

## CYLINDER HEAD/VALVES

Push down the tensioner lever using a screwdriver and insert the pin of the tensioner holder into the hole of the tensioner to hold the tensioner.  
Slowly release the tensioner until the tool rests against the cylinder head casting.

### TOOL:

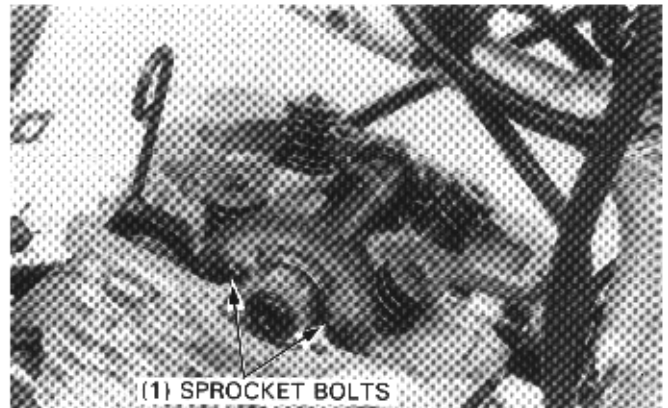
Cam chain tensioner holder      07973-MG30002 or  
07973-MG30003



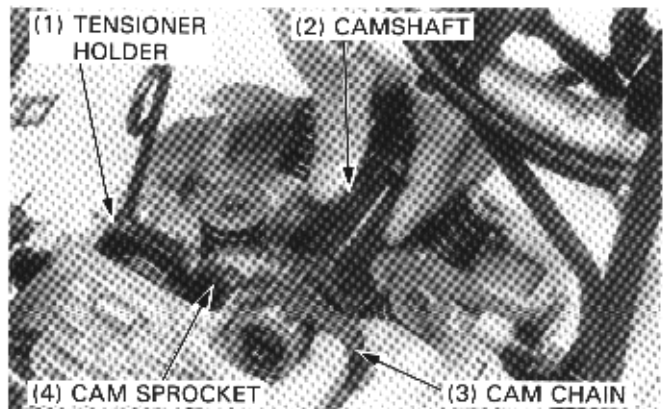
Turn the crankshaft and remove the cam sprocket bolts.

### CAUTION

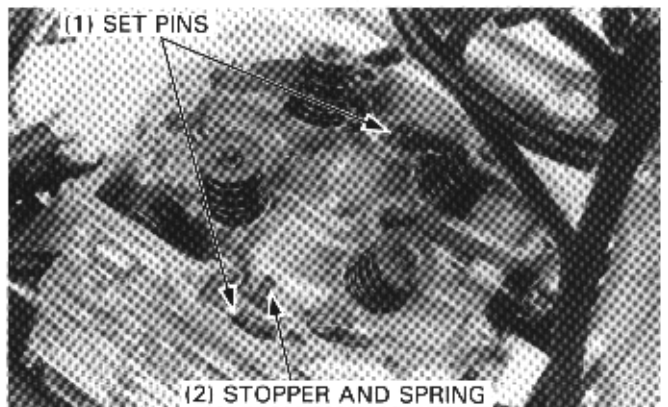
- *Be careful not drop the bolts into the crankcase.*



Separate the cam sprocket from the cam sprocket holder and remove the cam chain from the sprocket.  
Suspend the cam chain with a piece of wire to prevent it from falling into the crankcase.  
Remove the camshaft, cam sprocket and tensioner holder.



Remove the camshaft bearing set pins, reverse decompressor cam stopper and spring.



