

Preparation

**Part Number: PTR40-02080**

**Kit Contents:**

Item #	Quantity Req'd.	Description
1	2	Front Springs
2	2	Rear Springs
3	1	Instruction Form

**Hardware Bag Contents**

Item #	Quantity Req'd.	Description
1		
2		
3		

**Additional Items Required For Installation**

Item #	Quantity Req'd.	Description
1	2	90080-17217 Nut, Front Shock
2	2	90303-22002 Dust Seal
3	2	90178- A0078 Nut, Rear Shock

**Conflicts**

Matrix XRS & AWD
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**Recommended Tools**

Personal & Vehicle Protection	Notes
Special Tools	Notes
Installation Tools	Notes
Special Chemicals	Notes

**General Applicability**

Corolla and Matrix with Beam Rear Axle
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**Recommended Sequence of Application**


Item #	Accessory
1	
2	


\* Mandatory


**Vehicle Service Parts** (may be required for reassembly)


Item #	Quantity Req'd.	Description
1		
2		
3		


**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.

 **SAFETY TORQUE:** This mark indicates that torque is related to safety.

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.).

### 1. Remove Front Shock Assembly.

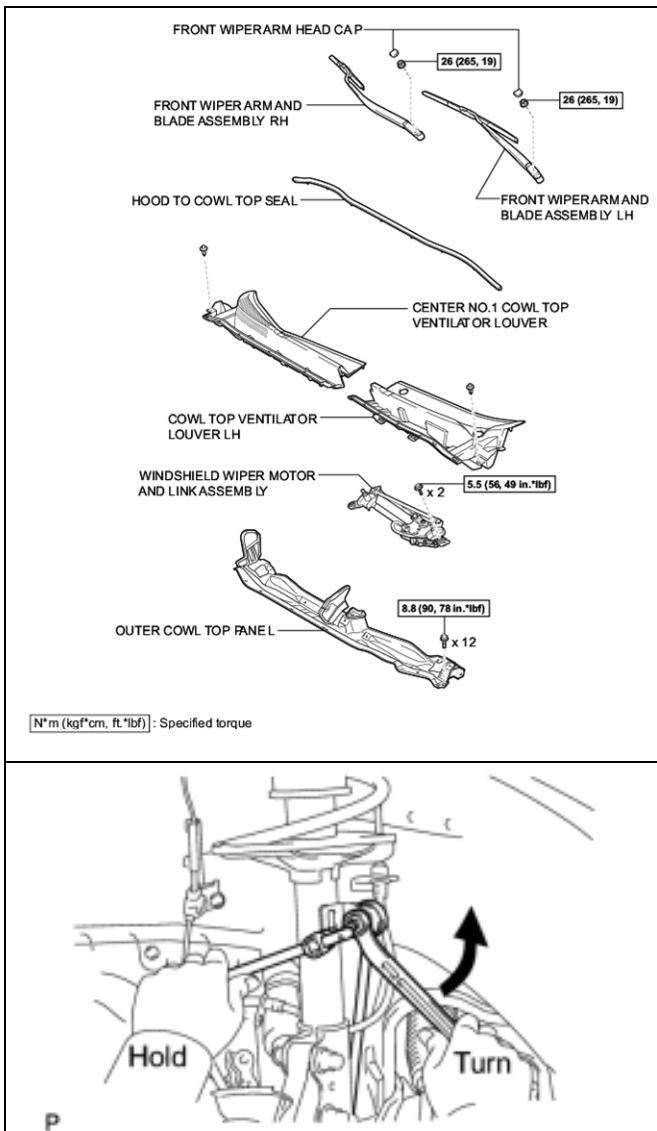
- Remove front wheels.
- Remove front wiper arm head caps.
- Remove front wiper arm and blade assemblies.
- Remove hood to cowl top seal.
- Remove plastic cowl covers.
- Remove windshield wiper motor and linkage assembly.
- Remove cowl pan.

