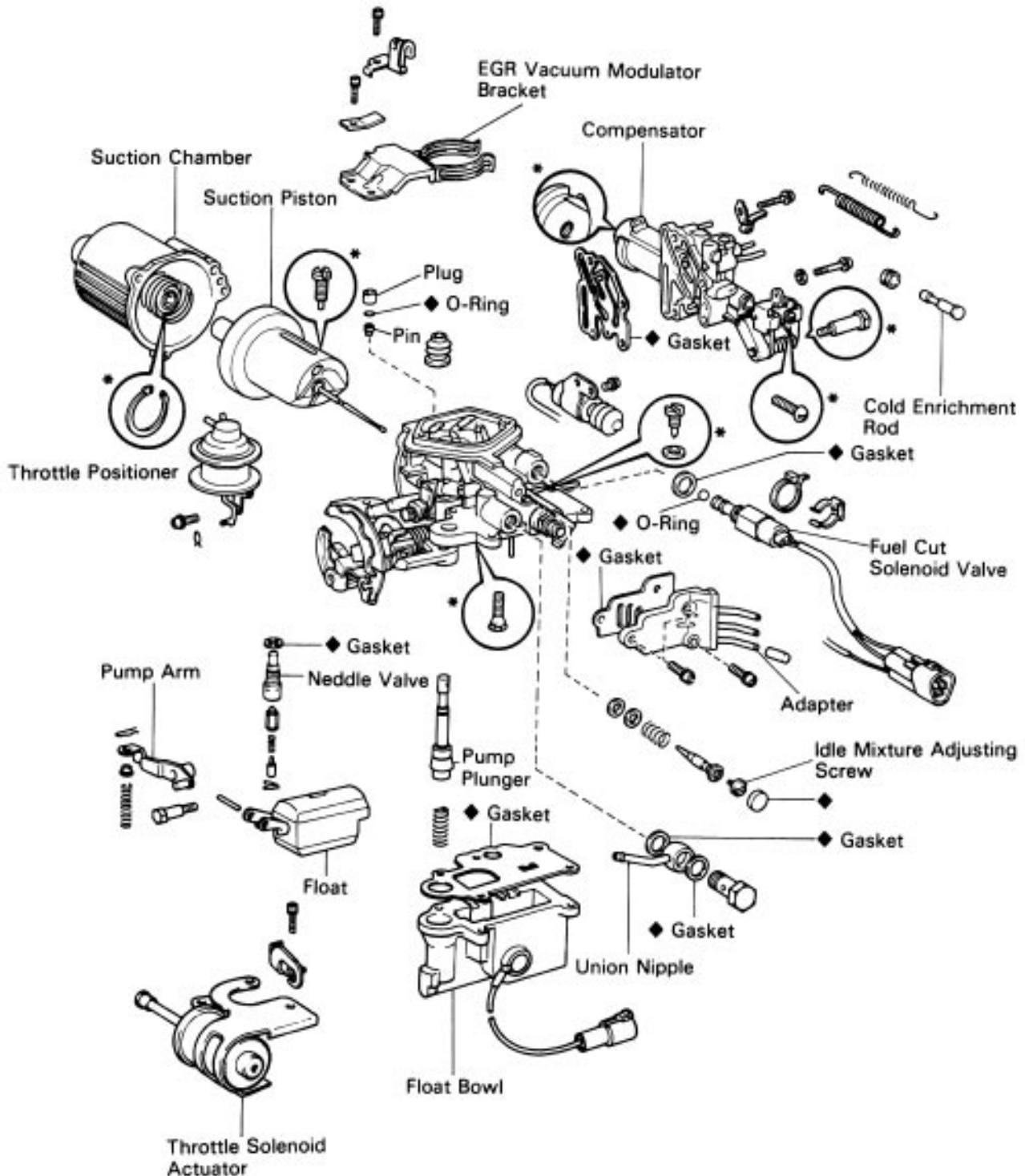
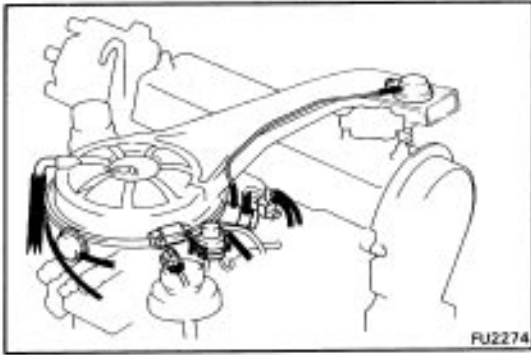


# CARBURETOR COMPONENTS

\*: NOTICE These components have been finely adjusted at factory; do not disassemble or readjust.



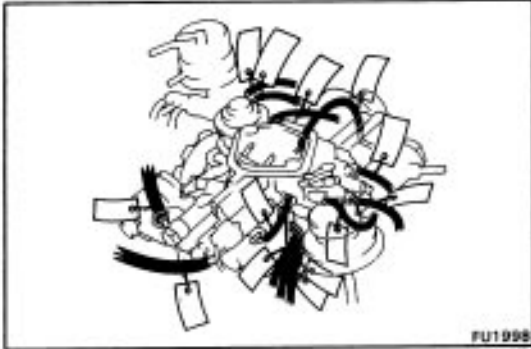
◆ Non-reusable part



## REMOVAL OF CARBURETOR

### 1. REMOVE AIR CLEANER

- (a) Disconnect the air intake hose.
- (b) Remove the butterfly nut.
- (e) Disconnect the emission control hoses from the air cleaner.
- (d) Remove the mounting bolt and VSV.
- (e) Lift the air cleaner off the carburetor.



### 2. REMOVE CARBURETOR

- (a) Disconnect the fuel hose from the union.
- (b) Disconnect emission control hoses.
- (c) Disconnect the connectors.
- (d) Remove the four nuts and carburetor.

### 3. REMOVE CARBURETOR HEAT INSULATOR AND GASKETS

## DISASSEMBLY OF CARBURETOR

(See page [FU-6](#))

The following instructions are organized so that you work on only one component group at a time.

This will help avoid confusion from similar looking parts from different subassemblies being on your workbench at the same time.

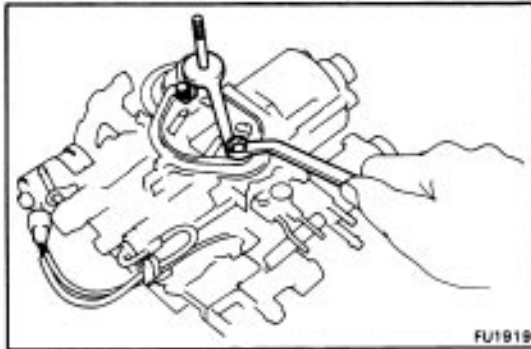
(a) To facilitate reassembly, arrange parts in order.

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

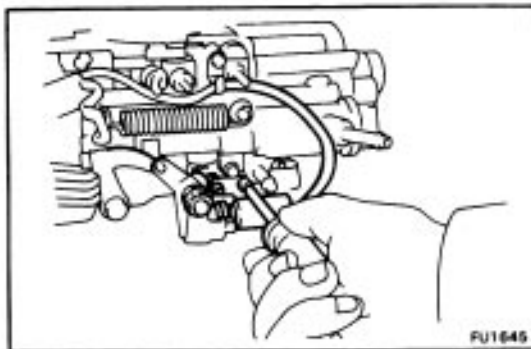
(e) Use carburetor driver set SST.

SST 09860-11011

HINT: Do not remove or loosen throttle valve closure adjusting screw.



### 1. REMOVE AIR CLEANER SUPPORT



### 2. REMOVE THROTTLE POSITION SWITCH



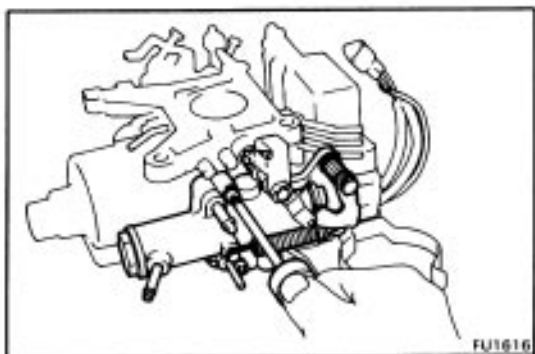
### 3. REMOVE FUEL CUT SOLENOID VALVE

(a) Remove the two clamps.

(b) Disconnect the solenoid valve and throttle position switch wire from the clamp.

(c) Remove the solenoid valve and gasket.

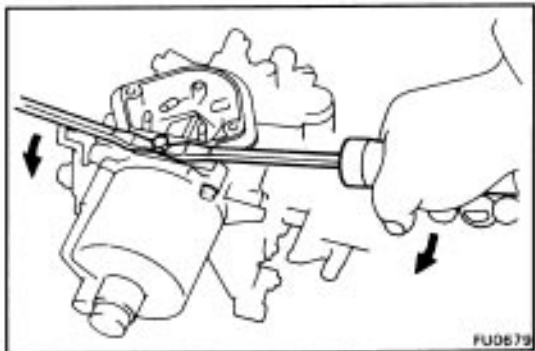
### 4. REMOVE NIPPLE UNION AND GASKETS



### 5. REMOVE COMPENSATOR

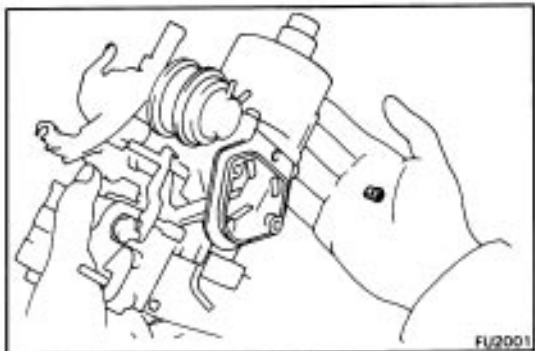
Remove the three screws, throttle position switch wire clamp, compensator and gasket.

