POULAN

Model	Bore mm (in.)	Stroke mm (in.)	Displacement cc (cu. in.)	Drive Type
5500	52 (2.047)	42 (1.654)	89 (5.4)	Direct
6000, S6000	55 (2.165)	42 (1.654)	100 (6.1)	Direct

MAINTENANCE

SPARK PLUG. Recommended spark plug is Champion CJ4. Spark plug electrode gap should be 0.025 inch (0.63 mm).

CARBURETOR. All models are equipped with a Tillotson Model HS diaphragm carburetor. Refer to CARBURETOR SERVICE section for overhaul and exploded view of carburetor.

Initial setting of idle and high speed mixture screws is one turn open. Make final adjustments with engine warm and running. Adjust idle mixture screw so engine will accelerate without stumbling. Adjust high speed mixture screw to obtain optimum engine performance with engine under cutting load. Adjust idle speed screw so engine idles just below clutch engagement speed.

IGNITION. Model 5500 is equipped with a flywheel magneto ignition system while all other models are equipped with a capacitor discharge solid state ignition system. Ignition timing marks are located on fan as shown in Fig. PN60. Fan and flywheel may be separated and should be marked before disassembly so timing marks on fan will correspond with piston position for correct ignition timing. Spark should occur when mark (EL) on fan is aligned with mark shown in Fig. PN60. Ignition timing is adjusted by loosening stator plate mounting screws and moving stator plate. Initial ignition timing setting is provided by aligning crankcase mark with mark on stator. See Fig. PN61. Breaker-point gap is 0.012-0.016 inch (0.30-0.40 mm) on Model 5500. Air gap between coil legs and flywheel on Model 5500 is 0.0010-0.0015 inch (0.020-0.038 mm).

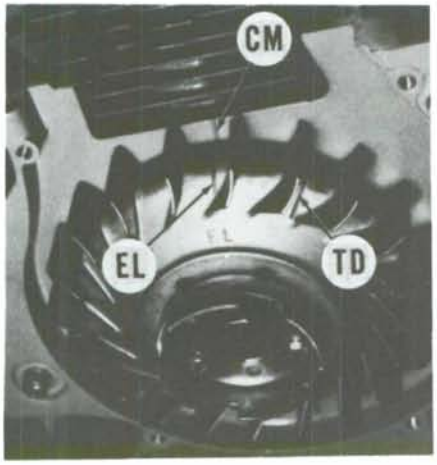

Fig. PN60—View of ignition marks: CM—crankcase mark; EL—flywheel timing mark; TD—top dead center.

LUBRICATION. The engine is lubricated by mixing oil with the fuel. Recommended oil is Beaird-Poulan engine oil available in blends approved for 16:1 and 32:1 fuel ratios. Follow manufacturer's mixing instructions on oil container when using a recommended oil. If Beaird-Poulan engine oil is not available, a good quality oil designed for use in air-cooled two-stroke engines may be used when mixed at a 16:1 ratio. Use a separate container when mixing fuel and oil.

All models are equipped with an automatic chain oil pump. Oil pump output is adjusted by turning adjusting screw adjacent to bar spike on Models 5500 and 6000 or adjacent to clutch on Model S6000. Turning screw clockwise will decrease oil output while turning screw counterclockwise will increase oil output.

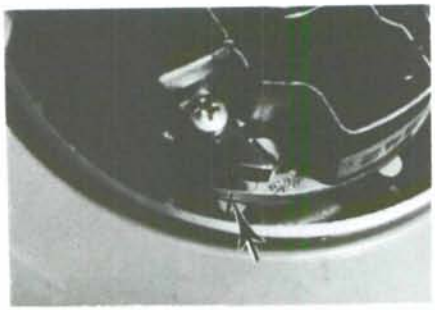

Fig. PN61—Arrow shows alignment of stator plate mark and crankcase mark.

