CARBURETOR REPAIR KIT

GENERAL

This kit contains parts for rebuilding the Keihin carburetor used on 1976 to 1989 models, except models with CV carburetor.

NOTE

There are three (3) float bowl O-rings included in this kit. See Figure 2 for correct fitment of O-rings.

Kit Contents

Table 1. Kit Contents

Quantity	Description
1	Needle, 4-sided
1	Plug, rubber (not used on 1976 models)
1	O-ring, throat (1976-78 only)
1	O-ring, float bowl, 1976-early 1978
1	Boot, accelerator pump
1	O-ring, nozzle
1	Accelerator pump
1	Spring, accelerator
1	O-ring, float bowl, late 1978-1983
1	O-ring, float bowl, 1984-1989
1	O-ring
2	O-ring
2	Gasket (1979 and later)
1	Gasket

⚠ WARNING

Gasoline is extremely flammable and highly explosive. Keep gasoline away from ignition sources which could result in death or serious injury. See the Safety chapter. (00635c)

REMOVAL

1. Remove the air cleaner and backplate following instructions in appropriate service manual.

NOTE

For 1986 to 1989 models only: Loosen backplate-to-carburetor screws a few turns at a time while pulling backplate away from carburetor to prevent screws from engaging threads in backplate inserts. If screws engage insert threads, the inserts may be pulled out of backplate.

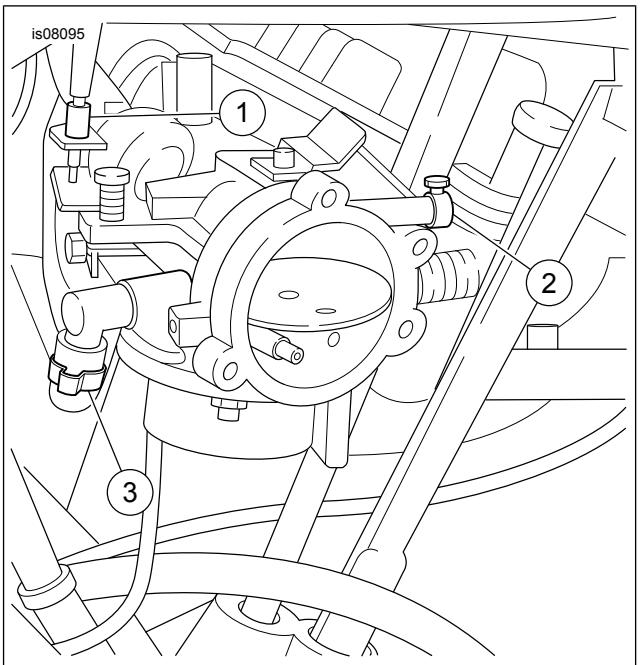
2. See Figure 1. Turn fuel valve off. Disconnect fuel hose, throttle cable and choke cable from carburetor.
3. Remove two locknuts and lockwashers that fasten the carburetor to the manifold.

Disassembly - Accelerator

1. See Figure 2. Remove three screws and washers (34 and 35), accelerator pump housing (33), spring (32), diaphragm (31). Remove the O-ring (30) from the housing (33).

Disassembly - Float Chamber

1. Remove three screws and washers (34) and float bowl (29).
2. Remove O-rings (9, 30 and 28) from float bowl (29).
3. Loosen screw (6), pin (5) and float (23).
4. Remove inlet valve (21) and clip (22) from float (23).
5. Remove rubber boot (8) from float bowl (29) and remove accelerator pump rod (7) from rocket arm (44).



1. Throttle cable
2. Choke cable
3. Fuel hose

Figure 1. Removing Carburetor

Disassembly - Carburetor Body

1. Remove plug (27) and unscrew the low speed jet (25). Main jet (26) can be threaded out.
2. Remove low speed mixture screw (12) and spring (13) (1976-78 only).

Cleaning, Inspection and Repair

1. Blow any dirt out of the accelerating pump passage. Blow from the side opposite the nozzle to prevent the check valve inside the bowl from closing.
2. Clean all dirt from inlet valve and valve seat.
3. Replace the float if it is cracked or damaged.