HINT: Remove the compensator only if it is necessary to replace it.

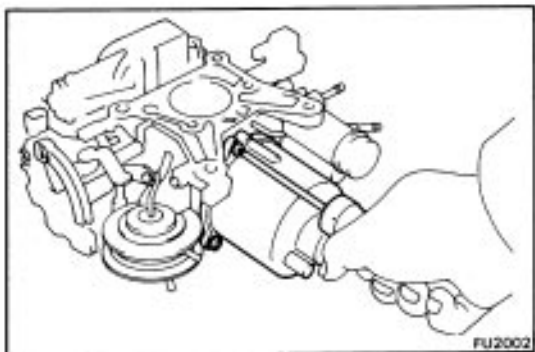


### 6. REMOVE SUCTION CHAMBER ADJUSTING PIN

- (a) Install the bolt (M4) into the plug.
- (b) Pry off the plug with a screwdrivers.
- (c) Remove the O-ring.

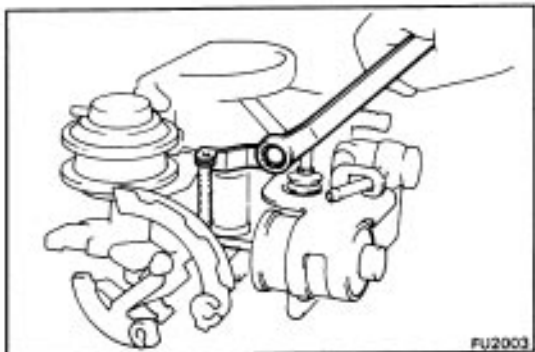


- (d) Turn the carburetor over and shake the pin out.



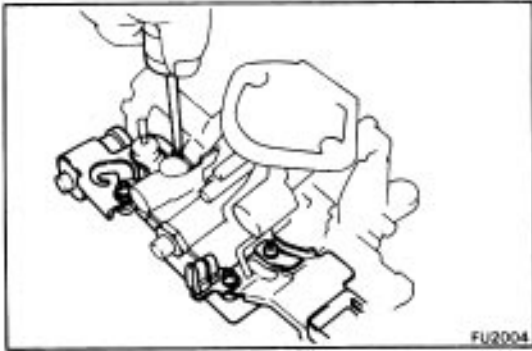
### 7. REMOVE SUCTION CHAMBER AND PISTON

- (a) Remove the three screws.
- (b) Pull out the suction chamber, spring and piston from carburetor body.



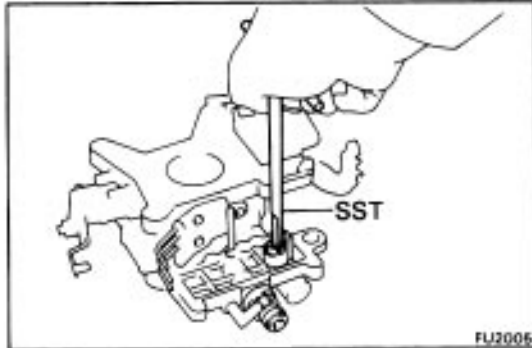
### 8. REMOVE PUMP ARM

- (a) Remove the clip.
- (b) Remove the pump arm pivot screw and pump arm.
- (c) Remove the bush and spring from the connecting rod.



### 9. REMOVE FLOAT BOWL

- (a) Disconnect the fuel heater wire from the clamp.
- (b) Remove the five screws, union nipple clamp, throttle valve solenoid, wire clamp, washer, number plate, EGR vacuum modulator bracket and float bowl.
- (c) Remove the pump damping spring from float bowl.



### 10. REMOVE PUMP PLUNGER AND BOOTS

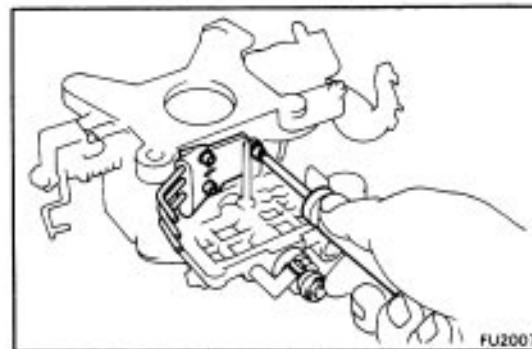
- (a) Remove the float pivot pin, float and needle valve sub-assembly.
- (b) Remove the float bowl gasket.
- (c) Remove the needle valve seat and gasket.

### 11. REMOVE FLOAT AND NEEDLE VALVE



### 12. REMOVE THROTTLE POSITIONER

Remove the clip, two screws and throttle positioner.



### 13. REMOVE ADAPTER

Remove the three screws, adapter and gasket.

## GENERAL CLEANING PROCEDURE

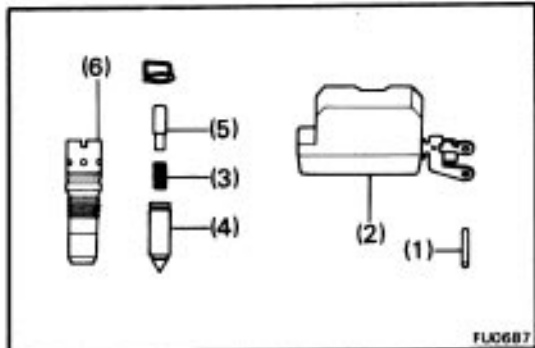
### CLEAN DISASSEMBLED PARTS BEFORE INSPECTION

- (a) Using a soft brush, wash and clean the cast parts in carburetor cleaner.
- (b) Clean off the carbon around the throttle valve.
- (e) Wash the other parts thoroughly in carburetor cleaner.
- (d) Blow all dirt and other foreign materials from the jets, fuel passages and restrictions in the body.

## INSPECTION OF CARBURETOR

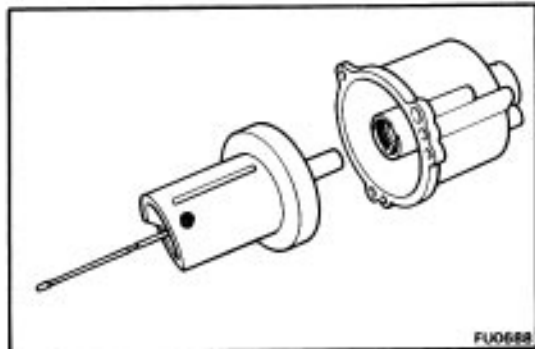
### 1. INSPECT FLOAT AND NEEDLE VALVE

- (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.
- (e) 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.



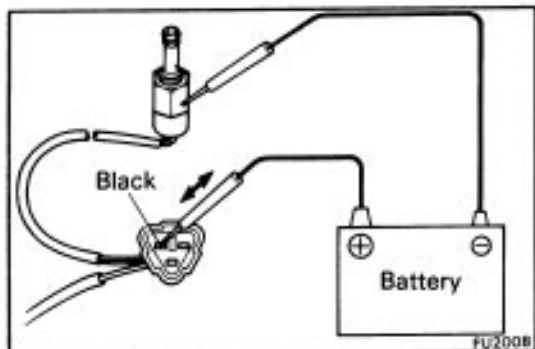
### 2. INSPECTION SUCTION CHAMBER AND PISTON

- (a) Inspect the suction chamber (1) for damage and scratches in the suction chamber.
- (b) Inspect the suction piston (2) for damage and wear.
- (e) Inspect metering needle (3) for damage and wear.



### 3. INSPECTION FUEL CUT SOLENOID VALVE

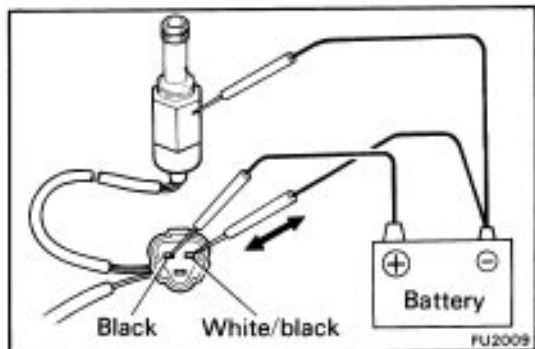
- (a) Connect the black wire to the battery positive terminal and solenoid valve body to the battery negative terminal.
- (b) You should feel the click from the solenoid valve when the battery power is connected and disconnected. If the solenoid valve is not operating properly, replace it.

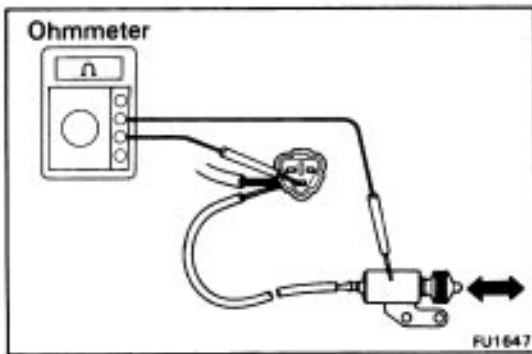


- (c) Under the conditions described in (a), connect the white-black wire to the battery negative terminal.
- (d) You should feel the click from the solenoid valve when the battery power is connected and disconnected.

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

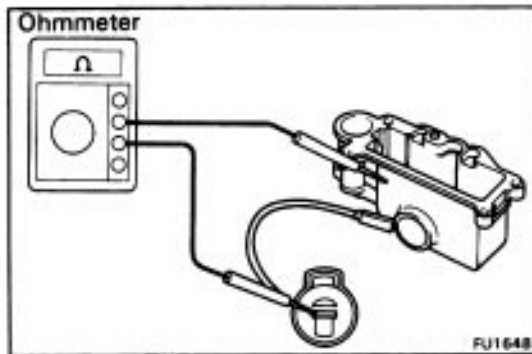
- (e) Replace the O-ring.





