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## SERVICE INFORMATION

### GENERAL INSTRUCTIONS

- 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.

### TOOLS

#### Common

Float gauge 07401-0010000

#### Special

Carburetor Throttle Wrench 07908-4220100

Carburetor Pilot Screw Wrench 07908-4220200

### TORQUE VALUES

Front bracket 40-60 kg-cm (35-52 in-lb)  
Rear bracket 28-42 kg-cm (24-36 in-lb)  
Choke valve 6-12 kg-cm ( 5-10 in-lb)

### SPECIFICATIONS

[ ] Canada model

Venturi dia.	32 mm (1.3 in)
Identification No.	VB43A [VB43B]
Float level	15.5 mm (0.61 in)
Main jet	Pri. : 68 2nd. : 105
Idle speed	1,000 ± 100 rpm
Throttle grip free play	2-6 mm (1/8-1/4 in)
Fast idle	1,000-2,500 rpm (after break-in)
Pilot screw initial opening	See page 4-17



## 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. Choke stuck closed
5. Air-cutoff valve sticking closed
6. Dirty air cleaner

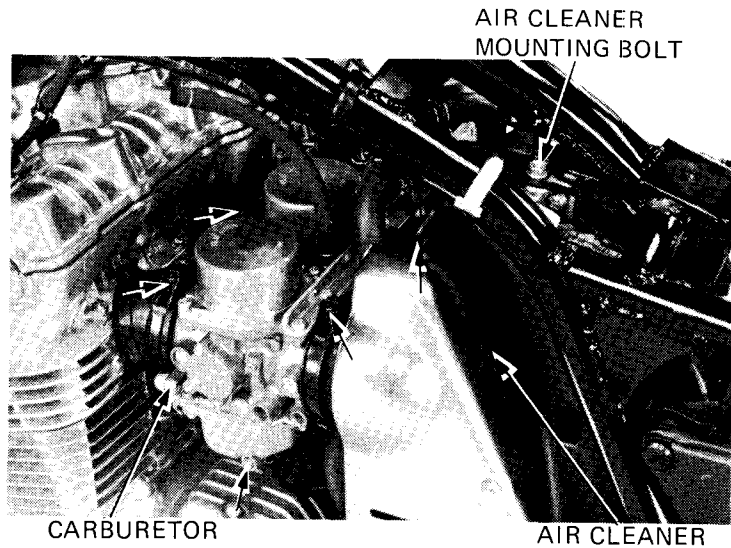


## CARBURETOR REMOVAL

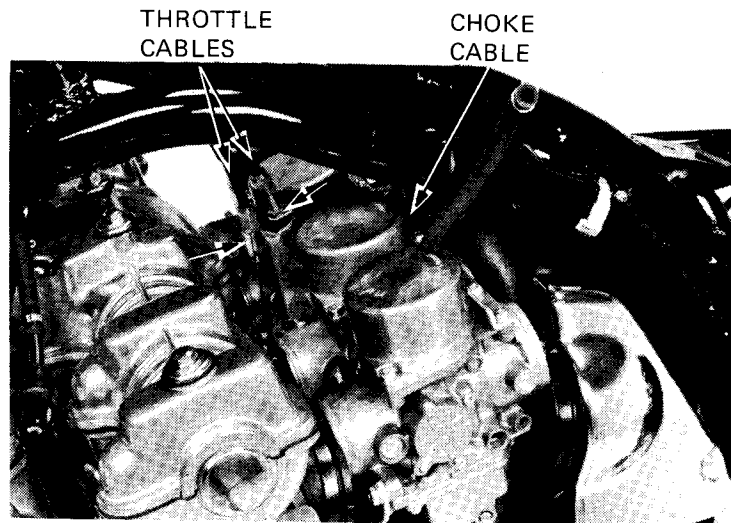
Remove the left and right frame side covers.  
Remove the seat.  
Turn the fuel valve "OFF" and disconnect the fuel line.  
Remove the fuel tank (page 4-19).

