WHEEL UNITS-FRONT

(Air/hydraulic Models)

Description

Two single piston wheel cylinders, one for each brake shoe, give "two leading shoe" characteristics in the forward direction of wheel rotation.

Each brake shoe is fitted with an auto adjusting device comprised of two toothed adjuster plates on the shoe web. A guide pin rigidly secured to the backplate passes through a slot in the shoe web and the large adjuster plate. When, due to lining wear, the shoe movement exceeds a predetermined amount the pin moves the adjuster plates to engage in the next set of teeth, thus keeping the correct shoe to drum clearance.

Prior to drum removal the auto mechanisms can be de-adjusted through holes in the backplate, after removing the rubber dust plugs.

The shoes are held against the backplate by springs acting on steady pins that pass through holes in the shoe webs.

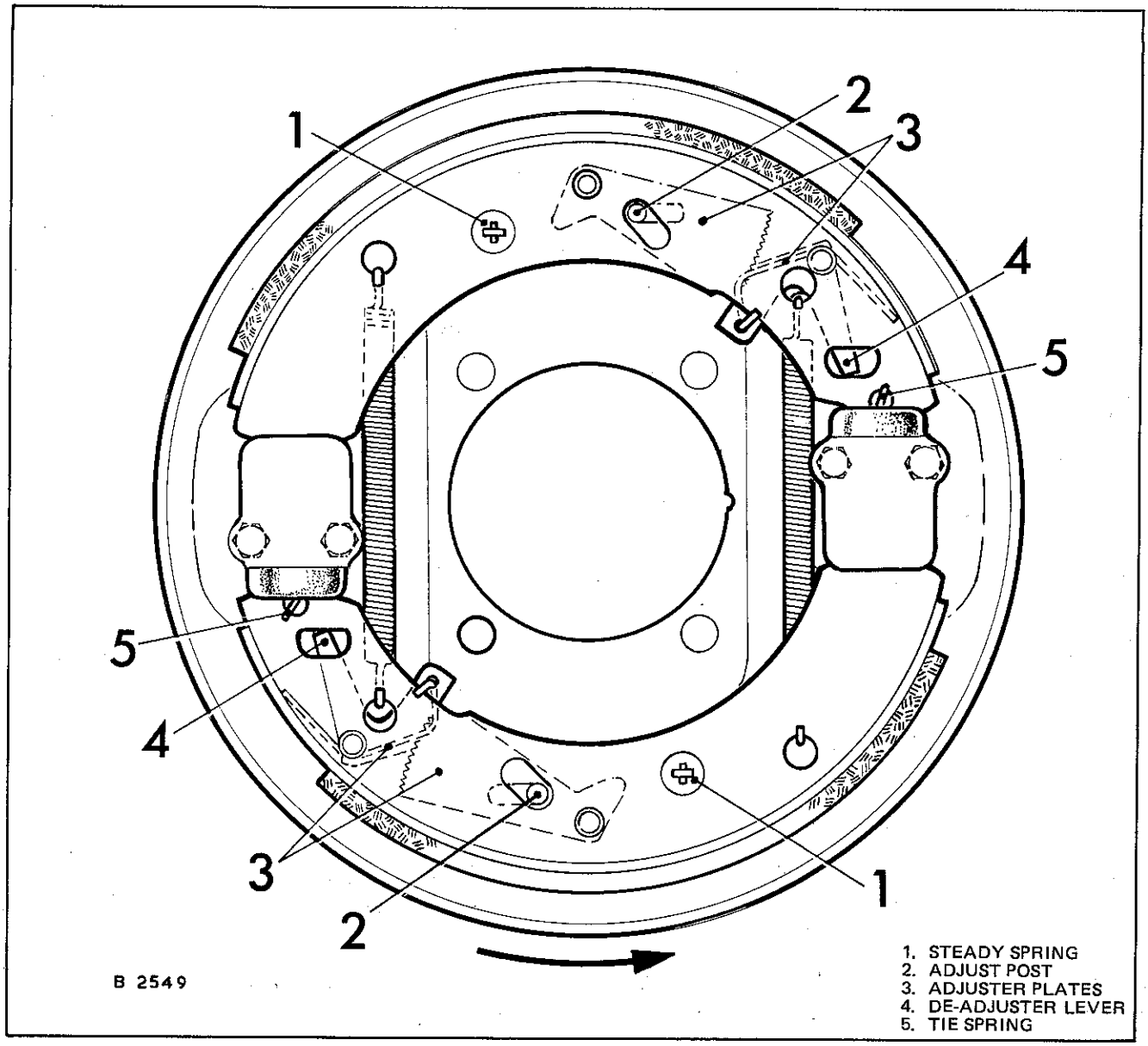

Fig. 1 *Front brake assembly*

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TO FIT NEW SHOES

To ensure balanced performance, it is necessary to renew the shoes on both brake assemblies of an axle.

Apply the parking brake.

Jack up and support the front of the vehicle.

Remove the wheels.

Remove the two dust plugs in the backplate and using a small screwdriver de-adjust the automatic mechanisms.

Remove the hub and brake drum, taking careful note of the positions of shoes and springs.

Depress and turn the shoe steady pin washers to release the pins and springs. Extract the steady pins from the backplate.

Disconnect and remove the shoe to piston tie springs.

Using a shoe horn pull the end of one of the shoes out of the abutment in the wheel cylinder body. Unhook the spring and remove both shoes and the other pull-off spring.

Retain the pistons in the wheel cylinder using wire or a strong rubber band. Care should be taken not to damage the rubber boots.

