

SUB-SUB-SECTION K1.4

CHAPTER 9

REAR WHEEL BRAKE CYLINDER - REMOVAL AND REPLACEMENT

REMOVAL

1. Remove the rear brake cylinder:
 - (1) Remove the brake shoes (see Sub-sub-section K1.4, Chapter 6).
 - (2) Disconnect and seal off the brake fluid pipe.
 - (3) Remove the fixings and pull the cylinder away from the back plate.

REPLACEMENT

2. To replace the rear brake cylinder:
 - (1) Position the cylinder on the back plate and secure with the fixings.
 - (2) Reconnect the brake fluid pipe.
 - (3) Refit the brake shoes (see Sub-sub-section K1.4, Chapter 6).
 - (4) Bleed the brakes (see Sub-sub-section K1.6).

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SUB-SUB-SECTION K1.5

REPAIR, CLEANING AND OVERHAUL

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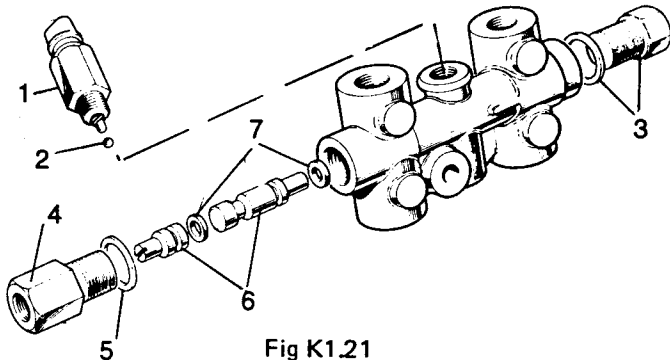
SUB-SUB-SECTION K1.5

CHAPTER 1

BRAKE FAILURE SWITCH - OVERHAUL

DISMANTLING

1. Remove the brake failure switch (see Sub-sub-section K1.4, Chapter 1).
2. Dismantle the unit as follows:



- (1) Refer to Fig K1.21. Remove the switch unit (1) from the housing.
- (2) Withdraw the plunger ball (2).
- (3) Remove the end plug and sealing washer (3).
- (4) Remove the pipe connector union (4) and sealing washer (5).
- (5) Push out the two-part shuttle valve (6) using a soft drift.
- (6) Remove and discard the shuttle valve oil seals (7).

INSPECTING

3. Carry out the following inspection on the components:
 - (1) Clean the shuttle valve, end plug, pipe union and five-way connector, using new brake fluid or ethyl alcohol.
 - (2) Examine the shuttle valve and its bore in the five-way connector. They must be in perfect condition with no signs of scratches or corrosion, otherwise fit a new switch complete.
 - (3) To test the electrical switch, reconnect the leads and actuate the switch plunger by pressing it against an earthing point on the vehicle. The BRAKE light should go out.

REASSEMBLY

4. To reassemble the brake failure switch:

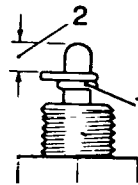


Fig K1.22

- (1) Refer to Fig K1.22. If the plunger spring (1) is dislodged, refit with the small coil of the spring toward the switch unit threads.
- (2) Position the plunger spring 4 mm approximately from the plunger end (2).

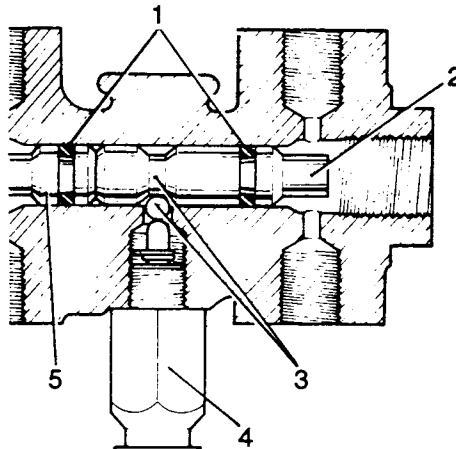


Fig K1.23

- (3) Refer to Fig K1.23. Fit new shuttle valve seals (1).
- (4) Coat the seals with Girling brake lubricant or clean brake fluid.
- (5) Fit the longer shuttle valve (2), slotted end last, to the end plug end of the housing bore.
- (6) Position the shuttle valve to align the groove for the plunger ball with the drilling for the ball (3).
- (7) Fit the ball and switch unit (4). Torque loading 1,728 N.m.
- (8) Fit the shorter shuttle valve (5) slotted end last to the pipe connector end of the housing bore.
- (9) Replace the pipe connector union ((4) on Fig K1.21) using a new sealing washer ((5) on Fig K1.21). Torque to 22 N.m.

(10) Replace end plug ((3) on Fig K1.21) using a new sealing washer. Torque to 22 N.m.

5. Replace the switch assembly (see Sub-sub-section K1.4, Chapter 1).

SUB-SUB-SECTION K1.5

CHAPTER 2

MASTER CYLINDER - OVERHAUL

DISMANTLING

1. Remove the master cylinder (see Sub-sub-section K1.4, Chapter 3).
2. Dismantle as follows:
 - (1) Withdraw retaining pins and withdraw the fluid reservoir.

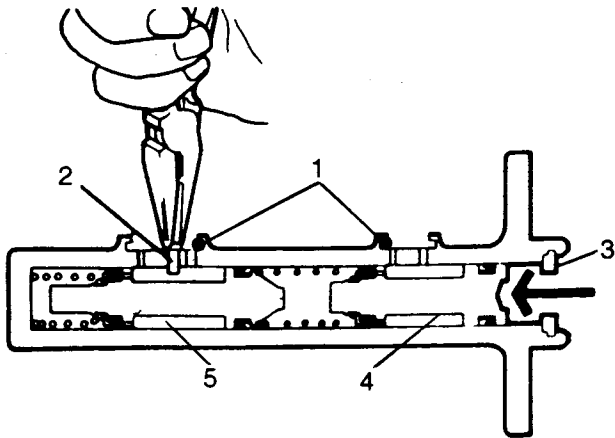


Fig K1.24

- (2) Refer to Fig K1.24. Lever out seals (1).
- (3) Push the plunger fully down the cylinder bore and withdraw secondary plunger stop pin (2).
- (4) Remove the circlip (3) and withdraw the primary plunger assembly (4).
- (5) Tap the cylinder on a soft or wooden surface to remove the secondary plunger assembly (5).
- (6) Remove the secondary plunger spring seal retainer, recuperating seal and washer. Keep the plunger and its spring together at all times.
- (7) Remove seal from the plunger.
- (8) Remove the primary plunger spring, seal retainer, recuperating seal and washer. Keep the plunger and its spring together at all times.
- (9) Remove the seal from the plunger.