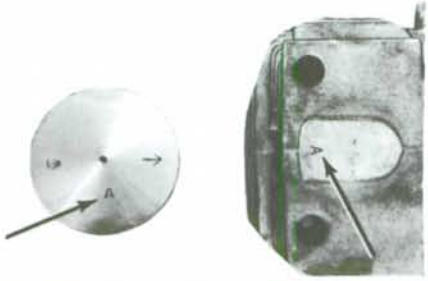

Fig. PN62—View showing location of piston and cylinder grade letters. Note that arrow on piston crown must point toward exhaust port.

REPAIRS

PISTON, PIN, RINGS AND CYLINDERS. The cylinder may be removed after removal of airbox cover, air cleaner, carburetor, cylinder shroud and muffler. The cylinder is chrome plated and should be inspected for excessive wear or damage to chrome plating.

Piston pin is retained by wire retainers and rides in a roller bearing in the small end of the connecting rod. The piston is equipped with two piston rings which are retained in position by locating pins in the ring grooves. The piston must be installed with the arrow on the piston crown pointing toward the exhaust port. See Fig. PN62. Some pistons have a letter "A" stamped near the arrow which must not be confused with letter stamped on piston crown to indicate piston size.

Cylinder and piston are marked "A," "B" or "C" during production to obtain desired piston-to-cylinder clearance. Cylinder and piston must have same letter marking to obtain proper clearance. Cylinders are stamped on top of cylinder or on cylinder flange. Pistons are stamped on piston crown but letter indicating piston size should not be confused with letter "A" which is stamped on some piston crowns to indicate which side of piston must be installed adjacent to exhaust port.

CONNECTING ROD, CRANKSHAFT AND CRANKCASE. Crankcase halves must be split on all models to remove crankshaft assembly. The crankshaft is supported at both ends by ball bearings.

Connecting rod and crankshaft are a pressed together assembly which should be disassembled only by a shop with the tools and experience necessary to assemble and realign crankshaft. Connecting rod, bearing and crankpin are available as a unit assembly.

On Models 5500 and 6000, the automatic oil pump is driven by worm (2—Fig. PN64) located between main bearing and oil seal. On these models, worm should be pressed on crankshaft prior to installing crankshaft assembly in crankcase. Heat worm gear to 210°F (99°C) to ease reassembly of worm to crankshaft.

CLUTCH. Four- and six-shoe clutches have been used. The clutch on all models is retained by a nut with left-hand threads. A puller should be used to remove clutch hub from crankshaft. Models 5500 and 6000 are equipped with two springs (15—Fig. PN64) which should be renewed in pairs.

Tighten clutch nut to 22 ft-lbs. (30 N·m) on Models 5500 and 6000 or to 19 ft.-lbs. (26 N·m) on S6000 models.

CHAIN OILER. All models are equipped with an automatic chain oil pump. The oil pump on Model S6000 is contained in a removable oil pump housing (8—Fig. PN65) with plunger (7) driven by worm (3) located outside the right crankcase oil seal. The oil pump on all other models is contained in the right crankcase half. The oil pump plunger (5—Fig. PN64) is driven by worm (2) which is located between mair bearing and oil seal (11).

To disassemble oil pump on Models 5500 and 6000, remove chain, bar and clutch. Remove snap ring (8) and unscrew adjusting screw (7). Remove cam screw (CS—Fig. PN66) and withdraw oil pump components. When reassembling, be sure cam screw (CS) is correctly meshed with groove in plunger (5—Fig. PN64).

Worm gear (2—Fig. PN64 or 3—Fig. PN65) may be extracted without removing crankshaft by using a suitable puller. Mark position of worm gear on Models 5500 and 6000 prior to removal. On S6000 models, install seal (14—Fig. PN65) so seal lip will be toward clutch.

