SECTION 5 .. PARKING BRAKE BRACKET

The parking brake bracket and governor sleeve assembly can be removed from the gearbox only after removal of the side cover and the control valve unit. It is not necessary to remove the gearbox from the car for this operation.

REMOVAL FROM GEARBOX

Remove the side cover (Section 3) and the control valve unit (Section 4) and disengage the return spring from the pillar on the parking brake lever.

Withdraw the reverse clutch oil pipe from the bore in the gearbox casing.

Unlock the tabwasher, unscrew and withdraw the parking pawl support bolt and remove the parking lever roller from the crank pin. The parking pawl will be left loose in the casing but cannot be withdrawn until the parking bracket has been removed.

Bend back the front bolt tabwasher, remove the two parking bracket securing bolts and slide the parking bracket and governor sleeve assembly from the governor tower. If difficulty is experienced, indicating that grooves have been worn in the governor sleeve bore, a sharp jerk will probably be necessary to free the assembly.

Remove the parking pawl from the gearbox casing.

DISMANTLING

The assembly need not be dismantled unless fault diagnosis indicates that the reverse or the parking blocker piston is faulty in operation as described in Chapter 2,

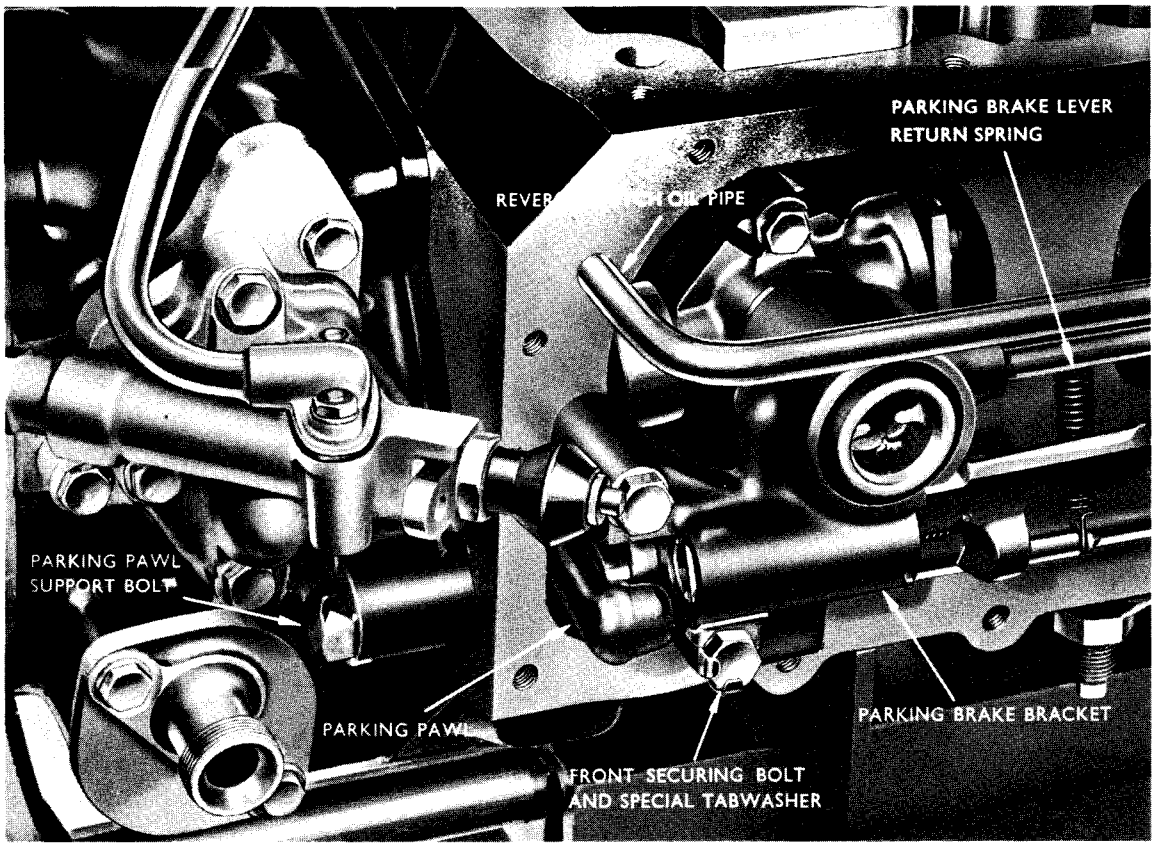

Fig. 1. Disconnection points

and that this has been confirmed by air test as described under "Testing".

