

The following pages appear to be missing:

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RS_6.JPG

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RS_9.JPG

DAIHATSU
F70, F75, F77

**Service
manual**

REAR AXLE & SUSPENSION

DAIHATSU MOTOR CO., LTD.

NO.9703-FE

RS

DAIHATSU

F70,F75,F77

REAR AXLE & SUSPENSION

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REAR AXLE SHAFT	RS- 5
REAR SHOCK ABSORBER	RS-24
REAR SPRING	RS-34
SSTs (Special Service Tools)	RS-43
TIGHTENING TORQUE	RS-44

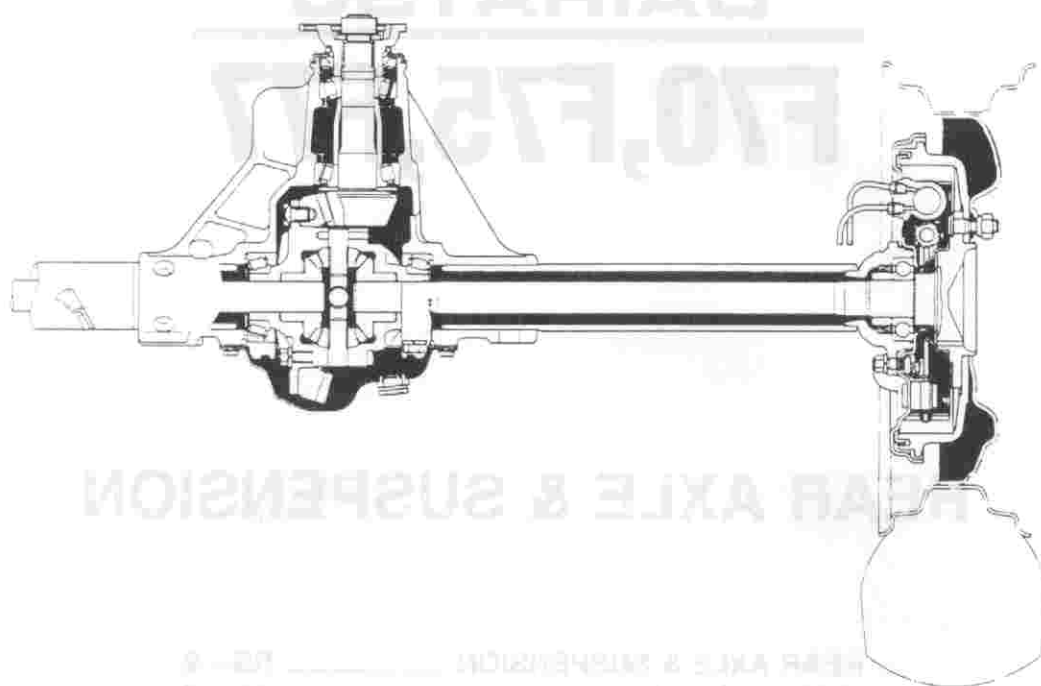
WRE91-RS001

REAR AXLE & SUSPENSION

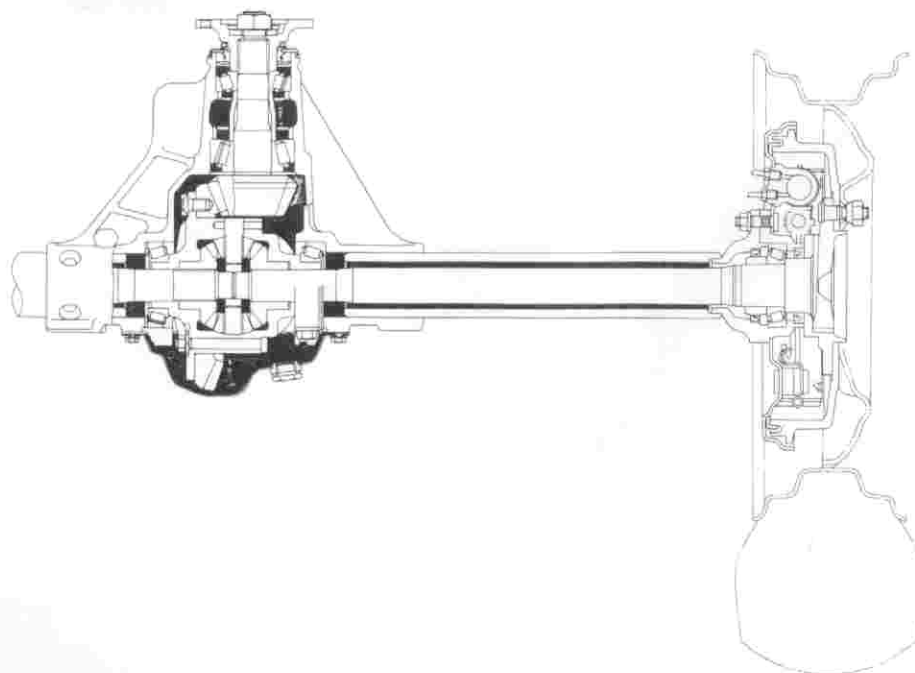
REAR AXLE & SUSPENSION

REAR AXLE

The rear axle employs a semi-floating type.



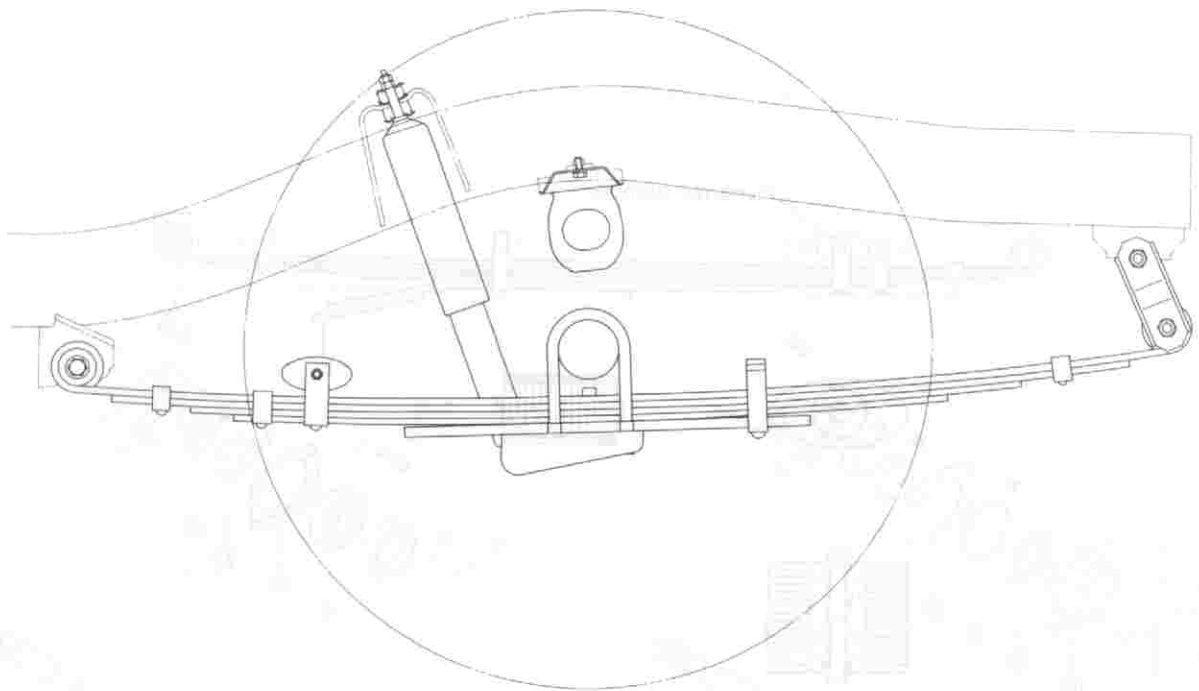
REAR AXLE & SUSPENSION
F70 and F75
REAR AXLE SHAFT
REAR HUB & WHEEL
REAR SPRING
REAR SHOCK
REAR STRUT
REAR SWAY BAR
REAR SWAY BAR BUSHING
REAR SWAY BAR PIN



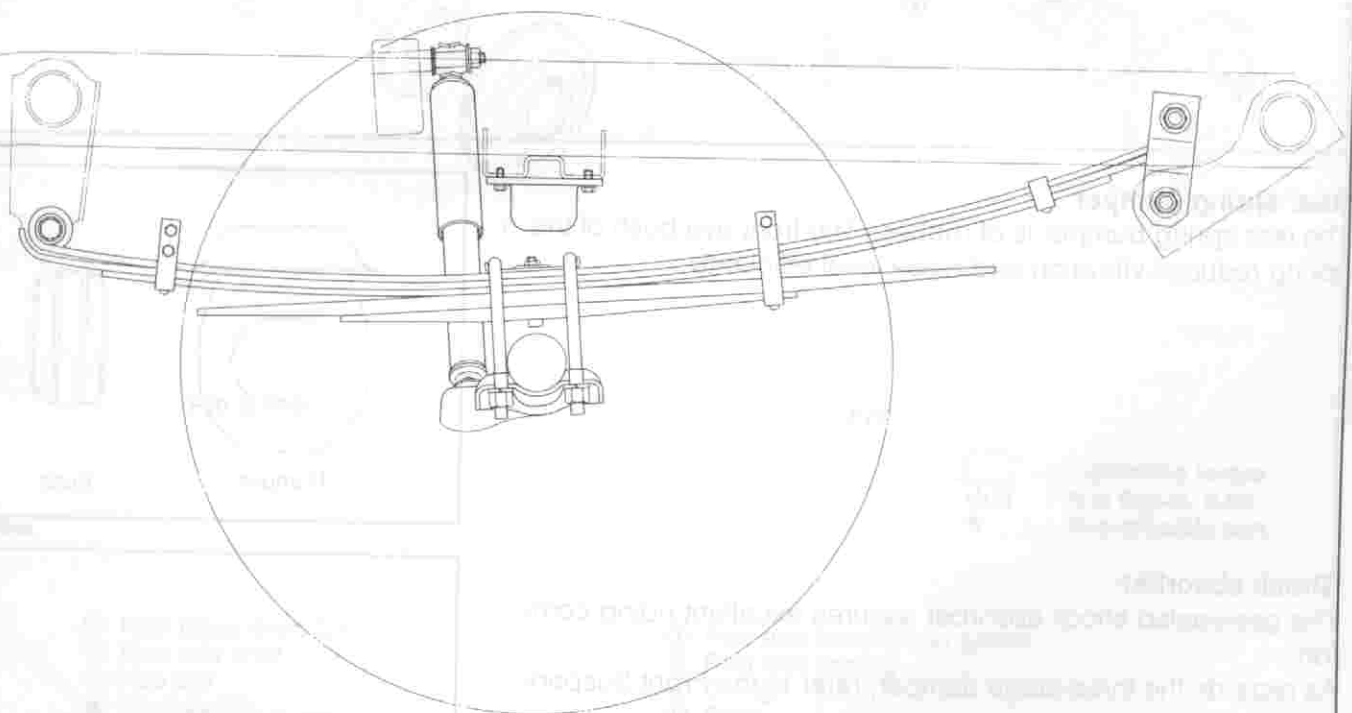
F77

REAR SUSPENSION

The rear suspension employs a rigid axle suspension.



F70 and F75

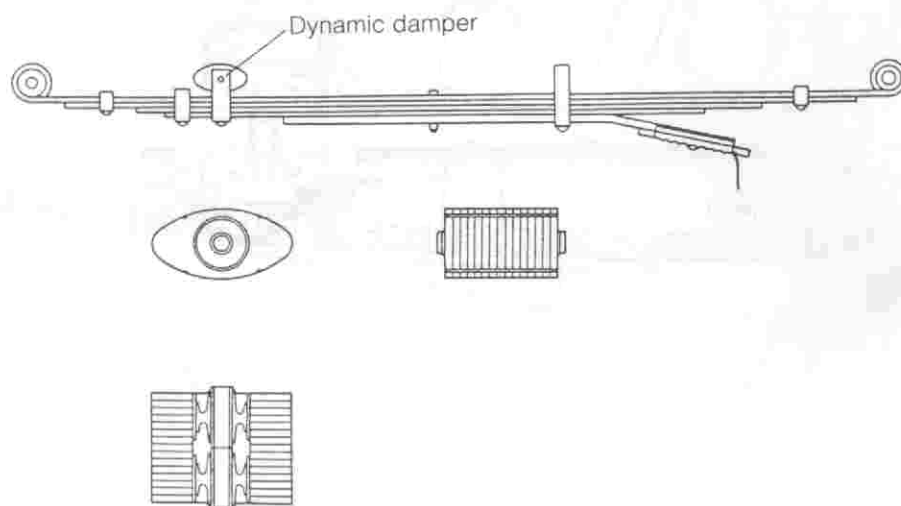


F77

REAR AXLE & SUSPENSION

REAR LEAF SPRING

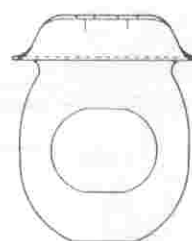
For improved quiet operation, a dynamic damper is provided for the soft suspension on F70 with DL52 as well as for the leaf spring on F70V and F75V.



WRE91-RS004

Rear spring bumper

The rear spring bumper is of rubber. The front eye bush of the spring reduces vibration and noise level efficiently.



Bumper



Bush

WRE91-RS005

Shock absorber

The gas-sealed shock absorber assures excellent riding comfort.

As regards the three-stage damper, refer to the Front Suspension section.



WRE91-RS006

Specifications

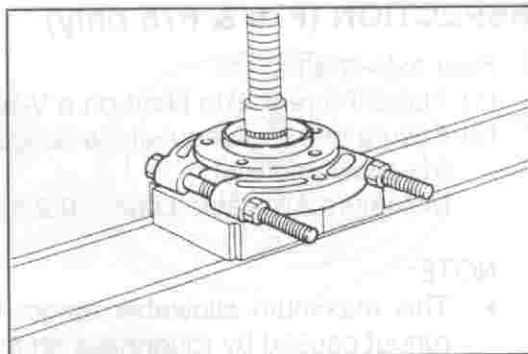
Damping force	
Rebound stroke/compression stroke [at a piston speed of 0.3 m/s]	125/20
kg	

REAR AXLE & SUSPENSION

- (3) Install the rear axle shaft on the oil deflector.
- (4) Press the rear axle shaft into the oil deflector, using a press.

NOTE:

- The press-fitting should be carried out while turning the rear axle shaft evenly. Furthermore, care must be exercised to ensure that the oil deflector will not tilt during the press-fitting operation.

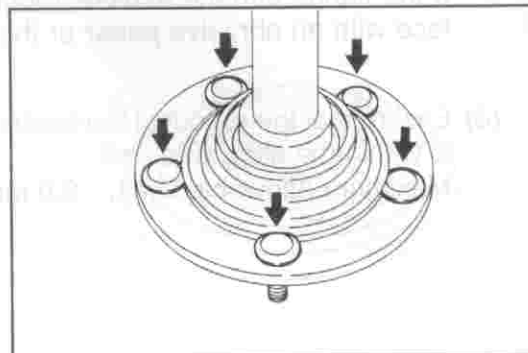


WRE91-RS028

2. Installation of hub bolts
Install the hub bolt on the rear axle shaft, aligning the cutout section of the hub bolt. Drive the hub bolt into the rear axle shaft, using a hammer or the like.

NOTE:

- Be very careful not to damage the oil deflector during the installation.
- Do not apply impacts beyond the required extent.

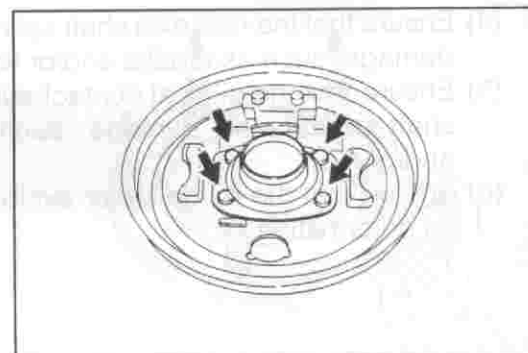


WRE91-RS029

3. Press the serration bolt to the backing plate.

NOTE:

- Be very careful not to damage the backing plate during the installation.

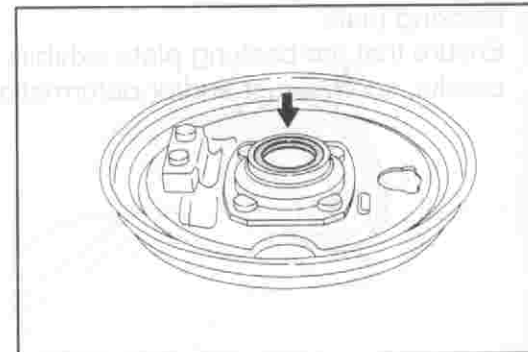


WRE91-RS030

4. Press a new oil seal evenly to the backing plate.

NOTE:

- Care must be exercised not to tilt the oil seal during the installation.



