

REAR SUSPENSION

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GENERAL

GENERAL

SPECIFICATIONS

Suspension system	3-link, torsion axle with coil spring type
	GL ALL GLS ALL
Coil spring	
Wire dia. x O.D. x free length mm (in.)	11.5 x 118.7 x 366 (0.45 x 4.67 x 14.4)
Coil spring identification color	Pink x 2
Shock absorber	
Type	Hydraulic, double-acting type
Max. length mm (in.)	534 (21.02)
Min. length mm (in.)	359 (14.13)
Stroke mm (in.)	175 (6.89)

NOTE

GL, GLS : Trim level

SERVICE STANDARD

Standard value	
Toe-in mm (in.)	0 ± 3 mm(0 ± 0.12 in)
Camber	00 ± 30'
Max. camber angle difference between LH and RH	30'
Limit	
Wheel bearing end play mm (in.)	0.76 (0.03)

TIGHTENING TORQUE

	Nm	Kg.cm	lb.ft
Wheel bearing lock nut	20 → 0 → 5	200 → 0 → 50	14 → 0 → 3.5
Brake assembly mounting bolt	49 - 59	500 - 600	36 - 43
Shock absorber mounting nut	25 - 34	250 - 350	18 - 25
Shock absorber lower mounting nut	78 - 98	800 - 1000	58 - 72
Lateral rod mounting nut	78 - 98	800 - 1000	58 - 72
Trailing arm mounting nut	98 - 118	1000 - 1200	72 - 87
Upper bushing to piston rod	20 - 25	200 - 250	14 - 18

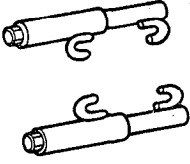
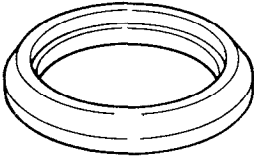
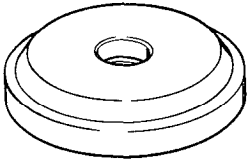
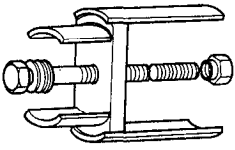
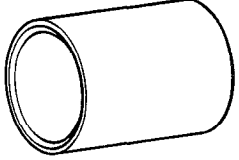
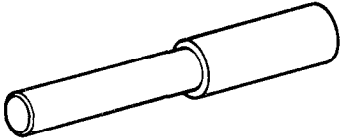
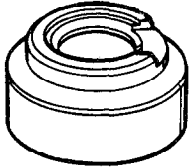

GENERAL

LUBRICANT

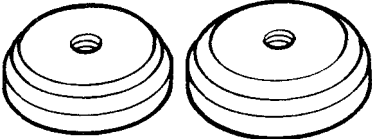
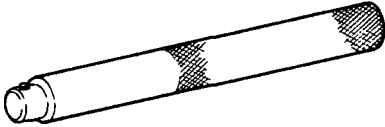
	Recommended lubricant	Quantity
Wheel bearings, oil seal lip, inside surface of the hub and hub cap	Multipurpose grease SAE J310a, NLGI grade #2	As required

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SPECIAL TOOLS

Tool (Number and Name)	Illustration	Use
09546—11000 Spring compressor		Compression of the front coil spring.
09552—33000 Torsion arm bushing remover and installer		Removal and installation of the torsion arm bushing (use with 09552—33100, 09624—31000)
09552—33100 Torsion arm bushing remover and installer		Removal and installation of the torsion arm bushing (use with 09552—33000, 09624—31000)
09624—31000 Front suspension mounting insulator remover and installer		Removal and installation of the torsion arm bushing (use with 09552—33000, 09552—33100)
09216—21100 Mounting bushing remover and installer base		Removal and installation of the lateral rod bushing (use with 09545—21400, 09556—31000)
09545—21400 Lower arm bushing arbor		Removal and installation of the lateral rod bushing (use with 09545—21400, 09556—31000)
09556—31000 Bushing remover and installer		Removal and installation of the lateral rod bushing (use with 09216—21100, 09545—21400)
09517—21400 Drift		Removal of rear wheel bearing outer race

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Tool (Number and Name)	Illustration	Use
09527-33000 Bearing installer (A/B)		Installation of rear hub inside bearing outer race (use with 09500-21000)
09500-21000 Bar		Removal and installation of oil seal and bearing

TROUBLESHOOTING

Symptom	Probable cause	Remedy
Abnormal sound	Loose installation parts Damaged or worn wheel bearings Faulty shock absorber Defective tire	Retighten Replace Replace damaged parts Replace
Poor ride control	Excessive tire pressure Faulty shock absorber Loose wheel nuts Sagging or broken coil spring Defective tire Worn bushings	Adjust pressure Replace Tighten to specified torque Replace Replace Replace
Vehicle body tilts to one side	Deformation of torsional axle and arm assembly Worn bushings Sagging or broken coil spring	Replace Replace Replace

SERVICE ADJUSTMENT PROCEDURES

REAR WHEEL ALIGNMENT INSPECTION

The rear suspension assembly must be free of worn, loose or damaged parts prior to measurement of rear wheel alignment.

