

Part Number: PTR11-21070

NOTE: Part number of this accessory may not be the same as the part number shown.

Kit Contents:

Item #	Quantity Req'd.	Description
1	1	Front shock body, left
2	1	Front shock body, right
3	2	Upper bearing adapter
4	2	Rear shock body
5	2	M12 x 1.50 Nylock® nut
6	2	Coil spring 9.00"
7	2	Coil Spring 7.00"
8	1	Hardware Kit #1
9	2	Hardware Kit #2

Hardware Kit #2 Contents

Item #	Quantity Req'd.	Description
1	2	Spring Perch
2	2	Lower eye fabrication
3	2	Upper coil adapter
4	2	Bump stop
5	4	Shock grommet
6	4	Bushings

Hardware Kit #1 Contents

Item #	Quantity Req'd.	Description
1	2	Bump-stop/Isolator
2	2	Spring perch
3	1	Install Instructions
4	1	Spanner wrench
5	1	Hex wrench, 3/16"
6	4	1/4-20 SHCS Stainless
7	4	HHCS, M8 x 1.25 x 60
8	8	M8 flat washer
9	4	M8 x 1.25 Metal locknut
10	2	3/8-24 FULL height locknut
11	2	Flat washer M12
12	2	Sleeve, lower shock eye
13	2	Sleeve, shock stud
14	2	Washer, cup

Recommended Sequence of Application

Item #	Accessory
1	TRD Sway Bar can be installed at the same time.
2	TRD Wheel/Tire Package
3	

Vehicle Services Parts (may be required for reassembly)

Item #	Quantity Req'd.	Description
1		
2		
3		

Conflicts

None

General Applicability

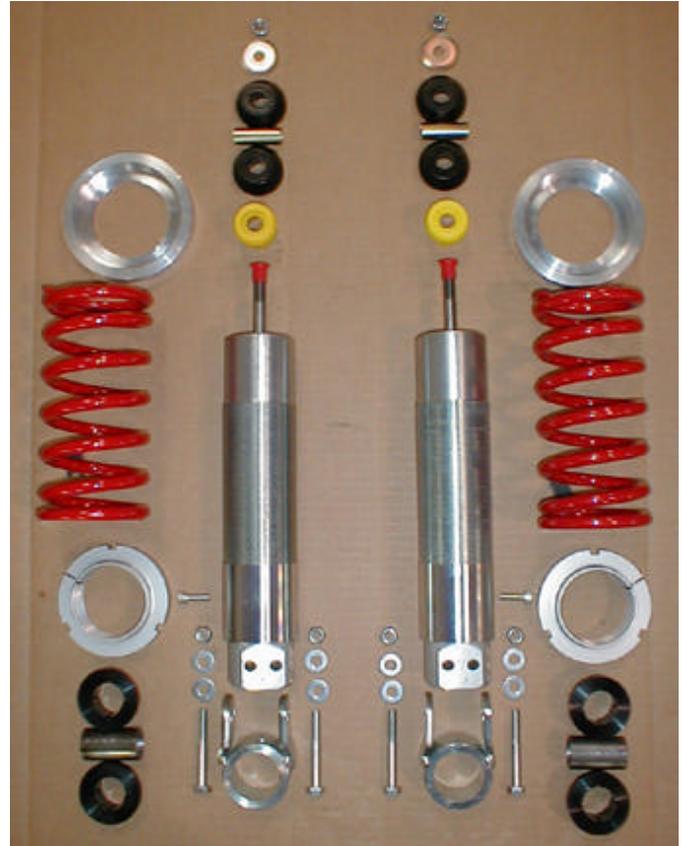
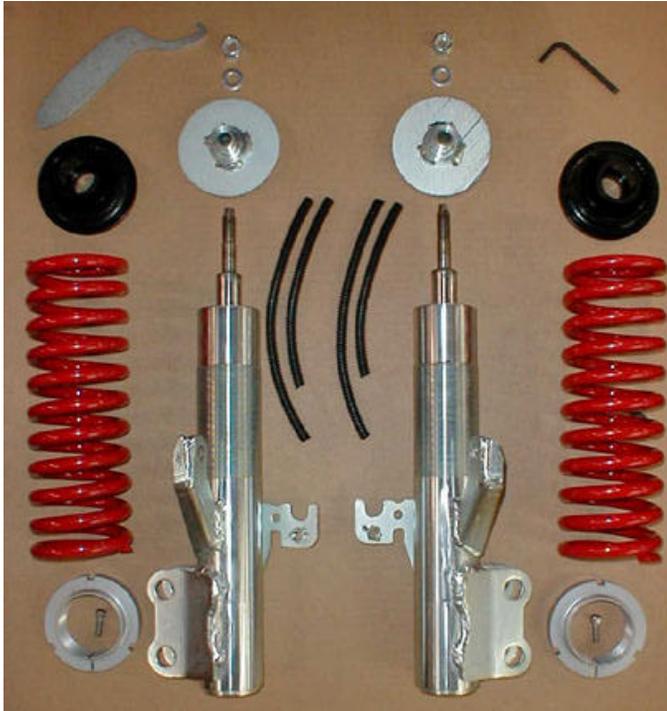
Scion tC: all models

