



**OVER 35 YEARS OF INNOVATION, QUALITY, SAFETY.**

**IMPORTANT OWNER-OPERATOR INSTALLATION INSTRUCTIONS**

**A7310/A7311**

STABLELOAD

APPLICATION FITS:  
ANY TRUCK WITH A BOTTOM  
OVERLOAD LEAF SPRING

# Before Beginning

## Lower Overload Springs

A7310/A7311 Stable Loads are designed to be installed on vehicles with lower overload springs, and work by engaging the lower overload spring sooner, allowing the spring to carry a heavier load.

Lower overload springs can be identified as being on the bottom of the spring pack. The lower overload is generally shorter and thicker than the rest of the leaf springs and in most cases, will be separated by a gap. See figure 0.1

A7310/A7311 Stable Loads are designed to work on lower overload springs up to 3-3/8" wide.



**Figure 0.1**

# Tire Chains

A7310 and A7311 Stable Loads **are not to be used** in conjunction with tire chains or cables due to potentially unsafe interference issues.

# A7311 Leaf Spring Drilling

**A7311 installations require drilling of the leaf springs.** Many factory overload springs come predrilled with 1/2” holes; therefore, drilling holes in the overload springs (using part number A7311) in the same factory locations found on vehicles with pre drilled holes will have no affect on your springs integrity or operation. When drilled in accordance with the TorkLift International drilling specifications, the springs will be covered under the Torklift International Legendary Lifetime Warranty.

Most factory leaf springs can be drilled by hand with a cordless drill and the supplied Cobalt Drill Bits, however some of our customers have encountered difficulties with particularly hard springs. We recommend having the leaf springs drilled by a certified Torklift dealer.

# Nissan Titan

If your Nissan Titan has an axle wrap bracket located at the rear of the lower leaf spring, A7310/A7311 Stable Loads will only be installed on the front of the driver and passenger leaf springs. See figure 0.2 below.



**Figure 0.2**

# A7310/A7311 PARTS INVENTORY

4 X	SEVEN HOLE BOTTOM PLATE	4 X	3/8" FLANGED LOCK NUT
4 X	THREE HOLE TOP WEDGE	4 X	7/16" COBALT DRILL BIT (A7311 only)
4 X	FOUR HOLE MIDDLE WEDGE	4 X	7/16" X 1-3/4" LOW PROFILE HEX BOLT
4 X	FIVE HOLE BOTTOM WEDGE	4 X	7/16" USS FLAT WASHER
4 X	HITCH PIN	4 X	7/16" LOCK WASHER
4 X	HITCH PIN CLIPS	4 X	7/16" HEX NUT
8 X	1/4" X 3/4" HEX BOLT	4 X	1/2" X 2-1/2" HEX BOLT
8 X	1/4" NYLOCK NUT	32 X	1/2" SHIM WASHERS
4 X	3/8" X 1-1/4" HEX BOLT	4 X	1/2" NYLOCK NUT
4x	RUBBER GROMMET		

## Installation

### Step 1.

Park your vehicle on a flat, level surface and chock the front wheels. Use a floor jack to lift the rear of the truck up by its hitch. This will help to open up the gap between the lower overload spring and the main spring pack. Place jack stands under both sides of the vehicle as a safety precaution.

