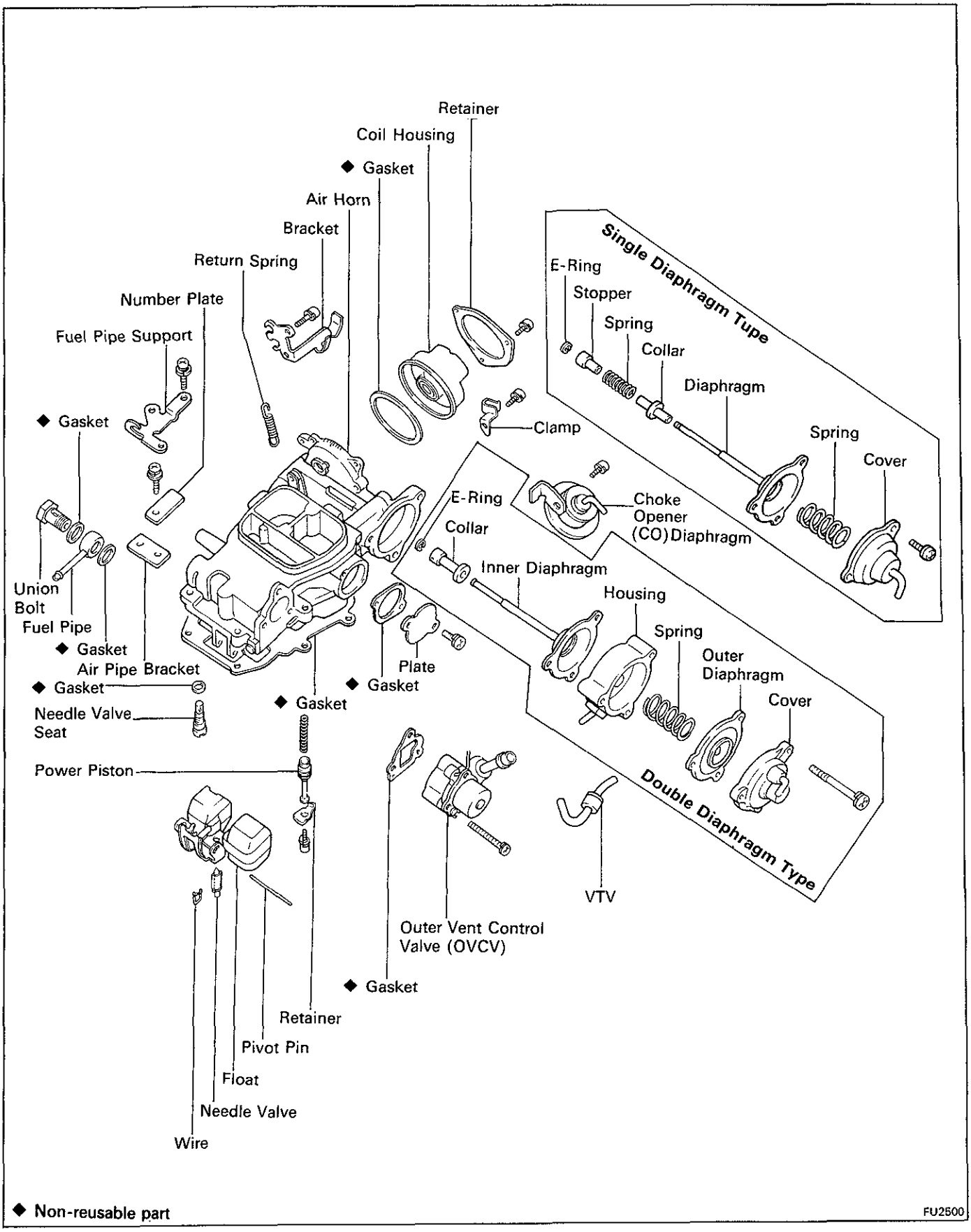
CARBURETOR

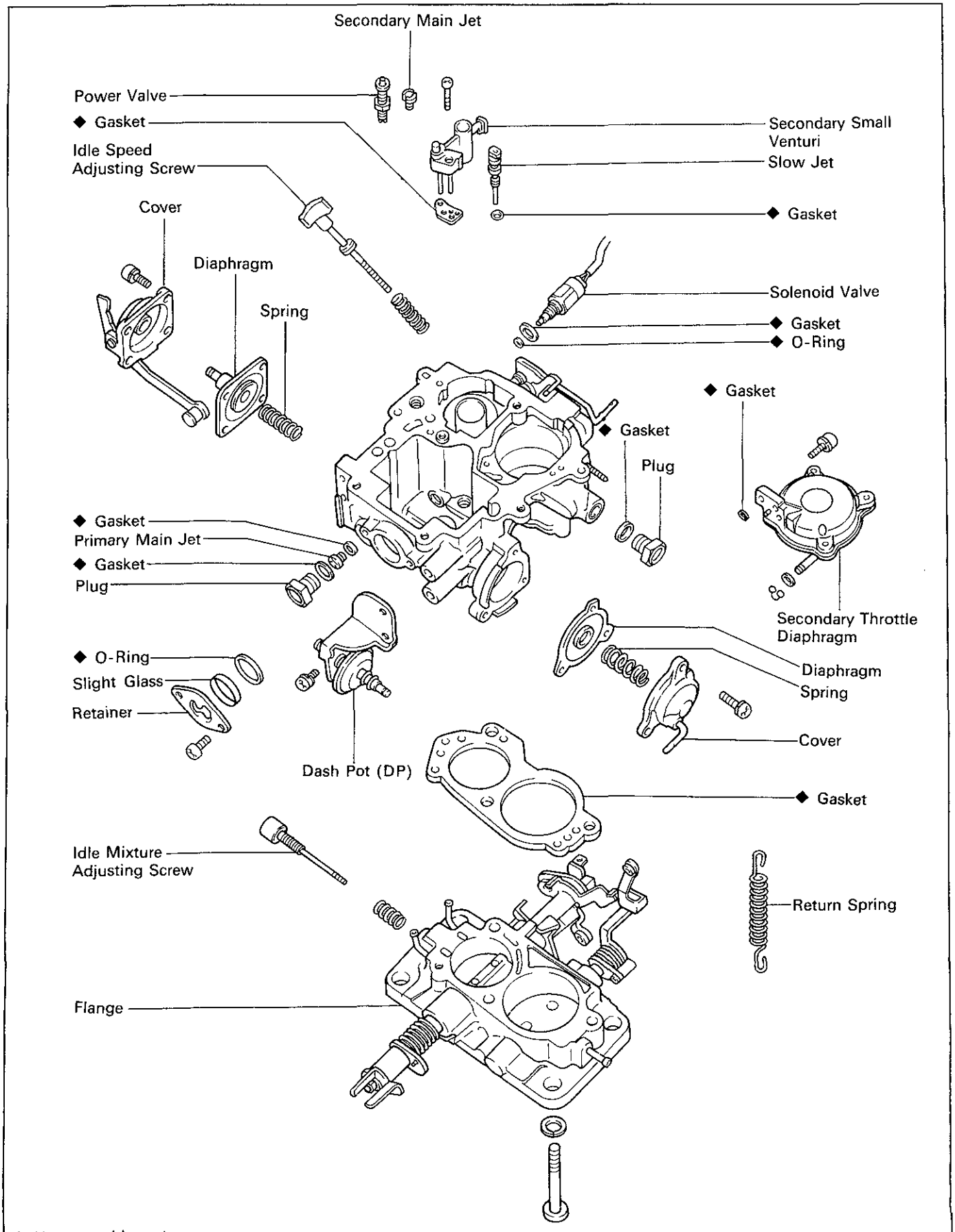
COMPONENTS



◆ Non-reusable part

FU2500

COMPONENTS (Cont'd)



◆ Non-reusable part

FU2526

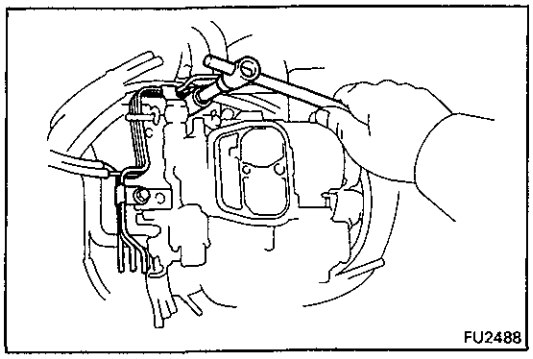
REMOVAL OF CARBURETOR

1. **DRAIN COOLANT**
   (See step 3 on page CO-5)

2. **REMOVE AIR INTAKE CONNECTOR**

3. **DISCONNECT ACCELERATOR CABLE FROM CARBURETOR**

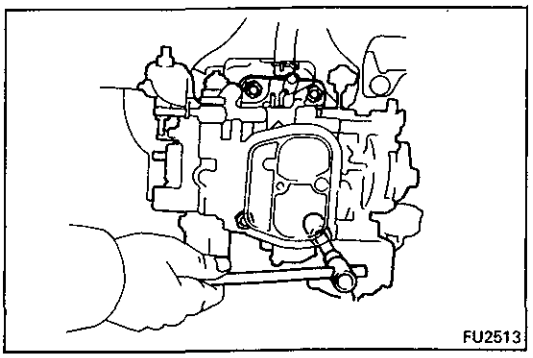
4. **DISCONNECT THROTTLE CABLE FOR AUTOMATIC TRANSMISSION**



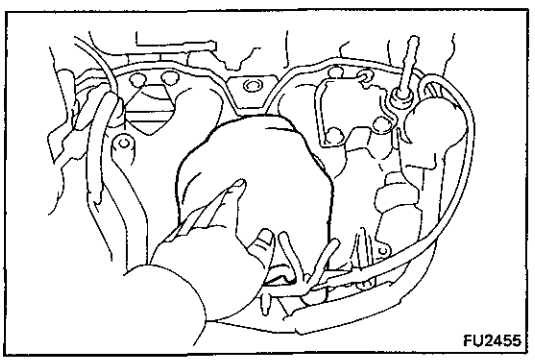
5. **DISCONNECT CARBURETOR CONNECTOR**

6. **DISCONNECT FOLLOWING HOSES**
   (a) Fuel inlet and outer vent hose
   (b) Emission control hoses and pipe

   HINT: Before disconnecting the emission control hoses, use tag to identify how they should be reconnected.



7. **REMOVE CARBURETOR**
   (a) Remove the four carburetor mounting nuts.
   (b) Lift out the carburetor.



   (c) Cover the inlet hole of the intake manifold with a cloth.

DISASSEMBLY OF CARBURETOR

(See pages FU-10, 11)

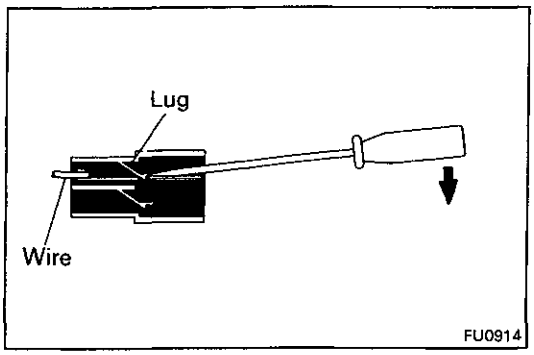
The following instructions are organized so that you work on only one component group at a time. This will help avoid confusion between similar looking parts from different subassemblies being on your workbench at the same time.

(a) To facilitate reassembly, arrange parts in order.

(b) Be careful not to mix up or lose clips and springs.

(c) Use SST (carburetor driver set).

