

CLUTCH

GROUP VIII

GENERAL

BORG & BECK

The clutch is a single plate dry disc type, no adjustment for wear being provided in the clutch itself, as in some other types of BORG & BECK clutches. An individual adjustment is provided for locating each lever in manufacturing but the adjusting nut is locked in place and should never be disturbed, unless the clutch is dismantled for replacement of parts.

When the clutch pedal is depressed the release bearing is moved toward the flywheel and contacts the inner ends of the release levers, 5A (Fig. 1). Each release lever is pivoted on a floating pin which remains stationary in the lever and rolls across a short flat portion of the enlarged hole in the eyebolt, 5C, (Figs. 2 & 3). The outer end of each release lever engages the pressure plate lug by means of a strut, 5E, which provides knife-edge contact between the outer end of the lever and the lug. The outer ends of the eyebolts extend through holes in the stamped cover, 9, (Fig. 1), and are fitted with adjusting nuts to correctly position the levers.

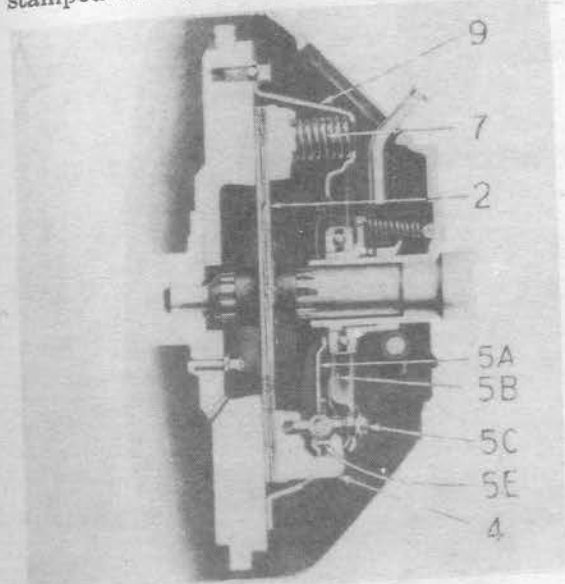


FIG. 1.

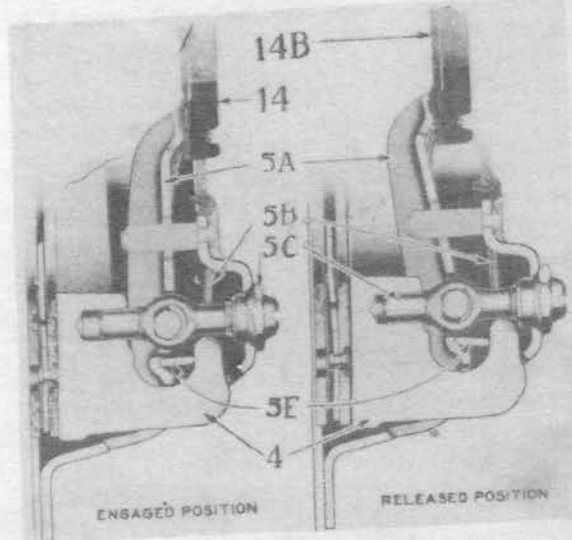


FIG. 3

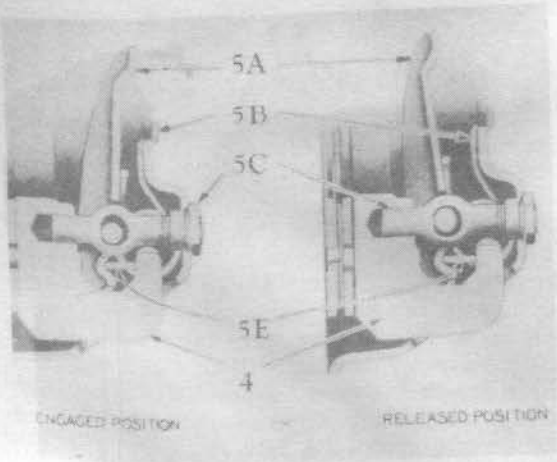


FIG. 2.

TO ADJUST CLUTCH PEDAL

Facing wear decreases toe board clearance of the clutch pedal and this must be restored by adjusting the pedal to prevent slipping.

Shift the pedal down away from toe board until clearance or free movement is ONE to ONE and ONE-HALF INCHES. The pedal pad should come in contact with toe board when pedal is pressed down. If it does not move that far, making it necessary to spring pedal to make pad touch toe board, shift pedal down a little more.