REWIND STARTER. Refer to Fig. PN67 for exploded view of rewind starter. To disassemble starter, remove starter housing from saw, remove rope

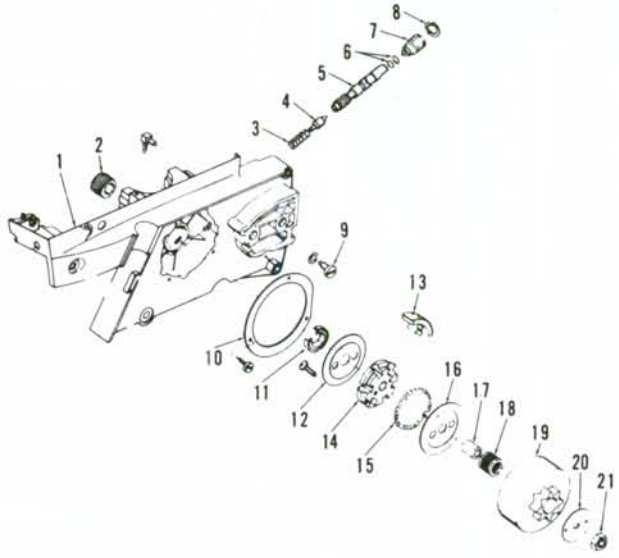

Fig. PN64—Exploded view of Model 5500 and 6000 oil pump and clutch assemblies. Two garter springs (15) are used. Oil pump worm gear (2) is pressed on crankshaft.

1. Right crankcase half
2. Oil pump worm gear
3. Spring
4. Thrust pin
5. Oil pump plunger
6. "O" rings
7. Adjusting screw
8. Snap ring
9. Cam screw
10. Cover plate
11. Seal
12. Guide plate
13. Clutch shoe
14. Clutch hub
15. Garter spring
16. Guide plate
17. Inner bearing race
18. Needle bearing
19. Clutch drum
20. Washer
21. Nut

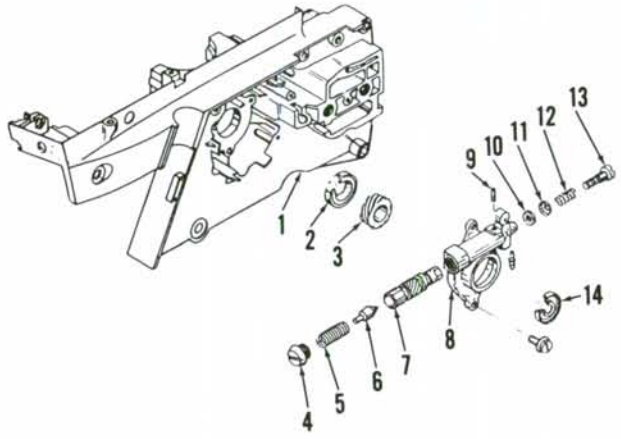

Fig. PN65—Exploded view of oil pump used on S6000 models.

1. Right crankcase half
2. Oil seal
3. Worm
4. Plug
5. Spring
6. Thrust pin
7. Plunger
8. Pump housing
9. Pin
10. Rubber washer
11. Spring seat
12. Spring
13. Adjusting screw
14. Seal

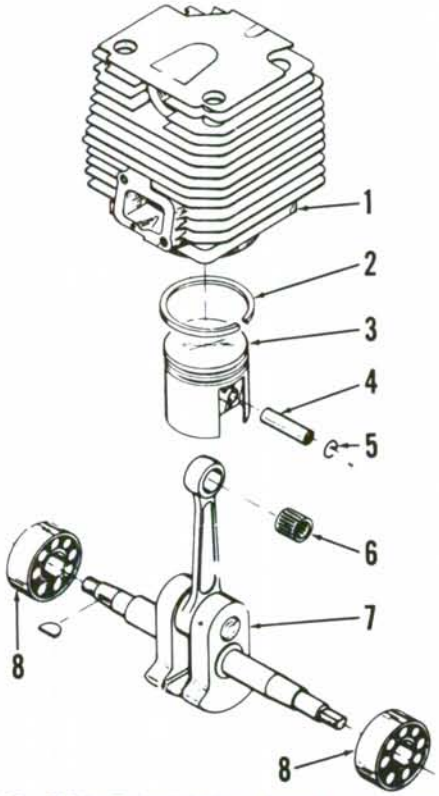

Fig. PN63—Exploded view of engine. Piston is equipped with two piston rings.

