

hydraulic servo units

Dismantling

A support plate is required (Fig. 8) to dismantle and re-assemble the unit. If the unit is held in the vice by one of the body mounting lugs, damage to the lug may occur necessitating a new unit.

Bolt the support plate to the body and clamp the plate in the vice so that the small plate welded to the clamping ring is uppermost (refer to Fig. 9). On some units the plate may be in a diametrically opposed position on the clamping ring and the unit would therefore be in an inverted position to that shown on the illustration. Before commencing to dismantle the unit, scribe a line across the two halves of the shell adjacent to the small plate, thus enabling the shells to be re-assembled in the same relative positions.

Connect one end of a vacuum hose to the non-return valve/adaptor and the other to the engine inlet manifold. Start the engine, the vacuum will draw the two halves of the shell to-

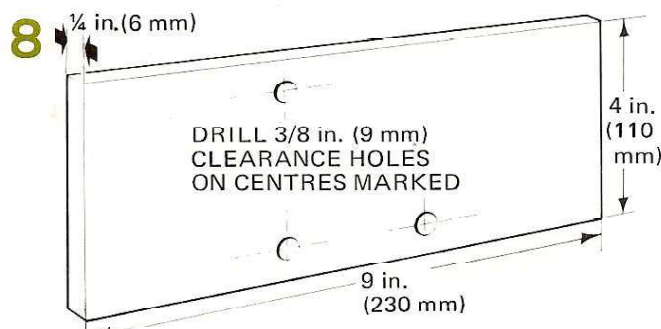
gether. Cover or blank off the hydraulic ports to prevent the entry of filings and saw through the centre of the plate (Fig. 9) taking care not to damage the shells.

Lever the clamping ring from the shell with a screwdriver (Fig. 10) and remove. To allow air to enter the unit and break the vacuum lock, loosen and remove the setscrews securing the valve chest cover. It is important to press firmly with the body against the front shell whilst using the hands to remove the setscrews with a Phillips screwdriver, otherwise the diaphragm return spring may cause the two shells to fly apart. Remove the front shell and spring (Fig. 11). Switch off the engine and remove the vacuum hose from the non-return valve/adaptor. Pull the vacuum pipe from the rubber sleeve. Lever the sleeve from the front shell with a flat screwdriver (Fig. 12), but first remove the support plug from the sleeve by inserting a Phillips screwdriver down the centre and levering it out.

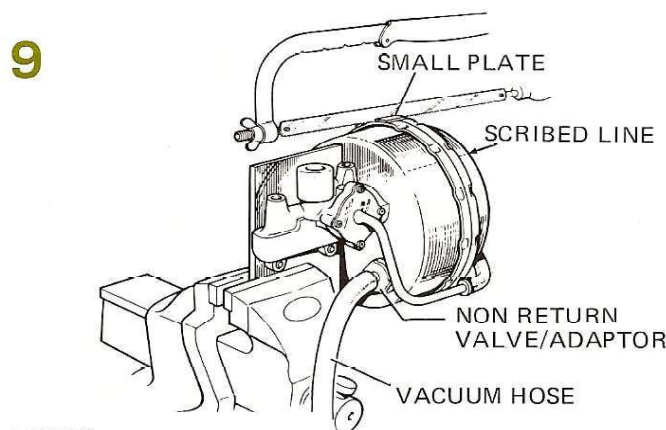
Re-position the unit in vice (Fig. 13) and unscrew the three bolts retaining the rear shell to the body. Remove the clamping plate with care as the output piston spring may eject the parts from the bore. If the parts are not ejected, withdraw the bush and hook out the piston rod gland seal when the output piston spring will then eject the anti-knock output piston, piston sleeve spring and ball; but provided care is used these parts will be caught in the rear shell..

Remove the rear shell and lever out the non-return valve by inserting a large screwdriver between the rubber grommet and valve. Remove the grommet and body gasket.

Unscrew the setscrews and remove the lever guide and spring plate from the valve chest (Fig. 14). Before the 'T' lever valve

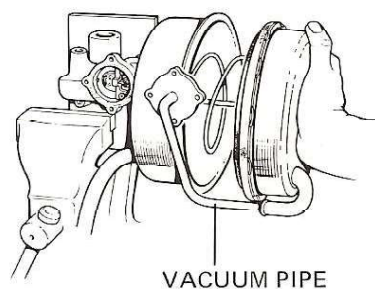


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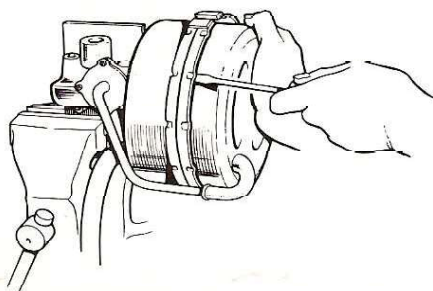
A 0093/1

11



A 0093/3

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A 0093/2

12



A 0093/4

can be withdrawn, it is usually necessary to depress the plug in the body.