Recommended Tools

Personal & Vehicle Protection	Notes
Fender Cover	
Seat Cover	
Special Tools	Notes
Spring Compressor	
Spanner wrench	Provided in kit
Installation Tools	Notes
Impact Wrench	For disassembly only
Special Chemicals	Notes
WD-40 or similar light oil	

Legend

	STOP: Damage to the vehicle may occur. Do not proceed until process has been complied with.
	OPERATOR SAFETY: Use caution to avoid risk of injury.
	CAUTION: A process that must be carefully observed in order to reduce the risk of damage to the accessory/vehicle and to ensure a quality installation
	TOOLS & EQUIPMENT: Used in Figures calls out the specific tools and equipment recommended for this process.
	REVISION MARK: This mark highlights a change in installation with respect to previous issue.



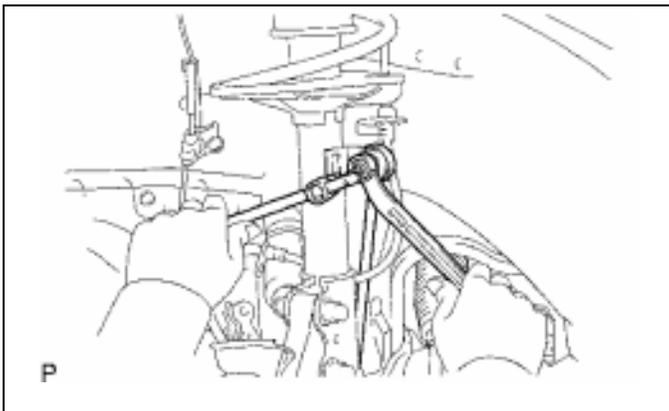
Care must be taken when installing this accessory to ensure damage does not occur to the vehicle. The installation of this accessory should follow approved guidelines to ensure a quality installation

These guidelines can be found in the "Accessory Installation Practices" document.

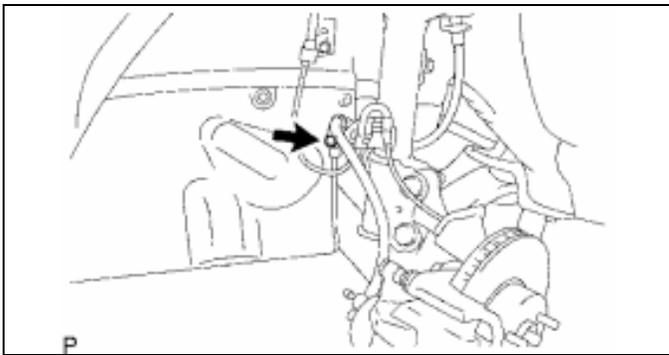
This document covers such items as:

- Vehicle Protection (use of covers and blankets, cleaning chemicals, etc.).
- Safety (eye protection, rechecking torque procedure, etc.).
- Vehicle Disassembly/Reassembly (panel removal, part storage, etc.).
- Electrical Component Disassembly/Reassembly (battery disconnection, connector removal, etc.).

Front Suspension

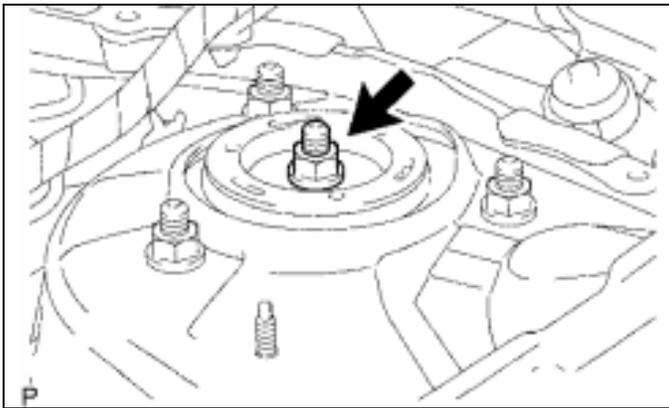


- 1. Measure and Record Current Ride Height of Vehicle.**
(a) Measuring from center of axle to fender edge will prevent a discrepancy when changing wheels or tires.
- 2. Remove Front Wheel .**
- 3. Remove Front Wiper Arms.**
- 4. Remove Cowl Cover.**
- 5. Disconnect Sway Bar Link**



