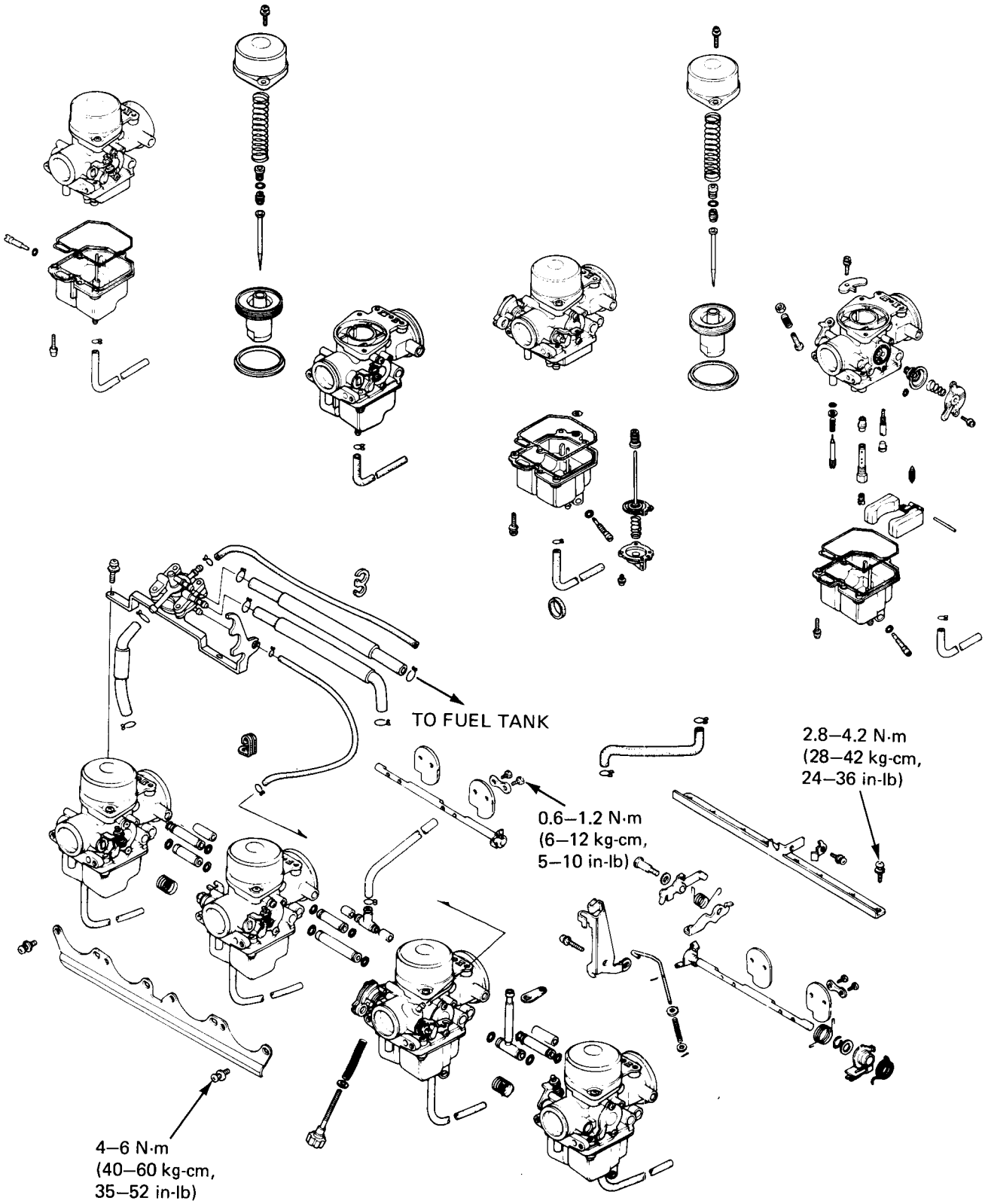


4. FUEL SYSTEM

SERVICE INFORMATION

GENERAL

- Use caution when working with gasoline. Always work in a well-ventilated area and away from sparks or open flames.
- When disassembling fuel system parts, note the locations of the O-rings. Replace them with new ones on reassembly.
- The float bowls have drain plugs that can be loosened to drain residual gasoline.
- The carburetors are equipped with a fuel line diaphragm. After carburetor overhaul, it is necessary to crank the engine for 2-3 seconds, three times with the throttle fully closed to fill the float chambers.
- The pilot screws are factory pre-set and should not be removed unless the carburetor is overhauled.

SPECIFICATIONS

Venturi dia.	33 mm (1.3 in)
Identification No.	VB56A
Float level	15.5 mm (0.61 in)
Main jet	122
Idle speed	1,000 ± 100 rpm
Throttle grip free play	2–6 mm (1/8–1/4 in)
Fast idle	1,000–2,700 rpm (after break-in)
Pilot screw initial opening	1-3/4

TORQUE VALUES

Front bracket	4–6 N·m (40–60 kg-cm, 35–52 in-lb)
Rear bracket	2.8–4.2 N·m (28–42 kg-cm, 24–36 in-lb)
Choke valve	0.6–1.2 N·m (6–12 kg-cm, 5–10 in-lb)

TOOLS

Special

Carburetor Pilot Screw Wrench 07908–4220201

Common

Float gauge 07401–0010000

TROUBLESHOOTING

Engine cranks but won't start
1. No fuel in tank
2. No fuel to carburetor
3. Engine flooded with fuel
4. No spark at plug (ignition malfunction)
5. Air cleaner clogged
6. Intake air leak
7. Improper choke operation
8. Improper throttle operation

Hard starting or stalling after starting
1. Improper choke operation
2. Ignition malfunction
3. Fast idle speed incorrect
4. Carburetor malfunction
5. Fuel contaminated
6. Intake air leak
7. Idle speed incorrect

Rough idle
1. Ignition malfunction
2. Idle speed incorrect
3. Incorrect carburetor synchronization
4. Carburetor malfunction
5. Fuel contaminated

Misfiring during acceleration
1. Ignition malfunction
2. Faulty air-cutoff valve

Backfiring
1. Ignition malfunction
2. Carburetor malfunction
3. Faulty air-cutoff valve

Poor performance (driveability) and poor fuel economy
1. Fuel system clogged
2. Ignition malfunction

Lean mixture
1. Clogged fuel jets
2. Piston stuck closed
3. Faulty float valve
4. Float level low
5. Fuel cap vent blocked
6. Fuel strainer screen clogged
7. Restricted fuel line
8. Air vent tube clogged
9. Intake air leak

Rich mixture
1. Clogged air jets
2. Faulty float valve
3. Float valve too high
4. Chole stuck closed
5. Air-cutoff valve sticking closed
6. Dirty air cleaner

Fuel not reaching carburetors
1. Fuel line diaphragm vent tube clogged.
2. Fuel line diaphragm vacuum tube clogged.
3. Clogged fuel line diaphragm.
4. Clogged fuel line diaphragm check valve.

Date of Issue: August, 1982

CARBURETOR REMOVAL

Remove the left and right frame side covers and the seat.
Turn the fuel valve "OFF" and disconnect the fuel line.
Remove the fuel tank (page 4-21).

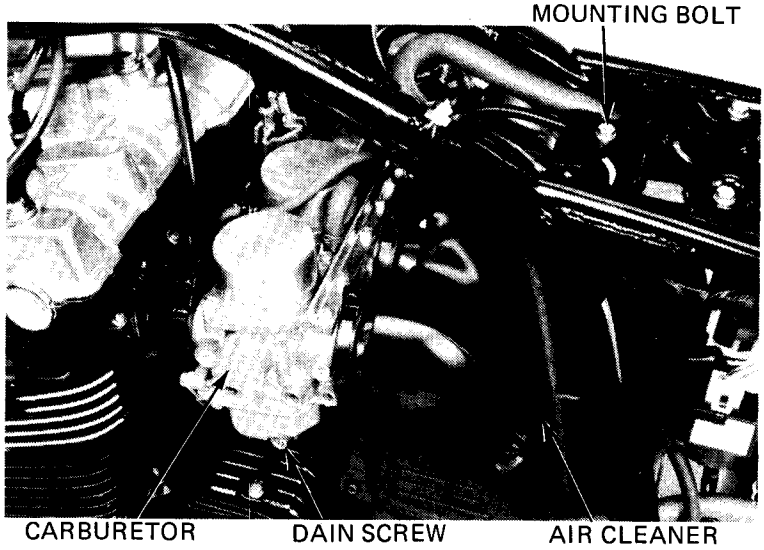
Drain residual fuel into a container by loosening each drain screw.

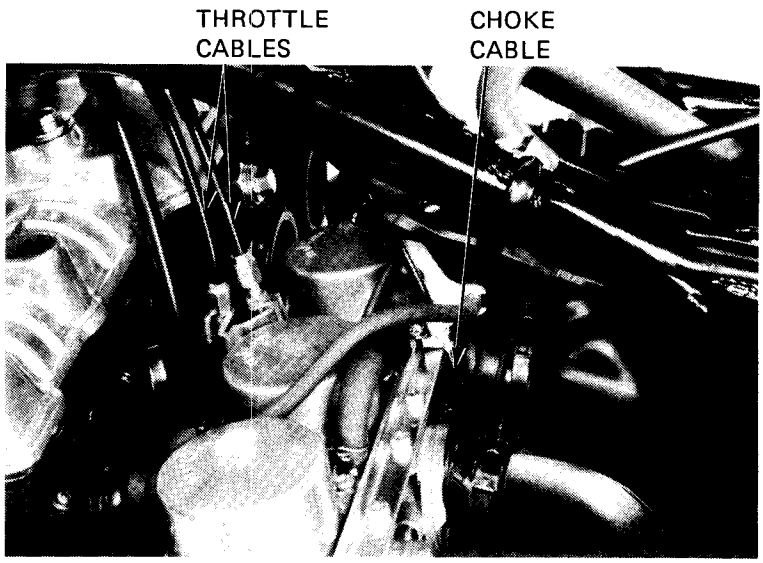
Loosen the air cleaner mouning bolt.

Loosen the air cleaner tube connecting bands.
Move the air cleaner to the rear.

Loosen the carburetor intake pipe bands.

Remove the carburetor assembly from the intake pipes.
Disconnect the throttle and choke cables.