Insert a suitable bent rod into the hole in the control piston and lever the piston along to push out the plug (Fig. 15). Remove the control piston from the bore and compress the spring to remove the circlip, retainer and spring abutment. Remove the seals from the plug and control piston.

Unscrew the setscrew and remove the air filter and associated parts (Fig. 16).

Cleaning

Scrupulous cleanliness is now essential. Wash the hands before proceeding, and lay out a clean sheet of paper on which to place the parts. The Girling Service Kit contains all the parts necessary for a normal service overhaul and indicates which used parts should be discarded.

Do not handle the new diaphragm more than is absolutely necessary and keep it clean and dry at all times.

Clean the remaining parts thoroughly with Girling Cleaning Fluid, or clean Castrol-Girling Brake Fluid and place them on the sheet of paper and allow to dry. Examine each part to see it is undamaged and in good working order. Special attention should be given to the pistons and piston bores in the hydraulic body, there should be no signs of corrosion, pitting, scoring or ridges.

Assembling

Lubricate the control piston, piston seals and bore with clean, unused Castrol-Girling Brake Fluid. Fit the seals to the piston so that the lips face away from the centre hole. Fit the spring

abutment, spring, retainer and circlip to the piston, and insert into the bore; the piston centre hole should align with the valve chest. Fit the seal to the plug and press into the body.

Insert the rocking 'T' lever into the valve chest. The round end of the lever should fit in the hole in the control piston, if necessary press in the plug to locate lever in the piston. Place the spring plate and lever guide in position on the lever, ensuring the slot in the spring plate engages the lug above one of the lever valves, secure with setscrews.

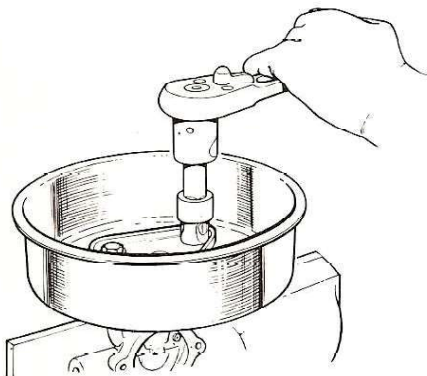
Position the body in the vice as shown on Fig. 14 and lubricate the output piston bore and seal with clean, unused Castrol-Girling Brake Fluid. Fit the seal to the anti-knock piston so that the seal lips face the reduced end of the piston. Refer to Fig. 17 and with the rear shell in position on the body, fit the anti-knock piston and associated parts into the bore. Care must be taken to ensure the ball remains in the piston and does not drop down the bore. Until the clamping plate is fitted, the parts must be retained in the bore by hand pressure (Fig. 18). Position the plate and secure with bolts and washers. Remove the unit from the vice.

Fit the non-return valve/adaptor grommet (Fig. 19) to the rear shell. Lubricate the ribs of the non-return valve/adaptor with Girling Grease No. 64949009 and push fully home in the grommet.

Fit the rubber sleeve to the front shell (Fig. 20) lubricate the plug with Girling Grease No. 64949009 and insert as shown.

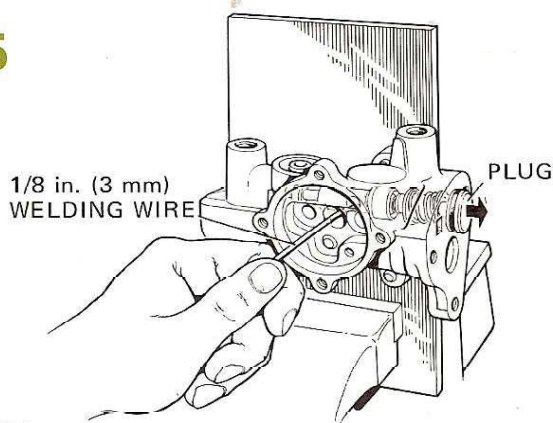
Fit the new diaphragm to the vacuum piston and place in the front shell. Position the return spring, with large diameter

