

# ROLLS-ROYCE AUTOMATIC GEARBOX

## SECTION 7 — REAR EPICYCLIC UNIT

The rear drum has eight flat steel plates and eight corrugated composition faced plates to transmit the torque and is fitted with guide pins inside the six pairs of clutch release springs. Earlier gearboxes fitted to 'SI' and 'R' type cars have only seven steel plates and seven composition plates in the rear drum. In addition to carrying the annulus gear for the rear epicyclic unit (see Fig. 10), the drum is drilled and tapped to take the flange which transmits the drive to the reverse epicyclic gear train.

The hollow intermediate shaft carrying the front and rear drums is supported in an oil delivery sleeve clamped in the centre web of the gearbox main casing by a cap secured by two setscrews.

Passing through the centre of the intermediate shaft is the mainshaft, on the end of which is the rear

unit sun gear. The forward end of the output shaft acts as the planet gear carrier for the rear epicyclic unit and in addition carries the spigot bearing which locates the rear end of the mainshaft.

The planet gears, which run on needle rollers and hardened pins riveted to the planet carrier, rotate inside the annulus gear on the rear drum which carries the driven clutch plates.

The clutch hub carrying the driving plates is splined to the hollow intermediate drive shaft, and the clutch is similar to the front one in operation, except that it locks the annulus gear and intermediate shaft together, preventing the planet gears from rotating.

The rear friction band is similar to the front one, except that it wraps once round the drum and is of double width to resist the higher torque.

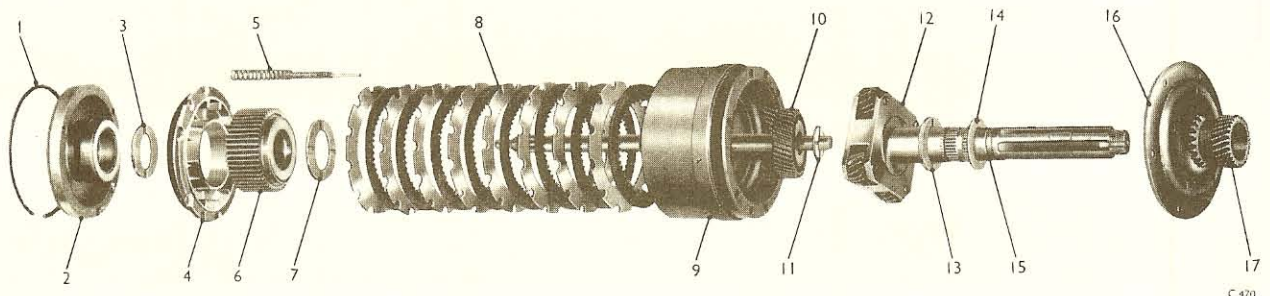


Fig. 10 Rear epicyclic unit — exploded

- |   |                               |                             |
|---|-------------------------------|-----------------------------|
| 1 SNAP RING—REAR DRUM                     | 6 CLUTCH HUB                  | 11 ADJUSTABLE THRUST WASHER |
| 2 CLUTCH COVER AND INNER SEAL             | 7 THRUST WASHER               | 12 REAR UNIT PLANET GEARS   |
| 3 THRUST WASHER                           | 8 CLUTCH PLATES (7 OR 8 SETS) | 13 THRUST WASHER            |
| 4 CLUTCH PISTON AND OUTER SEAL            | 9 REAR DRUM                   | 14 BACKING WASHER           |
| 5 CLUTCH RETURN SPRINGS AND PINS (6 SETS) | 10 REAR UNIT SUN GEAR         | 15 OUTPUT SHAFT             |
|   |                               | 16 REVERSE DRIVE FLANGE     |
|   |                               | 17 REVERSE SUN GEAR         |