



GENERAL INSTRUCTION GUIDELINES

READ THIS FIRST:

- Read these instructions fully prior to beginning work. Verify all parts listed below are in the kit packaging, and all tools, equipment, skills and methods are on hand to safely complete the installation.
- Read the attached GENERAL INSTALLATION NOTES prior to beginning any work.
- 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, certified automotive shop.
- Use safe methods in all work operations. Support the vehicle safely as required on a lift or hoist, or certified jack stands.

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 assembled and installed by qualified auto repair shops, using quality spring compression tools.
- Actual lift heights will vary by vehicle due to vehicle accessories, weights, loading, wear, initial ride height, 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.
- Northwoods Performance Warranty, Return, and Replacement policies can be found on-line at northwoodsperformance.com, RESOURCES tab.



SUSPENSION INSTALLATION INSTRUCTIONS

2013-2018 Toyota RAV4

2006-2012 Toyota RAV4

FRONT SPRING LIFT KIT MATERIAL LIST

- Hex nut, 10mm 12
- Washers, 10mm, thin 6
- Washers, 10mm, thick 6
- Front Lift Spacers with studs 2
- Front springs 2
- Sway bar links 2

-OR-

FRONT FULL LIFT KIT WITH LOADED STRUTS

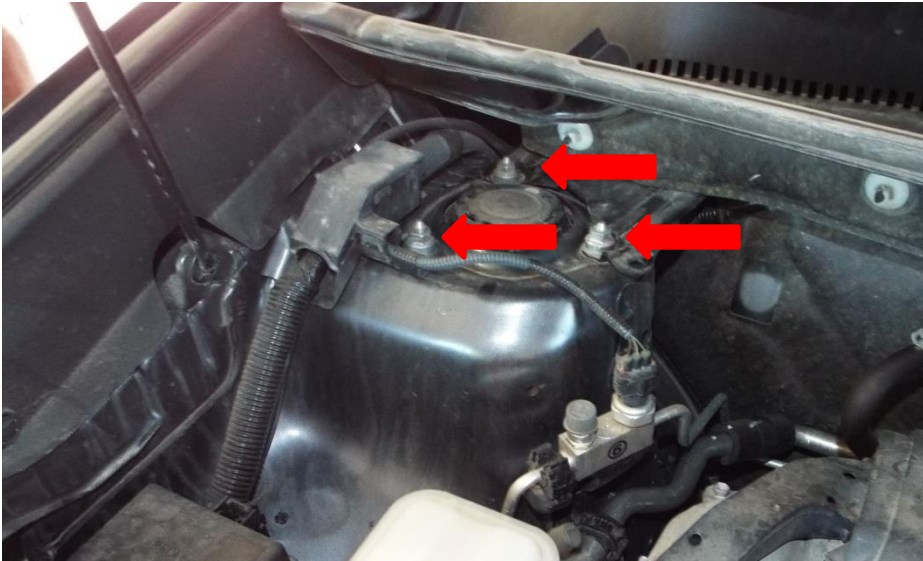
- Struts with springs and hardware fully assembled 2
- Sway bar links 2
- Hex nut, 10mm 6
- Washers, 10mm, thick 6

REAR SPRING LIFT KIT MATERIAL LIST

- Rear coil springs 2
- Rear shocks (provided with full kit) 2
- Rear lift bushings, upper perch (optional, provided with some kits) 2
- Rear lower spring isolators (optional, provided with some kits) 2
- Rear Toe Arms (optional, provided with some kits) 2

FRONT STRUT REMOVAL

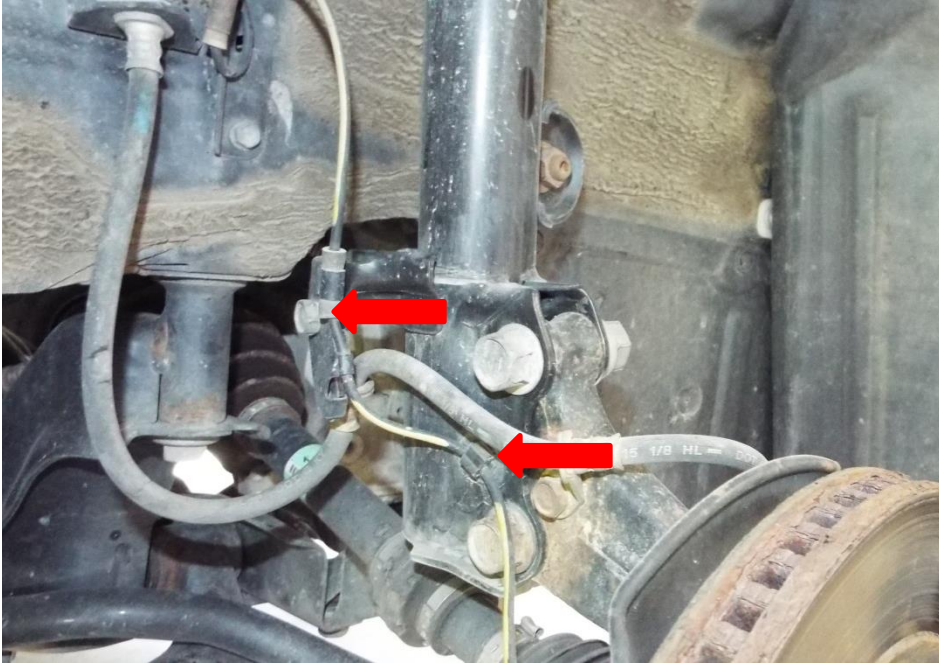
1. From inside the engine bay, remove two of the three strut top retaining nuts (14mm). Loosen the third.