Press pedal down and note distance release bearing travels after it comes in contact with release levers. To obtain a clean release the levers should be pushed toward the flywheel 7/16 inch for type 10A7. If it does not travel that distance shift pedal up, bearing in mind that pedal pad must touch toe board as above. No other adjustment is necessary. Do NOT

Clutch

TO ADJUST CLUTCH PEDAL (Cont'd.)

turn the adjusting nuts '5C', as that will throw pressure plate out of position and cause clutch to chatter.

SERVICING CLUTCH

Before removing clutch from flywheel, mark with a punch the flywheel, clutch cover and one pressure plate lug, so that these parts may be assembled in their same relative positions, as they were balanced as an assembly. Loosen the holding screws a turn or two at a time in rotation to avoid bending rim of cover. When removing driven plate be sure to mark flywheel side.

DISMANTLING CLUTCH

Place the cover assembly on the bed of an arbor or drill press with a block under the pressure plate so arranged that the cover is left free to move down. Place a block or bar across the top of the cover under the spindle, (Fig. 4). Compress the cover with the spindle and hold compressed while the adjusting nuts are removed with a wrench, then slowly release pressure to prevent springs flying out.

Lift off cover and all parts will be available for inspection. Note carefully the location of all parts including arrangement of the springs. (See Fig. 5.) To remove levers grasp lever and eyebolt between thumb and fingers as shown in Fig. 6, so that inner end of lever and upper end of eyebolt are close together, keeping eyebolt pin seated in its socket in lever. Lift strut over ridge on end of lever, (Fig. 7). Lift lever and eyebolt off pressure plate. It is important to replace all parts which show wear.

TO REASSEMBLE CLUTCH

Lay the pressure plate on the block in the press, (See Fig. 8), and coat the lugs with a thin film of approved lubricant as shown.

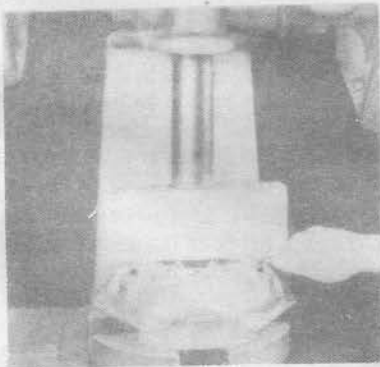


FIG. 4

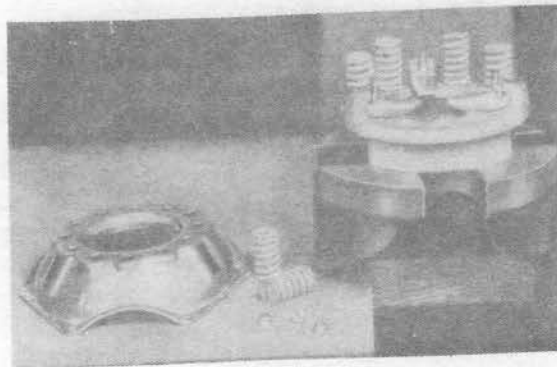


FIG. 5.

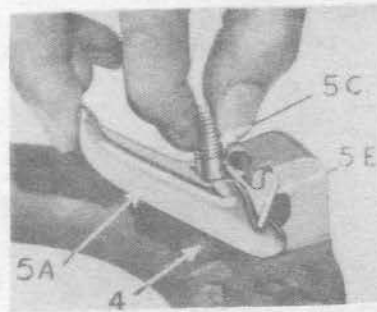


FIG. 6

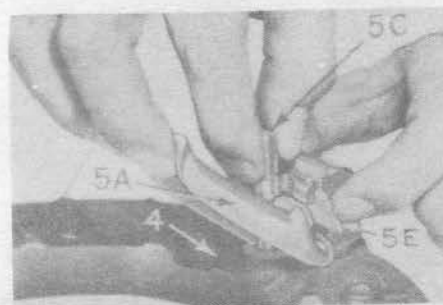


FIG. 7

TO REASSEMBLE LEVERS

Assemble lever, eyebolt and pin, holding eyebolt and lever as close together as possible and with other hand grasp strut as shown in Fig. 9. Insert strut, 5E, in the slots in the pressure plate lug, drop slightly and tilt the lower edge until it touches vertical milled surface of lug. Insert lower end of eyebolt in hole in pressure plate. The short end of the lever will then be under the hook of the pressure plate and near the strut, (Fig. 7). Slide the strut upward in the slots of the lug, lifting it over the ridge on the short end of the lever and drop it into the groove in the lever, (Fig. 6).

