

stalled in crankcase with beveled corner (C—Fig. SZ1-7) away from flywheel end of crankcase.

MANUAL STARTER

Refer to Fig. SZ1-8 for exploded view of manual starter assembly. Starter may be removed as a complete unit by removing three cap screws securing starter assembly to power head. To disassemble starter, proceed as follows: If rewind spring (3) remains under tension, pull starter rope and hold rope pulley (4) with notch in pulley adjacent to rope outlet. Pull rope back through outlet so rope engages notch in pulley and allow pulley to slowly unwind. Remove cap screw (8) and disassemble unit. Be careful when removing rewind spring (3) to prevent personal injury.

Rewind spring is wound in counterclockwise direction in starter housing. Rope is wound on rope pulley in counterclockwise direction as viewed with pulley in housing. Reassemble starter by reversing disassembly procedure making certain pin on starter pawl (5) is engaged between ends of spring clip (6). To place tension on rewind spring, pass rope through rope outlet in housing and install rope handle. Pull rope out and hold rope pulley so notch on pulley is adjacent to rope outlet. Pull rope back through outlet between notch in pulley and housing. Turn rope pulley counterclockwise six complete revolutions to place tension on spring. Do not place more tension on rewind spring than is necessary to draw rope handle snug against housing.

LOWER UNIT

PROPELLER AND SHEAR PIN. Propeller for normal use has three blades and is equipped with a shear pin to prevent damage. Standard propeller is 188

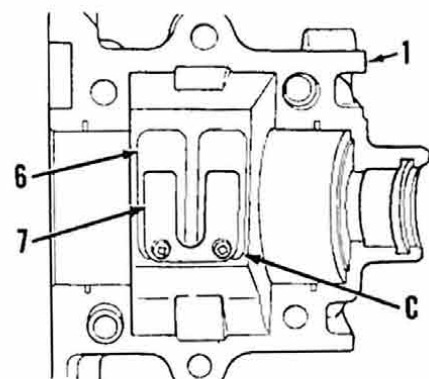


Fig. SZ1-7—Reed petal (6) should be installed with beveled corner (C) toward drive end of crankcase as shown.

mm (7.4 in.) in diameter and has 115 mm (4.5 in.) pitch. Optional propellers are available from the manufacturer and should be selected to provide full throttle operation within the recommended limits of 4200-4800 rpm.

R&R AND OVERHAUL. To remove gearcase, unscrew drain plug and drain

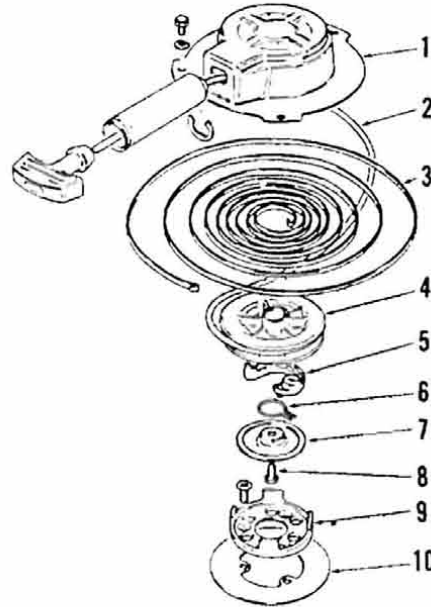


Fig. SZ1-8—Exploded view of manual starter assembly.

- 1. Housing
- 2. Rope
- 3. Recoil spring
- 4. Rope pulley
- 5. Starter pawl
- 6. Spring clip
- 7. Plate
- 8. Cap screw
- 9. Drive plate
- 10. Magneto insulator

gear lubricant. Remove propeller and shear pin. Remove cover (18—Fig. SZ1-9) and unscrew two retaining nuts, then separate gearcase (16) from drive shaft housing. Remove gearcase end cap (1), withdraw impeller (2), impeller drive pin (3) and pump housing (4). Pull drive shaft seal tube (25) from gearcase. Detach "E" ring (12) and withdraw drive shaft (26) while simultaneously removing pinion gear (13) and shims (14 and 15). Remove propeller shaft (9) and shims (10). If necessary, use a suitable puller to remove bearing (11).

Inspect all components for excessive wear or other damage. Apply a water resistant grease to lip area of all seals. If removed, install bearing (20) and check clearance between upper bearing and retaining ring (22). Clearance should not exceed 0.1 mm (0.004 in.) and can be adjusted by varying thickness of shims (19). Shims are available in 0.1 mm, 0.2 mm and 0.5 mm sizes. Install propeller shaft (9) with original shims (10). Reassemble pinion gear (13) with original shims (14 and 15) and drive shaft (26) in gearcase, then check mesh pattern of pinion gear and forward gear. Mesh pattern is adjusted by varying thickness of shims (14). Install water pump assembly, then check propeller shaft end play. Propeller shaft end play should be 0.05-0.50 mm (0.002-0.020 in.) and is adjusted using shims (10). Complete reassembly by reversing disassembly procedure. Fill gearcase with SAE 90 hypoid outboard gear oil.

Fig. SZ1-9—Exploded view of gearcase and water pump assembly. Note that drive shaft spacer (21) is redesigned on late models and must be installed with "up" mark facing top of gearcase.

- 1. Cap
- 2. Impeller
- 3. Pin
- 4. Pump housing
- 5. "O" ring
- 6. Seal
- 7. Bearing
- 8. Spacer
- 9. Propeller shaft
- 10. Shims
- 11. Bearing
- 12. "E" ring
- 13. Pinion gear
- 14. Shim
- 15. Shim
- 16. Gearcase
- 17. Drain plug
- 18. Cover
- 19. Shim
- 20. Bearing
- 21. Spacer
- 22. Snap ring
- 23. Seal
- 24. Bushing
- 25. Tube
- 26. Drive shaft
- 27. Bushing
- 28. Water tube
- 29. Grommet

