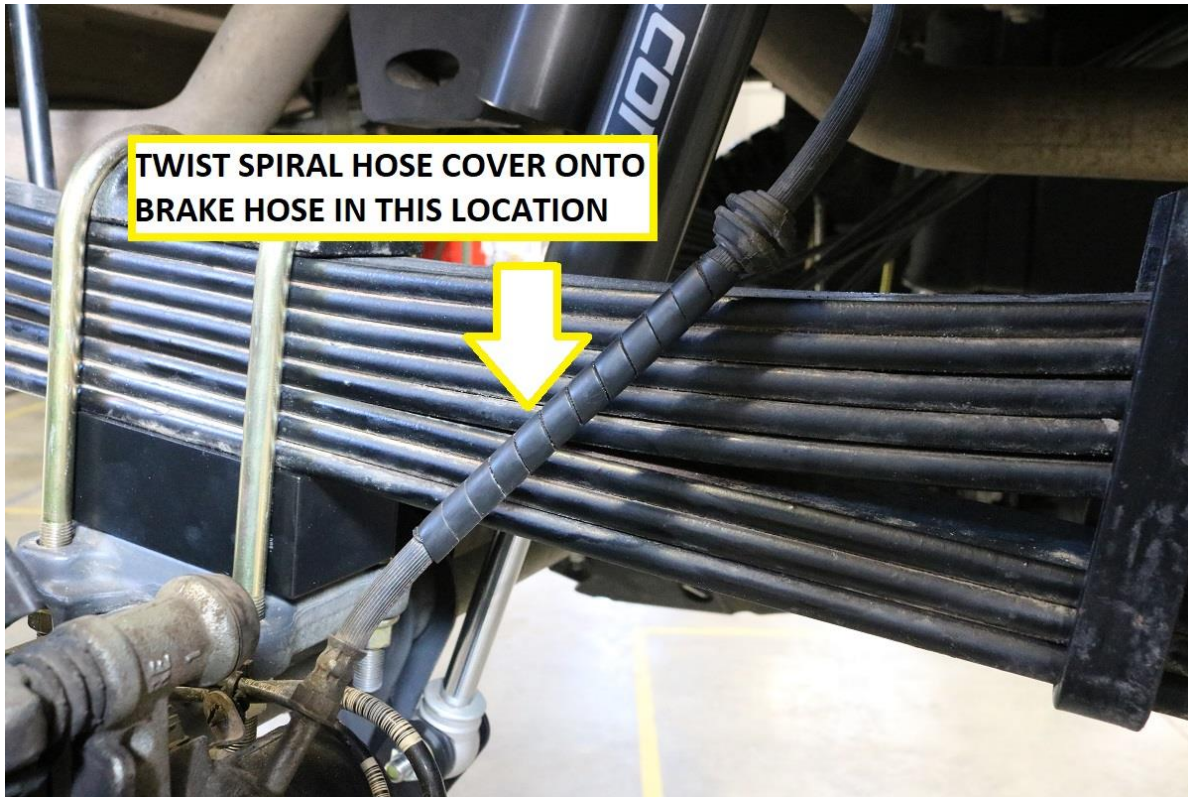


- 16) Once the springs are rotated into position. Install the forward spring bolt in the spring hanger, install the nut but do not fully tighten at this time.



- 17) 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.
- 18) 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.

- 19) 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.
- 20) Repeat this procedure for the passenger side.
- 21) 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.



- 22) Re-install the shock and shock bolts.
 - a. Torque lower bolt with an 18mm socket / wrench to 81 ft-lbs. (110 N.m)
 - b. Torque the upper bolt with a 21mm socket to 102 ft-lbs (139 N.m)
- 23) Re-install the lower bolt for the sway bar link. Use an 18mm wrench and torque to 81 ft-lbs (110 N.m)
- 24) If equipped, re-attach the headlight adjuster bracket to the rear axle, previously removed in Step 4.
- 25) 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**



