

### 2. Adjustment of valve clearances

After the distributor housing has been installed, adjust the valve clearances.

**Exhaust valve** — 0.15 mm (0.006 inch)

**Intake valve** — 0.15 mm (0.006 inch)

- (1) Turn the camshaft, until the camshaft woodruff key comes at the exact top position. Then, adjust the clearances of the intake and exhaust valves of the cylinder No.1, the exhaust valve of the cylinder No.2 and the intake valve of the cylinder No.3.
- (2) Turn the camshaft, until the camshaft woodruff key comes at the exact bottom position. Then, adjust the clearances of the intake valve of the cylinder No.2 and the exhaust valve of the cylinder No.3.

- (3) After the valve clearances have been adjusted, turn the camshaft, until the camshaft woodruff key comes at the top position.

**NOTE:**

After the engine assembly has been mounted on the vehicle, warm up the engine fully. Readjust the valve clearances to the specifications for hot operation.

**Reference**

| Camshaft position                            |               | No. of cylinder |   |   |
|--|---------------|-----------------|---|---|
|  |               | 1               | 2 | 3 |
| Camshaft woodruff key position: exact top    | Intake valve  | ○               |   | ○ |
|  | Exhaust valve | ○               | ○ |   |
| Camshaft woodruff key position: exact bottom | Intake valve  |                 | ○ |   |
|  | Exhaust valve |                 |   | ○ |

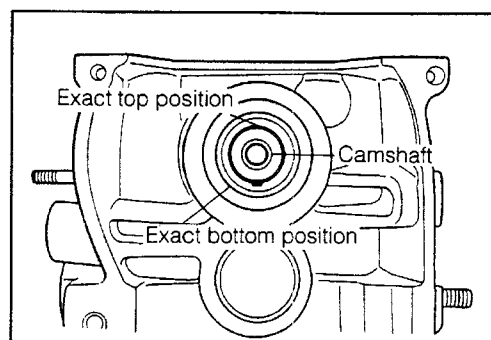


Fig. 5-173

WM-05199

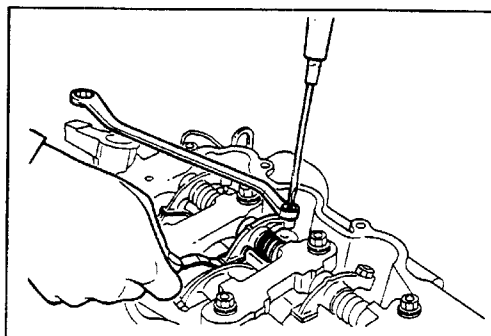


Fig. 5-174

WM-05200

### 3. Installation of cylinder head assembly

- (1) Remove the cylinder head from the SST.
- (2) Install a new cylinder head gasket on the cylinders.
- (3) Check to see if oil or water, etc. is present in the attaching holes of the cylinder head bolts at the cylinder block side. Remove any oil or water which is present by blowing compressed air.
- (4) Turn the camshaft key, until the camshaft woodruff key comes at the exact top position.

**NOTE:**

At this time, make sure that the crankshaft comes at the top dead center under the compression stroke of the cylinder No.1.

- (5) Install the cylinder head onto the cylinder head gasket surface, being very careful not to scratch the gasket.

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## ENGINE MECHANICALS

- (6) Insert the cylinder head bolts into position. Tighten the bolts to the specified torque in the sequence indicated in the right figure.

**Tightening Torque:** 5.5 - 6.5 kg-m (40 - 47 ft-lb)

### 14. Installation of distributor

- (1) Ensure that the cylinder No.1 is at the top dead center under the compression stroke or that the camshaft woodruff key comes at the exact top position.

- (2) Determine the position of the distributor shaft by aligning the punch mark at the end of the distributor with the recessed mark, as shown in the right figure.

**NOTE:**

Fill about 30 cc of engine oil in the distributor housing.

- (3) Insert the distributor proper into the distributor housing in such a way that the split line of the distributor proper may be aligned with the embossed line of the distributor housing.

- (4) Tighten the attaching bolts of the distributor temporarily.

**NOTE:**

Tighten the attaching bolts securely after the engine assembly has been mounted on the vehicle and the engine tune-up has been performed.

