Part Number: PTR11-21070-03

Kit Contents:

Item #	Quantity Reqd.	Description
1	2	Front Springs
2	2	Rear Springs
3	1	Instruction Form

Hardware Bag Contents

Item #	Quantity Reqd.	Description
1		
2		
3		

Additional Items Required For Installation

Item #	Quantity Reqd.	Description
1	2	Shock Assembly Top Nut P/N 90178-10026
2		
3		

Conflicts

Recommended Tools

Personal & Vehicle Protection	**Notes**
Plastic & Tape	For rear bumper fascia
Special Tools	**Notes**
Spring Compressor	
Tru-Line Alignment System	
Installation Tools	**Notes**
Hexagon Wrench	5 & 6 mm
Sockets	10, 12, 14, 17, 19, 22mm
Ratchet Wrenches $^{3}/_{8}$" & ½"	
Open End Wrench	14, 19mm & 22mm (x2)
Torque Wrench ½" Drive	
Crows foot	19 & 22mm
Special Chemicals	**Notes**
None	

General Applicability

Scion tC – all models

Recommended Sequence of Application

Item #	Accessory
1	TRD Lowering Springs
2	TRD Big Brakes

* Mandatory

Vehicle Service Parts (may be required for reassembly)

Item #	Quantity Reqd.	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 Rear OE Springs.

(a) Protect rear bumper cover as necessary.

(b) Fold rear seat backs forward.

(c) Remove tonneau cover assembly.

(d) Remove deck board assembly.

(e) Remove back door scuff plate.

(f) Remove deck floor box LH and RH.

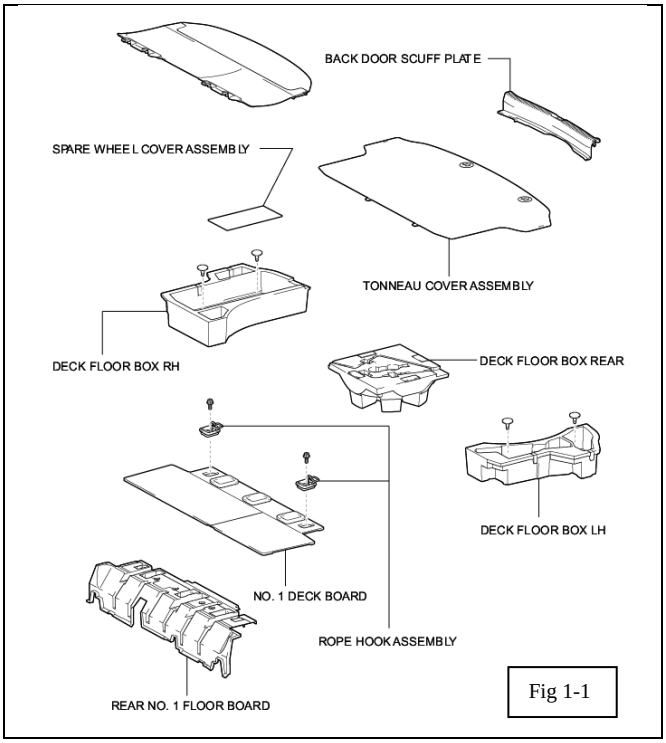


Fig 1-1

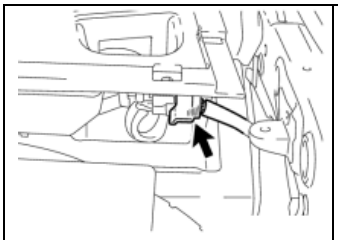


Fig 1-2

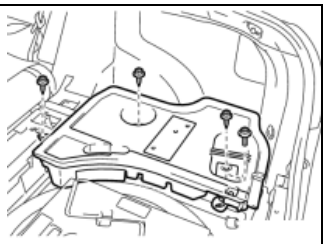


Fig 1-3

(1) If equipped with sub-woofer remove speaker box.

(1) Disconnect the wire harness connector. (Fig 1-2)

(2) Remove the 3 screws and the bolt. (Fig 1-3)

(g) Remove rope hooks assemblies. (Fig 1-1)

(h) Remove rear No. 1 floor board.

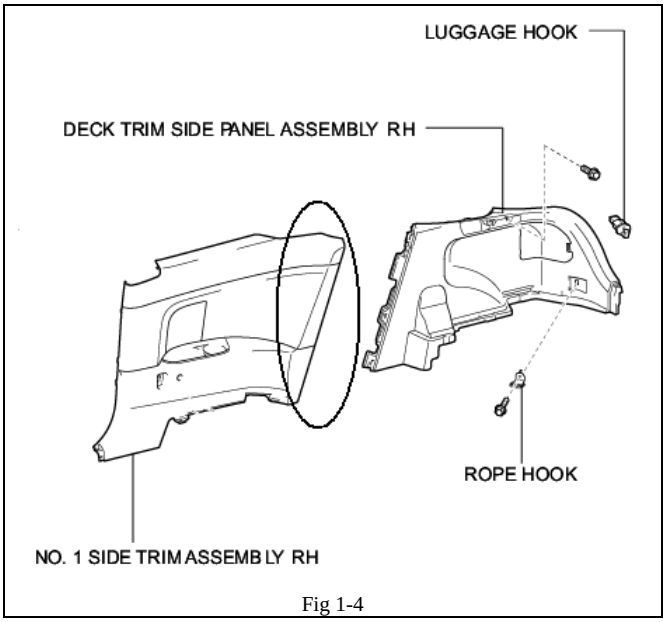
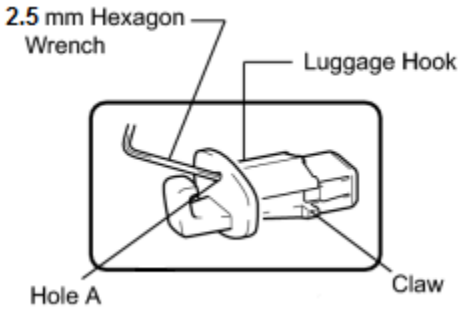


Fig 1-4

(i) Pull rear and top edges of No. 1 side trim assembly loose from the body. (Fig 1-4)

(j) Remove the deck trim side panel assemblies.

(1) Remove luggage hooks. Insert a 2.5 mm hexagon wrench or small screw driver into hole A to disengage the claws, then remove luggage hook from side panel.



