

## 2. INSPECTION AND MAINTENANCE

### 2-1. Steering System

#### A. Steering Wheel

##### 1. Axial and Radial Play

1. Place the front wheels in the straight-ahead position. Turn the steering wheel as shown. (Fig. 2-1) Measure the wheel free-play at the edge of the steering wheel.

Specified play	Less than 10 mm (0.39 in)
----------------	---------------------------

When the play is excessive, inspect for the following conditions:

- 1) Worn steering rack and pinion.
  - 2) Loose or worn steering linkage and joints.
2. Check the steering wheel for axial play by moving the wheel in the axial direction (Fig. 2-2). When the play is excessive, inspect for the following conditions:
    - 1) Loose steering hanger retaining bolts.
    - 2) Loose steering wheel retaining nut.
    - 3) Worn steering column bushing.



Fig. 2-1



Fig. 2-2

#### 2. Steering Wheel and Joints

1. Remove the steering wheel safety pad and check the steering wheel retaining nut for looseness with a torque wrench.
2. Check the steering joint bolts for looseness.

	Specified torque
Steering wheel retaining nut	2.3-2.8 kg-m (16.6-20.3 lb-ft)
Steering wheel joint nut	2.0-2.4 kg-m (14.5-17.4 lb-ft)

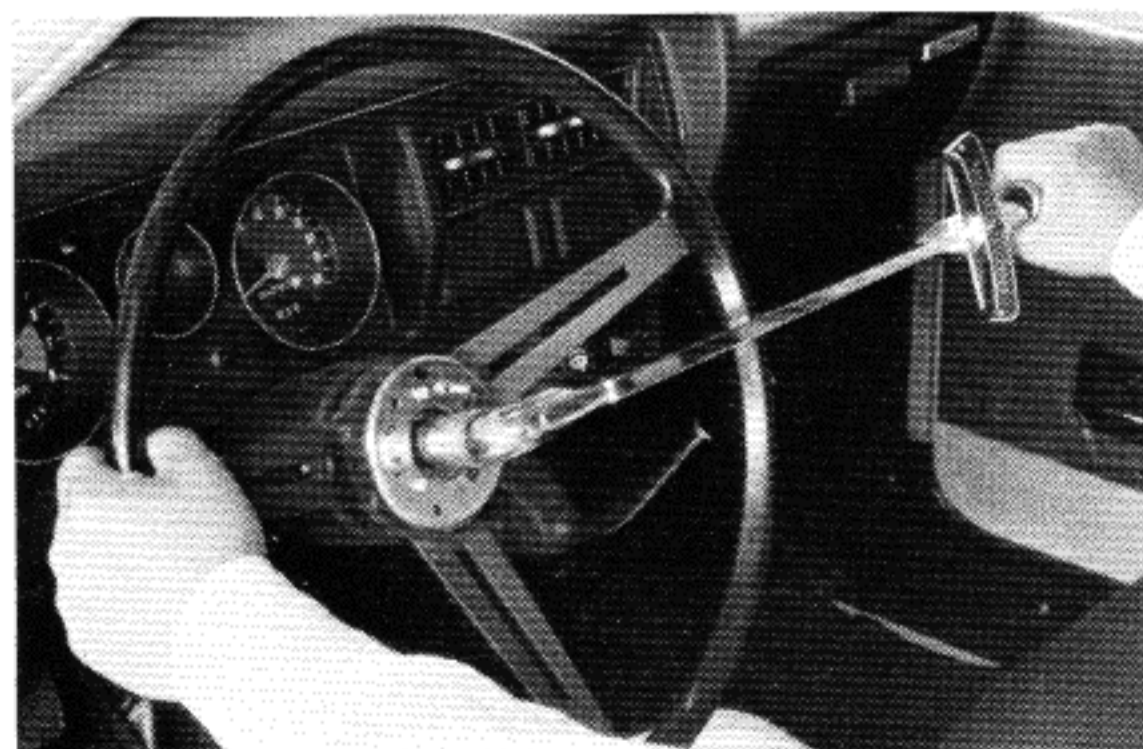


Fig. 2-3

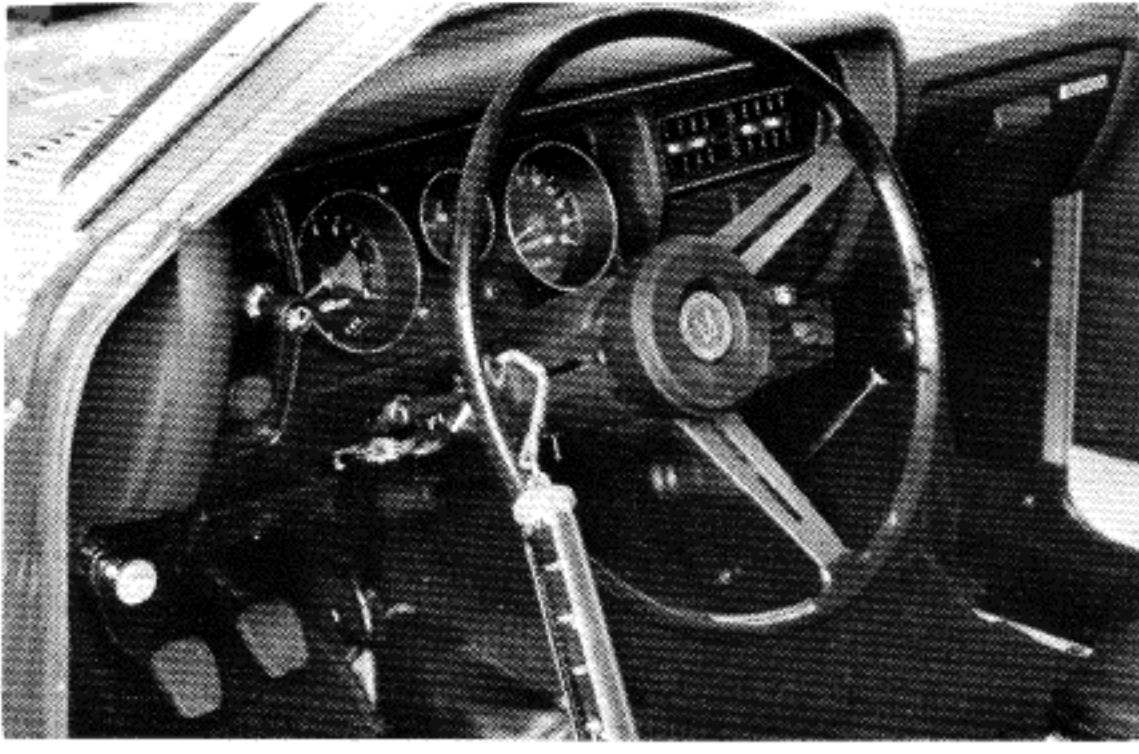


Fig. 2-4

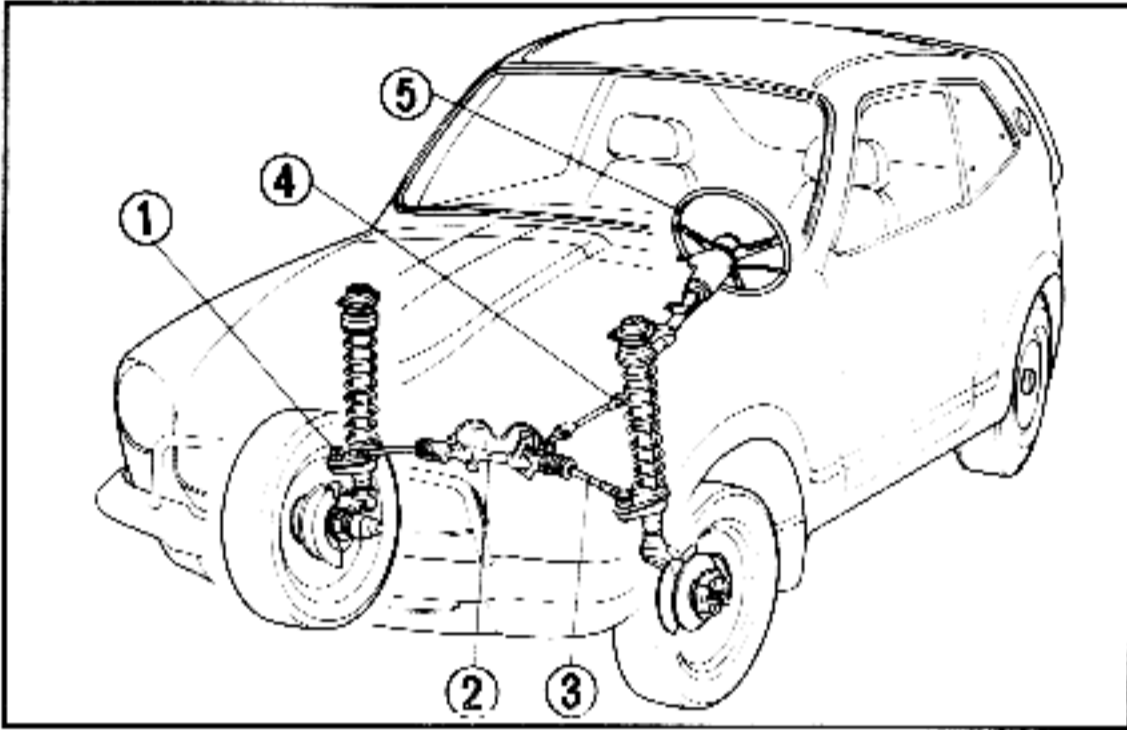


Fig. 2-5 ① Tie Rod End. ④ Steering Joint  
② Steering Gear Box ⑤ Steering Wheel  
③ Tie Rod.

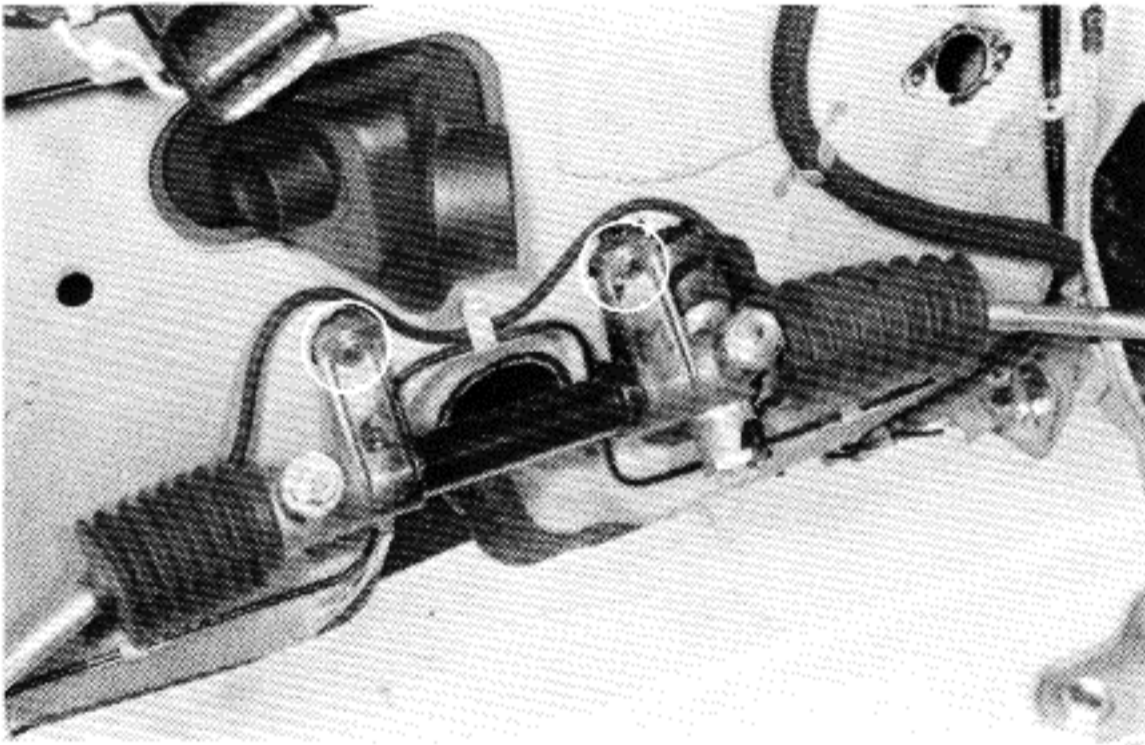


Fig. 2-6

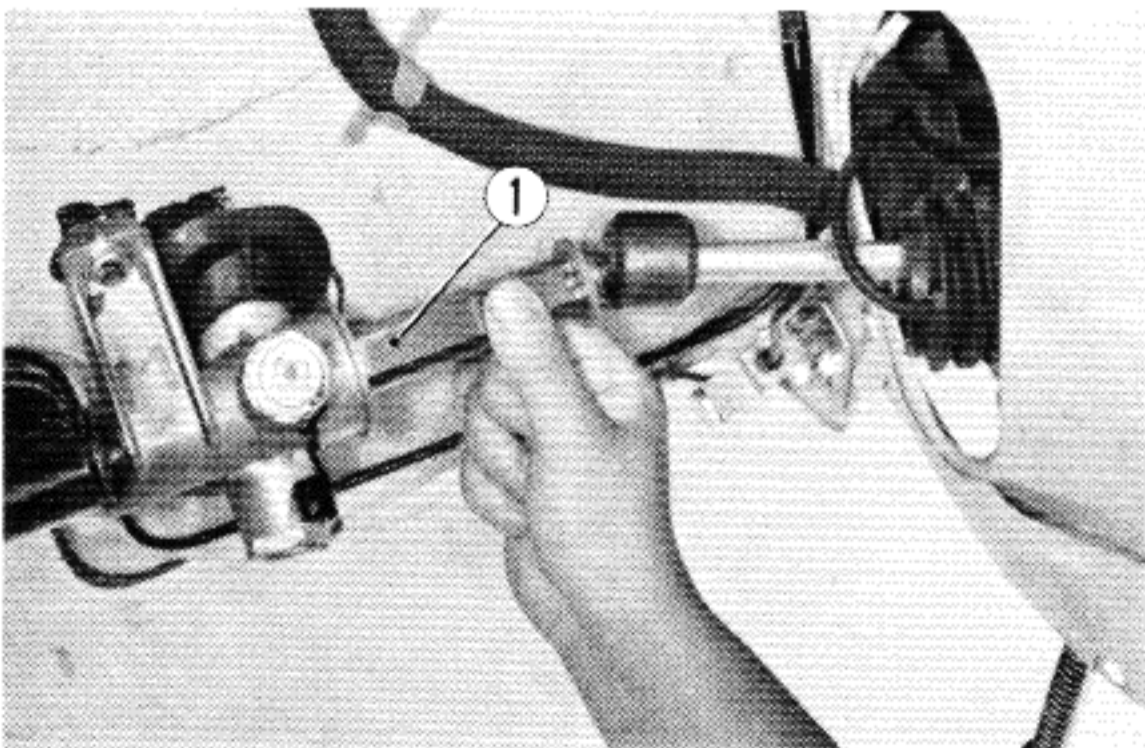


Fig. 2-7

### 3. Operation

1. Test drive the car and inspect the steering system condition.
2. If an abnormal condition exists:
  - 1) Check the tire pressures.
  - 2) Check the wheel alignment (section 1-8).
3. If the condition continues, raise the front of the car and place the wheels in a straight-ahead position. Check the force required to turn the wheel by hooking a spring scale to the wheel spoke. Read the load when the wheel begins to move.

Specified load	Below 1.3-1.7 kg (2.9-3.7 lbs).
----------------	---------------------------------

4. If the steering force is excessive, or the steering appears to be faulty, inspect for the following conditions:
  - 1) Insufficient grease in the steering gear box.
  - 2) Improper adjustment of the steering gear box.
  - 3) Insufficient grease in the joints.
  - 4) Worn steering rack or pinion bushing.

### B. Steering Gear Box

#### 1. Gear box retaining bolts

Check the gear box retaining bolts for looseness. Retighten them if necessary.

Steering gear box retaining nut	2.0-2.4 kg-m (14.5-17.4 lb-ft)
---------------------------------	--------------------------------

#### 2. Pinion-to-steering rack clearance

Raise the front of the car enough to lift the front wheels. Remove the steering pinion dust seal and try to move the pinion axially (in and out). If the pinion moves, check the pinion adjusting plate for wear or damage. If the pinion moves radially (left and right) check the pinion and bushing for wear.

### 3. Rack guide adjustments

1. If excessive movement is found at the rack bushing, adjust the rack by turning the rack adjusting bolt: Place the front wheels in the straight-ahead position, tighten the adjusting bolt fully to lock the rack, and back it off 15–25 degrees. Hold the adjusting nut and tighten the lock nut. If the adjusting nut moves when tightening the locknut, the adjustment will be incorrect.

Specified torque	
Steering rack adjusting nut	2.0–2.5 kg-m (14.5–18.0 lb-ft)
Pinion washer nut	2.0–2.5 kg-m (14.5–18.0 lb-ft)

2. After the adjustment is completed, check the load applied to the steering wheel with a spring scale (refer to page 14). Also check the wheel for play.
3. Remove the tie rod dust seal from the gear case. Apply grease to the grease fitting with a grease gun until the old grease is forced out of the rack bushings.

**NOTE:** An assistant should turn the steering wheel while the steering rack is being greased.

#### 4. Gear backlash

Check the pinion gear for backlash. If the steering wheel is loose or noisy while driving, check and adjust the steering pinion guide. Be sure that the backlash is zero when the front wheels are in the straight-ahead position.

### C. Rods and Arms

#### 1. Joints

1. Check the steering column joint for looseness and damage.
2. Remove the tie rod end boot and check the rack end ball joint for looseness and damage.
3. Check the tie rod end lock nut for looseness.
4. Check the tie rod end ball joint for looseness or damage.
5. Check the dust seal on the tie rod end ball joint for damage.
6. Check the tie rod bellows for damage.
7. Check the breather tube for a loose connection.
8. Check the rack end for tightness. If loose, replace the tie rod lock washer with a new one and tighten the rack.

Specified torque	
Rack	5.5–6.0 kg-m (39.8–43.4 lb-ft)

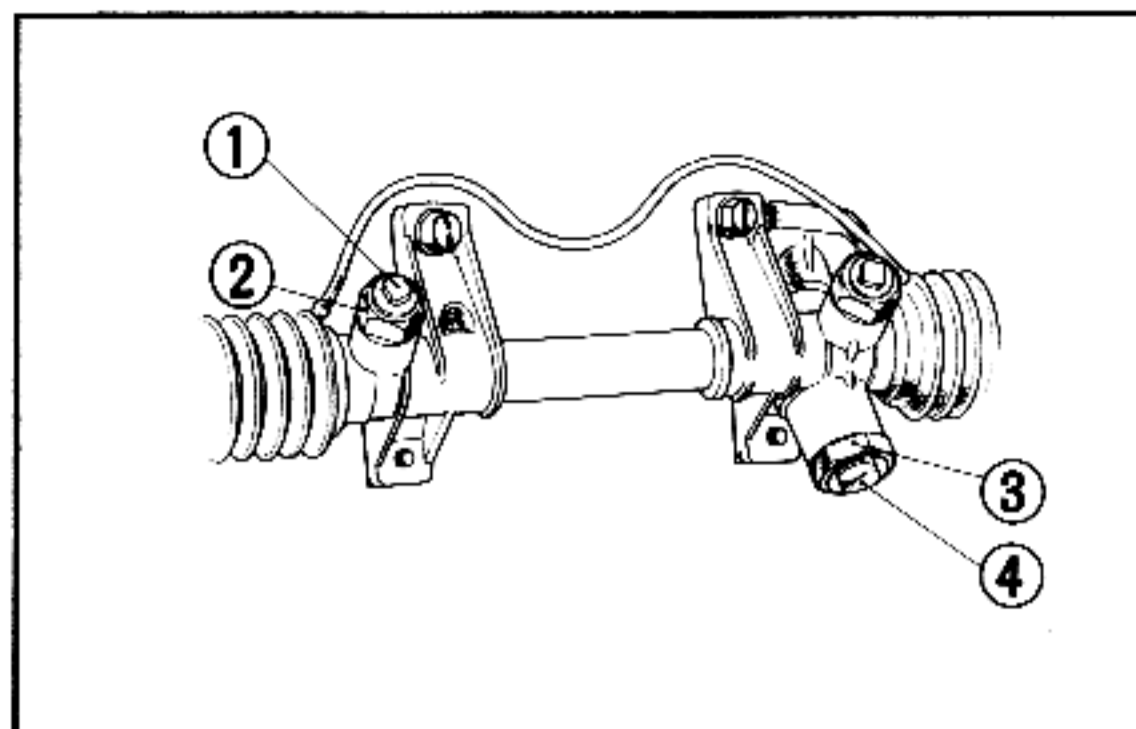


Fig. 2-8 ① Rack Adjusting Nut  
② Rack Adjusting Bolt  
③ Pinion Washer Nut  
④ Pinion Washer Bolt

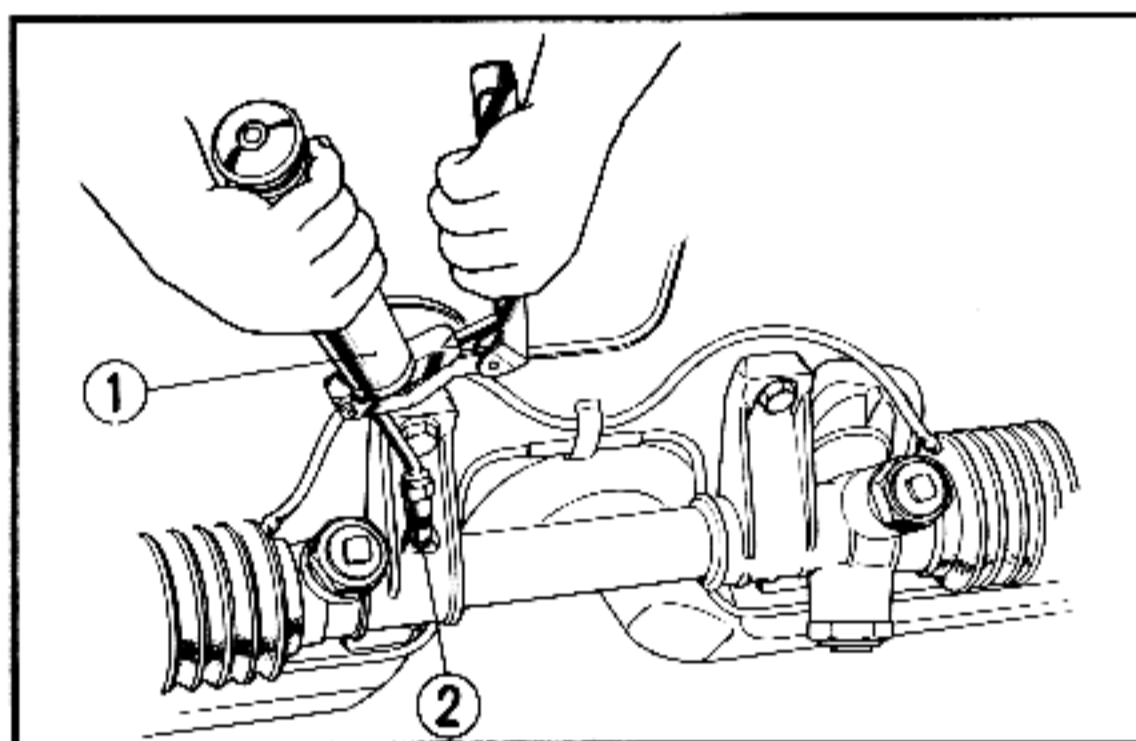


Fig. 2-9 ① Grease Gun ② Grease Fitting

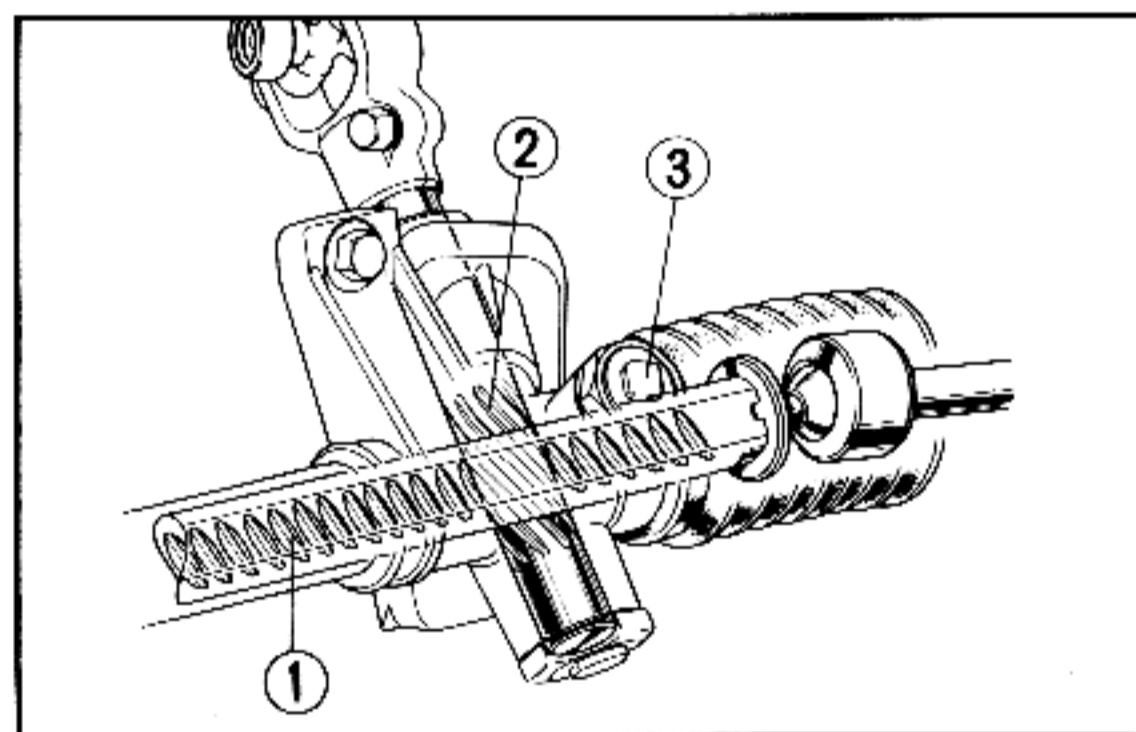


Fig. 2-10 ① Rack ② Pinion Gear ③ Rack Adjusting Bolt

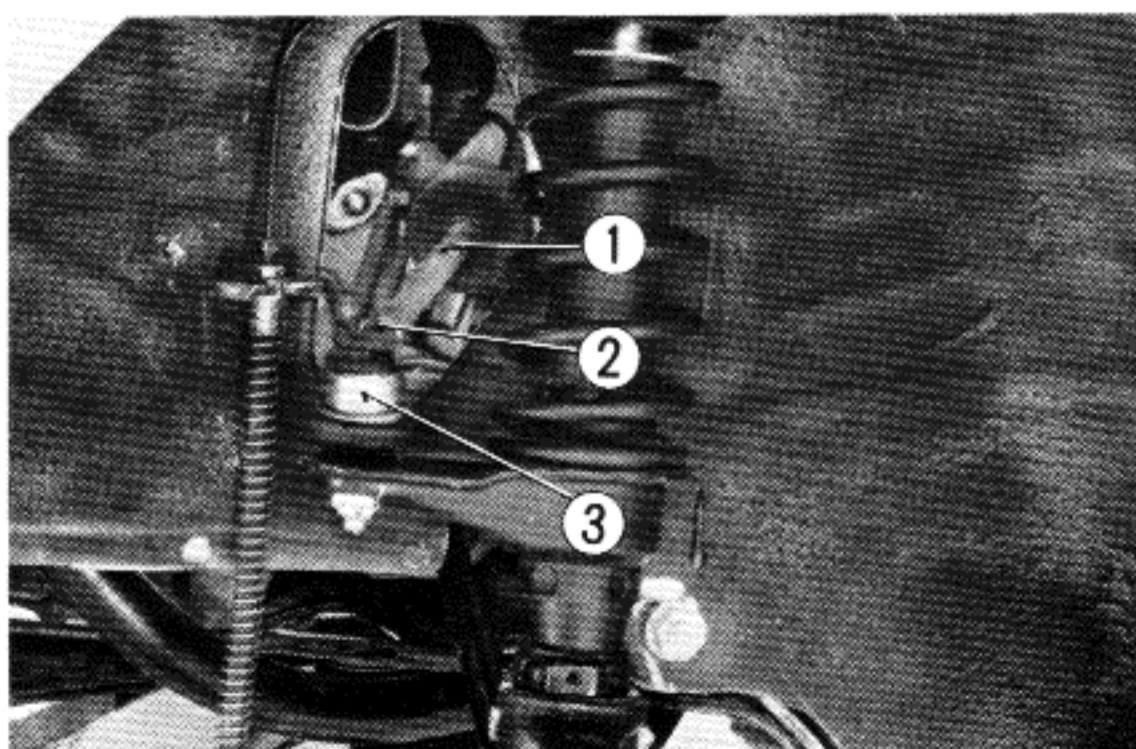


Fig. 2-11 ① Tie Rod ② Lock Nut ③ Ball Joint

## 2. Knuckle Arm

1. Check the knuckle-to-tie rod end connection for damage.
2. Check the tie rod end ball joint for looseness or damage.
3. Check the welded joint of the knuckle.