Loosen the air cleaner mounting bolt.

Loosen the air cleaner connecting bands.  
Move the air cleaner to the rear.  
Loosen the carburetor insulator bands.  
Drain residual fuel into a container by loosening each drain screw.



Remove the carburetor assembly.  
Disconnect the throttle and choke cables.



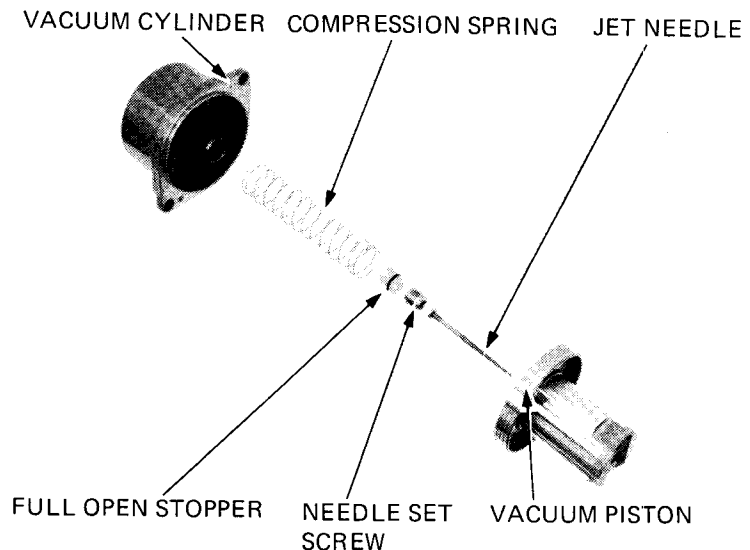
## VACUUM CYLINDER DISASSEMBLY

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.

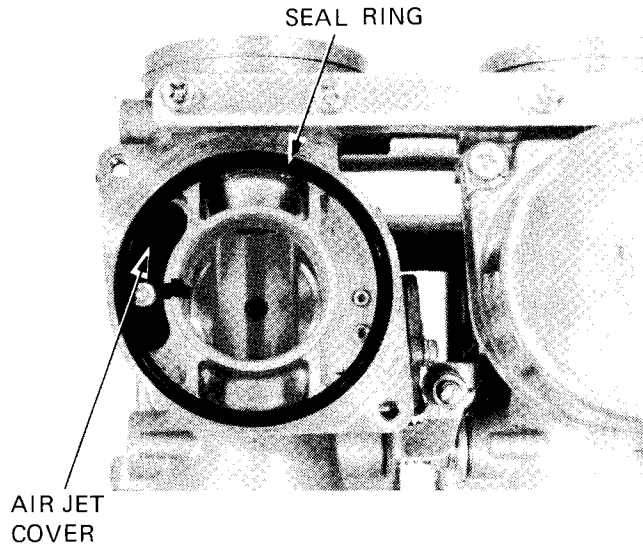
Remove the full open stopper.  
Remove the needle set screw.  
Separate the jet needle from the piston.

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

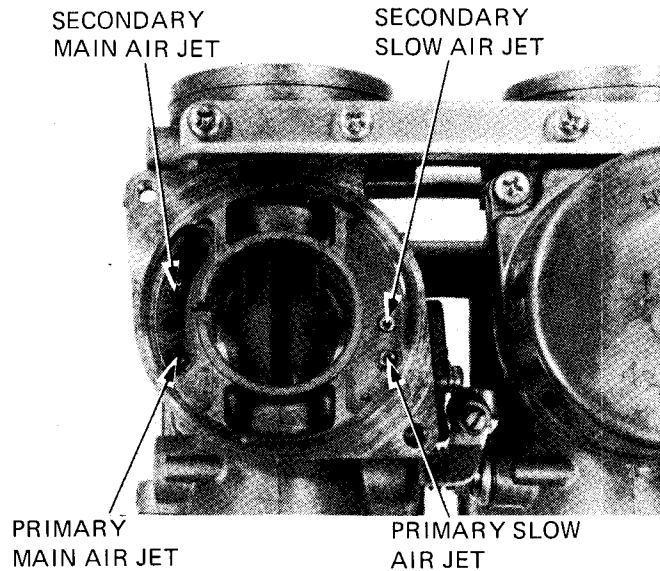




Carefully lift the seal ring off the carburetor body.  
Remove the air jet cover.