Standard value

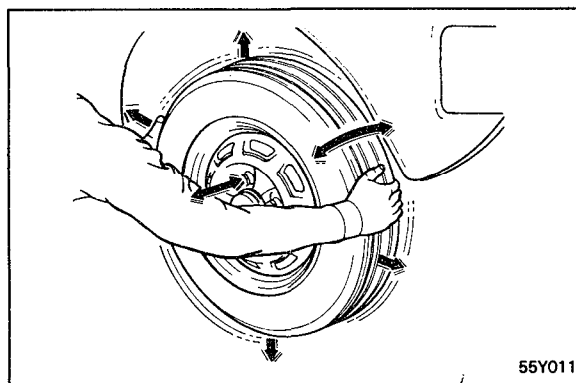
Toe-in	$0 \pm 3\text{mm}$ ($0 \pm 0.12\text{ in.}$)
Camber	$0^\circ \pm 30'$

NOTE

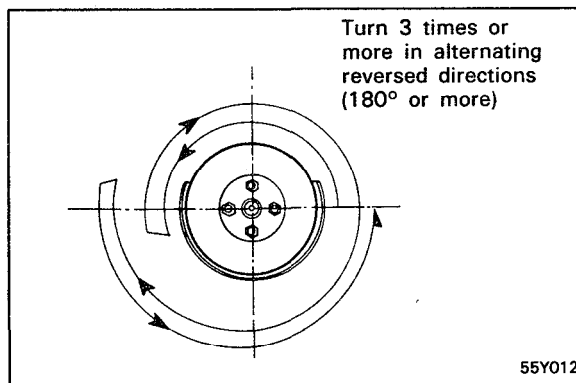
The rear wheel alignment is set at the factory and cannot be adjusted. If toe-in or camber is not within the standard value, replace bent or damaged parts.

WHEEL BEARING END PLAY ADJUSTMENT

1. Inspect the play of the bearings while the vehicle is jacked up and resting on jack stands.
2. If there is any play, remove the hub cap, split pin, and lock cap, and then loosen the lock nut.
3. After tightening the lock nut to 20 Nm (64 lb.ft) torque, turn the hub a few times to seat it.



4. Rotate the hub (brake drum) three or four times to seat the bearing.
5. Return the lock nut to 0 Nm (0 lb.ft).
6. After tightening the lock nut at a torque of 5 Nm (3.5 lb.ft), rotate the hub again in the same way as described in step 4 to seat the bearing.
7. Tighten the lock nut to 5 Nm (3.5 lb.ft) torque.
8. Install the lock cap and split pin.
9. If the position of the split pin is not matched with the holes of the lock cap, reposition the lock cap so that the holes align. If this can not be accomplished, back off the nut by not more than 15°.



CAUTION

Check to be sure that the lock nut cannot be loosened manually.

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10. Check the bearing's end play.

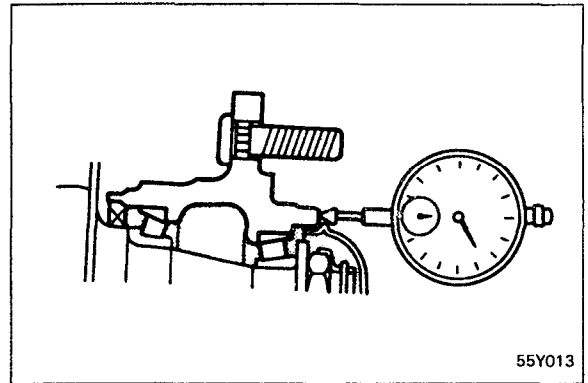
Place a dial gauge against the hub surface; move the hub in the axial direction and check whether or not there is end play.

Limit 0 mm (0 in.)