**CAMSHAFT BEARING INSPECTION**

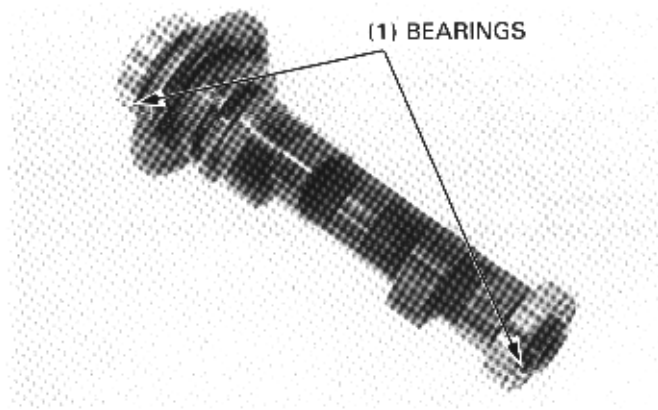
Turn the outer race of each bearing with your finger. The bearings should turn smoothly and quietly. Also check that the bearing inner race fits tightly on the camshaft.

If the outer races do not turn smoothly and quietly or inner races fit loosely on the camshaft, replace the bearings.

**NOTE**

- Always replace the camshaft bearings in pairs.

Remove the bearings from the camshaft.



**CAMSHAFT INSPECTION**

Check each cam lobe for wear or damage. Measure each cam lobe height.

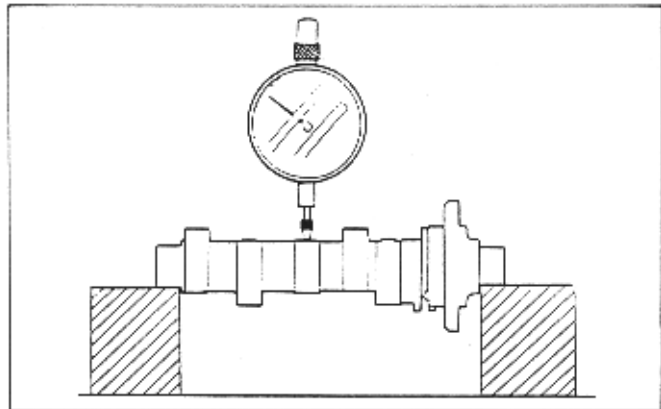
**SERVICE LIMITS:**

- Intake: 31.05 mm (1.222 in)
- Exhaust: 31.00 mm (1.220 in)



Support both ends of the camshaft with blocks. Measure the camshaft runout with a dial indicator. Actual runout is 1/2 of the total indicator reading.

**SERVICE LIMIT: 0.04 mm (0.002 in)**

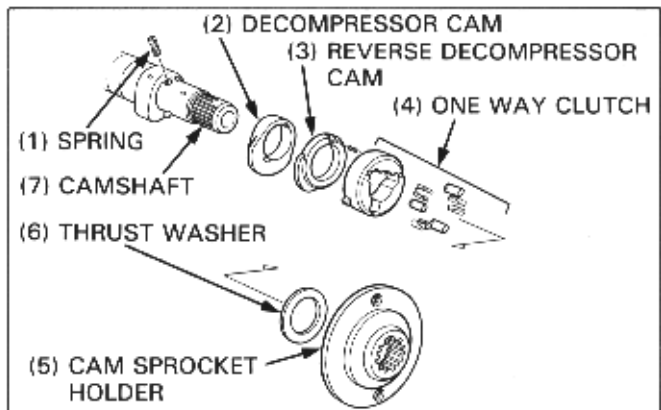


**DECOMPRESSOR SYSTEM DISASSEMBLY**

Press the cam sprocket holder off the camshaft. Remove the thrust washer, one way clutch, reverse decompressor cam and decompressor cam with spring.

**NOTE**

- Do not confuse the cam spring with the clutch spring.



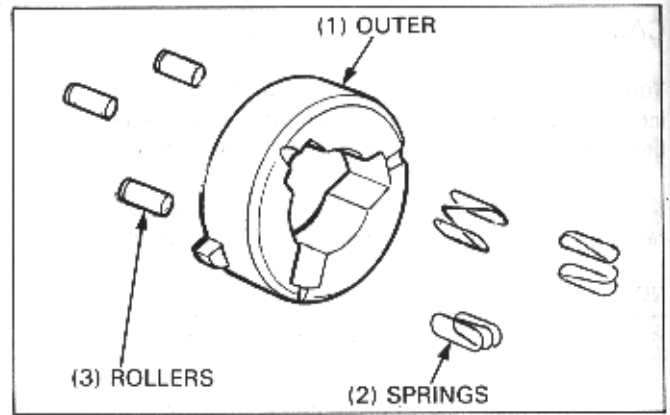
## CYLINDER HEAD/VALVES

### INSPECTION

Check the one way clutch outer, rollers and springs for wear or damage.