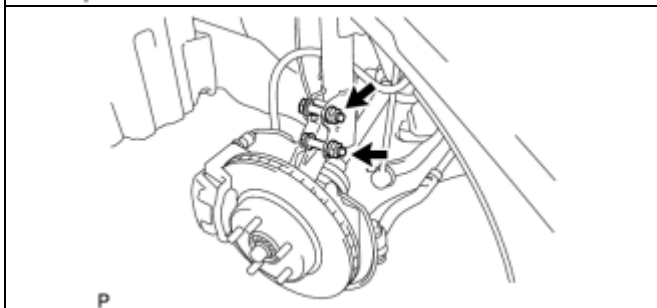
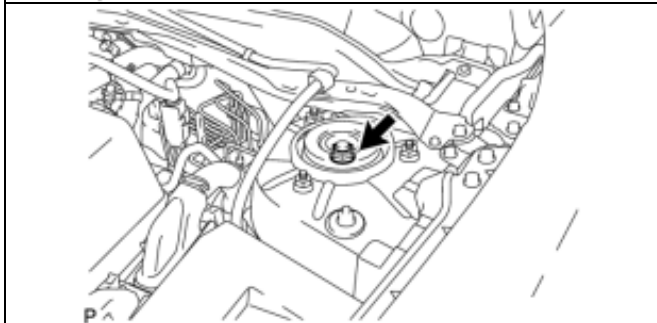
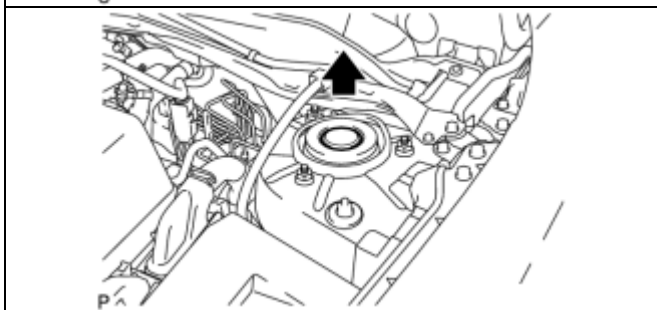
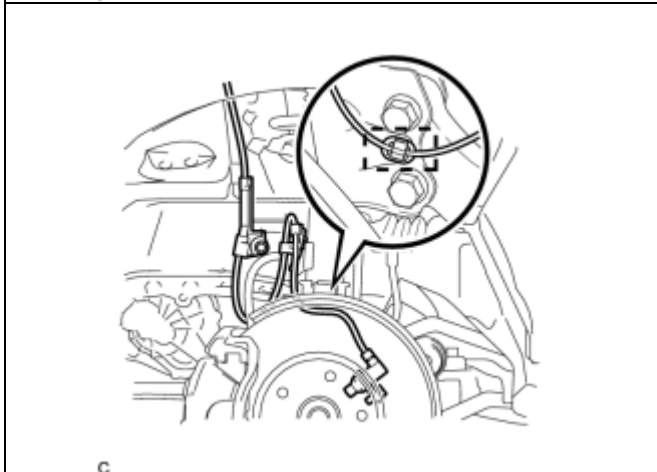
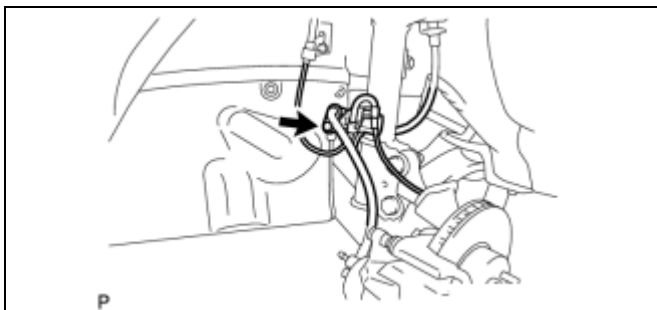
**CAUTION:** When performing steps f & g take great care to not touch the lower edge of the windshield with your tools.



- Separate front sway bar link assembly.
  - Remove the nut and separate the stabilizer link assembly from the front shock assembly.

**HINT:** If the ball joint turns together with the nut, use a hexagon wrench (6 mm) to hold the stud bolt.





(i) Separate front speed sensor wire

- (1) Remove the bolt and separate the front flexible brake hose and the front speed sensor wire from the front shock absorber assembly.
- (2) Unhook the clip (if applicable) with a small flat blade screw driver and separate the front speed sensor wire from the front shock absorber.



**NOTE:** Be sure to separate the front speed sensor from the front shock absorber assembly completely.

(j) Loosen upper shock nut.

- (1) Remove rubber dust cover.

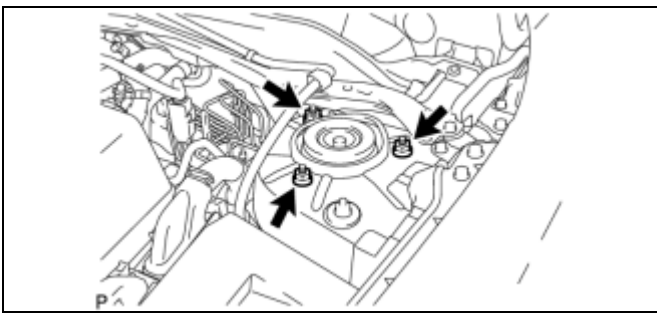
**NOTE:**



- Do not remove the upper shock assembly nut.
- Remove the nut only when the front shock absorber with coil spring needs to be disassembled later.

(k) Remove front shock absorber assembly.

- (1) Remove the 2 bolts and 2 nuts, and separate the front shock absorber assembly (lower side) from the steering knuckle.



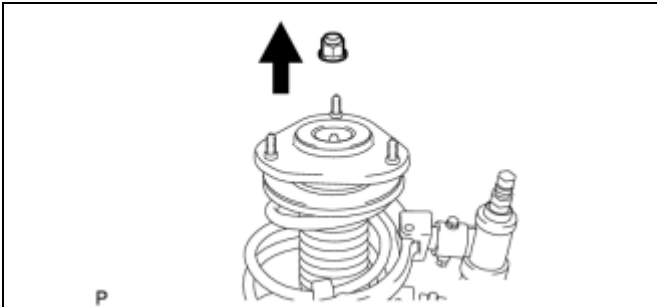
- (2) Remove the 3 nuts and front shock assembly.