NOTE

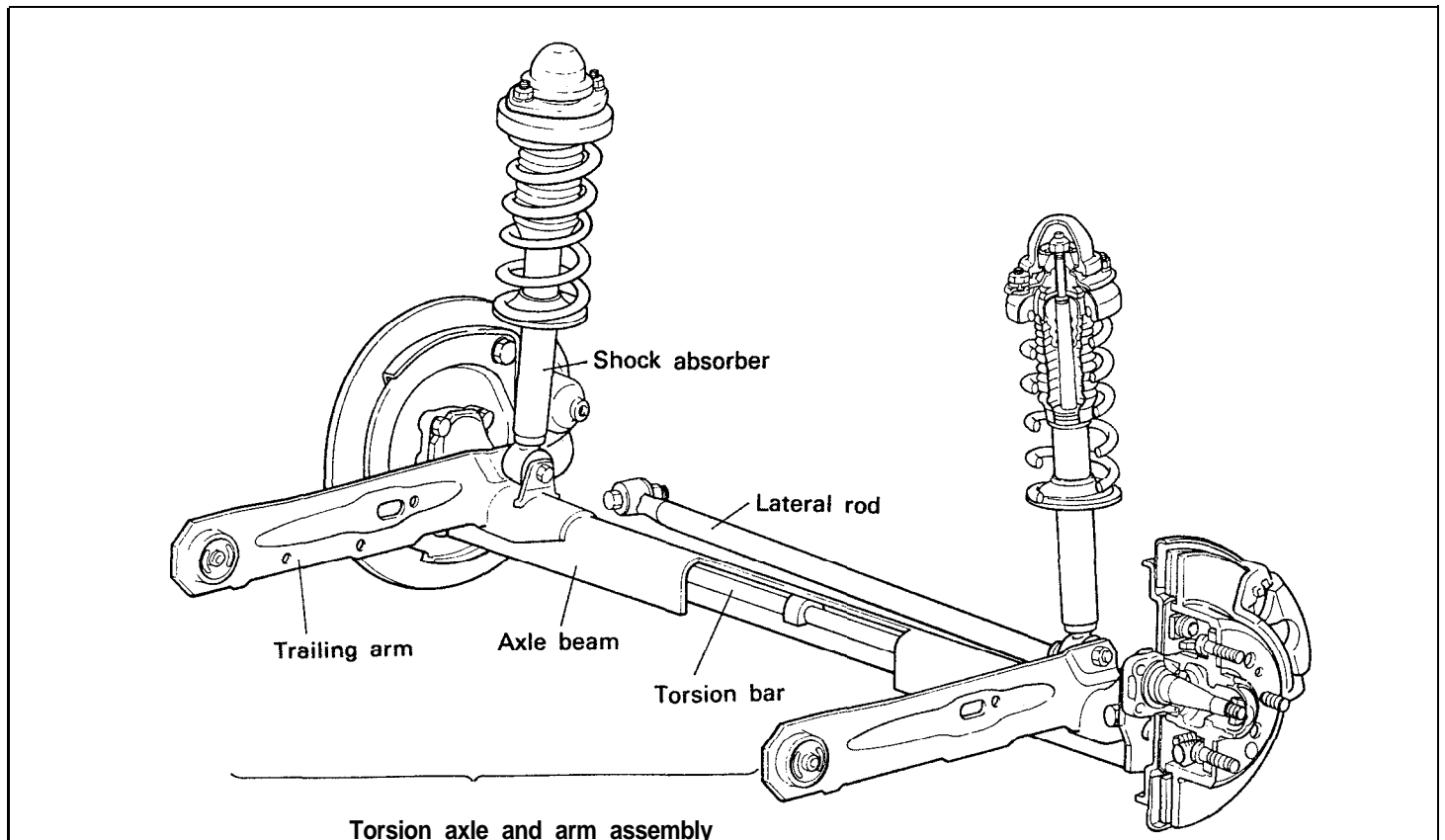
If the limit value is exceeded, the lock nut should be tightened or the bearing replaced.