INSPECTING

3. Inspect as follows:
 - (1) Clean all components in Girling cleaning fluid and allow to dry.

- (2) Examine the cylinder bore and pistons; ensure that they are smooth to the touch with no corrosion, score marks or ridges. If there is doubt, fit new replacements.
- (3) The seals should be replaced. These items are included in the master cylinder overhaul kit.

REASSEMBLY - (USING SERVICE KIT)

4. To reassemble the master cylinder:

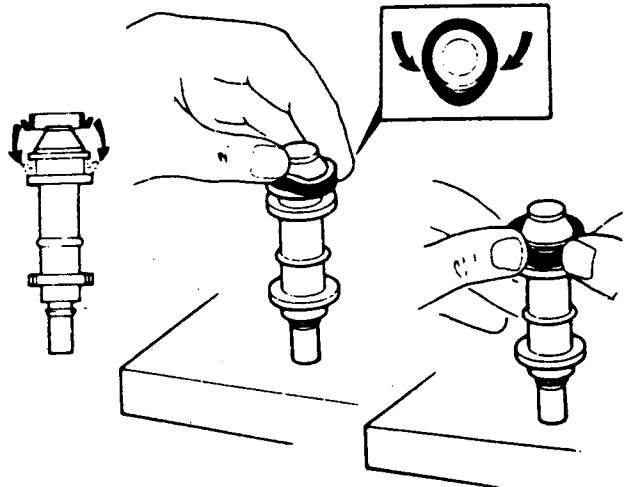


Fig K1.25

- (1) Refer to Fig K1.25. Fit a new seal (1) into the groove in the secondary plunger, as follows: Squeeze the seal into an ellipse then press the raised point of the seal over the flange.

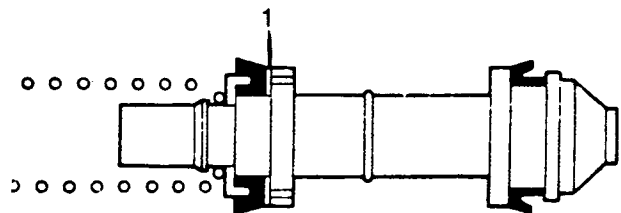


Fig K1.26

- (2) Refer to Fig K1.26. Fit the washer (1), new recuperating seal and spring to the secondary plunger.

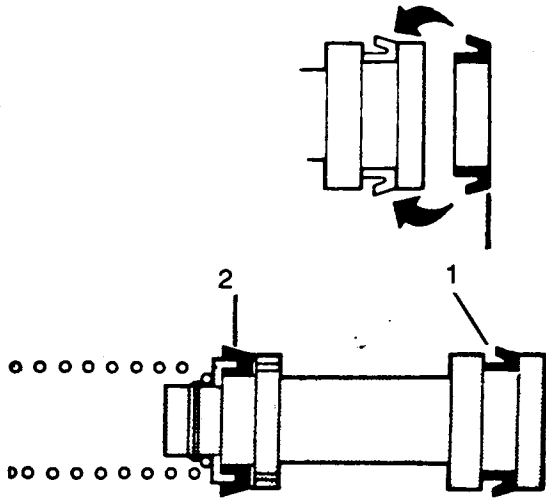


Fig K1.27

- (3) Refer to Fig K1.27. Fit the seal into the groove (1) in the primary plunger as described previously.
- (4) Fit the washer (2) new recuperating seal, seal retainer and primary spring. Ensure that the seals are fitted as illustrated.

NOTE

It is vital that the following instructions are carried out precisely and that generous amounts of unused brake fluid are used to lubricate the cylinder bore and plunger seals to prevent damage to the seals during assembly.

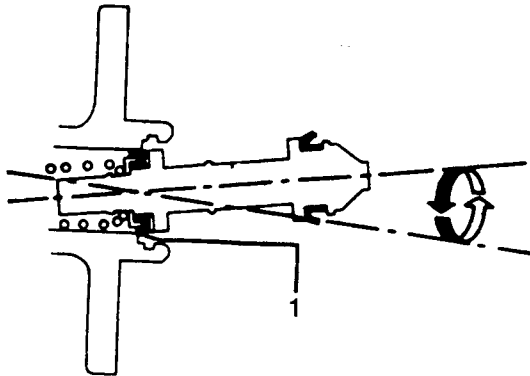


Fig K1.28

- (5) Refer to Fig K1.28. Clamp the cylinder in a bench vice, lubricate the secondary plunger seals (1) and the cylinder bore.
- (6) Offer the plunger assembly to the cylinder until the recuperation seal is resting centrally in the mouth of the bore. Then, ensuring that the seal does not become trapped, gently introduce the plunger with a circular rocking motion as illustrated to ease in the seal, then slowly push the plunger down the bore in one continuous movement.

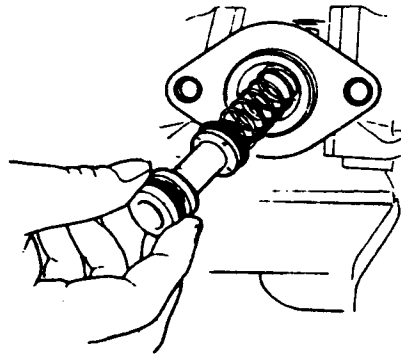


Fig K1.29

- (7) Refer to Fig K1.29. Repeat the lubricating and fitting procedure for the primary plunger assembly and fit the retaining circlip.

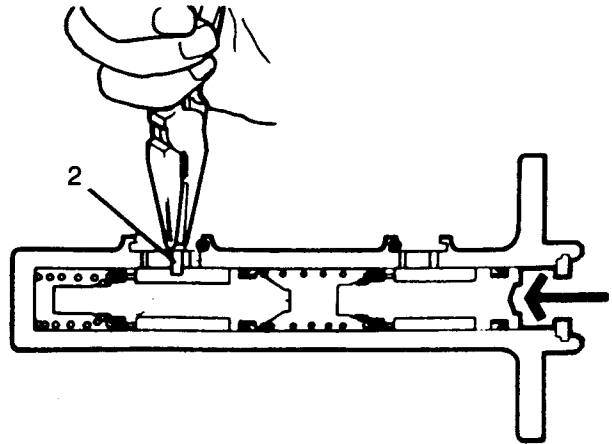


Fig K1.30

- (8) Refer to Fig K1.30. Using a clean screw driver, slowly press the plunger (arrowed) fully down the bore to enable the secondary plunger stop pin (2) to be fitted in its correct position.
- (9) Lubricate new seals with unused brake fluid and fit one in each inlet port.
- (10) Lubricate the seals and press the fluid reservoir into position on the cylinder and secure with the retaining pins.
- (11) Refit the master cylinder (see Sub-section K1.4, Chapter 3).