### Step 2. – A7311 only. Skip to Step 3 for A7310 installation.

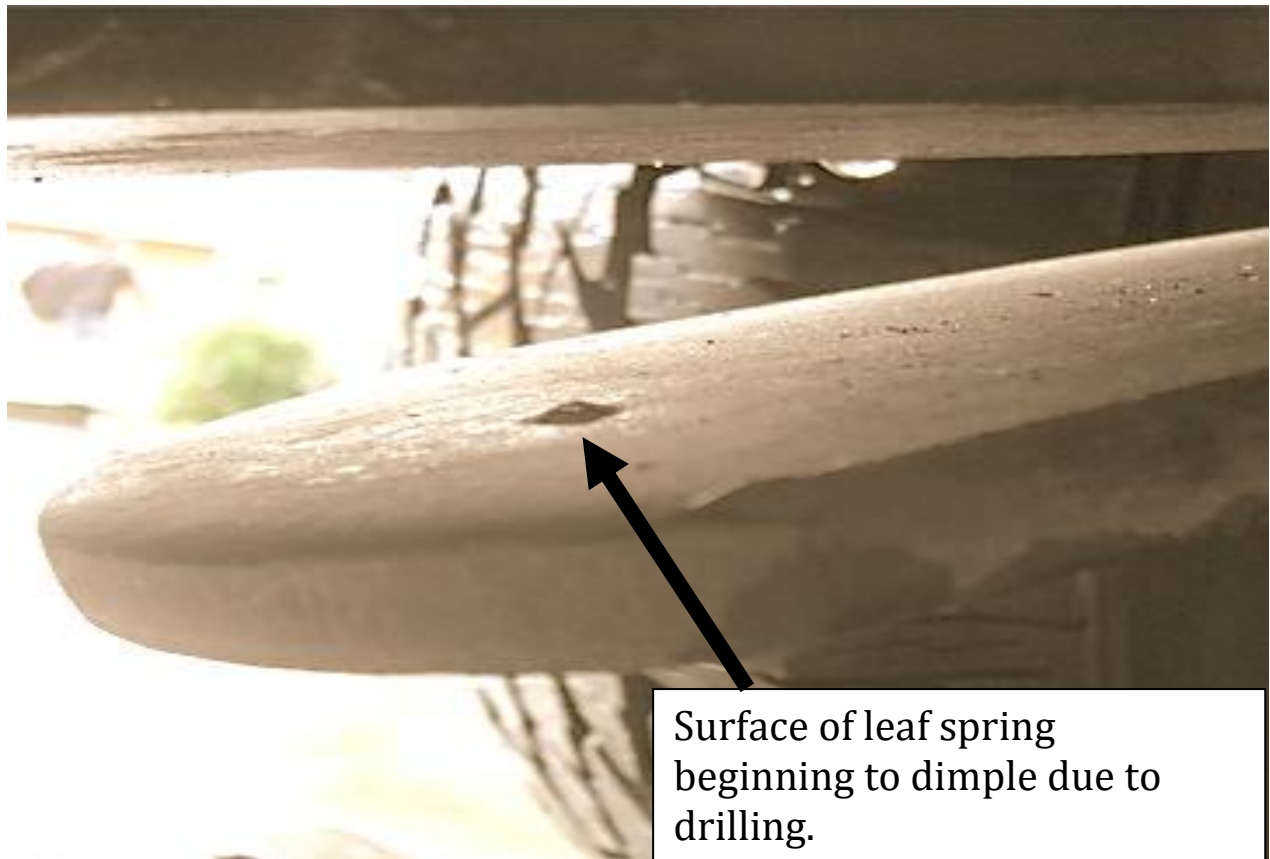
For this step, you will need:

- A low speed electric cordless hand drill capable of spinning 200-300 rpm. A 18v or larger drill is recommended.
- Cutting fluid or motor oil.

Begin by marking the hole locations on both ends of each lower overload spring. The hole should be marked 1" in from the end.

Without pre-drilling, use the supplied 7/16" Cobalt drill bits to drill through the leaf springs in the marked locations. Do not drill all the way through the leaf

spring at this time. Once the top of the leaf spring begins to dimple, stop drilling and move to the next hole location. Drilling through the leaf spring at this time may damage the drill bit. See figure 2.1



**Figure 2.1**

When drilling, use a slow rpm, and apply a high amount of force against the spring to keep the bits from dulling. Apply oil to the tip of the drill bit approximately every 5 to 10 seconds.

Once all four holes are mostly drilled, go back and finish drilling the holes. Use a lighter pressure on the drill as the bits will grab as they break through the upper layer of the overload spring.

If drilling the springs by hand is too difficult, Torklift offers a free drill tool rental (Deposit and shipping required). C

## Step 3

Measure the thickness of the lower overload spring 3” back from the end of each overload. Write your measurement down here \_\_\_\_\_. You will also want to measure the gap between the overload spring and the spring pack assembly at this location. Write your measurements down here. Driver (Fr)\_\_\_\_\_, Driver (Rr)\_\_\_\_\_, Pass (Fr)\_\_\_\_\_, Pass (Rr)\_\_\_\_\_.