Blow open the primary main air jet, secondary 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. (USA only).

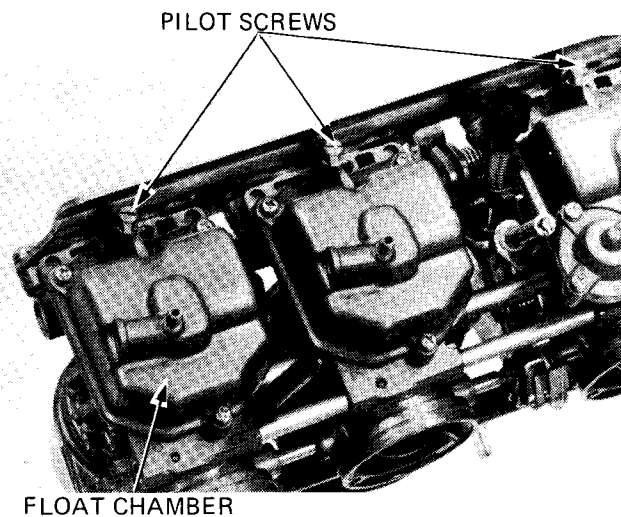
Turn the pilot screw in and carefully count the number of turns before it seats lightly. Make a note of this to use as a reference when reinstalling the pilot screw.

#### 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.



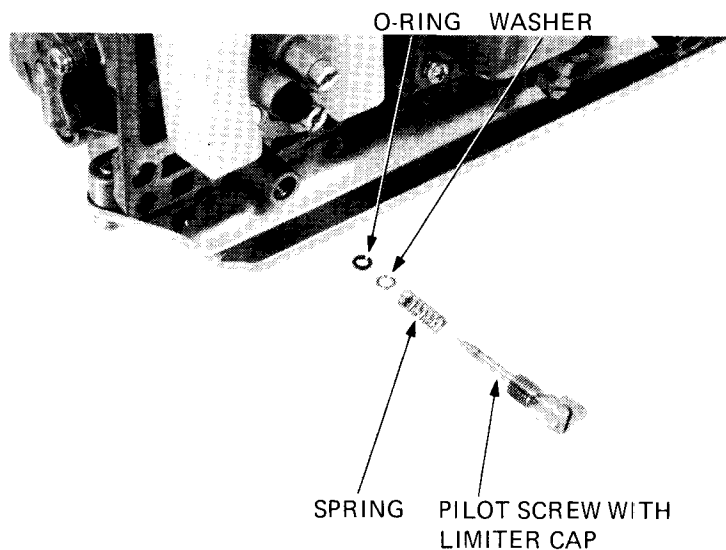


### INSTALLATION

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 4-17).