SST 09860-11011



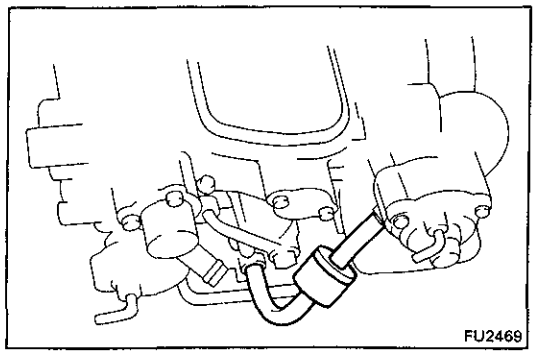
Disassembly of Air Horn

(See page FU-11)

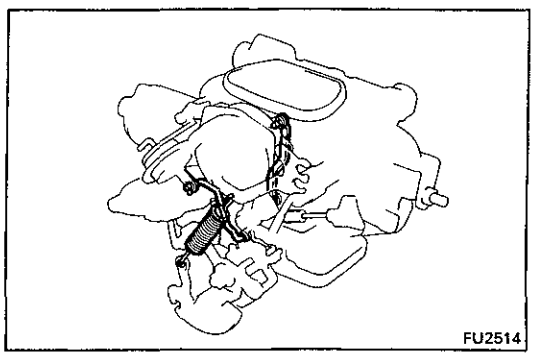
1. DISCONNECT TERMINAL FROM CONNECTOR

(a) Pry up the locking lugs with a screwdriver and pull out the terminals.

(b) Remove the wire from the clamp.



2. REMOVE VACUUM HOSE OF CHOKE BREAKER

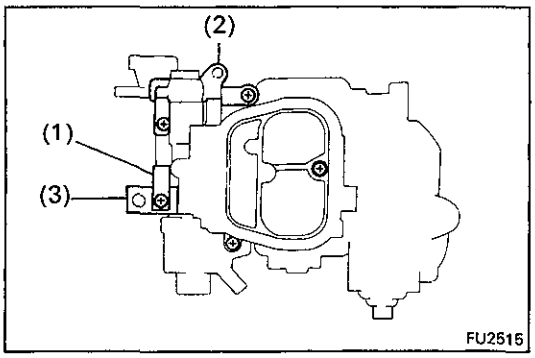


3. REMOVE AIR HONE ASSEMBLY

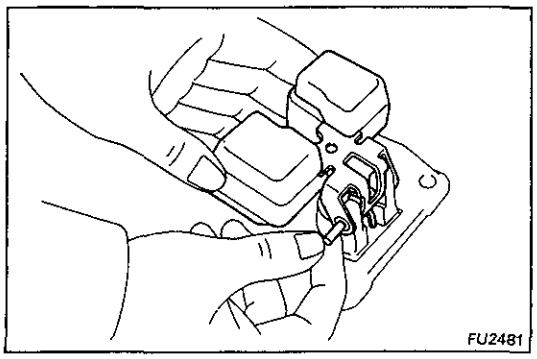
(a) Disconnect the choke opener link.

(b) Disconnect the fast idle link.

(c) Remove the spring.

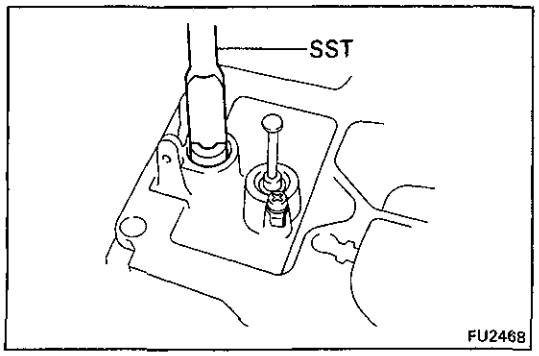


(d) Remove the five screws and following parts:
  (1) Number plate
  (2) Support A
  (3) Support B
(e) Lift the air horn assembly and gasket.



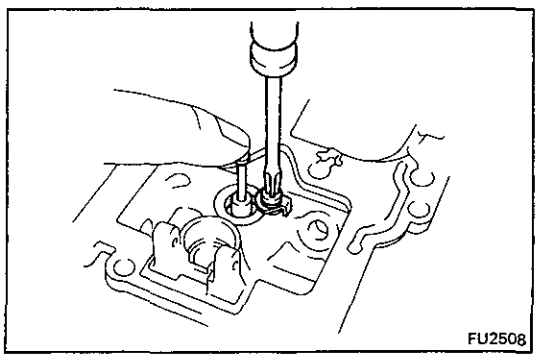
4. REMOVE FLOAT AND NEEDLE VALVE

(a) Remove the pivot pin and float with the needle valve.
(b) Remove the gasket from the air horn.



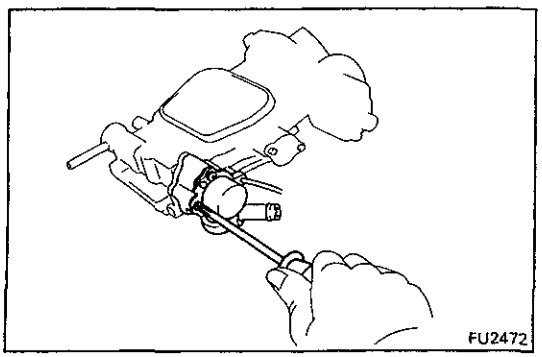
5. REMOVE NEEDLE VALVE SEAT

Remove the needle valve and gasket.



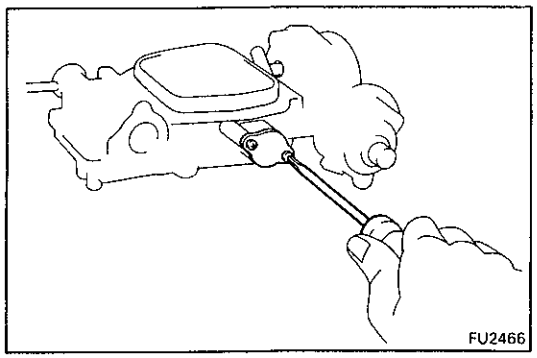
6. REMOVE POWER PISTON

(a) Loosen the retainer screw.
(b) While holding the piston, rotate the retainer.
(c) Remove the power piston and spring.



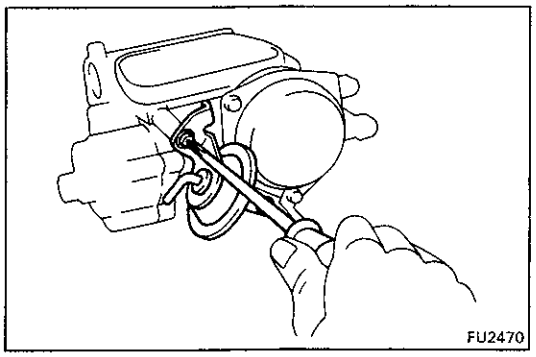
7. REMOVE OUTER VENT CONTROL VALVE (OVCV)

Loosen the three screws and remove the outer vent control valve.



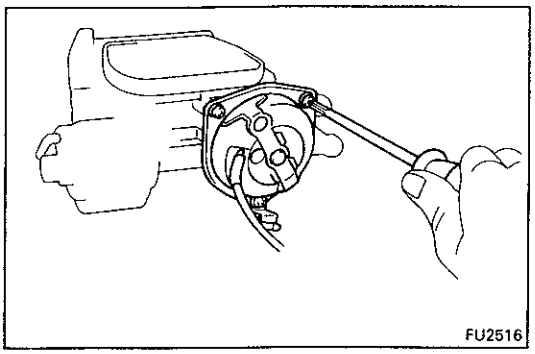
8. REMOVE PLATE

Remove the two screws, plate and gasket.



9. REMOVE CHOKE OPENER (CO)

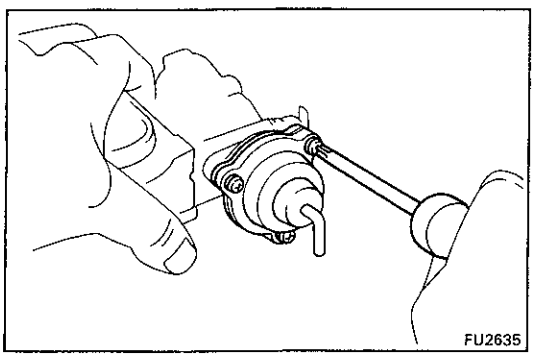
Remove the screw and choke opener.



10. REMOVE COIL HOUSING

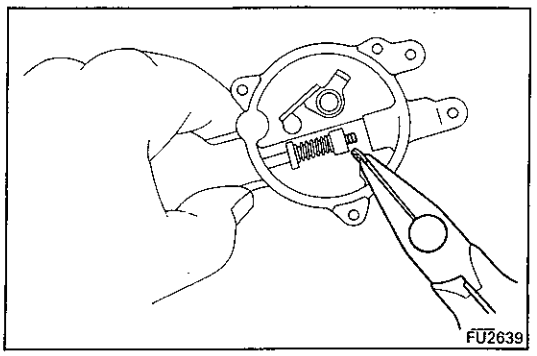
(a) Remove the two screws and bracket.

(b) Remove the three screws, clamp, coil housing, gasket and plate.

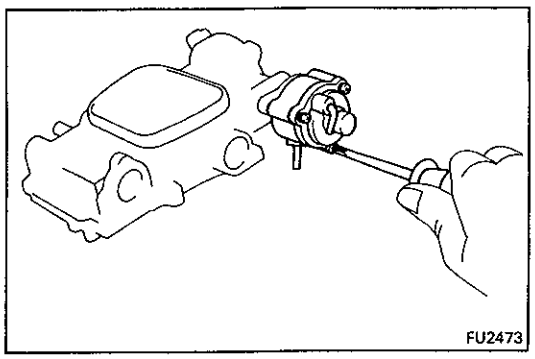


11. REMOVE CHOKE BREAKER (CB)
(Single Diaphragm Type)

(a) Remove the three screws, cover and gasket.

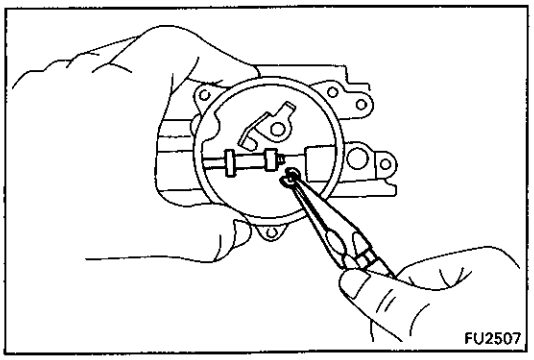


(b) Remove the E-ring, stopper, collar and diaphragm.

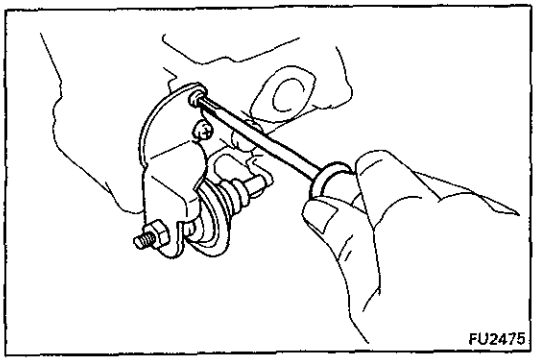


(Double Diaphragm Type)

(a) Remove the three screws, cover, diaphragm, spring and housing.



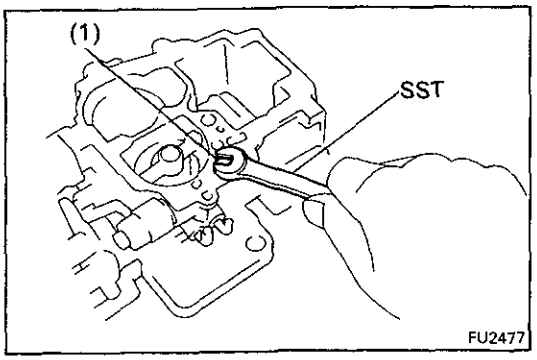
(b) Remove the E-ring, collar and diaphragm.



