ALLSTATE

ALLSTATE 175 AND 250CC

MODEL	175	250
Displacement—cc	172	248
Bore—MM	42	45
Stroke—MM	62	78
Number of cylinders*	2	2
Oil-Fuel ratio	1 to 24	oil pump
Plug gap—inch	0.020-0.025	0.024-0.028
Point gap—inch	0.016	0.016
Ignition timing—Advance	Fixed	Fixed
Inch BTDC	0.216	0.266
Electrical system voltage	6	6
Battery terminal grounded	Negative	Negative
Tire size	3.25 x 16	3.50 x 16
Tire pressure psi-front	20	14.5
Rear**	25	20
Chain free play-inch	25/32	25/32
Number of speeds	4	4
Weight—Lbs. (Approx.)	247	309

*One combustion chamber

**Increase rear tire pressure to 28 psi on 175cc models; 29 psi on 250cc models when carrying passengers

MAINTENANCE

SPARK PLUG. One spark plug is used on 175cc models, two spark plugs are used on 250cc models. Allstate 60400 or Champion L10 spark plugs should be used for all models. Electrode gap should be 0.020-0.025 inch for 175cc models, 0.024-0.028 inch for 250cc models.

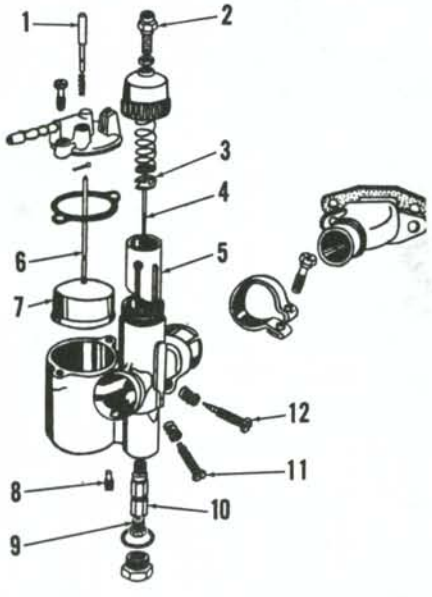

Fig. A3-1–Exploded view of Fisher-Amal carburetor used on 175cc models.

1. Primer
2. Cable adjuster
3. Clip
4. Valve needle
5. Throttle slide
6. Fuel inlet needle
7. Float
8. Idle jet
9. Main jet
10. Needle jet
11. Idle speed screw
12. Idle mixture needle

CARBURETOR. Fisher-Amal 24 E 1 A carburetor (Fig. A3-1) is used on 175cc models. Puch P32/1 carburetor (Fig. A3-2) is used on 250cc models. Refer to the following for carburetor normal settings.

175cc

Refer to Fig. A3-1

Main jet (9) 150
Idle Jet (8) ..... 0.0138-0.014 in.
Needle Jet (10) 2.8

Clip (3) should be in third groove from top of needle (4). Initial setting for idle mixture needle (12) is ½-1 turn open.

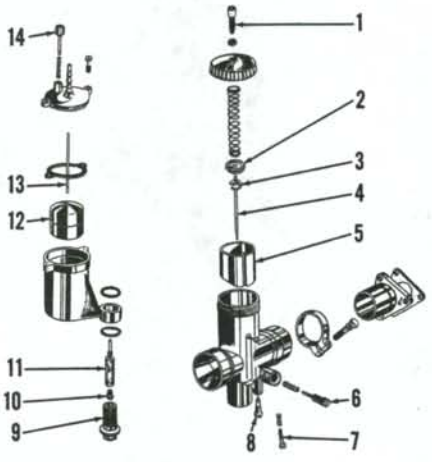

Fig. A3-2–Exploded view of Puch carburetor used on 250cc models.

1. Cable adjuster
2. Clip cover
3. Clip
4. Valve needle
5. Throttle slide
6. Idle mixture needle
7. Idle speed screw
8. Idle jet
9. Float screw
10. Main jet
11. Needle valve
12. Float
13. Fuel inlet valve
14. Primer

250cc

Refer to Fig. A3-2

Main jet (10)—summer 145
Winter 140
Idle jet (8) 35

Clip (3) should be in fourth groove from top of needle (4). Initial setting for idle mixture needle (6) is ½-1 turn open.