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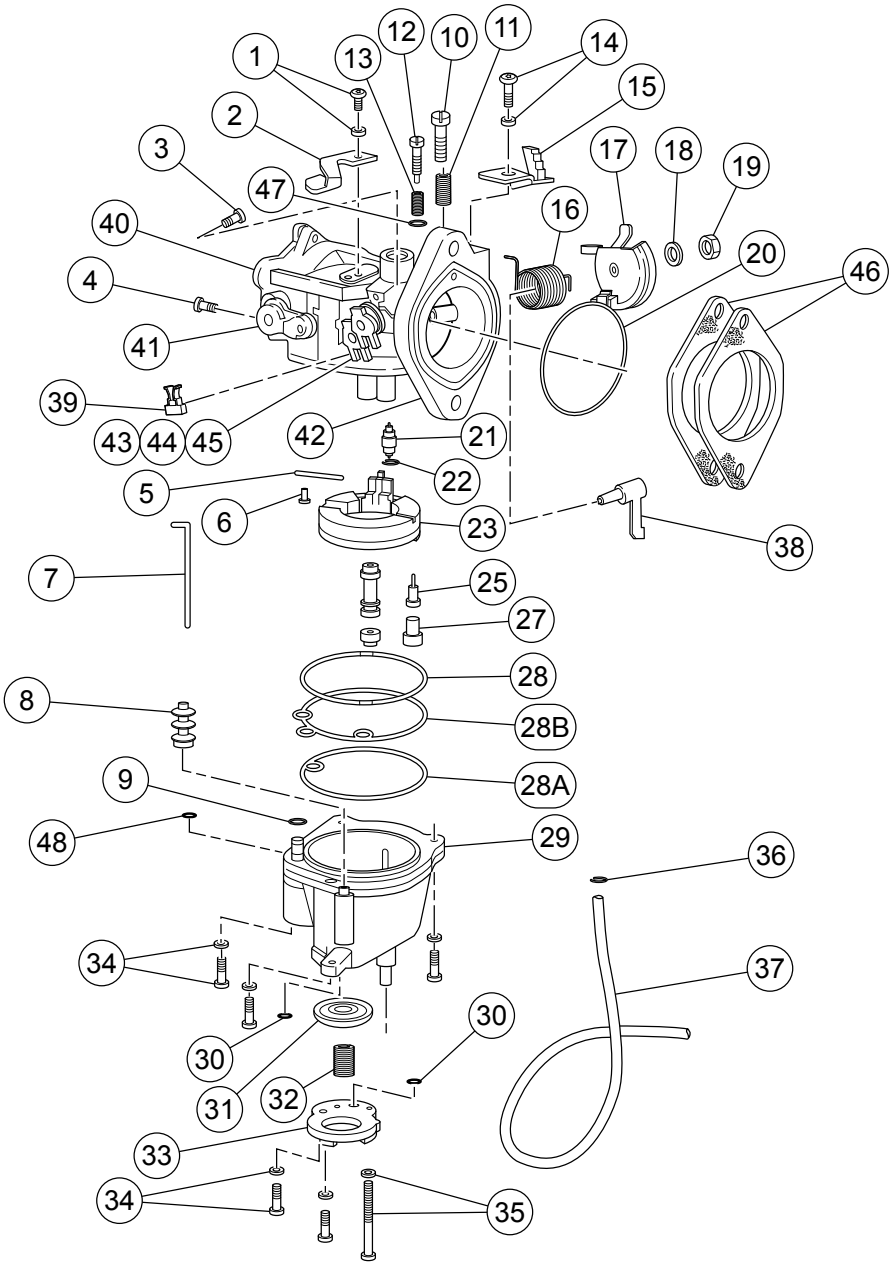

1. Screw and washer
2. Bracket
3. Screw
4. Screw
5. Pin, float
6. Screw
7. Rod
8. Boot
9. O-ring
10. Screw, throttle stop
11. Spring
12. Screw, low speed mixture
13. Spring
14. Screw and washer
15. Bracket
16. Spring
17. Lever, throttle
18. Washer
19. Nut
20. O-ring
21. Needle
22. Clip
23. Float assembly
24. Nozzle, main
25. Jet, slow
26. Jet, main
27. Plug
28. O-ring, 1976-Early 1978, Late 1978-1983, 1984-1989
29. Float bowl
30. O-ring (2)
31. Diaphragm
32. Spring
33. Housing
34. Screw and washer (5)
35. Screw and washer
36. Clip
37. Hose
38. Fitting
39. Spacer (not standard)
40. Plate, choke (not shown)
41. Lever, choke
42. Flange, mounting
43. Lever, accelerator pump
44. Rocker arm
45. Spring, rocker arm
46. Gasket, Late 1978 and later
47. O-ring, 1976 - Early 1978
48. O-ring, Late 1978 - 1983

Figure 2. Keihin Carburetor

4. Clean fuel lines and air filter.

NOTE

Never scrape carbon deposits from the carburetor using steel instruments. Do not use wire or drills to clean passages. Any one of these things can change the size of the passage holes or alter the carburetor. Do not use carburetor cleaner on rubber or plastic parts.

