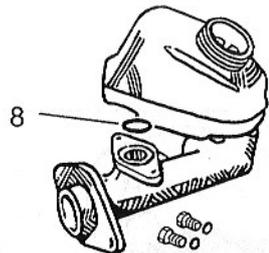
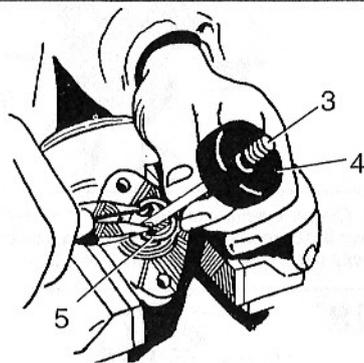


20



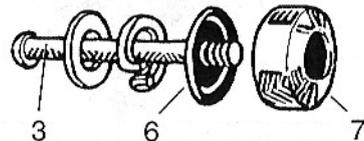
20. With this type, only one seal (8) is fitted, pivot reservoir and tighten the two screws.

21



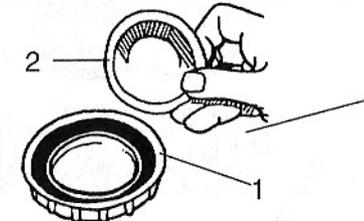
21. To fit push rod, clamp cylinder in bench vice. Settle in push rod (3) and washer (5). Squeeze Lucas Rubber Grease (from kit) into dust cover (4), smear the grease onto sealing areas and fit dust cover onto the cylinder body.

22



22. If the dust cover is flat (6), smear with Lucas Rubber Grease and position over cylinder bore, firmly press metal retaining band (7) against the rubber dust cover then crimp the edge of band in three places.

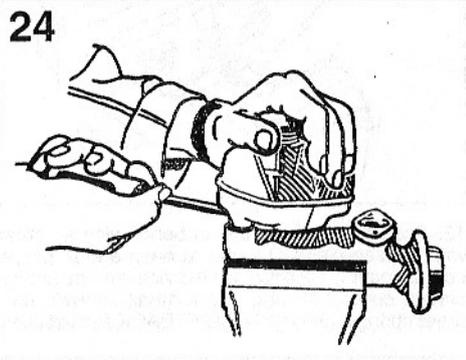
23



23. Put new rubber washer in filler cap (1), and press home baffle (2). When fitting master cylinder onto vehicle, fit the filler cap and cover all open bores with suitable tape to keep out the dirt. Bleed system in recommended manner, check for leaks and road test.

### Replacing Pivot Type Fluid Reservoir

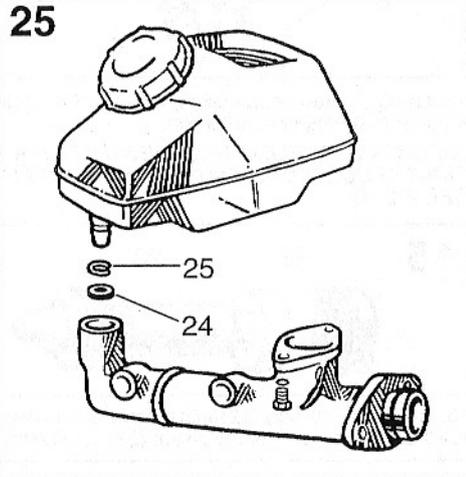
24



24. To replace this type of fluid reservoir, the cylinder should be dismantled beforehand as a brake failure could occur if a sliver of metal or plastic dropped into the bore unnoticed.

Next, clamp cylinder in bench vice and carefully lever off the reservoir. Wash out cylinder bore with Lucas Brake Cleaner and ensure the cylinder is clean and undamaged.

25



25. Fit new seal (24) and circlip (25) to cylinder. Lubricate cylinder and reservoir spigot with unused Lucas Brake Fluid and press reservoir into position. Reassemble cylinder as described previously.

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## TANDEM MASTER CYLINDER

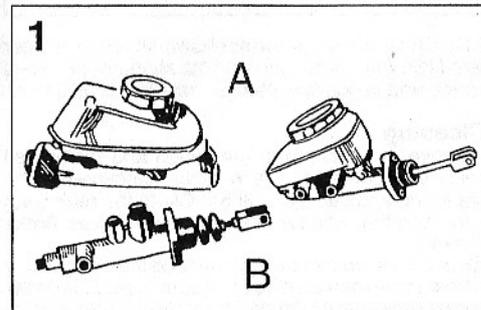
Lucas Aftermarket Operations Stratford Road Solihull B90 4AX England  
Tel. 0121-506 5000 Fax. 0121-506 5001

**▲WARNING:** For optimum results and safety, Lucas recommends that all work should be carried out by a suitably trained fitter/mechanic and worn units should be replaced by new units. If it is decided to service a used component particular attention should be paid to the following. If in doubt or difficulty fit a new unit or seek professional help.