## Step 4

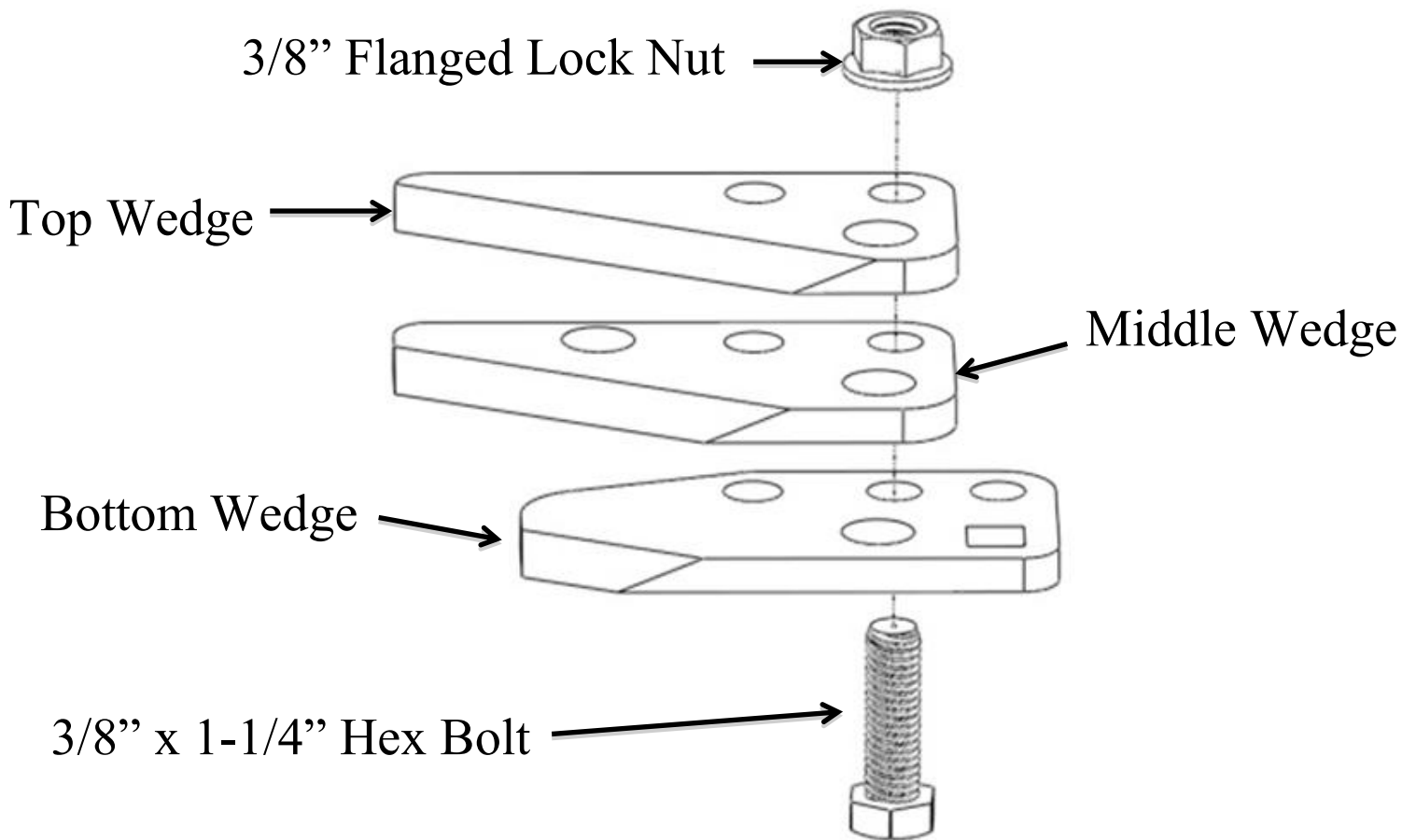
A7310 and A7311 Stable Loads are meant to be engaged and disengaged while the rear end of the truck is lifted with either a floor jack or air bags (if applicable).

Determine the number of wedges to assemble in the wedge pack. If the gap between the lower overload and spring pack measured in step 3 is 3/4” or greater, assemble the wedge pack as shown in figure 4.1. If the gap is between 1/2” and 3/4”, assemble the wedge pack without the top wedge. If the gap is 1/4”-1/2”, assemble the wedge pack with only the bottom wedge.

If you are using less than three wedges in the wedge pack, wedges can be added to increase the affect of the stable load on the suspension, however this may also increase the difficulty of engaging and disengaging the StableLoad.

To lessen the difficulty of engaging the StableLoads, the top and bottom of the wedge packs can be greased, or a wedge can be removed.

To assemble the wedge pack, place the wedges into three groups. Each wedge is 1/4" thick and assembles from largest to smallest. The bottom wedge has four round holes and one square hole. The middle wedge will have four round holes and the top wedge is the smallest wedge with three round holes. Be sure that the tapered edges are all facing up as seen in figure 4.1. Torque the nut and bolt to 20 ft-lbs (27nm). Make sure the wedges are aligned evenly