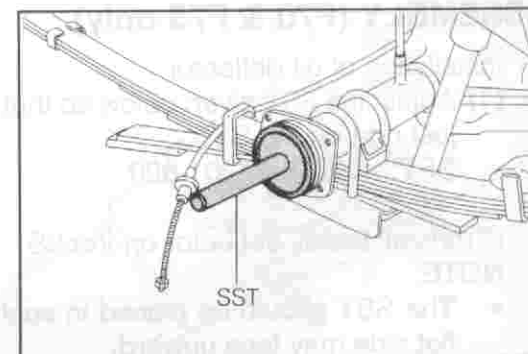
WRE91-RS031

5. Apply lithium-based MP grease to the lip section of the oil seal.

6. Press a new oil seal into the rear axle shaft, using the following SST.

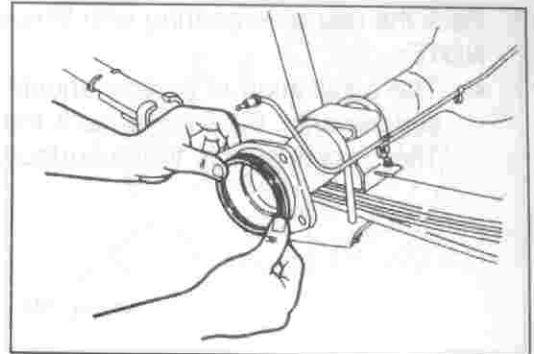
SST: 09608-30012-000

7. Apply lithium-based MP grease to the lip section of the oil seal.



WRE91-RS032

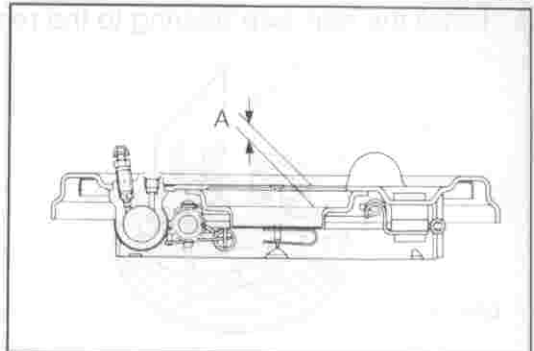
8. Install a new gasket to the rear axle shaft.



WRE91-RS033

9. Selection of shim

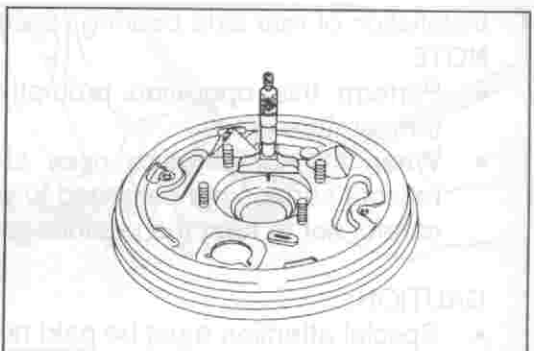
- (1) Measure the diameter A of the backing plate at four points which are diagonally opposite to each other.



WRE91-RS034

- (2) Calculate the mean value of the measured dimensions. Select a shim which corresponds to the calculated value, referring to the table below.

Selecting shim	Measured average value
0.25 mm	14.66 - 14.90 mm
0.50 mm	14.40 - 14.65 mm

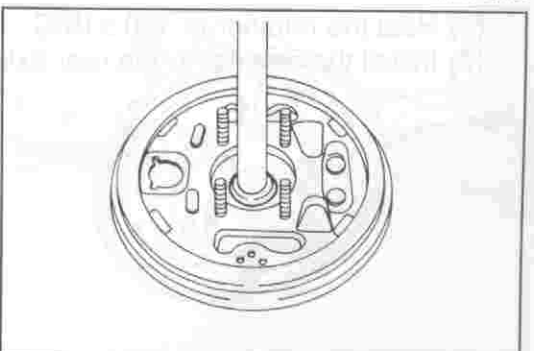


WRE91-RS035

10. Install the backing plate to the rear axle shaft.

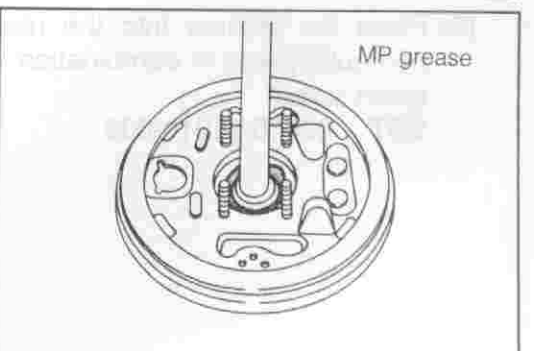
NOTE:

- Be very careful not to damage the oil seal during the installation.



WRE91-RS036

11. Pack the back surface of the oil seal with 5 grams of lithium-based MP grease.



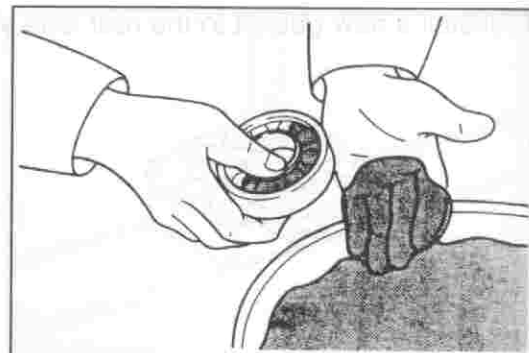
WRE91-RS037

REAR AXLE & SUSPENSION

12. Pack the rear axle bearing with lithium-based MP grease.

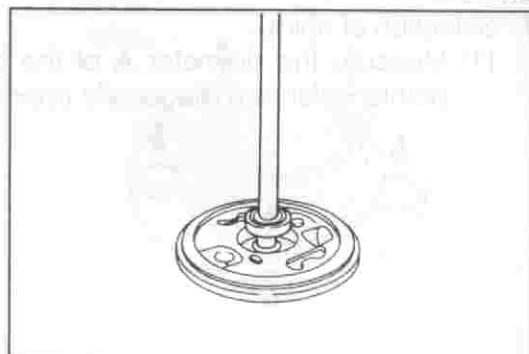
NOTE:

- The application of grease should not be limited to the surface only. Be sure to pack the bearing with grease. Then, apply grease to the surface, too.



WRE91-RS038

13. Install the rear axle bearing to the rear axle shaft.



WRE91-RS039

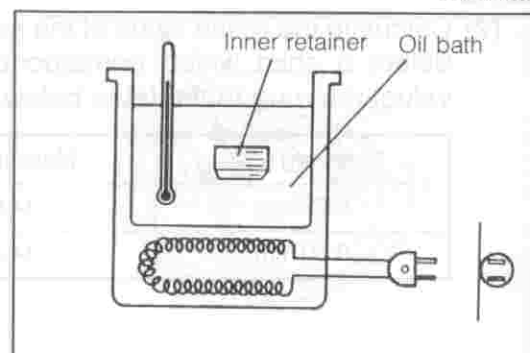
14. Installation of rear axle bearing retainer

NOTE:

- Perform this operation promptly before the retainer temperature drops.
- When the temperature rises above $150 \pm 15^\circ\text{C}$, the retainer surface will be turned to yellow. In this case, be careful not to heat the retainer any further.

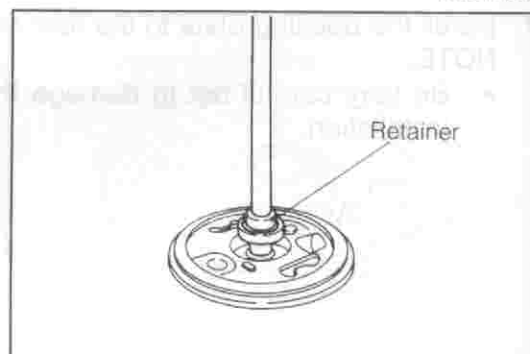
CAUTION:

- Special attention must be paid not to burn yourself.



WRE91-RS040

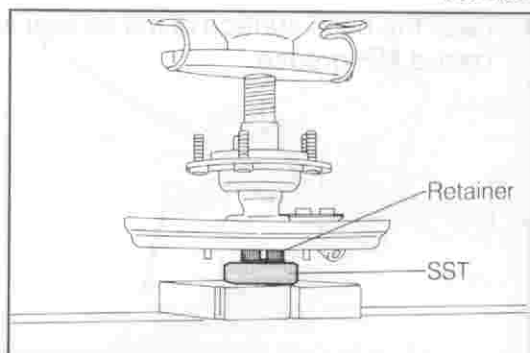
- (1) Heat the retainer to $150 \pm 15^\circ\text{C}$.
- (2) Install the retainer to the rear axle shaft.



WRE91-RS041

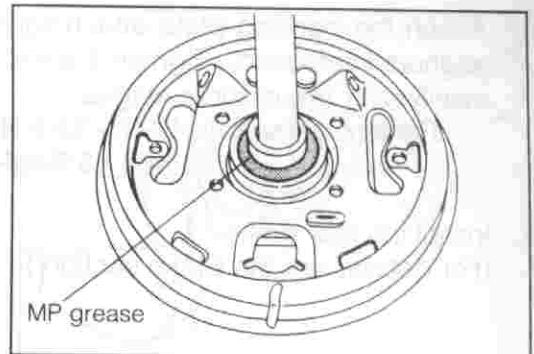
- (3) Press the retainer into the rear axle shaft, using a hydraulic press in combination with the following SST given below.

SST: 09515-21010-000



WRE91-RS042

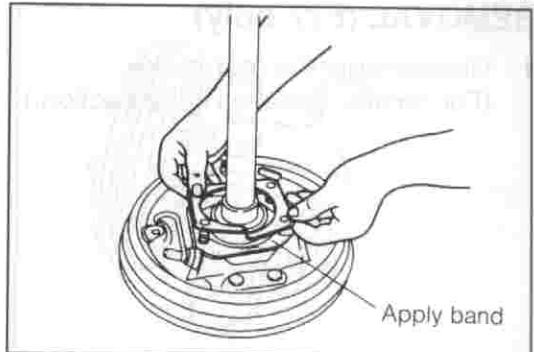
15. Apply 5 grams of lithium-based MP grease to the rear axle bearing.



WRE91-RS043

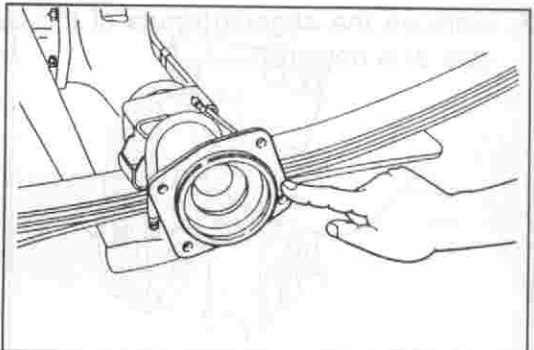
16. Apply a thin film of Three Bond® 1104 to the shim contact surface of the backing plate.

17. Install the selected shim (at the step 9) to the backing plate.



WRE91-RS044

18. Apply a thin film of Three Bond® 1104 to the backing plate installing surface of the axle housing.



WRE91-RS045

19. Insert the rear axle shaft into the rear axle housing.

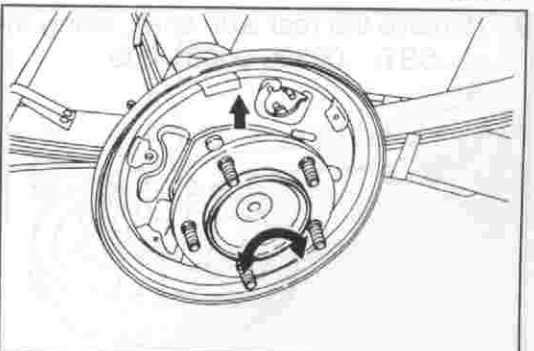
NOTE:

- Be careful not to damage the oil seal during the insertion.

20. Install the backing plate to the rear axle in such a way that the attaching bolt of the backing plate is aligned with the attaching hole of the rear axle housing and that the wheel cylinder installing hole of the backing plate comes at the upper side.

NOTE:

- (1) Turn the axle shaft so that the spline at the differential side may engage with the spline at the axle shaft side.
- (2) Do not apply impacts to the bearing beyond the required extent.



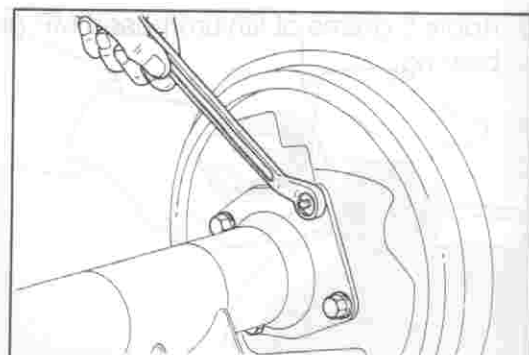
WRE91-RS046

REAR AXLE & SUSPENSION

21. Attach the backing plate attaching nuts with new spring washers interposed. Tighten them to the specified torque evenly over two or three stages.

Tightening Torque: 39.2 - 53.9 N·m
(4.0 - 5.5 kgf-m, 28.9 - 39.8 ft-lb)

22. Install the rear brake.
(For details, see the Brake section.)



WRE91-RS047

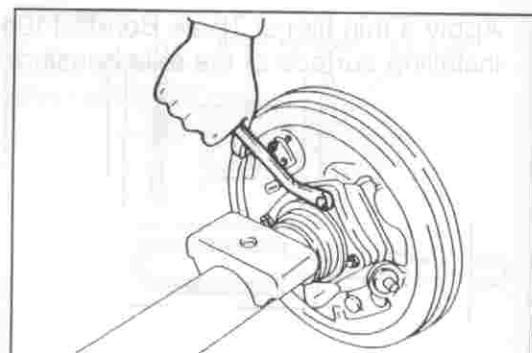
REMOVAL (F77 only)

1. Disassemble the rear brake.
(For details, see the Brake section.)



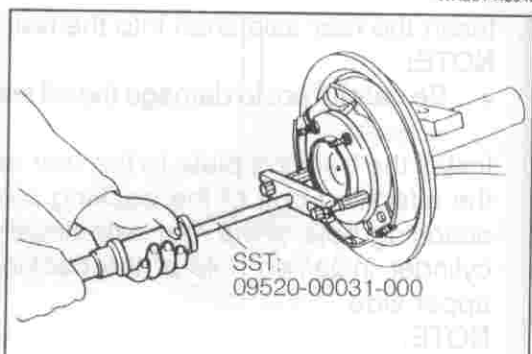
WRE91-RS048

2. Remove the attaching nuts of the backing plate from the rear axle housing.



WRE91-RS049

3. Remove the rear axle shaft, using the following SST:
SST: 09520-00031-000

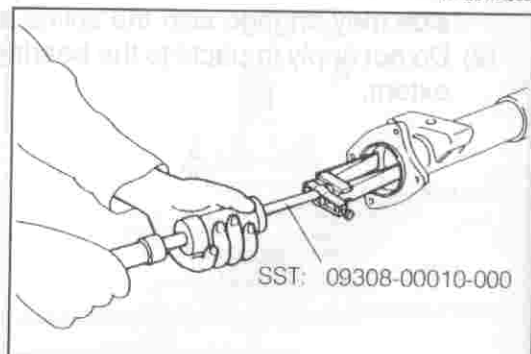


WRE91-RS050

4. Remove the oil seal, using the following SST:
SST: 09308-00010-000

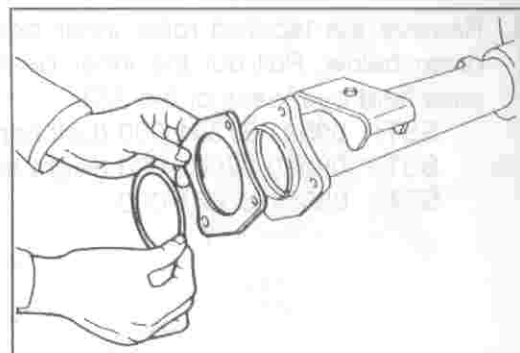
NOTE:

- Never reuse the oil seal.



WRE91-RS051

5. Remove the O-ring from the rear axle housing.
6. Remove the shim from the rear axle housing.



WRE91-RS052

DISASSEMBLY (F77 only)

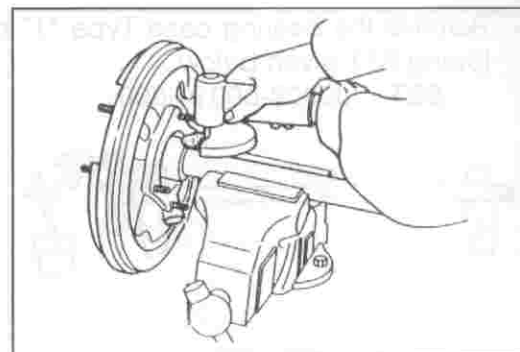
1. Grind off the retainer, using a hand grinder.

WARNING:

- Observe the operating instructions of the hand grinder manufacturer.
- Also, be sure to wear goggles during the grinding operation.

NOTE:

- Do not grind the rear axle shaft, bearing and/or bearing case.

