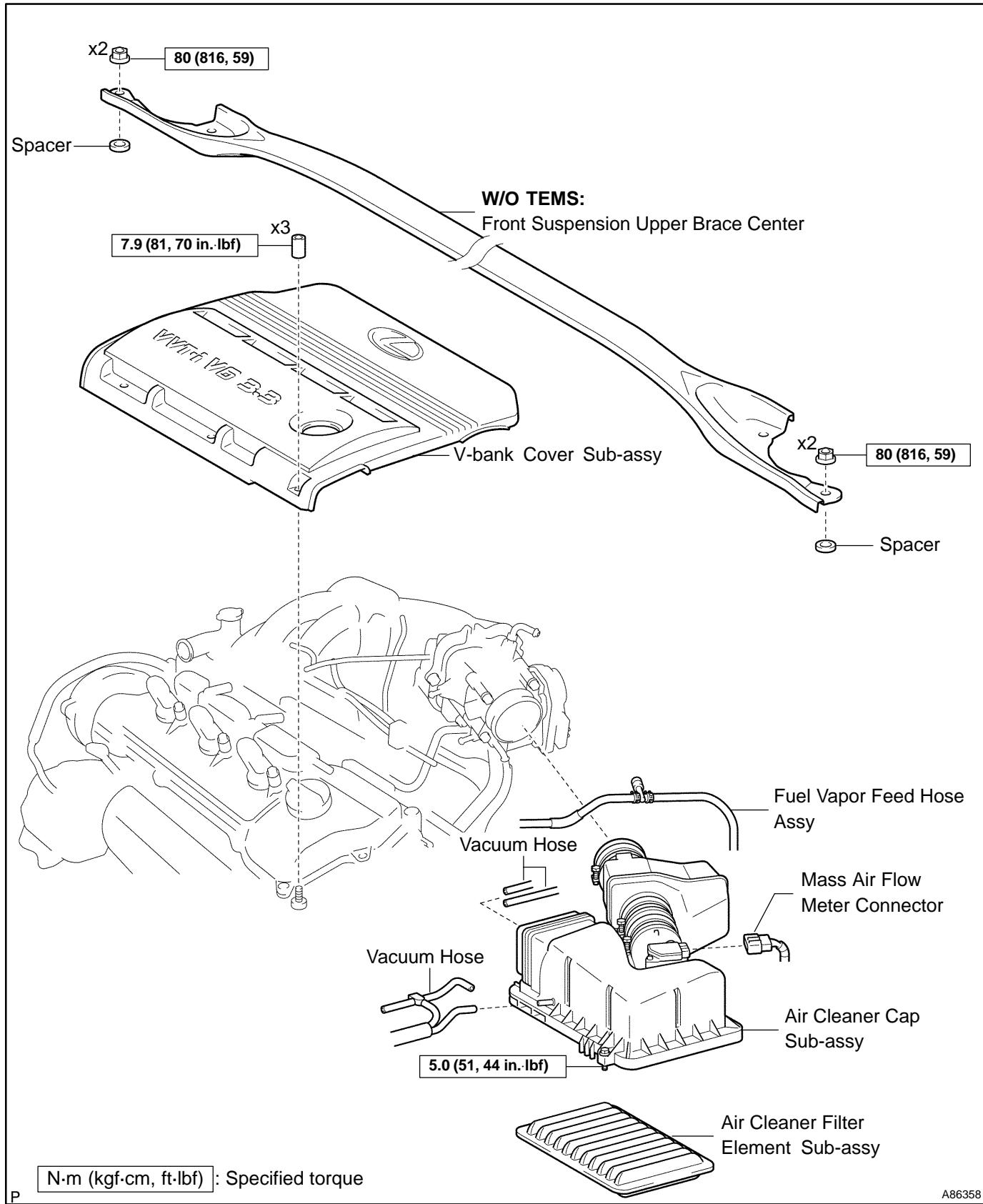


## KNOCK SENSOR (3MZ-FE)

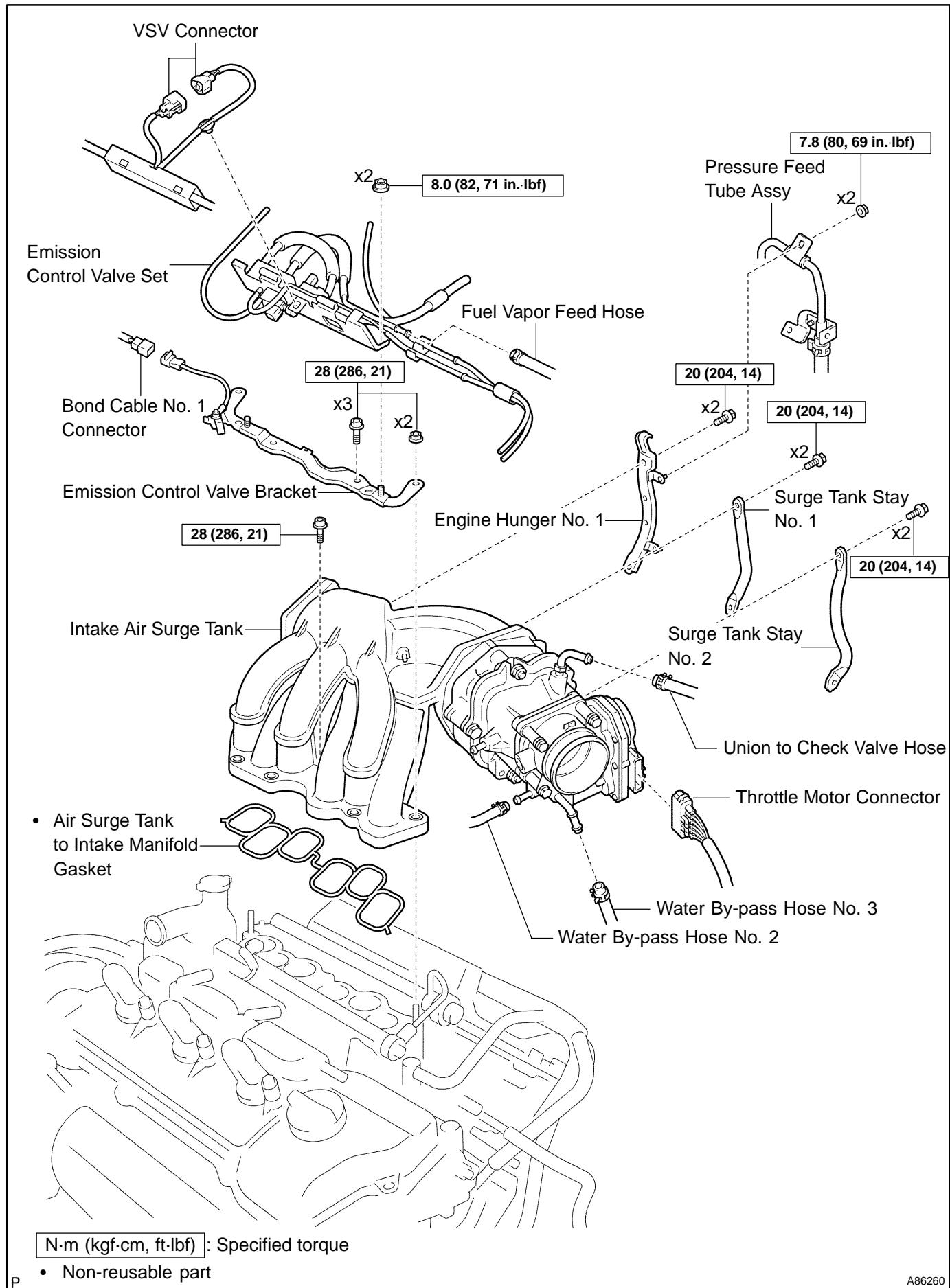
100J6-02

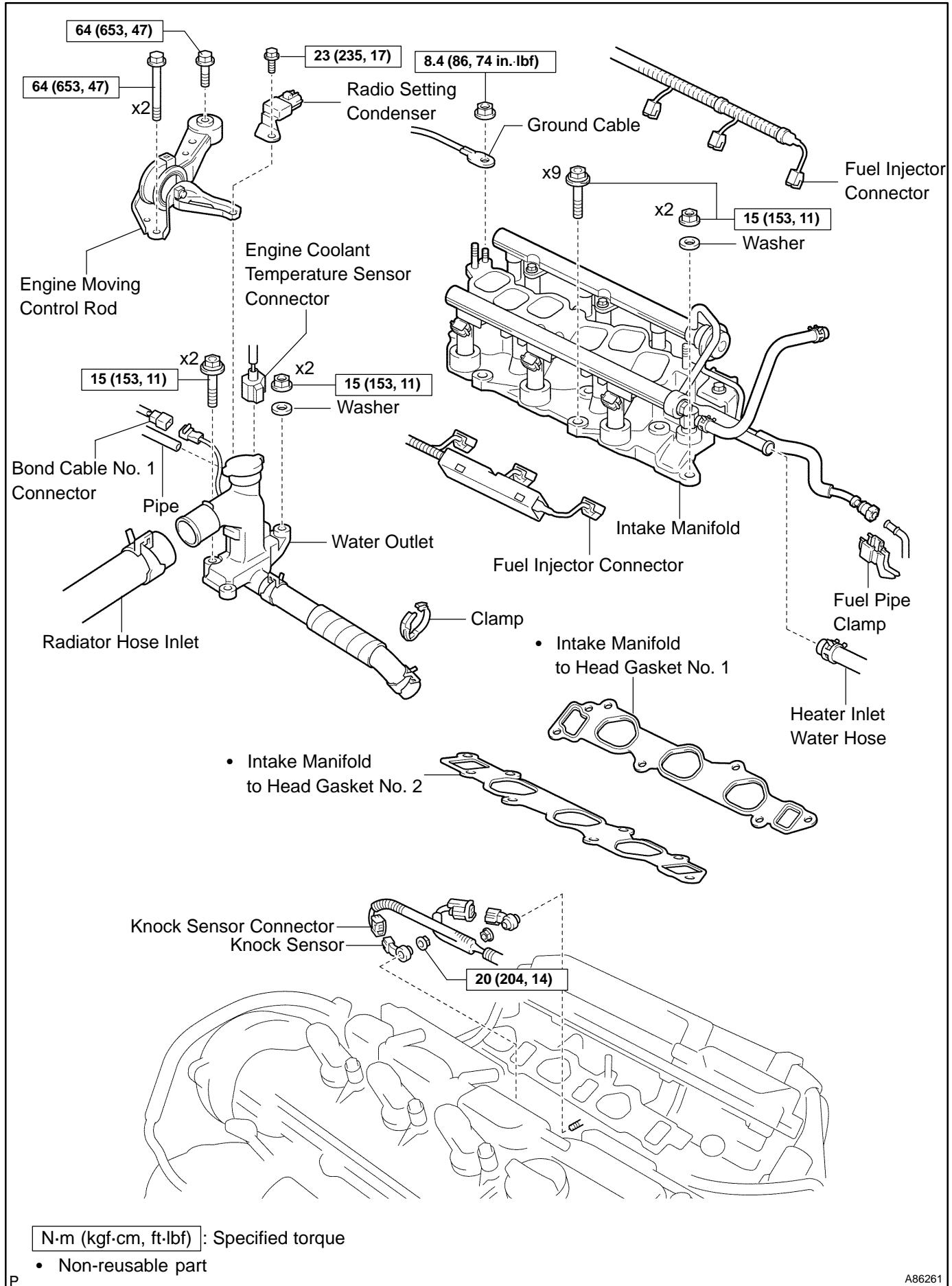
## COMPONENTS



R N·m (kgf·cm, ft·lbf) : Specified torque

A86358





**N·m (kgf·cm, ft-lbf)** : Specified torque

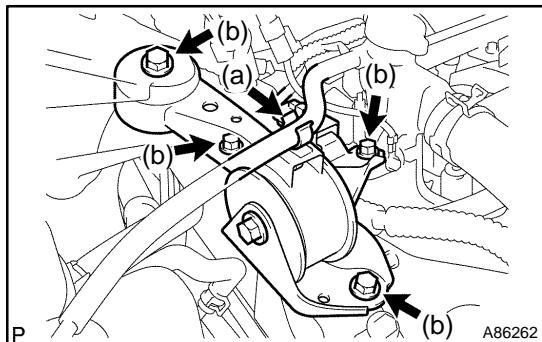
• Non-reusable part

