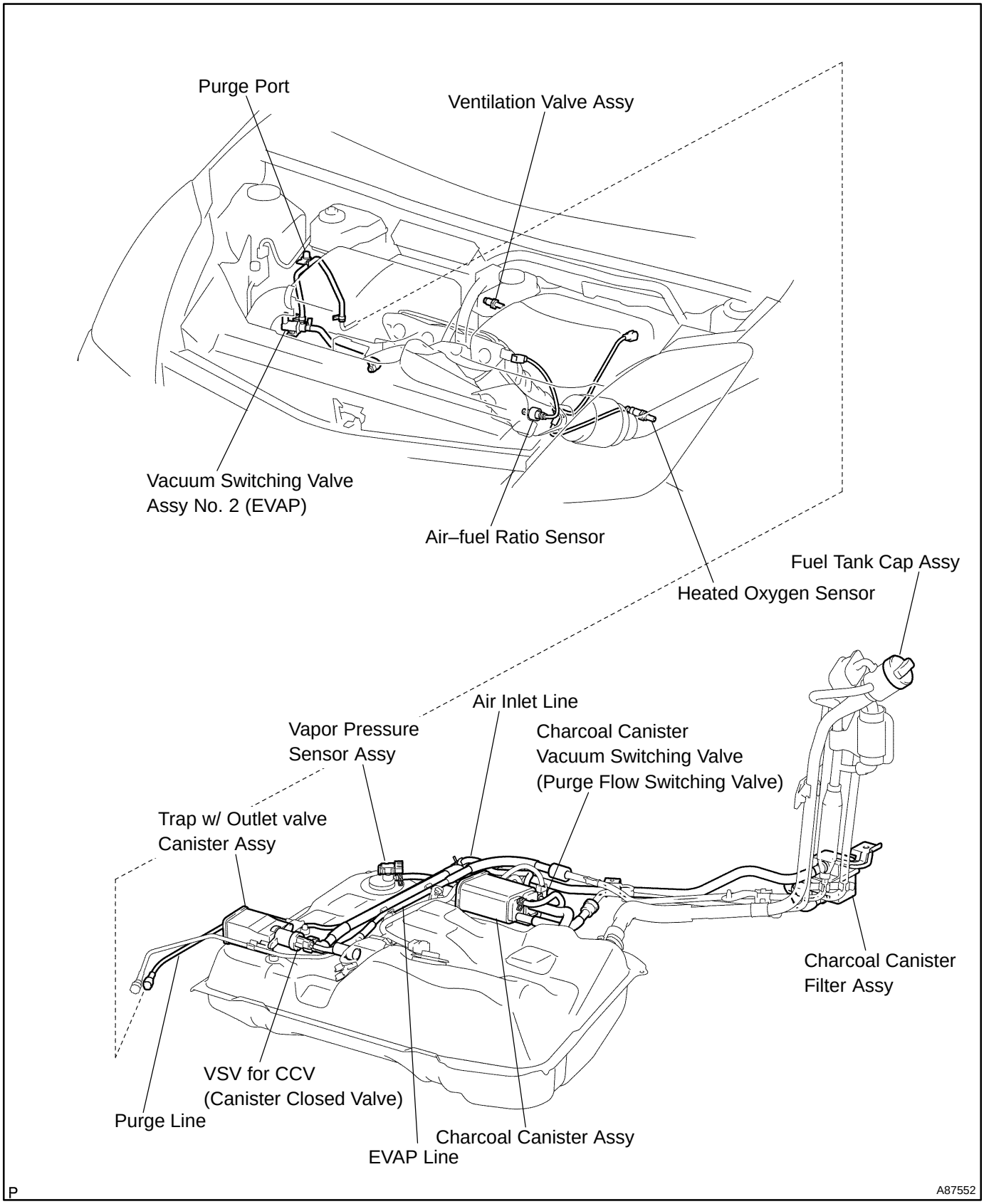
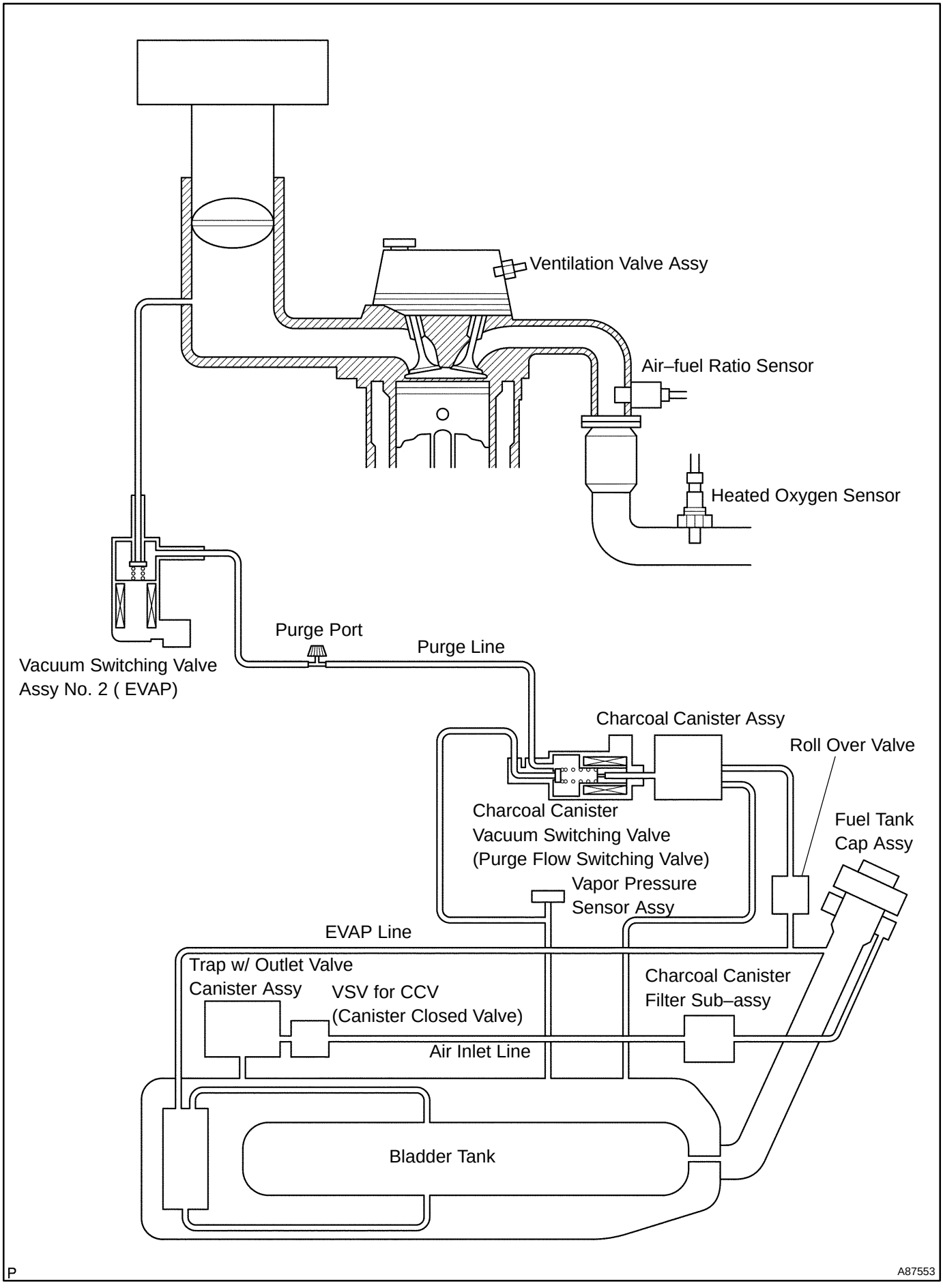
EMISSION CONTROL SYSTEM (1NZ–FXE)

120DW–01

LOCATION

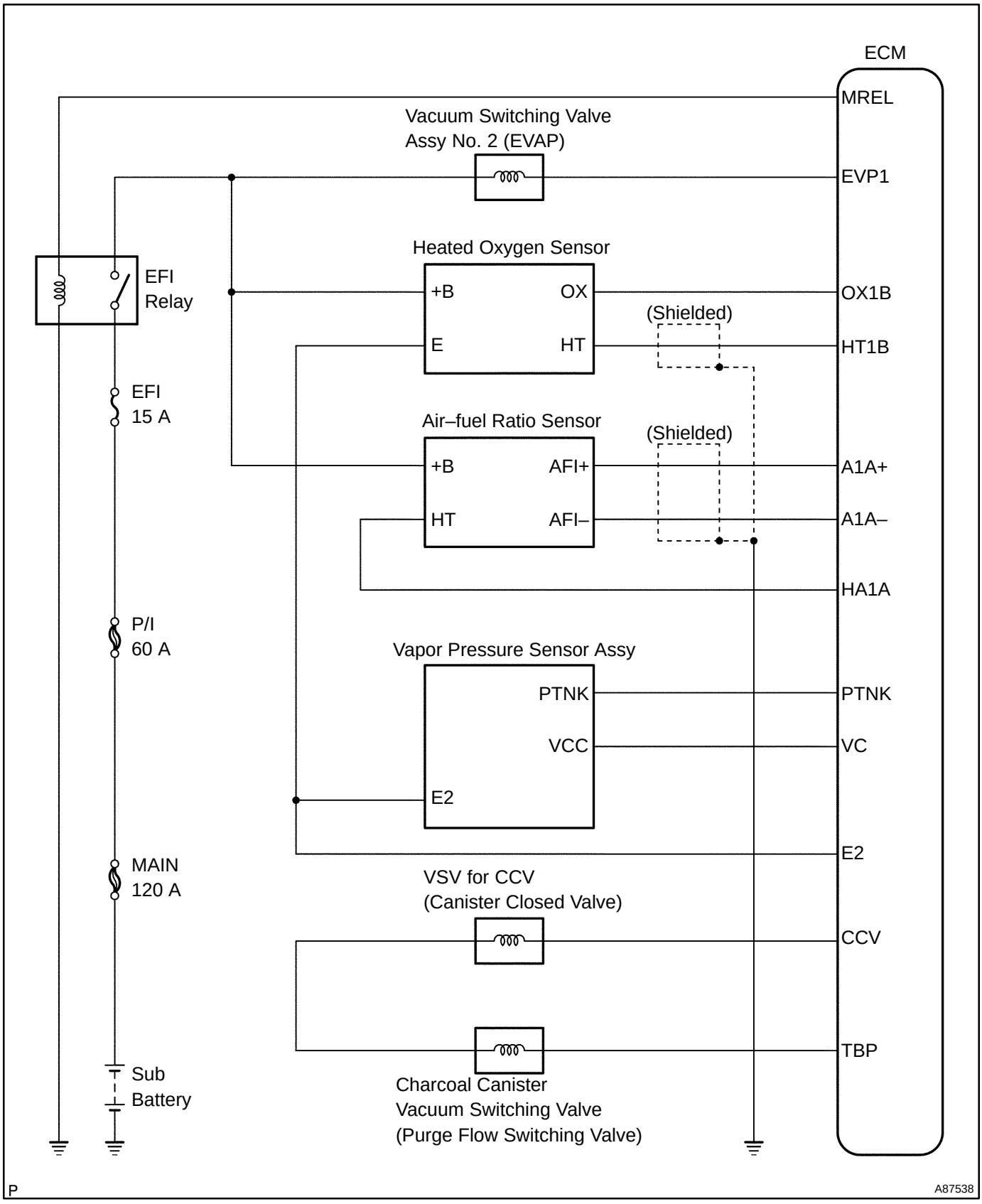



Ventilation Valve Assy
Air–fuel Ratio Sensor
Heated Oxygen Sensor
Purge Port
Purge Line
Vacuum Switching Valve
Assy No. 2 (EVAP)
Charcoal Canister Assy
Roll Over Valve
Charcoal Canister
Vacuum Switching Valve
(Purge Flow Switching Valve)
Fuel Tank
Cap Assy
Vapor Pressure
Sensor Assy
EVAP Line
Trap w/ Outlet Valve
Canister Assy
VSV for CCV
(Canister Closed Valve)
Charcoal Canister
Filter Sub–assy
Air Inlet Line
Bladder Tank
P
A87553