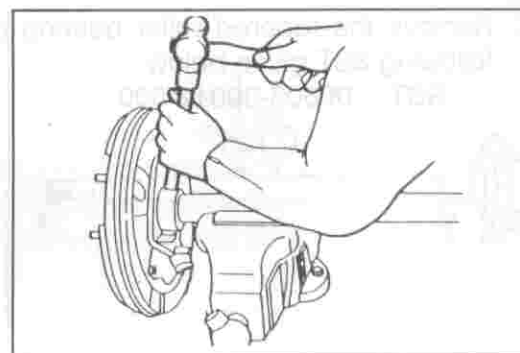


WRE91-RS053

2. Split the retainer with a chisel.

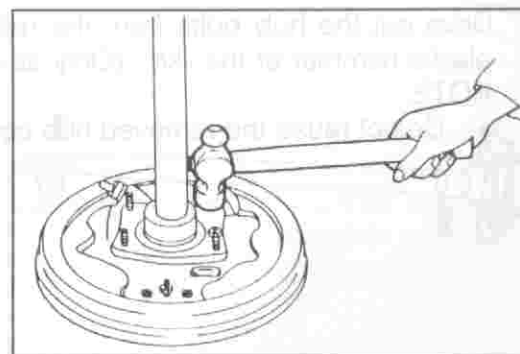
WARNING:

- Be sure to wear a pair of gloves and goggles during the operation.



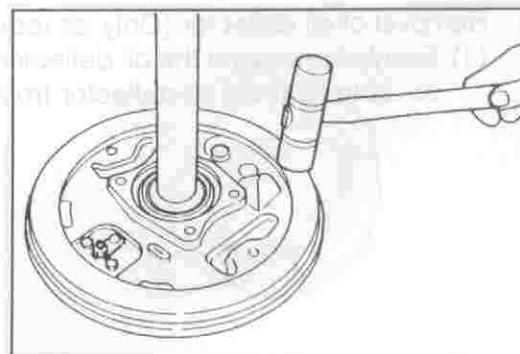
WRE91-RS054

3. Pull out the serration bolt. Temporarily screw in a serration nut onto the end of the serration bolt in order to drive it off from the backing plate and bearing case.



WRE91-RS055

4. Using a plastic hammer, lightly tap the backing plate and detach it from the bearing case.



WRE91-RS056

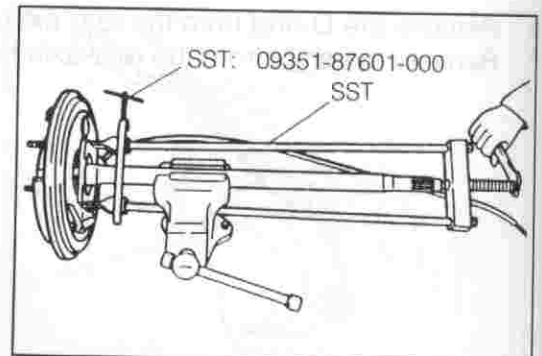
REAR AXLE & SUSPENSION

5. Remove the tapered roller inner bearing using the SSTs given below. Pull out the inner bearing with the bearing case held by means of the SST.

SST: 09521-87301-000 (Left hand side)

SST: 09520-87601-000 (Right and side)

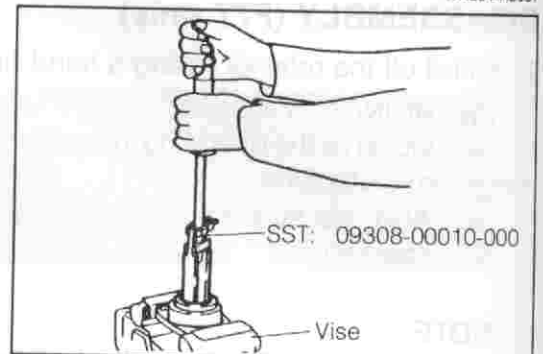
SST: 09351-87601-000



WRE91-RS057

6. Remove the bearing case Type "T" oil seal, using the following SST given below.

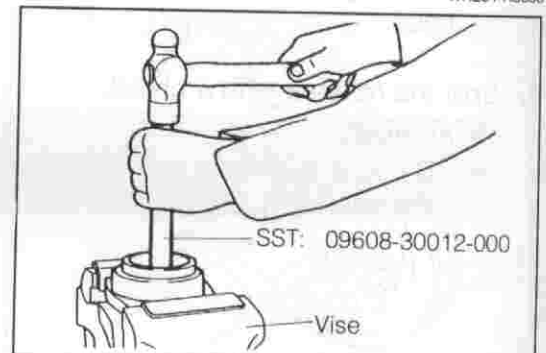
SST: 09308-00010-000



WRE91-RS058

7. Remove the tapered roller bearing outer race, using the following SST given below.

SST: 09608-30012-000

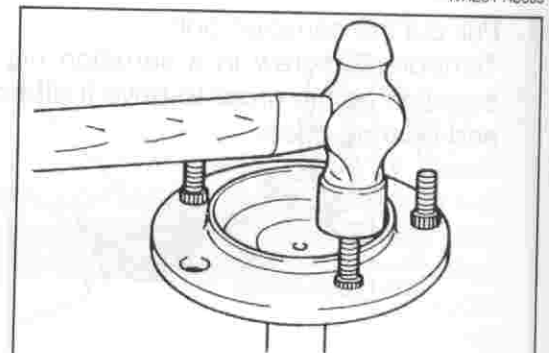


WRE91-RS059

8. Drive out the hub bolts from the rear axle shaft, using a plastic hammer or the like. (Only as required)

NOTE:

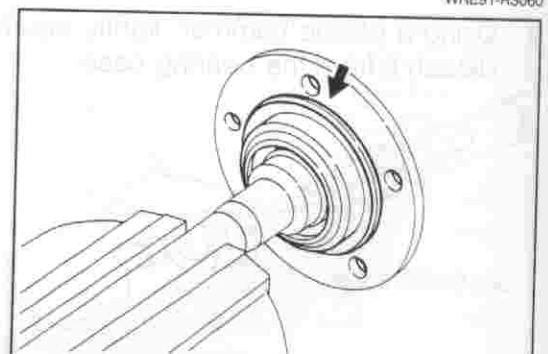
- Do not reuse the removed hub bolts.



WRE91-RS060

9. Removal of oil deflector (Only as required)

- (1) Evenly tap around the oil deflector by means of a chisel so as to float the oil deflector from the rear axle shaft.



WRE91-RS061

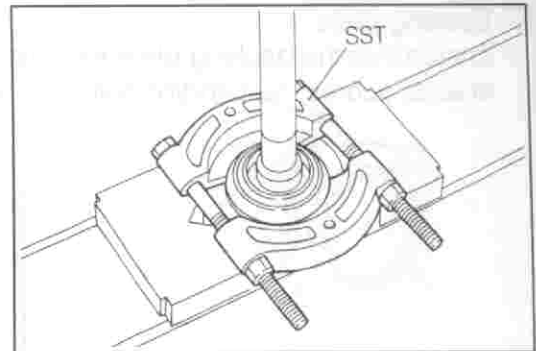
- (2) Install the following SST between the oil deflector and the rear axle shaft.

SST: 09950-87701-000

- (3) Remove the oil deflector from the rear axle shaft, using a press or the like.

NOTE:

- Care must be exercised not to drop the rear axle shaft.
- Do not reuse the oil deflector.



WRE91-RS062

INSPECTION (F77 only)

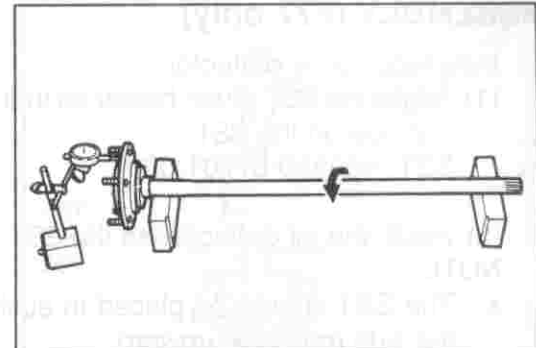
1. Rear axle shaft

- (1) Place the rear axle shaft on a V-block.
- (2) Ensure that the runout at the flange end surface is within the allowable limit.

Maximum Allowable Limit: 0.2 mm

NOTE:

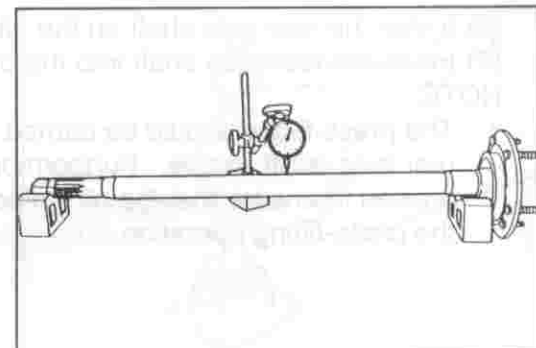
- This maximum allowable runout does not include the runout caused by roughness on the flange surface.
- If the flange surface exhibits roughness, finish the surface with an abrasive paper or the like.



WRE91-RS063

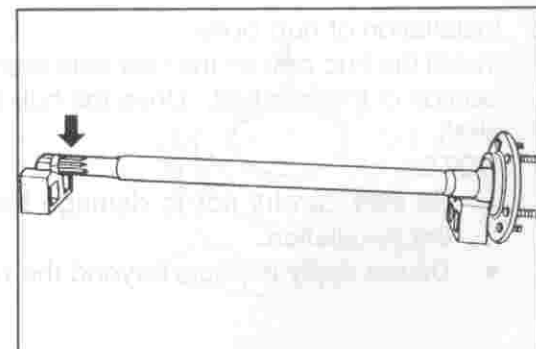
- (3) Ensure that the runout at the center unmachined section is within the allowable limit.

Maximum Allowable Limit: 2.0 mm



WRE91-RS064

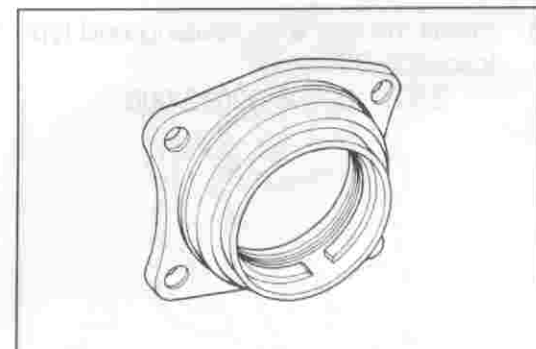
- (4) Ensure that the rear axle shaft spline section exhibits no damage, such as cracks and/or wear.
- (5) Ensure that the oil seal contact surface of the rear axle shaft exhibits no damage, such as cracks, scores and/or rust.
- (6) Ensure that the oil deflector exhibits no damage, such as deformation.



WRE91-RS065

2. Bearing case

Ensure that the bearing case exhibits no damage, such as cracks, scores, rust and/or deformation.

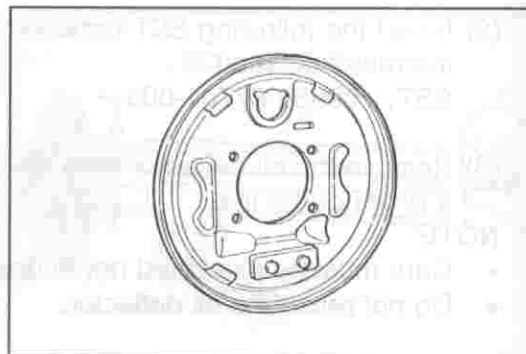


WRE91-RS066

REAR AXLE & SUSPENSION

3. Backing plate

Ensure that the backing plate exhibits no damage, such as cracks, scores, rust and/or deformation.



WRE91-RS067

ASSEMBLY (F77 only)

1. Installation of oil deflector

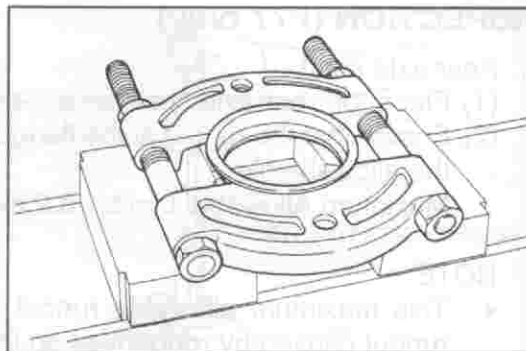
(1) Adjust the SST given below so that the oil deflector may just ride on the SST.

SST: 09950-87701-000

(2) Install the oil deflector on the SST.

NOTE:

- The SST should be placed in such a direction that the flat side may face upward.



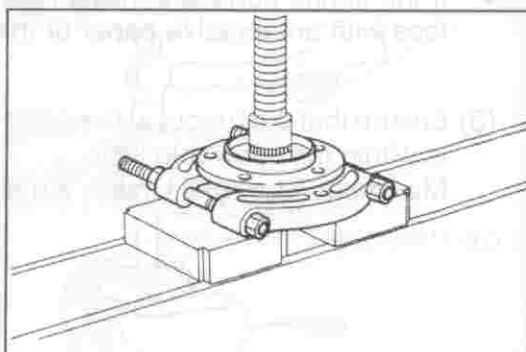
WRE91-RS068

(3) Install the rear axle shaft on the oil deflector.

(4) Press the rear axle shaft into the oil deflector.

NOTE:

- The press-fitting should be carried out while turning the rear axle shaft evenly. Furthermore, care must be exercised to ensure that the oil deflector will not tilt during the press-fitting operation.



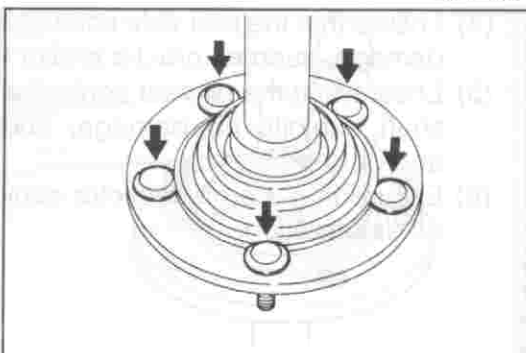
WRE91-RS069

2. Installation of hub bolts

Install the hub bolt on the rear axle shaft, aligning the cutout section of the hub bolt. Drive the hub bolt into the rear axle shaft.

NOTE:

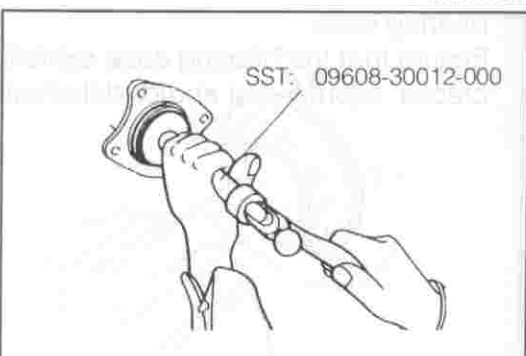
- Be very careful not to damage the oil deflector during the installation.
- Do not apply impacts beyond the required extent.



WRE91-RS070

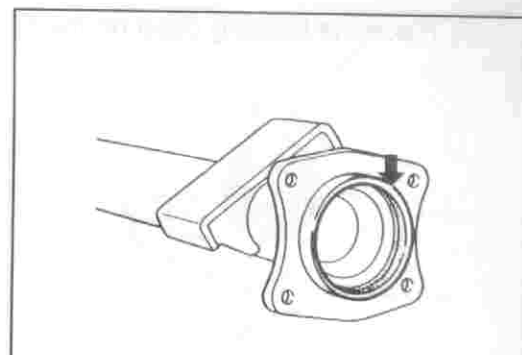
3. Install the rear axle housing end type "T" oil seal, using the following SST.

SST: 09608-30012-000



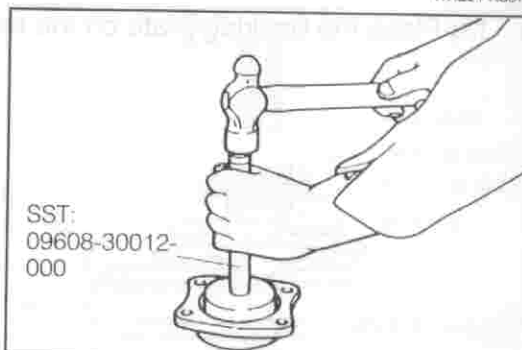
WRE91-RS071

4. Apply 15 grams of lithium-based MP grease to the oil seal outer surface.
5. Apply lithium-based MP grease to the lip section of the oil seal.



