

Part Number: PTR07-53100 (Springs)
PTR13-53098 (Rr Shocks)
PTR13-53080 (RF Shock)
PTR13-53081 (LF Shock)

Kit Contents (Springs)

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

Kit Contents (Rear Shock Absorbers)

Item #	Quantity Reqd.	Description
1	1	Shock Absorber
2		
3		

Kit Contents (Each Front Shock Absorber)

Item #	Quantity Reqd.	Description
1	1	Shock Absorber
2	1	Hardware Bag
3		

Hardware Bag Contents (Springs)

Item #	Quantity Reqd.	Description
1	2	Front Shock Absorber Locking Nuts
2	1	Installation Instructions
3		

Hardware Bag Contents (Each Front Shock)

Item #	Quantity Reqd.	Description
1	1	Locking Shock Absorber Nut
2	1	Spring Seat
3	1	Shock Absorber Collet (spacer)

Additional Items Required For Installation

Item #	Quantity Reqd.	Description
1		

Conflicts

None

General Applicability

IS 250 & IS 350 Convertible only

Recommended Sequence of Application

Item #	Accessory
1	F-Sport Performance Package
2	F-Sport Exhaust
3	F-Sport Rear Brakes

*Mandatory







Recommended Tools

Personal & Vehicle Protection	Notes
Fender Covers	
Safety Glasses	
Special Tools	Notes
Spring Compressor	
Alignment Machine	Tru-Line or comparable
Installation Tools	Notes
Torque Wrench	3/8" & 1/2" drive
Ratchet	3/8" & 1/2" drive
Wrenches	19mm
Sockets	10, 14, 17, 19mm
Snap-On	QXXM19A or QXOM19A
Hexagon Wrench	6 mm
Nylon Pry Tool	
Special Chemicals	Notes

Vehicle Service Parts (may be required for reassembly)

Item #	Quantity Reqd.	Description
1	2	90467-12069 white trunk trim clip
1	3	90467-10167 blue trunk trim clip
1	7	90467-08186-C0 black trunk trim clip

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:-

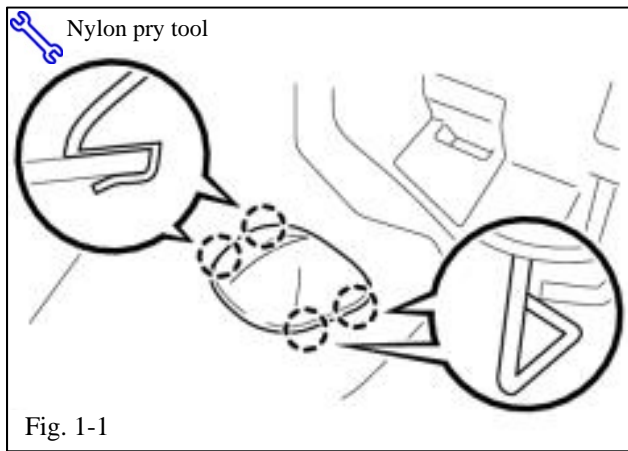
- Vehicle Protection (use of covers and blankets, cleaning chemicals, etc.).
- Safety (eye protection, rechecking torque procedure, etc.).
- Vehicle Disassembly/Reassembly (panel removal, part storage, etc.).
- Electrical Component Disassembly/Reassembly (battery disconnection, connector removal, etc.).

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

1. Remove the Rear Shock Absorber/Spring Assemblies.

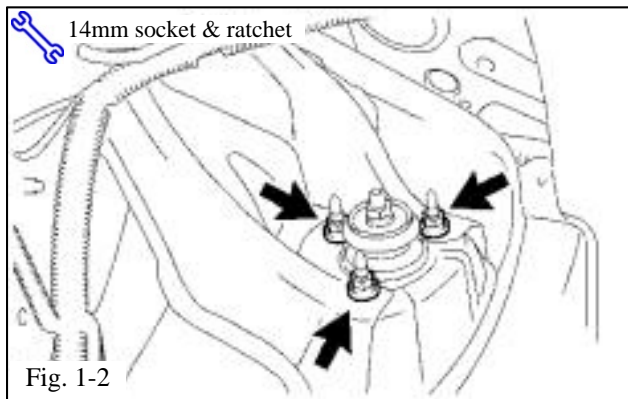
- (a) Remove the spring and shock absorber assembly access covers. The passenger's side is shown (Fig. 1-1).

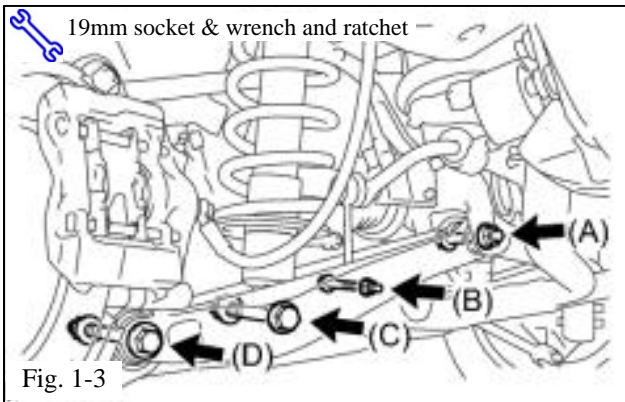
NOTE: The roof must be in the closed position.



- (b) Remove the 3 nuts on the upper side of the rear shock absorber assembly (Fig. 1-2).
- (c) Raise the vehicle and remove the rear wheels.

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





(d) Loosen (do not remove) the lower rear No. 2 suspension arm nut (A, Fig. 1-3).

CAUTION: Do not remove the nut.

(e) Remove bolt B and the nut (Fig. 1-3).

(f) Disconnect the stabilizer link assembly and height control sensor link bracket from the rear No. 2 suspension arm assembly (Fig. 1-3).

(g) Remove bolt C and the nut (Fig. 1-3).

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

(h) Remove bolt D and the nut on the axle carrier side and lower the rear No. 2 suspension arm assembly from the knuckle assembly (Fig. 1-3).

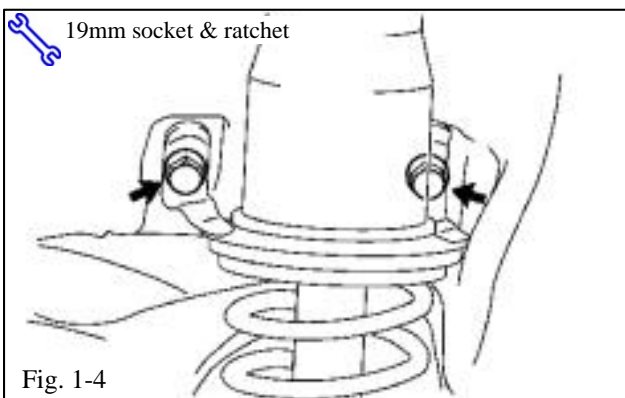
CAUTION: The nut has a locking feature. Remove the bolt and nut by turning the **BOLT** while the nut is held in place.

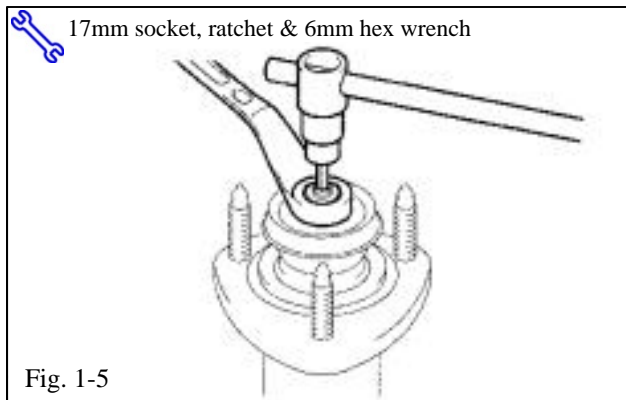
(i) Remove two fender liner nuts to access the rear shock absorber assembly.

(j) Remove the 2 bolts and the rear shock absorber assembly from the body (Fig. 1-4). Retain the bolts for reassembly.

(k) Remove the spring from shock absorber assembly.

(1) Use a spring compressor to compress the rear coil spring until the tension is removed from the shock absorber assembly.





(2) Remove the upper shock absorber nut. If the shaft spins with the nut, hold the rod of the rear shock absorber assembly with a 6mm hexagon wrench (Fig. 4-5).

(3) Note the order and position of the washer, bushings and jounce bumper for reassembly.

(l) Discard the OE coil spring.

(m) Repeat Step 1 on the other side of the vehicle.