120DX–01

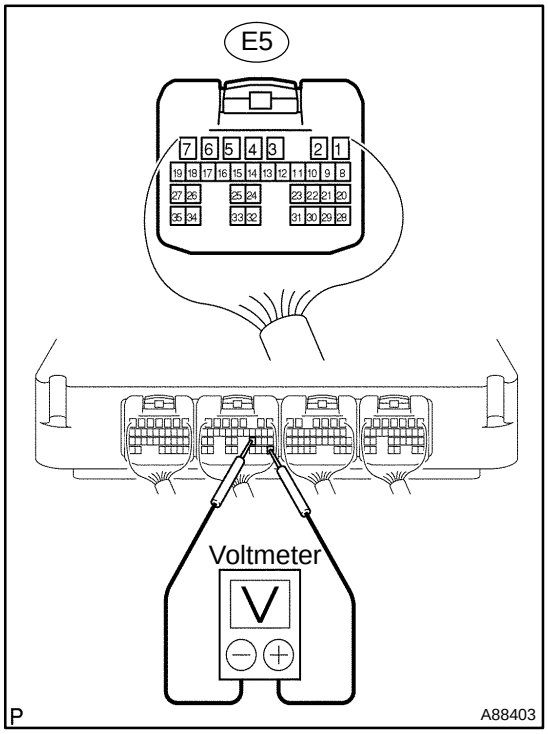
SYSTEM DIAGRAM

The emission control system is determined by the ECM based on signals from various sensors.



120DY–01

ON–VEHICLE INSPECTION



1. INSPECT AIR–FUEL RATIO SENSOR SYSTEM

(a) Inspect the voltage.

(1) Turn the power switch ON (IG).

(2) Using an voltmeter, measure the voltage between the ECM terminals.

Standard:

Tester Connection	Specified Condition
E5–23 (A1A+) – E5–28 (E1)	3.0 to 3.6 V
E5–22 (A1A–) – E5–28 (E1)	2.7 to 3.3 V

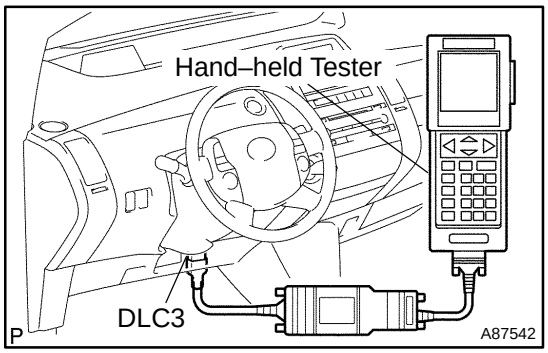
CAUTION:

Connect the test leads from the backside of the connector with the ECM connector connected.

HINT:

The voltage between the ECM terminals is constant regardless of the output voltage of the air–fuel ratio sensor.

If the result is not as specified, check the air–fuel ratio sensor and wire harness.



(b) Check the output waveform.

(1) Set the vehicle to the ”INSPECTION MOD1” (see page 01–5).

(2) Connect the hand–held tester to the DLC3.

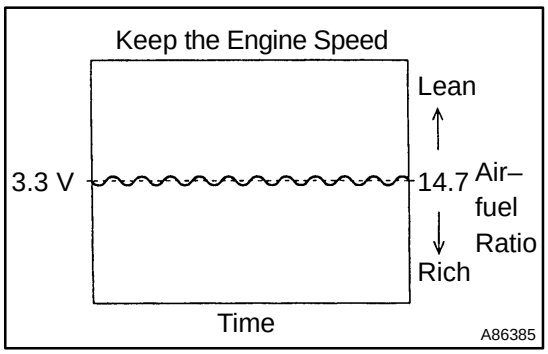
(3) Turn the power switch ON (READY ON).

(4) Turn the hand–held tester ON.

(5) Select the item: DIAGNOSIS / ENHANCED OBD II / ENGINE AND ECT / DATA LIST / ALL / AFS B1 S1.

(6) Warm up the air fuel ratio sensor for approximately 2 minutes at 2,500 rpm of the engine speed.

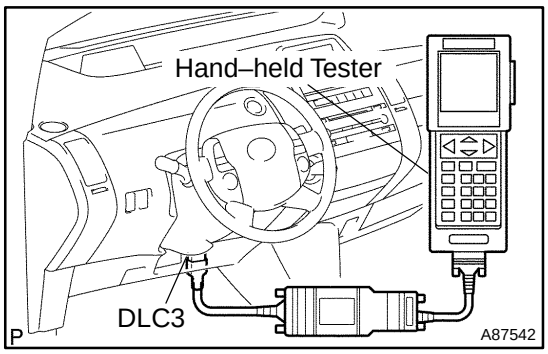
(7) Maintain the engine speed at 2,500 rpm, then check that the waveform of ”AFS B1 S1” is output as illustrated.



HINT:

- The waveform of illustration is a sample.
- Only the hand–held tester shows the waveform of the air fuel ratio sensor.

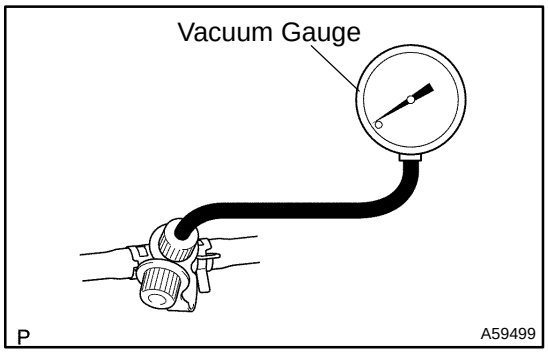
(8) Check that ”O2S B1 S2” fluctuates between 1 and 0 V with the engine speed at 2,500 rpm.



2. INSPECT FUEL CUT OFF RPM

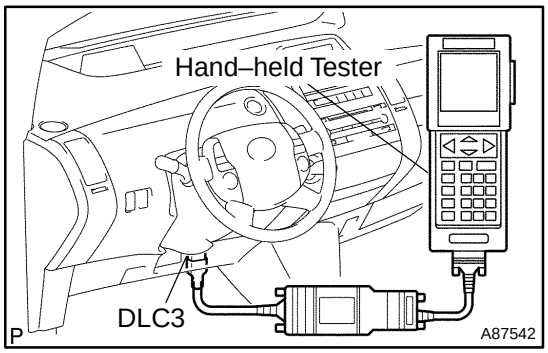
(a) Check the operation.
  (1) Stat the engine, then warm up.
  (2) Connect the hand–held tester to the DLC3.
  (3) Turn the hand–held tester ON.
  (4) Select the item: DIAGNOSIS / ENHANCED OBD II / ENGINE AND ECT / DATA LIST / ALL / INJECTOR.
  (5) Drive the vehicle. When releasing the accelerator pedal after the driving speed is 28 to 37 mph (45 to 60 km/h), read ”INJECTOR” of the hand–held tester.

Standard: 0 ms

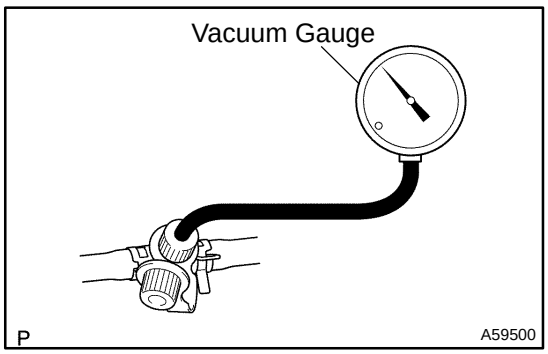


3. INSPECT EVAP SYSTEM LINE

(a) Set the vehicle to the ”INSPECTION MOD1” (see page 01–5).
(b) Warm up the engine to the normal operating temperature, then stop the engine.
(c) Connect a vacuum gauge (EVAP control system test equipment vacuum gauge) to the EVAP service port on the purge line.



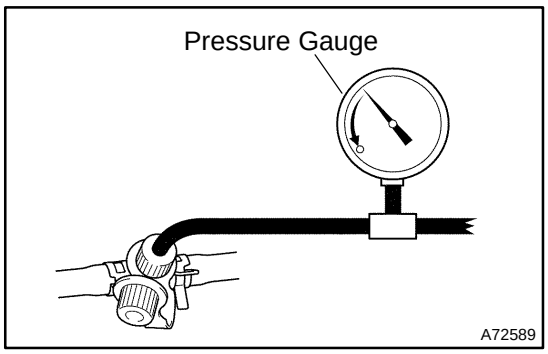
(d) Connect the hand–held tester to the DLC3.
(e) Start the engine.
(f) Turn the hand–held tester ON.
(g) Select the item: DIAGNOSIS / ENHANCED OBD II / ENGINE AND ECT / ACTIVE TEST / EVAP VSV / ON.



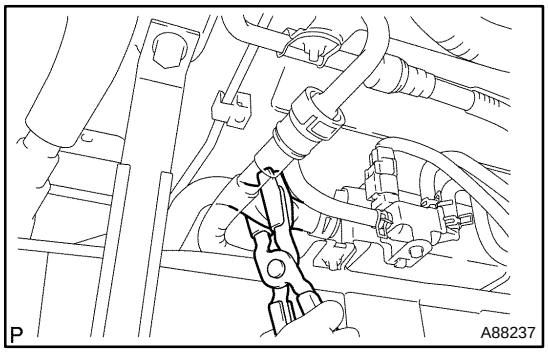
(h) Check the vacuum at idle.
  Vacuum:
  Maintain at 0.368 to 19.713 in.Hg (5 to 268 in.Aq) for over 5 seconds.

If the vacuum does not change, it is suspected that the hose which connects the VSV for EVAP to the service port is loose or blocked, or that the VSV is abnormally operating.

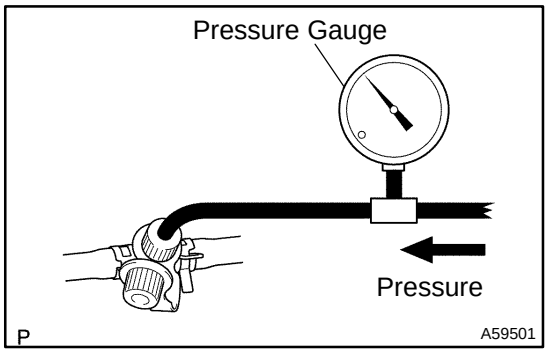
(i) Stop the engine.
(j) Disconnect the hand–held tester from the DLC3.
(k) Disconnect the vacuum gauge (EVAP control system test equipment vacuum gauge) from the EVAP service port on the purge line.



(l) Connect a pressure gauge to the EVAP service port on the purge line.



(m) Inspect the pressure.
(1) Using a hose clipper and similar instrument, clip the outlet hose No. 1 of the charcoal canister.