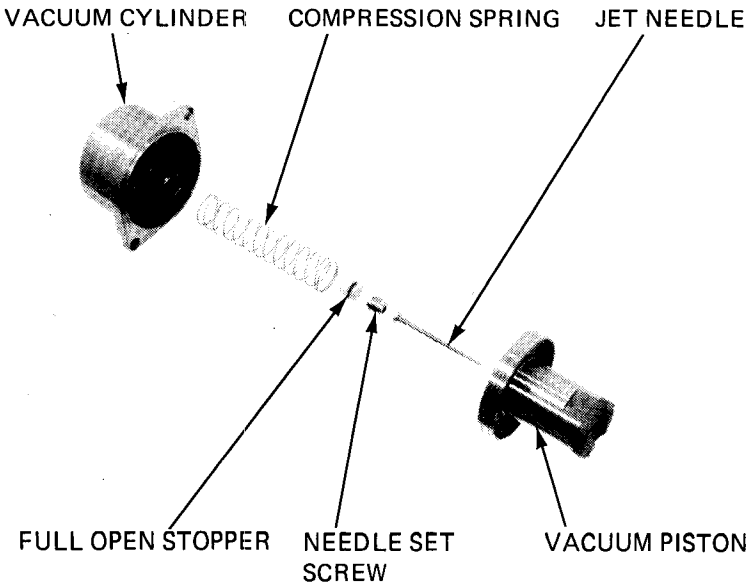
VACUUM CYLINDER DISASSEMBLY

Remove the vacuum cylinders from the carburetor bodies. Carefully lift the vacuum piston out with the needle and compression spring.

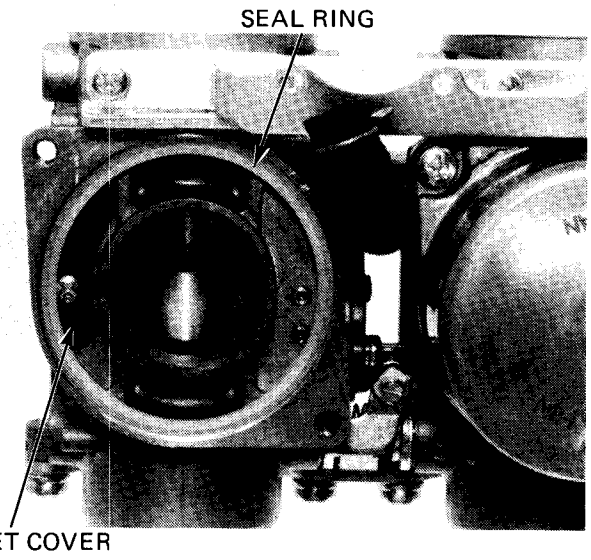
Inspect the vacuum piston and cylinder for wear, nicks, scratches or other damage. Make sure that the piston and jet needle move up and down freely in the cylinder.

Remove the full open stopper and the needle set screw.
Separate the jet needle from the piston.

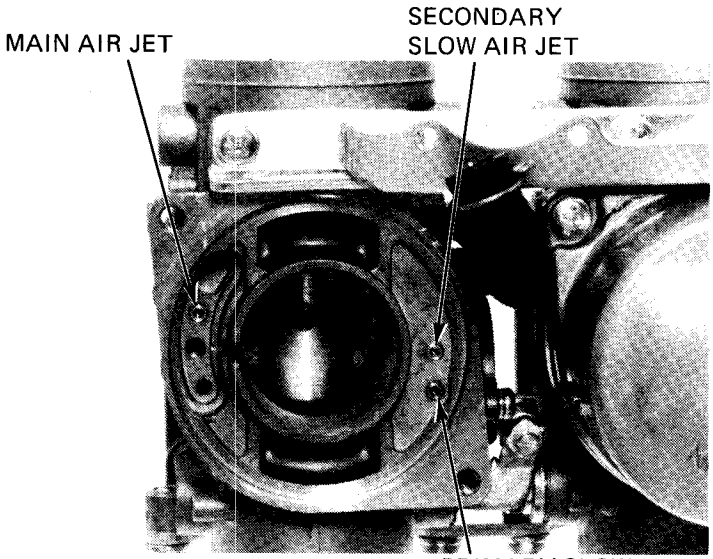
Inspect the needle and seat for deposits, bending, grooves, or other damage.



Carefully lift the seal ring off the carburetor body and remove the air jet cover.



Blow open the main air jet and slow air jet with compressed air.



PILOT SCREW

REMOVAL

NOTE

> The pilot screws are factory pre-set and should not be removed unless the carburetor is overhauled.

Remove the float chambers.

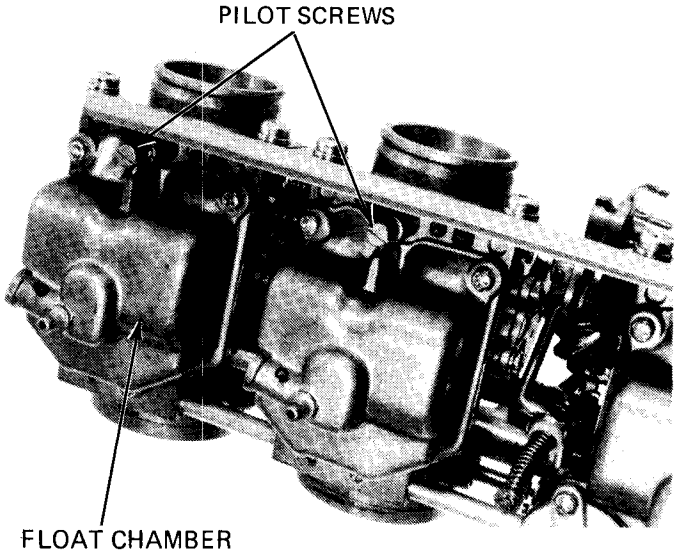
Turn the pilot screw in and carefully count the number of turns before it seats lightly.
Make a note of this to use as a reference when reinstalling the pilot screw.

CAUTION:

> *Damage to the pilot screw seat will occur if the pilot screw is tightened against the seat.*

Remove the pilot screw.

Inspect the pilot screw and replace if worn or damaged.



Date of Issue:August, 1982

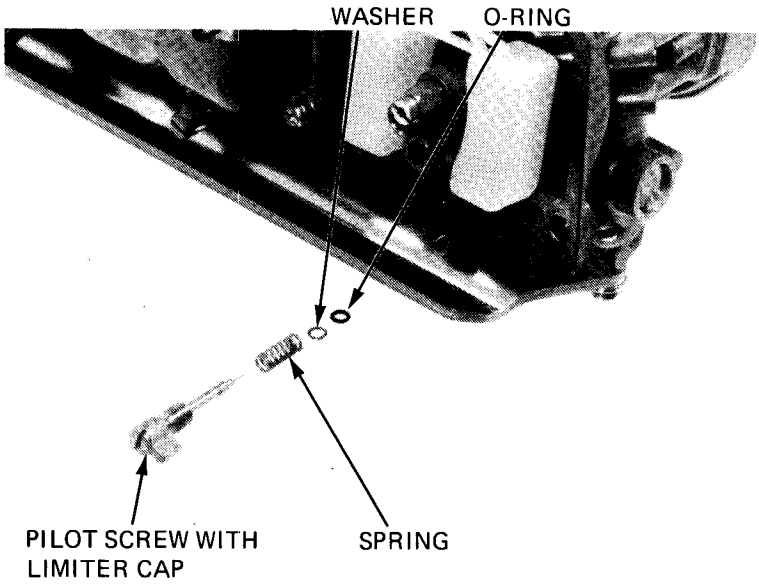
INSTALLATION

Install the pilot screw and return it to its original position as noted during removal.

Perform pilot screw adjustment if a new pilot screw is installed (page 4-18).

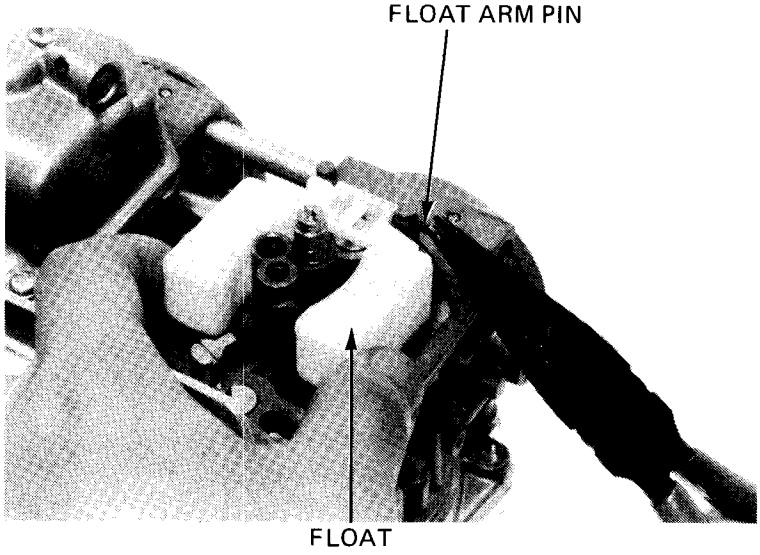
NOTE

> Do not install limiter caps on new pilot screws until after adjustment has been made.

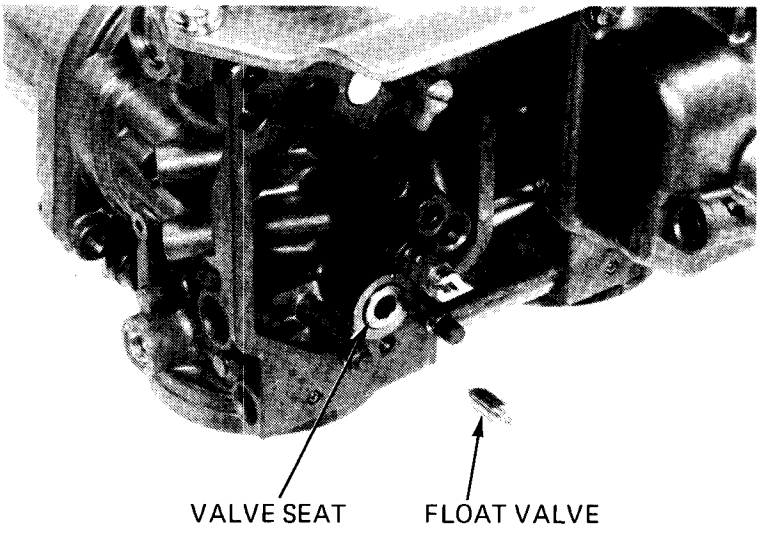


FLOAT AND JETS

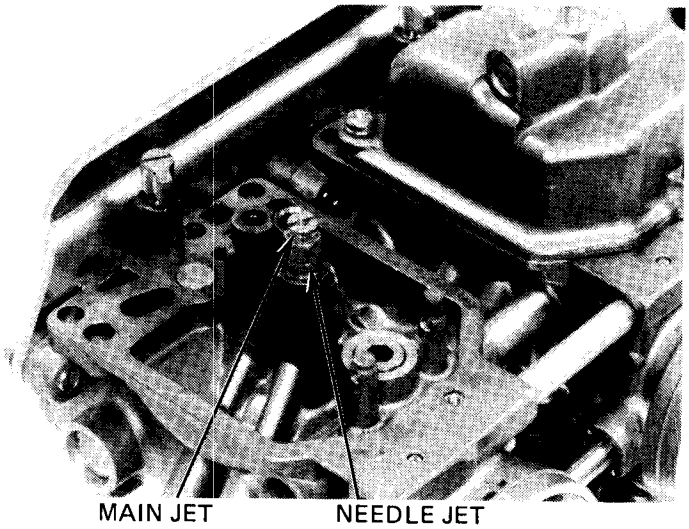
Press out and remove the float arm pin.
Remove the float and float valve.



