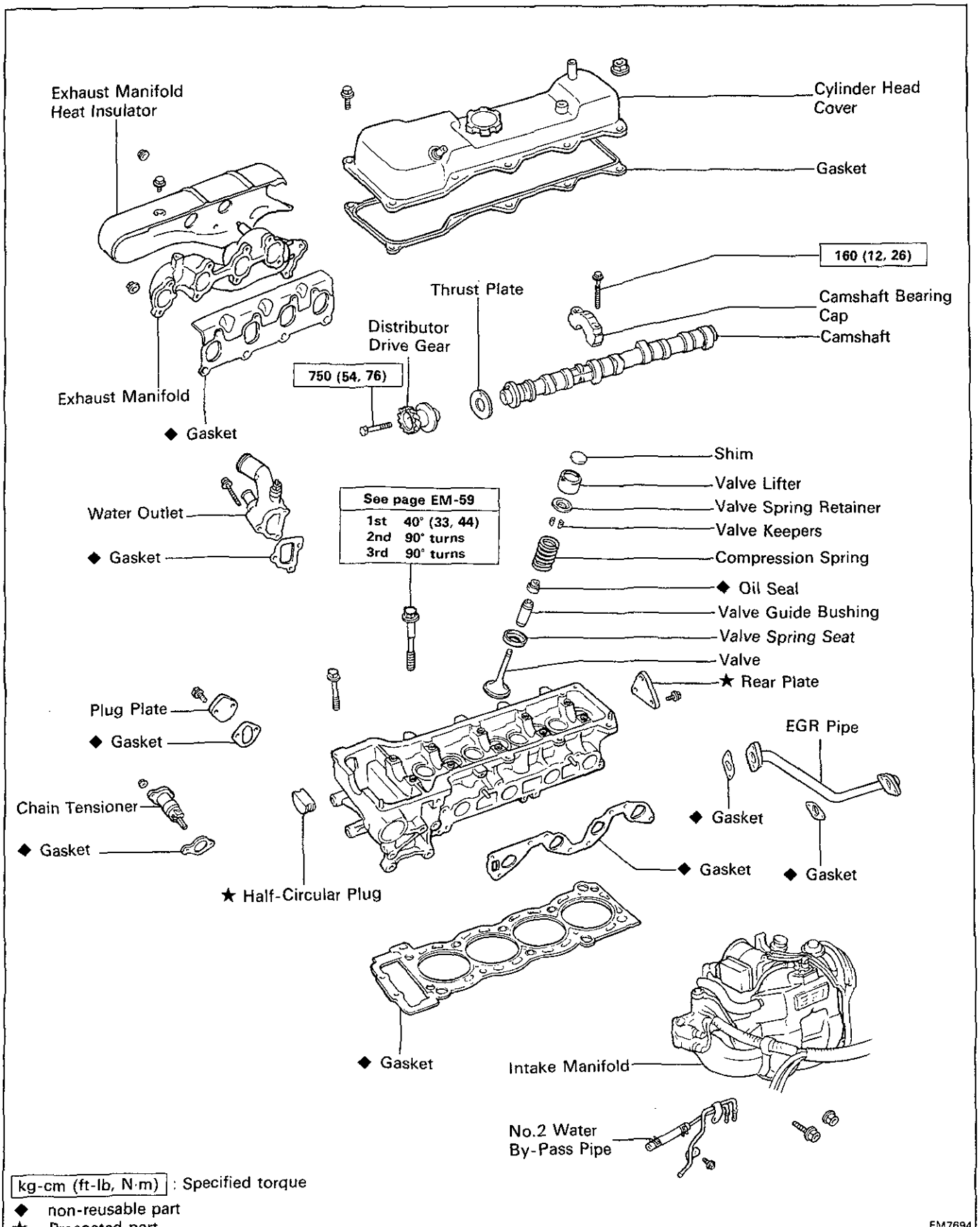
CYLINDER HEAD (2RZ–E)