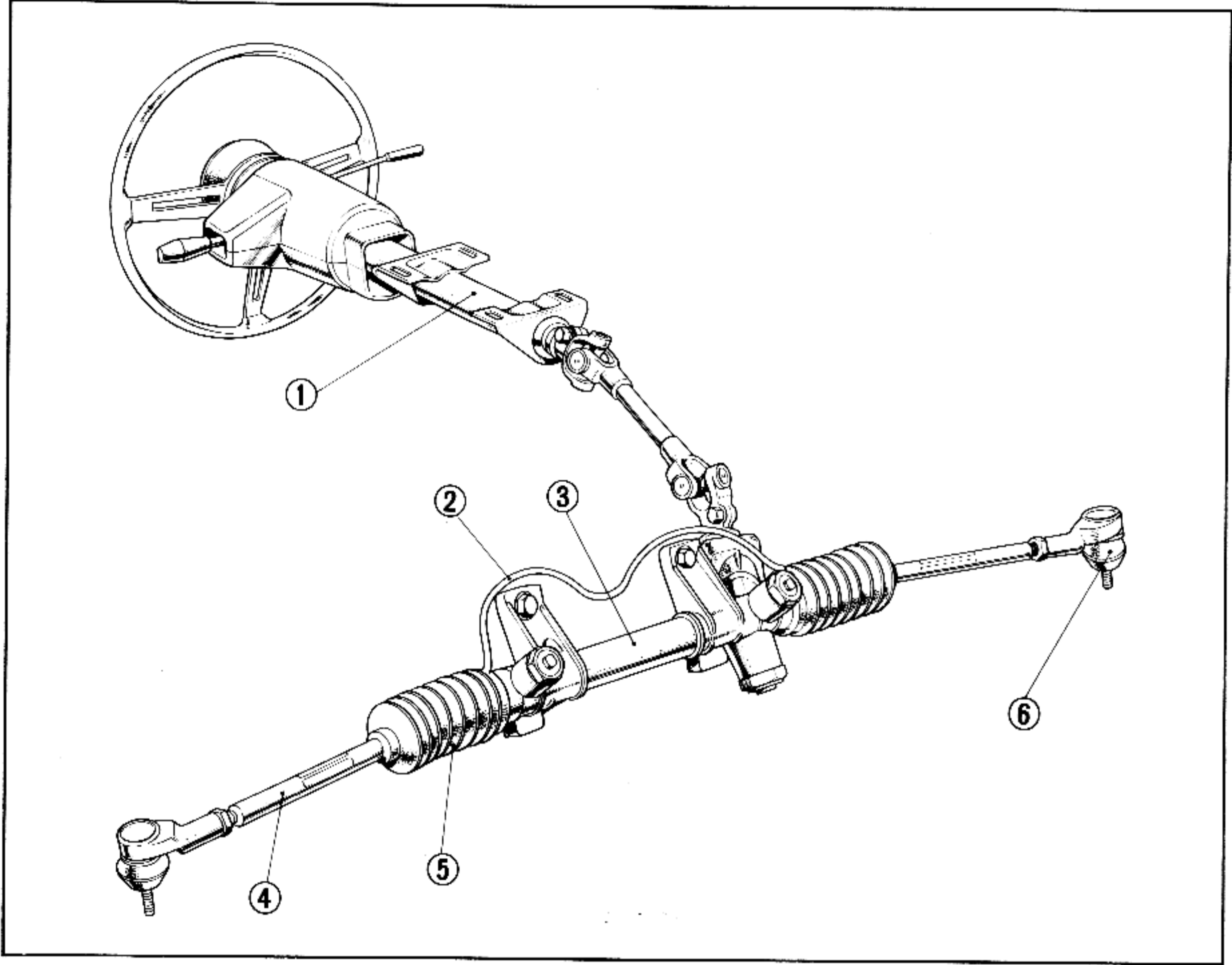


Fig. 2-12 ① Steering Column  
② Breather Tube

③ Gear Box  
④ Tie Rod

⑤ Tie Bellow  
⑥ Tie Rod End Boot

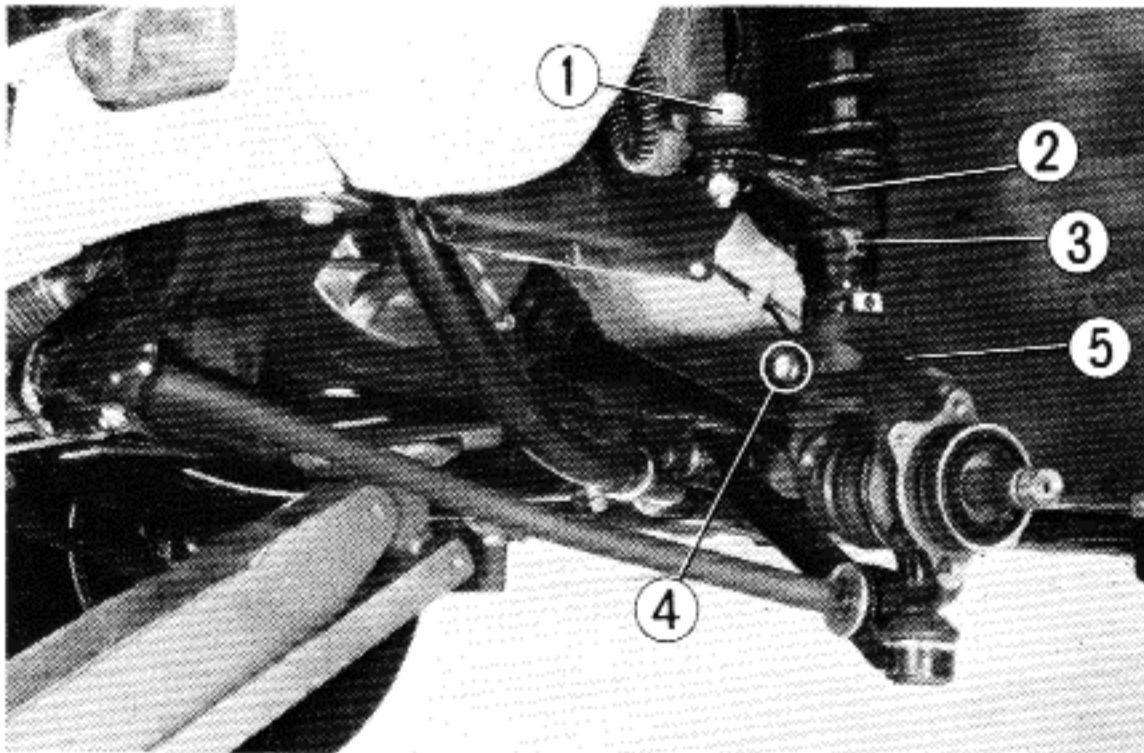


Fig. 2-13 ① Tie Rod end Ball Joint  
② Knuckle Arm  
③ Welded Joint  
④ Front Damper Lock Bolt

### D. Knuckle

1. Check the front damper lock nut for looseness.

	Specified torque
Front damper lock nut	4.5-5.0 kg-m (32.5-36,2 lb-ft)

### E. Wheel Alignment

Because of the various types of alignment equipment on the market, specific alignment procedures will not be given. Refer to the instructions given by the manufacture of the equipment used.

1. Before proceeding with the alignment, check for incorrect tire pressure, rim or wheel distortion, and any other irregularities that may affect alignment results.
2. Check caster and camber. If the readings are out of specification, check for any damage and correct.
3. Adjustment
  - 1) Center the pinion on the steering rack. The steering wheel should be centered and locked in position. If the steering wheel is not centered when the rack is centered, the steering wheel must be repositioned on the steering shaft.
  - 2) Loosen the tie rod adjusting (lock) nuts and turn the steering rack end assembly to increase or decrease the toe-in.

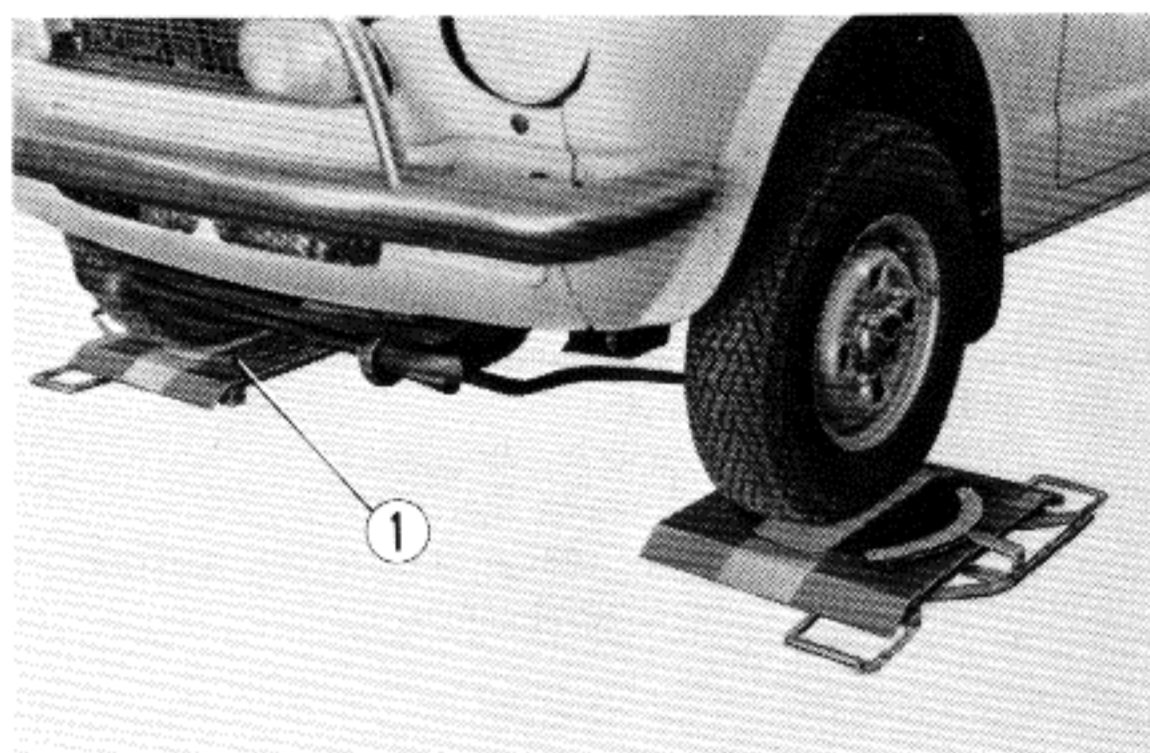


Fig. 2-14 Turning Radius Gauge

#### NOTE:

1. The adjustment should be made while measuring with the gauge.
2. Turn both tie rods an equal amount until toe-out becomes 2mm (.08 in). 1~3mm is the total toe-out allowance.
3. Be sure to tighten the tie rod lock nuts after completing the adjustment.
4. Recheck the alignment gauge readings.

## 2-2. Brake System

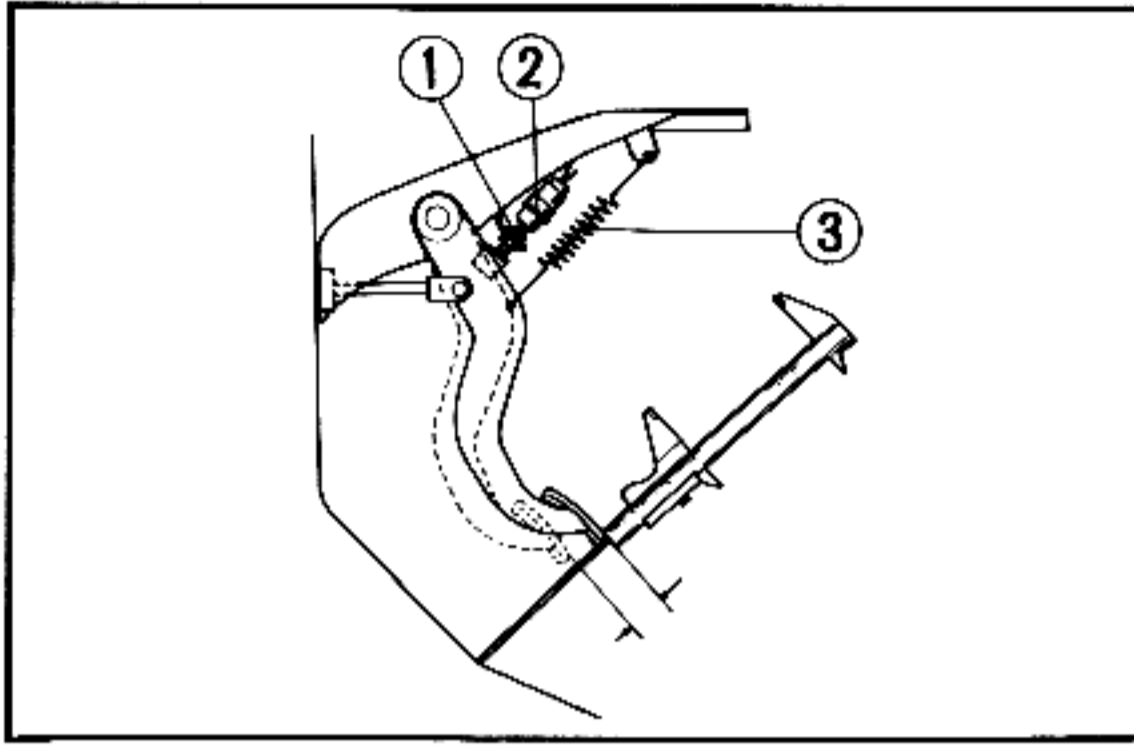


Fig. 2-15 ① Lock Nut  
 ② Stop Switch (Adjuster)  
 ③ Pedal Return Spring  
 ④ Free Play (Measured with Return Spring Connected)

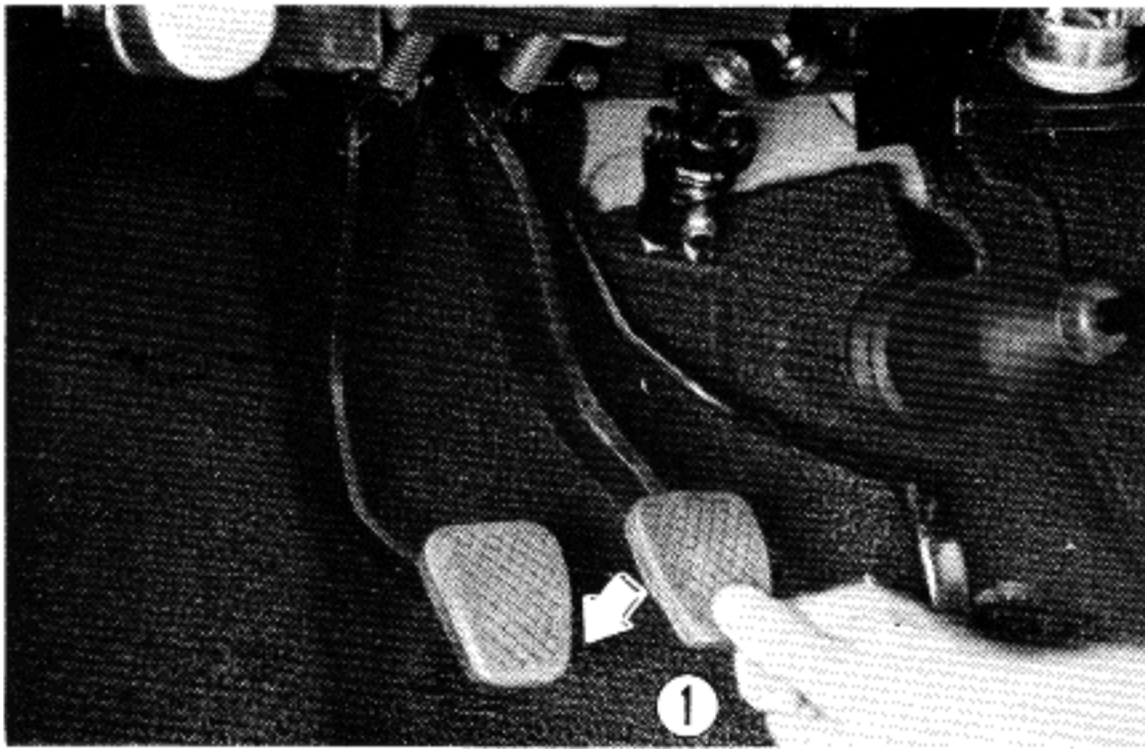


Fig. 2-16 ① 1~10mm Play

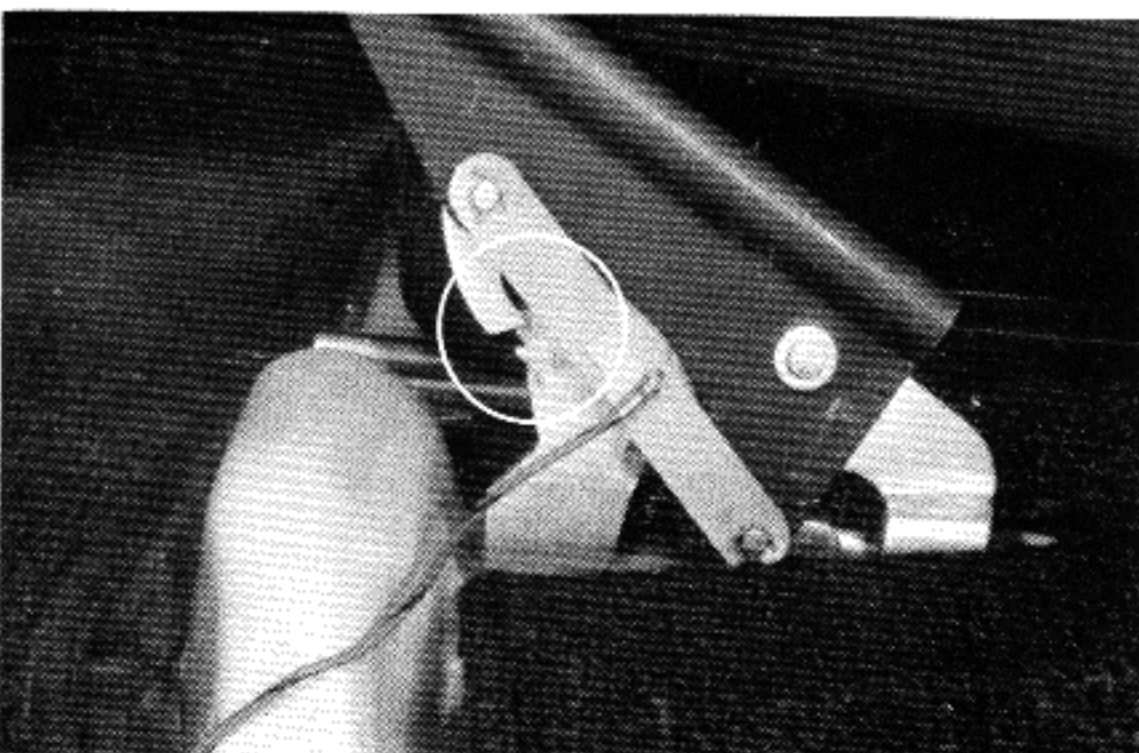


Fig. 2-17

### A. Brake Pedal

#### 1. Pedal free-play

With the depth gauge end of the vernier calipers, measure the distance from the floor (remove the carpet) to the brake pedal. Then disconnect the brake pedal return spring and again measure the distance from the floor to the brake pedal. The difference in the two measurements is the brake pedal free-play. The specified free-play is 1~10 mm (0.04~0.34 in). Free-play adjustment is made by means of the stop light switch. To adjust, loosen the lock nut and rotate the switch body.

1. If clearance is excessive, turn the stop light switch in until there is a free-play of 1~10 mm.
2. If there is an inadequate clearance, turn the stop light switch out until there is a free-play of 1~10 mm.

#### 2. Brake performance

If braking difficulties are experienced, the following procedure should be followed:

- \* Check and adjust the tire inflation pressure.
- \* Check the front pads for wear, and the movement of the brake yokes (see page 23 section G. 1. 2).
- \* Check the drums for wear and adjust the linings.

### B. Parking Brake

#### 1. Brake lever stroke

The rear wheels should be locked when the lever is pulled 1~5 notches on the ratchet serration.

Adjustment should be made by turning the adjusting nut located at the rear axle shaft. Check the ratchet for wear.

**NOTE:** Any adjustment should be performed after the rear brakes have been adjusted.

## 2. Parking brake operation

Check the parking brake for correct operation by parking the car on a grade. Release the lever and note any brake drag. Adjust accordingly.

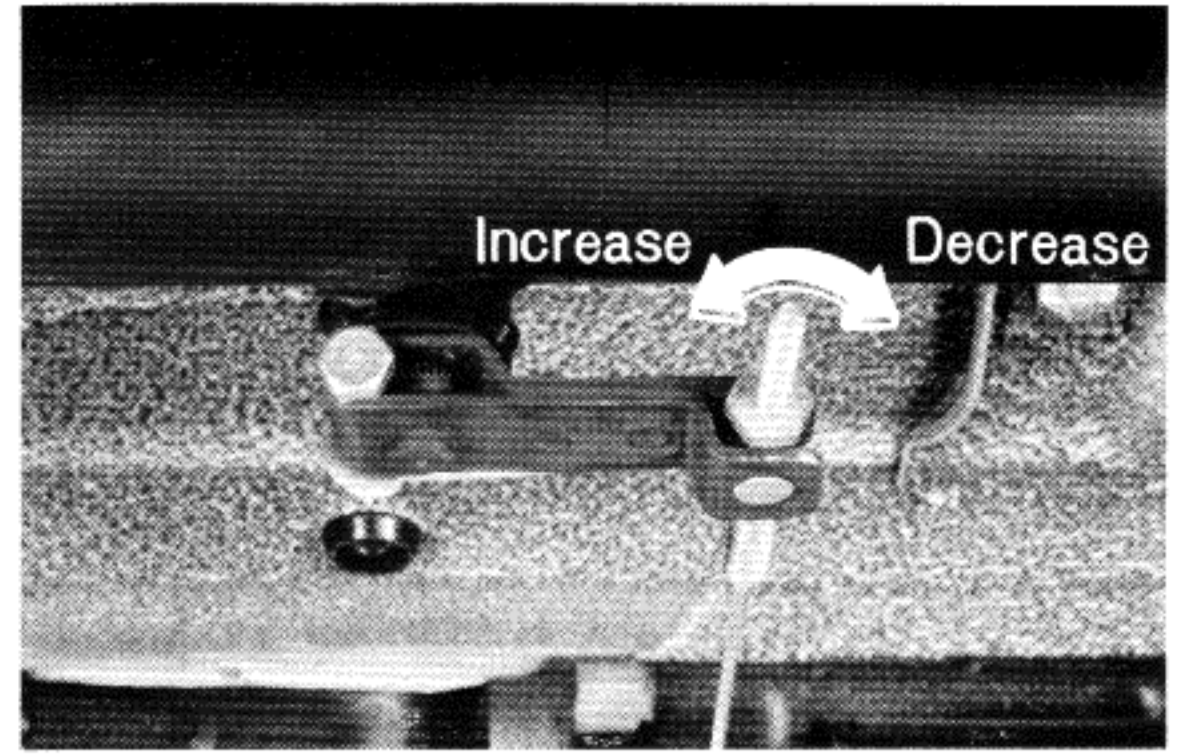


Fig. 2-18

## C. Rods and Cables

1. Check the cables for wear and damage. Check the cable guide and equalizer for looseness.
2. Check the equalizer cable where it contacts the equalizer for any signs of wear. Apply grease between the equalizer and cable if necessary.