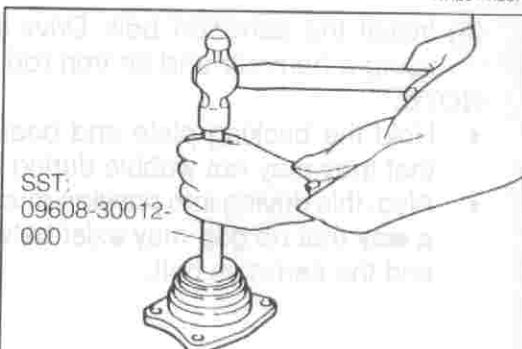
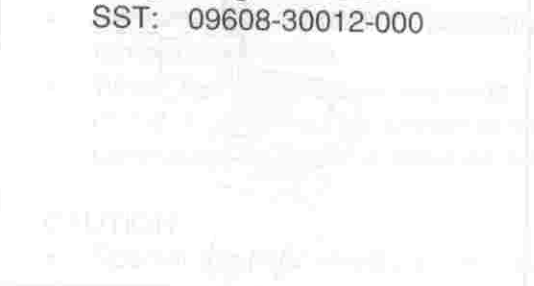
WRE91-RS072

6. Install the bearing outer race into the bearing case, using the following SST given below.
SST: 09608-30012-000



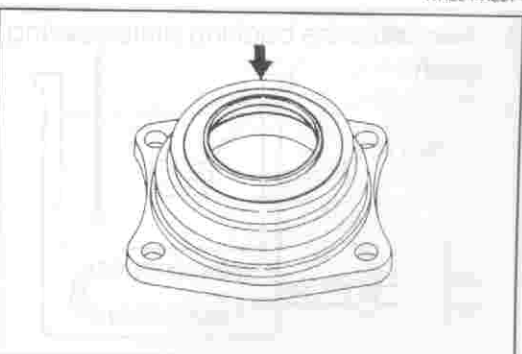
WRE91-RS073

7. Install the type "T" oil seal to the bearing case, using the following SST given below.
SST: 09608-30012-000



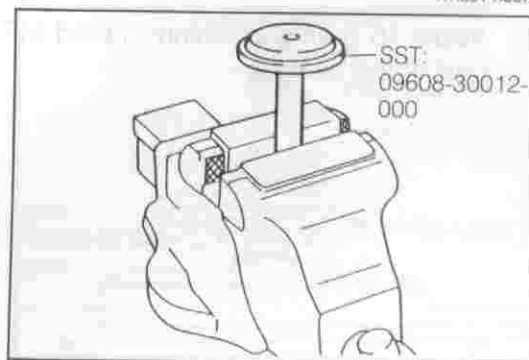
WRE91-RS074

8. Apply lithium-based MP grease to the lip section of the oil seal.



WRE91-RS075

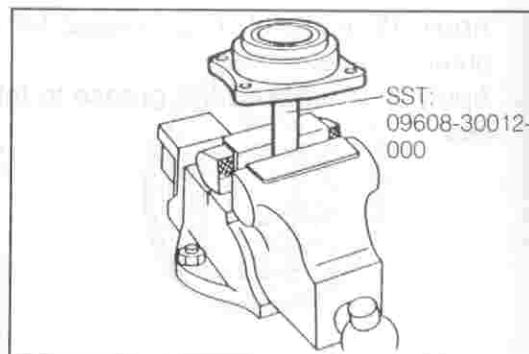
9. Assembly of backing plate and bearing case
(1) Clamp the SST in a vice, as indicated in the illustration.
SST: 09608-30012-000



WRE91-RS076

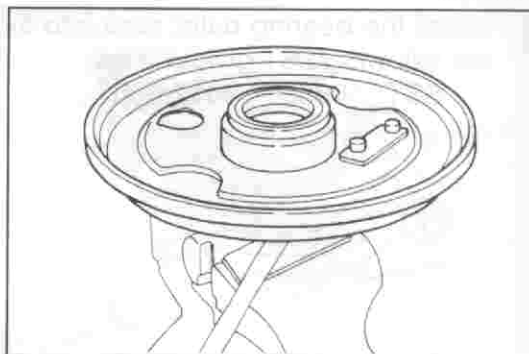
REAR AXLE & SUSPENSION

- (2) Place the bearing case on the SST.



WRE91-RS077

- (3) Place the backing plate on the bearing case.

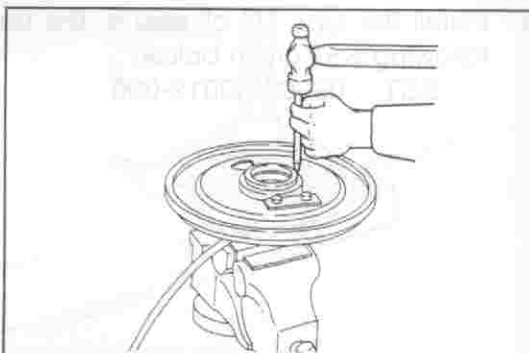


WRE91-RS078

- (4) Install the serration bolt. Drive the bolt into position, using a hammer and an iron rod.

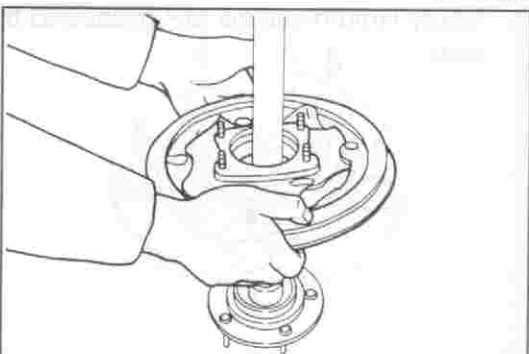
NOTE:

- Hold the backing plate and bearing case by hands so that they may not wobble during the installation.
- Also, this driving into position must be performed in such a way that no gap may exist between the backing plate and the serration bolt.



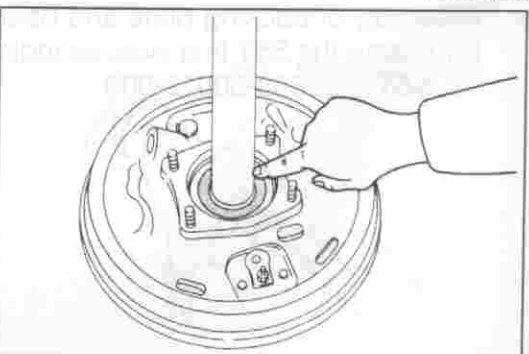
WRE91-RS079

10. Assemble the backing plate bearing case onto the rear axle shaft.



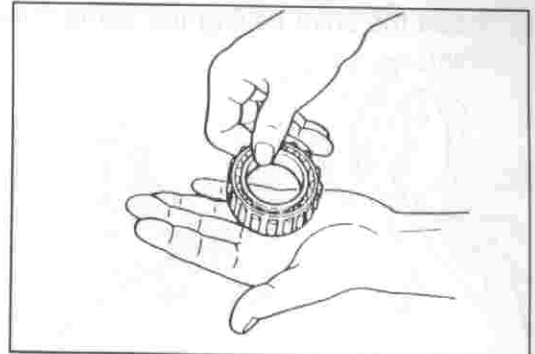
WRE91-RS080

11. Apply 15 grams of lithium-based MP grease to the upper part of the oil seal.



WRE91-RS081

12. Pack the bearing with lithium-based MP grease.

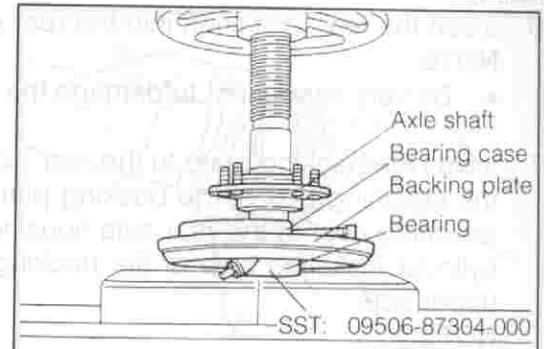


WRE91-RS082

13. Press-fit the bearing, using the following SST given below.
SST: 09506-87304-000

NOTE:

- Special caution must be exercised to ensure that no scratch is made to the Type "T" oil seal of the bearing case during the installation.



WRE91-RS083

14. Installation of rear axle bearing retainer

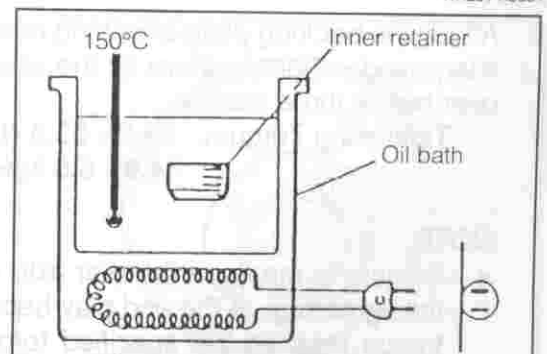
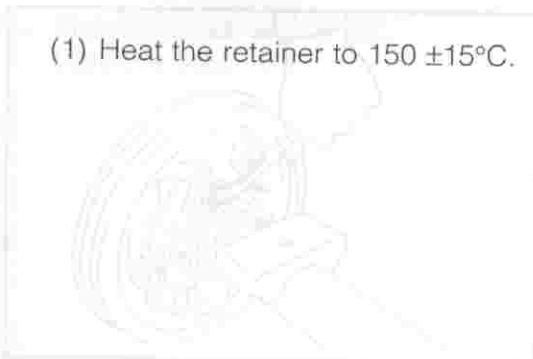
NOTE:

- Perform this operation promptly before the retainer temperature drops.
- When the temperature exceeds $150 \pm 15^\circ\text{C}$, the surface of the retainer will be turned to yellow. In this case, be careful not to heat the retainer any further.

CAUTION:

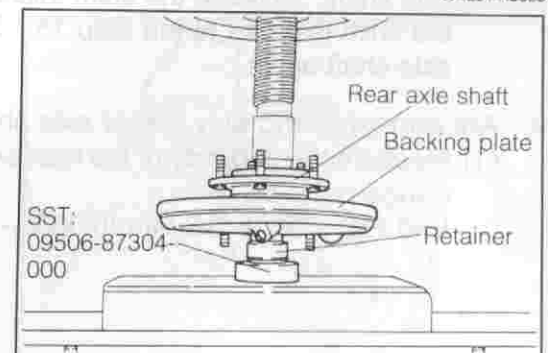
- Special attention must be paid not to burn yourself.

- (1) Heat the retainer to $150 \pm 15^\circ\text{C}$.



WRE91-RS085

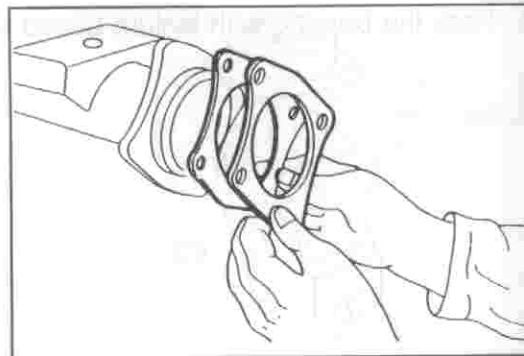
- (2) Install the retainer to the rear axle shaft, using a hydraulic press in combination with the following SST.
SST: 09506-87304-000



WRE91-RS086

REAR AXLE & SUSPENSION

15. Insert the shim having the same thickness as the original shim.



WRE91-RS087

16. Insert the rear axle shaft into the rear axle housing.

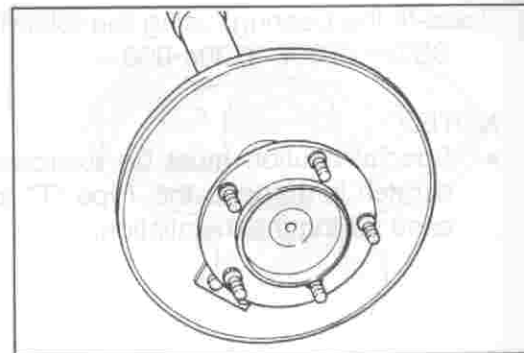
NOTE:

- Be very careful not to damage the oil seal.

17. Install the backing plate to the rear axle in such a way that the attaching bolt of the backing plate is aligned with the attaching hole of the rear axle housing and that the wheel cylinder installing hole of the backing plate comes at the upper side.

NOTE:

- (1) Turn the axle shaft so that the spline at the differential side may engage with the spline at the axle shaft side.
- (2) Do not apply impacts beyond the required extent to the bearing.



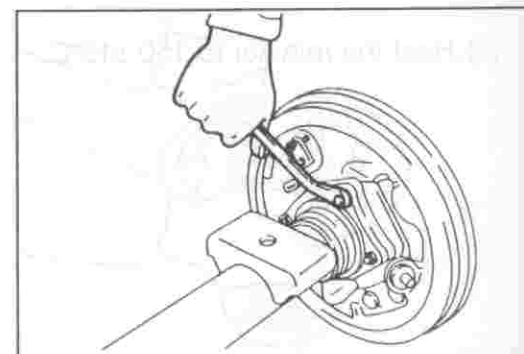
WRE91-RS088

18. Attach the backing plate attaching nuts with spring washers interposed. Tighten them to the specified torque evenly over two or three stages.

Tightening Torque: 39.2 - 53.9 N·m
(4.0 - 5.5 kgf-m, 28.9 - 39.8 ft-lb)

NOTE:

- Be sure to measure the rear axle shaft end play during the tightening. If the end play becomes zero before the torque reaches the specified torque, remove the rear axle shaft. Increase the shim thickness, compared with the shim installed at the step 15. Then, install the rear axle shaft again.

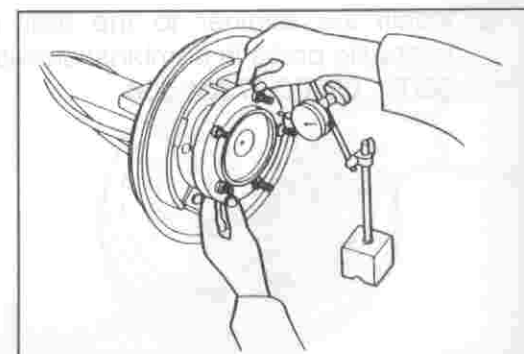


WRE91-RS089

19. Adjustment of end play of rear axle shaft

- (1) Measure the end play of the rear axle shaft, using a dial gauge.

End Play: 0.1 - 0.2 mm (0.0039 - 0.0079 inch)



WRE91-RS090

- (2) Adjust the end play to 0.1 - 0.2 mm (0.0039 - 0.0079 inch) by increasing or decreasing the shim thickness. Install the shim in such a way that the cut end may come at the bottom.

NOTE:

- (1) Carry out the adjustment in such a way that the difference in thickness between the right and left shims may not exceed 1.0 mm (0.0039 inch).
- (2) Special caution must be exercised to ensure that no scratch is made to the oil seal in the end housing while the rear axle shaft is being pulled out.

Kind of Shims:

1.0, 0.5, 0.2, 0.15, 0.1 mm
(0.039, 0.019, 0.008, 0.006, 0.004 inch)

19. Pull out the rear axle shaft again. Install the "O" ring in the rear axle housing end.

NOTE:

- (1) Be very careful not to scratch the "O" ring in the end housing.
- (2) Utmost attention must be paid so that the shim may not ride on the "O" ring or the "O" ring may not be installed in a tilted way in the spigot fitting section.
- (3) Special caution must be exercised to ensure that no scratch is made to the oil seal in the rear axle housing while the rear axle shaft is being pulled out.

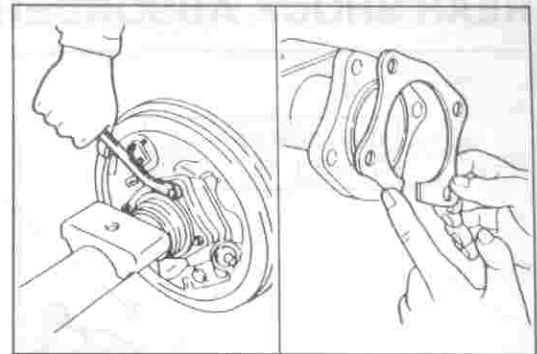
20. Apply the Three Bond® (1270) sealer to the entire periphery of the spigot fitting section of the rear axle end.

21. Install the rear axle shaft.
(See the step 16.)

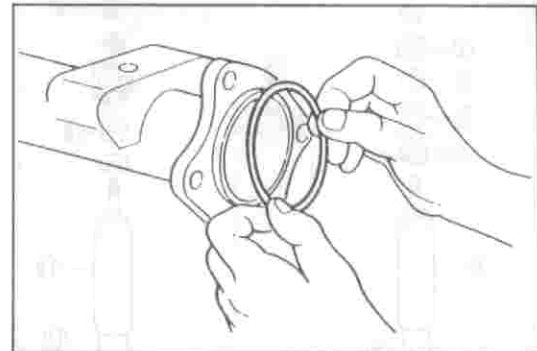
22. Secure the bearing case to the rear axle housing end by means of the four attaching bolts with new spring washers interposed.

Tightening Torque: 39.2 - 53.9 N·m
(4.0 - 5.5 kgf-m, 28.9 - 39.8 ft-lb)

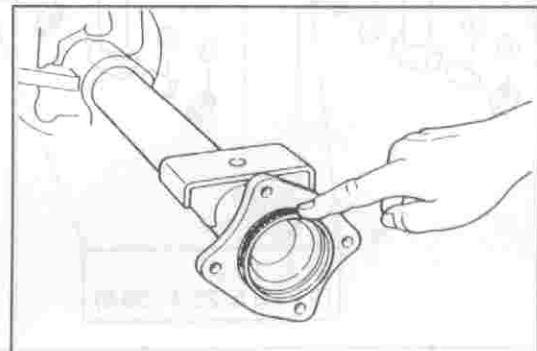
23. Install the rear brake.
(For details, see the Brake section.)