COMPONENTS



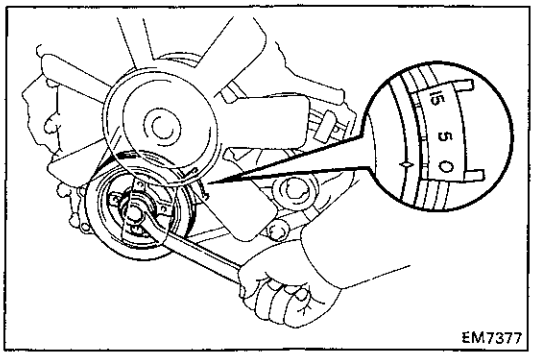
kg-cm (ft-lb, N·m) : Specified torque
◆ non-reusable part
★ Precoated part

EM7694

REMOVAL OF CYLINDER HEAD

(See page EM-64)

1. **REMOVE HIGH-TENSION CORDS AND SPARK PLUGS**
(See step 1 on page IG-8)
   (a) Remove the No.1 PCV hose.
   (b) Remove the high-tension cords and spark plugs.

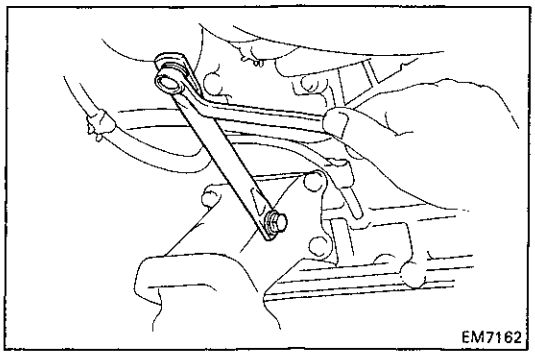


EM7377

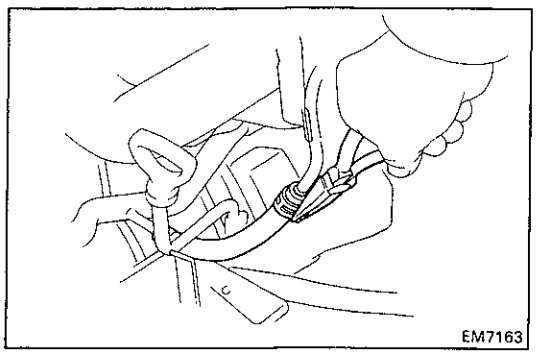
2. **SET NO.1 CYLINDER TO TDC/COMPRESSION**
   Turn the crankshaft pulley and align its groove with the "0" mark on the timing chain cover.

3. **REMOVE CYLINDER HEAD COVER**
   (a) Remove the nine bolts and two nuts, and remove the cylinder head cover and gasket.
   (b) Remove the half-circular plug.

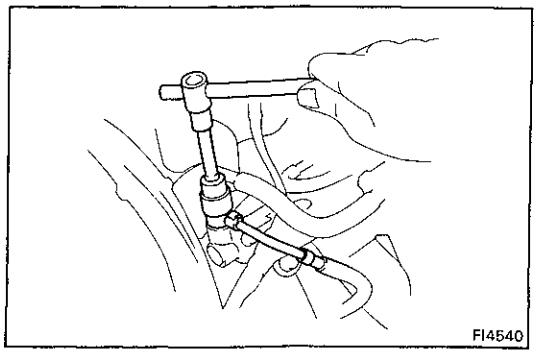
4. **REMOVE DISTRIBUTOR**
(See page IG-36)


EM7162

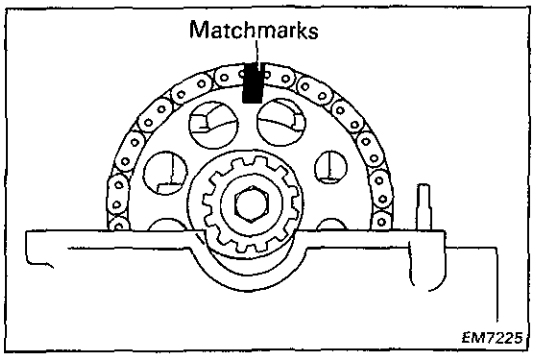
5. **REMOVE AIR INTAKE MANIFOLD STAY**
   Remove the two bolts and air intake manifold stay.