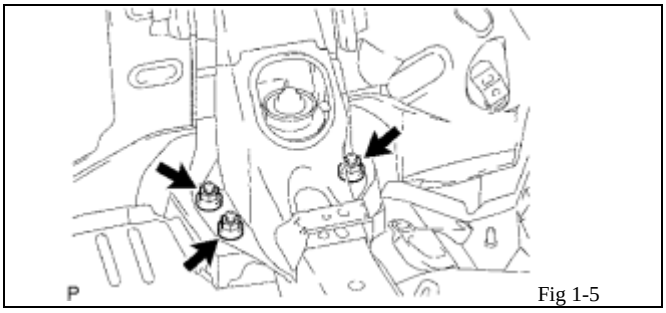


Fig 1-5

(k) Remove the 3 nuts at the top of the shock/spring assembly. (Fig 1-5)

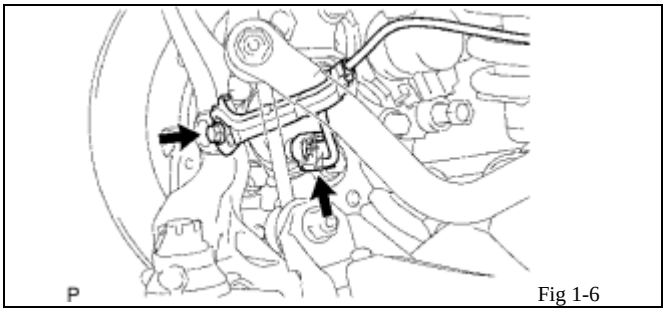


Fig 1-6

(l) Raise vehicle and remove rear wheels.

(m) Disconnect the skid control sensor wire.

(1) Disconnect the skid control sensor connector. (Fig 1-6)

(2) Remove the bolt and wire bracket.

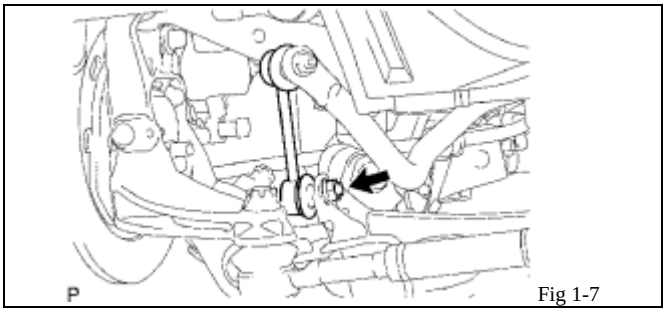


Fig 1-7

(n) Disconnect one rear stabilizer bar link. (Fig 1-7)

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

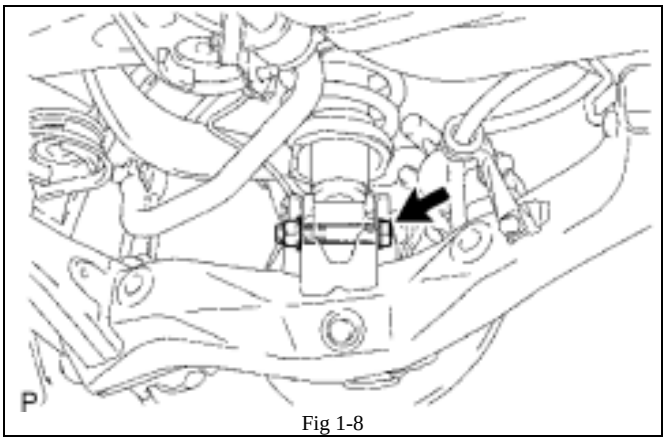


Fig 1-8

(o) Remove the lower shock bolt and nut from the lower suspension arm. (Fig 1-8)

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

(p) Remove shock and spring assembly.

(1) Pull the No. 1 suspension arm down and move the bottom end of the shock into the center of the lower A-arm.

(2) Once the upper end of the shock absorber is clear of the fender, tip the top of shock outward and pull the shock up and out above the brake assembly.

2. Replace OE spring with TRD spring.

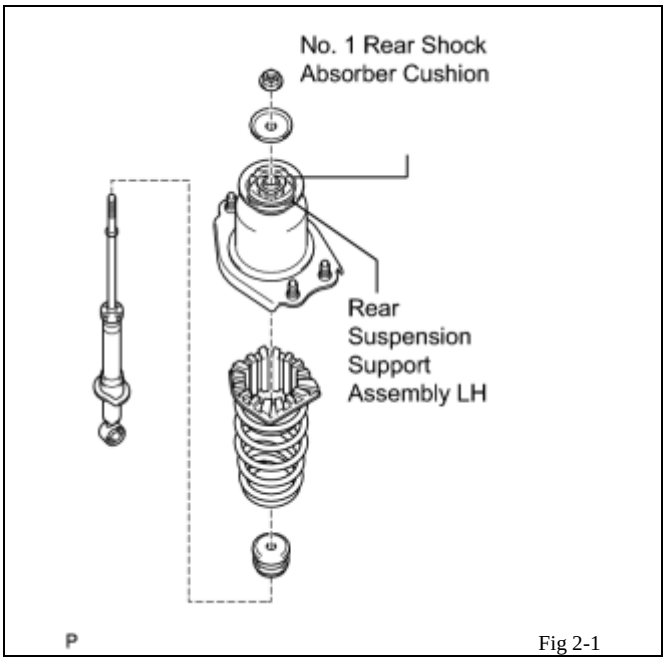


Fig 2-1

(a) Compress the coil spring.

(b) Remove the lock nut. (Fig 2-1)

(1) Using a 6 mm hexagon wrench to hold the piston rod, remove the nut.

(c) Remove OE spring.

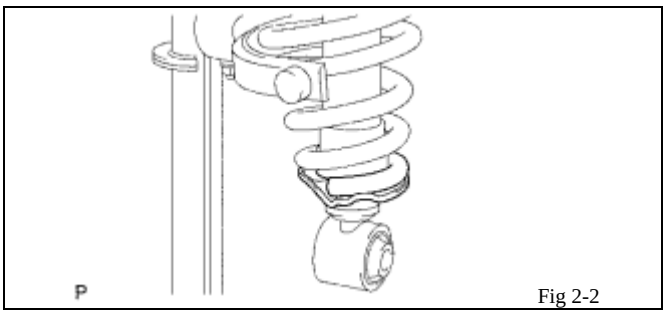


Fig 2-2

(d) Compress TRD spring.

(e) Install the coil spring to the shock absorber.

NOTE: Fit the lower end of the coil spring into the gap of the spring lower seat. (Fig 2-2)

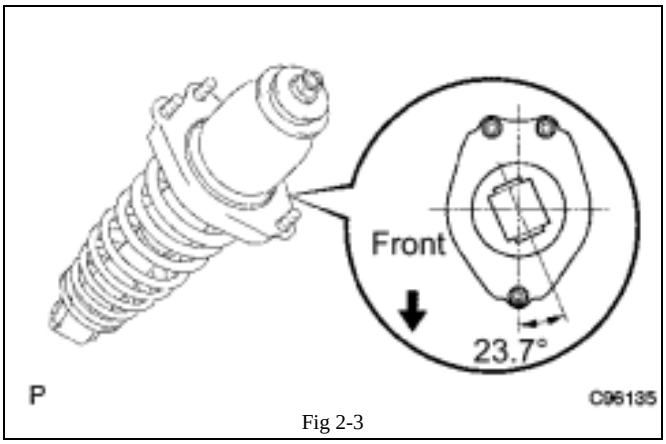


Fig 2-3

(f) Place upper hardware back onto the shock assembly.