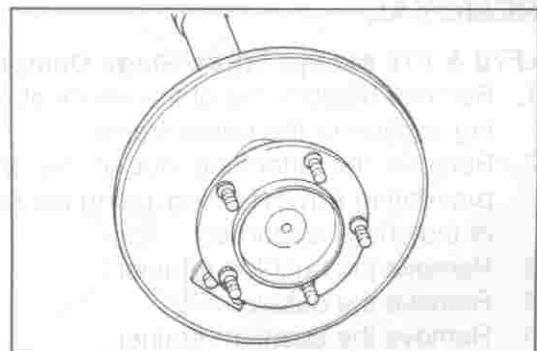
WRE91-RS091



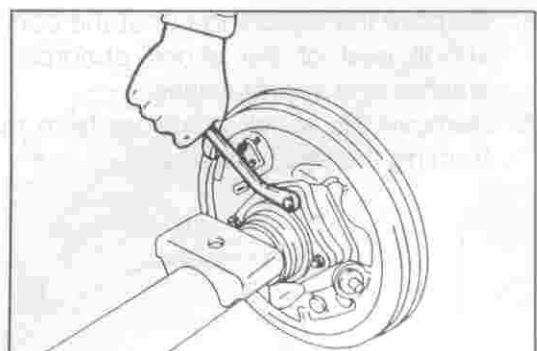
WRE91-RS092



WRE91-RS093

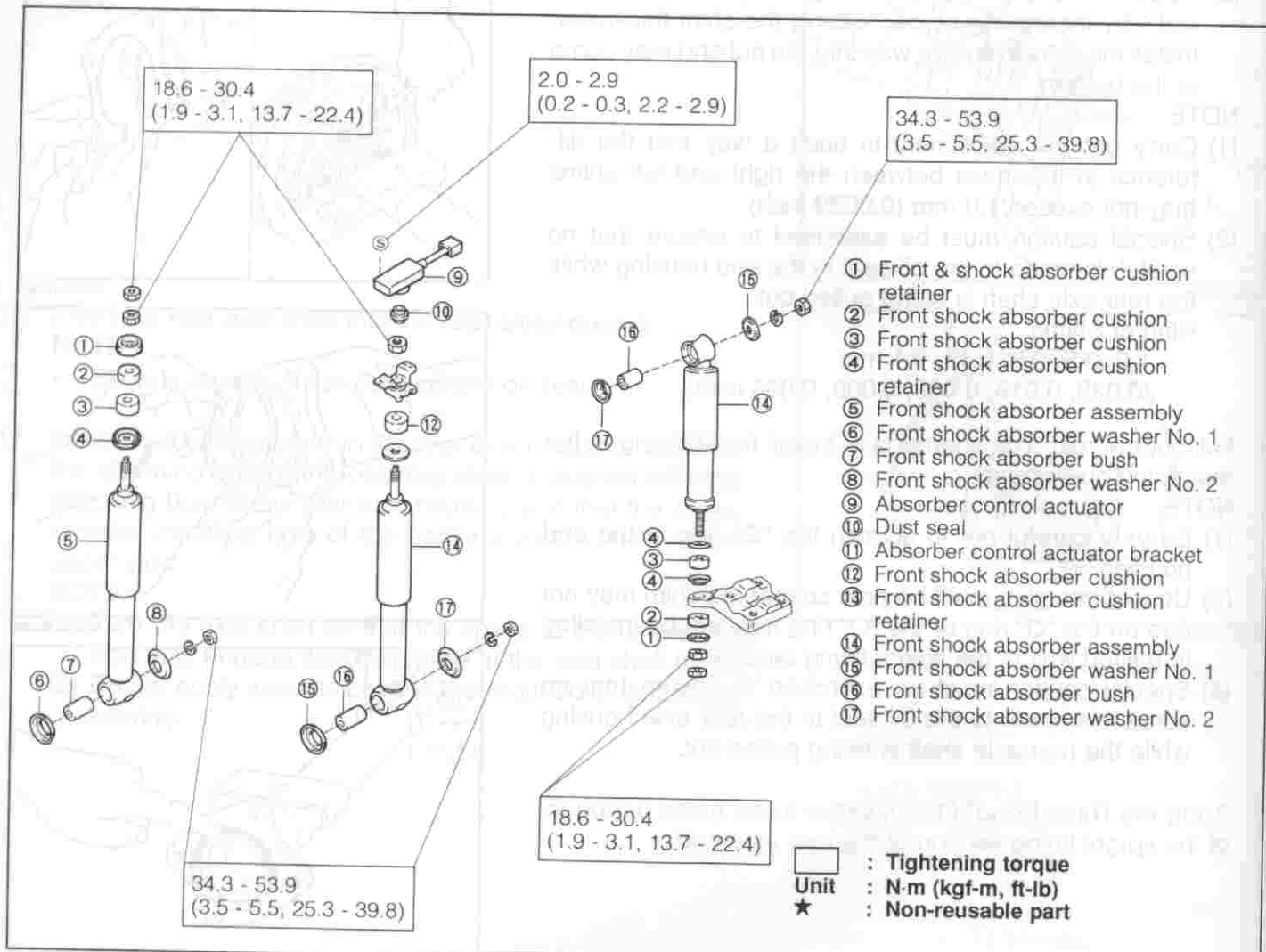


WRE91-RS094



WRE91-RS095

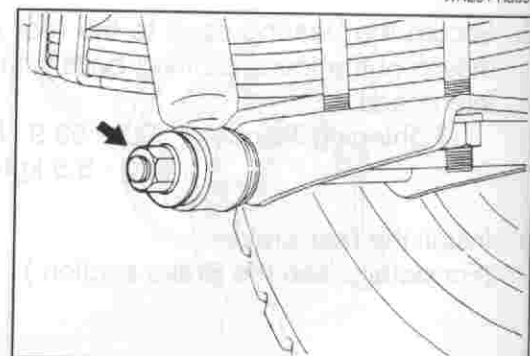
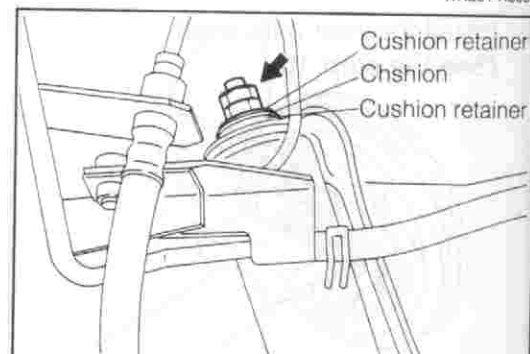
REAR SHOCK ABSORBER



REMOVAL

<F70 & F75 except Three-Stage Damper>

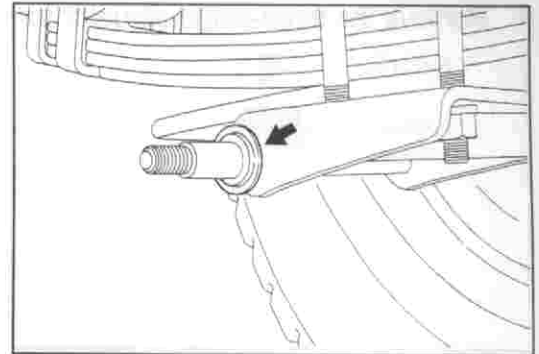
1. Remove the lock nut of the shock absorber at the connecting section of the upper frame.
2. Remove the attaching nut of the shock absorber, while preventing it from turning, using the section across two flats of the shock absorber.
3. Remove the cushion retainer.
4. Remove the cushion.
5. Remove the cushion retainer.
6. Remove the attaching nut at the connecting section of the U-bolt seat of the shock absorber. Remove the plate washer and spring washer.
7. Remove the shock absorber from the vehicle, while contracting the shock absorber.



8. Remove the plate washer from the U-bolt seat.

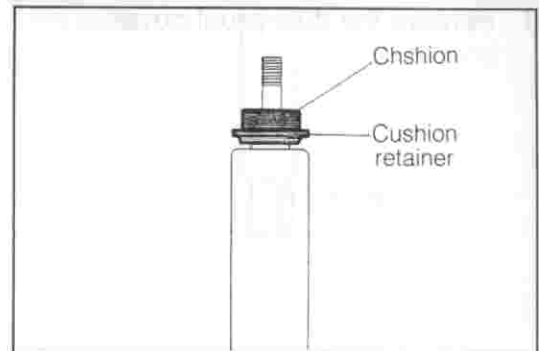
NOTE:

- It should be noted that this plate washer is different from the plate washer at the nut side.



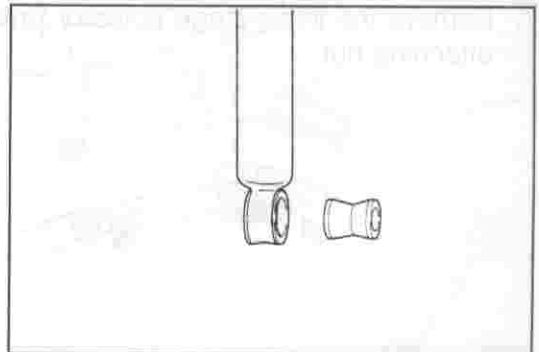
WRE91-RS099

9. Remove the cushion and cushion retainer from the removed shock absorber.



WRE91-RS100

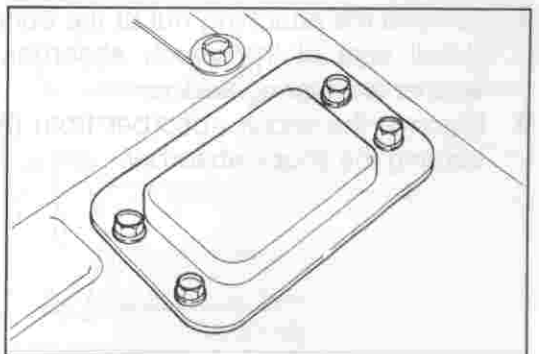
10. Remove the bush from the shock absorber.



WRE91-RS101

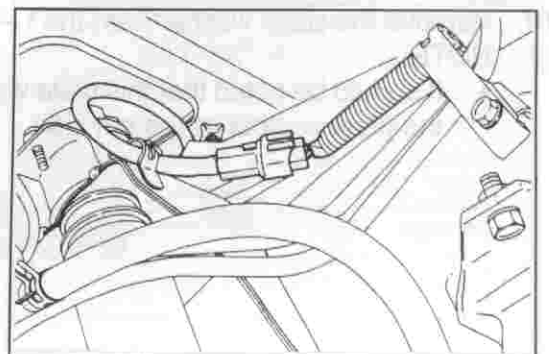
<F70 & F75 with Three-Stage Damper>

1. Raise the rear seat.
2. Remove the carpet.
3. Remove the service hole cover.



WRE91-RS102

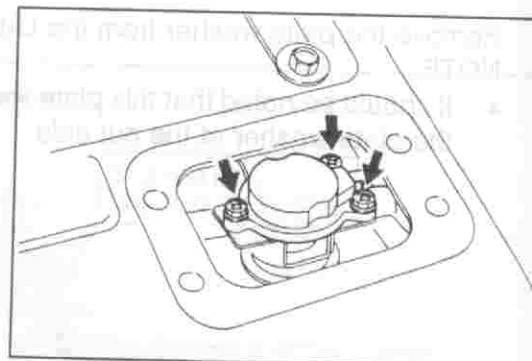
4. Disconnect the connector of the three-stage actuator and remove it from the clamp.



WRE91-RS103

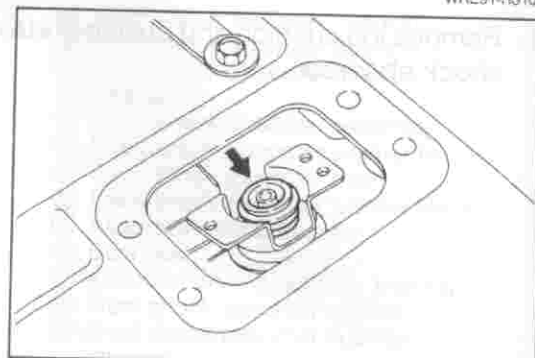
REAR AXLE & SUSPENSION

5. Remove the three-stage actuator from the bracket.



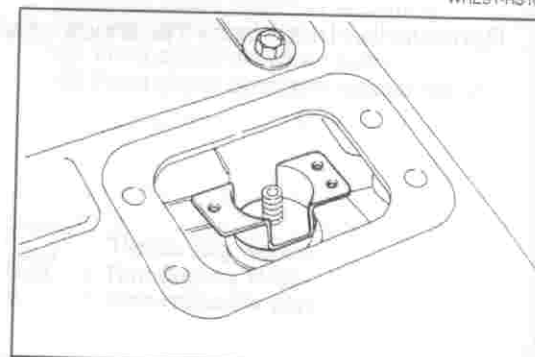
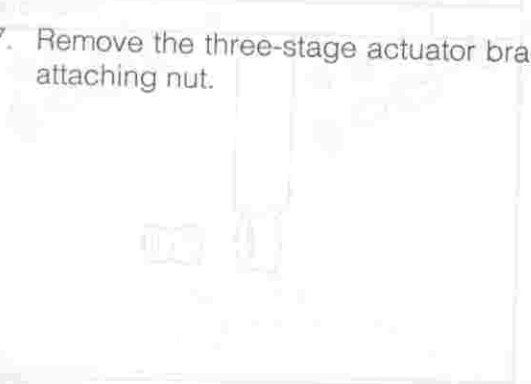
WRE91-RS104

6. Remove the dust-proof cover.



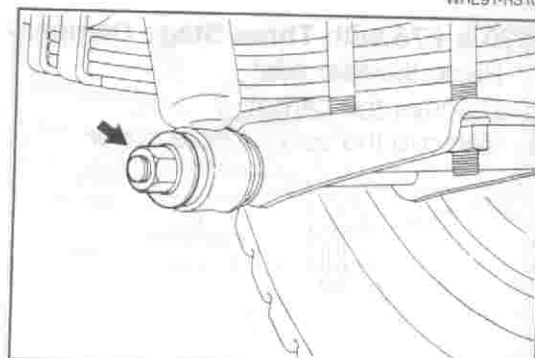
WRE91-RS105

7. Remove the three-stage actuator bracket by removing the attaching nut.



WRE91-RS106

8. Remove the attaching nut at the connecting section of the U-bolt seat of the shock absorber. Remove the plate washer and spring washer.
9. Remove the shock absorber from the vehicle, while contracting the shock absorber.

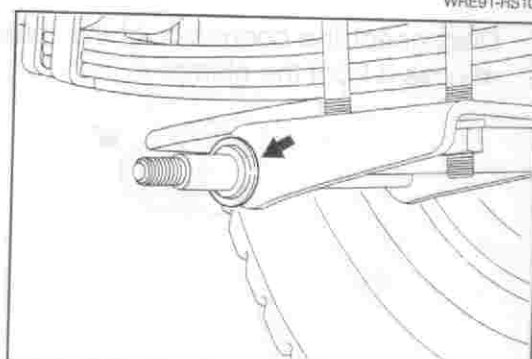


WRE91-RS107

10. Remove the plate washer from the U-bolt seat.

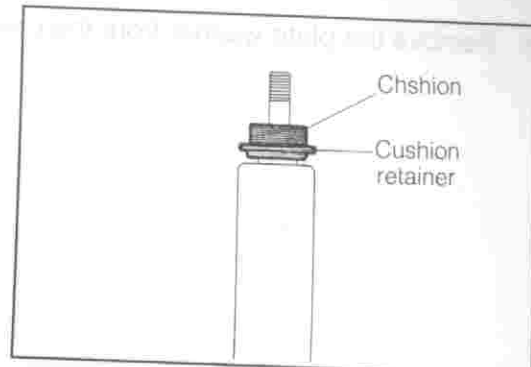
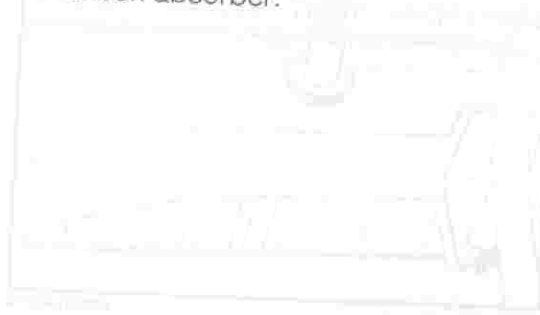
NOTE:

- It should be noted that this plate washer is different from the plate washer at the nut side.



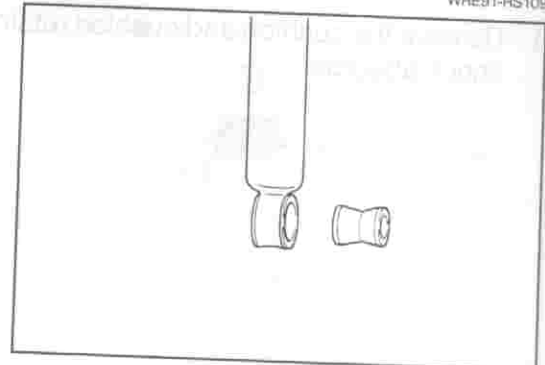
WRE91-RS108

11. Remove the cushion and cushion retainer from the removed shock absorber.



WRE91-RS109

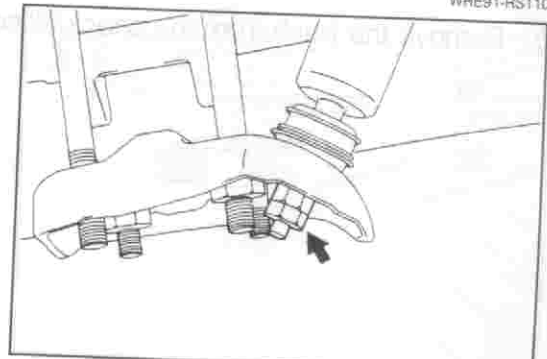
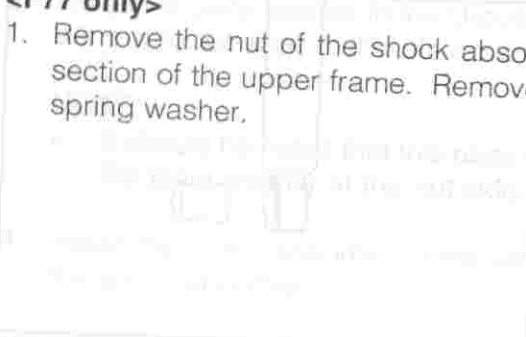
12. Remove the bush from the shock absorber.