EM7163

6. **DISCONNECT WATER HOSE FROM NO.2 WATER BY-PASS PIPE**

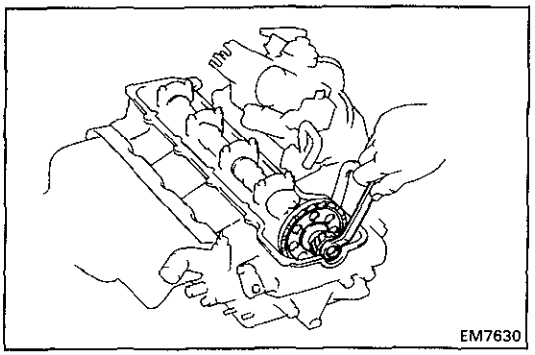

FI4540

7. **DISCONNECT NO.1 FUEL PIPE**
   Remove the union bolt and two gaskets, and disconnect the No.1 fuel pipe from the delivery pipe.

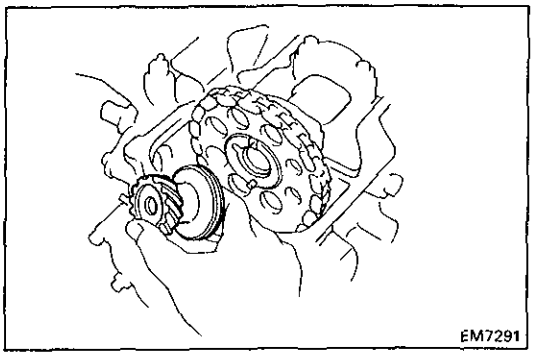


8. *REMOVE CAM SPROCKET*

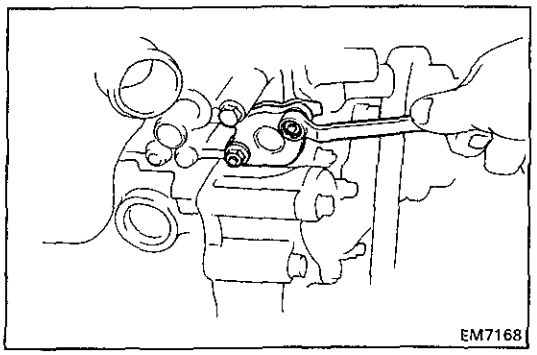
(a) Place matchmarks on the sprocket and chain.



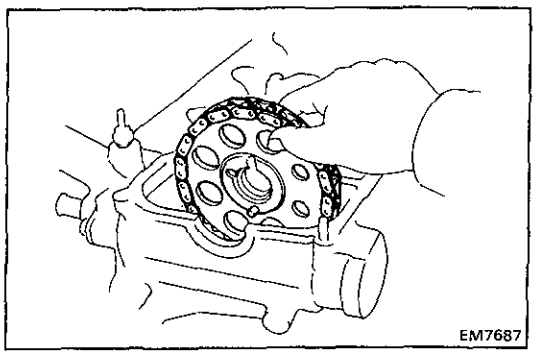
(b) Remove the cam sprocket bolt.



(c) Remove the distributor drive gear and thrust plate.

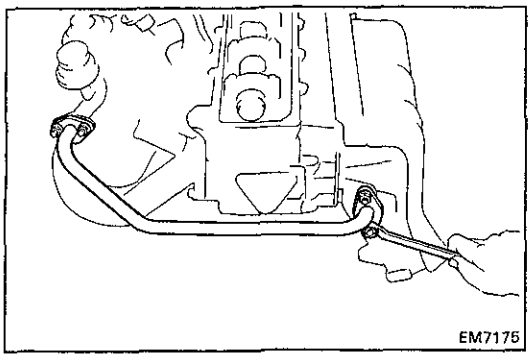


(d) Remove the two nuts, chain tensioner and gasket.



(e) Remove the cam sprocket and chain from the camshaft and leave on the vibration damper.