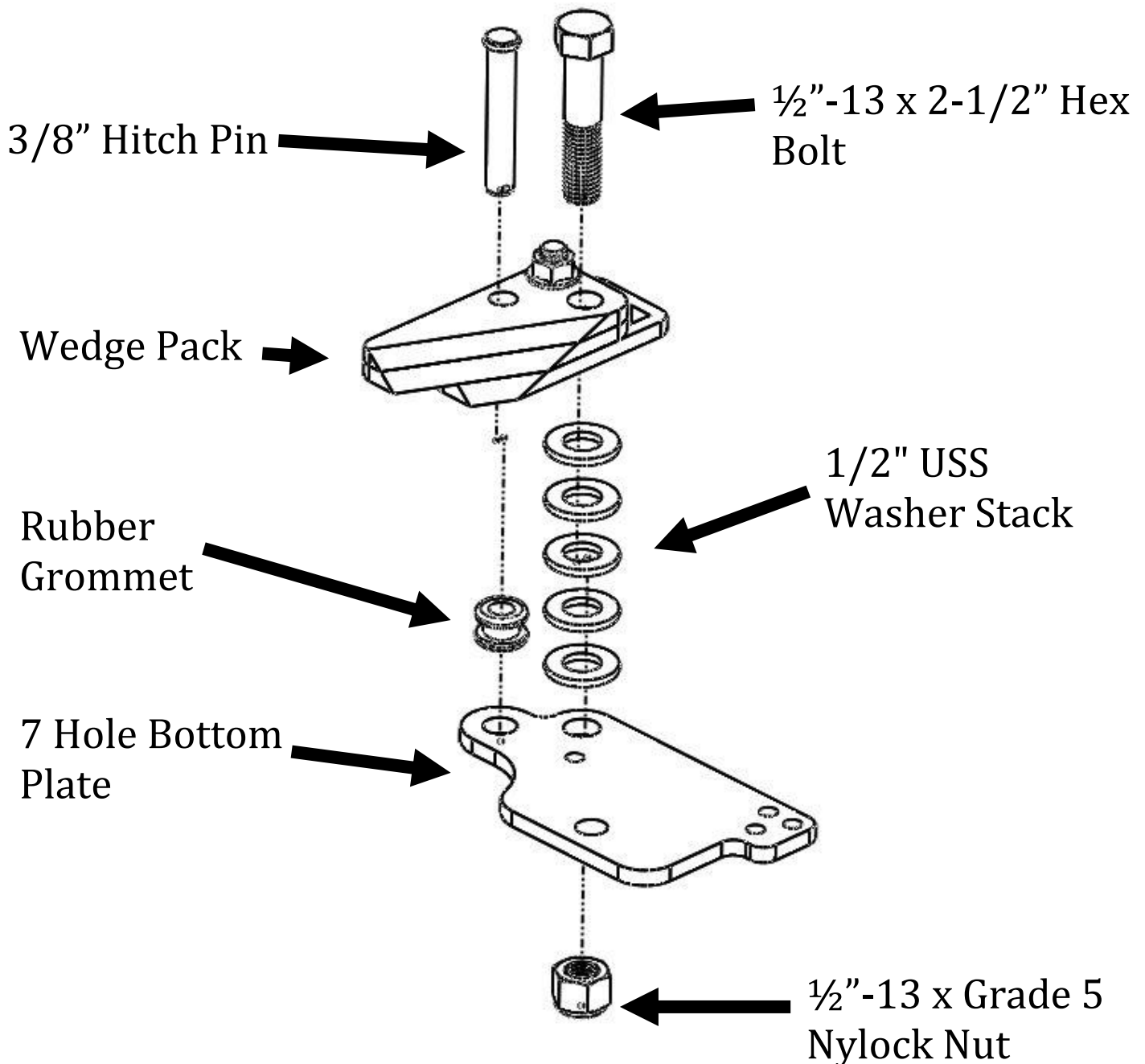


**Figure 4.1**



## Step 5

Assemble a stack of 1/2" USS Washers to match the thickness of the lower overload spring as measured in Step 3. The washer stack cannot be shorter than the lower overload spring, but needs to be as close as possible. Assemble the wedge pack to the seven hole bottom plate as seen in figure 5.1. The Rubber Grommet will need to be pushed into the hole in the 7 Hole Bottom Plate.



Tighten the 1/2"-13 x 2-1/2" Hex Bolt until the snug. Keep the bolt loose enough to allow the wedge pack to rotate with slight effort. When complete, you will have two right-hand and two left-hand StableLoads.

## **Step 6**

Determine the mounting orientation. A7310 and A7311 StableLoads can be installed on either the inside (frame side) or outside (tire side) of the spring. Which side is used will depend on the available clearance around the spring on the vehicle. It is important that the StableLoad have at least 1" of clearance around obstacles such as the frame, tire, mud flaps, brake lines, and exhaust when it is both engaged and disengaged. Keep in mind that the suspension is currently uncompressed, and the StableLoads will travel upwards from their current positions. Failure to provide enough clearance can result in damage to the StableLoad, Tires, Brake lines, or other parts of the vehicle. See figure 6.1



PIVOT POINT INSIDE SPRING PACK



PIVOT POINT OUTSIDE OF SPRING PACK

**Figure 6.1**

## Step 7

Next you will need to determine the configuration of your Seven Hole Bottom Plate. If your overload is 2-5/8" wide or less, you will need to use both 1/4" X 3/4" Hex Bolts and both 1/4" Nylock Nuts as seen in Figure 7.1 and 7.2 .

**NOTE:** While it is not necessary for the Seven Hole Bottom Plate to be exactly perpendicular to the leaf spring, it is imperative that plate rotation is prevented by using one of the installation options pictured on the following pages.