P

A86261

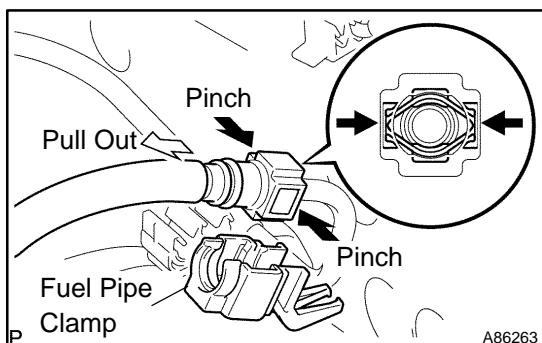
## REPLACEMENT

1. DISCHARGE FUEL SYSTEM PRESSURE (See page 11-1 )
2. DISCONNECT ENGINE WIRE NO. 3 (BATTERY NEGATIVE TERMINAL)
3. DRAIN ENGINE COOLANT (See page 16-9 )
4. REMOVE FRONT SUSPENSION UPPER BRACE CENTER (W/O TEMS) (See page 10-1 1)
5. REMOVE V-BANK COVER SUB-ASSY (See page 10-1 1)
6. REMOVE AIR CLEANER CAP SUB-ASSY (See page 10-1 1)
7. REMOVE EMISSION CONTROL VALVE SET (See page 11-13 )
8. REMOVE INTAKE AIR SURGE TANK (See page 11-13 )



### 9. REMOVE ENGINE MOVING CONTROL ROD

- (a) Remove the pipe from the clamp.
- (b) Remove the 4 bolts, then remove the engine moving control rod and radio setting condenser.