Recommended grease :

NLGI No. 2 Multipurpose

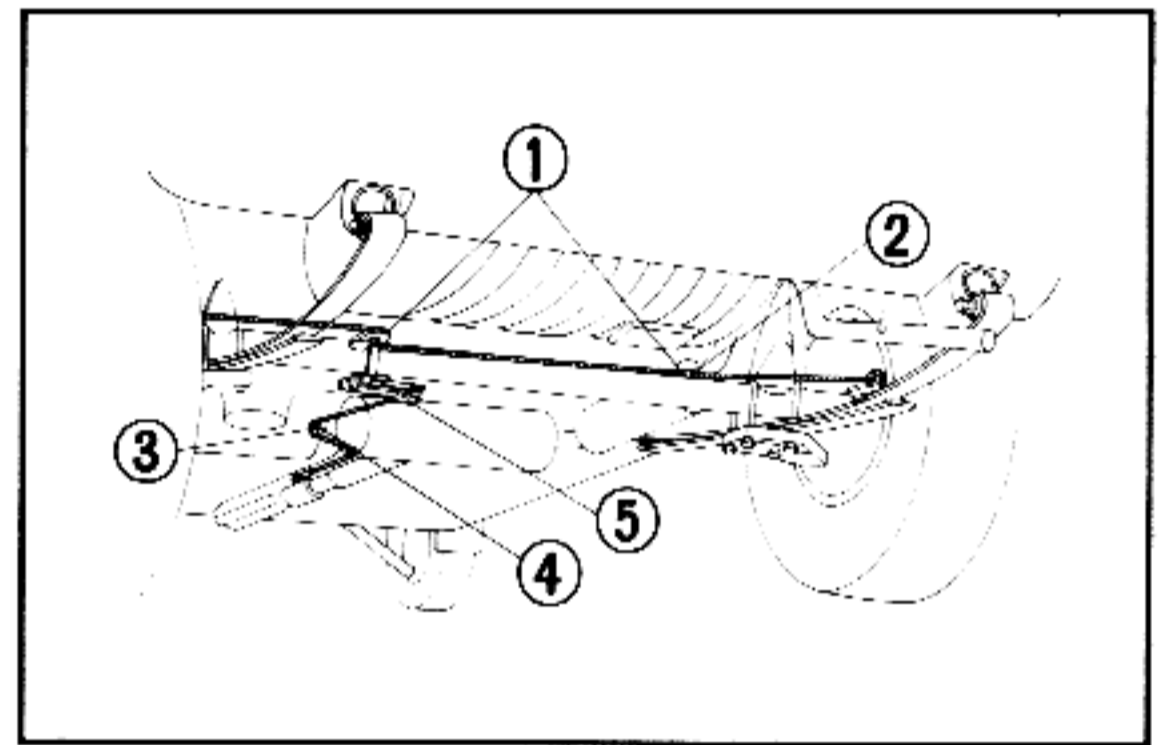


Fig. 2-19 ① Apply Grease ④ Apply Grease  
② Guide ⑤ Equalizer  
③ Guided

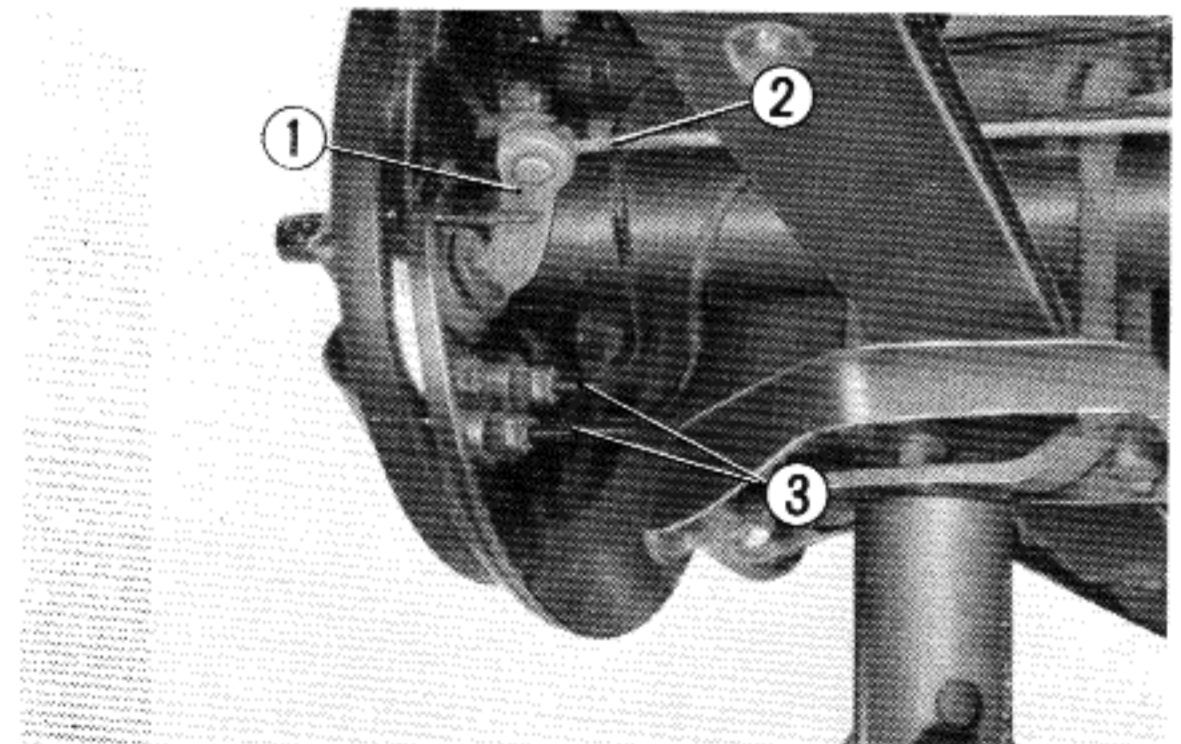


Fig. 2-20 ① Brake Lever  
② Parking Brake  
③ Brake Pipe

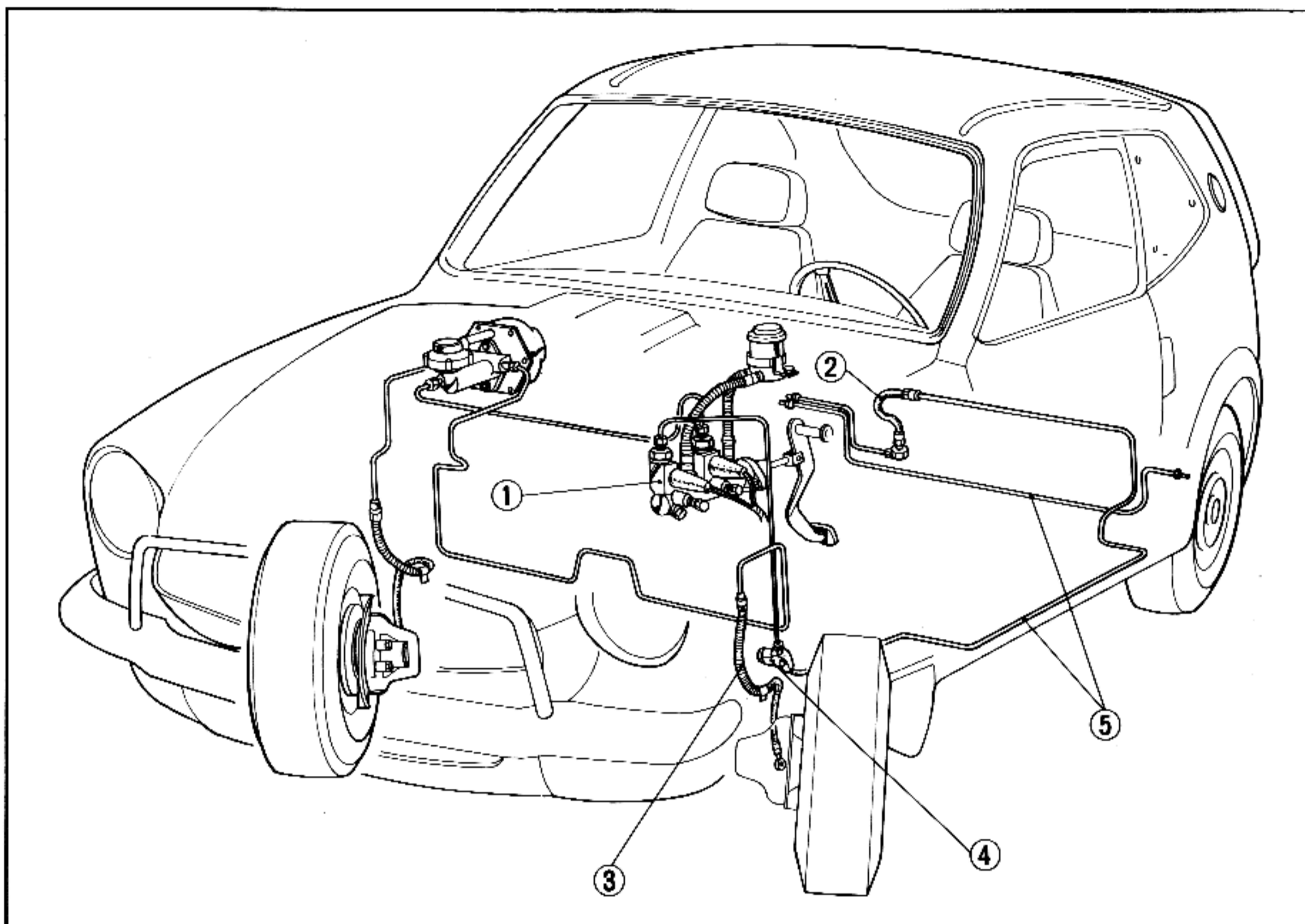


Fig. 2-21 ① Master Cylinder      ③ Front Brake Hose      ⑤ Brake Pipe  
 ② Rear Brake Horse      ④ Proportioning Valve

## D. Brake Hoses and Pipes

### 1. Inspection

1. Check the brake hoses, pipes, and all joints and connections for any sign of leakage.
2. Check the hoses and pipes for any damage.
3. Check to see that they are mounted securely in place.

### 2. Adjustment

1. Retighten any loose joints or connections.
2. Replace any damaged hose or pipe.
3. Check the brake fluid level.
4. Bleed all entrapped air.

## E. Brake Fluid

### 1. Checking the brake fluid level

Periodically checking the level of the brake fluid reservoir will insure a correct fluid level at all times. A constant loss of fluid indicates a leak in the system. Infrequent topping-off will be required in normal use due to pad wear.

#### NOTES:

1. Use only recommended brake fluid when replacement is necessary. Recommended: DOT3 brake fluid meets the SAE J1703 specification. Outside the U.S.A., use SAE J1703 brake fluid.
2. Never re-use brake fluid, or use fluid that is dirty, cloudy or has air bubbles.



3. Store brake fluid in a clean dry place in the original container. Cap tightly and do not puncture a breather hole in the container.
4. Carefully remove any dirt from around the master cylinder cap before opening.
5. Take special care not to spill the fluid, otherwise the painted surfaces of the vehicle may be damaged.

## 2. Changing the brake fluid

When it is necessary to flush the brake hydraulic system because of parts replacement or fluid contamination, the procedure listed below should be followed:

1. Begin the fluid change at the wheel furthest away from the master cylinder.
2. Loosen the wheel cylinder bleeder screw. Drain the brake fluid by pumping the brake pedal.
3. Pump the pedal until all of the old fluid has been pumped out and replaced by new fluid.
4. The flushing procedure should be performed in the following sequence:
  - 1) Bleed the left rear brake.
  - 2) Bleed the right front brake.
  - 3) Bleed the left front brake.
5. Maintain the correct fluid level in the master cylinder reservoir with fresh brake fluid.
6. Using the same sequence, bleed the entire system until all the air is removed.

**NOTE: Do not allow air to enter the master cylinder when adding fresh fluid.**

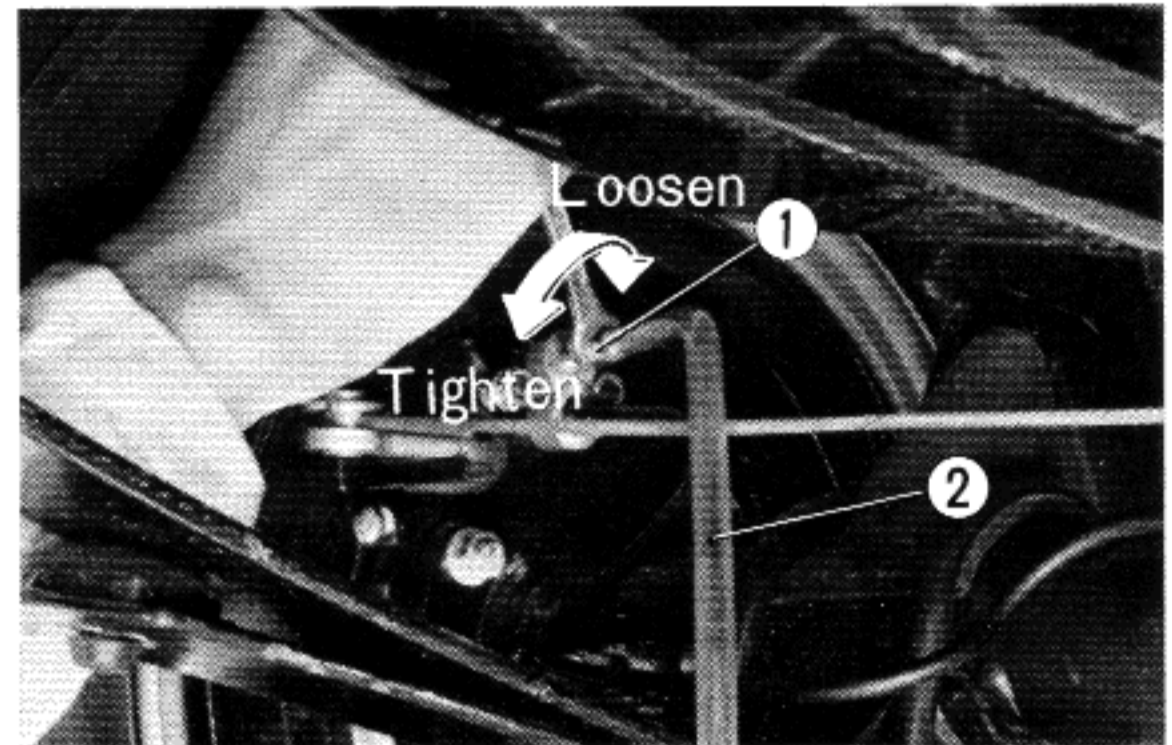


Fig. 2-22 ① Bleeder Screw ② Vinyl Tube

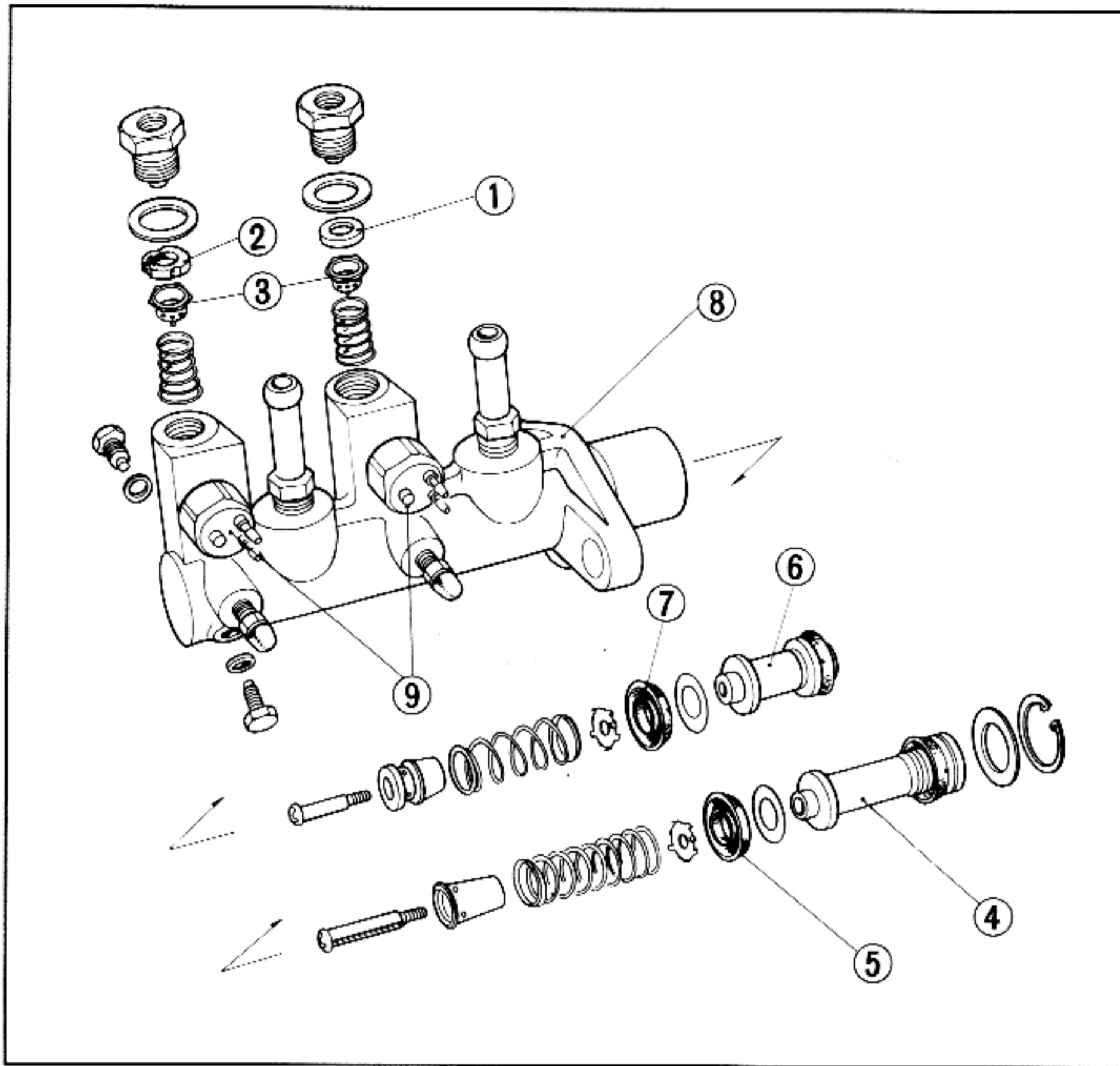


Fig. 2-23

- ① Check Valve Seat (Aluminum)
- ② Check Valve Seat (Rubber)
- ③ Check Valve
- ④ Primary Piston
- ⑤ Primary Piston Cup
- ⑥ Secondary Piston
- ⑦ Secondary Piston Cup
- ⑧ Master Cylinder Body
- ⑨ Stop Switch

### 3. Brake master cylinder and wheel cylinders

1. Check the master cylinder and brake cylinders for brake fluid leakage.
2. If leakage is found, disassemble the cylinder for inspection. Check each part for wear, corrosion or any other damage.
3. Measure the clearance between the piston and cylinder bore with a thickness gauge.

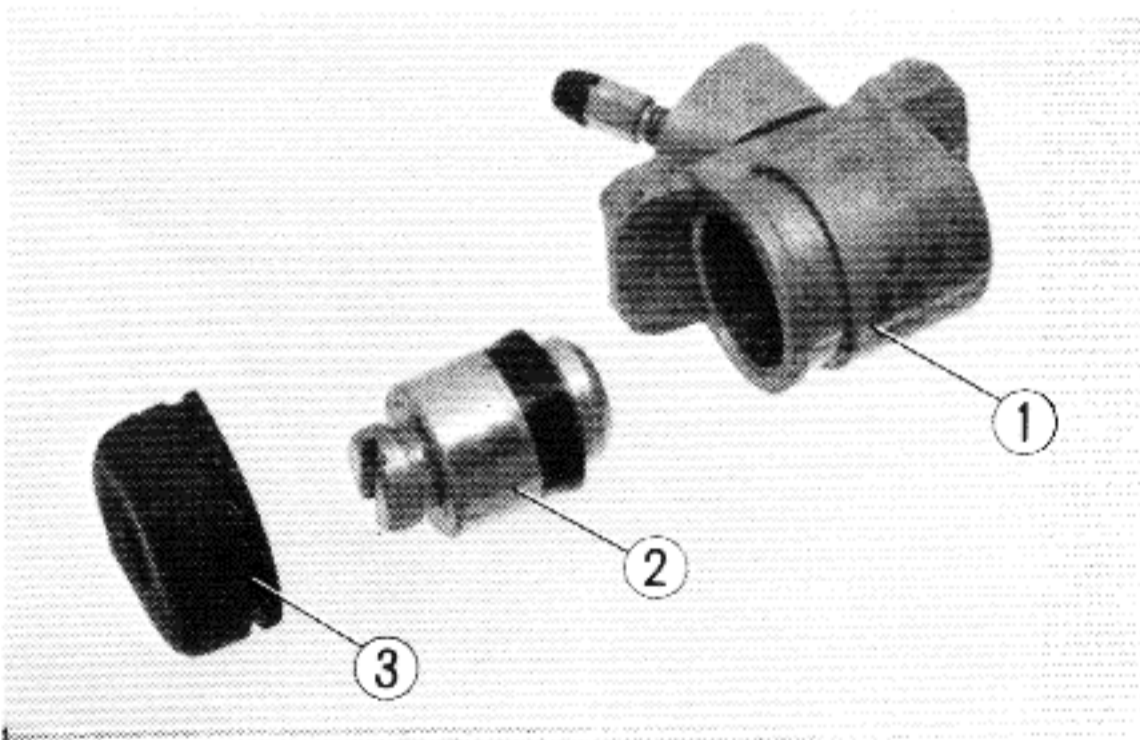


Fig. 2-24 ① Wheel Cylinder  
② Piston  
③ Dust Seal

	Standard mm	Service limit mm
Brake master cylinder bore-to-piston clearance	0.02-0.105 (0.00079-0.004 in)	0.15 (0.0059 in)
Wheel cylinder bore-to-piston clearance	0.02-0.105 (0.00079-0.004 in)	0.15 (0.0059 in)

4. After reassembling the cylinder, bleed off any entrapped air. Operate the brake system and check for any leakage. Check pedal travel and adjust the rear brakes if necessary.

## F. Drum Brake

### 1. Drum-to-lining clearance (rear brake)

1. Jack up the rear of the car and depress the brake pedal 2-3 times.
2. Turn the adjusting screws located at the rear side of the backing plate clockwise until the wheel is locked.
3. Then, back off the screw one click and depress the brake 2-3 times.
4. If the drum is binding when turning the wheel, back off the adjusting screw one more click.
5. Perform the same procedure on the other wheel. Check the brakes for control after the adjustment.

### 2. Wear of the rear brake linings

1. If the linings are found worn beyond specification when measured with a vernier caliper, they should be replaced with new linings.
2. Check the brake drums for wear or any other damage.

	Standard (mm)	Service limit (mm)
Lining thickness	5 (0.20in)	2.0 (0.08in)
Drum I.D.	180 (7.086in)	181 (7.126in)

**NOTE:** If the lining is worn excessively or abnormally on one wheel, but not on the other, the worn lining should be replaced. Normally the brake linings should be replaced on both rear wheels at the same time.

## G. Front Disk Brake

### 1. Checking disk-to-pad clearance

1. Jack up to the car and rotate the front wheels by hand to see if the pads are dragging.
2. Remove the wheels and check the disk-to-pad clearance. If there is no clearance, or excessive clearance, check the following:
  - 1) If no clearance, check the yoke movement. If lining wear differs between the inner and outer pads, the caliper may be unable to move properly due to rust and dirt on the sliding surfaces. Clean the sliding part of the caliper and apply grease (NLGI No. 2 Multipurpose). Measure the amount of force required to slide the caliper with a spring scale. Standard reading: 25kg (55lbs.)
  - 2) If excessive clearance, check the movement of the pistons (a & b).
  - 3) Check the pads.

