

2002 RESTRAINTS

Passive Restraints - RAV4

SEAT BELT
COMPONENTS

been used in a severe impact. The entire assembly should be replaced even if damage is not obvious.

1. Running Test (In Safe Area) .

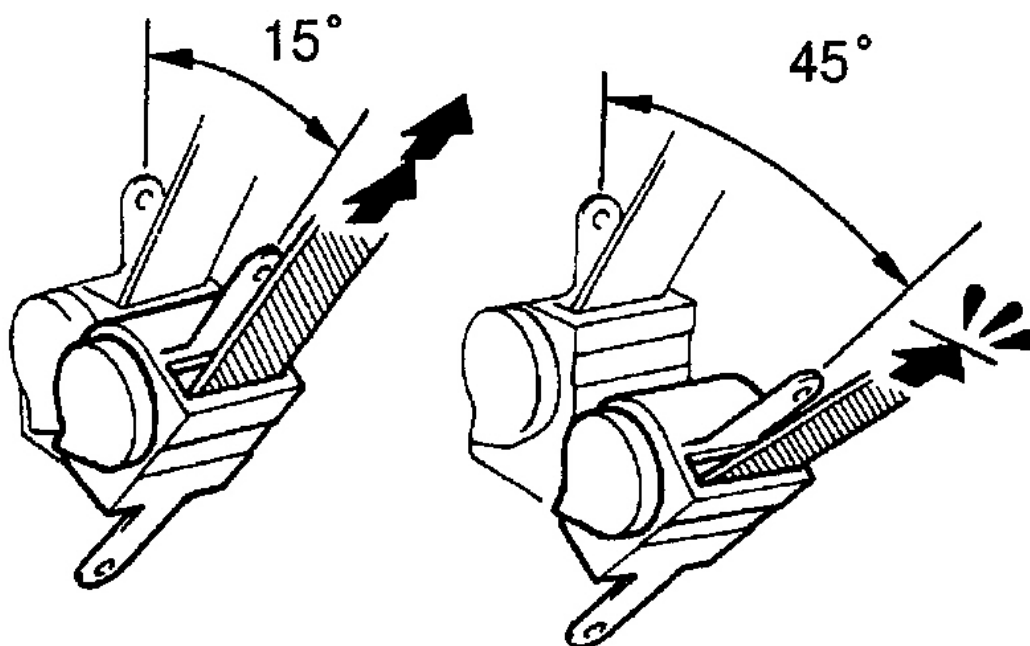
- a. Fasten the seat belts.
- b. Drive the vehicle at 16 km/h (10 mph) and slam on the brakes.
- c. Check that the belt locks and cannot be extended at this time.

NOTE: Conduct this test in a safe area. If the belt does not lock, remove the belt mechanism assembly and conduct the following static check. Also, whenever installing a new belt assembly, verify the proper operation before installation.

2. Driver's Seat Belt (ELR):

Static Test

- a. Make sure that the belt locks when pulled out quickly.
- b. Remove the locking retractor assembly.
- c. Tilt the retractor slowly.
- d. Make sure that the belt can be pulled out at a tilt of 15 degrees or less, and cannot be pulled out at over 45 degrees of tilt.



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Fig. 2: Testing Seat Belt Locking Mechanism
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If a problem is found, replace the assembly.

3. Except Driver's Seat Belt (ALR/ELR):

Static Test

- Make sure that the belt locks when pulled out quickly.
- Remove the locking retractor assembly.
- Pull out the whole belt and measure the length of the whole belt. Then retract the belt slightly and pull it out again.
- Make sure that the belt cannot be extended further.

If a problem is found, replace the assembly.

- Retract the whole belt, then pull it out to the full length minus 200 mm (7.87 in.).

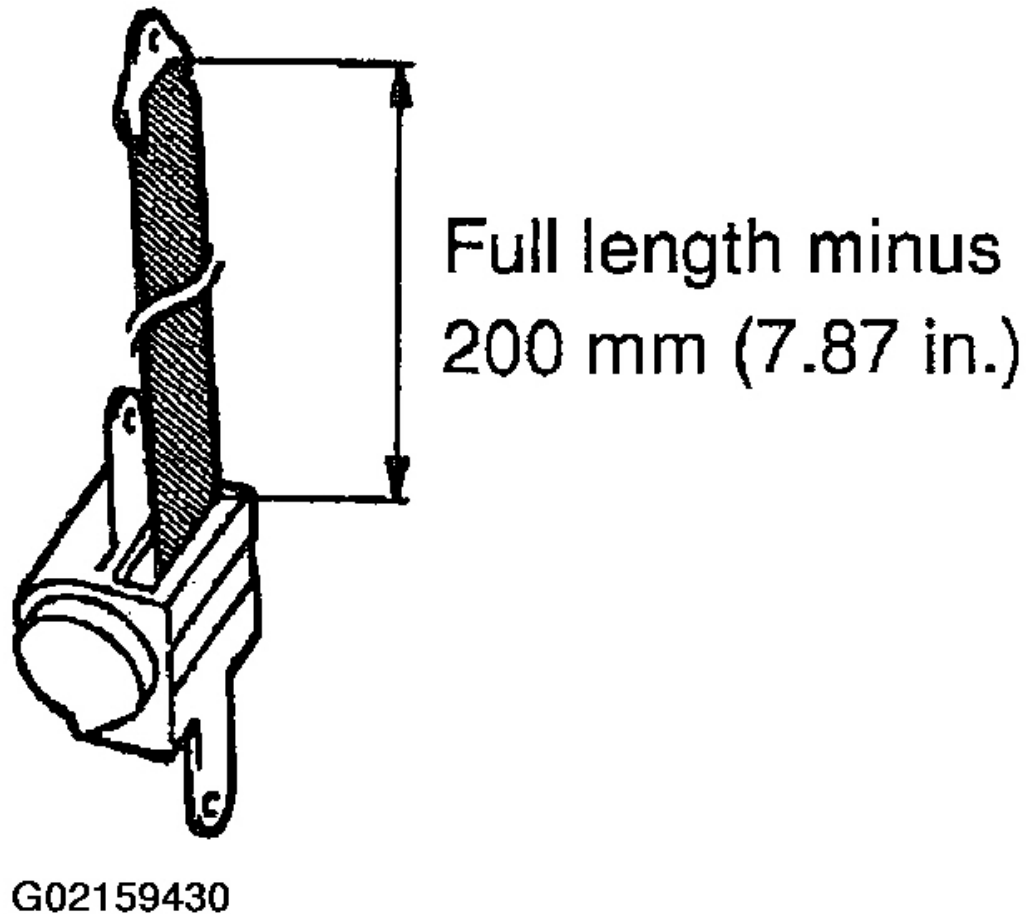
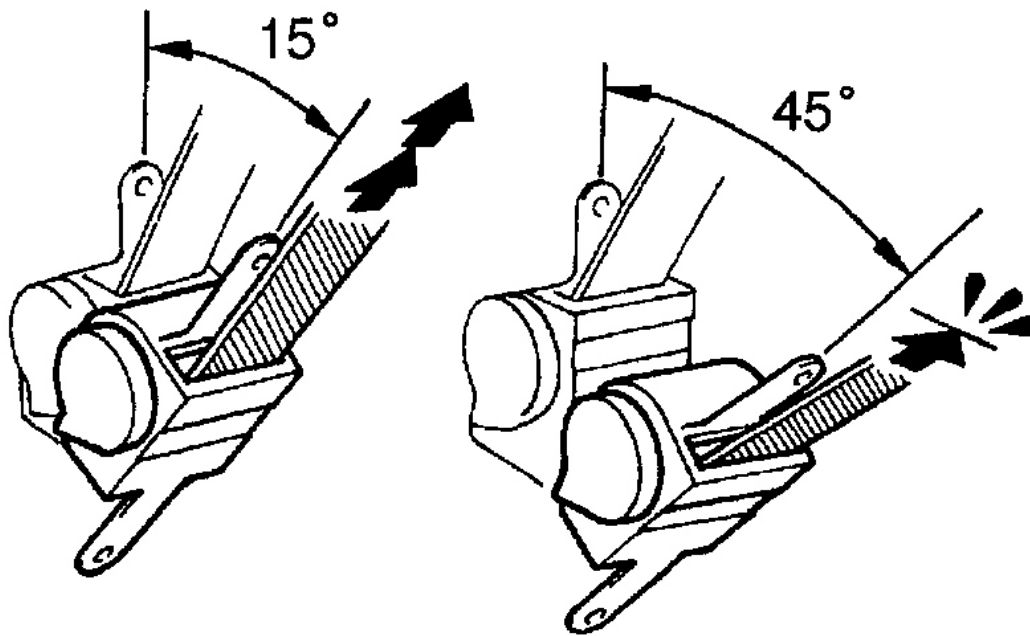


