



INSTRUCTIONS

-J03618

REV. 06-22-2005

Kit Number 25740-05

SCREAMIN' EAGLE® PRO XL HIGH OUTPUT CAM KIT

General

This kit (25740-05) fits 2004 and later XL 1200 Models. Will also fit 1992-2003 XL Models equipped with SE XL performance cylinder heads (16677-05) and high-compression piston kit (22711-04). 1992-1999 Models require additional purchase of pinion gear (24047-00).

Camshaft Specifications

Intake open 28° BTDC
Intake closed 52° ABDC
Intake duration 260°
Exhaust open 57° BBDC
Exhaust closed 29° ATDC
Exhaust duration 266°
All data taken at 0.053 lift
Valve Lift 0.575

NOTE

Harley-Davidson motorcycles equipped with Screamin' Eagle high performance engine parts may not be used on public roads and in some cases must be restricted to closed course competition because these parts may impair the vehicles emission system performance and/or increase its noise level. Installation of Screamin' Eagle parts could also void any new vehicle warranty. Engine-related performance parts are intended for THE EXPERIENCED RIDER ONLY.

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)

Camshaft Installation

Installation of this kit will require the following gaskets available from any authorized Harley-Davidson Dealer:

Description	Part Number
Gasket kit, top overhaul	17049-04
Cam gear cover gasket	25263-90D

NOTE

All washers and fasteners used in the engine are hardened. They must not be mixed or replaced with unhardened parts. Do not reuse cover gaskets.

WARNING

To prevent accidental vehicle start-up, which could cause death or serious injury, disconnect negative (-) battery cable before proceeding. (00048a)

NOTE

It is advisable to check engine for valve spring coil binding at full lift, valve to valve clearance and piston to valve clear-

ance. We recommend that this inspection or any subsequent piston modification be done by any Harley-Davidson dealer.

Follow Service Manual procedures to perform the following:

1. Remove spark plug.
2. Rotate the crankshaft so that both valves are closed on the cylinder being worked on.
3. Remove rocker box covers. Remove and discard gaskets.
4. Remove the inner rocker housing assembly.
5. Remove push rod covers, push rods, tappet guides and tappets
6. Repeat steps 1 through 5 for the remaining cylinder.
7. Refer to the Service Manual and follow the procedure to remove gear cover screws and gear cover. Remove and discard gasket.

CAUTION

Mark all valve train components for reassembly in their original positions. Valve train components must be reinstalled in their original positions during reassembly.

NOTE

It is not necessary to remove the pinion gear, oil pump gear or oil pump.

8. See Figure 1. Rotate engine to align timing marks. Cams are numbered 1 to 4 from the rear exhaust (1) to the front exhaust (4). Remove camshaft (2). One at a time, remove camshafts (1), (3), and (4) and replace with the appropriate camshaft from this kit. Be careful to maintain timing mark alignment. Install camshaft (2) from this kit last. Carefully check alignment of all timing marks.
9. Following Service Manual instructions, assemble gear case cover and check that specified camshaft play is present. After final assembly torque cover screws to 80-110 in-lbs (9-12 Nm).
10. Install tappet guide and tappets using new O-rings. Be sure tappets are fully oiled.

NOTE

When installing non-stock cams, piston-to-valve clearance must be checked.

11. Place modeling clay, about 1/8-in. thick, on piston valve reliefs (in areas where valve would contact pistons).
12. Install cylinder heads using old gaskets.
13. Following Service Manual procedures, temporarily tighten cylinder head screws to 7 ft-lbs.

CAUTION

When installing push rods wait ten minutes before rotating the engine. This will allow tappets to bleed down and prevent bending push rods or valves.

13. Following Service Manual procedures, temporarily install inner rocker housing assembly using old gaskets.
14. Following Service Manual procedures, check push rod length and install push rods. Allow tappets to bleed down.
15. Rotate engine so both valves on the front cylinder are partially open. Shine a light through the exhaust port and look through the spark plug opening. If required, rotate engine to the point where the exhaust and intake valves heads cross.
16. There should be 0.040-in. clearance between the exhaust and intake valve heads. A 0.040-in. wire gauge may be used to make this measurement.
17. Repeat procedure for second cylinder.

NOTE

If insufficient clearance exists, grind the valve seats deeper into the head to obtain the 0.040-in. clearance between the valve heads. Do not reduce the valve margin to less than 0.031 in. on 1200 cc engines. After grinding valve seats, assemble engine and repeat steps 10. and 16. Recheck valve head clearance.