Inspect the float valve and seat for grooves, nicks or deposits.
Inspect the float valve operation to be sure it is not sticking.



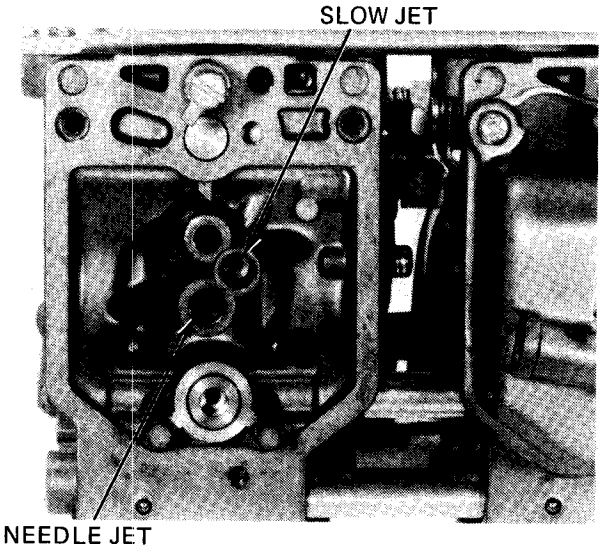
Remove the main jet and needle jet holder.



Remove the slow jet.
Tilt the carburetor to remove the needle jet.
Blow through all jets and body passages with compresed air.

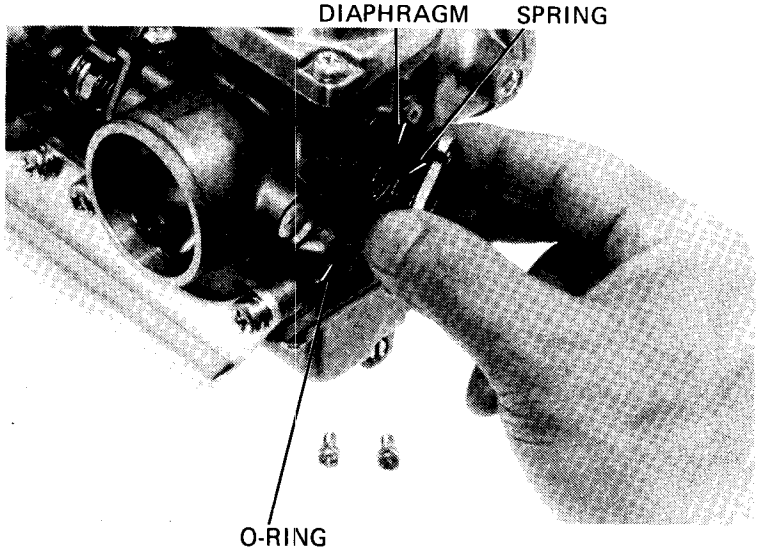
NOTE

> If the needle jet is difficult to remove, carefully press the needle jet from the cylinder side with a soft object to prevent damage to the needle jet.



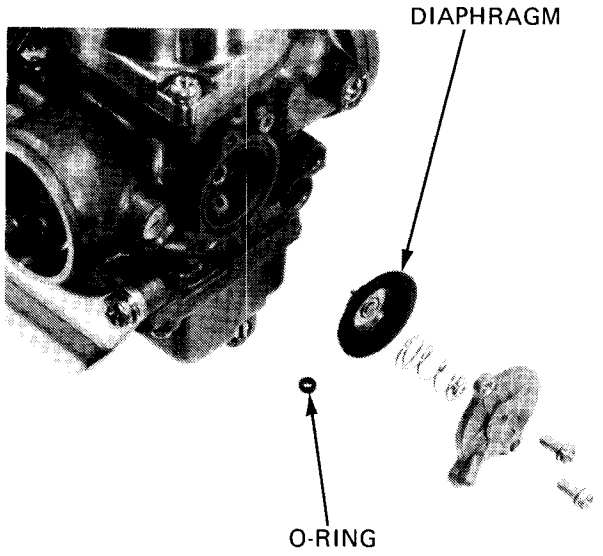
AIR CUTOFF VALVE DISASSEMBLY

Remove the air-cutoff valve cover and spring.
Remove the diaphragm and O-ring.



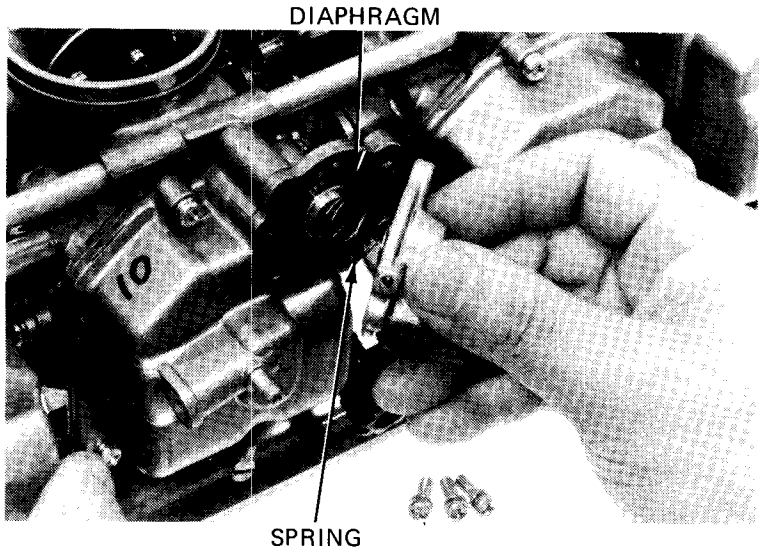
Date of Issue: August, 1982

Inspect the diaphragm and valve for cracks and brittleness. Replace if there are cracks or if it is brittle.



ACCELERATOR PUMP DISASSEMBLY

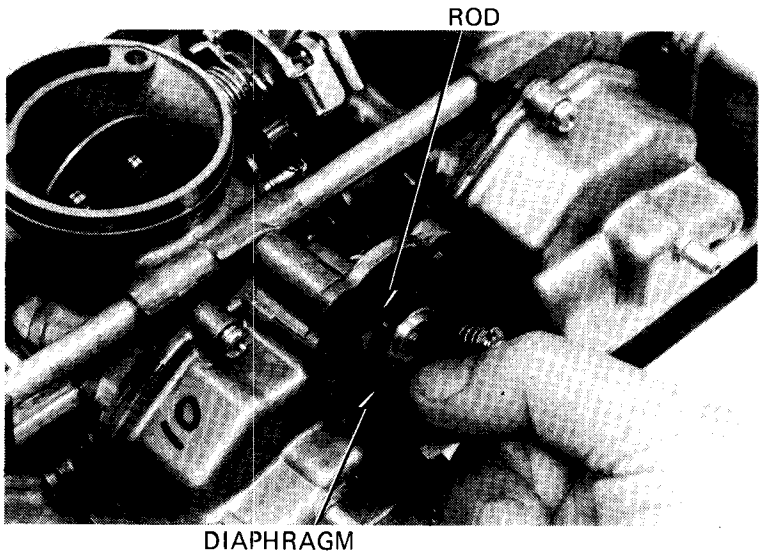
Remove the accelerator pump cover and spring.



Remove the diaphragm. Inspect the diaphragm for cracks and brittleness. Replace if there are cracks or brittleness.

NOTE

Be sure the pump rod is not bent.



COMPONENT ASSEMBLY

To assemble the accelerator pump, air-cutoff valve, float chamber and vacuum cylinder, reverse the disassembly procedure.

NOTE

When installing the air-cutoff valve O-ring, make sure the flat surface is toward the body.

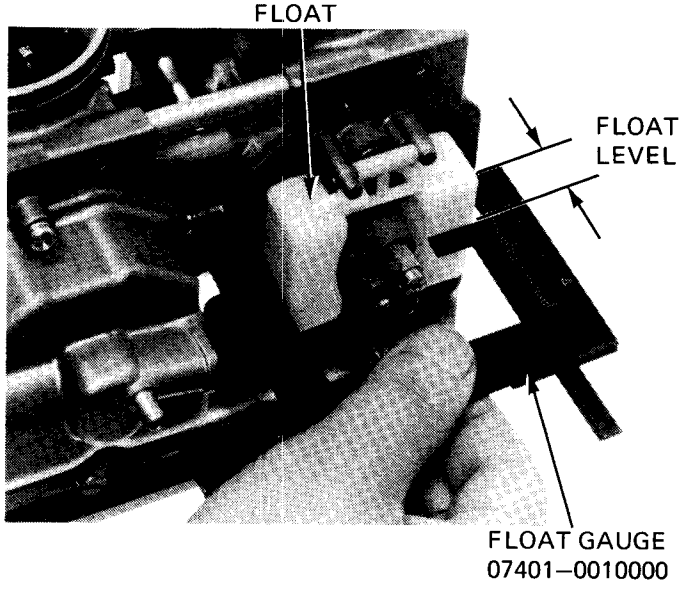
FLOAT LEVEL

Remove the float chamber.

Measure the float level with the float tip just contacting the float valve and the carburetor tilted 15° ~ 45° from vertical.

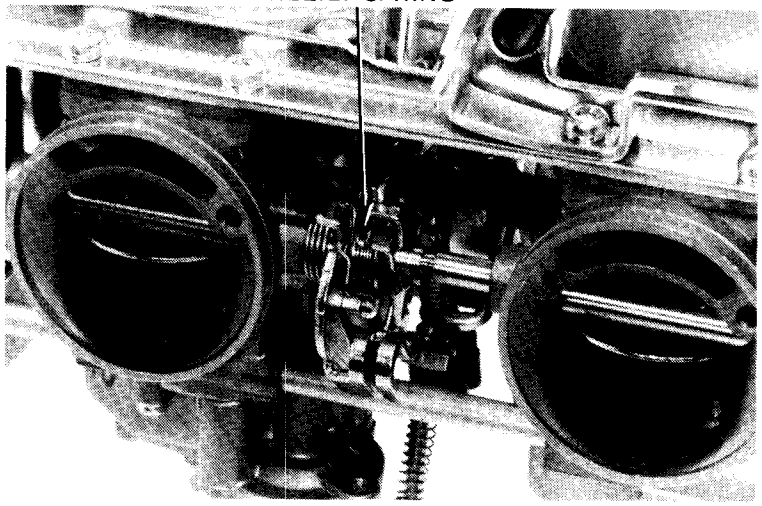
FLOAT LEVEL: 15.5 ± 1 mm (0.61 ± 0.04 in)

Replace the float, if the float level is not within the specification.