NOTE: Curve of washers faces away from the rubber bushings.

(g) Position the upper spring bracket LH as shown in the illustration. (Fig 2-3)

NOTE: RH side shock will be a mirror image of the LH shock.

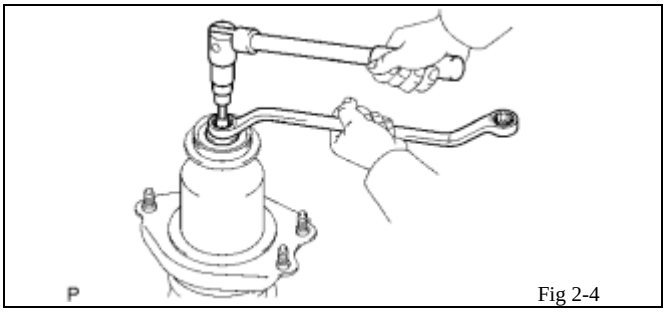


Fig 2-4

(h) Using a 6 mm hexagon wrench to hold the piston rod, tighten the nut. (Fig 2-4)

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

(i) Push the plastic cap back onto the top of the shock assembly.

3. Install Shock/Spring Assembly.

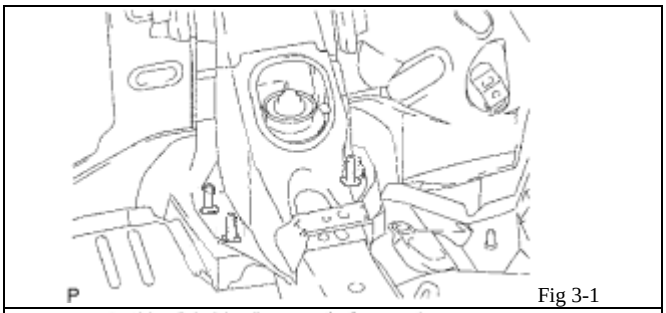


Fig 3-1

(a) Install the shock absorber with coil spring. (Fig 3-1)

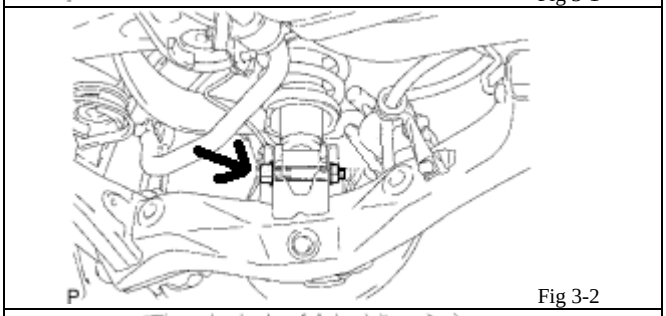


Fig 3-2

(b) Temporarily install the lower shock bolt and nut. (Fig 3-2)

NOTE: Install the bolt back to front on the vehicle. This will insure that there is enough clearance to properly torque the bolt head.

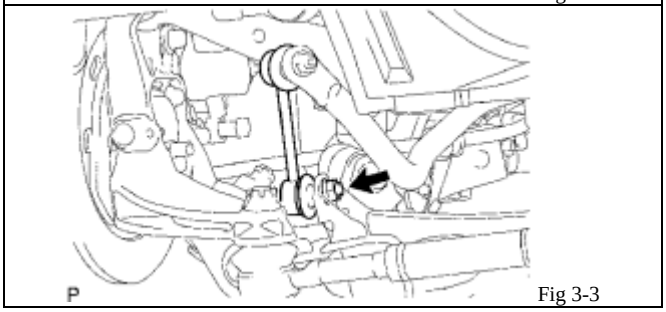


Fig 3-3

(c) Connect the sway bar link LH with the nut. (Fig 3-3)

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

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

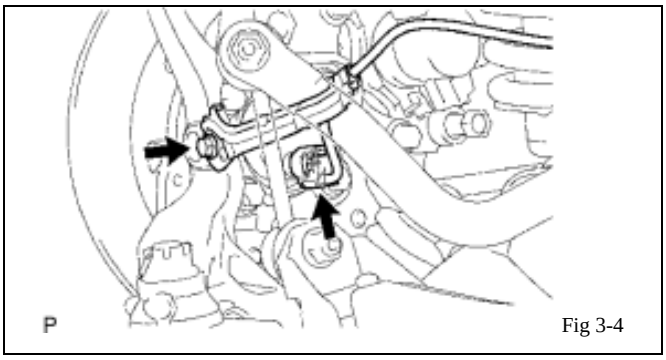


Fig 3-4

(d) Connect skid control sensor wire.

(e) Install the wire bracket and bolt. (Fig 3-4)

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

(f) Connect the skid control sensor connector.

(g) Install rear wheels.

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

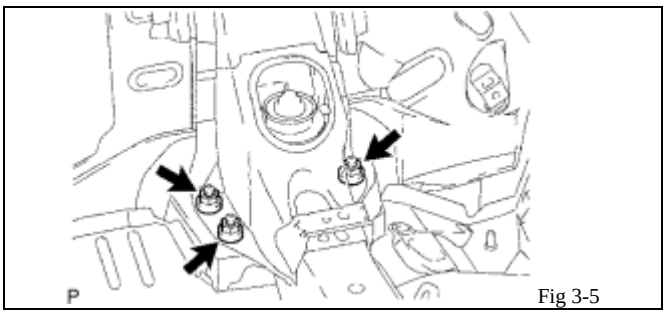


Fig 3-5

(h) Install the shock absorber upper 3 nuts and tighten. (Fig 3-5)

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

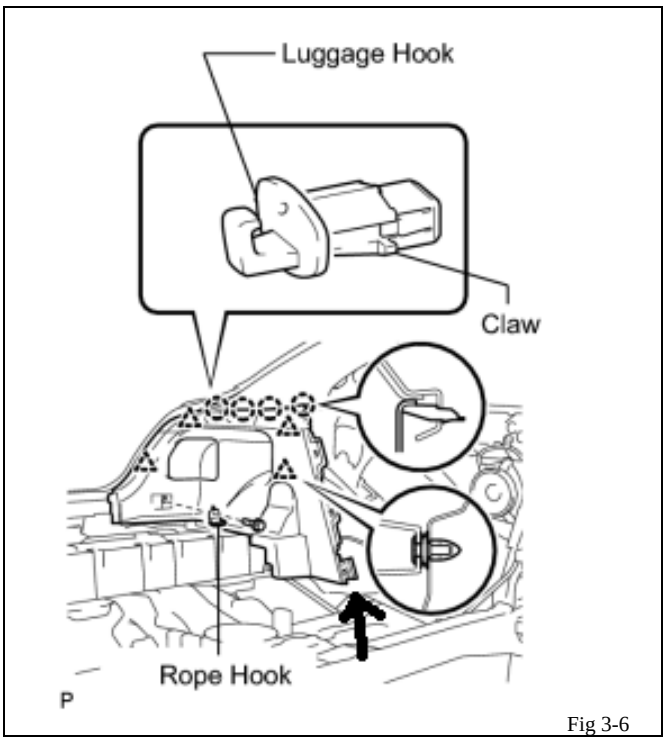


Fig 3-6

(i) Install trunk interior.

