INSTRUCTIONS

-J01698 REV. 7-19-00

Kit Number 27419-99

SCREAMIN' EAGLE® 44 mm BIG BORE CV CARBURETOR TUNER KIT

General

This kit is designed for use with Screamin' Eagle 44mm Big Bore CV Carburetor Kit (P/N 27934-99). This kit contains a selection of jets and needles to help tune the carburetor.

Kit Contents

See Service Parts Illustration and list at the end of this sheet for kit contents.

NOTE

Refer to applicable Service Manual for detailed instructions to remove necessary components. Service Manuals are available from your Harley-Davidson Dealer.

CAUTION

Harley-Davidson® motorcycles equipped with some Screamin' Eagle® high-performance engine 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

Gasoline is extremely flammable and highly explosive. Do not smoke or allow open flame or sparks anywhere in the area when servicing any part of the fuel system. Failure to follow instructions could result in death or serious injury.

Carburetor Removal

For removal procedures refer to the "Fuel System" section in a 1993 or later Service Manual for Carbureted Evolution or Twin Cam model motorcycles.

Carburetor Disassembly

This Big Bore carburetor uses many of the same parts and rebuilding procedures as stock 1993 and later CV Carbureted models. Refer to the "Fuel System" section of a 1993 or later Evolution or Twin Cam Service Manual for Big Bore carburetor disassembly procedures.

Carburetor Installation

For installation procedures refer to the "Fuel System" section in a 1993 or later Service Manual for Carbureted Evolution or Twin Cam model motorcycles.

44mm Carburetor Tuning Procedures:

The 44mm Big Bore CV Carburetor, as shipped, is calibrated for use on modified Harley-Davidson Big Twin engines equipped with SCREAMIN' EAGLE bolt in High Performance Cam, Air Cleaner, and Exhaust System.

NOTE

All carburetor tuning should be performed with the engine warmed up to normal operating temperature.

NOTE

Prior to performing any jetting changes, ensure the carburetor and manifold are installed correctly and there are no intake leaks. Also make sure the float is adjusted correctly (Refer to the "Fuel System" section in a 1993 or later Service Manual covering Carbureted Evolution or Twin Cam model motorcycles for float adjustment procedures).

Lean Conditions-

If you experience lean running conditions such as the engine spitting back through the carburetor and/or hesitation upon acceleration, the carburetor may need to be jetted for a richer running condition.

Rich Conditions-

If fuel economy drastically decreases, black smoke appears from the exhaust, acceleration is sluggish, and/or the spark plugs are black and sooty, the carburetor may need to be jetted for a leaner running condition.

Idle and Off-Idle Adjustment:

The Idle Mixture Screw is a fuel adjustment screw located on bottom of carb (outlet side) in a passageway. See Inset on Page 3. Turning the Idle Mixture Screw in (Clockwise) will lean the idle mixture and turning it out (Counterclockwise) will richen it. Adjusting the Idle Mixture Screw will adjust the idle and off-idle operating mixture.

If the idle mixture requires adjustment, start at the initial setting point of 1-1/2 turns out and an idle speed of 1000 rpm. Then adjust the screw 1/2 turn at a time, (in for leaner adjustment, out for a richer adjustment) After each adjustment, reset the idle speed back to 1000 rpm and check the engine for improvements to its running operation.

NOTE

Do NOT turn the Idle Mixture Screw out more than 3-1/2 turns. If good operation is achieved at 3-1/2 turns, you may want to install one size larger SLOW jet, then readjust the idle screw.

NOTE

Do NOT tightly bottom out the Idle Mixture Screw or damage to the screw and its seat may result. If good operation is achieved at 1/2 turns (out), you may want to install one size smaller jet, then readjust the idle mixture screw.

Off Idle to 1/4 Throttle Mixture:

The SLOW jet affects the engine's mixture from off-idle to approximately 1/4 throttle. Changing the SLOW jet also affects the idle mixture adjustment, so the idle will need to be reset if the SLOW jet is changed.

1/4 to 3/4 Throttle Mixture:

The JET needle mainly affects the engine's mixture from approximately 1/4 to 3/4 throttle position.

