



INSTRUCTIONS

-J02362

REV. 7-12-04

Kit Number 28040-02

SCREAMIN' EAGLE® 45 mm FLATSLIDE CARB KIT

General

This kit is designed for use on 1990 and later 1340 Evolution engines and 1999 and later Twin Cam 88 engines. One of the listed SCREAMIN' EAGLE air cleaner kits must be used with this carburetor. See "Additional Kits Required" for Part Number.

Part No. 28041-02- 45mm Kit, Tuner, race

Part No. 29565-98- Carburetor Rebuild Kit for SCREAMIN' EAGLE flatslide carb kits

NOTE

This kit will not fit cruise control equipped vehicles.

Additional Kits Required

One of the following Screamin' Eagle Intake Manifold Kits

1340 Evolution Engines-Part Number 29636-99

Twin Cam 88 Engines-Part Number 29635-99

One of the following Screamin' Eagle Air Cleaner Kits:

1990-1992 1340 Evolution-Part Number 29008-90A

1993 and later 1340 Evolution-Part Number 29543-99A

1999 and later Twin Cam 88-Part Number-29440-99A

Kit Contents

See Service Parts Illustration on page 6 and list on page 7 for kit contents.

Stock Carburetor Configuration

Accelerator Pump Nozzle: 70 Not Available Separately

Jet Needle (Clip Position 3): 97 Part Number 27923-98

Pilot Jet: 25 Part Number 27903-98

Main Jet: 170 Part Number 27916-98

WARNING

The rider's safety depends upon the correct installation of this kit. Use the appropriate service manual procedures. If the procedure is not within your capabilities or you do not have the correct tools, have a Harley-Davidson dealer perform the installation. Improper installation of this kit could result in death or serious injury. (00333a)

NOTE

Service Manuals are available from your Harley-Davidson Dealer.

CAUTION

Harley-Davidson motorcycles equipped with some Screamin' Eagle high-performance parts may not be used on public roads and in some cases must be restricted to closed course competition. This engine related performance part is intended for racing applications and is not legal for sale or use in California on pollution controlled motor vehicles. Engine related performance parts are intended for the experienced rider only.

WARNING

Use of this kit with air cleaner covers other than those recommended in the above listed kits could result in failure of element faceplate. The element in this kit is specifically designed for use with the original equipment cover used on the models specified. This kit may be used in conjunction with other H-D accessory covers provided that the appropriate adapter recommended in those kits is used. If the element faceplate fails, the air cleaner cover could detach, possibly distracting the rider and could result in death or serious injury.

Removal of Stock Air Cleaner, Throttle Cables and Carburetor (All Models)

WARNING

To prevent accidental vehicle start-up, which could cause death or serious injury, disconnect battery cables (negative (-) cable first) before proceeding. (00307a)

WARNING

Disconnect negative (-) battery cable first. If positive (+) cable should contact ground with negative (-) cable connected, the resulting sparks can cause a battery explosion, which could result in death or serious injury. (00049a)

1. Disconnect negative battery cable first followed by positive cable.

Manifold Installation

2. Remove stock air cleaner assembly including backplate.

WARNING

Gasoline can drain from the fuel line when disconnected from carburetor. Gasoline is extremely flammable and highly explosive, which could result in death or serious injury. Wipe up spilled fuel immediately and dispose of rags in a suitable manner. (00257a)

3. Turn fuel valve to OFF position. Disconnect fuel line at carb and drain any remaining gas into proper container. Remove fuel tank.
4. Disconnect the throttle cables at the carburetor.
5. Disconnect Vacuum Operated Electrical Switch (VOES), if present, and choke/enrichener cable. Remove carb.

NOTE

This carburetor is designed to work with stock throttle cables, so removal of existing stock cables is NOT required.

