



INSTRUCTIONS

94100349

2023-03-01



SCREAMIN' EAGLE 4.625 INCH STROKE BIG BORE 135 PISTON KITS

GENERAL INFORMATION

Table 1. General Information

Kits	Suggested Tools	Skill Level ⁽¹⁾
21900164	Safety glasses, pencil or marker, micrometer, dial bore gauge	
<i>(1) Special tools or techniques required for installation</i>		

KIT CONTENTS

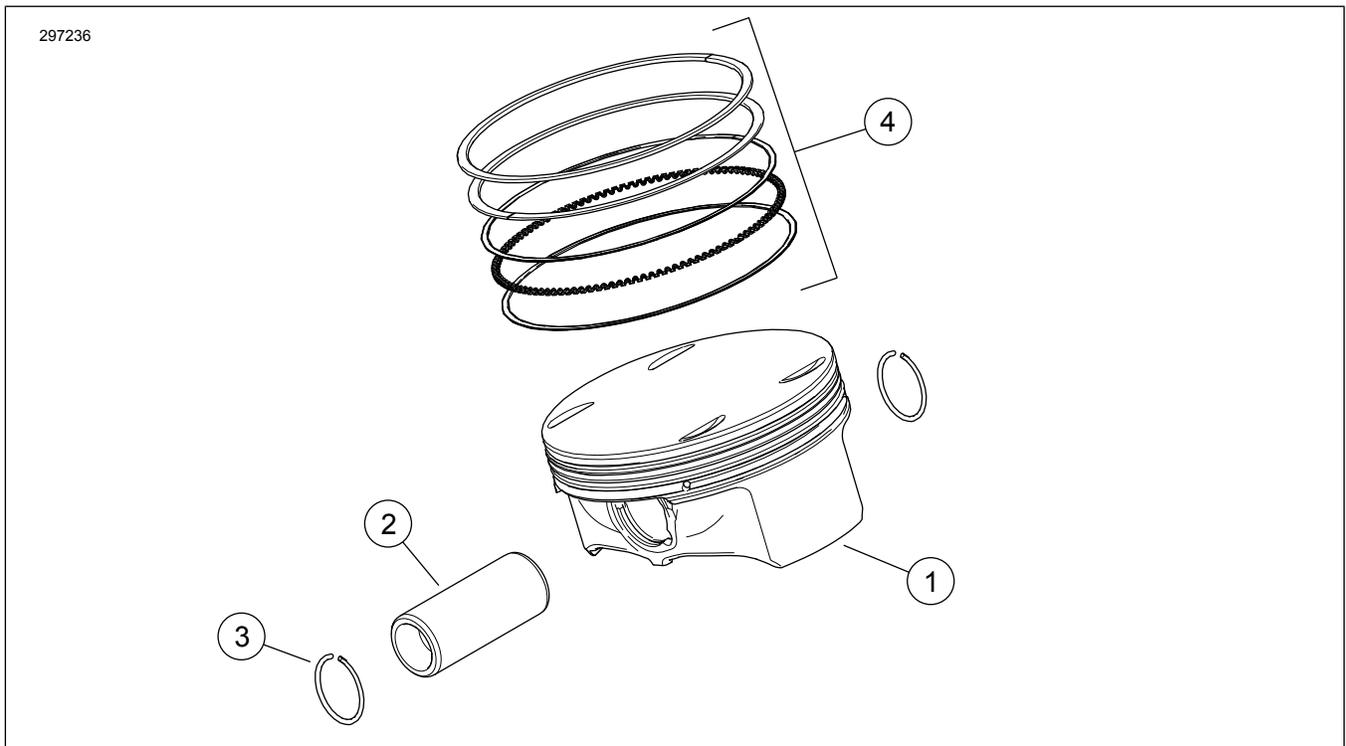


Figure 1. Service parts: Screamin' Eagle Big Bore 135 Piston Kits

Table 2. Kit Contents: Screamin' Eagle 4.625 Inch Stroke Big Bore 135 Piston Kit Components

<input checked="" type="checkbox"/>	Item	Qty	Description	Part No.	Notes
<input type="checkbox"/>	1	2	Piston	Not sold separately	
<input type="checkbox"/>	2	2	Piston pin	22558-07	
<input type="checkbox"/>	3	4	Circlip	22097-99	
<input type="checkbox"/>	4	2	Ring set, standard	22000126	

NOTE

Verify all contents are present in the kit before installing or removing items from vehicle.