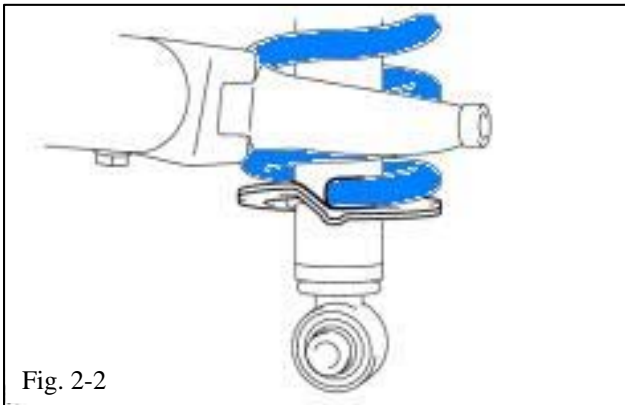
2. Replace the Rear Springs and Shock Absorbers.

(a) Place a spring seat over the shock absorber body and onto the snap ring.

NOTE: A recessed ring is machined into the spring seat which is designed to fit over the shock absorber body snap ring.

(b) Transfer the rear lower coil spring insulator to the new spring seat (Fig. 2-1).





- (c) Fit the rear coil spring end into the recessed part of the rear lower shock absorber seat (Fig. 2-2).
- (d) Turn the spring seat so that the lower end of the coil lines up with the shock absorber mount eye (Fig. 2-2).
- (e) Reassemble the shock absorber/spring assembly as shown below (Fig. 2-3).

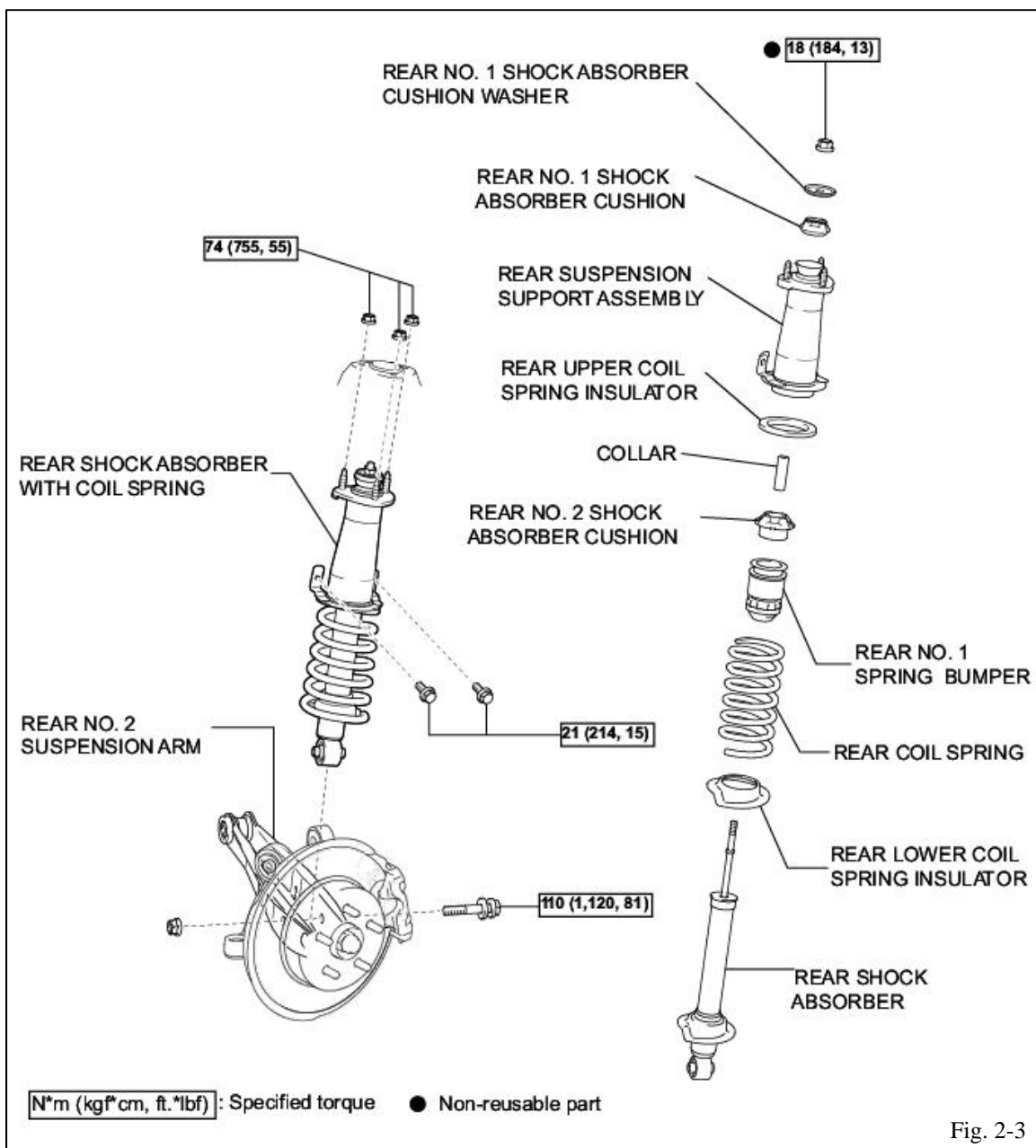
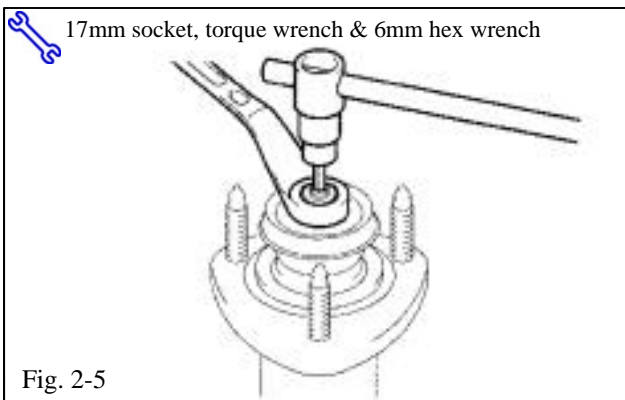
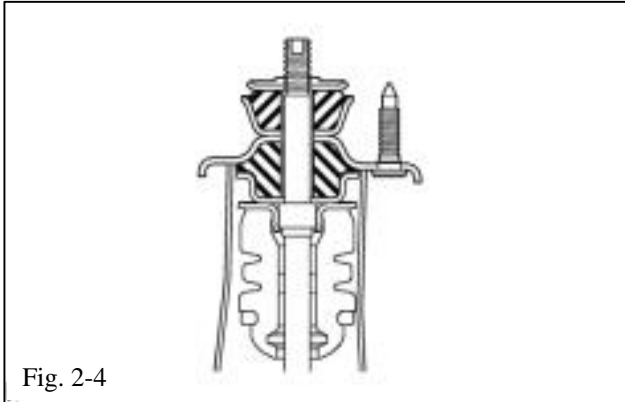


Fig. 2-3

- (f) Ensure the collet or spacer included with the shock absorber is fitted over the shock absorber shaft first.
- (g) Ensure the cushions and washer (lip turned up) are assembled in the correct direction and order (Fig. 2-4).

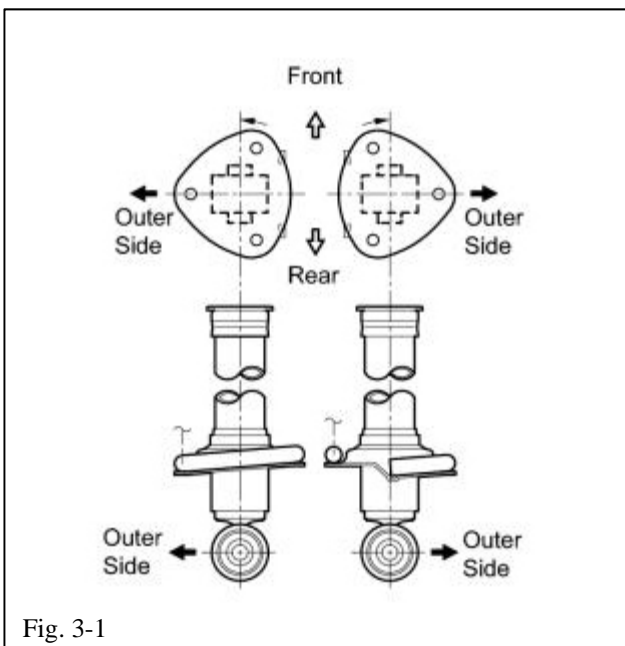


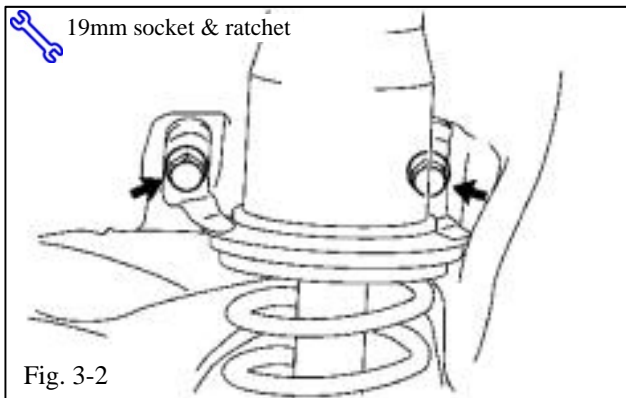
- (h) Torque the new shock absorber shaft lock nut (Fig. 2-5).