To remove the reverse blocker piston, cut off the head of the retainer pin, rotate the parking lever arm to clear the piston, depress the spring and slide out the pin using thin-nosed pliers. Withdraw the spring and piston from the bore. Removal of the parking blocker piston is similar except that the retainer pin is free to be removed without cutting off the head. Use snap ring pliers to withdraw a piston that resists removal.

INSPECTION

Clean all parts thoroughly, paying particular attention to the oil passages and slots in the main casting; a small amount of sludge and metallic dust can be expected. Use a compressed air blast for the oil passages and the reverse clutch oil pipe.

Examine the governor sleeve bore for excessive wear caused by the oil sealing rings or by malalignment of the governor sleeve; slight wear is permissible. Examine the casting for cracks and other damage and the piston bores and the pistons for scoring and burrs which might prevent free movement. Check that the three oil plugs are secure in their ducts.

Check that the parking lever assembly rotates freely in the bearing, and that the return spring pillar is secure in the parking brake lever.

Examine the roller and the crank pin for wear and damage.

Examine the parking brake pawl for wear and damage and check that the support bolt rotates freely in the bore in the pawl.

Examine the external teeth on the reverse annulus gear for wear and damage.

Examine the reverse clutch oil pipe for damage and for restriction, particularly at the bend, and ensure that it fits snugly in the bore.

ASSEMBLING

Assembling is the reverse of dismantling but care must be taken that the pistons are fitted into the correct bores; the parking brake lever will be rendered inoperative by fouling on the head of the parking blocker piston if the pistons are fitted in the wrong bores.

When fitting the reverse blocker piston, insert the new retainer pin from the back of the casting and peen the other end to lock the pin in position.

TESTING

The parking and reverse blocker pistons should be tested for freedom in their bores after assembly or to confirm a fault diagnosis. Intermittent application of air pressure, at approximately 70 lb. per sq. in., to the points shown in fig. 2 should cause the pistons to move to and fro in their bores.

To test the parking blocker piston, cover the main oil pressure duct in the bore of the governor sleeve and apply air pressure to the main oil pressure inlet. If a thumb is used to blank the main oil pressure duct the reverse blocker piston might move also, due to air pressure leaking under the thumb and entering the G.1 oil duct, in which case the separate test given for the reverse blocker piston will not be necessary.

To test the reverse blocker piston, first rotate the lever arm to allow full travel of the piston and apply air pressure to the G.1 oil duct. Movement of the air jet across the duct should be sufficient to move the piston to its full extent.

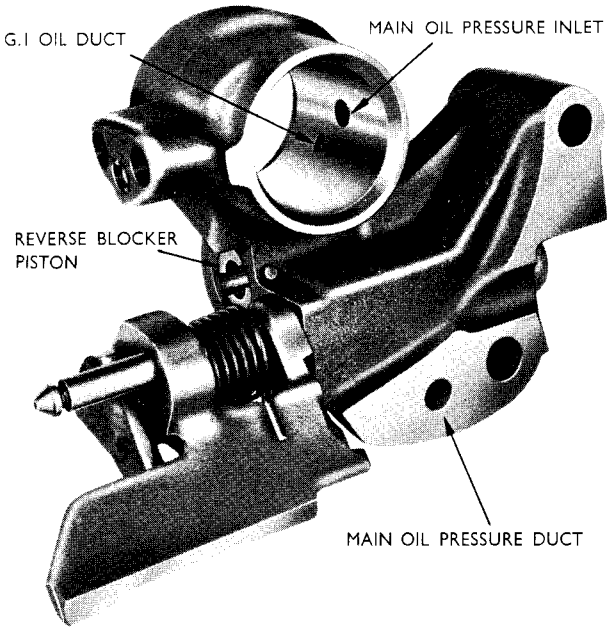

Fig. 2. Air pressure test points

REFITTING TO THE GEARBOX

If the parking bracket has been renewed due to wear in the governor sleeve bore, the oil sealing rings must be removed from the governor tower and the gaps checked as described in Section 7. The "run-out" of the governor tower should be checked also as described in Section 7.

Remove the parking pawl support bolt, if it has been refitted for rear casing location purposes, and place the parking pawl loosely in the gearbox casing.

Align the sealing ring gaps at the top for ease of assembly, apply a light film of gearbox oil to the governor tower and sealing rings and slide the governor sleeve gently over the rings. Enter the two securing bolts with their locking washers, taking care to position the special washer on the bolt adjacent to the outer end of the parking blocker piston retaining pin. Screw in the bolts until finger tight but do not lock them.

