

LUCAS

Quality

EQUIPMENT

VOLUME 2

WORKSHOP INSTRUCTIONS

STARTER DRIVE

“SB” PATTERN



JOSEPH LUCAS LTD • BIRMINGHAM 19 • ENGLAND

LUCAS WORKSHOP INSTRUCTIONS

STARTER DRIVE

"SB" PATTERN

1. GENERAL

The pinion is carried on a barrel type assembly which is mounted on a screwed sleeve. This sleeve is carried on splines on the armature shaft and 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.

When the starter switch is operated, the armature

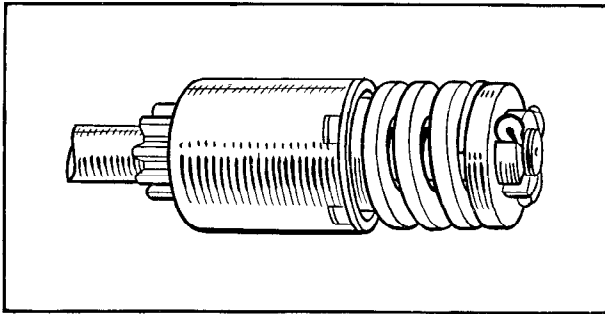


Fig. 1.
Inboard pattern

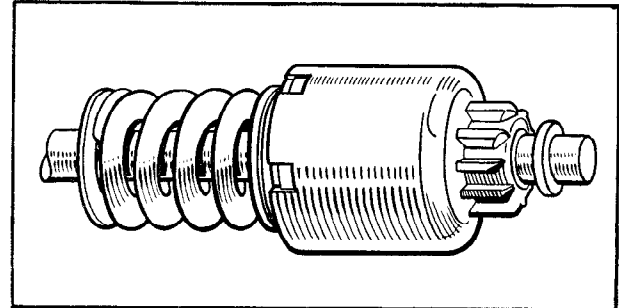


Fig. 2.
Outboard pattern

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

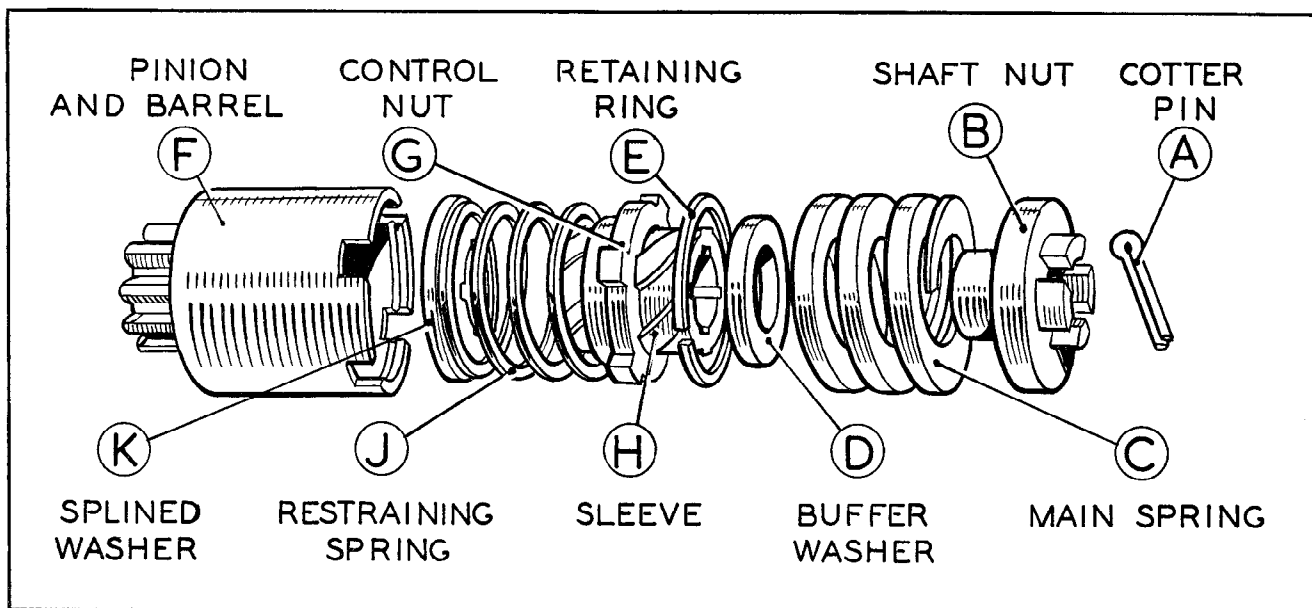


Fig. 3. Inboard drive dismantled



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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 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 dismantled as follows:—

(a) DISMANTLING. INBOARD PATTERNS

Remove the cotter pin (A) from the shaft nut (B) at the end of the starter drive. Hold the squared starter

shaft extension at the commutator end by means of a spanner and unscrew the shaft nut (B).

