



INSTRUCTIONS

-J04823

REV. 2008-09-11

4.060 INCH BORE, 11.1 COMPRESSION, IVAN CHAMBER PISTON KIT

GENERAL

NOTES

All dimensions listed on these instructions are in inches.

Kit Numbers

21915-08, 21914-08

Models

These kits fit Harley-Davidson Twin Cam engines with the following items installed:

- Screamin' Eagle® Big-Bore 4.060 inch Cylinder Kit,
- 1999 and later stock 4.375 in. stroke flywheels
- Screamin' Eagle Pro 110+ or Screamin' Eagle Pro ACR Performance Cylinder Heads, 110+ head, or MVA performance heads.

Table 1. Models

Kit	Application
21915-08	Standard, 3.875 in. (front & rear)
21914-08	+0.010 (front & rear)

NOTE

This engine-related performance part is intended for high-performance or racing applications and is 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.

Additional Parts Required

CAUTION

You must recalibrate the ECM when installing this kit. Failure to properly recalibrate the ECM can result in severe engine damage. (00399b)

NOTE

ECM recalibration is required, which can be performed with the Screamin' Eagle Race Tuner Kit (Part Number 32107-01F). See a Harley-Davidson dealer.

Re-jetting and/ or re-timing of the engine may be required to realize the full potential of this performance product.

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.

Kit Contents

See Table 4 and Figure 3.

INSTALLATION

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. Refer to the Service Manual and follow the instructions given to remove the seat and disconnect the battery cables, **negative cable first**.

WARNING

When servicing the fuel system, do not smoke or allow open flame or sparks in the vicinity. Gasoline is extremely flammable and highly explosive, which could result in death or serious injury. (00330a)

2. Refer to the ENGINE: STRIPPING MOTORCYCLE FOR SERVICE and TOP END OVERHAUL, DISASSEMBLY sections of the Service Manual for cylinder head, cylinder and piston removal procedures.
3. Follow the procedures in the ENGINE: SUBASSEMBLY SERVICE AND REPAIR, TOP END/ CYLINDER/ UPPER CONNECTING ROD sections of the Service Manual for inspection of parts.

- See the ENGINE: SUBASSEMBLY SERVICE AND REPAIR, CYLINDER section of the Service Manual for boring and honing instructions.

NOTES

Install piston rings having dots or bevels with the dots or bevels facing **UP**. Rings with no markings can be installed either side up.

Piston dimensions to be measured 0.285 inches above the lowest part of the skirt.

- Refer to the ENGINE: TOP END OVERHAUL, ASSEMBLY section of the Service Manual for piston, cylinder and cylinder head installation procedures.

Table 2. Piston Manufacturing Tolerances

Piston:	Tolerance (in.)
Fit in cylinder w/o coating	0.0025-0.0035
Fit in cylinder w/coating	0.0015-0.0025
Compression ring gap:	
• Top	0.012-0.022
• Second	0.012-0.022
Oil control rail gap	0.015-0.055

Table 3. Piston Service Wear Limits

Piston:	Wear Limit (in.)
Fit in cylinder	0.005
Compression ring gap:	
• Top	0.032
• Second	0.049
Oil control rail gap	0.055

Piston Pin Retaining Ring (Circlip) Installation

NOTE

Circlip gap must be at 12:00 or 6:00 position when installed.

- See Figure 1. Insert the open end of the circlip (1) into the notch (3) on the groove (2) around the piston pin boss so that the gap is at the 12:00 or 6:00 position when installed.

