

**Part Number: PTR07-53140**

**Kit Contents**

Item #	Quantity Req.	Description
1	2	Front Springs
2	2	Rear Springs
3	1	Hardware Bag

**Hardware Bag Contents**

Item #	Quantity Req.	Description
1	2	Front Shock Locking Nuts
2	2	Rear Shock Nuts
3	4	Spring Bumpers

**Additional Items Required For Installation**

Item #	Quantity Req.	Description
1		

**Conflicts**

AWD models & AVS-equipped models
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**General Applicability**

IS 200t, IS 350 RWD
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**Recommended Sequence of Application**

Item #	Accessory
1	
2	

\*Mandatory







**Recommended Tools**

<b>Personal &amp; Vehicle Protection</b>	<b>Notes</b>
Fender Covers	
Safety Glasses	
<b>Special Tools</b>	<b>Notes</b>
Spring Compressor	
Transmission Jack	To work high under a lift
Floor Jack	To work low with a vehicle lift or on the ground
2" x 4" Wood Block	~4"long if using floor jacks
<b>Installation Tools</b>	<b>Notes</b>
Torque Wrench	3/8" & 1/2" drive
Ratchet	3/8" & 1/2" drive
Wrenches	14, 19, 17, 24mm
Sockets	10, 14, 17, 19mm
Hexagon Socket	6 mm
Screwdriver	Small & long flat-head
Nylon Pry Tool	
Awl	
<b>Special Chemicals</b>	<b>Notes</b>

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

Item #	Quantity Req.	Description
1	90467-12069	Clip for luggage compartment trim cover (2)

**Legend**

	<b>STOP:</b> Damage to the vehicle may occur. Do not proceed until process has been complied with.
	<b>OPERATOR SAFETY:</b> Use caution to avoid risk of injury.
	<b>CAUTION:</b> 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.
	<b>TOOLS &amp; EQUIPMENT:</b> Used in Figures calls out the specific tools and equipment recommended for this process.
	<b>REVISION MARK:</b> This mark highlights a change in installation with respect to previous issue.
	<b>SAFETY TORQUE:</b> 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.).

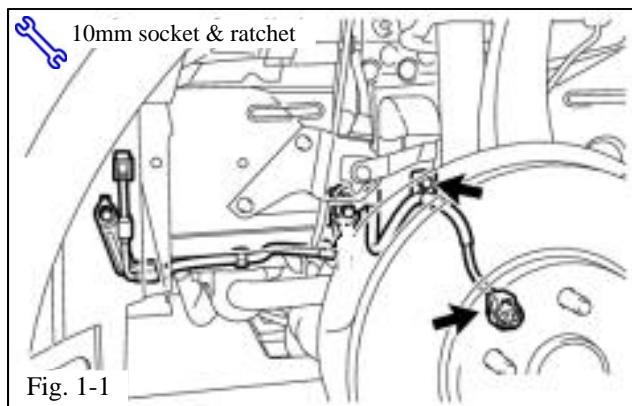
Please see your Lexus dealer for a copy of this document.

### 1. Remove the Front Shock/Spring Assemblies.

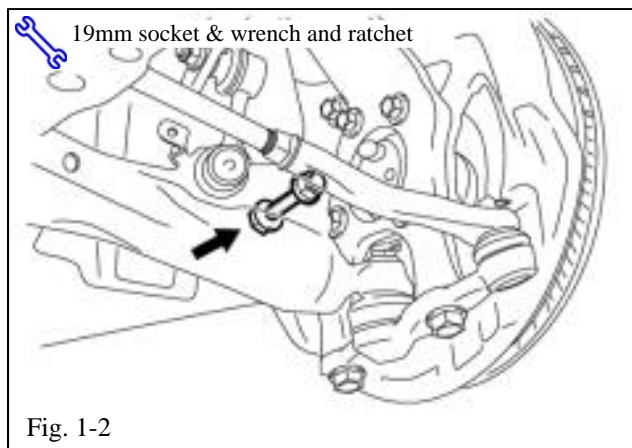
(a) Remove the front wheels.

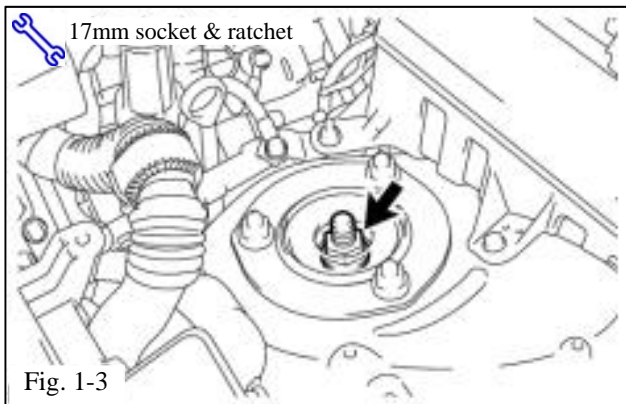
 **CAUTION:** Do not use an impact wrench on wheel locks (if equipped).

(b) Detach the speed sensor wire from the shock absorber assembly and disconnect it from the speed sensor (Fig. 1-1).



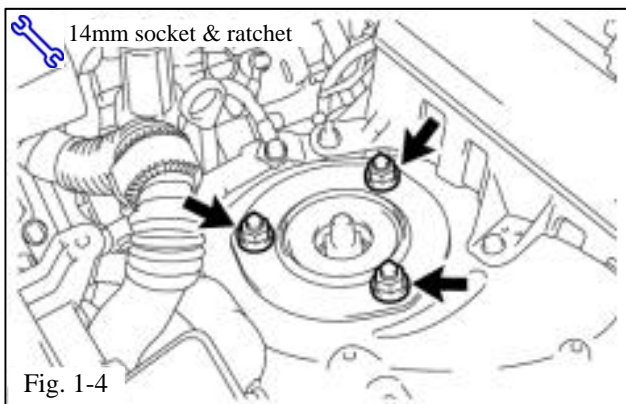
(c) Remove the nut and bolt holding the lower end of the shock absorber (Fig. 1-2).





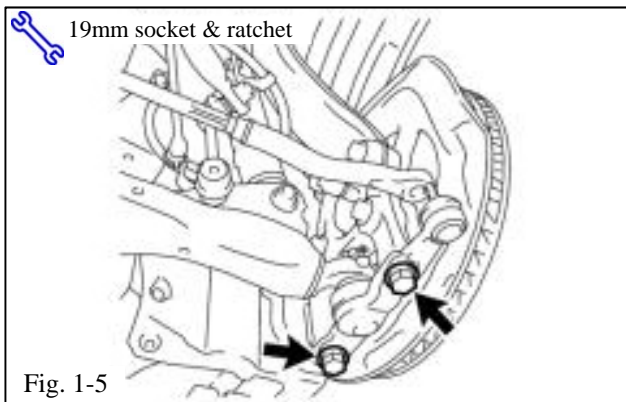
- (d) Loosen the front shock absorber lock nut (Fig. 1-3).

**⚠ NOTE:** Do not remove the lock nut.

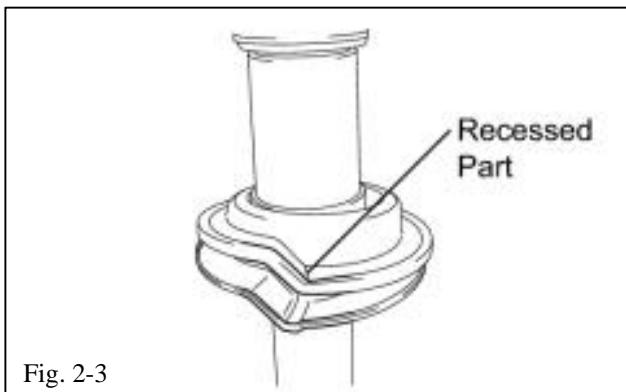
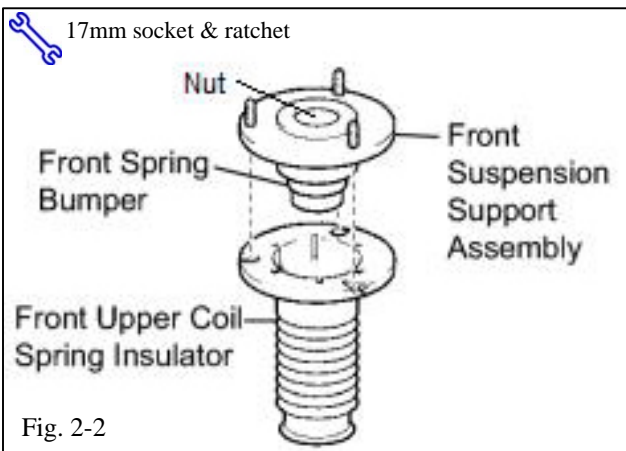
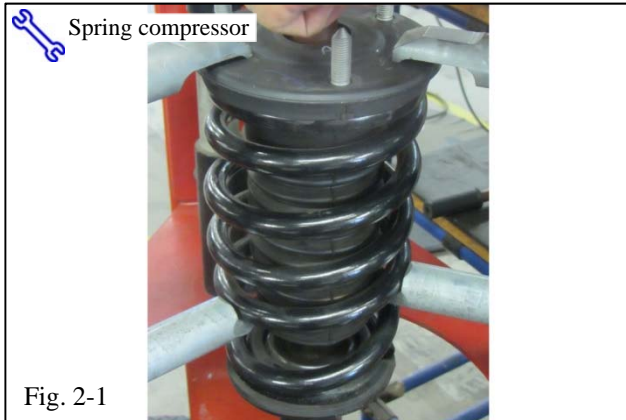