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



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.
6. 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 lift kit and tuned springs with new struts and hardware for best performance.

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 strut mount assembly.
6. Install the Northwoods lift spacer. Adventure models discard the ¼" factory shim plate.
 - a. On 1" lift spacers, prior to spacer assembly on strut, cut the strut top studs to 9/16" in total height from the strut top plate. On some strut brands and models, it may be necessary to cut ¼" off top of existing studs. On all installations, verify there is clearance between the top of the strut stud and the bottom of the upper spacer stud.
7. Secure the spacer to the strut using the supplied strut nuts. 1" spacers use hex nut with no washer. 1-1/2" and 2" spacers use hex nut and thin washers. Use of blue Lock-Tite is recommended.

STRUT INSTALLATION

1. Install the strut aligning the three top studs through the body, and install the supplied nuts with thick washers loosely.
2. Install the two lower strut mount bolts.
3. Torque the lower strut mounting bolts/nuts to 177 ft-lbs.
4. Install the brake and ABS lines with retaining bolt (14 ft-lbs), and anti-lock brake line in the plastic clip.
5. On 2006-2012 models, bend the body mounted ABS line tab slightly away from the body toward the strut for additional range of motion without sharp bends on the line.
6. NOTE: With installation of the 2" front lift, modification or removal of the vibration damper on the left side front axle shaft may be required. Not all axle shafts have the damper. If there is interference between the lower strut body and the damper donut at full strut extension, remove the two damper clamps and slide the damper up the axle shaft (inboard) about 1" to obtain clearance. This is usually not required on 1-1/2" lifts.



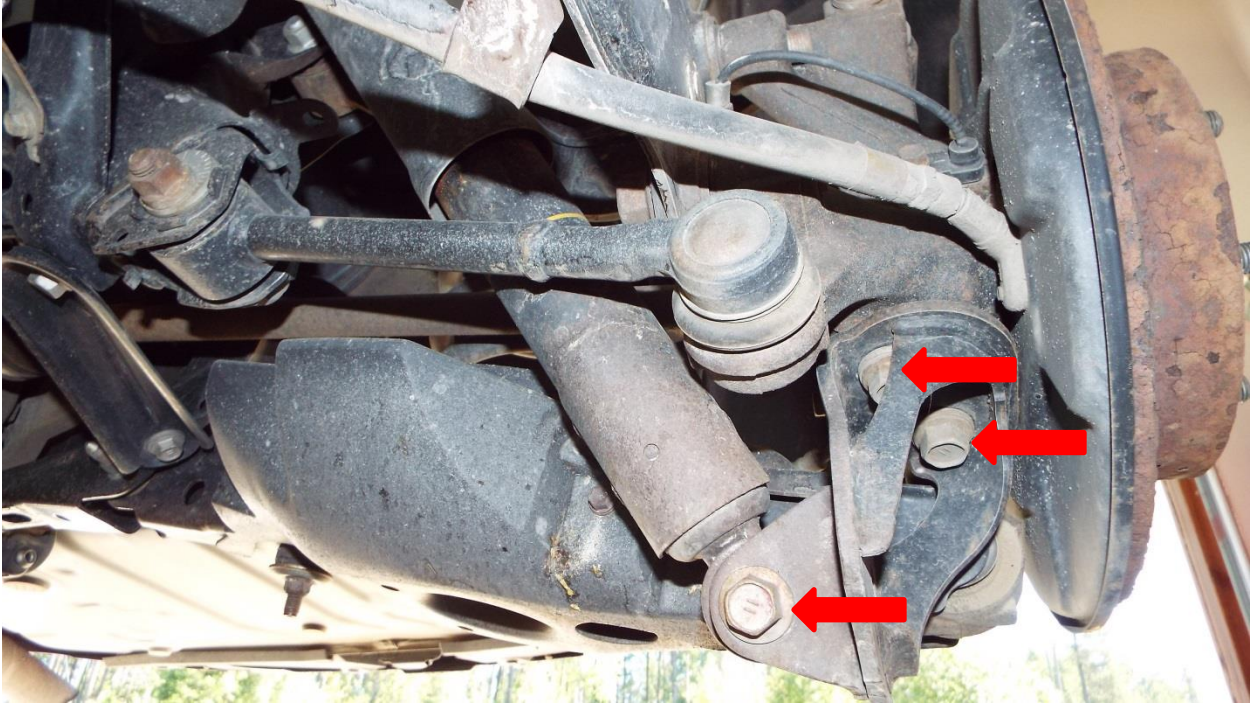
7. Complete the install on both struts.
8. Grease the sway bar links, and install. Upper grease zerker facing rear. Torque nuts to 55 ft-lbs.
9. Visually inspect the installation, and check bolt torques.
10. Lower the vehicle to rest on its own weight. Torque the upper strut retaining nuts (spacer through body) to 37 ft-lbs