GENERAL

Models

For model fitment information, see the P&A Retail Catalog or the Parts and Accessories section of www.harley-davidson.com (English only).

Verify that the most current version of the instruction sheet is used. It is available at: www.harley-davidson.com/isheets

Contact Harley-Davidson Customer Support Center at 1-800-258-2464 (U.S. only) or 1-414-343-4056.

Installation Requirements

⚠ WARNING

Rider and passenger safety depend 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. (00333b)

NOTE

This instruction sheet references service manual information. A service manual for the year and model motorcycle is required for this installation and is available from:

- A Harley-Davidson dealer.
- H-D Service Information Portal, a subscription-based access available for most 2001 and newer models. For more information see *Frequently ask questions about subscriptions*.

PREPARE

NOTE

Disarm security system.

1. Remove seat. See service manual.
2. Remove main fuse. See service manual.

⚠ WARNING

To prevent accidental vehicle start-up, which could cause death or serious injury, disconnect battery cables (negative (-) cable first) before proceeding. (00307a)

3. Disconnect negative battery cable. See service manual.
4. Remove fuel tank. See service manual.
5. Remove cylinder head, cylinder, and piston. See service manual.
6. Follow procedures in service manual for inspection of parts.

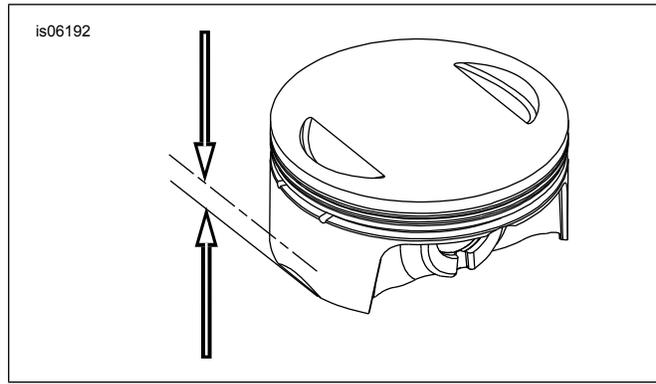


Figure 2. 0.5 in. (12.7 mm)

Measuring Pistons

1. Allow piston to cool to room temperature.
2. With a pencil or marker, mark piston on each side of skirt across thrust faces (perpendicular to piston pin bore) 0.5 in (12.7 mm) from bottom edge of chamfer on piston skirt.
3. Using a micrometer at parks, measure nominal diameter of piston.
4. Use a dial bore gauge to measure piston ring travel zone in cylinder bore.

Installing Pistons

1. The pistons in this kit are not front and rear cylinder specific. Install pistons in front and rear cylinders with arrow pointing toward front of engine.

NOTE

Install rings with marking facing up. Rings with no markings can be installed either side up.

Always check piston-to-valve clearance with non-stock camshafts.

For ring compression tool, see *Service Tool Instructions J06234*.

Table 3. Piston Specifications

Piston		IN	MM
Fit in cylinder		0.0007-0.0020	0.017-0.050
Piston pin fit (loose)		0.0006-0.0010	0.015-0.025
Ring end gap	Top compression	0.015-0.025	0.381-0.635
	2nd compression	0.015-0.025	0.381-0.635
	Oil control ring	0.015+/-0.009	0.38+/-0.23
Ring side clearance	Top compression	0.0006-0.0024	0.015-0.060
	2nd compression	0.0008-0.0022	0.020-0.055
	Oil control rails	0.0004-0.0059	0.010-0.150

Table 4. Piston Service Wear Limits

Item	Replace if Wear Exceeds	
	IN	MM
Fit in cylinder (loose)	0.0045	0.1143
Piston pin fit (loose)	0.0015	0.0381
Top ring end gap	0.031	0.79
2nd ring end gap	0.032	0.81
Oil control ring rail gap	0.031	0.79
Ring side clearance	0.0035	0.089
2nd ring side clearance	0.0037	0.094
Oil control ring side clearance	0.0068	0.173

Piston Pin Circlip Installation

- See Figure 3. Position circlip opening (1) at 12 o'clock on special tool.
Special Tool: PISTON PIN RETAINING RING INSTALLER (HD-51069-2)
- See Figure 4. Align and insert special tool (2) with circlip into piston.
- See Figure 5. Make sure that circlip (2) is fully seated in groove.
a. Circlip opening (1) must be at 12 o'clock position.