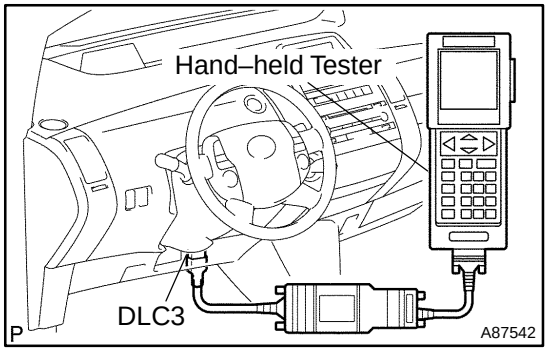


(2) Apply pressure (13.5 to 15.5 in.Aq) from the EVAP service port.

Pressure:

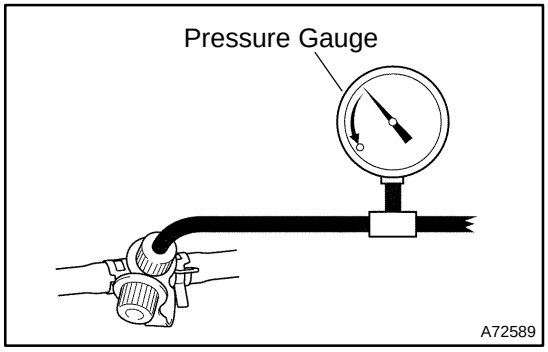
2 minutes after the pressure is added, the gauge should be over 7.7 to 8.8 in.Aq.

If pressure cannot be applied, it is suspected that the hose which connects the VSV for purge flow switching valve is loose, or that the VSV for purge flow switching valve is open.



4. INSPECT AIRTIGHTNESS IN FUEL TANK AND FILLER PIPE

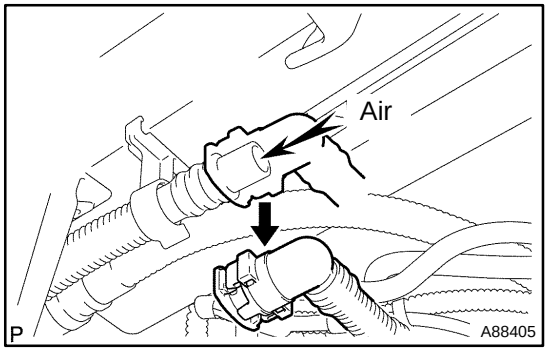
(a) Connect the hand–held tester to the DLC3.
(b) Turn the power switch ON (IG).
(c) Turn the hand–held tester ON.
(d) Select the item: DIAGNOSIS / ENHANCED OBD II / ENGINE AND ECT / ACTIVE TEST /CAN CTRL VSV / ON.



(e) Connect the pressure gauge to the EVAP service port on the purge line.
(f) Apply pressure (1.6 kPa (16.3 gf/cm^2, 0.23 psi) from the EVAP service port.
(g) Check that the pressure is maintained for over 30 seconds.
(h) Visually check that the fuel tank and fuel tank inlet pipe.

(i) Check that the fuel hose and fuel tank inlet pipe are connected.

If there are any defects, replace the fuel tank and fuel tank inlet pipe.



5. CHECK AIR INLET LINE

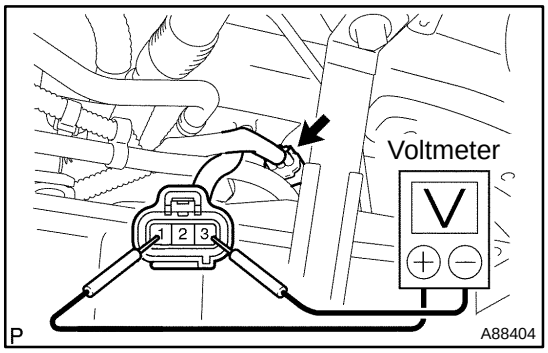
(a) Check the ventilation.

(1) Disconnect the ventilation hose (see page 11–24).

(2) Check that there is ventilation from the charcoal canister filter to the fuel tank inlet pipe when air is applied to the vent hose of the charcoal canister filter.

If there is no ventilation, replace the charcoal canister filter.

(3) Connect the ventilation hose (see page 11–24).



6. INSPECT VAPOR PRESSURE SENSOR ASSY

(a) Inspect the voltage.

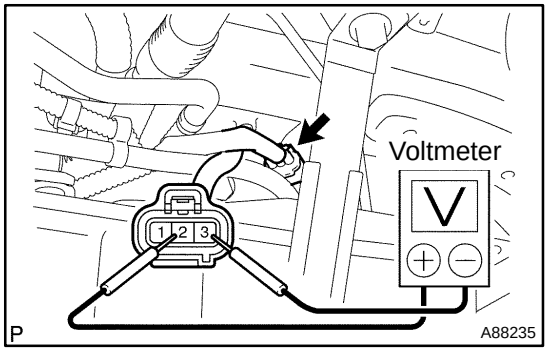
(1) Turn the power switch ON (IG).

(2) Using a voltmeter, measure the voltage between the terminals.

Standard:

Tester Connection	Specified Condition
1 – 3	4.5 to 5.5 V

(3) Remove the fuel tank cap.



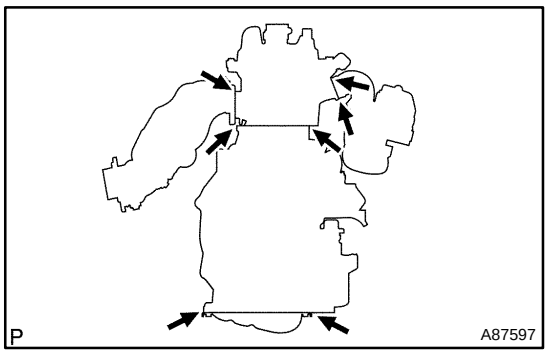
(4) Using a voltmeter, measure the voltage between the terminals.

Standard:

Tester Connection	Specified Condition
2 – 3	3.0 to 3.6 V

(5) Reinstall the fuel tank cap.

(6) Turn the power switch OFF.



7. VISUALLY INSPECT HOSES, CONNECTIONS AND GASKETS

(a) Check the appearance.

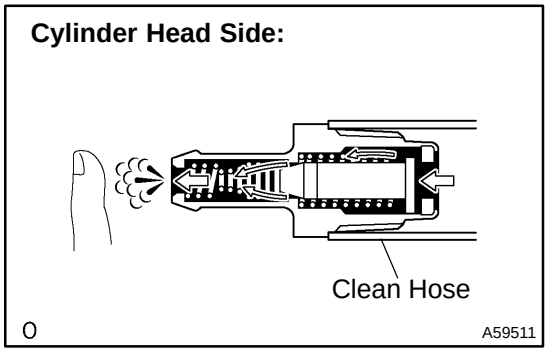
(1) Visually check that there are no cracks, leaks or damage on the indicated portions in the illustration.

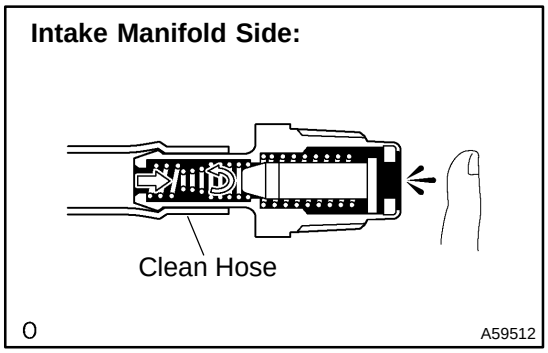
HINT:

- Removing the oil level gauge , oil filler cap or ventilation hoses may cause the engine malfunction or engine stall.
- If the parts between the mass air flow meter and cylinder head are disconnected, loose or cracked, secondary air may be sucked. It could cause the engine malfunction or engine stall.

120DZ–01

INSPECTION





1. INSPECT VENTILATION VALVE SUB–ASSY

(a) Check the ventilation.

(1) Install a clean hose to the ventilation valve as illustration.

(2) Check that there is ventilation when air is applied from the cylinder head side.

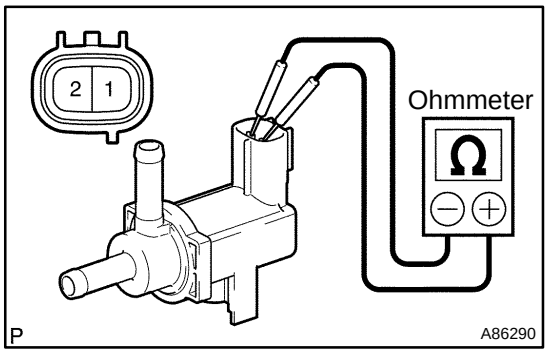
CAUTION:

Do not suck the air inside the ventilation valve because it is harmful.

If there is no ventilation, replace the ventilation valve.

(3) Check that there no ventilation when air is applied from the intake manifold side.

If there is ventilation, replace the ventilation valve.



2. INSPECT VACUUM SWITCHING VALVE ASSY NO.2

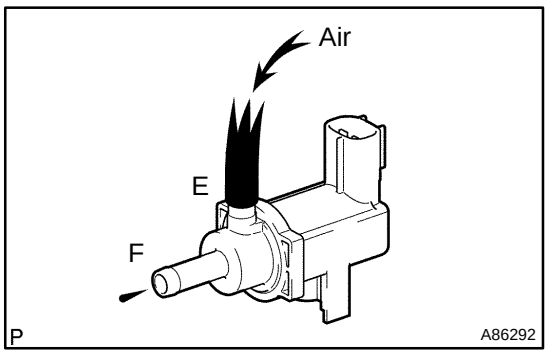
(a) Inspect the resistance.

(1) Using an ohmmeter, measure the resistance between the terminals.

Standard:

Tester Connection	Specified Condition
1 – 2	26 to 30 Ω at 20°C (68°F)

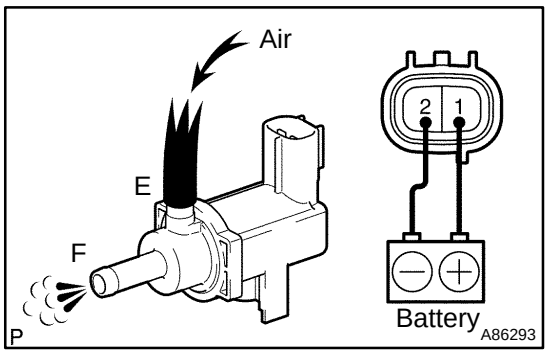
If the resistance is not as specified, replace the vacuum switching valve No. 2.



(b) Check the ventilation.

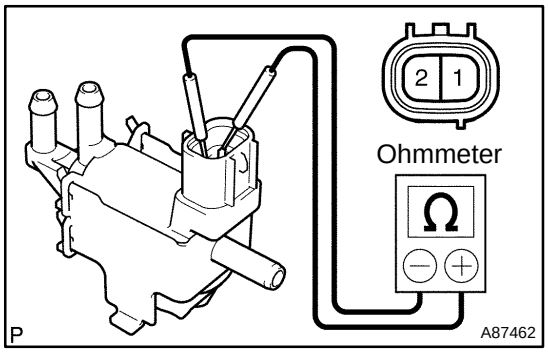
(1) Check that there is no ventilation in port F when air is applied from port E.

If there is ventilation, replace the vacuum switching valve No. 2.



(2) Apply battery voltage across the terminals.
(3) Check that there is ventilation in port F when air is applied from port E.

If there is no ventilation, replace the vacuum switching valve No. 2.