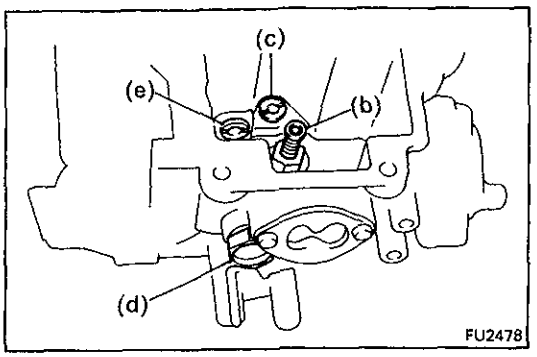
Disassembly of Carburetor Body

(See page FU-11)

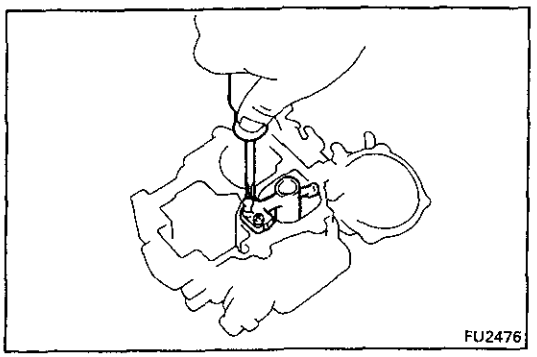
1. **REMOVE DASH POT (DP)**



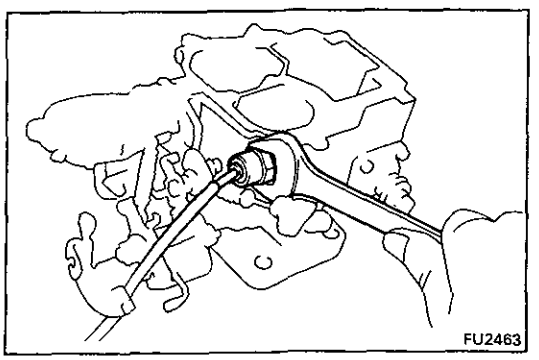
2. **REMOVE JETS AND POWER VALVE**
   (a) Slow jet Using SST, remove the slow jet(1).
   SST 09922-00010



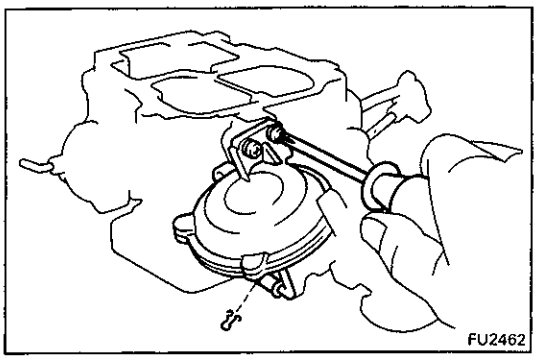
   (b) Power valve.
   (c) Secondary main jet
   (d) Passege plug and gasket
   (e) Primary main jet and gasket



3. **REMOVE SECONDARY SMALL VENTURI**
   Remove the two screws, small venturi and gasket.



4. **REMOVE FUEL CUT SOLENOID VALVE**
   Remove the solenoid valve and gasket.

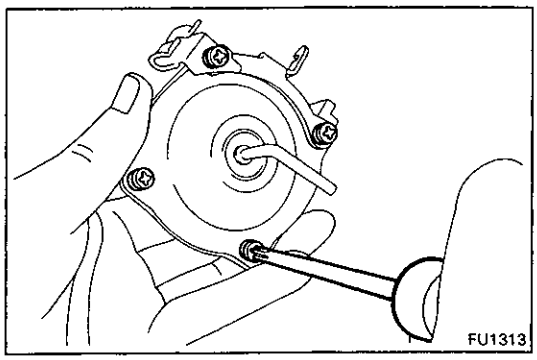


5. REMOVE SECONDARY THROTTLE VALVE DIAPHRAGM

(a) Remove the back spring.

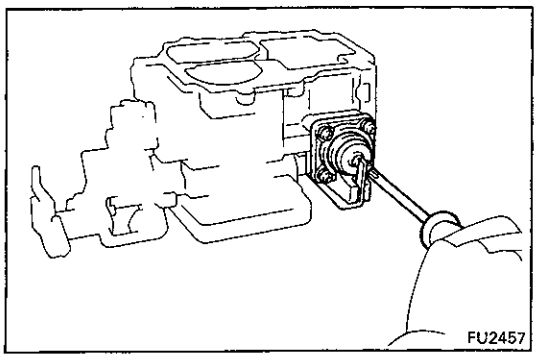
(b) Remove the two screws.

(c) Disconnect the link, and remove the secondary throttle valve diaphragm



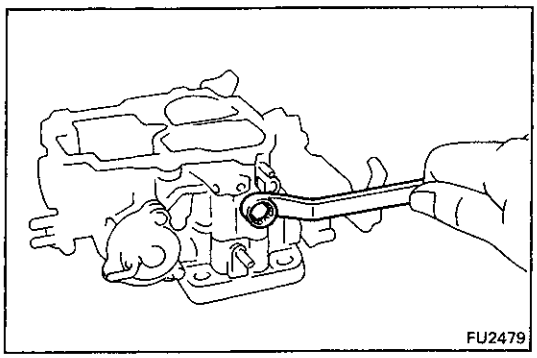
6. DISASSEMBLY SECONDARY THROTTLE DIAPHRAGM

Remove the four screws, disassemble the secondary throttle valve diaphragm.

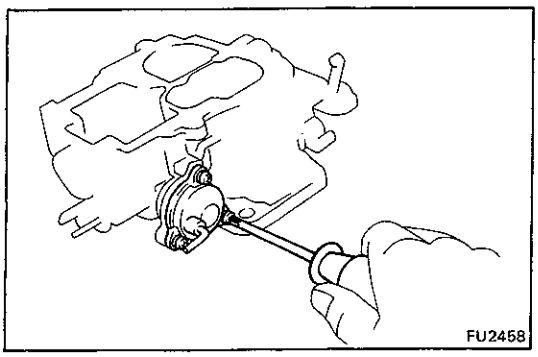


7. REMOVE ACCELERATION PUMP

Remove the four screws, pump cover, diaphragm and spring.

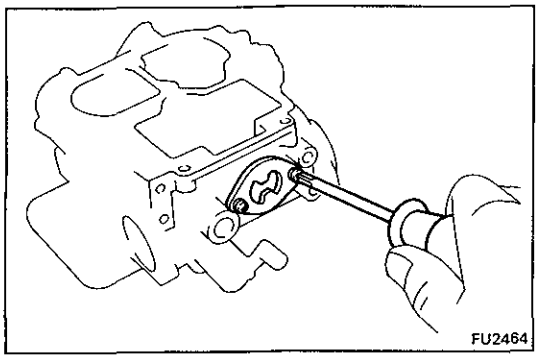


8. REMOVE PLUG



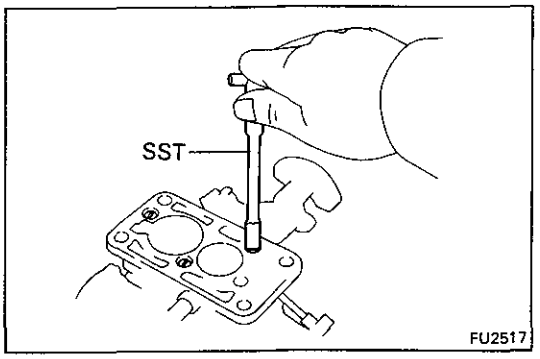
9. REMOVE AUXILIARY ACCELERATION PUMP (AAP)

Remove the three screws, pump housing, spring and diaphragm.



10. REMOVE SIGHT GLASS

Remove the two screws, retainer, sight glass and O-ring.



11. SEPARATE CARBURETOR BODY AND FLANGE

(a) Remove the three screws.

(b) Separate the body and flange.

(c) Remove the insulator.

GENERAL CLEANING PROCEDURE

CLEAN DISASSEMBLED PARTS BEFORE INSPECTION

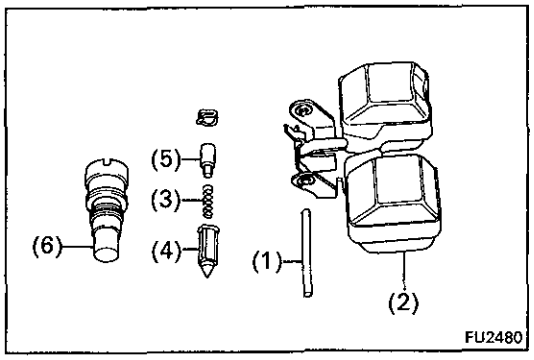
(a) Using a soft brush, wash and clean the cast parts in carburetor cleaner.

(b) Clean off the carbon around the throttle valve.

(c) Wash the other parts thoroughly in carburetor cleaner.

(d) Blow all dirt and other foreign material from the jets, fuel passages and restrictions in the body.

INSPECTION OF CARBURETOR



1. INSPECT FLOAT AND NEEDLE VALVE

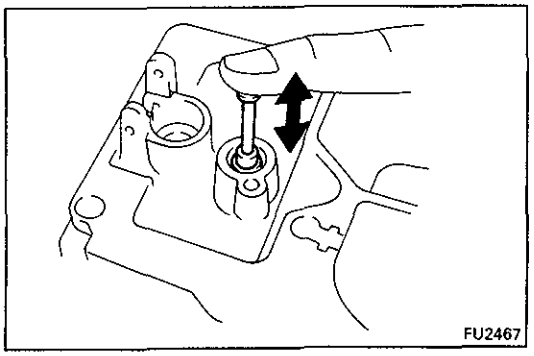
(a) Inspect the pivot pin (1) for scratches and excessive wear.

(b) Inspect the float (2) for broken lips and water in the pivot holes.

(c) Inspect the spring (3) for breaks and deformation.

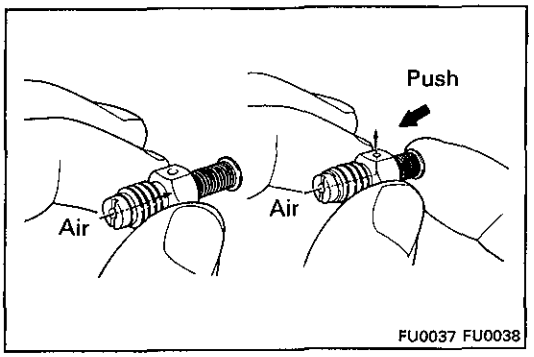
(d) Inspect the needle valve (4) and plunger (5) for wear or damage.

(e) Inspect the strainer (6) for rust and tears.



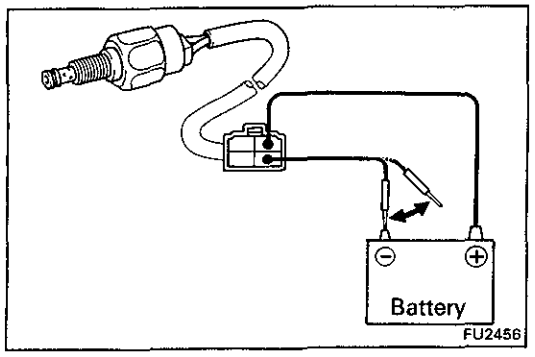
2. INSPECT POWER PISTON

Check that the power piston moves smoothly.



3. INSPECT POWER VALVE

Check for faulty opening and closing action.

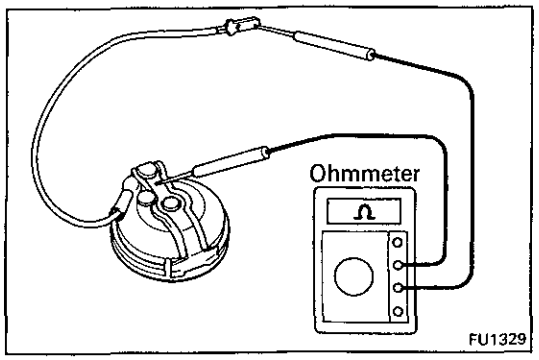


4. INSPECT FUEL CUT SOLENOID VALVE

(a) Connect the valve body and terminal to the battery terminals.