CARBURETOR SEPARATION

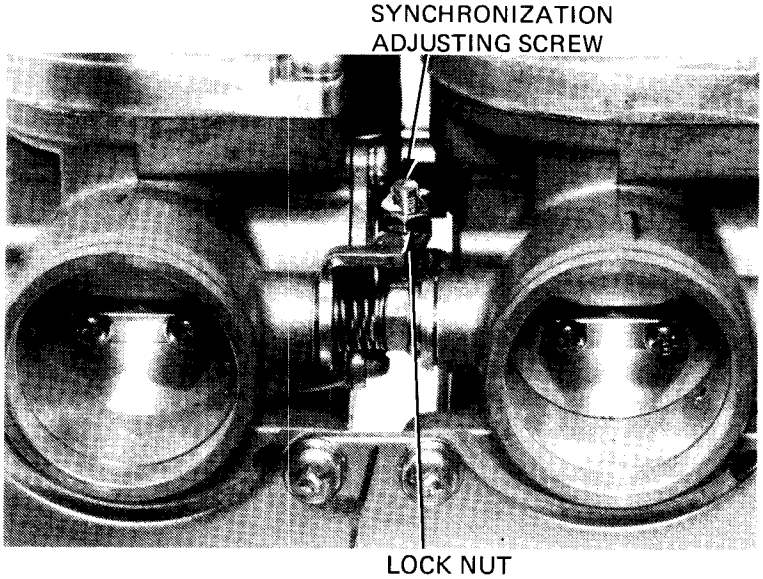
Unhook the choke relief spring from the choke shaft arm of the No. 2 and No. 3 carburetors.



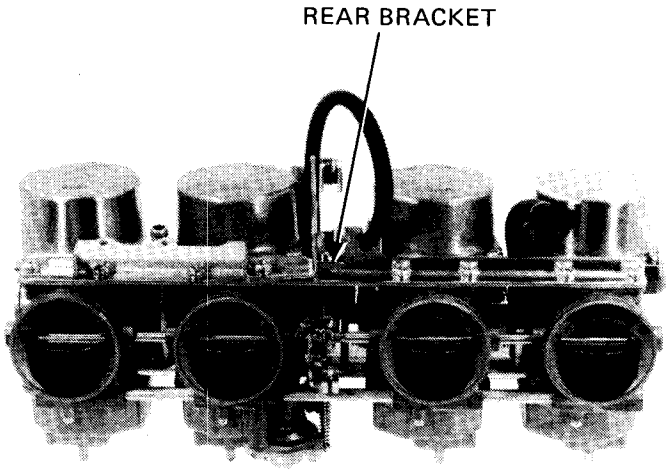
Loosen the synchronization adjusting screw lock nuts and adjusting screws until there is no tension.

NOTE

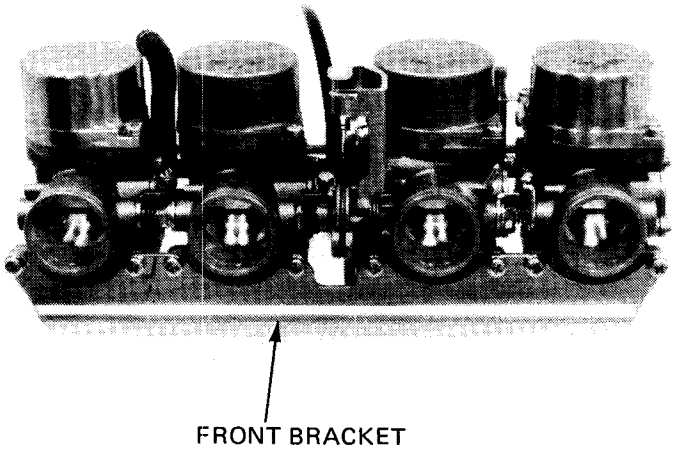
> Turn the synchronization screws in until they seat and note the number of turns to ensure original positioning.



Remove the rear bracket.



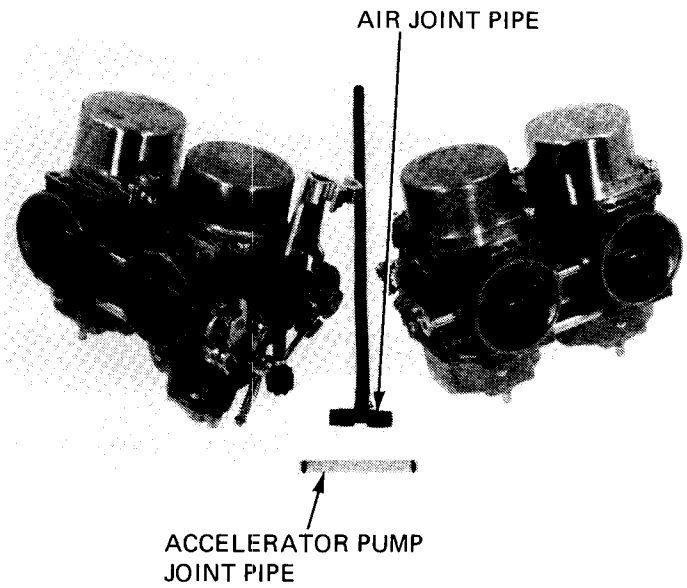
Remove the front bracket.



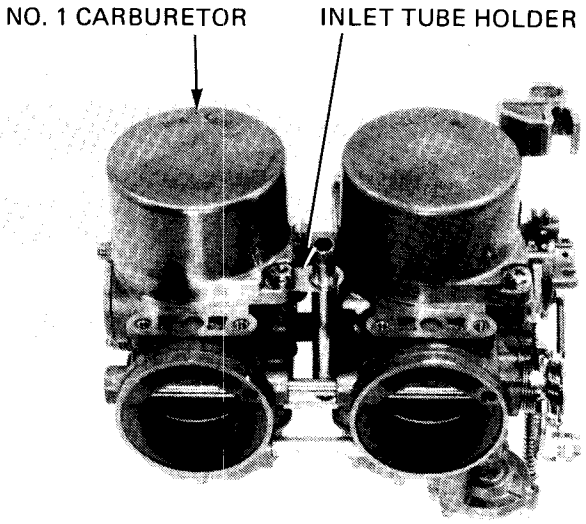
Carefully separate the carburetors into pairs; No. 1, 2 and No. 3, 4.

CAUTION:

Separate the carburetors horizontally to prevent damage to the joint pipes and choke linkage.



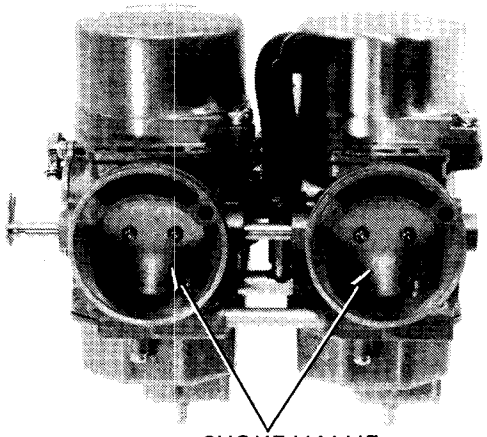
Remove the fuel inlet tube holder from the No. 1 carburetor.



Grind off the staked ends of the choke valve screws with a rotary grinder.
Remove the choke valves and discard the screws.

NOTE

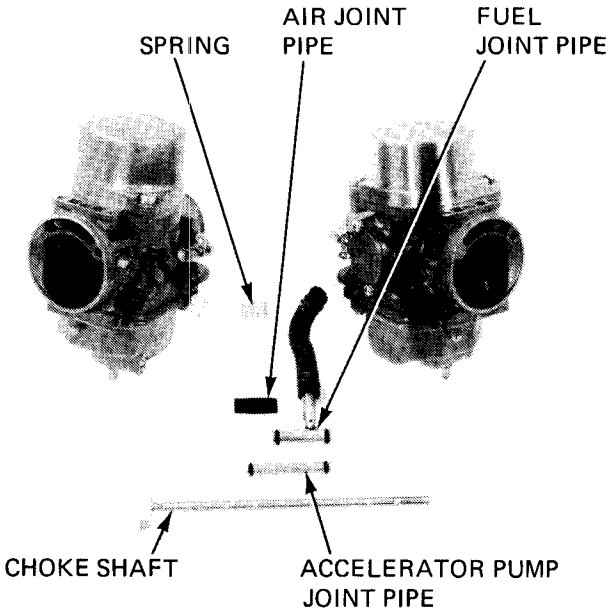
Do not allow grindings to enter the carburetors.



Carefully separate the individual carburetors.

CAUTION:

Separate the carburetors horizontally to prevent damage to the joint pipes and choke linkage.



Date of Issue: August, 1982

LINKAGE

DISASSEMBLY

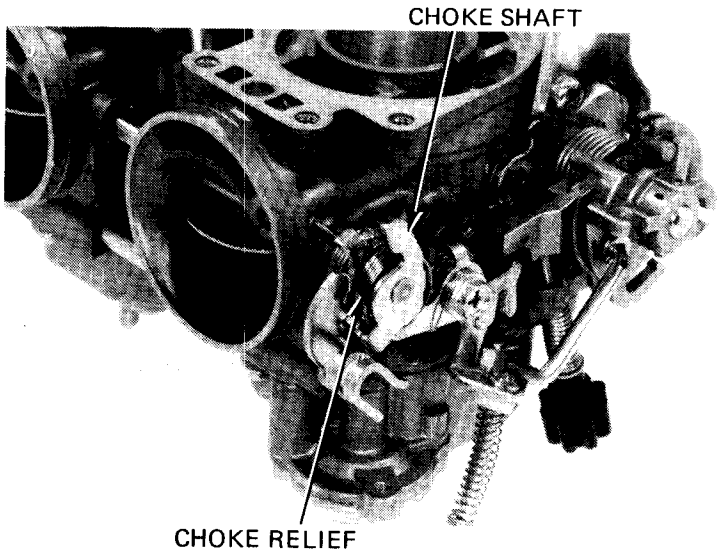
Note the spring positions.

Remove the choke valves.

Remove the choke relief spring from the choke link and pull the choke shaft out.