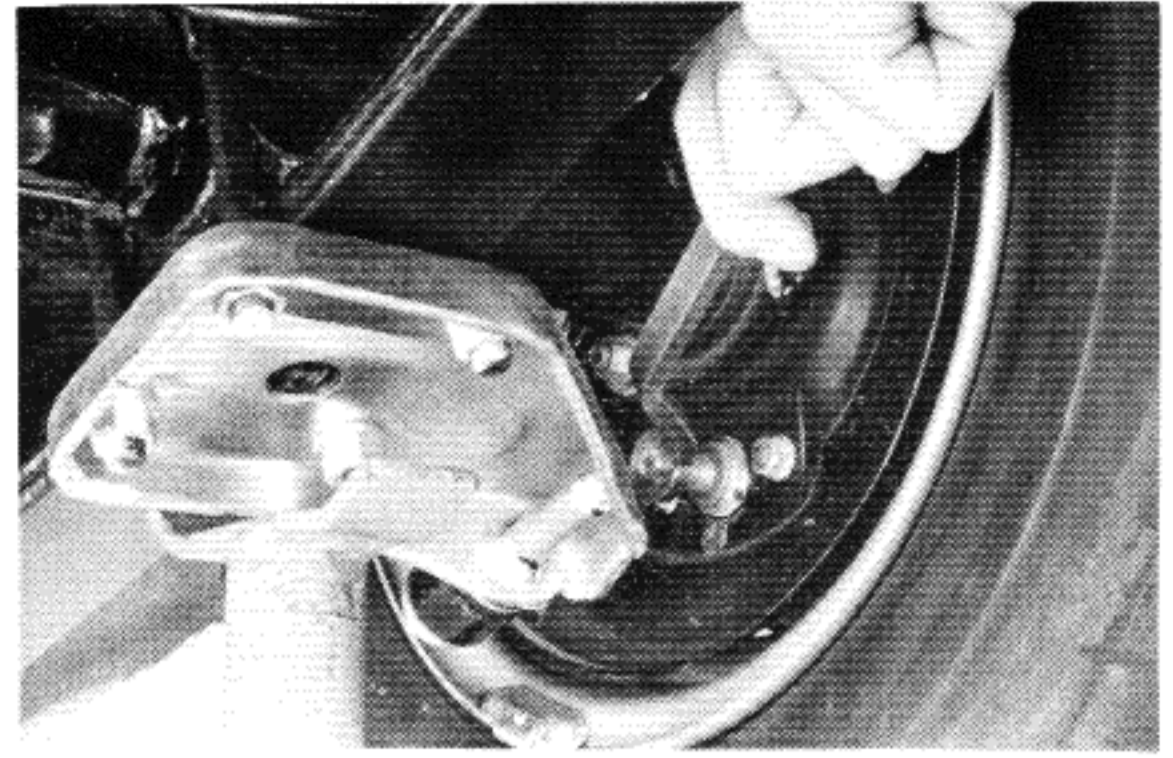


Fig. 2-25

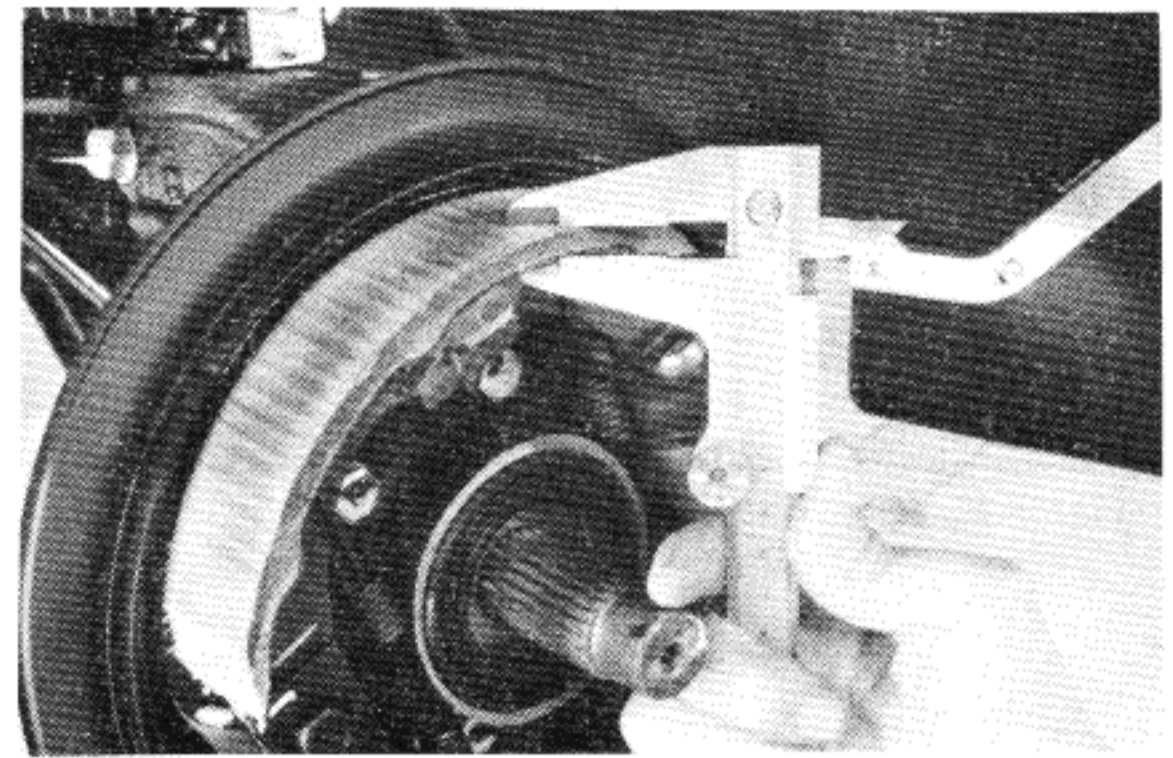


Fig. 2-26

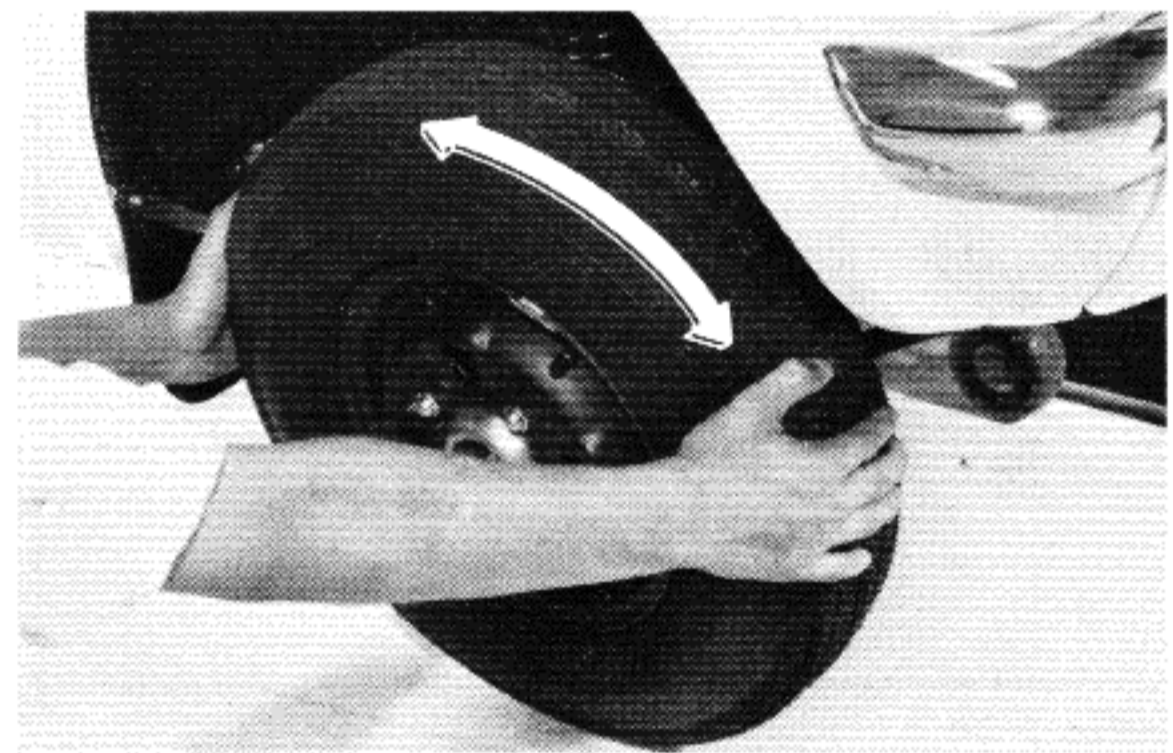


Fig. 2-27

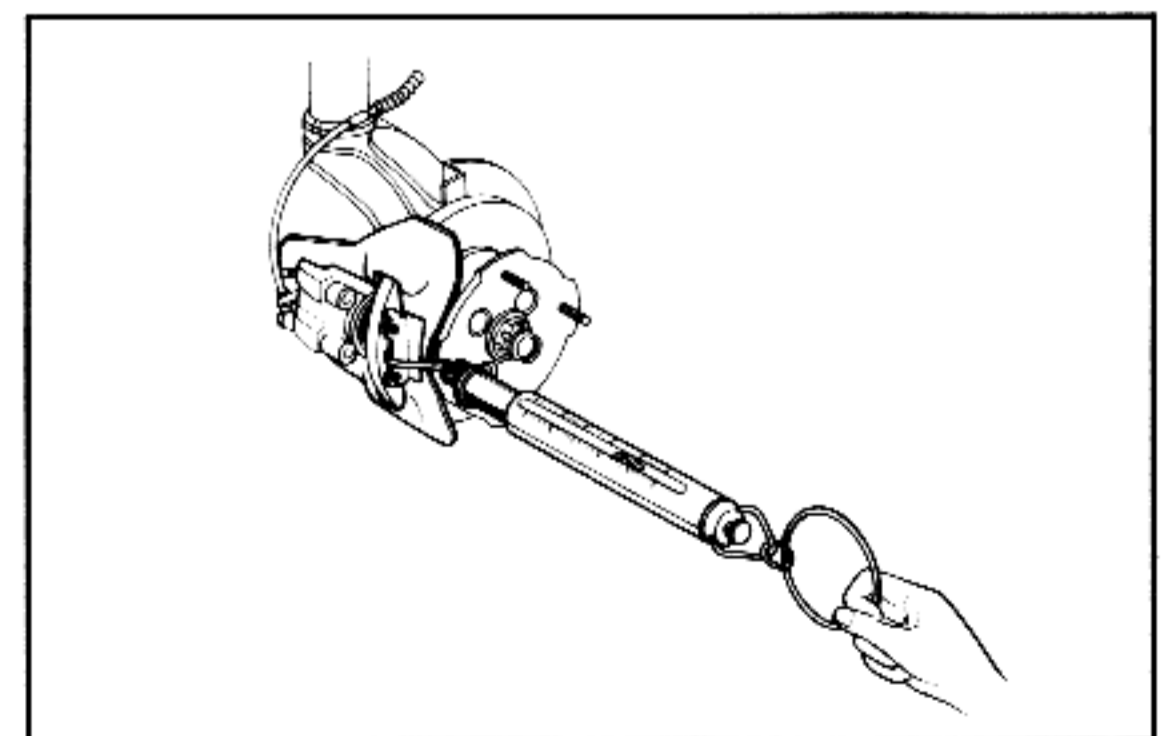


Fig. 2-28

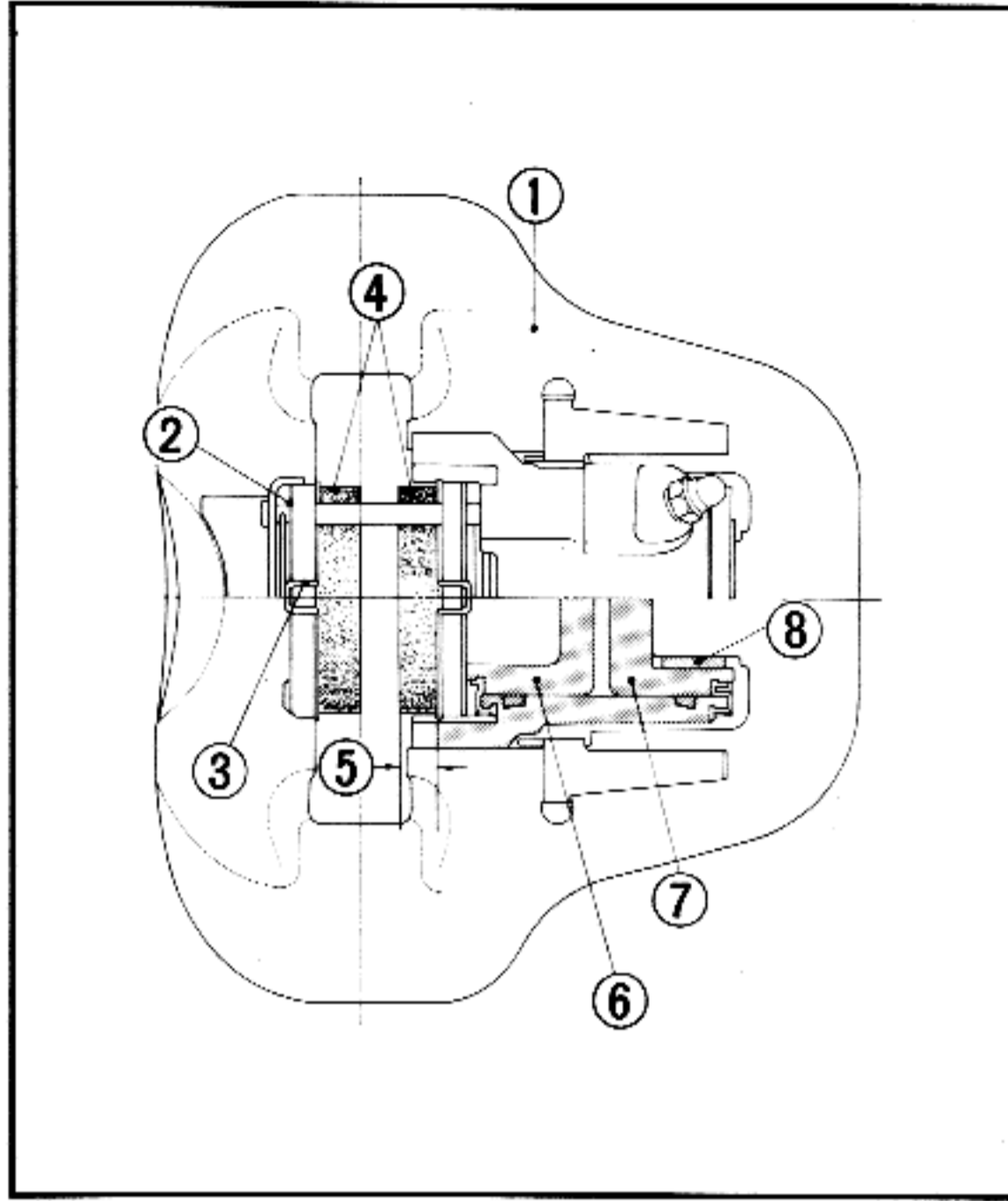


Fig. 2-29 ① Yoke ⑤ Thickness  
 ② Shim ⑥ Piston B  
 ③ Retaining Clip ⑦ Piston A  
 ④ Pad ⑧ Bias Ring

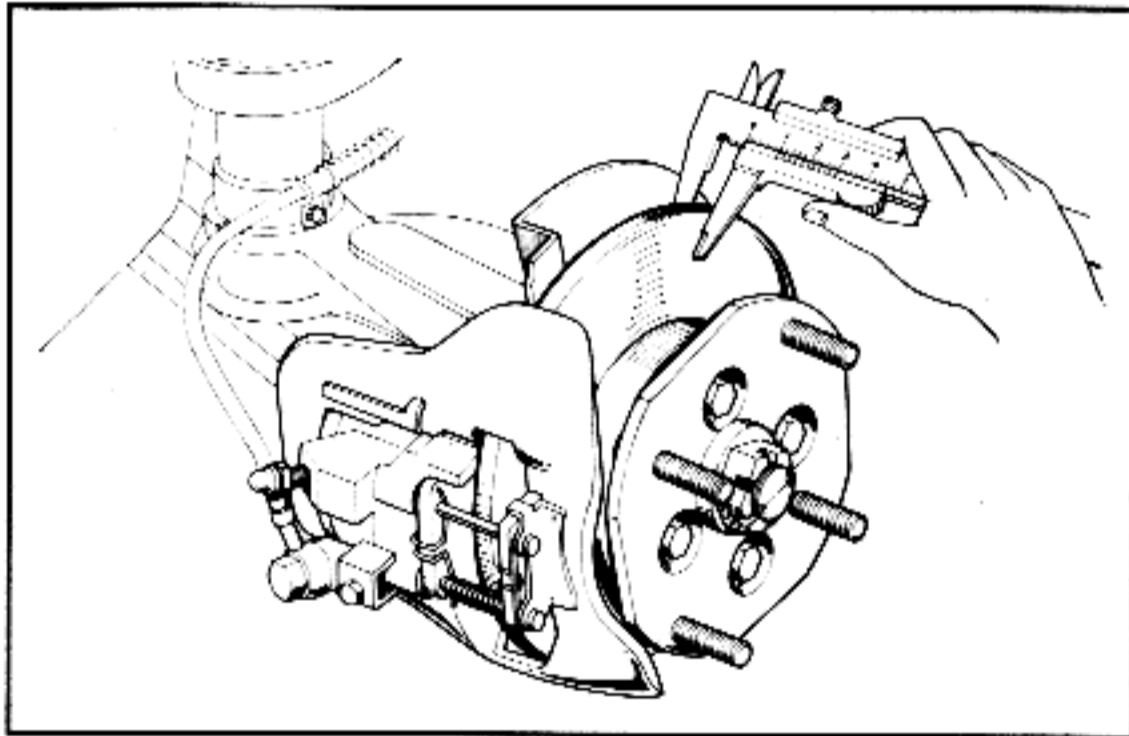


Fig. 2-30

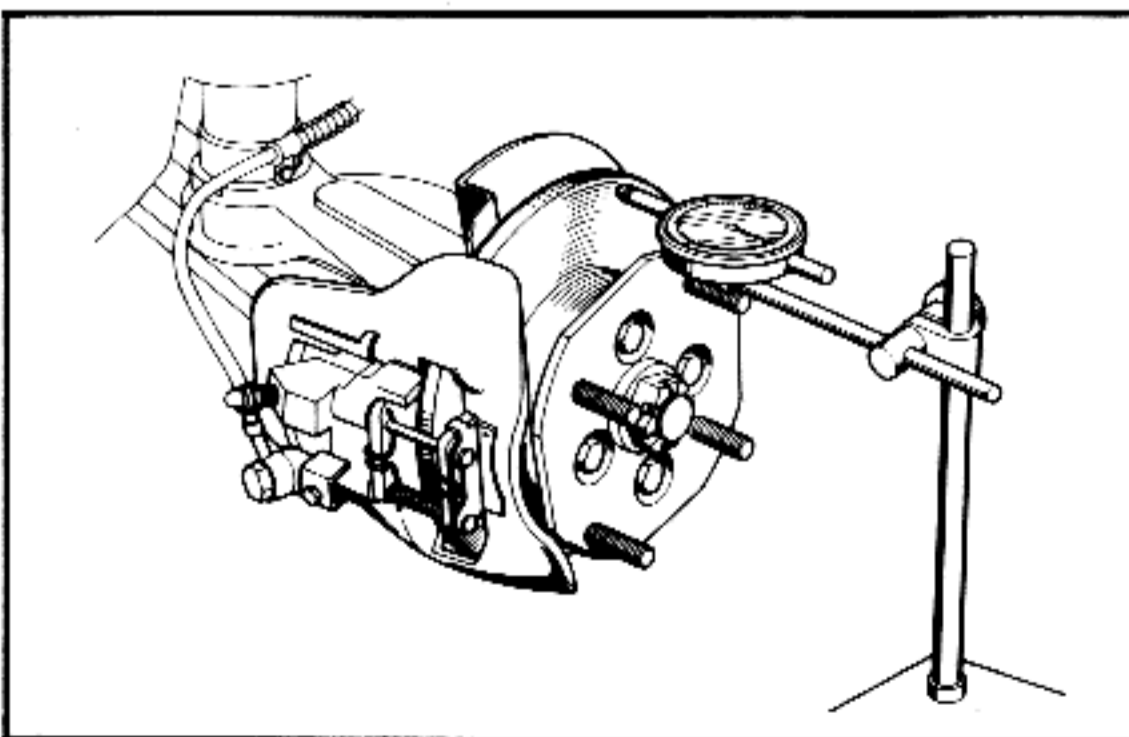


Fig. 2-31

## 2. Brake pad inspection

1. Remove the brake pads and measure the pad lining thickness with a vernier caliper or micrometer. The measurement should be made at the point of maximum wear.

	Standard (mm)	Service limit (mm)
Pad thickness	10.3 (0.41 in.)	2.0 (0.08 in.)

2. When the pads are replaced or when the brakes are noisy apply a thin coat of grease (NLGI No. 2 Multipurpose) to the backside (rear) of the pads.

### NOTES:

1. When replacing the pads, also replace the springs, shims, and retaining clips.
2. Prior to replacing the pads, reduce the amount of brake fluid in the reservoir to prevent it from spilling out.

## 3. Disk inspection

1. Remove the front wheels and measure the thickness of the disk with a micrometer. The measurement should be made on the most worn part of the disk thickness.

**NOTE:** When measuring the disk thickness, do not include the ridge around the disk circumference.

	Standard (mm)	Service limit (mm)
Disk thickness	9.6 (0.378 in)	9.0 (0.354 in)

2. Check the disk for damage.

**NOTE:** When removing the front hub, do not hit it with a hammer; otherwise the hub may be damaged. Use a puller if necessary.

## 3. Checking disk face runout and parallelism

1. Measure the face runout at the center of the disk with a dial indicator. The maximum allowable runout is 0.1 mm (0.004 in.). Replace the disk if the runout exceeds the specification.
2. Measure the parallelism of the disk faces around the entire friction surface of the disk with two dial indicators placed opposite each other. The maximum allowable variation in the width of the disk is 0.07 mm (0.003 in.).

## 2-3. Wheels

### A. Wheels and Tires

#### 1. Wheel tire inflation pressure

1. Check the tires for correct inflation pressure with a tire gauge. Correct the pressure if necessary.

**NOTE:** All four tires should be inflated equally. Correct tire pressures are given on the label attached to the back of the glove box door.

2. Also check the inflation pressure of the spare tire and inflate it to a maximum of 2.2 kg/cm<sup>2</sup> (32 psi).

#### TIRE PRESSURES

600 Coupe	Front	1.8 kg/cm <sup>2</sup>	(26 psi)
	Rear	1.8 kg/cm <sup>2</sup>	(26 psi)

#### 2. Excessive wear and other tire damage

1. Check the tires for excessive tread wear while on a lift, or by jacking up each wheel. When the tread wear indicator appears as a solid band across the tread, the tire should be replaced.
2. Check the entire surface of the tire for any damage. Replace if necessary.
3. Check for gravel or sharp objects embedded in the tread and remove them with a pair of pliers.

#### 3. Checking wheel balance

Before balancing the wheel and tires, check the following:

1. Check the tire pressure.
2. Check the wheel setting (lug) nuts for tightness.
3. Spin the wheel by hand to check for wheel bearing play.
4. Check the tire for roundness.
5. Check the tire for wear and any other damage.
6. Check the rim for any damage.