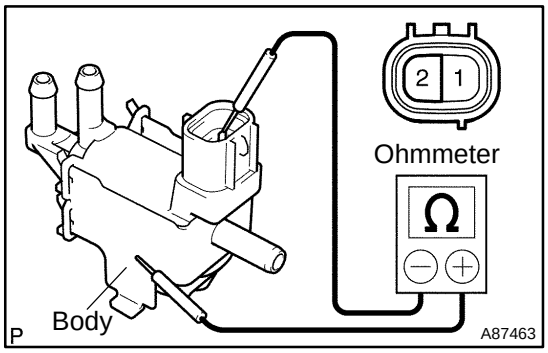
3. INSPECT CHARCOAL CANISTER VACUUM SWITCHING VALVE

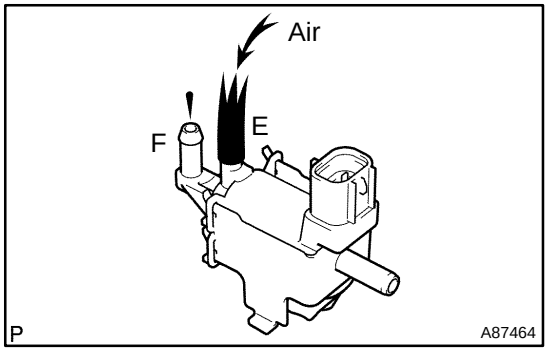
(a) Inspect the resistance.
(1) Using an ohmmeter, measure the resistance between the terminals.

Standard:

Tester Connection	Specified Condition
1 – 2	36 to 42 Ω at 20°C (68°F)
1 – Body	10 kΩ or higher
2 – Body	10 kΩ or higher

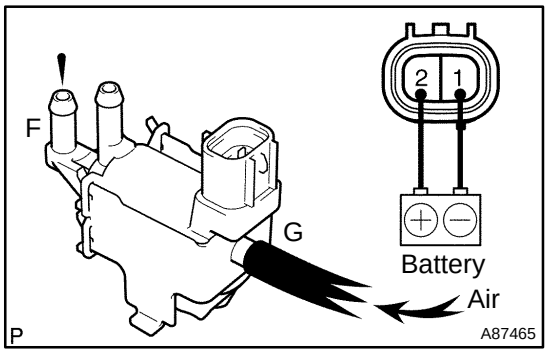
If the result is not as specified, replace the charcoal canister vacuum switching valve.





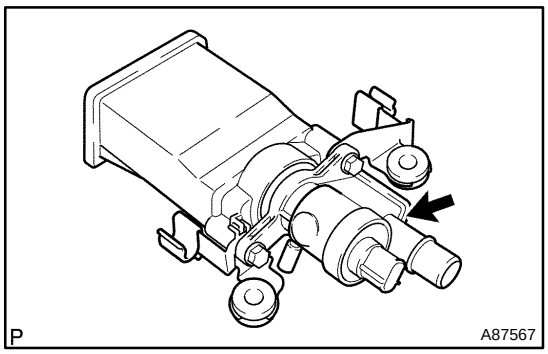
(b) Check the ventilation.
(1) Check that there is no ventilation from port E to port F.

If there is ventilation, replace the charcoal canister vacuum switching valve.



(2) Apply battery voltage across the terminals.
(3) Check that there is ventilation in port F when air is applied from port G.

If there is no ventilation, replace the charcoal canister vacuum switching valve.

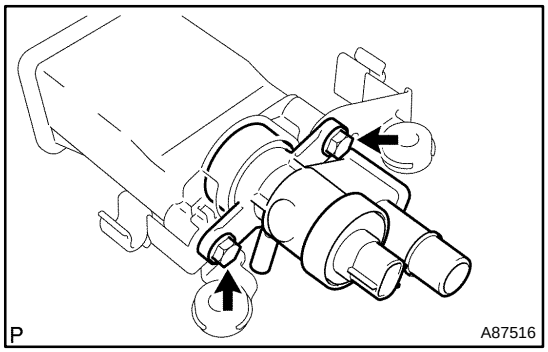


4. INSPECT TRAP W/OUTLET VALVE CANISTER ASSY

(a) Check the appearance.

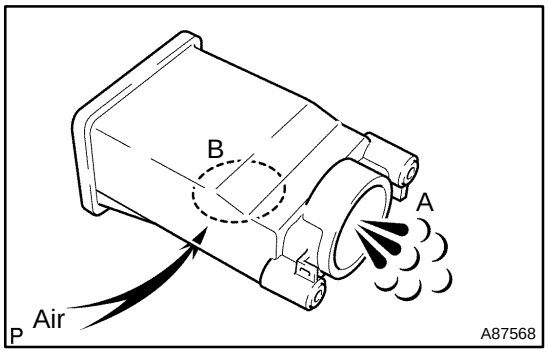
(1) Check that there are no cracks or damage on the indicated portion of the trap with outlet valve canister.

If there are any defects, replace the trap with outlet valve canister.



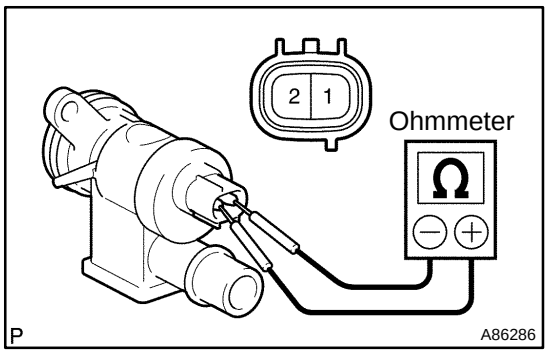
(b) Check the ventilation.

(1) Remove the 2 bolts and VSV for CCV (canister closed valve).



(2) Check that there is ventilation in port B when air is applied from port A.

If there is no ventilation, replace the trap with outlet valve canister.



(c) Inspect the VSV for CCV (canister closed valve).

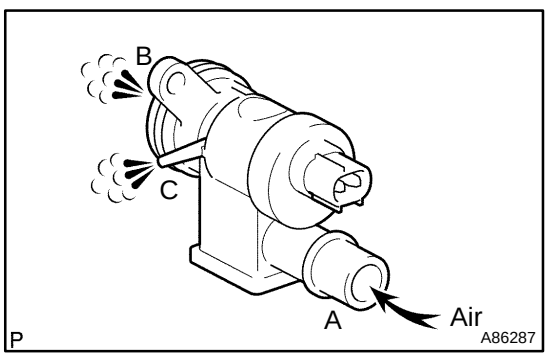
(1) Inspect the resistance.

Using an ohmmeter, measure the resistance between the terminals.

Standard:

Tester Connection	Specified Condition
1 – 2	25 to 30 Ω at 20°C (68°F)
1 – 2	32 to 40 Ω at 100°C (212°F)

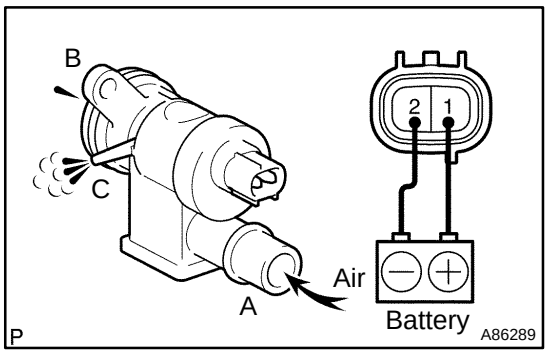
If the resistance is not as specified, replace the trap with outlet valve canister.



(2) Check the ventilation.

- Check that there is ventilation in ports B and C when air is applied from por A.

If there is no ventilation, replace the trap with outlet valve canister.

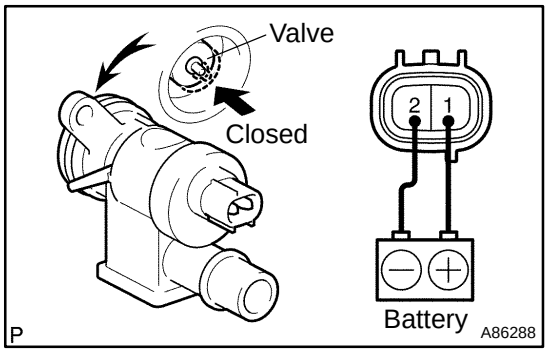


- Apply battery voltage across the terminals.
- Check that there is no ventilation in port B when air is applied from port A.

If there is ventilation, replace the trap with outlet valve canister.

- Apply battery voltage across the terminals.
- Check that there is ventilation in port C when air is applied from port A.

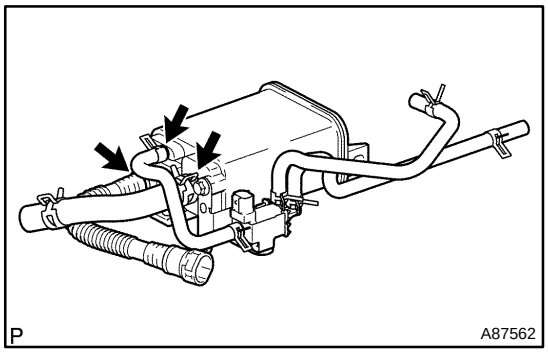
If there is no ventilation, replace the trap with outlet valve canister.



- Apply battery voltage across the terminals, then check that the valve closed.

If the valve does not close, replace the trap with outlet valve canister.

(3) Install the VSV for CCV (canister closed valve) with the 2 bolts.

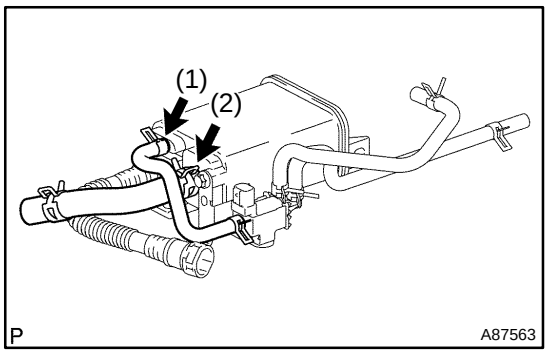


5. INSPECT CHARCOAL CANISTER ASSY

(a) Check the appearance.

(1) Check that there are no cracks or damage on the indicated portions of the charcoal canister.

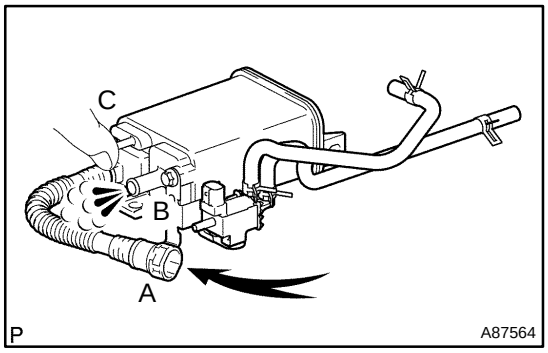
If there are any defects, replace the charcoal canister.



(b) Check the ventilation.

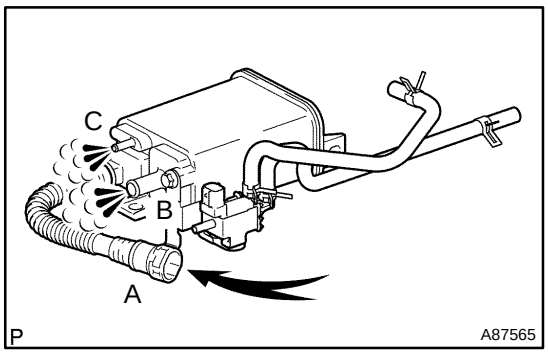
(1) Disconnect the charcoal canister hose from the charcoal canister.

(2) Remove the charcoal canister outlet hose No. 1 from the charcoal canister.