#### 4. INSPECTION THROTTLE POSITION SWITCH

- Connect ohmmeter probes to the switch connector and switch body.
- With the rod not pushed in, check that there is continuity.
- With the rod pushed in, check that there is no continuity.

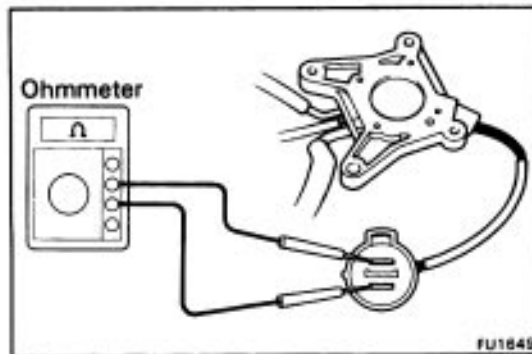


#### 5. INSPECTION FUEL HEATER AND COLD MIXTURE HEATER (CMH)

- Using an ohmmeter, measure the resistance between terminals of the float bowl.

**Fuel heater resistance at 20°C (68°F): 2 – 6Ω**

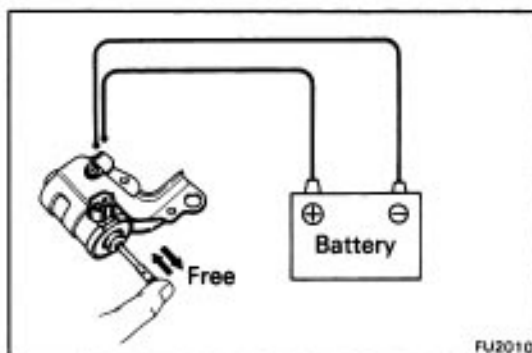
If the resistance is not correct, replace the float bowl.



- Using an ohmmeter, measure the resistance between terminals of CMH.

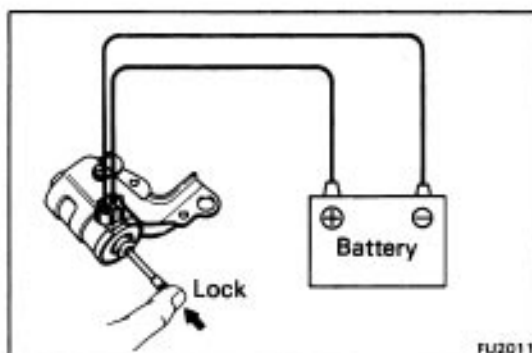
**CMH resistance at 20°C (68°F) : 0.5 – 2.2Ω**

If the resistance is not correct, replace the float bowl.



#### 6. INSPECTION THROTTLE SOLENOID VALVE ACTUATOR

- Push in the push rod and release it. Check that it returns immediately to its original position.



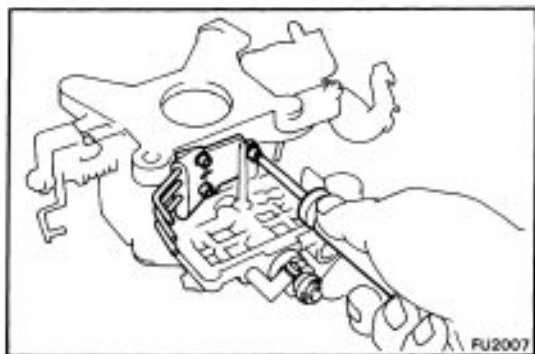
- Connect the solenoid terminals to the battery terminals as shown. Check that when the push rod is depressed it does not go in.

## ASSEMBLY OF CARBURETOR

(See page [FU-6](#))

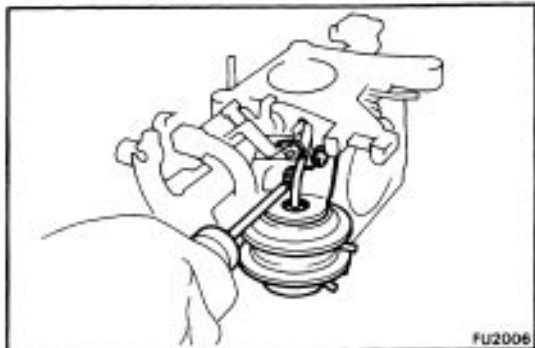
### 1. INSTALL ADAPTER

Install a new gasket and adapter with the three screws.



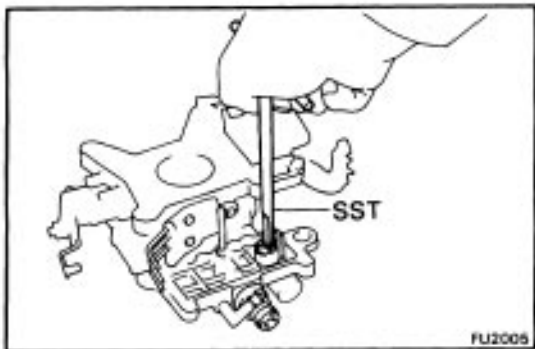
### 2. INSTALL THROTTLE POSITIONER

Install the throttle positioner with the two screws and clip.



### 3. INSTALL VALVE SEAT

Install the valve seat over a new gasket into the fuel inlet.

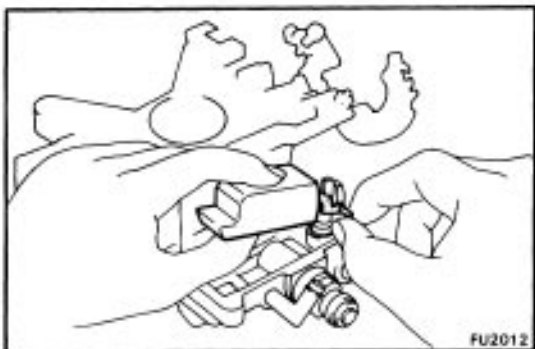


### 4. ADJUST FLOAT LEVEL

(a) Install the needle valve, spring and plunger onto the seat.

HINT: After adjusting the float level, install the clip onto the needle valve.

(b) Install the float and pivot pin.



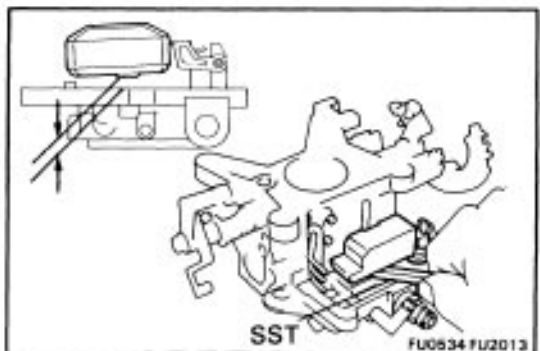
(c) Allow the float to hang down by its own weight.

Using SST, check the clearance between the float tip and carburetor body.

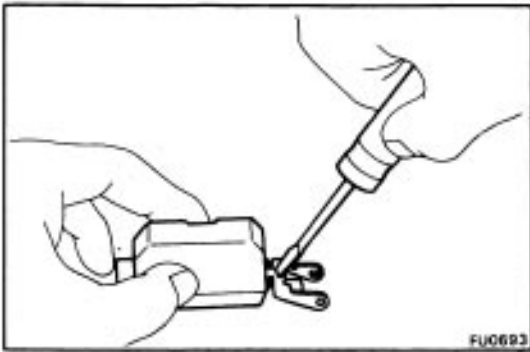
SST 09240-00014

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

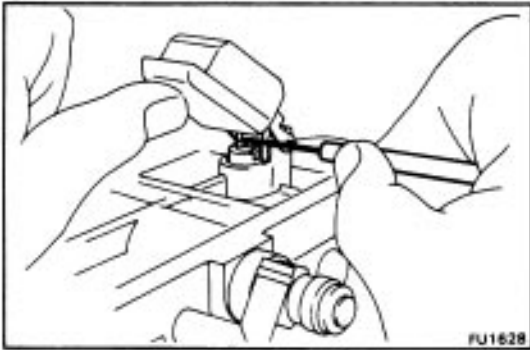
**Float level (upper position): 4.3 mm (0.169 in.)**







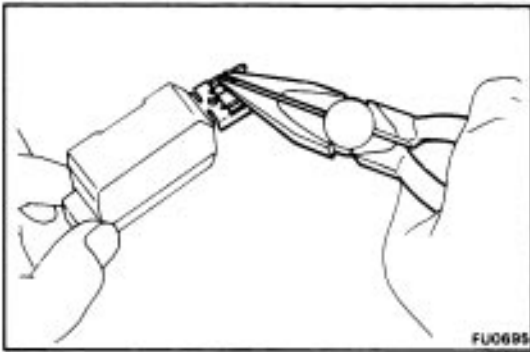
(d) Adjust by bending the portion of the float lip.



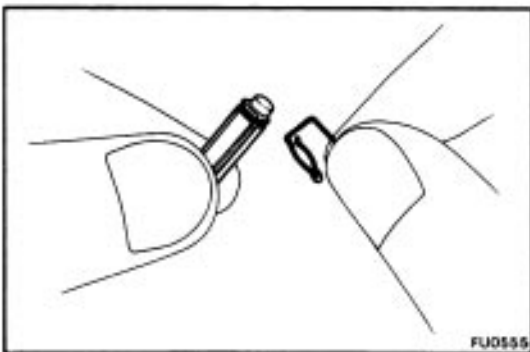
(e) Lift up the float and, using SST, check the clearance between the needle valve plunger and the float lip.