SUB-SUB-SECTION K1.5

CHAPTER 3

BRAKE LININGS - REFITTING

REMOVAL

1. Remove the old brake linings:
 - (1) Remove the brake shoes (see Sub-sub-section K1.4, Chapter 5 or 6).
 - (2) Remove the old linings from the shoes by shearing the rivets.

(2) Then with all the rivets loosely fitted, fully secure, start peening from the centre again.

(3) Chamfer both ends of each lining (2).

(4) Replace the brake shoes (see Sub-sub-section K1.4, Chapter 5 or 6).

REFITTING

2. To refit new linings:

NOTE

Brake shoes fitting with bonded linings: If the shoes incorporate rivet holes, the bonded linings can be removed and rivetted linings can be fitted in their place. If the shoes are not pre-drilled, replacement shoe and lining assemblies must be fitted.

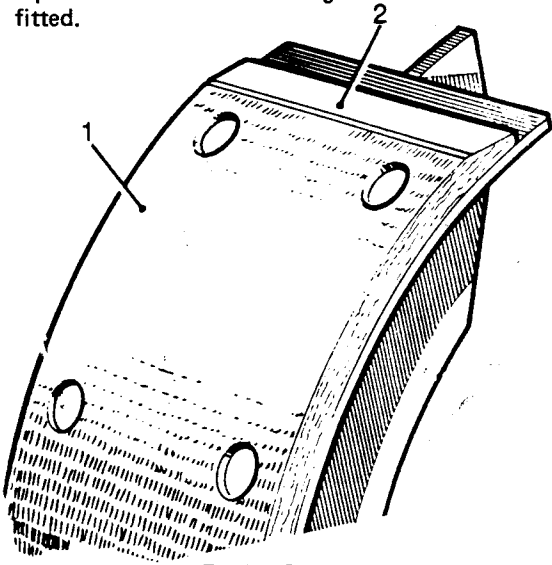


Fig K1.31

- (1) Refer to Fig K1.31. Attach the new linings to the shoes (1) commencing at the centre and working outwards, but only peen the rivets sufficiently to locate the linings.

SUB-SUB-SECTION K1.5

CHAPTER 4

SERVO ASSEMBLY - OVERHAUL

NOTE

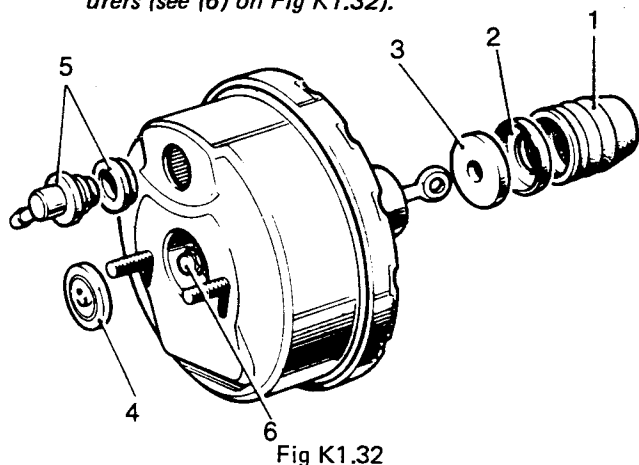
The Supervac servo unit can be serviced with a kit that is available without completely dismantling the servo. In the event of the servo developing a major fault, the unit must be renewed.

DISMANTLING

1. First remove the servo assembly (see Sub-sub-section K1.4, Chapter 7).
2. Dismantle as follows:

CAUTION

Do not attempt to remove or adjust the operating rod which is pre-set and locked at the manufacturers (see (6) on Fig K1.32).



REASSEMBLY - (USING SERVICE KIT)

3. To reassemble the servo assembly:
 - (1) Lubricate the non-return valve grommet (5) with Girling Grease (64949009) and fit to the front shell.
 - (2) Fit the new non-return valve into the grommet.
 - (3) Smear the new seal and plate assembly (4) with Girling Grease (64949009) and press into the front shell, ensuring the plate faces inwards.
 - (4) Fit the new filter (3) into the neck of the diaphragm plate.
 - (5) Fit the new end cap (2).
 - (6) Locate the new dust cover (1) over the lugs of the rear shell.

- (1) Refer to Fig K1.32. Pull back the dust cover (1).
- (2) Remove the end cap (2).
- (3) Withdraw the filter (3).
- (4) Remove the seal plate assembly (4) from the front shell recess.
- (5) Remove the non-return valve and grommet (5).

SUB-SUB-SECTION K1.5

CHAPTER 5

FRONT WHEEL BRAKE CYLINDERS - OVERHAUL

NOTE

A wheel cylinder overhaul kit is available and the components in the kit must be used to replace the old components on overhaul.

DISMANTLING

1. To dismantle the cylinder:

- (1) Remove the brake cylinder (see Sub-sub-section K1.4, Chapter 8).

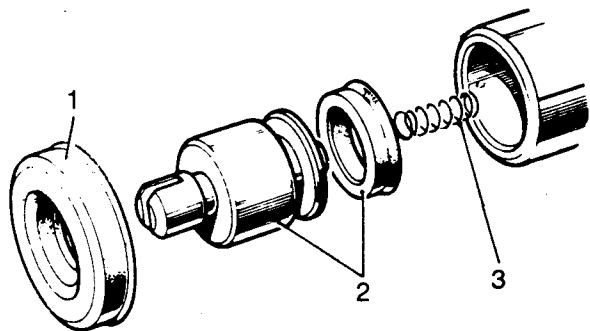


Fig K1.33

- (2) Refer to Fig K1.33. Withdraw the dust cover (1).
- (3) Withdraw the piston and seal (2).
- (4) Withdraw the spring (3).

INSPECTING

2. Inspect as follows:

- (1) Clean all components using Girling cleaning fluid and allow to dry.
- (2) Inspect the cylinder bore and piston for corrosion, scores and wear. If any component is unsatisfactory, replace the wheel cylinder assembly complete.

REASSEMBLY

3. Reassemble the cylinder as follows:

NOTE

Use new seals and dust covers from the wheel cylinder overhaul kit.

- (1) Lubricate the components using the recommended Girling brake fluid.

