Shift fork guide pin/shift drum groove wear

Measure the diameter of each shift fork guide pin, and measure the width of each shift drum groove. Replace any shift fork on which the guide pin has worn past the service limit. If a shift drum groove is worn past the service limit, replace the shift drum.

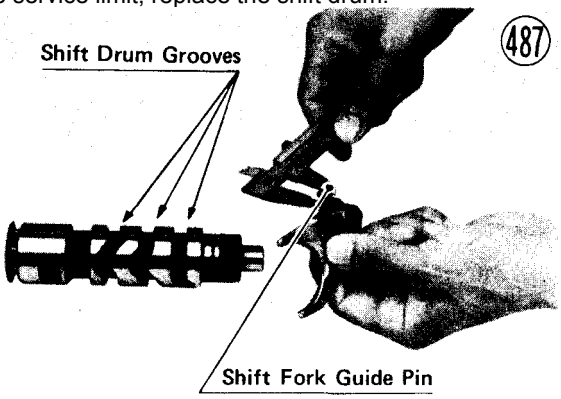

Table 71 Shift Fork Guide Pin Diameter

	Standard	Service Limit
4th, 5th	7.9~8.0 mm	7.85 mm
3rd	7.978~8.000 mm	7.92 mm

Table 72 Shift Drum Groove Width

Standard ,	Service Limit
8.05~8.20mm	8.25 mm

Gear dog, gear dog hole, gear dog recess damage

Visually inspect the gear dogs, gear dog holes, and gear dog recesses. Replace any gears that have damaged, unevenly or excessively worn dogs, dog holes, or dog recesses.

Gear/shaft wear

Measure the diameter of each shaft and bush with a micrometer, and measure the inside diameter of each gear listed below. Find the difference between the two readings to figure clearance, and replace any gear where clearance exceeds the service limit.

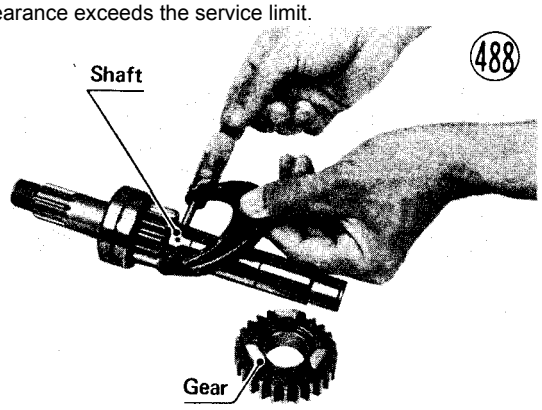

Table 73 Gear/Shaft, Gear/Bush Clearance

Gear	Standard	Service Limit
D4, 02, 03, D5	0.020~0.062 mm	0.16 mm
01	0.014~0.048 mm	0.15 mm

Ball bearing wear, damage

Since the ball bearings are made to extremely close tolerances, the wear must be judged by feel rather than by measurement.

Clean each bearing in a high flash-point solvent, dry it (do not spin it while it is dry), and oil it. Spin it by hand to check its condition. If it is noisy, does not spin smoothly, or has any rough spots, replace it.
NOTE: When replacing the drive shaft ball bearing, check the alignment of the primary sprocket (on the crankshaft) as described in Page 139.

Needle bearing wear, damage

The rollers in the needle bearings wear so little that the wear is difficult to measure. Instead, inspect the bearings for abrasions, color change, or other damage. If there is any doubt as to the condition of either bearing, replace it.

KICKSTARTER

Kickstarter construction is shown in Fig. 489. The kick gear is connected to the primary sprocket on the crankshaft through the output shaft 1st gear, drive shaft 1st gear, clutch housing sprocket, and primary chain.

The kick gear (6 , constructed with a ratchet on one side, is always meshed with the output shaft 1 st gear and turns freely anytime the output shaft is turning. The ratchet gear 5 , mounted on the splined portion of the kick shaft 10, turns with the kick shaft and can be moved sideways on the shaft. A spring *'A,* presses on the ratchet gear in the direction of the kick gear. But when the kick pedal 12 is not being operated, an arm on the ratchet gear is caught on the stopper 2 , which prevents the ratchet gear from meshing with the ratchet on the kick gear.

When the kick pedal is operated, the ratchet gear arm is freed from the stopper and the ratchet gear then meshes with the kick gear ratchet, rotating the kick gear. The gear train of the kickstarter system then cranks the engine. As the engine starts, the primary sprocket through the gear train turns the kick gear. But, since the kick gear rotates in the direction of arrow "A" as shown in Fig. 489, the kick gear ratchet doesn't catch on the ratchet gear.

When the kick pedal is released, the kick shaft is turned by the return spring, bringing the kick pedal to its original position. At the same time, the ratchet gear arm rides up the stopper, breaking away from the kick gear. The kick gear now turns freely.

If the kick pedal return spring weakens or breaks, the kick pedal will not return completely or at all, and the kick gear and ratchet gear will stay partially meshed, making noise while the engine is running. Kick mechanism noise may also result when the kick gear, collar, or kick shaft becomes worn.