**CAUTION:** Make sure that the front speed sensor is completely separated from the front shock assembly.

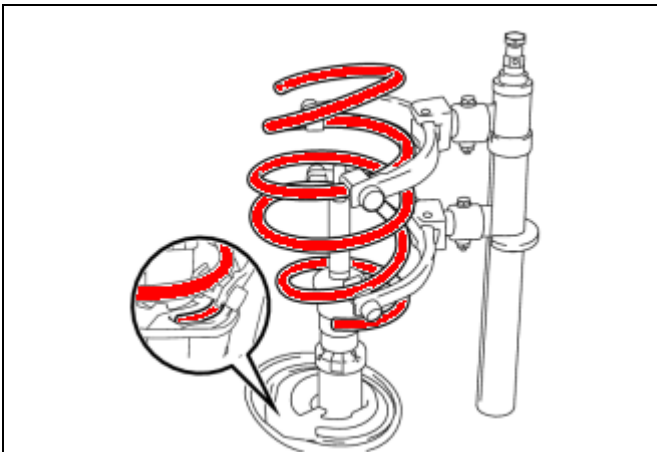
## 2. Remove OE Springs.

- (a) Remove coil spring from shock assembly.
  - (1) Compress coil spring with spring compressor.
  - (2) Remove shock nut and all hardware above the coil.

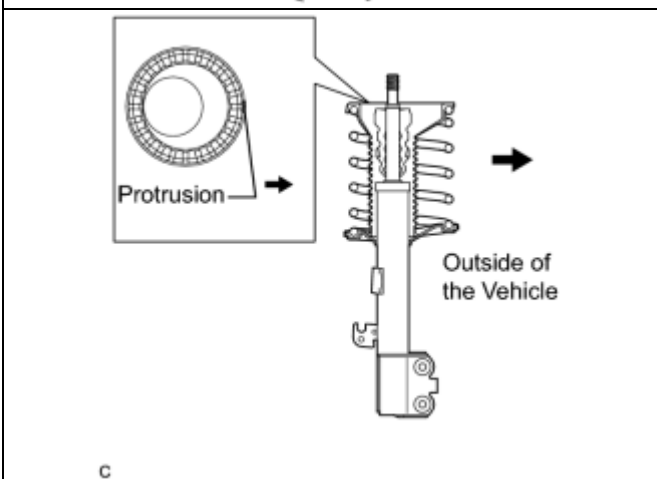


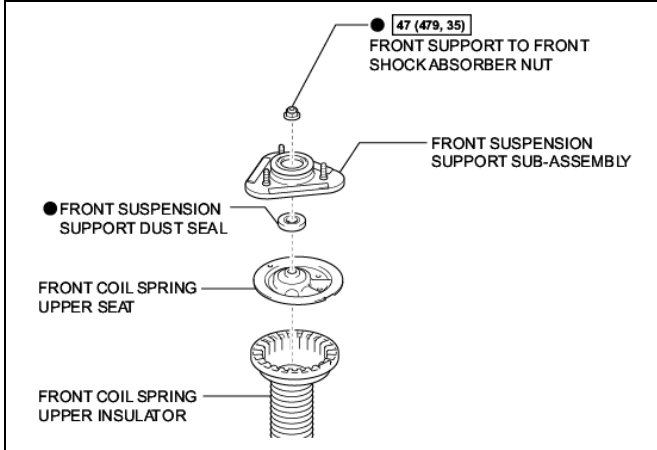
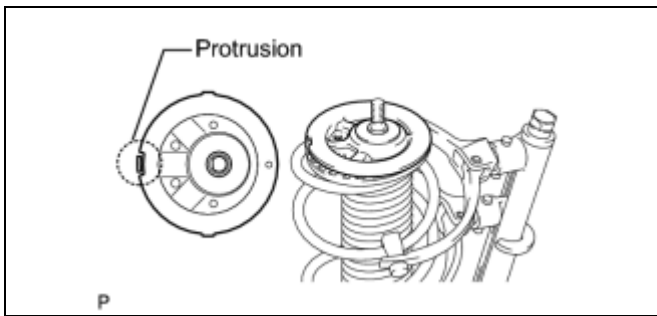
## 3. Install TRD Front Springs

- (a) Clean any debris from lower spring insulator.
- (b) Compress TRD front spring.
- (c) Install the front coil spring.
  - (1) Fit the lower end of the front coil spring into the gap of the lower spring seat.



- (d) Install upper insulator and spring seat.
  - (1) Install the front coil spring upper insulator to the front shock absorber with the protrusion on the insulator facing the outside of the vehicle as shown.





- (2) Align the cutout of the upper spring seat with the protrusion on the coil spring upper insulator.
- (3) Check that the D shape on the piston rod and the D shape on the front coil spring upper seat are aligned.