Fig. 3: Displaying Seat Belt Full Length
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- f. Tilt the retractor slowly.
- g. Make sure that the belt can be pulled out at a tilt of 15 degrees or less, and cannot be pulled out at over 45 degrees of tilt.



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Fig. 4: Testing Seat Belt Locking Mechanism
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If a problem is found, replace the assembly.

SEAT BELT PRETENSIONER

REMOVAL

NOTE:

- If the wiring connector of the seat belt pretensioner is disconnected with the ignition switch at ON or ACC, diagnostic trouble codes will be recorded.
- Never use seat belt pretensioner from another vehicle. When replacing parts, replace them with new parts.

Remove Front Seat Outer Belt

- a. Remove the rear door scuff plate.
- b. Remove the front door scuff plate.
- c. Remove the center pillar lower garnish.

1. Remove the bolt and front seat outer belt floor anchor.
2. Pull the center pillar lower garnish upward to remove it.
- d. Remove the bolt and front seat outer belt shoulder anchor.
- e. Remove the retractor of the front seat outer belt.

CAUTION:

- When removing the seat belt pretensioner, work must be started 90 seconds after the ignition switch has been turned to the "LOCK" position and the negative (-) terminal cable has been disconnected from the battery.
- Never disassemble the front seat outer belt.

NOTE: When removing the retractor of the front seat outer belt, take care not to pull the seat belt pretensioner wire harness.

1. Disconnect the pretensioner connector as shown in Fig. 5 .

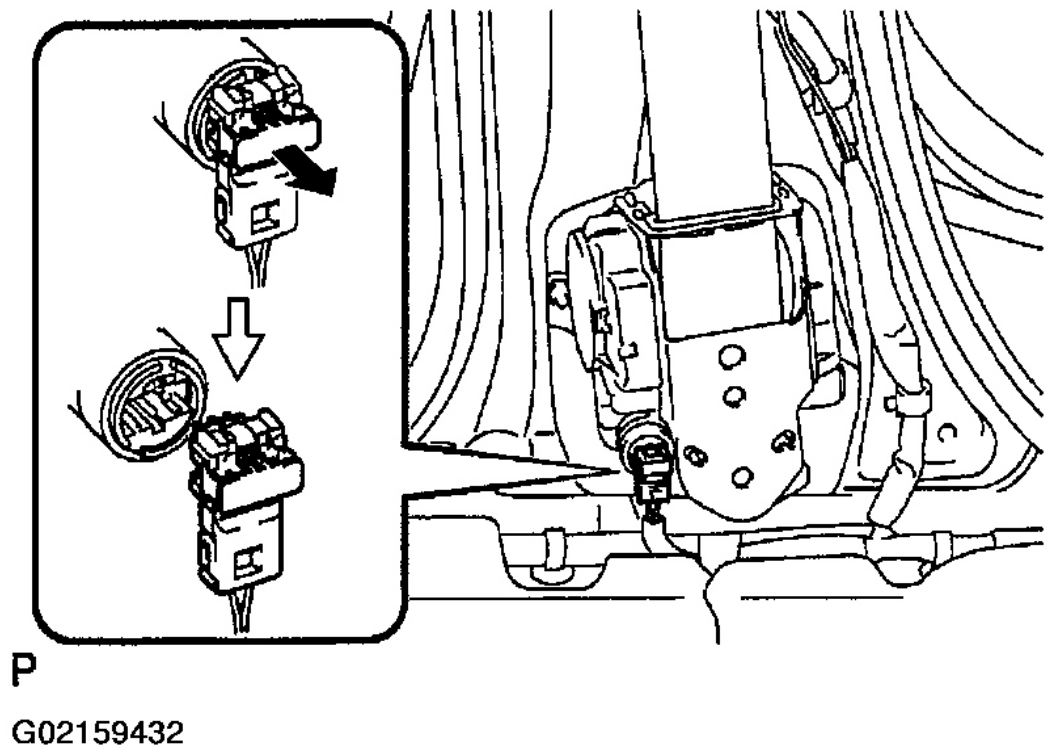


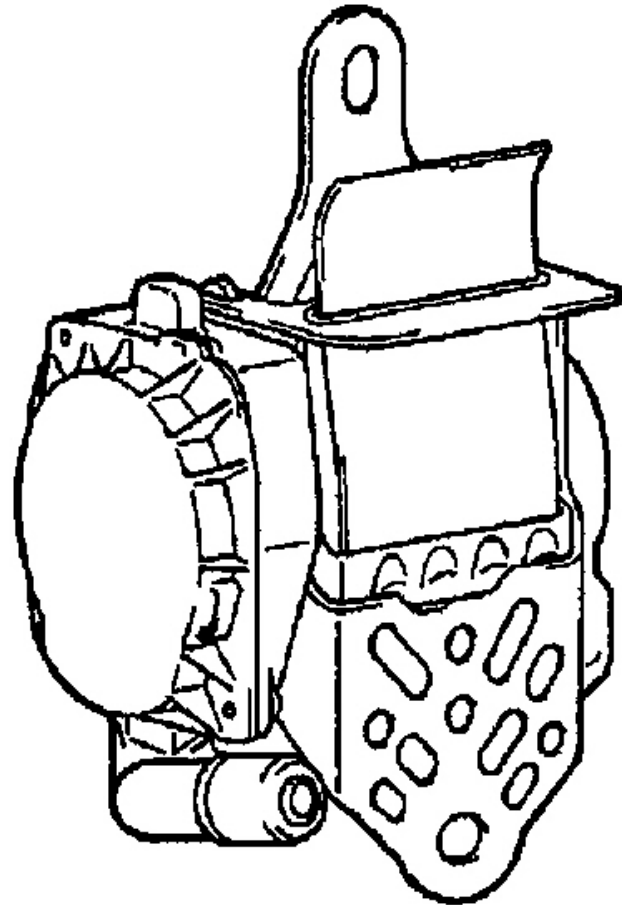
Fig. 5: Disconnecting Pretensioner Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. Remove the bolt and retractor of the front seat outer belt.

INSPECTION

1. Pretensioner Is Not Activated

- a. Perform a diagnostic system check (See **AIR BAG WARNING LIGHT CHECK**).
- b. Perform a visual check which includes the following items with the front seat outer belt removed from the vehicle.
 - Check for cuts and cracks in, or marked discoloration of the center pillar lower garnish.
 - Check for cuts and cracks in floor wire harnesses, and for chipping in connectors.
 - Check for deformation of the center pillar.