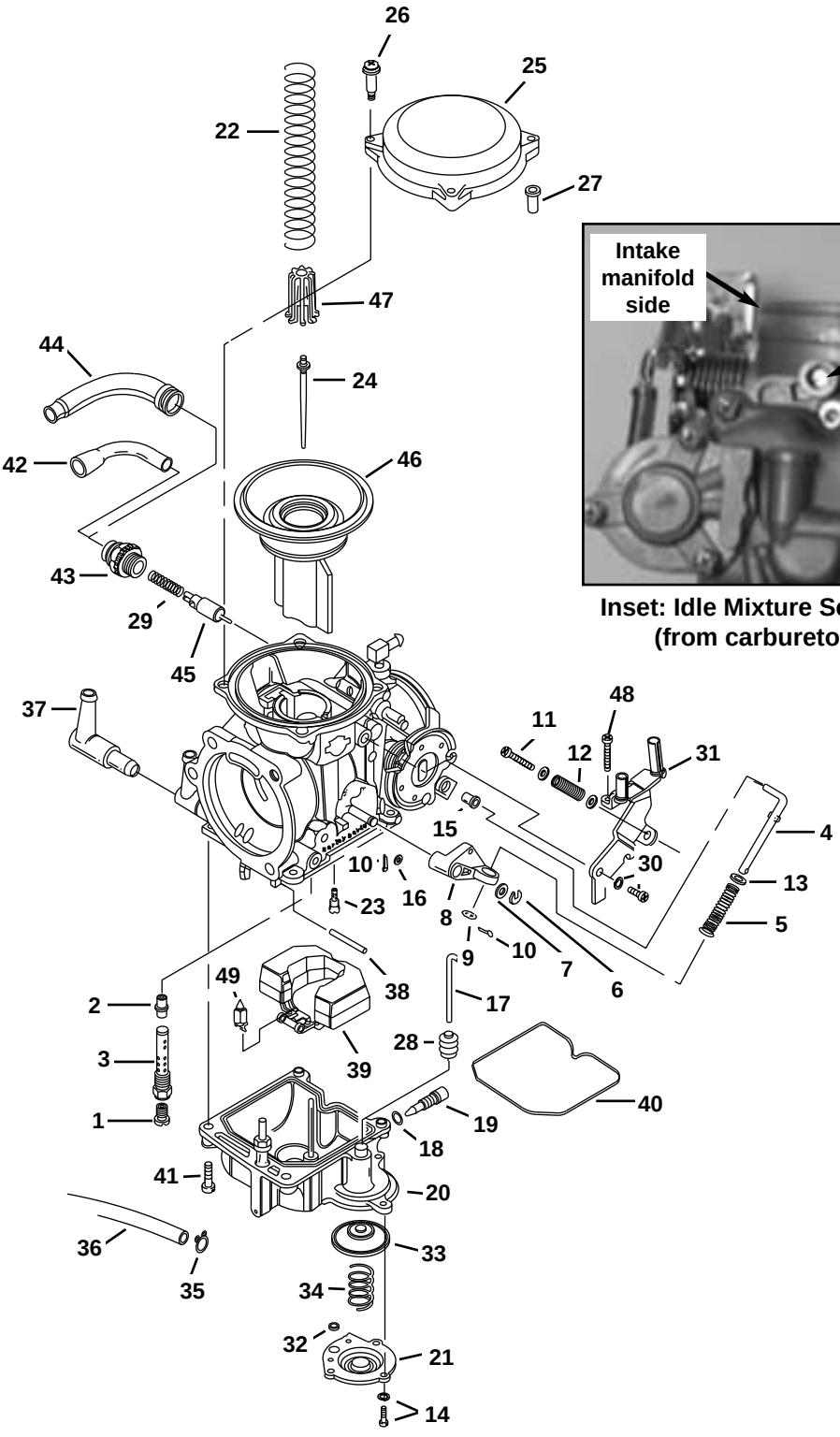
3/4 to WOT (Wide Open Throttle) Mixture:

The MAIN JET affects engine mixture above 3/4 throttle position. The most effective method to tune this area is to perform timed runs between two fixed points. Begin by cruising at a steady speed of approximately 60 mph in high gear. When you pass the 1st point, open the throttle to WOT and have someone measure the time it takes to reach the 2nd point. Change MAIN jets and repeat this process until the fastest time is obtained.