Lift off the main spring (C) and buffer washer (D) and remove the retaining ring (E) from inside the end of the pinion and barrel assembly (F). The control nut (G), sleeve (H) and restraining spring (J) will now slide off. Withdraw the splined washer (K) from the armature shaft and remove the pinion and barrel.

OUTBOARD PATTERNS

Remove the locating ring cover (A) from the armature shaft. Hold the squared starter shaft extension at the commutator end by means of a spanner and remove the locating ring (B) from the end of the shaft. Remove the retaining ring (C) from inside the end of the pinion and barrel assembly (D). Take out the peg (E) securing the locating nut (F) and then remove the locating nut (F), friction washer (G) and restraining spring (H). Slide the sleeve (J) and control nut (K) off the splined shaft and then remove buffer washers (L) and main spring (M). **Note.**—On some models the locating nut is secured by caulking the nut into the keyway provided in the shaft and therefore no peg (E) is fitted. When reassembling it will be necessary to fit a new locating nut.

(b) THE REASSEMBLY OF THE DRIVE IS A REVERSAL OF THE DISMANTLING PROCEDURE

NOTE.—Should either the control nut or screwed sleeve be damaged, then a replacement assembly of screwed sleeve and control nut must be fitted. These components must not be renewed individually.

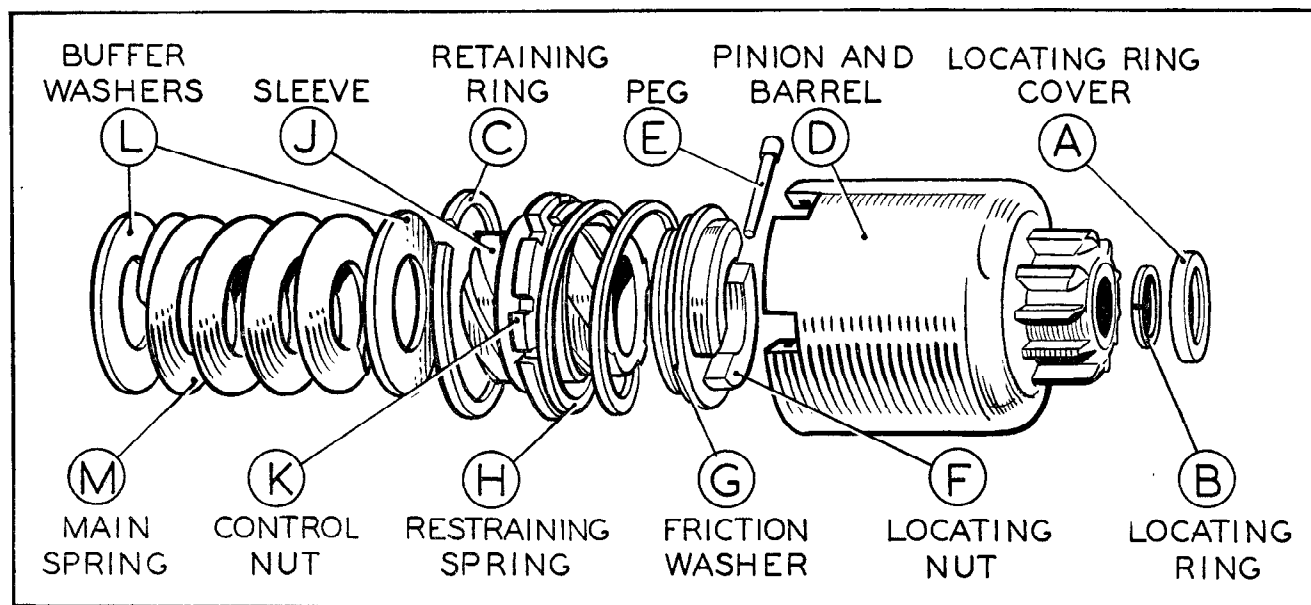


Fig. 4. Outboard drive dismantled