6. Disconnect Speed Sensor Wire

(if equipped)

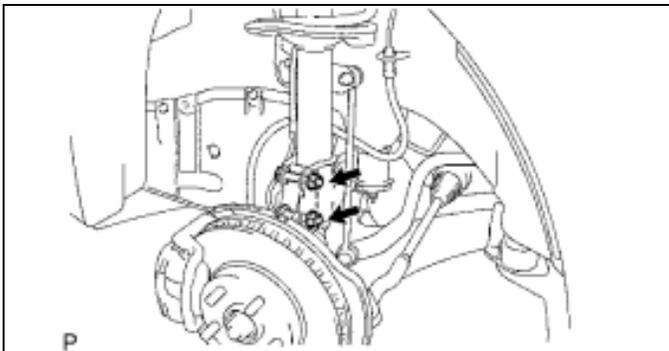


7. Remove Front Shock Absorber with Coil Spring

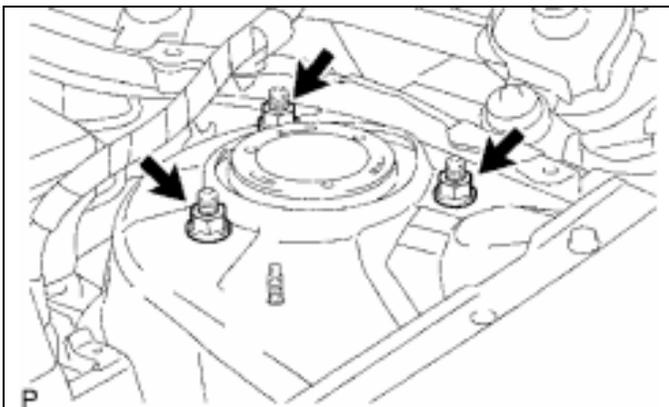
(a) Remove the front suspension support dust cover. (save for re-use)

(b) Loosen the lock nut.

(do not remove the lock nut.)

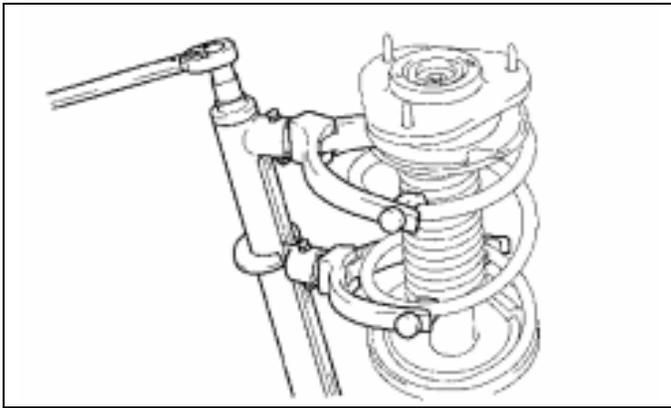


(c) Remove the 2 nuts on the lower side of the shock absorber with coil spring.



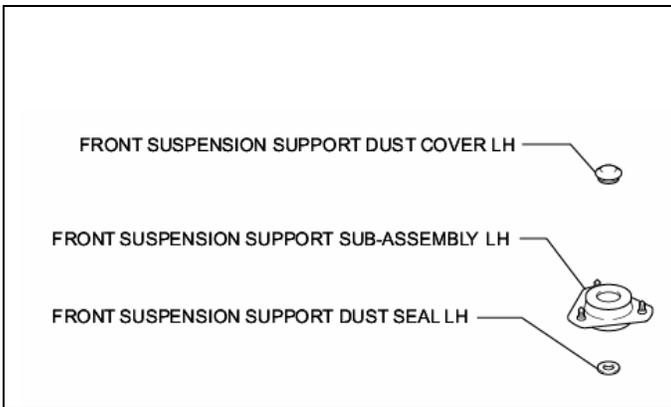
(d) Remove the 3 nuts on the upper side of the shock absorber with coil spring.

(1) Support the weight of the strut assembly when removing the last nut and ease the assembly out of the wheel well.



8. Disassemble Strut Assembly

(a) Compress the coil spring.



(b) Remove the lock nut.

(c) Remove the suspension support. (save for re-use)

(d) Remove the coil spring seat upper.

(e) Save the rest of the assembly for the customer or discard at their request per your local state laws.

9. Assemble Front Coil-Over Assembly

NOTE: Refer to the parts description and photo on pages 1 & 2 to identify the components of the TRD coil-overs.

(a) Pull the rod out of a front shock body until it stops.