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

3. Install the Rear Shock Absorber /Spring Assemblies.

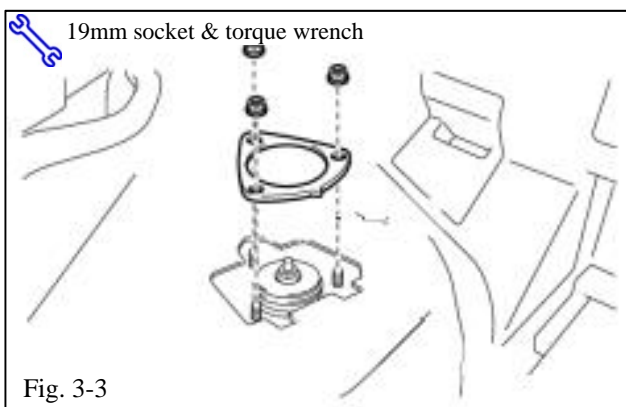
- (a) Ensure that the left (driver's side) coil spring end faces towards the front of the vehicle and the right coil spring end faces towards the rear (Fig. 3-1).





- (b) Temporarily install the rear shock absorber assembly with the 2 bolts removed in Step 1(j) (Fig. 3-2).

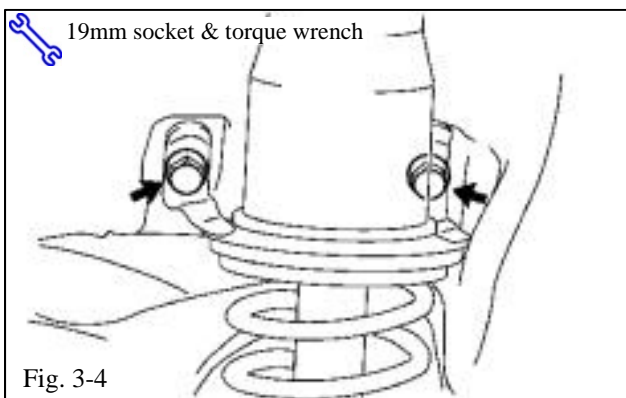
! NOTE: Leave the bolts loose.



- (c) Install the 3 nuts on the upper side of the rear shock absorber assembly (Fig. 3-3).

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

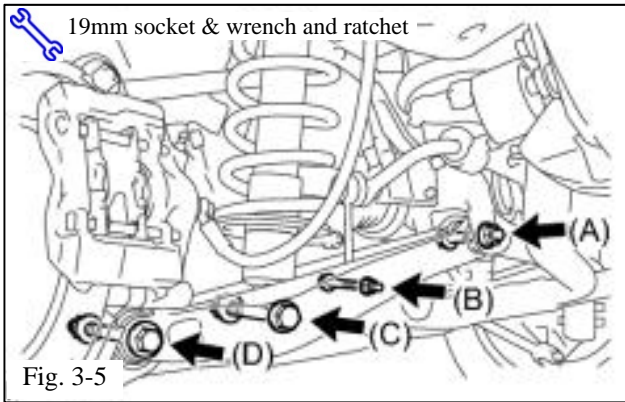
- (d) Install the spring and shock absorber assembly trim covers.



- (e) Torque the 2 bolts on the rear shock absorber assembly (Fig. 3-4).

S Torque: 21 N·m (214 kgf·cm, 15 ft·lbf)

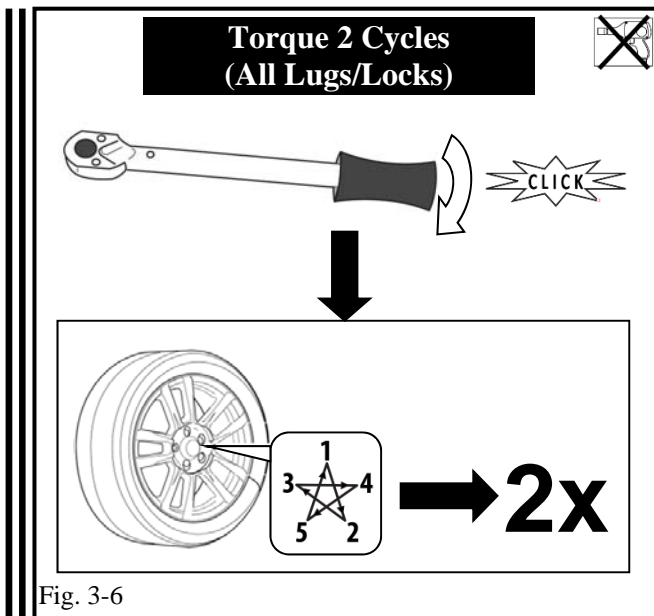
- (f) Install the rear fender liner nuts.



- (g) Raise the lower suspension arm and temporarily install the nuts and bolts for the stabilizer link assembly (B), shock absorber (C) and knuckle (D) (Fig. 3-5).

CAUTION: Confirm that the height control sensor link is positioned correctly and not folded inward.

- (h) Repeat Step 3 for the other side of the vehicle.
- (i) Install the F-Sport rear sway bar following the F-Sport Sway Bar Set PPO instructions.
- (j) Install the rear wheel/tire assemblies onto the vehicle. Hand start the lug nuts.
- (k) Use a torque wrench to tighten the lug nuts in sequence 1 through 5 to 103N·m (76 ft·lbf) (Fig. 3-6).

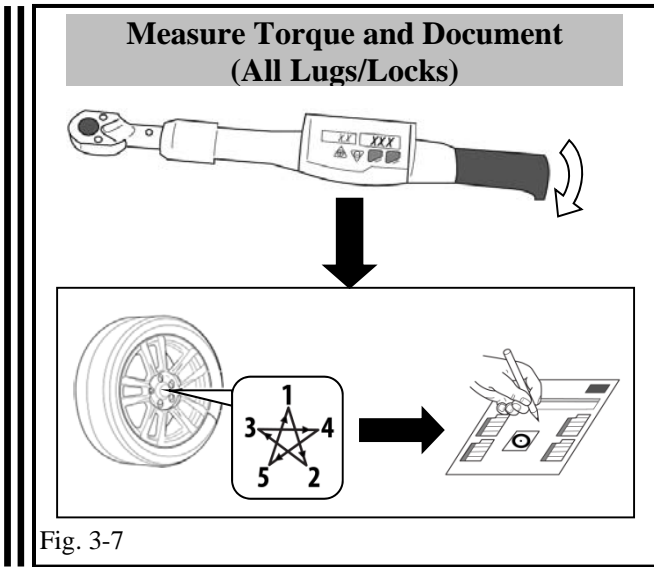


S Torque: 103 N·m (1,050 kgf·cm, 76 ft·lbf)

- (l) Re-torque all of the lug nuts in same the 1-5 sequence (Fig. 3-6).

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.**



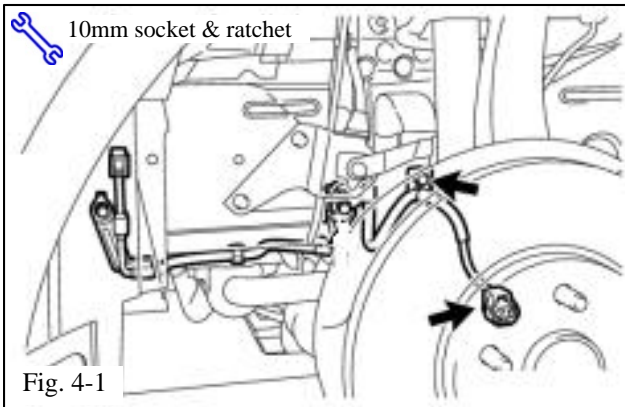
(m) With the vehicle still on the lift, use a digital torque wrench to measure the torque of each lug nut/lock and record it on the Torque Audit Sheet (Fig. 3-7).