SST 09240-00020

**Float level (lower position) : 0.9 – 1.1 mm  
(0.035 – 0.043 in.)**

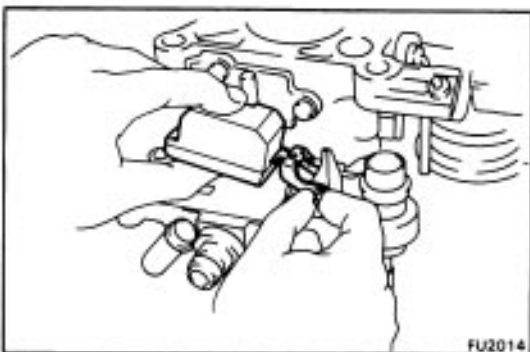


(f) Adjust by bending the portion of the float lip.



(g) After adjusting the float level, remove the float, plunger, spring and needle valve.

(h) Assemble the pin clip onto the needle valve.

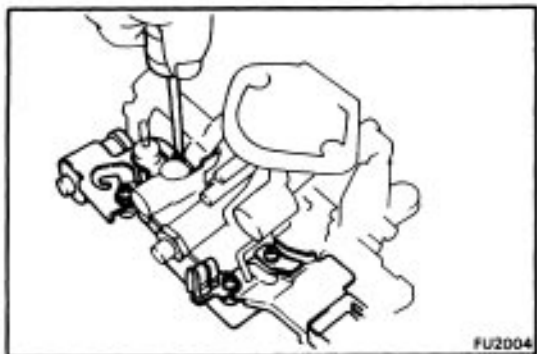


## 5. INSTALL NEEDLE VALVE ASSEMBLY, FLOAT AND PIVOT PIN

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

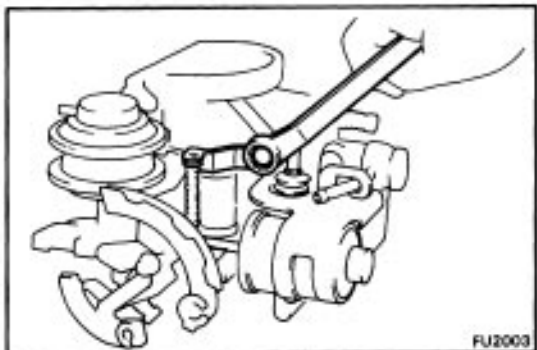
(b) Insert the float lip between the plunger and clip when installing the float.

## 6. INSTALL BOOTS AND PUMP PLUNGER



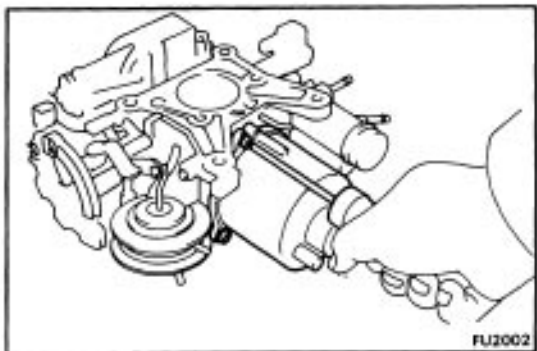
### 7. INSTALL FLOAT BOWL

- (a) Install the pump damping spring to the float bowl.
- (b) Install the float bowl, union nipple clamp, solenoid valve clamp, EGR vacuum modulator bracket, number plate with the four screws.



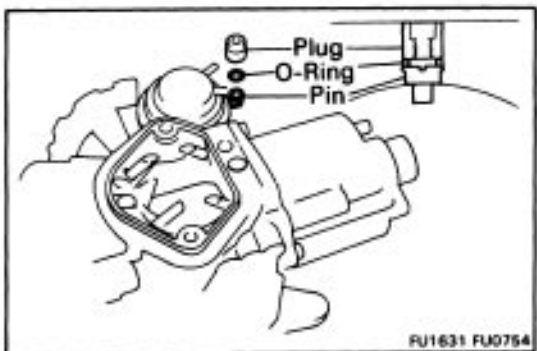
### 8. INSTALL PUMP ARM

- (a) Install the pump arm with the pivot screw.
- (b) Install the clip.



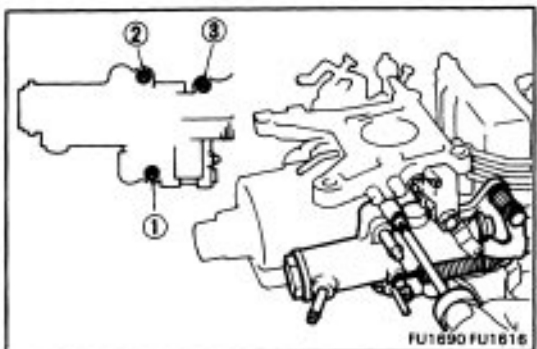
### 9. INSTALL SUCTION PISTON AND CHAMBER

- (a) Install the suction piston into the carburetor body.
- (b) Install the spring and suction chamber.



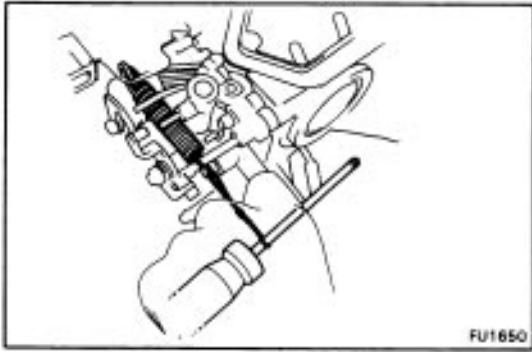
### 10. INSTALL SUCTION CHAMBER ADJUSTING PIN

- (a) Insert the suction pin into the groove on the suction piston as shown in the figure.
- (b) Install a new O-ring.
- (e) Install the plug.



### 11. INSTALL COMPENSATOR

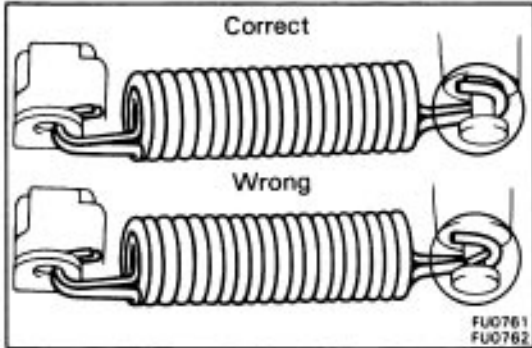
Install a new gasket, compensator and throttle position switch wire clamp with the three screws in the sequence shown.



FU1650

**12. REPLACE COLD ENRICHMENT ROD, IF NECESSARY**

- (a) Remove the back springs.
- (b) Replace the cold enrichment rod.

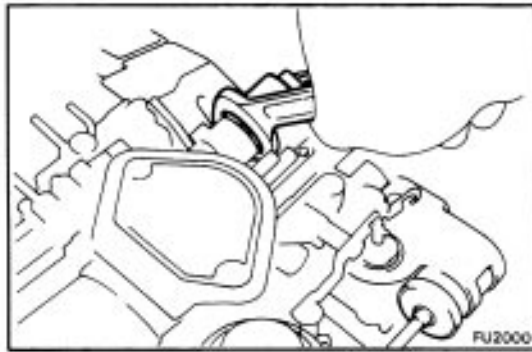
FU0761  
FU0762

- (c) Install the wax back springs.

HINT: Be sure the spring's hooks do not over lap.

**13. INSTALL UNION NIPPLE WITH NEW GASKETS**

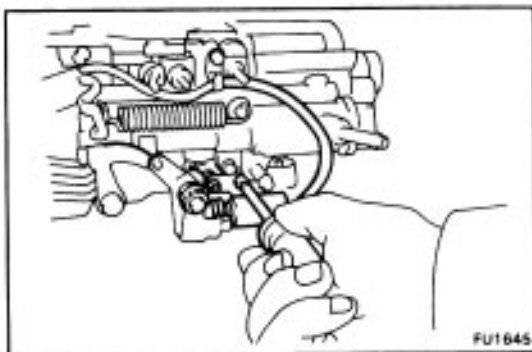
Install the union nipple with new gaskets.



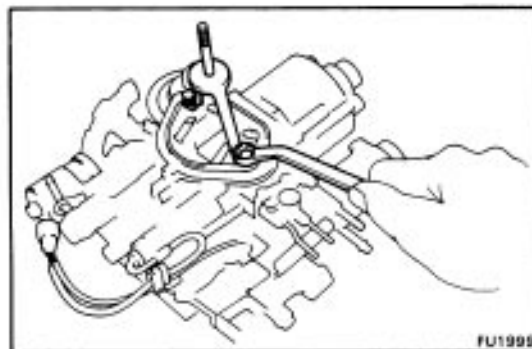
FU2000

**14. INSTALL SOLENOID VALVE**

- (a) Install the solenoid valve with new gasket into the carburetor body.
- (b) Connect the solenoid valve and throttle position switch wire to the clamp.
- (c) Install the two clamps.



FU1645

**15. INSTALL THROTTLE POSITION SWITCH**

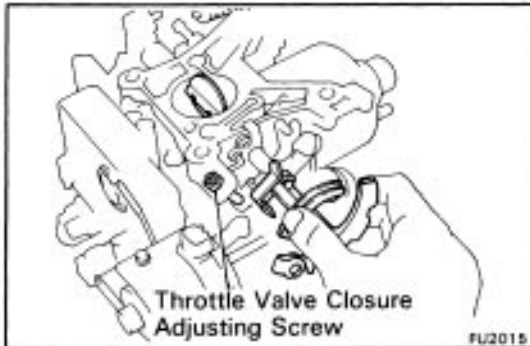
FU1999

**16. INSTALL AIR CLEANER SUPPORT**

## ADJUSTMENT OF CARBURETOR

### HINT:

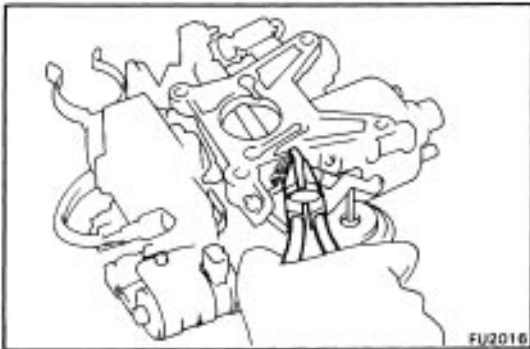
- Use SST 09240-00014 and 09240-00020 to make adjustment.
- When the throttle valve closure adjusting screw has been removed or loosened, lock the lock nut in position so that the adjusting screw is 1/4 – 1/2 turn away from touching the throttle lever.