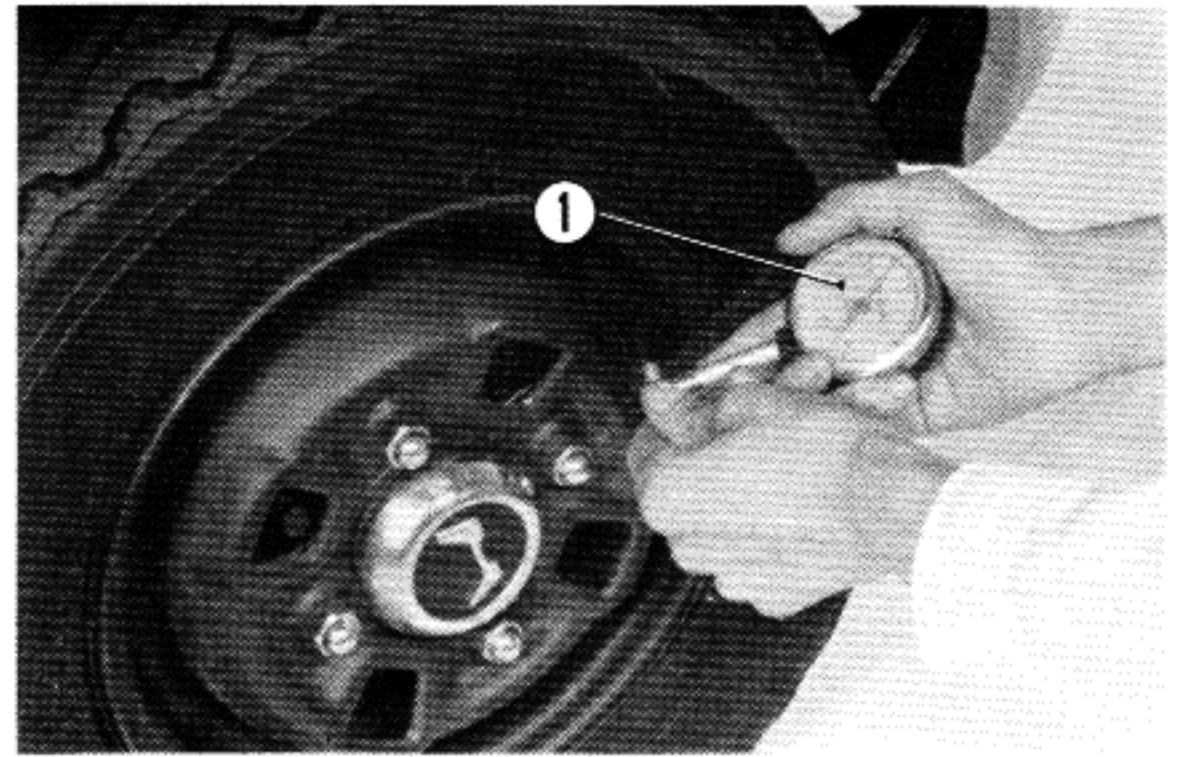


Fig. 2-32 Tire Gauge

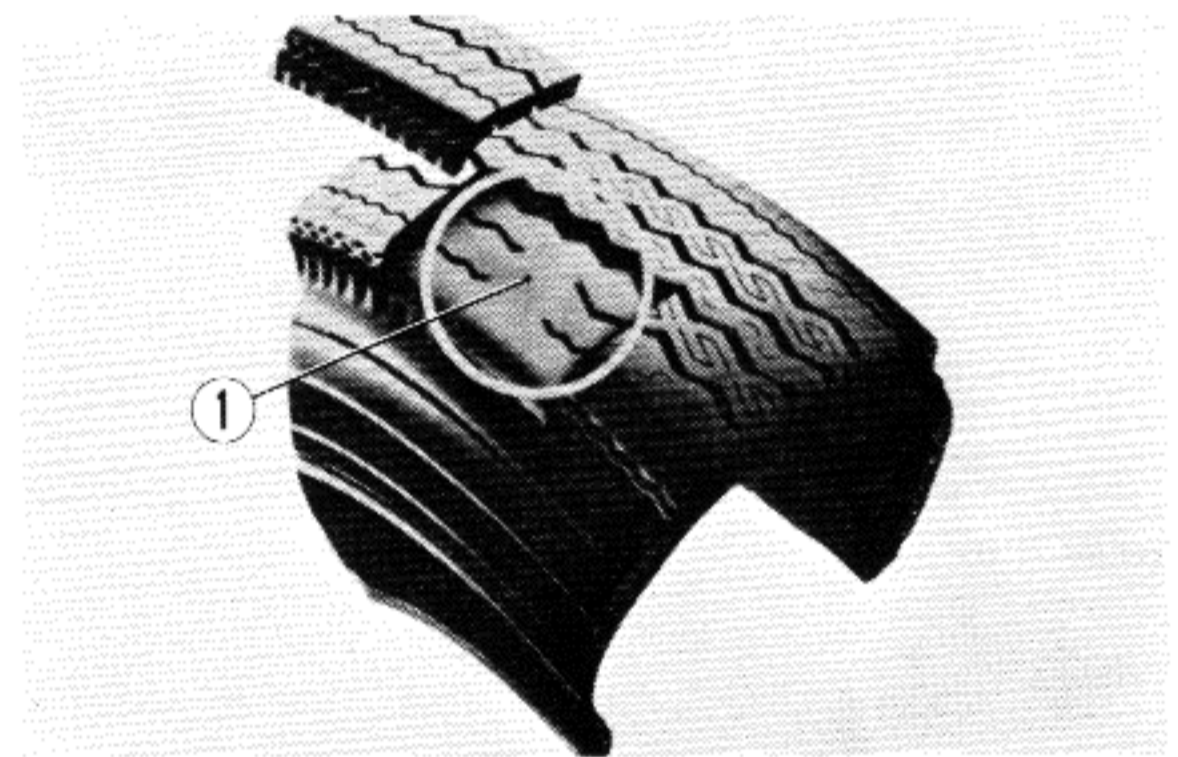


Fig. 2-33 ① Wear Indicator

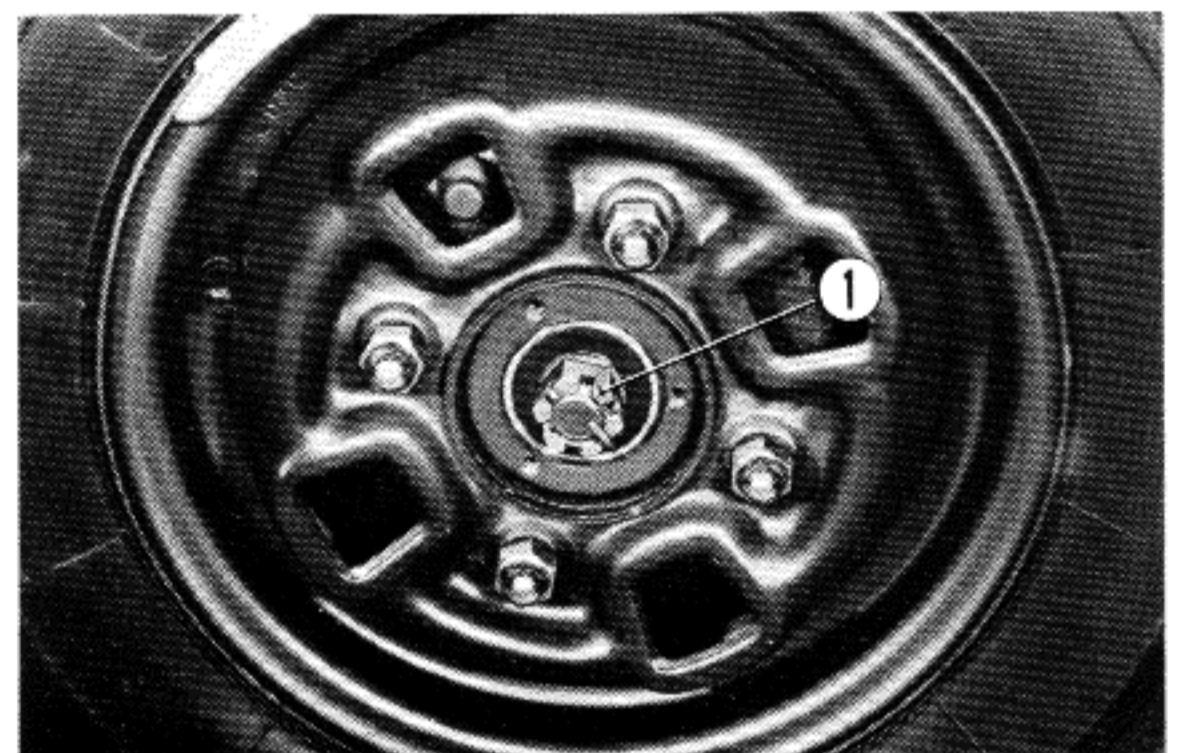


Fig. 2-34 ① Castellated Nut

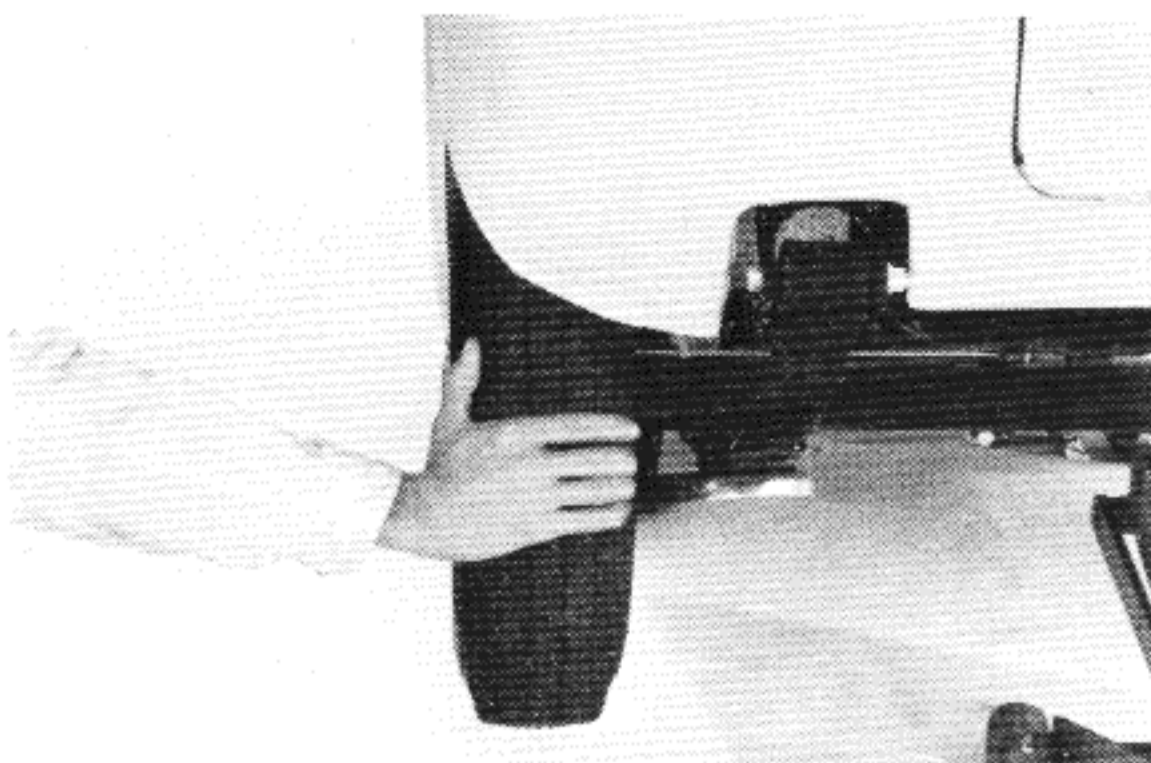


Fig. 2 35

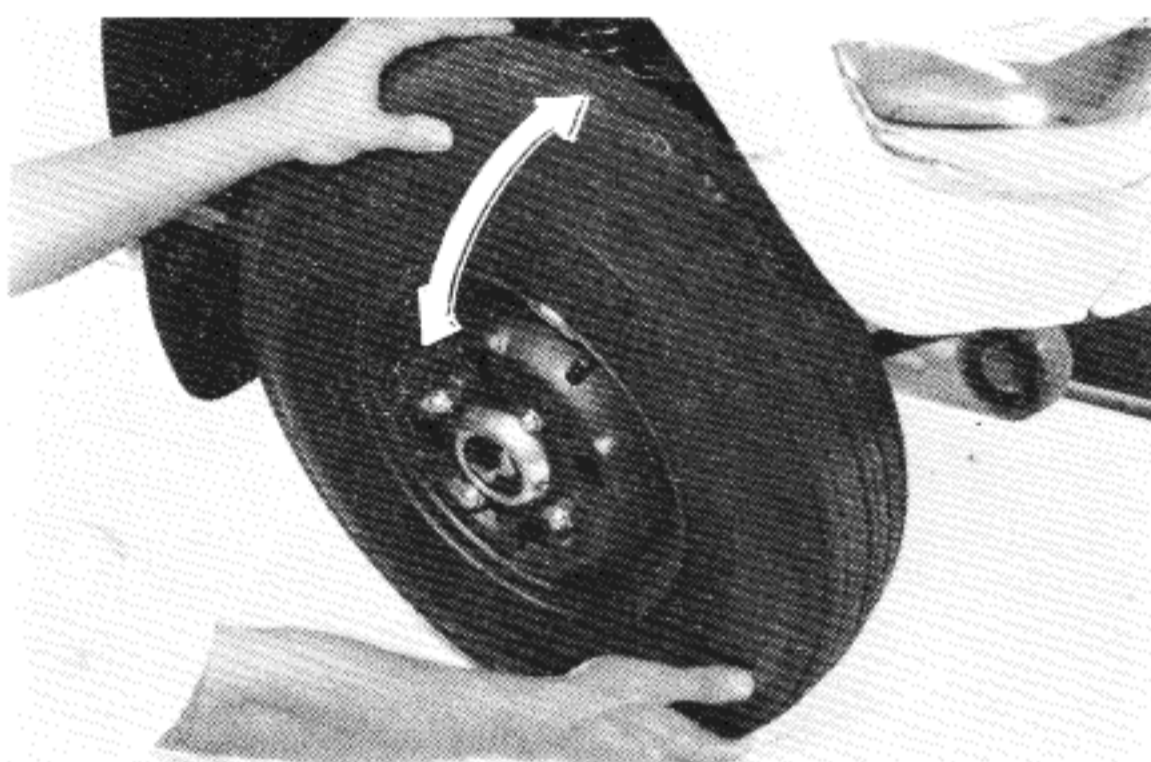


Fig. 2 36

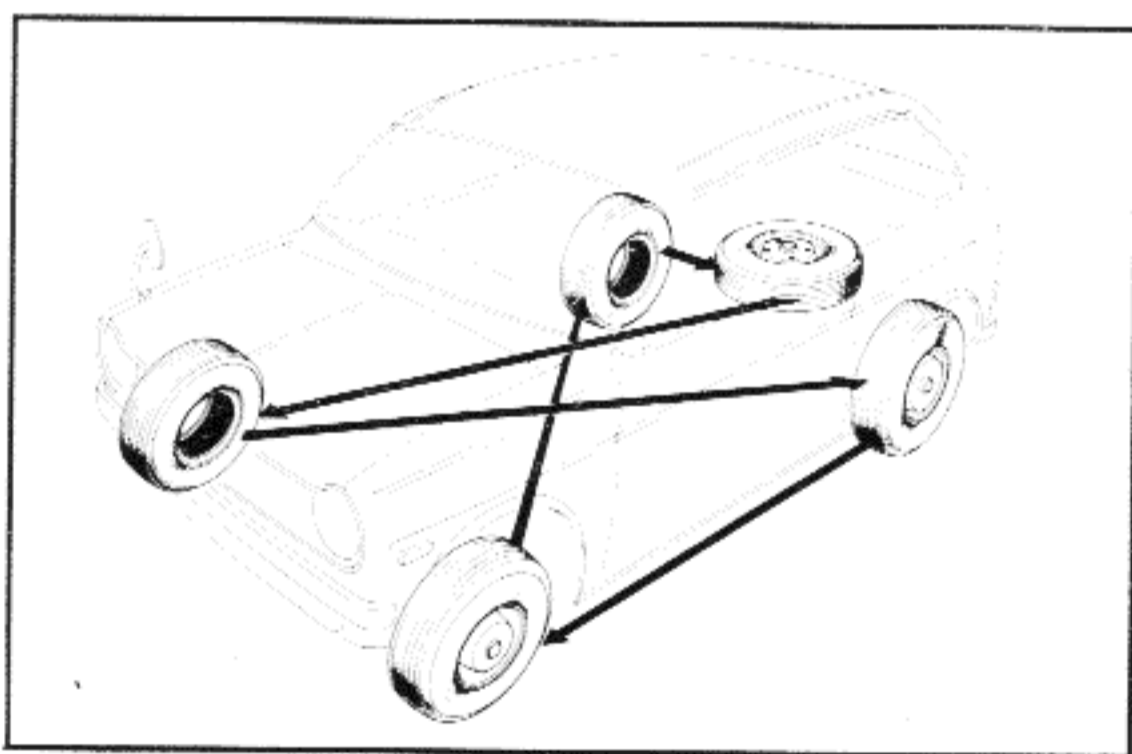


Fig. 2-37

#### 4. Wheel rim inspection

1. Raise the car and rotate the wheels by hand to check for lateral runout. Measure the rim end-play with a dial indicator. If the runout is greater than 3mm (0.12 in) measured externally remove the tire and measure the runout (3mm-0.12 in) on the inside lip of the rim.
2. Check the rim of the wheels for any damage. Repair or replace as necessary.

**NOTE:** When repairing or replacing the wheel rim, the wheel balance must be rechecked.

#### 5. Wheel bearing

Jack up each wheel to clear the ground. Hold the wheel and shake it as shown to check the wheel bearings for any play. If any play is felt, tighten the castellated nut to the specified torque and re-inspect. If play is still present, replace the bearing.

**NOTE:**

1. Over-tightening the castellated nuts will cause excessive bearing friction and will result in rough wheel rotation and bearing failure.
2. After inspection, apply grease to the wheel bearings. Recommended grease:  
NLGI No. 2 Multipurpose

#### 6. Wheel-tire rotation

If the tires are used for a long period of time at the same position, they will wear unevenly resulting in shorter tire life. To prevent this, rotate the tires as required in the maintenance schedule.

## 2-4. Suspension System

### A. Front Suspension

#### 1. Damage and oil leakage

1. Check the front damper springs for damage.
2. Check the front suspension main shafts for damage and oil leakage.

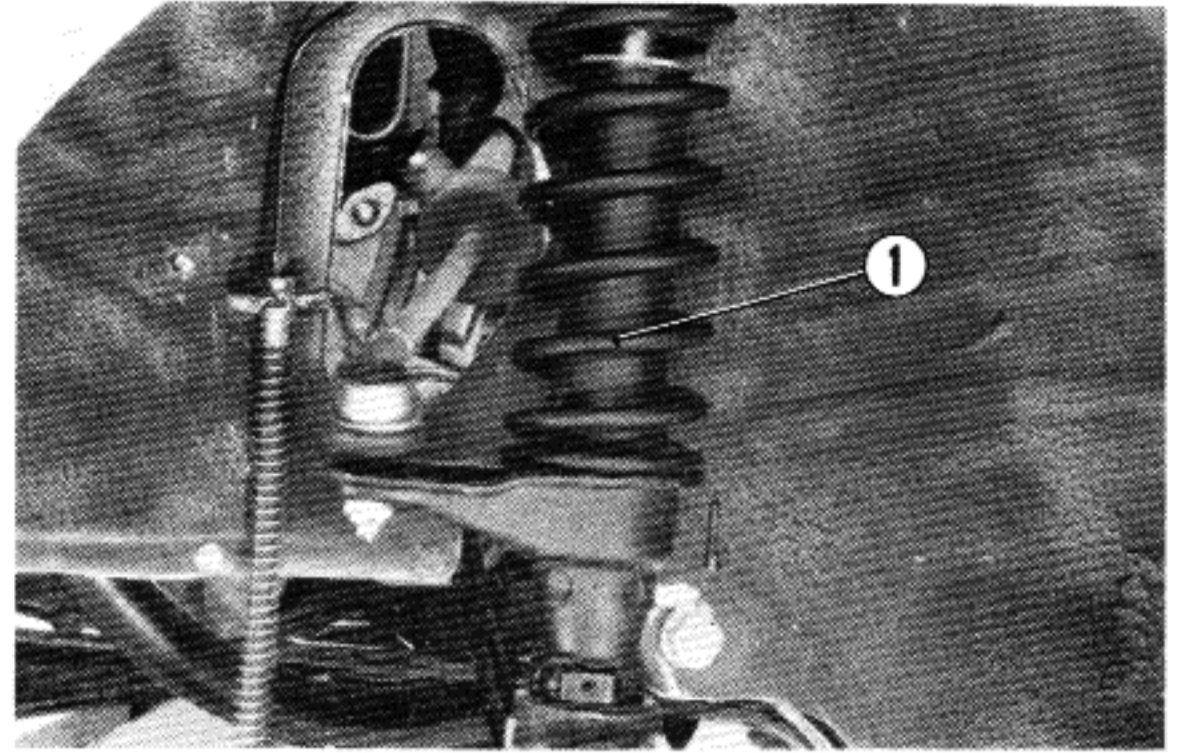


Fig. 2-38 ① Front Damper Spring

#### 2. Looseness

Check the front damper mounting nuts for looseness. Check the front suspension main shaft and damper mounting cap for looseness.

Front damper mounting nuts	(upper) 4.5–5.0 kg-m (32.6–36.2 lb-ft)
	(lower) 2.5–3.0 kg-m (18.1–21.7 lb-ft)

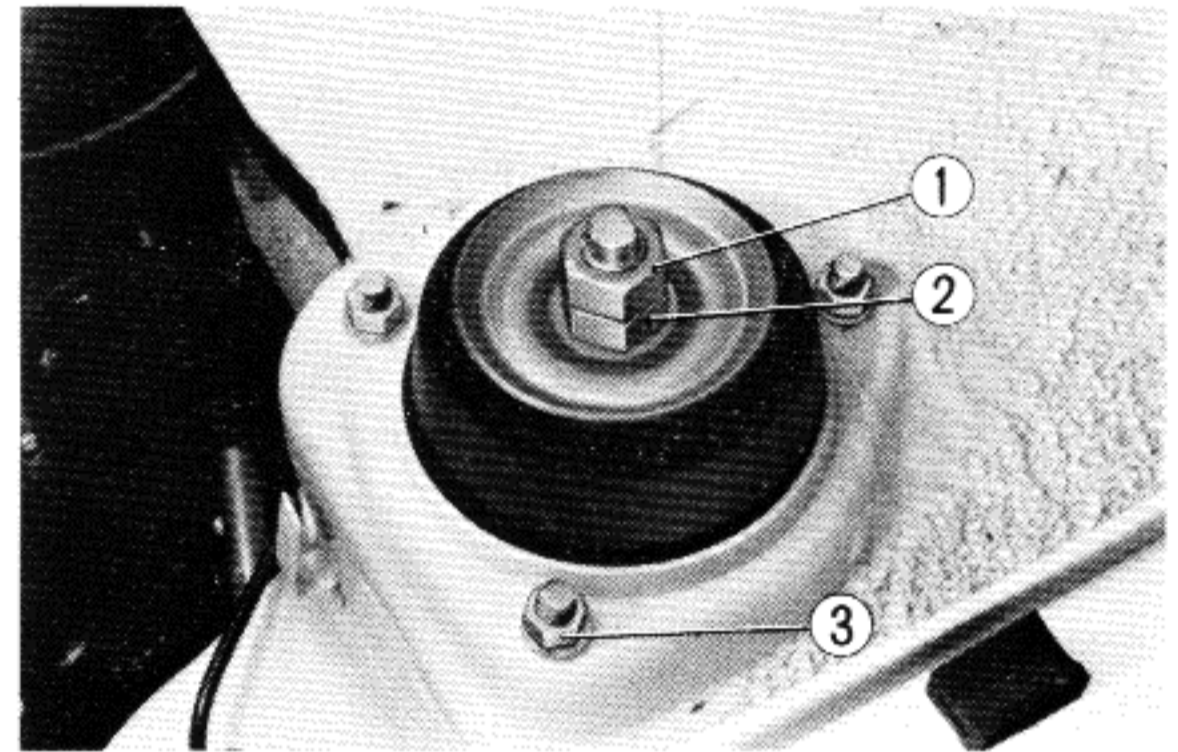


Fig. 2-39 ① Upper 4.5–5.0 kg-m  
② Lower 2.5–3.0 kg-m  
③ 1.5–2.0 kg-m

### B. Rear Suspension

#### 1. Damage and oil leakage

1. Check the rear leaf spring for any damage.
2. Check the rear shock absorbers for damage and oil leaks.

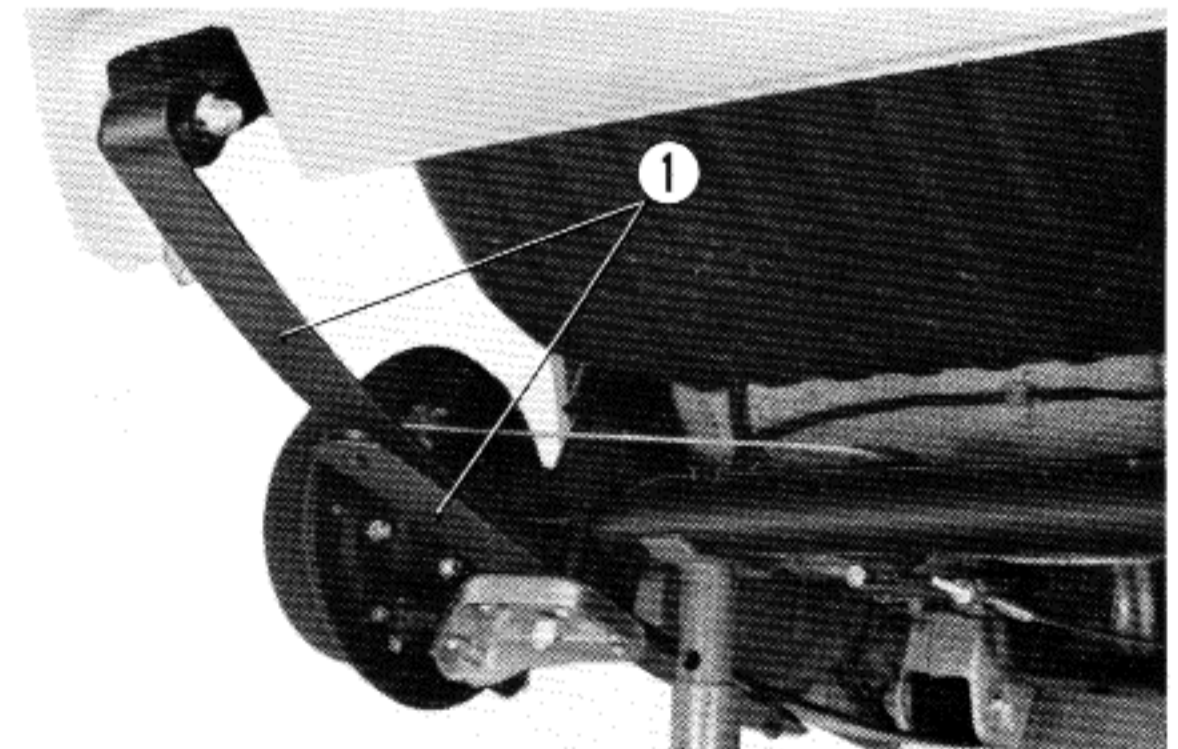


Fig. 2-40 ① Rear Leaf Spring



Fig. 2-41

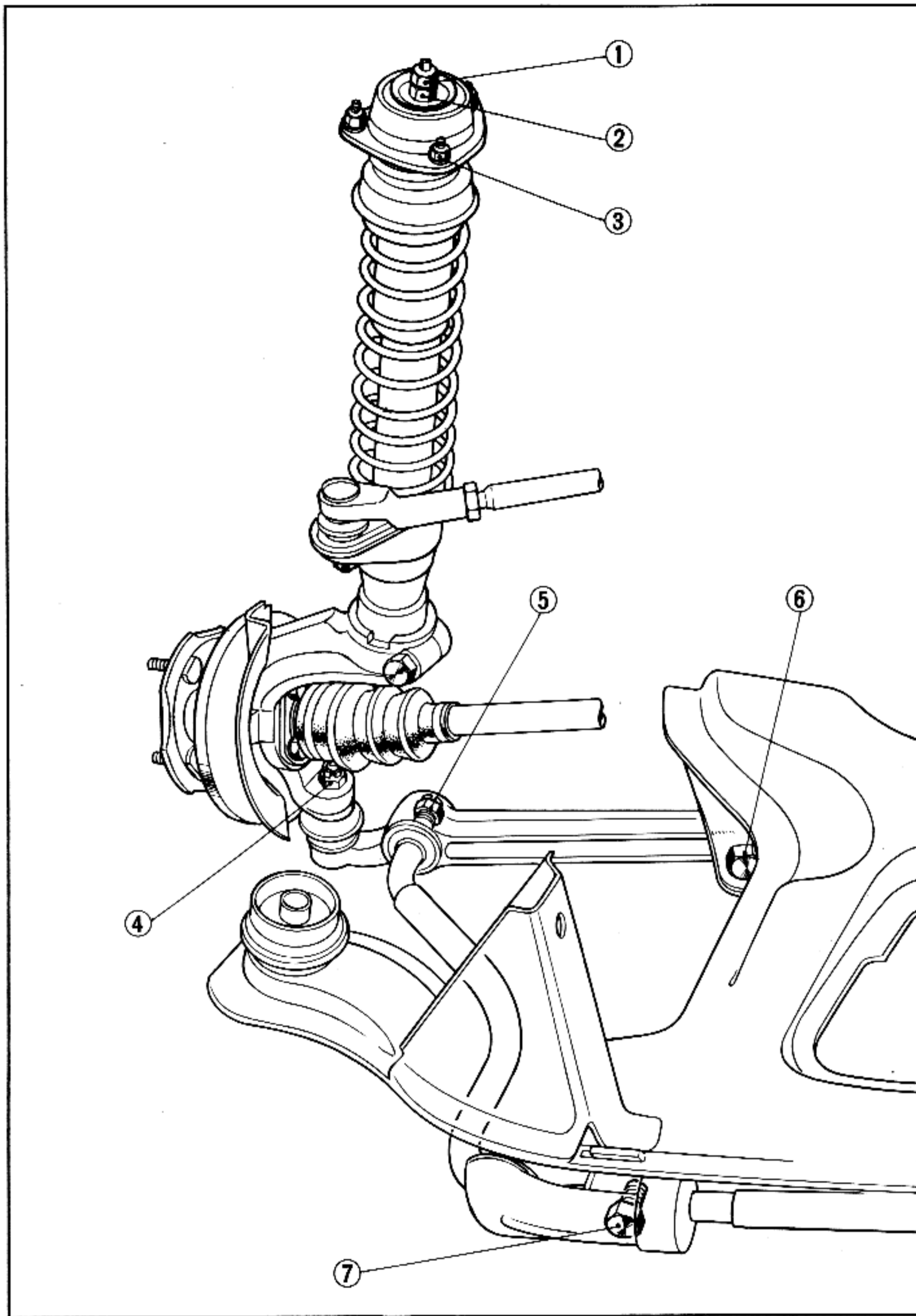
If adjustment of the shackles does not correct the inclination, check the leaf springs and rear shock absorbers, and make the necessary repairs or replacements.

## 2. Inspection of the rear suspension

1. Adjust the tire inflation pressure to the specified value and place the car on level ground.
2. Check the car by viewing it from the rear for lateral inclination (lean). If there is noticeable inclination, check the condition of the leaf spring shackles. Improper fastening of the spring shackle bolts will cause body lean. Loosen the two spring bolts on the higher side, level the car, and retighten the bolts.



### C. Front Suspension Joints and Connections



- ① 4.5–5.0 kg-m  
(32.5–36.2 lbs-ft)
- ② 2.5–3.0 kg-m  
(18.1–21.7 lbs-ft)
- ③ 1.5–2.0 kg-m  
(10.8–14.5 lbs-ft)
- ④ 3.0–4.0 kg-m  
(21.7–28.9 lbs-ft)
- ⑤ 4.0–8.0 kg-m  
(29–58 lbs-ft)
- ⑥ 4.0–4.8 kg-m  
(28.9–34.7 lbs-ft)
- ⑦ 2.0–2.4 kg-m  
(14.5–17.4 lbs-ft)

Fig. 2-42

1. Check the lower arm and stabilizer shaft for bending and any other damage. Replace any defective parts.
2. Check the double nuts of the front suspension main shaft upper mount for tightness.
3. Check the lower arm to the sub-frame mounting.
4. Check the front suspension ball joint for tightness. If loose, retighten the joint to the specified torque. Recheck the joint, and replace if still loose.
5. Check the suspension ball joint boot for damage or improper installation.

### D. Rear Suspension Joints and Connections

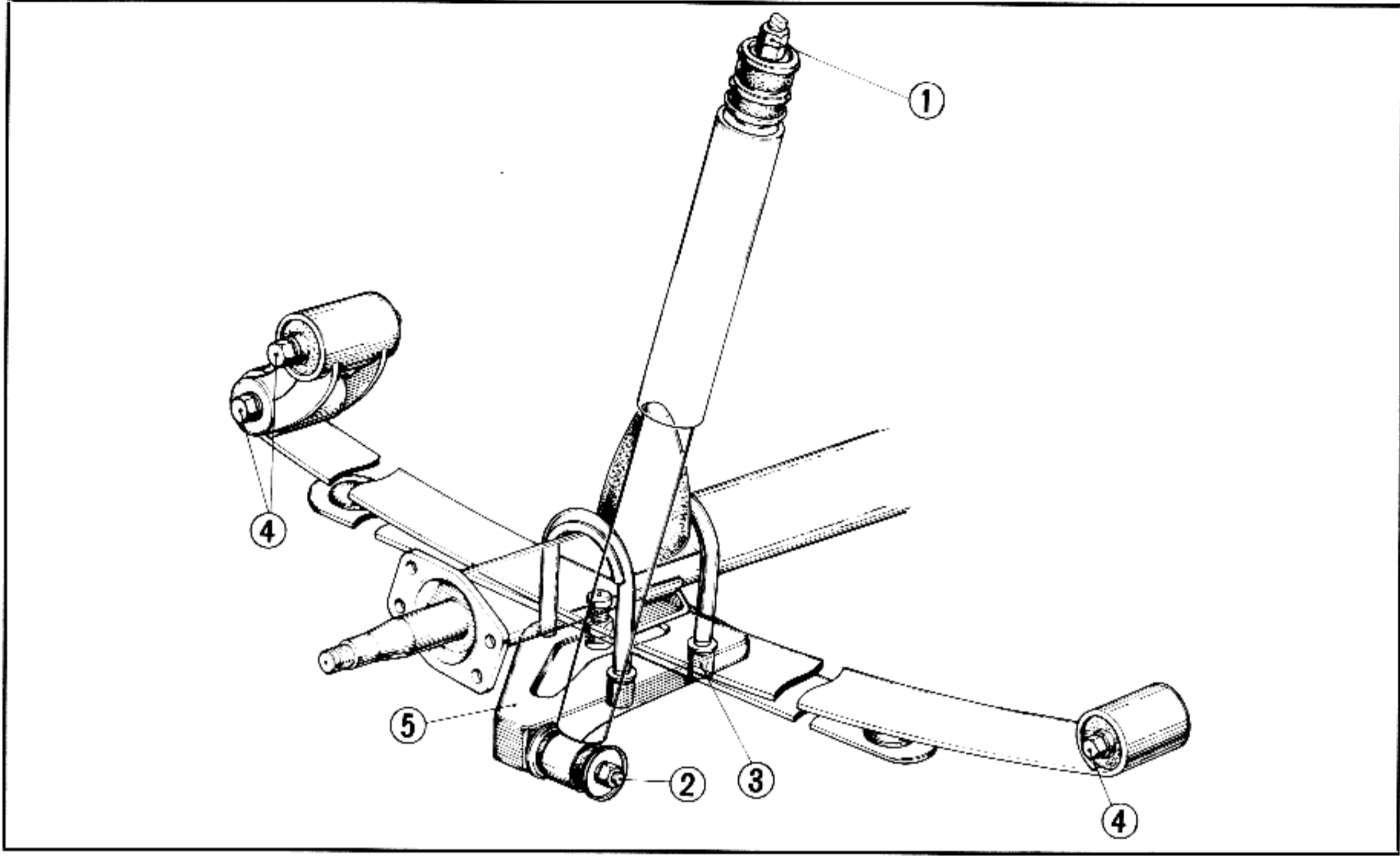


Fig. 2-43 ① Rear Dumper Double Nut 1.2-1.5 kg-m      ③ U Bolt 4.0-4.5 kg  
 ② Rear Dumper 1.6-2.0 kg-m      ④ Rear Shackle and Leaf Spring 4.0-4.8 kg-m

1. Check the rear suspension mounting bolts and nuts for tightness or any other damage.
  2. Check the front and rear shackle bushings of the rear springs for excessive end and radial play. Check them for wear. Also check the rear shock absorber cushions for deterioration.
- NOTE: Always tighten all bolts to the specified torque. DO NOT over torque.**
3. Check the rear leaf springs for misalignment. Check the leaf spring center bolt (Fig. 4-6) for looseness or any other damage.

