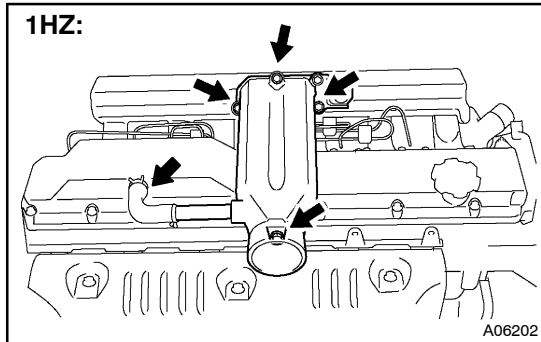


## REMOVAL

### 1. 1HD-T:

#### REMOVE INTAKE PIPE ASSEMBLY

- Remove the vacuum hose and 2 clip.
- Remove the 3 bolts holding the intake pipe to the intake manifold.
- Disconnect the intake pipe assembly to the air hose and remove the intake pipe assembly and gasket.



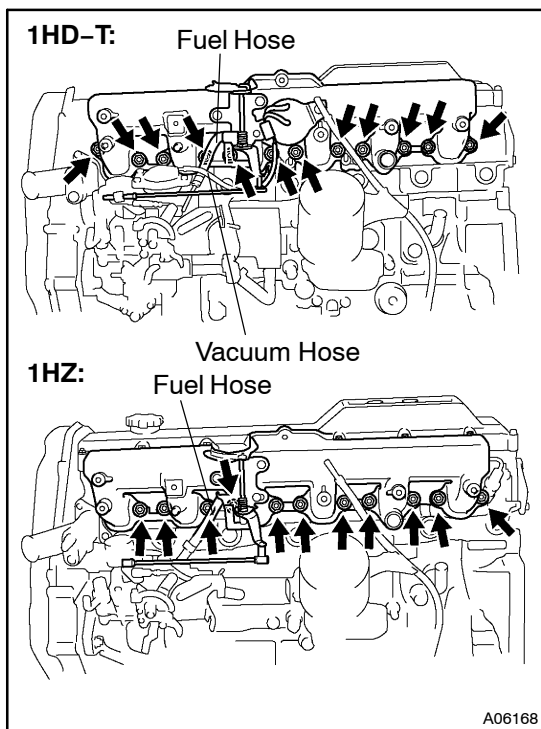
### 2. 1HZ:

#### REMOVE INTAKE PIPE ASSEMBLY

- Disconnect the PCV hose to the cylinder head cover.
- Remove the 3 bolts holding the intake pipe to the intake manifold, intake pipe assembly and insulator.

### 3. REMOVE INJECTION PIPE

(See page FU-7)



### 4. REMOVE INTAKE MANIFOLD

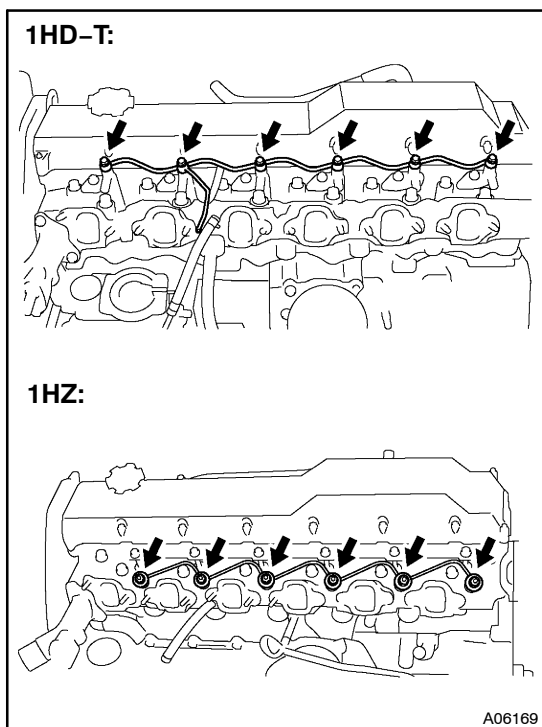
#### 1HD-T:

Disconnect the fuel hose to the fuel pipe and vacuum hose to the injection pump.