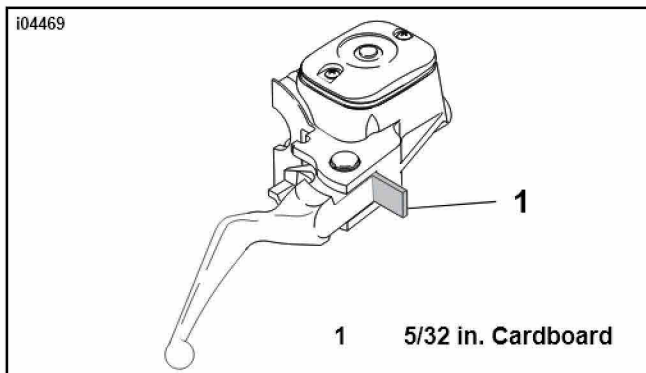


Figure 1. Install Cardboard insert (1996 and later)

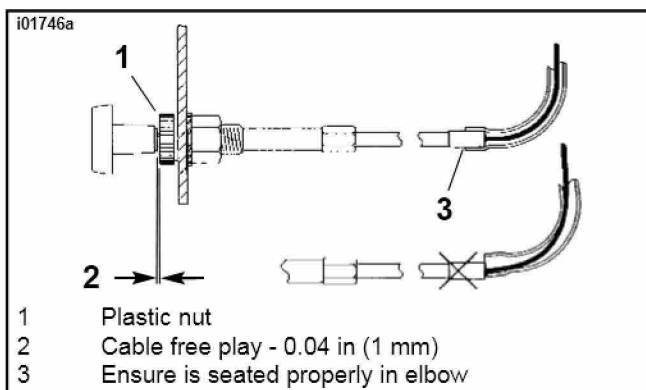


Figure 2. Proper Choke Cable Free Play

6. Refer to applicable Service Manual and remove stock intake manifold.

NOTE

In order for the Big Bore Carburetor to function properly, the stock manifold must be replaced with either of the Screamin' Eagle performance manifolds; Part Number 29635-99 for Twin Cam 88 or Part Number 29636-00 for 1340 Evolution engines.

7. Refer to Instruction Sheet -J01695 and install the applicable Performance Screamin' Eagle Intake Manifold Assembly.
8. When installing the Intake manifold, note that this kit (45mm) uses the Grey Rubber Seal Ring included in the manifold kit.

Starter System (Choke)

The carb in this kit uses stock choke cable and stock black plastic nut. Remove black plastic nut from kit carburetor and discard it. Remove spring and plunger from carburetor kit and install them on the stock choke cable and attach to kit carb. Discard stock choke spring and plunger. Do not over tighten the plastic nut. See Figure 2.

Carburetor Installation

NOTE

Unless otherwise indicated, the following installation procedures apply to both Evolution and Twin Cam 88 engines.

WARNING

When installing cables to the new carburetor make certain that cables are well lubricated and do not bind when handlebars are turned from lock to lock. Improperly installed throttle cables can affect vehicle operation which could result in death or serious injury.

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NOTE

If throttle cables require lubrication, refer to Figure 1 on 1996 and later models. Insert 5/32 in. cardboard as illustrated to prevent damage to brake switch boot.

NOTE

In the next step, on certain models, it may be necessary to remove the cable tie in order to achieve non-binding cable routing.

1. Refer to the Figures 3 and 4 and your applicable Service Manual to begin throttle cable installation. Start by connecting the idle cable then the throttle or opening cable.

NOTE

This kit contains a cable guide clamp that may be attached at one of the tapped holes on the right front of the frame. Also, cable straps are included in kit to secure throttle cables. Install clamp and cable straps after carburetor has been installed.

NOTE

Before inserting the carburetor into the stock manifold, check the condition of the rubber seal. If the seal is damaged, it must be replaced to prevent air leakage. The fit between the carburetor and the seal ring is tight. For ease of installation it is recommended that the mating surfaces, carburetor body and seal ring be lubricated prior to assembly to reduce surface friction. Use liquid dish soap or tire mounting lube for this purpose.

2. Insert the carburetor into the manifold. As the carb is being inserted, check that the choke cable is not being kinked.