(b) You should feel a click from the solenoid valve when the battery power is connected and disconnected.

If the solenoid valve is not operating properly, replace it.

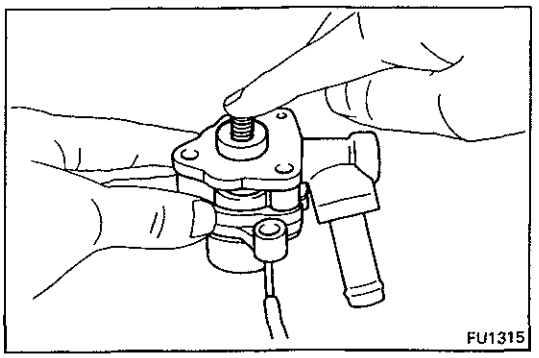


5. **INSPECT CHOKE HEATER (COIL HOUSING)**

Using an ohmmeter, measure the resistance between the terminals.

Resistance (cold): 1.7 – 1.9 Ω at 20°C (68°F)

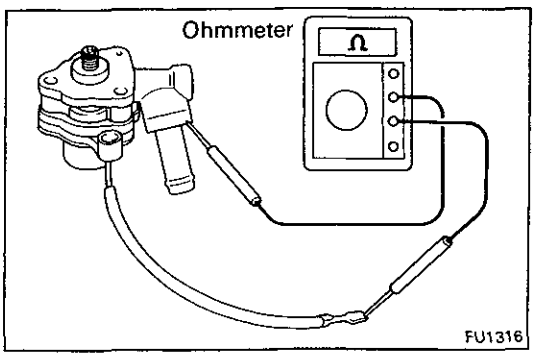
If a problem is found, replace the choke heater.



6. **INSPECT OUTER VENT CONTROL VALVE (OVCV)**

(a) Check the valve and seats for damage.

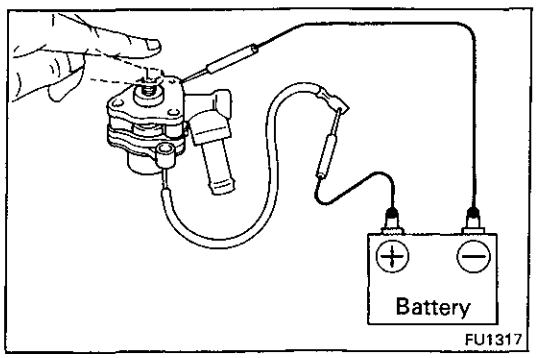
(b) Check the valve rod moves smoothly.



(c) Using an ohmmeter, measure the resistance between the wire terminal and body.

Resistance (cold): 63 – 73 Ω

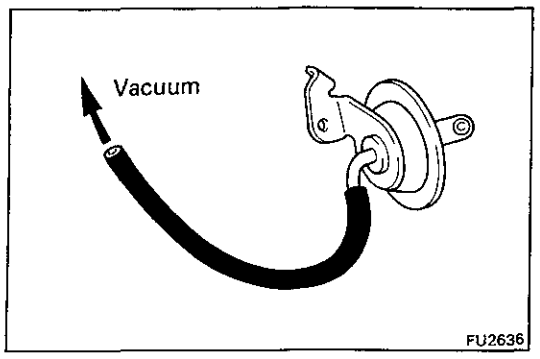
If the resistance is not within specification, replace the OVCV.



(d) Connect the OVCV body and wire terminal to the battery terminals.

(e) Lightly push the valve and check that it does not return

If the OVCV is not operating properly, replace it.



7. **INSPECT CHOKE OPENER (CO) DIAPHRAGM**

(a) Apply vacuum to the diaphragm.

(b) Check that the vacuum does not drop immediately.

(c) Check the link moves when vacuum is applied.

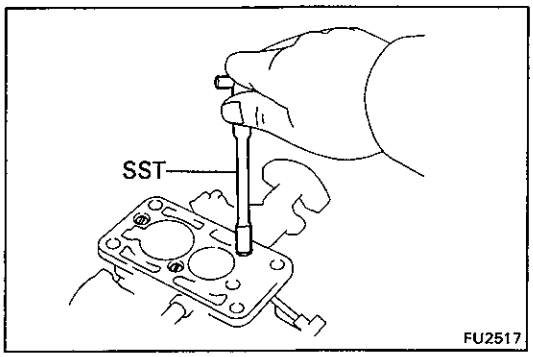
ASSEMBLY OF CARBURETOR

(See pages FU-10, 11)

HINT: Use new gaskets and O-rings throughout.

Assembly of Carburetor Body

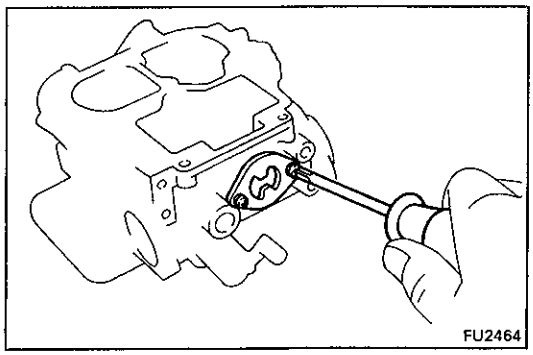
(See page FU-11)



1. ASSEMBLE CARBURETOR BODY AND FLANGE

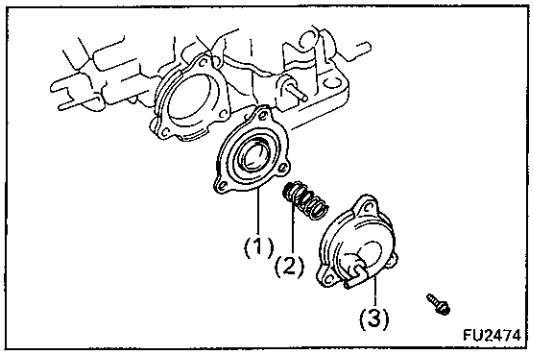
(a) Place a new insulator and the flange in position on the body.

(b) Install the three screws.



2. INSTALL SIGHT GLASS

Install a new O-ring, the sight glass and retainer with the two screws.



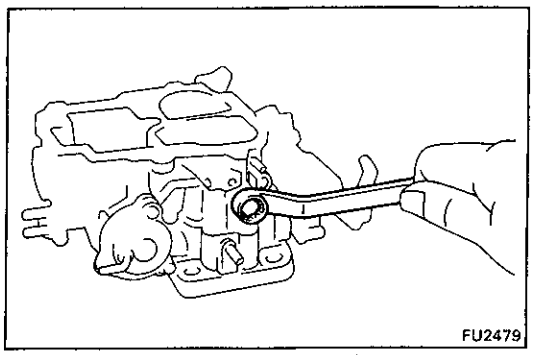
3. INSTALL AUXILIARY ACCELERATION PUMP (AAP)

Install the following parts with the three screws.

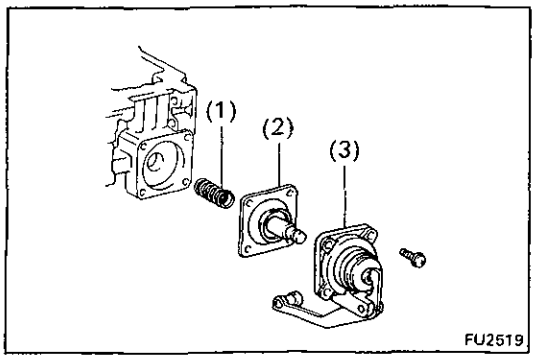
(1) Diaphragm

(2) Spring

(3) Cover



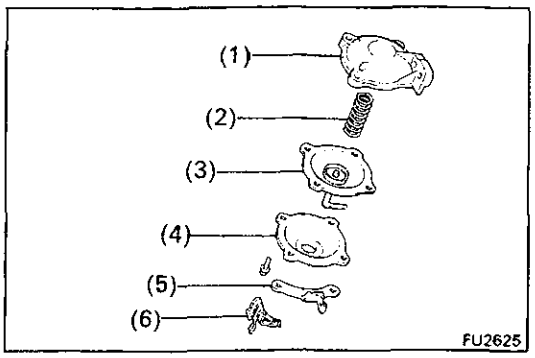
4. INSTALL PLUG



5. INSTALL ACCELERATION PUMP

Install the following parts with the four screws:

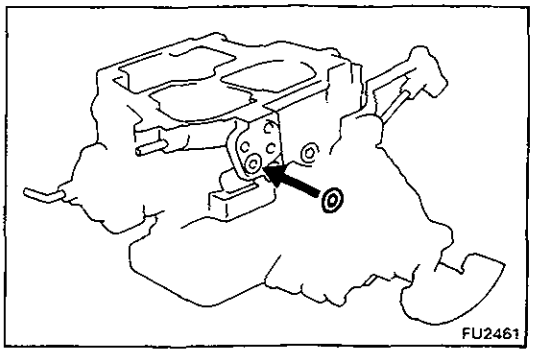
(1) Spring
(2) Diaphragm
(3) Cover



6. ASSEMBLE SECONDARY THROTTLE VALVE DIAPHRAGM

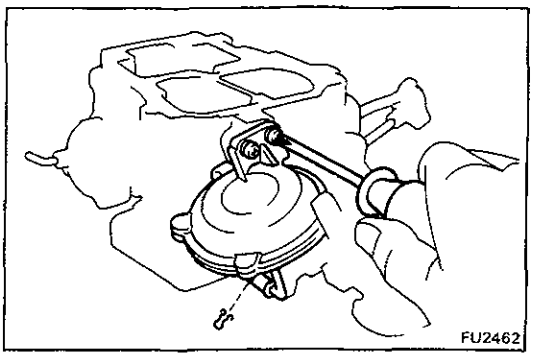
Assemble the following parts with the four screws:

(1) Housing
(2) Spring
(3) Diaphragm
(4) Cover
(5) Retainer
(6) Wire clamp

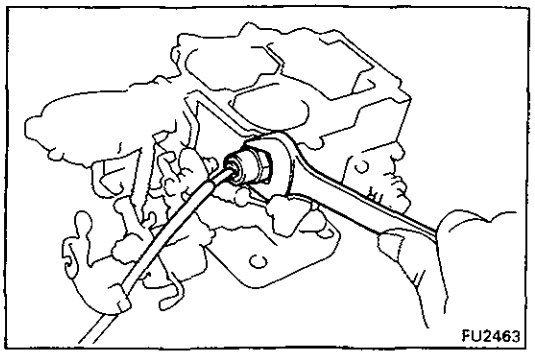


7. INSTALL SECONDARY THROTTLE VALVE DIAPHRAGM

(a) Place a new gasket in the carburetor body.

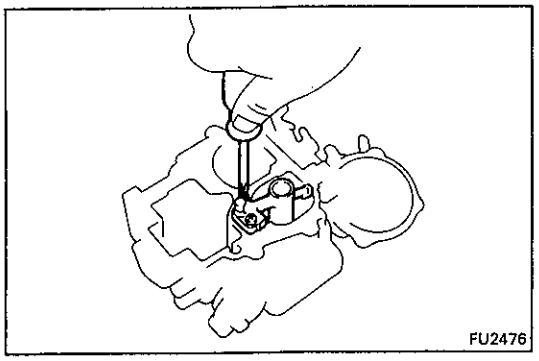


(b) Connect the link, and install the secondary throttle valve diaphragm with the two screws.
(c) Install the return spring.