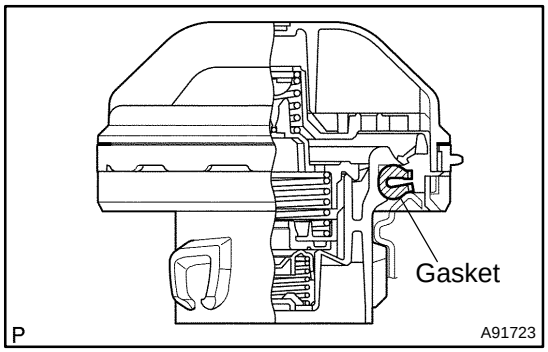
(3) Check that there is ventilation in port B when air of 4.9 kPa (50 gf/cm^2, 0.71 psi)) is applied to port A with the port C plugged with your finger.

If there is no ventilation, replace the charcoal canister.



(4) Check that there is ventilation in ports B and C when air (4.9 kPa (50 gf/cm^2, 0.71 psi)) is applied to charcoal canister vent hose.

If there is no ventilation, replace the charcoal canister.

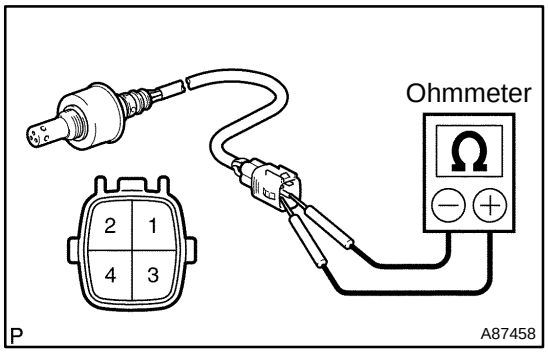


6. INSPECT FUEL TANK CAP ASSY

(a) Check tha appearance.

(1) Check that there is no deformation or damage on the fuel tank cap and gasket.

If there are any defects, replace the fuel tank cap.



7. INSPECT AIR–FUEL RATIO SENSOR

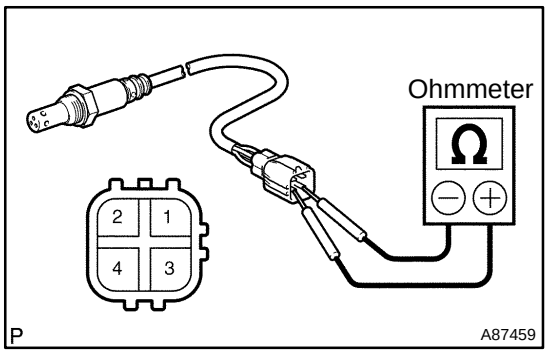
(a) Inspect the resistance.

(1) Using an ohmmeter, measure the resistance between the terminals.

Standard:

Tester Connection	Specified Condition
1 (HT) – 2 (+B)	1.8 to 3.4 Ω at 20°C (68°F)
2 (+B) – 4 (AF–)	10 kΩ or higher

If the result is not as specified, replace the air–fuel ratio sensor.



8. INSPECT HEATED OXYGEN SENSOR

(a) Inspect the resistance.

(1) Using an ohmmeter, measure the resistance between the terminals.

Standard:

Tester Connection	Specified Condition
1 (HT) – 2 (+B)	11 to 16 Ω at 20°C (68°F)
1 (HT) – 4 (E)	10 kΩ or higher

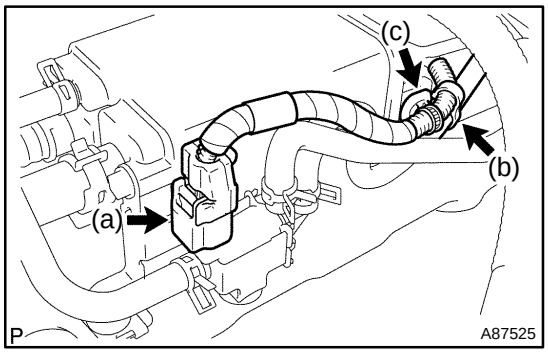
If the result is not as specified, replace the heated oxygen sensor.

CHARCOAL CANISTER ASSY (1NZ–FXE)

120DV–01

REPLACEMENT

1. **DISCHARGE FUEL SYSTEM PRESSURE (See page 11–3)**
2. **REMOVE REAR FLOOR BOARD NO.2 (See page 19–2)**
3. **REMOVE DECK FLOOR BOX REAR (See page 19–2)**
4. **REMOVE REAR FLOOR BOARD NO.3 (See page 19–2)**
5. **DISCONNECT ENGINE WIRE NO.3 (BATTERY NEGATIVE TERMINAL) (See page 19–2)**
6. **REMOVE REAR SEAT CUSHION ASSY (See page 72–9)**
7. **REMOVE REAR FLOOR SERVICE HOLE COVER (See page 11–24)**
8. **REMOVE FLOOR PANEL BRACE FRONT (See page 15–2)**
9. **REMOVE EXHAUST PIPE ASSY FRONT (See page 11–24)**
10. **REMOVE FUEL TANK ASSY (See page 11–24)**

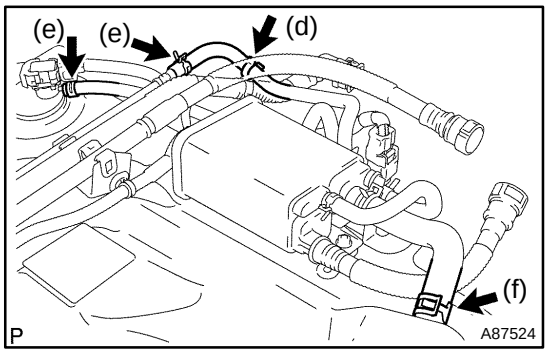


11. REMOVE CHARCOAL CANISTER ASSY

(a) Disconnect the VSV connector.

(b) Remove the clamp

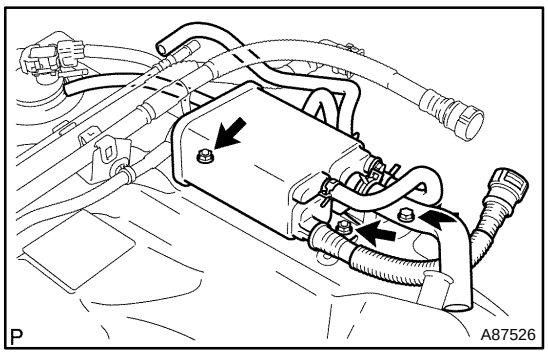
(c) Remove the wire harness clamp.



(d) Remove the clamp.

(e) Disconnect the 2 charcoal canister hoses from the fuel tank retainer and fuel tank to canister tube.

(f) Disconnect the charcoal canister outlet hose No. 1 from the fuel tank.



(g) Remove the bolt and 2 nuts, then remove the charcoal canister.

12. **INSTALL CHARCOAL CANISTER ASSY**
    Torque: 6.0 N·m (61 kgf·cm, 53 in.·lbf)
13. **INSTALL FUEL TANK ASSY (See page 11–24)**
14. **INSTALL EXHAUST PIPE ASSY FRONT (See page 11–24)**
15. **CONNECT ENGINE WIRE NO.3 (BATTERY NEGATIVE TERMINAL) (See page 19–2)**

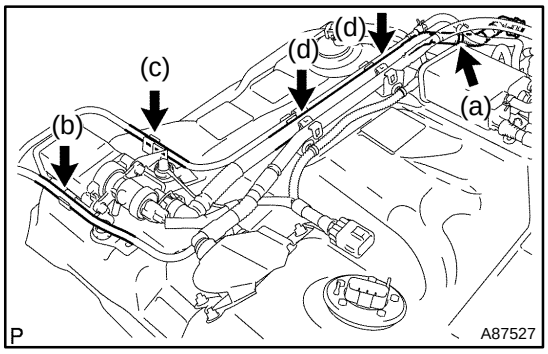
16. CHECK FOR FUEL LEAKS (See page 11–7)
17. CHECK FOR EXHAUST GAS LEAKS
18. INSTALL FLOOR PANEL BRACE FRONT (See page 15–2)
19. INSTALL INSTRUMENT PANEL FINISH PANEL LOWER CENTER
20. INSTALL REAR FLOOR SERVICE HOLE COVER (See page 11–24)
21. INSTALL REAR SEAT CUSHION ASSY (See page 72–9)
22. INSTALL REAR FLOOR BOARD NO.3
23. INSTALL DECK FLOOR BOX REAR
24. INSTALL REAR FLOOR BOARD NO.2
25. POWER WINDOW CONTROL SYSTEM INITIALIZE (See page 01–28)

TRAP W/OUTLET VALVE CANISTER ASSY (1NZ–FXE)

120DU–01

REPLACEMENT

1. **DISCHARGE FUEL SYSTEM PRESSURE (See page 11–3)**
2. **REMOVE REAR FLOOR BOARD NO.2 (See page 19–2)**
3. **REMOVE DECK FLOOR BOX REAR (See page 19–2)**
4. **REMOVE REAR FLOOR BOARD NO.3 (See page 19–2)**
5. **DISCONNECT ENGINE WIRE NO.3 (BATTERY NEGATIVE TERMINAL) (See page 19–2)**
6. **REMOVE REAR SEAT CUSHION ASSY (See page 72–9)**
7. **REMOVE REAR FLOOR SERVICE HOLE COVER (See page 11–24)**
8. **REMOVE FLOOR PANEL BRACE FRONT (See page 15–2)**
9. **REMOVE EXHAUST PIPE ASSY FRONT (See page 11–24)**
10. **REMOVE FUEL TANK ASSY (See page 11–24)**



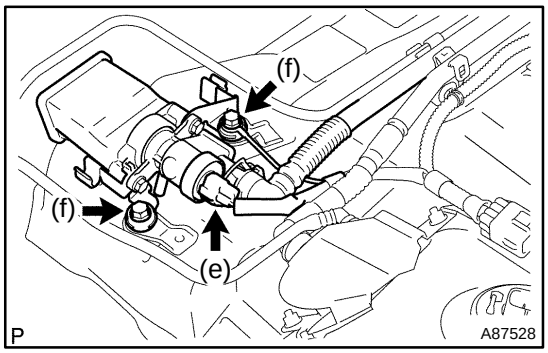
11. REMOVE TRAP W/OUTLET VALVE CANISTER ASSY

(a) Remove the clamp from the fuel tank vent hose and charcoal canister hose.

(b) Remove the tube of the fuel tank main tube from the clamp.

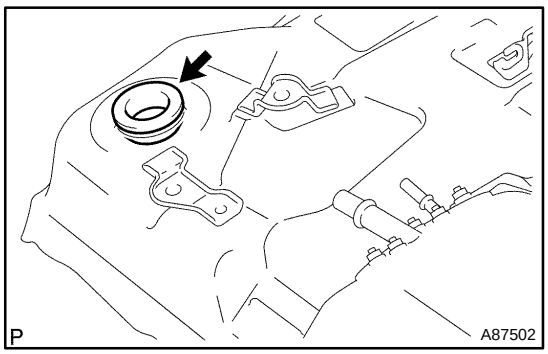
(c) Remove the tube of the fuel tank to canister tube from the clamp.

(d) Remove the tube of the fuel tank vent hose from the 2 fuel tube with grommet clamps No. 1.

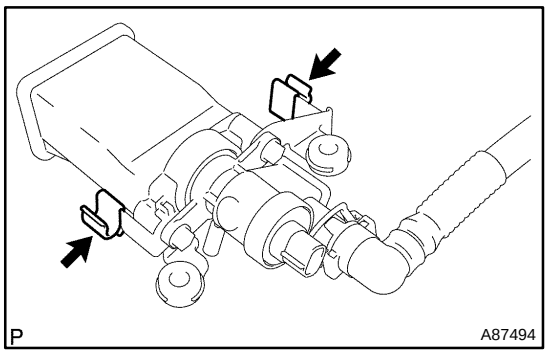


(e) Disconnect the VSV connector.

