



INSTRUCTIONS

-J01203

REV. 12-8-99

Kit Numbers 16851-98, 16854-98

SCREAMIN' EAGLE 1340 CYLINDER HEADS

General

This instruction sheet covers the following Cylinder Head Kit part numbers:

Part No.	Description
16851-98	Silver
16854-98	Black

These kits are designed for installation on 1984 and later Evolution 1340 engines. See Important Information below for 1984-1992 models.

Additional Required Parts

On all models, a Top End Overhaul Gasket Kit, Part No.17040-92A must be purchased from your Harley-Davidson Dealership.

NOTE

Service Parts for these kits are listed on page 2. A Service Manual for your motorcycle is available at your Harley-Davidson Dealership.

NOTE

The valve springs in these cylinder head assemblies work with cams with up to .580 inch lift, and up to 6500 rpm.

Spark Plug Recommendations

The recommended plugs are 12mm (Evo XL style):

Part Number	Description	Application
32317-86A	O.E. 6R12	S.E. 1340 heads (std. CR pistons)
32320-91	S.E. EX12S	Modified*, S.E. 1340 heads (std. CR pistons)
32321-91	S.E. EX12P	HP/competition**, S.E. 1340 heads (high CR pistons)

*Modified engines-may include modifications in carburetors, A/C's, camshafts, exhaust systems and ignition components in conjunction with std. compression ratio pistons (including S.E. 1340 heads).

**High Performance- may include all of the above modifications in conjunction with high compression ratio pistons or engines used for racing applications.

Important Information for 1984-1992 Models

To install these cylinder heads on 1984 to 1992 Evolution 1340 engines, the following additional parts are required:

QTY	Part Number	Description
8	16837-85C	Cylinder studs
4	16478-85A	Head bolts (long)
4	16480-92	Head bolts (short)

The above parts are required to update the fasteners to those used on Evolution 1340 engines since 1992.

Crankcase Ventilation

For 1984 to 1992 1340 engines, it is recommended to update the air cleaner, rocker boxes, breather gear, and use an oil/air separator in the breather trap (located in cam cover). This update to improve breathing and reduce oil carry-over requires the following parts:

QTY	Part Number	Description
2	17528-92	Outer rocker covers
2	17529-92	Rocker cover spacers
2	17530-92	Inner rocker covers
1	25310-82A	Breather valve gear
1	25329-91	Air/oil separator
1	29134-92	Air cleaner backplate
2	3577	Backplate breather screws

Follow procedures in applicable Service Manual to replace the above parts. The air/oil separator is installed in the breather trap (located in the cam cover). **Note: Plug the crankcase vent port when the backplate above, or a similar backplate, is used.**

If an early-style backplate, or similar air cleaner, is used, then the following parts must be installed:

QTY	Part Number	Description
1	29304-92	Threaded Cylinder Head Inserts

When using the above parts, **do not plug or reroute the crankcase vent.**

Installation

CAUTION

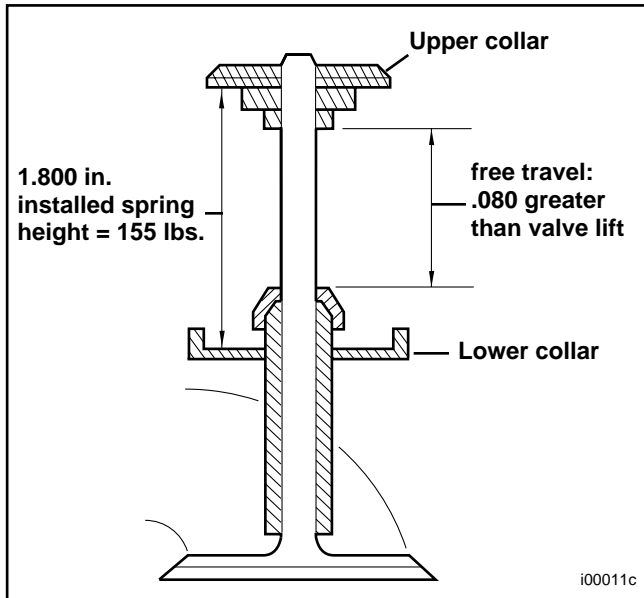
These cylinder head assemblies are intended for high-performance applications only. This engine-related performance part is not legal for use on pollution-controlled motor vehicles. Use of these cylinder head assemblies may reduce or void the Limited Warranty coverage.