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Fig. 6: Identifying Front Seat Outer Belt
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

NOTE: For removal and installation of the front seat outer belt, see REMOVAL and INSTALLATION .

Be sure to follow the correct procedure .

2. Pretensioner Is Activated

- a. Perform a diagnostic system check (See AIR BAG WARNING LIGHT CHECK).
- b. Perform a visual check which includes the following items with the front seat outer belt removed

from the vehicle.

- Check for deformation of the center pillar.

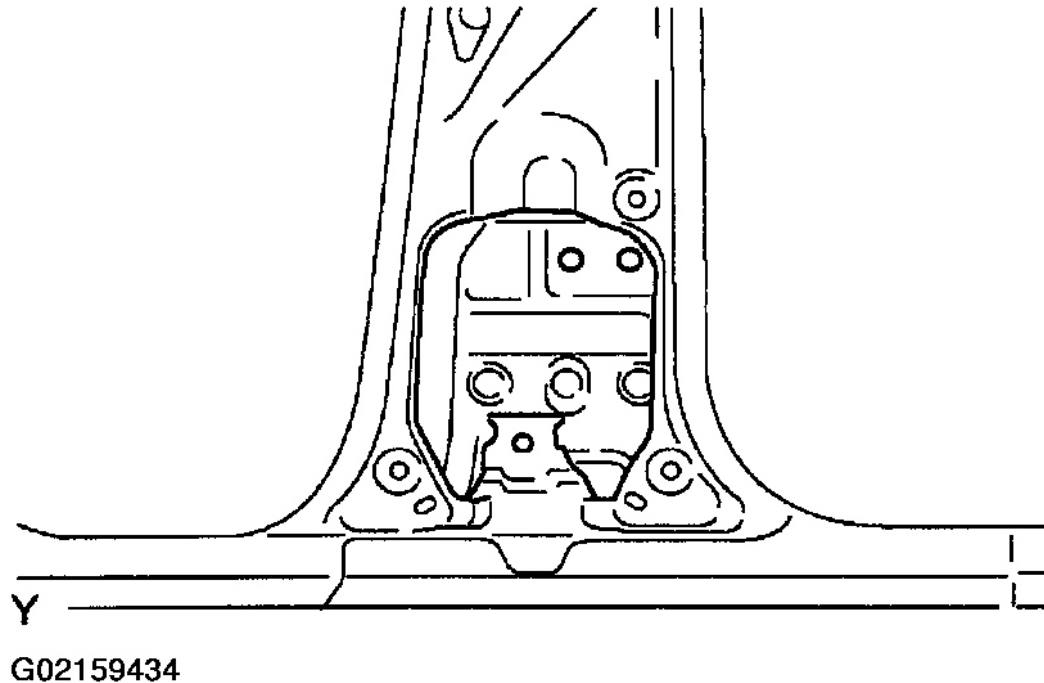


Fig. 7: Checking For Deformation Of Center Pillar
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- Check for damage on the connector and wire harness.

DISPOSAL

NOTE: When scrapping vehicles equipped with a seat belt pretensioner or disposing of a front seat outer belt (with seat belt pretensioner) always first activate the seat belt pretensioner in accordance with the procedure described below. If any abnormality occurs with the seat belt pretensioner operation, contact the SERVICE DEPT. of TOYOTA MOTOR SALES, U.S.A., INC. When disposing of a front seat outer belt (with seat belt pretensioner) activated in a collision, follow the same procedure given in step 1 in "DISPOSAL".

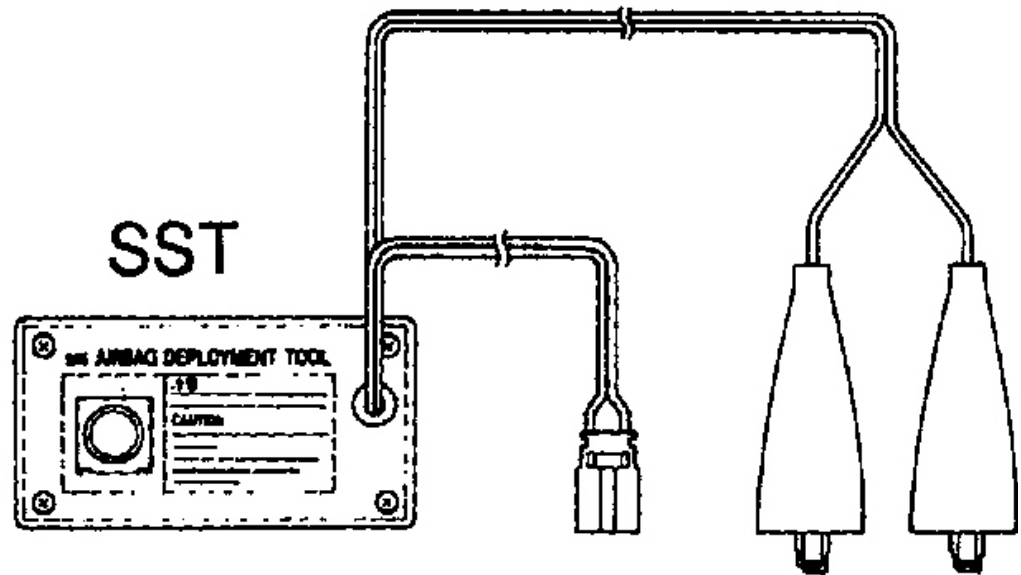
CAUTION:

- Never dispose of front seat outer belt which has an inactivated pretensioner.
- The seat belt pretensioner produces a sizeable exploding sound when

activates, so perform the operation out-of-door and where it will not create a nuisance to nearby residents.

- When activating the seat belt pretensioner, always use the specified S (SRS Airbag Deployment Tool) Perform the operation in a place away from electrical noise.

SST 09082-00700, 09082-00770



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Fig. 8: Identifying SST For Activating Seat Belt Pretensioner
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- When activating a front seat outer belt (with seat belt pretensioner), perform the operation at least 10 m (33 ft) away from the front seat out belt.
- The front seat outer belt is very hot when the seat belt pretensioner is activated, so leave it alone for at least 30 minutes after activation.
- Use gloves and safety glasses when handling a front seat outer belt w the activated pretensioner.
- Always wash your hands with water after completing the operation.
- Do not apply water, etc. to a front seat outer belt with the activated

pretensioner.

