**ALLSTATE**

**SEARS, ROEBUCK AND CO.**

**U.S.A.**

**SIMPSONS-SEARS, LTD.**

**CANADA**

## 50 AND 60CC MODELS

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### MODEL
- **Displacement-cc**: 50
- **Bore-MM**: 38
- **Stroke-MM**: 43
- **Number of cylinders**: 1
- **Oil-fuel ratio**: 1 to 25
- **Plug gap-inch**: 0.020
- **Point gap-inch**: 0.016
- **Ignition timing—Advance**: Fixed
- **Inches BTDC**: 0.071
- **Electrical system voltage**: 6
- **Tire size**: 2.25 X 23
- **Tire pressure psi**: front 25, rear 32
- **Chain free play-inches**: 0.039
- **Number of speeds**: 2
- **Weight lbs. (approx.)**: 115

*32 psi with two riders

### SPARK PLUG
- Spark plug electrode gap is 0.5 MM (0.020 in.) for all models. Refer to the following chart for correct type of plug.

#### Model | Champion
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Mo-Ped 50 | 90 2.0727 L-5
Motor Scooter 60 | 60400 L-7
Allstate 60 | 902.0727 L-5
Cheyenne Motor Scooter 60 | 60410 L-7

### CARBURETOR
- Mo-Ped 50 models use a Bing 1/12 carburetor shown in Fig. A1-1. Main jet (7) is usually size 62; however, for better fuel economy, size 60 main jet may be installed. Needle valve clip (4) should be installed in second groove from top of needle (5). Make certain washer (3) is installed. Idle speed screw (9) should be locked by nut (8).
- All models except Mo-Ped 50 use Bing 1/17 carburetor shown in Fig. A1-2. Main jet (12) size is normally No. 90 for Sport Mo-Ped and 84 for Motor Scooters; however, other sizes may be used for better fuel economy or slightly better performance. Clip (16) should be installed in third groove from top of needle (15). Make certain washer (17) is installed. Idle speed screw (1) is on right side.
IGNITION AND ELECTRICAL. A flywheel type magneto is used and consists of three systems. The ignition primary coil (5—Fig. A1-3), head and tail light coil (10), stop light coil (11) and ignition points (12) are located on left side of engine under the flywheel (18). Ignition points should be set to 0.4 MM (0.016 in.) fully open. With ignition point gap correctly set, ignition timing should occur with piston 1.8 MM (0.07087 in.) BTDC on 50cc models; 1.0 MM (0.03937 in.) on Sport 60 and Cheyenne and 1.1 MM (0.04331 in.) on Motor Scooter. If timing is incorrect, the coil stator plate can be moved in the elongated holes after loosening the three mounting screws (9).

LUBRICATION. Engine is lubricated by mixing SAE50 two stroke motor oil with the fuel. Normal ratio is 1:25. The gear box is lubricated with SAE40 or 50 oil (in cold weather use SAE 20 or 30). Gear box oil should be maintained at oil level plug (P—Fig. A1-5). Oil should be drained every 4000 miles.

CLUTCH. The clutch, located on right side of engine, is of the multiple disc, wet type. The clutch lever (2—Fig. A1-6) should not have less than 10 MM (0.3937 in.) free play with cable disconnected. If adjustment is required, remove plug (9) and lock wire (11). Turn ball nut (12) as required and install lock wire. Adjustment of the cable will take up excessive play in controls.

Fig. A1.3—View of the flywheel electrical system typical of all models. On some early models, ignition coil may be at 10 instead of location 5.

Fig. A1.5—Gear box oil should be maintained at level of plug (P). All models are similar.

Fig. A1.6—Exploded view of clutch used on all models except Mo-Ped 50. Mo-Ped 50cc model is similar.

Fig. A1.7—Exploded view of Mo-Ped and Campus 50 front suspension assembly.
**SUSPENSION.** The front fork on Mo-Ped and Campus 50 is shown in Fig. A1-7. Oil in the telescopic fork should be drained every 6000 miles. Service with oil at screw (37). Capacity is 40cc for each side.

**SPORT 60, SABER AND CHEYENNE.**

Telescopic front forks should be drained and refilled with SAE 30 or 40 motor oil every 3700 to 5000 miles. Oil is drained and refilled at plug (20—Fig. A1-8). Capacity for each side is 100cc.

Suspension units for Motor Scooters and rear units for Mo-Ped and Campus 50 is shown in Fig. A1-9.

Rear suspension units on Sport 60, Saber and Cheyenne should be drained and refilled with shock absorber fluid every 3700 to 5000 miles. Capacity is 65cc for each unit. The units must be removed and 22 MM nut (9—Fig. A1-10) loosened before servicing cylinder.