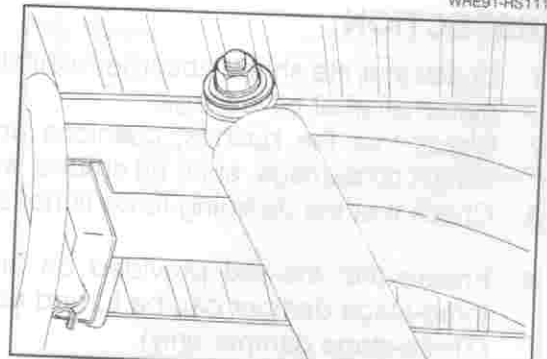
WRE91-RS110

<F77 only>

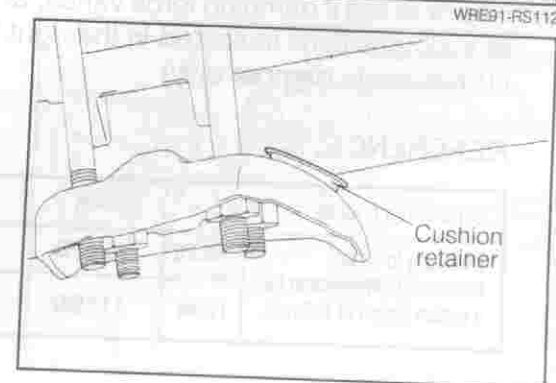
1. Remove the nut of the shock absorber at the connecting section of the upper frame. Remove the plate washer and spring washer.
2. Remove the lock nut at the shock absorber connection section of the spring seat.
3. Remove the attaching nut of the shock absorber, while preventing it from turning, using the section across two flats of the shock absorber.
4. Remove the cushion retainer.
5. Remove the cushion.
6. Remove the shock absorber from the vehicle, while contracting the shock absorber.
7. Remove the cushion retainer from the shock absorber installing section at the spring seat side.



WRE91-RS111



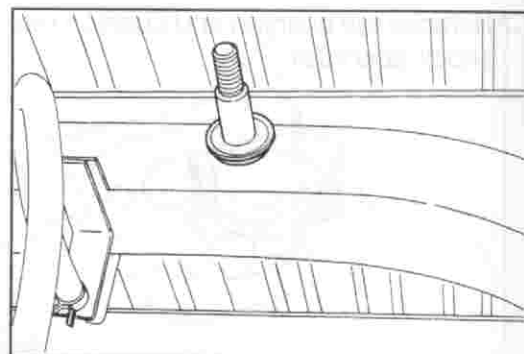
WRE91-RS112



WRE91-RS113

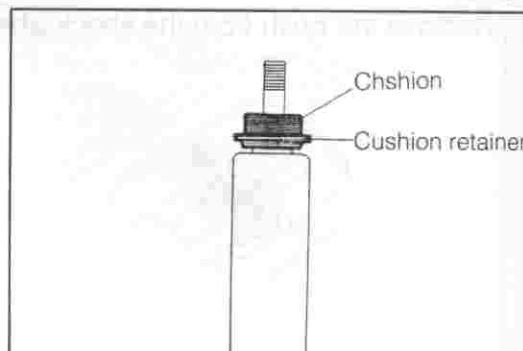
REAR AXLE & SUSPENSION

8. Remove the plate washer from the chassis.



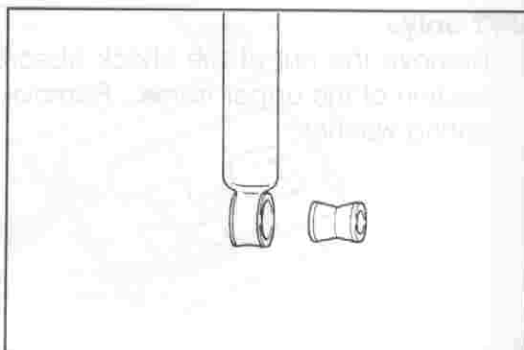
WRE91-RS114

9. Remove the cushion and cushion retainer from the removed shock absorber.



WRE91-RS115

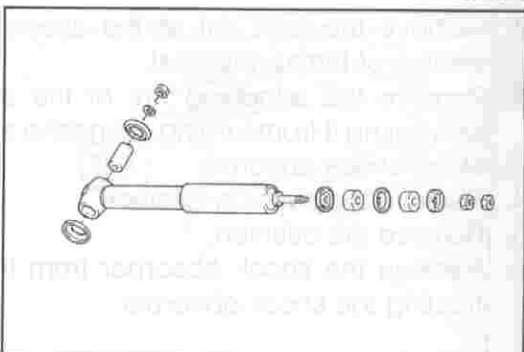
10. Remove the bush from the shock absorber.



WRE91-RS116

INSPECTION

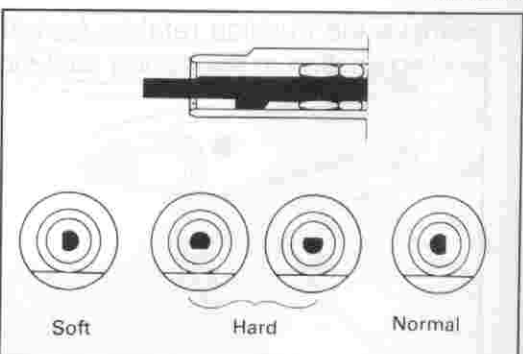
1. Check that the shock absorber exhibits no defect, such as deformation or oil leakage.
2. Check that the bushes, cushions and cushion retainers exhibit no damage, such as cracks, wear and deformation.
3. Check that the damping force is not abnormal.
4. Ensure that the rod provided on the upper side of the three-stage damper can be turned easily with pliers. (Three-stage damper only)
5. Check to see if damping force varies, when the rod is turned to such positions indicated in the right figure. (Three-stage damper only)



WRE91-RS117

REFERENCE:

Selecting mode		Soft	Normal	Hard
Damping force kg Rebound/Compression [at a piston speed of 0.3m/s]	Front	118/28	140/41	182/55
	Rear	117/30	135/40	180/47

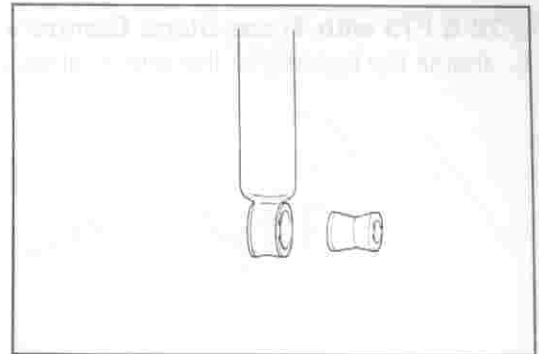


WRE91-RS118

INSTALLATION

<F70 & F75 except Three-Stage Damper>

1. Install the bushes to the shock absorber.

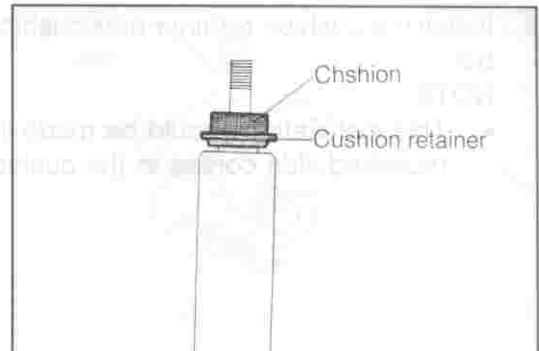


WRE91-RS119

2. Install the cushion retainer and cushion to the shock absorber.

NOTE:

- This installation should be made in such a way that the recessed side comes to the cushion side.

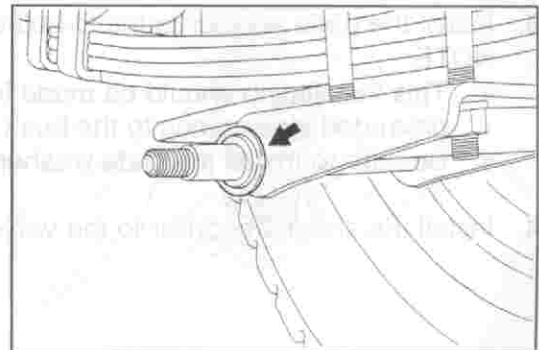


WRE91-RS120

3. Install the plate washer to the U-bolt seat in such a way that the protruded side of the plate washer comes to the bush side.

NOTE:

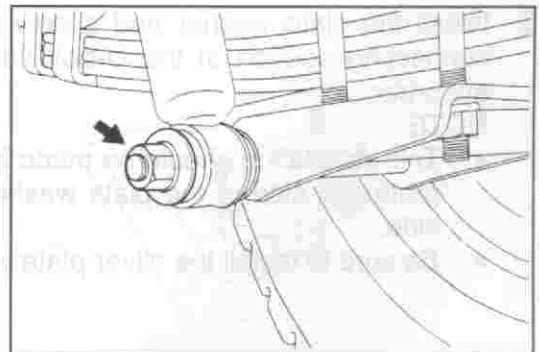
- It should be noted that this plate washer is different from the plate washer at the nut side.



WRE91-RS121

5. Assemble the plate washer to the connecting section at the U-bolt seat side in such a way that the protruded side of the plate washer comes to the bush side.
6. Install and tighten the nut to the specified torque with a new spring washer interposed.

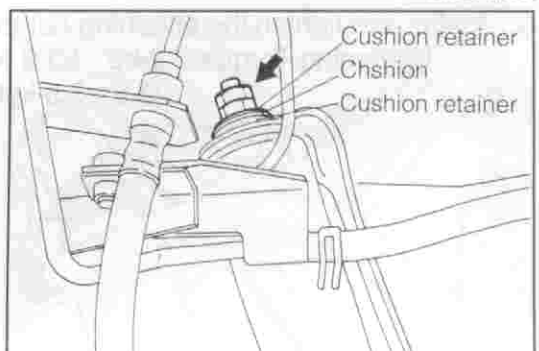
Tightening Torque: 34.3 - 53.9 N·m
(3.5 - 5.5 kgf-m, 25.3 - 39.8 ft-lb)



WRE91-RS122

7. Install the cushion and cushion retainer to the shock absorber.
8. Tighten the attaching nut of the shock absorber to the specified torque, while preventing it from turning at the section across two flats of the shock absorber.

Tightening Torque: 18.6 - 30.4 N·m
(1.9 - 3.1 kgf-m, 13.7 - 22.4 ft-lb)



WRE91-RS123

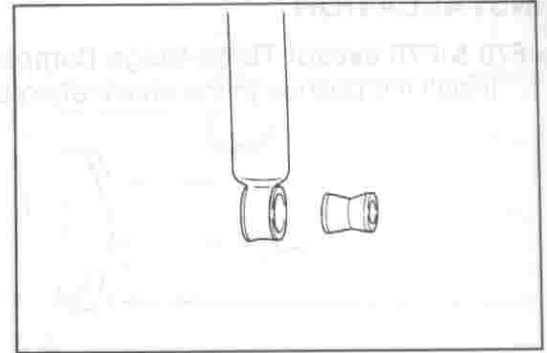
9. Tighten the lock nut to the specified torque.

Tightening Torque: 318.6 - 30.4 N·m
(1.9 - 3.1 kgf-m, 13.7 - 22.4 ft-lb)

REAR AXLE & SUSPENSION

<F70 & F75 with Three-Stage Damper>

1. Install the bushes to the shock absorber.

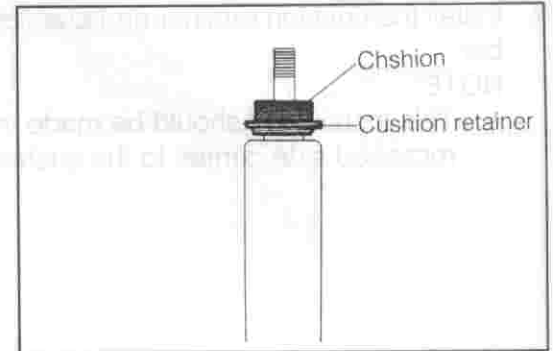


WRE91-RS124

2. Install the cushion retainer and cushion to the shock absorber.

NOTE:

- This installation should be made in such a way that the recessed side comes to the cushion side.

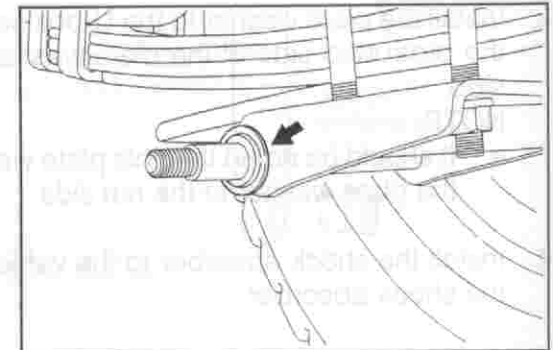


WRE91-RS125

3. Install the plate washer to the U-bolt seat.

NOTE:

- This installation should be made in such a way that the protruded side comes to the bush side.
- Be sure to install the plate washer with a yellowish tint.

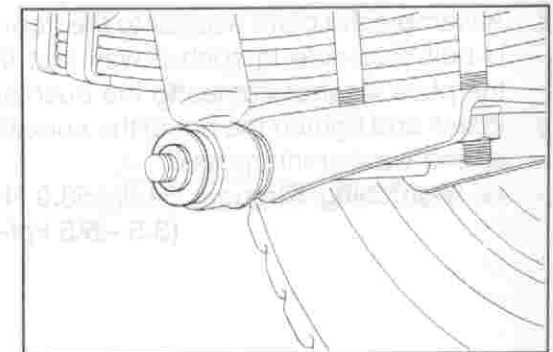


WRE91-RS126

5. Install the plate washer and a new spring washer to the connecting section at the U-bolt seat side of the shock absorber.

NOTE:

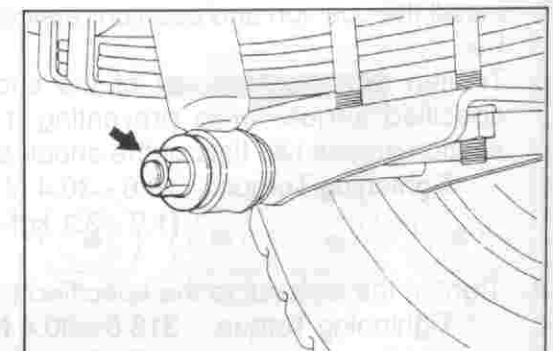
- This installation should be made in such a way that the protruded side of the plate washer comes to the bush side.
- Be sure to install the silver plate washer.



WRE91-RS127

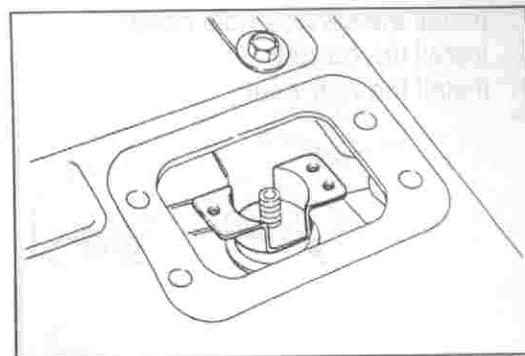
6. Install and tighten the attaching nut to the specified torque.

Tightening Torque: 34.3 - 53.9 N·m
(3.5 - 5.5 kgf-m, 25.3 - 39.8 ft-lb)



WRE91-RS128

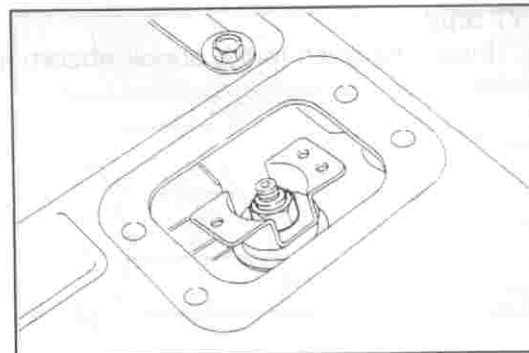
7. Install the three-stage actuator bracket, while aligning the cutout section of the shock absorber with the cutout section of the three-stage actuator bracket.



WRE91-RS129

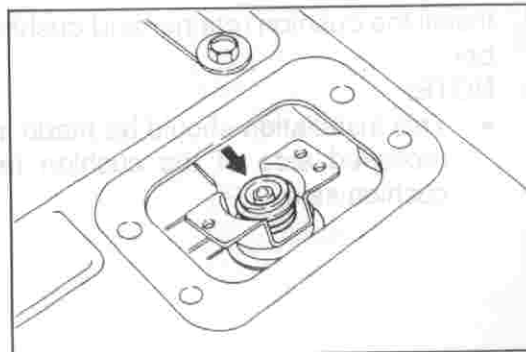
8. Install the attaching nut of the three-stage actuator bracket and tighten the nut to the specified torque.