Clutch

TO REASSEMBLE LEVERS (Cont'd.)

Assemble the pressure springs, 7, on the small bosses of the pressure plate.

Assemble anti-rattle springs, 5B, in cover as shown in Fig. 10. The spring to the left is in operating position.

Lower the cover on top of the assembled parts, (Fig. 11), being sure that the anti-rattle springs are in correct position and also that the punch marks made before dismantling are matched to insure retaining the original balance.

Place a bar across the cover, as shown in Fig. 4 and slowly compress, guiding the holes in the cover over the pressure plate lugs and all springs into their spring seats in the cover. Assemble adjusting nuts on the eyebolts and screw them down until their tops are flush with the tops of the eyebolts. Slowly release pressure of the spindle and remove cover assembly from press.

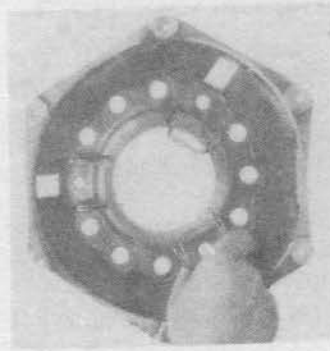


FIG. 10

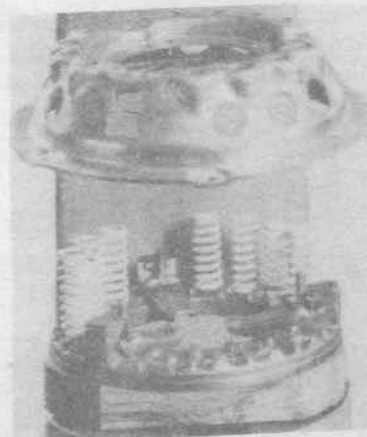


FIG. 11

ADJUSTING LEVERS

To adjust levers it is necessary to use a BORG & BECK gauge plate, Fig. 12, on the flywheel in the car or on a spare flywheel at the bench. Gauge plate No. 4234 is required.

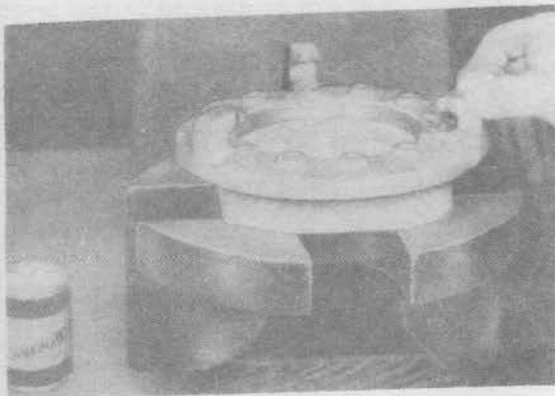


FIG. 8

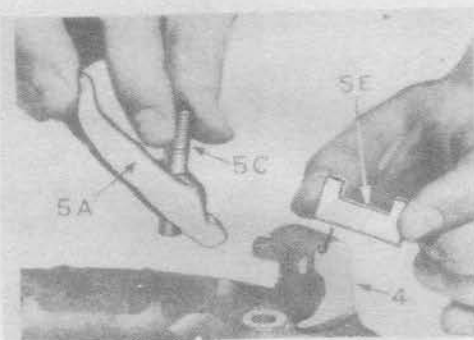


FIG. 9

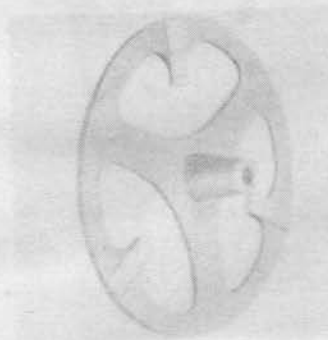


FIG. 12

PLACING GAUGE PLATE

Place the gauge plate on the flywheel in the position normally occupied by the driven plate as shown in Fig. 13. Bolt cover on flywheel with the gauge plate centered and with the three flat machined lands placed directly under the levers.

Each lever must be depressed several times with a hammer handle (Fig. 14) to settle all of the parts into working position.

Make a sheet metal lever height gauge like that shown in Fig. 15. In this case the step should be $\frac{3}{16}$ " deep, as specified, by approximately $1\frac{1}{4}$ " long.