5. Clean the carburetor body in a cleaning solvent to remove varnish and carbon from the fuel and air passages. Blow dry with compressed air. Reverse the air flow through all passages to remove all dirt particles.

Assembly - Carburetor Body

1. See Figure 2. Install the low speed jet (25), plug (27), main jet (26), spring (13) and low speed mixture screw (12).

Assembly - Float Chamber

1. Install a new rubber boot (8) on the float bowl (29) and install the accelerator pump rod (7) on the rocket arm (44).

NOTE

With adjusting screw backed, the rod (7) should extend into pump well from bottom surface no more than 0.040 inches. If it projects too far, disassemble and grind off the excess amount from the straight side.

2. Install the inlet valve (21) and clip (22) on the float (23). Secure the float (23) to the carburetor using pin (5) and screw (6).
3. See Figure 3. Place carburetor on a flat, clean surface on engine manifold side. This is the "base". Tilt carburetor counterclockwise 15" to 20" from base until float comes to rest.

NOTE

If carburetor is tilter less than 15" or more than 20", your measurement will be incorrect.

4. Use a vernier or dial caliper depth gauge to measure from the carburetor flange face to the perimeter of the float. Be careful not to push on float while measuring.
5. Check measurement for accuracy. Measurement should be 0.630 to 0.670 in. If measurement is not within given dimension, carefully bend tab to position float at proper level.
6. Install new O-rings, as applicable, on float bowl. Secure float bowl to the carburetor body using three screws and washers (34).

Assembly - Accelerator Pump

1. Install new diaphragm (31), spring (32), O-ring (30) and original housing (33). Secure with three screws (34 and 35).

Installation

1. Fasten the carburetor and new O-ring (20) (1976-1987) or gaskets (46) (Late-1978 and later) to intake manifold using the original lockwashers and nuts. Tighten nuts alternately to 19 ft-lbs torque.
2. See Figure 1. Connect the fuel hose, throttle cable and choke cable to the carburetor.

NOTE

Install new fuel hose clamp to verify the hose is securely fastened to carburetor fuel inlet nipple.

3. Check throttle control and choke cables for binding and proper operation. Refer to the latest applicable service manual for cable adjustment.
4. Run the float bowl vent line down between the engine and transmission.
5. Install the air cleaner and backing plate. Tighten the screws to 75-80 in-lbs and bolts to 10-15 ft-lbs torque.

NOTE

For 1986 to 1989 models only: tighten backplate-to-carburetor screws a few turns at a time while pushing backplate toward carburetor.

Carburetor Adjustment - 1976-78 Only

1. See Figure 2. Adjust carburetor as follows. Turn low speed mixture screw (12) all the way in (clockwise) until it is just seated. Do not overtighten. Back out 1-1/2 turns. With screw in this position, the engine will start but the mixture will be too rich.

NOTE

The low speed mixture screw is turned in (clockwise) to make the mixture leaner and out (counterclockwise) to make mixture richer. Screw is held in set position by spring (13).

2. Adjust throttle stop screw (10) to make engine idle at desired speed with throttle closed. Turning screw clockwise opens throttle plate for faster idle. Never set idle adjustment to slowest possible speed. An extremely slow idle causes bearing wear, oil consumption and slow speed accelerating difficulties. Recommended idle speed is 700 to 900 RPM.
3. Make final readjustment on low speed mixture screw 912) after engine is at normal operating temperature. First turn screw in, then out, to see if engine picks up speed or runs more smoothly. Starting and all-around performance will be better with mixture adjustment set slightly richer than leaner. If necessary, make further adjustment on throttle stop screw (10) to obtain correct engine idling speed. During high speed operation, fuel is metered by a main jet (26). Operating conditions, such as high altitudes or hard service, may require a different size main jet other than the standard size. See applicable Parts Catalog or your Harley-Davidson dealer.