Lubricate the roller crank pin and fit the roller. Move the parking pawl into position and insert the support bolt complete with a new tabwasher; this tabwasher also acts as an oil seal and must be in good condition. Tighten the support bolt to the correct torque loading, as shown in the "Summary of Repair Data", but do not lock the bolt.

Fit the reverse clutch oil pipe and the control valve unit, as described in Section 4, but do not fit the parking lever spring as this might interfere when aligning the governor sleeve.

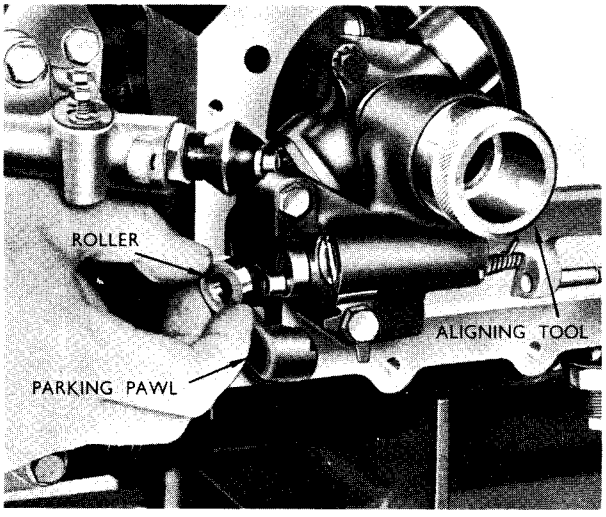

Fig. 3. Parking pawl roller and governor sleeve aligning tool

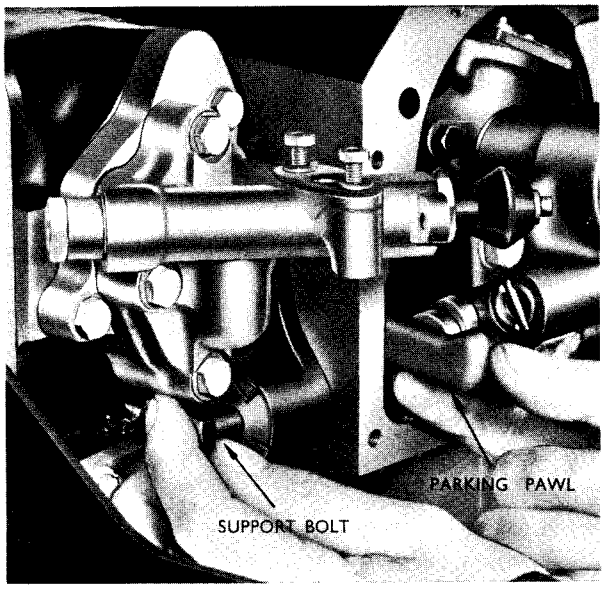

Fig. 4. Parking pawl support bolt

Enter the governor sleeve alignment tool in the annulus formed between the governor tower and the sleeve, tapping the parking brake bracket if necessary, to allow the tool to slide in freely. Tighten the parking brake bracket bolts to the correct torque loading and remove the tool, checking that it is free. Check that the tool enters freely in several positions.

Turn the gearbox main shaft to rotate the governor through a quarter of a turn and again enter the tool in several positions. Repeat this check at each quarter of a turn of the governor. If, at any point, the tool will not enter the annulus freely, loosen the parking brake bracket bolts, enter the tool once more to align the governor sleeve, tighten the bolts to the correct torque loading and repeat the complete check.

If difficulty is experienced in aligning the governor sleeve, loosen the rear oil pump and governor and the parking brake bracket securing bolts and enter the aligning tool. Tighten the bolts to the correct torque loading and carry out the complete check once more. The slight movement gained from loosening of the rear pump and governor bolts will probably be sufficient to allow correct alignment of the governor sleeve.

When the tool enters freely in each of the four positions of the governor, lock the special tabwasher to the parking bracket securing bolt ensuring that the extension is in position to lock the parking blocker piston retaining pin.

Lock the parking pawl support bolt by bending one tab against the bolt head and two tabs against the rear casing.

Fit the end of the return spring over the pillar on the parking lever.

Move the selector lever to the reverse position to check that the parking pawl engages correctly in the external teeth on the reverse annulus gear. If the pawl comes to rest on top of a tooth, rotate the annulus gear slowly to allow the pawl to snap into engagement under reverse selector spring tension.