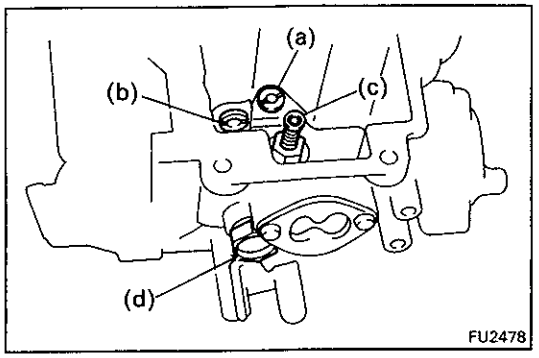
8. INSTALL FUEL CUT SOLENOID VALVE

(a) Install a new O-ring to the solenoid valve.
(b) Install the solenoid valve with a new gasket.



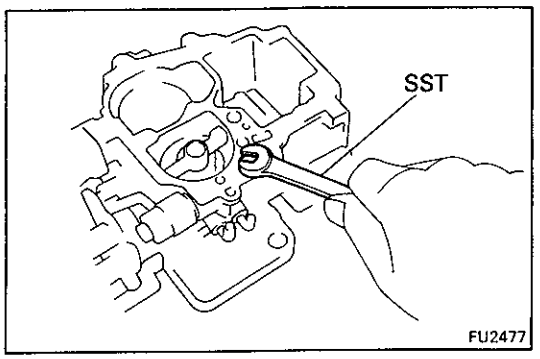
9. INSTALL SECONDARY SMALL VENTURI

Install a new gasket and the secondary venturi with the two screws.



10. INSTALL JETS AND POWER VALVE

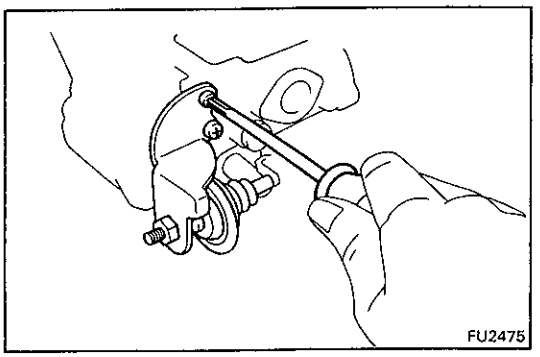
(a) Secondary main jet
(b) Primary main jet with new gasket
(c) Power valve
(d) Passege plug with a new gasket



(e) Slow jet with a new O-ring

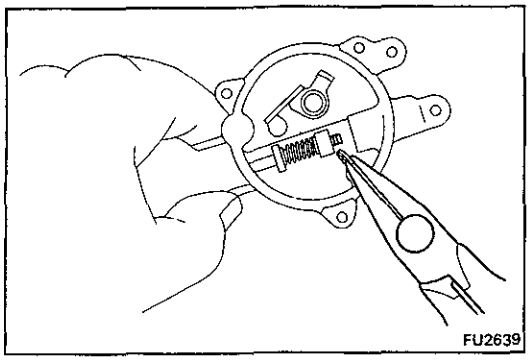
Using SST, install the slow let.

SST 09922-00010



11. INSTALL DASH POT (DP)

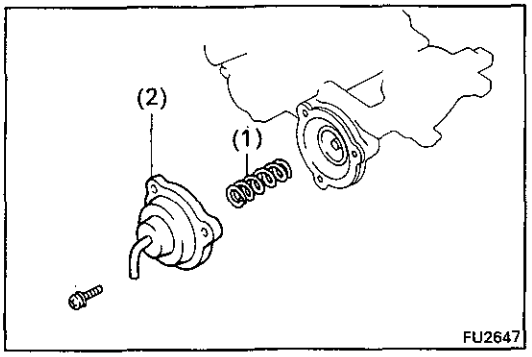
Install the dash pot with the two screws.



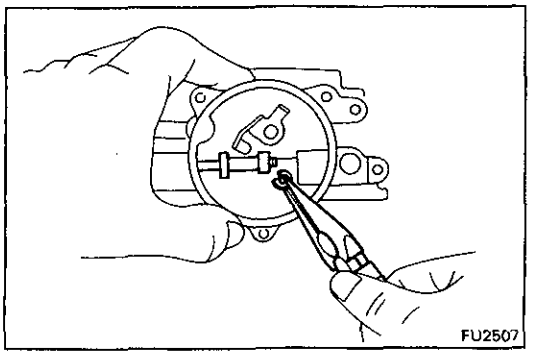
Assembly of Air Horn

(See page FU-10)

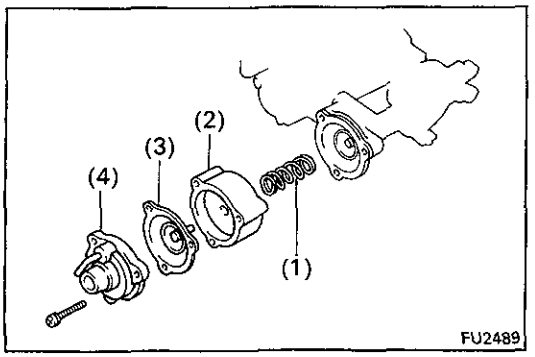
1. **INSTALL CHOKE BREAKER (CB)**
   (Single Diaphragm Type)
   (a) Insert the diaphragm into the thermostat case, and install the collar, spring with the E-ring.
   (b) Insert the shaft of the diaphragm into the hole of the thermostat case.



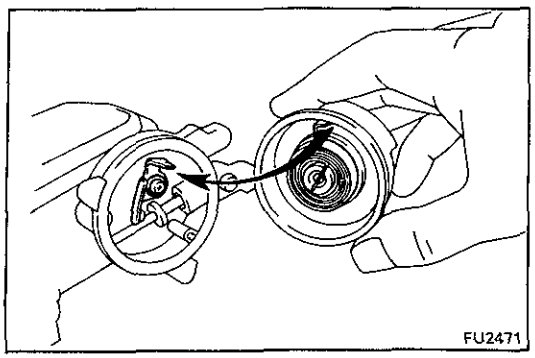
   (c) Install the following parts with the three screws:
      (1) Spring
      (2) Cover



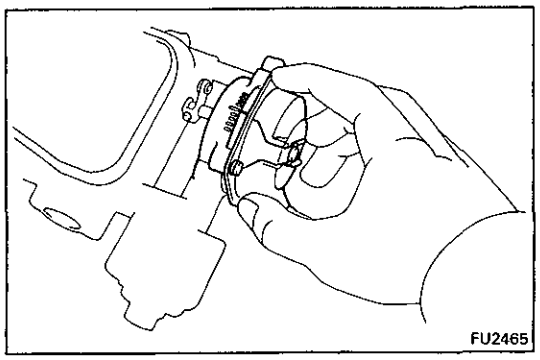
   (Double Diaphragm type)
   (a) Insert the inner diaphragm into the thermostat case, and install the collar with the E-ring.
   (b) Insert the shaft of the inner diaphragm into the hole of the thermostat case.



   (c) Install the following parts with the three screws:
      (1) Spring
      (2) Housing
      (3) Outer diaphragm
      (4) Cover

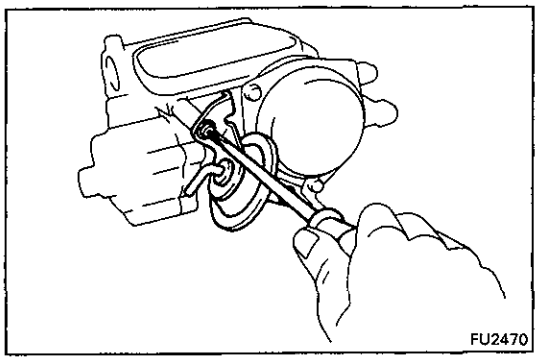


2. **INSTALL COIL HOUSING**
   (a) Install a new gasket.
   (b) Align the bimetal spring and choke lever, and install the coil housing.



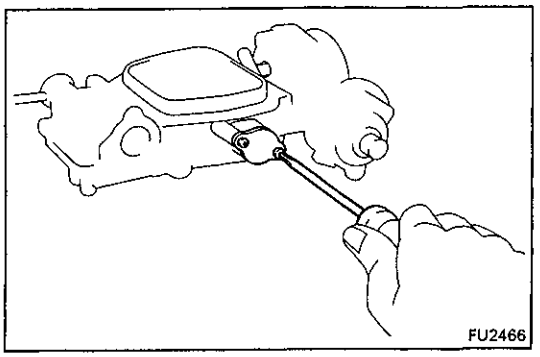
(c) Align the scale center line of the thermostat housing with the coil housing line, and tighten the three screws with the plate.

(d) Check the choke valve action.



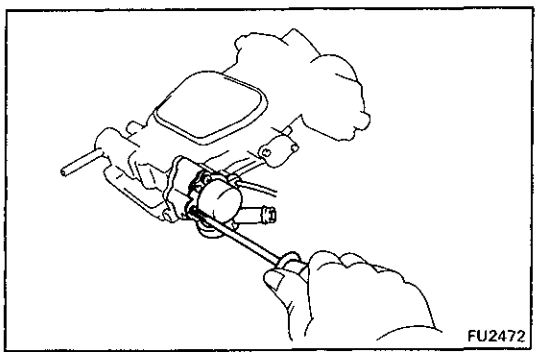
3. INSTALL CHOKE OPENER (CO)

Install the choke opener with the screw and clip.



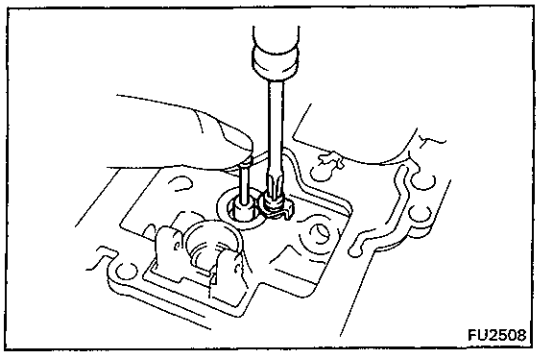
4. INSTALL PLATE

Install the plate and a new gasket with the two screws.



5. INSTALL OUTER VENT CONTROL VALVE (OVCV)

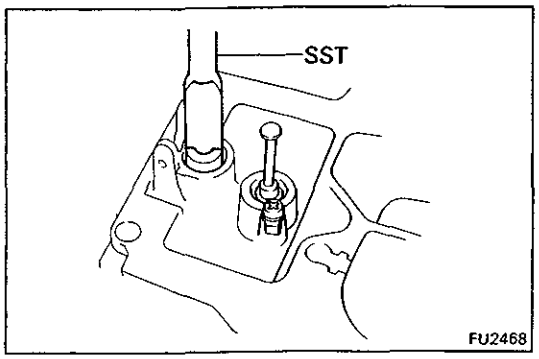
Install a new gasket and the OVCV with three screws.



6. INSTALL POWER PISTON

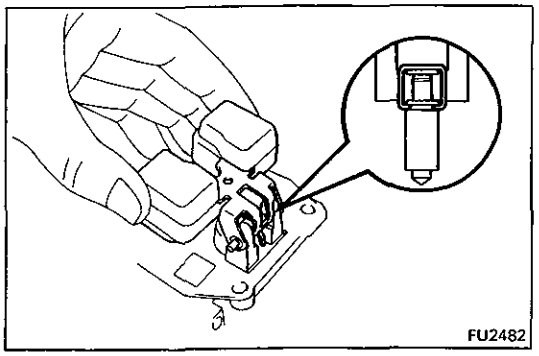
(a) Insert the spring and power piston into the hole.

(b) Install the retainer with the screw.



7. INSTALL NEEDLE VALVE SEAT

Install the needle valve seat into the fuel inlet with a new gasket.

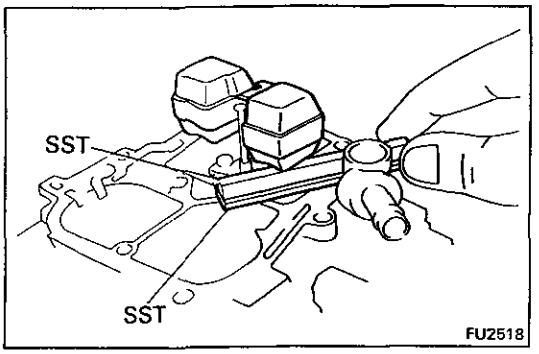


8. INSTALL NEEDLE VALVE AND FLOAT

(a) Install the spring and plunger into the needle valve, and set them with the wire.