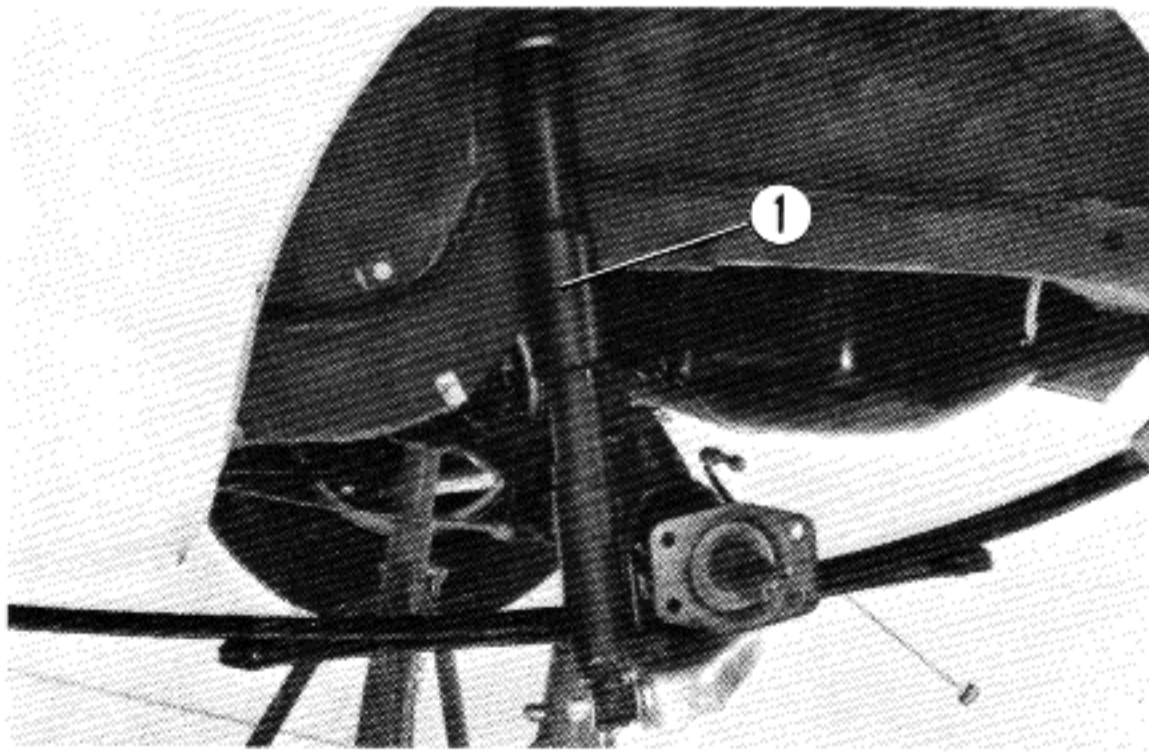


Fig. 2-44 ① Rear Shock Absorber Assy

4. Check the leaf spring front bracket, retaining plates, and shackles for damage.

### E. Front and Rear Shock Absorbers

1. Check the front and rear shock absorbers for oil leaks. Remove the wheels and check for damage.
2. Check the mounting of the shock absorbers for looseness by rocking the car body.
3. Check the upper seat and bump stopper rubbers of the front shock absorber (front suspension main shaft) for cuts or any other damage.

## 2-5. Clutch, Transmission, Drive Shafts, Wheel Hubs

### A. Clutch

#### 1. Checking the clutch operation

Idle the engine and check the clutch operation as follows:

1. Depress the clutch pedal and check the clutch for noise, vibration, or any abnormal condition.
2. Gradually release the clutch pedal while increasing the engine rpm and check the clutch engagement. If any abnormal condition is found, the following items should be inspected:
  - 1) Improper adjustment of the clutch.
  - 2) Clutch cable damage.
  - 3) Wear of the friction disk.
  - 4) Oil or grease in contact with the clutch facing.

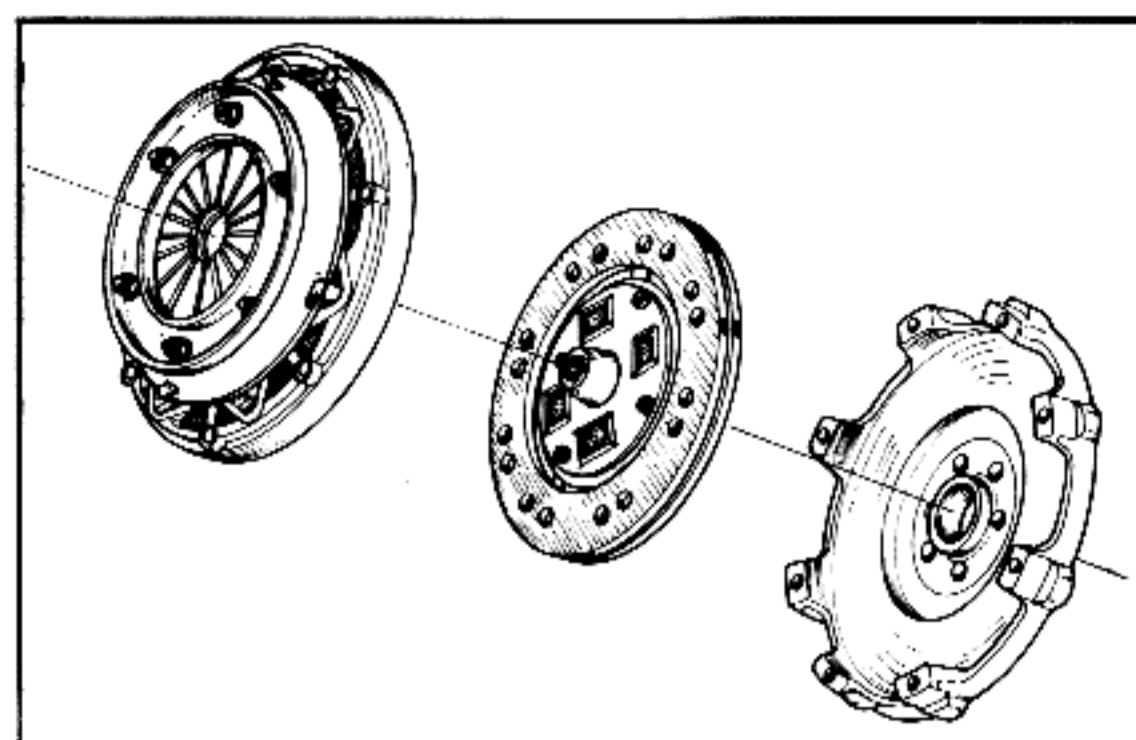


Fig. 2-45

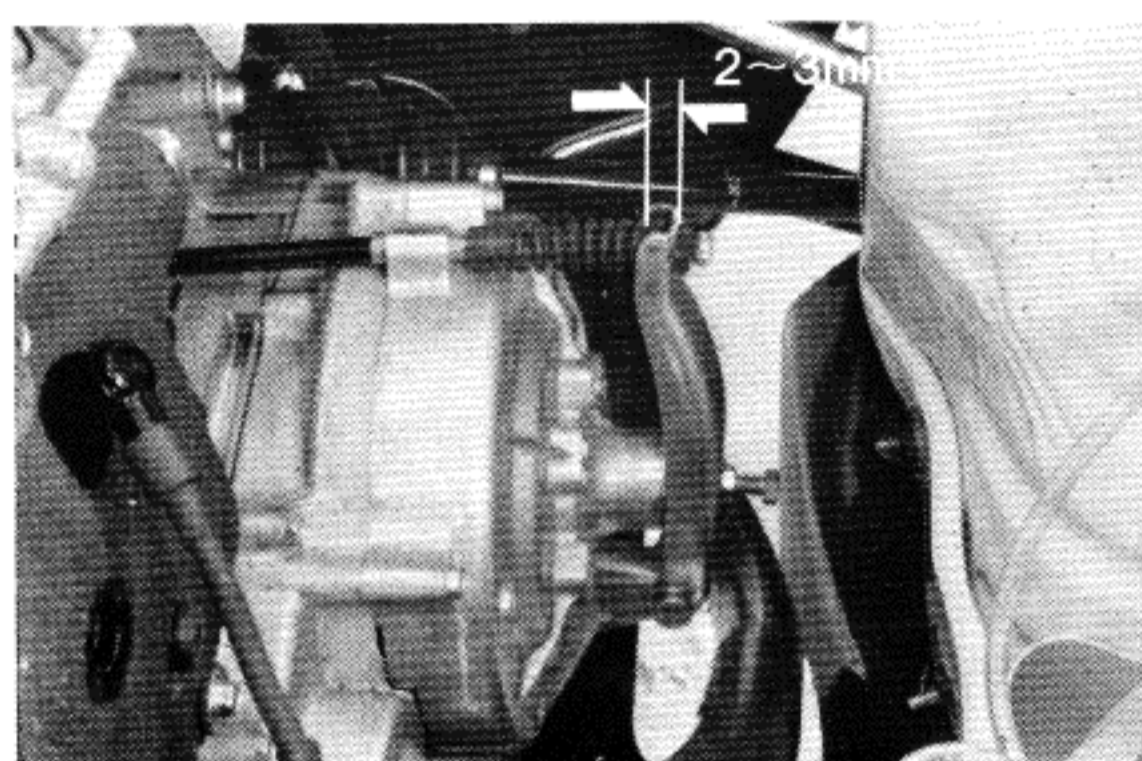


Fig. 2-46

#### 2. Checking clutch pedal play

1. The specified clutch release lever play is 2-3mm (0.08-0.12in). The clearance between the tip of the pedal and the floor mat is 40mm (1.6in) at the point of engagement. If the play is out of specification, adjust as follows:
  - 1) Loosen the lock nut and turn the adjusting bolt.
  - 2) Turn the adjusting bolt in to decrease the play.
  - 3) Tighten the lock nut after the adjustment.
2. If necessary, adjust the clutch pedal to match the brake pedal height with the adjusting bolt located near the top of the pedal. After adjusting, check for adequate pedal free-play and engagement distance.

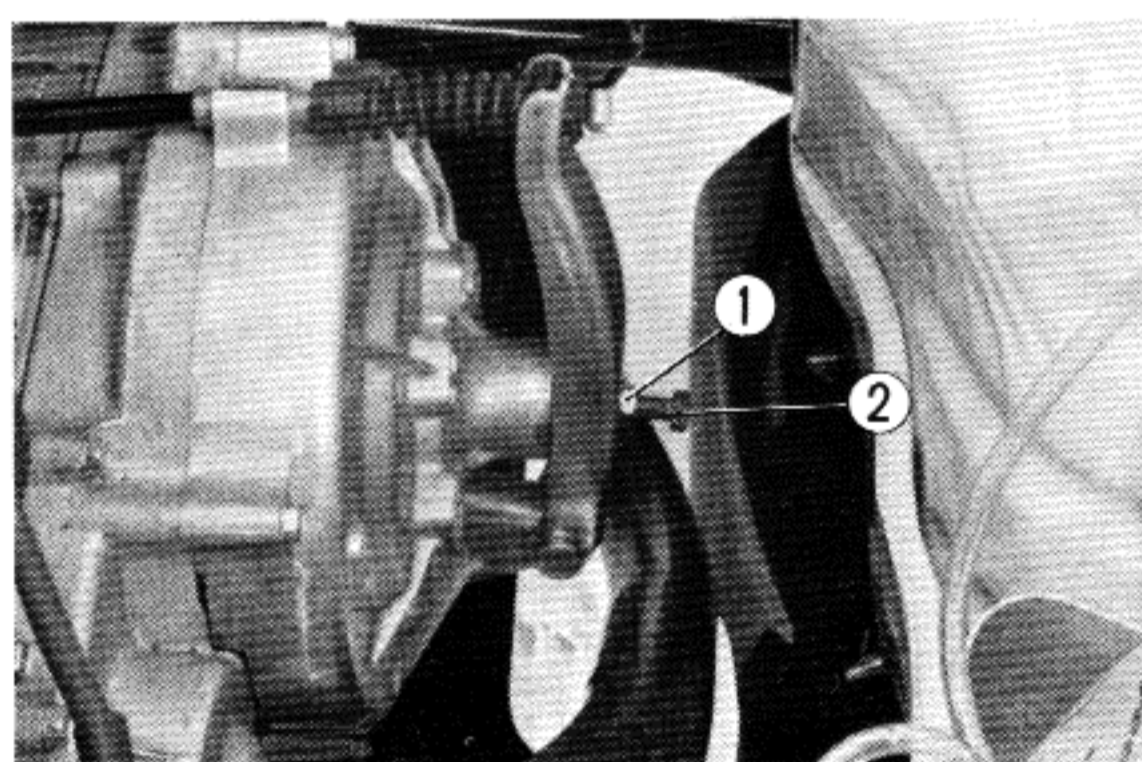


Fig. 2-47 ① Lock Nut  
② Adjusting Bolt

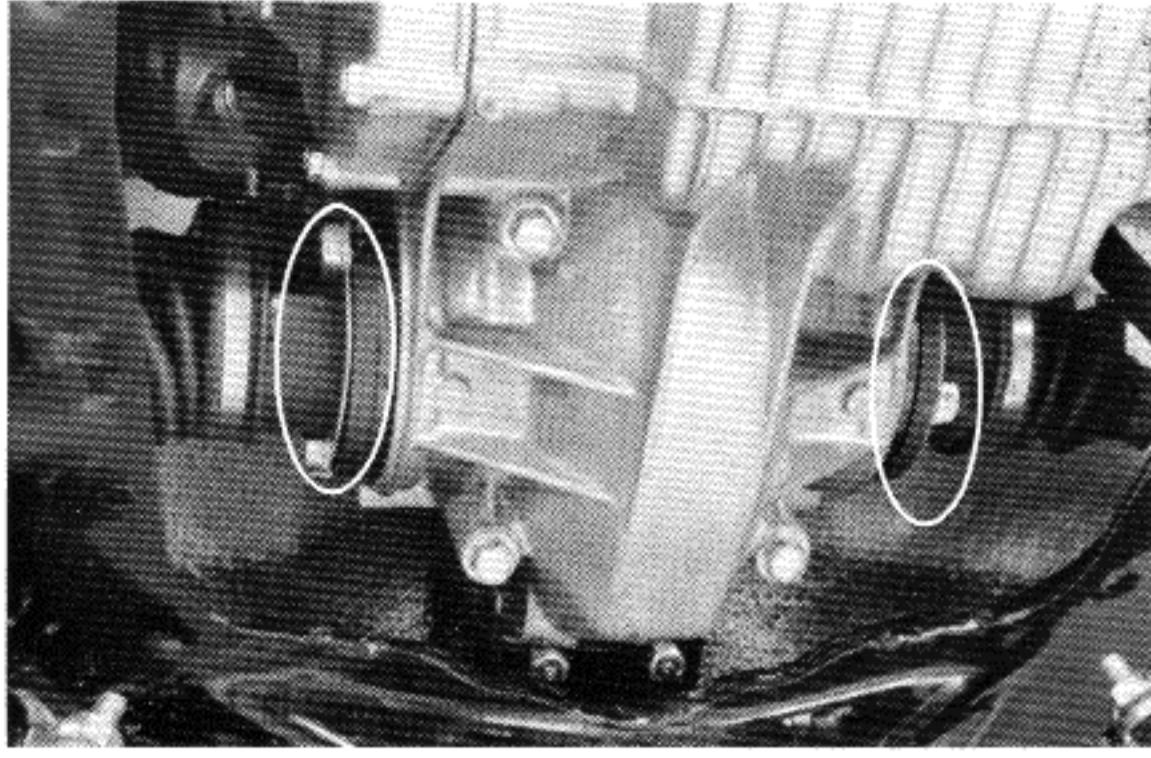


Fig. 2-48

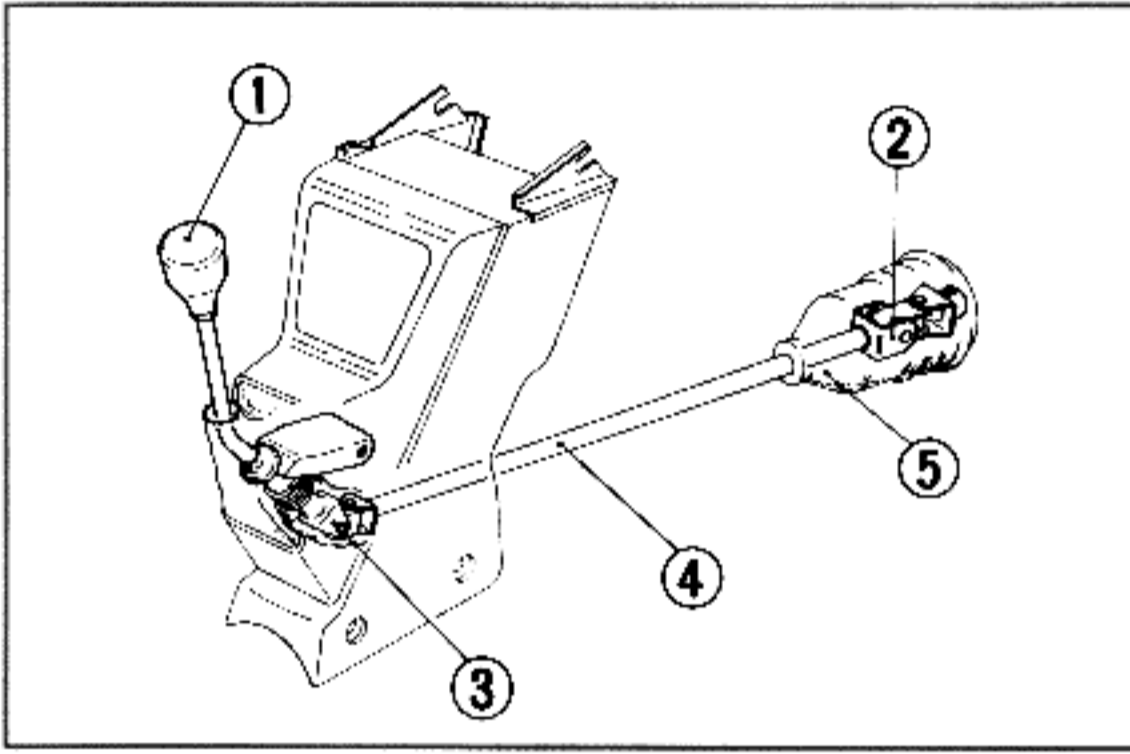


Fig. 2-49 ① Gear Shift Lever  
 ② Gear Shift Rod Joint  
 ③ Gear Shift Lever Joint  
 ④ Gear Shift Rod  
 ⑤ Gear Shift Rod Bellows

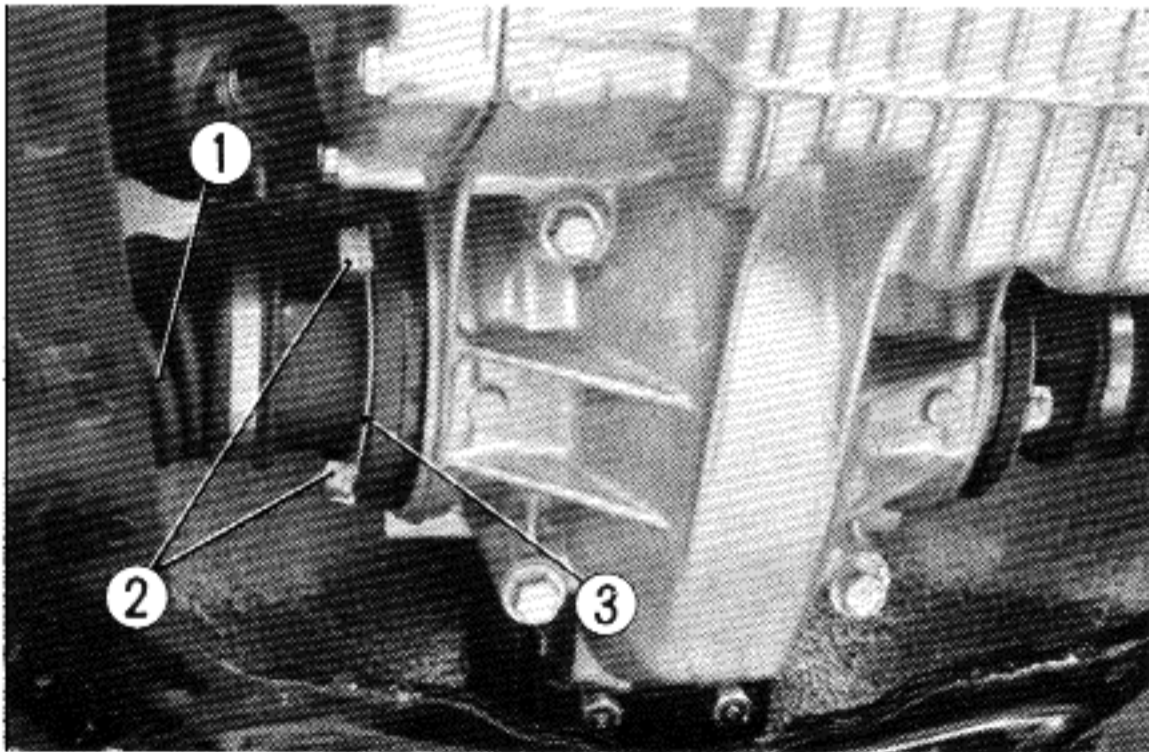


Fig. 2-50 ① Inboard Joint Bellows  
 ② Ball Joint Setting Bolt  
 ③ Joint Setting Bolt Lock Washer

## B. Transmission

### 1. Oil leakage

Check the drive shaft joint flange for oil leaks. If oil is leaking, it may be due to a defective differential oil seal and/or drive pinion O-ring.

### 2. Gear shift mechanism

1. With the engine running, place the transmission in neutral and check the gear shift lever for vibration. If vibration is noticed, check the shift lever bracket mounting bolts.
2. With the clutch disengaged, place the transmission in each gear to check for correct gear engagement. A large amount of grinding into gear indicates possible clutch misadjustment.
3. Check the gear shift rod bellows and shift lever bellows for damage or incorrect installation.

## C. Drive Shaft

### 1. Ball joint setting bolt

Check the ball joint setting bolts for looseness, and retighten if loose.

**NOTE:** Make sure to replace the joint setting bolt lock plates with new ones before retightening the bolts.

	Specified torque
Ball joint setting bolt	2.8-3.2 kg-m (20.3-23.2 lb-ft)

## 2. Spline and joint bellows

1. Check the splines of the inboard joint for wear. Raise the front wheels and with the transmission in gear, rotate the drive shaft and check for looseness which indicates wear.
2. Check the inboard and outboard joint bellows for any damage or interference.
3. Place the shift lever in neutral and check the condition of the drive shaft splines by rotating the drive shaft back and forth. If the shaft is loose or noisy, remove the brake front hub and check the driveshaft and hub splines for damage. Replace if damaged.

	Specified Torque
Front castellated nut	14-20 kg-m (101.5-144.7 lb-ft)
Wheel setting (lug) nut	6.0-7.0 kg-m (43.4-50.6 lb-ft)

## 3. Front shaft wheel hub nut tightening procedure

1. Clean and lubricate the drive shaft threads, washer and nut. Using a torque wrench, tighten the hub nut to 14kg-m (101lb-ft). Check the alignment of the hub nut castellation and the cotter pin hole, however, **DO NOT** install the cotter pin at this time. Tighten the nut to the next alignment position and install a new cotter pin. If the alignment can not be attained within the specified torque range, (14-20kg-m) install a new front hub washer and repeat the tightening sequence.

**NOTE: The torque specification must be observed.**

## 4. Rear wheel hub nut tightening procedure

1. Remove the wheel caps.
2. Remove the rear wheel bearing caps and check the rear castellated nuts for tightness. Also, check the cotter pin installation.
3. If the rear castellated nut is loose, pull out the cotter pin and retighten the nut to the specified torque.