On all models, turning the idle mixture needle (12—Fig. A3-1 or 6—A3-2) counter-clockwise leans the mixture.

IGNITION AND ELECTRICAL. All models are equipped with battery ignition system. The generator armature is mounted on the right end of the crankshaft and voltage is controlled by regulator mounted on the stator plate. Ignition breaker point gap should be 0.016 inch. Ignition timing should occur (breaker points just open) when the rear piston is 0.216 inch BTDC on 175cc models; 0.266 inch BTDC on 250cc models. The piston can be correctly positioned by inserting 6MM (15/64-inch) diameter rod through hole in crankcase and into hole in crankshaft as shown at (5—Fig. A3-3). If timing is incorrect, loosen the armature retaining screw and move the

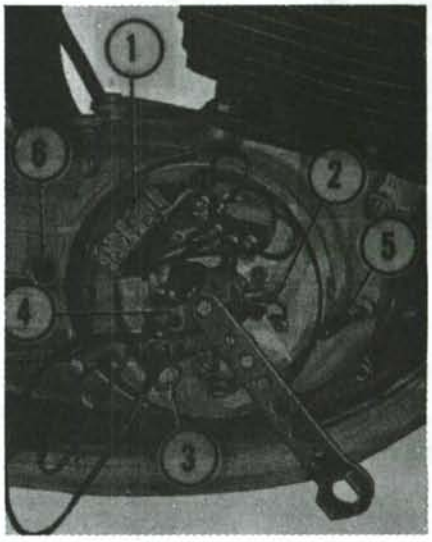

Fig. A3-3–View of right side with cover removed. Refer to text for adjusting the ignition timing.

1. Voltage regulator
2. Generator brushes
3. Light (used for timing)
4. Breaker points
5. Timing pin
6. Clutch adjusting screw

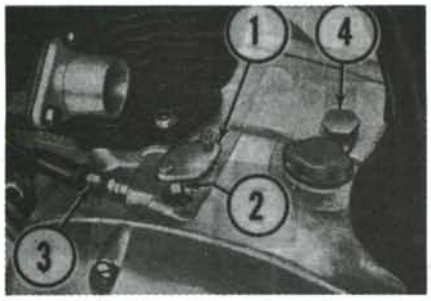

Fig. A3-4–The oil pump used on 250cc models must be adjusted as described in text.

1. Cover 2. Adjusting marks 3. Cable adjuster

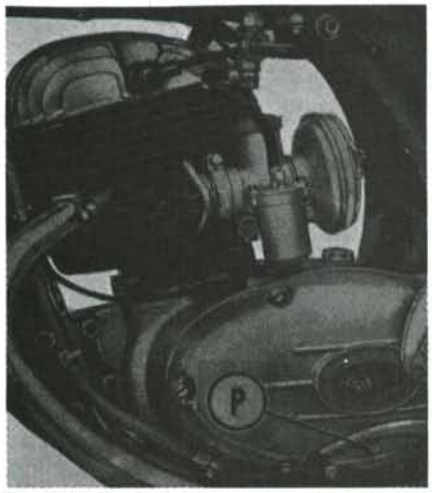

Fig. A3-5–Gear box oil level should be maintained at level of plug hole (P) on 250cc models.

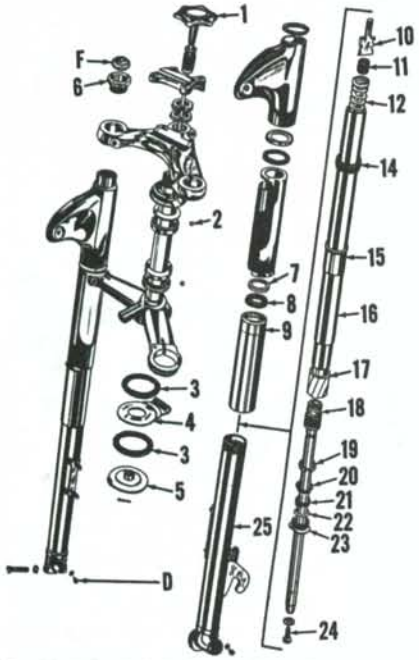

Fig. A3-6–Exploded view of front fork typical of all 175 and 250cc models.

