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Affected Models: 2002-03 Chiefs

Technical Bulletin

Rocker Arm End Play

Important

Read these instructions carefully and thoroughly before commencing work. If you do not understand the instructions or have questions, see your supervisor. If you are unsure of any of the procedures, please contact your Indian Field Service Managers (FSM).

Rocker Arm End Play

Excessive valvetrain noise can be attributed to excessive rocker arm end play. This technical bulletin contains instructions on how to check for the correct rocker arm end play specification and how to make an adjustment if it is out of tolerance.

The shims required for this adjustment are specific to this application, DO NOT use off-the-shelf parts, only use the shims detailed below.

Parts required for Service Kit

Part #	Part Description	Qty
01-207	Shim, 0.010"	1
01-208	Shim, 0.015"	1
01-209	Shim, 0.020"	1
01-211	Shim, 0.025"	1

Tools Required

3/16" Allen Wrench	1/4" Allen Wrench	Feeler Gauge	Torque Wrench
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Materials Required

Blue Loctite 242

Rear Cylinder

- 1 Rotate the engine so that the rear piston is at Top Dead Center (TDC), compression stroke, so no load is on the valves.
- 2 Using a 3/16" allen wrench, remove the four screws securing the rear cylinder rocker cover.
- 3 Remove the cover and inspect both O-ring seals. Discard if damaged or worn.
- 4 Push both rocker arms towards the valve end support bracket (A) and using a feeler gauge check the gap between the rocker arms and the pushrod end support bracket (B).

NOTE: The Rocker arm end play specification should be between 0.003" to 0.012".

- 5 Compare the measurement to the specification and determine whether adjustment is necessary.

If the end play is within specification, adjustment will not be required. Refit the rocker cover (instructions 14 to 15) and carry out the same inspection on the front cylinder .

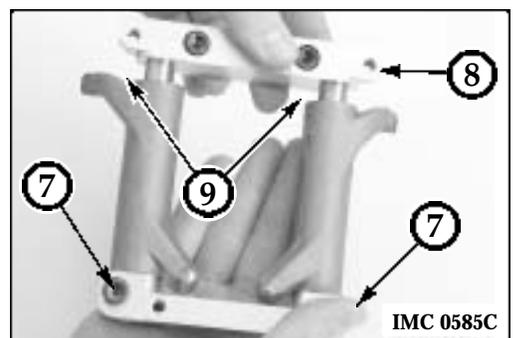
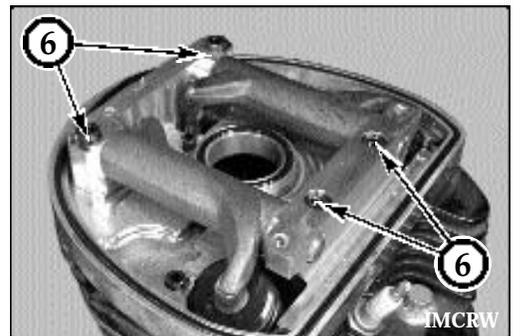
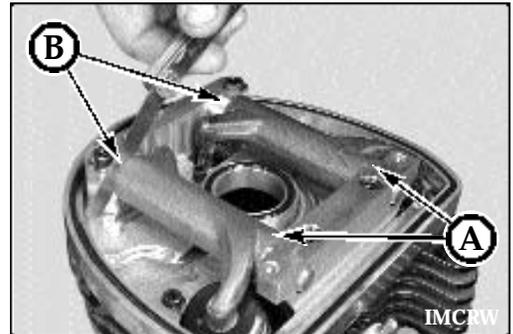
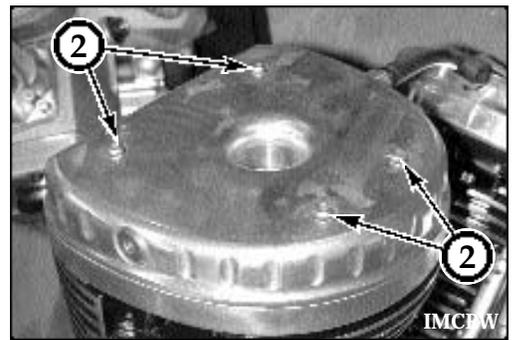
If the measurement is outside the specification, adjustment will be required and shimming will be necessary (follow the remainder of these instructions).