	Specified torque
Rear castellated nut	10-13 kg-m (72.3-94.0 lb-ft)

4. Be sure to use new cotter pins.

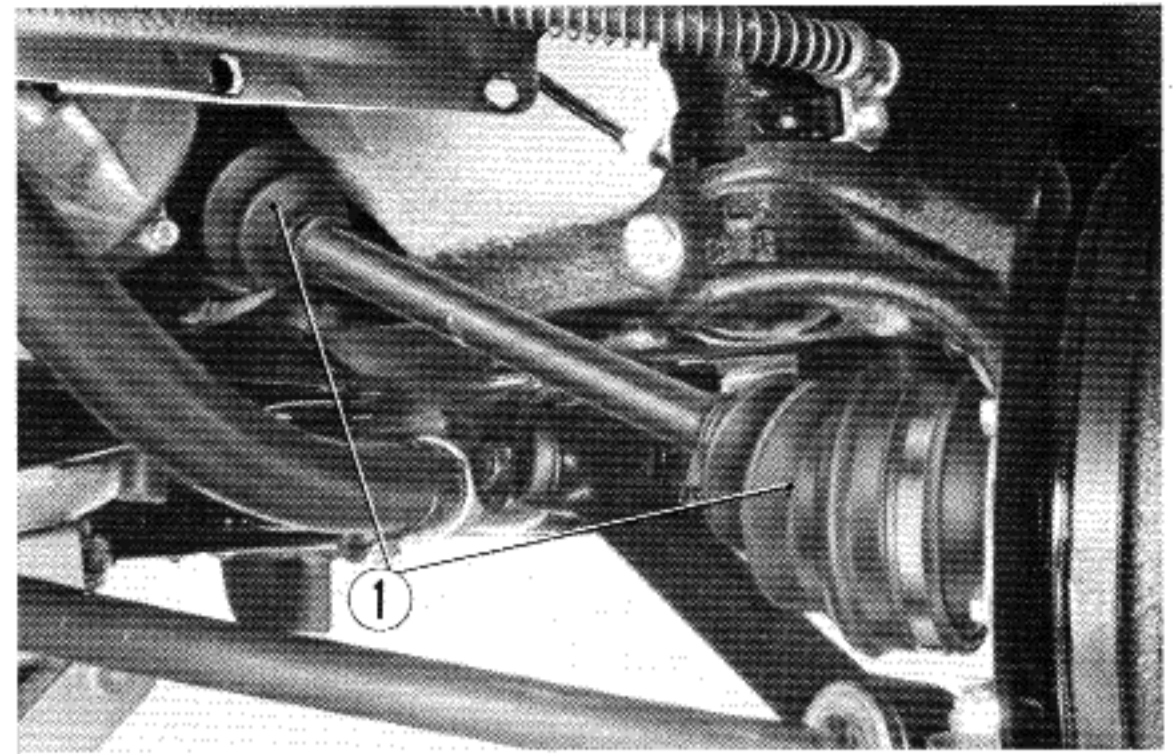


Fig. 2-51 ① Bellow

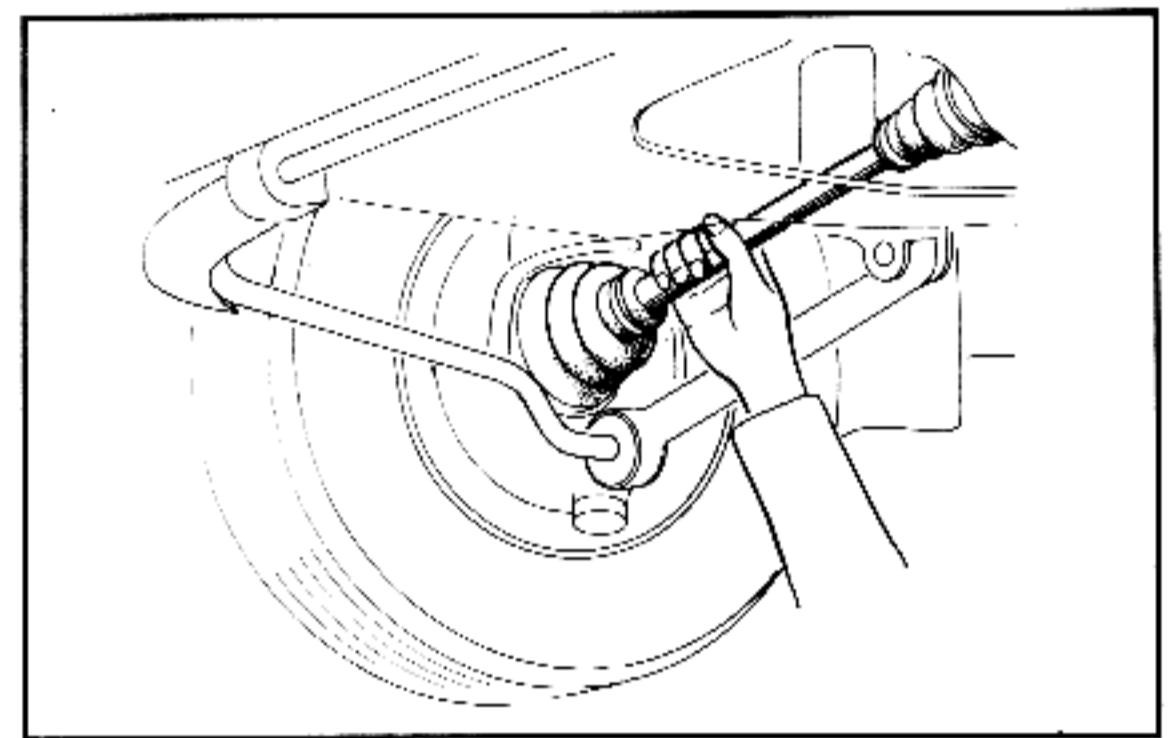


Fig. 2-52

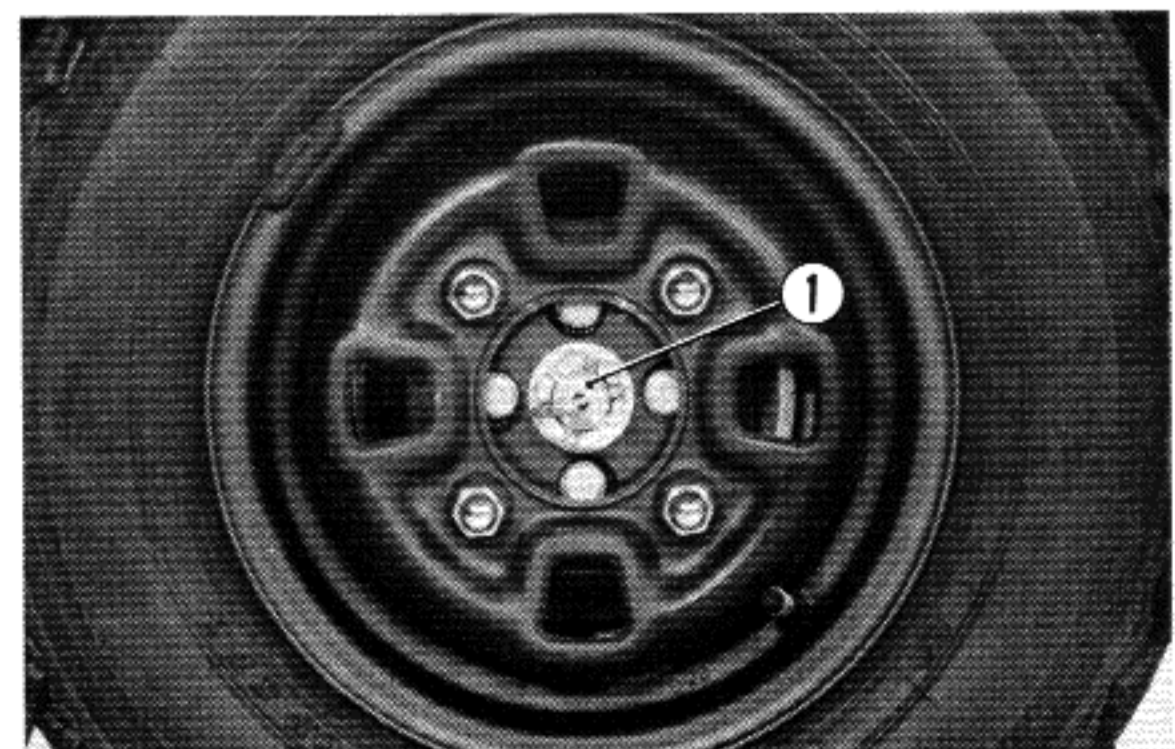


Fig. 2-53 ① Castellated Nuts

## 2-6. Electrical System

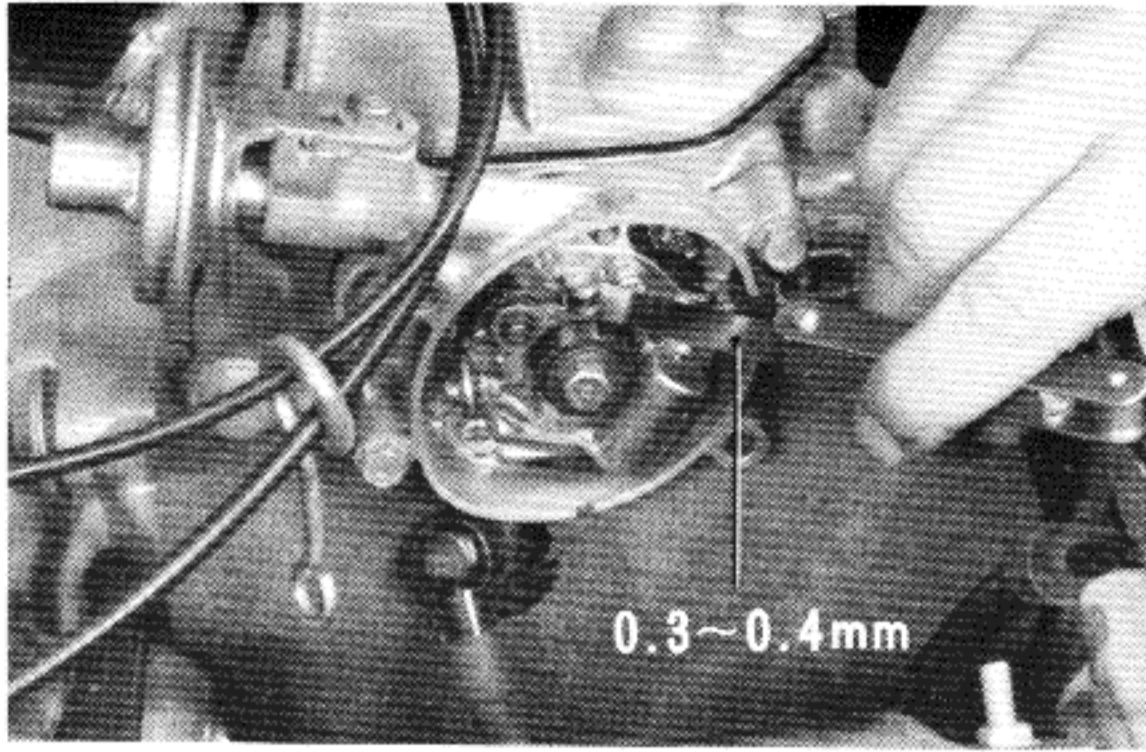


Fig. 2-54

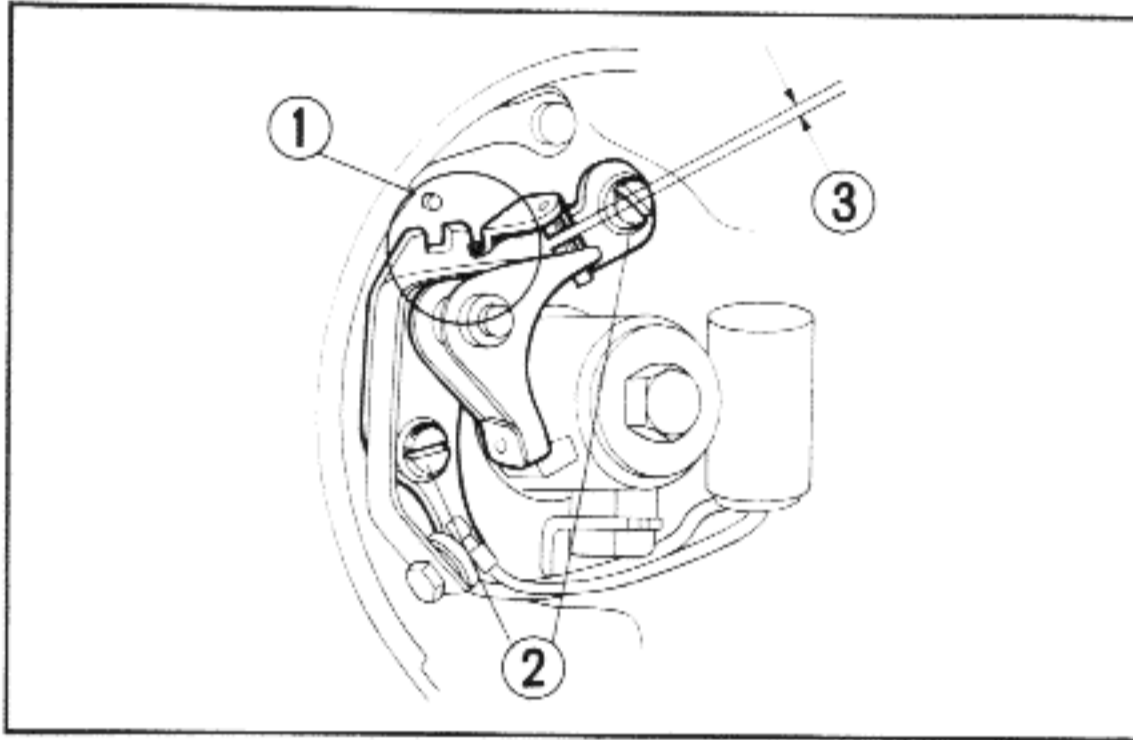


Fig. 2-55

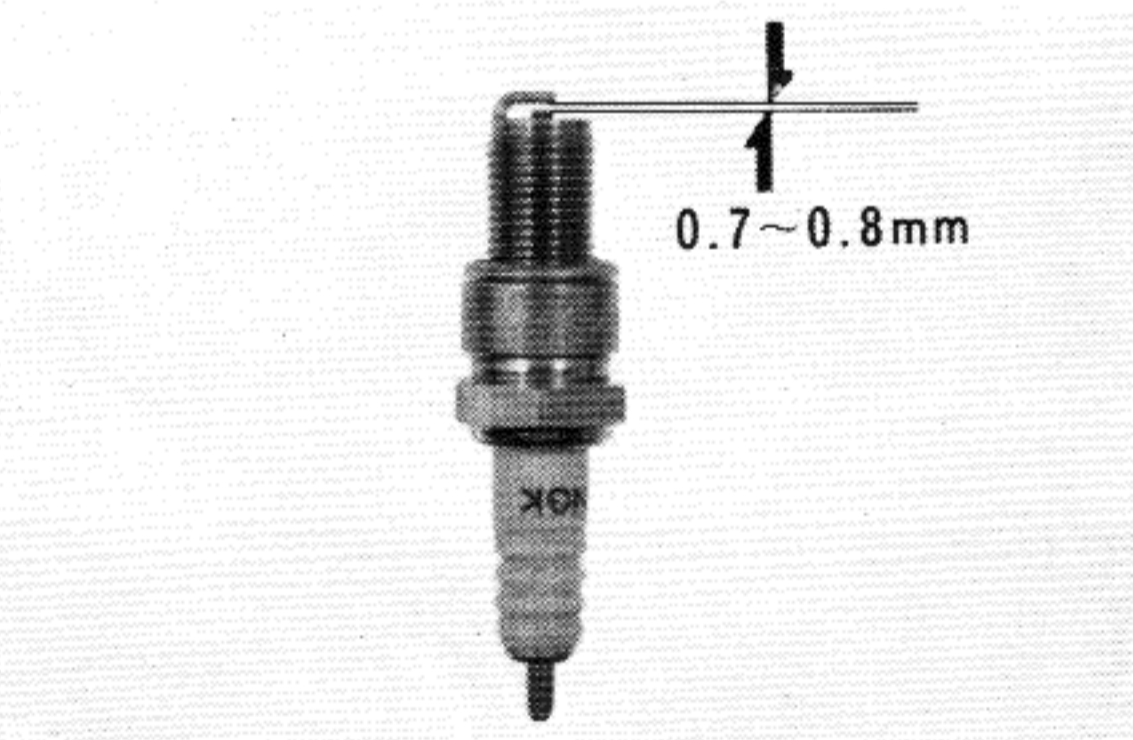


Fig. 2-56

### A. Ignition System

#### 1. Breaker point gap

##### (1) Inspection

1. Check the surfaces of the contact breaker points and breaker arm for deterioration. If pitted or worn, dress the contact points with a point file.
2. Slowly turn the crankshaft pulley until the point gap is at its maximum (when the breaker arm slipper is on the highest point of the cam). At this position, measure the gap with a blade type thickness gauge.

Specified point gap	0.3-0.4 mm (0.012-0.016 in)
---------------------	--------------------------------

##### (2) Adjustment

1. Loosen the two breaker point set screws and adjust the point assembly with a screwdriver to obtain the proper clearance. Retighten the screws and check the clearance.
2. Check the breaker arm spring for tension.

#### 2. Spark Plug Condition

1. Remove the spark plugs with a plug wrench and check them for burnt electrodes, broken insulators, or any other damage.
2. Clean dirty plugs with a plug cleaner or wire brush. Do not use gas or solvent to clean plugs.

**NOTE:** Be certain that all the cleaning material is removed from the plugs if a plug cleaner is used. Grit from the cleaner can cause rapid wear of the cylinders and piston rings.

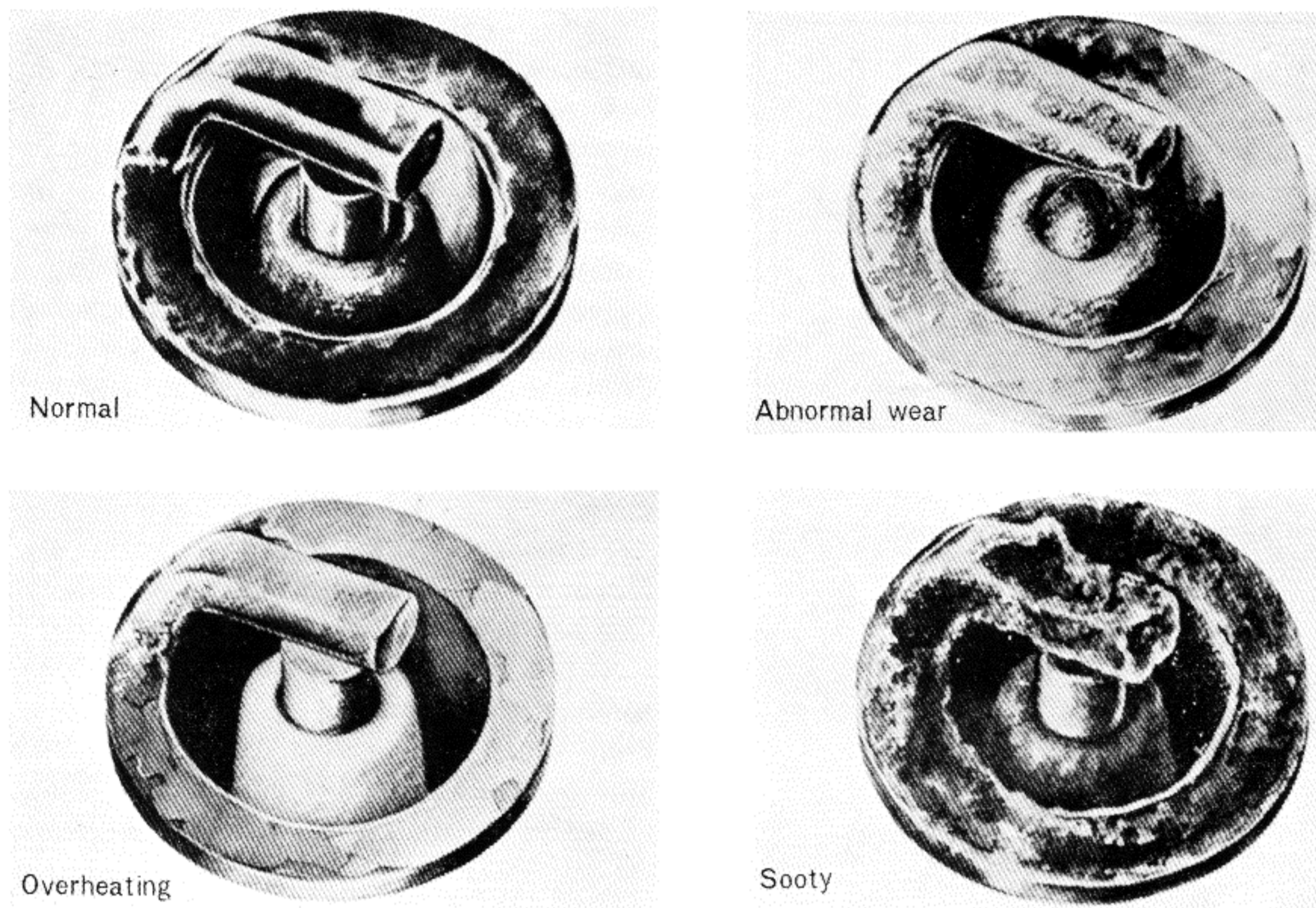


Fig. 2-57 Plug Condition

3. Measure the electrode gap with a wire type thickness gauge, and if necessary adjust the gap to specification by bending the ground electrode.
4. To install, insert carefully and thread by hand as far as possible. Tighten securely with a spark plug wrench.

Specified gap	0.7-0.8 mm (0.028-0.032 in)
Standard plugs	NGK B-8ES    ND W-24ES

### 3. Ignition Timing

#### (1) Testing with an ohmmeter

1. Disconnect the primary lead (blue) at the connector to the contact breaker. Connect the positive probe of the tester to the connector, and ground the negative lead to the engine.
2. Rotate the crankshaft in the normal direction by turning the bolt on the fan belt drive pulley with a wrench.
3. Check to see if the tester indicates the loss of continuity just when the notch on the fan belt drive pulley is aligned with the "F" mark on the flywheel cover.