9. *REMOVE CYLINDER HEAD*
(See step 9 on page EM-41)



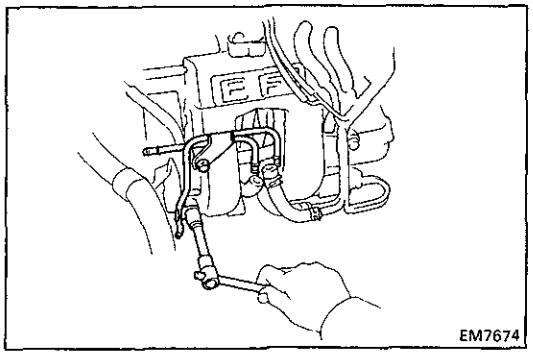
DISASSEMBLY OF CYLINDER HEAD

(See page EM-64)

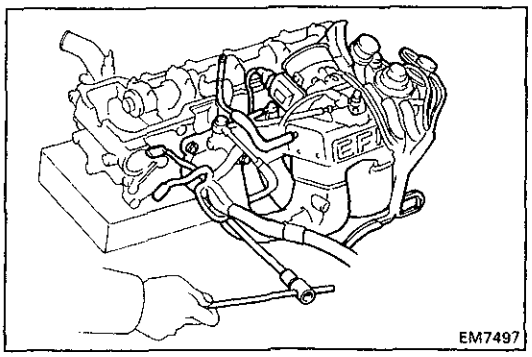
1. **REMOVE EGR PIPE**

   Remove the four nuts, EGR pipe and two gaskets.

2. **REMOVE EXHAUST MANIFOLD**
   (See step 1 on page EM-42)



3. **REMOVE INTAKE MANIFOLD**
   (a) Disconnect the three water hoses from the No.2 water by-pass hose.
   (b) Remove the two bolts and No.2 water by-pass pipe.
   (c) Remove the No.2 PCV hose.

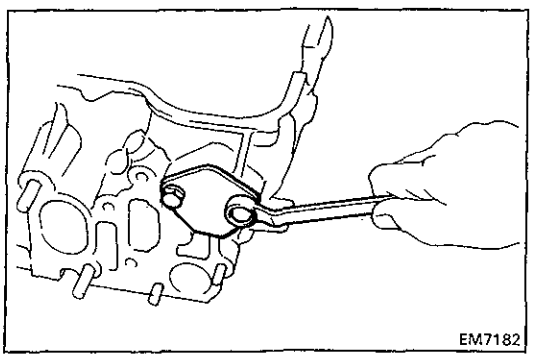


   (d) Remove the seven bolts, two nuts, and remove the intake manifold and gasket.

4. **REMOVE CYLINDER HEAD REAR PLATE**
   (See step 3 on page EM-43)

5. **REMOVE PCV PIPE**
   (See step 4 on page EM-43)

6. **REMOVE WATER OUTLET**
   (See step 5 on page EM-43)



7 **REMOVE PLUG PLATE**

Remove the two bolts and plug plate.

8. **REMOVE CAMSHAFT BEARING CAPS AND CAM SHAFT**
   (See step 6 on page EM-43)

9. **REMOVE VALVES**
   (See step 7 on pages EM-42, 44)

INSPECTION AND CLEANING COMPONENTS

(See steps 1 to 19 on pages EM-45 to 53)

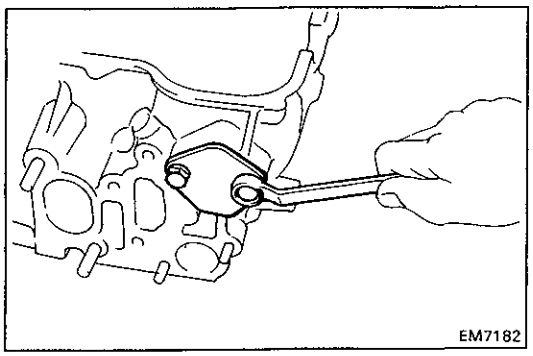
ASSEMBLY OF CYLINDER HEAD

(See page EM-64)