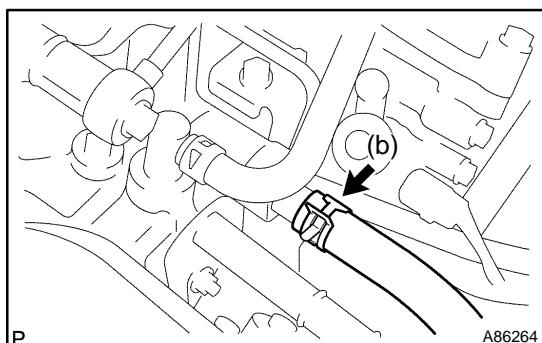
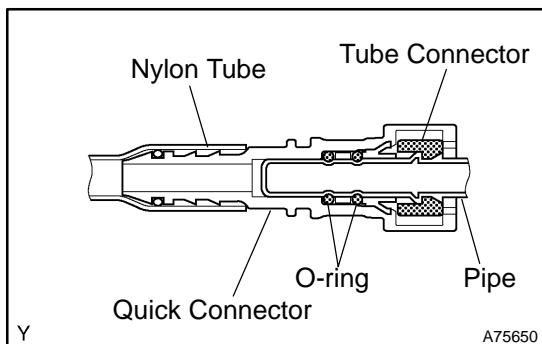


### 10. REMOVE INTAKE MANIFOLD

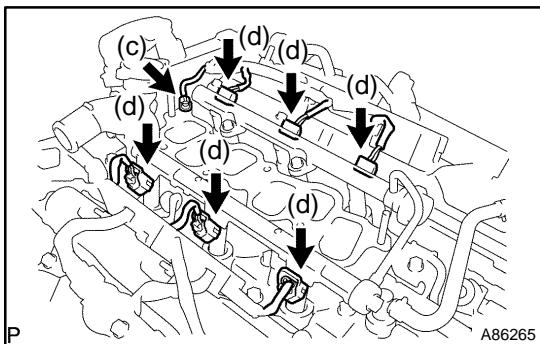
- (a) Disconnect the fuel pipe No. 1.
  - (1) Remove the fuel pipe clamp.
  - (2) Pinch the tube connector, then pull out the fuel pipe No. 1.

