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TOYOTA TUNDRA

3" LEVELING KIT 2WD-4WD

INSTALLATION INSTRUCTIONS 2007-2016 KIT# PATL233PA

*NOT FOR USE ON 15-16 TUNDRA TRD PRO w/ BILSTEIN SHOCKS

⚠ WARNING
Installation of a Performance Accessories suspension lift kit will change the vehicle's center of gravity and handling characteristics both on- and off-road. You must drive the vehicle safely! Extreme care must be taken to prevent vehicle rollover or loss of control, which could result in serious injury or death. Avoid sudden sharp turns or abrupt maneuvers and always make sure all vehicle occupants have their seat belts fastened.

⚠ WARNING
Before you install this kit, read and understand all instructions, warnings, cautions, and notes in this instruction sheet and in the vehicle owner's manual.

⚠ CAUTION
Proper installation of this kit requires knowledge of the factory recommended procedures for removal and installation of original equipment components. We recommend that the factory shop manual and any special tools needed to service your vehicle be on hand during the installation. Installation of this kit without proper knowledge of the factory recommended procedures may affect the performance of these components and the safety of the vehicle. We strongly recommend that a certified mechanic familiar with the installation of similar components install this kit.

⚠ WARNING
This kit should only be installed on a vehicle that is in good working condition. Before you install the kit, thoroughly inspect the vehicle for corrosion or deformation of the sheet metal. If the vehicle is suspected to have been in a collision or misused, do not install this kit. Off-road use of your vehicle with this kit installed may increase the stress applied to the factory components. Failure to observe this warning may result in serious personal injury and/or severe damage to your vehicle.

⚠ WARNING
Many states and municipalities have laws restricting bumper heights and vehicle lifts. Consult state and local laws to determine if the changes you intend to make to the vehicle comply with the law.

⚠ WARNING
The installation of larger tires may reduce the effectiveness of the braking system.

⚠ WARNING
Always wear eye protection when operating power tools.

⚠ WARNING
Before you install this kit, block the vehicle tires to prevent the vehicle from rolling.

⚠ WARNING
If you use other shocks, they must match the full extended and full collapsed lengths of the OEM shocks. The use of longer or shorter shocks than recommended may cause damage to the vehicle suspension and could result in sudden loss of control of the vehicle and personal injury. Contact dealership for the lengths of the front and rear shocks that must be used with this suspension system.

NOTE
Performance Accessories recommends using the Loctite® supplied in the kit on the threads of all kit nuts and bolts unless specified otherwise in these instructions.

NOTE
Lift height may vary depending on vehicle configuration, engine size, additional accessories, the factory suspension package, and vehicle's condition.

Before Starting Installation

NOTE
Kit parts are prefaced by the word *kit* and appear in **bold print**.

1. Carefully read all warnings and instructions completely before beginning.
2. Verify all parts have been received in this kit by checking the parts list at the end of this document.
3. **Only install this kit on the vehicle for which it is specified.** If anytime during the installation you encounter something different from what is outlined in the instructions, call technical support at (928) 636-3175.
4. Park vehicle on a clean, dry, flat, level surface and block tires so vehicle cannot roll in either direction.

NOTE
Adhere to recommendations when replacement fasteners, retainers and keepers are called out in the factory service manual. When re-assembling the vehicle it is recommended by the vehicle manufacturer that certain fasteners are replaced in order to maintain proper retention characteristics. This system may not include all replacement hardware as recommended by the factory service manual. Additional replacement hardware should be obtained prior to installation of this system to meet the requirements of the factory service manual.

Torque Specifications

See factory service manual for torque values when re-using OE fasteners.

<u>Bolt Size</u>	<u>Grade 5 (ft.-lbs.)</u>	<u>Grade 8 (ft.-lbs.)</u>
1/4"-20	10	10
1/4"-28	10	12.5
5/16"-18	17	22.5
5/16"-24	20	25
3/8"-16	30	40
3/8"-24	35	45
7/16"-14	50	65
7/16"-20	55	70
1/2"-13	75	100
1/2"-20	55	70
9/16"-12	105	135
9/16"-18	115	150
5/8"-11	150	195
5/8"-18	160	210
3/4"-16	175	225