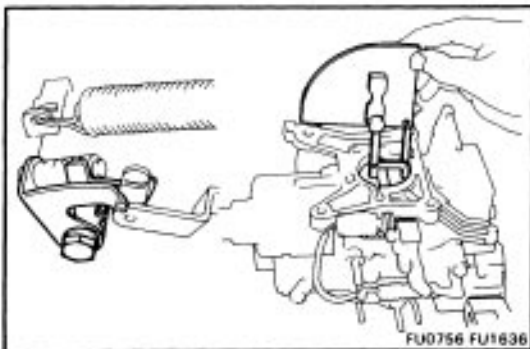
### 1. CHECK AND ADJUST THROTTLE VALVE OPENING

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

**Standard angle: 87 – 93° from horizontal**



(b) Adjust by bending the throttle lever stopper.



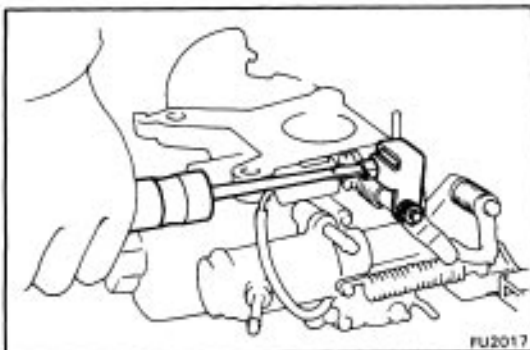
### 2. CHECK AND ADJUST FAST IDLE SETTING

(a) Set the fast idle adjusting cam to the roller of the throttle lever as shown.

(b) Measure the throttle valve angle.

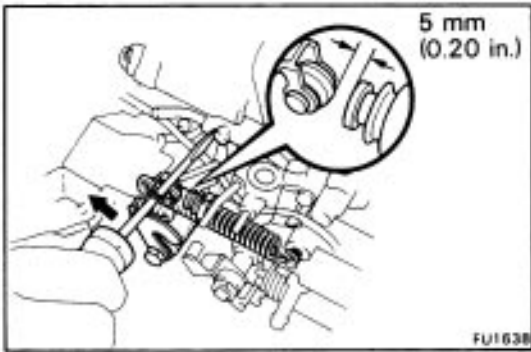
**Reference angle: M/T 18.7° from horizontal**

**A/T 19.0° from horizontal**



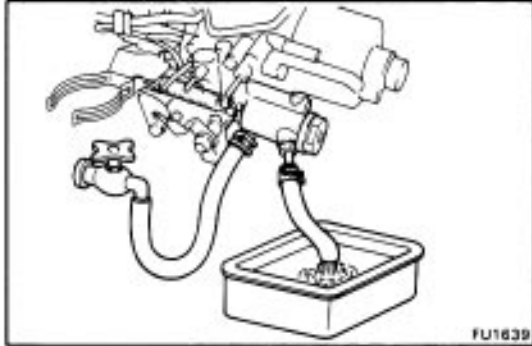
(c) Adjust by turning the No. 1 fast idle adjusting screw.

(d) Separate the fast idle adjusting cam from the first idle lever.

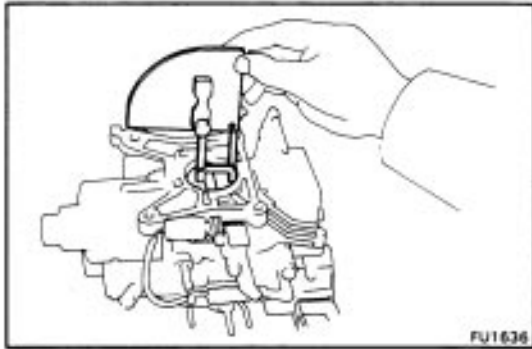


(e) (Reference)

- Using a screwdriver, pry open a gap of at least 5 mm (0.20 in.) between the fast idle cam and the cold enrichment rod. Then allow the gap to close again.



- Flush out the compensator water pipe 2 – 3 minutes with ordinary tap water.

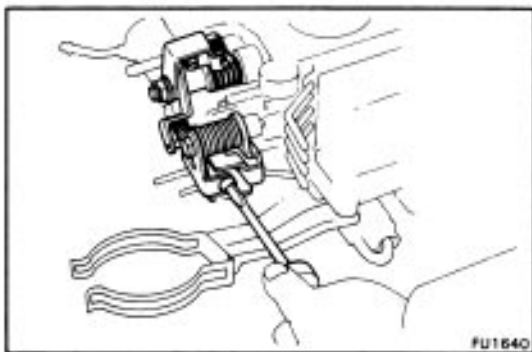


- Apply a vacuum to the throttle positioner diaphragms and measure the throttle angle.

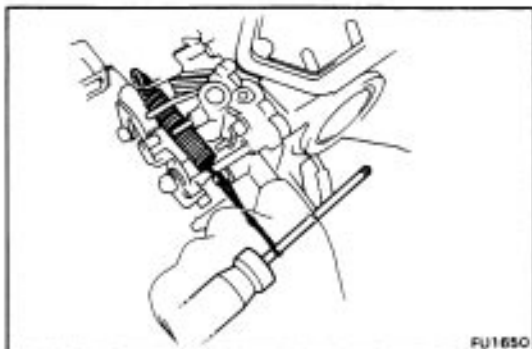
Water Temperature	Throttle Valve Angle
5°C (41°F)	15.5°
10°C (50°F)	15.0°
15°C (59°F)	14.5°
20°C (68°F)	14.0°
25°C (77°F)	13.5°

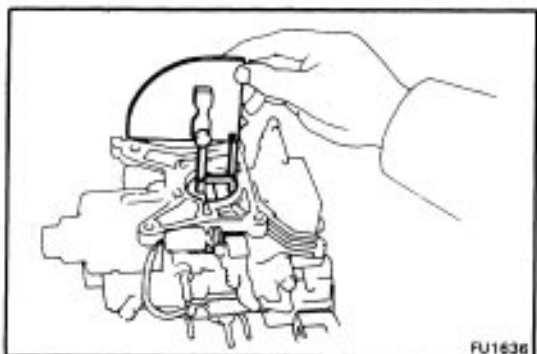
HINT: If the tap water temperature is not listed in the table; select the closest temperature listed, and use its corresponding angles.

- Adjust by turning the No. 2 fast idle adjusting screw.



### 3. REMOVE WAX BACK SPRINGS

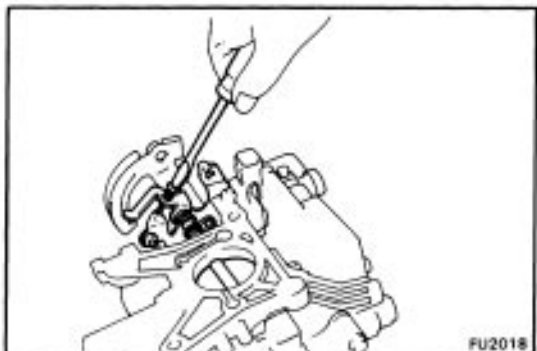




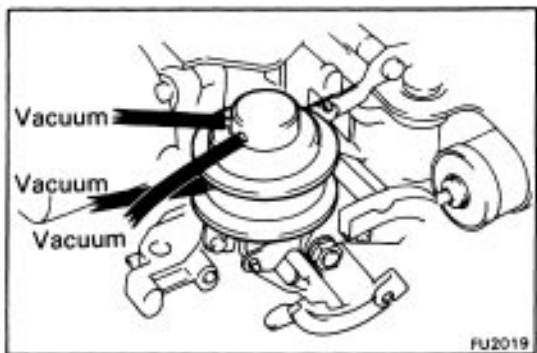
#### 4. CHECK AND ADJUST THROTTLE POSITIONER SETTING

(a) Measure the throttle valve angle.

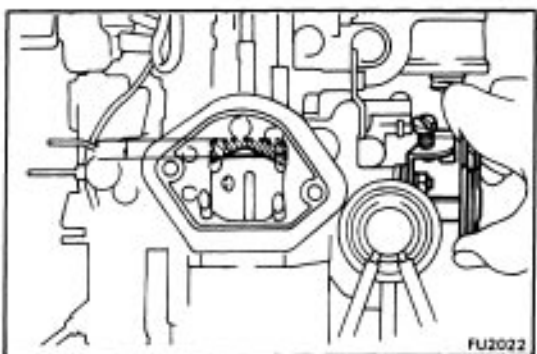
**Reference angle: 13.2° from horizontal**



(b) Adjust the throttle positioner by turning adjusting screw.



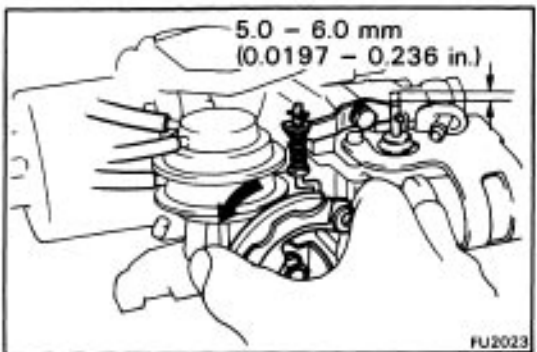
#### 5. APPLY VACUUM TO THROTTLE POSITIONER DIAPHRAGMS



#### 6. CHECK AND ADJUST UNLOADER

With the throttle valve fully opened, measure the piston lift stroke.