- (e) Remove the 3 nuts on the upper side of the front suspension support (Fig. 1-4).

**⚠ NOTE:** The lower arm bushing preload will not allow the shock assembly to fall.



- (f) Remove the 2 bolts from the front lower ball joint (Fig. 1-5).
- (g) Remove the shock absorber/spring assembly from the vehicle.
- (h) Repeat Step 1 on the other side of the vehicle.



## 2. Replace the Front Springs.

- (a) Compress the spring enough to remove tension from the upper spring support (Fig. 2-1).
- (b) Remove the lock nut (Fig. 2-2). It will not be reused.
- (c) Remove the front suspension support assembly with the front upper coil spring insulator (Fig. 2-2). Retain them for reinstallation.
- (d) Remove the front spring bumper and discard it (Fig. 2-2).
- (e) Remove the coil spring.
- (f) Confirm the lower spring insulator is indexed properly and free of debris (Fig. 2-3).
- (g) Install a supplied spring bumper onto the shock absorber shaft with the wide portion facing away from the shock absorber body (Fig. 2-4).
- (h) Compress a front spring and place it over the shock absorber assembly.

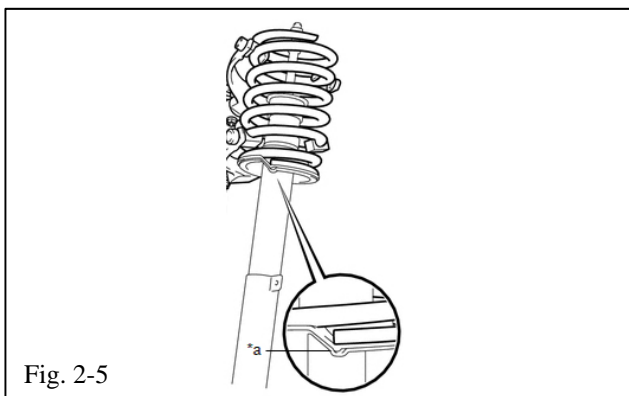


Fig. 2-5

- (i) Confirm that the end of the spring sits in the stepped portion (\*a) of the lower spring seat (Fig. 2-5).

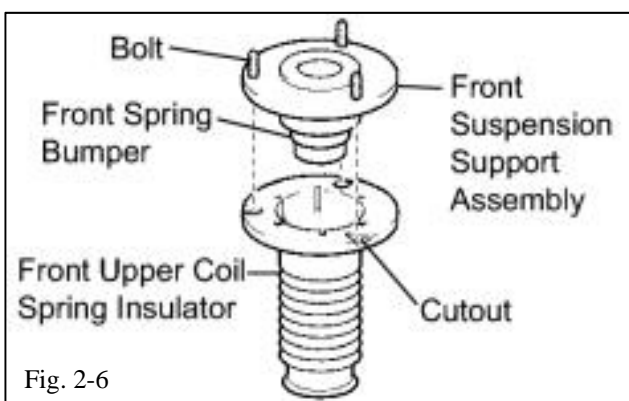


Fig. 2-6

- (j) Align the bolt heads of the front suspension support assembly with the cutouts of the front upper coil spring insulator (Fig. 2-6).
- (k) Install the front upper coil spring insulator on the front suspension support assembly (Fig. 2-6).

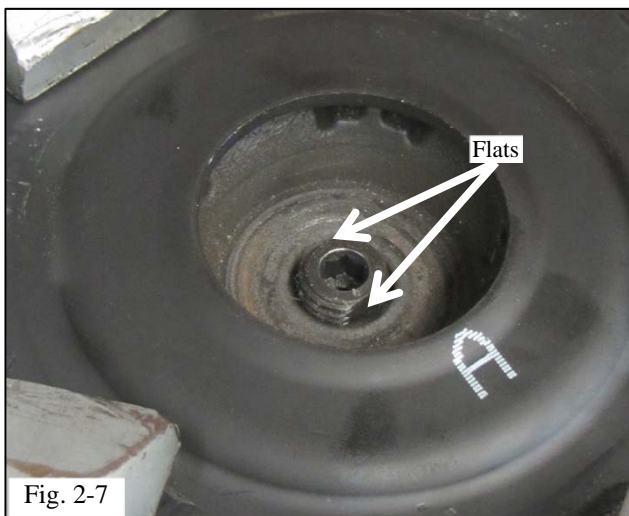
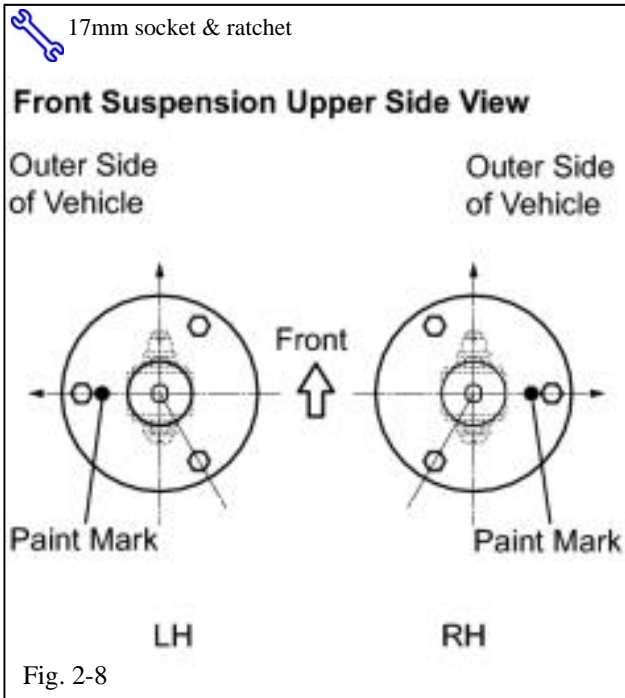


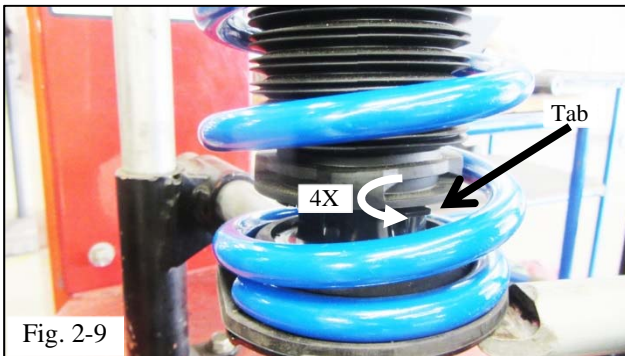
Fig. 2-7

- (l) Match the shape of the piston shaft end to the hole in the front suspension support assembly to install the front shock absorber (Fig. 2-7).

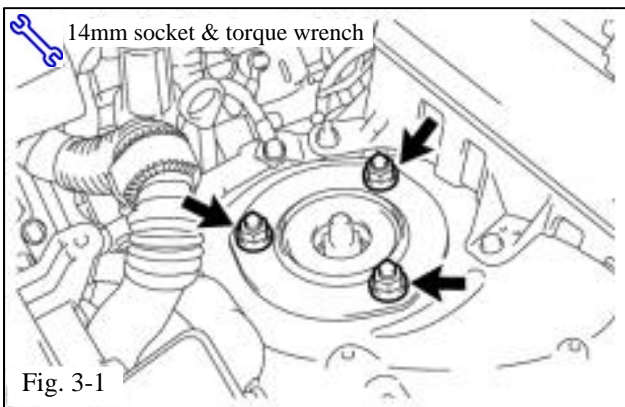




- (m) Align the front suspension support assembly to the position shown (Fig. 2-8).
- (n) Temporarily tighten a supplied lock nut to the front shock absorber.