#### NOTICE:

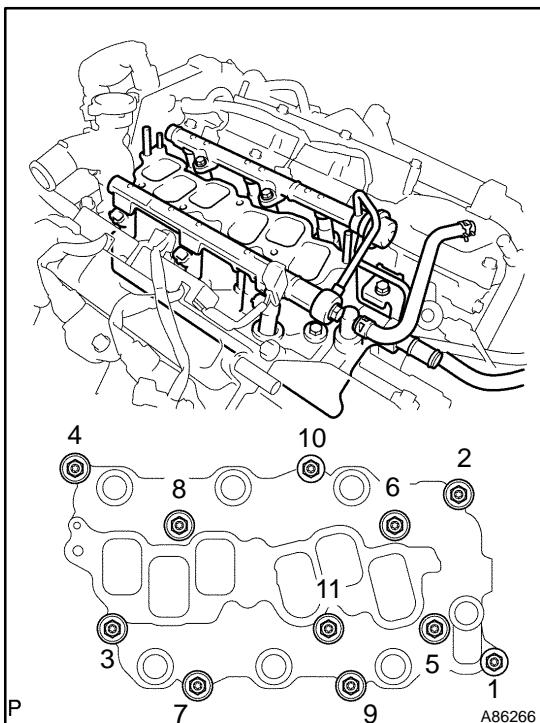
- Check around the quick connector for dirt or mud before this operation. Remove the dirt if necessary.
- Be careful of mud because the quick connector has an O-ring which seals the pipe and quick connector that can be contaminated.
- Do not use any tools in this operation.
- Do not bend or twist the nylon tube. Protect the quick connector by covering it with a vinyl or plastic bag.
- When the pipe and quick connector are stuck, push and pull the quick connector to release and pull the quick connector out carefully.



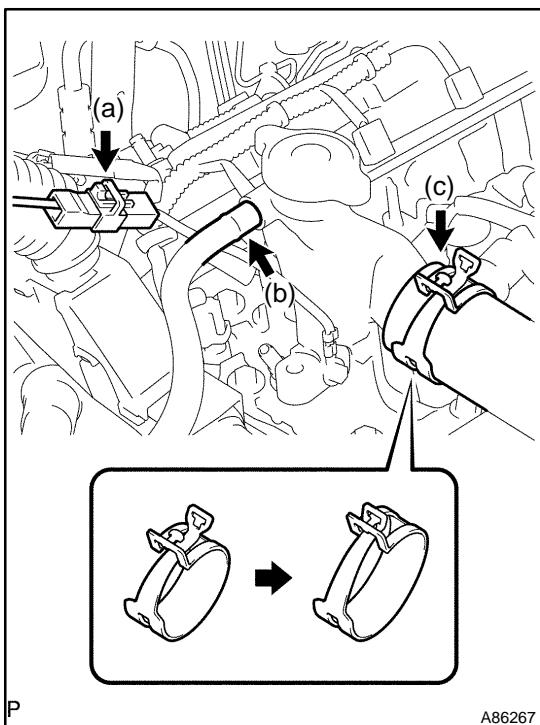
- (b) Disconnect the heater inlet water hose.



(c) Remove the nut, then disconnect the ground cable.  
 (d) Disconnect the 6 fuel injector connectors.

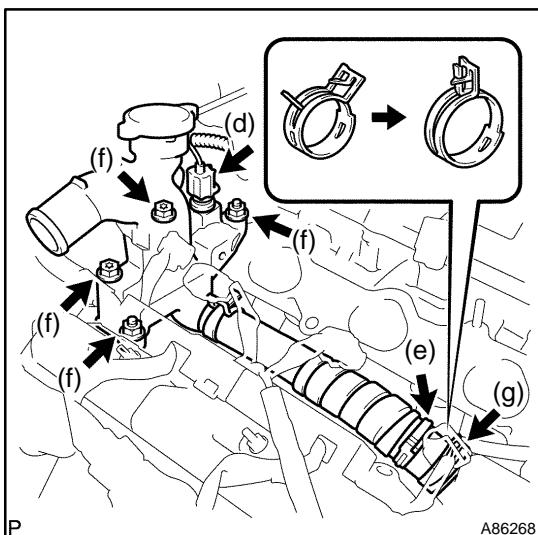


(e) In order to remove the intake manifold, using several steps, remove the 9 bolts and 2 nuts in the sequence shown in the illustration.