11. After checking to be sure the hub rotates smoothly, be sure to bend the split pin correctly and securely.



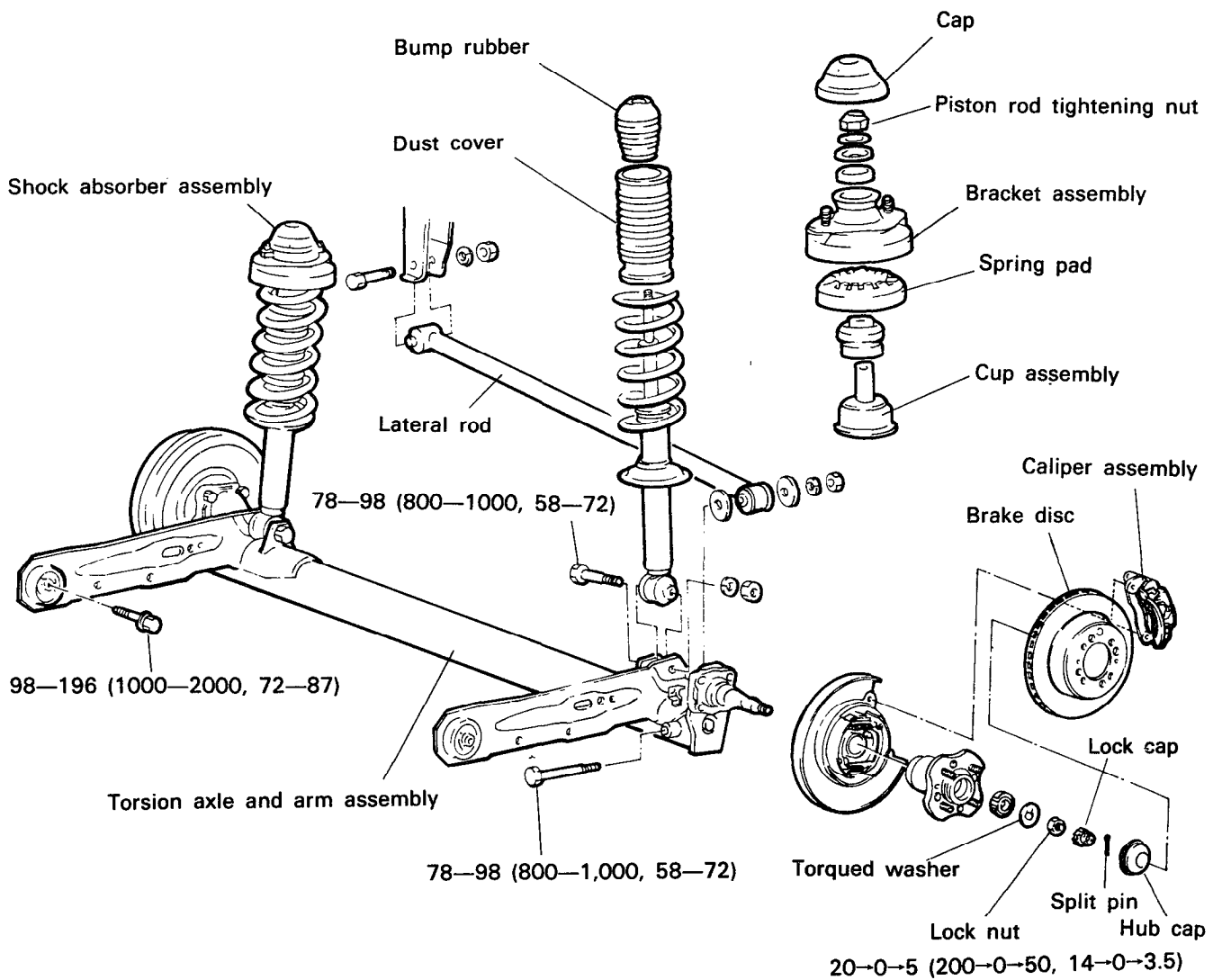
GENERAL VIEW

The rear suspension is the 3-link, torsion axle with coil spring type; it is composed of the U-type axle beam, the trailing arm, the lateral rod, the shock absorber, the coil spring, and the torsion bar (located within the axle beam). The trailing arm and shock absorber are installed to the body via rubber bushings in order to reduce vibration.



REAR SUSPENSION

COMPONENTS

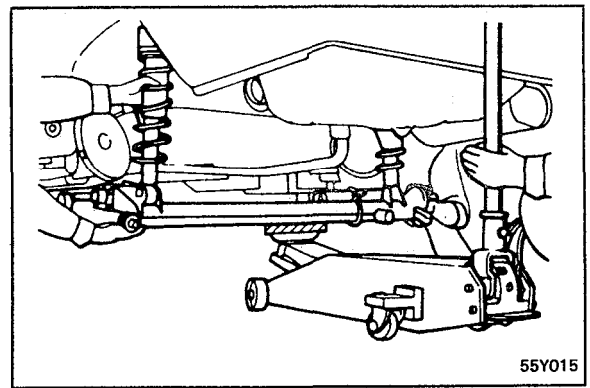


TORQUE : Nm (kg.cm, lb.ft)

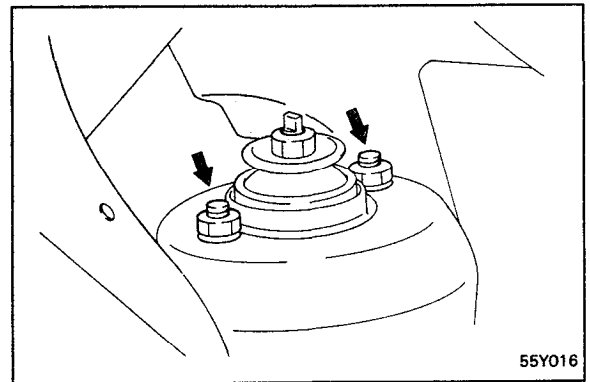
REAR SUSPENSION

REMOVAL

1. Jack up the torsion axle assembly.



2. Remove the cap and shock absorber mounting nuts.

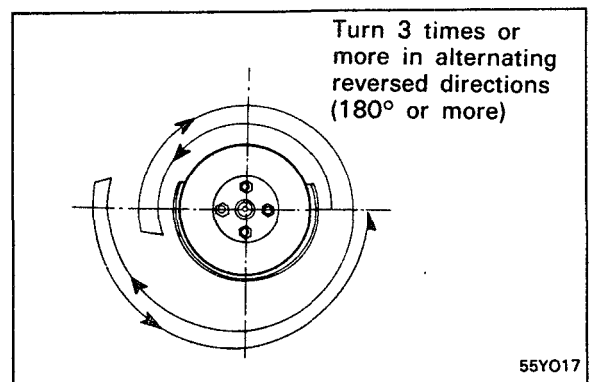


INSPECTION

1. Check the trailing arm and axle beam for deformation or damage.
2. Check the torsion bar for damage.
3. Check the lateral rod for damage or deformation.
4. Check the bushings for crack, deterioration, or unusual wear.

INSTALLATION

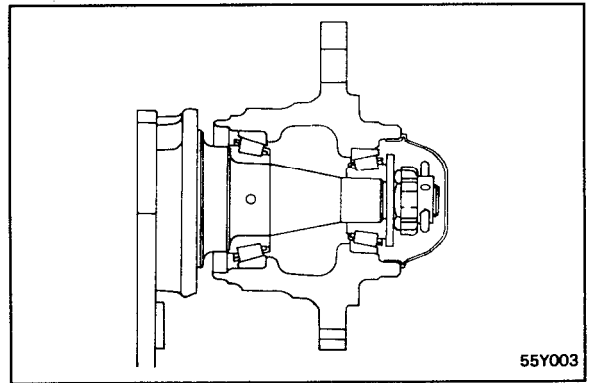
1. Tighten the wheel bearing nut by the following procedures.
 - 1) Tightening the lock nut to 20 Nm (14 lb.ft) torque. Turn and return the hub by 180° minimum in one direction more than three times to give run-in.
 - 2) Return tightening torque to 0 Nm (0 lb.ft) and then tighten to 5 N.m (3.5 lb.ft).
 - 3) Give same run-in as shown in step 1 again.



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- 4) Retightening the nut to 5 N.m (3.5 lb.ft) torque and then cover nut with cap, insert the split pin and fix.
Unless pin hole fits, loosen the nut within range of 15° maximum, then check the nut can not be loosened by fingers.
- 5) After installing the split pin, give same run-in as shown in Step 1. After run-in, rotation starting torque of the hub must be 0.8 Nm (0.6 lb.ft) maximum.

