



A Division of Thiessen Products, Inc.

INSTRUCTION SHEETS FOR JIMS® FORGED ALUMINUM PISTONS

Instructions for EVO and Big Twin Recommended Tools



Part No.	Application
JIMS No. 1235	Piston Ring Expander Tool
JIMS No. 1236	Piston Ring Compressor Tool
JIMS No. 1164	Piston Support Plate

Read instruction sheet completely before performing work. Also read H.D. Service Manual for piston and cylinder repairs.

Charts and Specifications

JIMS® has provided you with detailed information listing the applications and specifications of each JIMS® Stroker kit applicable to this instruction sheet. Please refer to this information throughout your installation for critical component combinations and specifications. Do not attempt to install your Stroker kit without cross checking each component for compatibility.

EVO BIG TWIN PISTON SET

JIMS® Piston sets for EVO Big Twin motors are CNC milled from aerospace forged 2618 aluminum alloy. Pistons are available in standard bore sizes of 3 1/2" to 3 5/8", as well as several common oversizes ranging from +.005" to +.010". with a 9.25:1 to 10:1 compression ratio. Replacement wrist pin clips, 4-pack, JIMS® No. 1599K



EVO Big Twin 80" Piston Sets

Part No.	Application	Bore Size	Stroke	Application	*Compression Ratio	Rings
No. 1555	Use on EVO Big Twin 80" 1984-99	3.5" STD	4.25"		*10:1	No.1461
No. 1555A	Use on EVO Big Twin 80" 1984-99	3.5" +.005	4.25"		*10:1	No.1462
No. 1555B	Use on EVO Big Twin 80" 1984-99	3.5" +.010	4.25"		*10:1	No.1463

*Compression Ratio Approximate / 0.792" Wrist pin O.D.

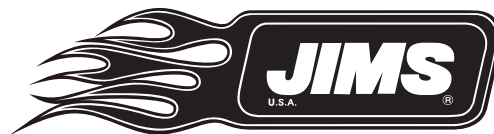
EVO Big Twin 87" Stroker Piston Sets

Part No.	Application	Bore Size	Stroke	Application	*Compression Ratio	Rings
No. 1558	Use on EVO Big Twin 87" 1984-99	3.5" STD	4.50"		*10:1	No.1461
No. 1558A	Use on EVO Big Twin 87" 1984-99	3.5" STD	4.50"		*10:1	No.1462
No. 1558B	Use on EVO Big Twin 87" 1984-99	3.5" STD	4.50"		*10:1	No.1463

*Compression Ratio Approximate / 0.792" Wrist pin O.D.

CAUTION: WEAR SAFETY GLASSES. EXCESSIVE FORCE MAY DAMAGE PARTS!
NOTE: IT IS THE ENGINE BUILDER'S RESPONSIBILITY TO CHECK AND CONFIRM THE OPERATING CLEARANCES WHEN INSTALLING ANY OF JIMS® PRODUCTS.

Performance Parts For Harley-Davidson Motorcycles



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EVO Big Twin 89" Stroker Piston Sets

Part No.	Application	Bore Size	Stroke Use	*Compression Ratio	Rings
No. 1561	Use on EVO Big Twin 89" 1984-99	3.5" STD	4.625"	*9.25:1	No.1461
No. 1561A	Use on EVO Big Twin 89" 1984-99	3.5" +.005	4.625"	*9.25:1	No.1462
No. 1561B	Use on EVO Big Twin 89" 1984-99	3.5" +.010	4.625"	*9.25:1	No.1463

*Compression Ratio Approximate / 0.792" Wrist pin O.D.

EVO Big Twin 96" Stroker Piston Sets

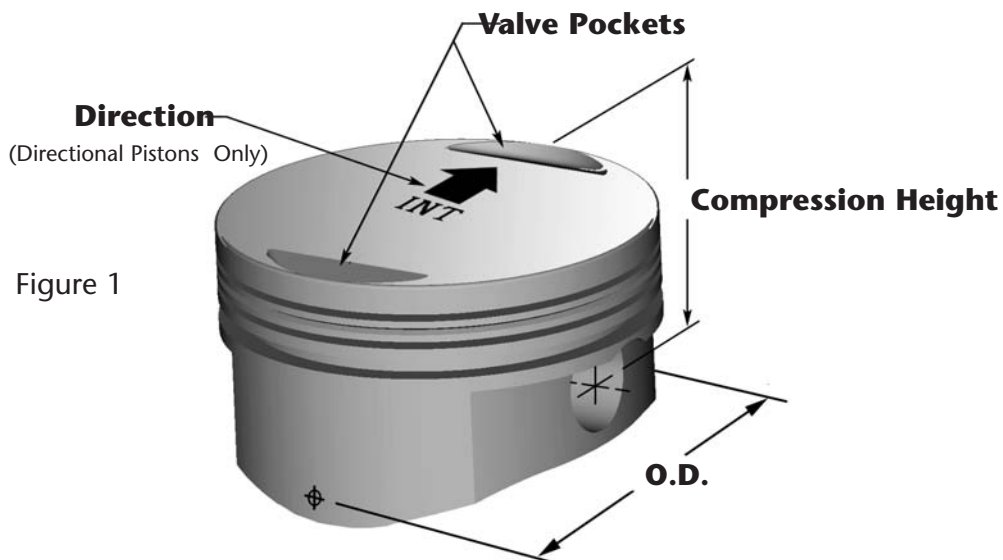
Part No.	Application	Bore Size	Stroke Use	*Compression Ratio	Rings
No. 1576	Use on EVO Big Twin 96" 1984-99	3.625" STD	4.625"	*9.75:1	No.1467
No. 1576A	Use on EVO Big Twin 96" 1984-99	3.625" +.005	4.625"	*9.75:1	No.1468
No. 1576B	Use on EVO Big Twin 96" 1984-99	3.625" +.010	4.625"	*9.75:1	No.1469

*Compression Ratio Approximate / 0.792" Wrist pin O.D.