1. INSTALL VALVES
(See step 1 on page EM-55)

2. INSTALL VALVE LIFTERS WITH SHIMS
(See step 2 on page EM-55)

3. INSTALL CAMSHAFT
(See step 3 on page EM-56)


EM7182

4. INSTALL PLUG PLATE

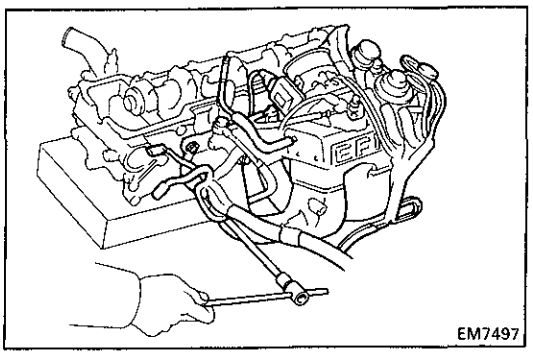
Install the plug plate and a new gasket with the two bolts.

Torque: 185 kg-cm (13 ft-lb, 18 N·m)

5. INSTALL WATER OUTLET
(See step 4 on page EM-56)

6. INSTALL PCV PIPE
(See step 5 on page EM-56)

7. INSTALL CYLINDER HEAD REAR PLATE
(See step 6 on page EM-57)

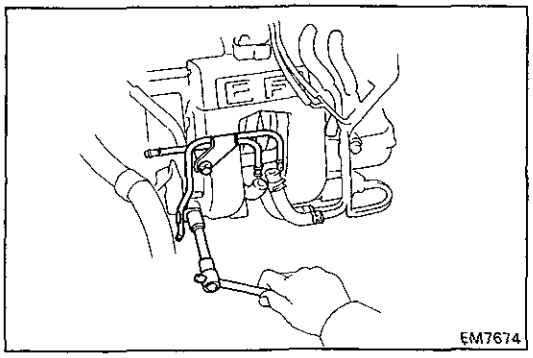

EM7497

8. INSTALL INTAKE MANIFOLD

(a) Position a new gasket on the cylinder head.

(b) Install the intake manifold with the seven bolts and two nuts.

Torque: 210 kg-cm (15 ft-lb, 21 N·m)



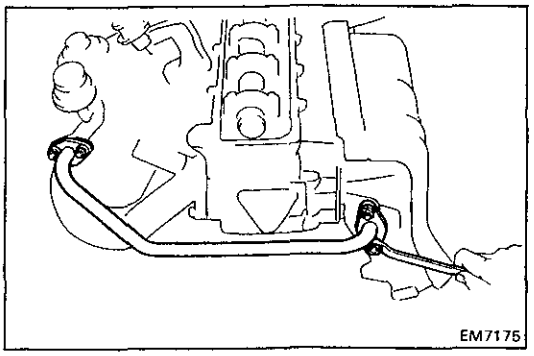
(c) Install the No.2 PCV hose.

(d) Install the No.2 water by-pass pipe with the two bolts.

Torque: 200 kg-cm (14 ft-lb, 20 N·m)

(e) Connect the three water hoses to the No.2 water by-pass hose.

9. INSTALL EXHAUST MANIFOLD
(See step 8 on page EM-58)



10. INSTALL EGR PIPE

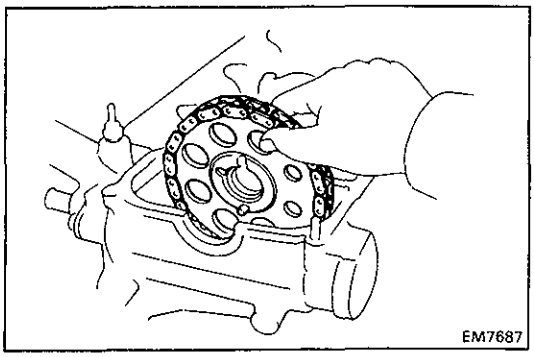
Install the EGR pipe and two new gaskets with the four nuts

Torque: 200 kg-cm (14 ft-lb, 20 N·m)

INSTALLATION OF CYLINDER HEAD

(See page EM-64)

1. **INSTALL CYLINDER HEAD**
(See step 1 on pages EM-59 to 61)