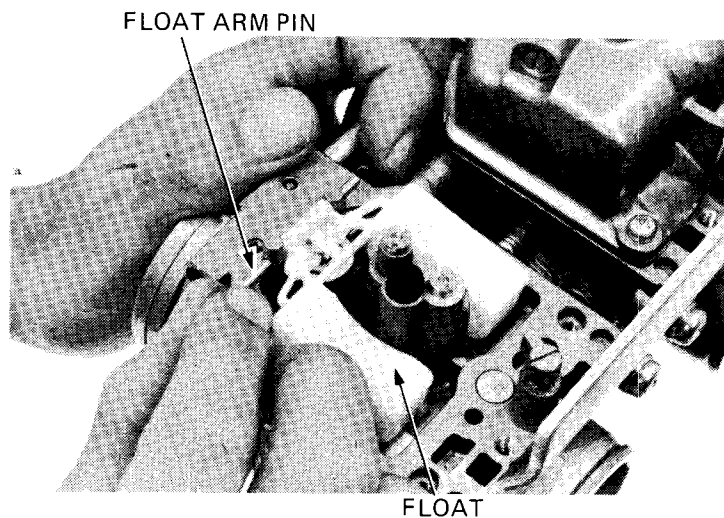
#### NOTE

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

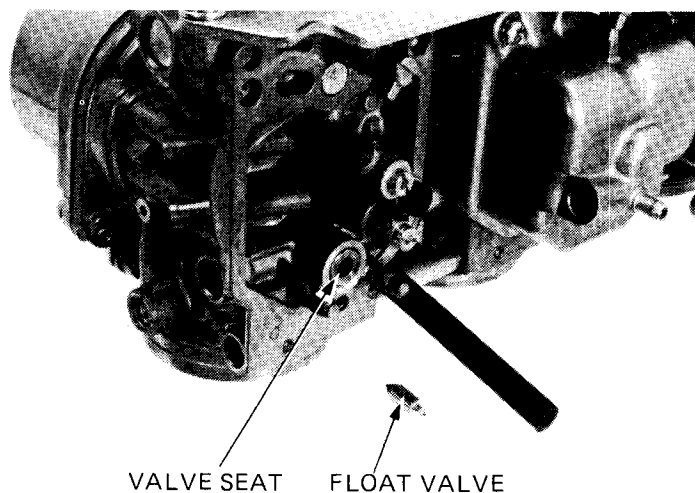


### FLOAT AND JETS

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

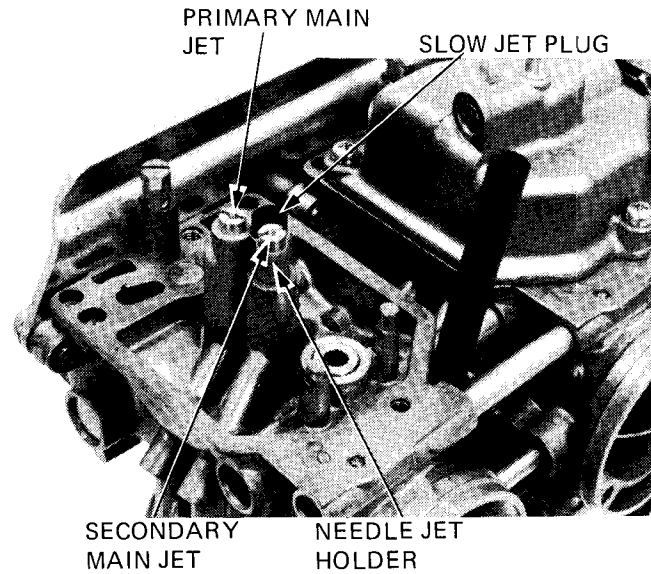


Inspect the float valve and seat for grooves, nicks or deposits. Inspect the float valve operation.





Remove the secondary main jet.  
 Remove the primary main jet.  
 Remove the slow jet plug.


**NOTE**

The slow air jet cannot be removed.  
 It is a press fit.

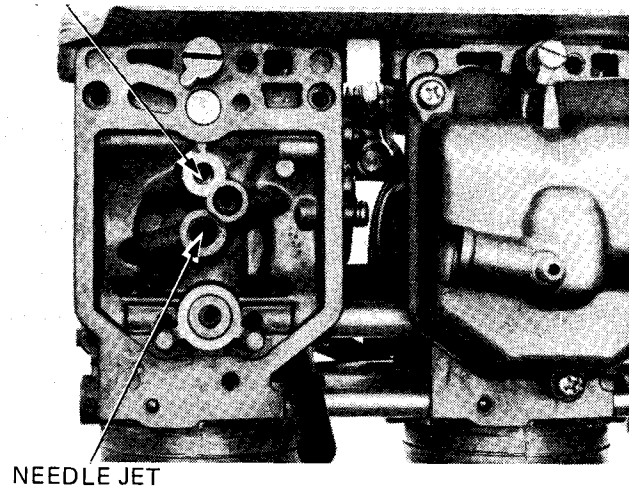
Remove the primary nozzle.