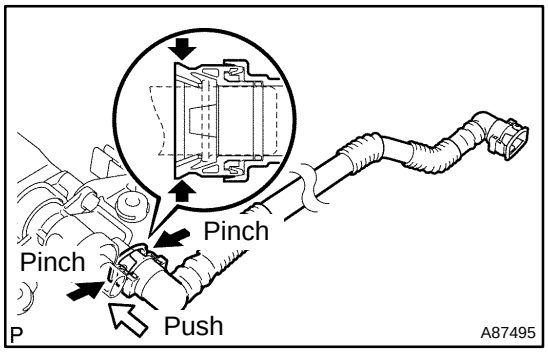
(f) Remove the 2 bolts, then remove the trap with outlet valve canister and ground terminal of the fuel tank wire.



(g) Remove the gasket from the fuel tank.



(h) Remove the 2 clamps from the trap with outlet valve canister.

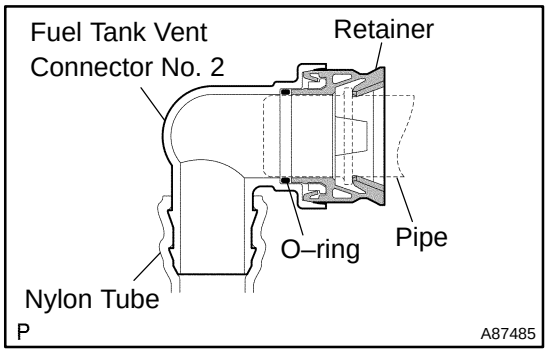


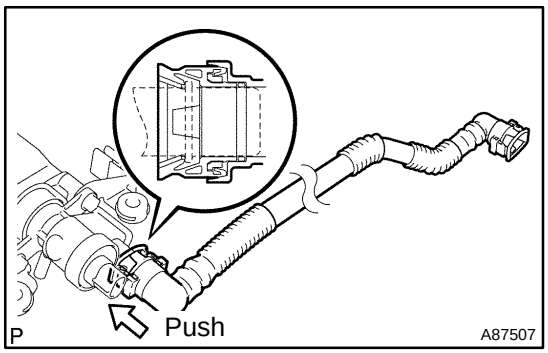
(i) Remove the fuel tank vent hose.

(j) Pinch the retainer and pull out the fuel tank vent connector No. 2 with the fuel tank vent connector No. 2 pushed to the pipe side to remove the fuel tank vent hose from the trap with outlet valve canister.

NOTICE:

- **Remove dirt or foreign objects on the fuel tank vent connector No. 2 before this work.**
- **Do not allow any scratches or foreign objects on the parts when disconnecting as the fuel tank vent connector No. 2 has the O–ring that seals the pipe.**
- **Perform this work by hand. Do not use any tools.**
- **Do not forcibly bend, twist or turn the nylon tube.**
- **Protect the connected part by covering it with a vinyl bag after disconnecting the fuel tank vent hose.**
- **If the fuel tank vent connector No. 2 and pipe are stuck, push and pull them to release.**





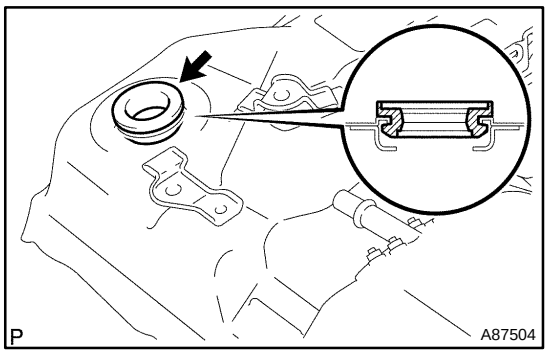
12. INSTALL TRAP W/OUTLET VALVE CANISTER ASSY

(a) Install the fuel tank vent hose.

(1) Align the fuel tank vent connector No. 2 with the pipe, then push in the fuel tank vent connector No. 2 until the retainer makes a ”click” sound to install the fuel tank vent hose to the trap with outlet valve canister.

NOTICE:

- **Check that there are no scratches or foreign objects around the connected part of the fuel tank vent connector No. 2 and pipe before this work.**
- **After connecting the fuel tank vent hose, check that the fuel tank vent hose is securely connected by pulling the fuel tank vent connector No. 2.**



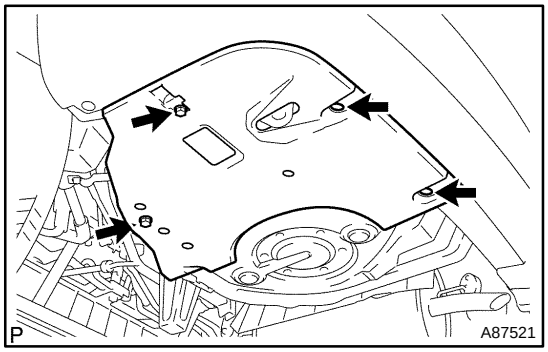
(b) Install a new gasket to the fuel tank.
(c) While being careful that the gasket does not drop in the fuel tank, insert the trap with outlet valve canister to the fuel tank.
(d) Install the trap with outlet valve canister and ground terminal of the fuel tank wire with the 2 bolts.
Torque: 6.0 N·m (61 kgf·cm, 53 in.·lbf)
(e) Install the tube of the fuel tank vent hose to the 2 fuel tube with grommet clamps. No. 1.
(f) Install the clamp to the fuel tank vent hose and charcoal canister hose.
(g) Connect the VSV connector.
(h) Install the fuel tank vent hose to the 2 fuel tube with grommet clamps No. 1
(i) Install the tube of the fuel tank to canister tube to the clamp.
(j) Install the tube of the fuel tank main tube to the clamp.
(k) Install the clamp to the fuel tank vent hose and charcoal canister hose.

13. INSTALL FUEL TANK ASSY (See page 11–24)
14. INSTALL EXHAUST PIPE ASSY FRONT (See page 11–24)
15. CONNECT ENGINE WIRE NO.3 (BATTERY NEGATIVE TERMINAL) (See page 19–2)
16. CHECK FOR FUEL LEAKS (See page 11–7)
17. CHECK FOR EXHAUST GAS LEAKS
18. INSTALL FLOOR PANEL BRACE FRONT (See page 15–2)
19. INSTALL INSTRUMENT PANEL FINISH PANEL LOWER CENTER
20. INSTALL REAR FLOOR SERVICE HOLE COVER (See page 11–24)
21. INSTALL REAR SEAT CUSHION ASSY (See page 72–9)
22. INSTALL REAR FLOOR BOARD NO.3
23. INSTALL DECK FLOOR BOX REAR
24. INSTALL REAR FLOOR BOARD NO.2
25. POWER WINDOW CONTROL SYSTEM INITIALIZE (See page 01–28)

CHARCOAL CANISTER FILTER SUB–ASSY (1NZ–FXE)

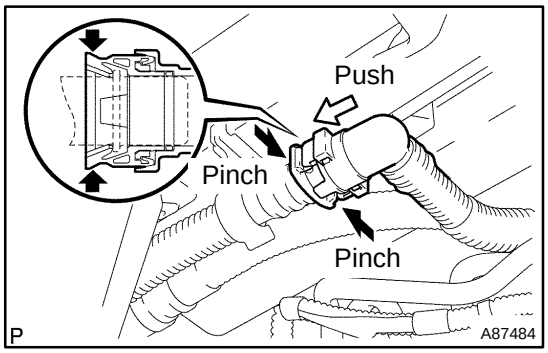
120DT–01

REPLACEMENT



1. REMOVE FLOOR UNDER COVER NO.1

(a) Remove the 2 clips and 2 bolts, then remove the floor under cover No. 1.



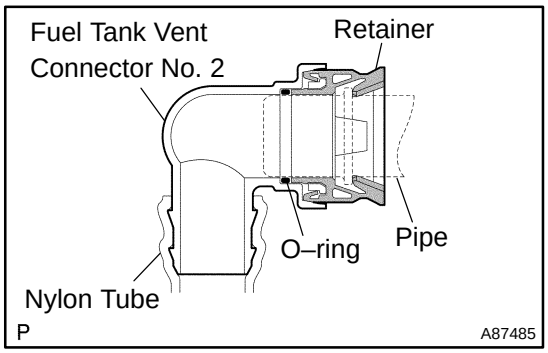
2. REMOVE CHARCOAL CANISTER FILTER SUB–ASSY

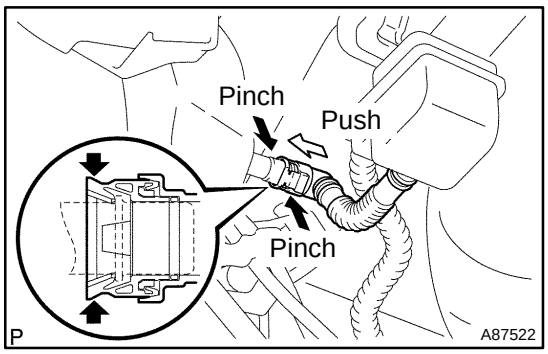
(a) Disconnect the fuel tank vent hose (fuel tank side).

(1) Pinch the retainer and pull out the fuel tank vent connector No. 2 with the fuel tank vent connector No. 2 pushed to the pipe side to disconnect the fuel tank vent hose from the charcoal canister filter.

NOTICE:

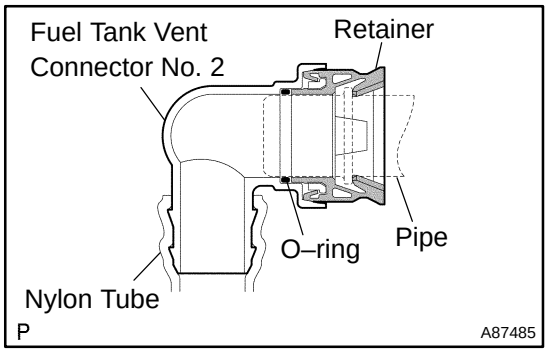
- **Remove dirt or foreign objects on the fuel tank vent connector No. 2 before this work.**
- **Do not allow any scratches or foreign objects on the parts when disconnecting as the fuel tank vent connector No. 2 has the O–ring that seals the pipe.**
- **Perform this work by hand. Do not use any tools.**
- **Do not forcibly bend, twist or turn the nylon tube.**
- **Protect the connected part by covering it with a vinyl bag after disconnecting the fuel tank vent hose.**
- **If the fuel tank vent connector No. 2 and pipe are stuck, push and pull them to release.**

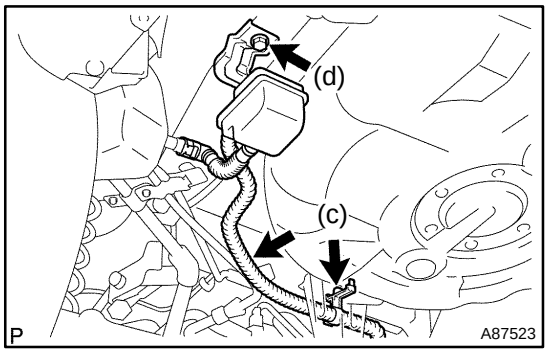




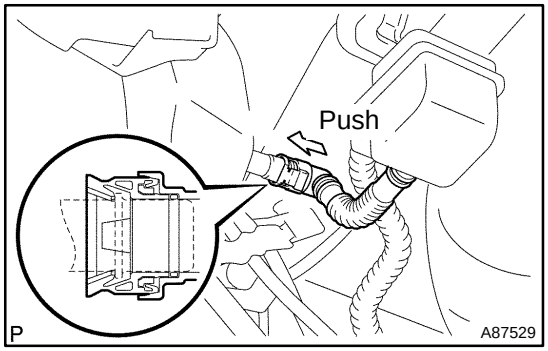
(b) Disconnect the fuel tank vent hose (fuel tank inlet pipe side).
(1) Pinch the retainer and pull out the fuel tank vent connector No. 2 with the fuel tank vent connector No. 2 pushed to the pipe side to disconnect the fuel tank vent hose from the fuel tank inlet pipe.