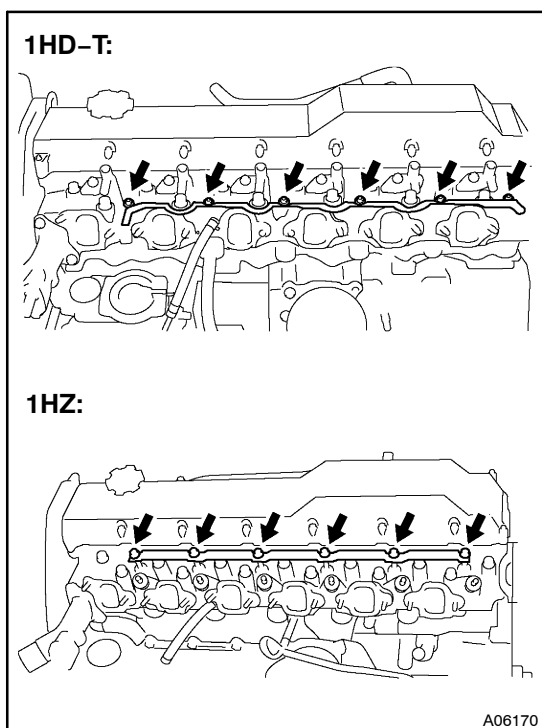
#### 1HZ:

Disconnect the fuel hose to the fuel pipe.

- Remove the accelerator linkage.
- Remove the 12 nuts, 12 seals, intake manifold and 6 gaskets.

**5. REMOVE NOZZLE LEAKAGE PIPE**

- (a) 1HD-T:  
Remove the 6 bolts, 12 gaskets and nozzle leakage pipe.
- (b) 1HZ:  
Remove the 6 nuts, 6 gaskets and nozzle leakage pipe.

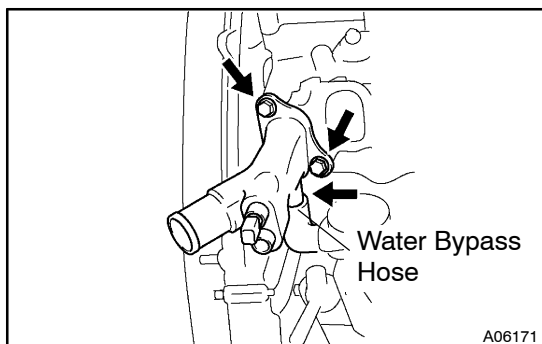
**6. REMOVE GLOW PLUG CONNECTOR AND GLOW PLUG**

- (a) Remove 6 screw grommets, 6 nuts and glow plug connector.
- (b) Remove 6 glow plugs.

**7. REMOVE INJECTION NOZZLES**

1HZ: (See page FU-7)

1HD-T: (See page FU-17)

**8. REMOVE WATER OUTLET**

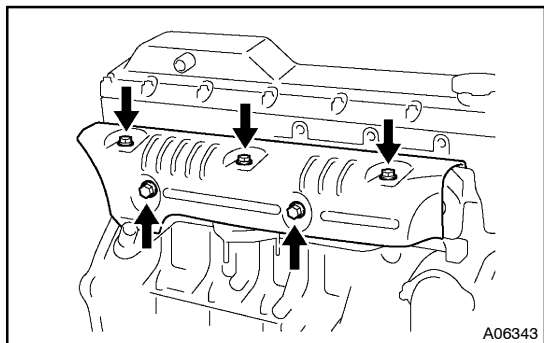
- (a) Remove the 2 nuts.
- (b) 1HD-T:  
Disconnect the water bypass hose from the water outlet, gasket and remove the water outlet.
- (c) 1HZ:  
Remove the water outlet and gasket.