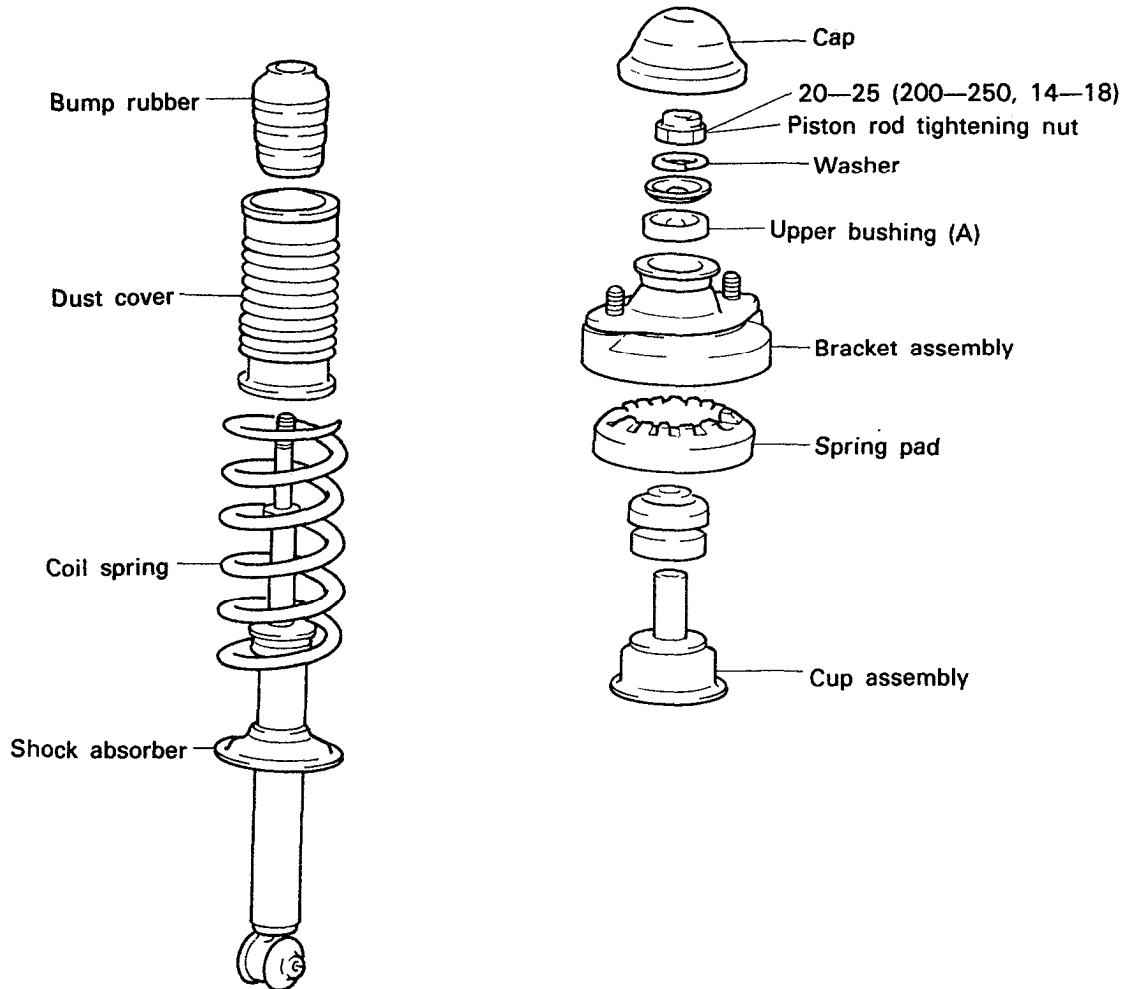
- 6) After filling the hub cap with the specified grease, install the hub cap.
- 7) After these procedures are completed, the wheel assembly (free condition) must turn smoothly.



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SHOCK ABSORBER

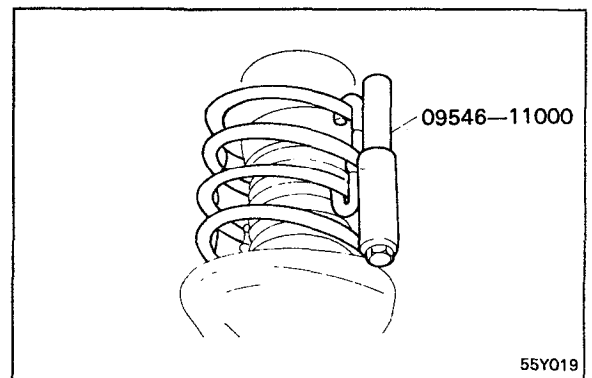
COMPONENTS



TORQUE : Nm (kg.cm, lb.ft)

DISASSEMBLY

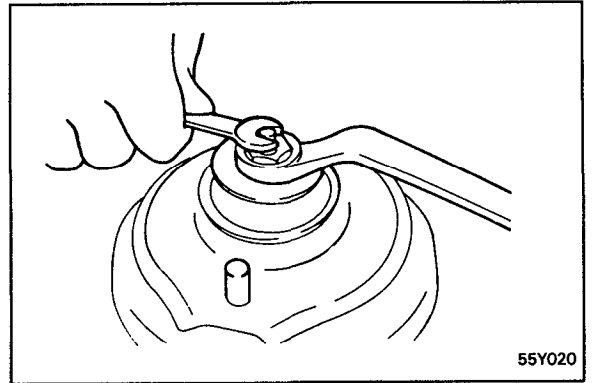
1. Before removing the piston rod tightening nut, compress the coil spring using the special tool.