Tightening Torque: 18.6 - 30.4 N·m
(1.9 - 3.1 kgf-m, 13.7 - 22.4 ft-lb)



WRE91-RS130

9. Install the dust-proof cover.



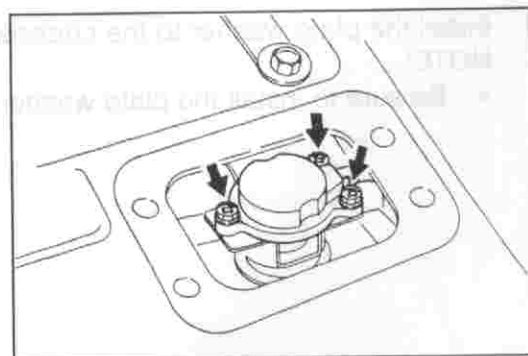
WRE91-RS131

10. Install the three-stage actuator to the bracket.

Tightening Torque: 2.0 - 2.9 N·m
(0.2 - 0.3 kgf-m, 2.2 - 2.9 ft-lb)

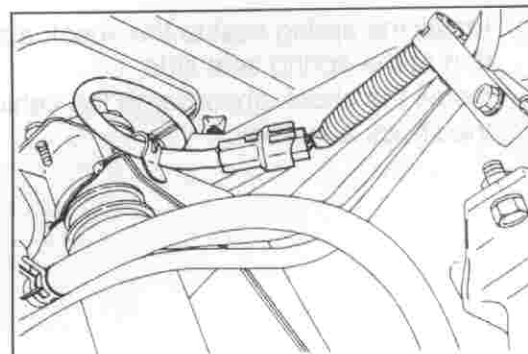
NOTE:

- Be sure to align the cutout section of the actuator rotor with the cutout section of the three-stage damper rod during the assembly.



WRE91-RS132

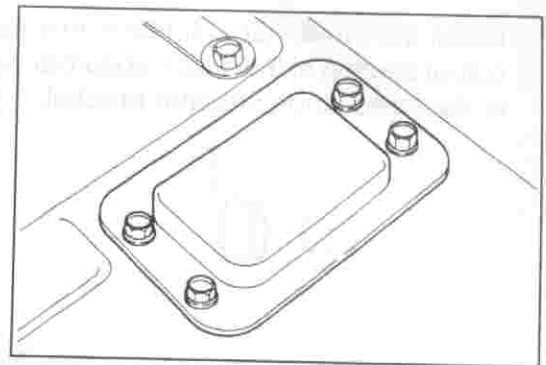
11. Connect the connector of the three-stage actuator and attach it to the clamp.



WRE91-RS133

REAR AXLE & SUSPENSION

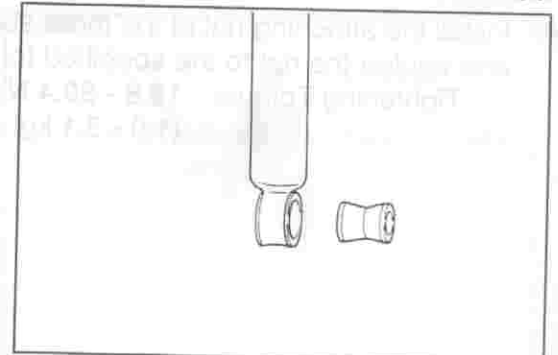
12. Install the service hole cover.
13. Install the carpet.
14. Install the rear seat.



WRE91-RS134

F77 only

1. Install the bush to the shock absorber.

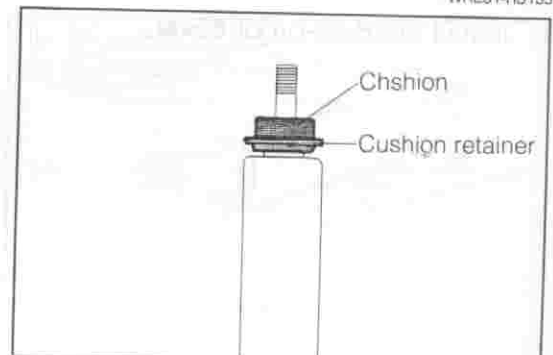


WRE91-RS135

2. Install the cushion retainer and cushion to the shock absorber.

NOTE:

- This installation should be made in such a way that the recessed side of the cushion retainer comes to the cushion side.

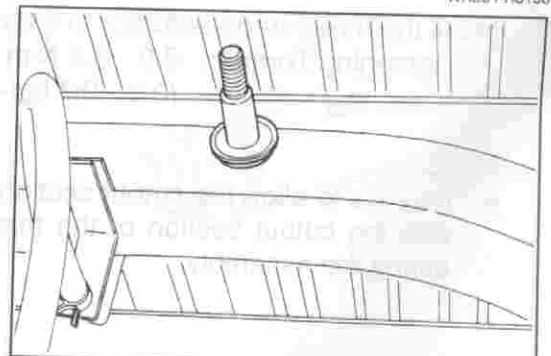


WRE91-RS136

3. Install the plate washer to the chassis side.

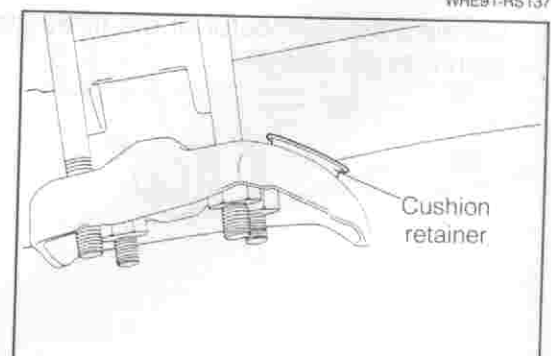
NOTE:

- Be sure to install the plate washer with a yellowish tint.



WRE91-RS137

4. Install the spring seat to the shock absorber installing section at the spring seat side.
5. Install the shock absorber to the vehicle, while contracting the shock absorber.



WRE91-RS138

REAR AXLE & SUSPENSION

6. Install the cushion.
7. Install the cushion retainer.

NOTE:

- This installation should be made in such a way that the recessed side comes to the cushion side.

8. Tighten the attaching nut to the specified torque, while preventing it from turning at the section across two flats of the shock absorber.

Tightening Torque: 18.6 - 30.4 N·m
(1.9 - 3.1 kgf-m, 13.7 - 22.4 ft-lb)

9. Install and tighten the lock nut to the specified torque.

Tightening Torque: 18.6 - 30.4 N·m
(1.9 - 3.1 kgf-m, 13.7 - 22.4 ft-lb)

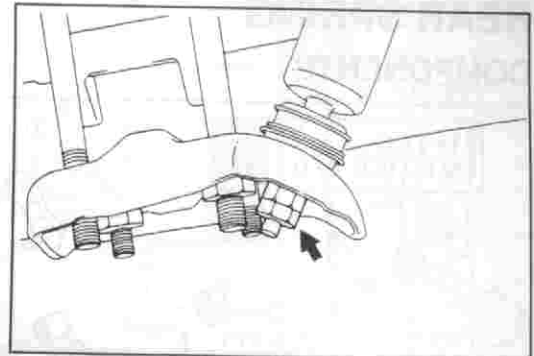
10. Install the plate washer and a new spring washer to the shock absorber installing section of the upper frame.

NOTE:

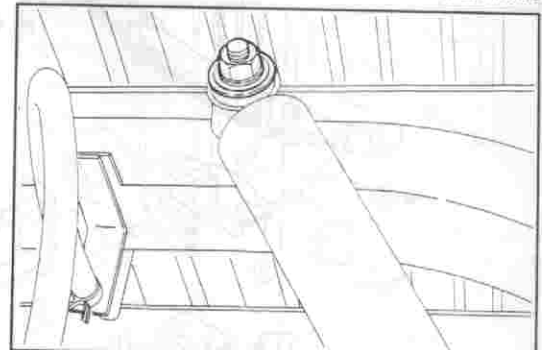
- This installation should be made in such a way that the protruded side of the plate washer comes to the bush side.
- Be sure to install the silver plate washer.

11. Install and tighten the attaching nut to the specified torque.

Tightening Torque: 34.3 - 53.9 N·m
(3.5 - 5.5 kgf-m, 25.3 - 39.8 ft-lb)



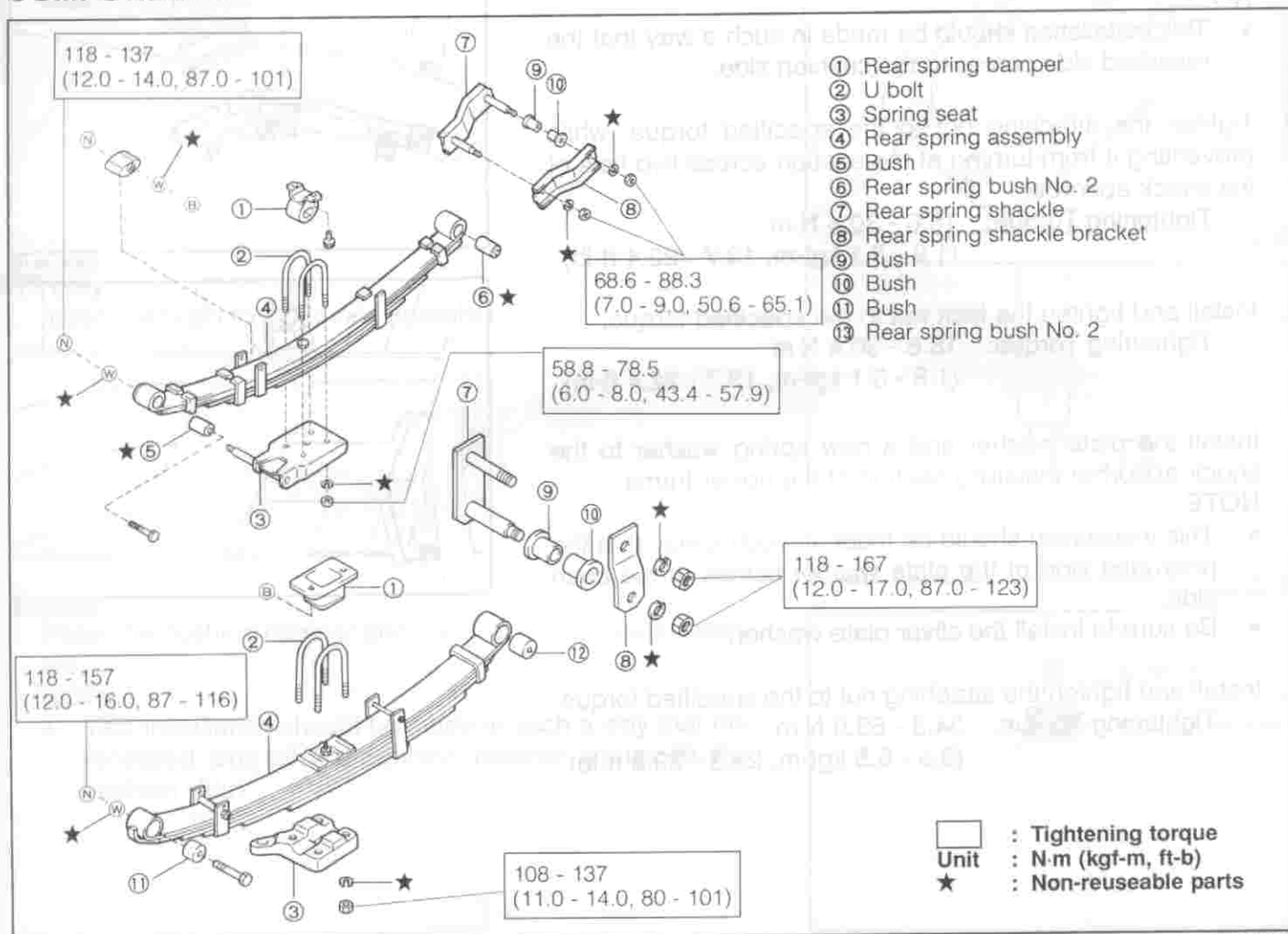
WRE91-RS139



WRE91-RS140

REAR AXLE & SUSPENSION

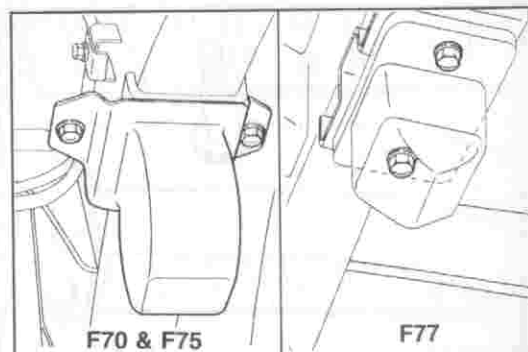
REAR SPRING COMPONENTS



WRE91-RS141

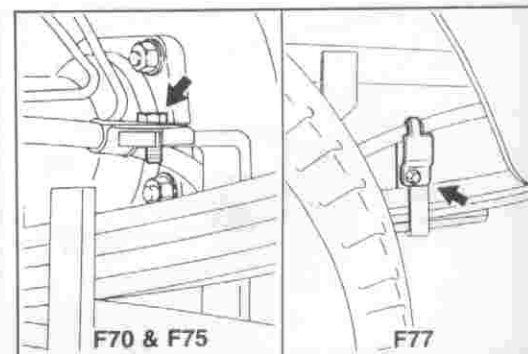
REMOVAL

1. Remove the shock absorber.
(See page RS-24.)
2. Remove the rear spring bumper.



WRE91-RS142

3. Remove the parking brake cable clamp.

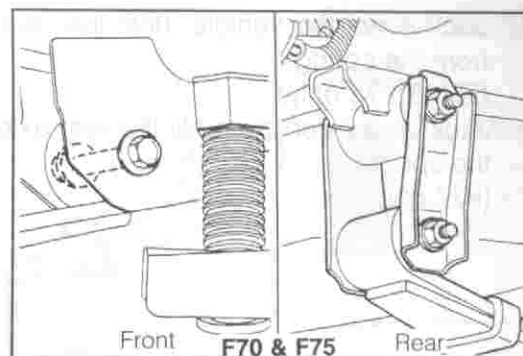


WRE91-RS143

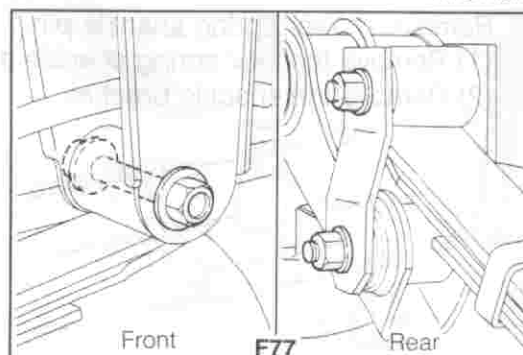
- Loosen the leaf spring attaching nuts.

NOTE:

- This operation should be performed without jacking up the vehicle.

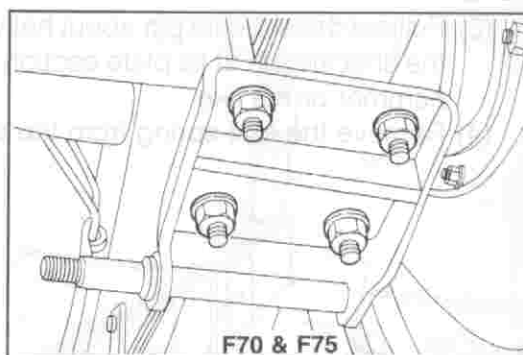


WRE91-RS144



WRE91-RS145

- Jack up the vehicle and remove the U-bolt attaching nuts. (F70 & F75 only)



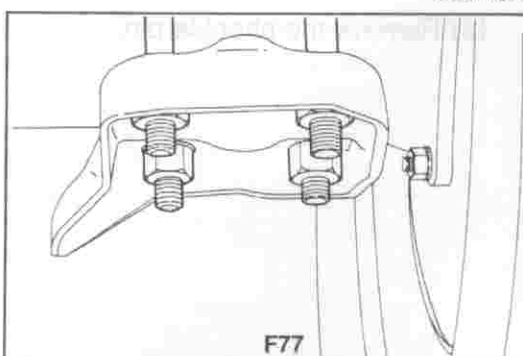
WRE91-RS146

- Jack up the vehicle once. Then, jack down the vehicle, until the tires come in contact with the ground and the spring no longer supports the load of the rear axle shaft. (F77 only)

- Remove the U-bolt attaching nuts. (F77 only)

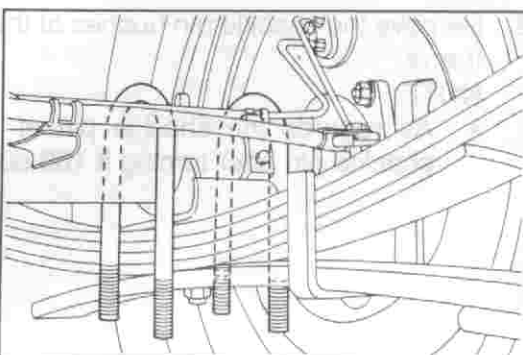
WARNING:

- When loosening the nuts, make sure that the U-bolt supports no load.



