REAR SUSPENSION

CONTENTS

GENERAL SPECIFICATIONS

Suspension system	Asymmetrical semielliptic leaf springs
Leaf springs (Standard)	
Number of leaf springs	4
Straight span mm (in.)	1,200 (47.2)
Camber (unladen) mm (in.)	78 (3.1)
Spring constant N/mm (lbs./in.)	
– as installed	
at load of 1,000-2,500 N (220-551 lbs.)	24 (134)
at load of 4,670-8,870 N (1,030-1,955 lbs.)	56 (314)
Leaf springs (Heavy duty)	
Number of leaf springs	4
Straight span mm (in.)	1,200 (47.2)
Camber (unladen) mm (in.)	78 (3.1)
Spring constant N/mm (lbs./in.)	
– as installed	
at load of 700-2,700 N (154-595 lbs.)	35 (196)
at load of 5,000-15,000 N (1,102-3,307 lbs.)	124 (694)
Shock absorbers	
Type	Hydraulic cylinder, double-acting type
Max. length mm (in.)	548 (21.6)
Min. length mm (in.)	328 (12.9)
Stroke mm (in.)	220 (8.7)
Damping force [at 0.3 m/sec. (0.984 ft./sec.)]	
Expansion N (lbs.)	1,840 (406)
Compression N (lbs.)	720 (159)

TORQUE SPECIFICATIONS

	Nm (ft.lbs.)
Shackle assembly mounting nuts	45-60 (33-43)
Front pin assembly mounting nuts	45-60 (33-43)
Shock absorber mounting nuts	18-25 (13-18)
Front pin assembly mounting bolts	14-20 (10-14)
U-bolt mounting nuts	85-110 (61-80)

Symptom	Probable cause	Remedy
Abnormal sound	Suspension securing bolt(s) loose Loose wheel nuts	Tighten to specified torque
	Faulty shock absorber Worn bushings Damaged or worn wheel bearings Components bent or distorted Broken spring	Replace damaged parts
	Wheel or tire imbalance	Balance
	Improper tire inflation	Inflate to specification
	Defective tire	Replace
Poor riding comfort	Over-inflated tire	Adjust inflation pressures (Refer to GROUP 22.)
	Malfunctioning shock absorber Deteriorated or broken spring	Replace
Vehicle tilts	Uneven camber Deteriorated or worn bushing Deteriorated or broken spring	Replace

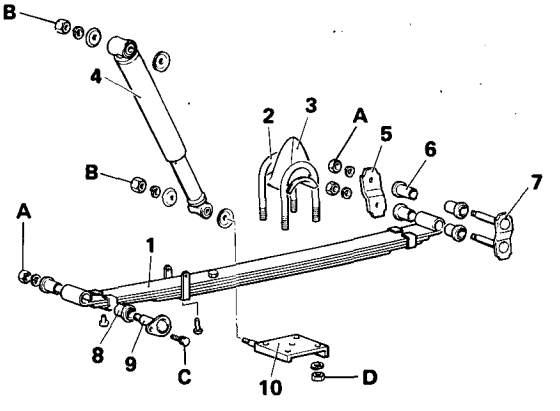
REAR SUSPENSION

COMPONENTS

1. Spring assembly
2. U-bolt
3. Bump stopper
4. Shock absorber
5. Shackle plate
6. Rubber bushing
7. Shackle
8. Rubber bushing
9. Front pin
10. U-bolt seat

	Nm	ft.lbs.
A*	45-60	33-43
B*	18-25	13-18
C	14-20	10-14
D	85-110	61-80

*To be tightened with vehicle lowered to the ground.



