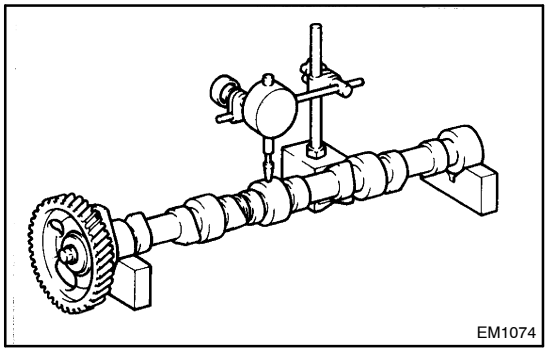
EM0O3–03

INSPECTION

1. INSPECT CAMSHAFT



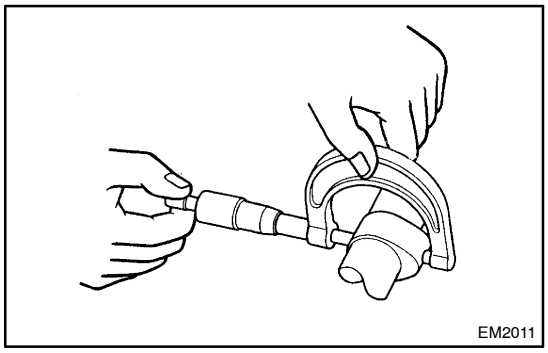
(a) Inspect camshaft for runout

(1) Place the camshaft on V–blocks.

(2) Using a dial indicator, measure the circle runout at the center journal.

Maximum circle runout: 0.06 mm (0.0024 in.)

If the circle runout is greater than maximum, replace the camshaft.

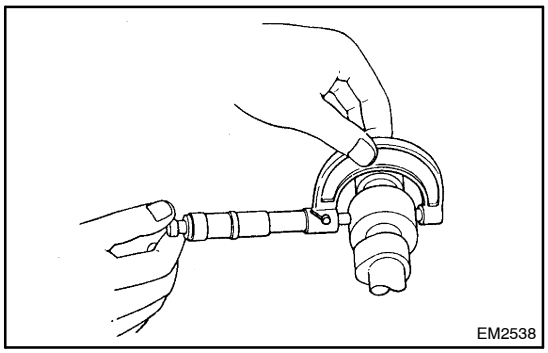


(b) Inspect cam lobes

Using a micrometer, measure the camlobe height.

Standard cam lobe height:
Intake: 43.774 – 43.864 mm (1.7234 – 1.7269 in.)
Exhaust: 44.905 – 44.995 mm (1.7679 – 1.7715 in.)
Minimum cam lobe height:
Intake: 43.34 mm (1.7063 in.)
Exhaust: 44.47 mm (1.7508 in.)

If the cam lobe height is less than minimum, replace the camshaft.



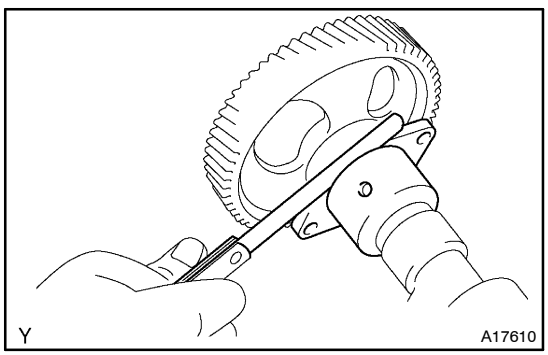
(c) Inspect camshaft journals

Using a micrometer, measure the journal diameter.

Journal diameter (from front side):

No.1	53.459 – 53.475 mm (2.1047 – 2.1053 in.)
No.2	53.209 – 53.225 mm (2.0948 – 2.0955 in.)
No.3	52.959 – 52.975 mm (2.0850 – 2.0856 in.)
No.4	52.709 – 52.725 mm (2.0752 – 2.0758 in.)
No.5	52.459 – 52.475 mm (2.0653 – 2.0659 in.)

If the journal diameter is not within specification, check the oil clearance. (See page EM–52)

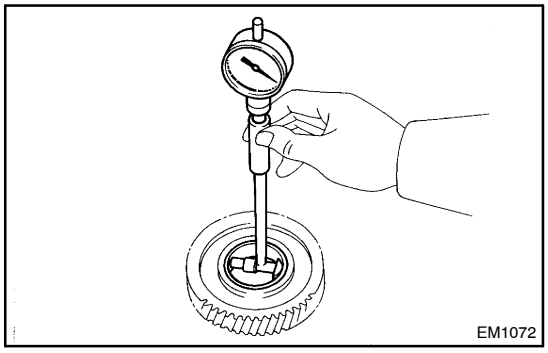


(d) Inspect camshaft clearance

Using a feeler gauge, measure the thrust clearance between the camshaft and thrust plate.

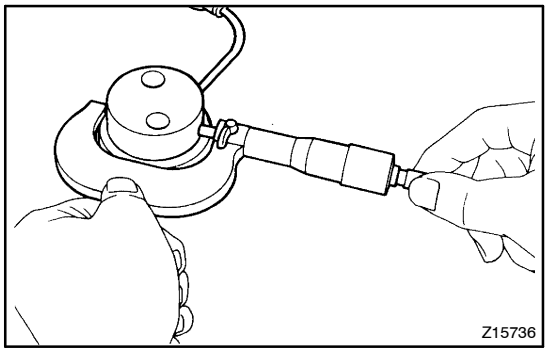
Standard clearance:
0.060 – 0.130 mm (0.0024 – 0.0051 in.)
Maximum clearance: 0.30 mm (0.0118 in.)

If the thrust clearance is greater than maximum, replace the thrust plate. If necessary, replace the camshaft.
(See camshaft replacement (or camshaft timing gear))



2. INSPECT IDLER GEAR

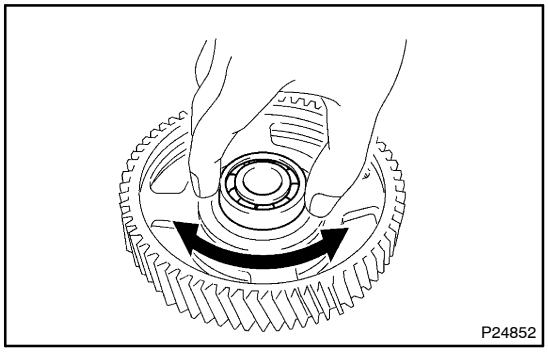
(a) Using cylinder gauge, measure the inside diameter of the idler gear.
Idler gear inside diameter:
44.974 – 45.000 mm (1.7706 – 1.7717 in.)



(b) Using a micrometer, measure the diameter of the idler gear shaft.
Idler gear shaft diameter:
44.935 – 44.955 mm (1.7691 – 1.7699 in.)

(c) Subtract the idler gear shaft diameter measurement from the idler gear inside diameter measurement.
Standard oil clearance:
0.019 – 0.065 mm (0.0007 – 0.0026 in.)
Maximum oil clearance: 0.18 mm (0.0071 in.)

If the clearance is greater than maximum, replace the gear shaft.



3. INSPECT INJECTION PUMP DRIVE GEAR

Check that bearing is not rough or worn.