(1) Install deck side trim panels, attach the 4 claws and 4 clips. (Fig 3-6)

NOTE: Confirm forward lower edges of panel are properly seated behind claw of side trim assembly. (see arrow)

(2) Install the rope hook with the bolt.

(3) Install the luggage hook.

(4) Install rear deck board and rope hooks.

(5) Install rear floor boxes.

(1) If equipped with sub-woofer, reconnect harness and install with 3 screws and one bolt.

(6) Install spare wheel cover assembly.

(7) Install back door scuff plate.

(8) Install deck board sub-assembly.

(9) Install tanneau cover.

4. Remove Front OE Springs

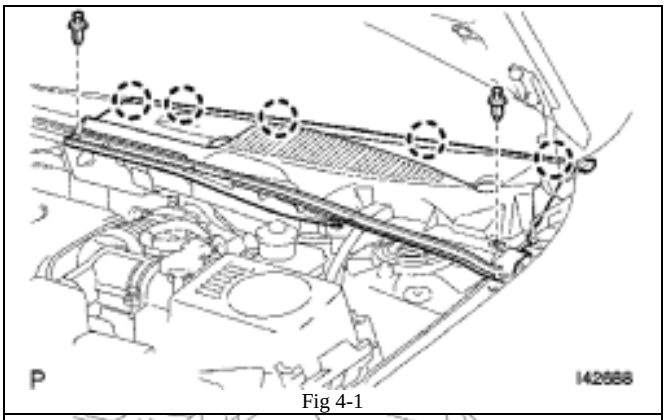


Fig 4-1

(a) Remove front wiper arms.

(b) Remove hood to cowl seal. (Fig 4-1)

(c) Remove (2) cowl covers.

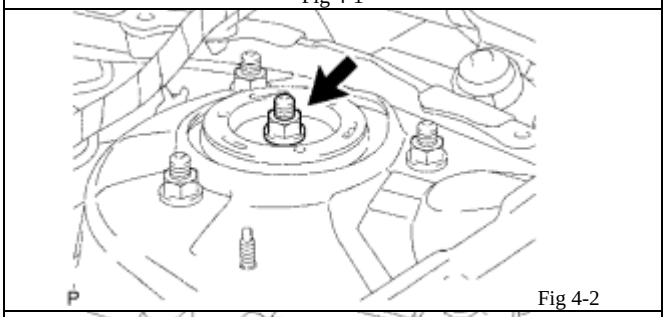


Fig 4-2

(d) Remove the front suspension support dust cover.

(e) Loosen the lock nut. (Fig 4-2)

NOTE: Do not remove the lock nut.

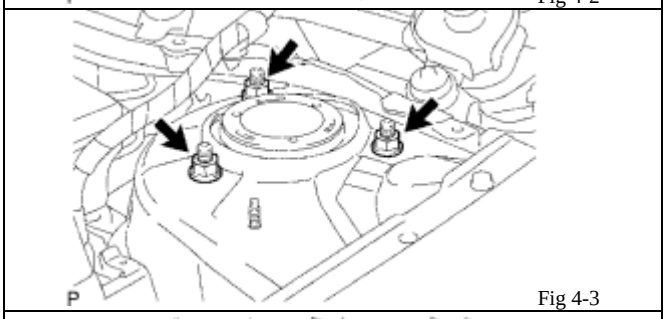


Fig 4-3

(f) Remove the two rear nuts holding the top of the strut. Loosen the front nut but, do not remove it. (Fig 4-3)

(g) Lift vehicle and remove front wheels.

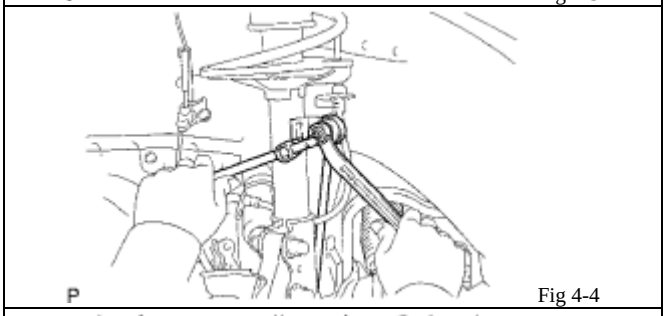


Fig 4-4

(h) Disconnect front sway bar link assy. (Fig 4-4)

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

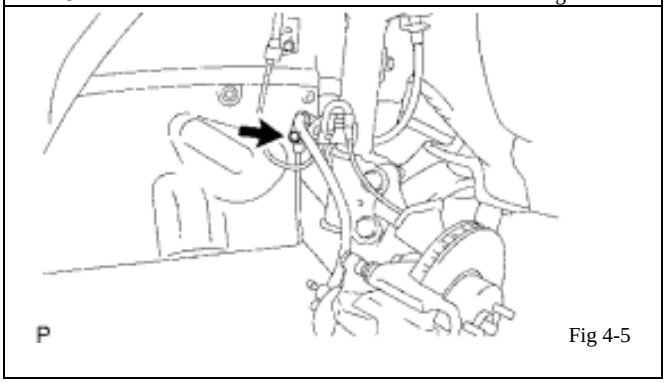


Fig 4-5

(i) Disconnect front speed sensor wire and brake hose. (Fig 4-5)

(1) Remove the bolt, and then disconnect the front No. 1 flexible hose and speed sensor.

NOTE: Be sure to completely disconnect the speed sensor from the shock absorber assembly.

