

7. Insufficient hydraulic pressure due to leaks or broken accumulator spring.
8. Damaged gears, bearings or moving parts within the unit requiring removal and inspection of the assembly.

Overdrive Does Not Release

1. Electric control not operating.
2. Blocked restrictor jet in valve.
3. Sticking clutch.
4. Damaged parts within the unit necessitating removal and inspection of the assembly.

Clutch Slip In Overdrive

1. Insufficient oil in gearbox.
2. Worn clutch lining.
3. Insufficient hydraulic pressure due to leaks.

Clutch Slip in Reverse or Free-Wheel Condition on Over-run

1. Worn clutch lining.
2. Blocked restrictor jet in valve.
3. Insufficient pressure on clutch due to broken clutch springs.

OPERATING VALVE

Having gained access to the unit through the floor, unscrew the valve plug and remove the spring and plunger. The ball valve will then be seen inside the valve chamber. The ball should be lifted $\frac{3}{32}$ in. (.794 mm.) off its seat when the overdrive control is operated.

As the unit is fitted with a speed responsive control the appropriate parts of the electrical circuit must be shorted out in order to operate the control.

If the ball does not lift by this amount the fault lies in the control mechanism. Located on the right-hand side of the unit and pivoting on the valve operating cross shaft, which passes right through the housing, is a valve setting lever. In its outer end is a $\frac{3}{16}$ in. (4.763 mm.) diameter hole which corresponds with a similar hole in the housing when the unit is in "overdrive" (i.e. when the ball is lifted $\frac{3}{32}$ in. off the valve seat).

If the two holes do not line up, adjust the control mechanism until a $\frac{3}{16}$ in. diameter rod can be inserted through the setting lever into the hole in the housing. Check lift of ball after completing the adjustment.

A small magnet will be found useful for removing the ball from the valve chamber. The valve can be withdrawn by inserting the tang of a file into the top, but care must be taken not to damage the ball seating at the end of the valve. Near the bottom of the valve will be seen a small hole breaking through to the centre drilling. This is the jet for restricting the exhaust of oil

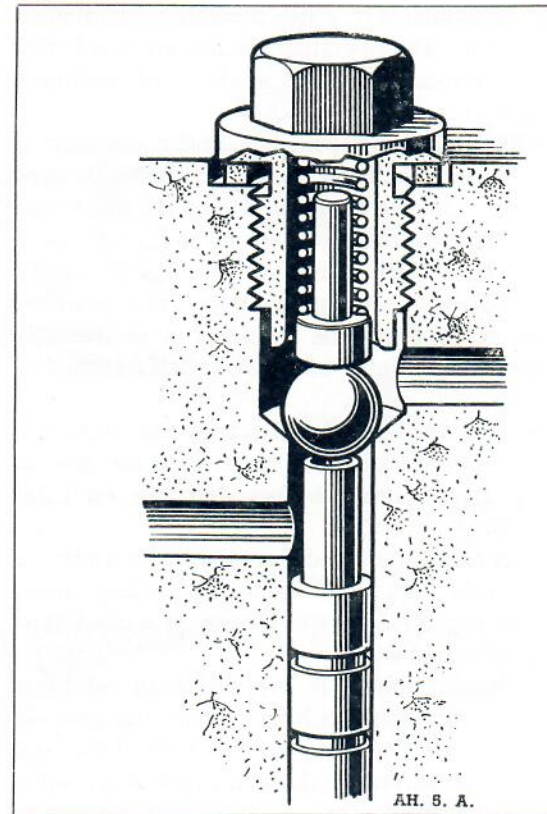


Fig. 6. Operating valve.

from the operating cylinders. Ensure that this jet is not choked.

HYDRAULIC SYSTEM

If the unit fails to operate and the ball valve is not seating and lifting correctly check that the pump is functioning.

Jack up the rear wheels of the car, then start the engine ticking over and the valve plug removed. Watch for oil being pumped into the valve chamber. If none appears then the pump is not functioning.

The pump (Fig. 7) described above, is a plunger type and delivers oil via a non-return valve to the accumulator. Possible sources of trouble are (1) failure of the non-return valve due to foreign matter on the seat or to a broken valve spring and (2) failure of the spring holding the pump plunger in contact with the cam.

The pump is self priming, but failure to deliver oil after the system has been drained and refilled indicates that the air bleed is choked causing air to be drawn into the pump.

In the unlikely event of this happening it is necessary to remove the pump and clean the flange of the pump body and the bore of the casting into which