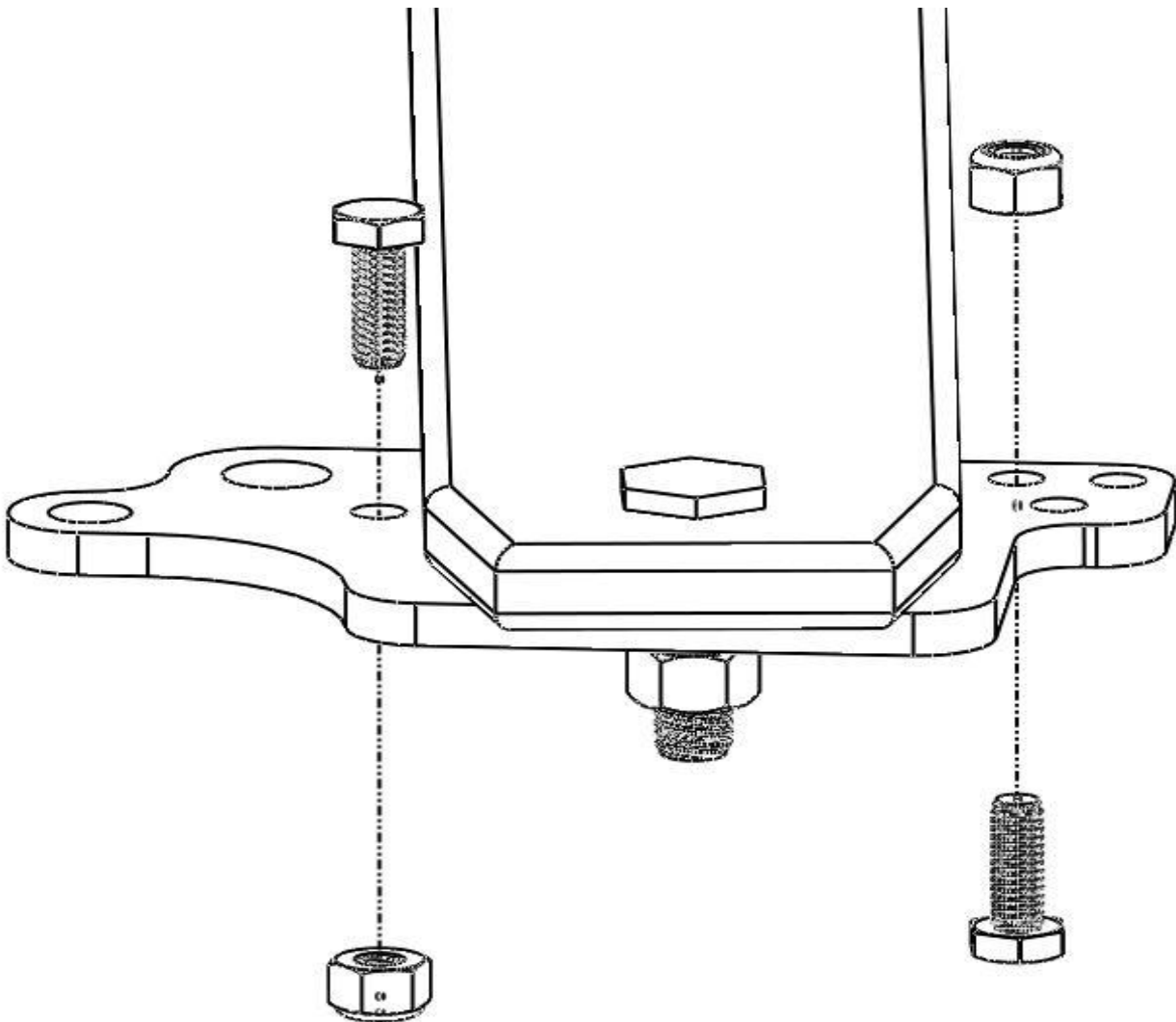
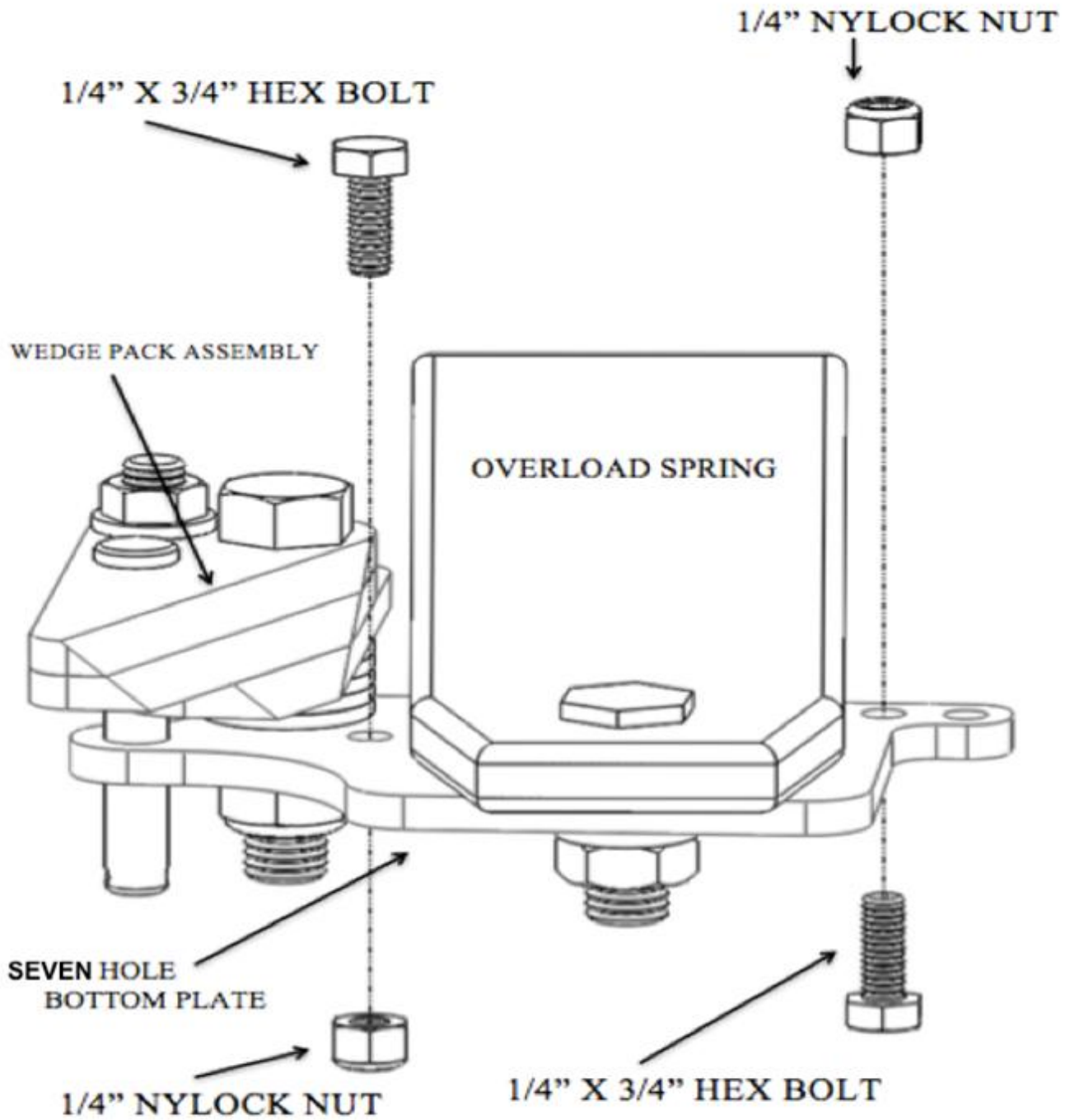