Engine Compartment

1. Disconnect both battery cables. Disconnect negative cable first, then positive cable.

Front Suspension

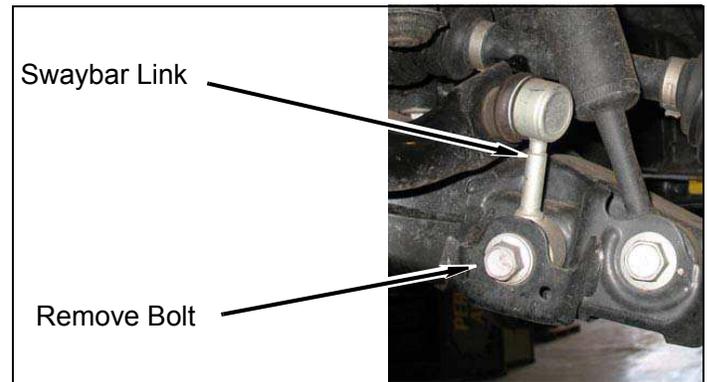
Remove Front Suspension Components

1. Loosen, but do not remove, lug nuts on each front wheel.
2. Using a hydraulic floor jack, slowly lift front axle until front tires are 3-5" off ground. Position jack stands under frame behind lower control arm perches. Lower vehicle onto jack stands while maintaining hydraulic jack pressure underneath front axle.

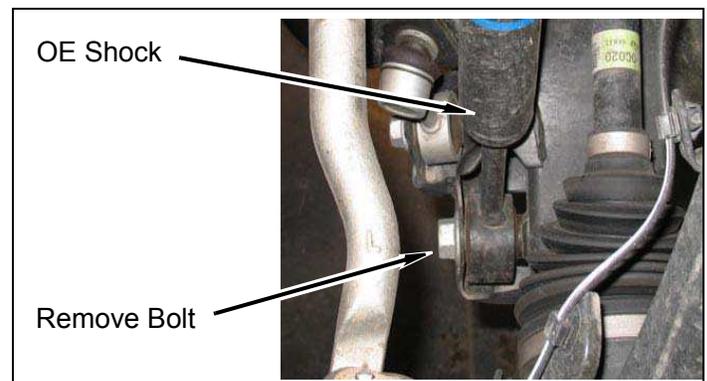
⚠ WARNING

Use extreme caution when lifting vehicle from ground. To prevent serious personal injury, ensure the lifting device is securely placed.

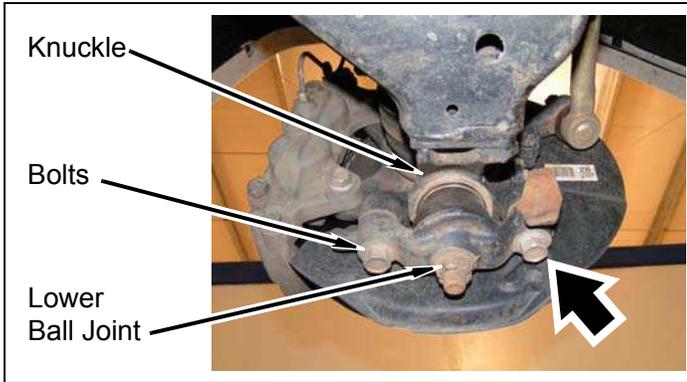
3. Remove lug nuts and front wheels from vehicle.
4. Remove front strut
 - a. Unbolt sway bar link from lower control arm.



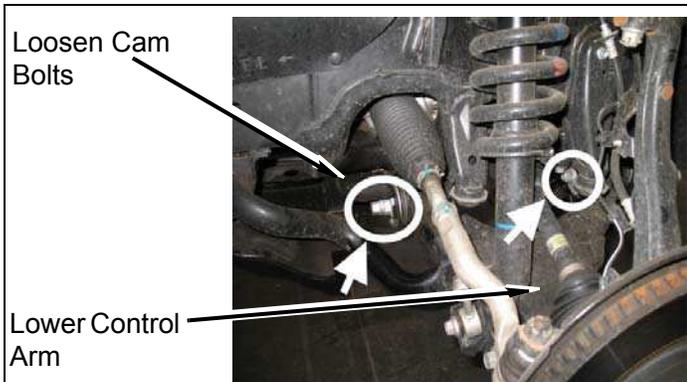
- b. Remove lower shock bolt.



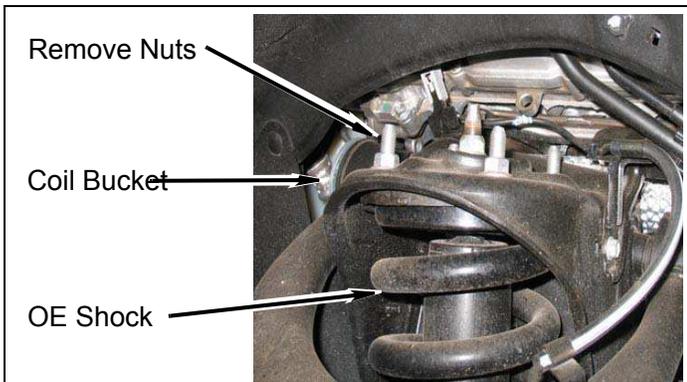
c. Remove two bolts and lower ball joint from knuckle.



d. Loosen lower control arm cam bolts to release tension from bushing and allow lower arm to droop down when disconnected from lower ball joint mount.



e. Remove four nuts at top of strut securing it to vehicle frame.



f. Pry lower control arm downward and remove strut from vehicle.