4. Remove the Front Shock Absorber/Spring Assemblies.

(a) Remove the front wheels.

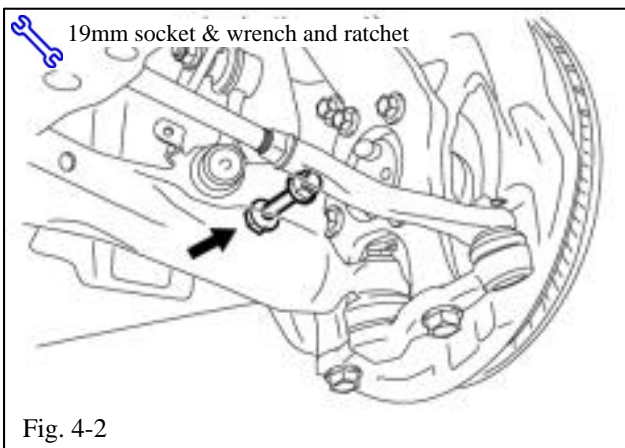
STOP CAUTION: Do not use an impact wrench on wheel locks (if equipped).

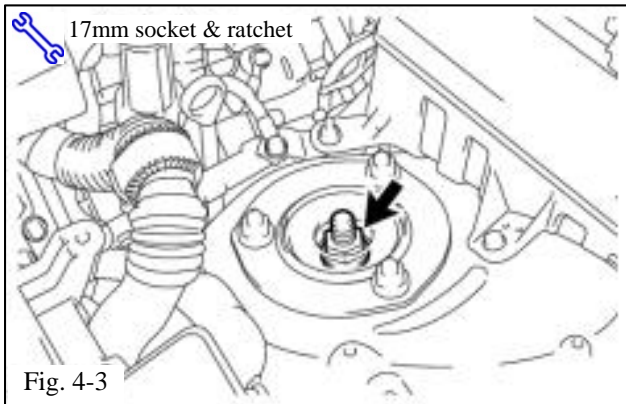
(b) Detach the speed sensor wire from the shock absorber assembly and disconnect it from the speed sensor (Fig. 4-1).



(c) Remove the nut and bolt holding the lower end of the shock absorber (Fig. 4-2).

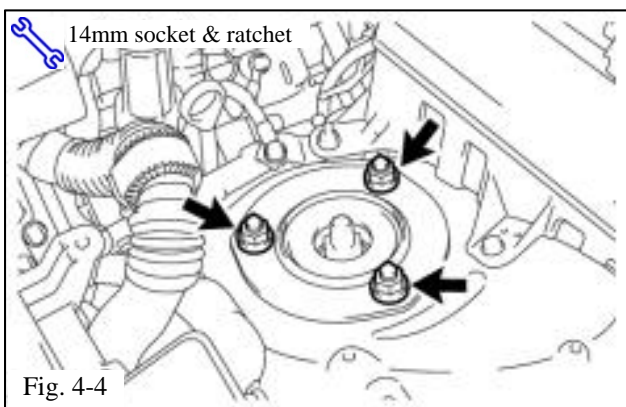
(d) Remove the engine room side covers.





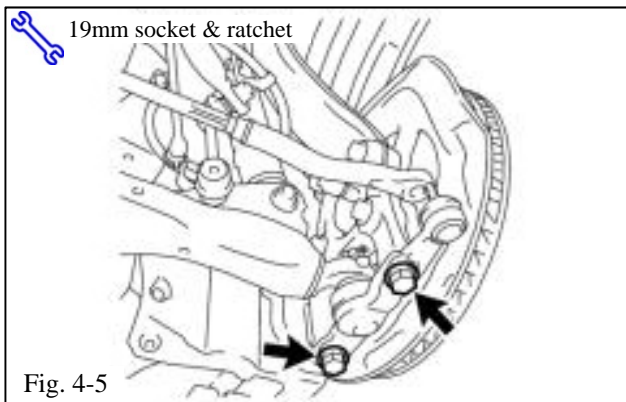
- (e) Loosen the front shock absorber lock nut (Fig. 4-3).

⚠ NOTE: Do not remove the lock nut.

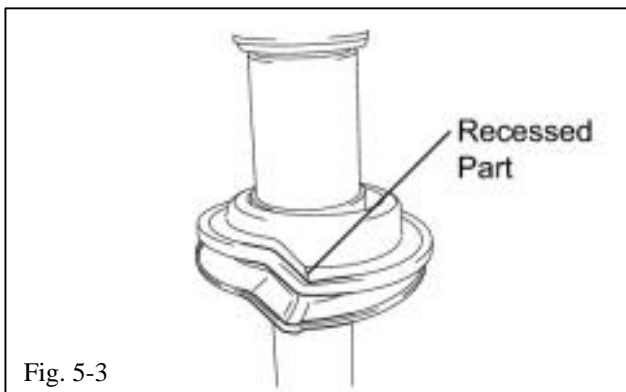
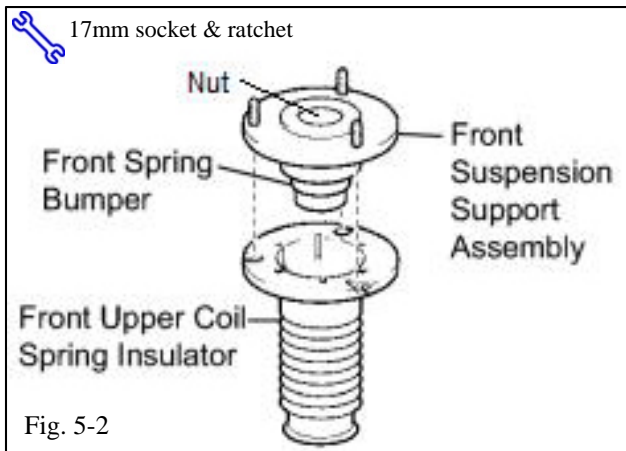
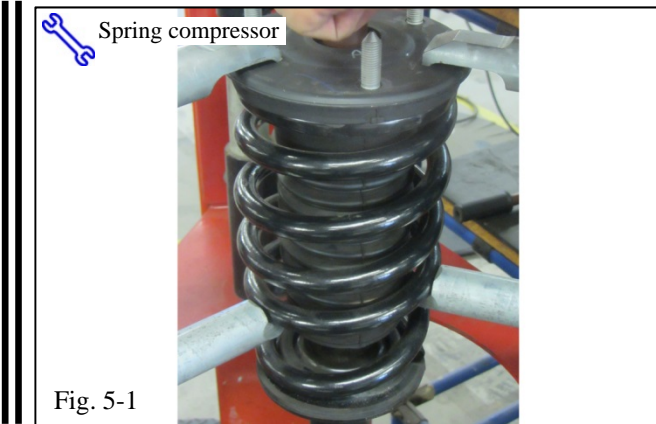


- (f) Remove the 3 nuts on the upper side of the front suspension support (Fig. 4-4).

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



- (g) Remove the 2 bolts from the front lower ball joint (Fig. 4-5).
- (h) Remove the shock absorber/spring assembly from the vehicle.
- (i) Repeat Step 4 on the other side of the vehicle.



5. Replace the Front Springs and Shock Absorbers.

(a) Compress the spring enough to remove tension from the upper spring support (Fig. 5-1).

(b) Remove the lock nut (Fig. 5-2). It will not be reused.

(c) Remove the front suspension support assembly with the front upper coil spring insulator (Fig. 5-2). Retain them for reinstallation.

(d) Remove the coil spring.

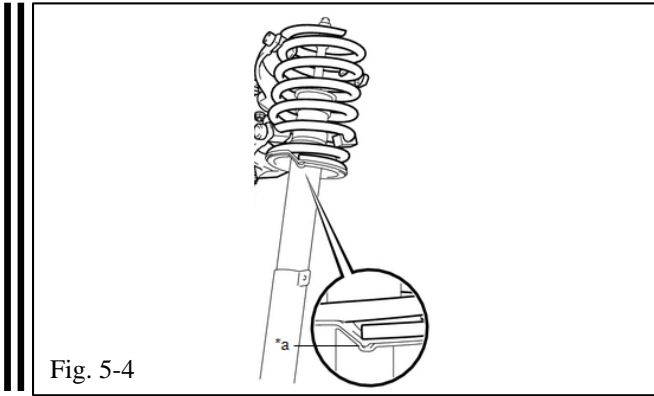
(e) Place a provided spring seat over the new shock absorber assembly.

⚠ NOTE: A groove machined into the spring seat rests on the snap ring fitted to the body of the shock absorber.

(f) Transfer the lower spring insulator from the factory shock absorber to the new spring seat (Fig. 5-3).