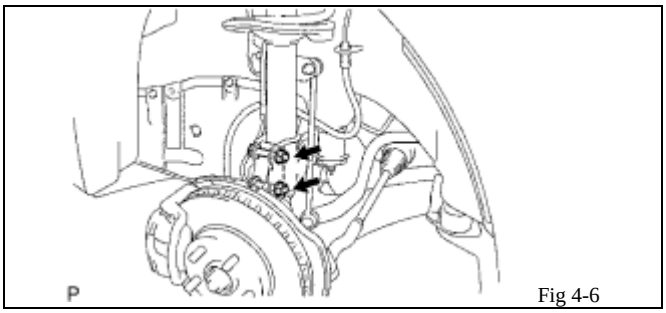


Fig 4-6

(j) Remove the 2 nuts on the lower side of the shock absorber with coil spring. (Fig 4-6)

5. Replace OE Spring With TRD Spring.

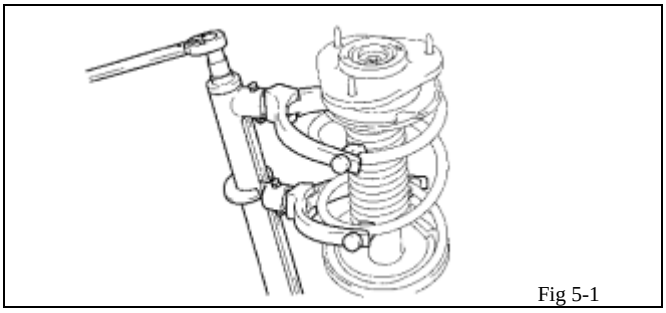


Fig 5-1

(a) Compress spring assembly. (Fig 5-1)

(b) Remove lock nut.

(c) Remove the upper spring support, dust seal, spring seat, and jounce bumper.

(d) Remove the coil spring.

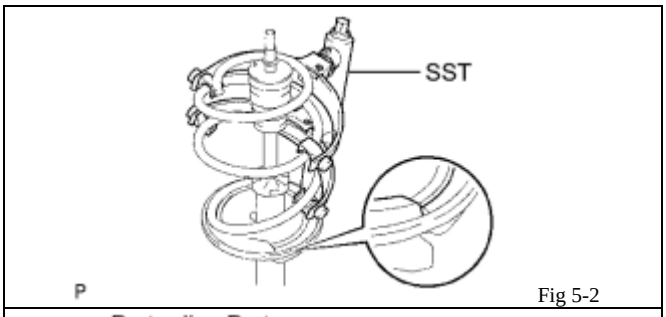


Fig 5-2

(e) Install jounce bumper back onto the shock rod.

(f) Install TRD spring so that lower coil end rests into the recessed part of the lower spring seat. (Fig 5-2)

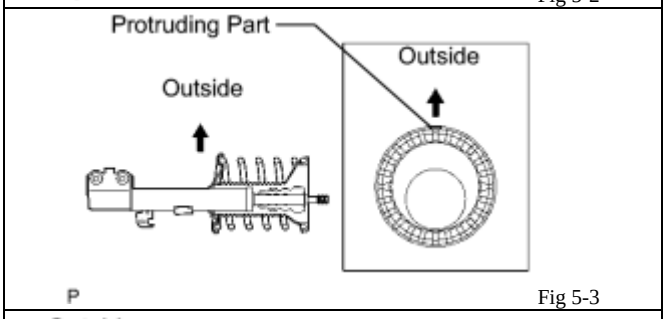


Fig 5-3

(g) Install the coil spring insulator upper to the shock absorber with the protruding part facing the outside of the vehicle. (Fig 5-3)

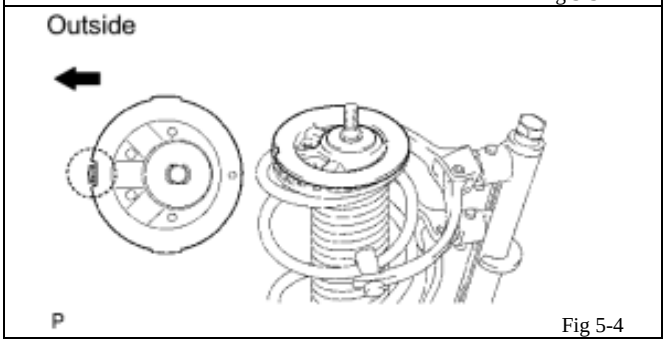


Fig 5-4

(h) Install the coil spring seat upper to the shock absorber with the notch facing the outside of the vehicle. (Fig 5-4)

(i) Install the suspension support dust seal and suspension support.

(j) Temporarily tighten a new lock nut.

6. Install Front Shock Assembly.

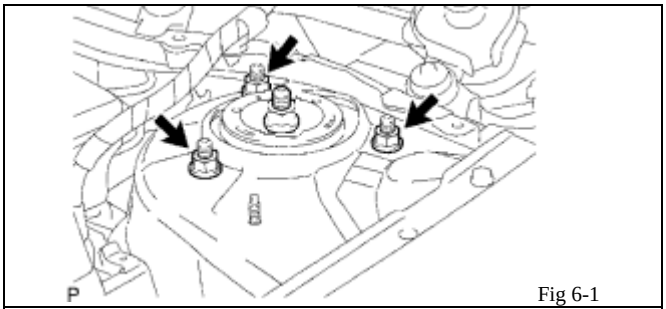


Fig 6-1

(a) Install the shock absorber with coil spring (upper side) with the 3 nuts. (Fig 6-1)

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

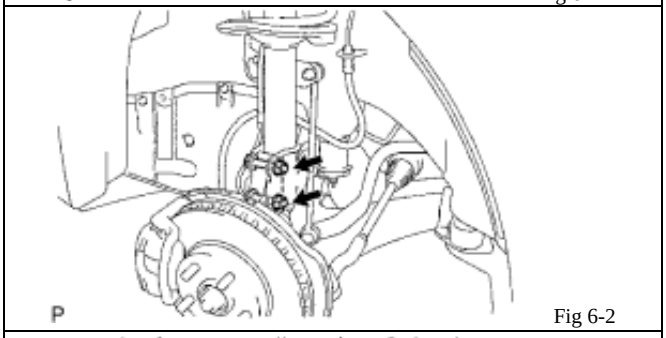


Fig 6-2

(b) Install the shock absorber with coil spring to the steering knuckle with the 2 nuts. (Fig 6-2)

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

NOTE: When installing the nuts, keep the bolts from rotating and torque the nuts. Push the shock inward towards the vehicle while tightening nuts.