- (e) Install a new front suspension support dust seal.
- (f) Install front suspension support sub-assembly.
- (g) Temporarily tighten a new front shock assembly nut.

#### 4. Install Shock Assembly.

- (a) Install the front shock absorber with coil spring (upper side) with the 3 nuts.

Built in Japan: M8

**Torque: 39 N·m (398 kgf·cm, 29 ft·lbf)**

Built in USA or Canada: M10

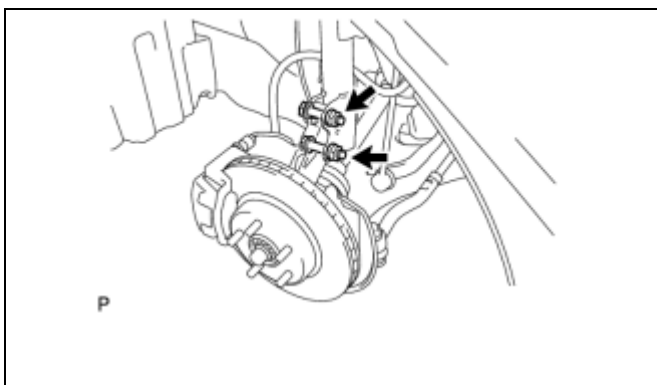
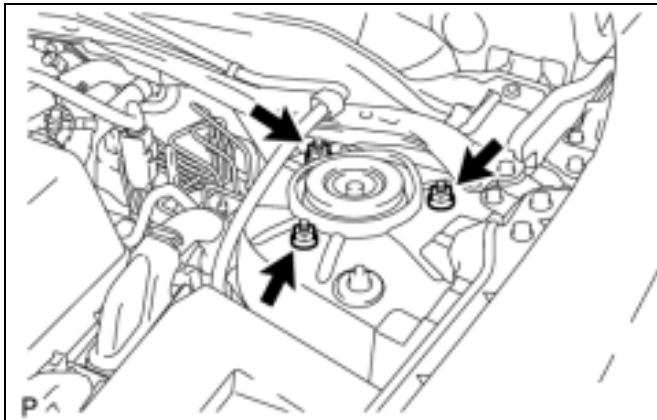
**Torque: 50 N·m (510 kgf·cm, 37 ft·lbf)**

**NOTE:** Cars built in Japan have a VIN starting with J. Cars built in the USA start with a 1. Cars built in Canada start with a 2.

- (b) Install the front shock assembly (lower side) to the steering knuckle with the 2 bolts and 2 nuts.

**Torque: 240 N·m (2447 kgf·cm, 177 ft·lbf)**

**HINT:** Pushing the shock inward towards the car when tightening these fasteners will get the car closer to a performance camber setting.





- (c) Install front speed sensor wire and flexible brake hose.
- (1) Install the front speed sensor and front flexible hose to the front shock absorber with the bolt.

**Torque: 29 N·m (296 kgf·cm, 21 ft·lbf)**

**CAUTION:** Do not twist the front speed sensor when installing it.

**HINT:** Install the speed sensor harness bracket first, and then the front flexible hose.

- (d) Install the front speed sensor wire back into the clip found on the shock assembly.



- (e) Fasten the front stabilizer link assembly to the front shock assembly with the nut.

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

**HINT:** If the ball joint turns together with the nut, use a hexagon wrench (6 mm) to hold the stud bolt.

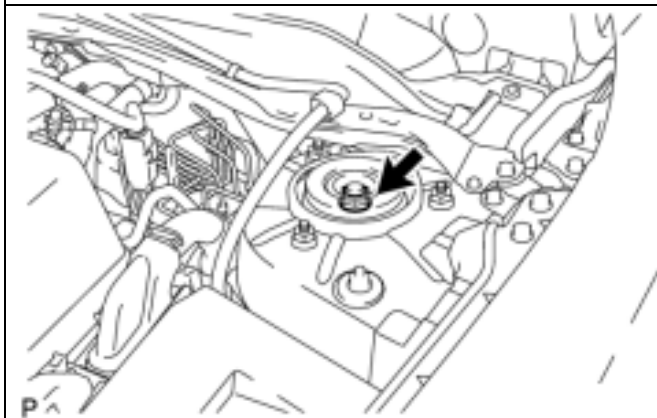
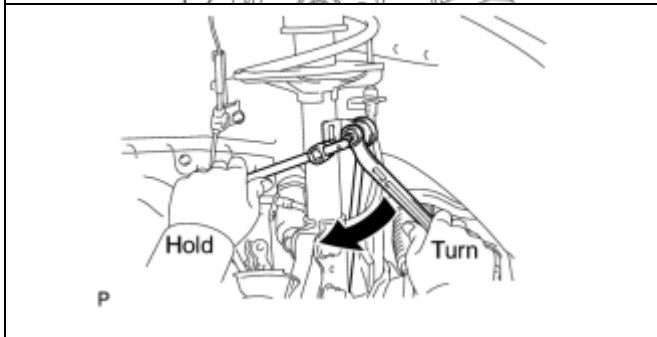
- (f) Install front wheels.