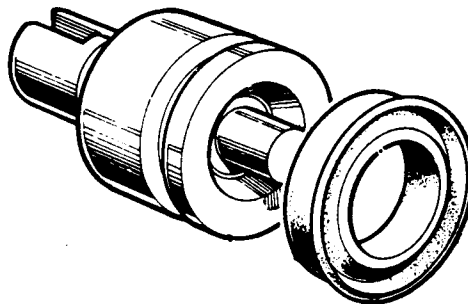


Fig K1.34

- (2) Refer to Fig K1.34. Refit the spring, seal and piston. Fit the piston seal with the lipped side away from the slotted end.
- (3) Fit a new dust cover.
- (4) Replace the brake cylinder (see Sub-sub-section K1.4, Chapter 8).

SUB-SUB-SECTION K1.5

CHAPTER 6

REAR WHEEL BRAKE CYLINDER - OVERHAUL

NOTE

A wheel cylinder overhaul kit is available and the new seals and dust covers contained in the kit must be used in place of the old ones.

DISMANTLING

1. To dismantle a rear wheel brake cylinder:

- (1) Remove the cylinder (see Sub-sub-section K1.4, Chapter 9).

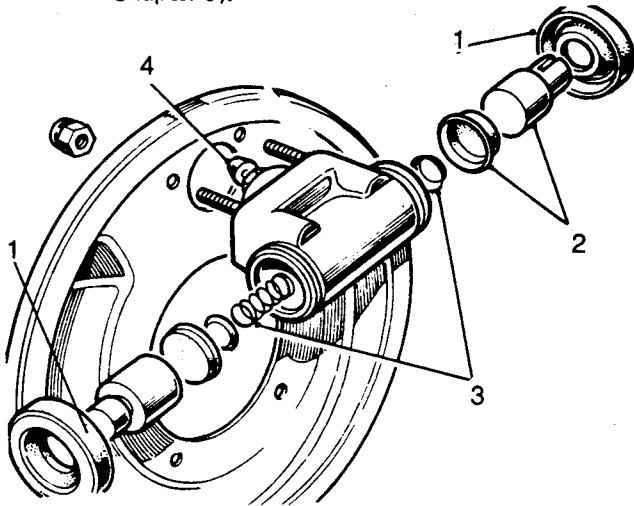


Fig K1.35

- (2) Refer to Fig K1.35. Withdraw the dust covers (1).
- (3) Withdraw the pistons and seals (2).
- (4) Withdraw the spring and seal supports (3).
- (5) Remove the bleed screw (4).

INSPECTING

2. Inspect the components:

- (1) Clean all components using Girling cleaning fluid and allow to dry.
- (2) Inspect the cylinder bore and piston for corrosion, scores and wear. If any components are unsatisfactory, replace the wheel cylinder assembly complete.

REASSEMBLY

3. Reassemble the cylinder as follows:

- (1) Lubricate the components, using the recommended Girling brake fluid.

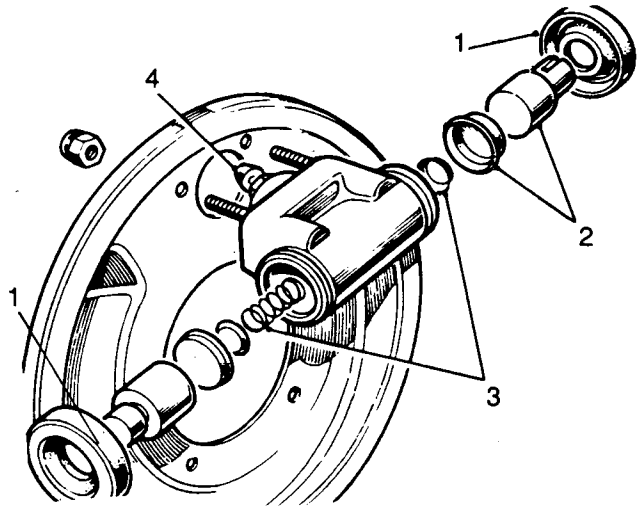


Fig K1.36

- (2) Refer to Fig K1.36. Replace the spring and seal supports (3).
- (3) Refit the pistons and new seals (2). Fit the piston seal with the lipped side away from the slotted end.
- (4) Replace the dust covers (1).
- (5) Fit the bleed screw and tighten to 5 to 8 N.m. Do not overtighten.
- (6) Replace the cylinder (see Sub-sub-section K1.4, Chapter 9).

SUB-SUB-SECTION K1.6

MAINTENANCE

INTRODUCTION

1. Maintenance of the road wheel brakes is only required when operation of the brakes indicates a fault such as spongy action, long pedal travel before the brakes are applied, etc. Periodic checks on the efficiency of the brakes should be made and the brakes adjusted (see Sub-sub-section K1.3) or bled (see below).
2. The back plate should be cleaned and examined at regular intervals for oil leaks which may indicate oil on the brake linings and impair brake efficiency.

BLEEDING THE BRAKE SYSTEM

NOTES

1. Use only new supplies of the recommended brake hydraulic fluid.
2. Keep the fluid reservoir topped up during bleeding.
3. Where the complete hydraulic system is to be filled, it is advantageous to first charge the system, to each bleed point in turn, before attempting to expel all air from the system.
4. Observe strict cleanliness precautions to prevent foreign matter from entering the hydraulic system.

Isolating Local Air Pockets

3. Use of Girling Brake Service Hose Clamp considerably facilitates the location of air in the system, therefore saving time by locating the hydraulic fault, and saving fluid when servicing the wheel cylinders. To isolate an air pocket:

CAUTION

Providing the brake hose is in reasonable condition, damage cannot be caused using the hose clamp, but the use of other tools to clamp the hoses is not recommended as damage may be caused internally to the hose without it being noticed externally.

- (1) With clamps fitted on the two front and one rear hose the pedal action should be perfect with no indication of 'sponginess'. If under these circumstances a spongy pedal is apparent, a new or overhauled master cylinder assembly must be fitted and bled and the test repeated.
- (2) If perfect pedal action is obtained with the three hose clamps in position, remove the rear clamp and if the pedal is spongy, the air must be in the rear cylinders. However, if the pedal action is good remove first one then the other of the two front clamps, repeating the test until the air is located.