Lay the height gauge across the hub of the gauge plate and the bearing surface of one lever and turn the adjusting nut until the lever is flush with the height gauge. Then adjust the other levers in the same manner.

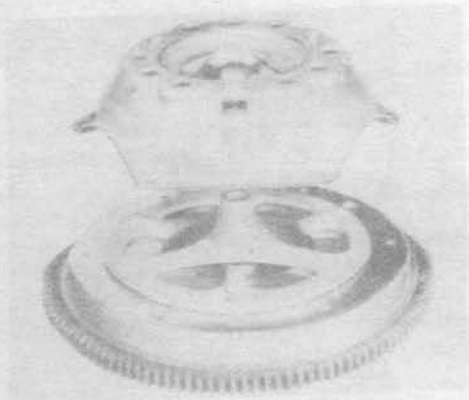


FIG. 13



FIG. 14

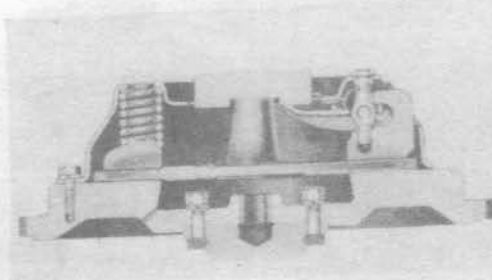
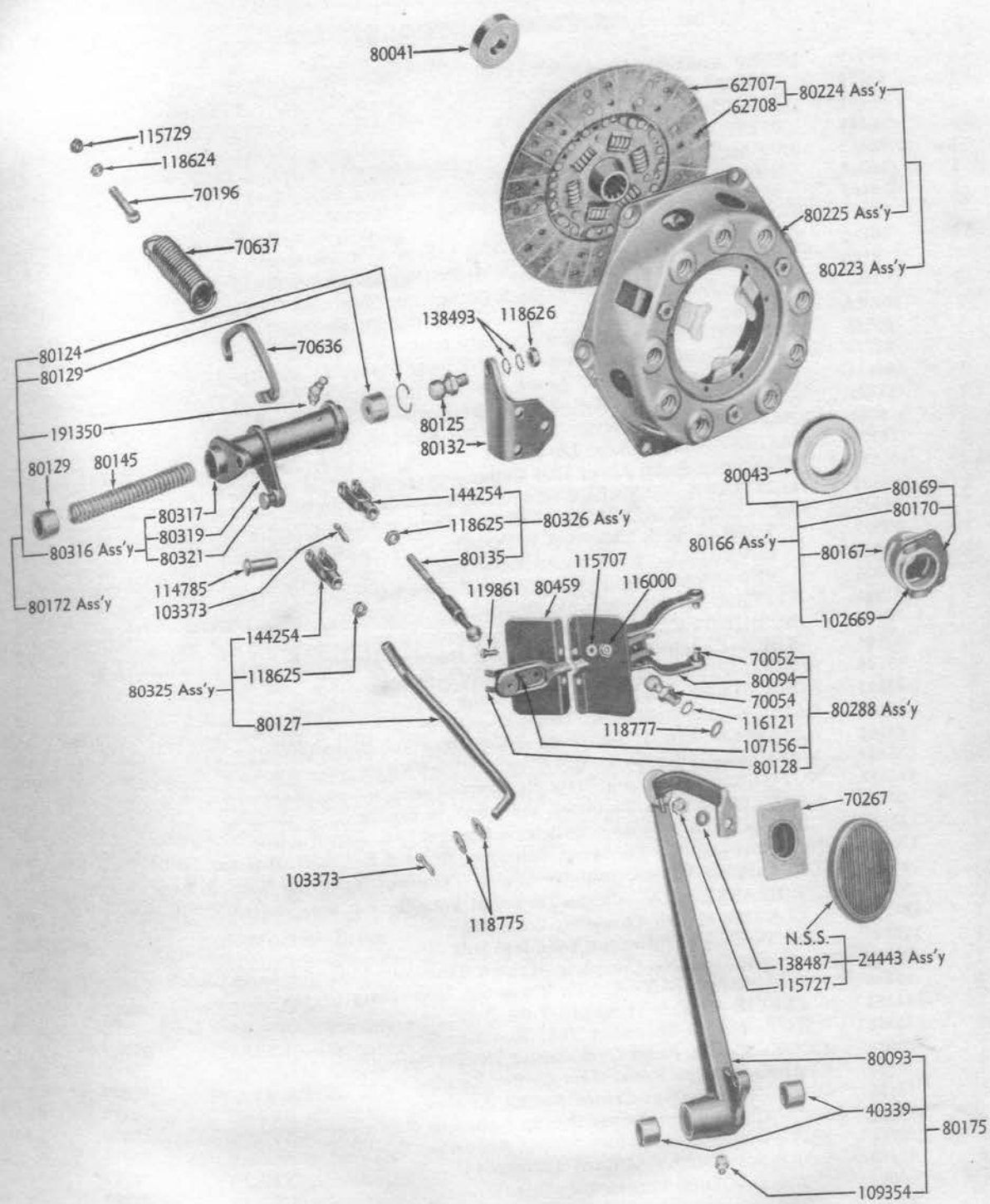