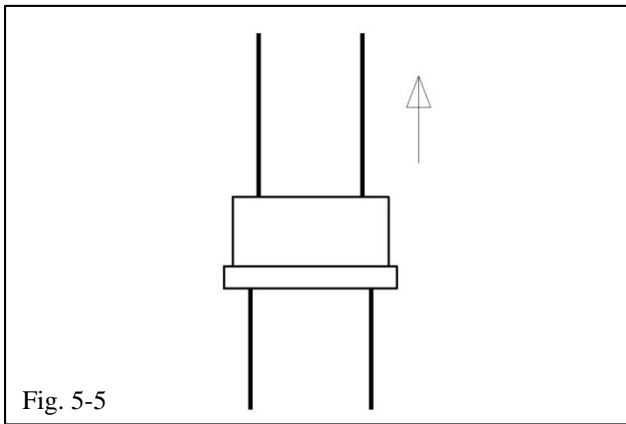
(g) Confirm that the lower spring insulator is indexed properly and free of debris (Fig. 5-3).

(h) Compress a new front spring and place it over the shock absorber assembly.

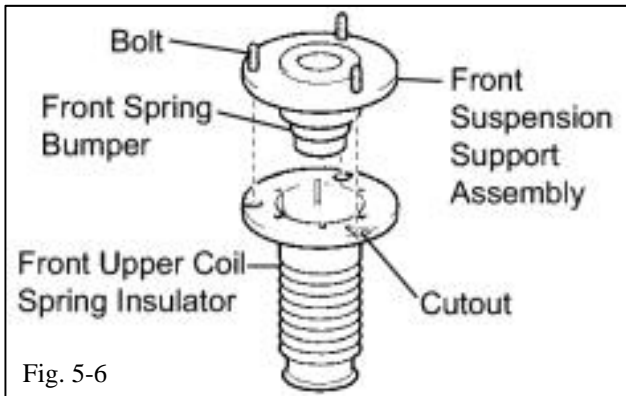


- (i) Confirm that the end of the spring sits in the stepped portion (*a) of the lower spring seat (Fig. 5-4).

NOTE: Ensure the F-Sport logo is facing outward.



- (j) Place a supplied collet/spacer over the piston shaft (Fig. 5-5).



- (k) Install the front spring bumper onto the front suspension support assembly (Fig. 5-6).
- (l) Align the bolt heads of the front suspension support assembly with the cutouts of the front upper coil spring insulator (Fig. 5-6).
- (m) Install the front upper coil spring insulator on the front suspension support assembly (Fig. 5-6).

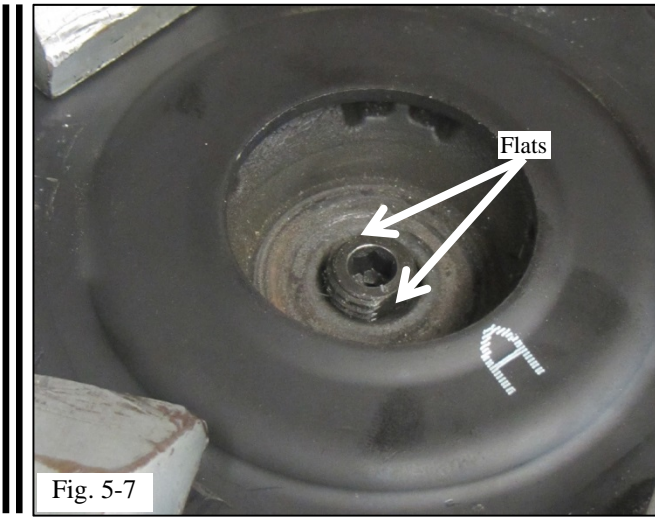


Fig. 5-7



17mm socket & ratchet

Front Suspension Upper Side View

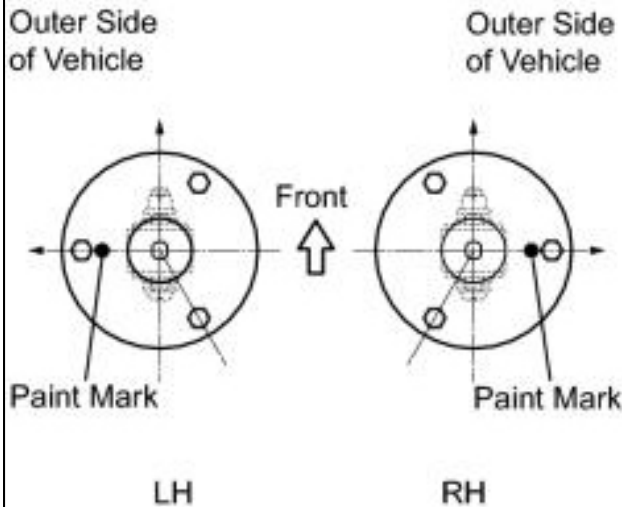


Fig. 5-8

(n) Match the shape of the piston shaft end to the hole in the front suspension support assembly to install the front shock absorber (Fig. 5-7).

(o) Turn the front suspension support assembly so that the bolts align to the lower shock absorber eyelets (Fig. 5-8).

(p) Temporarily tighten a supplied lock nut to the front shock absorber.

6. Install the Front Shock Absorber/Spring Assemblies.

(a) Install the front shock absorber assembly into the vehicle and tighten the 3 nuts on the suspension support (engine bay) side (Fig. 6-1).

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



14mm socket & torque wrench

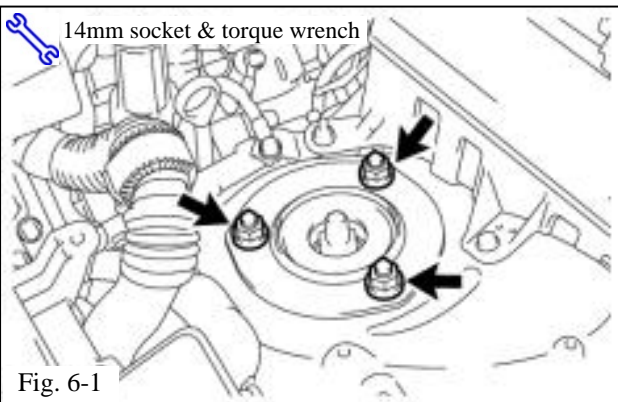
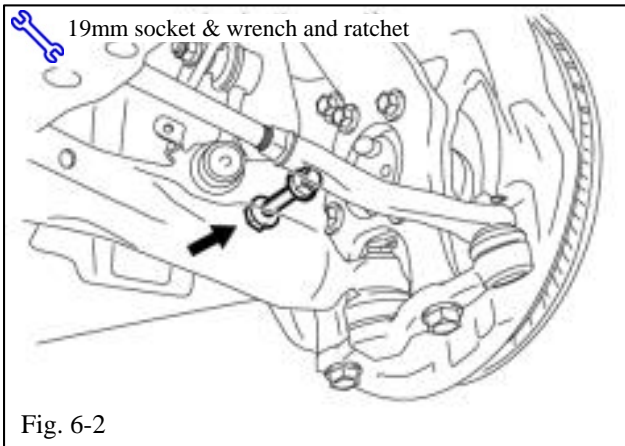
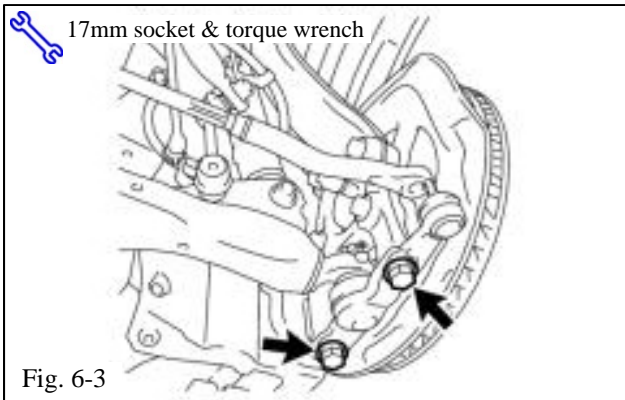


Fig. 6-1



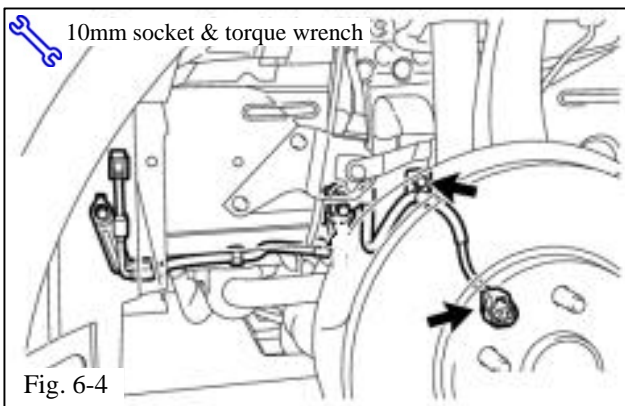
- (b) Install the front shock absorber lower side on the front lower suspension arm and insert the bolt from the rear of the vehicle (Fig. 6-2).
- (c) Temporarily tighten the nut while holding the bolt.