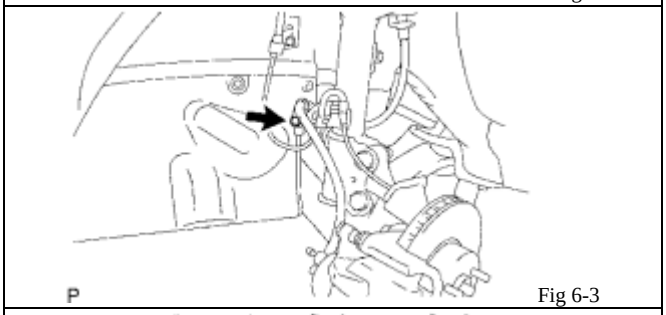


Fig 6-3

(c) Install the front No. 1 flexible hose and speed sensor with the bolt. (Fig 6-3)

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

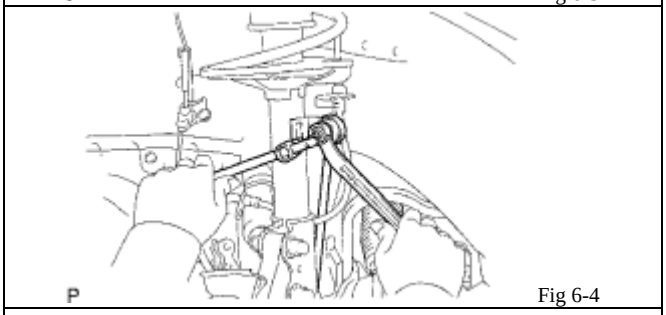


Fig 6-4

(d) Install the stabilizer link to the shock absorber with coil spring with the nut. (Fig 6-4)

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

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

(e) Install front wheels and lower car.

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

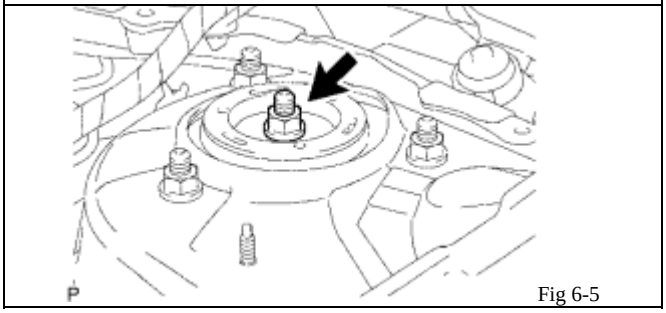


Fig 6-5

(f) Tighten the shock lock nut. (Fig 6-5)

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

(g) Install shock dust cover.

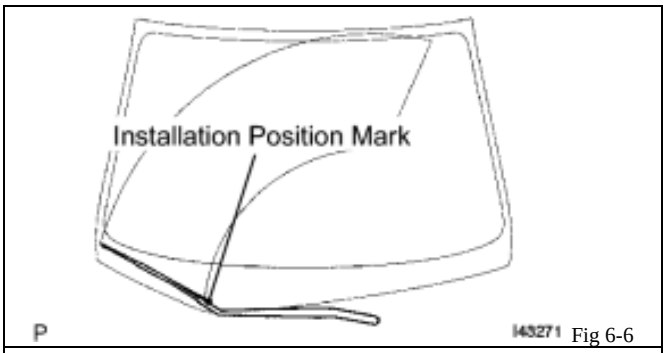


Fig 6-6

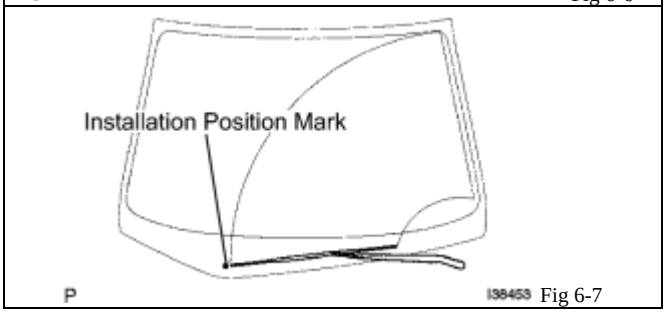


Fig 6-7

(h) Install cowl covers.

(i) Install hood to cowl seal.

(j) Install the front wiper arm and blade assembly RH with the nut at the position shown in the illustration. (Fig 6-6)

Torque: 34.3 N·m (350 kgf·cm, 25 ft·lbf)

(k) Install the front wiper arm and blade assembly LH with the nut at the position as shown in the illustration. (Fig 6-7)

Torque: 34.3 N·m (350 kgf·cm, 25 ft·lbf)

(l) Install wiper arm head caps.

7. Adjust Wheel Alignment.

(a) Confirm alignment system has been calibrated.

(b) Install wheel clamps.

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

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

(3) Clamp should be attached firmly.

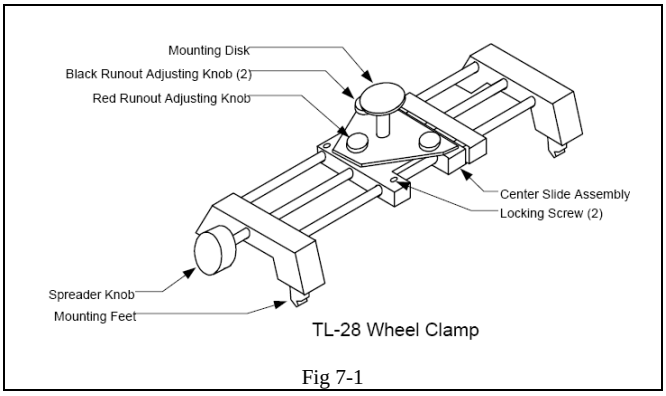
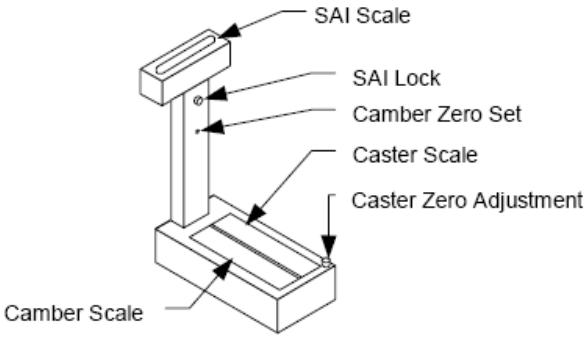


Fig 7-1



TL-30 Easy Check Gauge

Fig 7-2

(c) Perform run out procedure.

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

(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.