Bleeding Procedure

4. For wheel cylinder servicing, only the appropriate hose need be clamped. This keeps the loss of fluid to a minimum and after the service is satisfactorily completed, only the affected parts require bleeding. To bleed the brake system:

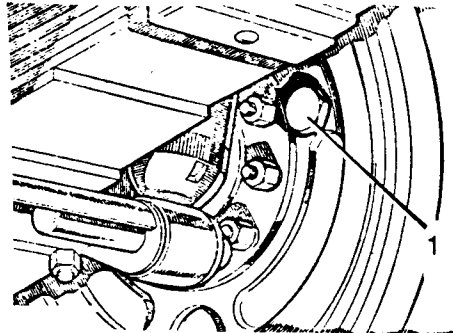


Fig K1.37

- (1) Refer to Fig K1.37. Slacken off the brake shoe adjusters (1) on each wheel to minimise wheel cylinder volume.

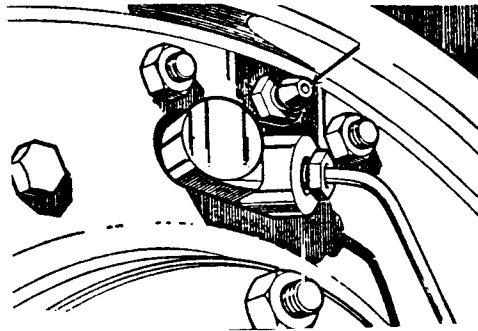


Fig K1.38

- (2) Refer to Fig K1.38. Attach a bleed tube to the bleed nipple farthest from the master cylinder. Submerge the tube free end in brake fluid in a transparent container.
- (3) Slacken the bleed nipple a half-turn.

NOTE

On dual braking systems only, do not use full pedal travel as this may decentralise the shuttle valve plunger in the brake failure switch. Operate the pedal slowly. If during the bleeding procedure the plunger operates the switch and the warning light is on, the bleedscrew must be closed and the bleedscrew at the other end of the vehicle opened (if bleeding the front brakes, open a bleedscrew on a rear brake and vice versa).

- (4) A steady pressure must then be applied to the pedal until the light goes out, then the pressure must be released immediately and the bleed-screw closed, otherwise the piston will move too far in the opposite direction and require resetting again.
- (5) Repeat the procedure until fluid discharged from the bleed tube is free of air, then tighten the bleed nipple during a pedal downstroke.
- (6) Repeat the procedure on the remaining wheels, commencing and continuing at the next wheel farthest from the master cylinder.
- (7) Adjust the brakes (see Sub-sub-section K1.3).
- (8) If the system is fitted with servo assistance: hold foot pressure on the brake pedal and start the engine. If the vacuum system is functioning correctly, the pedal will move towards the board. If no movement is felt, the vacuum system is not operating.

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SUB-SECTION K.2

TRANSMISSION BRAKE

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SUB-SUB-SECTION K2.1

DESCRIPTION AND SPECIFICATIONS

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SUB-SUB-SECTION K2.1

CHAPTER 1

DESCRIPTION OF THE TRANSMISSION BRAKE

INTRODUCTION

1. The transmission brake is a normal type of drum brake operated only by mechanical linkage between the brake itself and the hand lever in the cab.
2. The brake drum is attached to the rear propeller shaft while the shoes are mounted on a back plate secured to the gearbox housing.

OPERATION

3. The drive from the gearbox passes coaxially through the brake shoes and turns not only the rear propeller shaft but the transmission brake drum as well. When the shoes are expanded by pulling the hand lever, the brake action prevents the propeller shaft and thus the rear wheels from turning. If four wheel drive is engaged the front propeller shaft is indirectly connected to the rear propeller shaft and in effect all four wheels are braked.

SUB-SUB-SECTION K2.1

CHAPTER 2

TRANSMISSION BRAKE SPECIFICATIONS

INTRODUCTION

1. The general data for the transmission brake are given in Table K2.1 below. No torque specifications are available for the transmission brake.

TABLE K2.1 - GENERAL DATA

ITEM	DESCRIPTION
Drum diameter	228,6 mm
Lining dimensions	209,55 mm x 44,45 mm x 4,74 mm

SUB-SUB-SECTION K2.2

FAULT DIAGNOSIS AND CORRECTIVE ACTION

INTRODUCTION

1. This Sub-sub-section covers fault diagnosis and corrective action for the transmission brake. In Table K2.2 a list of symptoms, the probable cause and the recommended remedial action is given. The Table is not exhaustive and faults may occur which are not listed. Should the Table not indicate the fault, the suspected components should be removed for closer inspection and/or overhaul.

TABLE K2.2 - TRANSMISSION BRAKE FAULT DIAGNOSIS CHART

SYMPTOM	POSSIBLE CAUSE	REMEDY
Brake not holding	Water soaked linings. Incorrect or glazed linings. Incorrect shoe adjustment. Incorrect brake lever adjustment.	Dry out. Replace linings. Adjust brake. Adjust lever.
Brake drags	Incorrect shoe adjustment. Seized shoe. Weak pull-off springs. Distorted drum. Scored or cracked drum.	Readjust shoes. Overhaul brake. Overhaul brake. Skim or replace drum. Replace drum.
NOTE: The brake drum may be skimmed to a maximum of 0,75 mm oversize.		

SUB-SUB-SECTION K2.3

TRANSMISSION BRAKE - ADJUSTING

1. To adjust the brake:
 - (1) Turn the adjuster cone fully in and tighten the fixings.
 - (2) Slacken off the adjuster cone two 'clicks'; give the brake a firm application to ensure that the shoes have centralised at the expander end. The brake drum should now be free to rotate.
 - (3) Set the hand brake linkage so that the hand brake has one or two clicks free movement in the off position.

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SUB-SUB-SECTION K2.4

REMOVAL AND REPLACEMENT PROCEDURES

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SUB-SUB-SECTION K2.4

CHAPTER 1

TRANSMISSION BRAKE HAND LEVER AND LINKAGE - REMOVAL AND REPLACEMENT

REMOVAL

1. To remove the lever and linkage:

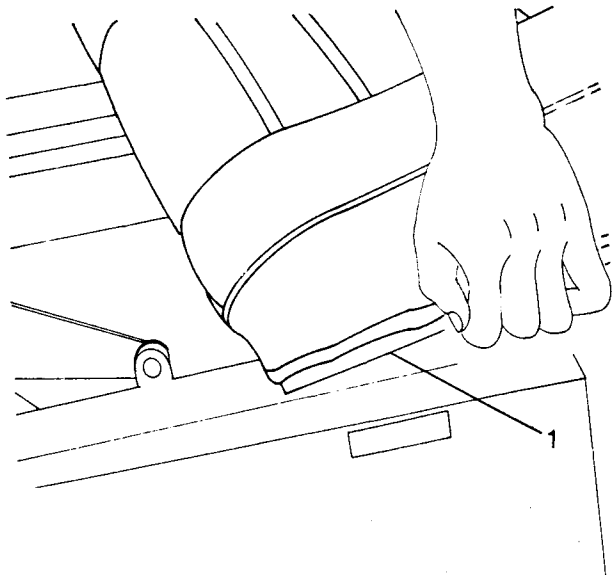


Fig K2.1

- (1) Refer to Fig K2.1. Remove the seat cushion and lid panel (1) from the seat base.