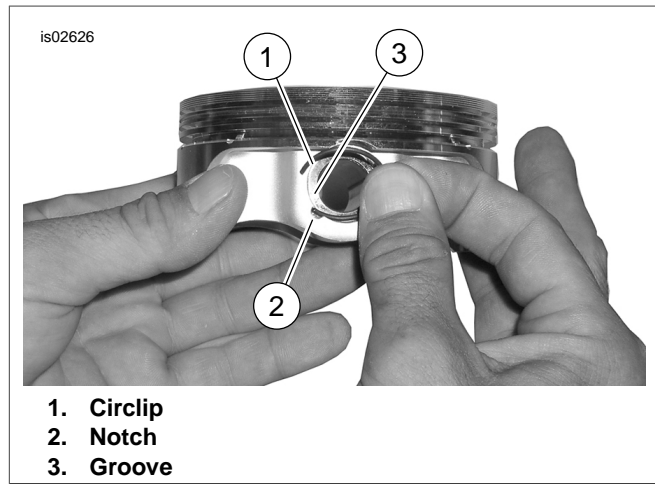


Figure 1. Circlip and Piston

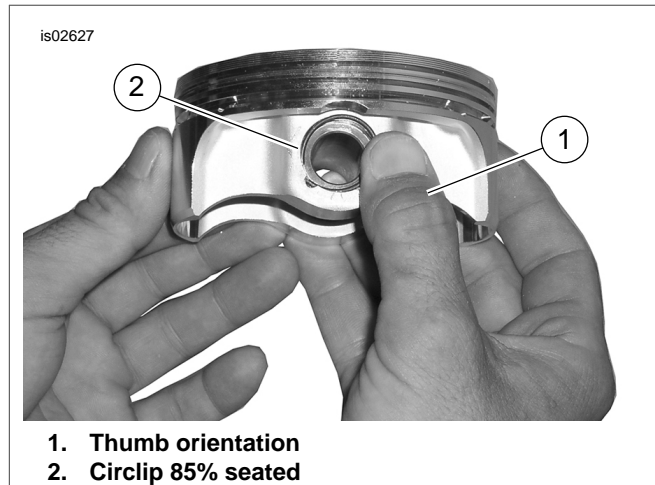


Figure 2. Install Circlip

- See Figure 2. Position your thumb (1) as shown, and press firmly until approximately 85% of the circlip (2) is seated in the groove.
- Being careful not to scratch or mar the piston, use a small-bladed screwdriver to wedge the circlip into the remainder of the groove. Repeat for the remaining circlips.

NOTE

Make sure the piston circlip is fully seated, or **ENGINE DAMAGE WILL OCCUR**.

- Refer to the ENGINE: ASSEMBLING MOTORCYCLE AFTER STRIPPING section of the Service Manual for final re-assembly procedures.

NOTE

Always follow the break-in procedure outlined in the appropriate Owner's Manual after rebuilding an engine.

SERVICE PARTS

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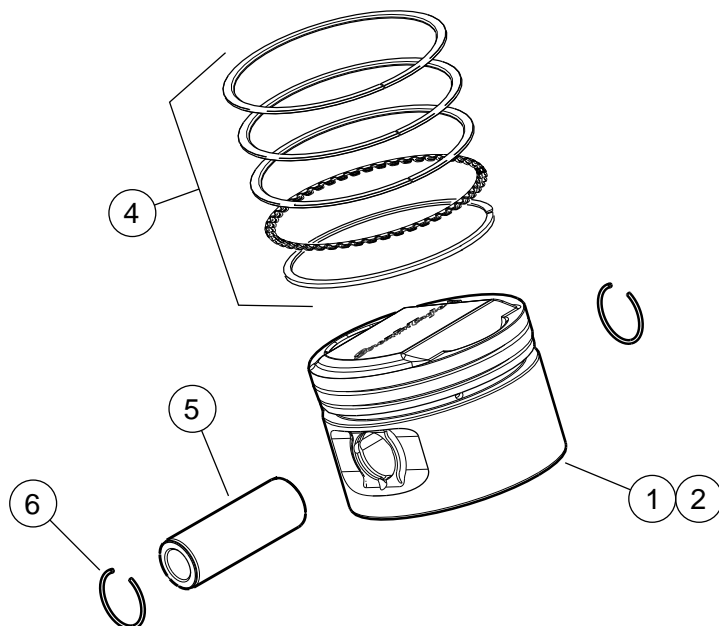


Figure 3. Service Parts: Screamin' Eagle Pro Twin Cam Stroker Piston Kits

Table 4. Service Parts Table: Front and Rear Piston Kits

Kit	Item	Description (Quantity)	Part Number
Kit 21915-08 Piston Kit (Standard)	1	Piston (front, standard)	Not sold separately
	2	Piston (rear, standard)	Not sold separately
	3	Piston accessory kit; includes items 4 through 6	22593-08
	4	• Ring set, standard	Not Sold Separately
	5	• Piston pin	Not Sold Separately
	6	• Circlip (2)	Not Sold Separately
Kit 21914-08 Piston Kit (+0.010)	1	Piston (front, +0.010)	Not sold separately
	2	Piston (rear, +0.010)	Not sold separately
	3	Piston accessory kit; includes items 4 through 6	22594-08
	4	• Ring set, +0.010	Not Sold Separately
	5	• Piston pin	Not Sold Separately
	6	• Circlip (2)	Not Sold Separately
Items common to all Piston Kits:			
	5	Piston pin (2)	22455-03
	6	Retaining ring (Circlip) (4)	22456-03