1. Cylinder
2. Piston rings
3. Piston
4. Piston pin
5. Pin retainer
6. Needle bearing
7. Crankshaft & rod assy.
8. Ball bearing

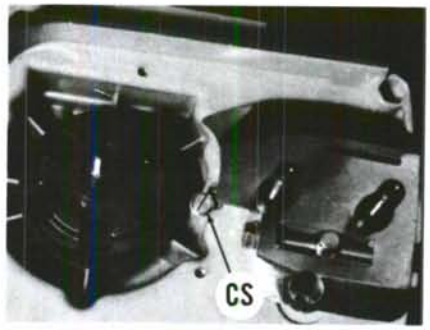

Fig. PN66—View showing location of cam screw (CS) which must be unscrewed before oil pump plunger (5—Fig. PN64) can be withdrawn.

handle and allow rope to wind into starter. Remove snap rings and pawl springs (8) and withdraw rope pulley being careful not to dislodge rewind spring. If necessary to remove rewind spring, precautions should be taken to prevent spring from uncoiling uncontrolled.

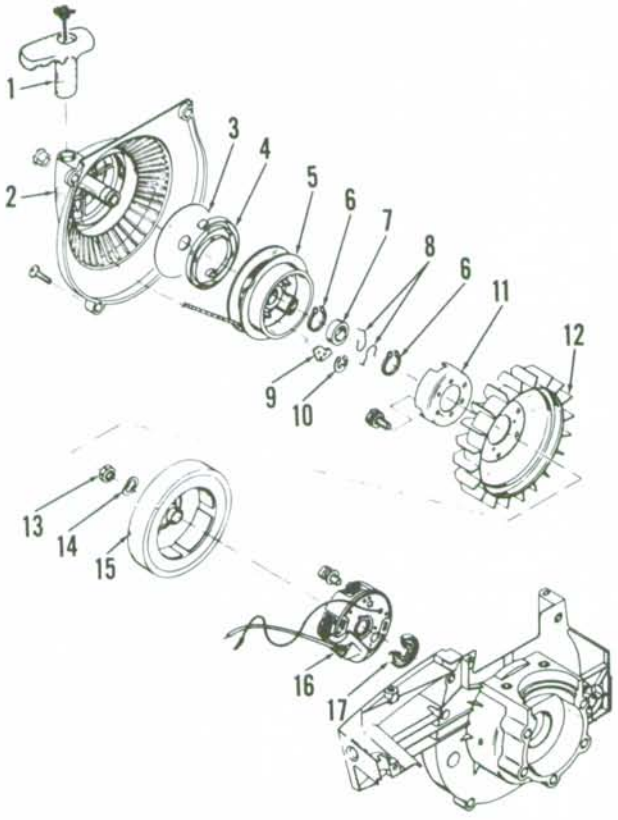

Fig. PN67—Exploded view of rewind starter and ignition assemblies. Refer to Fig. PN68 for installation of pawl springs (8).

1. Rope handle
2. Starter housing
3. Spacer
4. Rewind spring
5. Rope pulley
6. Snap ring
7. Spacer
8. Pawl springs
9. Pawl
10. "E" ring
11. Starter cup
12. Fan
13. Nut
14. Spring washer
15. Flywheel
16. Stator plate
17. Seal

Install rewind spring in starter housing in clockwise direction from outer end. Wind rope around rope pulley in clockwise direction as viewed with pulley in starter housing. Pawl springs (8) must be positioned against spring spacer (7) as shown in Fig. PN68. To place tension on starter rope, rotate rope pulley clockwise six turns before passing rope through outlet. Check operation of rewind starter. Rope handle should rest snugly against starter housing with rope released. It should be possible to turn rope pulley ¼ turn clockwise with rope fully extended. Readjust spring tension if rope handle is loose against starter housing or rewind spring is coil bound with rope fully extended.

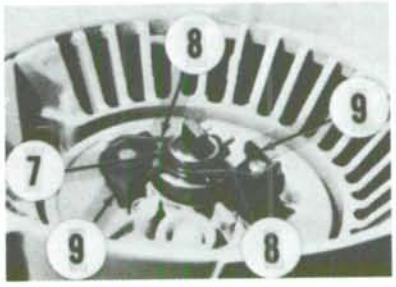

Fig. PN68—View showing installation of spring spacer (7), pawl springs (8) and pawls (9).