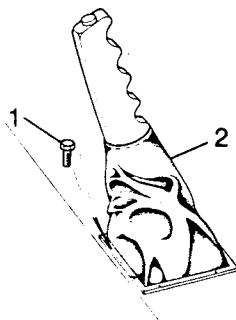


Fig K2.2

- (2) Refer to Fig K2.2. Remove the eight screws (1) retaining the leather dust cover (2) on the handbrake lever and remove the cover.

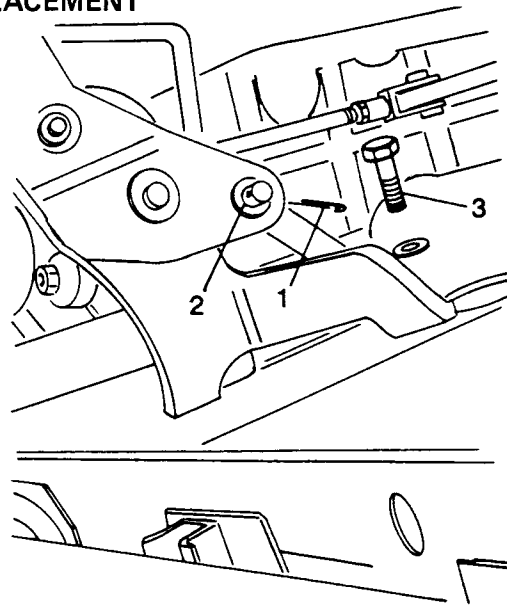


Fig K2.3

- (3) Refer to Fig K2.3. Disconnect the cable from the handbrake lever by removing the split pin (1) and clevis pin (2).

- (4) Remove the two (3) nuts and bolts holding the handbrake lever mounting to the seat base and remove the handbrake lever.

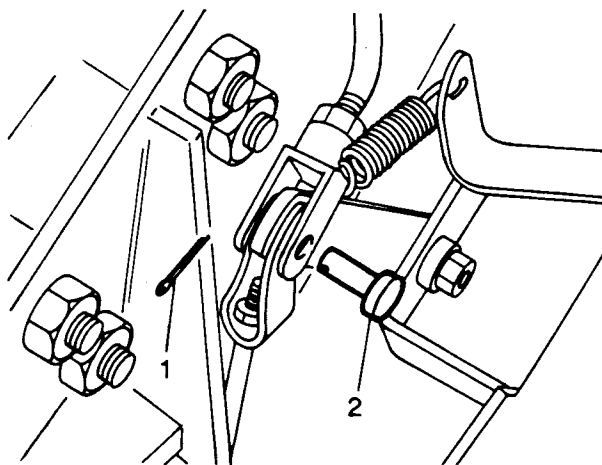


Fig K2.4

- (5) Refer to Fig K2.4. From underneath the vehicle disconnect the cable from the relay lever by removing the split pin (1) and clevis pin (2).

- (6) Remove the cable.

REPLACEMENT

2. Replace the lever and linkage as follows:

- (1) Fig K2.4 still applies. Under the vehicle, connect the cable to the relay lever and secure with the clevis pin and a new split pin.
- (2) Fig K2.3 still applies. Replace the handbrake lever and secure the lever mounting to the seat base with the two bolts and nuts.
- (3) Connect the cable to the handbrake lever with the clevis pin and a new split pin.

(4) Adjust the cable to give two clicks on the ratchet when applying the handbrake.

(5) Fig K2.2 still applies. Replace the leather dust cover and the eight retaining screws.

(6) Replace the lid panel and the seat cushion.

SUB-SUB-SECTION K2.4

CHAPTER 2

TRANSMISSION BRAKE ASSEMBLY - REMOVAL AND REPLACEMENT

NOTE

To adjust the assembly or to fit new linings, it is not essential to remove the transmission brake from the vehicle. The brake shoe components are accessible after removing the brake drum which can be detached from the gearbox output flange and pushed back over the propeller shaft.

REMOVAL

1. To remove the transmission brake assembly:

- (1) Chock the road wheels.
- (2) Disconnect the rear propeller shaft from the transmission brake (see Sub-sub-section H4.3) and move the shaft aside.

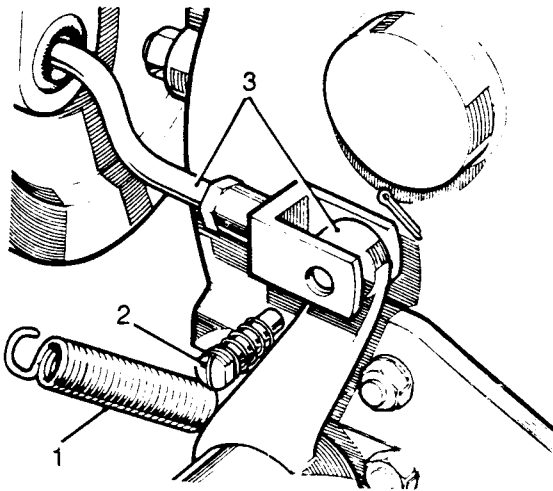


Fig K2.5

- (3) Refer to Fig K2.5. Disconnect the brake return spring (1).
- (4) Remove the expander rod fork fixings (2).
- (5) Disconnect the expander rod from the relay lever (3).

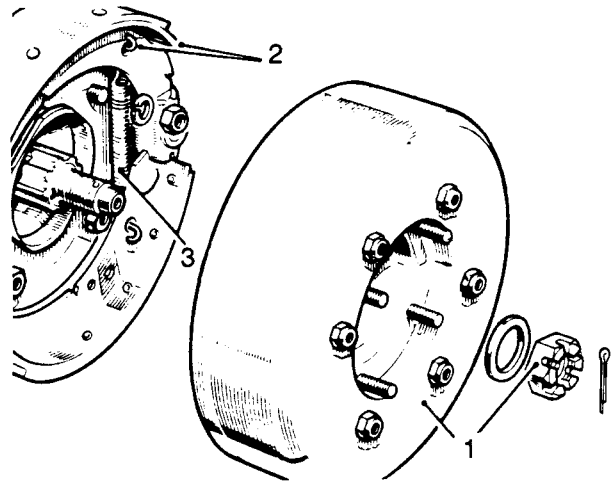


Fig K2.6

- (6) Refer to Fig K2.6. Remove the fixings and withdraw the brake drum (1).
- (7) Remove the brake shoes together with the pull-off springs (2).
- (8) Separate the shoes by detaching the springs (3).