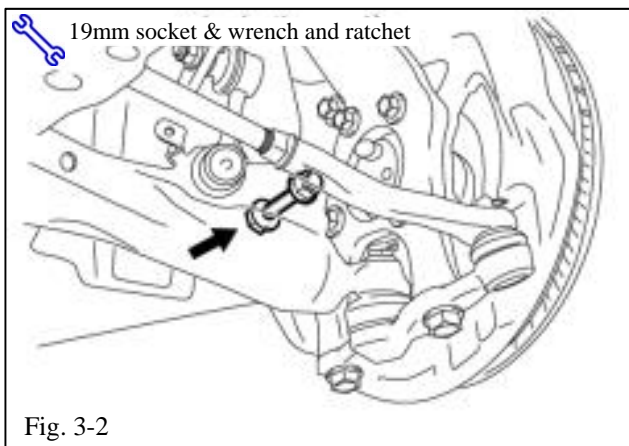
- (o) Clip the dust boot into the 4 tabs (Fig. 2-9).



### 3. Install the Front Shock/Spring Assemblies.

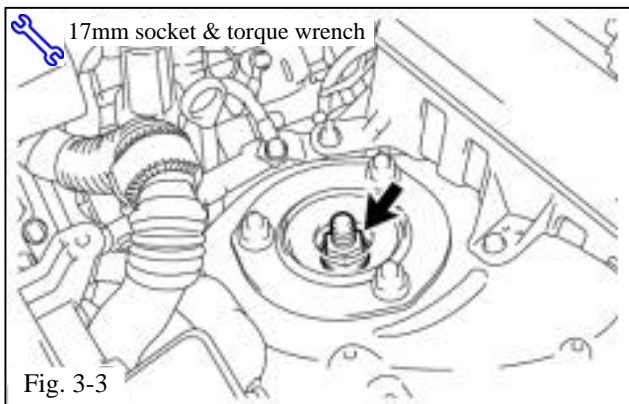
- (a) Replace the front shock absorber assembly into the vehicle and tighten the 3 nuts on the suspension support (engine bay) side (Fig. 3-1).

**S** Torque: 67 N·m (683 kgf·cm, 49 ft·lbf)



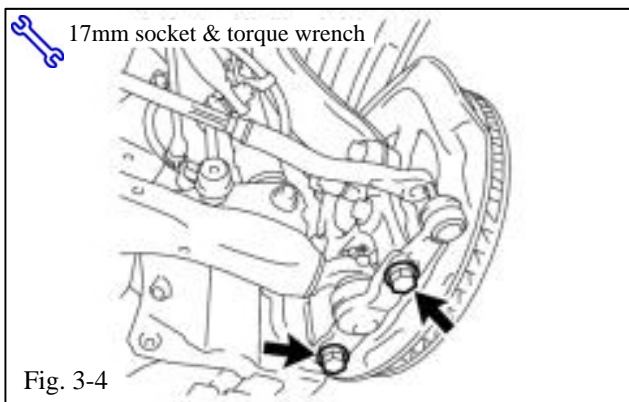
- (b) Install the front shock absorber lower side on the front lower suspension arm and insert the bolt from the rear of the vehicle (Fig. 3-2).
- (c) Temporarily tighten the nut while holding the bolt.

**⚠ NOTE:** The nut will be fully tightened after settling the suspension.



- (d) Torque the new shock absorber assembly lock nut (Fig. 3-3).

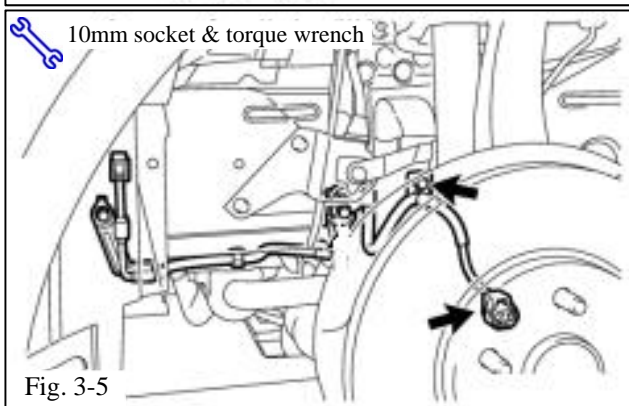
**S Torque: 28 N·m (286 kgf·cm, 21 ft·lbf)**



- (e) Replace the 2 bolts into the front lower ball joint (Fig. 3-4).

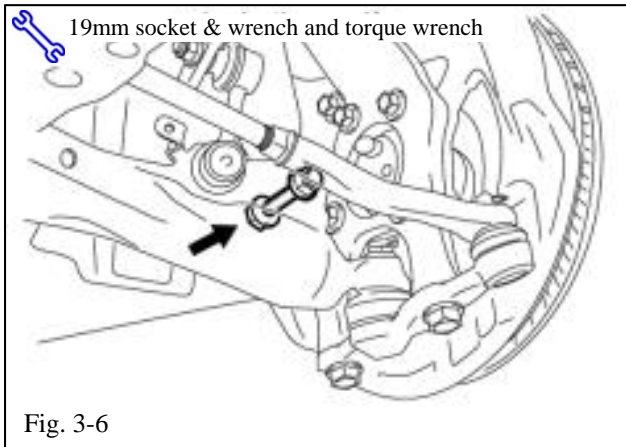
**⚠ NOTE:** Be sure to hand start the bolts before using tools.

**S Torque: 120 N·m (1,220 kgf·cm, 89 ft·lbf)**



- (f) Install the front speed sensor to the front shock absorber and reconnect it (Fig. 3-5).

**Torque: 13.5 N·m (138 kgf·cm, 10 ft·lbf)**



- (g) Torque the lower shock absorber bolt (Fig. 3-6). Compress the lower suspension arm to support the weight of the vehicle

**CAUTION:** The nut has a locking feature. Tighten the bolt and nut by turning the **BOLT** while the nut is held in place.

**S Torque: 108 N·m (1,101 kgf·cm, 80 ft·lbf)**

- (h) Repeat Step 3 on the other side of the vehicle.

- (i) Install the front wheel/tire assemblies onto the vehicle. Hand start the lug nuts.

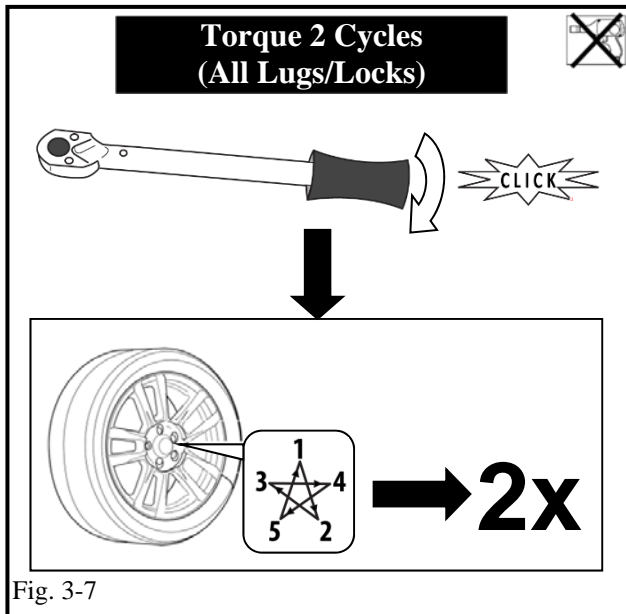
- (j) Use a torque wrench to tighten the lug nuts in sequence 1 through 5 to 103N·m (76 ft-lbf) (Fig.3-7).