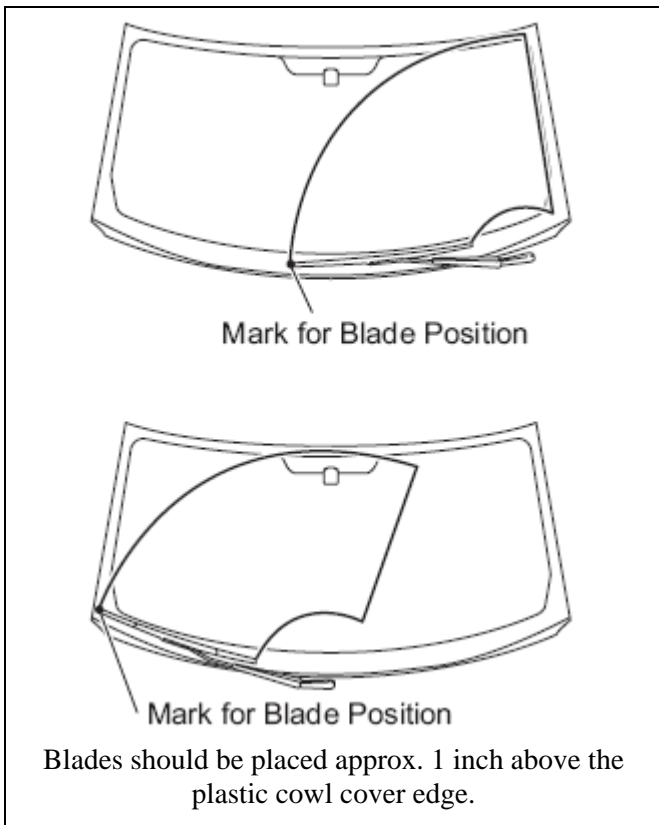
**Torque: 103 N·m (1050 kgf·cm, 76 ft·lbf)**

- (g) Fully tighten the front support to front shock absorber nut after lowering the vehicle back onto its tires.

**Torque: 47 N·m (479 kgf·cm, 35 ft·lbf)**

- (h) Install the front suspension support dust cover.





(i) Install cowl pan. 12 bolts

**Torque: 8.8 N·m (90 kgf·cm, 78 in·lbf)**

(j) Install windshield wiper motor and link assembly.

**Torque: 5.5 N·m (56 kgf·cm, 49 in·lbf)**

(k) Connect the wiper harness connector back onto the wiper motor.

(l) Install plastic cowl covers.

(m) Install hood to cowl top seal.

(n) Install wiper arm assemblies.

(1) Hold the wiper arm by hand when tightening the nut.

**Torque: 26 N·m (265 kgf·cm, 19 ft·lbf)**

(o) Install wiper arm head caps.