1. Seat Belt Pretensioner Activation When Scrapping Vehicle

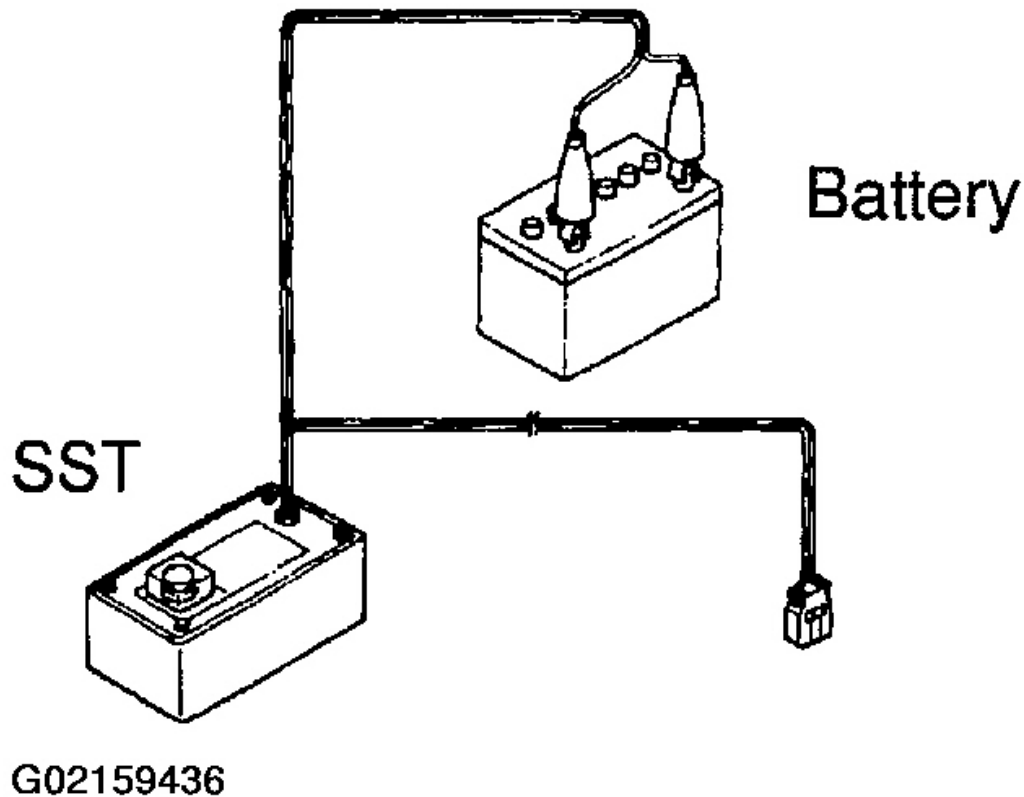


Fig. 9: Connecting SST To Battery

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

NOTE: Have a battery ready as the power source to activate the seat belt pretensioner.

- a. Check the functioning of SST.

CAUTION: When activating the seat belt pretensioner, always use the specified SST: SRS Airbag Deployment Tool.

SST 09082-00700, 09082-00770

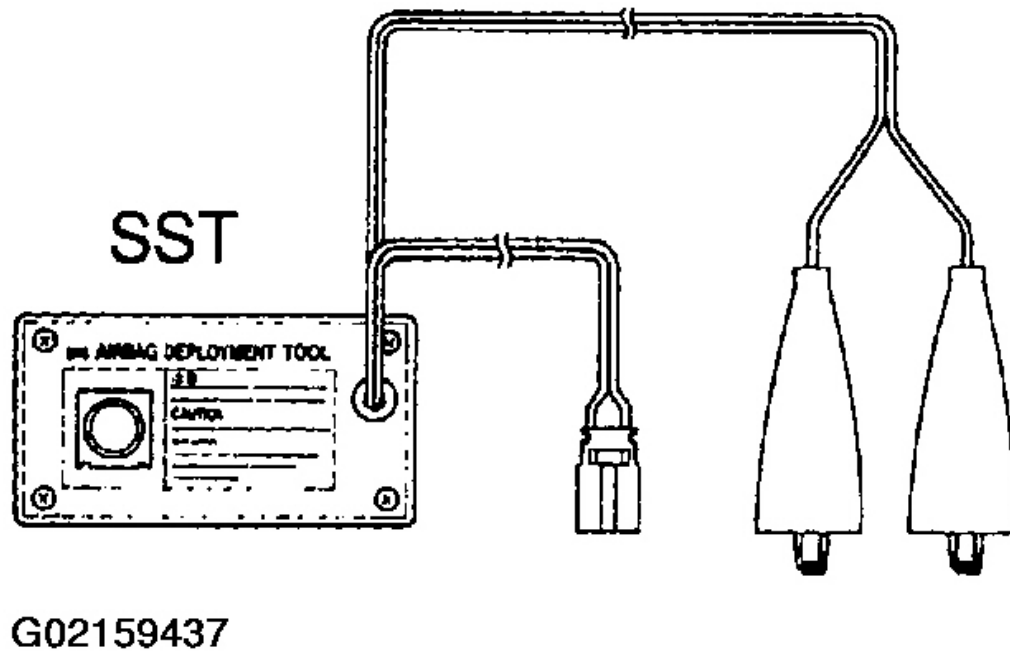


Fig. 10: Identifying SST For Activating Seat Belt Pretensioner
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

1. Connect the SST to the battery.

Connect the red clip of the SST to the battery positive (+) terminal and the black clip to the battery negative (-) terminal.

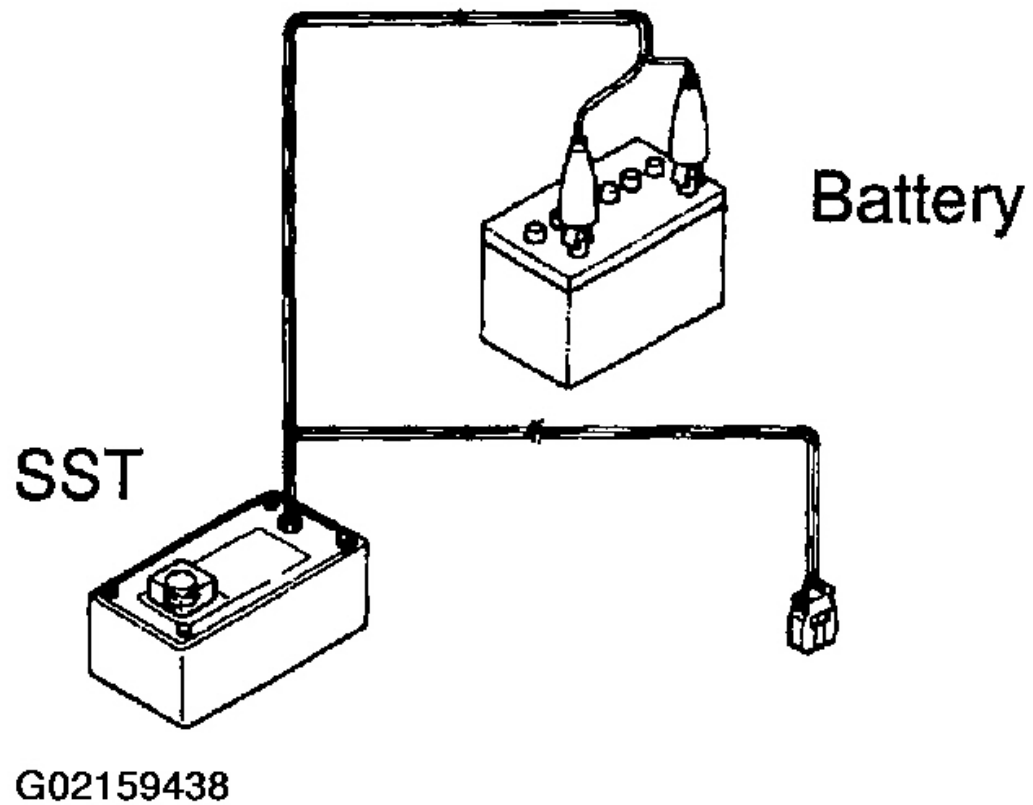
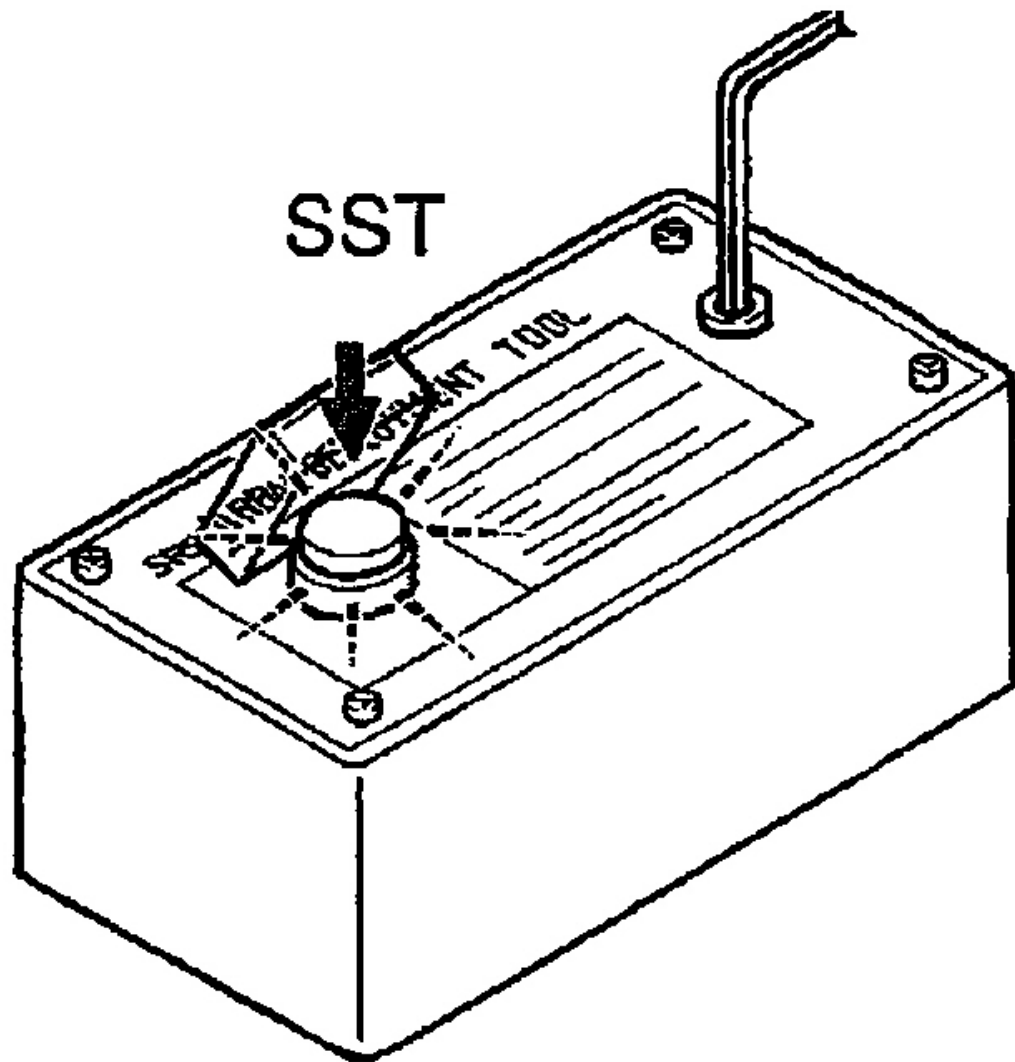