FIG. 15



CLUTCH AND CLUTCH CONTROL

CLUTCH & CLUTCH CONTROLS**GROUP 8****PARTS LIST**

No. Req'd.	Part Number	Description
CLUTCH CONTROLS		
1	80175	LEVER ASSEMBLY—Clutch Pedal
1	80093	LEVER—Clutch Pedal
2	40339	BEARING—Clutch Pedal
1	109354	FITTING—Lubrication 1/8 I. P.—90°
1	24443	PAD ASSEMBLY—Pedal
1	115729	NUT—Clutch Pedal Pad Hex
1	138487	WASHER—Clutch Pedal Pad Lock
1	70267	GROMMET—Foot Pedal
1	80118	SHAFT—Brake & Clutch Pedal (Not Shown on Illustration)
1	118780	WASHER—Brake & Clutch Pedal Shaft (Not Shown on Illus.)
2	103386	PIN—Brake & Clutch Pedal Shaft Cotter (Not Shown on Illus.)
1	103388	PIN—Brake & Clutch Pedal Shaft Cotter (Not Shown on Illus.)
1	80325	ROD ASSEMBLY—Clutch Pedal Lever
1	80127	ROD—Clutch Pedal Lever
1	144254	CLEVIS—Clutch Pedal Lever Rod
1	118625	NUT—Clutch Pedal Lever Rod Hex
1	114785	PIN—Clutch Pedal Lever Rod Clevis
2	118775	WASHER—Clutch Pedal Lever Rod
2	103373	PIN—Clutch Pedal Lever Rod Cotter
1	80172	BELLCRANK ASSEMBLY—Complete—Clutch Throwout
1	80316	BELLCRANK ASSEMBLY—Clutch Throwout
1	80317	TUBE—Clutch Throwout Bellcrank
3	80319	LEVER—Clutch Throwout Bellcrank
1	80321	PIN—Clutch Pedal Over-Center Return Spring
1	191350	FITTING—Lubrication 1/4-28—90°
1	80129	BUSHING—Clutch Throwout Bellcrank
1	80124	RING—Clutch Throwout Bellcrank Bushing Retaining
1	80145	SPRING—Clutch Throwout Bellcrank Bushing
1	80129	BUSHING—Clutch Throwout Bellcrank
2	80125	BALL—Clutch Bellcrank Pivot
1	80520	RETAINER—Clutch Throwout Bellcrank Pivot Ball-Outer
4	138493	WASHER—Clutch Bellcrank Pivot Ball Lock
2	118626	NUT—Clutch Bellcrank Pivot Ball Hex
1	80132	BRACKET—Clutch Throwout Bellcrank to Engine
3	122135	BOLT—Clutch Throwout Bellcrank Bracket to Clutch Housing
3	115093	WASHER—Clutch Throwout Bellcrank Bracket to Clutch Housing Bolt Lock
1	80326	ROD ASSEMBLY—Complete—Clutch Throwout Yoke for Borg & Beck Clutch
1	80135	ROD ASSEMBLY—Clutch Throwout Yoke Borg & Beck Clutch
1	144254	CLEVIS—Clutch Throwout Yoke Rod
1	118625	NUT—Clutch Throwout Yoke Rod Hex
1	80733	ROD ASSEMBLY—Complete—Clutch Throwout Yoke for Long Clutch
1	80359	ROD ASSEMBLY—Clutch Throwout Yoke-Long Clutch
1	144254	CLEVIS—Clutch Throwout Yoke Rod
1	118625	NUT—Clutch Throwout Yoke Rod Hex
1	70636	HOOK—Clutch Pedal Over-Center Return Spring
1	70637	SPRING—Clutch Pedal Over-Center Return
1	70196	BOLT—Clutch Over-Center Spring Adjusting
1	118624	NUT—Clutch Over-Center Spring Adjusting Bolt Hex
1	115729	NUT—Clutch Over-Center Spring Adjusting Bolt Hex
1	80288	YOKE ASSEMBLY—Clutch Throwout
1	80094	YOKE—Clutch Throwout
2	70052	PIN—Clutch Throwout Yoke
2	80128	SPRING—Clutch Throwout Yoke Ball
2	107156	RIVET—Clutch Throwout Yoke Ball Spring to Yoke
2	80459	SHIELD—Clutch Yoke Stone
2	119861	SCREW—Clutch Yoke Stone Shield
2	115707	WASHER—Clutch Yoke Stone Shield Screw Lock
2	116000	NUT—Clutch Yoke Stone Shield Screw Lock
1	70054	STUD—Clutch Throwout Lever Ball
1	116121	WASHER—Clutch Throwout Lever Ball Stud Lock
1	118777	WASHER—Clutch Throwout Lever Ball Stud

