## Shafts

The primary shaft is installed in two ball bearings. The shaft is made integral with the crowns of the reverse, first and second speed gears. The third and fourth speed gears are fitted on the shaft. The fourth gear is kept from turning on the shaft by means of a Woodruff key. The third speed gear is linked to the fourth speed gear with the aid of end face lugs.

The secondary shaft which is also supported by two ball bearings, has a toothed crown for the reverse sliding gear. Pressed on the shaft are two splined sleeves that are prevented from turning on the shaft by keys. The first, second and fourth speed gears freely rotate on metal-ceramic bushings, while the fourth speed gear turns on a bronze bushing. The gears are linked to the shaft by means of gearshift movable sleeves. No special provision is made to feed oil to the friction surfaces.

## Starting Mechanism

The starting mechanism incorporates two shafts with gears: starting shaft *33* (Fig. 15) and intermediate shaft *5*. Two gears with twelve ratchet teeth on their end faces are free to rotate on the intermediate shaft. The front end of the shaft is pressed into the casing.

Pressed onto the splines of the starting shaft is a toothed quadrant. The quadrant is pressed to rubber recoil buffer *5* (Fig. 17) by a torsion spring.

The spring is wound up by giving bushing *1* (Fig. 15), fitted in the front wall of the casing, a half-turn counterclockwise.

The bushing is sealed by a rubber ring, and the shaft, by a double-rim carcass-type gland. The kick starter lever is secured to the starting shaft by means of a key bolt. When the kick lever is depressed with the foot the quadrant meshes with the small gear of the intermediate shaft, which gear is engaged, by means of the end face ratchet with the large gear being in constant mesh with the second speed gear of the gear box primary shaft. After the engine has been started, and the foot taken off the kick lever, the latter together with the quadrant returns to the initial position under the action of the return spring. The quadrant impact is taken up by the rubber buffer with a steel facing.

## Gearshift Mechanism

Four forward speeds are engaged by splined sleeves *13* (Fig. 15) which are fitted on the secondary shaft and moved along it by means of gearshift forks. The special lugs of the forks enter the shaped notches of the gearshift disk. As the disk is rotated, the forks move to a corresponding position on shaft *6* (Fig. 18) installed inside the casing. Fitted on the gearshift disk are three pins and the spring of



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