Remove the needle jet holder.  
 Tilt the carburetor to remove the needle jet.  
 Blow all jets and body passages with compressed air.

**NOTE**

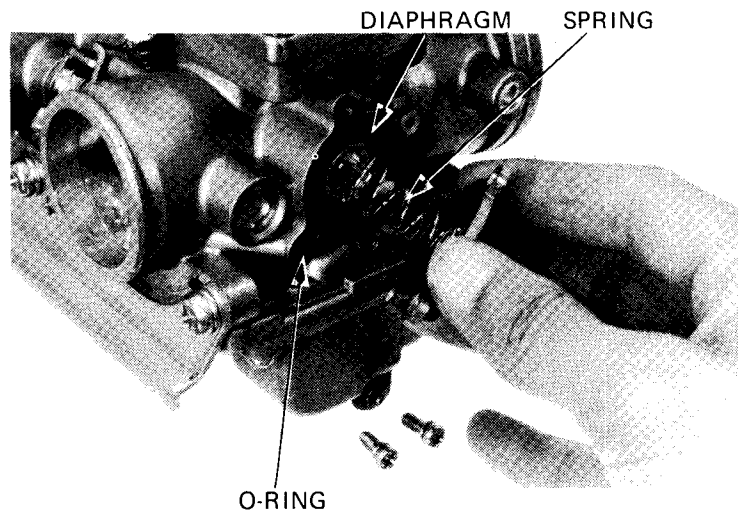
If the needle jet is difficult to remove,  
 carefully press the needle jet from the  
 cylinder side with a non-metallic object  
 to prevent damage to the needle jet.

PRIMARY  
 NOZZLE



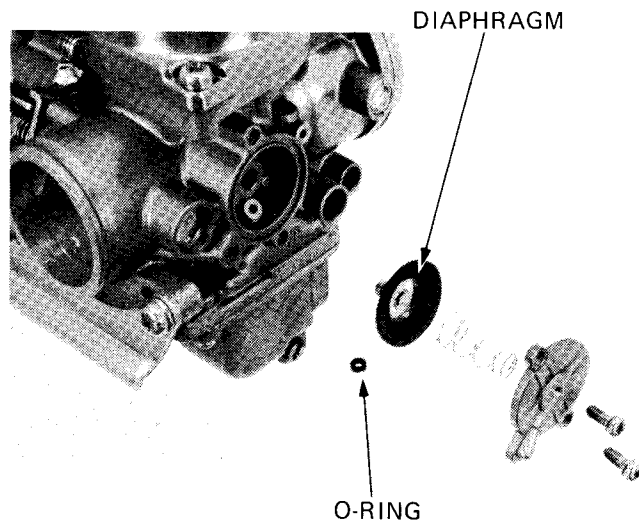
## AIR-CUTOFF VALVE DISASSEMBLY

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



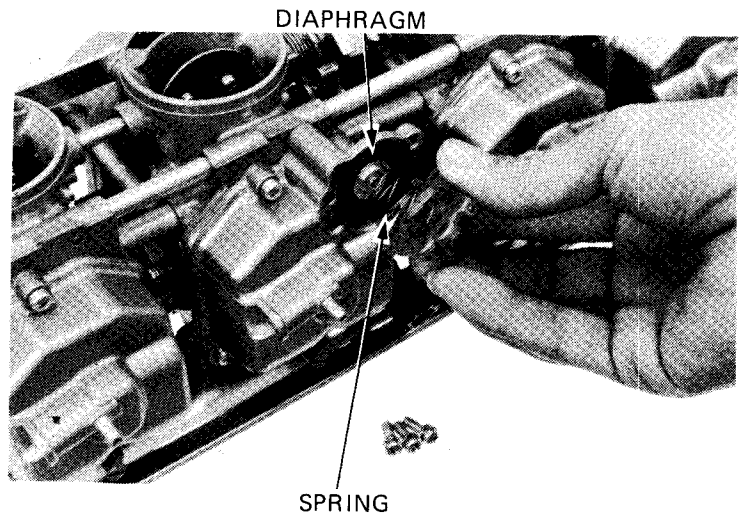


Inspect the diaphragm and valve for cracks and brittleness.