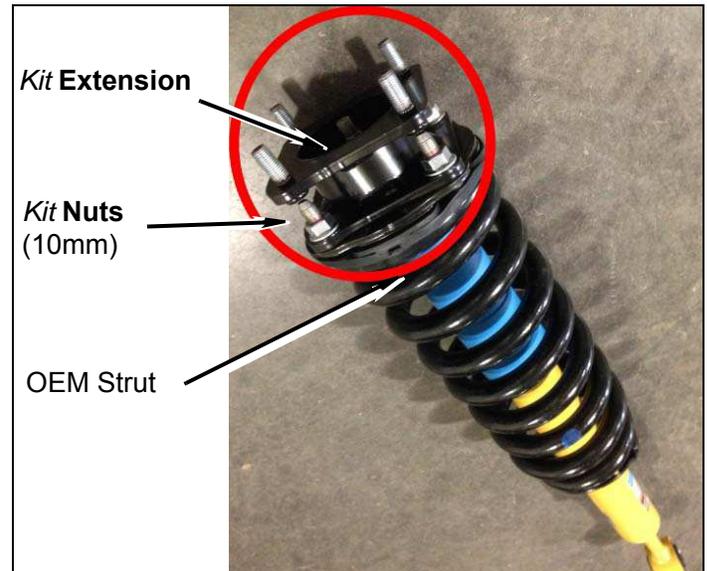


5. Repeat previous steps on opposite side of vehicle.

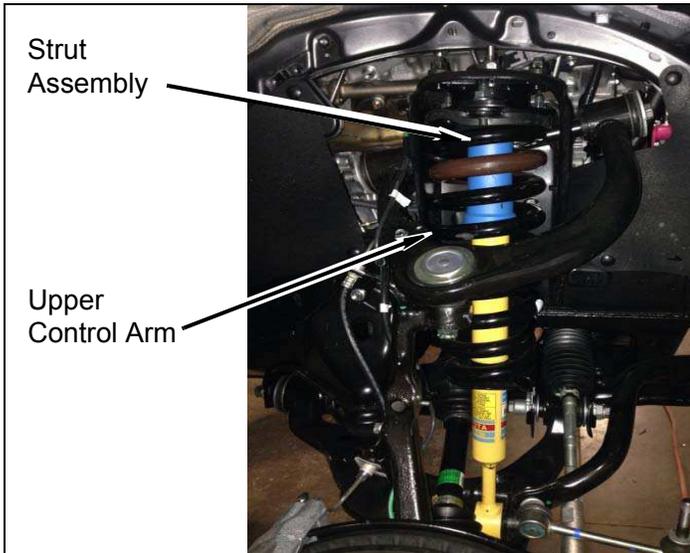
Install Front Suspension

1. Install strut extension installation.

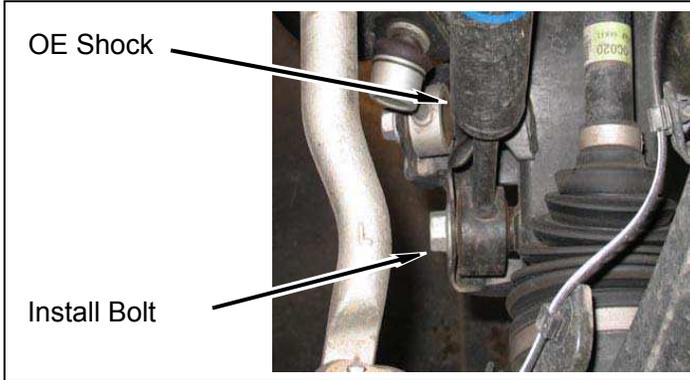
a. Place OEM strut into a vise. Install *kit strut extension* onto factory upper mounting plate and align them with the studs. Use four *kit nuts* (10mm) and *kit loctie* to secure *kit strut extension* to OEM strut. TORQUE nuts to OE specs.



