

ALLSTATE

SEARS, ROEBUCK AND CO.

U.S.A.

SIMPSON-SEARS, LTD.

CANADA

50 AND 60CC MODELS

MODEL	Mo-Ped	Campus 50	Saber	Sport 60, Cheyenne	Motor Scooter
Displacement-cc	49	49	49	59.6	59.6
Bore-MM	38	38	38	42	42
Stroke-MM	43	43	43	43	43
Number of cylinders	1	1	1	1	1
Oil-fuel ratio	1 to 25	1 to 25	1 to 25	1 to 25	1 to 25
Plug gap-inch	0.020	0.020	0.020	0.020	0.020
Point gap-inch	0.016	0.016	0.016	0.016	0.016
Ignition timing—Advance	Fixed	Fixed	Fixed	Fixed	Fixed
Inches BTDC	0.071	0.071	0.071	0.039	0.043
Electrical system voltage	6	6	6	6	6
Tire size	2.25 X 23	2.25 X 23	2.25 X 23	2.25 X 23	3.00 X 12
Tire pressure psi-front	25	25	25	25	20
rear	32	32	32	32	25*
Chain free play-inch	1/2	1/2	1/2	1/2	1/2
Number of speeds	2	3	3	3	3
Weight lbs. (approx.)	115	118	140	141	150

*32 psi with two riders

MAINTENANCE

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	Allstate	Champion
Mo-Ped	60410	L-7
Motor Scooter 60400		L-7
Other Models 902.0727		L-5

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) 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.

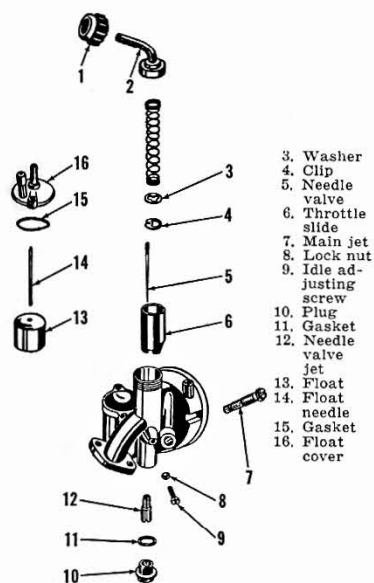


Fig. A1-1—Exploded view of Bing 1/12 carburetor.

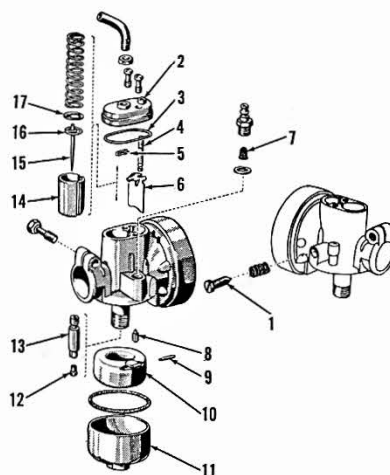


Fig. A1-2—Exploded view of Bing 1/17 carburetor.

- Idle speed adjusting screw
- Choke thrust pin
- Clip
- Choke slide
- Fuel strainer
- Float needle valve
- Float
- Cover
- Main jet
- Needle jet
- Throttle slide
- Needle valve
- Clip
- Washer

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.

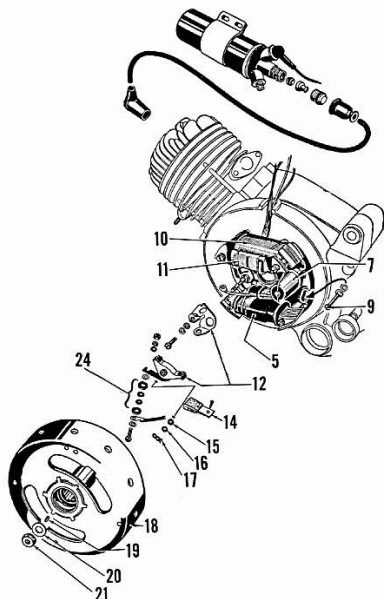


Fig. A1-3—View of the flywheel electrical system typical of all models. On some early models, ignition coil may be at 10 instead of location 5.