**REPAIRS**

**PISTON, RINGS AND CYLINDER.**

The piston can be removed after first removing cowling, exhaust pipe, carburetor, cylinder head and cylinder. Ring end gap should be 0.1-0.8 MM (0.00394-0.03150 inch). Piston should have 0.12-0.15 MM (0.0047-0.0059 inch) clearance in cylinder bore. Standard cylinder bore diameter is 38 MM (1.4961 in.) for 50cc models, 42 MM (1.6535 in.) for 60cc models. Piston and rings are available in standard size and 0.5 MM oversize. Piston should be installed with both ring groove pins toward front of engine. Piston pin is full floating type and is held in place with snap rings. Fins on cylinder head should run from side to side.
**SERVICE**

**Allstate 50 and 60cc**

**CONNECTING ROD AND CRANKSHAFT.** The crankshaft is supported in three ball type main bearings. Bearings and/or crankshaft can be removed after disassembling crankcase as outlined in CRANKCASE AND GEAR BOX. The connecting rod and crankshaft are available only as a complete unit and should NOT be disassembled. Crankshaft end play is adjusted to 0.0 (DO NOT PRELOAD BEARINGS) by adding shims (13—Fig. A1-12).

**CRANKCASE AND GEAR BOX.** To disassemble the crankcase and gear box, the engine must first be removed. Remove the cowling, cylinder head, cylinder, piston, flywheel, clutch cover and clutch. Remove the blower baseplate and gear shift assembly (Fig. A1-18). Remove screws that attach crankcase halves together and carefully separate the halves. Dowel pins are installed between halves. Be careful not to damage sealing surfaces of crankcase. The transmission gears are shown in Figs. A1-13 and A1-16.

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**Fig. A1-13**—Exploded view of two speed transmission.

1. Nut
2. Lock plate
3. Driven gear
4. Bearing race
5. Bearing rollers (14 for each race)
6. First speed gear
6A. Spacer (1.0, 1.8, 2.0 & 2.5 MM)
7. Output shaft
8. Second speed gear
9. Thrust washer
10. Seal
11. Spacer
12. Sprocket
13. Lock plate
14. Nut
15. Bearing race
16. Bearing rollers (18 used)
17. Thrust washer
18. Input shaft
19. Bearing
20. Snap ring
21. Gearshift yoke

**Fig. A1-15**—View of Mo-Ped two speed gear shift mechanism.

1. Shifter fork
2. Shifter yoke
3. Shifter rail
4. Washer
5. Snap rings
6. Spring washer
7. Gearshift lever
8. Detent plug
9. Spring
10. Seal
11. Guide plug
12. Seal washer
13. Washer
14. Shifter shaft
15. Disc
16. Bearing
17. Thrust washer
18. Snap ring
19. Gearshift yoke
20. Snap ring
21. Input shaft and gears
22. First speed gear
23. Second speed gear
24. Output shaft
25. Third speed gear

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**Fig. A1-16**—Exploded view of typical three speed transmission.

4. Bearing races
5. Bearing rollers (14 for each race)
6. Shims (1.6, 1.8, 2.0 & 2.5 MM)
10. Oil seal
11. Spacer
12. Sprocket
13. Lock plate
14. Nuts
15. Bearing race
16. Bearing rollers (18 used)
17. Bearing
18. Snap ring
19. Driver gear
20. Input shaft and gears
21. Second speed gear
22. First speed gear
Fig. A1-17—View of starter assembly typical of all models except Mo-Ped.

- 2. Thrust washers (1.9, 2.0, 2.1 and 2.4 MM)
- 3. Bushings
- 9. Thrust washer and shims (0.1, 0.2 and 0.5 MM)
- 10. Oil seal
- 11. Bushing
- 16. Driver brake spring
- 17. Thrust washer
- 18. Snap ring
- 19. Catch ring
- 20. Snap ring
- 23. Starter countershaft
- 36. Starter countershaft
- 37. Driver cap
- 50. Spring hub
- 56. Stop
- 54. Hub

Fig. A1-18—Exploded view of shifter mechanism used on three speed transmissions.

- 1. Housing
- 3. Oil seal
- 4. Selector shaft
- 5. Gearshift lever
- 5A. Thrust washer
- 6. Lever
- 7. Ratchet
- 8. Lifting plate
- 9. Support plate
- 10. Selector spring
- 11. Washer
- 12. Spring washer
- 13. Snap-ring
- 17. Shifter dog
- 18. Pin
- 19. Spring
- 20. Shift fork
- 21. Snap ring
- 22. Spring
- 23. Detent
- 24. Guide plug
- 25. Seal
- 26. Exterior shift lever
- 40. Control rod