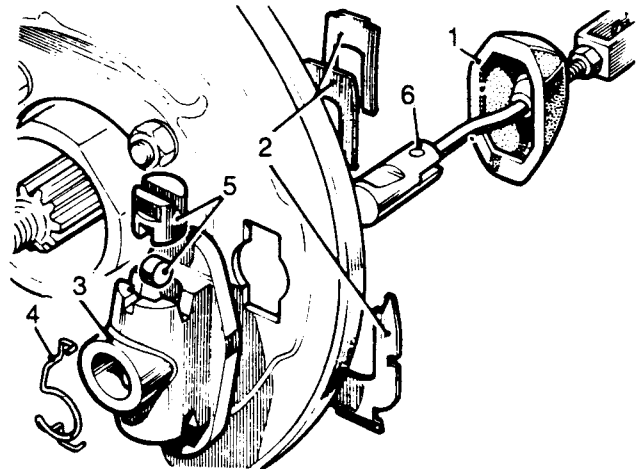


Fig K2.7

- (9) Refer to Fig K2.7. Withdraw the dust excluder (1).
- (10) Remove the expander unit fixing plates (2).
- (11) Withdraw the expander unit (3).
- (12) Remove the spring clip from the expander unit (4).
- (13) Withdraw the plungers and rollers (5).
- (14) Withdraw the operating rod (6).

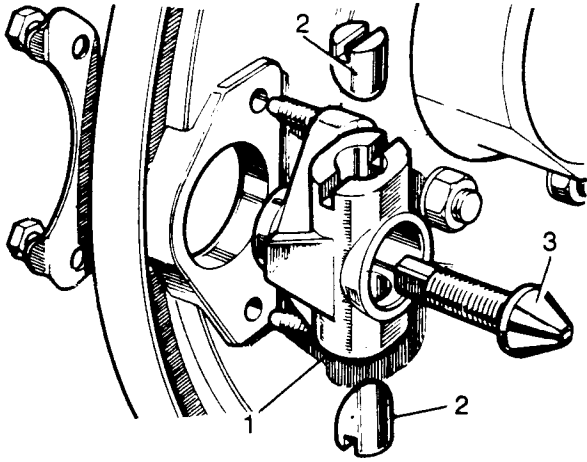


Fig K2.8

- (15) Refer to Fig K2.8. Remove the adjuster unit assembly (1).
- (16) Pull out the adjuster plungers (2).
- (17) Unscrew the adjuster cone (3).

REPLACEMENT

2. To replace the transmission brake assembly:

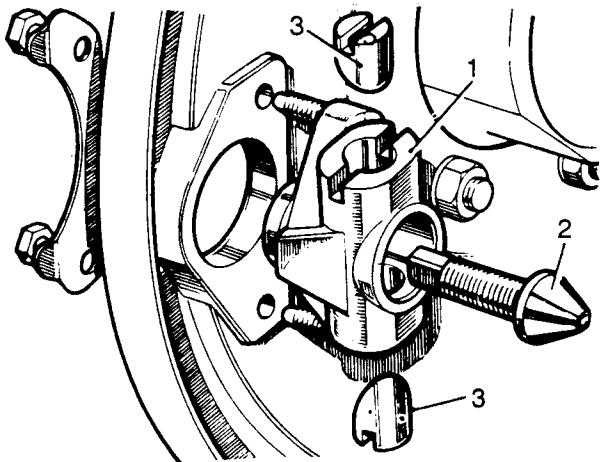


Fig K2.9

- (1) Refer to Fig K2.9. Fit the adjuster unit housing (1). Do not tighten the fixings at this stage.
- (2) Screw in the adjuster cone (2).
- (3) Grease and refit the adjuster plungers (3).

NOTE

The two plungers are identical and may be fitted to either bore. Align the chamfered ends of the plungers with the cone on the adjuster.

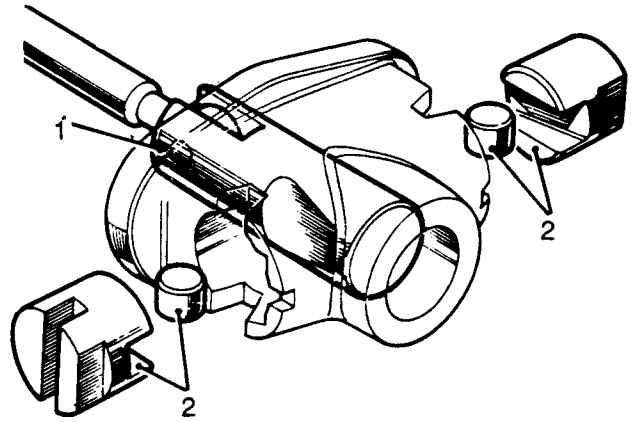


Fig K2.10

- (4) Refer to Fig K2.10. Grease and fit the expander rod (1).
- (5) Grease and fit the plungers and rollers (2).

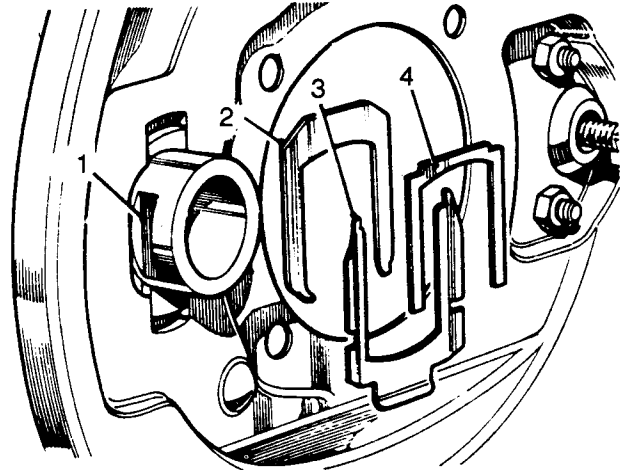


Fig K2.11

- (6) Refer to Fig K2.11. Position the adjuster housing (1) on the back plate.
- (7) Fit the packing piece (2).
- (8) Fit the locking plate (3).
- (9) Fit the retainer spring (4).