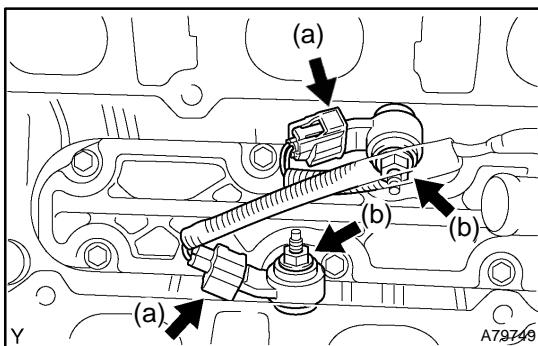


## 11. REMOVE WATER OUTLET

(a) Disconnect the bond cable No. 1 connector.  
 (b) Disconnect the pipe of the radiator reserve tank.  
 (c) Lock the hose clamp as shown in the illustration, then disconnect the radiator hose inlet.

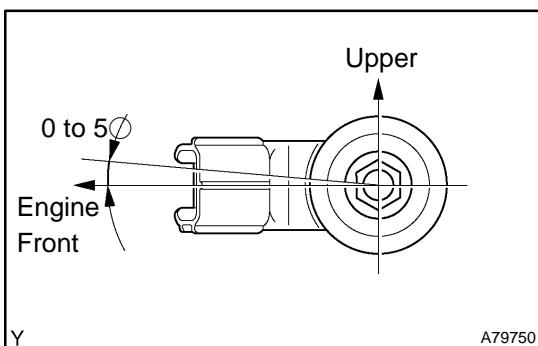


- (d) Disconnect the engine coolant temperature sensor connector.
- (e) Remove the clamp.
- (f) Remove the 2 bolts, 2 nuts and 2 washers.
- (g) Lock the hose clamp as shown in the illustration. Then remove the water outlet together with water by-pass hose No. 1.
- (h) Remove the 2 gaskets from the 2 cylinder heads.



## 12. REMOVE KNOCK SENSOR

- (a) Disconnect the 2 knock sensor connectors.
- (b) Remove the 2 nuts, then remove the 2 knock sensors.

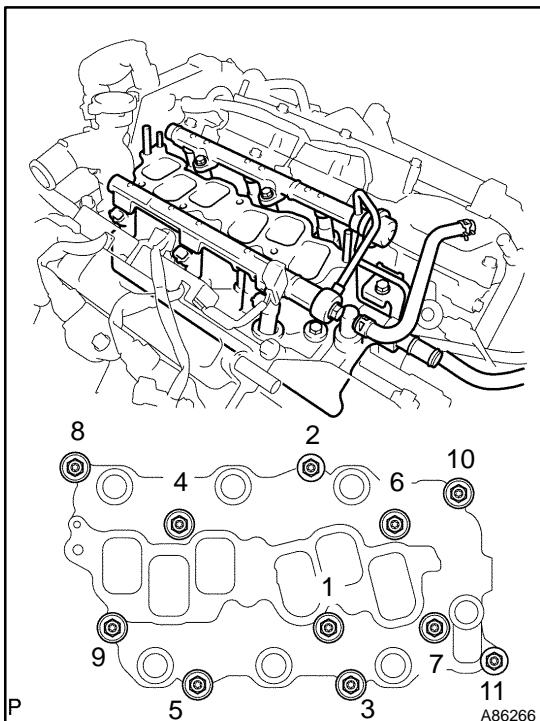


## 13. INSTALL KNOCK SENSOR

- (a) Install the 2 knock sensors with the 2 nuts as shown in the illustration.  
**Torque: 20 N·m (204 kgf·cm, 14 ft·lbf)**
- (b) Connect the 2 knock sensor connectors.