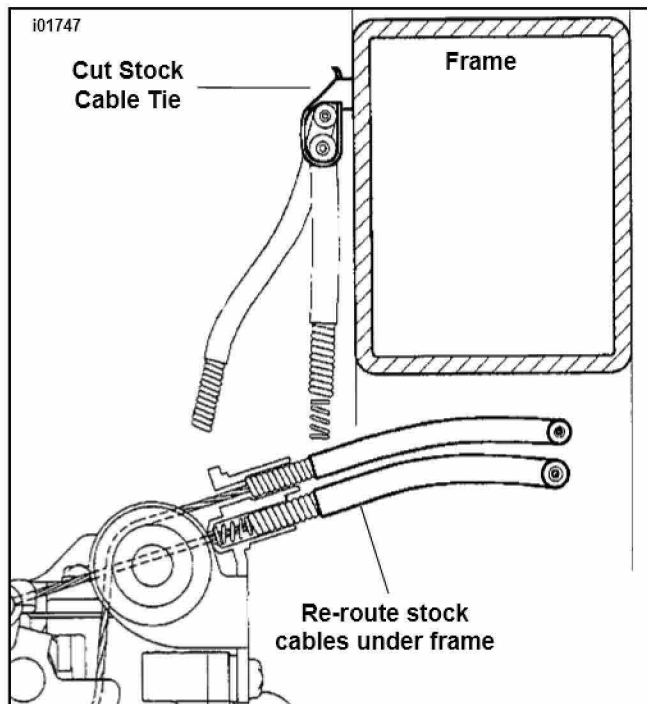
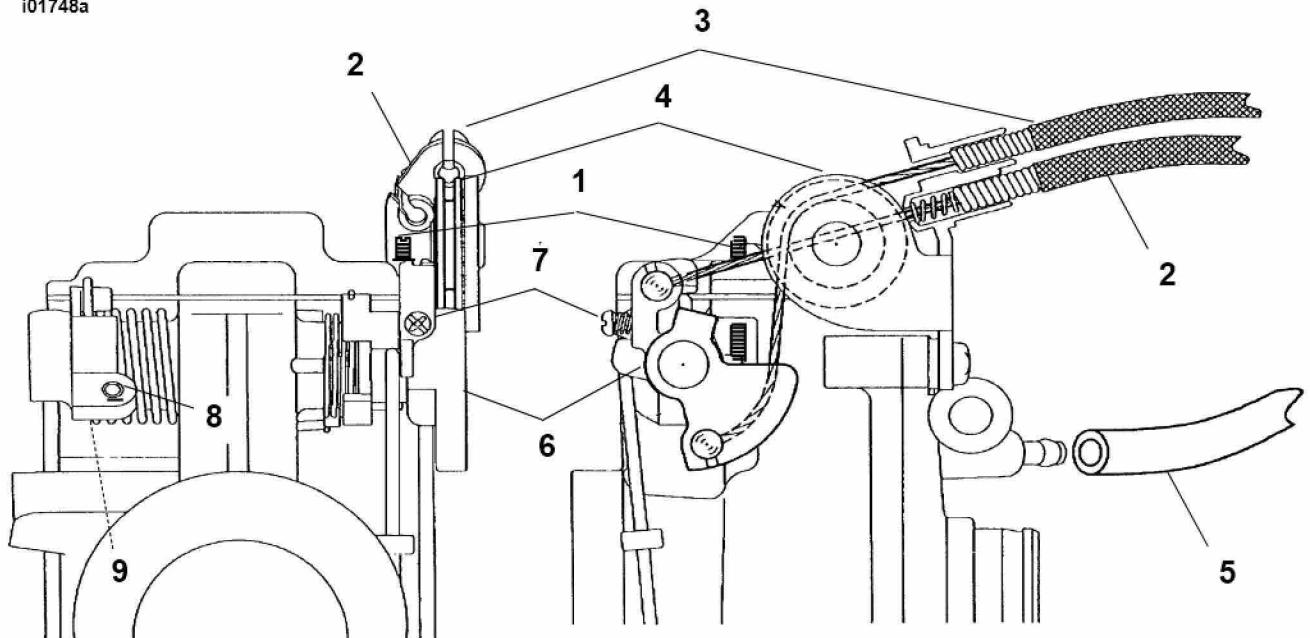


Figure 3. Throttle Cable routing under Frame



Item	Description	Item	Description
1	Accelerator pump adjusting screw (end of stroke)	6	Bell crank
2	Close cable	7	Accelerator pump adjusting screw (start of stroke)
3	Open cable	8	Lever stop screw
4	Idler pulley	9	Jam nut (hidden)
5	Vacuum fitting (V.O.E.S or fuel petcock)		

Figure 4. Front and Side View of Throttle Cable Routing (including VOES)

3. **Twin Cam Models**, See Figure 4. Remove manifold vacuum hose at petcock and replace with vacuum hose and heat shield supplied in kit. Trim hose and shield to length as required. Slip hose on carburetor fitting (below idle cable bracket).