Figure 7.1



**Figure 7.2**

If your overload is between 2-5/8" and 3" you will also use both 1/4" X 3/4" Hex Bolts and both 1/4" Nylock Nuts as seen in **Photo 7.3**.

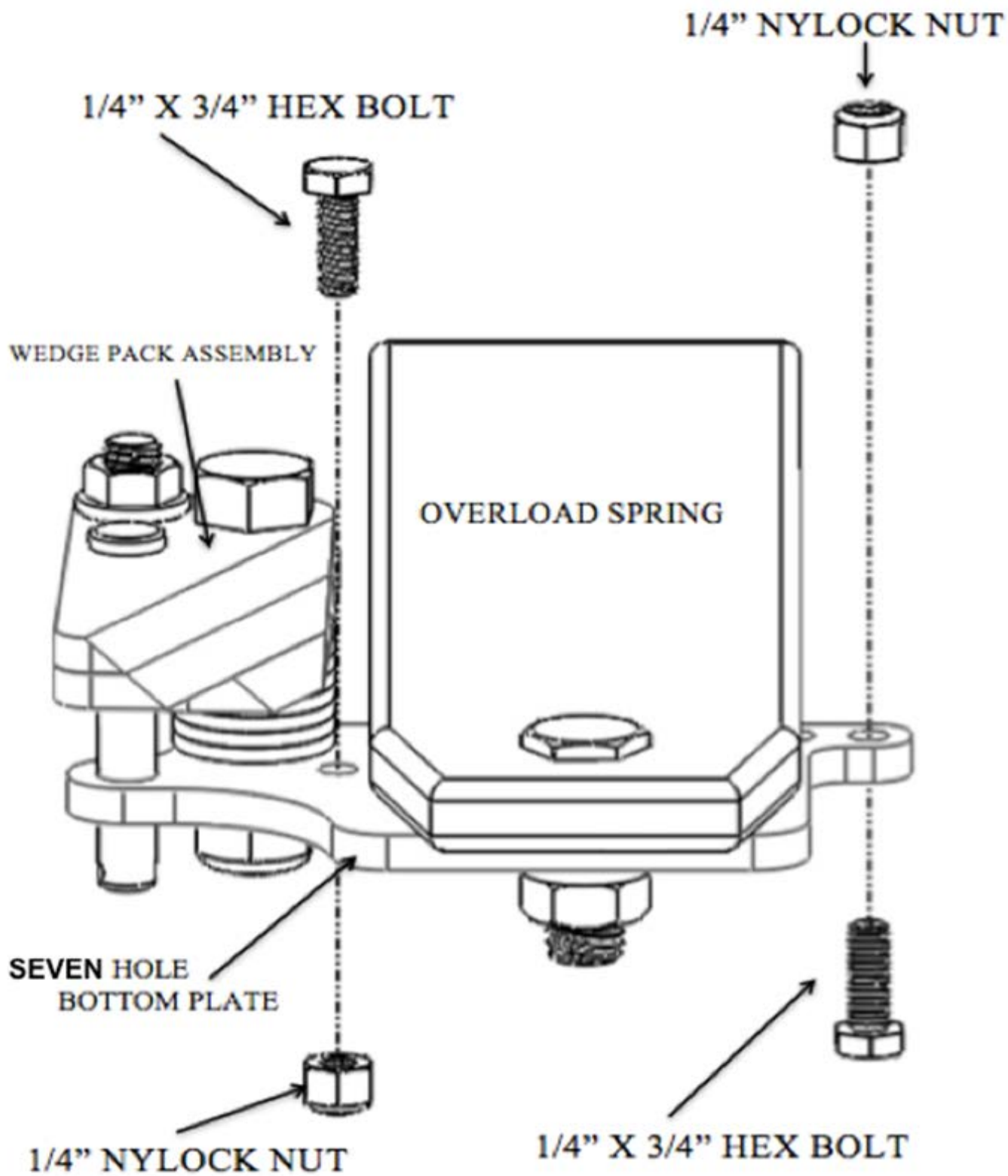