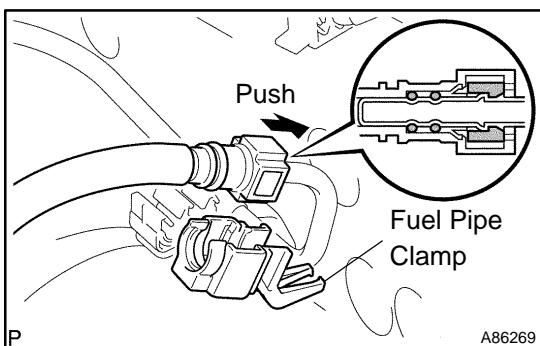
## 14. INSTALL WATER OUTLET

- (a) Install 2 new gaskets to the 2 cylinder heads.
- (b) Install the water outlet together with water by-pass hose No. 1, then unlock the hose clamp.
- (c) Tighten the 2 bolts, 2 nuts and 2 washers.  
**Torque: 15 N·m (153 kgf·cm, 11 ft·lbf)**
- (d) Install the clamp.
- (e) Connect the engine coolant temperature sensor connector.
- (f) Connect the bond cable No. 3 connector.
- (g) Connect the pipe of the radiator reserve tank.
- (h) Connect the radiator hose inlet, then unlock the hose clamp.



## 15. INSTALL INTAKE MANIFOLD

- Install the intake manifold with the 9 bolts, 2 nuts and 2 washers. Using several steps, tighten the 9 bolts and 2 nuts uniformly in the sequence shown in the illustration.  
**Torque: 15 N·m (153 kgf·cm, 11 ft·lbf)**
- Retighten the 9 water outlet mounting bolts and 2 nuts.  
**Torque: 15 N·m (153 kgf·cm, 11 ft·lbf)**
- Install the ground cable with the nut.  
**Torque: 8.4 N·m (86 kgf·cm, 74 in·lbf)**
- Connect the heater inlet water hose.



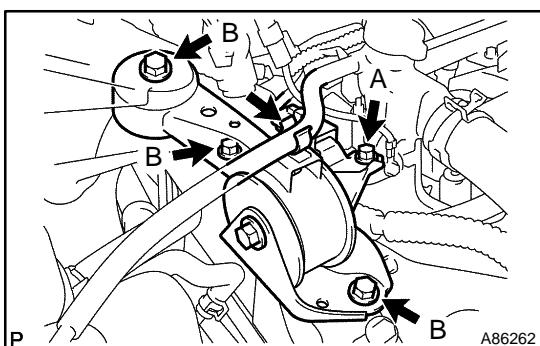
- Connect the fuel pipe No. 1.

- Push in the quick connector to the pipe until it makes a "click" sound.

### NOTICE:

- Check the connected part for damage or foreign objects.
- After connecting, check if the quick connector and pipe are securely connected by pulling them.

- Install the fuel pipe clamp.



## 16. INSTALL ENGINE MOVING CONTROL ROD

### Torque:

23 N·m (235 kgf·cm, 17 ft·lbf) for bolt A

64 N·m (653 kgf·cm, 47 ft·lbf) for bolt B

17. INSTALL INTAKE AIR SURGE TANK (See page 11-13 )
18. INSTALL EMISSION CONTROL VALVE SET (See page 11-13 )
19. INSTALL AIR CLEANER CAP SUB-ASSY (See page 10-1 1)
20. CHECK CONNECTION OF VACUUM HOSE (See page 14-29 )
21. CONNECT ENGINE WIRE NO. 3 (BATTERY NEGATIVE TERMINAL)  
Torque: 5.4 N·m (55 kgf·cm, 48 in·lbf)
22. ADD ENGINE COOLANT (See page 16-9 )
23. CHECK FOR ENGINE COOLANT LEAKS (See page 16-1 )
24. CHECK FOR FUEL LEAKS (See page 11-5 )
25. INSTALL V-BANK COVER SUB-ASSY (See page 10-1 1)

- 26. INSTALL FRONT SUSPENSION UPPER BRACE CENTER (W/O TEMS) (See page 10-1 1)**
- 27. SYSTEM INITIALIZATION (See page 19-15 )**