

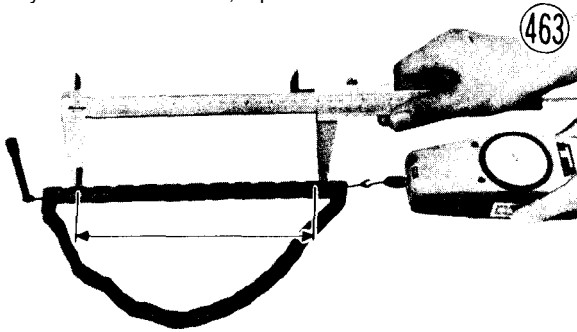
136 MAINTENANCE

Table 54 Balancer Spring Free Length

Standard	Service Limit
10.8-11.2 mm	10.4 mm

Chain wear

Remove the chain, hold it taut with a force of about 5 kg in some manner such as the one shown in Fig. 463, and measure a 20-link length. If the chain has lengthened beyond the service limit, replace it with a new one.



Measure a 20-link length.

Table 55 Balancer Chain Length

Standard	Service Limit
190.5 mm	193.4mm

When replacing a chain with a new one, inspect all the sprockets. If either of the balancer mechanism sprockets is damaged or overly worn, replace it. If the crankshaft sprocket is damaged or overly worn, replace the crankshaft.

NOTE: If the crankshaft is replaced, select the right bearing insert in accordance with the combination of the connecting rod and the crankshaft marks (Pg. 133).

Chain guide wear

Visually inspect the rubber part of each chain guide. If it is worn down or damaged, replace the guide.

Measure the depth of the grooves where the chain links run (Fig. 418). If wear exceeds the service limit, replace the guide.

Table 56 Balancer Chain Guide Wear

Service Limit
1.5 mm

Chain tensioner inspection

This balancer mechanism has a ratchet-type chain tensioner, which consists of a tensioner body, spring, ratchet pin, and chain guide. Under spring pressure, the ratchet pin pushes against the chain guide, which keeps the balancer chain taut. The ratchet bushing is pressed into the tensioner hole to prevent the ratchet pin from backing into the tensioner body. Visually inspect the ratchet pin and ratchet bushing. If they are badly worn, replace the tensioner with a new one.

Measure the free length of the spring. If it is shorter than the service limit, replace the spring with a new one.

Table 57 Spring Free Length

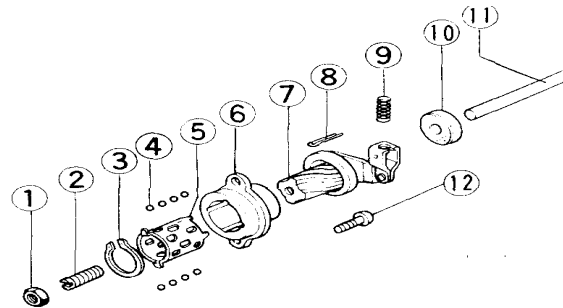
Standard	Service Limit
45.4 mm	43.0 mm

CLUTCH

Fig. 465 shows the construction of the clutch, which is a wet, multi-plate type with 8 friction plates 9 and 7 steel plates 10. The friction plates are made of cork, used for its high coefficient of friction, bonded on a steel core, which provides durability and warp resistance. The clutch housing 8 has a reduction sprocket on one side and contains springs to absorb shock from the drive train.

The clutch release mechanism is shown in Fig. 464. The clutch release outer worm gear 6 and the inner worm gear 7 are made of steel. Balls 4 are installed between the outer and inner worm gears to reduce the friction between them. Assembled into the center of the release inner gear is the clutch adjusting screw 2, which pushes on the push rod n and steel ball inside the drive shaft to release the clutch.

Clutch Release Mechanism



1. Locknut
2. Adjusting Screw
3. Circlip
4. Steel Ball

5. Retainer
6. Outer Worm Gear
7. Inner Worm Gear
8. Cotter Pin
9. Spring
10. Grease Seal
11. Push Rod
12. Screw

The friction plates are keyed to the clutch housing by tangs on the outer circumference of each plate. Since the clutch housing is chain driven directly from the crankshaft, these plates are always turning any time the engine is running. The steel plates have a toothed inner circumference and mesh with the splines in the clutch hub. The hub is mounted on the drive shaft, so that the drive shaft and steel plates always turn together.