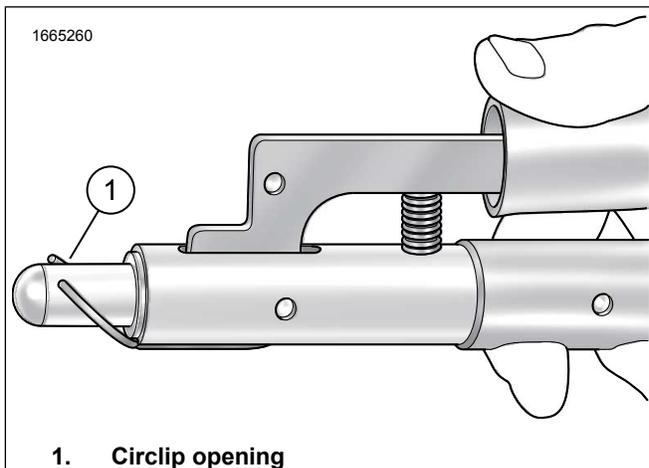


Figure 3. Position Circlip

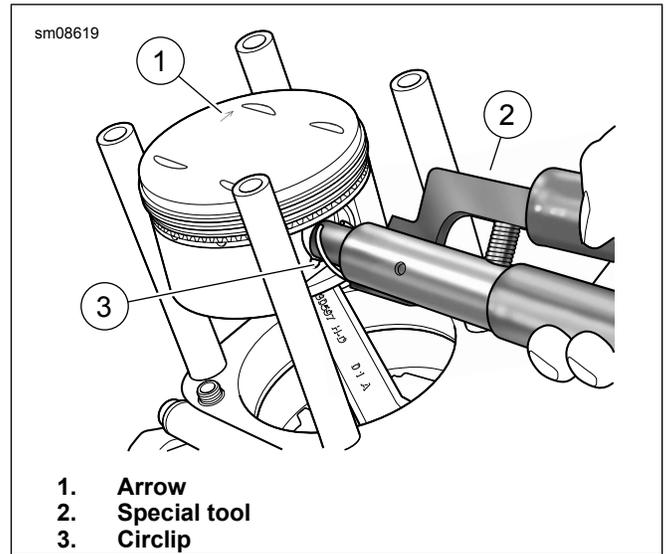


Figure 4. Install Circlip

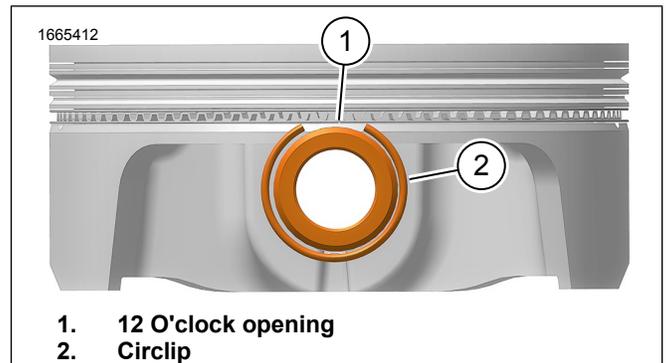


Figure 5. Circlip Position on Piston

- Repeat procedure for remaining circlips.

COMPLETE

- Install cylinder heads, cylinders, and high compression pistons and rings from kit. See service manual.
- Install fuel tank. See service manual.
- Connect negative battery cable. See service manual.
- Install main fuse. See service manual.
- Install seat. After installing seat, pull up on the seat to verify that it is secure. See service manual.
- Download the **new** ECM calibration using Screamin' Eagle Pro Street Performance Tuner Kit.
- Run engine. Repeat several times to verify proper operation.

BREAK-IN RIDING RULES

Refer to the Owner's Manual to break in the motorcycle.