WRE91-RS147

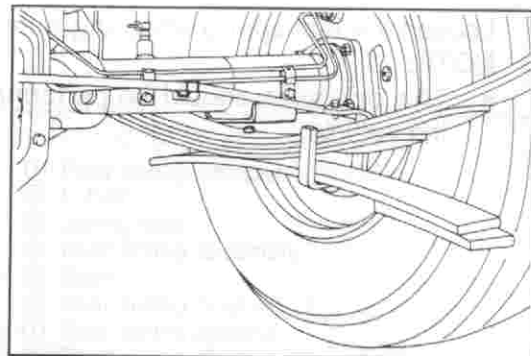
- Remove the U-bolt.



WRE91-RS148

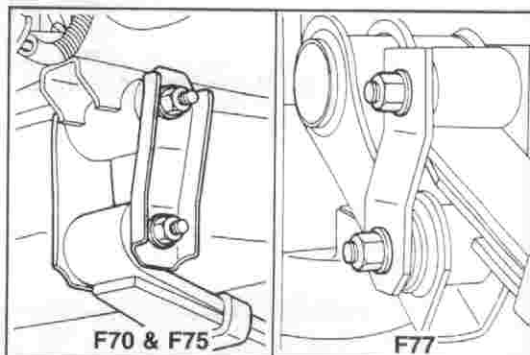
REAR AXLE & SUSPENSION

9. Jack down the vehicle, until the rear axle housing clears from the spring.
(F70 & F75 only)
10. Jack up the vehicle, until the rear axle housing clears from the spring.
(F77 only)



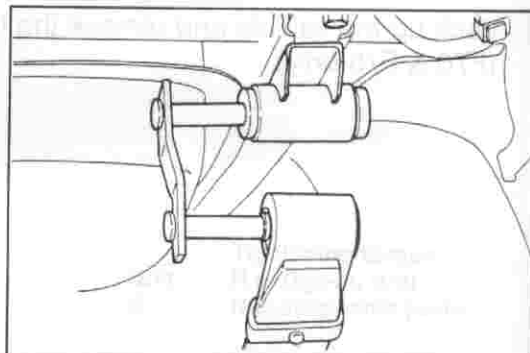
WRE91-RS149

11. Removal of rear spring shackle pin
 - (1) Remove the rear spring shackle attaching nuts.
 - (2) Remove the shackle bracket.



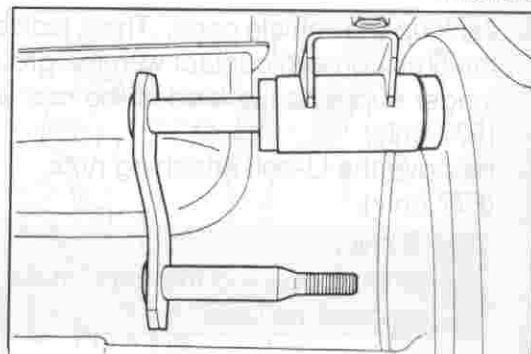
WRE91-RS150

- (3) Pull out the shackle pin about halfway by lightly tapping the shackle pin at its plate section by means of a plastic hammer or the like.
 - (4) Remove the leaf spring from the shackle pin.



WRE91-RS151

- (5) Remove the shackle pin.

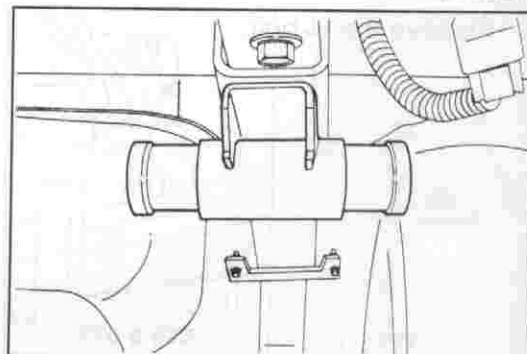


WRE91-RS152

12. Remove the shackle pin bushes at the vehicle side from the frame.

NOTE:

- As regards the shackle pin of the F77, remove the shackle pin after turning it 180 degrees.

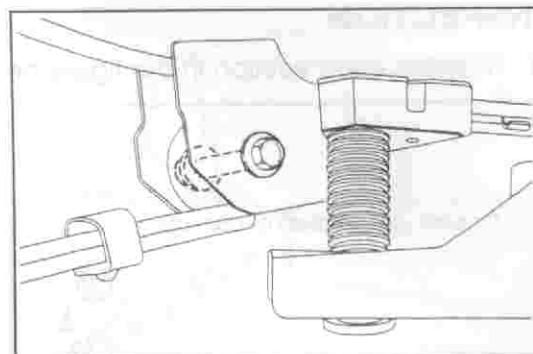


WRE91-RS153

13. Remove the spring attaching bolt and nut at the front side. Remove the spring from the vehicle.

NOTE:

- When removing the bolt, be very careful not to drop the leaf spring.



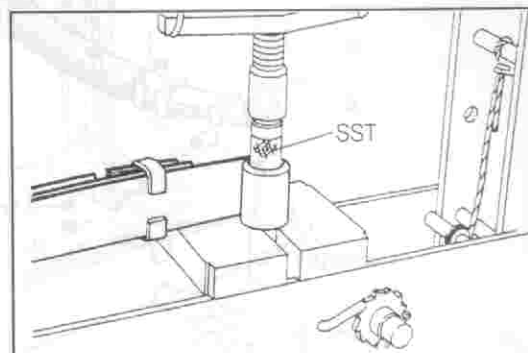
WRE91-RS154

14. Removal of rear spring bush and rear spring bush No.2
 - (1) Pull out the rear spring bush, using the following SST in combination with a hydraulic press.

SST: 09608-87607-000

NOTE:

- Consideration should be taken at the receiver side so that the bush may be pulled downward.



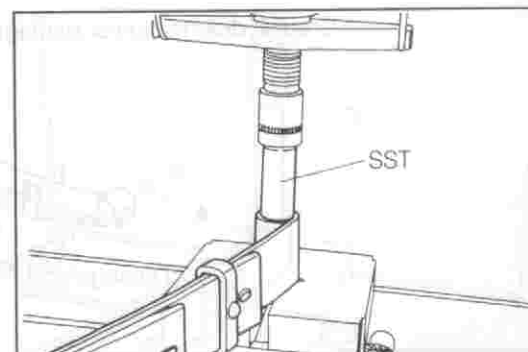
WRE91-RS155

- (2) Pull out the rear spring bush No.2, using the following SST in combination with a hydraulic press.

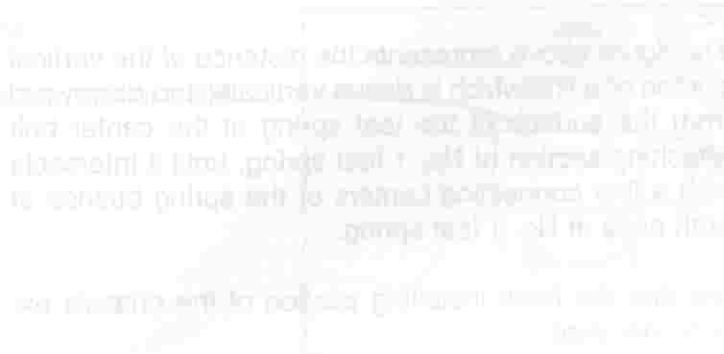
SST: 09608-87608-000

NOTE:

- Consideration should be taken at the receiver side so that the bush may be pulled downward.



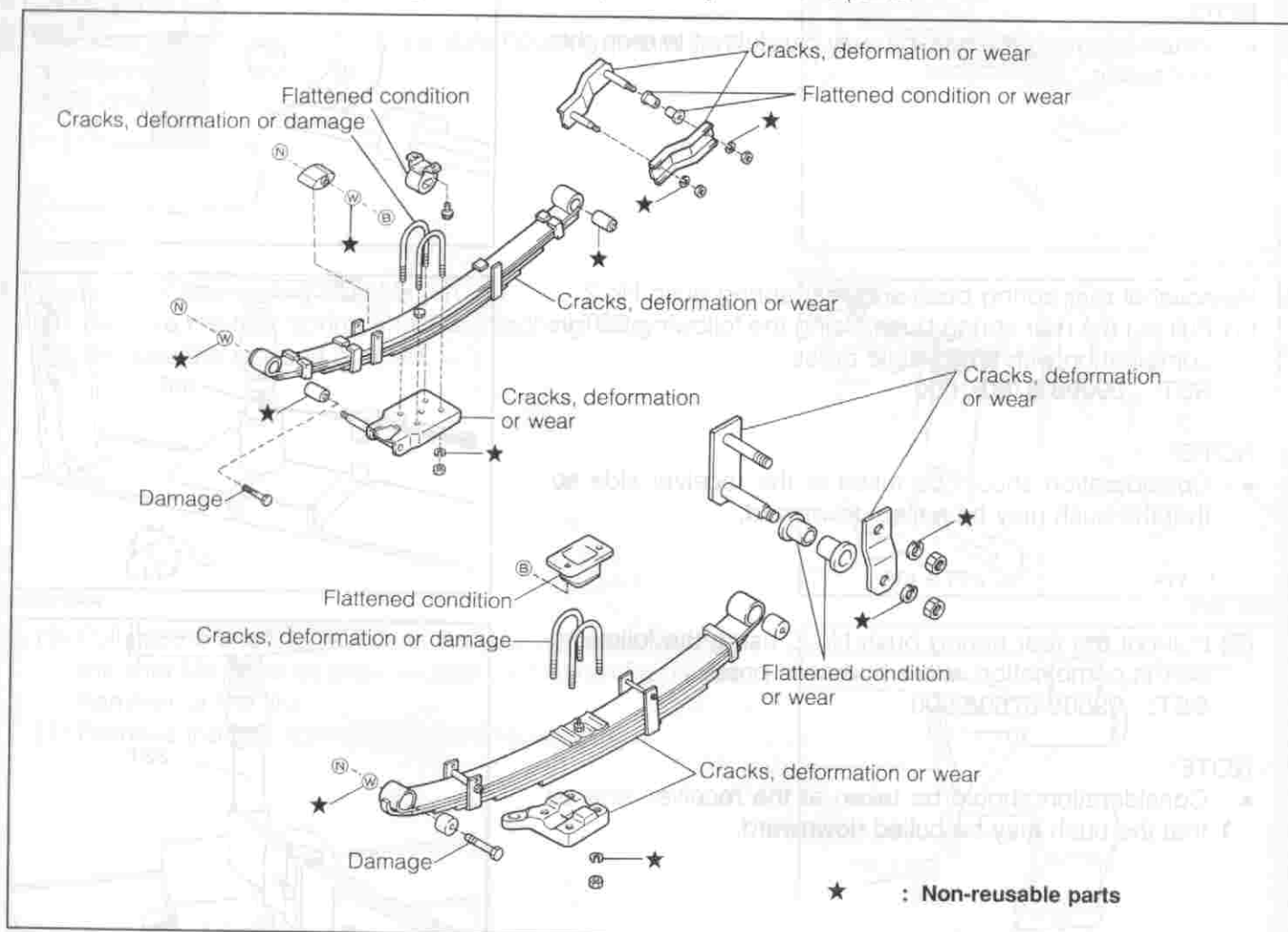
WRE91-RS156



REAR AXLE & SUSPENSION

INSPECTION

1. Inspect each section in the figure below. Replace any defective parts.



WRE91-RS157

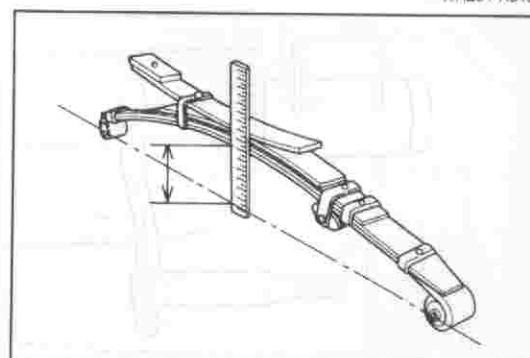
2. Measure the height of the spring in order to determine whether the spring exhibits any flattened condition.
Specified Height of Spring:

F70	Hard suspension	114.5 ±4 mm
F75, F75V, F70V	Hard suspension	124 ±4 mm
F70, F70V F75, F75V	Soft suspension	128 ±4 mm
F77	Standard	180.5 ±4 mm

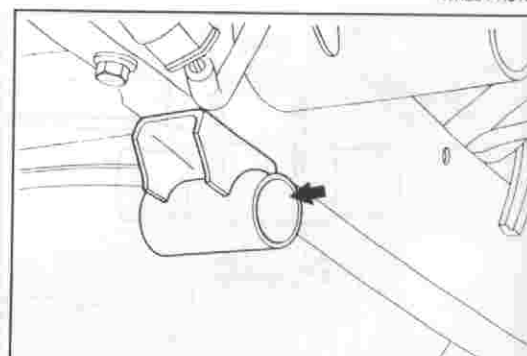
NOTE:

- The figure above represents the distance of the vertical portion of a line which is drawn vertically and downward from the surface of the leaf spring at the center bolt attaching section of No. 1 leaf spring, until it intersects with a line connecting centers of the spring bushes at both ends of No. 1 leaf spring.

3. Ensure that the bush installing section of the chassis exhibits no damage.

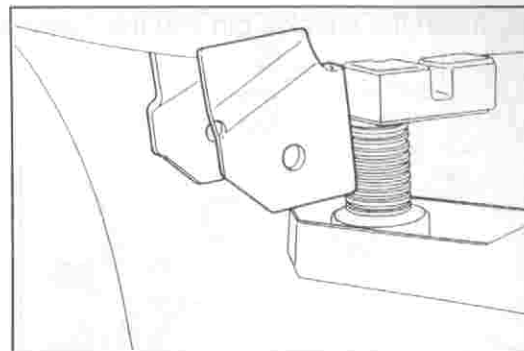


WRE91-RS158



WRE91-RS159

4. Ensure that the spring installing section of the chassis exhibits no damage.



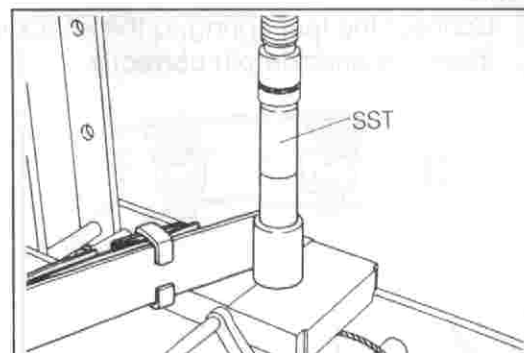
WRE91-RS160

INSTALLATION

1. Installation of rear spring bushes
 - (1) Press the rear spring bush into the rear spring with the following SST in combination with a press.
SST: 09608-87607-000

NOTE:

- Be sure to press the bush up to the edge surface of the spring.
- For this operation, use a press stand having a hole so that no interference with the inner bush may occur.

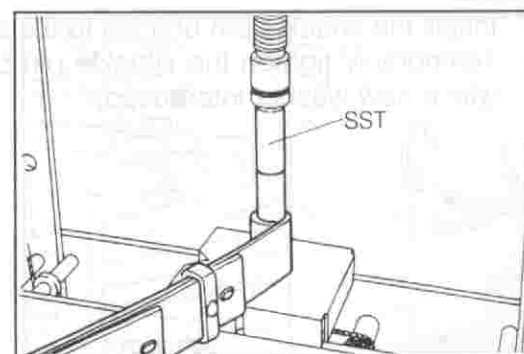


WRE91-RS161

- (2) Press the rear spring bush No.2 into the rear spring with the following SST in combination with a press.
SST: 09608-87608-000

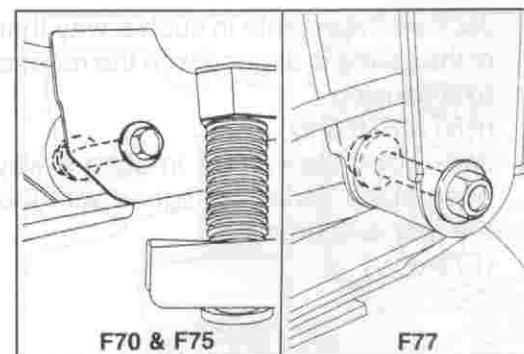
NOTE:

- Be sure to press the bush up to the edge surface of the spring.
- For this operation, use a press stand having a hole so that no interference with the inner bush may occur.



WRE91-RS162

2. Connect the front installing section of the rear spring. Temporarily install the attaching bolt and nut.

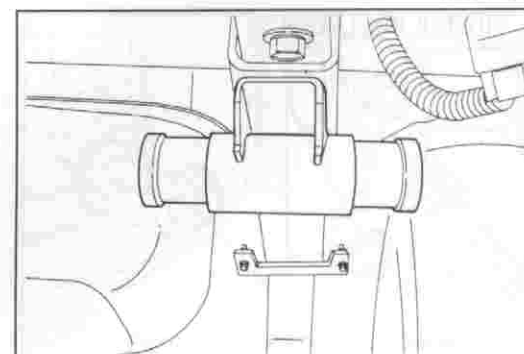


WRE91-RS163

3. Install the shackle pin bushes to the frame.

NOTE:

- If any difficulty is encountered, apply a thin film of SUN-
PER® 150 to the bushes.



WRE91-RS164