REAR SPRING REMOVAL

1. Remove the two sway bar link lower nuts from each lower A arm.



2. Remove the lower shock mount bracket from the spindle.
3. Remove the lower shock mounting bolt.



4. If the shocks are to be replaced, remove the upper shock bolts and remove the shocks.
5. Loosen the inboard lower control arm bolt (loosen from the bolt head side not nut side).
6. Support the lower A arm with a jack, and remove the outboard lower control arm bolt.



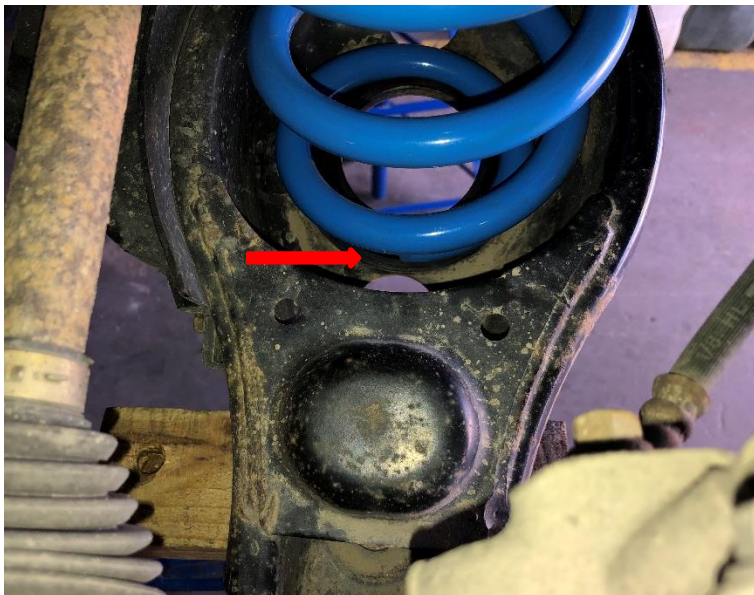
LIFT BUSHING INSTALLS BETWEEN UPPER SPRING PERCH AND REAR SUB FRAME

REMOVE NUT OFF THIS STUD TO LOWER / REMOVE UPPER SPRING PERCH FOR BUSHING INSTALL

7. Use the jack to slowly lower the control arm until the spring is no longer in compression. Remove the spring.
8. If rear lift bushing is supplied, install it now. Remove the upper spring perch from the body and install the upper spring perch lift bushing into the top of the spring perch, with the small neck of the bushing facing up.
9. Clean and inspect all parts. Discard and replace worn or defective parts.

REAR SPRING INSTALLATION

1. Install the Northwoods Performance spring with the OEM spring pads and isolators. New lower spring pads are recommended if they are worn--install the optional new lower spring isolator if provided. Install the lower spring end furthest to the outboard of the vehicle.



Pigtail end of spring shown in small arrow.

Outboard side of RAV

2. Align the lower control arm and install the outboard bolt. Use of jack will be required to raise the control arm and slightly load the spring. Do not fully tighten the nut.
3. If removed, re-install the upper shock mount with shock.
4. Reinstall the lower shock mount bracket.
5. Install the lower shock bolt from front to rear (opposite direction from OEM installation).
6. Replace the optional lower toe arms, if provided.
7. Install the sway bar rod links with bushings and nuts.
8. Torque the upper and lower shock mount nuts to 59 ft-lbs.
9. Torque the lower shock mount bracket bolts to 66 ft-lbs.
10. Torque the sway bar link rod nuts to 22 ft-lbs.
11. Lower the RAV to settle on its own weight, roll the vehicle back and forth, and bounce the rear to settle the spring and suspension. Torque the control arm inboard and outboard bolt to 66 ft-lbs. This is to align the bushings to normal ride height.
12. Visually inspect the installation, and check bolt torques.