### ACCELERATOR PUMP DISASSEMBLY

Remove the accelerator pump cover and spring.



Remove the diaphragm.  
Inspect the diaphragm for cracks and brittleness.

**NOTE**

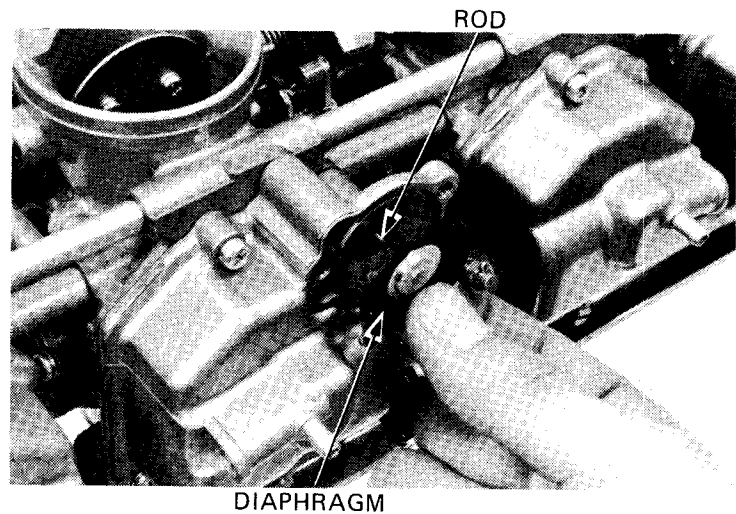
Be sure the rod is not bent.