Adjustment

- 6 Using a 1/4" allen wrench remove the 4 screws securing the rocker shaft assembly.
 - 7 Separate the rocker shaft assembly from the base by carefully prying up on the support brackets to lift them off the dowels.
- NOTE: Once removed from the base, refit the two screws to the pushrod end support bracket. This will hold the rocker shafts in place while carrying out the shimming**
- 8 Remove the valve end support bracket from the assembly.
 - 9 Fit one shim to each shaft (valve end) bringing endplay as close to 0.005" as possible (see chart opposite).

WARNING: A gap of 0.000" to 0.002" and 0.038" and greater cannot be adjusted, this indicates a more serious problem and will require the replacement of the rocker base and both support brackets. Contact your FSM (Field Service Manager) immediately.

CAUTION: Do Not fit more than one shim per rocker arm. The shim must be placed at the valve side of the rocker arm.

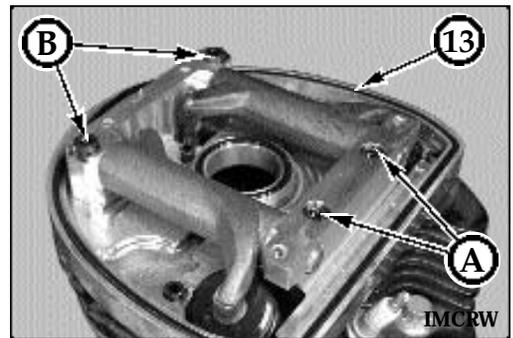
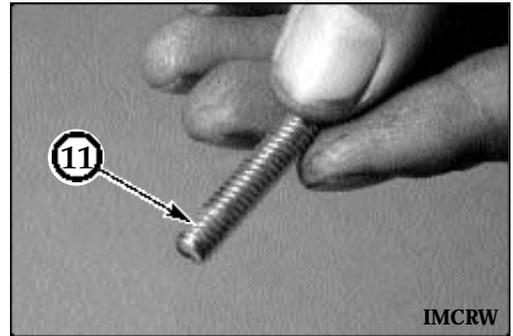


Endplay Measurement	Adjustment Shim to be used
.000" to .002"	Fail*
.003" to .012"	No Shim Required
.013" to .018"	.010" (P/N 01-207)
.019" to .023"	.015" (P/N 01-208)
.024" to .028"	.020" (P/N 01-209)
.029" to .037"	.025" (P/N 01-211)
.038" and greater	Fail*

* Fail is not adjustable

Refit

- 10 Refit the LH support bracket and reposition the complete assembly on the rocker base. Make sure that the three dowels are in place and the slots in the rocker shafts are properly aligned with the mounting screw holes in the RH support bracket.
- 11 Clean the threads of the 4 support bracket screws and apply Blue Loctite to the first 4 threads.
- 12 Fit the 1-3/4" screws into the LH support bracket (A) and the 2" screws to the RH bracket (B). Torque all screws in cross pattern to 16-20 foot-pounds.
CAUTION: The rear piston must be at TDC, compression stroke, when tightening the support bracket screws.
- 13 Re-check the rocker end play to ensure it is within specification.
- 13 Lubricate the two O-rings with clean engine oil and refit them in the grooves in the rocker base.
- 14 Refit the rocker cover.
- 15 Clean the rocker cover screws and apply Blue Loctite 242 to the first 4 threads of each screw. Refit the screws and tighten to 8-12 foot-pounds.



Front Cylinder

Rotate the engine so that the front piston is at Top Dead Center (TDC), compression stroke. Carry out the same inspection and shimming procedure to the front cylinder as rear.