**S Torque: 103 N·m (76 ft-lbf)**

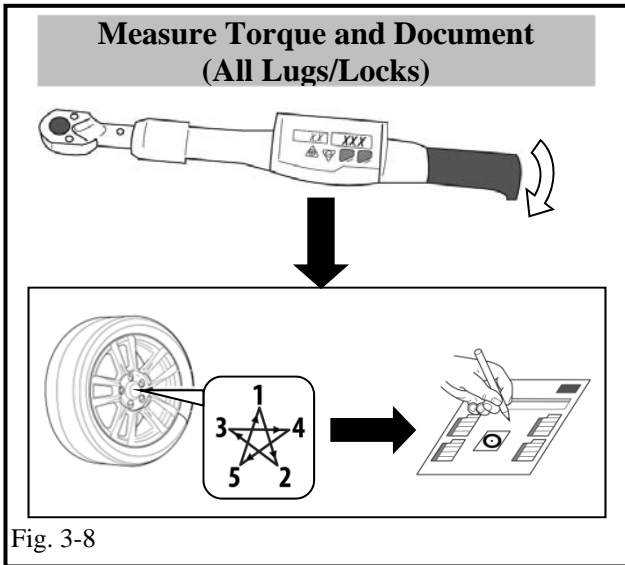
- STOP** (k) Re-torque all of the lug nuts in same the 1-5 sequence (Fig. 3-7).

**S Torque: 103 N·m (76 ft-lbf)**

- STOP CAUTION: DO NOT USE AN IMPACT WRENCH TO INSTALL OR REMOVE WHEEL LOCKS.**







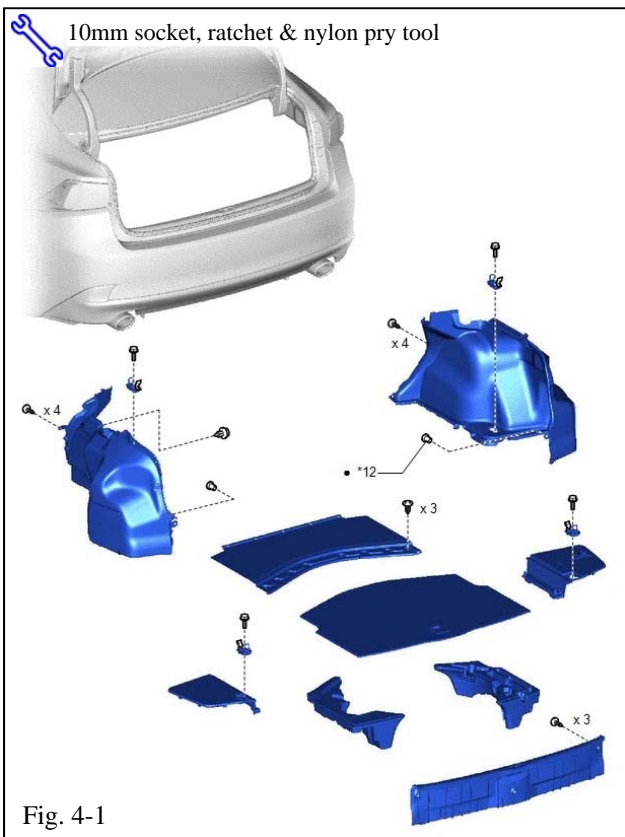
- (1) With the vehicle still on the lift, use a digital torque wrench to measure the torque of each lug nut/lock and record it on the Torque Audit Sheet (Fig. 3-8). (PPO installation only. Does not apply to DIO installation.)

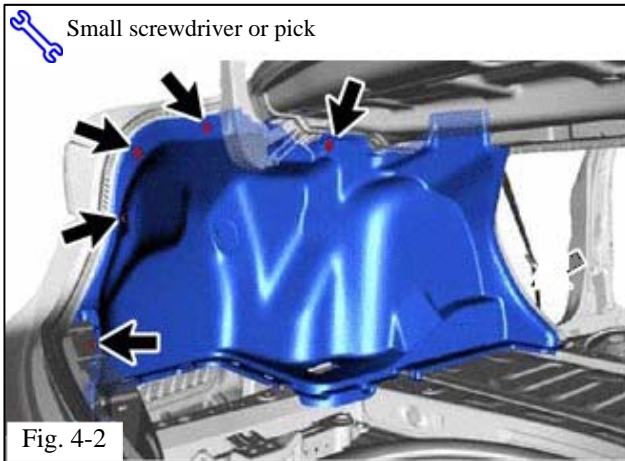
**4. Remove the Rear Springs.**

- (a) Remove the spare tire cover (Fig. 4-1).
- (b) Remove the rope hook assemblies (Fig. 4-1).
- (c) Remove the deck side trim boxes (Fig. 4-1).
- (d) Remove the rear luggage compartment trim cover (Fig. 4-1).

**HINT:** Once the rear trim cover is removed, place a fender cover or blanket over the rear bumper skin for protection.

- (e) Remove the front luggage compartment trim cover (Fig. 4-1).





(f) Remove the indicated 5 clips from the side trim cover (Fig. 4-2).

**HINT:** The rear most clip will require a small screwdriver or pick to release it from the panel.

(g) Swing the back edge of the side cover in towards the center of the trunk to allow access to the top of the shock absorber.

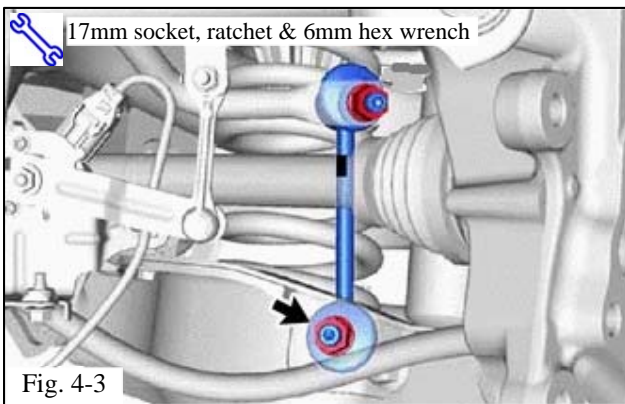
**CAUTION:** Take care not to crease the side cover.

(h) Raise the vehicle and remove the rear wheels.

**CAUTION:** Do not use an impact wrench on wheel locks (if equipped).

(i) Remove the nut and disconnect the lower end of the sway bar links from the lower control arms on **both** sides of the vehicle (Fig. 4-3). Retain the nuts for reinstallation.

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



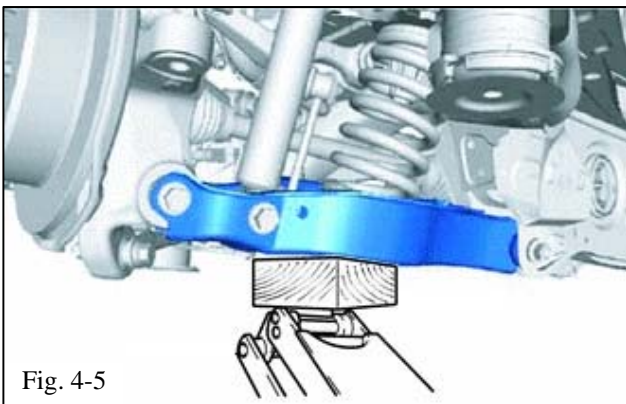
- (j) Separate the rear shock absorber from the lower control arm.



- (1) Compress the lower control arm by locating a jack below the spring area of the lower control arm (Fig. 4-4).

**NOTE:** A transmission jack can be used if working high or a floor jack can be used if working low to the ground (Fig. 4-5). Support the front cross member if a transmission jack is used (Fig. 4-4 inset).

- (2) Compress the arm up just slightly to remove the tension from the lower shock absorber bolt (5mm or 0.25”).



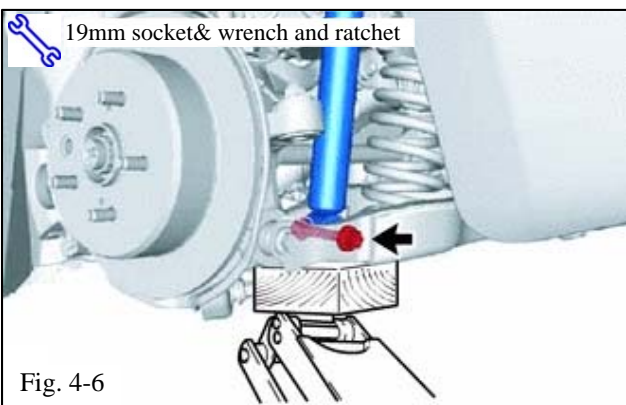
- (3) Remove the bolt and nut (Fig. 4-6). Retain them for reinstallation.