- | | |
|------------------------------|------------------------|
| 5. Ignition coil | 16. Shims |
| 7. Condenser | 17. Clip |
| 10. Head and tail light coil | 18. Flywheel |
| 11. Stop light coil | 19. Roller |
| 12. Ignition points | 20. Washer |
| 14. Lubricator | 21. Nut |
| 15. Washer | 24. Insulating washers |

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

1. Snap ring
3. Cap
4. Rubber washer
5. Return spring
6. Rubber washer
7. Clutch shaft
10. Gasket
12. Ball nut
13. Snap ring
- 14A. Bearing shell
- 14B. Set bolt
- 14C. Snap ring
15. Nut
16. Lock washer
17. Spring cup
18. Clutch spring
19. Spring cage
20. Steel clutch disc
21. Clutch friction plates
22. Clutch hub
23. Thrust washer
24. Clutch housing
25. Bushing
26. Thrust washer

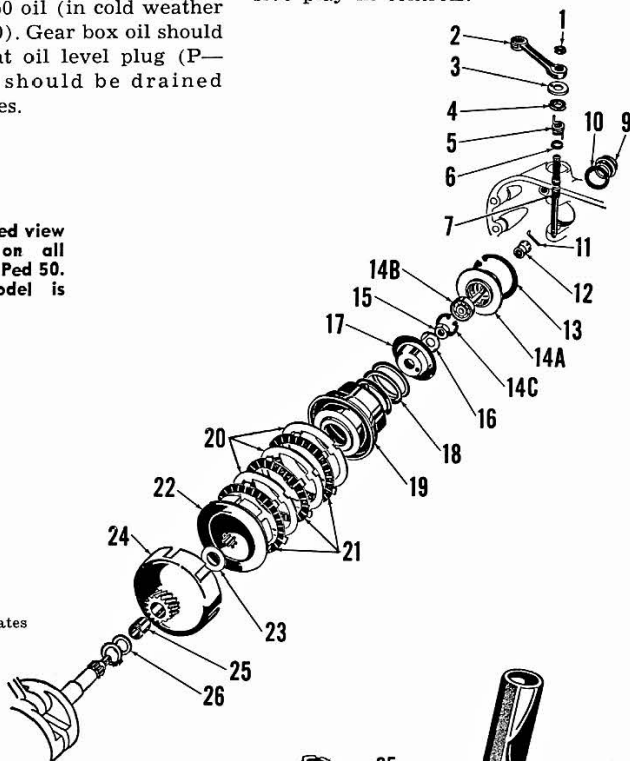


Fig. A1-7—Exploded view of Mo-Ped and Campus 50 front suspension assembly.

9. Bumper
10. Couplings
11. Spring
12. Spring bolt
13. Bottom joint
14. Nuts
15. Sealing Washer
16. Washer
17. Nut
18. Sliding tube
19. Bottom guide
20. Top guide bushing
21. Seal
22. Felt washer
23. Sealer shell
24. Felt strip
25. Nut
26. Dust cap
27. Bearing balls (42 used)
28. Bearing seat
29. Bearing seat
30. Bearing cones

