

PRG
PRODUCTS
Nissan Titan/Frontier/Armada/Xterra
PRG Leveling Kit – Installation Guide

PLEASE NOTE: PHOTOS SHOW OLD STYLE OF SPACER WITH FIXED STUDS. WE NOW INCLUDE BOLTS IN PLACE OF FIXED STUDS.

Pre-Installation: Installation of this suspension leveling kit will require a basic automotive tool set, a jack, two jack stands, and a portable drill with a 3/8-13/32 drill bit or a 3/8-16 tap. Park the vehicle on level ground and firmly set the emergency brake. Place the transmission into PARK. Please pay close attention to the recommended torque values and use a torque wrench when final tightening of the fasteners is required. All torque ratings are given in FT/LB (foot pound). Using a torque wrench and the supplied torque values will ensure your vehicle suspension is properly re-assembled and will reduce the chance of stripped or damaged fasteners.

Step 1. On level ground unbolt the swaybar end links before doing any thing else. Both sides need to be loose to allow work on each wheel individually. These are 17mm nuts that attach to small ball joints and when loosen can be pushed from their sockets and allow the swaybar to rotate freely on its frame pivots. Jack up the front end of the vehicle (so the tires are about 3" off the ground) and support with a jack stand on one side (usually place the jackstand on the front frame cross member or on the frame rail itself) and lower jack so that the tire you are working on is the only tire in the air (the other three still firmly on the ground). Remove the tire and use the floor jack to support the lower a-arm as it will aid you in lowering and raising the a-arm/spindle upright into position later.

Step 2. Locate the nut that retains the upper ball-joint to the spindle. Remove and discard the cotter pin. New cotter pins are provided with your kit. Do NOT reuse the old cotter pins! Next, loosen the nut that retains the upper ball-joint to the spindle and leave it as to protect the threads from possible damage from the next step. After the nut has been loosened, tap the front of the spindle (at the ball joint cup) with a hammer (usually about 4 lb sledge swinging from the FRONT of the vehicle reward) until the upper ball-joint pops free from the spindle. It will usually take 3-5 firm blows. Do not use a ball-joint splitter (aka pickle fork) as you can damage the rubber boot that retains grease for the ball-joint. (Figure 2.) Remove the nut and be sure to use a piece of wire or a tie-strap to keep the spindle assembly from falling outward. If this happens it can stretch the brake lines or (on a 4x) cause the axle to leak at the front differential. It will only leak a bit and will not leak after reassembly.



Figure 1.



Figure 2.

Step 3. Using a 14mm wrench or socket, remove the three nuts that hold the strut to the frame. Note: If there is an accumulation of dirt or rust on these threads it is advised you clean them before proceeding. Failure to clean the threads prior to disassembly may cause damage to the threads! Next, using a 19mm wrench or socket, remove the bolt and nut from the lower strut mount. Finally, remove the strut from the vehicle. (Figure 3.)



Figure 3.



Figure 4.

Step 4. With the strut removed from the vehicle you can begin the spring spacer installation. Place the spacer on top of the strut as shown in Figure 4. Attach the spacer to the top of the strut using the stock nuts you removed in step 3. Torque these nuts to 15-20FT/LB. **DO NOT OVERTIGHTEN!** Figure 4.

Step 5. Using a 12mm wrench or socket, remove the nut that holds the factory bump stop to the lower control arm. Remove the factory bump stop from the vehicle. This bump stop will not be reused. The bump stop provided with the leveling kit has a slightly larger stud than the factory bump stop. You have two installation options...

Option 1: Run a 3/8-16 tap through hole and thread the new bump stop into the lower control arm and then secure it using the new hardware provided with the bump stop. (Figure 5.)

Option 2: Drill out the factory bump stop mounting hole in the lower control arm using a drill and a 3/8-13/32 drill bit. Remove any burrs from the mounting hole and then install the bump stop using the provided nut. Torque the bump stop nut to about 10 ft/LB. It just needs to be snug as over tightening it will ruin the bumpstop (Figure 5.)



Figure 5.



Figure 6.

Step 6. Verify that the spacer is properly installed to the strut and that all spacer hardware has been properly tightened. Install the strut onto the vehicle. Begin by inserting the three studs on the top of the strut into the holes on the frame. Be sure the lower strut mount is positioned correctly so that the strut lines up with the lower control arm mount! Secure two of the top studs with the supplied nuts. **Do NOT tighten at this time.** Align the lower strut mount with the lower control arm and insert the factory strut mounting bolt. This is where using the floor jack is beneficial to allow alignment of the lower shock arm. It may be necessary to use some force to get the lower strut bushing to fit into the lower control arm mount. This is normal. Once you verify that the upper and lower mounts are properly positioned you can tighten the fasteners. Tighten the top strut nuts to 25-30FT/LB. Fasten the lower strut mount using the stock hardware removed in step 3. Torque the lower strut mount assembly to 85-90 FT/LB. Do not use an impact wrench or any other air tools as they can easily over torque the fasteners and cause thread damage!