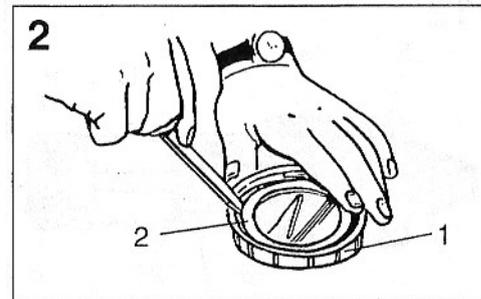
**▲WARNING:** Clean brake parts with only Lucas Brake Cleaner or unused Lucas Brake Fluid. Use Lucas Universal Brake Fluid - DOT 4 or DOT 5.1 in Lucas car brake systems and DOT 3 or 4 in Lucas commercial vehicle systems, as recommended. If in doubt consult vehicle handbook.

### Dismantling

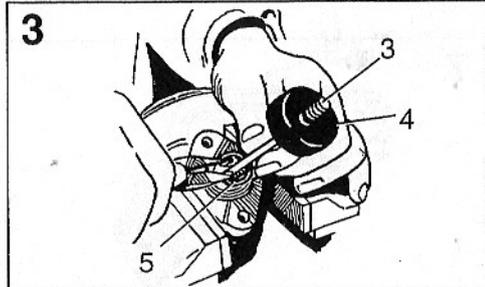
1. The illustration shows three typical master cylinders. Cylinder 'A' does not include a push rod and cylinder 'B' utilises a remote fluid reservoir.



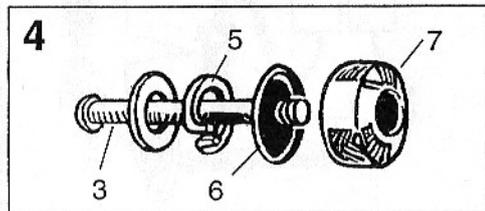
2. Unscrew filler cap (1) and drain off surplus brake fluid. Lever off plastic baffle (2) and remove rubber washer.



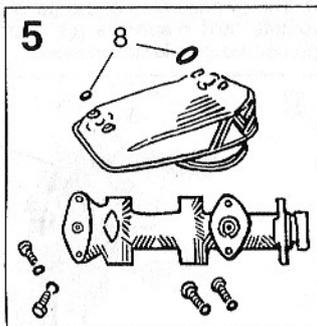
3. To remove push rod (3), clamp cylinder in bench vice as shown, pull back dust cover (4) and remove circlip (5) with long nosed pliers.



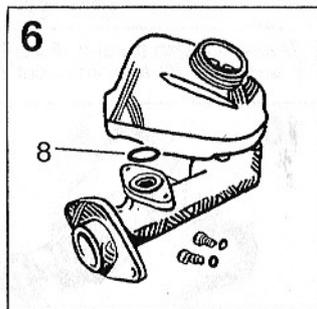
4. Some cylinders have a flat dust cover (6) and, as the metal retaining band (7) must be used again on re-assembly, carefully prise back the indentations in the edge to remove it from the cylinder. The push rod (3) can then be removed by removing the circlip (5).



5. If the fluid reservoir is retained by screws at both ends, remove the screws, reservoir and seals (8).



6. With this type, remove the two screws and pivot the reservoir as shown.

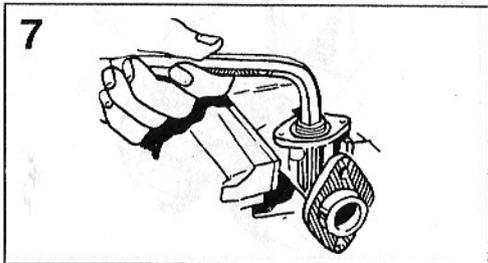


**IMPORTANT:**  
NEVER ATTEMPT TO REMOVE THIS TYPE OF RESERVOIR UNLESS IT IS DAMAGED.

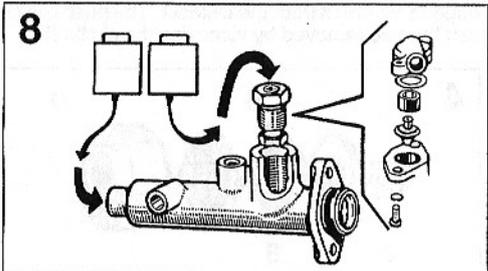
If it does need renewing, see Fig. 24.