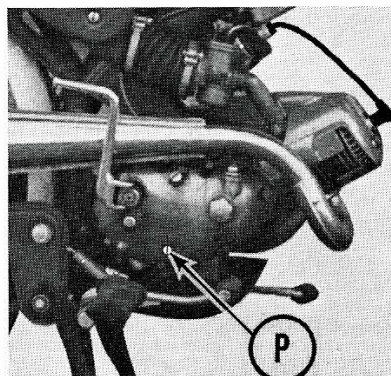
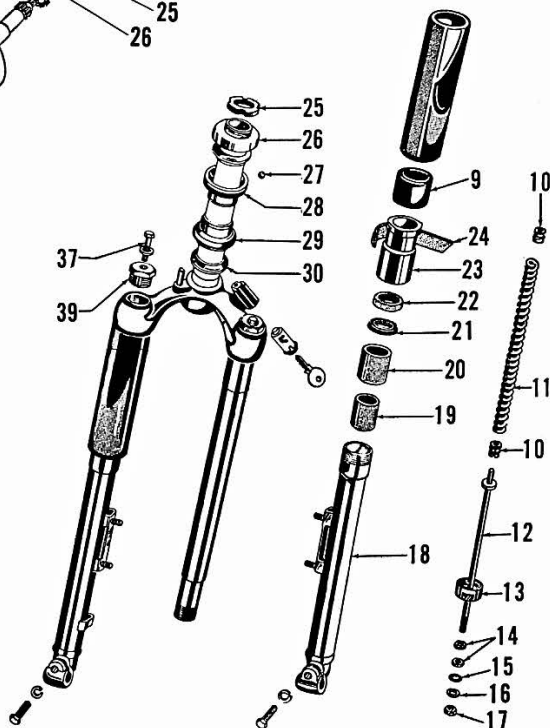


Fig. A1-5—Gear box oil should be maintained at level of plug (P). All models are similar.

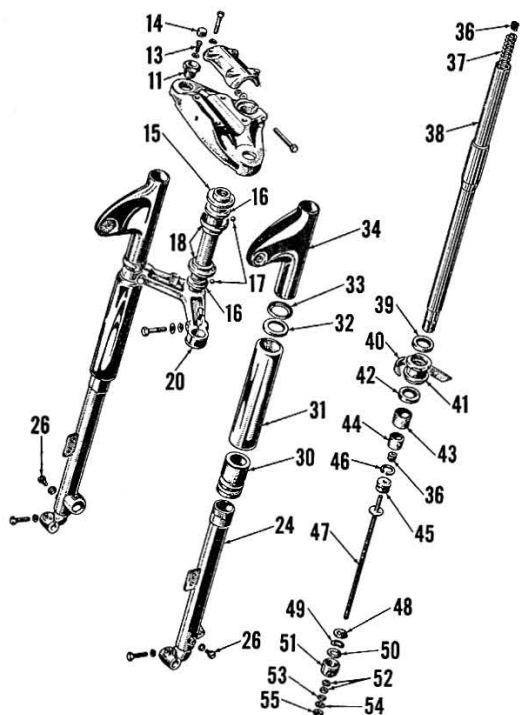


Fig. A1-8—Exploded view of Sport 60, Saber and Cheyenne front suspension assembly.

11. Plug
13. Screw
14. Plug
15. Dust cover
16. Bearing cones
17. Bearing balls (42 used)
18. Bearing cups
20. Fork bridge
24. Sliding tube
30. Bumper
31. Cover
32. Rubber spacer
33. Centering ring
34. Headlight bracket
36. Couplings
37. Spring
38. Inner fork tube
39. Felt washer
40. Felt scraper ring
41. Sealer shell
42. Rubber collar
43. Upper bushing
44. Lower bushing
45. Piston
46. Piston ring
47. Spring bolt
48. Washer
49. Spring washer
50. Valve
51. Lower union
52. Nuts
53. Seal
54. Washer
55. Nut

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.

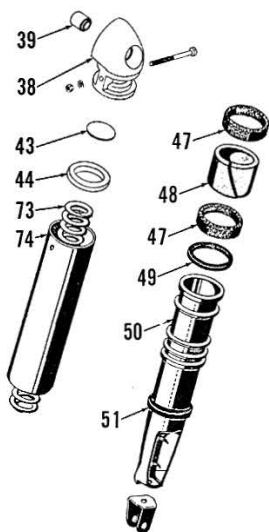


Fig. A1-9—Exploded view of suspension unit typical of type used on rear of Mo-Ped and Campus 50 and both front and rear of 60cc Motor Scooter.