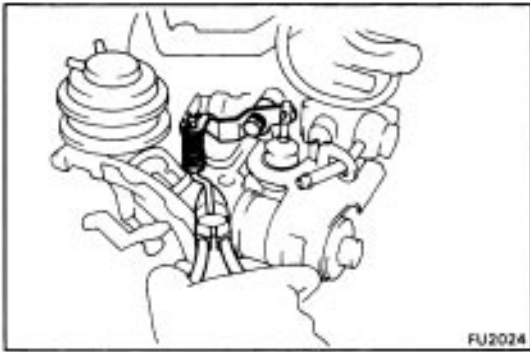
**Standard stroke: More than 8 mm (0.31 in.)**



#### 7. CHECK AND ADJUST PUMP STROKE

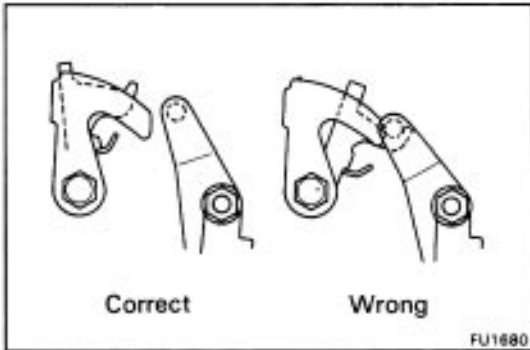
(a) Measure the length of the stroke.

**Standard stroke: 5.0 – 6.0 mm (0.197 – 0.236 in.)**



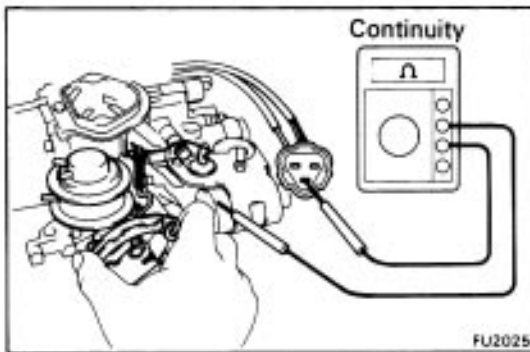
(b) Adjust the pump stroke by bending the connecting link.

**Setting stroke: 5.5 mm (0.217 in.)**



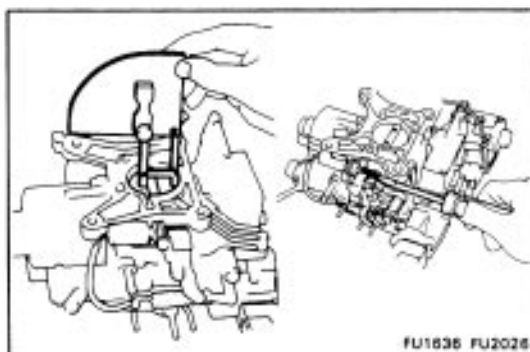
## 8. CHECK AND ADJUST THROTTLE POSITION SWITCH

(a) Check that the first idle cam and auxiliary first idle cam do not move.



(b) Connect ohmmeter probes to the connector and switch body.

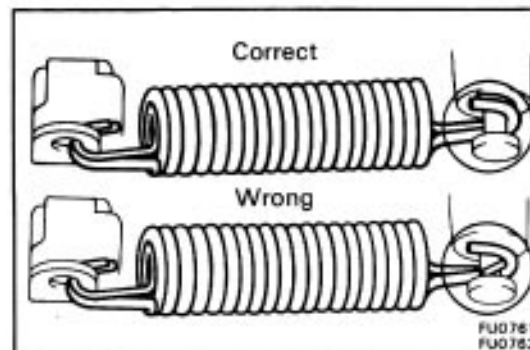
(c) With the throttle valve fully open, check that there is continuity.



(d) Slowly return the throttle valve from fully open. At the point where there is no continuity, measure the throttle valve angle.

**Standard angle: 11.5° from horizontal**

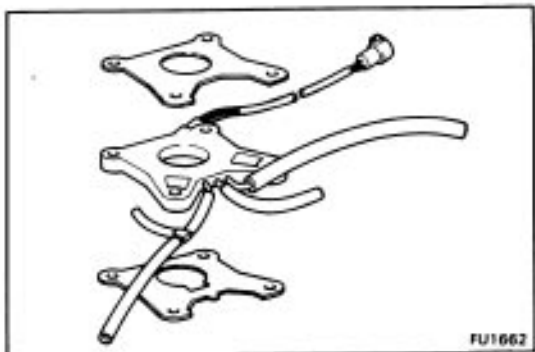
If not, adjust the throttle position switch adjusting screw.



## 9. INSTALL WAX BACK SPRINGS

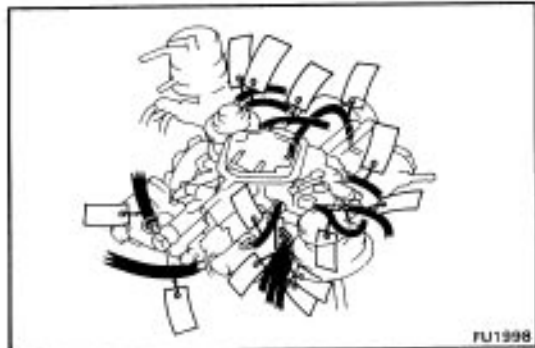
HINT: Be sure the spring's hooks do not overlap.

## 10. CHECK FOR SMOOTH OPERATION OF EACH PART



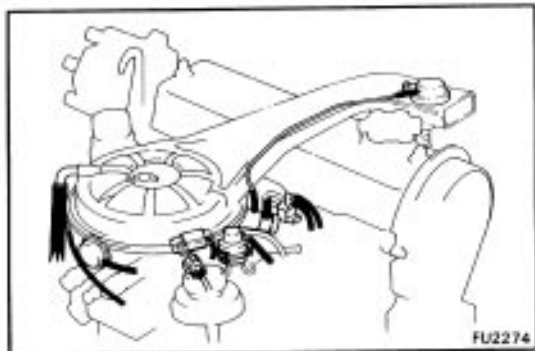
## INSTALLATION OF CARBURETOR

### 1. INSTALL CARBURETOR HEAT INSULATOR WITH NEW GASKETS



### 2. INSTALL CARBURETOR

- (a) Install the carburetor with the four nuts.
- (b) Connect the connectors.
- (c) Connect the emission control hoses.  
(See pages [EC-3](#), 4 or 5)
- (d) Connect the fuel hose to the union.



### 3. INSTALL AIR CLEANER

- (a) Install the air cleaner on the carburetor.
- (b) Install the VSV with the bolt, tighten the bolt.
- (c) Connect the emission control hoses to the air cleaner case.
- (d) install and tighten the butterfly nut.
- (e) Connect the air intake hose.



## ADJUSTMENT OF CARBURETOR (ON-VEHICLE)

### 1. INITIAL CONDITIONS OF CARBURETOR ADJUSTMENT

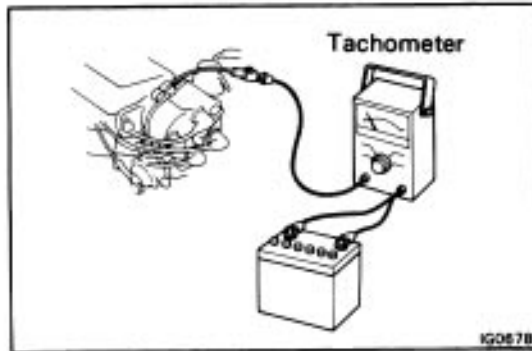
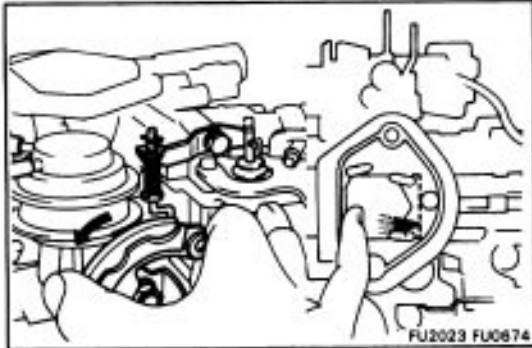
- (a) All accessories switched off
- (b) Ignition timing set correctly
- (e) Transmission in N range

### 2. WARM UP ENGINE

Start engine and warm it up to operating temperature.

### 3. CHECK ACCELERATOR PUMP

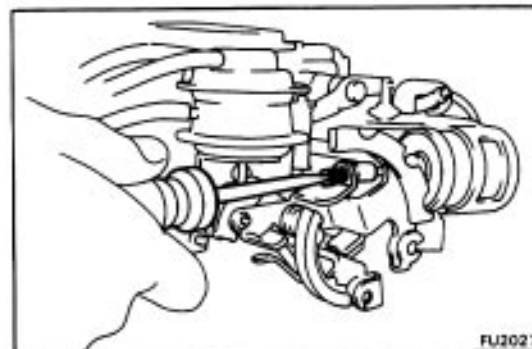
Open the throttle valve, and check that gasoline spurts out from the acceleration nozzle.



### 4. CONNECT A TACHOMETER

Remove the cap and connect the tachometer positive (+) terminal to the service connector at the IIA.