1. Refer to appropriate Service Manual for all removal, assembly and disassembly procedures.
2. Remove existing cylinder head assemblies.
3. Install new cylinder heads using appropriate Service Manual procedures and new gaskets from Top Overhaul Gasket Kit, Part No. 17040-92A.

NOTE

Due to increased compression ratio, use at least 91 octane gasoline. Octane rating is usually found on the pump.

4. Check assembly for proper installation and operation.



Important Notes on Valve Clearance

These Screamin Eagle cylinder heads have a different specification for *intake valve stem protrusion from cylinder head boss* than original equipment cylinder heads (1.970-2.004 inches for Screamin Eagle vs. 1.990-2.024 inches for original equipment). This results in the intake valve being 0.020 inches closer to the piston crown. This may become critical when using high lift and long duration camshafts.

Because of this, it is important to check valve-to-piston clearance as described below. We recommend that this inspection be performed by a Harley-Davidson Dealer.

- Apply 1/8 in. layer of clay to crowns of pistons (in areas where valves meet pistons).
- Assemble heads and valve train, and tighten cylinder studs to torque as listed in appropriate Service Manual.
- Turn engine through two complete revolutions by hand.
- Remove heads and measure clay at its thinnest point.
- Clay must measure 0.080 in. at thinnest point. If this measurement does not meet minimum thickness, depth of valve notches must be increased; however, the depth of the notches must not exceed 0.135 in.
- Since oversized valves are used, radial clearance must also be checked.

NOTE

Valves must be properly adjusted and new cam installed when claying pistons.

Notes on Valve Springs

The valve springs on these cylinder heads have an installed spring height of 1.800 in., which equals 155 lbs. of seat pressure. Seat pressure can be changed by placing shims (P.N. 18224-98 [.015 in.] or 18225-98 [.030 in.]) under lower spring collars.

Every .015 in. reduction in spring height equals 5 lbs. more of seat pressure. For example:

- 1.785 in. installed spring height = 160 lbs. seat pressure
- 1.770 in. installed spring height = 165 lbs. seat pressure

NOTE

Shim to desired seat pressure by placing shims under lower collar, but do not use more than .075 in. of shims.

To Change Installed Valve Spring Height (Seat Pressure)

1. Compress valve springs and remove upper collar keys, upper collar, valve seals, and lower collar on all four valves.

NOTE

New seals must be installed.

CAUTION

Because of the large diameter of the springs in this kit, there may be slight interference between the spring and the rocker box. If interference is detected, it will be necessary to remove a small amount of material from the rocker box.

2. See illustration. Using shims required for desired seat pressure (see notes above), install lower valve spring collars, upper collars, and collar keys. Check installed spring height. Add shims or remove material from spring seat to reach installed spring height. Remove upper collar keys and upper collars and assemble cylinder heads following applicable Service Manual procedures.