13



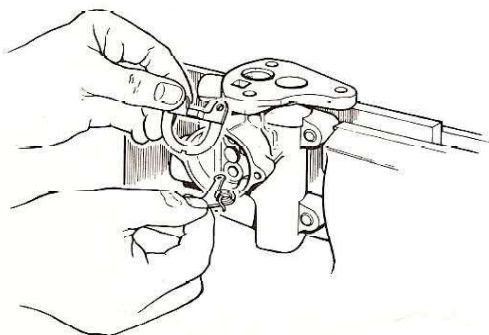
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15



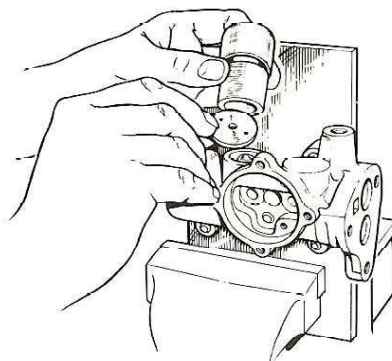
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14



A 0093/6

16



A 0093/7

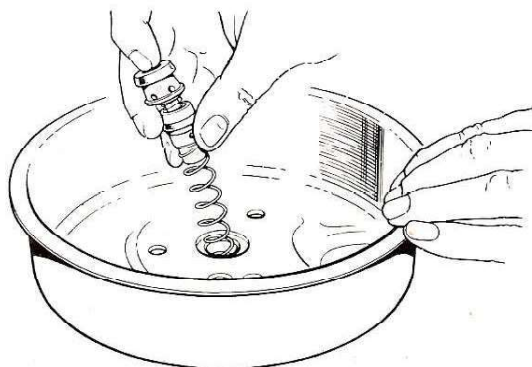
hydraulic servo units

leading on the diaphragm plate. Re-position the unit in the vice in the manner shown on (Fig. 9) and place the new retaining band, with bolt and nut, loosely in position on the rear shell. Refit the vacuum hose to the non-return valve/adaptor. Fit the gasket and vacuum pipe to the valve chest and secure with the four setscrews and washers.

Switch on the engine and offer the front shell, complete with vacuum piston and diaphragm, to the rear shell so that the scribed lines are in alignment. When the elbow grommet is pushed onto the vacuum pipe the vacuum should hold the two halves of the unit together. The retaining band must be positioned so that the securing bolt and raised legs will not prevent the unit being re-fitted on the vehicle in its original position. Also ensure the small convex 'V' pressings engage the level sections on the front shell rim.

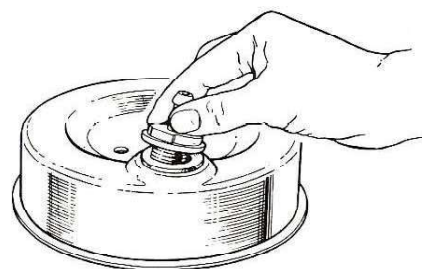
Position the clamping ring on the shells and slowly tighten the bolt whilst tapping each side of the ring with a hammer to ensure the small 'V' pressings are in position on the edge of the shells and pressing them together. When the bolt cannot be tightened further; bend up the lockwasher, fit the filter element and test for leaks (see Testing Page 6a 2h).

17



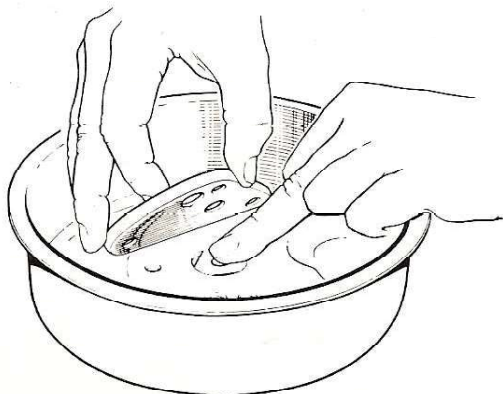
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19



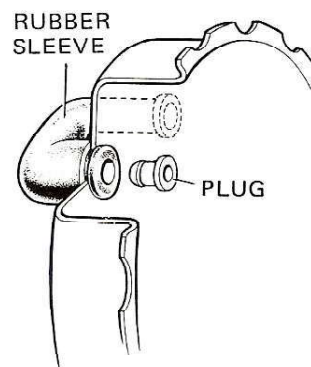
A 0093/8

18



A 0408/3

20



A 0108/1