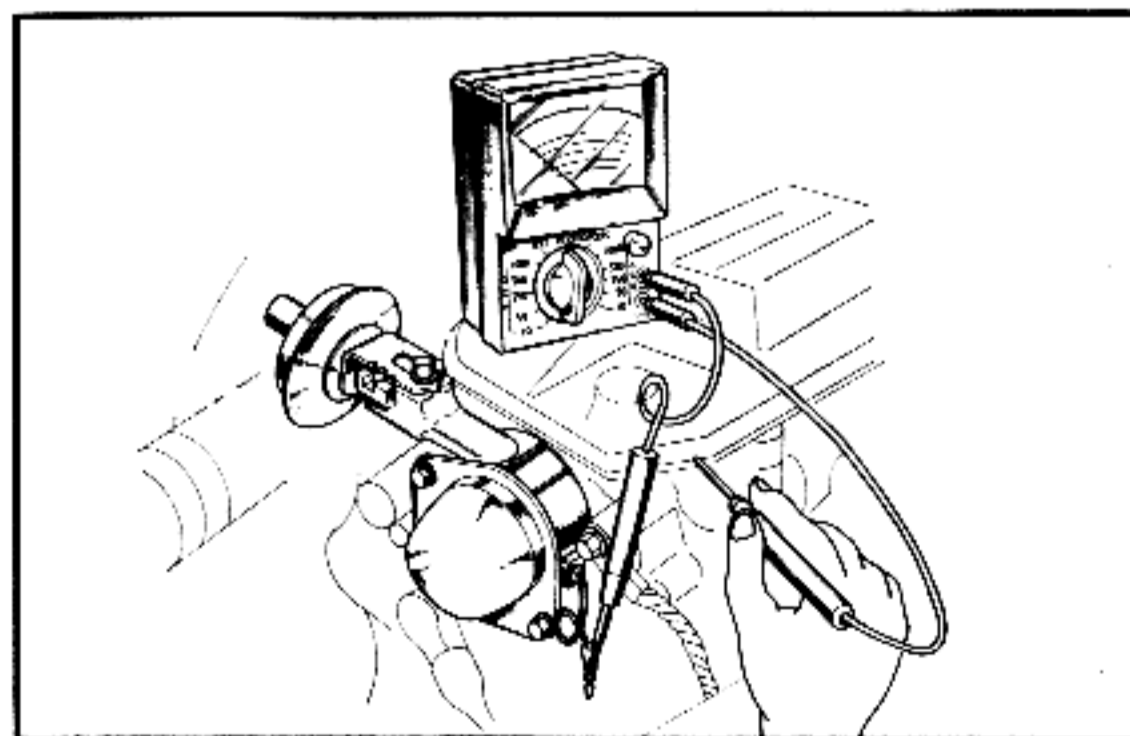


Fig. 2-58

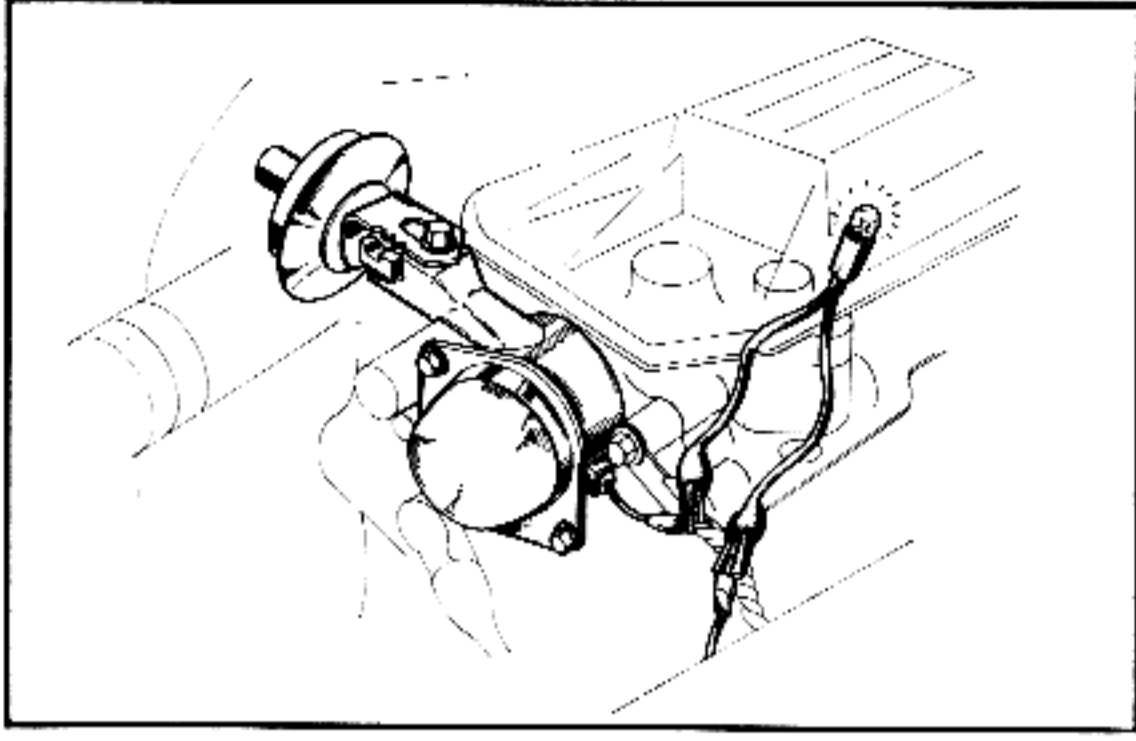


Fig. 2-59

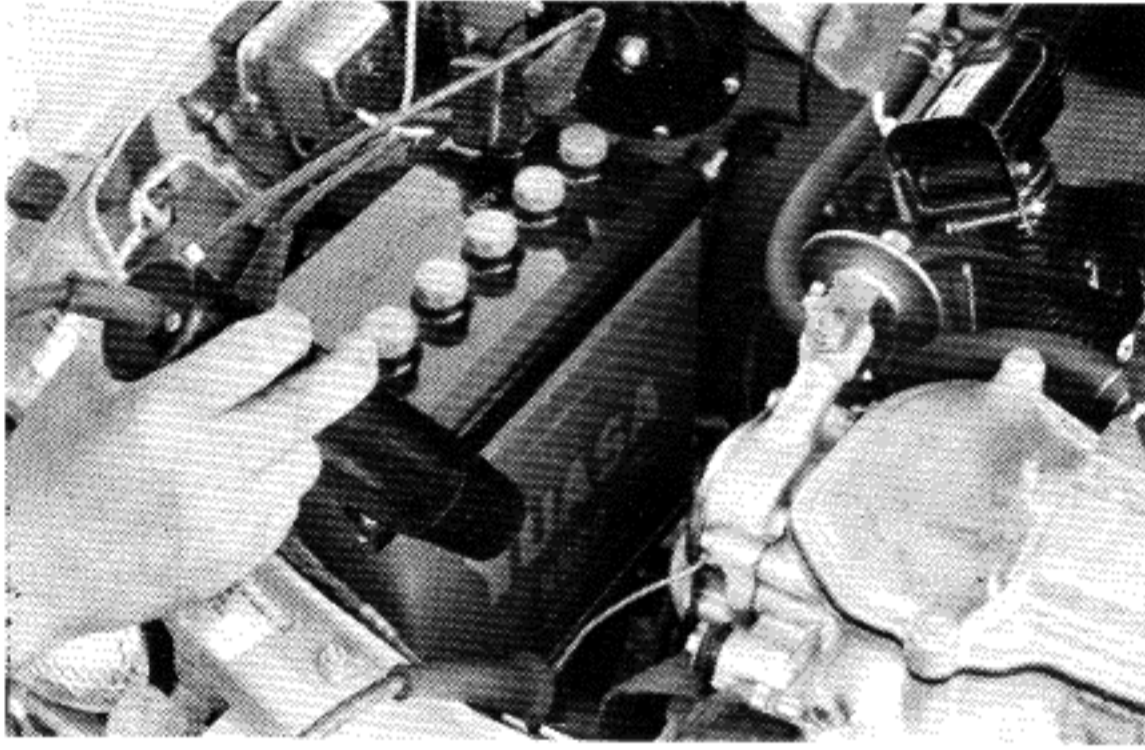


Fig. 2-60

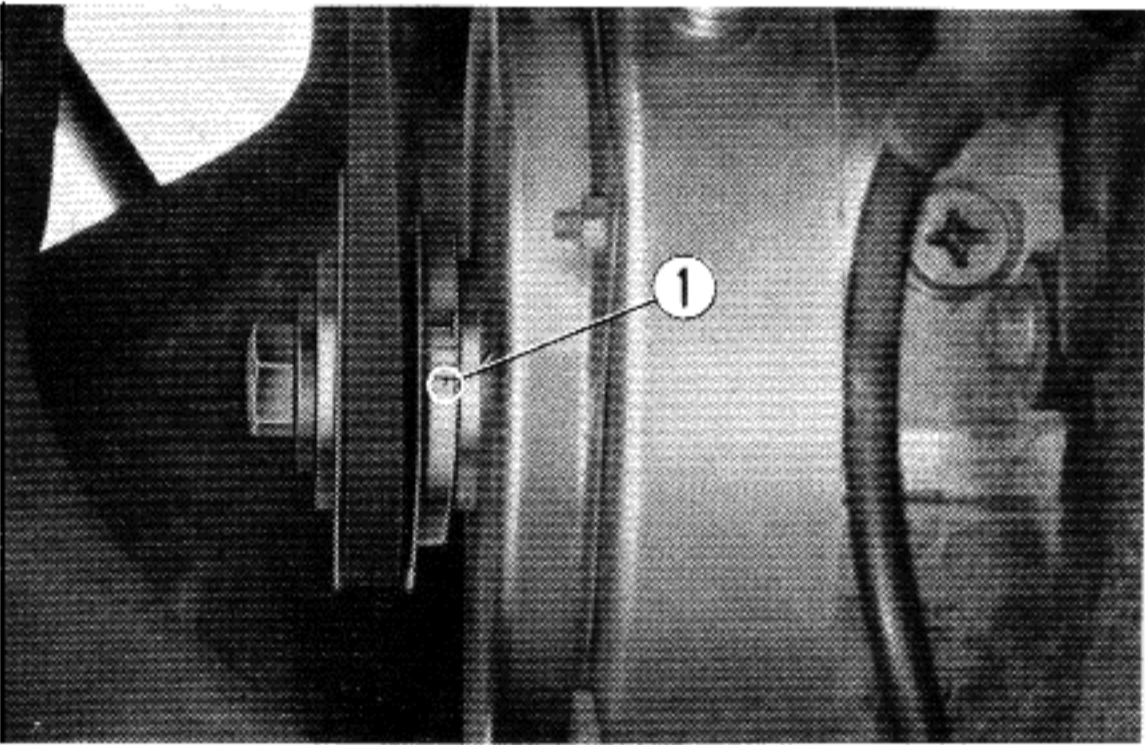


Fig. 2-61 ① F Mark

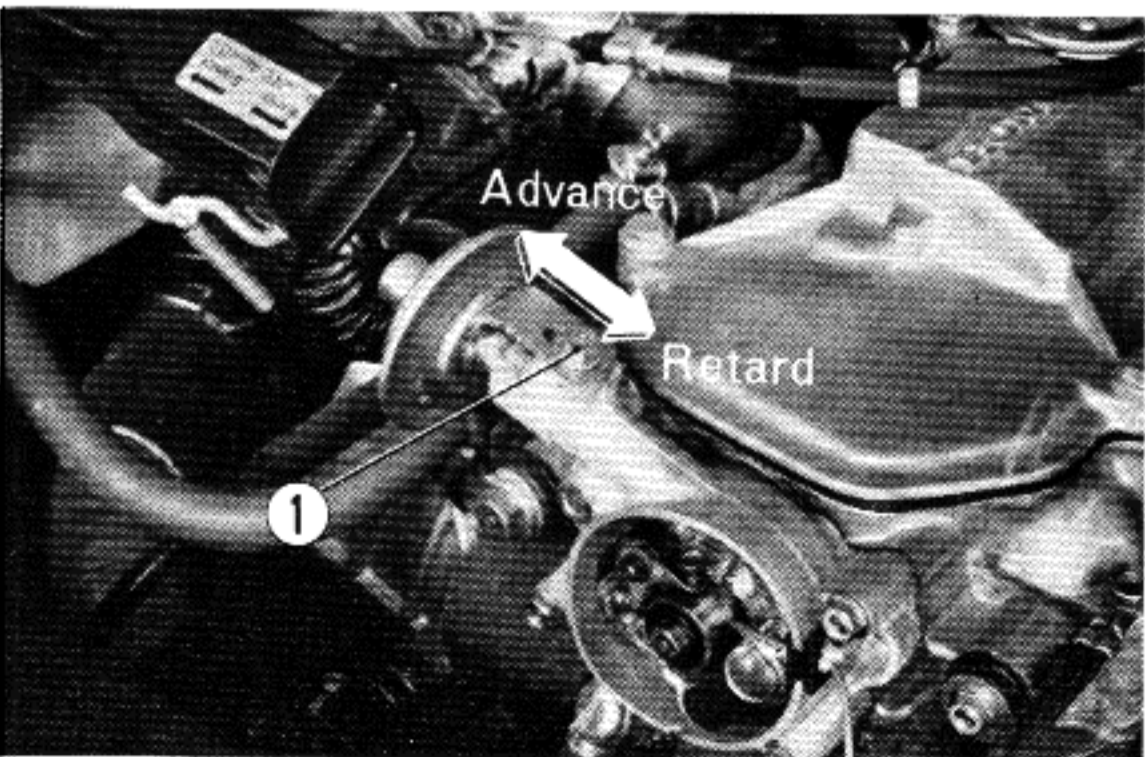


Fig. 2-62 ① Lock Bolt

## (2) Testing with a 12 V lamp

1. Disconnect the primary lead (blue) at the connector to the contact breaker and connect a 12 V-3 W lamp between the connector and the distributor as shown. Turn the ignition switch on.
2. Rotate the crankshaft in the normal direction by turning the bolt securing the fan belt drive pulley with a wrench.
3. Check to see if the lamp goes out just when the notch on the fan belt drive pulley is aligned with the "F" mark on the flywheel cover.

## (3) Testing with a timing light

1. Disconnect the vacuum advance tube.
2. Connect a timing light as shown.
3. Start the engine and adjust the idle to 1,150 rpm.
4. Point the timing light at the timing marks and push the timing light button. Check to see if the timing is set to the "F" mark.

## (4) Adjustments

1. Prior to adjustment, be sure that the right-side camshaft holder is securely in place.
2. Loosen the vacuum advance lock bolt and move the advancer to adjust the timing.

3. Moving the advancer forward will retard the timing, and backward will advance it.
4. After adjustment, tighten the lock bolt to secure the advancer in place.
5. Recheck the timing.

Ignition timing	$10^{\circ} \pm 2^{\circ}$ BTDC
Idling rpm	$1150 \pm 50$ rpm



#### 4. Advancer Angles

Check the spark and vacuum timing advance angles with a timing light.

##### (1) Mechanical spark ignition advance

1. Disconnect the vacuum advance tube at the carburetor.
2. Put marks on the fan belt drive pulley at angular intervals of 10 degrees before the "F" mark for reference in determining the amount of spark advance.
3. Connect a timing light and tachometer.
4. Take several readings of ignition timing at various engine speeds.

Engine rpm	Advance angle (degrees)
2000	10-14
3000	16-24
4000	27-34

##### (2) Ignition vacuum advance

1. Disconnect the vacuum advance tube from the carburetor.
2. Suck on the tube by mouth (or use a vacuum pump if available) while the engine is idling.
3. Read the ignition timing at the crankshaft pulley with a timing light.
4. The maximum advance should be 17-23 degrees when applying a vacuum of -180 mmHg (-7.1 inHg) or more.

### B. Charging System

#### 1. Charging

The discharge warning light should go off when the engine is running at idle speed (1,150 rpm).

1. If the light remains on when the engine is running (at idle or above), an inspection of the charging system is required.
2. If the discharge light is working properly, but the battery boils over from an over-charge, or the battery cannot hold a charge, a charging system inspection is required.

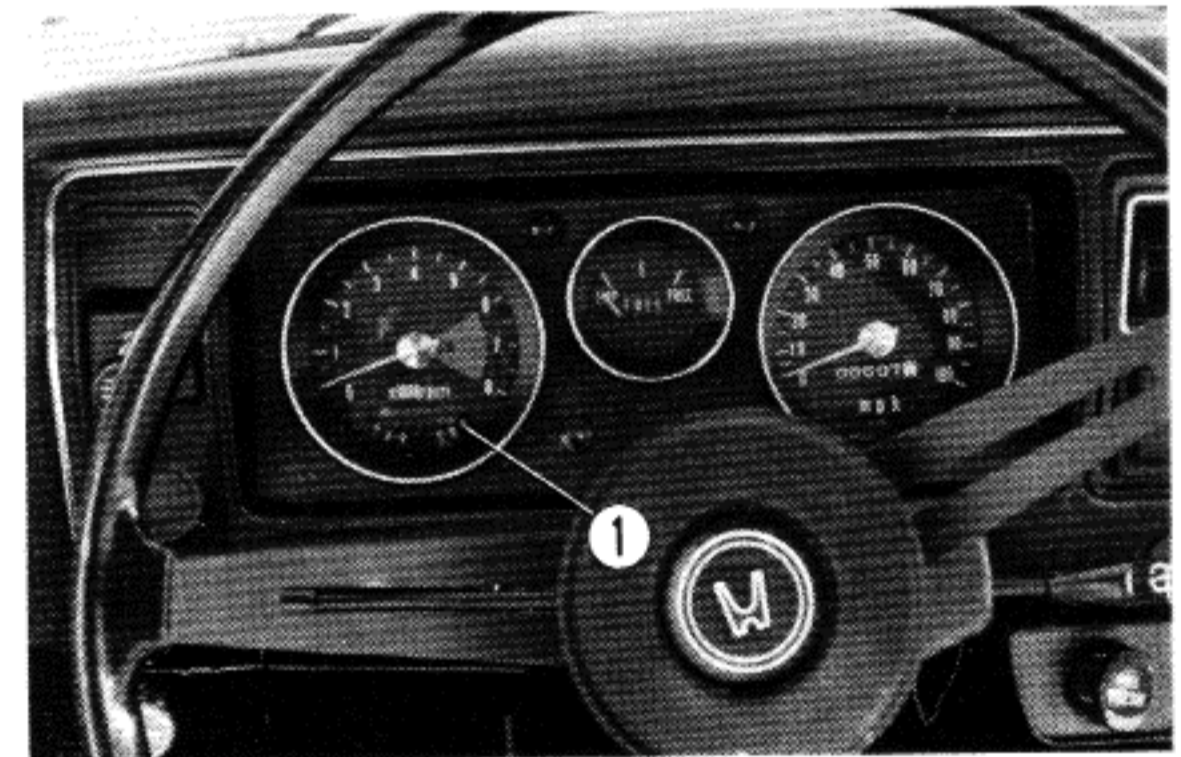


Fig. 2-63 Charge Pilot Lamp

#### 2. Charging System Inspection

1. Install an ammeter in series between the main fuse (45 A) and the positive battery post.
2. Start the engine and allow it to warm up. Adjust the idle to 1,800 rpm. Read the amount of charge or discharge. If charging is indicated, check the discharge warning relay of the voltage regulator (Shop Manual sec. 17, page 25). If no charging is shown, connect a jumper wire from the battery positive post to the rotor coil wire (white with red tracer). If this produces a charging condition, check the voltage regulator (Shop Manual sec. 17, page 25).
3. If application of battery voltage to the rotor coil wire (white with red tracer) does not produce a charging condition, disconnect the three white wires from the stator and check the amount of AC voltage being produced. If approximately 20 or more volts AC is being produced (from each wire) at 1,800 rpm, check the rectifier (Shop Manual sec. 17, page 28). If the AC voltage being produced is under 20 V, remove the brushes and inspect their movement and length. Connect an ohmmeter (R $\times$ 1 scale) to the rotor slip rings. If normal (4.05 ohms), attach the ohmmeter lead to the stator leads (Shop Manual sec. 17, page 24, fig. 17A-65, 67). BE CERTAIN that the white wire with the black tracer is disconnected before testing the stator.

**NOTE:** All references are to the Honda 360/400/600 SEDAN Shop Manual.

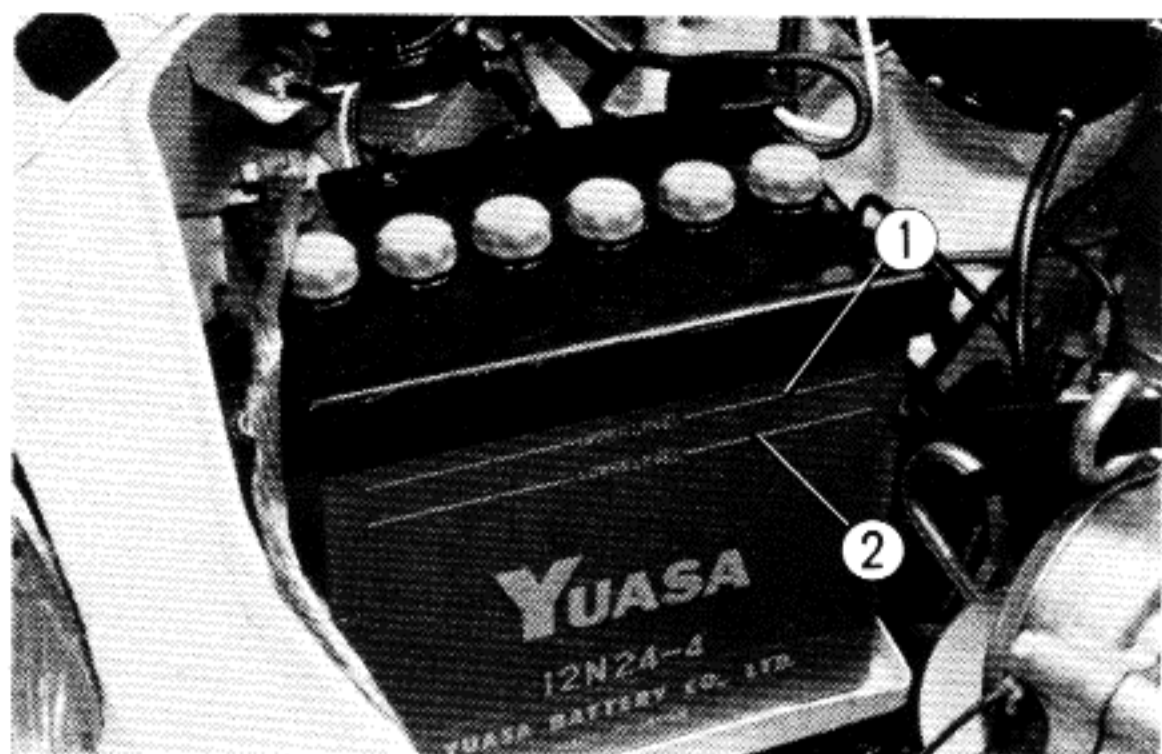


Fig. 2-64 ① Upper Level ② Lower Level

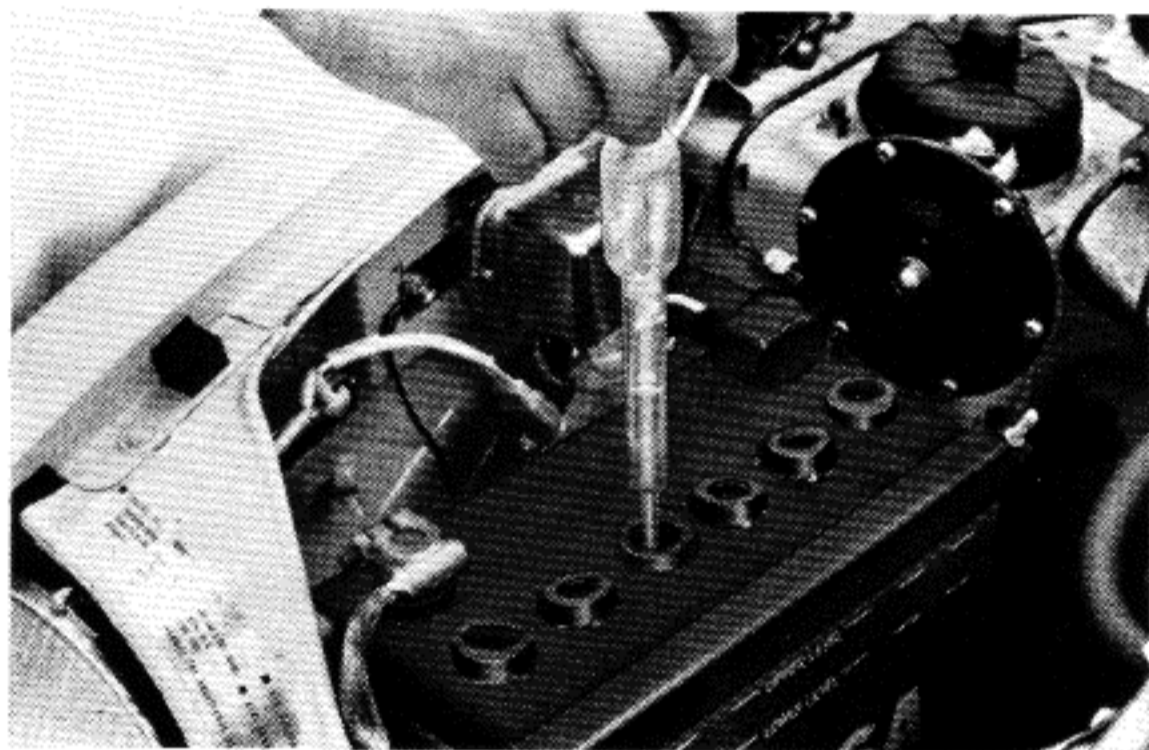


Fig. 2-65

### C. Battery

#### 1. Electrolyte

The battery electrolyte should always be kept above the lower level. If the electrolyte is below the lower level, remove the six filler plugs and add distilled water up to the upper level.

#### 2. Specific Gravity of Battery Electrolyte

Using a hydrometer, measure the specific gravity of electrolyte in each cell. The specific gravity of a fully-charged battery is 1.280 at 20°C (68°F). Recharge the battery if the specific gravity is below 1.220.

	Fully charge	Half charged
Electrolyte specific gravity	1.28 at 20°C (at 68°F)	Below 1.22

**NOTE:** Specific gravity varies with a change in electrolyte temperature. To compensate, add .004 for every 10° above 80°F, and subtract .004 for every 10° below 80°F. Specific gravity will decrease due to liquid expansion caused by an increase in temperature, and vice-versa.

### D. Electrical Wiring

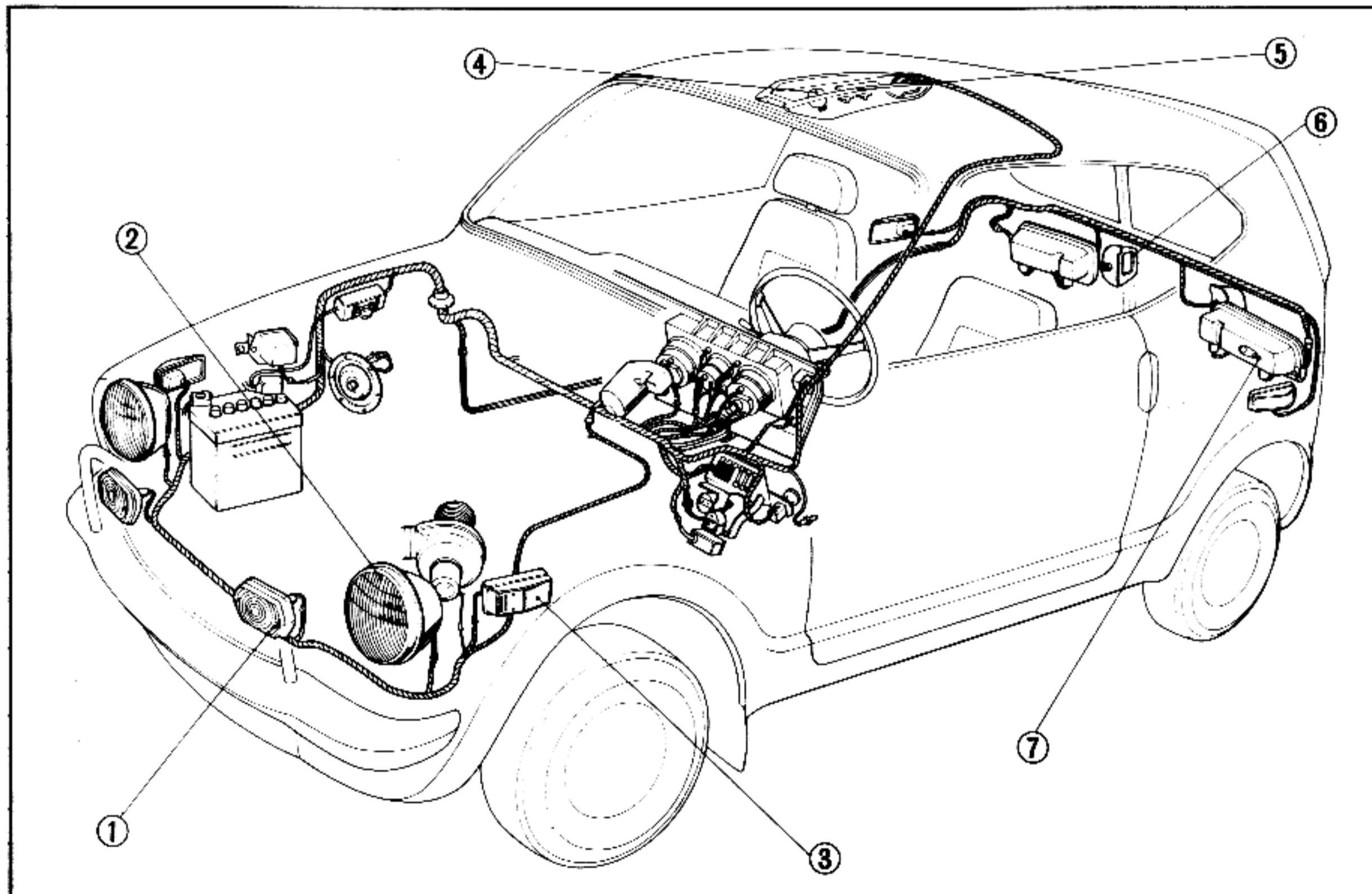


Fig. 2-66 ① Front Combination Light ④ Spot Light ⑦ Rear Combination  
 ② Head Light ⑤ Room Lamp  
 ③ Front Side Marker Light ⑥ License Light

**1. Loose and damaged connectors**

Check the condition of the wire harness couplers and connectors. Also check the wire harness for damage and make repairs or replacement as required.

**E. Cigar Lighter (Optional)**

1. Operate the lighter to insure that it returns to the normal position.
2. Check the heater element of the cigar lighter for fouling, and clean if necessary.
3. Check if any overheating and/or shorting occurs due to improper return.

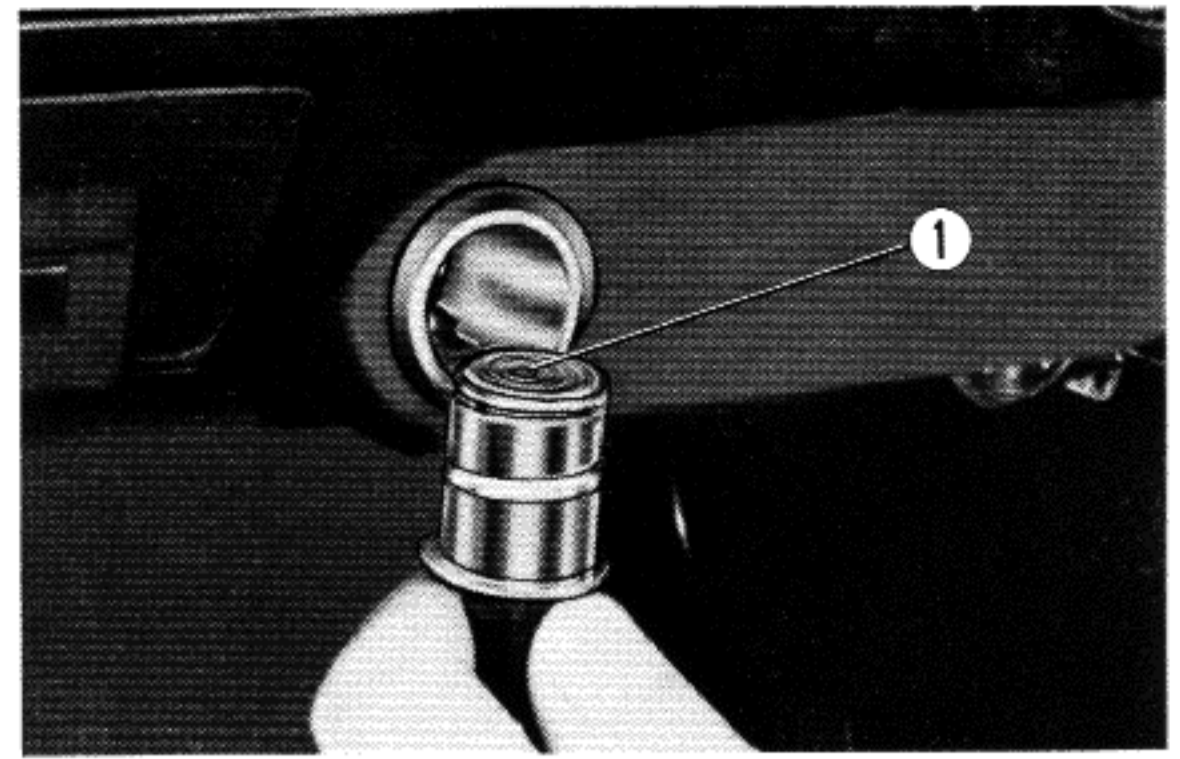


Fig. 2-67 ① Heater Element