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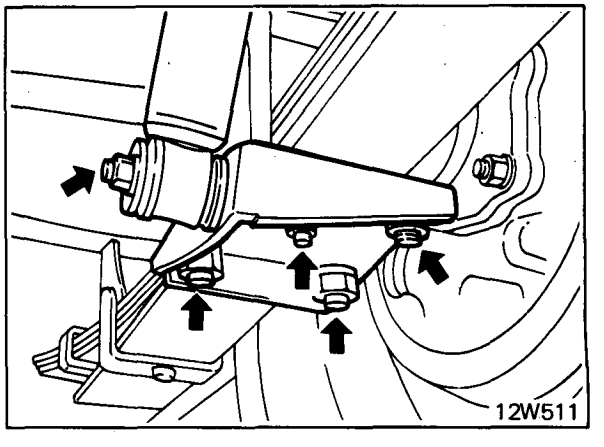
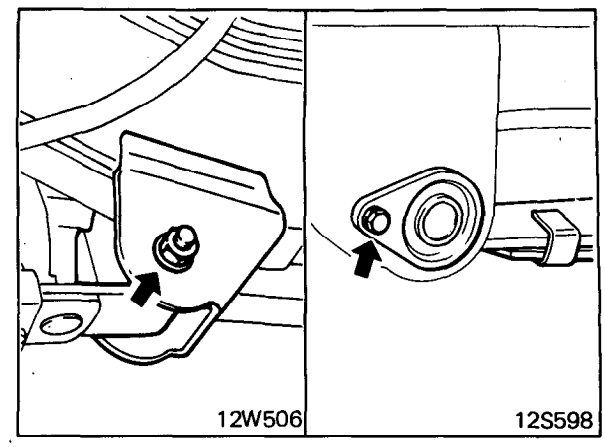
REMOVAL

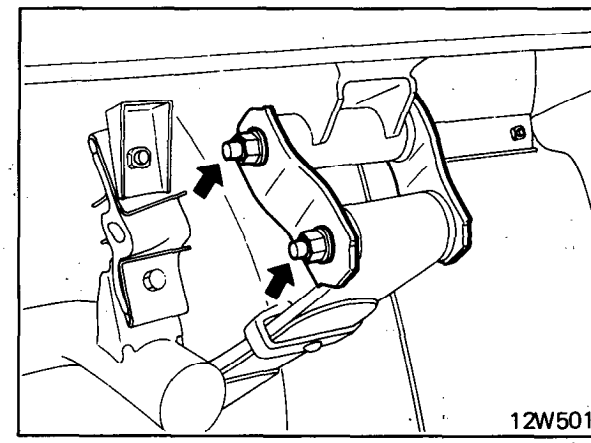
1. Support the vehicle with floor stands positioned on the frame.
2. Remove the wheel.
3. Jack up the rear axle housing so that it is not supported by the spring assembly.
4. Remove the parking brake cable clamp. (Refer to GROUP 5.)
5. Detach the shock absorber from the U-bolt seat. (12W511)
6. Remove the U-bolts, the U-bolt seat, and the bump stopper. (12W511)


12W511

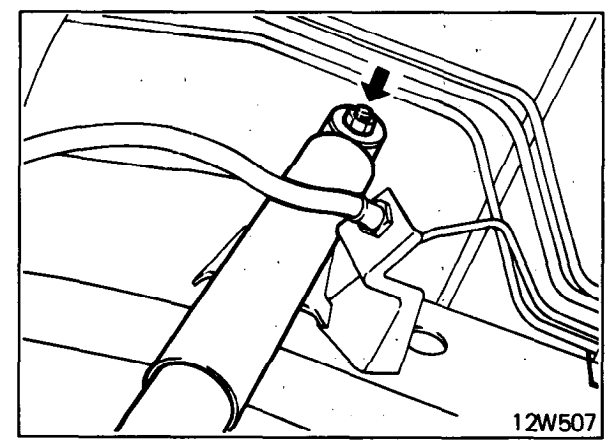
7. Remove the front pin and lower the front end of the spring assembly.