### 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.





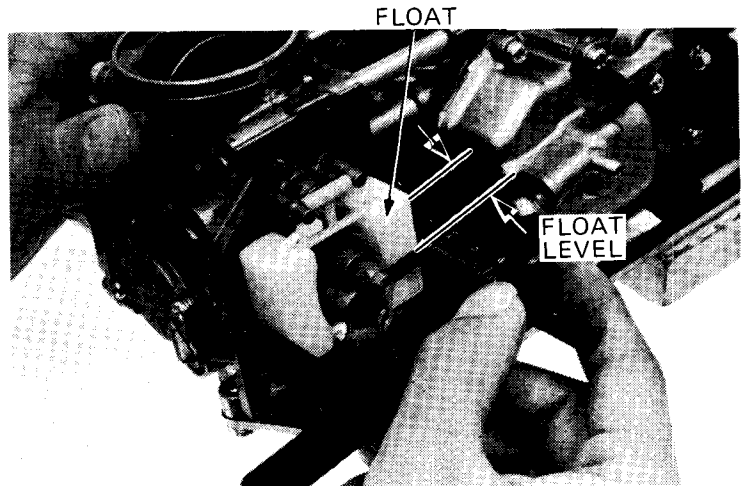


## FLOAT LEVEL

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

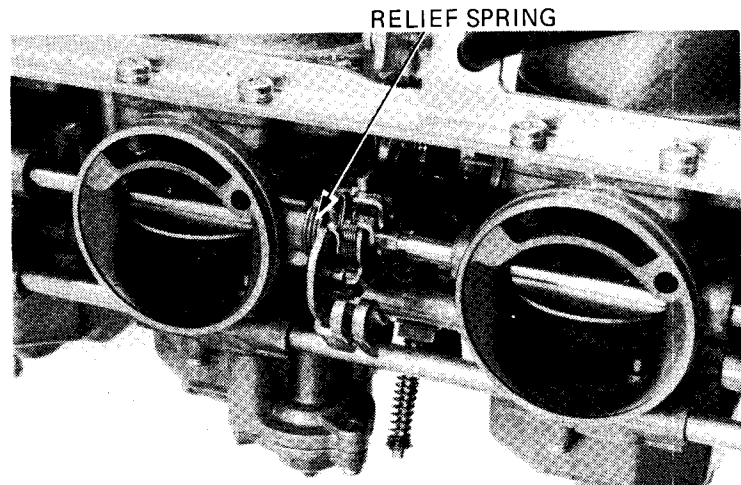
**FLOAT LEVEL:**  
**15.5 ± 1 mm (0.61 ± 0.04 in)**

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



## CARBURETOR SEPARATION

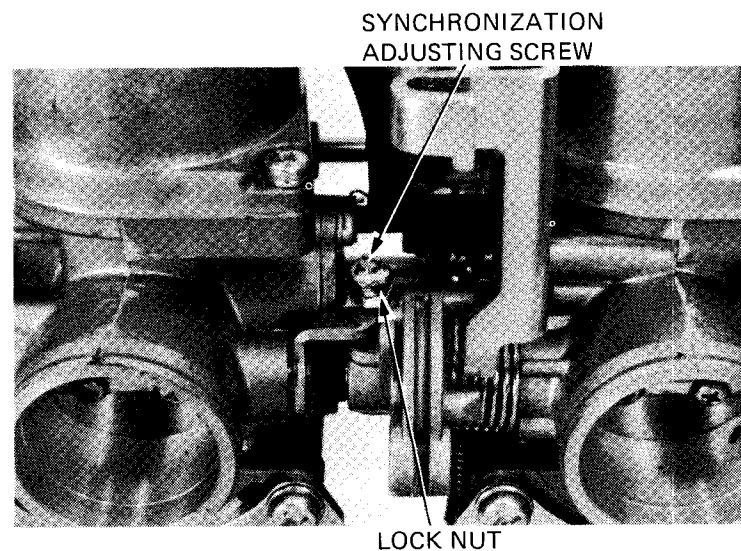
Unhook the choke relief spring from the choke shaft arm of the No. 2 and No. 3 carburetors.



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

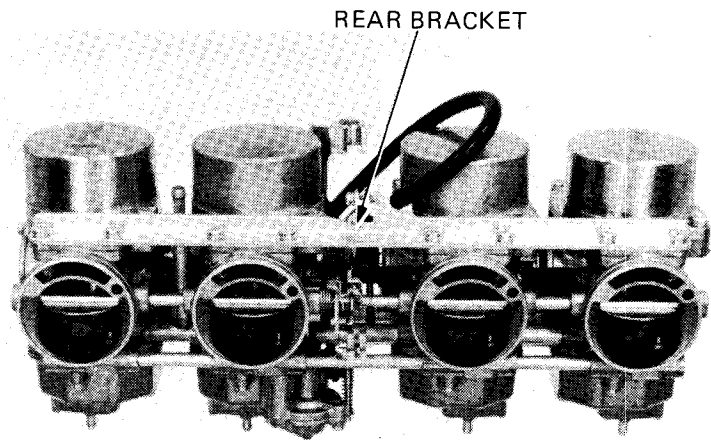
### NOTE

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

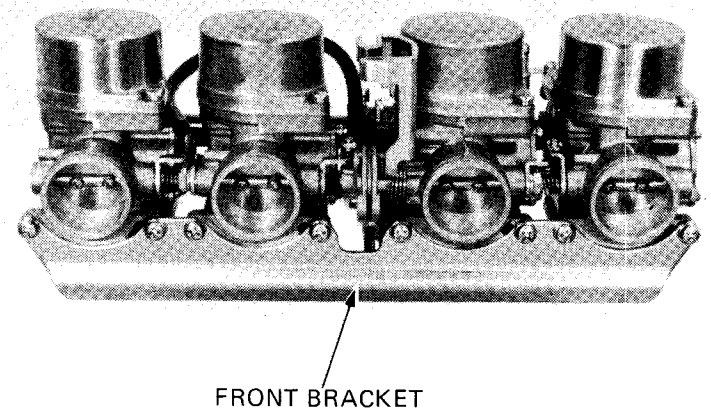




Remove the rear bracket.