## 5. Remove Rear Shock Assembly

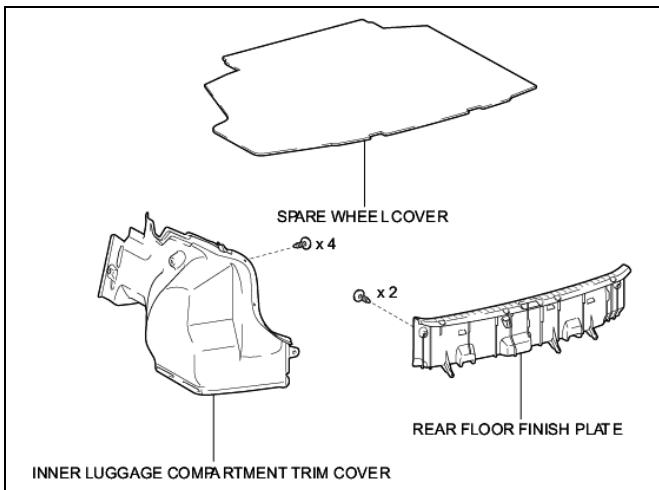
COROLLA-

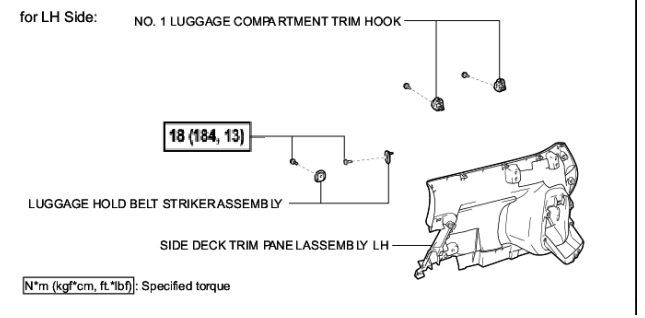
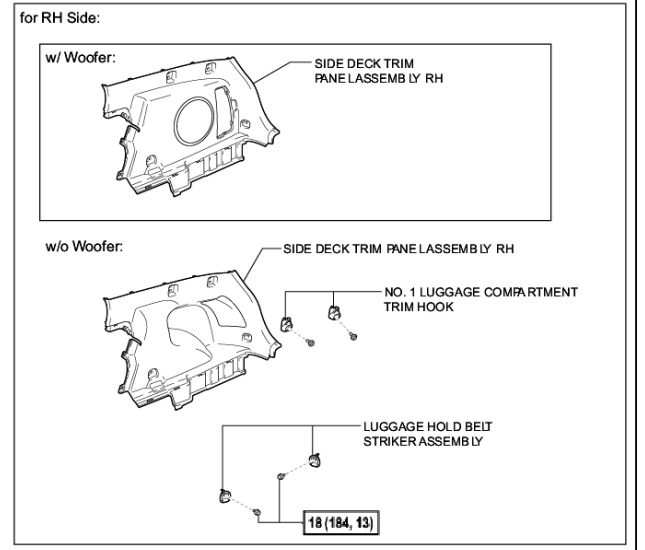
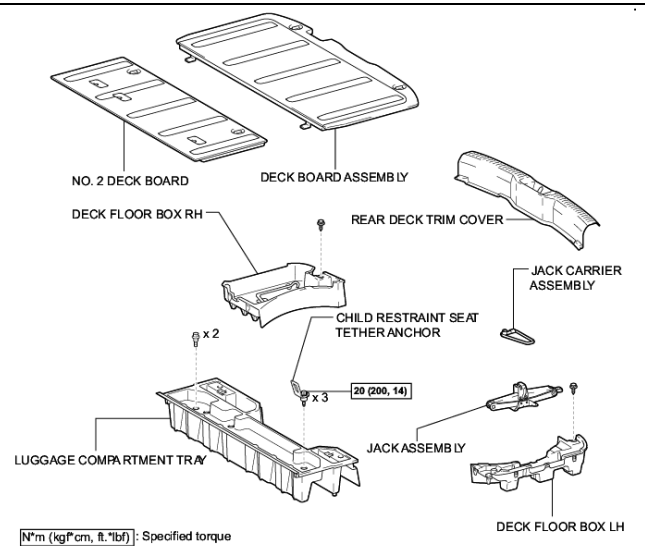
(a) Remove spare wheel cover.

(b) Lift forward edges of inner luggage compartment trim covers.

(1) Remove forward clips.

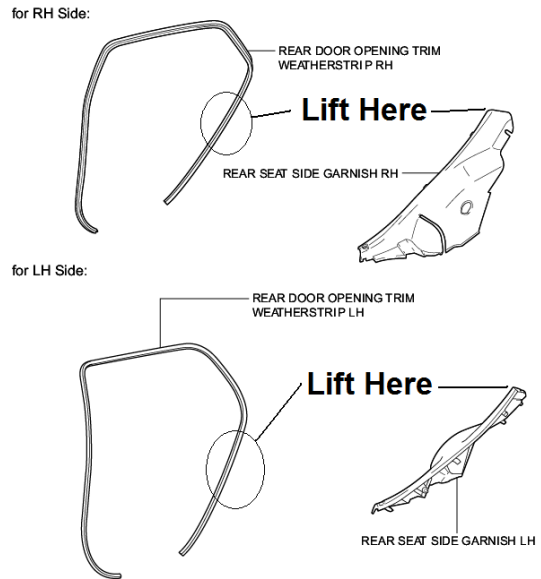
(2) Lift forward edges of trim covers to expose upper shock nuts.



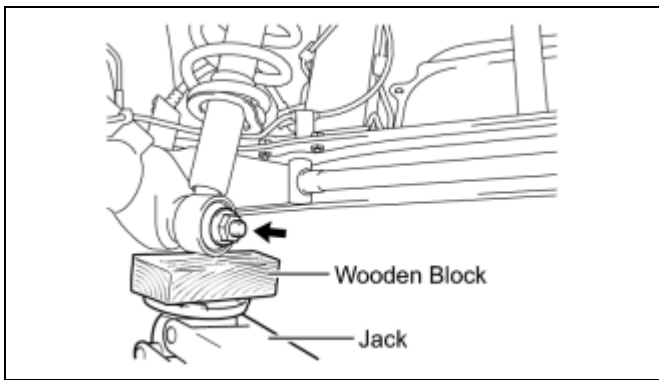


MATRIX-

- (c) Remove deck board assembly.
- (d) Remove No. 2 deck board.
- (e) Remove deck floor box LH & RH.
- (f) Remove child restraint seat tether anchor.
- (g) Remove luggage compartment tray.
- (h) Remove rear deck trim cover.
- (i) Remove side deck trim panels LH & RH.
  - (1) You will have to first release the rear edges of the seat side garnishes.
  - (1) Partially lift door opening weatherstrip to release the side garnishes.