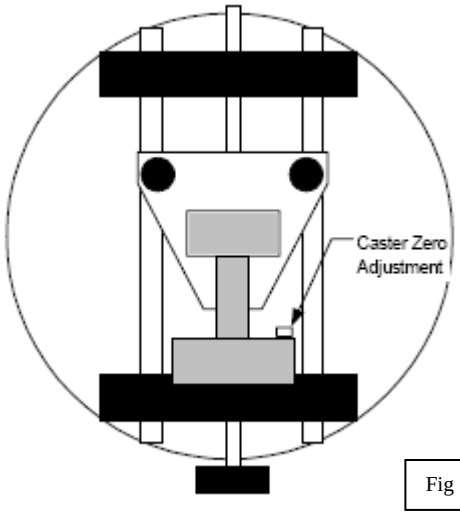


Fig 7-3

(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 7-3)

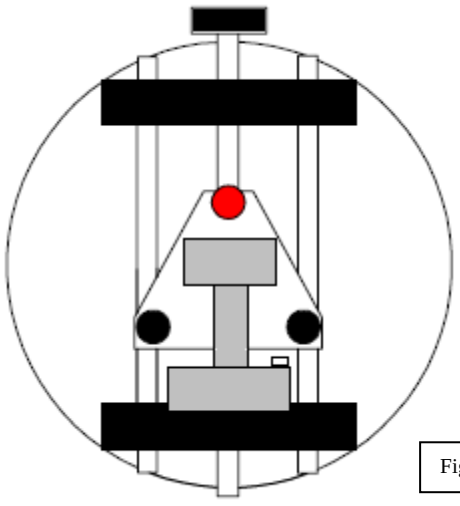
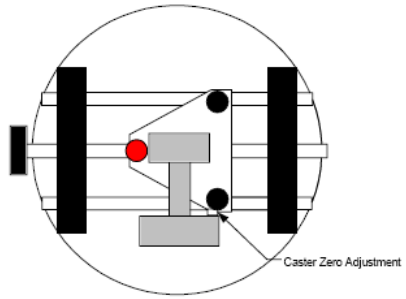


Fig 7-4

(4) Rotate the wheel clamp ½ turn; the installation knob should be at a 12 o'clock position. (Fig 7-4)

(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.)



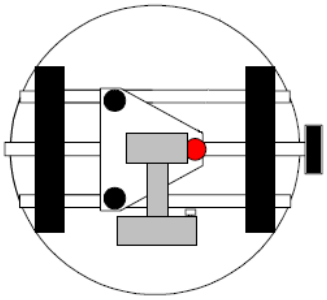


Fig 7-5

(7) Rotate the wheel ¼ turn to the left, so the installation knob is at a 9 o'clock position. (Fig 7-5)

(8) Level the TL-30, and set the caster bubble to zero with caster adjustment knob.

(9) Rotate the wheel ½ turn, until the installation knob is at a 3 o'clock position.

(10) Level the TL-30, 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.

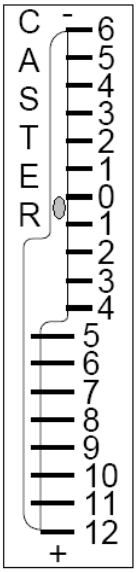


Fig 7-6

(12) Rotate the wheel until the installation knob is at a 12 o'clock position. Level the TL-30, and adjust the caster knob until the caster bubble reads zero. (Fig 7-6)

(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 TL-30 back onto the cart.

(d) Lower vehicle onto car stands with slip plates in position.

(e) Set parking brake.

(f) Jounce front and rear of vehicle to settle suspension.

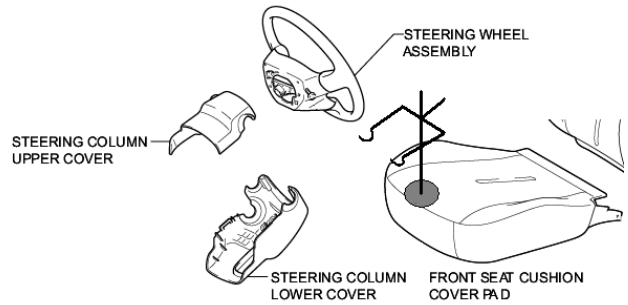


Fig 7-7

(g) Lock the steering wheel in the center position.

(1) Align backside of steering wheel with the steering column upper cover.

(2) Place the provided steering wheel lock on driver's seat and lock steering wheel in place. (Fig 7-7)

NOTE: Using the brake pedal hold tool is not necessary.

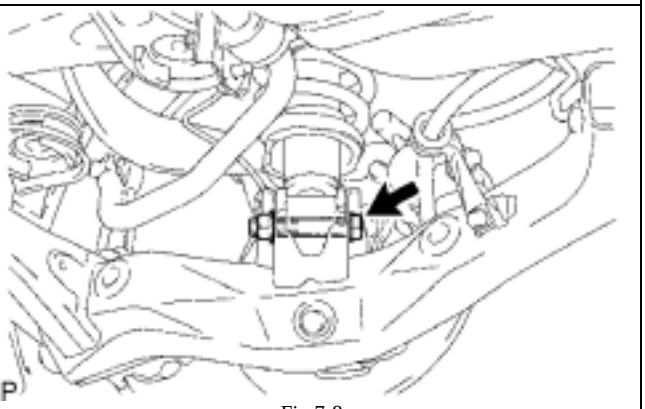


Fig 7-8

(h) Fully tighten lower rear shock bolts. (Fig 7-8)

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

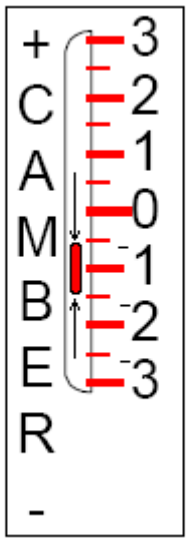


Fig 7-9

(i) Adjust rear camber.

(1) Rear camber should be adjusted to -1 (+/- 0.3) degrees. (Fig 7-9)

(2) Place calibrated Easy Check gauge onto rear wheel clamps. (Use level compensator bar to calibrate.)

(3) Loosen the camber adjusting cam set nuts. (Fig 7-10)

(4) Adjust the camber by turning the adjusting cams.

CAUTION: Take care not to hit the emission controls canister filter assembly or its hoses.

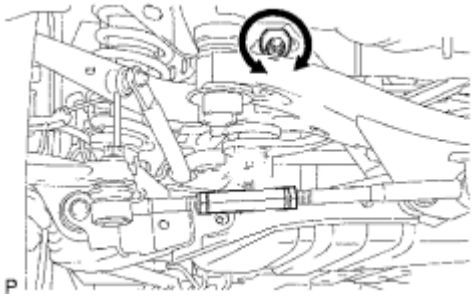
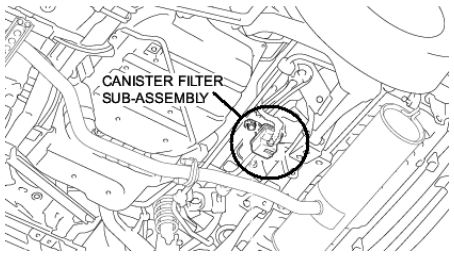


Fig 7-10



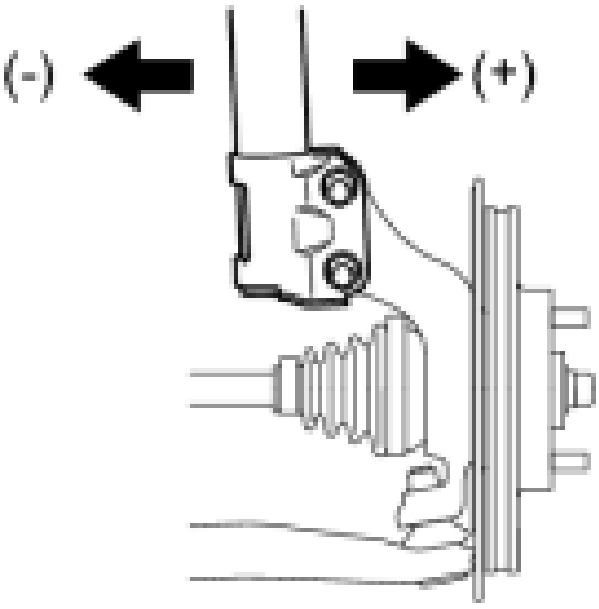


Fig 7-11

(5) Tighten camber adjusting cam set nuts.