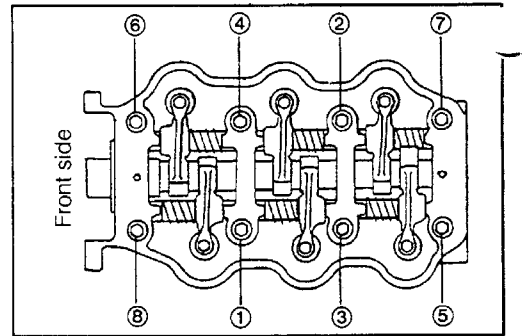


Fig. 5-175

WM-05202

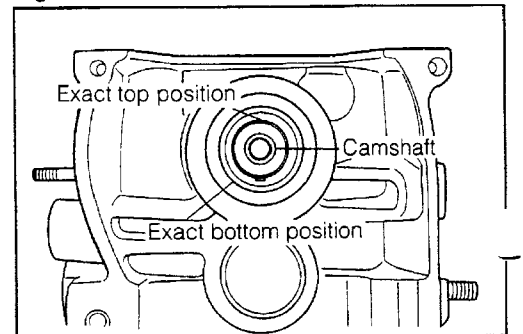


Fig. 5-176

WM-05204

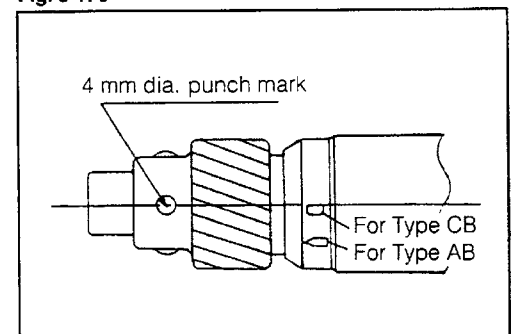


Fig. 5-177

WM-05205

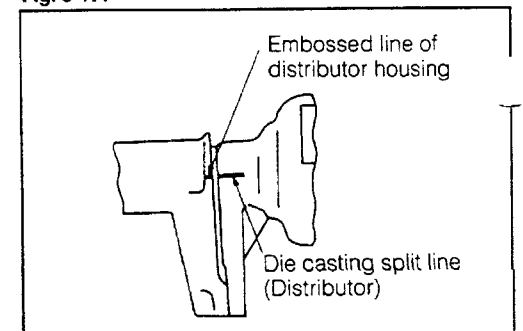


Fig. 5-178

WM-05206

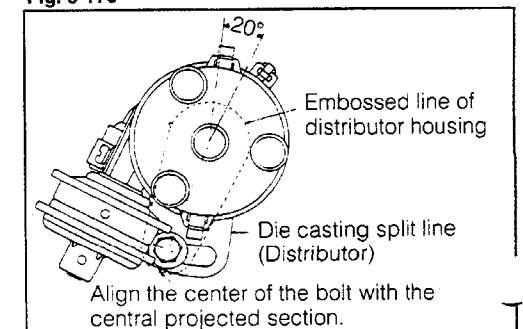
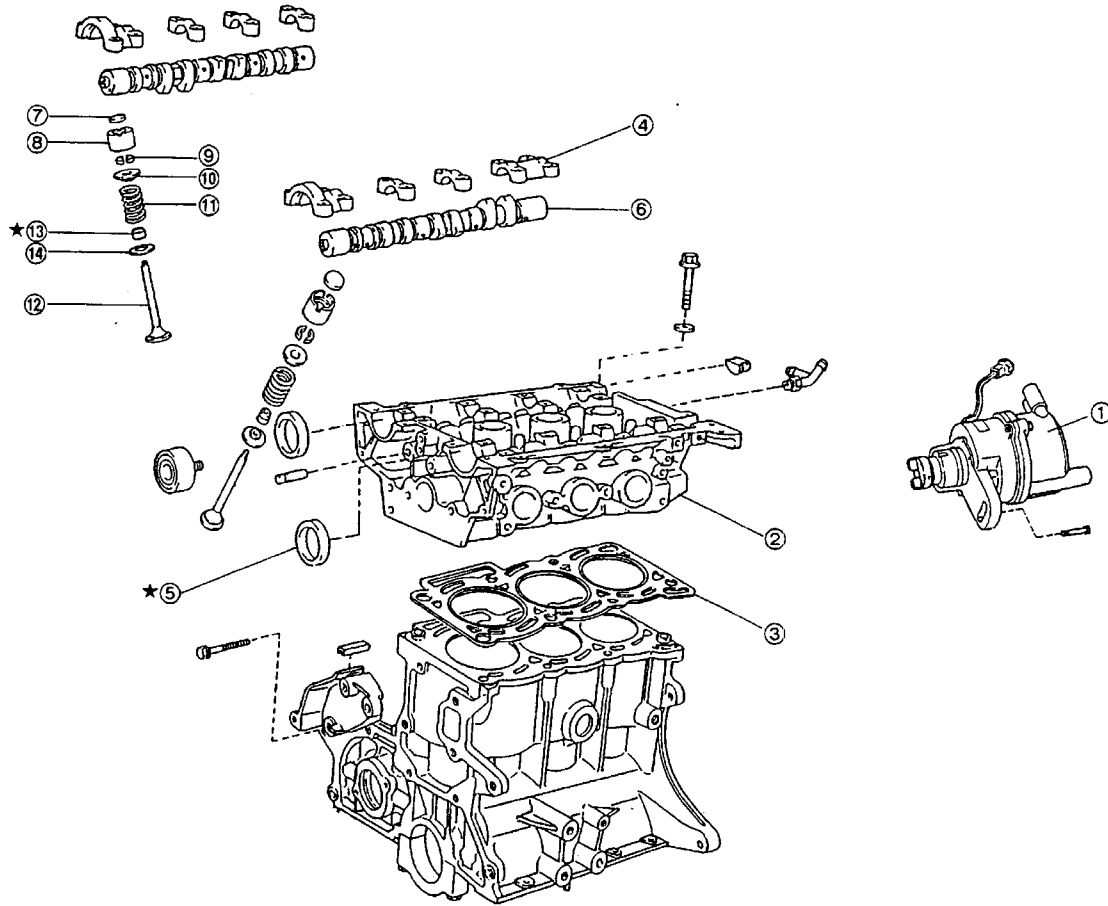


Fig. 5-179

WM-05207

CB-80 ENGINE  
COMPONENTS OF CYLINDER HEAD



★ : Non-reusable parts

- |                        |                              |
|------------------------|------------------------------|
| ① Distributor Ay       | ⑧ Valve lifter               |
| ② Cylinder head Ay     | ⑨ Valve spring retainer lock |
| ③ Cylinder head gasket | ⑩ Valve spring retainer      |
| ④ Camshaft bearing cap | ⑪ Compression spring         |
| ⑤ Oil seal             | ⑫ Valve                      |
| ⑥ Camshaft             | ⑬ Valve stem oil seal        |
| ⑦ Shim                 | ⑭ Valve spring seat          |

Fig. 5-180

WM-05208

## ENGINE MECHANICALS

### REMOVAL

1. Remove the distributor assembly.
2. Remove the cylinder head assembly.
  - (1) Loosen the cylinder head bolts gradually over two or three stages, following the sequence indicated in the right figure. Then, pull out the cylinder head bolts.

- (2) Remove the cylinder head. Attach the cylinder head to the SST. Fit the SST in a vise securely.  
SST: 09219-87703-000

**NOTE:**

Be very careful not to scratch the gasket surface of the cylinder head.

3. Remove the cylinder head gasket.
4. Remove the camshaft bearing caps.
  - (1) Turn the camshaft about 30 degrees counterclockwise so that the tappet may be brought under a non-compressed state.
  - (2) Pull out the camshaft bearing cap bolts.

**NOTE:**  
Be sure to alternately slacken the camshaft bearing cap bolts over two or three stages.

5. Remove the oil seal.
6. Remove the camshaft.
7. Remove the shims.

**NOTE:**

Arrange the removed shims in order so that their installation positions may be known readily.

8. Remove the valve lifters.

**NOTE:**

Arrange the removed valve lifters in order so that their installation positions may be known readily.

