



# INSTRUCTIONS

-J05616

REV. 2014-03-12

## SCREAMIN' EAGLE PRO CNC PORTED XL CYLINDER HEADS

### GENERAL

#### Kit Number

16500164

#### Models

This kit fits '92-'06 XL 1200 model motorcycles.

#### Additional Parts Required

This kit requires the separate purchase of Perfect Fit Pushrod Kit 18424-06, which is available from a Harley-Davidson dealer.

Top End Overhaul Gasket Kit 17049-04 must also be purchased separately and is available from a Harley-Davidson dealer.

### 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

*This instruction sheet references service manual information. A service manual for your model motorcycle is required for this installation and is available from a Harley-Davidson Dealer.*

#### Recommended Parts

H-D recommends the use of Exhaust Flange (65328-83) to aid in exhaust headpipe re-installation. The headpipes should also be disassembled from the mufflers when attempting to reassemble the exhaust system to the engine and motorcycle. The exhaust flanges can be purchased from a Harley-Davidson dealer.

#### Kit Contents

See Figure 1 and Table 1.

### INSTALLATION

#### NOTES

*These kits are intended for High Performance or Racing applications only. These engine related performance parts are not legal for sale or use on pollution controlled motor vehicles. This kit may reduce or void the limited vehicle warranty. Engine related performance parts are intended for the experienced rider only.*

*Due to the increased compression ratio, gasoline with a rating of at least 91 Octane must be used. The Octane Rating is usually displayed on the gas pump.*

Refer to ENGINE section of service manual for all removal/disassembly and assembly/installation procedures.

### NOTICE

**Do not exceed the maximum safe RPM specified below under any conditions. Exceeding the maximum safe engine RPM can result in equipment damage. (00248a)**

#### NOTES

*The intake valve springs on the new cylinder heads have an installed spring height of 2.059 in. which equals 200 lbs of seat pressure.*

*The exhaust valve springs on the new cylinder heads have an installed spring height of 2.064 in. which equals 200 lbs of seat pressure.*

### CYLINDER HEAD ASSEMBLIES

1. Remove the existing cylinder head assemblies.
  - To increase seat pressure, place shims 18224-98 (0.015 in.) or 18225-98 (0.030 in.) under lower spring collars. Each 0.015 in. spring height reduction equals 3.8 lbs more seat pressure.  
Shim to the desired seat pressure by placing shims under the lower collar, but maintain a minimum of 0.70 in. travel to coil bind.
  - To decrease seat pressure, machine the surface of the cylinder heads in the area under the lower spring collar. Every 0.015 in. increase in spring height equals 3.8 lbs less seat pressure.  
Machine to the desired seat pressure by machining the spring pockets in the cylinder heads, but maintain a minimum of 0.70 in. travel to coil bind.

#### NOTE

*For constant operation at extreme RPM's, all four valve springs should be checked for matched, installed heights.*

1. To change installed valve spring height (seat pressure):
  - a. Compress valve springs and remove valve collar retainers, upper collars, springs, and lower collars/valve seals on all four valves.
  - b. Use shims or machine the cylinder heads as required to obtain desired seat pressure. Install lower valve spring collars (without valve seals), valve springs, upper collars and collar keys. Check installed spring height.
  - c. If spring heights still do not match, repeat Steps 1a and 1b above as necessary to reach the desired installed spring height, again without installing valve seals.
  - d. When all spring heights match, remove valve collar retainers, collars and springs. Install using new lower collars/valve seals 18016-03 purchased separately. Assemble the cylinder head assemblies.
2. Install **new** cylinder heads from kit using new gaskets from Top End Overhaul Gasket Kit purchased separately.
3. Check engine for proper installation and operation.