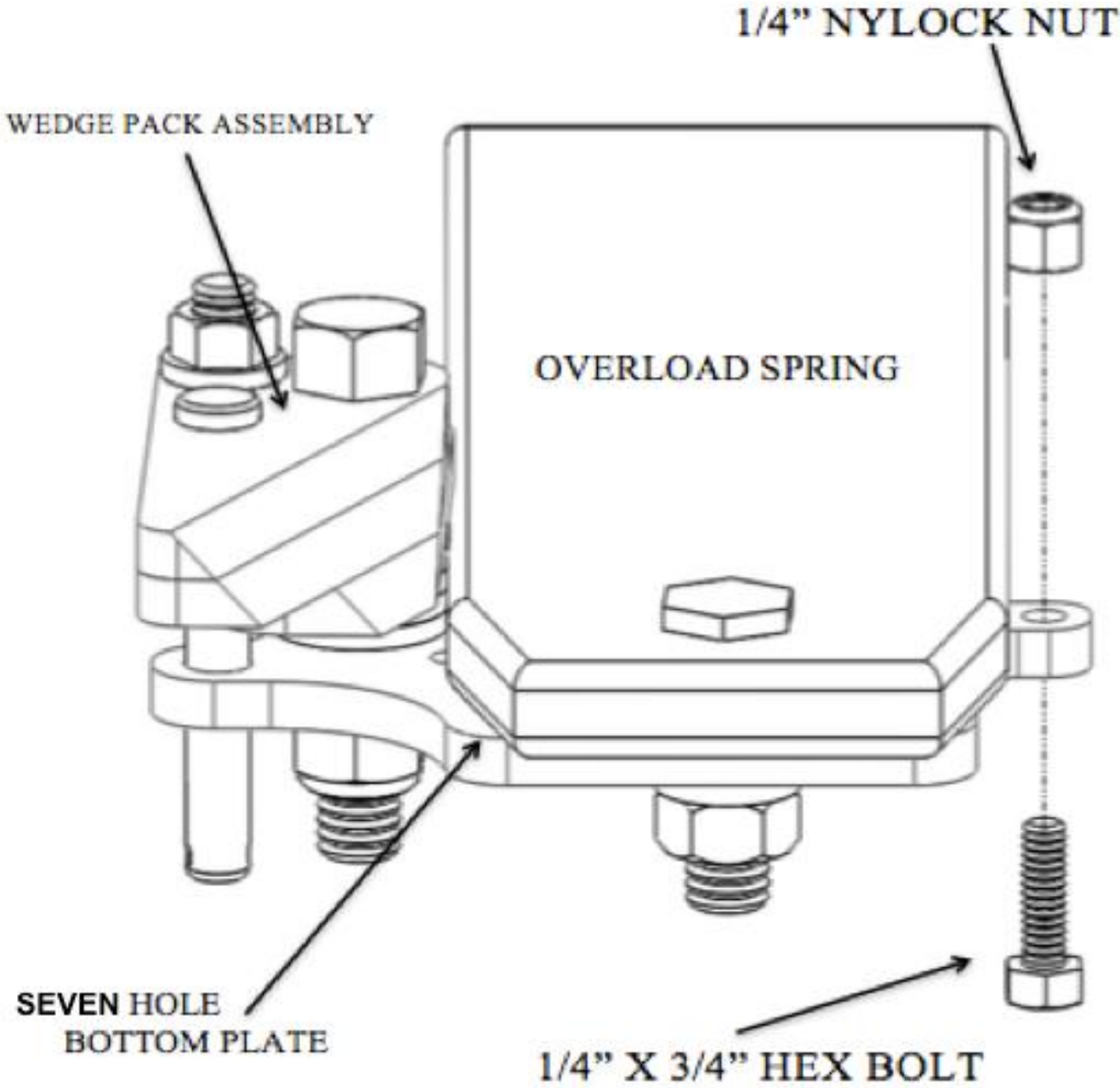


Figure 7.3



If your overload is greater than 3", you will only use one 1/4" X 3/4" Hex Bolt and one 1/4" Nylock Nut as seen in **Photo 7.4** below.