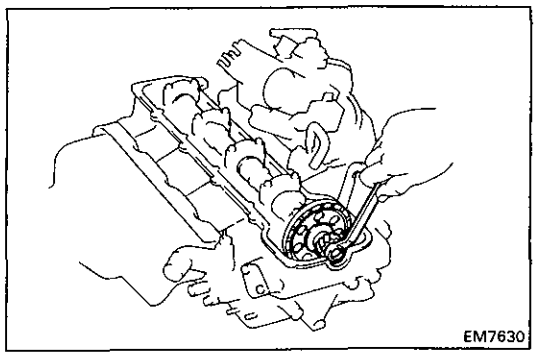

EM7687

2. **INSTALL CAM SPROCKET**

(a) While holding up on the sprocket and chain, turn the crankshaft until the No.1 and No.4 cylinder are at top dead center.

(b) Place the chain sprocket over the camshaft dowel.

HINT: If the chain does not seem long enough, turn the crankshaft back and forth while pulling up on the chain and sprocket.


EM7630

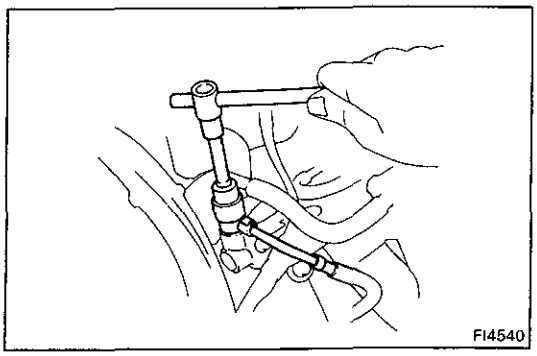
(c) Place the thrust plate and distributor drive gear over the chain sprocket. Install and torque the bolt.

Torque: 750 kg-cm (54 ft-lb, 74 N·m)

3. **INSTALL CAIN TENSIONER**
(See step 3 on pages EM-61, 62)

4. **SET CHAIN TENSION**
(See step 4 on page EM-62)

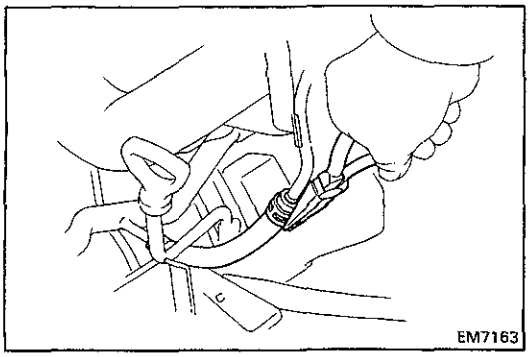
5. **ADJUST VALVE CLEARANCE**
(See pages EM-12 to 23)


FI4540

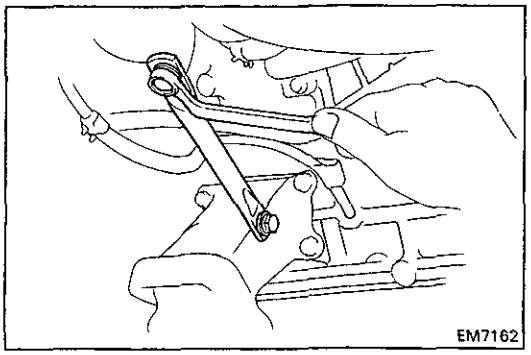
6. **CONNECT NO.1 FUEL PIPE**

Connect the No.1 fuel pipe to delivery pipe with two new gaskets and union bolt.

Torque: 300 kg-cm (22 ft-lb, 29 N·m)



7. **CONNECT WATER HOSE TO NO.2 WATER BY-PASS PIPE**



8. **INSTALL AIR INTAKE MANIFOLD STAY**

Install the air intake manifold stay with the two bolts.

Torque: 380 kg-cm (27 ft-lb, 37 N·m)

9. **INSTALL DISTRIBUTOR**
(See page IG-19)

10. **INSTALL CYLINDER HEAD COVER**
(See step 10 on page EM-63)

11. **INSTALL SPARK PLUGS**
(See step 1 on page IG-8)

(a) Install the spark plugs and high-tension cords.

(b) Install the No.1 PCV hose.