39. Bushing
44. Bumper
47. Plastic guide bushings
48. Felt washer
50. Lower sliding tube
51. Stop ring
73. Spring
74. Upper sliding tube

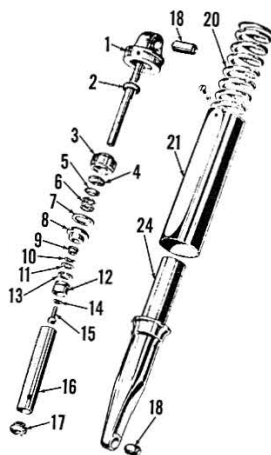


Fig. A1-10—Exploded view of rear suspension unit typical of Sport 60, Saber and Cheyenne.

2. Bumper
3. Sealing screw
4. Seal
5. Spring cup
6. Spring
7. Washer
8. Guide bushing
9. Spacer
10. Spring washer
11. Valve
12. Piston
13. Ring
14. Spring washer
15. Screw
16. Cylinder
17. End cap
18. Bushing
20. Spring
21. Cover

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 (26—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 (3—Fig. A1-10) loosened before servicing cylinder.

REPAIRS

PISTON, RINGS AND CYLINDER.

The piston can be removed after first removing cowlings, 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.

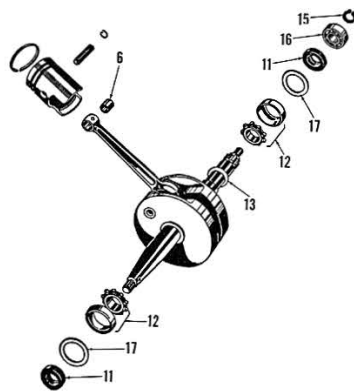


Fig. A1-12—Crankshaft, bearings and piston typical of all models. Crankshaft and connecting rod are available only as a complete unit.

6. Piston pin bushing
11. Seals
12. Bearings
13. Shim (0.05, 0.1 & 0.2 MM)
15. Snap ring
16. Bearing
17. Washer

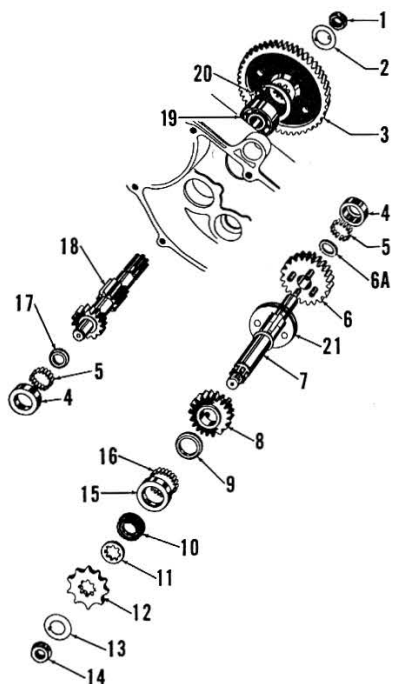


Fig. A1-13—Exploded view of two speed transmission.

1. Nut
2. Lock plate
3. Driven gear
4. Bearing race
5. Bearing rollers (14 for each race)
6. First speed gear
- 6A. Spacer (1.6, 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

