

# PISTON INSPECTION

A6E242411010E01

## Caution

- The piston, piston ring and connecting rod cannot be disassembled.
- When replacing the piston, piston pin, piston ring and connecting rod, replace them together as a single unit.

1. Measure the outer diameter of each piston at right angle **90°** to the piston pin, **10.0 mm {0.40 in}** above the under of the piston.

- If the piston diameter is below the standard diameter, replace the piston, piston pin, piston ring and connecting rod as a single unit.

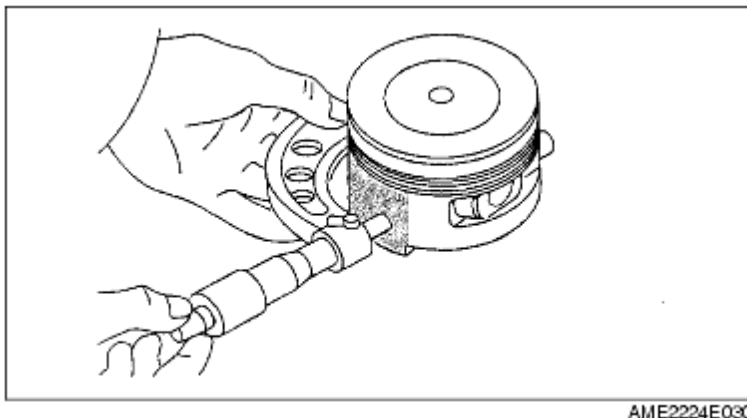
Piston diameter

L8:

82.965-82.995 mm {3.2664-3.2675 in}

LF, L3, L3 (with variable valve timing mechanism):

87.465-87.495 mm {3.4435-3.4446 in}



AME2224E030

2. Measure the piston-to-cylinder clearance.

- If not as specified, replace the piston, piston pin, piston ring and connecting rod as a single unit.

Standard clearance:

0.025-0.045 mm {0.0010-0.0017 in}

Maximum clearance:

0.11 mm {0.0043 in}

3. Measure the piston ring-to-ring groove clearance around the entire circumference.

- If the piston ring-to-ring groove clearance exceeds the maximum clearance, replace the piston, piston pin, piston ring and connecting rod as a single unit.

Standard clearance:

Top: 0.03-0.08 mm {0.0012-0.0031 in}

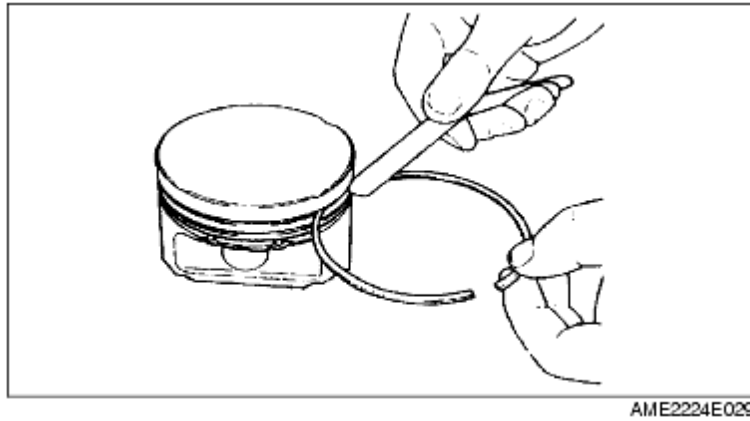
Second: 0.03-0.07 mm {0.0012-0.0027 in}

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

Maximum clearance:

Top: 0.17 mm {0.0067 in}

Second, Oil: 0.15 mm {0.0059 in}



4. Insert the piston ring into the cylinder by hand and use the piston to push it to the bottom of the ring travel.
5. Measure each piston ring end gap with a feeler gauge.

- If the piston ring end gap exceeds the maximum end gap, replace the piston, piston pin, piston ring and connecting rod as a single unit.

Standard end gap:

Top: 0.16-0.31 mm {0.0063-0.012 in}

Second: 0.33-0.48 mm {0.0130-0.0189 in}

Oil (rail): 0.20-0.70 mm {0.0079-0.0275 in}

Maximum end gap:

1.0 mm {0.0393 in}