NOTICE:
- **Remove dirt or foreign objects on the fuel tank vent connector No. 2 before this work.**
- **Do not allow any scratches or foreign objects on the parts when disconnecting as the fuel tank vent connector No. 2 has the O–ring that seals the pipe.**
- **Perform this work by hand. Do not use any tools.**
- **Do not forcibly bend, twist or turn the nylon tube.**
- **Protect the connected part by covering it with a vinyl bag after disconnecting the fuel tank vent hose.**
- **If the fuel tank vent connector No. 2 and pipe are stuck, push and pull them to release.**





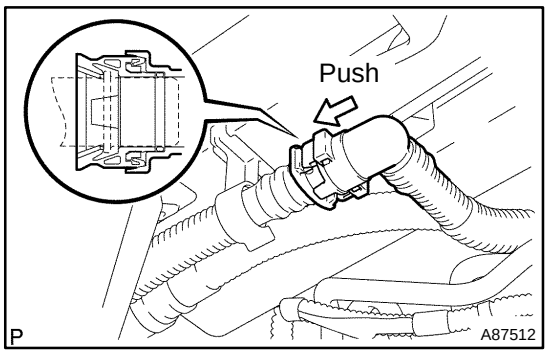
(c) Remove the fuel tank suction tube support from the vehicle.
(d) Remove the bolt, then remove the charcoal canister filter.



3. INSTALL CHARCOAL CANISTER FILTER SUB–ASSY

(a) Install the charcoal canister filter with the bolt.
Torque: 34 N·m (347 kgf·cm, 25 ft·lbf)
(b) Install the fuel suction tube support to the vehicle.
(c) Connect the fuel tank vent hose (fuel tank inlet pipe side).
(1) Align the fuel tank vent connector No. 2 with the pipe, then push in the fuel tank vent connector No. 2 until the retainer makes a ”click” sound to connect the fuel tank vent hose to fuel tank inlet pipe.

NOTICE:
- **Check that there are no scratches or foreign objects around the connected part of the fuel tank vent connector No. 2 and pipe before this work.**
- **After connecting the fuel tank vent hose, check that the fuel tank vent hose is securely connected by pulling the quick connector.**



(d) Connect the fuel tank vent hose (fuel tank side).

(1) Align the fuel tank vent connector No. 2 with the pipe, then push in the fuel tank vent connector No. 2 until the retainer makes a ”click” sound to connect the fuel tank vent hose to the charcoal canister filter.

NOTICE:

- **Check that there are no scratches or foreign objects around the connected part of the fuel tank vent connector No. 2 and pipe before this work.**
- **After connecting the fuel tank vent hose, check that the fuel tank vent hose is securely connected by pulling the quick connector.**

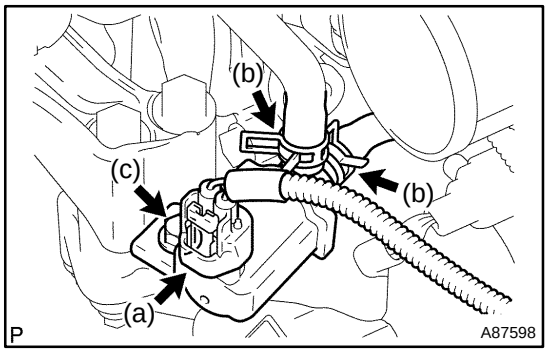
4. INSTALL FLOOR UNDER COVER NO.1

VACUUM SWITCHING VALVE ASSY NO.2 (1NZ–FXE)

120DS–01

REPLACEMENT

1. **REMOVE REAR FLOOR BOARD NO.2 (See page 19–2)**
2. **REMOVE DECK FLOOR BOX REAR (See page 19–2)**
3. **REMOVE REAR FLOOR BOARD NO.3 (See page 19–2)**
4. **DISCONNECT ENGINE WIRE NO.3 (BATTERY NEGATIVE TERMINAL) (See page 19–2)**



5. **REMOVE VACUUM SWITCHING VALVE ASSY NO.2**
   (a) Disconnect the VSV connector.
   (b) Disconnect the 2 fuel vapor feed hoses No. 1 from the vacuum switching valve No. 2.
   (c) Remove the bolt, then remove the vacuum switching valve No. 2.

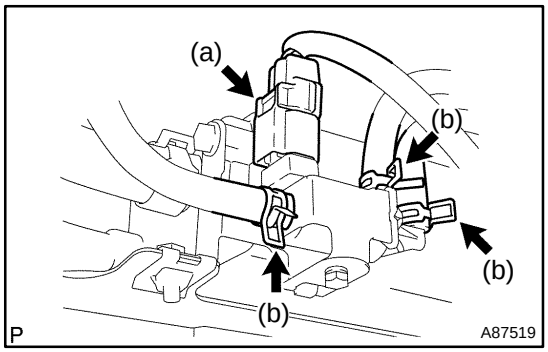
6. **INSTALL VACUUM SWITCHING VALVE ASSY NO.2**
   Torque: 7.5 N·m (76 kgf·cm, 66 in.·lbf)
7. **CONNECT ENGINE WIRE NO.3 (BATTERY NEGATIVE TERMINAL) (See page 19–2)**
8. **INSTALL REAR FLOOR BOARD NO.3**
9. **INSTALL DECK FLOOR BOX REAR**
10. **INSTALL REAR FLOOR BOARD NO.2**
11. **POWER WINDOW CONTROL SYSTEM INITIALIZE (See page 01–28)**

CHARCOAL CANISTER VACUUM SWITCHING VALVE (1NZ–FXE)

120DR–01

REPLACEMENT

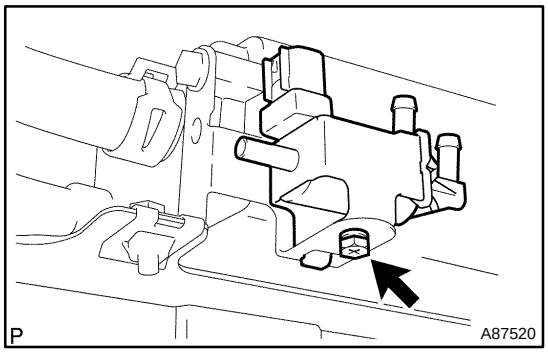
1. **REMOVE REAR FLOOR BOARD NO.2 (See page 19–2)**
2. **REMOVE DECK FLOOR BOX REAR (See page 19–2)**
3. **REMOVE REAR FLOOR BOARD NO.3 (See page 19–2)**
4. **DISCONNECT ENGINE WIRE NO.3 (BATTERY NEGATIVE TERMINAL) (See page 19–2)**



5. **REMOVE CHARCOAL CANISTER VACUUM SWITCHING VALVE**

(a) Disconnect the VSV connector.

(b) Disconnect the 3 charcoal canister hoses from the charcoal canister vacuum switching valve.



(c) Remove the bolt, then remove the charcoal canister vacuum switching valve.

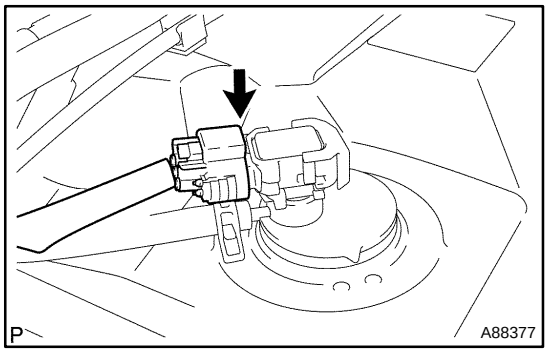
6. **INSTALL CHARCOAL CANISTER VACUUM SWITCHING VALVE**
   Torque: 2.9 N·m (30 kgf·cm, 26 in.·lbf)
7. **CONNECT ENGINE WIRE NO.3 (BATTERY NEGATIVE TERMINAL) (See page 19–2)**
8. **INSTALL REAR FLOOR BOARD NO.3**
9. **INSTALL DECK FLOOR BOX REAR**
10. **INSTALL REAR FLOOR BOARD NO.2**
11. **POWER WINDOW CONTROL SYSTEM INITIALIZE (See page 01–28)**

VAPOR PRESSURE SENSOR ASSY (1NZ–FXE)

120DQ–01

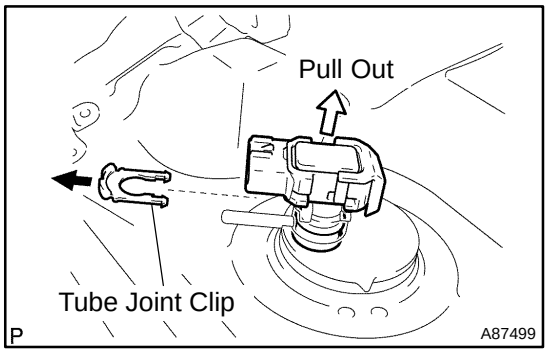
REPLACEMENT

1. **REMOVE REAR FLOOR BOARD NO.2 (See page 19–2)**
2. **REMOVE DECK FLOOR BOX REAR (See page 19–2)**
3. **REMOVE REAR FLOOR BOARD NO.3 (See page 19–2)**
4. **DISCONNECT ENGINE WIRE NO.3 (BATTERY NEGATIVE TERMINAL) (See page 19–2)**



5. REMOVE VAPOR PRESSURE SENSOR ASSY

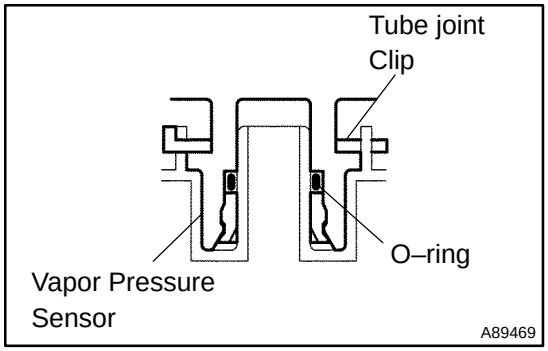
(a) Disconnect the vapor pressure sensor connector.

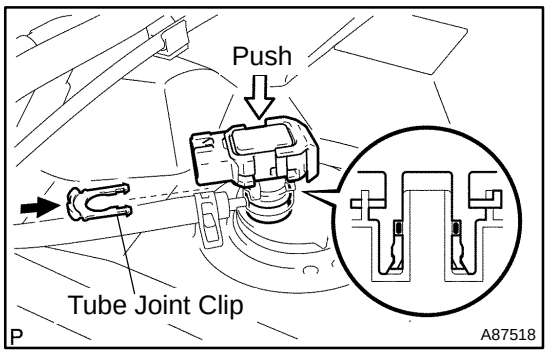


(b) Remove the tube joint clip, then pull out the vapor pressure sensor from the fuel tank retainer.