EVO models, See Figure 4. Remove VOES/fuel petcock hose from T-Fitting and replace with vacuum hose and heat shield supplied in kit. Trim hose and shield to length as required. Slip hose on carburetor fitting (below idle cable bracket).

4. Slip the fuel hose onto the carburetor fuel nipple and secure with hose clamp from kit.
5. Route float bowl overflow hose behind rear cylinder push rod tubes and down between crankcase and transmission.

NOTE

Continue at "Attaching Adapter to Backplate-1340 Evolution Engine" for 1340 Evolution Engine or "Attaching Adapter to Backplate-Twin Cam 88 Engine" as applicable.

Attaching Adapter To Backplate-1340 Evolution Engine

CAUTION

In the next step, do not use the stock screws from backplate assembly. The screws are too long and will prevent O-ring sealing interface between adapter and carb.

1. Insert the large diameter O-ring into the adapter. Attach the adapter to the backplate with the screws from SCREAMIN' EAGLE air cleaner kit. Apply 1 or 2 drops of Loctite 243 (blue) on each of the screws.

CAUTION

Before attaching backplate to cylinder heads, check that carb is fully inserted into the manifold. If the carb is not fully seated, air leaks might result.

2. Refer to Instruction Sheet covering applicable SCREAMIN' EAGLE air cleaner kit and follow instructions given to install air cleaner assembly.

Attaching Adapter To Backplate-Twin Cam 88™ Engine

1. Insert the large diameter o-ring into the adapter. Attach the adapter to the SCREAMIN' EAGLE backplate with the three studs from air cleaner kit. The studs must be inserted through mounting holes in backplate and gasket on back side of backplate and finally threaded into adapter.

CAUTION

Before attaching backplate to cylinder heads, check that carb is fully inserted into the manifold. If the carb is not fully seated, air leaks might result.

2. Refer to Instruction Sheet covering one of the applicable SCREAMIN' EAGLE air cleaner kits and follow instructions given to install air cleaner assembly.

Throttle Cable Adjustment

Refer to Figure 4. Refer to the applicable Harley-Davidson Service Manual and adjust throttle cables following the instructions given. Adjust throttle cable so throttle valve (slide) opens fully. Lever stop screw should touch carb body at wide open throttle. To adjust lever stop screw, loosen jam nut and turn screw in (clockwise) or out (counterclockwise), respectively.

Starting

Pull choke out fully, leave throttle closed and crank engine with starter. Push choke knob in as engine warms up and engine runs smoothly.

Installing Carb Rebuild Kit (All Models)

See Carb Rebuild Kit Service Parts Illustration on page 6. Item numbers used in these procedures are the ones shown in the Service Parts Illustration.

CARB REMOVAL

WARNING

Gasoline can drain from the fuel line when disconnected from carburetor. Gasoline is extremely flammable and highly explosive, which could result in death or serious injury. Wipe up spilled fuel immediately and dispose of rags in a suitable manner. (00257a)

1. Turn the fuel supply valve off.
2. Disconnect the fuel line.
3. Remove the air cleaner and backplate.
4. Disconnect the throttle and idle control cables. Remove choke cable from its bracket.
5. Remove VOES/fuel petcock vacuum hose from the carburetor. Pull carburetor free of seal ring and manifold.

NEEDLE VALVE ASSEMBLY REPLACEMENT

1. See Carb Rebuild Kit Service Parts Illustration on page 6. Remove drain plug (77) and drain any gasoline into a suitable container.
2. Remove four screws (78) and remove float chamber body (74).