(b) Install the needle valve wire to the lip part of the float.

(c) Install the float with the pivot pin.



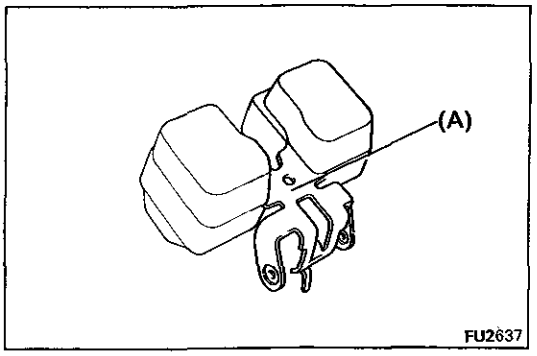
9. ADJUST FLOAT LEVEL

HINT: This measurement should be made **without** a gasket on the air horn.

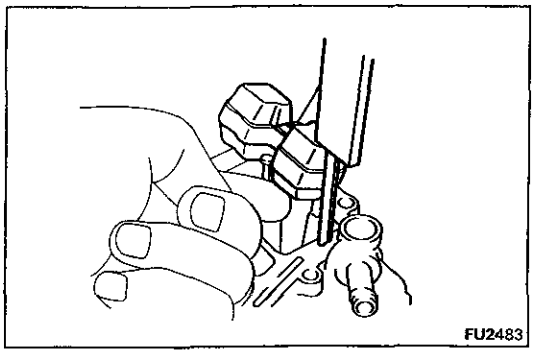
(a) Allow the float to hang down by its own weight. Using SST, measure the clearance between the float top and air horn.

SST 09240-00014

Float level (raised position): 10.2 mm(0.402 in.)

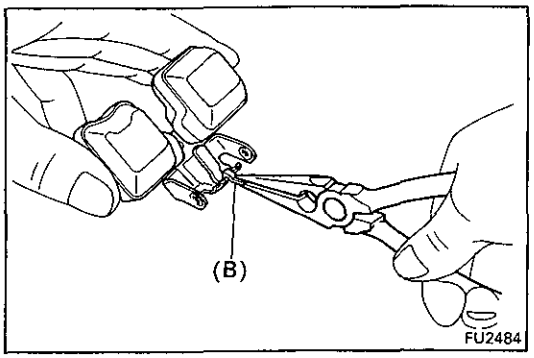


(b) Adjust by bending part (A) of the float.

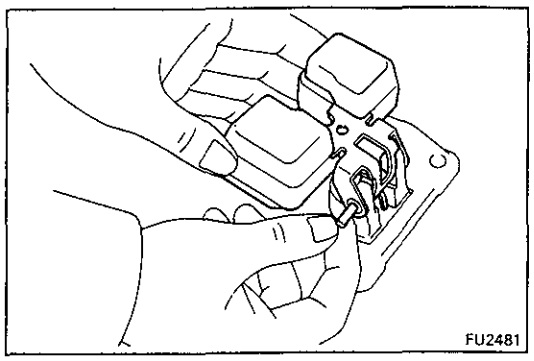


(c) Lift up the float and, using calipers, check the distance between the air hone and the float bottom.

Float level (lowered position): 47.1 mm (1.854 in.)

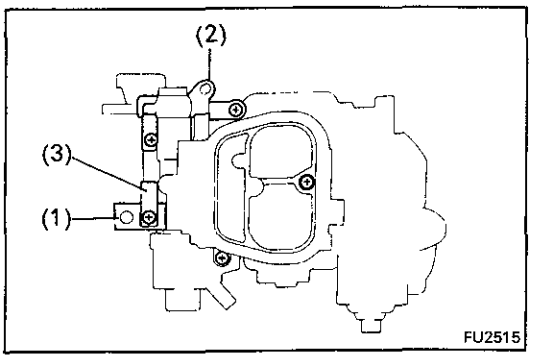


(d) Adjust by bending part (B) of the float.
(e) After adjusting the float level, remove the float and needle valve.



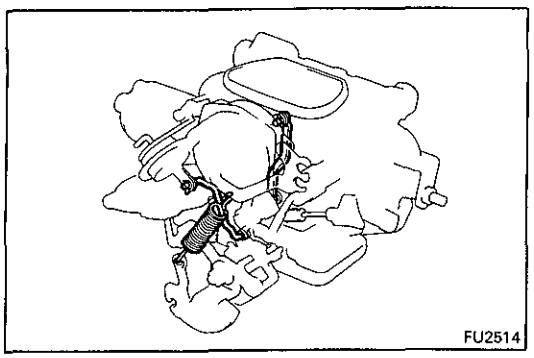
10. INSTALL NEEDLE VALVE AND FLOAT

(a) Place a new gasket on the air hone.
(b) Hook the needle valve wire to the lip part of the float.
(c) Install the float and secure it with the pivot pin.

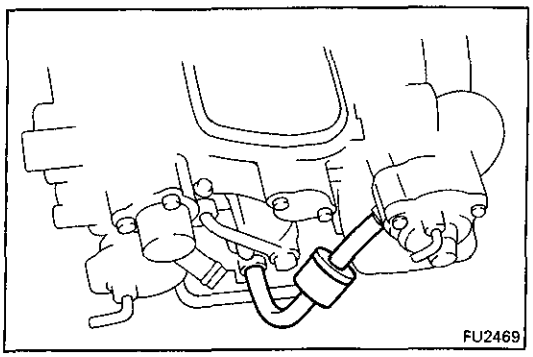


11. INSTALL AIR HORN ASSEMBLY

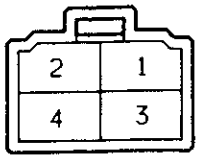
(a) Install the following parts with the five screws:
  (1) Support B
  (2) Support A
  (3) Number plate



(b) Install the spring.
(c) Connect the fast idle link.
(d) Connect the choke opener link.
(e) Clamp the wire.



12. INSTALL VACUUM HOSE OF CHOKE BREAKER



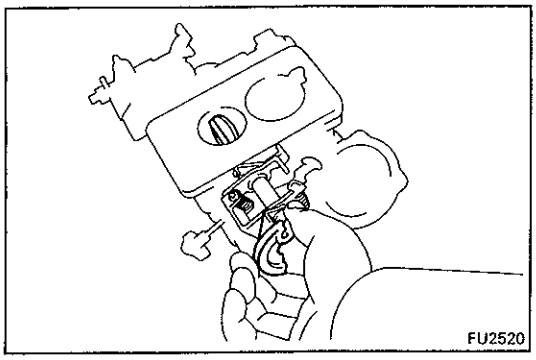
1 Fuel Cut Solenoid Valve (Black)
2 OVCV
3 Fuel Cut Solenoid Valve (White and Black)
4 Coil Housing

H-4-2

13. CONNECT TERMINAL TO CONNECTOR

(a) Push in the terminals until is securely locked in the connector lug.

(b) Pull on the wire to confirm that it is securely located.



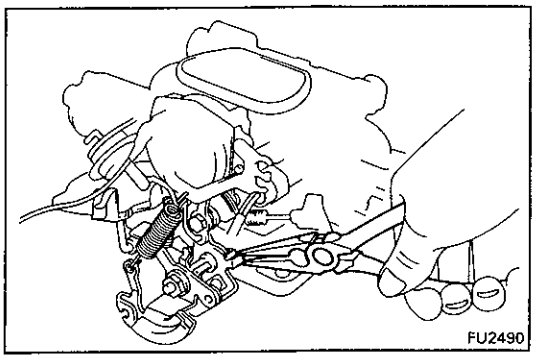
ADJUSTMENT OF CARBURETOR

HINT: Use SST 09240-00014 and 09240-00020 to make adjustment.

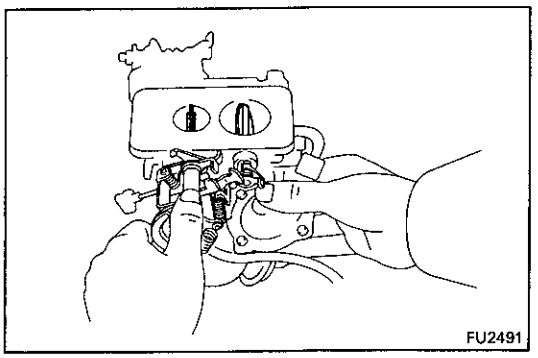
1. CHECK AND ADJUST THROTTLE VALVE OPENING

(a) Check the full opening angle of the primary throttle valve.

Standard angle: 90° from horizontal

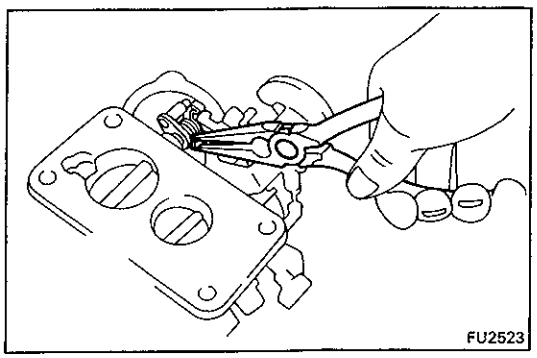


(b) Adjust by bending the primary throttle stop lever.

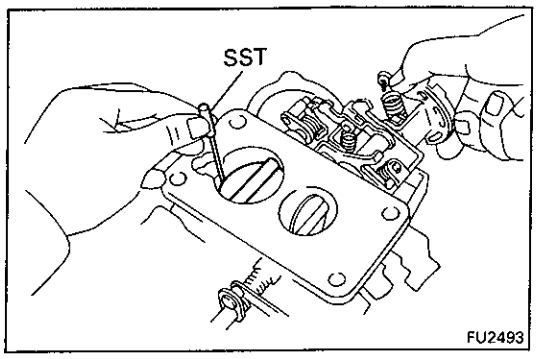


(c) With the primary throttle valve fully opened, fully open the secondary throttle valve and check the opening angle of the secondary throttle valve.

Standard angle: 89° from horizontal



(d) Adjust by bending the secondary throttle stop lever.

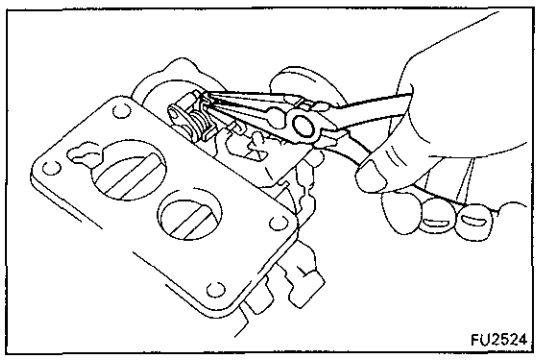


2. CHECK AND ADJUST KICK-UP CLEARANCE

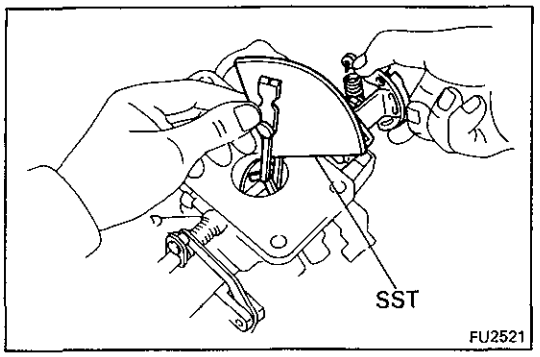
(a) With the primary throttle valve fully opened, and using SST, check the clearance between the secondary throttle valve and body.

SST 09240-00020

Standard clearance: 0.35 – 0.55 mm (0.0138 – 0.0217 in.)