D. Drain plug
F. Filler plug
1. Friction knob
2. Bearing balls (36 used)
3. Friction discs
4. Friction (damper) arm
5. Pressure plate
6. Top plug
7. Felt washer
8. Rubber washer
9. Union nut
10. Spring retainer
11. Rubber plug
12. Spring
14. Rubber (bumper) ring
15. Bushing
16. Tube
17. Bushing
18. Spring support tube
19. Snap ring
20. Valve stop
21. Damper Spring
22. Ring valve
23. Bottom joint
24. Screw
25. Lower tube

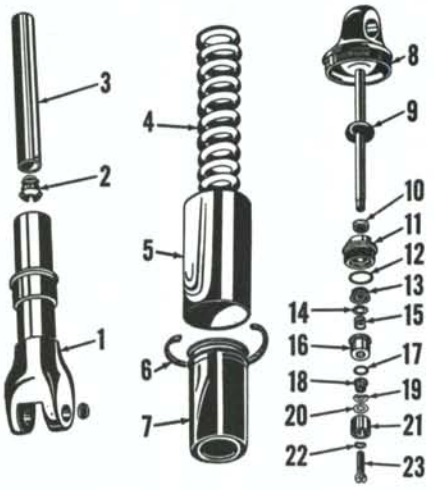

Fig. A3-7–Exploded view of rear suspension unit.

1. Lower strut
2. Bottom bushing
3. Damper cylinder
4. Spring
5. Cover
6. Seal
7. Cover
8. Top strut
9. Bumper
10. Felt ring
11. Nut
12. Rubber ring
13. Ring sleeve
14. Compression washer
15. Spring
16. Guide sleeve
17. Rubber stop ring
18. Spacer
19. Wave washer
20. Ring valve
21. Damper piston
22. Spring washer
23. Nozzle screw

armature (and breaker cam) on the crankshaft as necessary.

The voltage regulator (1) should be adjusted to 7.5-7.7 volts with engine running at 2000 rpm. Voltage adjusting screw on regulator is marked with red paint.

LUBRICATION. The engine on 175cc models is lubricated by mixing SAE 40 or 50, two-stroke oil with the gasoline. Oil to fuel ratio should be 1:16 for the first 200 miles; 1:24 after the break-in period.

The engine used on 250cc models is equipped with a separate oil tank and oil pump. The pump varies the amount of oil delivered to the engine for proper lubrication. For the first 1250 miles, oil should be mixed with the fuel in addition to the oil delivered by the pump. Oil to gasoline ratio should be 1:50 during break-in. Oil mixed with the fuel (during break-in) and in the separate oil tank should be SAE 40 or 50 (SAE 30 in winter) two-stroke motor oil.