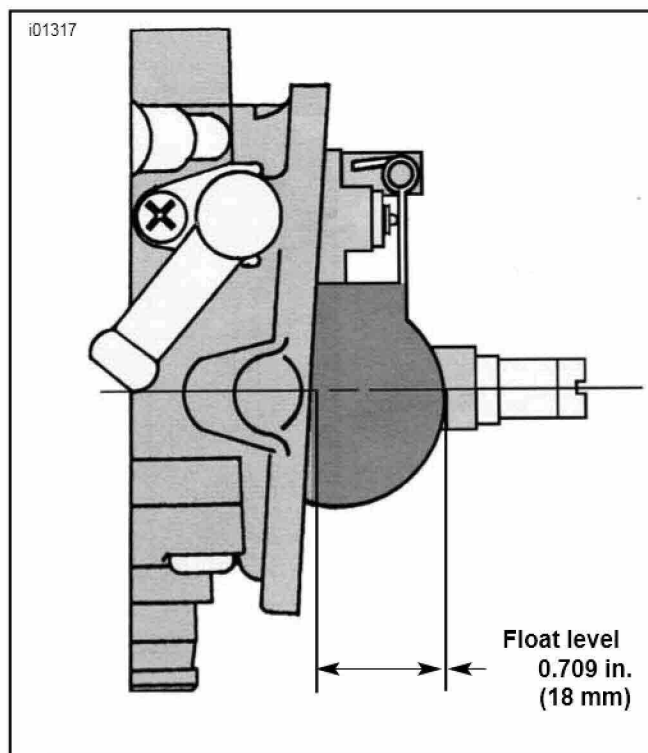


Figure 5. Checking Float Level

3. Remove float pin screw (72) and gently lift float assembly (70) and needle valve from needle valve assembly (69).
4. Remove needle valve retaining screw (68) and slide needle valve seat with O-ring from carb.

NOTE

Before installing needle valve assembly, clean all internal fuel/air passages and jets with carb cleaner. Check that all passages are open and free of obstruction.

5. Install needle valve assembly by reversing the removal procedure.
6. Before installing float chamber body (74), reach in bore of carburetor and with finger press accelerator pump nozzle (62) downward and remove. Replace O-ring (63) with new one from kit. Replace accelerator pump rod boot (80) with new one from kit.

NOTE

For best results, the accelerator pump nozzle should be pointed directly at the jet needle. The nozzle is held in place by the friction of an O-ring and can be turned easily with a pair of needle nosed pliers. Nozzle adjustment should be made with a minimum of pump strokes to avoid flooding the engine.

7. See Figure 5. Check float level with carb in position shown. The actuator tab should just begin to contact the needle valve assembly when the bottom of the float is 0.709 in. (18mm) from bottom surface of carb.
8. If adjustment is needed, adjust by bending the actuator tab.
9. Install new float bowl packing (73) in float chamber body (74). Align holes in float chamber body with pins on carb body and secure with four new screws (78) from kit.
10. Tighten screws to 18 in-lbs (2.0 Nm).

11. Install drain plug O-ring (76) on drain plug (77) and tighten plug to 73 in-lbs (8.2 Nm).

TOP COVER GASKET AND FUEL FITTING O-RINGS

1. See Carb Rebuild Kit Service Parts Illustration on page 6. Remove screws (1 & 2). Remove the top cover and replace top cover gasket (4) being careful to position gasket on alignment pins on carb body.
2. Install top cover and align holes in cover with alignment pins on carb body. Install and tighten screws (1 & 2).
3. Remove fuel fitting retainer screw (48) and retainer (47). Remove old O-rings from fitting and install new O-rings from kit. Reassemble retainer and retainer screw.

⚠ WARNING

Do not dis-assemble throttle lever linkage. Improper reassembly could lead to throttle linkage becoming loose or stuck which could result in death or serious injury.

NOTE

If you must remove the throttle shaft bolt (19), be certain that you:

- 1.) Apply a drop of Loctite 243 (blue) to the threads.
- 2.) Tighten the bolt to 18 in-lbs (2.0 Nm).
- 3.) Replace the tab washer (40) and bend it up until it is flush against one of the bolt head flats. It is not normally necessary to remove the bolt to change position of the jet needle.

RECOMMENDED TUNING PROCEDURES

This carburetor is tuned to run well on a majority of Harley-Davidson engine configurations however, if fine tuning is required for a particular engine configuration, follow the recommended tuning procedures.