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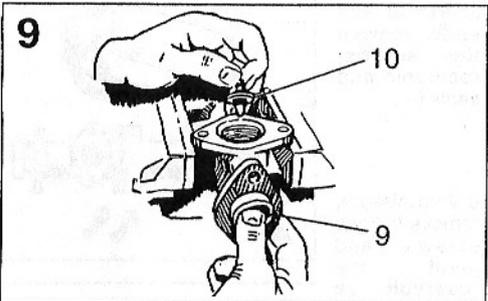
© Lucas Ltd 1999



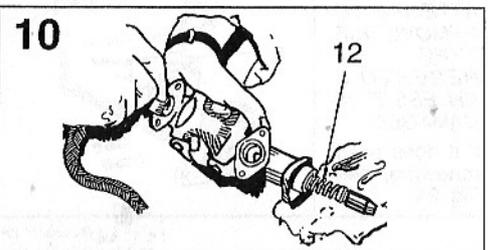
7. Clamp cylinder in bench vice and unscrew tipping valve securing nut with Allan Key.



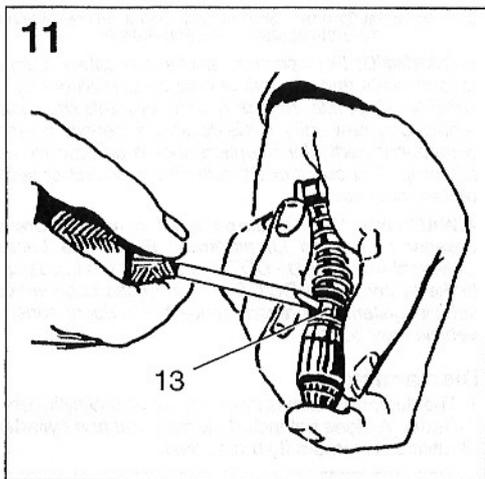
8. The arrangement of the parts may be different if remote fluid reservoirs are used but the general procedure should be followed.



9. Depress piston (9) and lift out tipping valve (10). Pull out piston (9) and shake out spring.



10. Tap cylinder on wooden surface, or apply compressed air, to remove the secondary piston assembly (12). If air is used direct piston onto a large piece of rag to avoid damage.



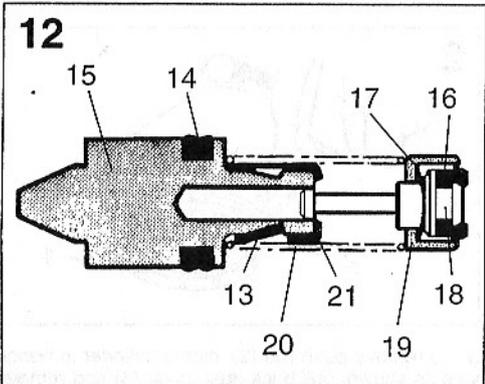
11. Hold secondary piston as shown, lift spring retainer leaf (13), then ease grip and let spring relax. Keep spring and secondary plunger together at all times.

#### Cleaning

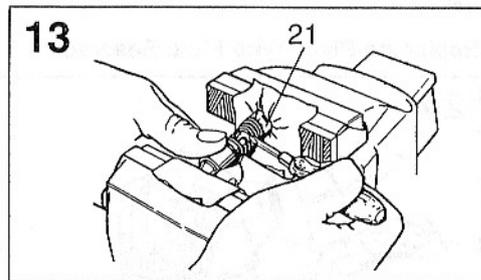
Remove the seals from the piston and replace all seals and other parts with those contained in the appropriate Lucas Service Kit. Clean the remaining parts and the cylinder thoroughly with Lucas Brake Cleaner.

Examine the bore of the cylinder and the plungers for visible score marks, ridges and corrosion. Ensure the bore is smooth to the touch. Unless in perfect condition fit a new guaranteed master cylinder.