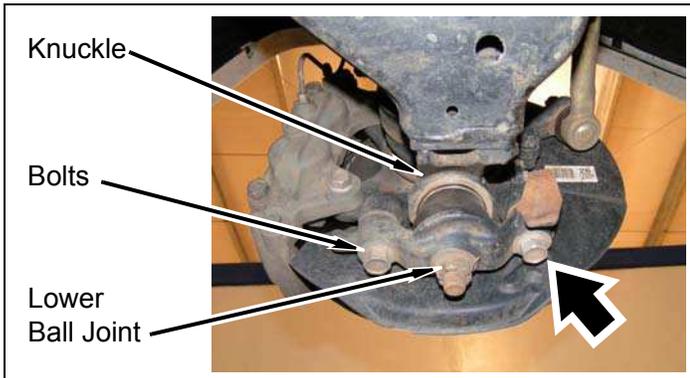
- b. Reinstall the strut assembly in its stock location. Leave the four upper strut mounting nuts loose.



- c. Raise the lower control arm and install strut assembly onto lower control arm with OEM nut and bolt. DO NOT TIGHTEN.



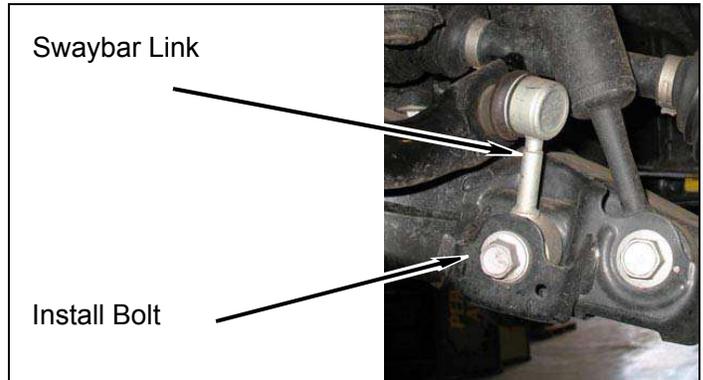
- d. Use a floor jack to raise the lower control arm up in order to get the two lower ball joint bolts installed. TORQUE bolts to OE specification.



- e. TORQUE lower strut nut and bolt to OE specification.
- f. TIGHTEN four OEM nuts on upper strut mount to OEM specification.

2. Install sway bar spacers

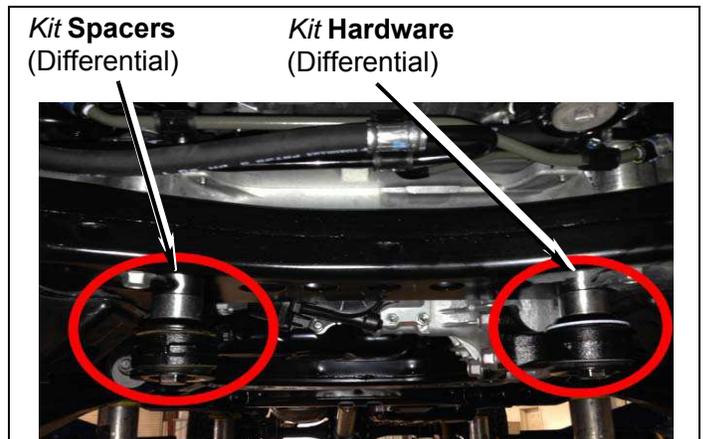
- a. Remove four factory bolts from frame and sway bar bushings caps. (Note: May have better access if factory skid plate is removed.)
- b. Using *kit sway bar drop spacer* and *kit bolts* and **washers** (12mm); install 1" spacers inbetween frame rail and sway caps. Secure them to the frame using *kit bolts* and **washers** (12mm)
- c. Install sway bar end link onto control arm with nut. TORQUE nut to OE specification.



- d. Repeat above steps for passenger side strut assembly.

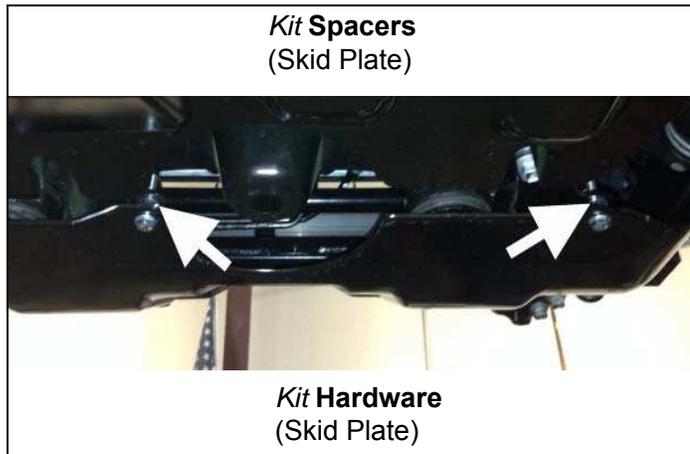
3. Install kit differential drop spacers.