Service Parts

Kit No. 28040-02 | Date 7/04
42/45 mm FLATSLIDE CARB KIT

Kit Number 28040-02

Item	Description	Qty	Part Number	Item	Description	Qty	Part Number
1	Carb assembly	1	Not sold	6	Hose clamp	3	Not sold
2	Adapter	1	27756-98	7	Cable holder	1	27753-98
3	O-Ring	1	27754-98	8	Cable straps	3	Not sold
4	Main jet #175	1	27918-98	9	Hose, vacuum	1	Not sold
5	Main jet #165	1	27914-98	10	Hose, heat shield	1	Not sold

Race/Tuner Kit 45mm-Part Number 28041-02

(NOTE: Components Not Included in Kit. Listed for Reference Only)

Item	Description/Qty	Part Number	Item	Description/Qty	Part Number
1	Jet, box	27767-98	9	Jet, needle 96	28037-02
2	Packing, float bowl (3)	27758-98	10	Jet, main (172.5)	27917-98
3	Screws, float bowl (4)	27763-98	11	Jet, main (177.5)	27919-98
4	O-ring, accel.pump nozzle	27764-98	12	Jet, main (180.0)	27920-98
5	Nozzle, accel.pump	27930-98	13	Jet, main (182.5)	28032-02
6	Jet, slow (20.0)	27901-98	14	Jet, main (167.5)	27915-98
7	Jet, slow (22.5)	27902-98	15	Packing (2)	Not sold
8	Jet, needle 98	28038-02	16	E-ring (2)	Not sold