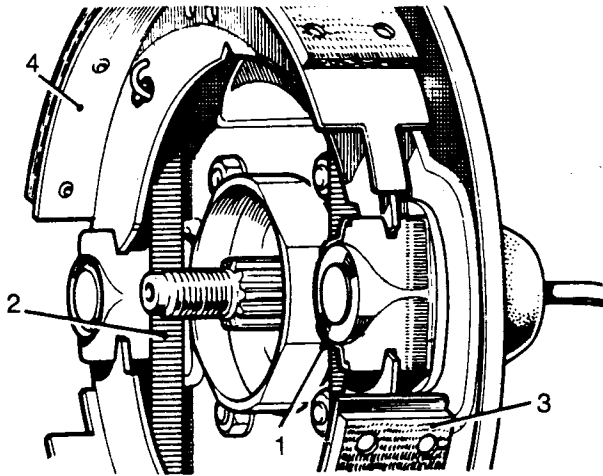


Fig K2.12

- (10) Refer to Fig K2.12. Fit the spring clip (1) to the expander unit.
- (11) Fit the brake shoes and pull-off springs together (2).
- (12) The fully lined end of the lower shoe (3) must be towards the expander housing.
- (13) The fully lined end of the upper shoe (4) must be towards the adjuster housing.
- (14) Replace the brake drum and secure with the washer and castellated nut. Fit a new split pin and spread the ends.

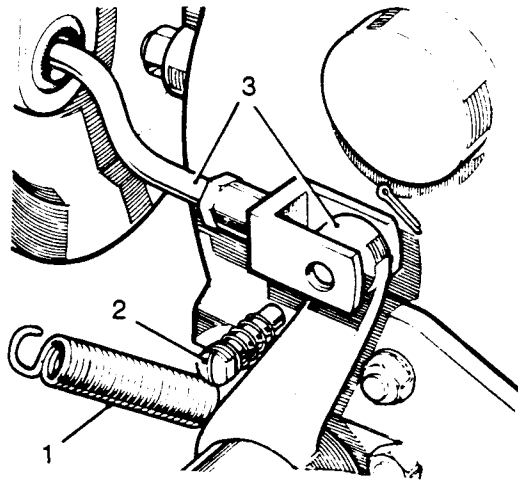


Fig K2.13

- (15) Refer to Fig K2.13. Fit the expander rod (3) to the relay lever.
- (16) Replace the expander rod fork fixings (2).
- (17) Connect the brake return spring (1).
- (18) Adjust the brake (see Sub-sub-section K2.3).
- (19) Remove the chocks under the road wheels.

SUB-SUB-SECTION K2.5

TRANSMISSION BRAKE - CLEANING AND REPAIR

1. Remove the brake assembly (see Sub-sub-section K2.4, Chapter 2).
2. Clean and inspect as follows:
 - (1) Clean all components in Girling cleaning fluid and allow to dry.
 - (2) Examine all items for obvious wear and replace as necessary.
 - (3) Examine the brake for scoring and ovality and skim if required. Standard diameter is 228,6 mm; reclamation limit is 0,75 mm oversize.
 - (4) If the brake linings are oily, check and if necessary replace the output shaft oil seal.
 - (5) If required, reline the brake shoes (see Sub-sub-section K1.5, Chapter 3).

SUB-SUB-SECTION K2.6

MAINTENANCE

INTRODUCTION

1. The transmission brake has been designed to give maintenance free operation, requiring only periodic inspection for obvious defects. At the specified intervals check the brake operation and adjust the shoes and linkage if necessary.
2. At frequent intervals, depending on operating conditions, the brake assembly should be cleaned to prevent the accumulation of mud, dirt, oil, etc. Oil should be wiped off with a clean cloth and a check made for oil leaks which may indicate a faulty output shaft oil seal.

SECTION CONTENTS LIST

SECTION L

STEERING SYSTEM

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SUB-SECTION L1

DESCRIPTION AND SPECIFICATIONS

CHAPTER	DESCRIPTION	PAGE
1	DESCRIPTION OF THE STEERING SYSTEM	L1.3
2	STEERING SYSTEM SPECIFICATIONS	L1.4

SUB-SECTION L1

CHAPTER 1

DESCRIPTION

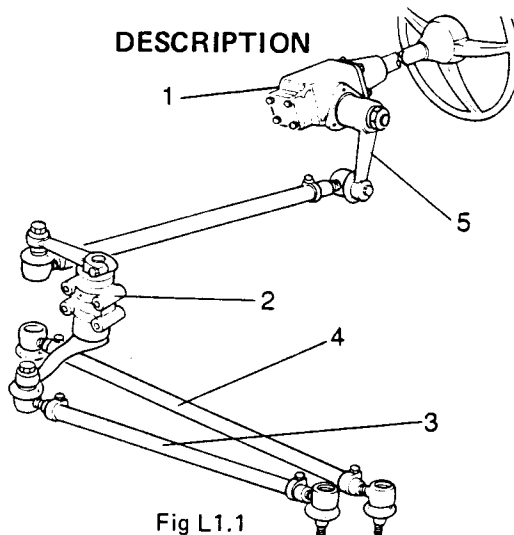


Fig L1.1

1. The steering system is a recirculating ball type operating through the steering box (1), a drop arm (5) and a relay unit (2) to a drag link (3). A track rod (4) connects the two front wheels through ball joints.
2. The steering requires 3,5 turns of the steering wheel from lock to lock.

SUB-SECTION L1

CHAPTER 2

STEERING SYSTEM SPECIFICATIONS

INTRODUCTION

1. The specifications are given in the following Tables:

TABLE L1.1 - GENERAL DATA

TABLE L1.2 - TORQUE SPECIFICATIONS

The specifications in Table L1.1 apply with the vehicle in the static, unladen condition with coolant, oils and 22,7 litres of fuel and with the tyres at the recommended pressures:

TABLE L1.1 - GENERAL DATA

ITEM	DESCRIPTION
Type	Recirculating ball
Ratio: Straight ahead	15,6:1
Full lock	23,8:1
Front wheel toe-in	1,2 to 2,4 mm
Camber angle	1,5° positive
Castor angle	3°
Swivel pin inclination	7°

TABLE L1.2 - TORQUE SPECIFICATIONS

ITEM	TORQUE (N.m)
Steering wheel nut	54
Ball joint nuts	40
Relay lever pinch bolts	76
Steering box support bracket bolts	70 to 85
Steering box support bracket to chassis bolts	20
Steering box drop arm nut	85 to 110