9. Removal of valve spring retainer locks  
Remove the valve spring retainer lock, using the following SSTs.

SST: 09202-87002-0A0  
09202-87002-000

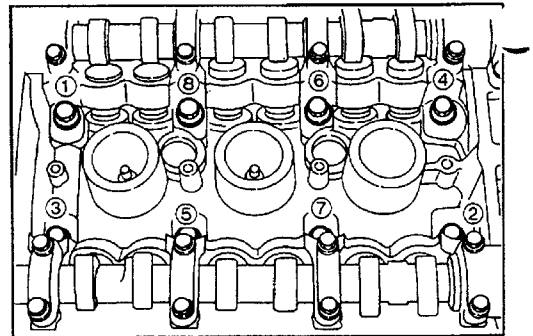


Fig. 5-181

WM-05209

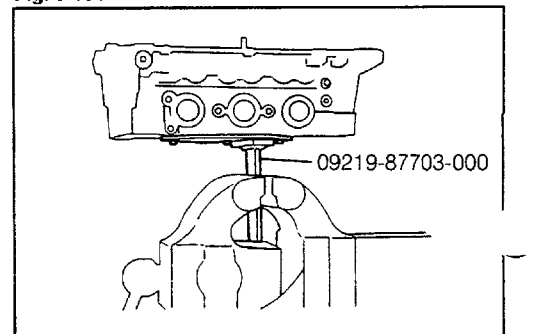


Fig. 5-182

WM-05210

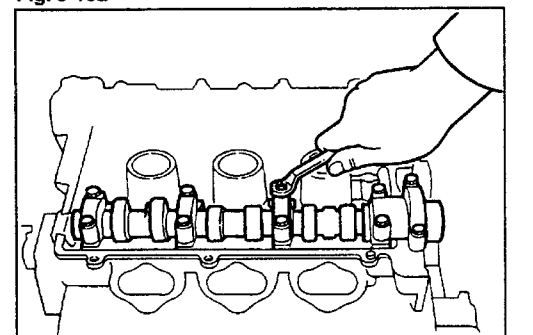


Fig. 5-183

WM-05211

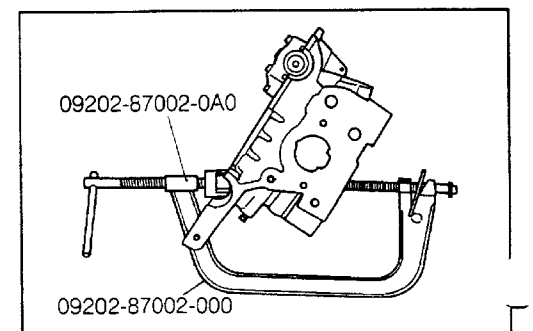


Fig. 5-184

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10. Remove the valve spring retainers.
11. Remove the compression springs.
12. Remove the valves.
13. Remove the valve stem oil seals.
14. Remove the valve spring seats.
15. Remove the cylinder head from the SST.

**NOTE:**

Wash the removed parts with a cleaning solvent and blow them by compressed air.  
(Do not use a cloth or the like to wipe the parts.)

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**INSPECTION**

1. Checking of cylinder head

- (1) Check the cylinder head for cracks, damage and distortion.

If the cylinder head exhibits cracks or damage, replace it, as required.

Check the cylinder head for distortion on the following three surfaces.

- ① Distortion of cylinder block gasket surface  
Maximum Limit: 0.10 mm (0.039 inch)
- ② Distortion of intake manifold attaching surface  
Maximum Limit: 0.10 mm (0.039 inch)
- ③ Distortion of exhaust manifold attaching surface  
Maximum Limit: 0.10 mm (0.039 inch)

**NOTE:**

If the distortion exceeds the maximum limit, replace the cylinder head.

(2) Checking valve seats

Apply a thin film of red lead to the valve seat. Let the valve drop by its own weight onto the valve seat two or three times. Take out the valve. Measure the width of the contact surface of the valve seat.

**Specified Value:** 1.2 - 1.6 mm (0.047 - 0.063 inch)

**NOTE:**

If the valve-to-valve seat contact surface does not conform to the specifications or the contact surface exhibits roughness, correct the cylinder head or replace it, as required.