9. **1HD-T:**  
**REMOVE TURBOCHARGER AND EXHAUST MANIFOLDS ASSEMBLY**

(See page TC-8)

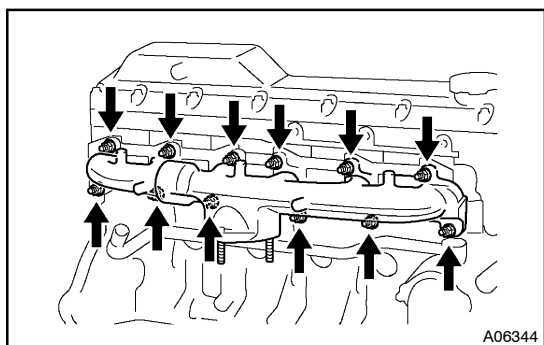
10. **1HD-T:**  
**REMOVE EXHAUST MANIFOLDS FROM TURBOCHARGER**

(See page TC-8)



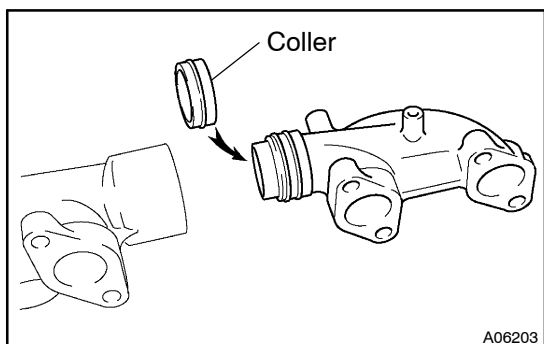
11. **1HZ:**  
**REMOVE HEAT INSULATOR**

Remove the 5 bolts and heat insulator



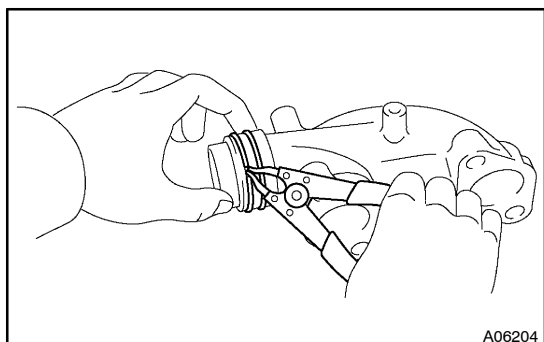
12. **1HZ:**  
**REMOVE EXHAUST MANIFOLDS ASSEMBLY**

Remove the 12 bolts, exhaust manifold and 2 gaskets.

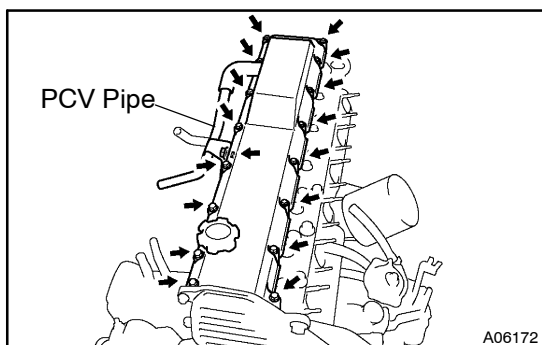


13. **SEPARATE EXHAUST MANIFOLDS**

- Separate the front and rear exhaust manifolds.
- Remove the collar.



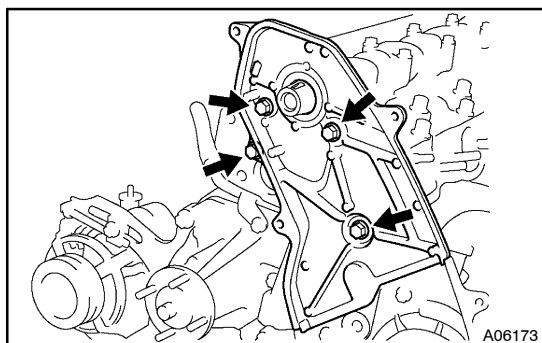
- Using snap ring pliers, remove the 2 rings from the rear exhaust manifold.
- Remove the O-ring materials to the rear exhaust manifold grooves.