EVO Big Twin 106" Stroker Piston Sets

Part No.	Application	Bore Size	Stroke Use	*Compression Ratio	Rings
No. 1584	Use on EVO Big Twin 106" 1984-99	3.812" STD	4.625"	*10:1	No.1475

*Compression Ratio Approximate / 0.792" Wrist pin O.D.



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INSTRUCTION SHEETS FOR JIMS® FORGED ALUMINUM PISTONS

Instructions

Step 1 – Piston to Cylinder Clearance .002 to .003 at 68°F.

- A. Maintaining a minimum clearance between the cylinder wall and the piston will require a longer break in period, but will prolong the life of the pistons and rings.
- B. Maintaining a loose fit will not require as long of a break in period, however, the loose fit will decrease the pistons and rings life.
- C. Cylinders should be honed with 240-280 grit stone. Follow the H.D. Service Manual for boring, and honing procedures. Use JIMS No.1073 Torque Plates when honing Big Twin cylinders.
- D. Check piston diameter at the point indicated in figure 1. Measure pistons at the widest point across the front and back (perpendicular to wristpin bore). See figure 1.

Step 2 - Piston Direction

- A. Piston Direction – When installing your pistons onto your rods, position the piston so that the arrow marked on the top will be pointed in the direction of the intake valve. See figure 1. Note: If there is no arrow on the top of your piston then they may be mounted in either direction.
- B. Ring Installation
 1. Top compression ring has a silver tint on the outside face. This ring must be installed with bevel facing up.
 2. Second compression ring has a darker outside face with a bevel on the inside face. This ring also has an identifying mark (a dot). Install in second groove of piston with dot facing up.
 3. Oil control rings are of three-piece design. One inside expander (Do not shorten expander) and two rails. Install expander with a rail placed below expander and above expander.
 4. Ring Gap Inspection – Both top and second compression ring end gap to be .016 to .022. With the two oil control rails end gap to be .010 to .050. (*Note: If any ring gaps are modified, all burrs must be removed or engine damage can result.*)
 5. Ring gap placement must be per H.D. service manual.
 6. Install pistons per H.D. service manual.

Break In Procedure

After final assembly, the engine must be broken in. Over-revving or lugging engine could cause damage to pistons and / or other engine components. On the initial start up, excessive heat build up can occur. Do not over heat by revving engine or running at a fast idle too long. To ensure proper head gasket seal upon first time engine start up, idle engine 1000-1500 R.P.M. until cylinder head temperature reaches about 250 degrees. Shut engine off and let cool. This procedure is necessary to properly seal top end components.

Because most engine damage could occur during the first 50 miles, keep the heat down by not exceeding 2800 R.P.M., but do not lug engine.

Continue to vary speed for the next 500 miles and do not exceed 3800 R.P.M. for the balance of the first 1000 miles, avoid overheating engine. Do not lug engine or idle for long periods of time. No trailer towing, racing, etc.

Change oil and filter after the first 500 miles.

WARRANTY

All JIMS parts are guaranteed to the original purchaser to be free of manufacturing defects in material and workmanship for a period of six (6) months from the date of purchase. Merchandise that fails to conform to these conditions will be repaired or replaced at JIMS option the parts are returned within the six (6) months warranty period or within ten (10) Days thereafter.

In the event warranty service is required, the original purchaser must call or write JIMS immediately with the problem. Some problems can be rectified by a telephone call and need no further course of action. A part suspected of being defected must not be replaced by a dealer without prior authorization by JIMS. If it is deemed necessary for JIMS to make an evaluation to determine whether the part is defective, it must be packaged properly to prevent further damage and be returned prepaid to JIMS with a copy of the original invoice of purchase and a detailed letter outlining the nature of the problem, how the part was used and the circumstances at the time of failure. If after an evaluation has been made by JIMS and the part was found to be defective, repair, replacement or credit will be granted.

ADDITIONAL WARRANTY PROVISIONS

1. JIMS shall have no obligation in the event a JIMS part is modified by person or organization.
2. JIMS shall have no obligation if a JIMS part becomes defective in whole or in part as a result of improper installation, improper maintenance, improper use, abnormal operation, or any other misuse or mistreatment of the part.
3. JIMS shall not be liable for any consequential or incidental damages resulting in the failure of a JIMS part, the breach of any warranties, the failure to deliver, delay in delivery, delivery in non-conforming condition, or for any other breach of contract or duty between JIMS and a customer.
4. JIMS parts are designed exclusively for use in Harley-Davidson® motorcycles. JIMS shall have no warranty or liability obligation if JIMS part is used in any other application.