Check both decompressor cams for wear or damage, replace if necessary.

Inspect the cams' sliding surface on the camshaft for scoring or wear.

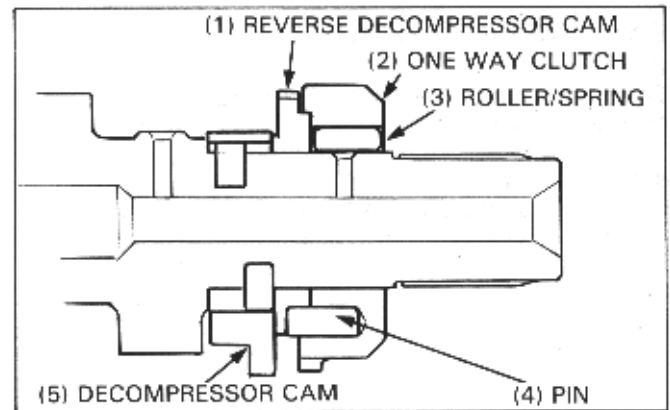


### DECOMPRESSOR SYSTEM ASSEMBLY

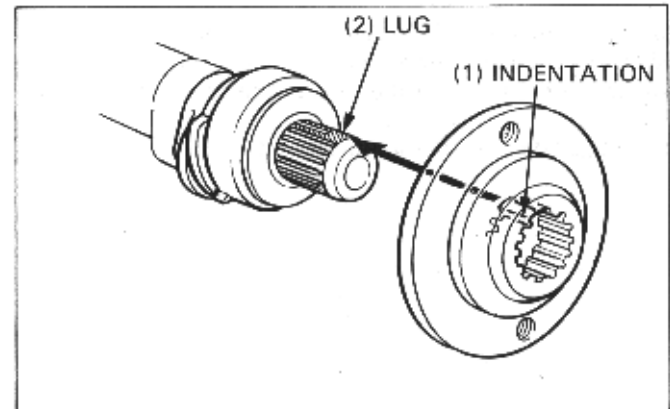
Lubricate both decompressor cams, one way clutch and the thrust washer with oil, then install the decompressor cam with its spring, onto the camshaft.

Install the reverse decompressor cam and the one way clutch with a pin.

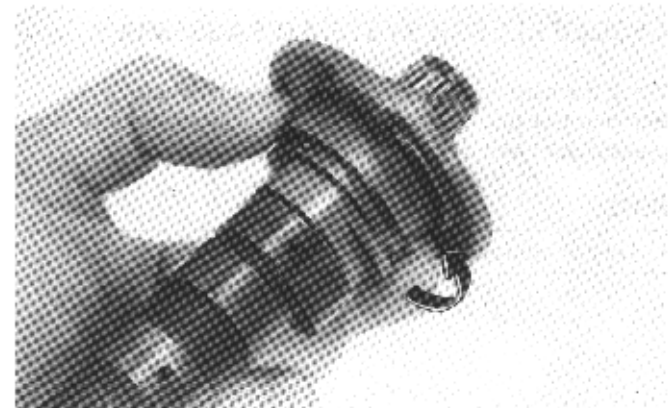
Install the the thrust washer.



Press the cam sprocket holder onto the camshaft after aligning the lug on the camshaft with the indentation on the cam sprocket holder.



Be sure that the one way clutch outer rotates in one direction only.