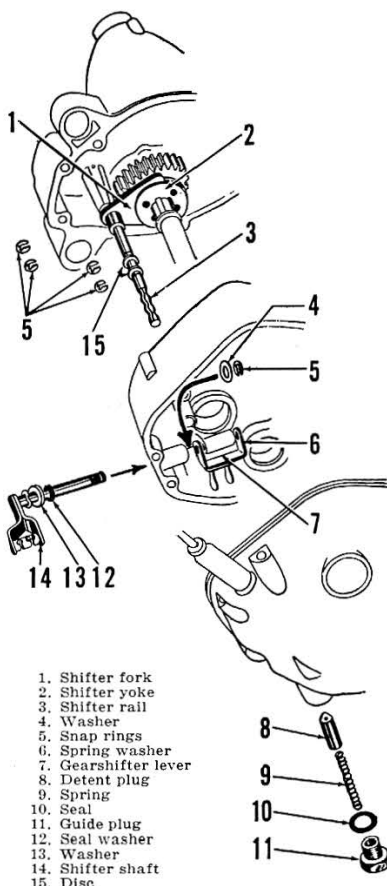


Fig. A1-15—View of Mo-Ped two speed gear shift mechanism.

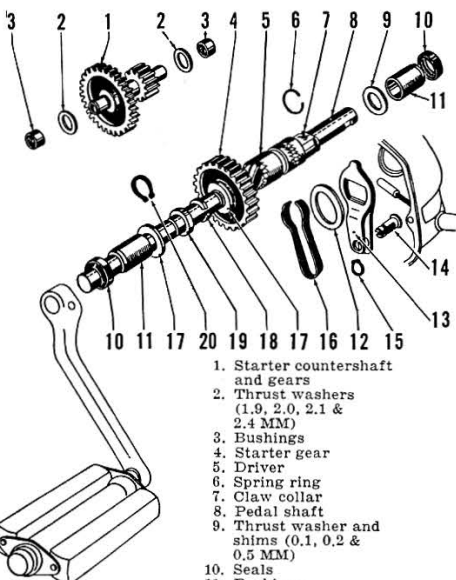


Fig. A1-14 — View of Mo-Ped starting and pedaling assembly.

1. Starter countershaft and gears
2. Thrust washers (1.9, 2.0, 2.1 & 2.4 MM)
3. Bushings
4. Starter gear
5. Driver
6. Spring ring
7. Claw collar
8. Pedal shaft
9. Thrust washer and shims (0.1, 0.2 & 0.5 MM)
10. Seals
11. Bushings
12. Washer
13. Brake lever
14. Clevis
15. Snap ring
16. Driver brake spring
17. Thrust washer
18. Snap ring
19. Catch ring
20. Snap ring

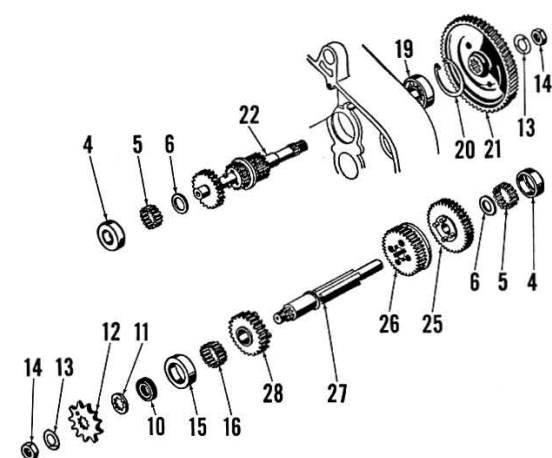


Fig. A1-16—Exploded view of typical three speed transmission.

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 plates
14. Nuts
15. Bearing race
16. Bearing rollers (18 used)
19. Snap ring
20. Driven gear
21. First speed gear
22. Input shaft and gears
25. Second speed gear
26. Output shaft
27. Third speed gear
28. Third speed gear

CONNECTING ROD AND CRANK-SHAFT. 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 cowl, 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.

