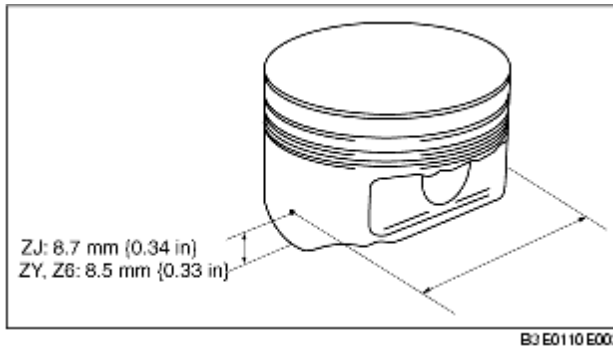


PISTON, PISTON RING, PISTON PIN INSPECTION

B3E01101010E01

1. Measure the piston outer diameter using a micrometer. The measurement position is **ZJ: 8.7 mm {0.34 in}**, **ZY and Z6: 8.5 mm {0.33 in}** from the lower end of the piston, and in the thrust direction.



Piston outer diameter

ZJ: 73.970-73.980 mm {2.9122-2.9125 in}

ZY, Z6: 77.970-77.980 mm {3.0697-3.0700 in}

2. Calculate the piston-to-cylinder clearance from the cylinder bore inner diameter and the piston outer diameter.

- If it exceeds the maximum specification, replace the piston or the cylinder block.

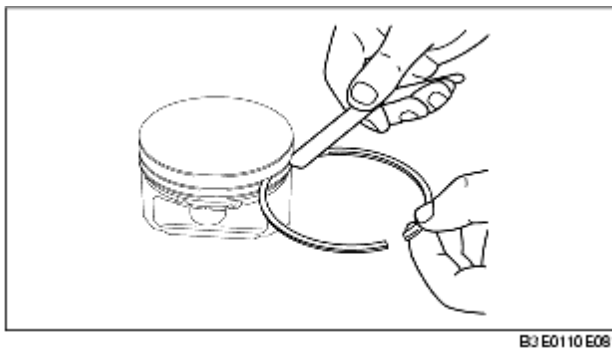
Standard clearance

0.020-0.043 mm {0.0008-0.0169 in}

Maximum clearance

0.09 mm {0.0035 in}

3. Measure the piston-to-ring groove clearance around the entire circumference using a feeler gauge.



- If it exceeds the maximum specification, replace the piston ring.

Standard clearance

Top: 0.035-0.065 mm {0.0014-0.0025 in}

Second: 0.03-0.07 mm {0.0012-0.0027 in}

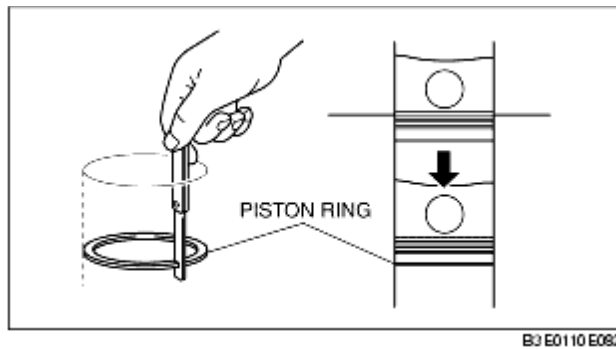
Oil: 0.06-0.15 mm {0.0024-0.0059 in}

Maximum clearance

Top, Second: 0.15 mm {0.0059 in}

Oil: 0.20 mm {0.0078 in}

4. Measure the piston ring end gap using a feeler gauge.



- If it exceeds the maximum specification, replace the piston ring.

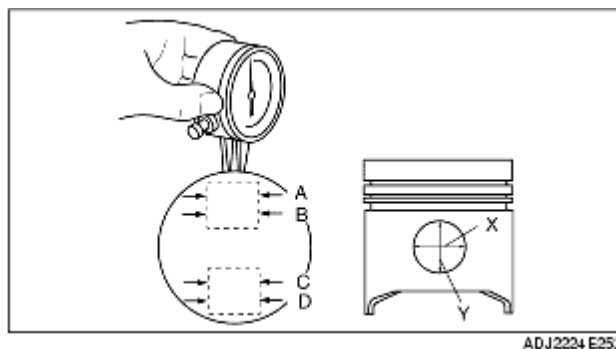
Standard end gap

Piston ring	ZJ	ZY, Z6
Top	0.13-0.23 mm {0.006-0.009 in}	0.14-0.24 mm {0.006-0.009 in}
Second	0.23-0.38 mm {0.010-0.014 in}	0.24-0.39 mm {0.010-0.015 in}
Oil (rail)	0.20-0.70 mm {0.008-0.027 in}	

Maximum end gap

1.0 mm {0.039 in}

5. Measure the piston pin hole diameter. Measurement positions total eight and they are in the X and Y directions at four points (A, B, C, and D) as shown in the figure.

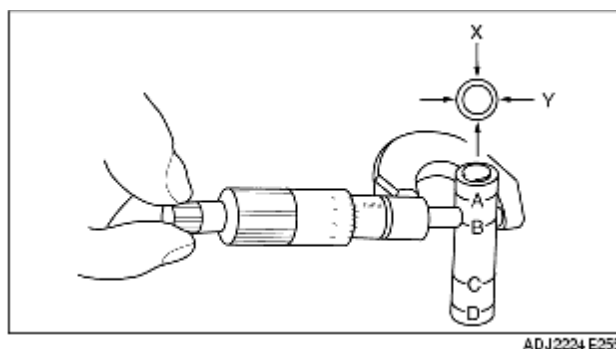


Standard inner diameter

ZJ: 17.988-18.000 mm {0.7082-0.7086 in}

ZY, Z6: 18.988-19.000 mm {0.7476-0.7480 in}

6. Measure the piston pin outer diameter using a micrometer. Measurement positions total eight and they are in the X and Y directions at the four points (A, B, C, and D) as shown in the figure.



Standard outer diameter**ZJ: 17.974-17.980 mm {0.7077-0.7078 in}****ZY, Z6: 18.974-18.980 mm {0.7471-0.7472 in}**

7. Calculate the clearance between the piston pin hole diameter and the piston pin outer diameter.

- If not within the specification, replace the piston or the piston pin.

Standard clearance**0.008-0.026 mm {0.0004-0.0010 in}**