Vacuum Piston Spring:

The Big Bore 44mm CV carburetor comes equipped with a 200/290 gram (P/N 27162-89) vacuum piston coil spring (22). The Tuner Kit has lighter 130/210 gram spring (P/N 27728-99) included which will make the transition from off-idle to WOT quicker.

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Inset: Idle Mixture Screw Location (from carburetor bottom)

NOTE

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

Service Parts

Kit No. 27419-99 | Date 7/00

44mm Big Bore CV Carburetor Tuner Kit

Item	Description	Part No.
1*	**Main Jet (6)**	**See Kit Breakdown**
2	Needle jet	27725-99
3	Needle jet holder	27101-88
4	Rod	27122-89
5	Spring	27123-89A
6	E-clip	27124-89
7	Washer	27125-89
8	Lever	27126-89
9	Washer	27127-89
10	Pin (2)	27128-89
11	Idle screw	27130-90
12	Spring	27136-90
13	Washer	27137-81
14	Screw w/washer	27146-89
15	Collar	27147-89
16	Washer	27148-89
17	Rod	27156-89
18	O-ring	27127-89
19	Drain screw	27158-89
20	Float chamber assembly	27287-98
21	Pump housing	27260-00
22*	**Spring (1)**	**See Kit Breakdown**
23*	**Slow jet (3)**	**See Kit Breakdown**
24*	**Jet needle (4)**	**See Kit Breakdown**
25	Top, carburetor	27261-96

Item	Description	Part No.
26	Screw, Top (3)	27262-96
27	Collar, Carburetor top	27263-96
28	Boot, accelerator top	27311-76
29	Spring	27315-88A
30	Screw	27317-88
31	Bracket, throttle cables	27339-90
32	O-ring (2)	27360-76
33	Diaphragm, accelerator pump	27361-76
34	Spring, diaphragm	27362-76
35	Clip, overflow hose	27368-76
36	Hose, overflow w/clip	27553-99
37	Fitting, (L-joint)	27371-76
38	Pin	27575-88A
39	Float	27576-92
40*	**O-ring, float chamber (1)**	**27577-92**
41*	**Screw (4)**	**27579-88A**
42	Cable guide	27580-88
43	Starter cap	27581-88
44	Cable sealing cap	27582-88
45	Starter valve	27583-88
46	Vacuum piston	27552-99
47	Spring seat	27586-88
48	Screw	27587-88
49	Valve w/clip	27886-78A

NOTE: Items marked with an asterisk (*) and in "bold" are included in Tuner Kit (P/N 27419-99). See below for more detail on component breakdown. All other items are for illustration purposes only.

TUNER KIT PARTS BREAKDOWN

Tuner Kit (P/N 27419-99) Detailed Listing:

Item	Description	Part Number
1	Main Jets	
	#200	27105-88
	#210	27726-99
	#220	27775-99
	#230	27776-99
	#240	27778-99
	#250	27779-99
22	Spring 130/210 gm	27728-99
23	Slow Jets (3)	
	#48	27165-90
	#50	27724-99
	#52	27780-99
24	Jet Needles (Listed Lean to Rich)	
	#N8EK	27727-99
	#N8EL	27933-99
	#N8EM	27967-99
	#N8EN	27968-99

Additional Jets: (not in kit)

NOTE: For additional jets, the following stock CV carb parts can be used and can be obtained from your Harley-Davidson Dealer.

Description	Part Number
Slow Jet #45	27170-89
Main Jets (4)	
#180	27114-88
#185	27185-90
#190	27243-95
#195	27275-96Y
Spring 200/290 gm	27162-89

NOTE

The jet needles for the stock carburetor are too short and cannot be used in the Big Bore 44mm carburetor.