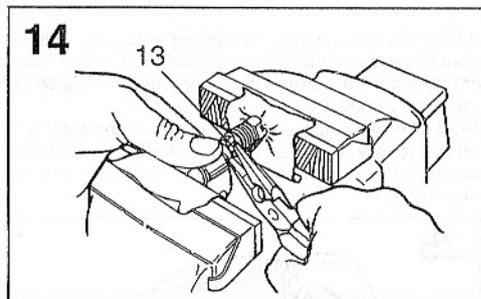
#### Reassembly



12. Fit new seal (14) to secondary piston (15). Fit new valve seal (16) and spring washer (17) onto valve head (18) as shown. Follow with valve spacer (19) and attach spring retainer (21) to valve stem, then slide the secondary plunger spring (20), over the retainer and position the sub-assembly on the secondary piston.

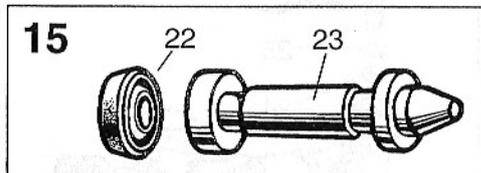


13. Position the assembly in bench vice as shown with a clean piece of paper at each end to prevent contamination. Slowly close the vice until the spring is almost coil bound and use a small screwdriver to press spring retainer (21) RIGHT BACK against piston.

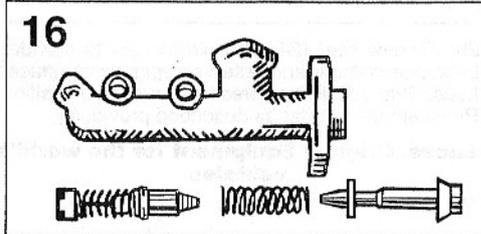


14. Using pointed nosed pliers, press leaf of spring retainer (13) behind head of piston.

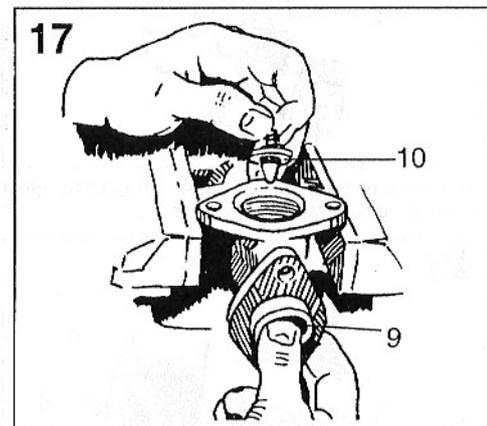
**IMPORTANT: THE LEAF MUST BE STRAIGHT AND FIRMLY LOCATED BEHIND THE PISTON HEAD—SEE FIG. 12.**



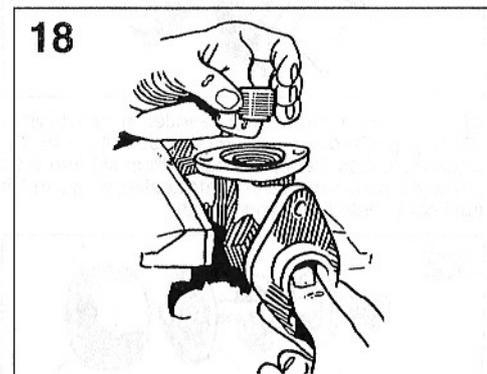
15. Lubricate new seal (22) with unused Lucas Brake Fluid and fit seal to primary piston (23), as shown.



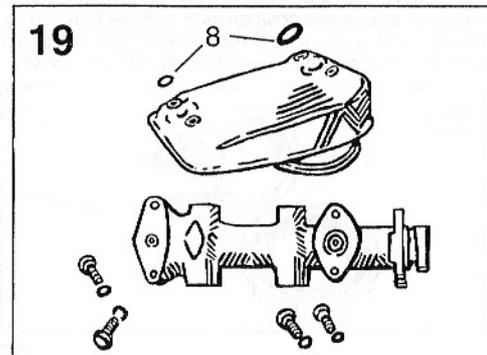
16. Lubricate the cylinder bore and the seals on the pistons with unused Lucas Brake Fluid. Insert into the bore in the order shown.



17. Clamp cylinder in bench vice. Press piston (9) down the bore and insert tipping valve assembly (10); slowly ease piston back until valve tilts.



18. Again apply pressure to piston whilst screwing in tipping valve securing nut. Tighten nut with Allan Key.



19. Put seals (8), in groove, position fluid reservoir and secure with screws.

**IMPORTANT: DO NOT OVERTIGHTEN SCREWS.**