ARRANGEMENT OF CLUTCH FOR 6 CYLINDER GARDNER ENGINE
8.LDN
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ARRANGEMENT OF CLUTCH FOR 6 CYLINDER GARDNER
Section “N”

CLUTCH

“N” 1

A clutch of single dry plate is fitted to the engine flywheel.
A detachable wearing plate is secured by setscrews to the flywheel to facilitate servicing.
The driven plate of “Donflex” make is bolted to a splined hub which is, in turn, engaged directly
with the splined constant mesh pinion.
The pressure plate, of robust proportions, is operated upon by 15 coil springs and is located in the
clutch cover by three driving pegs.

Note:—In the case of 5 LW, engined vehicles 12 only, coil springs are fitted.
The three withdrawal toggle levers are pivoted in brackets secured to the clutch cover. The wearing
faces of the levers are hardened and ground, and operate on hardened adjustment pads, and on a
renewable steel plate which is secured to the withdrawal plate. Anti-rattle springs are fitted to the
levers. The withdrawal plate is secured to the thrust bearing housing which carries the thrust ball
bearing—the bearing is sealed to retain the lubricant. Lubrication of the thrust bearing is effected by a
grease nipple transferring the grease through a flexible pipe. This assembly bears directly on the
constant mesh pinion via an oilite bush. The clutch withdrawal lever operates on wearing pads secured
to the thrust bearing housing and is carried on a cross shaft mounted in the clutch bell housing. Carried
on the constant mesh pinion behind the thrust bearing housing is the clutch brake drum. The clutch
brake shoe lever is mounted in the bell housing and is operated by an extension on the clutch operating
lever. An adjuster is incorporated in this lever which permits the clutch brake shoe to be suitably
adjusted.
The front end of the constant mesh pinion is supported on a roller bearing housed in the flywheel.
On the constant mesh pinion is a renewable sleeve which takes the place of the inner race of this bearing,
the sleeve is pinned to the pinion.
All spigot bearings are pre-packed with grease on assembly and both driving plate centre and pinion
spline are zinc plated.

Clutch Adjustment

Clutch Pedal

With 3/8” clearance between the toggle levers and the withdrawal plate there should be 1” of free
movement at the clutch pedal.

As wear takes place on the clutch liners and facings, this adjustment can be maintained by operation
of a large adjuster nut which is fitted at the rear end of the clutch operating rod.

When all adjustment on the rod has been taken up it will become necessary to reset the toggle levers.

Toggle Levers

The toggle levers abut against pads carried on the pressure plate posts. The pads have machined
on them, faces of differing heights and these faces are marked A, B, C and D, thus providing four
stages of adjustment. The pads of a new clutch are set to use faces “A,” which after, wear, makes it
necessary to advance to the next stage. The split pins are then removed and the nuts slackened, the
pads are then turned to stage “B” and tightened and secured. The clutch pedal must then be reset
as stated previously. Further adjustment may be made as necessary to use faces “C” and “D.”

M1.2
Clutch Brake

After the setting of the clutch pedal and toggle levers have been adjusted, the clutch brake must be adjusted. This is done by screwing the brake adjuster until the clutch brake shoe liner contacts its brake drum with the clutch in the engaged position. The clutch brake adjuster is then unscrewed 2 turns. A spring loaded "click" type lock is fitted to the clutch brake adjuster screw which clicks four times per complete turn—thus 2 turns equals 8 clicks.

Setting of Clutch Operating Lever

The withdrawal lever is positioned on its shaft by means of two pinch bolts in the lever bosses, these bolts passing through two machined slots on the shaft acting as cotters. The clutch operating lever is carried on the offside of the withdrawal shaft on splines secured by a pinch bolt. The shaft and lever are marked, the correct position of operating lever is when these marks are coincident.

To Dismantle Clutch

(1) Uncouple the propeller shaft from the gearbox flange and remove the speedometer generator from the gearbox.
(2) Uncouple the change speed tube at the gearbox end.
(3) Remove the gearbox and clutch bell housing (as detailed in gearbox section).
(4) Remove the tab washers and nuts securing the clutch cover to the engine flywheel and remove the clutch.

Note:—Suitable packings placed between the clutch cover and the toggle lever pressure pads before the clutch cover nuts are slackened will take the clutch spring load as said nuts are slackened and so simplify this operation.

Re-assembly of the clutch is a reversal of the foregoing operations. A special mandrel is available to centralise the clutch driving plate. Part No. 500 SZ.

Servicing Data

Initial clearance of splined hub on constant mesh pinion:—

<table>
<thead>
<tr>
<th>Width</th>
<th>Diameter</th>
<th>Bottom</th>
<th>Fitting</th>
</tr>
</thead>
<tbody>
<tr>
<td>+0.006&quot;</td>
<td>+0.005&quot;</td>
<td>+0.002&quot;</td>
<td></td>
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Diametral clearance of thrust bearing housing on cover plate sleeve:— +0.006", +0.0018".

Diametral clearance toggle lever to pivot pin:— +0.0025"/+0.0015".

Side clearance of toggle lever in bracket:— +0.006"/+0.003".

Pressure plate and flywheel wearing plate may be reclaimed by reducing their thickness 16" maximum.

Initial diametral clearance of clutch withdrawal shaft bushes:— +0.007"/+0.003".

Side clearance (initial) of clutch driving posts in toggle lever brackets:— +0.005"/+0.001"

Removal of Clutch Brake Shoe and Relining

Remove the clutch brake shoe pivot bolt from the bell housing and withdraw the clutch brake shoe and reline in orthodox rivetted manner.

The clutch withdrawal lever wearing pads on the bridle box can be renewed when necessary.

Note:—Shims may be fitted between these wearing pads and the bridle box. The object of these shims is to provide for correct alignment of the wearing faces with each other.