(b) Thread a coil spring perch as far down the threaded area on the shock body as possible (it will contact the end link bracket). The lip on the coil spring perch should be facing the top of the shock.

(c) Install a 1/4-20 set screw about 2-3 threads deep. Do not tighten it at this time.





(d) Thread a bump stop/isolator on one end of a front coil spring.

TIP: Push the edge of the bump stop lip onto the flat surface under the top coil of the spring. Turn the bump stop clockwise while pressing down. Continue until the lip is fully positioned under the top coil (about 1.2 turns). The top surface of the bump stop will follow the shape of the spring's top surface.



(e) Place the coil spring on the TRD shock with the bump stop at the top.

(f) Position the upper bearing adaptor over the bump stop.

NOTE: Make sure the protrusion is seated in the hole at the top of the bump stop/isolator.



(g) Install the factory front suspension support dust seal over the protrusion on the top of the upper bearing adaptor.



(h) Place the factory front suspension support assembly over the upper bearing adaptor until it is seated on the dust seal.

(i) Install the TRD-supplied M12 flat washer and M12 x 1.50 locknut on the shock shaft.

Torque : 47.5 N·m (483 kgf·cm, 35 ft.-lbs.)

(j) Install the factory dust cap on the front suspension support.

(k) Apply a pre-load to the spring by hand-turning the spring perch to show 2 ^{3/8} inches or 60mm of thread below the perch.

NOTE: Apply a small amount of light lubricant (i.e. WD-40) to the shock body threads to make adjustment easier.

HINT: With the perch at the bottom, make aligning marks on both the spring perch and the shock body for reference.

10. Install Coil-Over Assembly

(a) Feed assembly up into fender apron and tighten 3 nuts holding assembly in place.

Torque: 52 N·m (530 kgf·cm, 38 ft·lbf)

(b) Attach the coil-over to the knuckle assembly.

Torque: 240 N·m (2,450 kgf·cm, 177 ft·lbf)

(c) Tighten the lock nut at the top of the coil-over shock assembly.

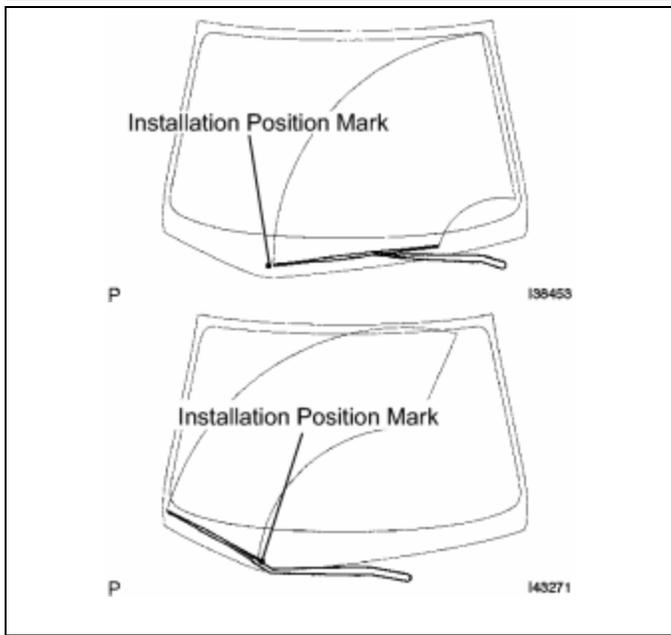
Torque: 47 N·m (480 kgf·cm, 35 ft·lbf)

(d) Install suspension dust cover.

(e) Install front speed sensor line.

Torque: 19 N·m (194 kgf·cm, 14 ft·lbf)





(f) Attach front stabilizer link .

Torque: 74 N·m (755 kgf·cm, 55 ft·lbf)

HINT: Use a 6 mm hexagon wrench to hold the stud if the ball joint turns together with nut.

(g) Install front wheel

Torque: 103 N·m (1,050 kgf·cm, 76 ft·lbf)

(h) Install the cowl top ventilator louver.