Remove all dust and dirt from the backplate. Do not blow out with an air line – it could be harmful to inhale the dust – but remove with a vacuum cleaner or wipe clean with a damp rag. Do not use petrol or paraffin – if a solvent is necessary methylated spirit should be used.

The brake shoes should be renewed if the linings are contaminated with lubricants or hydraulic fluid irrespective of the state of wear.

Remove the adjusting mechanisms from the old shoes, clean and examine for damage and excessive wear, particularly the teeth on the adjuster plates. Also examine the adjuster posts attached to backplate.

Lightly smear the adjuster plate pivot pins with high melting point grease. Refit the adjuster plates to the brake shoes, also lightly grease the tips of the brake shoes, the areas where the shoe platforms rub against the backplate and the adjuster posts. Keep grease away from linings and rubber parts.

Set each adjuster mechanism to minimum adjustment by depressing the small adjuster plate to allow the large plate to move against the shoe platform.

Look for signs of leakage from the wheel cylinders. Inspect flexible hoses and metal brake pipes for wear, damage or corrosion.

Examine the pull-off springs for damage or overstretching and renew as necessary.

Lay out the shoes in their correct relationship with the springs, then install the shoes by reversing the removal procedure.

Ensure that the adjuster posts engage in the slots in the adjuster plates.

Refit the shoe steady pins, springs and washers.

Refit the shoe to piston tie springs.

Refit the two dust covers in the backplate.

Adjust the mechanisms manually so that the drum will just go on.

Refit the hub and brake drum, apply the foot brake hard several times to allow the auto adjusters to set the brake shoe running clearance.

Refit road wheels and remove axle stands and jack.