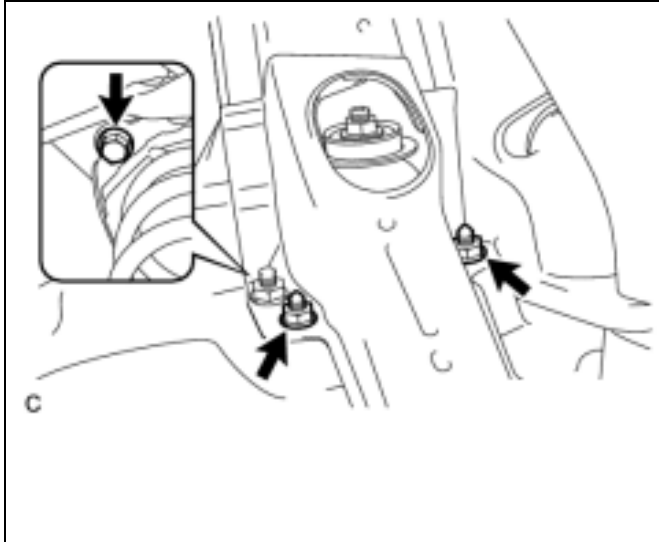




(j) Remove lower shock nut.

(1) Support the rear axle beam assembly using a jack and wooden block.

(2) Remove nut and retaining washer.



(k) Remove shock assembly.

(1) Remove the 2 nuts from the rear shock assembly (upper side).

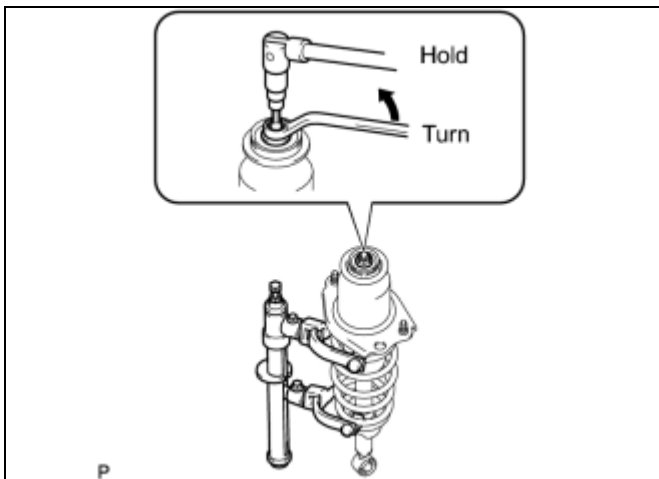
(2) Remove the bolt (lower side) from the rear shock assembly.

(3) Slowly lower the jack and remove the rear shock assembly.



**NOTE:** Only remove one rear shock assembly at a time so that the rear beam axle does not hang freely under the car.

## 6. Remove OE Spring



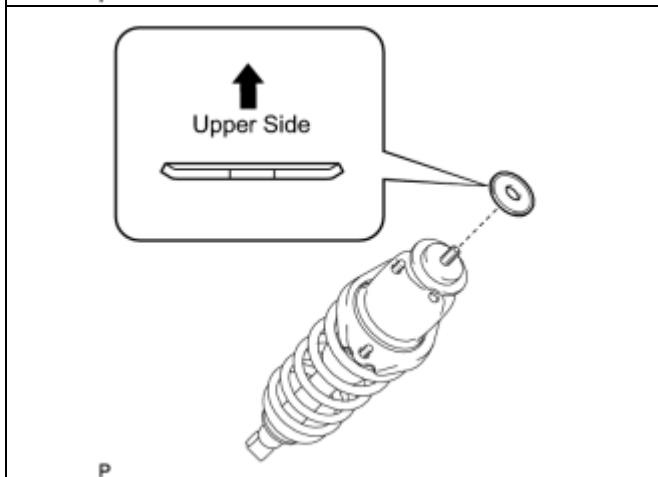
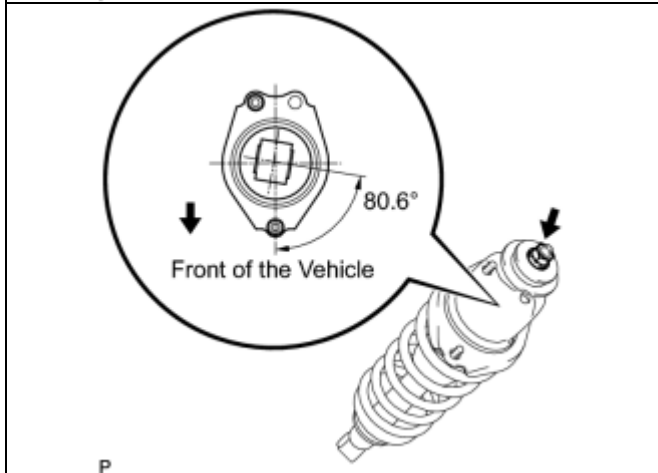
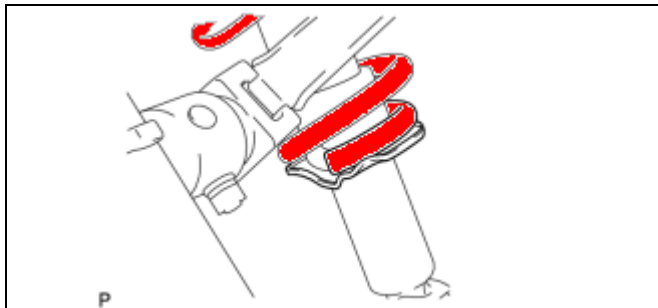
(a) Compress spring

(b) Use a hexagon wrench (6 mm) to hold the rear shock absorber piston rod and remove the nut.