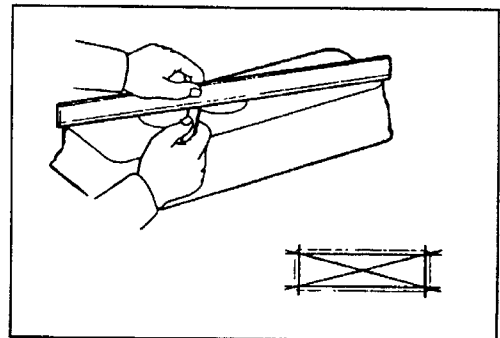


Fig. 5-185

WM-05215

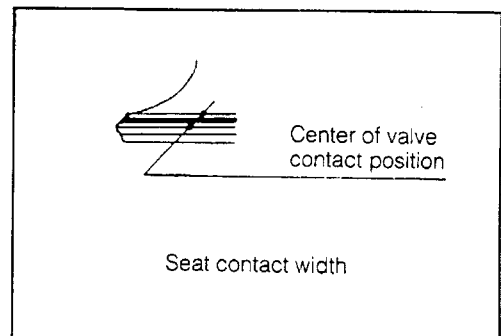


Fig. 5-186

WM-05216

## ENGINE MECHANICALS

### (3) Refacing valve seats

Reface the valves, using a valve seat cutter.

#### NOTE:

If the valve guide bush is worn, first replace it. Then, proceed to the valve seat refacing.

WM-05217

#### • Refacing procedure for intake valve seats

- ① Recondition the roughness on the valve-to-valve seat contact surface, using a 45-degree cutter.
- ② Using a 30-degree cutter, cut the valve seat in such a way that the circumference of the surface refaced by the 45-degree cutter may become  $29 \pm 0.1$  mm ( $1.14 \pm 0.004$  inches).
- ③ Using a 70-degree cutter, cut the valve seat in such a way that the width of the surface refaced by the 45-degree cutter may become  $1.4 \pm 0.2$  mm ( $0.055 \pm 0.008$  inches).
- ④ Using the 45-degree cutter, remove burrs produced during the refacing by the 30-degree and 70-degree cutters.

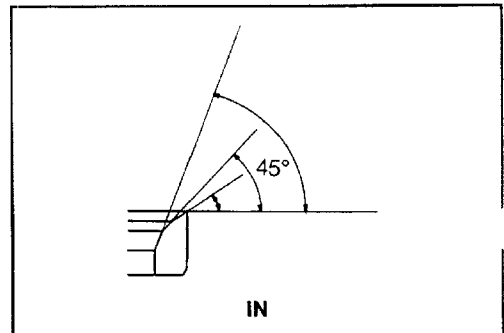


Fig. 5-187

WM-05218

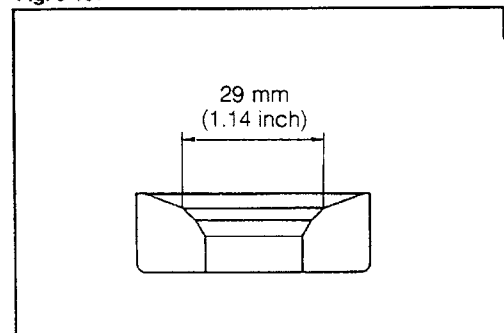


Fig. 5-188

WM-05219

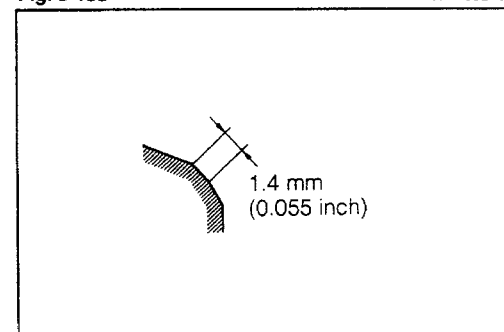


Fig. 5-189

WM-05220

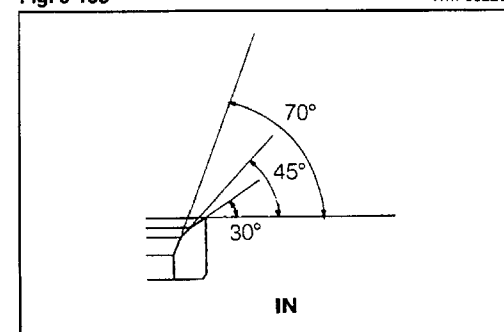


Fig. 5-190

WM-05221