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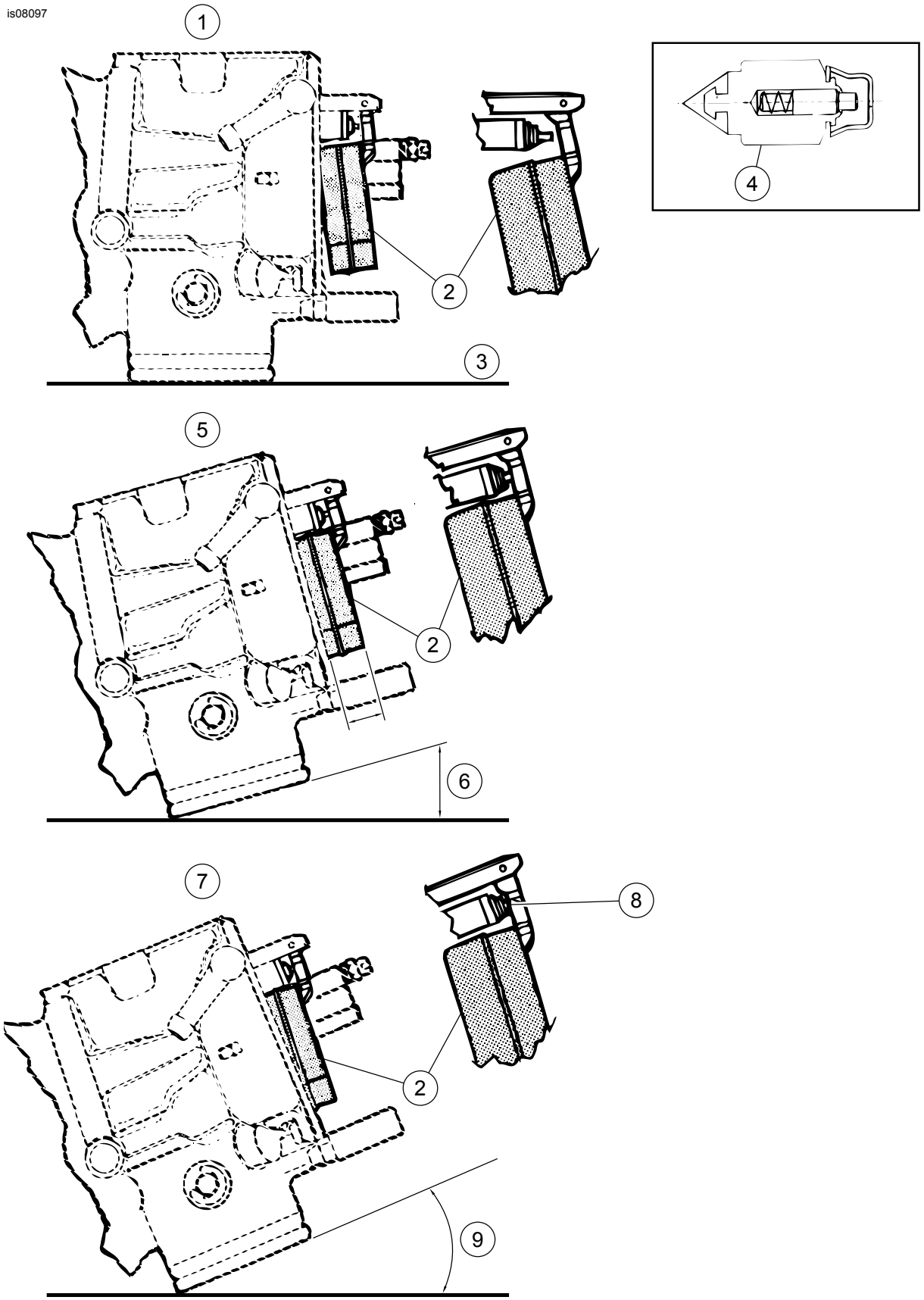

1. **Start float position**
2. **Float**
3. **BASE**
4. **Needle valve**
5. **Correct float position**
6. **15°-20°**
7. **Incorrect float position**
8. **Pin return spring collapsed**
9. **Greater than 20°**

Figure 3. Float Adjustment - Pre-CV Carburetor (1976-1989)