GROUP 8**CLUTCH & CLUTCH CONTROLS****PARTS LIST**

No.
Req'd. Part
 Number

Description

CLUTCH CONTROLS (CONT.)

1	80041	BEARING—Clutch Pilot
1	80166	SLEEVE ASSEMBLY—Clutch Release Bearing
1	80167	SLEEVE—Clutch Release Bearing
1	80169	PLATE—Clutch Release Bearing
1	80170	CLIP—Clutch Release Bearing
1	102669	RIVET—Plate & Clip Mounting to Sleeve Rd. Hd.
2	80043	BEARING—Clutch Throwout
1	111595	FITTING—Lubrication

CLUTCH

1	80223	CLUTCH ASSEMBLY—Complete (Borg & Beck)
1	80224	PLATE ASSEMBLY—Driven
1	62707	FACING—(Woven) Driven Plate
2	62708	RIVETS—Driven Plate Facing
36	80225	PLATE ASSEMBLY—Pressure
1	62700	COVER—Pressure Plate
1	62701	SPRING—Anti-Rattle
3	62702	BOLT & NUT ASSEMBLY—Eye
3	62709	PIN—Eye Bolt
3	62703	STRUT—Release Lever
3	62704	LEVER—Release
3	62705	SPRING
9	62706	SPRING—Pressure Plate
1	80193	SCREW—Pressure Plate to Flywheel Hex Hd.
6	115093	WASHER—Pressure Plate to Flywheel Lock

OPTIONAL CLUTCH

1	80013	CLUTCH ASSEMBLY—Complete (Long)
1	80015	PLATE ASSEMBLY—Driven
1	62698	DRIVEN MEMBER PLATE, CUSHION PLATE, FACING AND STOP PIN UNIT
1	62693	DRIVEN PLATE & FACING UNIT
1	62695	PLATE—Driven
1	62694	CUSHION PLATE & FACING UNIT
6	62697	PLATE—Cushion
1	62690	HUB—Splined
4	31197	RIVET—Tubular Hub
1	31193	WASHER—Drive
2	62691	WASHER—Friction
8	62692	SPRING—Torision
4	31195	PIN—Stop
12	21796	RIVET—Assembly
2	62696	FACING—Friction
24	27901	RIVET—Facing
1	80014	PLATE ASSEMBLY—Pressure
1	62686	PLATE & LEVER UNIT
1	62689	PLATE—Only
3	30092	RELEASE LEVER, YOKE & ADJUSTING SCREW UNIT
1	62687	PLATE—Cover (Only)
9	62688	SPRING—Pressure
9	27892	BUTTON—Spring Insulator
3	27896	LEVER—Release
3	27894	PIN—Lever
3	30093	YOKE—Lever
3	27899	PIN—Yoke
3	27890	SCREW—Yoke Assembly
3	30084	ROLLER—Yoke
3	27897	SCREW—Lever Adjusting
57	27895	ROLLER—Lever Needle

CLUTCH & CLUTCH CONTROLS**PARTS LIST**

No. Req'd.	Part Number	Description
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OPTIONAL CLUTCH (CONT.)

3	116120	WASHER—Lock
3	137159	PIN—Cotter
3	103374	PIN—Cotter
6	70878	SCREW—Pressure Plate to Flywheel Hex Hd.
6	116120	WASHER—Pressure Plate to Flywheel Lock