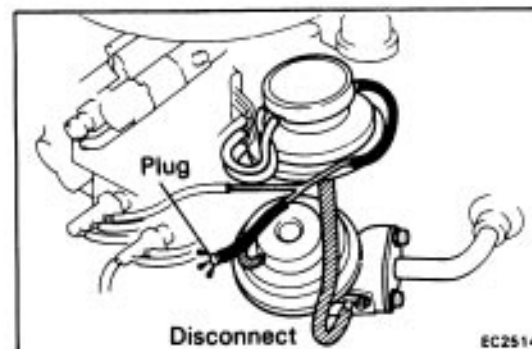
**NOTICE:** As some tachometers are not compatible with the ignition system, we recommend that you confirm the compatibility of your unit before use.



### 5. ADJUST IDLE SPEED

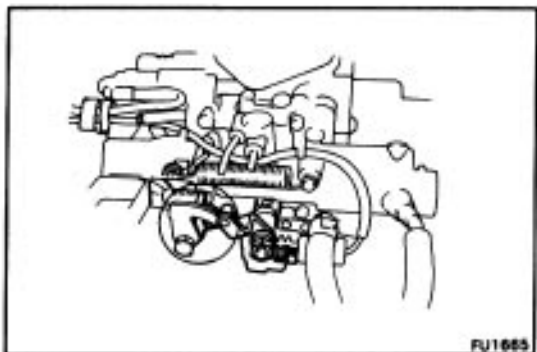
- (a) Start the engine.
- (b) Turn the idle speed adjusting screw to obtain the specified speed.

**Idle speed: M/T 700 rpm**  
**A/T 900 rpm**



### 6. ADJUST FAST IDLE SPEED

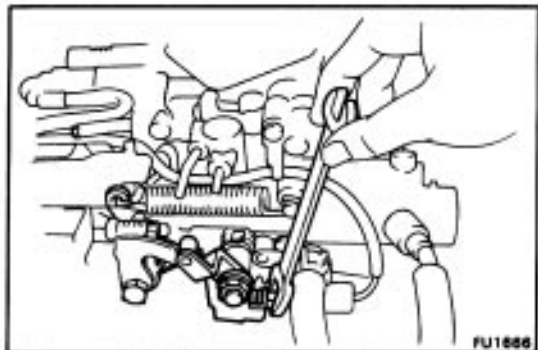
- (a) Warm up and stop engine.
- (b) Disconnect the vacuum hose from the EGR valve and plug the hose end.



- (c) Start the engine.
- (d) While holding the throttle valve slightly open, set the fast idle adjusting cam, and release the throttle valve.
- (e) Check the fast idle speed.

**Fast idle speed: M/T 3,000 rpm  
A/T 2,800 rpm**

HINT: Inspect and adjusting the fast idle speed with the electric cooling fan OFF.

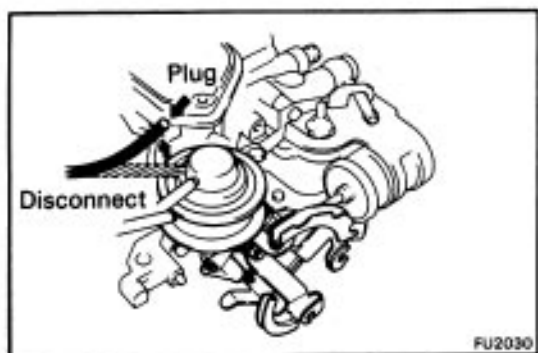


- (f) Adjust the fast idle speed by turning the fast idle adjusting screw.

**Fast idle setting speed: M/T 3,000 rpm  
A/T 2,800 rpm**

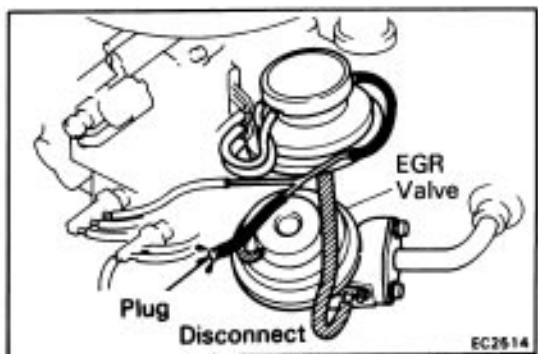
Recheck the fast idle speed.

- (h) Connect the vacuum hose to the EGR valve.
- (i) Stop the engine.

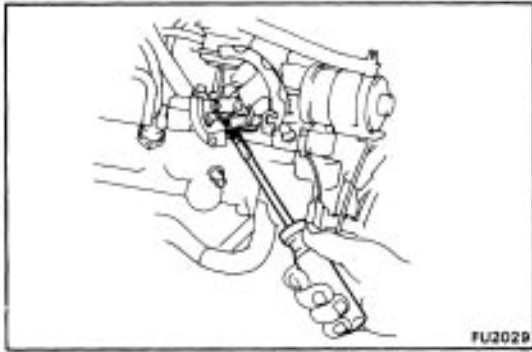


## 7. ADJUST THROTTLE POSITIONER (TP) SETTING SPEED

- (a) Disconnect the vacuum hose from TP diaphragm A and plug the hose end.



- (b) Disconnect the vacuum hose from the EGR valve and plug the hose end.



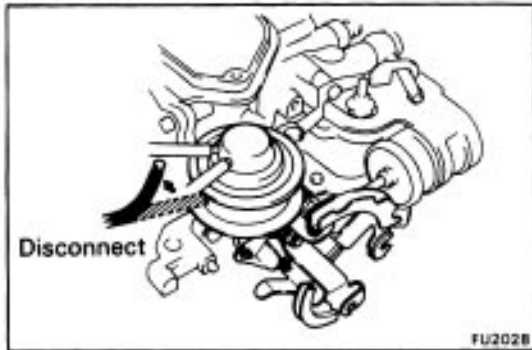
(c) Check that the TP is set at the 1 st step.

**TP at the 1 st speed: 1,100 rpm**

**TP at the 1 st step setting speed: 1,100 rpm**

HINT: Make adjustment with the cooling fan OFF.

(d) Reconnect the vacuum hose to diaphragm A.  
If not at specified speed, adjust with the adjusting screw.



(e) Disconnect the vacuum hose from TP diaphragm B and plug the hose end.

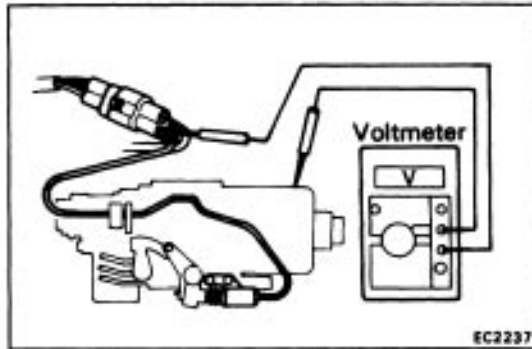
(f) Check that the TP is set at the 2nd step.

**TP at the 2nd step speed: 1,800 – 2,200 rpm**

(g) Reconnect the vacuum hose to the TP diaphragm B.

(h) Reconnect the vacuum hose to the EGR valve.

(i) Stop the engine.

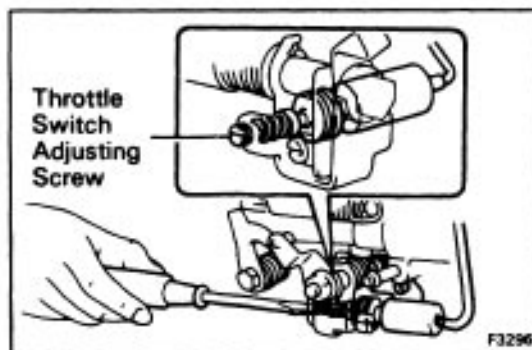


## 8. ADJUST THROTTLE POSITION SWITCH

(a) Connect the positive voltmeter probe to the switch connector terminal, and the negative probe to the carburetor body.

(b) From idle slowly, open the throttle. As this is done, check the engine speed as the voltage drops from 12 volts to 0 volts.

**Setting speed: 1,400 rpm**



If not, adjusting setting speed by the position switch adjusting screw.

## 9. STOP ENGINE

## 10. IF NECESSARY, ADJUST IDLE SPEED MIXTURE

(See page [FU-25](#))

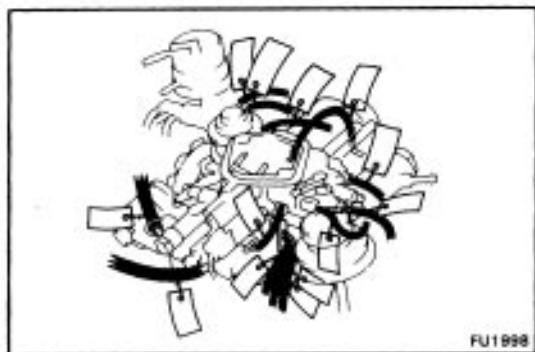
## 11. REMOVE TACHOMETER

## IDLE MIXTURE

### ADJUSTMENT OF IDLE MIXTURE

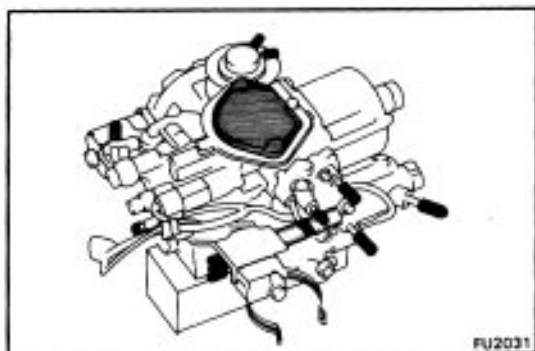
#### HINT:

- To conform to USA and Canada regulations, the idle mixture adjusting screw is adjusted and plugged with a steel plug by the manufacturer. Normally, this plug should not be removed.
- When troubleshooting rough idle, check all other possible causes before attempting to adjust the idle mixture. (See TROUBLESHOOTING on page FU-4) Only if no other factors are found to be at fault should the idle mixture be adjusted. When doing so, remove the plug and follow the described.