CATUION:

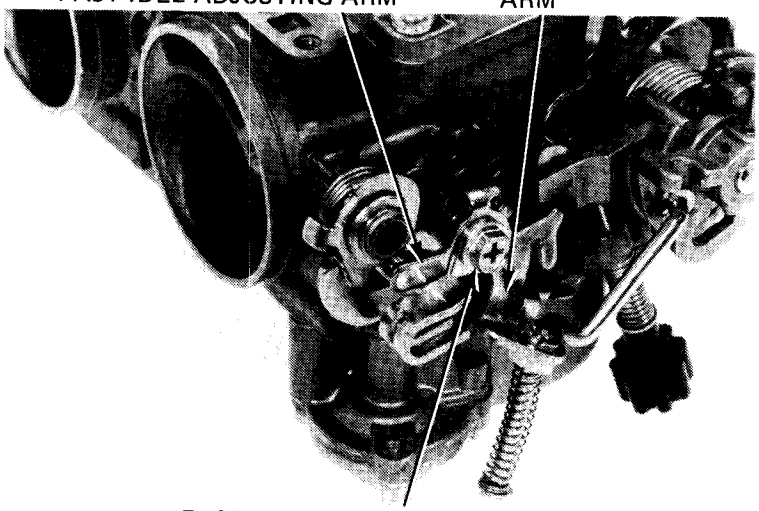
Do not reuse the choke shaft, or choke valves and screws.



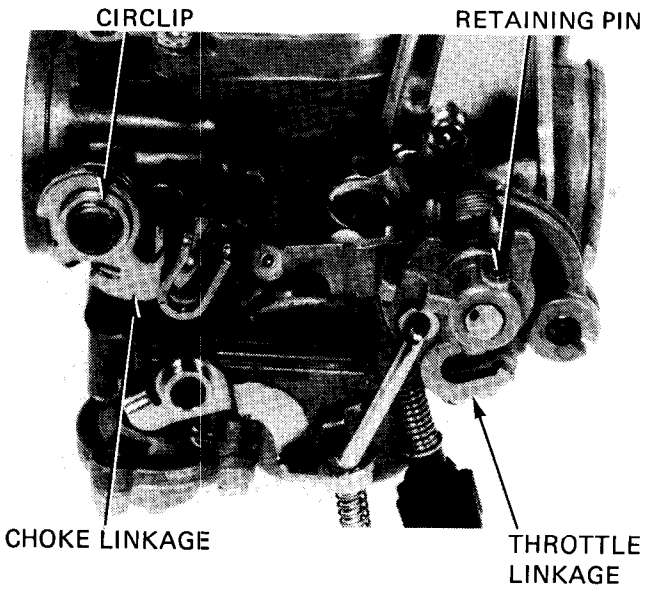
Remove the fast idle adjusting arm bolt.

Remove the fast idle adjusting arm and springs.

Remove the accelerator pump arm.

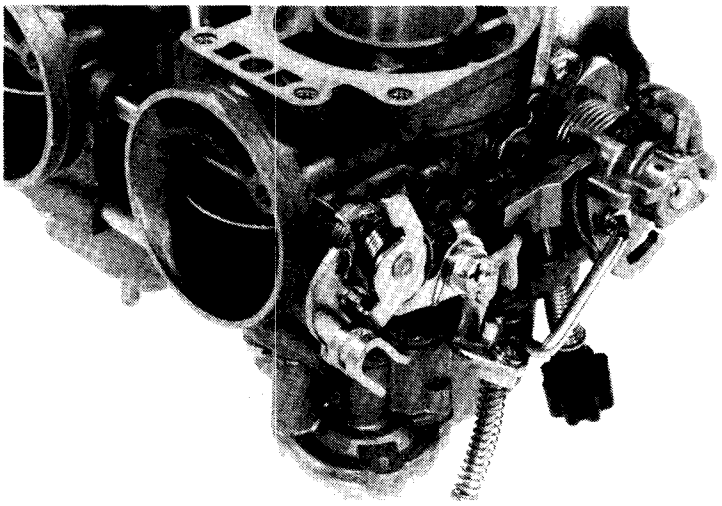


Drive out the retaining pin and remove the throttle linkage.
Remove the circlip and the choke linkage.



ASSEMBLY

To assemble the carburetor linkage, reverse the disassembly procedure.



CARBURETOR ASSEMBLY

NOTE

Assemble one pair of carburetors at a time.

Install new O-rings on the fuel joint pipes.

NOTE

Apply a thin coating of oil to the O-rings.

Install the fuel joint, accelerator pump joint and air vent pipes.

Loosen the synchronization adjusting screw so there is no tension when assembling the carburetors.

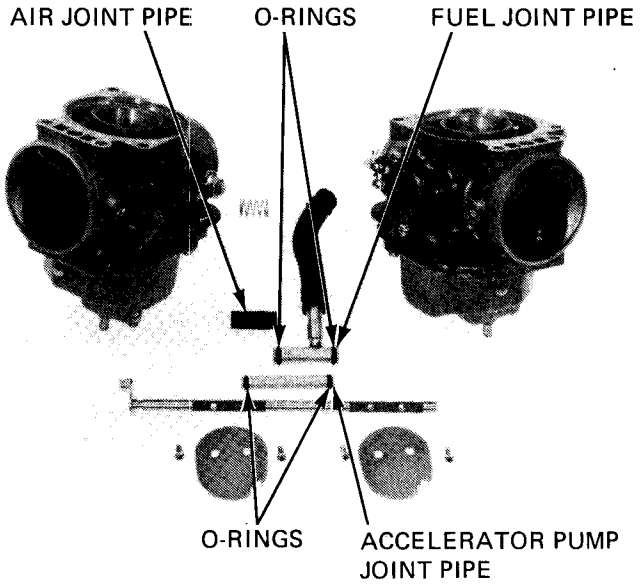
Insert the No. 3 carburetor throttle link between the plain washers. Assemble the No. 3 and No. 4 carburetors, pressing them together carefully.

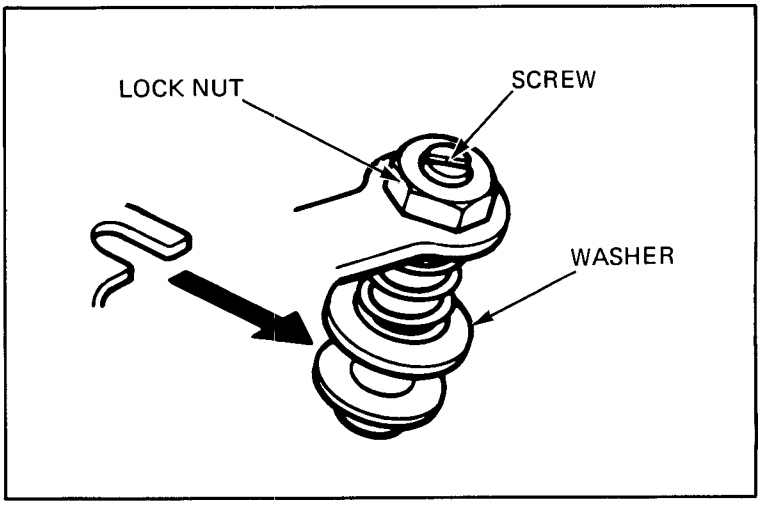
NOTE

The large washer should be positioned on the spring side.

Assemble the No. 1 and No. 2 carburetors using the same procedure above for the No. 3 and 4 carburetors.

Insert new choke shafts and assemble the carburetor linkage.





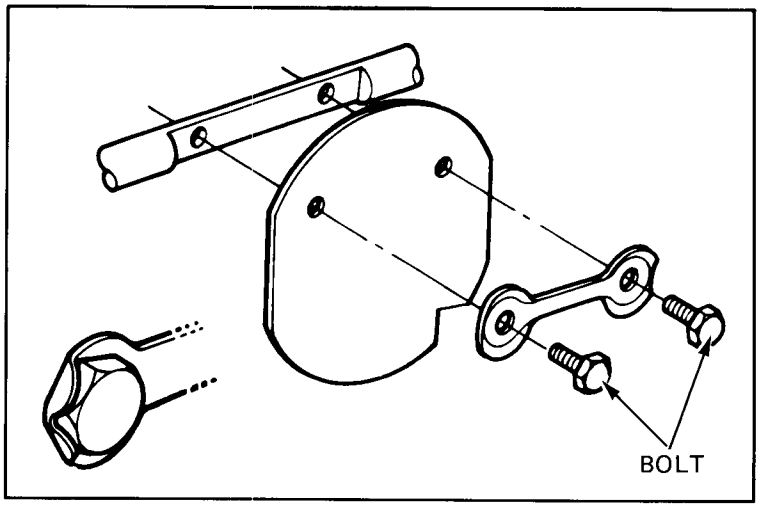
Date of Issue: August, 1982

Tighten the choke valve bolts.

TORQUE: 0.6–1.2 N·m
(6–12 kg-cm, 5–11 in-lb)

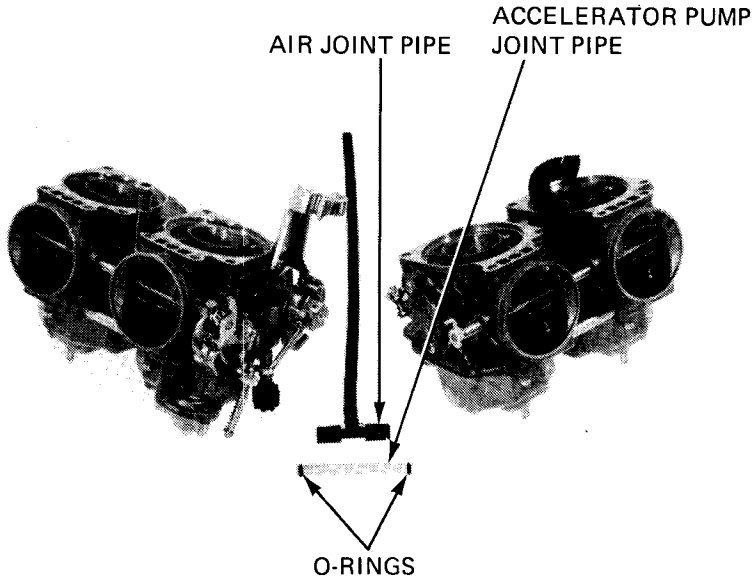
Fold the tabs of the lock washer up.

Check the throttle and choke operation.



Apply a thin coating of oil to new O-rings and put them on the fuel joint pipes.

Loosen the synchronization adjusting screw until there is no tension.
Assemble the two sets of carburetors together.