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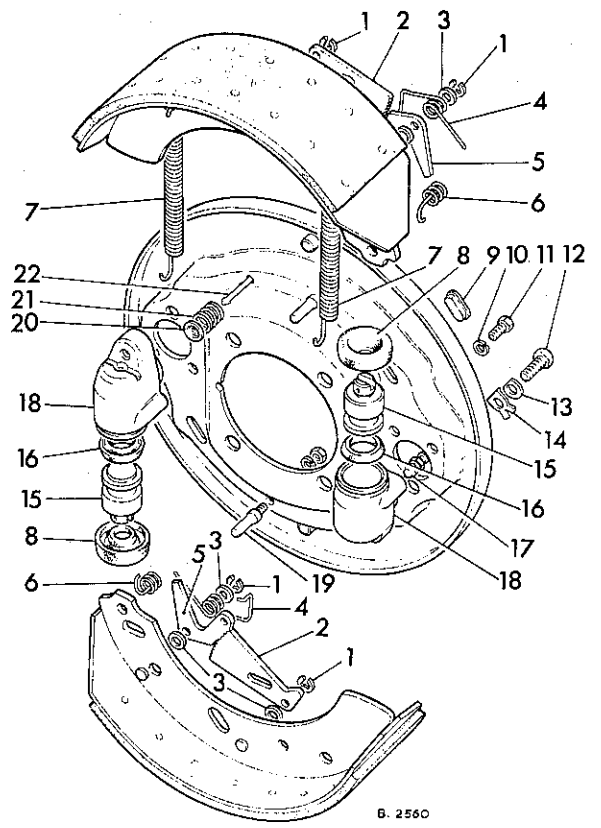

1. CIRCLIP
2. ADJUSTER PLATE
3. WASHER
4. ADJUSTER SPRING
5. ADJUSTER LEVER
6. PISTON TIE SPRING
7. PULL-OFF SPRING
8. RUBBER BOOT
9. DUST PLUG
10. SPRING WASHER
11. SETSCREW
12. SETSCREW
13. WASHER
14. TAB WASHER
15. PISTON
16. SEAL
17. BLEED SCREW
18. BRAKE CYLINDER
19. ADJUSTER POST
20. STEADY WASHER
21. STEADY SPRING
22. STEADY PIN

Fig. 2 *Front brake details*

WHEEL CYLINDERS

To Remove

Remove the brake shoes as detailed previously.

Fit a suitable hose clamp and disconnect all hydraulic connections, carefully noting all pipe positions.

Remove the bleed screw and plug the ports and pipe ends to prevent fluid loss.

Release the tab washer on the larger setscrew. Remove the three setscrews and washers and withdraw cylinder.

To Dismantle

Thoroughly clean the cylinder.

Disengage the rubber boot from the cylinder body and piston.

Carefully pull the piston out of its bore.

Remove the seal from the piston and wash all parts in clean brake fluid.

Examine the piston bore and piston for signs of corrosion or score marks. If surfaces are clean and free from ridges a new seal may be fitted. If in doubt fit new cylinder assembly.

To Re-assemble

Coat a new piston seal with clean brake fluid and using the fingers only, fit the seal into the groove, the larger diameter facing away from the slotted head of the piston.

Smear the cylinder bore with clean brake fluid and insert the piston assembly taking care not to bend back the lip of the seal.

Refit the boot, ensuring that it is seated correctly in both the piston and cylinder body grooves.

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To Refit

Refit the cylinders to the backplate and tighten each setscrew to the correct torque. Lock the large setscrew by means of the tab washer.

Fit the bleed screw and reconnect the hydraulic pipes. Release the hose clamp.

Refit the brake shoes as described previously.

Bleed the system and ensure the reservoir has the correct level of fluid.

BACKPLATE

To Remove

Remove the wheel, hub and drum as described in sub-section M 100.

If required, remove the brake shoes as described in this section.

Fit a suitable hose clamp and disconnect the feed pipe at the wheel cylinder.

Disconnect the bridge pipe clip.

Remove the four setscrews and washers securing the backplate assembly. Remove the backplate.

If required, remove the wheel cylinders from the backplate.

To Refit

Clean and refit the backplate securing with four setscrews and washers using Loctite, torque tightened to Data figure.

Refit the wheel cylinders and brake shoes (if removed) as previously described in this section.

Refit the hub, drum and wheel as described in sub-section M 100.

Reconnect the hydraulic pipes, release the hose clamp and bleed the system. Ensure the reservoir has the correct level of fluid.

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