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



- (d) Replace the 2 bolts into the front lower ball joint (Fig. 6-3).

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



- (e) Install the front speed sensor to the front shock absorber and reconnect it (Fig. 6-4).

Torque: 6.0 N·m (61 kgf·cm, 53 in·lbf)

- (f) Repeat Step 6 on the other side of the vehicle.

STOP (g) Install the F-Sport front sway bar following the F-Sport Sway Bar Set PPO instructions.

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

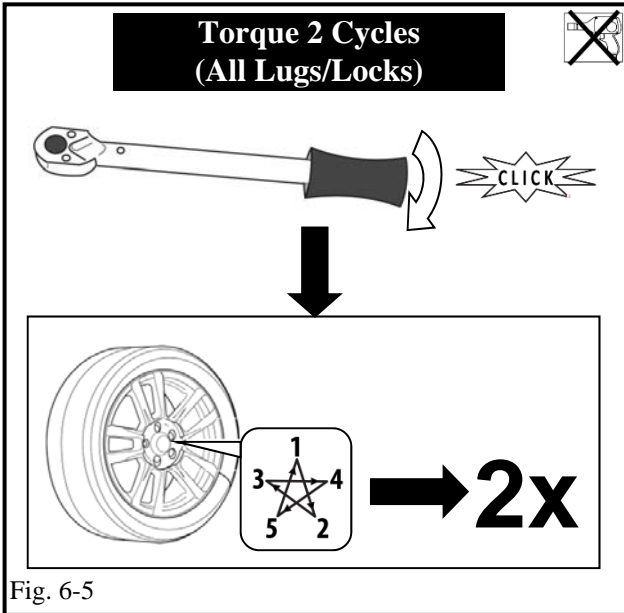


Fig. 6-5

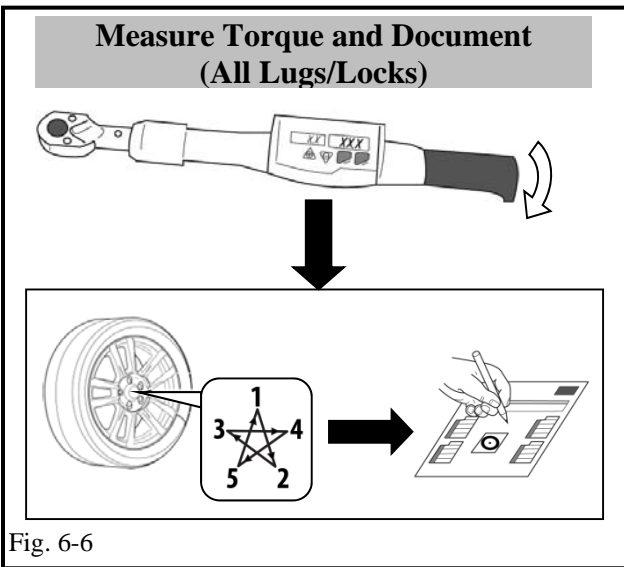


Fig. 6-6

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

S **Torque: 103N·m (76 ft-lbf)**

- STOP** (j) Re-torque all of the lug nuts in same the 1-5 sequence (Fig. 6-5).

S **Torque: 103N·m (76 ft-lbf)**

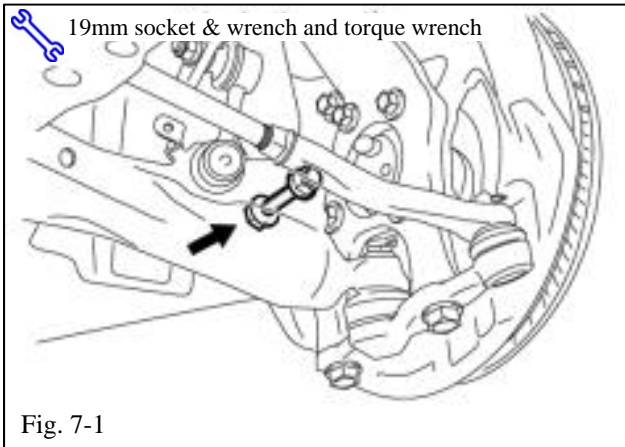
STOP **CAUTION: DO NOT USE AN IMPACT WRENCH TO INSTALL OR REMOVE WHEEL LOCKS.**

!

- (k) 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. 6-6).

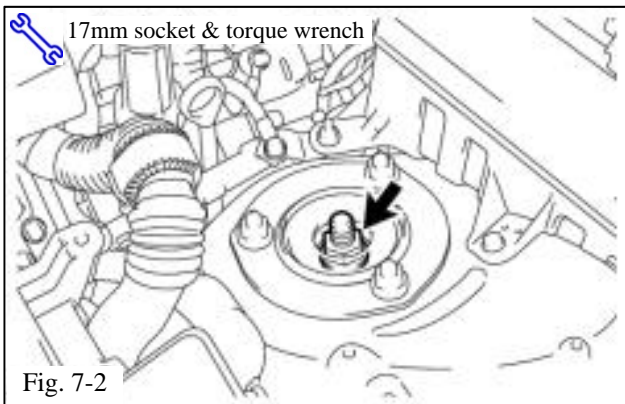
7. Tighten the Suspension Component Fasteners.

- (a) Lower the vehicle onto alignment car stands with slip plates under all four wheels. Set the parking brake and lower the lift arms away from the vehicle.
- (b) Jounce the vehicle front and rear to settle the suspension.



(c) Torque the front lower shock absorber bolt (Fig. 7-1).

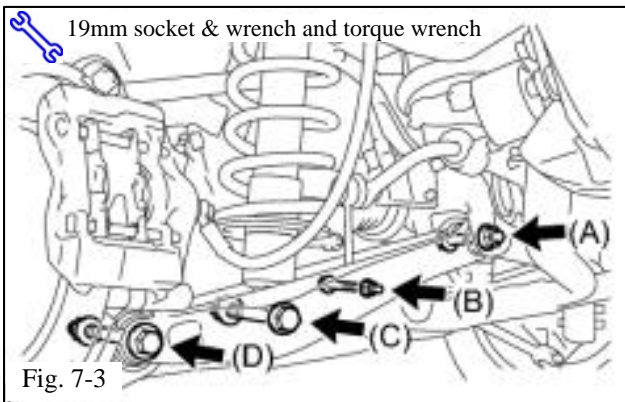
S Torque: 157 N·m (1,600 kgf·cm, 116 ft·lbf)



(d) Torque the new front shock absorber assembly lock nut (Fig. 7-2).

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

(e) Install the engine room side covers.



(f) Torque the nuts and bolts on the rear No. 2 suspension arm assembly (Fig. 7-3).

S Torque(A): 161 N·m (1,640 kgf·cm, 118 ft·lbf)

S Torque(B): 110 N·m (1,120 kgf·cm, 80 ft·lbf)

S Torque(C): 27 N·m (275 kgf·cm, 20 ft·lbf)

S Torque(D): 150 N·m (1,530 kgf·cm, 111 ft·lbf)

! NOTE: Nut D on the RH side cannot be accessed with a 19mm socket. Snap-on Torque Head, P/N QXXM19A or QXOM19A (Fig. 7-4) is recommended to be used and torqued to the spec above.



8. Adjust the Wheel Alignment.

(a) Confirm the alignment system has been calibrated.

(b) Install the wheel clamps (Fig. 8-1).

(1) Place the lower feet onto the outside lip of the alloy wheel.

(2) Expand the clamp until the upper mounting feet grip the outside lip of the alloy wheel rim.