18. Rotate engine through two complete revolutions by hand. Remove cylinder heads and measure clay at its thinnest point. If not at least 0.080-in. thick, grind the valve seat deeper into the head, or notches should be cut into the piston crown to obtain that dimension. The depth of the notches must not exceed 0.135 in. It is strongly recommended that this practice be followed.
19. Once all measurements are made, install cylinder heads using new gaskets, following Service Manual procedures, for cylinder head assembly torque sequence.
20. Assemble the inner rocker housing assembly, following Service Manual procedures for rocker housing assembly torque sequence.
21. Install rocker boxes using new gaskets from gasket kit. Consult the Service Manual for proper torque specifications.
22. Refer to the Service Manual and follow the instructions given to reattach the negative battery to end cable.

Improving Engine Output

To enhance the horsepower of this kit see any authorized Harley-Davidson dealer for the latest Screamin' Eagle Pro catalog which includes the complete line of Screamin' Eagle performance parts.

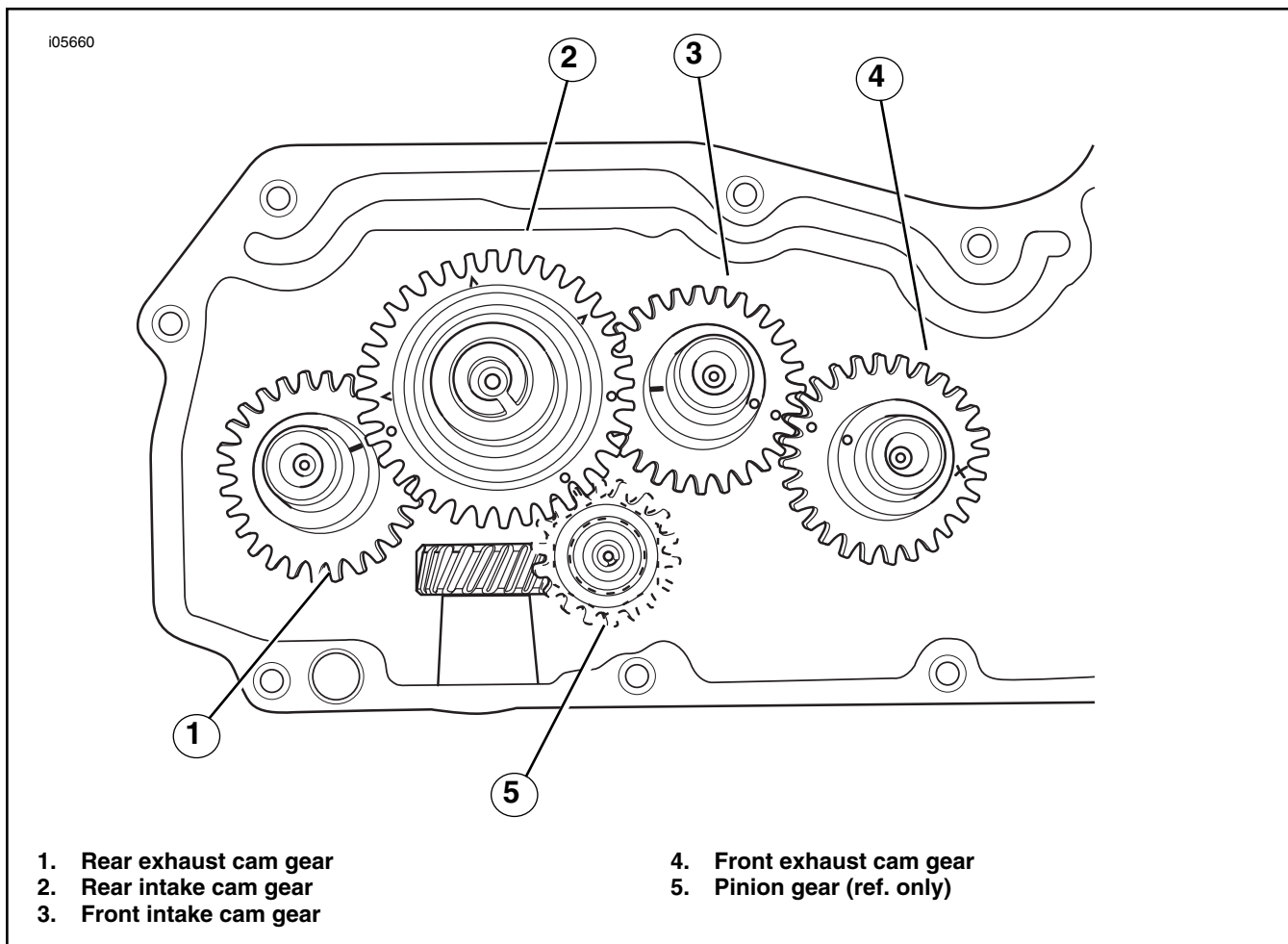


Figure 1. Timing Mark Alignment