(i) Install wiper arms. (see illustration)

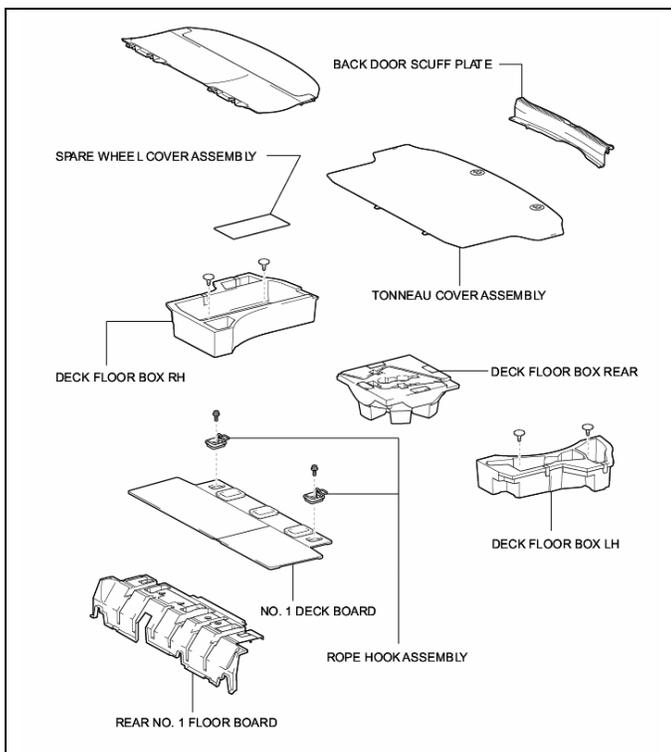
(j) Install wiper arm head caps.

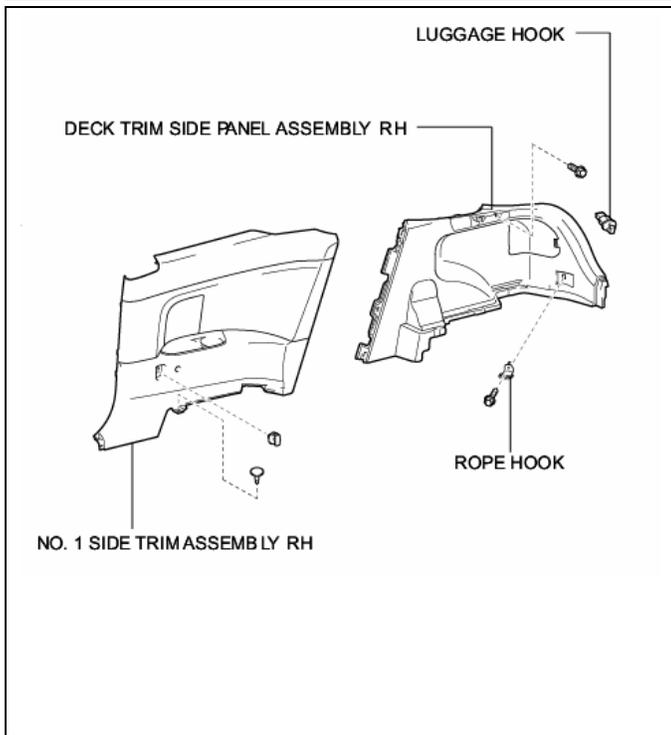
(k) Inspect and adjust front wheel alignment.

11. Remove Rear OE Shock Assemblies

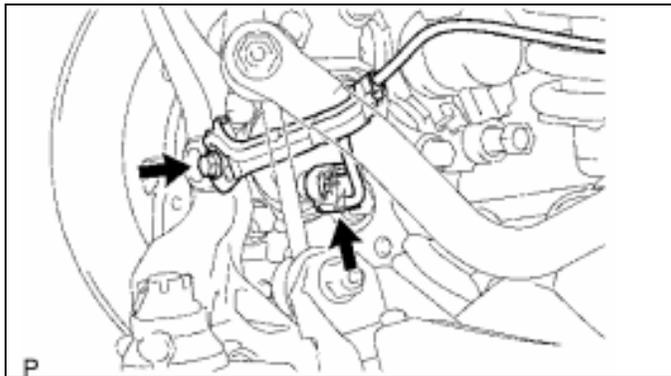
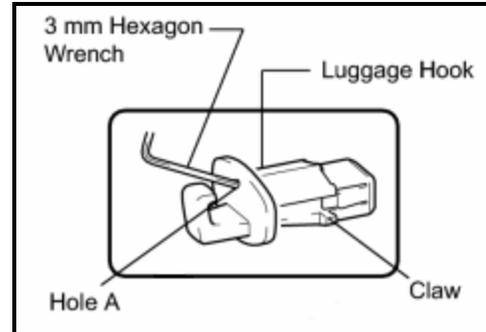
(a) Fold rear seats forward.

(b) Remove trunk interior components shown.

