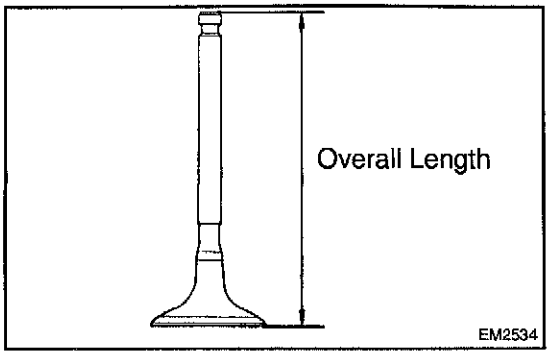


CYLINDER HEAD

EM05C–01

INSPECTION

1. INSPECT VALVES

Check the valve overall length.

Standard overall length:

Intake

2L, 2L–T, 3L	103.29 – 103.69 mm (4.0665 – 4.0823 in.)
5L	104.10 – 104.50 mm (4.0984 – 4.1142 in.)

Exhaust

2L, 2L–T, 3L	103.14 – 103.54 mm (4.0606 – 4.0764 in.)
5L	103.95 – 104.35 mm (4.0925 – 4.1083 in.)

Minimum overall length:

Intake

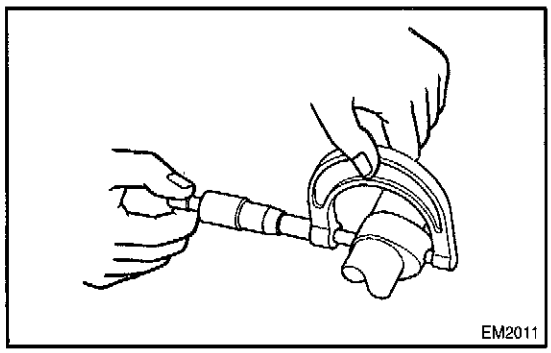
2L, 2L–T, 3L	102.79 mm (4.0468 in.)
5L	103.60 mm (4.0787 in.)

Exhaust

2L, 2L–T, 3L	102.64 mm (4.0409 in.)
5L	103.45 mm (4.0728 in.)

If the overall length is less than minimum, replace the valve.

EM



2. INSPECT CAMSHAFT

Using a micrometer, measure the cam lobe height.

Standard cam lobe height:

Intake

2L	53.850 – 53.870 mm (2.1201 – 2.1209 in.)
2L–T	53.450 – 53.470 mm (2.1043 – 2.1051 in.)
3L, 5L	54.290 – 54.310 mm (2.1374 – 2.1382 in.)

Exhaust 54.990 – 55.010 mm (2.1650 – 2.1657 in.)

Minimum cam lobe height:

Intake

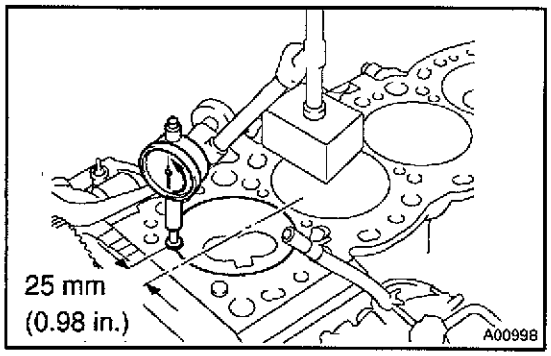
2L	53.35 mm (2.1004 in.)
2L–T	52.49 mm (2.0665 in.)
3L, 5L	53.79 mm (2.1177 in.)

Exhaust 54.49 mm (2.1453 in.)

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

EM05D–01

INSTALLATION



1. CHECK PISTON PROTRUSIONS FOR EACH CYLINDER

(a) Clean the cylinder block with solvent.

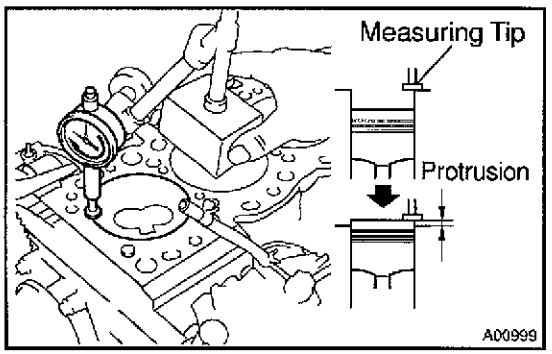
(b) Set the piston of the cylinder to be measured to slightly before TDC.

(c) Place a dial indicator on the cylinder block, set the measuring tip as shown in the illustration.

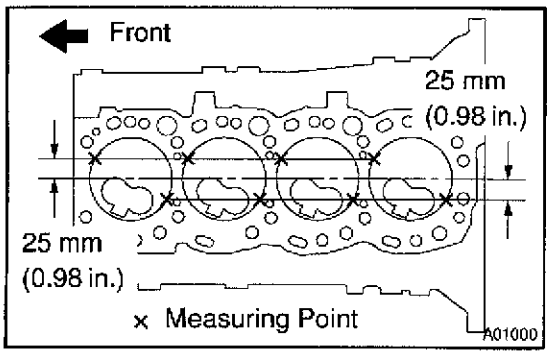
(d) Set the dial indicator at 0 mm (0 in.).

HINT:

- Use a dial indicator measuring tip as shown in the illustration.
- Make sure that the measuring tip is square to the cylinder block gasket surface and piston head when taking the measurements.



(e) Find where the piston head protrudes most by slowly turning the crankshaft clockwise and counterclockwise.



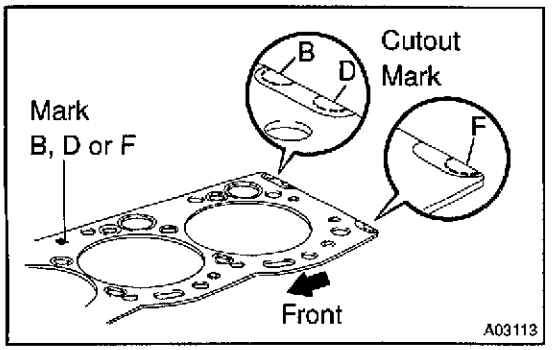
(f) Measure each cylinder at 2 places as shown in the illustration, making a total of 8 measurements.

(g) For the piston protrusion value of each cylinder, use the average of the 2 measurements of each cylinder.

Piston protrusion: 0.68 – 0.97 mm (0.0268 – 0.0382 in.)

When removing piston and connecting rod assembly:

If the protrusion is not as specified, remove the piston and connecting rod assembly and reinstall it.



2. SELECT NEW CYLINDER HEAD GASKET

HINT:

There are 3 sizes of new cylinder head gaskets, marked "B", "D" or "F" accordingly.

New installed cylinder head gasket thickness:

Mark B	1.40 – 1.50 mm (0.0551 – 0.0591 in.)
Mark D	1.50 – 1.60 mm (0.0591 – 0.0630 in.)
Mark F	1.60 – 1.70 mm (0.0630 – 0.0669 in.)

Select the largest piston protrusion value from the measurements made, then select a new appropriate gasket according to the table below.

Piston protrusion	Gasket size
0.68 – 0.77 mm (0.0268 – 0.0303 in.)	Use B
0.78 – 0.87 mm (0.0307 – 0.0343 in.)	Use D
0.88 – 0.97 mm (0.0346 – 0.0382 in.)	Use F