(c) Remove all upper spring seat hardware and save for re-use.

(d) Remove OE spring.

## 7. Install TRD Rear Spring



- (a) Compress TRD spring.
- (b) Install the coil spring onto the shock absorber making sure that the end of the rear coil spring is positioned in the depression of the lower spring seat.
- (c) Install jounce bumper.
- (d) Install lower bushing with spacer.
- (e) Install upper spring seat with spring insulator.
  - (1) Position upper spring seat over the spring so that the lower shock mount lines up as shown. (Passenger side shock assembly shown)
- (f) Install upper bushing and washer.
  - (1) Place washer as shown.
- (g) Install upper nut.
  - (1) Using a socket hexagon wrench (6 mm), secure the rear shock absorber piston rod and tighten the nut.

**Torque: 39 N·m (398 kgf·cm, 29 ft·lbf)**

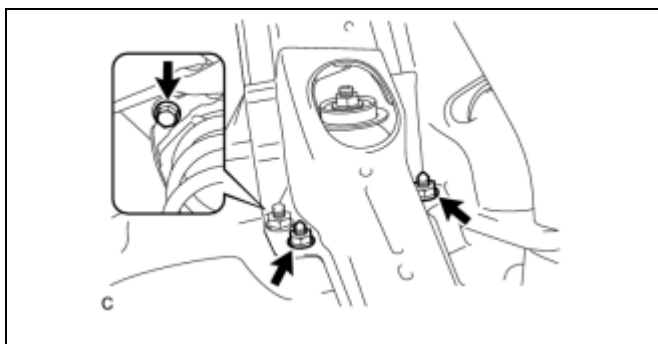
## 8. Install Rear Shock Assemblies

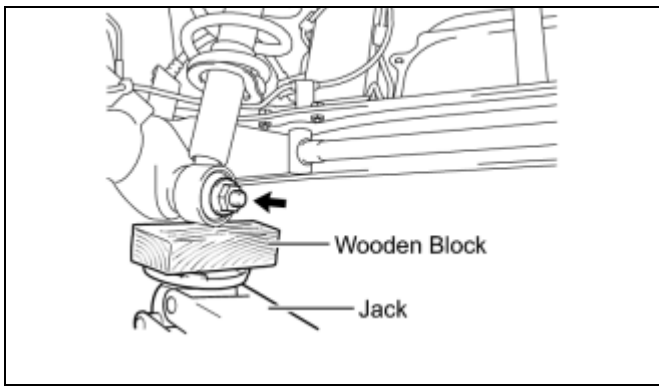
- (a) Install the rear shock absorber with coil spring with the bolt (lower side).

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

- (b) Install the rear shock absorber with coil spring with the 2 nuts (upper side).

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





(c) Install lower shock mount onto the beam axle.

**CAUTION:** Do not tighten shock nut yet.

(d) Tighten lower shock nuts once vehicle is lowered onto its tires and standing at normal ride height.

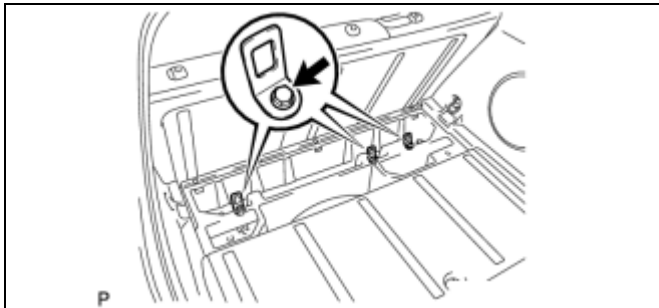
**Torque: 80 N·m (816 kgf·cm, 59 ft·lbf)**

(e) Install trunk trim. Corolla

(f) Install trunk trim. Matrix

(1) Install the 3 child restraint seat tether anchors with the 3 bolts.

**Torque: 20 N·m (200 kgf·cm, 14 ft·lbf)**



(g) Inspect and adjust front wheel alignment.

(1) For vehicles equipped with VSC, be sure to take your vehicle to a local Toyota dealership to perform zero point calibration of the yaw rate and acceleration sensor and test mode inspection.



Confirm lower shock nut has been tightened to the proper torque specification noted above.

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

CHECK FOR:

Accessory Function Checks

Confirm there is no unusual noise coming from the suspension.

LOOK FOR:

Properly seated springs. Proper torque on shock assembly mounting points.

Vehicle Function Checks

Confirm wipers operate normally.

Connected wiper motor harness.