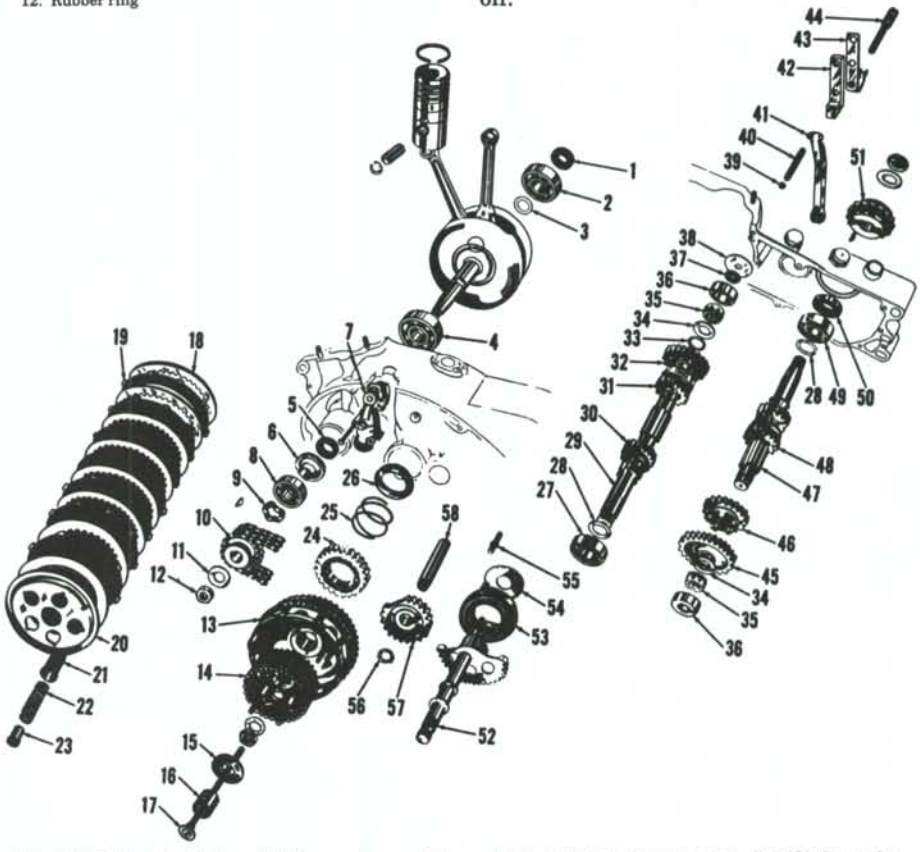

Fig. A3-10–Exploded view of 250cc engine and transmission. Other models are similar. Shift mechanism is shown in Fig. A3-11.

1. Seal
2. Roller bearing
3. Shim
4. Ball bearing
5. Seal
6. Pump drive gear
7. Oil pump
8. Ball bearing
9. Spring washer
10. Sprocket
11. Lock washer
12. Nut
13. Clutch drum
14. Clutch hub
15. Thrust collar
16. Bushing
17. Push rod
18. Driven plate
19. Friction disc
20. Pressure plate
21. Spring cup
22. Spring
23. Adjusting nut
24. Kick starter ratchet gear
25. Spring
26. Spring seat
27. Ball bearing
28. Shim
29. Input shaft
30. Gear (2nd)
31. Gear (3rd)
32. Gear (4th)
33. Shim
34. Thrust washer
35. Roller bearing
36. Outer race
37. Rubber seal washer
38. Plate
39. Ball
40. Clutch release rod
41. Release arm
42. Plate
43. Spring
44. Adjuster screw
45. Gear (1st)
46. Gear (2nd)
47. Output shaft
48. Gear (3rd)
49. Bearing
50. Seal
51. Output sprocket
52. Kickstarter
53. Recoil spring
54. Disc
55. Anchor pin
56. Snap ring
57. Idler gear
58. Idler shaft

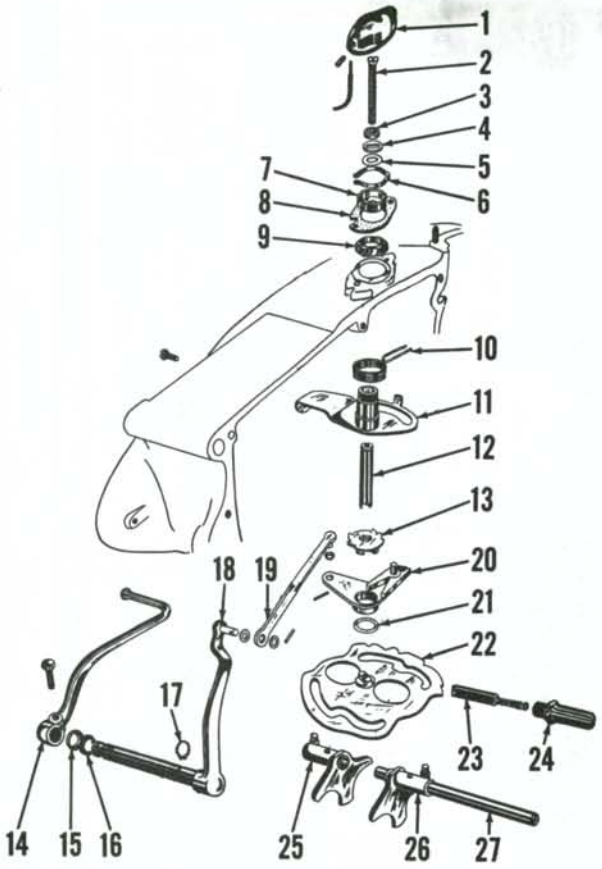

Fig. A3-11–View of gear shift mechanism used on 250cc models. Other models are similar.