NOTICE:

- **Remove dirt or foreign objects on vapor pressure sensor before this work.**
- **Do not allow any scratches or foreign objects on the parts when disconnecting as the vapor pressure sensor has the O–ring that seals the plug.**
- **Perform this work by hand. Do not use any tools.**





6. INSTALL VAPOR PRESSURE SENSOR ASSY

(a) Push the vapor pressure sensor to the plug of the fuel tank retainer, then install the tube joint clip.

NOTICE:

- **Check that there are no scratches or foreign objects around the connected part of the vapor pressure sensor and fuel tank retainer before this work.**
- **Check that the vapor pressure sensor is securely inserted to the end.**
- **Check that the tube joint clip is on the collar of the vapor pressure sensor.**
- **After installing the tube joint clip, check that the vapor pressure sensor cannot be pulled out.**

(b) Connect the vapor pressure sensor connector.

7. CONNECT ENGINE WIRE NO.3 (BATTERY NEGATIVE TERMINAL) (See page 19–2)

8. INSTALL REAR FLOOR BOARD NO.3

9. INSTALL DECK FLOOR BOX REAR

10. INSTALL REAR FLOOR BOARD NO.2

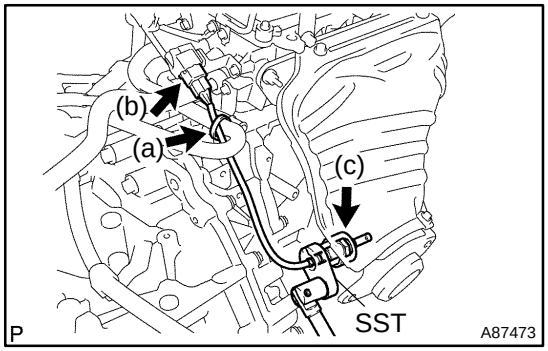
11. POWER WINDOW CONTROL SYSTEM INITIALIZE (See page 01–28)

AIR–FUEL RATIO SENSOR (1NZ–FXE)

120DO–01

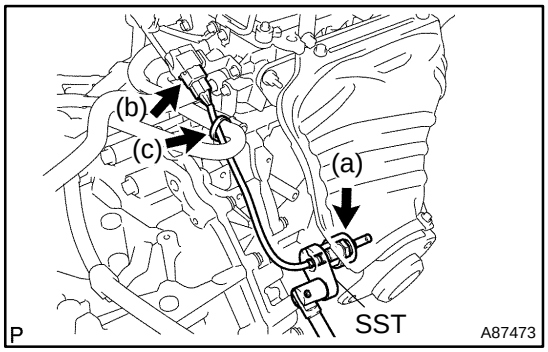
REPLACEMENT

1. PRECAUTION (See page 21–7)
2. REMOVE RADIATOR SUPPORT OPENING COVER (See page 10–15)
3. REMOVE ENGINE UNDER COVER LH
4. REMOVE ENGINE UNDER COVER RH
5. DRAIN HV COOLANT (See page 22–4)
6. REMOVE REAR FLOOR BOARD NO.2 (See page 19–2)
7. REMOVE DECK FLOOR BOX REAR (See page 19–2)
8. REMOVE REAR FLOOR BOARD NO.3 (See page 19–2)
9. DISCONNECT ENGINE WIRE NO.3 (BATTERY NEGATIVE TERMINAL) (See page 19–2)
10. REMOVE SERVICE PLUG GRIP (See page 21–116)
11. REMOVE WINDSHIELD WIPER ARM COVER
12. REMOVE FR WIPER ARM RH (See page 66–14)
13. REMOVE FR WIPER ARM LH (See page 66–14)
14. REMOVE HOOD TO COWL TOP SEAL (See page 66–14)
15. REMOVE COWL TOP VENTILATOR LOUVER LH (See page 66–14)
16. REMOVE COWL TOP VENTILATOR LOUVER RH (See page 66–14)
17. REMOVE WINDSHIELD WIPER LINK ASSY (See page 66–14)
18. REMOVE COWL TOP PANEL SUB–ASSY OUTER FRONT (See page 11–15)
19. REMOVE INVERTER COVER (See page 21–23)
20. VERIFY THAT VOLTAGE OF W/CONVERTER INVERTER ASSY IS 0V (See page 21–23)
21. DISCONNECT INVERTER COOLING HOSE NO.2 (See page 21–23)
22. DISCONNECT INVERTER COOLING HOSE NO.1 (See page 21–23)
23. DISCONNECT INVERTER COOLING HOSE NO.6 (See page 21–23)
24. SEPARATE CIRCUIT BREAKER SENSOR NO.1 (See page 21–23)
25. DISCONNECT FRAME WIRE NO.2 (See page 21–23)
26. REMOVE W/CONVERTER INVERTER ASSY (See page 21–23)



27. REMOVE AIR–FUEL RATIO SENSOR

(a) Remove the wire harness clamp from the air–fuel ratio sensor.
(b) Disconnect the air–fuel ratio sensor connector.
(c) Using SST, remove the air–fuel ratio sensor.
SST 09224–00010



28. INSTALL AIR–FUEL RATIO SENSOR

(a) Using SST, install the air–fuel ratio sensor.
SST 09224–00010
Torque: 44 N·m (450 kgf·cm, 33 in.·lbf)
(b) Connect the air–fuel ratio sensor connector.
(c) Install the wire harness clamp to the air–fuel ratio sensor.

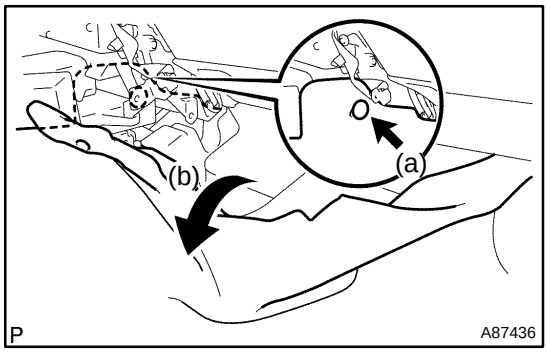
29. INSTALL W/CONVERTER INVERTER ASSY (See page 21–23)
30. CONNECT FRAME WIRE NO.2 (See page 21–23)
31. CONNECT CIRCUIT BREAKER SENSOR NO.1 (See page 21–23)
32. CONNECT INVERTER COOLING HOSE NO.6
33. CONNECT INVERTER COOLING HOSE NO.1
34. CONNECT INVERTER COOLING HOSE NO.2
35. INSTALL INVERTER COVER (See page 21–23)
36. INSTALL COWL TOP PANEL SUB–ASSY OUTER FRONT (See page 11–15)
37. INSTALL WINDSHIELD WIPER LINK ASSY (See page 66–14)
38. INSTALL SERVICE PLUG GRIP (See page 21–116)
39. CONNECT ENGINE WIRE NO.3 (BATTERY NEGATIVE TERMINAL) (See page 19–2)
40. ADD HV COOLANT (See page 22–4)
41. CHECK FOR HV COOLANT LEAKS (See page 22–1)
42. CHECK FOR EXHAUST GAS LEAKS
43. INSTALL COWL TOP VENTILATOR LOUVER RH
44. INSTALL COWL TOP VENTILATOR LOUVER LH
45. INSTALL HOOD TO COWL TOP SEAL
46. INSTALL FR WIPER ARM LH (See page 66–14)
47. INSTALL FR WIPER ARM RH (See page 66–14)
48. INSTALL WINDSHIELD WIPER ARM COVER
49. INSTALL REAR FLOOR BOARD NO.3
50. INSTALL DECK FLOOR BOX REAR
51. INSTALL REAR FLOOR BOARD NO.2
52. INSTALL ENGINE UNDER COVER RH
53. INSTALL ENGINE UNDER COVER LH
54. INSTALL RADIATOR SUPPORT OPENING COVER
55. POWER WINDOW CONTROL SYSTEM INITIALIZE (See page 01–28)

HEATED OXYGEN SENSOR (1NZ–FXE)

120DP–01

REPLACEMENT

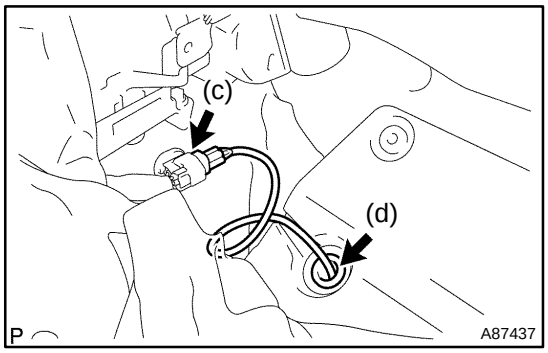
1. **REMOVE REAR FLOOR BOARD NO.2 (See page 19–2)**
2. **REMOVE DECK FLOOR BOX REAR (See page 19–2)**
3. **REMOVE REAR FLOOR BOARD NO.3 (See page 19–2)**
4. **DISCONNECT ENGINE WIRE NO.3 (BATTERY NEGATIVE TERMINAL) (See page 19–2)**
5. **REMOVE INSTRUMENT PANEL FINISH PANEL LOWER CENTER (See page 71–13)**



6. REMOVE HEATED OXYGEN SENSOR

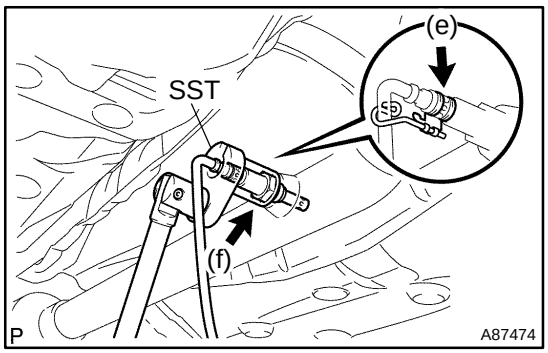
(a) Using a clip remover, remove the clip.

(b) Pull off the floor carpet front.



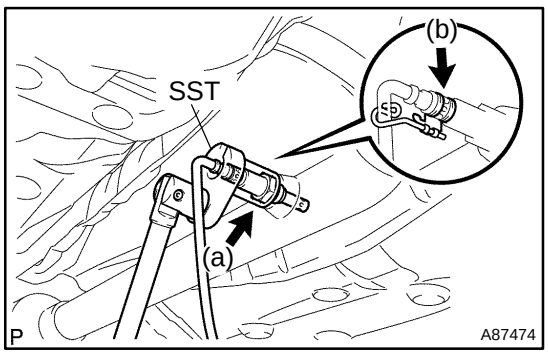
(c) Disconnect the heated oxygen sensor connector.

(d) Remove the grommet of the heated oxygen sensor from the vehicle.



(e) Remove the wire harness clamp bracket from the heated oxygen sensor.

(f) Using SST, remove the heated oxygen sensor.
SST 09224–00010



7. INSTALL HEATED OXYGEN SENSOR

(a) Using SST, install the heated oxygen sensor.
SST 09224–00010
Torque: 44 N·m (450 kgf·cm, 33 in.·lbf)

(b) Install the wire harness clamp bracket to the heated oxygen sensor.

(c) Install the grommet of the heated oxygen sensor to the vehicle.

(d) Connect the heated oxygen sensor connector.

(e) Install the floor carpet front with the clip.

8. CONNECT ENGINE WIRE NO.3 (BATTERY NEGATIVE TERMINAL) (See page 19–2)
9. CHECK FOR EXHAUST GAS LEAKS
10. INSTALL INSTRUMENT PANEL FINISH PANEL LOWER CENTER
11. INSTALL REAR FLOOR BOARD NO.3
12. INSTALL DECK FLOOR BOX REAR
13. INSTALL REAR FLOOR BOARD NO.2
14. POWER WINDOW CONTROL SYSTEM INITIALIZE (See page 01–28)