**Figure 7.4**

**Note: In Figure 7.4, the washers under the wedge pack act as the rotation stop. Only one 1/4" hex bolt is required to prevent rotation in the other direction.**

## **Step 8**

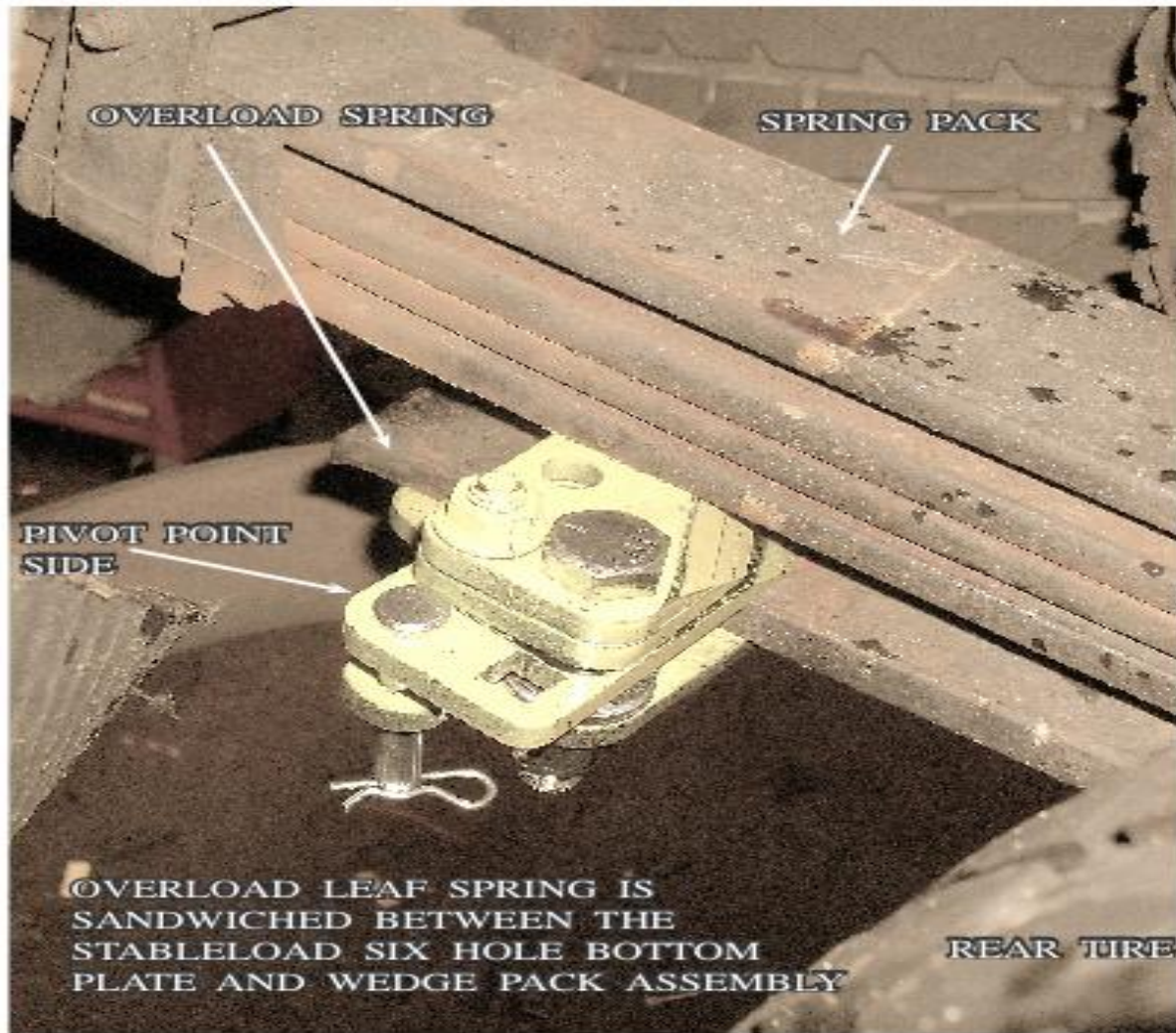
Insert one 7/16" X 1-3/4" Low Profile Hex Bolt through the hole in the Overload spring from the top. If there is not enough clearance between the overload spring and main spring pack to insert the bolt, a crow bar may be used to carefully spread the springs apart further.

Place one Seven Hole Bottom Plate under the overload leaf spring with the pivot point on the inside or outside, depending on clearance.

Place one 7/16" USS Flat Washer, one 7/16" Lock Washer and one 7/16" Hex Nut onto the 7/16" X 1-3/4" Low Profile Hex Bolt and tighten to 35 FT - LBS (47 Nm). See photo below. *Use a 3/8" drive ratchet and extension to engage or disengage the StableLoads as needed. Place the Pin and Clip through the remaining hole to lock into place.*



## PASSENGER SIDE-REAR STABLELOAD ENGAGED



*Note: If the installed Stable Loads result in a rough ride, it may be necessary to adjust the pressure in your airbags or adjust the tension on the WD system.*