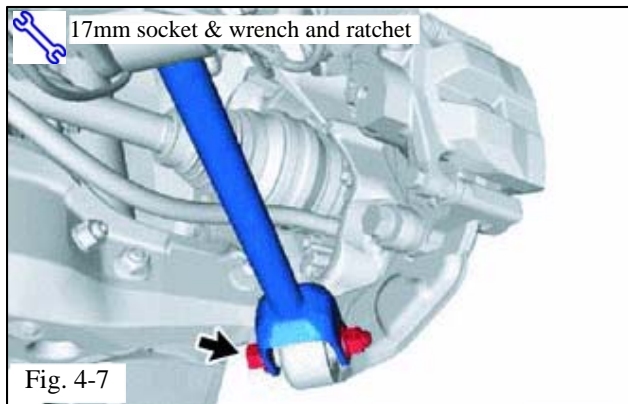
**⚠ CAUTION:** The nut has a locking feature. Remove the bolt and nut by turning the **BOLT** while the nut is held in place.

- (k) Disconnect the rear trailing link arm.

- (1) Compress the lower control arm up higher so the drive axle is as close to level as possible.

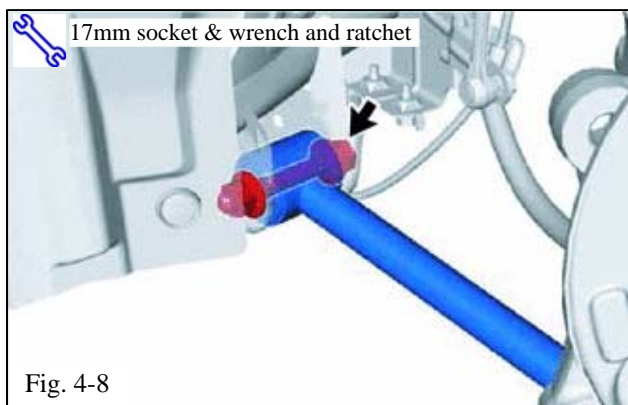
**⚠ CAUTION:** Be sure not to lift the vehicle off of the lift arm.





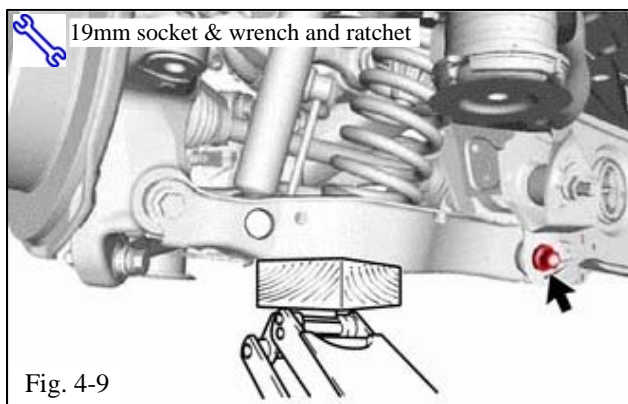
(2) Remove the rearward bolt and nut from the trailing link arm (Fig. 4-7). Retain them for reinstallation.

**⚠ CAUTION:** The nut has a locking feature. Remove the bolt and nut by turning the **BOLT** while the nut is held in place.



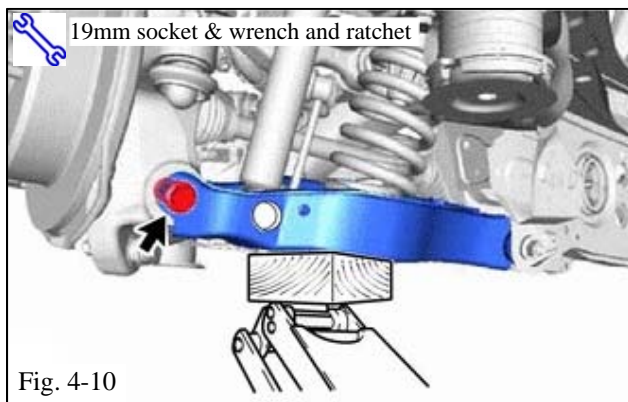
(3) Loosen the forward bolt and nut on the trailing link arm until the arm swings down (Fig. 4-8). Do not remove the bolt or nut.

**⚠ CAUTION:** The nut has a locking feature. Loosen the bolt and nut by turning the **BOLT** while the nut is held in place.



(1) Loosen (do not remove) the rear lower control arm nut (rear suspension member sub-assembly side, Fig. 4-9).

**⚠ CAUTION:** Depending on the model vehicle, this fastener could be a nut or a bolt. Loosen the rearward facing fastener.



(m) Remove the bolt and nut, and then separate the rear lower control arm from the rear knuckle assembly (Fig. 4-10).

**⚠ CAUTION:** The nut has a locking feature. Remove the bolt and nut by turning the **BOLT** while the nut is held in place.



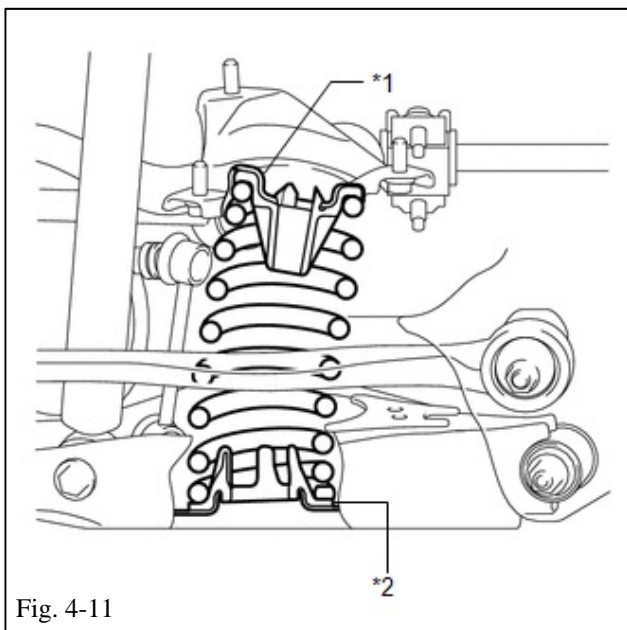


Fig. 4-11

- (n) Slowly lower the rear lower control arm and then remove the rear coil spring and rear upper coil spring insulator (Fig. 4-11).
- (o) Remove and save the rubber coil spring insulators for use on the F-Sport spring.  
**NOTE:** If the vehicle is older than 5 years or has more than 50k miles, F-Sport recommends replacement of the coil spring insulators with new parts.
- (p) Discard the OE coil spring.
- (q) Free the lower end of the shock absorber from the lower control arm.
- (r) Slowly lower the rear lower control arm just enough to free the lower end of the shock absorber from the lower control arm.
- (s) Repeat Step 4 on the other side of the vehicle.

### 5. Remove and Replace the Shock Absorbers.

- (a) Remove the 3 nuts and then the rear shock absorber (Fig. 5-1).

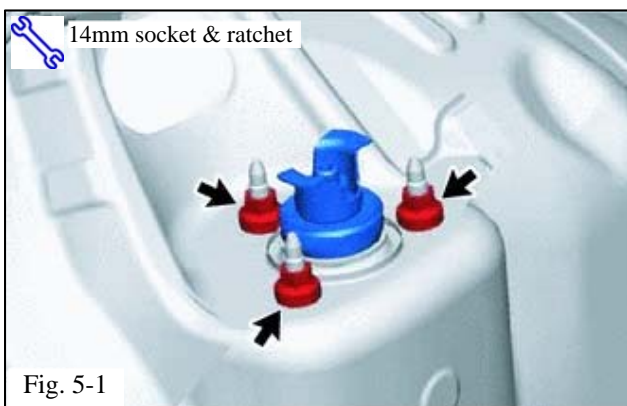
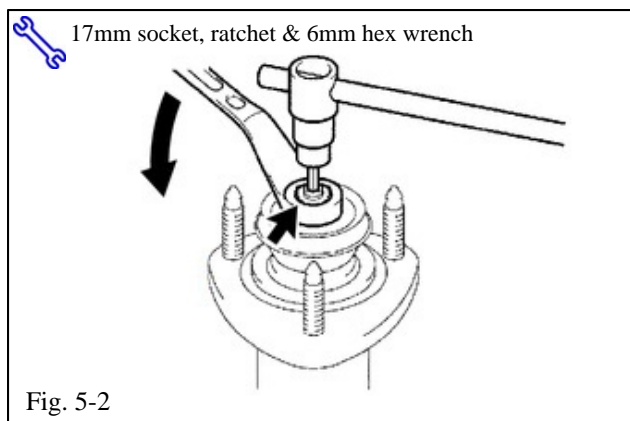
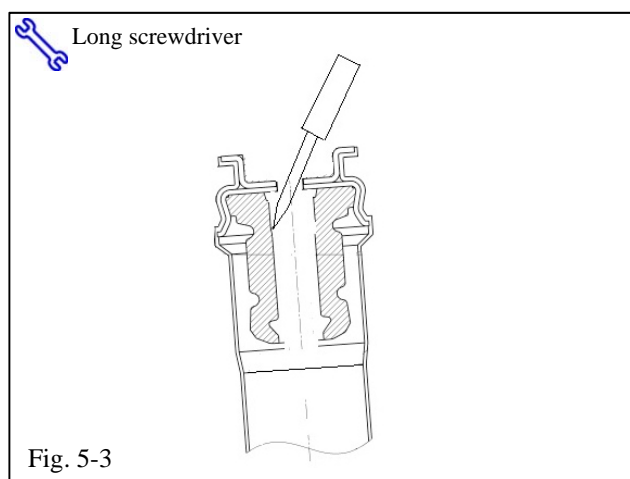


Fig. 5-1





- (b) Remove the nut and the rear shock absorber upper support assembly (Fig. 5-2). Discard the nut as it will not be reused.