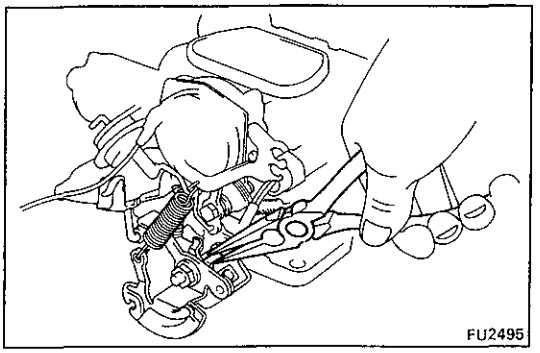
(b) Adjust by bending the secondary throttle kick-up lever.



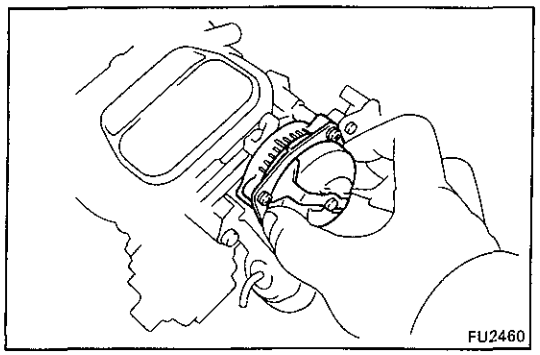
3. CHECK AND ADJUST SECONDARY TOUCH ANGLE

(a) Check the primary throttle valve opening angle at the same time the the primary throttle touch lever just touches the secondary throttle touch lever.

Standard angle: 67 – 71° from horizontal



(b) Adjust by bending the primary throttle touch lever.

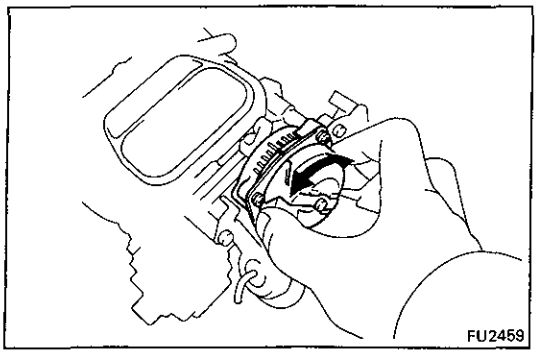


4. SET AUTOMATIC CHOKE

(a) Set the coil housing line so that it is aligned with the center line of the thermostat housing.

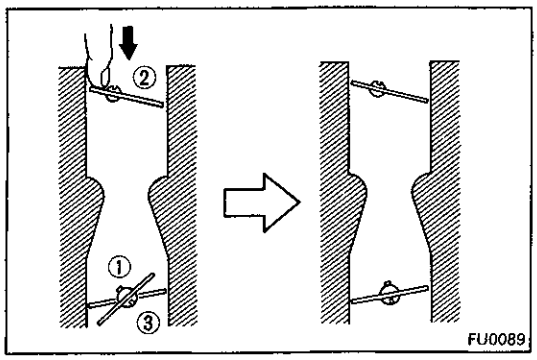
HINT: The choke valve becomes fully closed when the atmospheric temperature reaches following value.

Europe, Gulf Countries and Singapore: 20°C (68°F)
Others: 25°C (77°F)



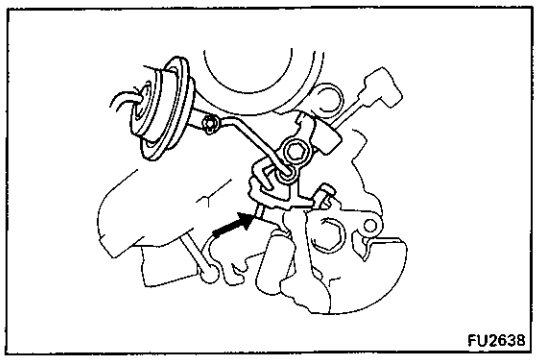
(b) Depending on vehicle operating condition, turn the coil housing and adjust the engine starting mixture.

If too rich ..... Turn clockwise
If too lean ..... Turn counterclockwise

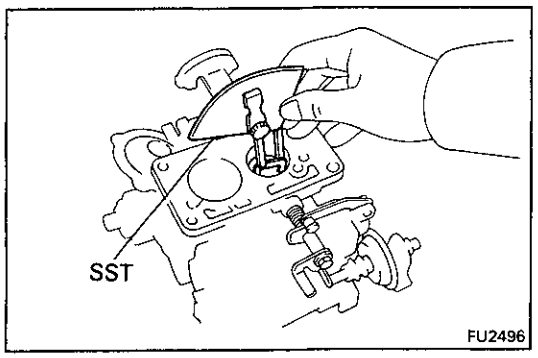


5. CHECK AND ADJUST FAST IDLE SETTING

(a) While holding the throttle slightly open, push the choke valve closed, and hold it closed as you release the throttle valve.

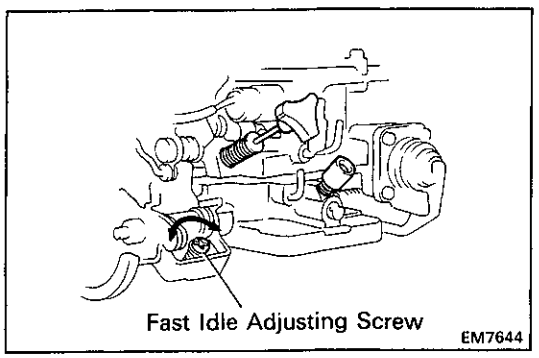


(b) Check that the fast idle lever is set in the 1st step of the fast idle cam as shown.

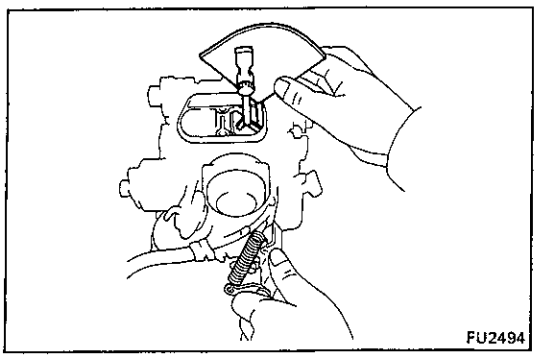


(c) With the choke valve fully closed, check the primary throttle valve angle.

Standard angle: **1RZ 20 – 22° from horizontal**
2RZ 21 – 23° from horizontal



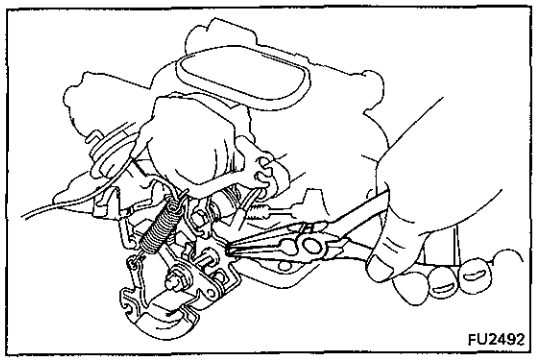
(d) Adjust by turning the fast idle adjusting screw.



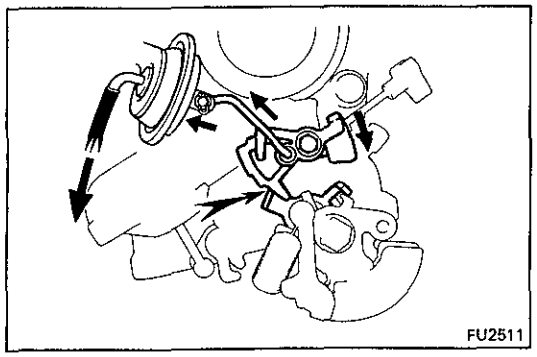
6. CHECK AND ADJUST UNLOADER

(a) With the primary throttle valve fully opened, check the choke valve angle.

Standard angle: **38 – 42° from horizontal**



(b) Adjust by bending the unloader lever.

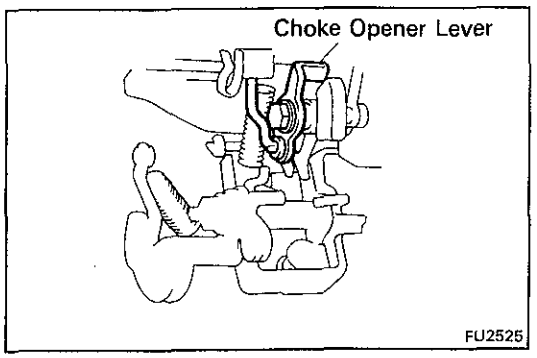


7. ADJUST CHOKE OPENER (CO)

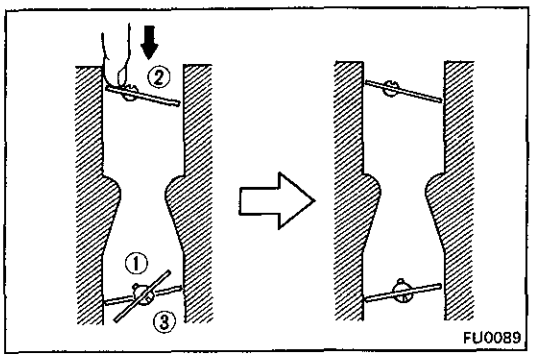
(a) Set the fast idle cam.(See page FU-32)

(b) Apply vacuum to the choke opener diaphragm.

(c) Check that the choke linkage moves, and that the fast idle cam is released to the 3rd step.



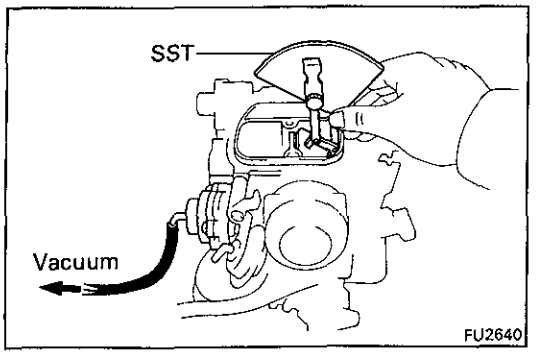
(d) Adjust by bending the choke opener lever.



8. CHECK AND ADJUST CHOKE BREAKER (CB)

While holding the throttle slightly open, push the choke valve closed, and hold it closed as you release the throttle valve.

HINT: Fully close the choke valve and check the opening angle.

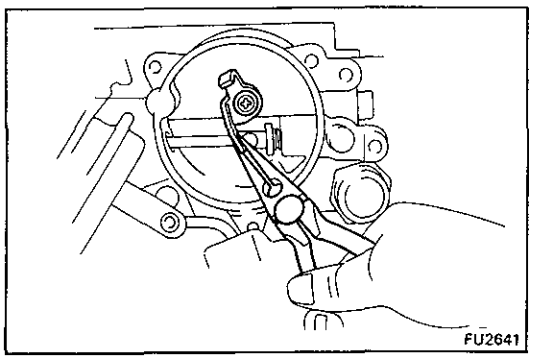


(Single Diaphragm Type)

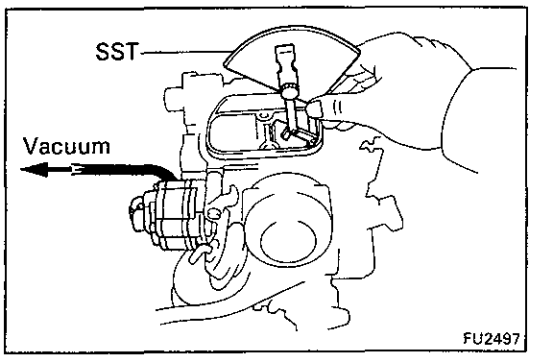
(a) Apply vacuum to CB.

(b) Check the choke valve angle.

Standard angle: 1RZ 39 – 41° from horizontal
2RZ 41 – 43° from horizontal



(f) Remove the coil housing and adjust by bending the choke lever.