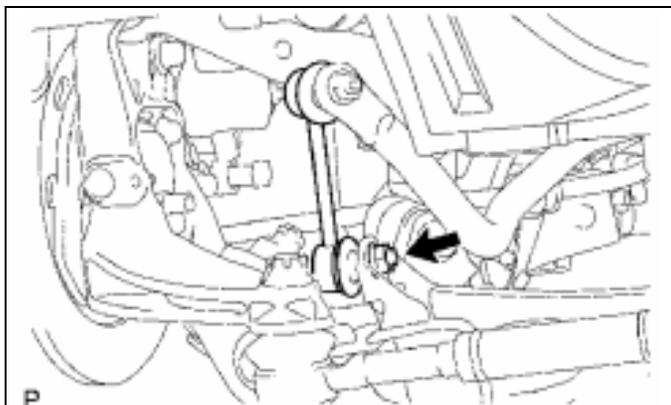




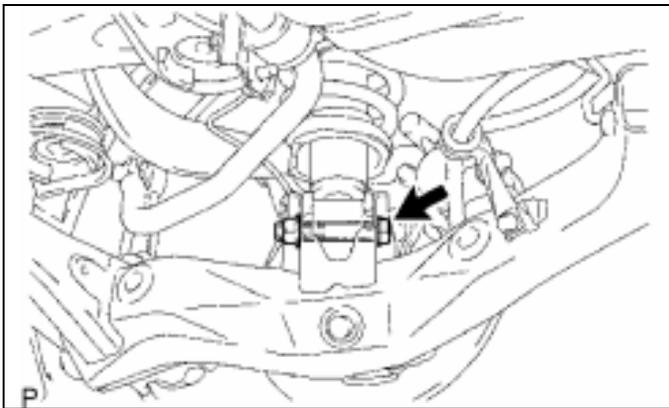
- (c) Pull rear and top edges of No. 1 side trim assembly loose from the body.
- (d) Remove the deck trim side panel assemblies.
 - (1) Remove luggage hooks. Insert a 3 mm hexagon wrench or small screw driver into hole A to disengage the claws, then remove luggage hook from side panel.



- (e) Remove rear wheels
- (f) Disconnect the skid control sensor wire.
 - (1) Disconnect the skid control sensor connector.
 - (2) Remove the bolt and wire bracket.

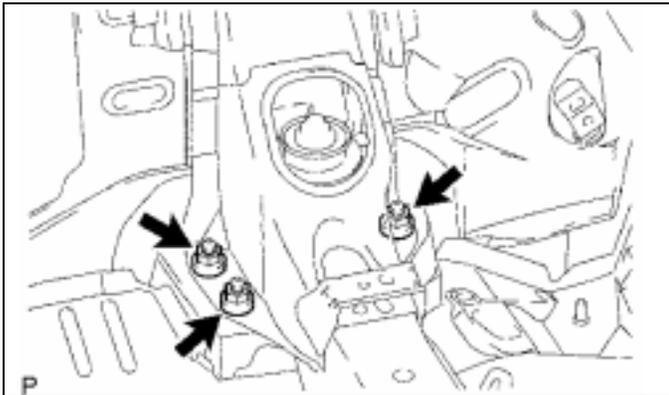


- (g) Disconnect rear stabilizer bar link.
HINT: If the ball joint turns together with the nut, use a 5 mm hexagon wrench to hold the stud.



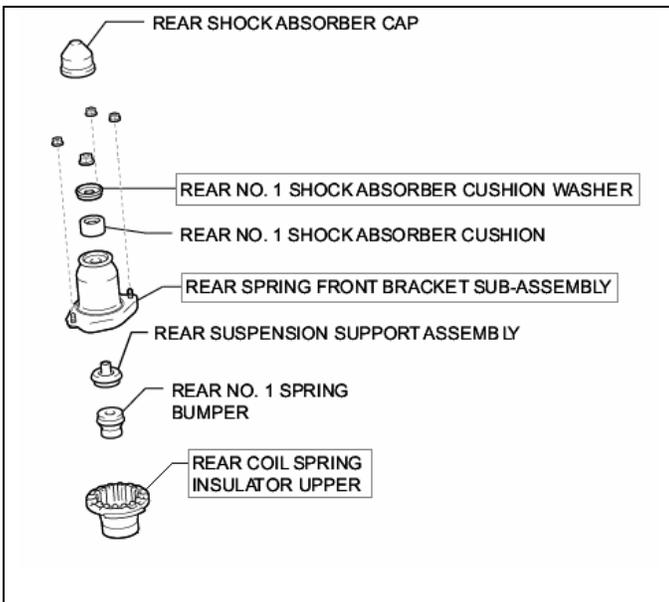
- (h) Remove the shock absorber with coil spring.
 - (1) Remove the bolt and nut from the lower suspension arm.

NOTICE: Unscrew the bolt and not the nut.
The nut is a locking nut.



- (2) Remove the 3 nuts.
- (3) Pull shock assembly from the vehicle.