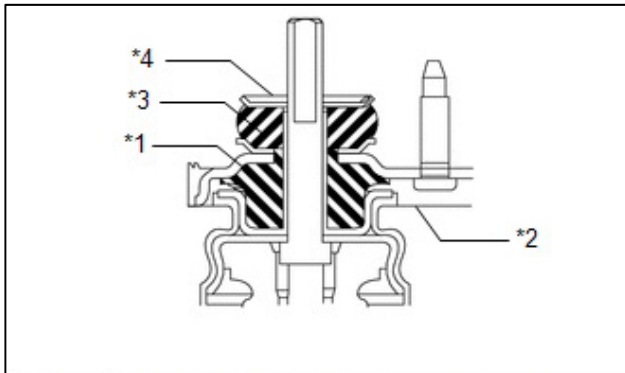


- (c) Push the OE spring bumper out of the dust cover with a long screwdriver (Fig. 5-3).

**HINT:** Use soapy water or a silicon-based lubricant inside the dust cover to make removal and installation easier.



- (d) Install a supplied jounce bumper onto the shock absorber shaft (Fig. 5-4).
- (e) Force the OE dust cover over the jounce bumper and install it onto the shock absorber shaft.



*1	Rear No. 2 Shock Absorber Cushion
*2	Rear Suspension Support Assembly
*3	Rear No. 1 Shock Absorber Cushion
*4	Rear Shock Absorber Cushion Washer

Fig. 5-5

(f) Install the rear No. 2 shock absorber cushion, rear suspension support assembly, rear No. 1 shock absorber cushion and rear shock absorber cushion washer to the rear shock absorber assembly (Fig. 5-5).

**⚠ CAUTION:** Be sure to install the rear shock absorber cushion washer in the correct direction, with the lip turned up (\*4 in Fig. 5-5).

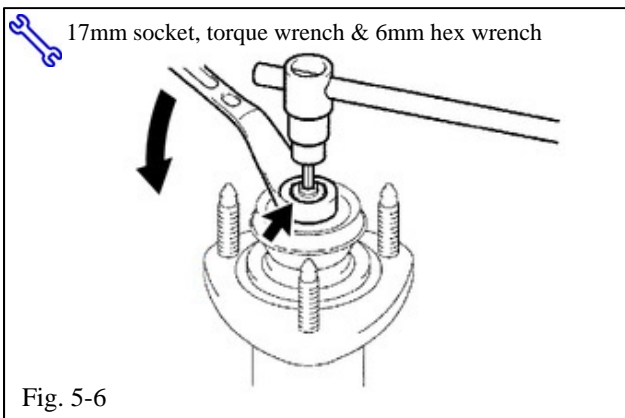


Fig. 5-6

**||** (g) Fully tighten the supplied nut (Fig. 5-6).

**⚠ Torque: 18 N·m (184 kgf·cm, 13 ft·lbf)**

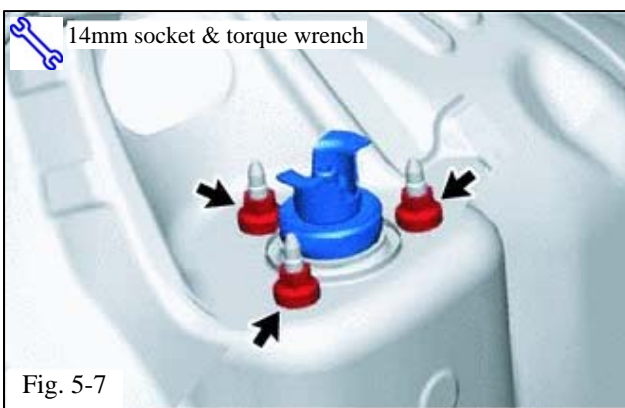
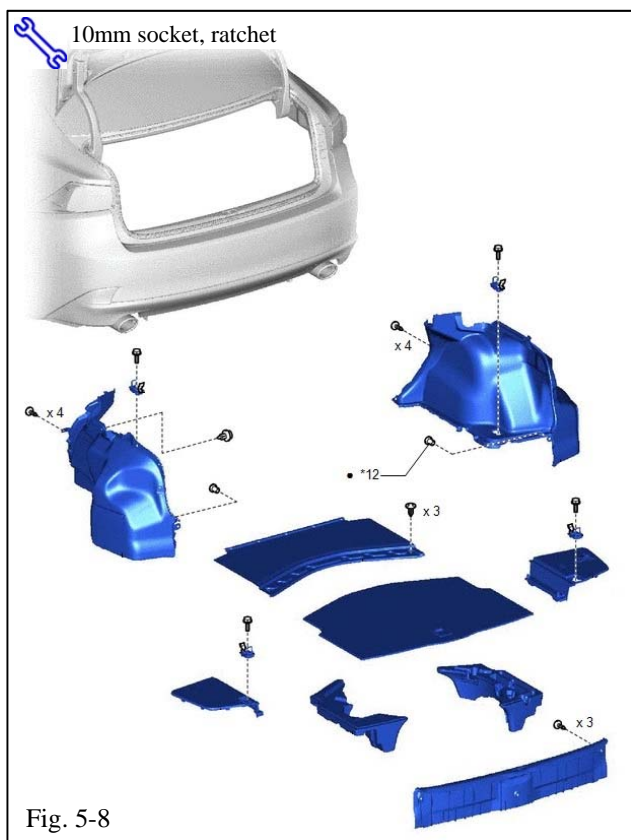


Fig. 5-7

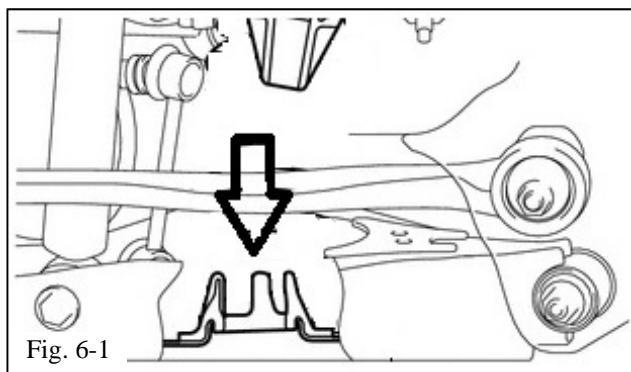
(h) Install the shock absorber and reinstall the 3 nuts to the upper side of the rear shock absorber assembly (Fig. 5-7).

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



- (i) Replace the luggage compartment trim covers (Fig. 5-8).

## 6. Replace the Rear Springs.

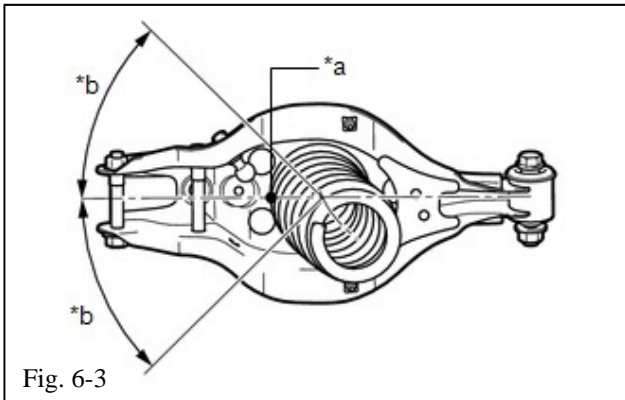


- (a) Install the rear lower coil spring insulator to the rear lower control arm (Fig. 6-1).