Fig. 11: Connecting SST To Battery
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

NOTE: Do not connect the yellow connector which will be connected with the seat belt pretensioner.

2. Press the SST activation switch, and check the LED of the SST activation switch lights up.



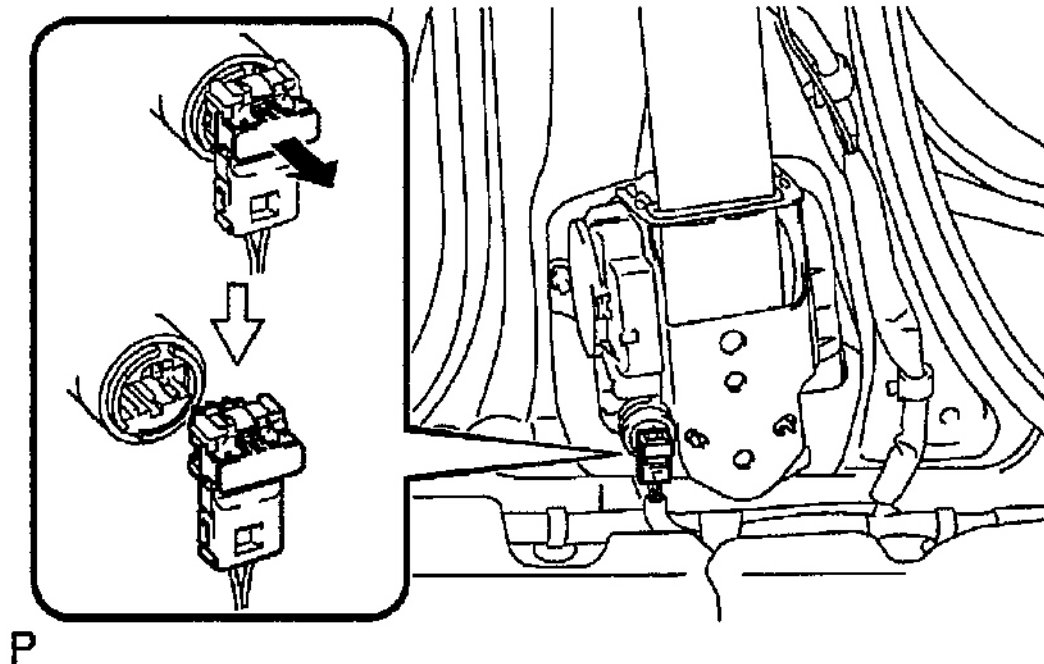
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Fig. 12: Locating SST Activation Switch
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

CAUTION: If the LED lights up when the activation switch is not being pressed, SST malfunction is probable, so definitely do not use the SST.

- b. Install the SST.

1. Remove the rear door scuff plate.
2. Remove the front door scuff plate.
3. Remove the front lower anchor.
4. Remove the center pillar lower garnish.
5. Disconnect the pretensioner connector as shown **Fig. 13**.



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Fig. 13: Disconnecting Pretensioner Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

6. Buckle the front seat belt and check that there is no looseness and slack in the front seat inner belt and front seat outer belt.