12. Disassemble Rear Shock Assembly



- (a) Compress the coil spring.
- (b) Remove the lock nut.
 - (1) Using a 6 mm hexagon wrench to hold the piston rod, remove the nut.
- (c) Disassemble the rest of the parts.
- (d) Save the No. 1 cushion washer, bracket sub-assembly, and the coil spring upper insulator for reuse.
- (e) Save the rest of the assembly for the customer or discard at their request per your local state laws.



- (f) Remove the skirted area from the upper spring insulator using tin snips or a box cutter.

NOTE: Be sure to cut it flush with the surrounding material to create a flat surface.

13. Assemble Rear Coil-Over



- (a) Pull the rod out of a rear shock body until it stops. Do not force it.
- (b) Thread a coil spring perch towards the bottom of the threaded area on the shock body. You should measure $\frac{3}{4}$ " or 20mm of thread below the spring perch. Refer to picture for the proper orientation.



- (c) Insert two shock eye bushings (do not grease the outside of the bushings) from each side into the shock eye.



- (d) Grease one of the 1" OD shock eye spacer tubes with chassis lube and insert it into the bushings inserted in Step 13-C.



- (e) Assemble the lower shock eye to the shock body using two M8 x 1.25 x 60 bolts, two M8 x 1.25 locknuts and four M8 flat washers.

Torque: 19 N·m (193 kgf·cm 14 ft.-lbs.)



- (f) Press a bump stop down on the shock rod just past the bump stop ring as shown.
- (g) Place a coil spring onto the TRD shock assembly.
- (h) Place an upper coil spring adaptor onto the top of the spring.



- (i) Place a factory rear shock absorber cushion washer on the shock shaft.

NOTE: The flange of the washer faces up.



- (j) Install one suspension support grommet, with a 9/16" OD spacer tube inserted, into a rear spring front bracket sub-assembly from the bottom. Make sure the upper insulator is seated properly.

NOTE: Place a thin layer of chassis lube on the outside surface of the spacer tube before inserting it into the grommets.



- (k) Place a second suspension support grommet over the spacer tube as it protrudes up through the top of the rear spring front bracket sub-assembly. See picture for the proper orientation.
- (l) Install the completed rear spring bracket on the shock shaft until it seats squarely on the rear shock absorber cushion washer.



(m) Install a 3/8-24 locknut and cup washer on the shock shaft.

Torque: 27 N·m (276 kgf·cm, 20 ft.-lbs.)



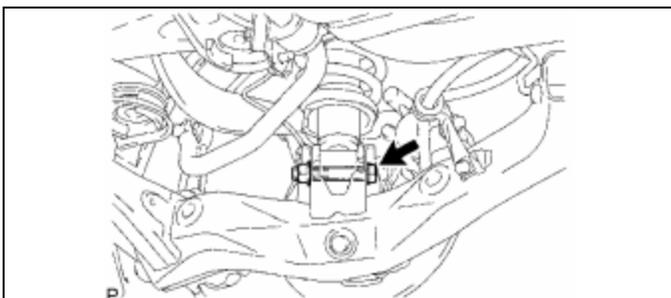
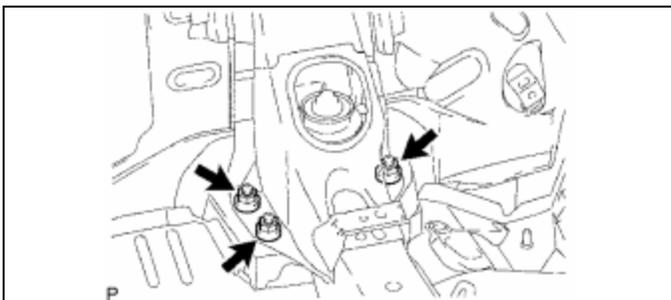
(n) Apply a pre-load to the spring by turning the spring perch so that $\frac{3}{4}$ " or 20 mm of threads are showing below the spring perch.

NOTE: Apply a small amount of light lubricant (i.e. WD-40) to the shock body threads to make adjustment easier.

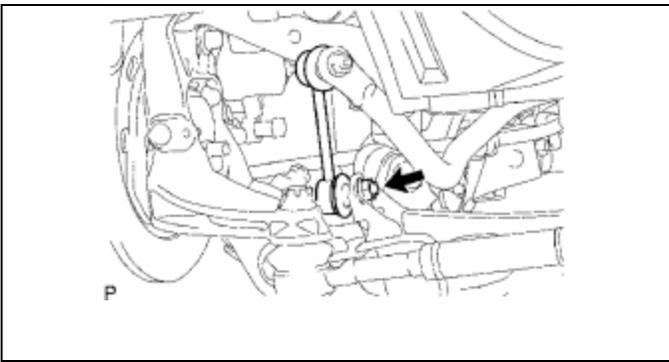
14. Install Rear Coil-Over Assemblies

(a) Attach top of coil-over assembly to the vehicle floor.