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

(j) Check front camber and adjust if necessary.

(1) Front camber should be between 0 and -1.25 degrees.

(1) Left and Right angles should be within .5 degrees of each other.

NOTE: You will typically see -1 on the driver's side and -0.5 on the passenger side. This is a good reading.

(2) Place calibrated Easy Check Gauge onto front wheel clamp.

(3) If adjustment is necessary you can adjust one side to the positive direction. You will need to re-torque the two lower shock nuts. (Fig 7-11)

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

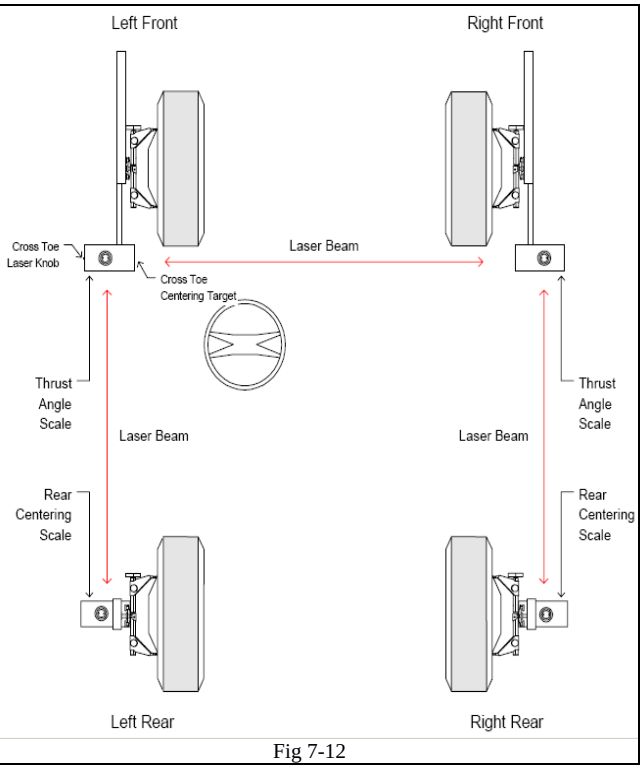


Fig 7-12

(k) Adjust front toe settings.

(1) Confirm steering wheel is locked in the centered position.

(2) Hang rear combi gauges onto rear wheel clamps with the mirrors facing forward.

(3) Set both rear toe dials to 1.5 MM IN.

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

(1) Turn guns on and confirm laser is hitting the rear scales and bouncing back to the front scales. (Fig 7-12)

(2) 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 on the side of the box, until the laser reaches the mirror.

(5) Set both front toe dials to 0 MM.

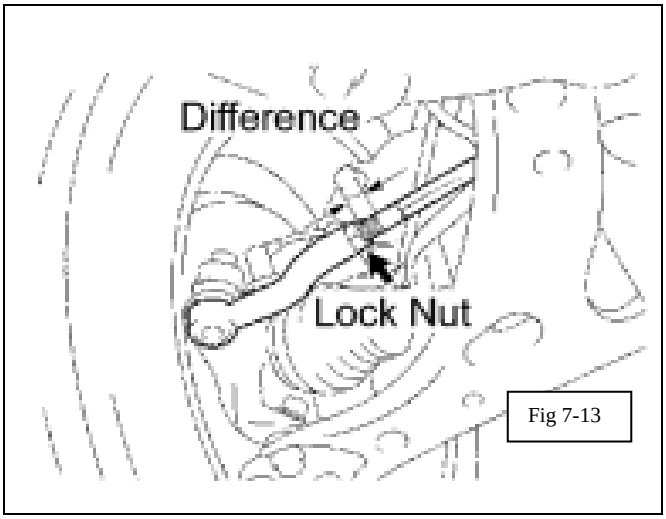


Fig 7-13

(6) Loosen the front tie rod end locking nuts.

(7) 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 7-13)

(8) Make sure that the lasers hitting the numbers on the rear combi gauges match each other. If not, adjust tie rods until the numbers match and the front laser falls in the laser box hole.

(9) Tighten front tie rod end locking nut.

Torque: 74 N·m (755 kgf·cm, 55 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.

(l) Adjust rear toe settings. (Fig 7-14)

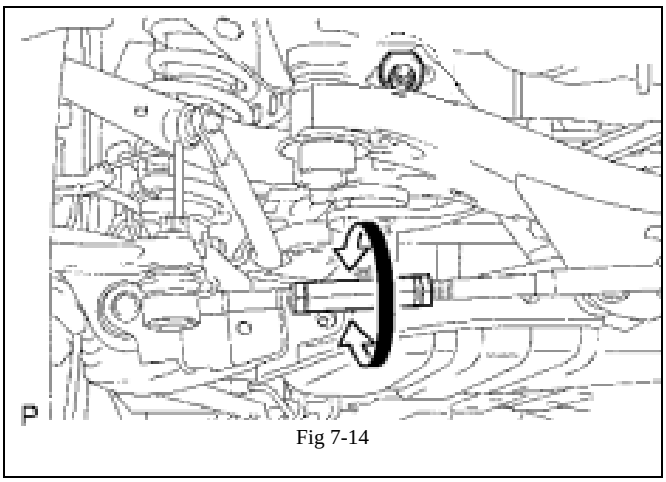


Fig 7-14

(1) Loosen the tie rod adjusting sleeve set nuts.

(2) Look at the thrust angle scales (on the front guns). Adjust the rear toe sleeves until the lasers hit the number “5” on the thrust angle scales.

(3) Tighten the rear tie rod adjusting sleeve set nuts.

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

8. Test Drive Vehicle

(a) Confirm steering wheel is on center.

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

CHECK FOR:	LOOK FOR:
Accessory Function Checks	
☐	
☐	
☐	
☐	
Vehicle Function Checks	
☒ VSC warning lamp	Confirm it is off with key on. If light remains on look for disconnected wheel speed sensor wire or damaged wire.
☒ Trunk lamp	Confirm trunk lamp operates normally. If light does not operate confirm you have reconnected the trunk lamp wire connector.
☐	
☐	
☐	