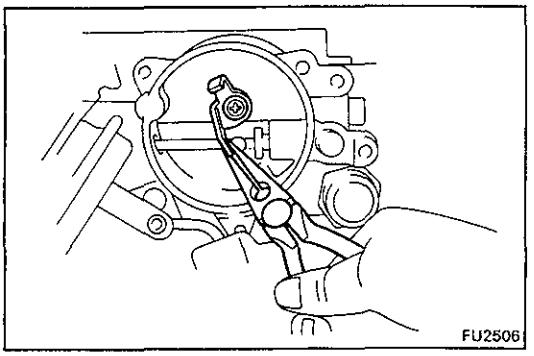


(Double Diaphragm Type)

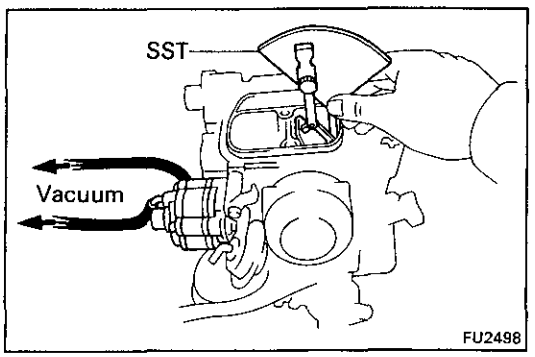
(a) Apply vacuum to CB diaphragm B.

(b) Check the choke valve angle.

Standard angle(1st): 37 – 39° from horizontal



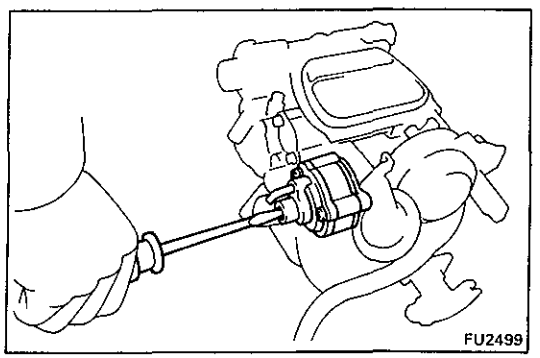
(c) Remove the coil housing and adjust by bending the choke lever.



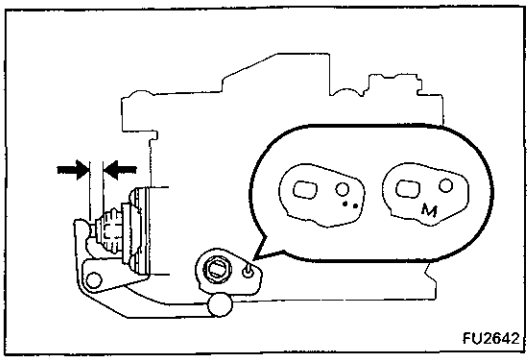
(d) Apply vacuum to CB diaphragms A and B.

(e) Check the choke valve angle.

Standard angle(2nd): 58 – 62° from horizontal



(f) Adjust by turning the CB adjusting screw.

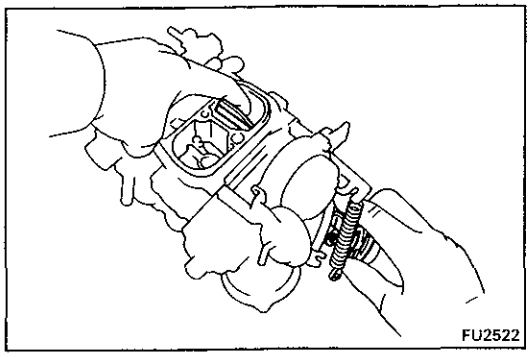


9. CHECK AND ADJUST ACCELERATION PUMP

(a) Rotate the throttle shaft and check that the pump lever and diaphragm rod moves smoothly.

(b) Rotate the throttle shaft and check the lenght of the pluger stroke.

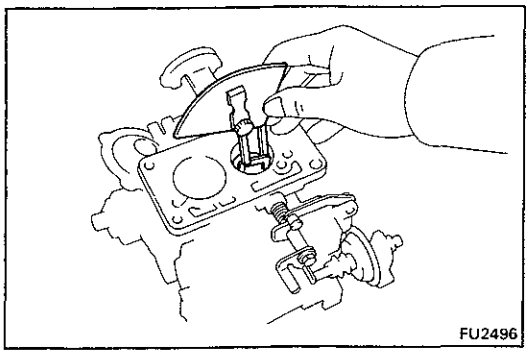
Standard plunger stroke:
Europe, Gulf Contries and Singapore (.. mark)
Approx. 3.5 mm (0.138 in.)
Others (M mark)
Approx. 2.67 mm (0.105 in.)



10. PRESET IDLE SPEED ADJUSTING SCREW

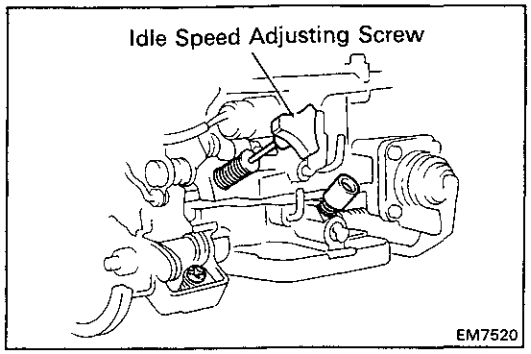
Open the throttle valve and then close it with the choke valve fully open.

HINT: Check that fast idle is not operating.

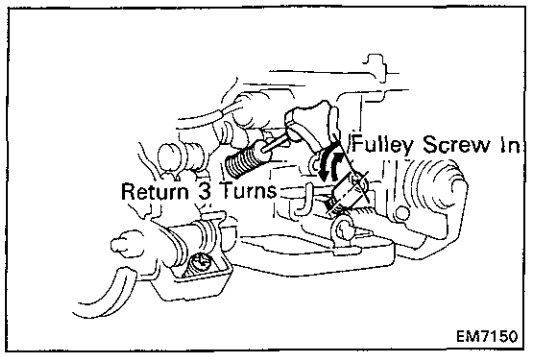


(a) Check the primary throttle valve angle.

Standard angle: 1RZ 13° from horizontal
2RZ 14° from horizontal



(b) Adjust turning the idle speed adjusting screw.



11. PRESET IDLE MIXTURE ADJUSTING SCREW

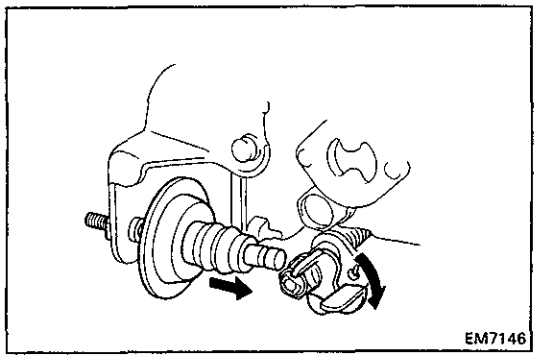
If the idle mixture adjusting screw has been removed, fully screw it in and then unscrew it the following amount.

Standard: Return 3 turns from fully closed position

HINT: Use SST if necessary.

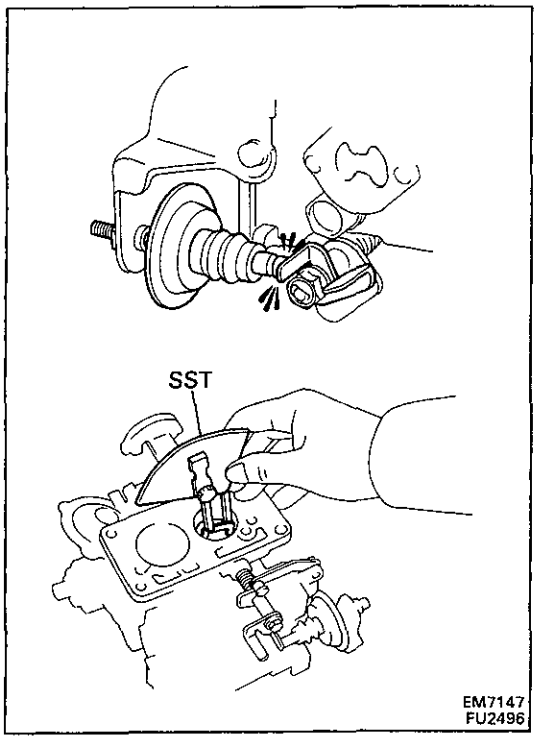
SST 09243-00020

NOTICE: Use care not to screw it in too tightly and damage the screw tip.



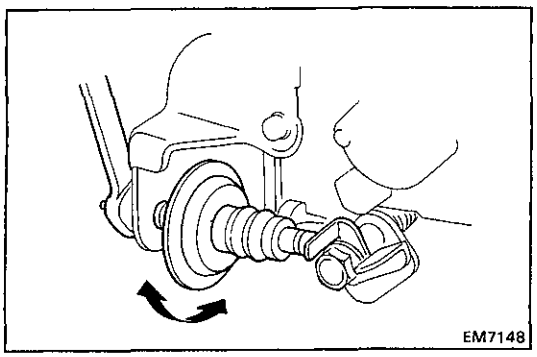
12. CHECK AND ADJUST DASH POT (DP)

(a) Open the throttle valve until the throttle valve separates from the dash pot end.



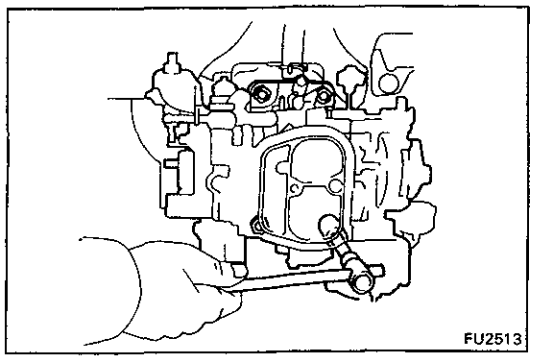
(b) Release the throttle valve gradually. and check the dash pot touch angle when the throttle lever touches the dash pot end.

Standard angle: 1RZ 19 – 21° from horizontal
2RZ 20 – 22° from horizontal



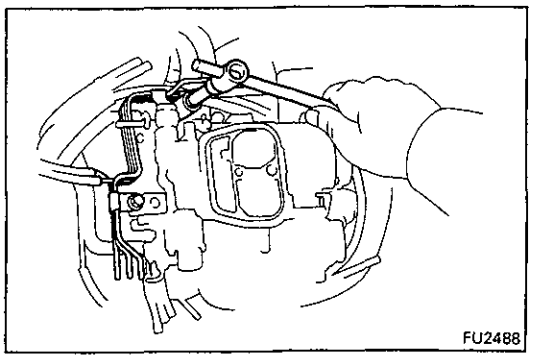
If the dash pot touch angle is not as specified, unlock the lock nut, and adjust the dash pot touch angle by turning the dash pot diaphragm.

13. CHECK FOR SMOOTH OPERATION OF EACH PART



INSTALLATION OF CARBURETOR

1. **INSTALL CARBURETOR**
   (a) Place a new insulator on the intake manifold.
   (b) Place the carburetor on the insulator.
   (c) Install the four carburetor mounting nuts.



2. **CONNECT FOLLOWING HOSES**
   (a) Emission control hoses and pipe.
   (b) Fuel inlet and outer vent hose.

3. **CONNECT CARBURETOR CONNECTOR**

4. **CONNECT THROTTLE CABLE FOR AUTOMATIC TRANSMISSION**

5. **CONNECT ACCELERATOR CABLE**

6. **INSTALL AIR INTAKE CONNECTOR**

7. **FILL WITH COOLANT**
   (See step 3 on page CO-5)

8. **ADJUST IDLE SPEED AND IDLE MIXTURE**
   (See page EM-26)

9. **ADJUST FAST IDLE SPEED**
   (See page EM-29)

10. **ADJUST DASH POT (DP) SETTING SPEED**
    (See page EM-30)