## CYLINDER HEAD REMOVAL

Remove the following components:

- Exhaust pipes (page 15-7)
- Cylinder head cover (page 6-3)
- Camshaft (page 6-5)
- Cylinder head nuts
- Cylinder head bolts

### NOTE

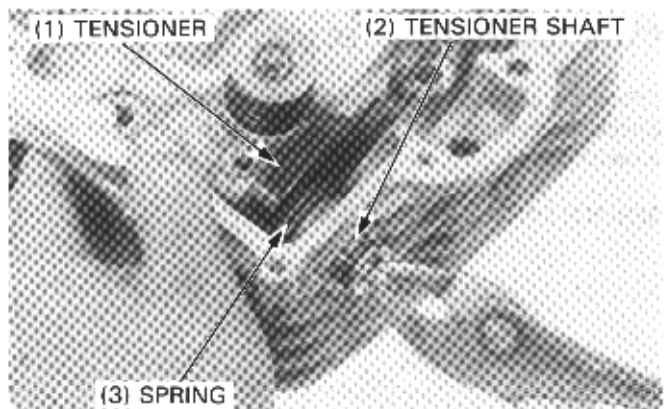
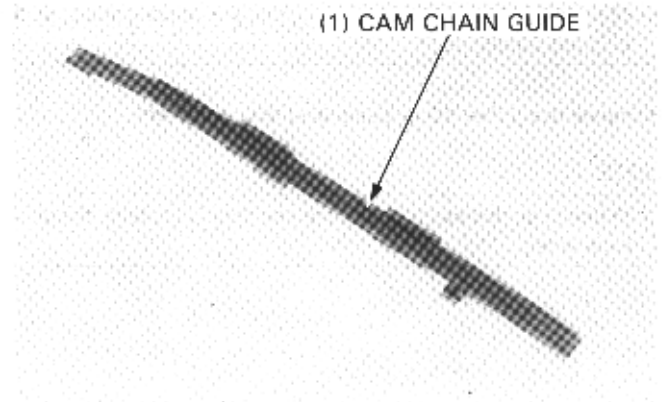
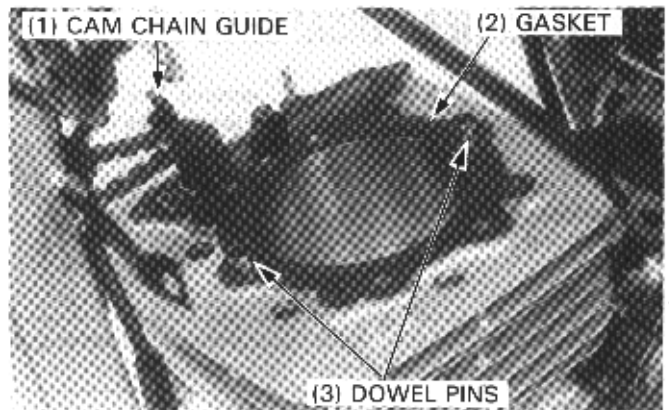
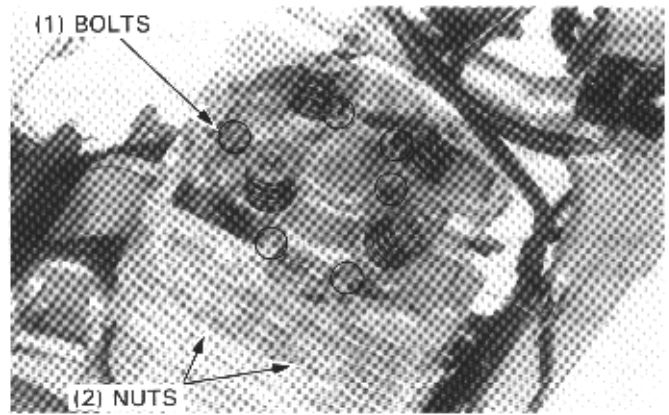
- Loosen the bolts in a crisscross pattern in two or more steps.

Remove the cylinder head.

### CAUTION

- *Be careful not to damage the cylinder head mating surfaces.*

Remove the dowel pins, cylinder head gasket and cam chain guide.



Inspect the cam chain guide for wear or damage. Replace the guide with a new one, if necessary.

