

LUCAS

Quality

EQUIPMENT

VOLUME 2

WORKSHOP INSTRUCTIONS

STARTER DRIVE

"ECLIPSE" PATTERN



JOSEPH LUCAS LTD • BIRMINGHAM 19 • ENGLAND

LUCAS WORKSHOP INSTRUCTIONS

STARTER DRIVE

"ECLIPSE" PATTERN

1. GENERAL

The pinion is carried on a barrel type assembly which is mounted on a screwed sleeve. This sleeve is carried on a centre sleeve and is secured to the armature shaft by means of a peg and key. The barrel assembly is arranged so that it can move along the shaft against a compression spring to reduce the shock loading at the moment engagement takes place.

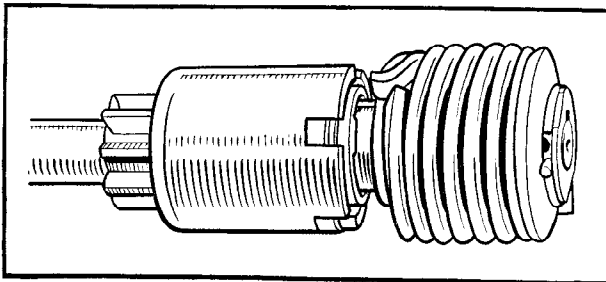


Fig. 1.

When the starter switch is operated the armature shaft and screwed sleeve rotate. Owing to the inertia of the barrel assembly, the latter is caused to move along the sleeve until the pinion comes into engagement with the flywheel ring. The starter will then turn the engine.

As soon as the engine fires and commences to run under its own power the flywheel will be driven faster by the engine than the starter. This will cause the barrel assembly to be screwed back along the sleeve, so drawing the pinion out of mesh with the flywheel teeth. In this manner the drive safeguards the starter against damage due to being driven at high speeds.

A pinion restraining spring is incorporated in the drive, this spring prevents the pinion vibrating into mesh when the engine is running.

2. ROUTINE MAINTENANCE

If any difficulty is experienced with the starting motor not meshing correctly with the flywheel, it may be that the drive requires cleaning. The barrel assembly

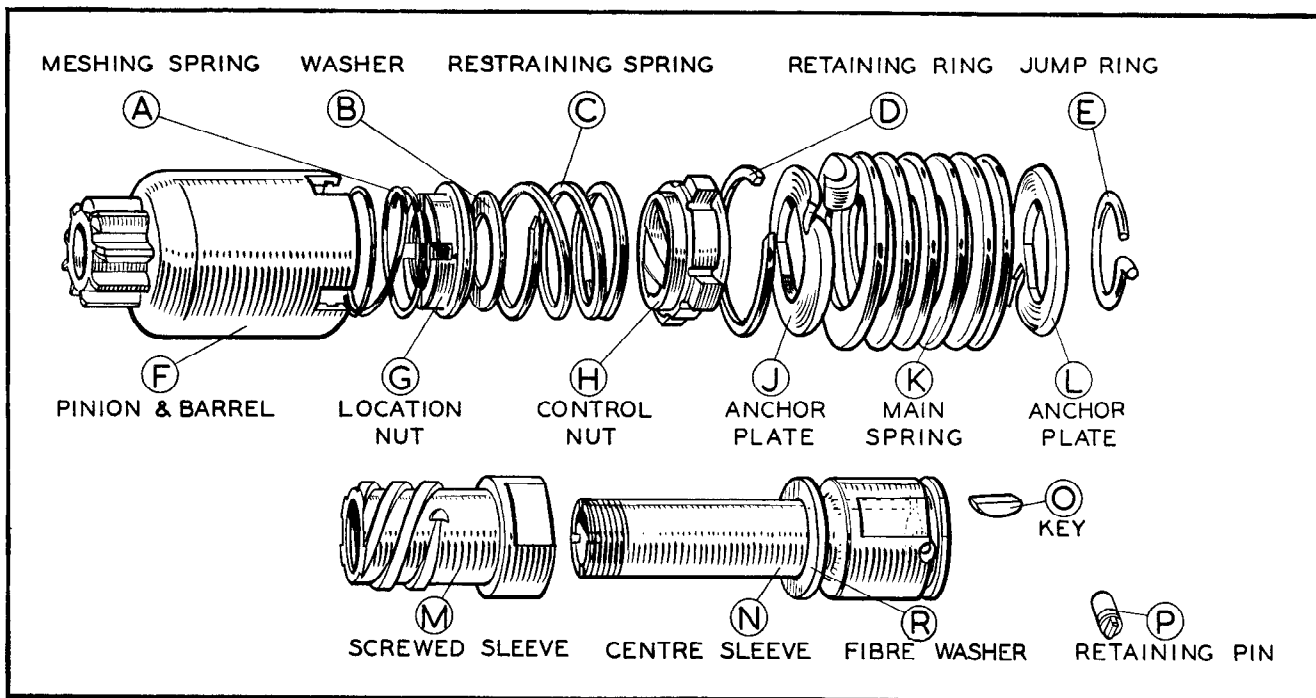


Fig. 2.



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should move freely on the screwed sleeve ; if there is any dirt or other foreign matter on the sleeve it must be washed off with paraffin.

In the event of the pinion becoming jammed in mesh with the flywheel, it can usually be freed by turning the starter motor armature by means of a spanner applied to the shaft extension at the commutator end. This is accessible by removing the cap which is either a push fit or is secured by two screws.

3. DISMANTLING AND REASSEMBLY

Having removed the armature as described in the section dealing with starting motors, the drive can be removed from the armature shaft as follows :—

(a) DISMANTLING

Press in the anchor plate (L) and main spring (K) and pull out the retaining pin (P) and then slide the drive back along the shaft and remove the key (O). Withdraw the drive unit from the shaft.

NOTE.—On outboard types to withdraw the drive it is only necessary to take out the retaining pin. The drive can be dismantled as follows :—

Remove the retaining ring (D) from inside the end of the pinion and barrel assembly (F) and slide off the pinion and barrel assembly (F) and meshing spring (A). Unscrew the location nut (G). This nut is held in position on the centre sleeve (N) by caulking. When re-assembling therefore, it will be necessary to fit a new sleeve.

Remove the washer (B), restraining spring (C), control nut (H) and withdraw the screwed sleeve (M).

Remove the anchor plate (J), main spring (K) and fibre washer (R). The other anchor plate (L) can be removed from the centre sleeve assembly (N) by withdrawing the jump ring (E).

(b) REASSEMBLY

The drive must be re-assembled and fitted to the starter shaft by reversing the above procedure. Take care to caulk the centre sleeve to the location nut.