Step 7.

Re-attach the spindle to the upper control arm ball-joint. To do this you will need to raise the lower control arm and/or push down on the upper control arm. Be careful when raising the lower control arm and go slowly (if you have both tires removed and the front of the truck completely supported by jackstands, which is NOT recommended, you may have a difficult time raising the lower a -arm up with the truck wanting to rotate on the jackstands, this is why its recommended to leave the opposite tire on the ground). The upper control arm bushings may be tight and this will cause some resistance when pushing down on the upper control arm. This is normal. Once you are sure the ball-joint is properly seated into the spindle you can secure the assembly using the stock ball-joint nut that was removed in step 2. Torque the ball-joint nut to 55-58FT/LB. Be careful not to over tighten this nut as thread damage can occur. If you strip these threads you may have to replace the entire ball-joint assembly! Insert the supplied cotter pin (do not reuse the old pin!) and bend each end of the pin in opposite directions to lock it in place. Refer to Figure 2. for photo.

Congratulations!

The leveling kit portion of the installation is now complete. To finish the project you will need to mount your tires and torque the lug nuts to the specification provided in your vehicle owner's manual. United Productions and PRG Products recommends checking all strut mounting hardware and lug nuts for proper torque after 50 miles of vehicle operation. UP also recommends that ALL vehicles have their alignment checked and adjusted by a professional after any type of suspension lift or leveling kit is installed. Failure to check and adjust the vehicle alignment can cause uneven tire wear and poor handling. If an alignment facility is not available, or if an alignment facility is not located nearby, some basic corrective adjustments can be made at home using basic hand tools and a measuring tape.

Alignment Procedure:

Park the vehicle on level ground and make sure that all four tires are firmly planted on the ground. You do not want the vehicle on jack stands when checking the alignment. Turn the steering wheel so that the front tires are pointing as straight ahead as possible. You will be measuring the amount of **TOE**. Toe is the difference in the distance between the front of the tires and the back of the tires. Usually, tires are set so that they are parallel with each other. If the fronts of the tires are closer, the wheels are toe-in. If the rears of the tires are closer, the wheels are toe-out. If the tires are toed-in too much, the tread will be "worn" off, starting from the outside edges. If they are toed-out, the wear will start from the inside. Refer to Figure 7 for more information.

Step 1:

Measure the distance between the front tires using the forward most part of the tires as possible. Write this measurement down and label it FRONT. Then measure the distance between the front tires at the rearward most part of the tire. Write this measurement down and label it REAR. For example, the distance measured between the forward part of the front tires is 56.75 inches. The distance measured between the rear most part of the front tires is 57.25 inches. The difference in these two measurements is known as the amount of TOE. In this example (56.75" FRONT & 57.25" REAR) there is a negative toe amount of 1/2" inch. This is considered too much toe-in and will need to be corrected. To set the correct amount of toe-in you will be making adjustments by turning the tie-rods. Refer to Figure 8 for a photo of the tie rod and the jam nut. In our example we need to decrease the amount of toe-in. That means the distance between the FRONT part of the tires needs to be increased. Start with a 1/2 turn of each tie rod and then re-measure. Adjust the tie rods until you have approximately 1/16" to 1/8" of toe-in. Once your toe-in is set you can tighten jam nut.

Please note: UP **STRONGLY** suggests having your alignment checked and adjusted by a professional. The alignment procedure outlined above will get the alignment "close enough" to allow the vehicle to be driven to an alignment shop. UP is NOT responsible for poor vehicle handling or tire wear caused by improper front end alignment!

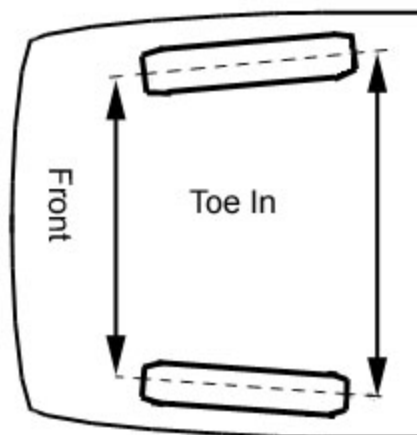


Figure 7.



Figure 8.