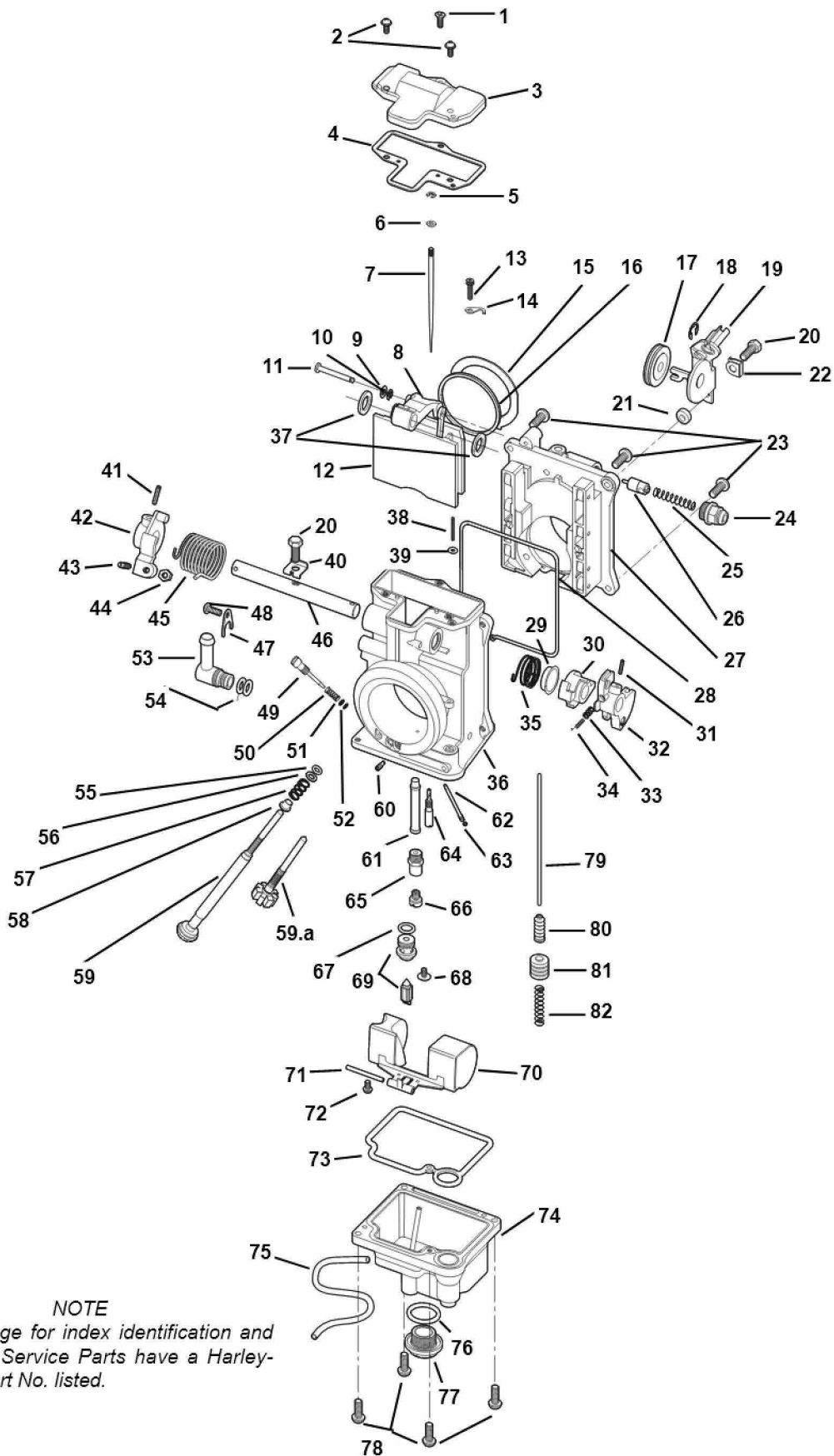
Service Parts

Kit No. 28040-02

Date 7/04

42/45mm Carb Rebuild Kit

101749



NOTE

See next page for index identification and description. Service Parts have a Harley-Davidson Part No. listed.



Service Parts

Kit No. 28040-02

Date 7/04

42/45mm Carb Rebuild kit

Item	Description	Part Number	Item	Description	Part Number
1	Screw, top cover (flat head)		44	Nut, throttle stop	
2	Screw, top cover		45	Spring, throttle return	
3	Top cover		46	Shaft, throttle	
4*	Gasket, top cover	27768-98	47	Plate, fuel joint retainer	
5*	E-ring, jet needle	27761-98	48	Screw, fuel joint retainer	
6*	Washer, needle clip	27760-98	49	Screw, pilot air adjusting	
7	Jet needle (4 sizes available)		50	Spring, pilot air screw	
8	Lever, throttle valve		51	Washer, pilot air screw	
9	E-ring		52*	O-ring, pilot air screw	27765-98
10	Packing link lever		53	Fuel joint	
11	Pin, link lever		54*	O-ring, fuel joint	27771-98
12	Throttle valve		55	Packing, idle adjuster	
13	Screw, needle retaining clip		56	Washer, idle adjuster (Steel)	
14	Clip, needle retainer		57	Spring, idle adjuster	
15	Sealing ring, throttle valve		58	Ring, idle adjuster (Brass)	
16	Seal, throttle valve		59	Idle adjuster ass'y (Long)	
17	Pulley, cable bracket		59a	Idle adjuster screw (Short)	
18	E-ring, cable bracket		60	Air jet (Blank)	
19	Bracket ass'y. cable		61	Needle jet (723 Series)	
20	Bolt		62	Nozzle, accelerator pump	
21	Spacer		63*	O-ring, accelerator pump	27764-98
22	Plate, lock tab		64	Pilot jet	
23	Screw		65	Extender, main jet	
24	Guide holder, starter		66	Main jet	
25	Spring, starter plunger		67*	O-ring, needle valve	27757-98
26	Starter plunger		68*	Screw w/washer, needle valve retainer	27769-98
27	Body ass'y, bearing and spigot (N/A)		69*	Needle valve ass'y w/O-ring	27759-98
28	Seal, spigot body		70	Float assembly	
29	Ring (Steel)		71	Pin, float	
30	Lever, accelerator pump		72	Screw, float pin	
31	Pin, throttle lever		73*	Packing, float bowl	27758-98
32	Lever, throttle		74	Float chamber body	
33	Spring, accelerator pump adjuster		75	Hose, overflow	
34	Screw, accelerator pump adjuster		76*	O-ring, drain plug	27770-98
35	Spring, accelerator pump return		77	Drain plug	
36	Mixing body ass'y (N/A)		78*	Screw, float bowl (4)	27763-98
37	Packing, shaft (plastic)		79	Rod, accelerator pump	
38	Adjusting screw, accelerator pump		80*	Boot, accelerator pump rod	27766-98
39	O-ring, accelerator pump screw		81	Plunger, accelerator pump	
40	Plate, lock tab for shaft		82	Spring, accelerator pump	
41	Pin, throttle stop lever				
42	Lever, throttle stop				
43	Adjusting screw, throttle				

NOTE

Items shown in "bold" and with asterisk (*) are included in Carburetor Rebuild Kit P/N 29565-98.