#### 1. REMOVE CARBURETOR

- Before disconnecting the vacuum hoses, use tags to identify how they should be reconnected.
- Remove the carburetor from the engine.
- After removing the carburetor, cover the intake manifold with a clean rag.



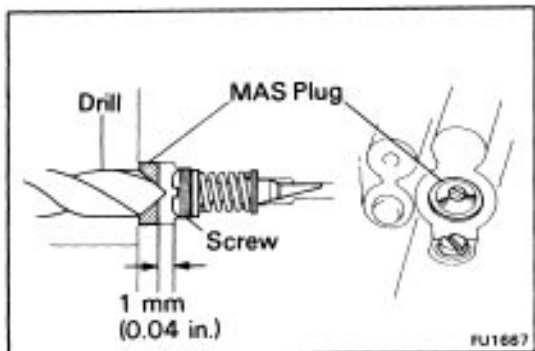
#### 2. REMOVE MIXTURE ADJUSTING SCREW PLUG WAS PLUG)

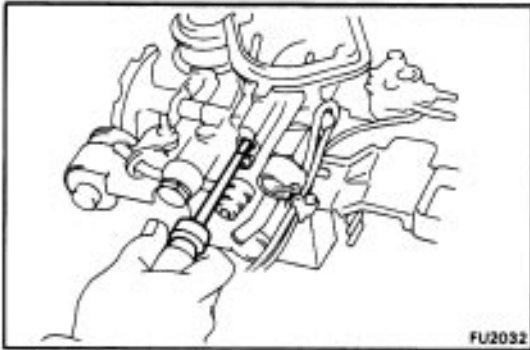
- Plug each carburetor vacuum port to prevent entry of steel particles when drilling.

- Mark the center of the plug with a punch.
- Drill a  $\varnothing 6.5$  mm ( $\varnothing 0.256$  in.) hole in the center of plug.

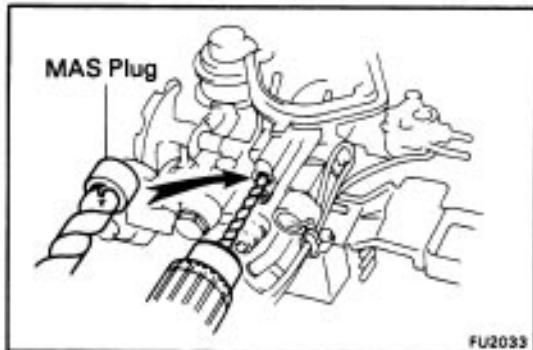
#### HINT:

- As there is only 1 mm (0.04 in.) clearance between the plug and screw, drill carefully and slowly to avoid drilling onto the screw.
- The drill may force the plug off at this time.

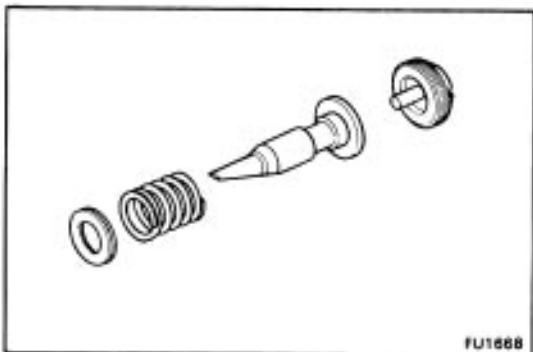




- (d) Through the hole in the plug, fully screw in the mixture adjusting screw with a screwdriver.  
 HINT: Be careful not to damage the screw tip by tightening the screw too tight.

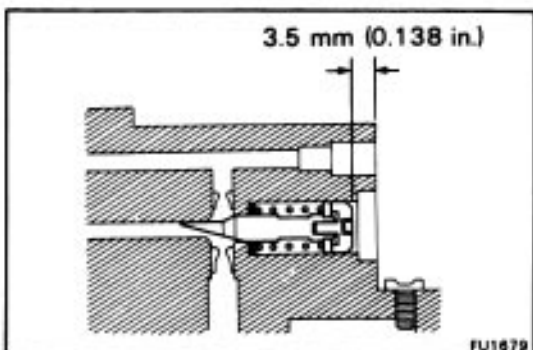


- (e) Use a  $\varnothing 7.5$  mm ( $\varnothing 0.295$  in.) drill to the plug off.



### 3. INSPECT MIXTURE ADJUSTING SCREW

- (a) Blow off any steel particles with compressed air.  
 (b) Remove the screw and inspect it.  
 If the drill has gnawed into the screw top or if the tapered portion is damaged, replace the screw.



### 4. REINSTALL MIXTURE ADJUSTING SCREW

Screw the idle mixture adjusting screw in until the head is 3.5 mm (0.138 in.) below the lower surface of the carburetor, as shown in the illustration.

HINT: Be careful not to damage the screw tip by tightening the screw too tight.

### 5. REINSTALL CARBURETOR

- (a) Reinstall the carburetor on the engine.  
 (b) Reconnect the vacuum hoses to the proper locations.  
 Refer to the vacuum hose information label under the hood.

### 6. REINSTALL AIR CLEANER

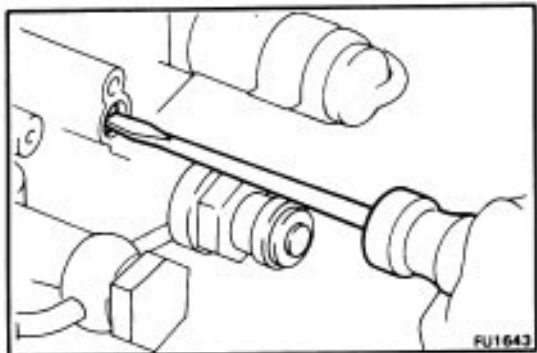
## 7. ADJUST IDLE SPEED AND IDLE MIXTURE

(a) Initial conditions:

- Air cleaner installed
- Normal operating coolant temperature
- All accessories switched off
- All vacuum lines connected
- Transmission in N range
- (w/ PS)  
Front wheels straight ahead position

(b) Start the engine.

(c) Set to the maximum speed by turning the idle mixture adjusting screw.

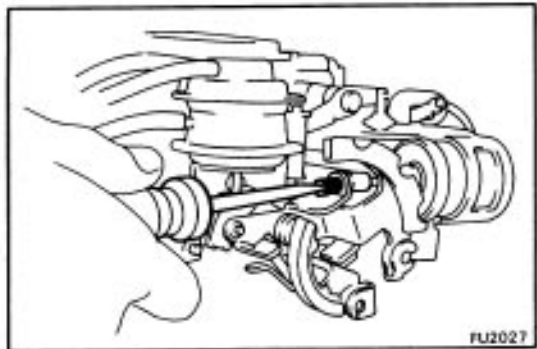


(d) Set to the mixture speed by turning the idle speed adjusting screw.

**Idle mixture speed: M/T 750 rpm**

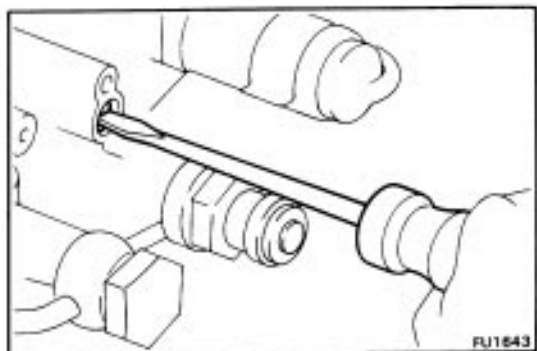
**A/T 950 rpm**

(e) Before moving to the next step, continue the adjustments (c) and (d) until the maximum speed will not rise any further no matter how much the idle mixture adjusting screw is adjusted.



(f) Set to 700 rpm (M/T), 900 rpm (A/T) by screwing in the idle mixture adjusting screw.

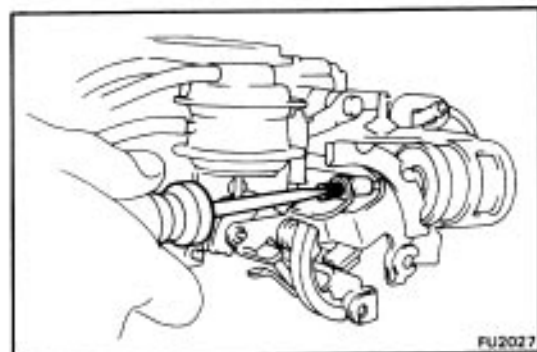
This is the lean drop method for setting idle speed and mixture.

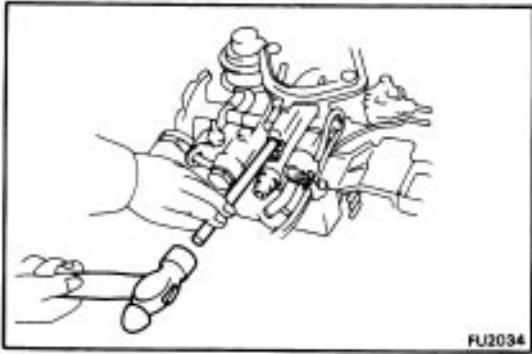


(g) Set to the idle speed by screwing in the idle adjusting screw.

**Idle speed: M/T 700 rpm**

**A/T 900 rpm**



**8. PLUG IDLE MIXTURE ADJUSTING SCREW**

- (a) Remove the air cleaner and EGR vacuum modulator bracket.
- (b) With tapered end inward, tap in plug until it is even with carburetor surface.
- (c) Reinstall the EGR vacuum modulator bracket and air cleaner.

**9. CHECK AND ADJUST FAST IDLE SPEED**

(See step 6 on pages [FU-22](#), [23](#))

**10. CHECK AND ADJUST TP SETTING SPEED**

(See step 7 on pages [FU-23](#), [24](#))