1. Switch housing
2. Screw
3. Intermediate disc
4. Disc
5. Shim
6. Contact spring
7. Spring housing
8. Gasket
9. Nut
10. Spring
11. Support plate
12. Guide
13. Ratchet wheel
14. Shift pedal
15. Cup washer
16. Rubber washer
17. Snap ring
18. Inner shift lever
19. Shift rod
20. Shift lever
21. Shim
22. Shift plate
23. Detent & spring
25. Shift fork (1st & 2nd)
26. Shift fork (3rd & 4th)
27. Shift rail

To adjust the oil pump metering system, remove the small cover (1—Fig. A3-4). Twist throttle grip to full open and check to make certain that carburetor throttle slide is completely up. When the carburetor throttle slide is completely open, the white mark on pump lever should be aligned with the red mark on crankcase as shown at (2). Adjustment is accomplished at cable adjuster (3). It may be necessary to adjust throttle cable if slide is not completely open. Oil consumption should be approximately 1 pint every 150-175 miles.

To remove the engine lubricating pump, it is necessary to first remove the clutch. When reinstalling, turn the gear on pump until plunger is at top of stroke and mount pump assembly. The pump should be positioned so that backlash between worm gear teeth and pump gear teeth is 0.005-0.007 inch when the pump gear is at top of stroke. After installation, make certain that pump operates freely. The pump is available as an assembly.

On all models, the clutch and transmission is lubricated by 1½ pints of SAE 40 (SAE 30 in winter) motor oil contained in the gear case. Oil should be drained and flushed after the first 600 miles and every 8,000 miles. Oil level should be maintained between marks on filler plug dipstick on 175cc models, or at level of plug (P—Fig. A3-5) on 250cc models.

CLUTCH. The clutch should have less than ½-inch free play as measured at end of hand lever. If free play is excessive, adjust the cable. If adjustment can not be accomplished at cable adjusters on 250cc models, additional adjustment is available at screw (6—Fig. A3-3). Lock plate on screw (6) prevents fine adjustment and screw must be turned at least 1/6-turn. Final adjustment should be accomplished at cable.

SUSPENSION. The front fork is shown in Fig. A3-6. Oil should be drained from plug (D) every 4,000 miles. Refill at upper plug (F) with 80cc (1/6 pint) of SAE 40 (SAE 30 in winter) motor oil. Bushings (15 & 17) should have less than 0.039 (inch) diametral clearance.

The rear suspension units can be disassembled after unscrewing nut (11—Fig. A3-7). The damper cylinders (3) should contain 71cc of SAE 40 motor oil.

REPAIRS

PISTONS, RINGS AND CYLINDERS. Cylinders and pistons can be removed after engine assembly is removed from frame. Make certain that pistons are marked before removal so that pistons will be installed in same position. Ring side clearance in grooves should not exceed 0.006 inch. Ring end gap should be within limits of 0.004-0.0315 inch. Standard cylinder bore diameter is 42MM (1.65 inch) for 175cc models, 45MM (1.77 inch) for 250cc models. Pistons and rings are available in standard size and two oversizes. When assembling, make certain that ends of rings correctly engage the pins in grooves.

CONNECTING ROD AND CRANKSHAFT. The crankshaft is supported in two ball and one roller 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 (3—Fig. A3-10).

CRANKCASE AND GEAR BOX. To disassemble the crankcase and gear box, the engine must first be removed. Remove the cylinder head, cylinders, pistons, clutch, primary drive chain and primary drive sprocket. Remove the complete generator assembly from right end of crankshaft and the oil pump from left side of crankcase (on 250cc models). 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.

When reassembling, check the free play in primary chain. If free play exceeds 0.276 inch, renew the primary chain.