RETORQUE ALL NUTS, BOLTS, AND LUGS AFTER 50 MILES AND PERIODICALLY THEREAFTER

For technical assistance call 951-780-5331

Product Warranty and Warnings

United Productions and PRG Products provides a Limited Lifetime Warranty to the original retail purchaser who owns the vehicle, on which the product was originally installed, for defects in workmanship and materials. This warranty applies only to products manufactured by United Productions

UNITED PRODUCTIONS AND PRG PRODUCTS does not warrant any product for finish, alterations, modifications, and/or installation contrary to UNITED PRODUCTIONS AND PRG PRODUCTS instructions. Alterations to the finish of the parts including, but not limited to painting, plating and/or welding will void all warranties. Some finish damage may occur to parts during shipping which is considered normal and is not covered under warranty.

UNITED PRODUCTIONS AND PRG PRODUCTS products are not designed to be installed on vehicles used in race applications or for racing purposes or for similar activities (A race is defined as any contest between two or more vehicles, or any contest of one or more vehicles against the clock, whether or not such contest is for a prize). This warranty does not include coverage for police or taxi vehicles, race vehicles, or vehicles used for government or commercial purposes. Also excluded from this warranty are sales outside of the USA.

Installation of most suspension products will raise the center of gravity of the vehicle and will cause the vehicle to handle differently than stock. It may increase the vehicles susceptibility to a rollover, on road or off road, at all speeds. Extreme care should be taken to operate the vehicle safely at all times to prevent rollover or loss of control resulting in serious injury or death.

UNITED PRODUCTIONS AND PRG PRODUCTS makes every effort to ensure suspension product compatibility with factory parts, but due to unknown auto manufacturer's production changes and/or inconsistencies by the auto manufacturer, UNITED PRODUCTIONS AND PRG PRODUCTS cannot be responsible for 100% compatibility. UNITED PRODUCTIONS AND PRG PRODUCTS does not recommend any size tire over stock and will not be held responsible for and damage to body, tire, wheel, or vehicle from using oversize tires and/or wheels.

UNITED PRODUCTIONS AND PRG PRODUCTS' obligation under this warranty is limited to the repair or replacement, at UNITED PRODUCTIONS AND PRG PRODUCTS' option, of the defective product only. All costs of removal, installation, or re-installation, freight charges, incidental or consequential damages are expressly excluded from this warranty. UNITED PRODUCTIONS AND PRG PRODUCTS is not responsible for damages and/or warranty of other vehicle parts related or non-related to the installed UNITED PRODUCTIONS AND PRG PRODUCTS product. This warranty is expressly in lieu of all other warranties expressed or implied. This warranty shall not apply to any product that has been subject to accident, negligence, abuse, alteration, or misuse as determined by UNITED PRODUCTIONS AND PRG PRODUCTS.

UNITED PRODUCTIONS AND PRG PRODUCTS suspension components must be installed as a complete system by qualified personnel, having complete knowledge of suspension components and their workings. Having less than qualified mechanics install the kit will void all warranties. Qualifications subject to approval of UNITED PRODUCTIONS AND PRG PRODUCTS. All warranties will become void if UNITED PRODUCTIONS AND PRG PRODUCTS parts are combined and/or substituted with other aftermarket suspension products. Combination and/or substitution of other aftermarket parts may cause premature wear and/or product failure in an accident, causing injury or death. UNITED PRODUCTIONS AND PRG PRODUCTS does not warrant any products not manufactured by UNITED PRODUCTIONS AND PRG PRODUCTS.

Installation of UNITED PRODUCTIONS AND PRG PRODUCTS products may void the vehicles factory warranty; it is the consumer's responsibility to check with their local vehicle's dealer for warranty disposition before the installation of the product.

It is the responsibility of the distributor and/or retailer to review all warranties and warnings of UNITED PRODUCTIONS AND PRG PRODUCTS products with the consumer prior to purchase.

UNITED PRODUCTIONS AND PRG PRODUCTS reserves the right to supersede, discontinue, change the design, finish, part number, or application of parts when deemed necessary without written notice.

By installing a UNITED PRODUCTIONS AND PRG PRODUCTS kit the end user shall assume all responsibility of the kit and any issues, problems, failures, etc. associated with the kit and related components during use and operation. It is the installer's responsibility to insure proper fit and function of the kits and related components. The installer shall become liable for the complete suspension system of the vehicle, and its proper function and operation, after install. (This includes, but is not limited to, shocks, sway bar, sway bar end-links, ball joints, a-arms, bushings, wheels, tires, springs, nuts and bolts, bumpstops, and bearings). UNITED PRODUCTIONS AND PRG PRODUCTS releases all liability to the installer after installation of a UNITED PRODUCTIONS AND PRG PRODUCTS product.