SST 09082-00700, 09082-00770

7. Connect the 2 SST, then connect them to the seat belt pretensioner.

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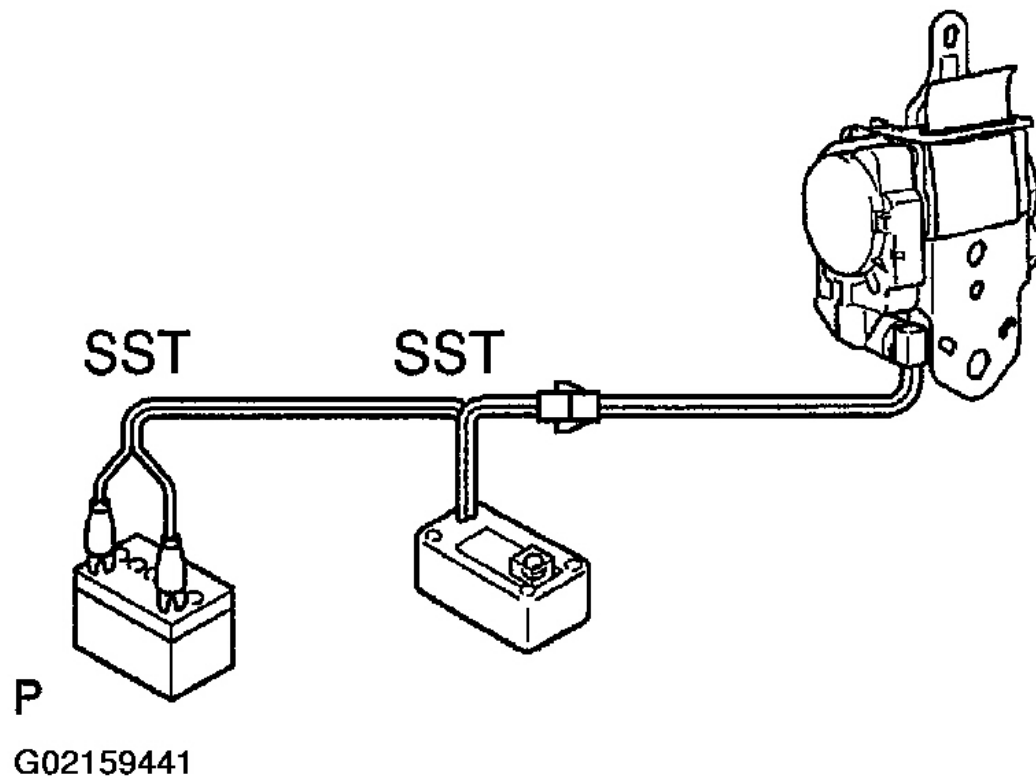
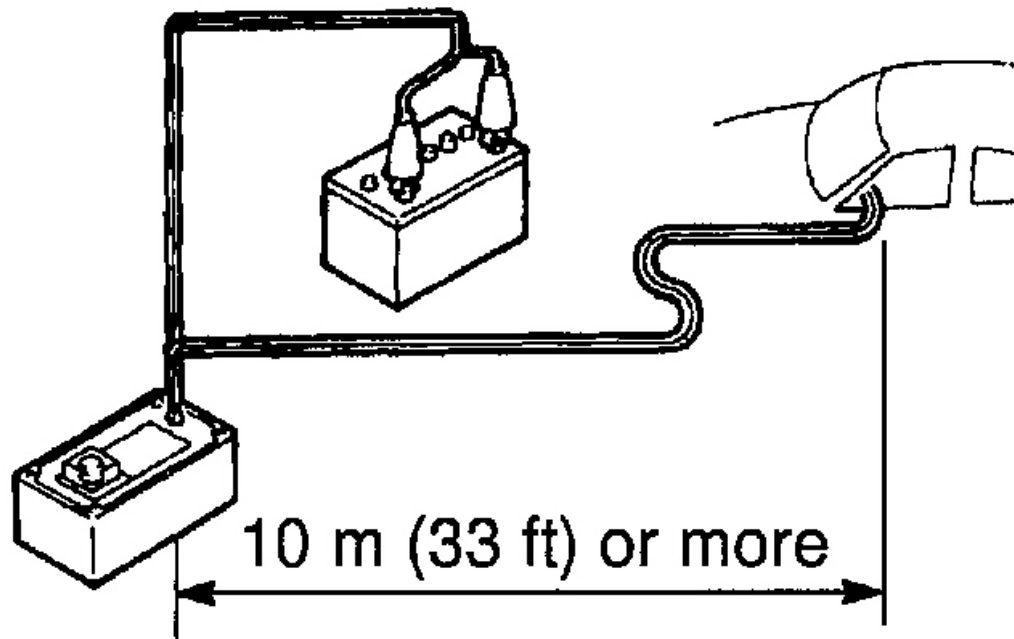


Fig. 14: Connecting SSTs to Seat Belt Pretensioner
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

NOTE: To avoid damaging the SST connector and wire harness, do not lock the secondary lock of the twin lock.

8. Move the SST to at least 10 m (33 ft) away from the front of the vehicle.
9. Close all the doors and windows of the vehicle.

NOTE: Take care not to damage the SST wire harness.



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Fig. 15: Displaying Proper SST Distance From Car
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Activate the seat belt pretensioner.
 1. Connect the SST red clip to the battery positive (+) terminal and the black clip to the negative (-) terminal.
 2. Check that no one is inside the vehicle or within 10 m (33 ft) area around the vehicle.
 3. Press the SST activation switch and activate the seat belt pretensioner.

NOTE: The seat belt pretensioner operates simultaneously as the LED of the SST activation switch lights up.

- d. Dispose of front seat outer belt (with seat belt pretensioner).

CAUTION:

- The front seat outer belt is very hot when the seat belt pretensioner is activated, so leave it alone for at least 30 minutes after activation.
- Use gloves and safety glasses when handling a front seat outer

belt with the activated seat belt pretensioner.

- Always wash your hands with water after completing the operation.
- Do not apply water, etc. to a front seat outer belt with the activated seat belt pretensioner.

NOTE: When scrapping a vehicle, activate the seat belt pretensioner and scrap the vehicle with the activated front seat outer belt still installed.

2. Activation When Disposing Of Front Seat Outer Belt Pretensioner Only

- NOTE:**
- When disposing of the front seat outer belt (with seat belt pretensioner) only, never use the customer's vehicle to activate the seat belt pretensioner.
 - Be sure to follow the procedure given below when activating the seat belt pretensioner.

NOTE: Have a battery ready as the power source when activating the seat belt pretensioner.

- a. Remove the front seat outer belt (See **REMOVE FRONT SEAT OUTER BELT**).

NOTE: Cut the belt near the seat belt retractor.

- b. Check functioning of SST (See step 1).

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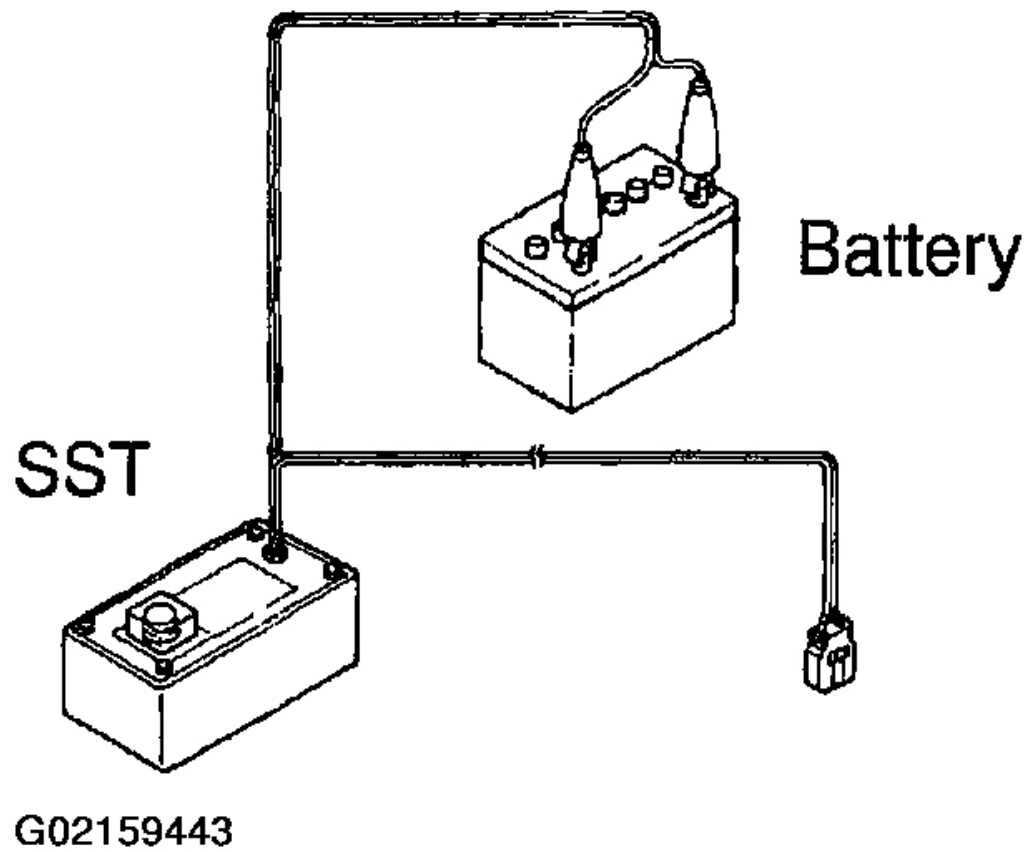


Fig. 16: Connecting SST To Battery
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Install the SST.
 - 1. Connect the 2 SSTs, then connect them to the seat belt pretensioner.