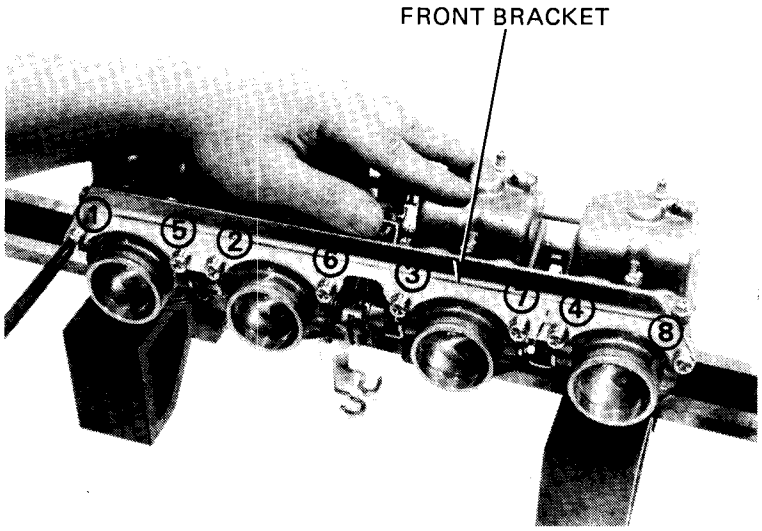


Install the front bracket loosely.
Place the carburetors on a flat surface with the float chamber up. Press the carburetors together carefully and evenly tighten the screws in the sequence shown in two or more steps to prevent carburetor misalignment.

TORQUE: 4–6 N·m
(0.4–0.6 kg-m, 35–52 in-lb)

NOTE

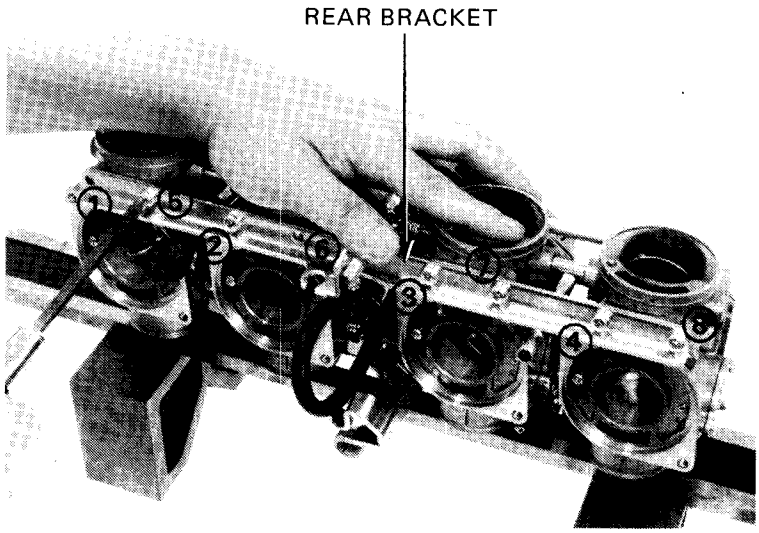
> Check for smooth choke shaft operation. If it is not smooth, recheck the carburetor alignment.



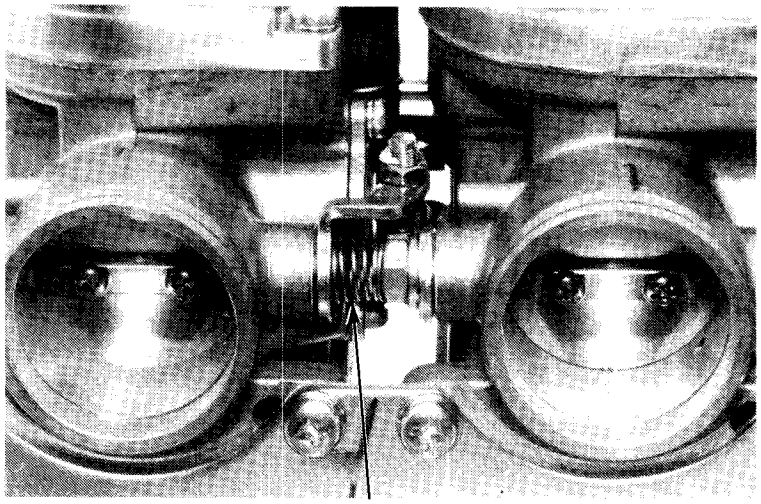
Install the rear bracket using the same procedure as for the front bracket.

TORQUE: 2.8–4.2 N·m
(0.28–0.42 kg-m, 2–3 ft-lb)

Install the throttle cable holder.

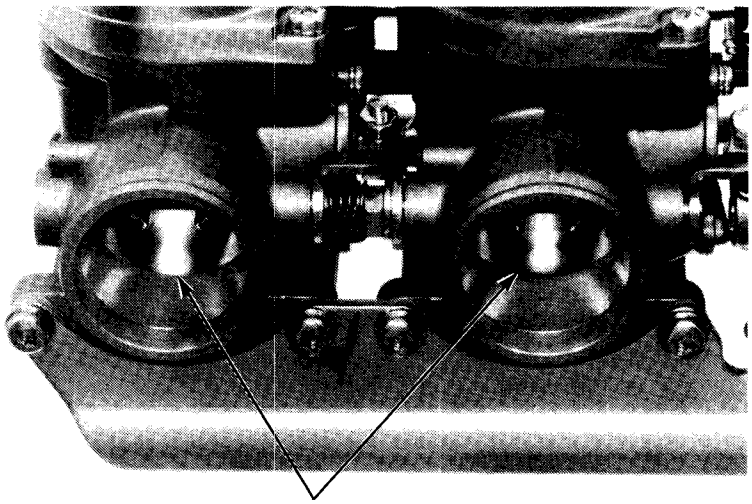


Install the thrust springs between the No. 1 and 2, and No. 3 and 4 carburetor throttle links.



Turn each synchronization adjusting screw to its original position as noted during disassembly.

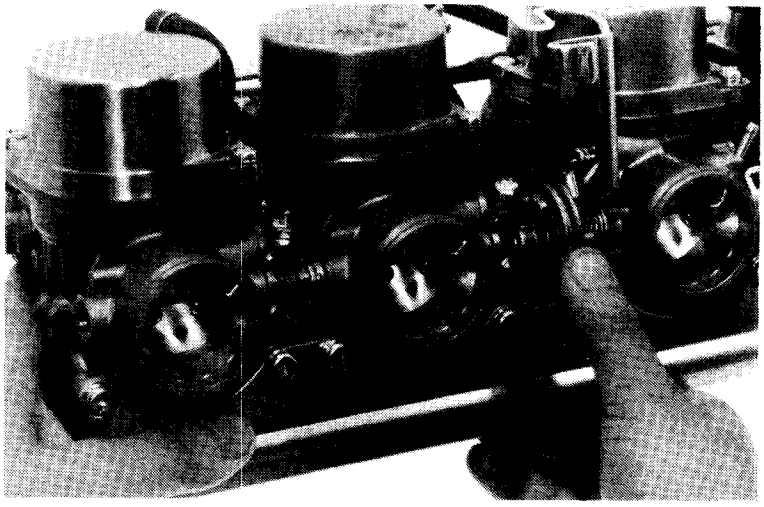
Make sure the distance between each by-pass hole and throttle valve equal.



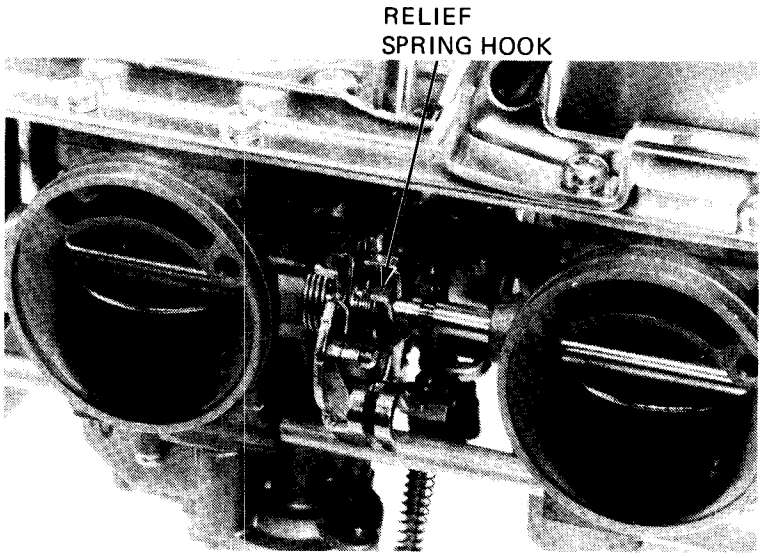
Date of Issue:August, 1982

Inspect throttle operation as described below:

- Open the throttle slightly by pressing the throttle linkage. Then relase the throttle.
- Make sure that it returns smoothly.
- Make sure that there is no drag when opening and closing the throttle.

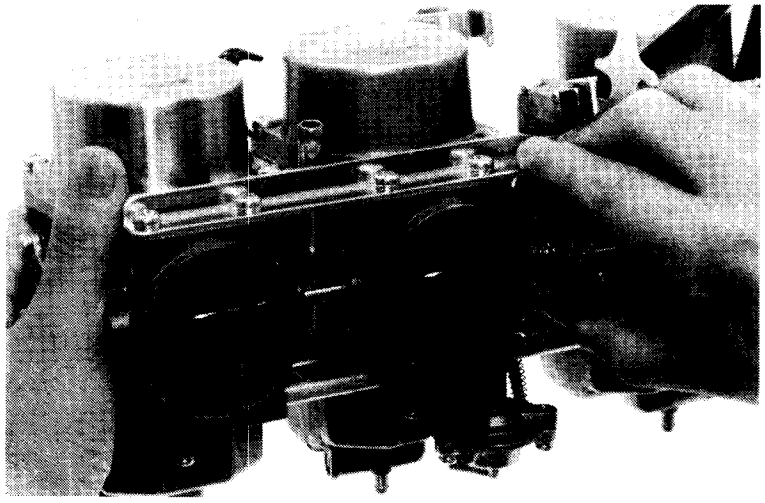


Hook the choke relief spring to the chole shaft arm of the No. 3, 4 carburetors.
Install the choke valves, but do not tighten the bolts.

