



## FRONT SPRING AND STRUT INSTALLATION INSTRUCTIONS

2013-2018 Toyota Rav4

Installation time: 2-3 hours

### IMPORTANT:

- Read the attached GENERAL INSTALLATION NOTES prior to beginning any work.
- Read these instructions fully prior to beginning work to verify all tools, equipment, skills and methods are on hand to safely complete the installation.

### FRONT SPRING LIFT KIT MATERIAL LIST

- Hex flange nut, 10mm 6
- Washers 6
- Front Lift Spacers with studs 2
- Studs 6
- Front springs 2

-OR-

### FRONT FULL LIFT KIT WITH LOADED STRUTS

- KYB struts with springs and hardware fully assembled 2
- Hex flange nut, 10mm 6

Installation of these components should be performed by experienced and qualified mechanics, using safe and correct tools and equipment. Northwoods recommends this installation be performed by a qualified automotive shop.

1. Support the vehicle safely on a lift or hoist, or certified jack stands.
2. Remove the wheels.
3. It is recommended that the negative battery cable be disconnected during all maintenance procedures.
4. Size references below are wrench sizes, unless otherwise noted.

## FRONT STRUT REMOVAL

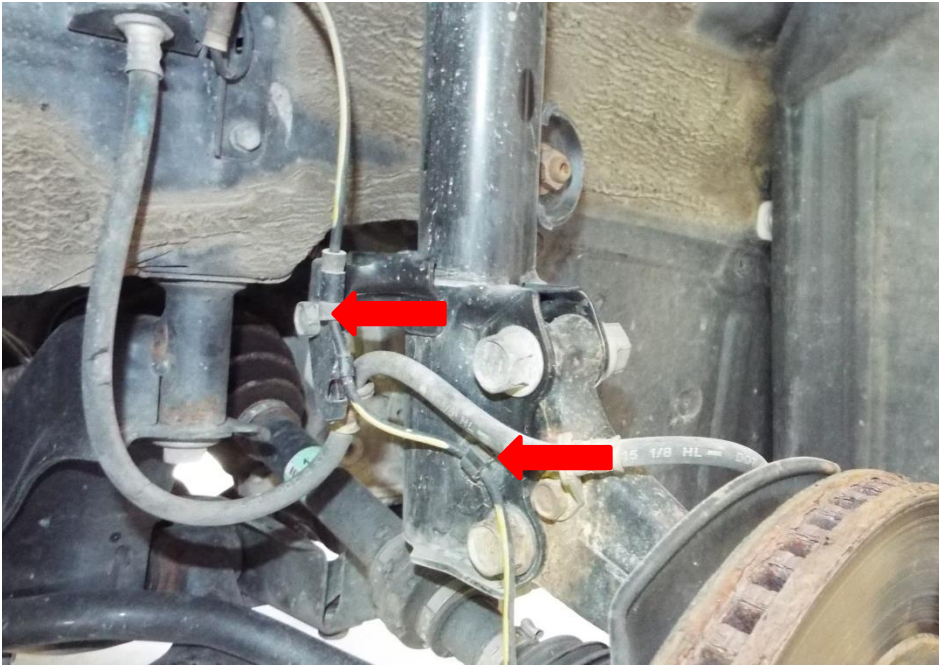
1. From inside the engine bay, remove two of the three strut top retaining nuts (14mm). Loosen the third.



2. Remove the upper sway bar link (6mm hex and 17mm box end wrench).



3. Remove the brake line retaining bolt (14mm), and move brake and ABS lines away from the strut body. Using a small screwdriver, open the plastic clip holding the ABS line to the strut body.



4. Remove the two lower strut nuts and bolts (22mm). Support the lower a-arm and spindle assembly from over extending the drive axle.



5. Remove the final strut top retainer nut and remove the strut assembly.

If you are installing the full kit with pre-assembled struts, please advance to STRUT INSTALLATION

#### SPRING ASSEMBLY ON EXISTING STRUTS

Northwoods recommends installing the kit and tuned springs with new struts for best performance.

Northwoods recommends spring and strut assembly be performed only by a qualified automotive shop using dedicated spring compression tools. Northwoods does not recommend the use of single rod spring compressors or other spring clamping devices.

1. Using a dedicated strut compression tool, compress the spring.
2. Remove the top plate retaining nut.
3. Disassemble the strut.
4. Clean and inspect all parts. Discard and replace worn or defective parts.
5. Assemble the strut with the lower spring pad, Northwoods performance spring, rubber damper and boot, upper spring pad, and top bearing plate assembly.
6. Install the provided spacer plate upper studs. Seat firmly.
7. Place the OEM washer plate on the top of the strut, then the Northwoods spacer plate. Adventure models discard the ¼" factory shim plate.
8. Install the washers and the nuts to secure the lift spacer to the top strut plate with the original studs and the provided washers and nuts.
9. Install the complete strut assembly.

#### STRUT INSTALLATION

1. Install the strut aligning the three top studs through the upper mounting frame, and hold in place with one or more upper strut retaining nuts. Use the provided Northwoods flange nuts.
2. Install the two lower strut mount bolts.
3. Complete the installation of the three upper strut retaining flange nuts.
4. Torque the upper strut retaining flange nuts to 37 ft-lbs, and the lower strut mounting bolts/nuts to 177 ft-lbs.
5. Install the brake and ABS lines with retaining bolt (14 ft-lbs), and anti-lock brake line in the plastic clip.
6. Install the upper sway bar with nut (55 ft-lbs). This may have to be done simultaneously with the other side for alignment due to the lift.
7. Visually inspect the installation, and check bolt torques.

## GENERAL INSTALLATION NOTES

- Installation shall be performed by qualified, experienced mechanics capable of performing this type of work. Northwoods recommends the work be performed in qualified ASE certified shops.
- Use only quality, certified tools and equipment appropriate for the job.
- Vehicle should only be supported by certified hoists, lifts, or jackstands of adequate capacity.
- Use only certified, dedicated spring compressors to compress and assemble springs. Northwoods recommends springs only be assemble and installed by qualified auto repair shops.
- Actual lift heights will vary by vehicle due to vehicle accessories, weights, loading, wear, and other factors.
- Upon completion of installation of springs or other suspensions and steering components, vehicles should be immediately aligned at a qualified shop.
- Modification to vehicle ride height requires re-alignment of headlights.
- Full inspection of all components installed should be checked after 300 miles of driving, including torque of all fasteners.
- Modified vehicles will handle and perform differently from stock vehicles, and the modified vehicle characteristics should be considered for driving safety. Modified vehicles may have affects to vehicle steering and response, and increased braking distances due to increased vehicle weight or larger tires.
- Modified vehicles may exhibit increased wear to suspension and other components, as well as an increase in vibration due to changes in component alignment and operating angles.