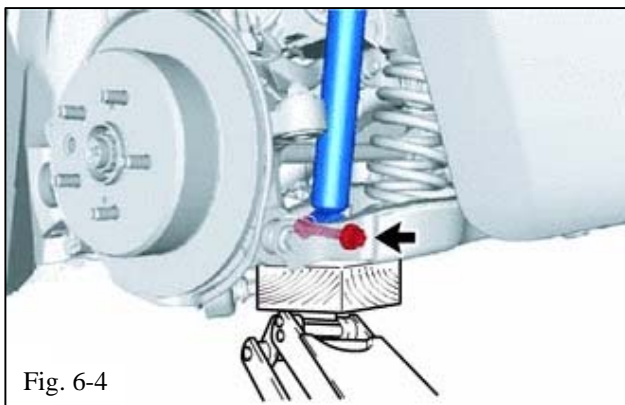
- (b) Install the rear upper coil spring insulator to the F-Sport rear coil spring (Fig. 6-2).

**⚠ CAUTION:** The flat end of the spring faces downward.



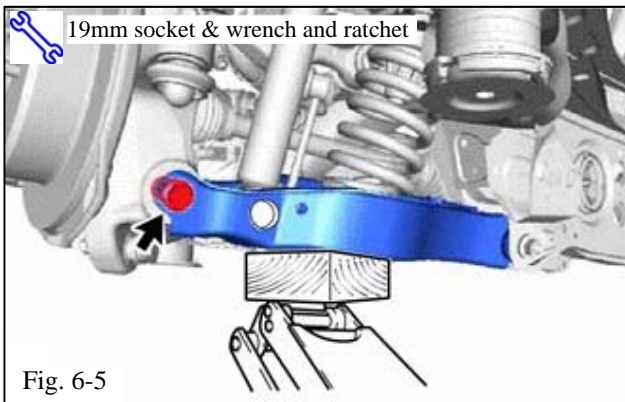
(c) Set the rear coil spring with upper coil spring insulator onto the rear lower control arm (Fig. 6-3).

**⚠ NOTE:** The coil should be indexed so that the F-Sport marking (\*a) is facing outboard on the vehicle (within area \*b).



(d) Slowly compress the rear lower control arm and then temporarily install the end of the shock absorber with the bolt and nut removed in Step 4(j)(3) (Fig. 6-4).

**⚠ CAUTION:** Insert the bolt with the threaded end facing the front of the vehicle.



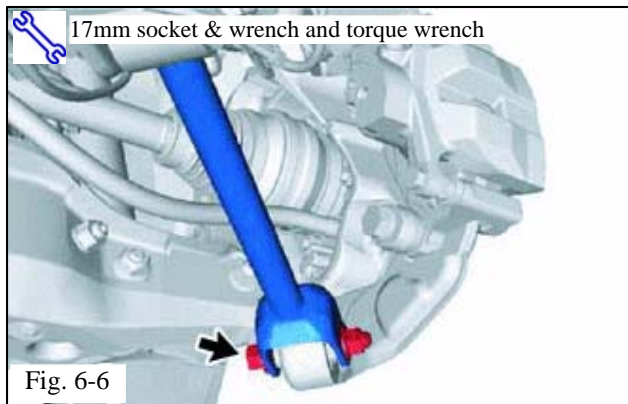
(e) Slowly compress the rear lower control arm and then fasten it to the rear knuckle assembly with the bolt and nut removed in Step 4(m) (Fig. 6-5).

**HINT:** Use an awl to line up the holes to start the bolt. Use a socket with an extension on the bolt head to leverage the bolt through to the back side of the control arm.

**⚠ CAUTION:** The nut has a locking feature. Turn the **BOLT** while the nut is held in place.

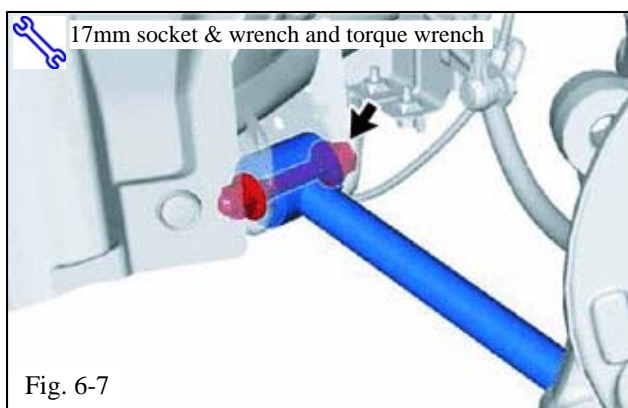
(f) Compress the lower control arm so that the drive axle is level.

**⚠ CAUTION:** Be sure not to lift the vehicle off of the lift arm.



(g) Swing the trail link arm back into position and attach it to the knuckle with nut and bolt nut removed in Step 4(k)(2) (Fig. 6-6).

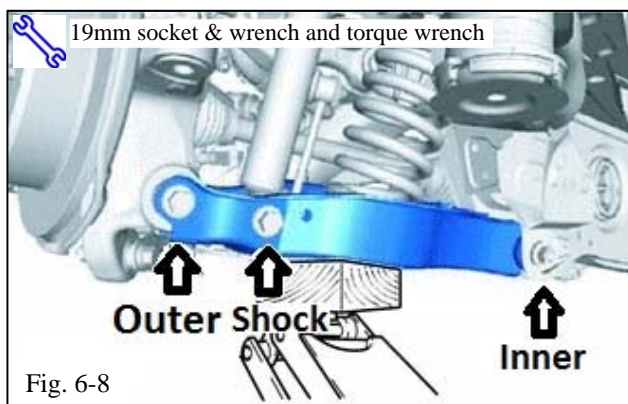
**⚠ CAUTION:** The nut has a locking feature. Turn the **BOLT** while the nut is held in place.



(h) Tighten both the forward and rearward trailing link bolts (Fig. 6-6 & Fig. 6-7).

**⚠ CAUTION:** The nut has a locking feature. Turn the **BOLT** while the nut is held in place.

**S** Torque: 90 N·m (918 kgf·cm, 66 ft·lbf)



(i) Tighten the inner lower control arm fastener (Fig. 6-8).

**⚠ CAUTION:** Depending on the model vehicle, this fastener could be a nut or a bolt. Tighten the rearward facing fastener.

**S** Torque: 150 N·m (1530 kgf·cm, 111 ft·lbf)

(j) Tighten outer lower control arm bolt (Fig. 6-8).

**⚠ CAUTION:** The nut has a locking feature. Turn the **BOLT** while the nut is held in place.

**S** Torque: 145 N·m (1479 kgf·cm, 107 ft·lbf)



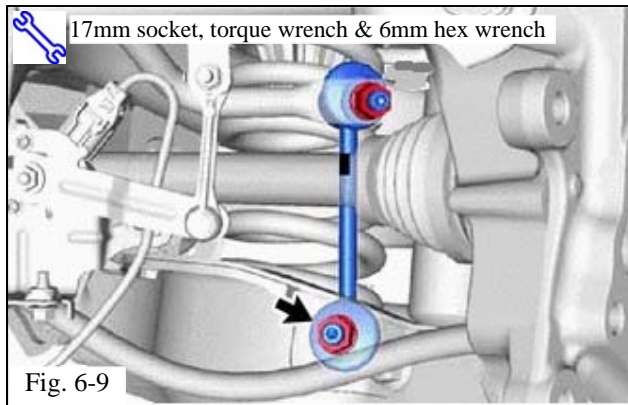


Fig. 6-9

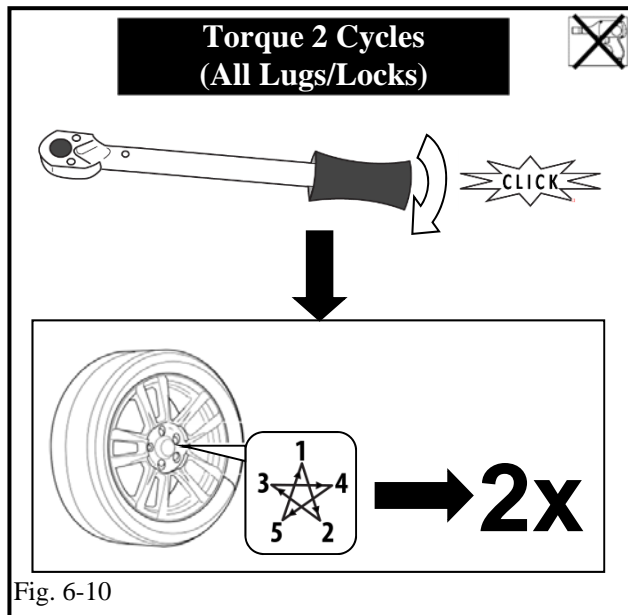


Fig. 6-10

(k) Tighten the lower shock absorber bolt (Fig. 6-8).