# SERVICE PARTS

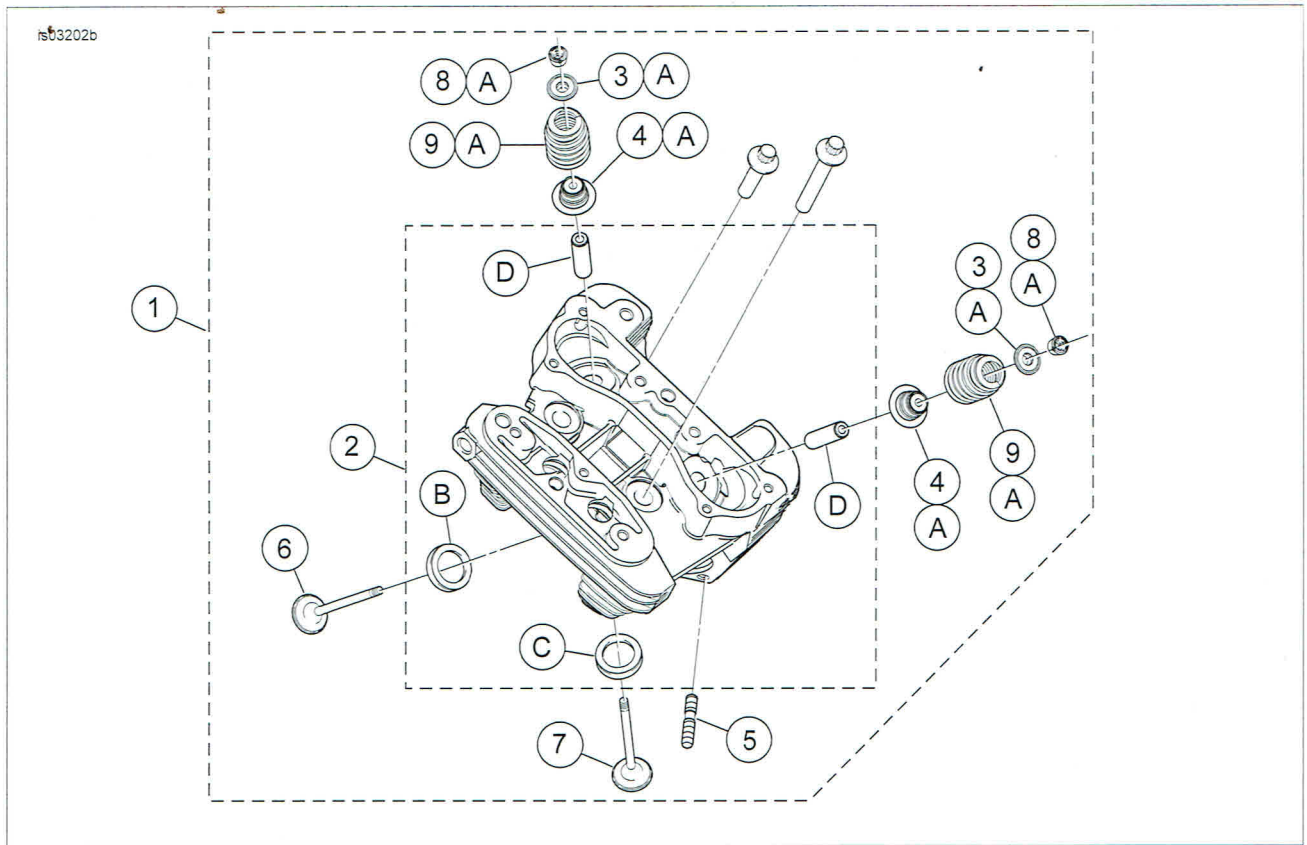


Figure 1. Service Parts: Screamin' Eagle Pro XL Performance Cylinder Heads

Table 1. Service Parts: Screamin' Eagle Pro XL Performance Cylinder Heads

Kit	Item	Description (Quantity)	Part Number
Kit 165000164	1	Cylinder head assembly, front	16500163
	1	Cylinder head assembly, rear	16500162
	2	• Cylinder head (machined, with Items B, C and D installed)	Not Sold Separately
	3	• Collar, valve spring, upper (4) (part of Item A)	18015-03B
	4	• Collar and valve guide seal, valve spring, lower (4) (part of Item A)	18016-03
	5	• Stud, exhaust port (4)	16715-83
	6	• Intake valve (2)	18010-05
	7	• Exhaust valve (2)	180028-05
	8	• Retainer, valve collar (8) (also included with Item A)	18260-02
	9	• Valve spring (4) (available only as part of Item A)	Not Sold Separately
<b>The following items come installed in the cylinder heads, but are also available separately:</b>			
	A	Screamin' Eagle Valve Spring Kit	18013-03A
	B	Valve seat, intake	18020-07
	C	Valve seat, exhaust	18011-86
	D	Valve guide, intake and exhaust	16461-02