## CAM CHAIN TENSIONER REMOVAL

Remove the tensioner shaft.  
Remove the cam chain tensioner and spring.

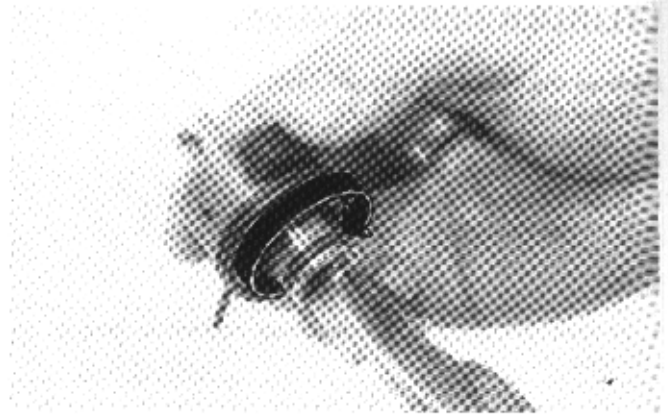
## CYLINDER HEAD/VALVES

### CAM CHAIN TENSIONER INSPECTION

Insert the tensioner shaft into the tensioner and inspect the tensioner by turning the shaft.

The tensioner shaft turns clockwise freely and should not turn counterclockwise.

Check the tensioner lifter and tensioner shaft for excessive or abnormal wear or damage.



### CYLINDER HEAD DISASSEMBLY

Using a valve spring compressor, remove the valve spring cotters, retainers, springs, spring seats and valves from the cylinder head.

#### TOOL:

Valve spring compressor      07757-0010000

#### CAUTION

- To prevent loss of tension, do not compress the valve springs more than necessary to remove the cotters.

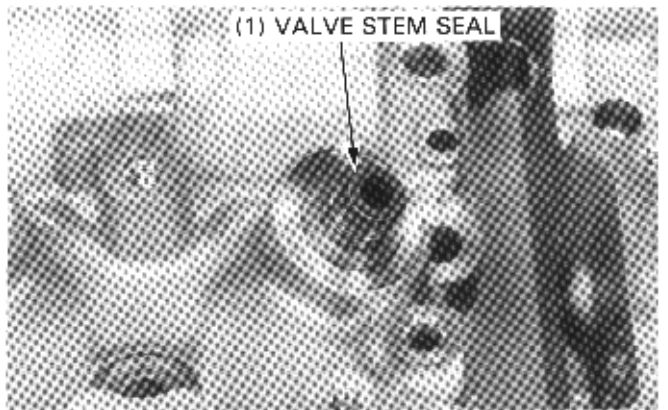
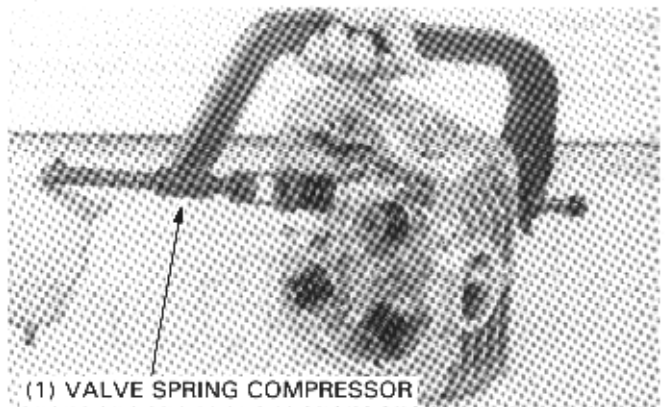
#### NOTE

- Mark all parts to ensure that they are reassembled in their original positions.

Remove the valve stem seals and discard them.

#### NOTE

- Whenever the stem seals are removed, replace them with new ones.



### CYLINDER HEAD INSPECTION

Check the spark plug hole and valve areas for cracks. Check the cylinder head for warpage with a straight edge and a feeler gauge.

**SERVICE LIMIT: 0.10 mm (0.004 in)**