Torque: 80 N·m (816 kgf·cm, 59 ft·lbf)



(b) Install lower nut and bolt finger tight.



(c) Connect the stabilizer link with nut.

Torque: 44 N·m (449 kgf·cm, 32 ft·lbf)

HINT: If the ball joint turns together with the nut, use a 5 mm hexagon wrench to hold the stud.

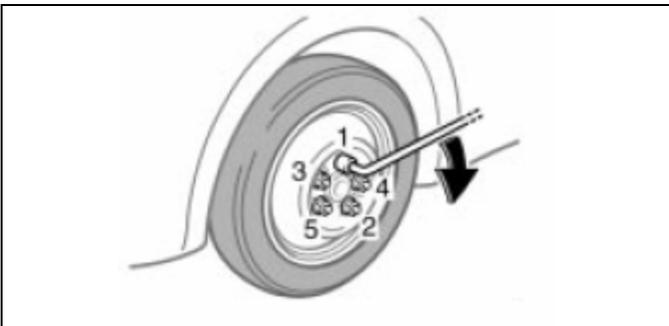
(d) Connect the wheel speed sensor and re-attach wire bracket.

Torque: 5.0 N·m (51 kgf·cm, 44 in·lbf)

(e) Install rear wheel.

(1) Tighten lug nuts in a star pattern.

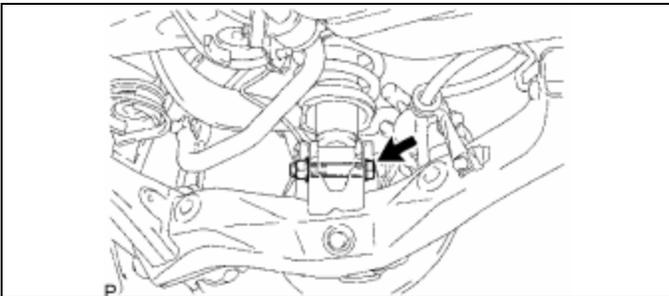
Torque: 103 N·m (1,050 kgf·cm, 76 ft·lbf)



(f) Lower vehicle and settle the suspension by bouncing the vehicle several times.

(g) Fully tighten lower shock mount bolt.

Torque: 140 N·m (1,430 kgf·cm, 103 ft·lbf)



15. Adjust Vehicle Ride Height.

(a) Drive vehicle around the block to settle the suspension.

(b) Measure ride height in the same location as you did in the beginning of the process.



(c) TRD recommends lowering the vehicle no more than 1 3/4 inches from stock ride height with this system.

(d) Make notes as to which corners you would like to raise or lower at this point.

- (e) Raise the vehicle.
- (f) Remove the wheels. (if necessary)
- (g) Loosen the spring perch set screw.
- (h) Use the reference marks made on the spring perch and shock body and turn the spring perch counterclockwise to lower the ride height or clockwise to raise the ride height.

NOTE: Each full turn of the lower spring collar will result in approximately 1/16" of ride height change. 16 turns = 1 inch.

- (i) At lower than TRD recommended settings, proper alignment may not be possible and the rear upper spring perches may not stay properly seated.
- (j) Tighten the spring perch set screw.
- (k) Replace the wheels and torque the lug nuts.
- (l) Set the vehicle back on the ground.

NOTE: Since the suspension "droops" when raised, drive a short distance to "settle" the suspension and then re-check the ride height.

16. Align Suspension Front and Rear.

- (a) Take vehicle to your local dealer for proper alignment.

Item/ Front	Specified Condition
Toe-In	0° +- 12' (0° +- 0.2°)
Total Toe	0 +- 2 mm (0 +- 0.08 in.)
Camber	-0°31' +- 45' (-0.52° +- 0.75°)
Right-left error	45' (0.75°) or less
Caster	3°02' +- 45' (3.03° +- 0.75°)
Right-left error	45' (0.75°) or less
Item/ Rear	Specified Condition
Toe-in	0°18' +- 6' (0.3° +- 0.1°)
Total Toe	3.0 +- 1.0 mm (0.12 +- 0.04 in.)
Camber	-0°56' +- 20' (-0.9° +- 0.3°)
Cross Camber	30' (0.5°) or less

Checklist. These points MUST be checked to ensure a quality installation.

CHECK FOR:

Accessory Function Checks

Listen for clunk noises

LOOK FOR:

Confirm springs are fully seated properly.

Vehicle Function Checks

Confirm ABS VSC light is not on.

Confirm speed sensor connector is fully seated.