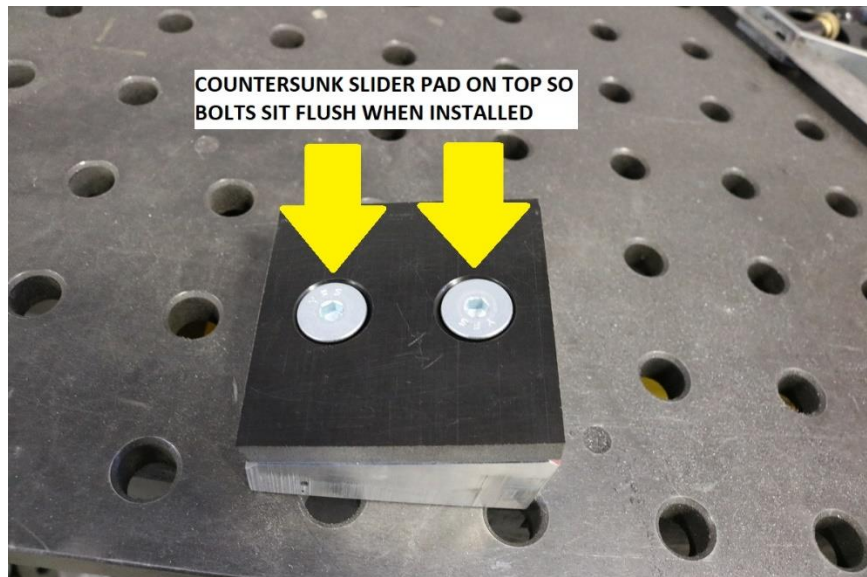
**APS INSTALLED WITH
SINGLE SLIDER PAD:
7,500 - 8,700 LBS**



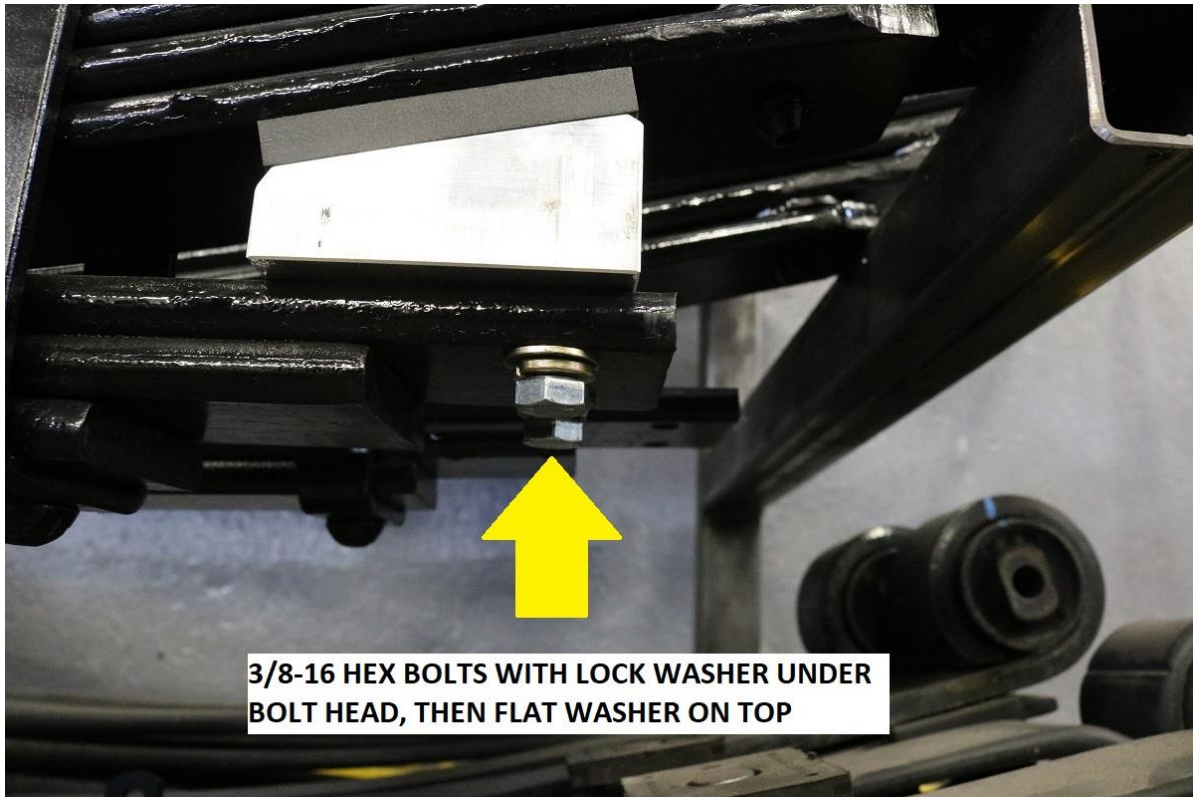
**APS INSTALLED WITH
2X SLIDER PAD:
8,701 LBS & UP**

26) 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.



- 27) 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)
- 28) Torque the lower shackle bolt and front leaf spring bolt to 100 ft-lbs. (135 N.m)
- 29) Torque the U-bolt nuts to 125 ft-lbs (169 N.m).
- 30) Once on the ground and sitting at ride height, adjust overload engagement pucks as needed for optimum ride height & ride quality.
- 31) 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, 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.