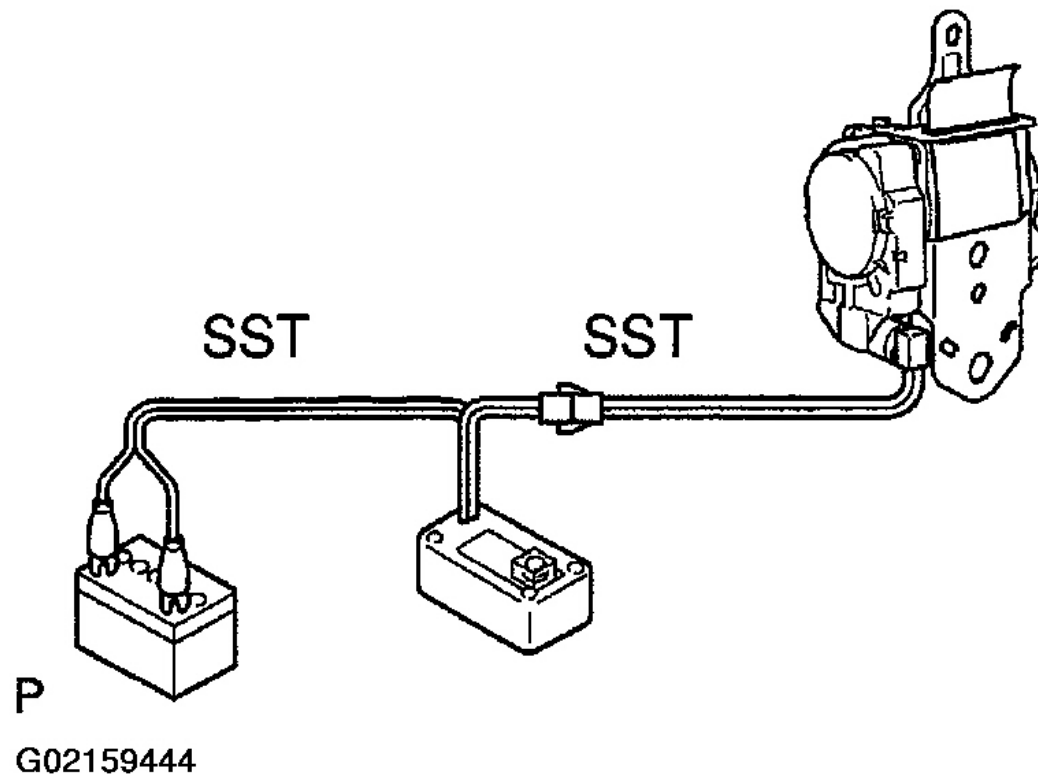
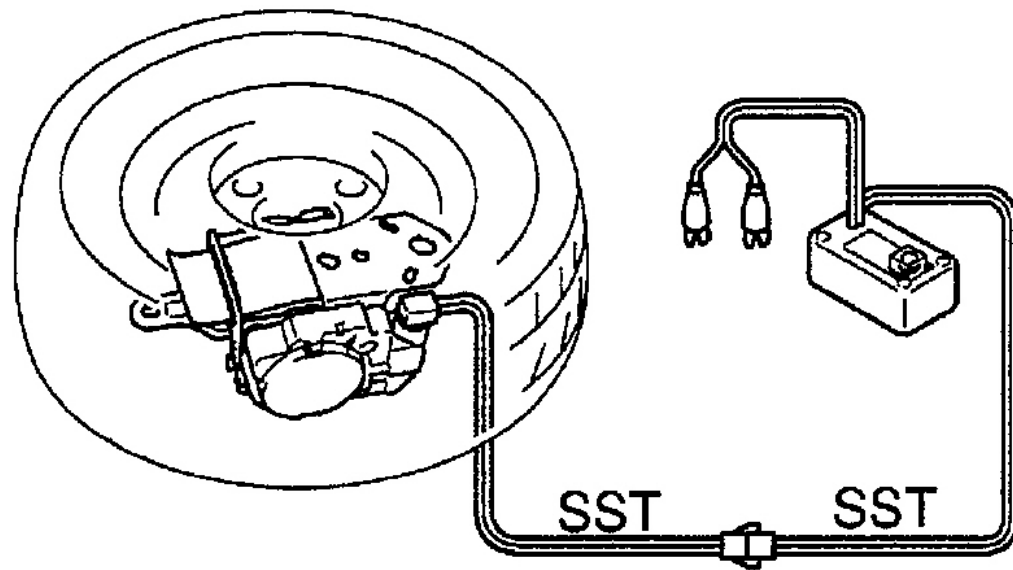


Fig. 17: Installing 2 SSTs To Seat Belt Pretensioner
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

SST 09082-00700, 09082-00770

NOTE: To avoid damaging the SST connector and wire harness, do not lock the secondary lock of the twin lock.

2. Place the front seat outer belt on the ground and cover it with the wheel and tire.



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Fig. 18: Covering Outer Seat Belt With Wheel and Tire
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

NOTE: Place the front seat outer belt as shown in the illustration.

3. Move the SST at least 10 m (33 ft) away from the disc wheel.

NOTE: Take care not to damage the SST wire harness.

- d. Activate the seat belt pretensioner.
 1. Connect the SST red clip to the battery positive (+) terminal and black clip to the battery negative (-) terminal.
 2. Check that no one is within 10 m (33 ft) area around the disc wheel.