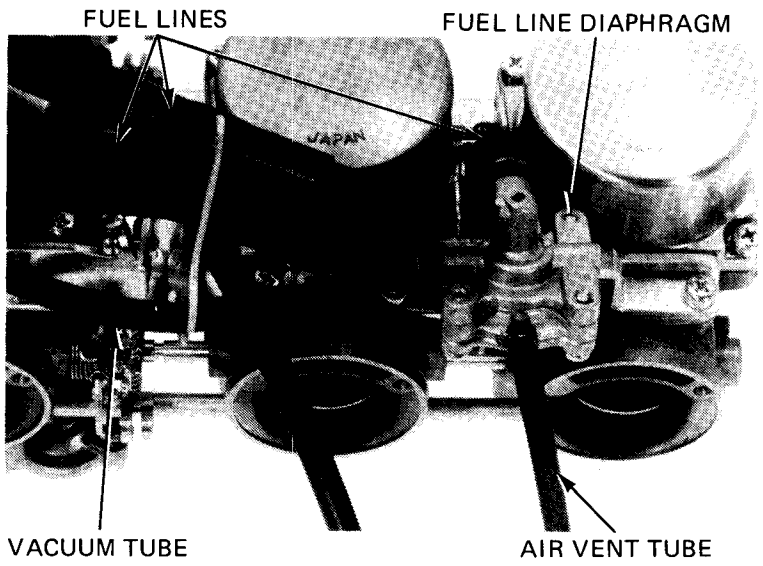


Make sure that choke valve operation is smooth by moving the choke linkage.

Close the choke valve by turning the choke linkage. Release the choke linkage and make sure that it returns smoothly.



FUEL LINE DIAPHRAGM



REMOVAL

Turn the fuel valve off. Remove the seat and fuel tank.
Disconnect the fuel line, vacuum tube and air vent tube.
Unscrew the screws attaching the fuel line diaphragm to the carburetors. Remove the fuel line diaphragm.

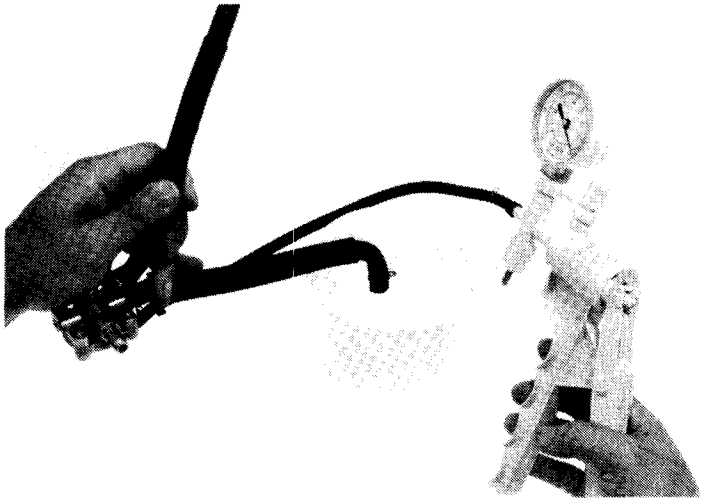
INSPECTION

Remove the fuel line diaphragm (see above).

Disconnect the inlet fuel line from the diaphragm, and connect a longer tube to the fuel tank.

Place a suitable drainage container under the outlet fuel tube.

Turn the fuel valve on. Fuel should not flow from the outlet tube.



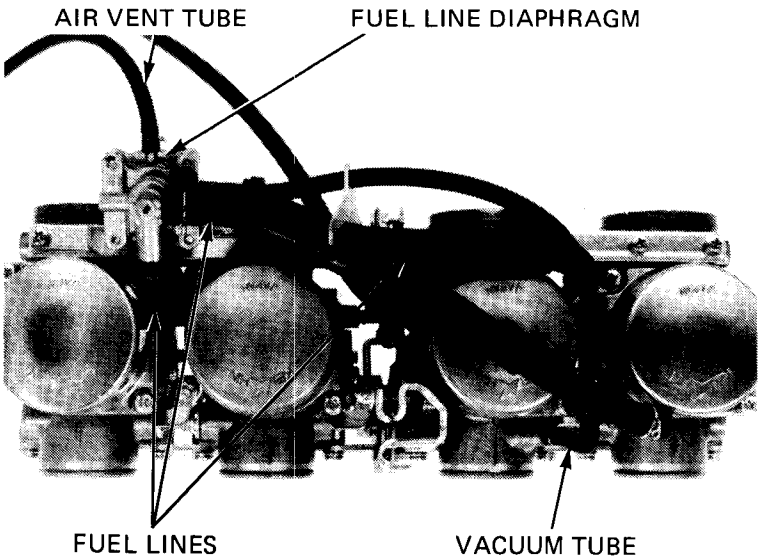
Connect a vacuum pump with gauge to the diaphragm vacuum outlet. Fuel should flow out from the outlet tubes when 10–20 mm Hg (0.4–0.8 in Hg) of vacuum is applied. If the flow is restricted, replace the fuel line diaphragm.

INSTALLATION

Installation of the fuel line diaphragm is the reverse order of removal.

NOTE

> Check that air or gasoline is not leaking past the fuel tube joints or connections.



CARBURETOR TUBE ROUTING

Route the carburetor tubes as shown.

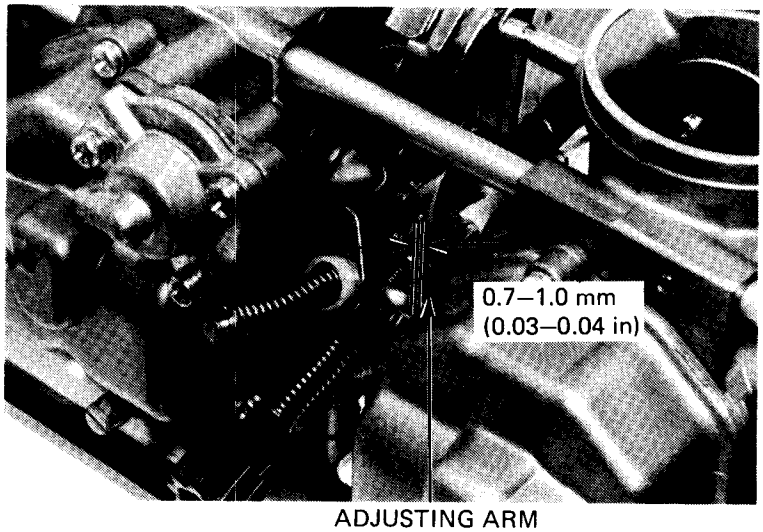
FAST IDLE ADJUSTMENT

FAST IDEL: 1,000–2,500 rpm

Close the throttle valve and open the choke valve. Measure the clearance between the throttle link and fast idle adjusting arm pin.

CLEARANCE: 0.7–1.0 mm (0.03–0.04 in)

Adjust by opening and closing the fork end of the fast idle adjusting arm.



ADJUSTING ARM

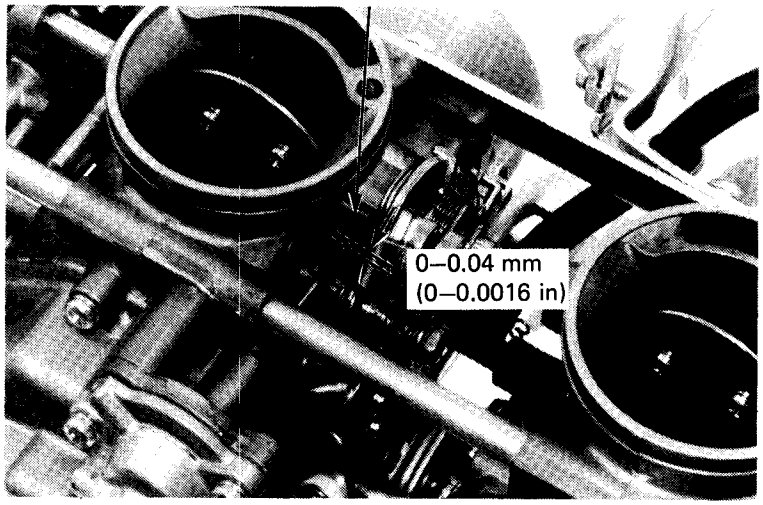
ACCELERATOR PUMP ADJUSTMENT

Measure the clearance between the accelerator pump rod and adjusting arm with the throttle valve closed.

CLEARANCE: 0–0.04 mm (0–0.0016 in)

Adjust by bending the adjusting arm.

ADJUSTING ARM



CARBURETOR INSTALLATION

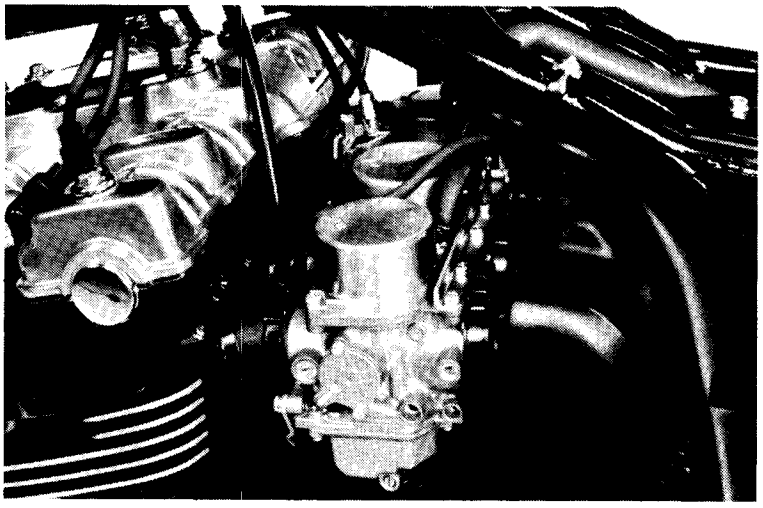
The installation sequence is essentially the reverse of removal.

NOTE

> Route the throttle and choke cables properly (page 1-8 to 1-9).

Perform the following inspections and adjustments.

- Throttle operation (page 3-5)
- Carburetor choke (page 3-6)
- Carburetor idle speed (page 3-13)



PILOT SCREW ADJUSTMENT

IDLE DROP PROCEDURE (U.S.A. ONLY)

NOTE

- The pilot screws are factory pre-set and no adjustment is necessary unless the pilot screw is replaced (See removal).
- Use a tachometer with graduations of 50 rpm or smaller that will accurately indicate a 50 rpm change.

1. Turn each pilot screw clockwise until it seats lightly and back it out to the specification given. This is an initial setting prior to the final pilot screw adjustment.

   INITIAL OPENING: 1-3/4 turns out

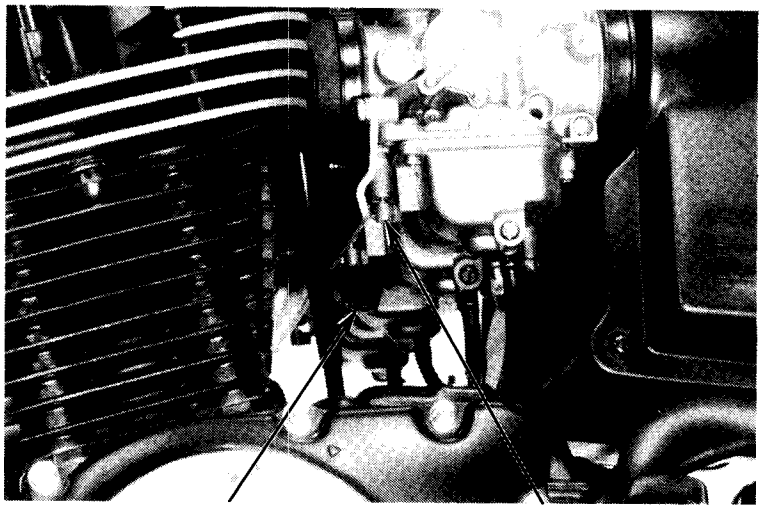
   CAUTION:

   Damage to the pilot screw seat will occur if the pilot screw is tightened against the seat.