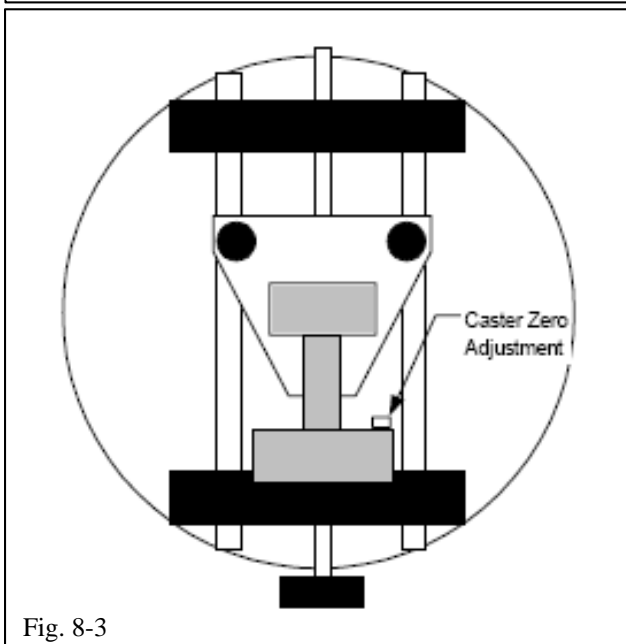
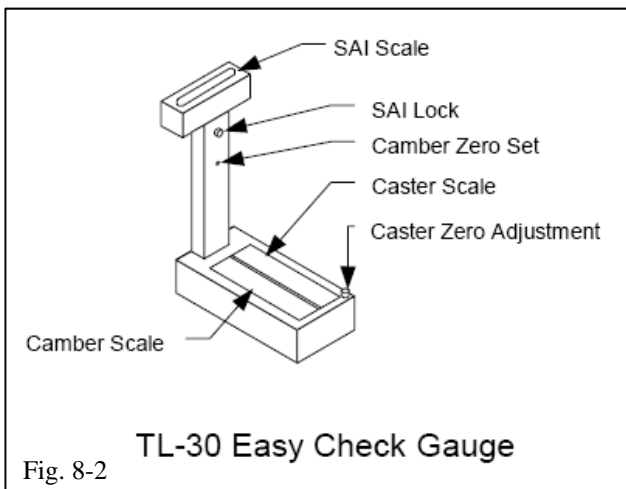
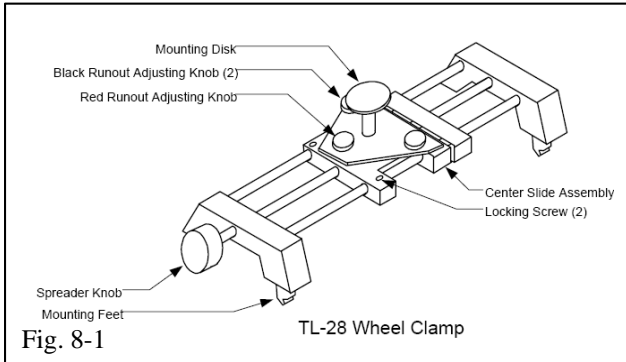
(3) The clamp should be attached firmly.

(c) Perform the run-out procedure.

(1) Place the TL-30 on the disc extending from the wheel clamp (Fig. 8-2).

(2) Level the TL-30, using the SAI scale on the top of the post. Make sure the TL-30 can move easily, so that it stays relatively level when the wheel clamp is rotated.

(3) Rotate the wheel clamp until the installation knob is at a 6 o'clock position. Set the caster bubble to zero on the caster scale; this is done with the caster adjustment knob, which is located on body of the TL-30 (Fig. 8-3).



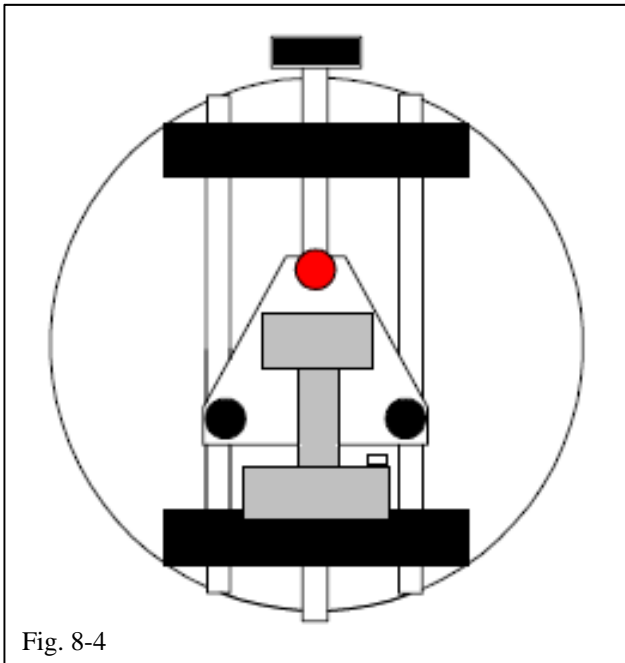


Fig. 8-4

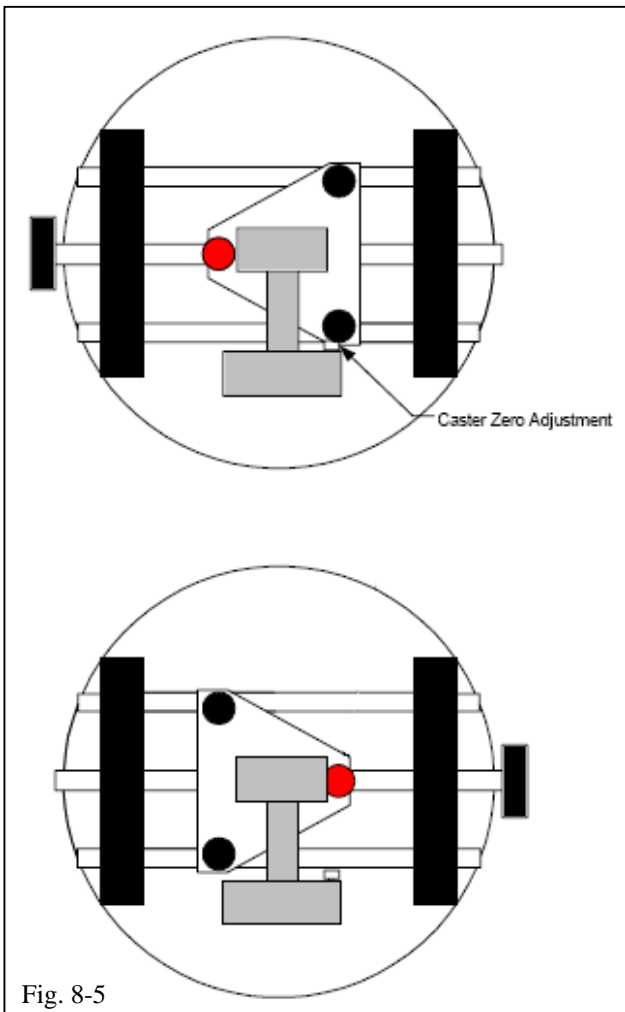
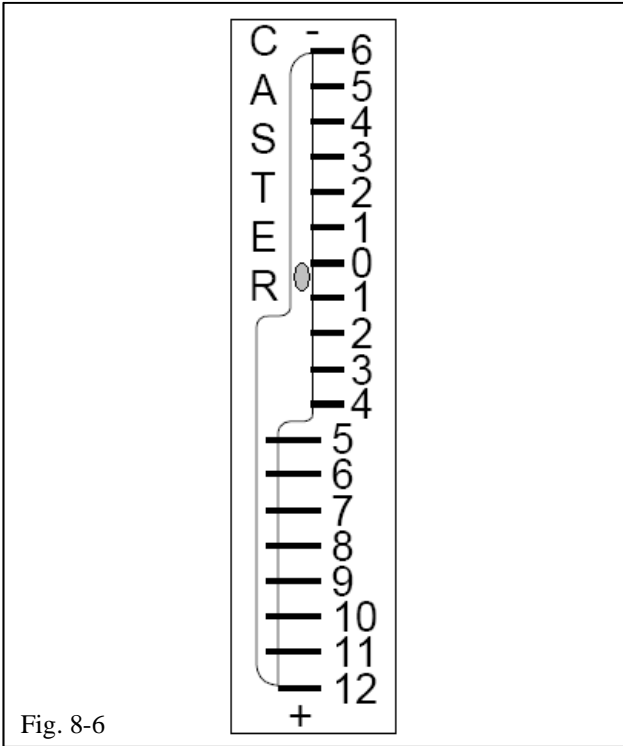
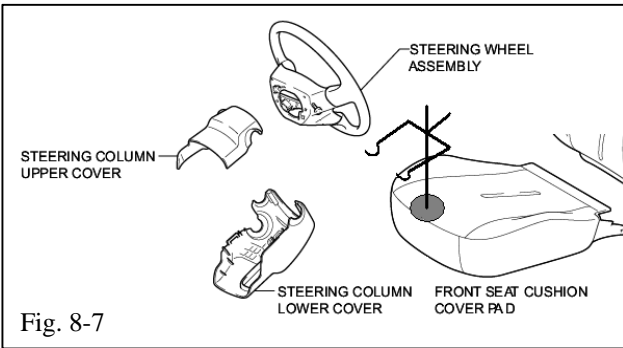


Fig. 8-5

- (4) Rotate the wheel clamp $\frac{1}{2}$ turn; the installation knob should be at the 12 o'clock position (Fig. 8-4).
- (5) Level the TL-30 and read the number on the caster scale.
- (6) Adjust the bubble to the point halfway between 0 and the current reading using the RED knob on the wheel clamp. (When making this adjustment, it is important not to move the bubble with the caster adjustment knob.)
- (7) Rotate the wheel $\frac{1}{4}$ turn to the left so the installation knob is at the 9 o'clock position (Fig. 8-5).
- (8) Level the TL-30 and set the caster bubble to zero with the caster adjustment knob.
- (9) Rotate the wheel $\frac{1}{2}$ turn, until the installation knob is at the 3 o'clock position.
- (10) Level the TL-30 and read the number on the caster scale.
- (11) Adjust the caster bubble to the point halfway between 0 and the current reading using the two BLACK knobs on the wheel clamp.