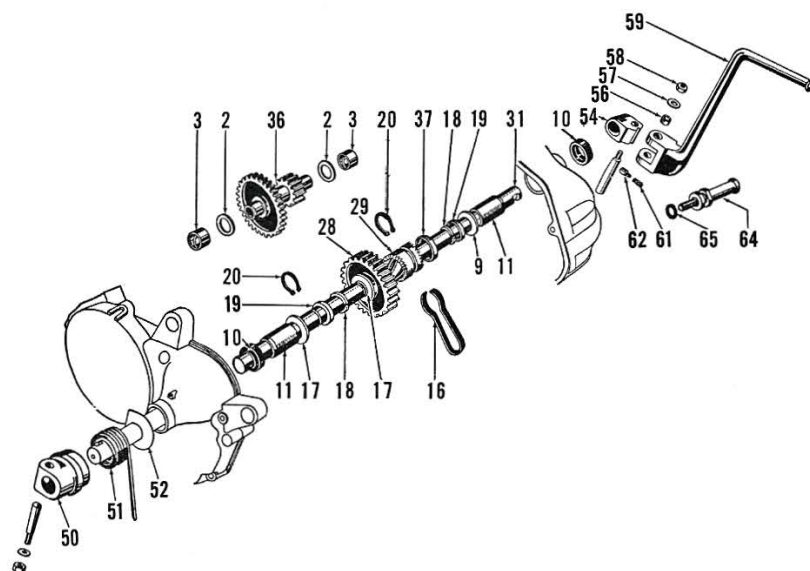


Fig. A1-17—View of starter assembly typical of all models except Mo-Ped.

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|---|-------------------------|-------------------|--------------------------|-------------------|
| 2. Thrust washers
(1.9, 2.0, 2.1 and 2.4 MM) | 10. Oil seal | 19. Catch ring | 36. Starter countershaft | 59. Starter crank |
| 3. Bushings | 11. Bushing | 20. Snap ring | 37. Driver cap | 61. Spring |
| 9. Thrust washer and shims
(0.1, 0.2 and 0.5 MM) | 16. Driver brake spring | 28. Starter gear | 50. Spring hub | 62. Detent pin |
| | 17. Thrust washer | 29. Driver | 51. Return spring | 64. Stop |
| | 18. Snap ring | 31. Starter shaft | 52. Washer | 65. Seal |
| | | | 54. Hub | |

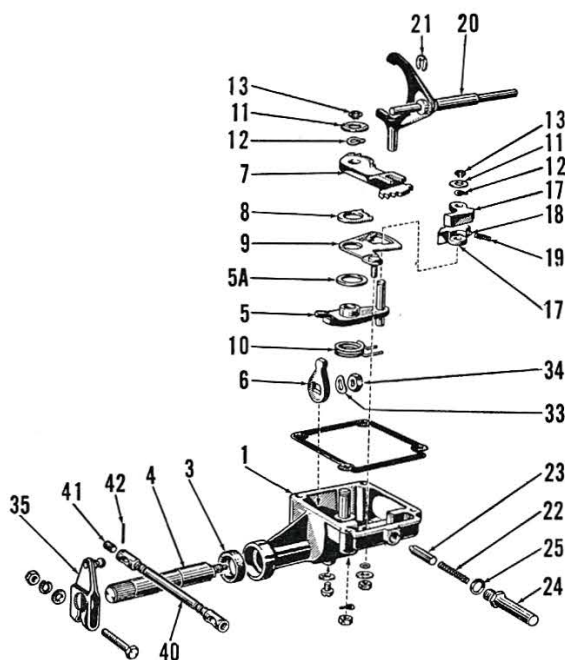


Fig. A1-18—Exploded view of shifter mechanism used on three speed transmissions.

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|--------------------|---------------------|--------------------------|
| 1. Housing | 9. Support plate | 20. Shift fork |
| 3. Oil seal | 10. Selector spring | 21. Snap ring |
| 4. Selector shaft | 11. Washer | 22. Spring |
| 5. Gearshift lever | 12. Spring washer | 23. Detent |
| 5A. Thrust washer | 13. Snap-ring | 24. Guide plug |
| 6. Lever | 17. Shifter dog | 25. Seal |
| 7. Ratchet | 18. Pin | 35. Exterior shift lever |
| 8. Lifting plate | 19. Spring | 40. Control rod |