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REAR SUSPENSION

2. While holding the piston rod, remove the piston rod tightening nut.

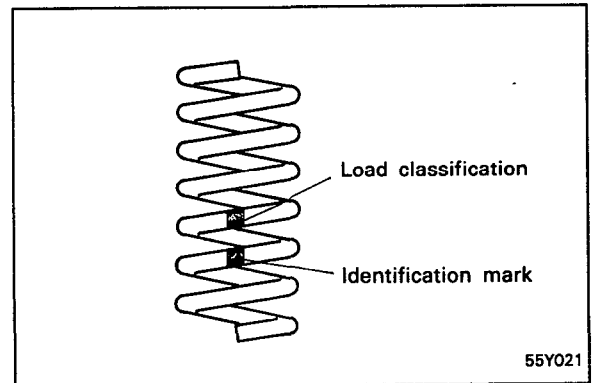


INSPECTION

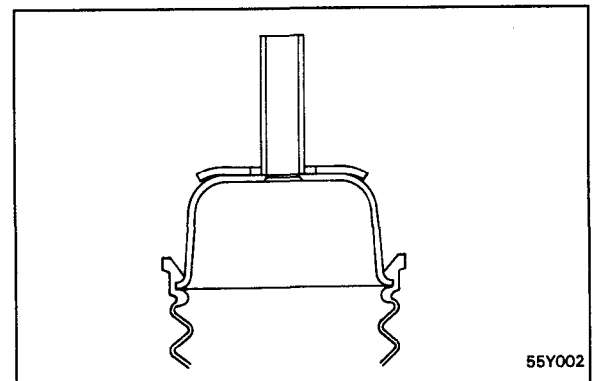
1. Check the rubber parts for damage.
2. Check the coil springs for damage or deterioration.

ASSEMBLY

1. Coil springs have color marks to indicate load classification. The coil spring identification mark indicates the applicable vehicle models equipped with that particular coil spring. When replacing a coil spring, be sure to use a spring having the appropriate identification mark.

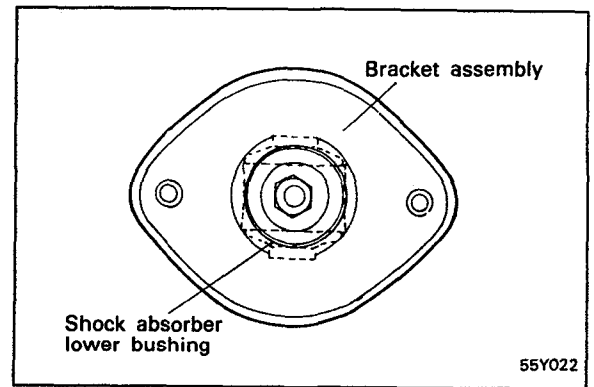


2. As shown in the illustration, fit the dust cover to the cup assembly.



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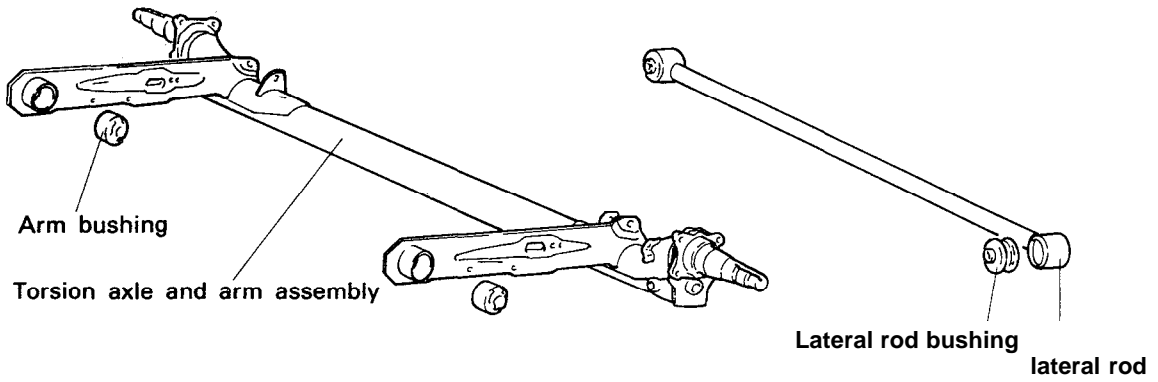
3. With the position of the bracket assembly as shown in the figure, tighten the tightening nut according to the specified torque.