2. Warm up the engine to operating temperature. Stop and go driving for 10 minutes is sufficient.
3. Attach a tachometer.
4. Adjust the idle speed with the throttle stop screw.

   IDLE SPEED: 1,000 rpm

5. Turn each pilot screw 1/2 turn out from the initial setting.
6. If the engine speed increases by 50 rpm or more, turn each pilot screw out by a continual 1/2 turn until it drops by 50 rpm or less.
7. Adjust the idle speed with the throttle stop screw.
8. Turn the No. 1 carburetor pilot screw in until the engine speed drops 50 rpm.
9. Turn the No. 1 carburetor pilot screw 1 turn out from the position obtained in step 8.
10. Adjust the idle speed with the throttle stop screw.
11. Perform steps 8, 9 and 10 for the No. 2, 3 and 4 carburetor pilot screws.



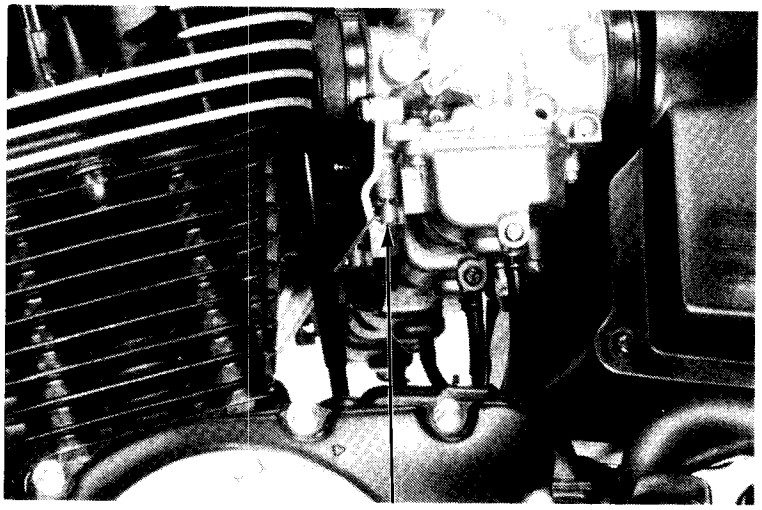
THROTTLE STOP SCREW PILOT SCREW

Date of Issue: August, 1982

After adjustment, cement the limiter cap over the pilot screw, using Loctite ® 601 or equivalent. The limiter cap should be placed against its stop, preventing further adjustment that would enrich the fuel mixture (limiter cap position permits clockwise rotation and prevents counterclockwise rotation).

NOTE

- Do not turn the pilot screws when installing the limiter caps.
- A pilot screw limiter cap must be installed. It prevents misadustment that could cause poor performance and increase exhaust emissions.



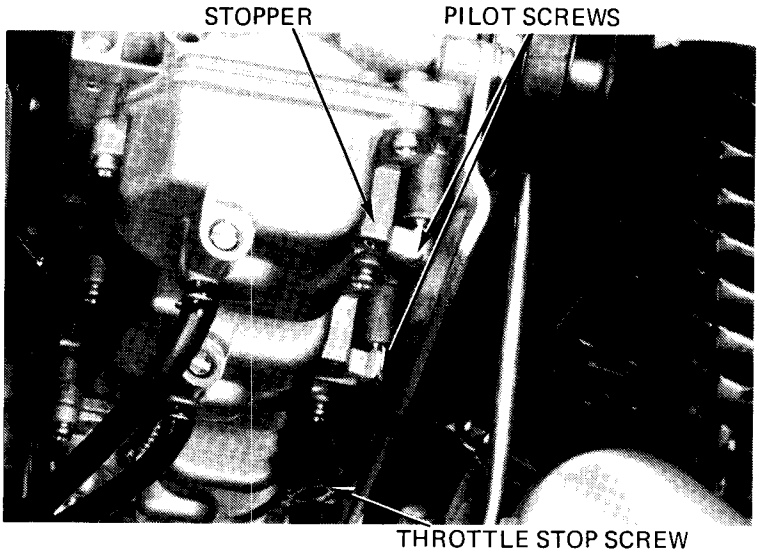
LIMITER CAP

HIGH ALTITUDE ADJUSTMENT

When the vehicle is to be operated continuously above 6,500 feet (2,000 m), the carburetors must be readjusted as described below to improve driveability and decrease exhaust emissions.

Warm up the engine to operating temperature.

Stop-and-go driving for 10 minutes is sufficient to warm the engine.

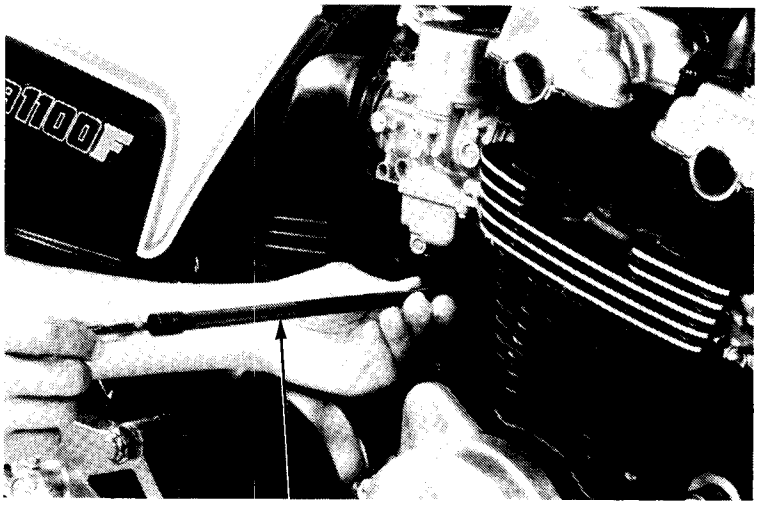


THROTTLE STOP SCREW

Turn each pilot screw clockwise 1/2 turn. Adjust the idle speed to 1,000 ± 100 rpm with the throttle stop screw.

NOTE

These adjustments must be made at high altitude to ensure proper high altitude operation.



PILOT SCREW WRENCH
07908–4220201

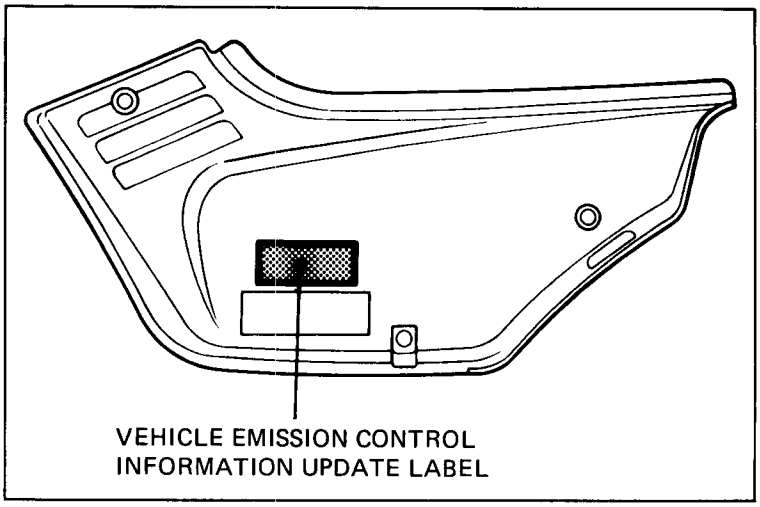
Attach the Vehicle Emission Control Information Update label as shown. Refer to Service Letter #132. (U.S.A. only)

VEHICLE EMISSION CONTROL INFORMATION UPDATE
HONDA MOTOR CO., LTD
THIS VEHICLE HAS BEEN ADJUSTED TO IMPROVE EMISSION CONTROL PERFORMANCE WHEN OPERATED AT HIGH ALTITUDE
ALTITUDE PERFORMANCE ADJUSTMENT INSTRUCTIONS ARE AVAILABLE AT YOUR AUTHORIZED HONDA DEALER

WARNING

Operation at an altitude lower than 5,000 feet (1,500 m) with the carburetors adjusted for high altitudes may cause the engine to idle roughly and stall.

When the vehicle is to be operated continuously below 5,000 feet (1,500 m), turn each pilot screw counterclockwise to its original position against its stop. Adjust the idle speed to 1,000 ± 100 rpm. Be sure to do these adjustments at low altitude.



VEHICLE EMISSION CONTROL INFORMATION UPDATE LABEL

Date of Issue: August, 1982

FUEL TANK

WARNING

Do not allow flames or sparks near gasoline. Wipe up spilled gasoline at once.

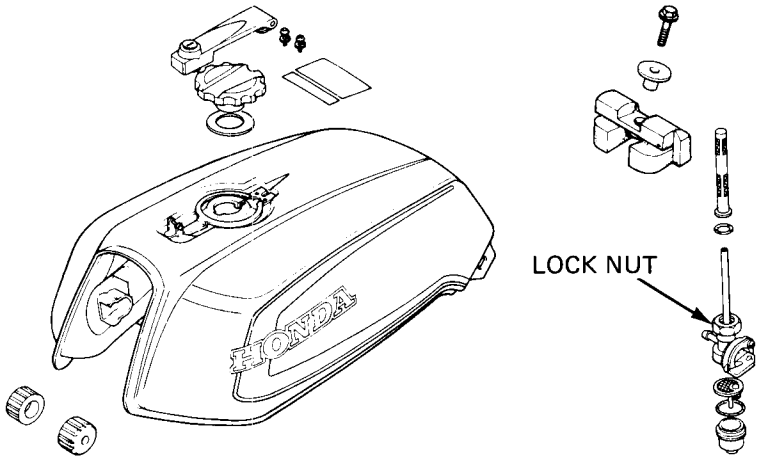
Check the vent hole of the filler cap for blockage.

Check that fuel is flowing out of the fuel valve freely. If fuel flow is restricted, clean the fuel strainer.

NOTE

Do not overtighten the fuel valve lock nut.

Make sure there are no fuel leaks.



AIR CLEANER CASE

CASE/CHAMBER

Check the air cleaner case for deterioration.

CRANKCASE VENTILATION SYSTEM

Check that the breather tube is not restricted.