

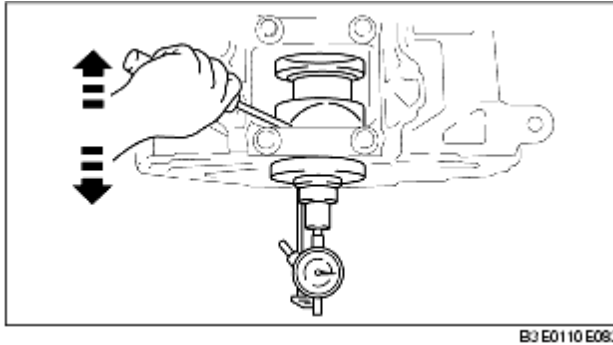
# CRANKSHAFT INSPECTION

B3E011011301201

1. Install the main bearing cap. (See [Main Bearing Cap Assembly Note.](#))

2. Measure the crankshaft end play.

- If it exceeds the specification, replace the thrust bearing or crankshaft so that the specified end play is obtained.



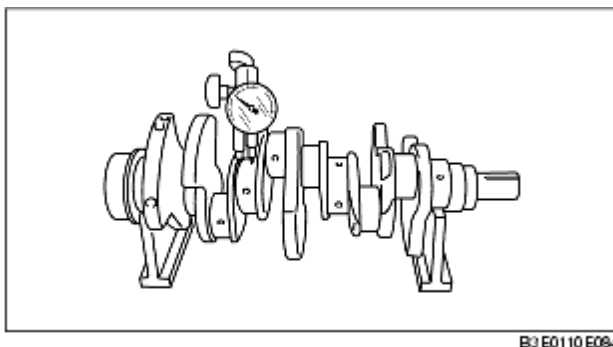
**Standard end play**  
**0.22-0.45 mm {0.0087-0.0177 in}**  
**Maximum end play**  
**0.55 mm {0.022 in}**

3. Remove the main bearing cap. (See [Main Bearing Cap Disassembly Note.](#))

4. Measure the crankshaft runout.

- If it exceeds the specification, replace the crankshaft.

**L8, LF**

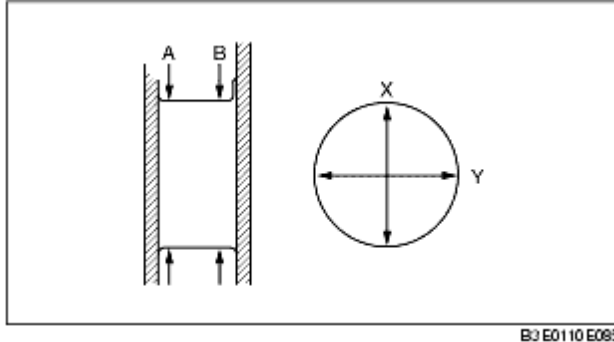


**L3, L3 (with variable valve timing mechanism)**

**Maximum runout**  
**0.05 mm {0.0019 in}**

5. Measure the journal diameter in X and Y directions at the two points (A and B) as indicated in the figure.

- If it exceeds the specification, replace the crankshaft or grind the journal and install the undersize bearing.



**Main journal**  
 mm {in}

Bearing size	Standard diameter
Standard	51.980-52.000 {2.0464-2.0472}
0.25 {0.01} undersize	51.730-51.750 {2.0366-2.0373}

**Maximum out-of-round**  
**0.05 mm {0.0019 in}**

**Crank pin**  
 mm {in}

Type	Bearing size	Standard diameter
L8, LF	Standard	46.980-47.000 {1.8497-1.8503}
	0.25 {0.01} undersize	46.730-46.750 {1.8398-1.8405}
L3	Standard	49.980-50.000 {1.9677-1.9685}
	0.25 {0.01} undersize	49.730-49.750 {1.9579-1.9586}

**Maximum out-of-round**  
**0.05 mm {0.0019 in}**

6. Install the main bearing caps and crankshaft.
7. Position a plastigauge atop the journals in the axial direction.
8. Install the main bearing caps and cylinder block. (See [Main Bearing Cap Assembly Note.](#))
9. Remove the main bearing caps. (See [Main Bearing Cap Disassembly Note.](#))
10. Measure the main journal oil clearance.
  - If it exceeds the specification, replace the main bearing using the main bearing selection table or grind the main journal and install the oversize bearings so that the specified oil clearance is obtained.

**Standard clearance**  
**0.019-0.035 mm {0.0007-0.0013 in}**  
**Maximum clearance**  
**0.10 mm {0.0039 in}**  
mm {in}

Bearing size	Bearing thickness
Standard	2.506-2.509 {0.0987-0.0988}
0.25 {0.01} oversize	2.628-2.634 {0.1034-0.1037}
0.50 {0.02} oversize	2.753-2.759 {0.1084-0.1086}