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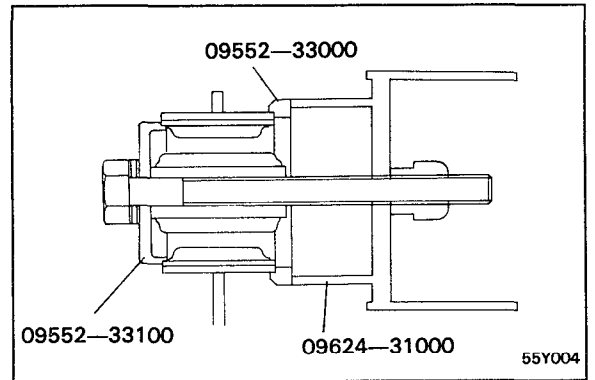
TORSION AXLE AND ARM ASSEMBLY, LATERAL ROD

COMPONENTS

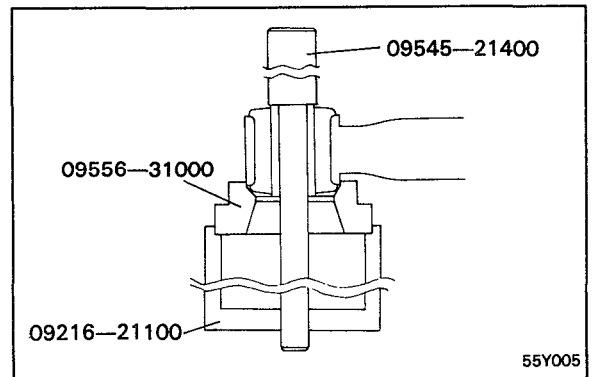


DISASSEMBLY

1. Drive out and press in the arm bushing using the special tool.



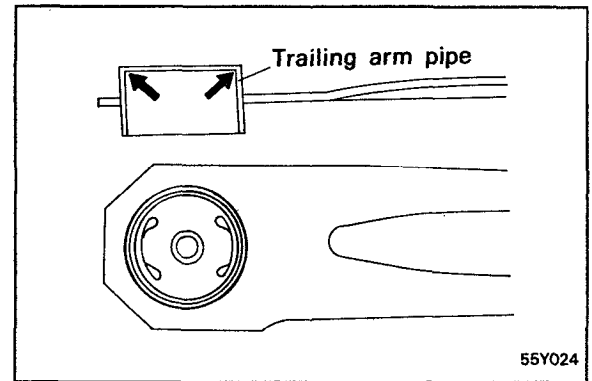
2. Drive out and press in the lateral rod bushing using the special tool.



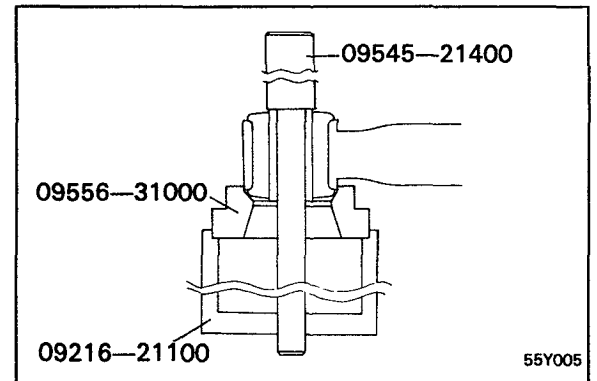
REAR SUSPENSION

ASSEMBLY

1. Press in the trailing arm bushing from the beveled side of the trailing arm pipe.
Be sure that the hole in the trailing arm bushing is positioned as shown in the figure.

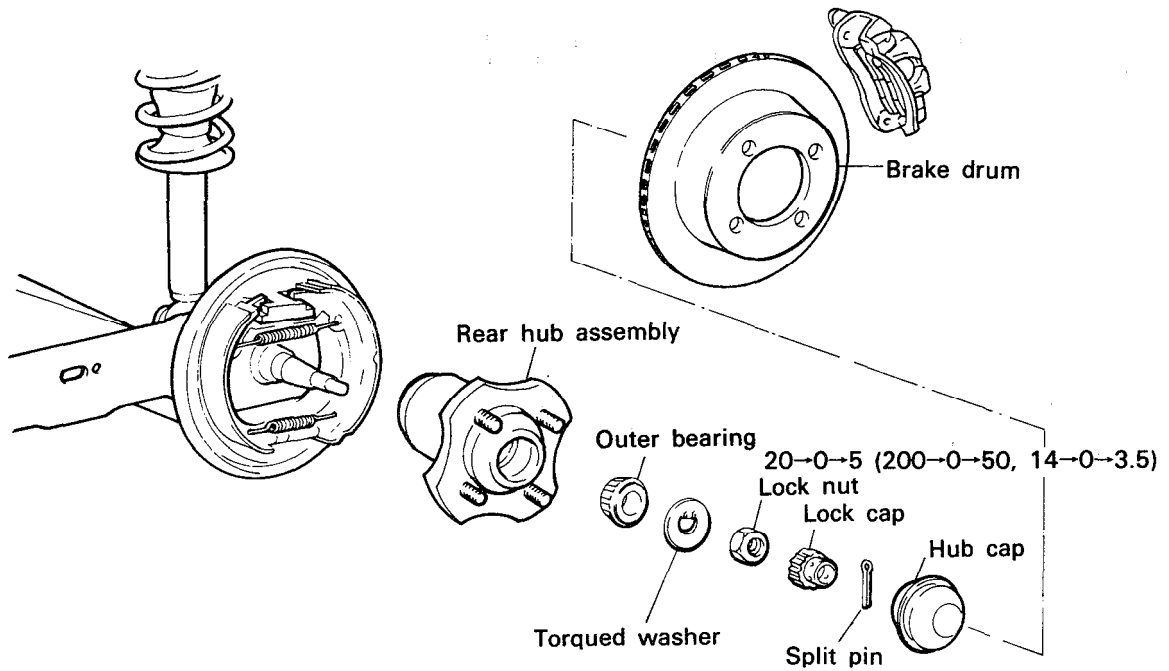


2. Press in the lateral rod bushing with the special tool.
Press in the bushing so that the amount of projection is equal on either side.