- (12) Rotate the wheel until the installation knob is at the 12 o'clock position. Level the TL-30 and adjust the caster knob until the caster bubble reads zero (Fig. 8-6).
 - (13) With the TL-30 held in a level position with one hand (do not grasp or hold tightly), rotate the wheel one full turn while watching the caster bubble. The bubble should not move more than 1/8 of a bubble. If the bubble does move repeat the run out procedure.
 - (14) Place the TL-30 back onto the cart.
- (d) Lock the steering wheel in the center position.



- (1) Align the backside of the steering wheel with the steering column upper cover (arrows).
- (2) Place the provided steering wheel lock on the driver's seat and lock the steering wheel in place (Fig. 8-7).

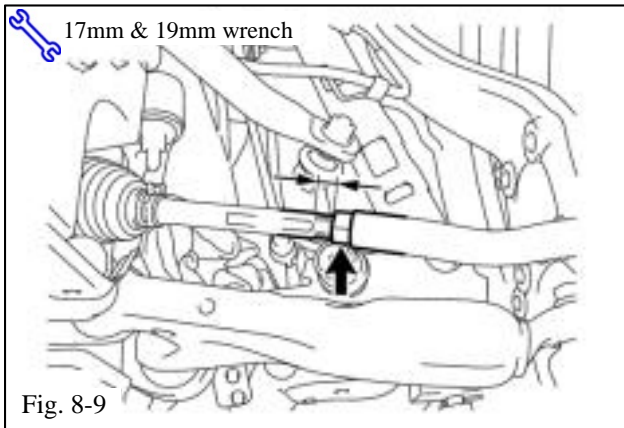
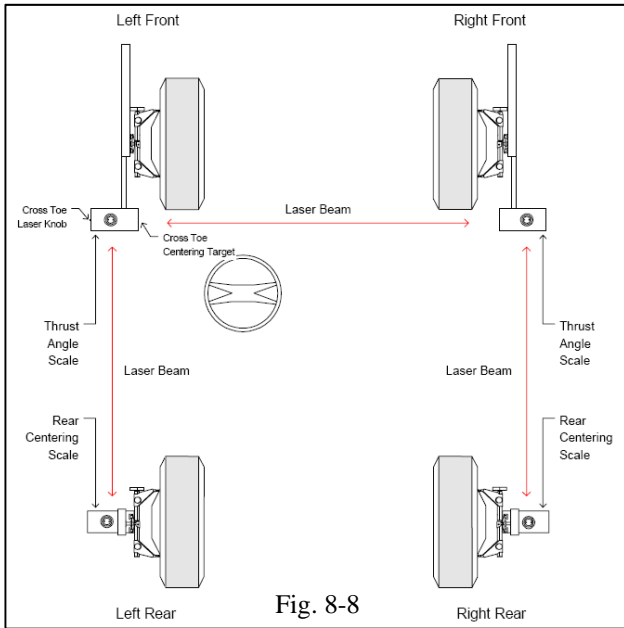
NOTE: It is not necessary to use the brake pedal hold tool.

- (e) Adjust the front toe settings.
- (1) Hang the rear combi gauges onto the rear wheel clamps with the mirrors facing forward.
 - (2) Set both rear toe dials to 2.0 MM IN.

(3) Hang the front laser guns onto the front wheel clamps.

- (a) Turn the guns on and confirm the laser is hitting the rear scales and bouncing back to the front scales (Fig. 8-8).
- (b) Check to make sure that the front cross-toe laser is hitting the cross-toe mirror and then bouncing back to the cross-toe box. If not, adjust the pivot knob up or down on the side of the box until the laser reaches the mirror.

(4) Set both front toe dials to 0.5 MM IN.



- (5) Loosen the front tie rod end locking nuts (Fig. 8-9).
- (6) Adjust the front tie rods evenly until the cross-toe laser is reflected off the toe mirror in the right laser box and back into the hole of the left laser box (Fig. 8-9).
- (7) Make sure that the lasers hitting the numbers on the rear combi gauges match each other. If not, adjust the tie rods until the numbers match and the front laser falls in the laser box hole.

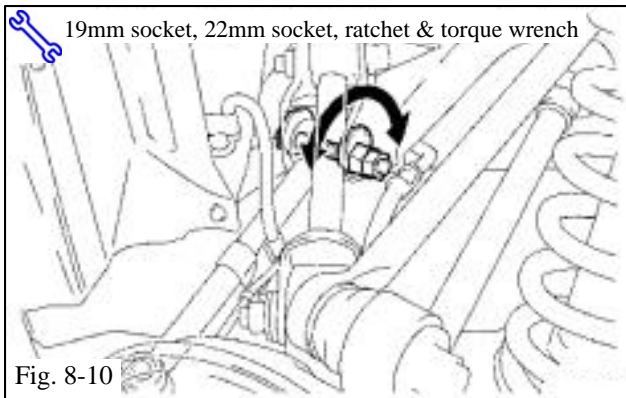
- (8) Tighten the front tie rod end locking nut (Fig. 8-9).

S Torque: 56 N·m (571 kgf·cm, 41 ft·lbf)

HINT: Temporarily tighten the lock nut while holding the hexagonal part of the steering rack end so that the lock nut and the steering rack end do not turn together. Hold the flat of the tie rod end and tighten lock nut.

- (f) Adjust the rear toe settings.

- (1) Loosen the toe cam lock nut (19mm socket, Fig. 8-10).

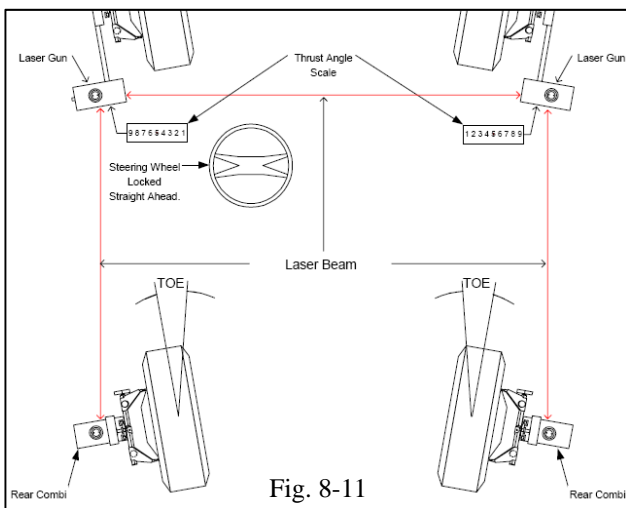


- (2) Look at the thrust angle scales (on the front guns, Fig. 8-11).
- (3) Adjust the rear toe cams until the lasers hit the number “5” on the thrust angle scales (22mm socket, Fig. 8-10).

- (g) Tighten the toe cam lock nut (Fig. 8-10).

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

- (h) Perform a short test drive to confirm the steering wheel is on center.



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

<u>Check:</u>	<u>Look For:</u>
<p><u>Accessory Function Checks</u></p> <ul style="list-style-type: none"><input type="checkbox"/> Check for noise<input type="checkbox"/><input type="checkbox"/><input type="checkbox"/>	<p>Confirm all springs are seated properly</p>
<p><u>Vehicle Function Checks</u></p> <ul style="list-style-type: none"><input type="checkbox"/> Confirm VSC light is not on<input type="checkbox"/> Confirm ASF OFF light is not on<input type="checkbox"/> Confirm all hardware with torque values are tight	<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"><input type="checkbox"/> After accessory installation and removal of protective cover(s), perform a visual inspection.	<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>