8. Remove the shackle to separate the spring assembly from the side frame.



9. Remove the shock absorber from the side frame. (12W507)
10. Remove the rubber bushings.



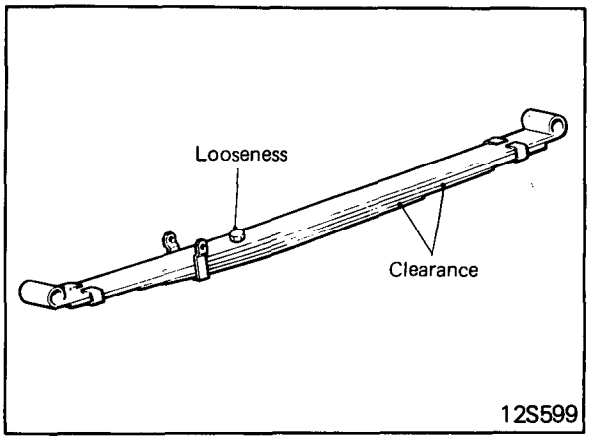
INSPECTION

1. Check shock absorber for damage, fluid leaks and noise.
2. Check leaf spring for deterioration and damage.
3. Check U-bolt for bend.
4. Check rubber bushings for wear and damage.

Checking of the Spring Assembly

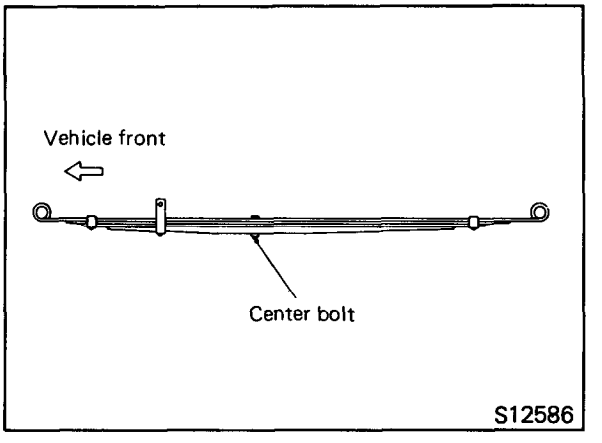
1. Check the center bolt for looseness. (12S599)
2. Check to be sure that each spring leaf is correctly in contact with the one above it. (Also check to be sure that the spring leaves are in positive contact with each other at both ends.) (12S599)
3. If loose contact is evident, replace the spring as an assembly.

NOTE
If the spring leaves move, or if there is a clearance between one spring leaf and another, the spring leaves will not absorb shock properly, and could break.

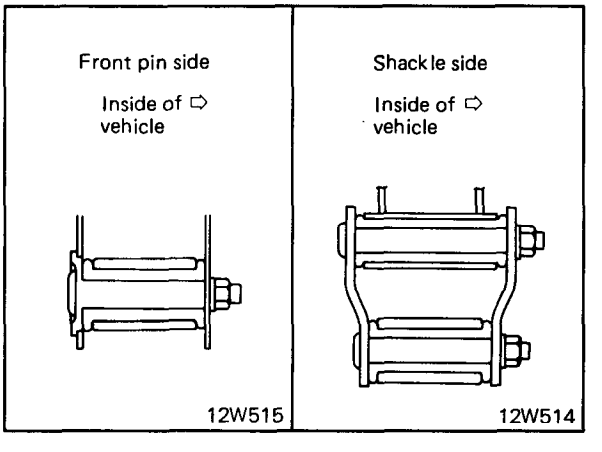


INSTALLATION

1. Install the spring assembly on the vehicle. Make sure the front end (front pin side) to center bolt distance is shorter than the rear end to center bolt distance.



2. Install the front pin from the outside, toward the inside of vehicle. (12W515)
3. Install the shackle from the outside, toward the inside of vehicle. (12W514)



4. Tighten the U-bolt nuts evenly so that the ends of each bolt protrude an equal amount. (12W512)
5. Loosely install the shock absorber.
6. Tighten components with the vehicle on the ground to eliminate torsion on the bushings.