REAR AXLE HUB

COMPONENTS



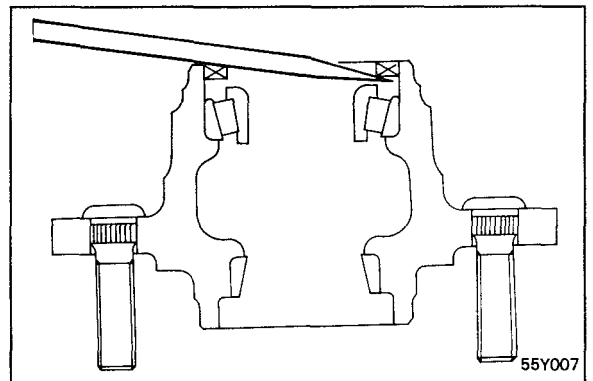
TORQUE : Nm (kg.cm, lb.ft)

REMOVAL

1. Jack up the rear of vehicle and support it on jack stands.
Remove the wheel and tire.
2. Remove the brake drum.

DISASSEMBLY

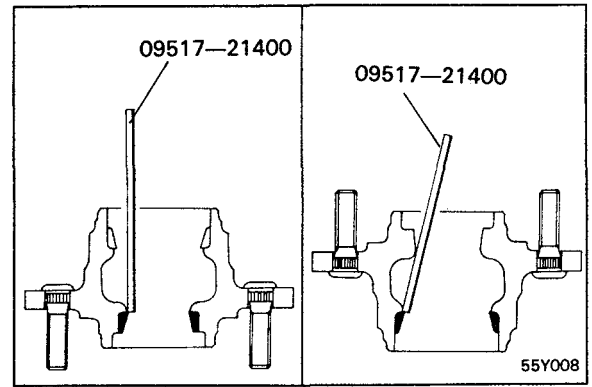
1. Remove the wheel bearing nut.
2. Remove the oil seal using the screwdriver.



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REAR AXLE HUB

3. After removing grease from inside the hub, remove the bearing outer races, using a hammer and drift.

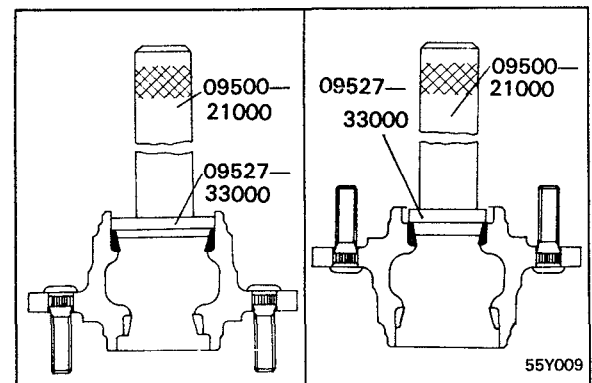


INSPECTION

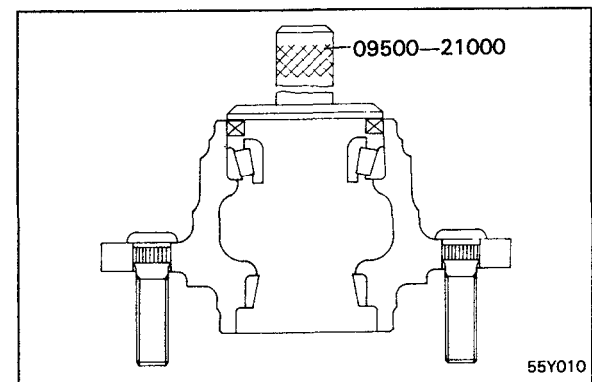
1. Check the surface of bearing for seizure, discoloration or damaged race.
2. Check the rear hub for wear or damage.

ASSEMBLY

1. After applying the specified grease to the bearing surface, drive the bearing outer races into position.

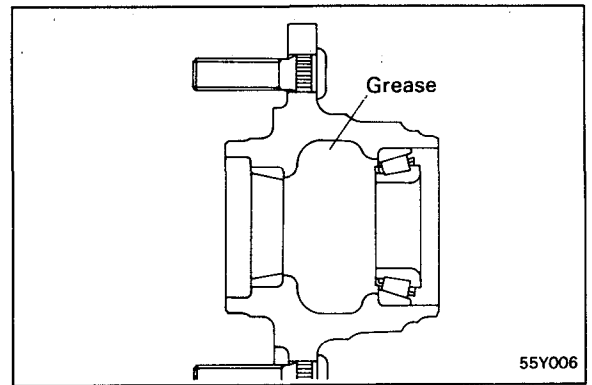


2. Install the inner bearing to the inner race.
3. Install the oil seal and apply the grease to the oil seal lips.



REAR AXLE HUB

4. Apply the specified grease to the inside (bearing portion) of the hub as shown.
5. Install the outer bearing to the inner race.



INSTALLATION

1. Install the hub by the following procedure.
 - 1) Tighten the nut to 20 Nm (200 kg.cm, 14 lb.ft).
 - 2) Loosen to 0 Nm and retighten to 5 Nm (50 kg.cm, 3.5 lb.ft).
 - 3) Install the cotter pin and cap.
2. Install the brake drum on the hub.
3. Operate the parking lever to adjust the shoe clearance through the automatic adjustment mechanism.