- a. Using jack, support differential.
- b. Remove the factory 14mm differential mounting nuts and bolts from front frame crossmember and differential mounts. (The OEM washers will be reused.)
- c. Install *kit spacers* (1") between the differential supports and the front cross-member. Install the *kit bolts* (14mm) with OEM factory washers and *kit nuts* (14mm) and **washers** (14mm). TORQUE to OE specification.

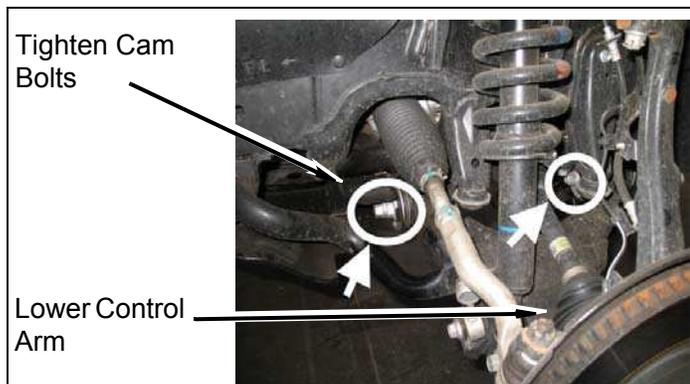


- d. Remove jack once differential is secure.

4. Install factory skid plate.
 - a. Install three *kit bolts* (8mm), **washers**, skid plate, and *kit spacers* (1/2") into the rear three skid plate mounting points. Use the OEM hardware for the two front mounting points.



5. Install two front wheels onto vehicle with lug nuts. Snug, but DO NOT TORQUE lug nuts.
6. Using hydraulic floor jack, raise front of vehicle and remove two jack stands.
7. Lower vehicle onto ground and TORQUE lug nuts to specification.
8. Tighten and torque lower control arm cam bolts after vehicle has been lowered onto level ground.



Engine Compartment

1. Connect both battery cables. Connect positive cable first, then negative cable.

Miscellaneous

1. Apply *kit label* (warning) onto dashboard in plain sight of all vehicle occupants.
2. Adjust headlights.

3. Check all fasteners to ensure they are tight.
4. Ensure all wires, hoses, cables, etc. are properly connected and there is ample slack.
5. Align vehicle to OE specifications. Retain alignment results.

Dynamic Vehicle Check

1. Check steering and suspension in all positions to ensure that there is no bind and adequate clearance between all moving, fixed, and heated members. Check operation of clutch, brake system, and parking brake. Check operation of transmission and transfer case. Ensure there is full engagement in all gears and 4WD ranges. Check battery connections and electrical component operations. Test-drive vehicle.

⚠ WARNING

Re-torque all fasteners after 500 miles and after off road use. All suspension lift components should be visually inspected and fasteners re-torqued during routine vehicle servicing.

⚠ CAUTION

Performance Accessories does not recommend any particular wheel and tire combinations for use with its suspension lifts and cannot assume responsibility for the customer's choice of wheels and tires. Refer to your owner's manual for recommended tire sizes and warnings related to the use of oversized tires. Larger wheel and tire combinations increase stress and wear on steering and suspension components, which leads to increased maintenance and higher risk for component failure. Larger wheel and tire combinations also alter speedometer calibration, braking effectiveness, center of gravity, and handling characteristics. Consult an experienced local off road shop to find what wheel and tire combinations work best with your vehicle.

NOTE

All warranty information, instruction sheets, and other documents regarding the installation of this product must be retained by the vehicle owner. Information contained in the instructions and on the warranty card will be required for any warranty claims. The vehicle owner needs to understand the modifications made to the vehicle and how they affect vehicle handling and performance. Failure to provide the customer with this information can result in damage to the vehicle and severe personal injury.

KIT LIST

Qty. Description

- 1 **Instruction sheet**
- 1 **Label** (logo)
- 1 **Label** (warning)
- 1 **Loctite®** (6ml bottle)
- 2 **Spacer** (Strut Extension)
- 2 **Spacer** (Differential)
- 3 **Spacer** (Skid Plate)
- 2 **Spacer** (Sway Bar)

1 TL229PABAG (Hardware Bag Kit)

- 3 **Bolt** (8mm x 40mm)
- 2 **Bolt** (14mm x 150mm)
- 8 **Nut** (10mm, Flange)
- 2 **Nut** (14mm)
- 4 **Washer** (14mm)
- 3 **Washer** (8mm)
- 4 **Bolt** (12mm x 50mm)
- 4 **Washer** (12mm)