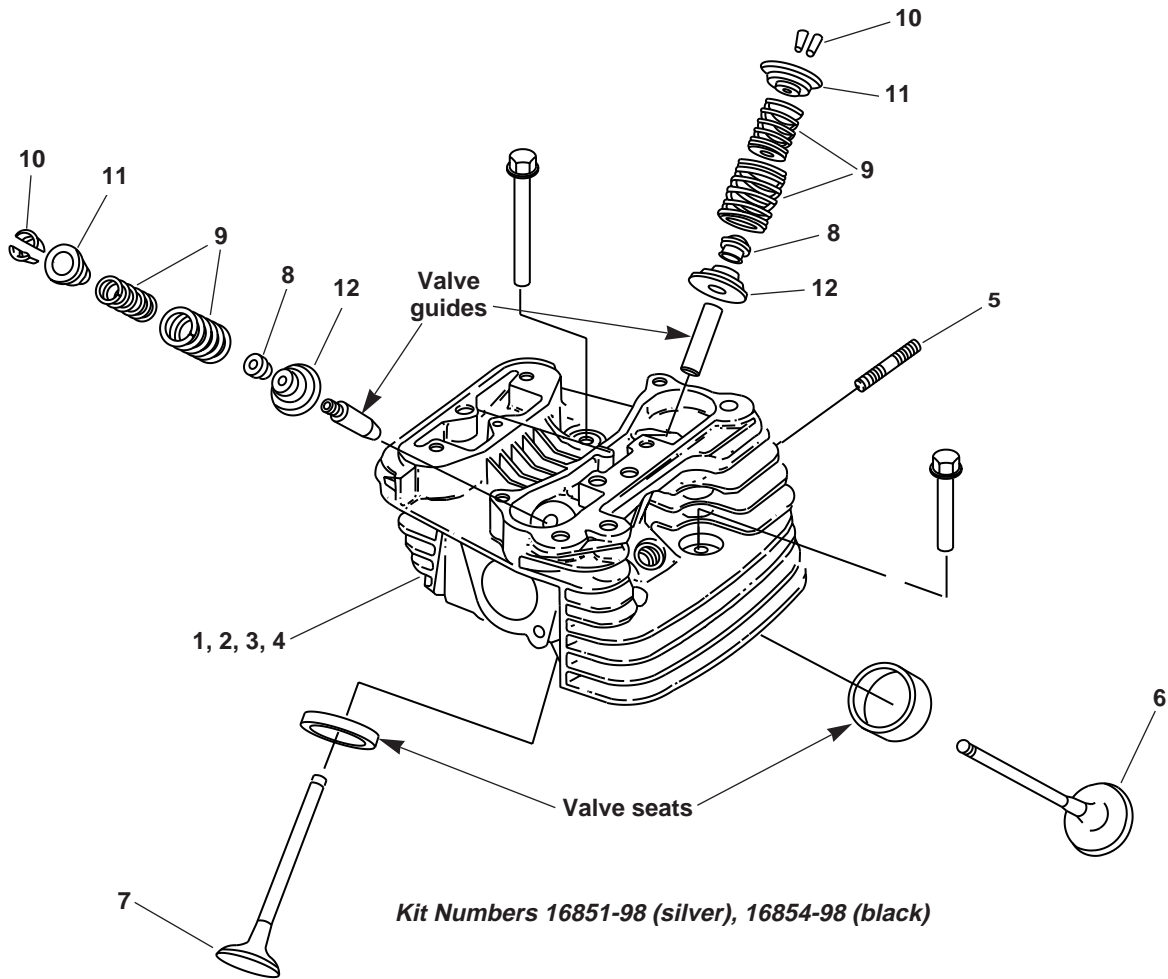
Service Parts

Part No. 16851-98 + others

Date 2/99

Screamin' Eagle 1340 Cylinder Heads

sp16851-98



Item	Description	Part No.
1	Front cylinder head (black) *	16844-98
2	Rear cylinder head (black) *	16846-98
3	Front cylinder head (silver) *	16843-98
4	Rear cylinder head (silver) *	16845-98
5	Stud, exhaust port (4)	16715-83
6	Intake valve (2)	18045-98
7	Exhaust valve (2)	18044-98
8	Seal, valve (4)	18046-98
9	Valve spring unit (4)	18218-98
10	Retainer, valve collar (8)	18211-86
11	Collar, valve spring-upper (4)	18216-98
12	Collar, valve spring-lower (4)	18217-98

Item	Description	Part No.
Valve seats		
	Intake valve seat	18049-98
	Exhaust valve seat	18048-98
Valve guides		
	Exhaust +.003	18648-98
	Intake +.003	18647-98
	Exhaust +.002	18646-98
	Intake +.002	18645-98
	Exhaust +.001	18644-98
	Intake +.001	18643-98

*** With valve guides and seats installed**
 Note: Quantities shown are for kit, only one cylinder assembly shown