**14. REMOVE CYLINDER HEAD COVER**

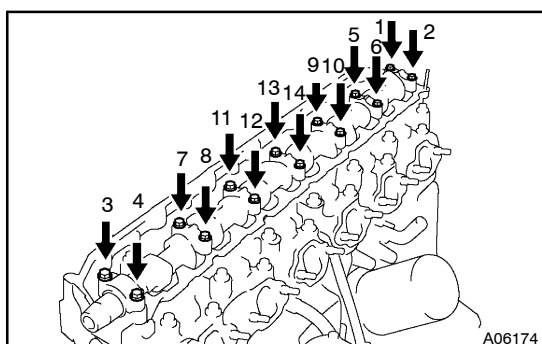
- (a) 1HD-T:  
Remove the bolt and PCV pipe.
- (b) Remove the 2 nuts, 14 bolts, cylinder head cover and gasket.

**15. REMOVE 2 ENGINE HANGER****16. REMOVE SEMI-CIRCULAR PLUG****17. REMOVE TIMING BELT AND PULLEYS**

(See page EM-27)

**18. REMOVE CAMSHAFT OIL SEAL RETAINER**

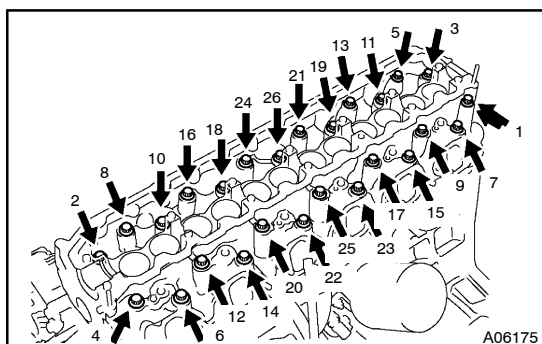
- (a) Remove the 4 bolts.
- (b) Pry out the oil seal retainer.

**19. REMOVE CAMSHAFT**

- (a) Uniformly loosen and remove the 14 bearing cap bolts in the sequence shown.
- (b) Remove the 7 bearing caps and camshaft.

**HINT:**

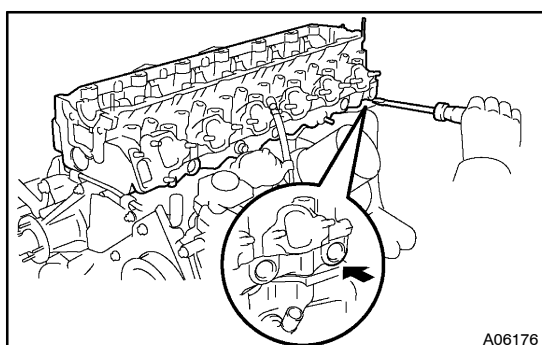
Arrange the bearing caps and bearings in correct order.

**20. REMOVE CYLINDER HEAD ASSEMBLY**

- (a) Disconnect the water bypass hose (from the injection pump) from the cylinder head.
- (b) Uniformly loosen and remove the 26 cylinder head bolts in several passes, in the sequence shown.  
SST 090 11-38121

**NOTICE:**

**Head warpage or cracking could result from removing bolts in incorrect order.**



- (c) Lift the cylinder head from the dowels on the cylinder block, and place the cylinder head on wooden blocks on a bench.

**HINT:**

If the cylinder head is difficult to lift off, pry with a screwdriver between the cylinder head and block.

**NOTICE:**

**Be careful not to damage the contact surfaces of the cylinder head and cylinder block.**