

CAMSHAFT INSPECTION

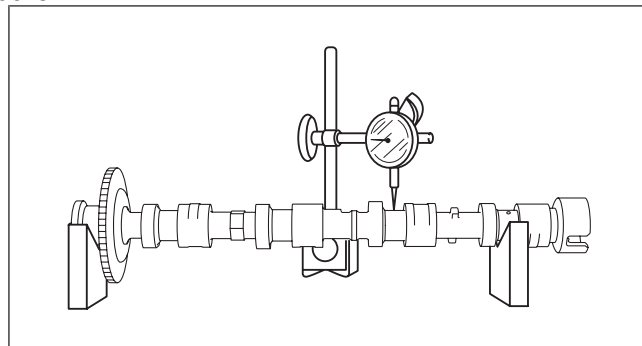
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Caution

- If the exhaust camshaft is replaced, replace all of the rocker arms (No.2) at the same time.

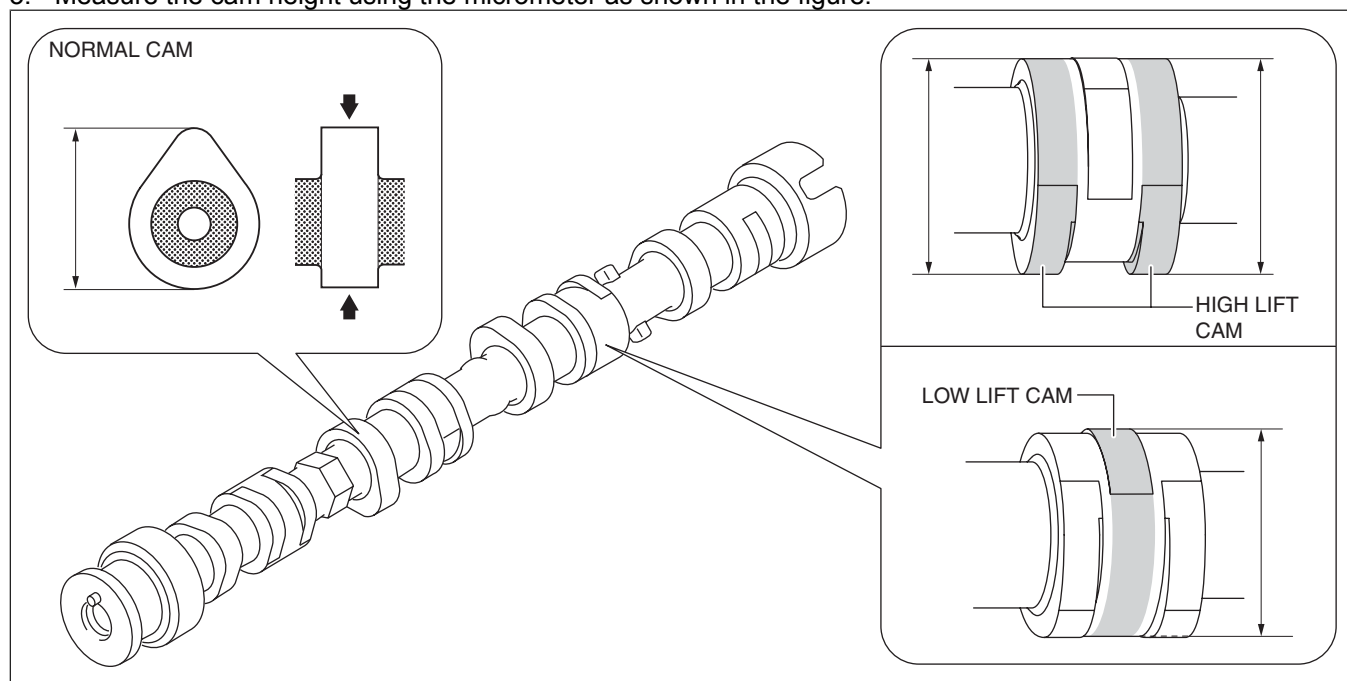
1. Set the No.1 and No.5 journals of the camshaft on V-blocks.
2. Measure the camshaft runout using the dial gauge.
 - If it exceeds the maximum specification, replace the camshaft.

Maximum camshaft runout
0.030 mm {0.0012 in}



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3. Measure the cam height using the micrometer as shown in the figure.



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- For the exhaust camshaft, inspect the three types of cams (normal cam, high lift cam, low lift cam).
- If it is less than the minimum specification, replace the camshaft.

Standard cam height [intake camshaft]
34.43 mm {1.356 in}

Standard cam height [exhaust camshaft]
Normal cam: 40.46 mm {1.593 in}
High lift cam: 38.23 mm {1.505 in}
Low lift cam: 36.76 mm {1.447 in}

Minimum cam height [intake camshaft]
34.23 mm {1.348 in}

Minimum cam height [exhaust camshaft]
Normal cam: 40.39 mm {1.590 in}
High lift cam: 37.78 mm {1.487 in}
Low lift cam: 36.69 mm {1.444 in}

4. Measure the journal diameter using the micrometer. Measurement positions total four and are in the X and Y directions, at two points (A and B) as shown in the figure.