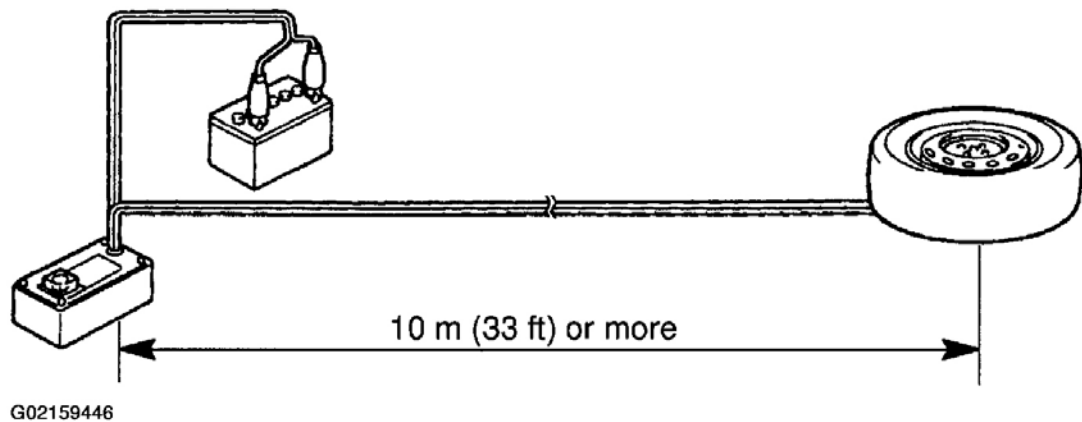
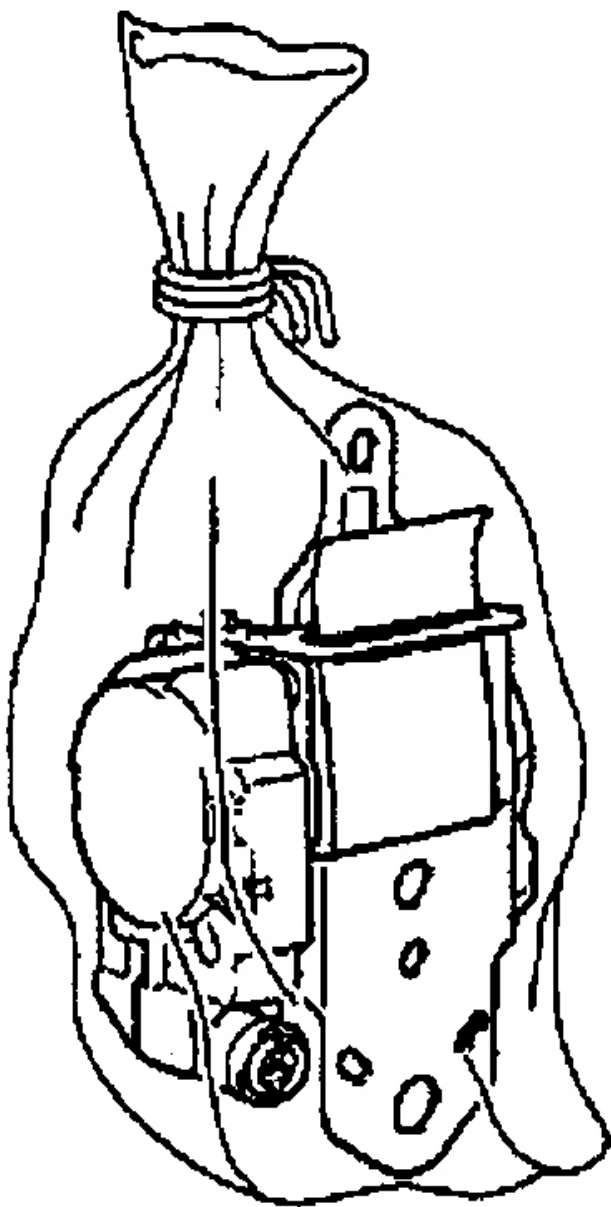


Fig. 19: Displaying Minimum Distance When Activating Pretensioner
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

3. Press the SST activation switch and activate the seat belt pretensioner.

NOTE: The seat belt pretensioner operates simultaneously as the LED of the SST activation switch lights up.

- e. Dispose of the front seat outer belt (with seat belt pretensioner).



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Fig. 20: Disposing Of Front Seat Outer Belt
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

CAUTION:

- The front seat outer belt is very hot when the seat belt pretensioner is activated, so leave it alone for at least 30 minutes after activation.
- Use gloves and safety glasses when handling a front seat outer belt with the activated seat belt pretensioner.
- Always wash your hands with water after completing the operation.
- Do not apply water, etc. to a front seat outer belt with the activated seat belt pretensioner.

1. Remove the disc wheel and SST.
2. Place the front seat outer belt in a vinyl bag, tie the end tightly and dispose of it in the same way as other general parts.

REPLACEMENT**Replace Requirements**

In the following cases, replace the seat belt pretensioner.

- If the seat belt pretensioner has been activated.
- If the seat belt pretensioner has been found to be faulty in troubleshooting.
- If the front seat outer belt has been found to be faulty during the checking item b or b .
- If the front seat outer belt has been dropped.

CAUTION: For removal and installation of the seat belt pretensioner, see REMOVAL and INSTALLATION . Be sure to follow the correct procedure.

INSTALLATION**NOTE:**

- Never use seat belt pretensioner from another vehicle. When replacing parts, replace them with new parts.
- Make sure that the front seat outer belt is installed with the specified torque.
- If the front seat outer belt has been dropped, or there are cracks, dents or other defects in the case or connector, replace the front seat outer belt with a new one.
- When installing the front seat outer belt, take care that the wiring does not interfere with other parts and is not pinched between other parts.

Install Front Seat Outer Belt

- a. Install the retractor of the front seat outer belt.
 1. Install the retractor of the front seat outer belt with the bolt.

Torque: 8.5 N.m (85 kgf.cm, 75 in..lbf)

2. Connect the pretensioner connector as shown in **Fig. 21** .

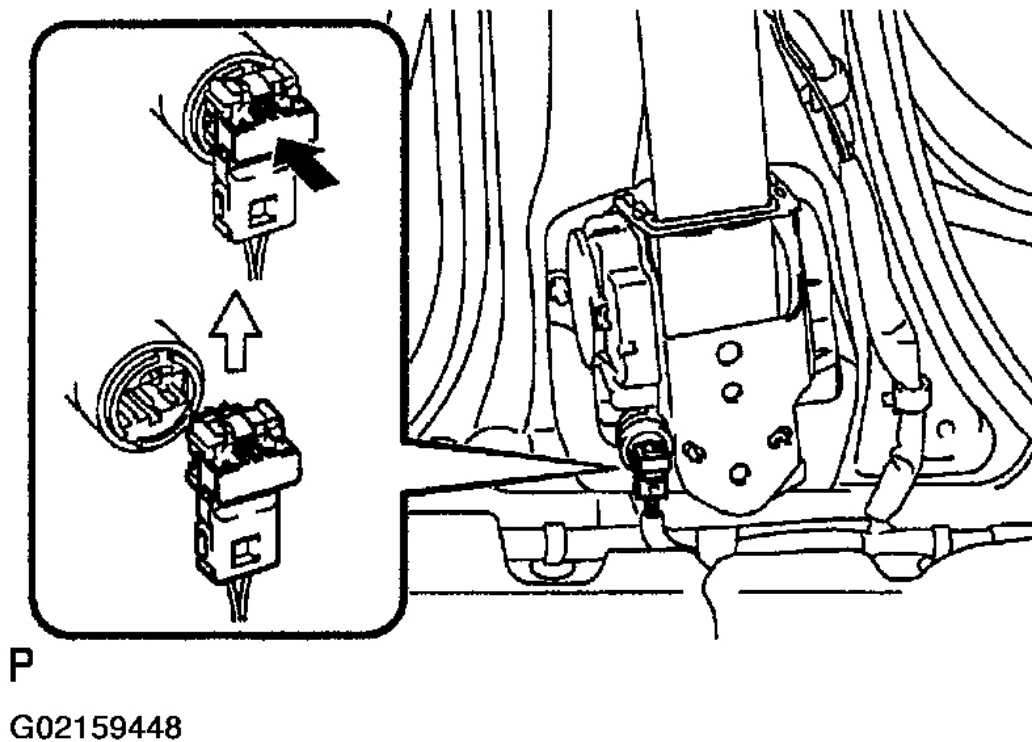


Fig. 21: Connecting Pretensioner Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Install the front seat outer belt shoulder anchor with the bolt.

Torque: 43 N.m (440 kgf.cm, 32 ft..lbf)

- c. Install the center pillar lower garnish.
- d. Install the front seat outer belt floor anchor with the bolt.

Torque: 43 N.m (440 kgf.cm, 32 ft..lbf)

- e. Install the front door scuff plate.

f. Install the rear door scuff plate.