**CAUTION:** The nut has a locking feature. Turn the **BOLT** while the nut is held in place.

**S** **Torque: 110 N·m (1122 kgf·cm, 81 ft·lbf)**

(l) Once the above steps have been completed for both sides of the vehicle, reattach the lower links of the sway bar with the nuts removed in Step 4(i) (Fig. 6-9).

**S** **Torque: 70 N·m (714 kgf·cm, 52 ft·lbf)**

(m) Install the rear wheel/tire assemblies onto the vehicle. Hand start the lug nuts.

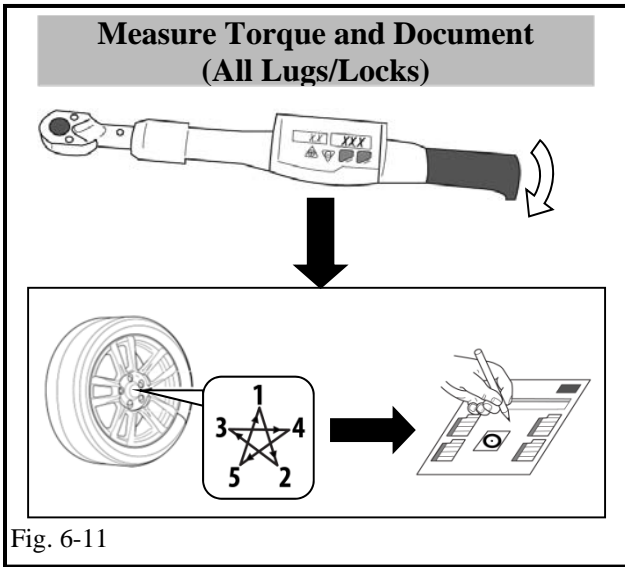
(n) Use a torque wrench to tighten the lug nuts in sequence 1 through 5 to 103N·m (76 ft·lbf) (Fig.6-10).

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

(o) Re-torque all of the lug nuts in same the 1-5 sequence (Fig. 6-10).

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

**STOP** **CAUTION: DO NOT USE AN IMPACT WRENCH TO INSTALL OR REMOVE WHEEL LOCKS.**

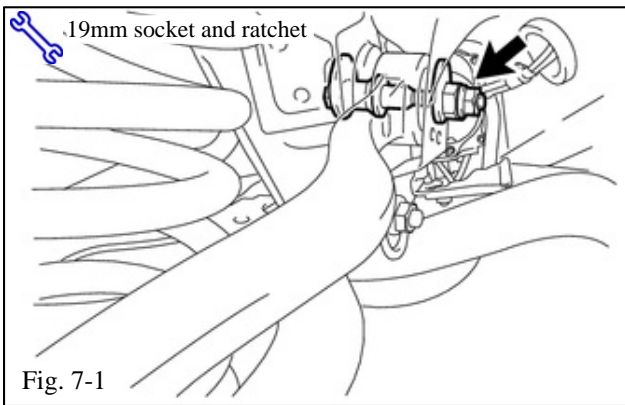


(p) With the vehicle still on the lift, use a digital torque wrench to measure the torque of each lug nut/lock and record it on the Torque Audit Sheet (Fig. 6-11). (PPO installation only. Does not apply to DIO installation.)

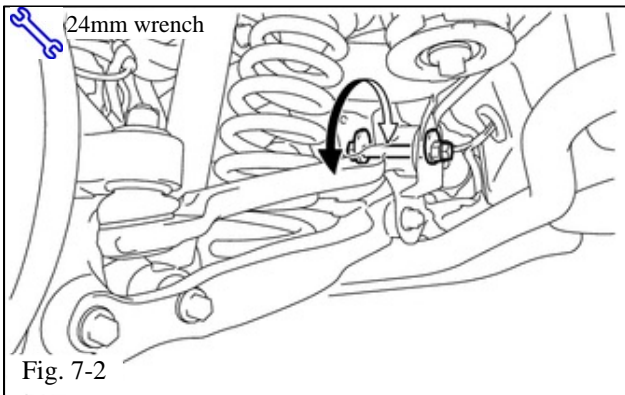
**7. Adjust the Wheel Alignment.**

(a) Adjust the rear toe settings.

(1) Loosen the inboard nut of the toe control link sub-assembly (Fig. 7-1).



(2) Rotate the rear suspension toe adjust cam sub-assembly to adjust the toe-in (Fig. 7-2).



**HINT:** Rotating the rear suspension toe adjust cam sub-assembly by one notch changes the toe by approximately 4.7 mm (0.185 in).

**Total Toe:**

**0°11' +/- 0°11' (0.18° +/- 0.18°)**

**2.0 +/- 2.0 mm (0.0787 +/- 0.0787 in.)**

- (3) Tighten the inboard nut of the toe control link sub-assembly (Fig. 7-1).

**NOTE:** Hold the rear suspension toe adjust cam sub-assembly while rotating the nut.

**S** **Torque: 117 N·m (1193 kgf·cm, 86 ft·lbf)**

- (b) Adjust the front toe settings.

- (1) Confirm the steering wheel is locked in the straight ahead position.
- (2) Remove the outer steering rack boot clips from the boots.
- (3) Loosen the tie rod lock nuts (Fig. 7-3).
- (4) Turn the right and left steering rack ends by an equal amount to adjust the toe-in.

**Total Toe:**

**0°03' +/- 0°11' (0.05° +/- 0.18°)**

**0.5 +/- 2.0 mm (0.0197 +/- 0.0787 in.)**

- (5) Make sure that the thread length of the right and left steering rack ends are the same (\*a) (Fig. 7-3).
- (6) Tighten the tie rod lock nuts (Fig. 7-3).

**S** **Torque: 55.9 N·m (570 kgf·cm, 41 ft·lbf)**

- (7) Replace the steering rack boots on the seats and install the steering rack boot clips.

**!** **NOTE:**

- Make sure the steering rack boots are not twisted.
- Make sure the steering rack boot clips are facing towards the front of the vehicle.

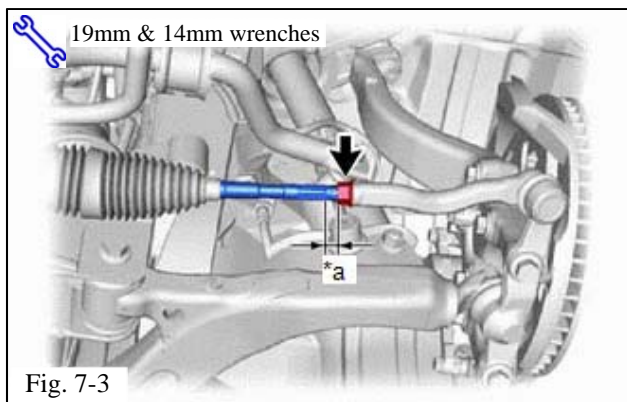


Fig. 7-3



Checklist - these points **MUST** be checked to ensure a quality installation.

Check:	Look For:
<p><u>Accessory Function Checks</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Check for noise</li> <li><input type="checkbox"/></li> <li><input type="checkbox"/></li> <li><input type="checkbox"/></li> </ul>	<p>Confirm all springs are seated properly</p>
<p><u>Vehicle Function Checks</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Confirm VSC light is not on</li> <li><input type="checkbox"/> Confirm ASF OFF light is not on</li> <li><input type="checkbox"/> Confirm all hardware with torque values are tight</li> </ul>	<p>Speed sensor wires are plugged in</p> <p>Height sensor links are positioned correctly</p> <p>Loose hardware</p>
<p><u>Vehicle Appearance Check</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> After accessory installation and removal of protective cover(s), perform a visual inspection.</li> </ul>	<p>Ensure no damage (including scuffs and scratches) was caused during the installation process. (For PPO installations, refer to TMS Accessory Quality Shipping Standard.)</p>