- If it is less than the minimum specification, replace the camshaft.

Note

- The journal diameter of only the exhaust camshaft No.1 journal differs.

Standard camshaft journal diameter [intake camshaft]

25.950—25.975 mm {1.0217—1.0226 in}

Standard camshaft journal diameter [exhaust camshaft]

No.1 journal: 33.950—33.975 mm {1.3367—1.3375 in}

Except No.1 journal: 25.950—25.975 mm {1.0217—1.0226 in}

Minimum camshaft journal diameter [intake camshaft]

25.920 mm {1.0205 in}

Minimum camshaft journal diameter [exhaust camshaft]

No.1 journal: 33.920 mm {1.3354 in}

Except No.1 journal: 25.920 mm {1.0205 in}

5. Measure the camshaft journal oil clearance using the following procedure:

- (1) Clean the camshaft journal and the journal receptacle part.
- (2) Put the camshaft on the cylinder head with the rocker arm detached.
- (3) Cut the plastigauge to the same length as the journal width and position it parallel to the camshaft.
- (4) Install the camshaft caps. (See CYLINDER HEAD ASSEMBLY (II).)
- (5) Remove the camshaft caps. (See CYLINDER HEAD DISASSEMBLY (I).)
- (6) Measure the camshaft journal oil clearance.
 - If it exceeds the maximum specification, replace the cylinder head.

Standard camshaft journal oil clearance [intake camshaft]

0.025—0.071 mm {0.0010—0.0027 in}

Standard camshaft journal oil clearance [exhaust camshaft]

No.1 journal: 0.025—0.075 mm {0.0010—0.0029 in}

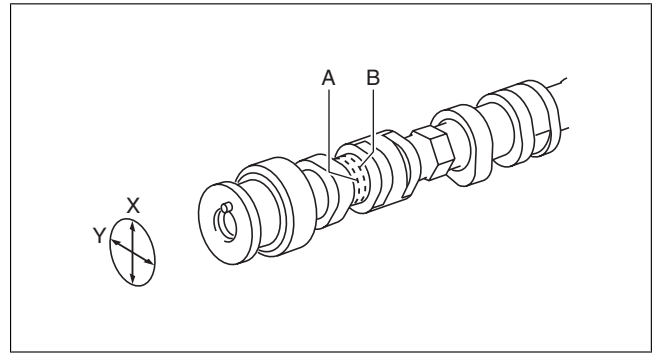
Except No.1 journal: 0.025—0.071 mm {0.0010—0.0027 in}

Maximum camshaft journal oil clearance [intake camshaft]

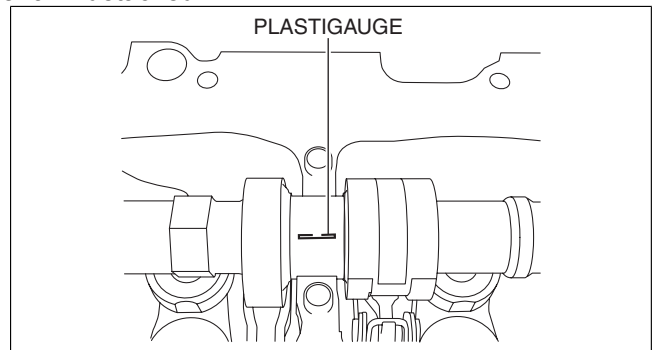
0.101 mm {0.00398 in}

Maximum camshaft journal oil clearance [exhaust camshaft]

0.105 mm {0.00413 in}



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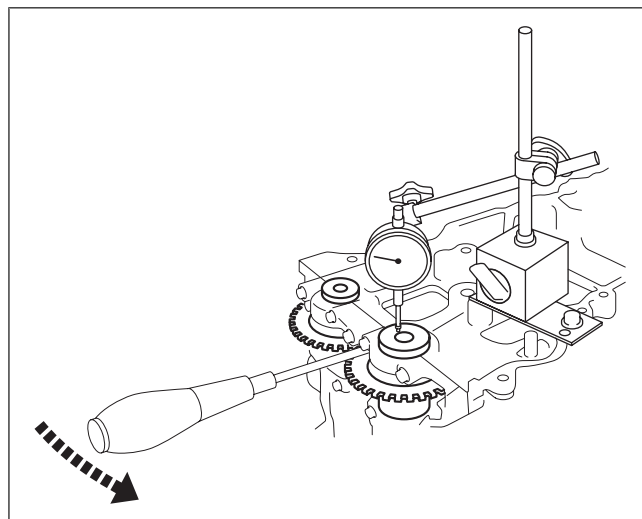


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6. Measure the camshaft end play using a dial gauge.
- If it exceeds the maximum specification, replace the cylinder head or camshaft.

Standard camshaft end play
0.087—0.207 mm {0.0035—0.0081 in}

Maximum camshaft end play
0.507 mm {0.020 in}



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