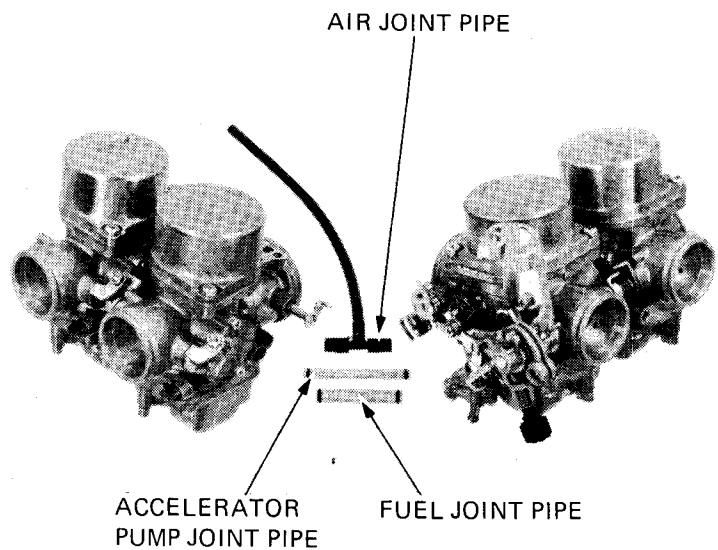
Remove the front bracket.



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

**CAUTION:**

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

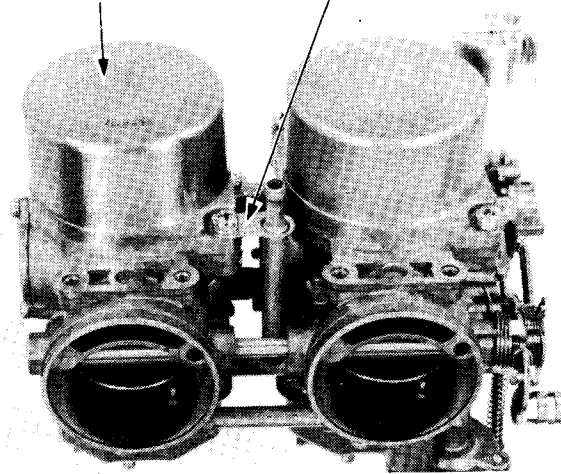




**62 FUEL SYSTEM**

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

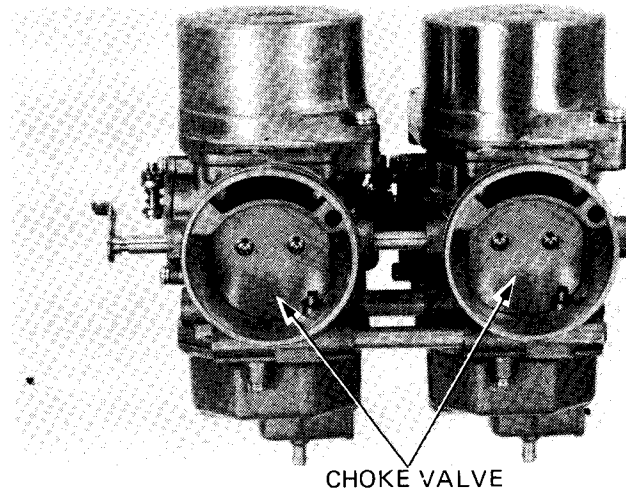
NO. 1 CARBURETOR      INLET TUBE HOLDER



File the staked ends of the choke valve screws. Remove the choke valves and discard the screws.

**NOTE**

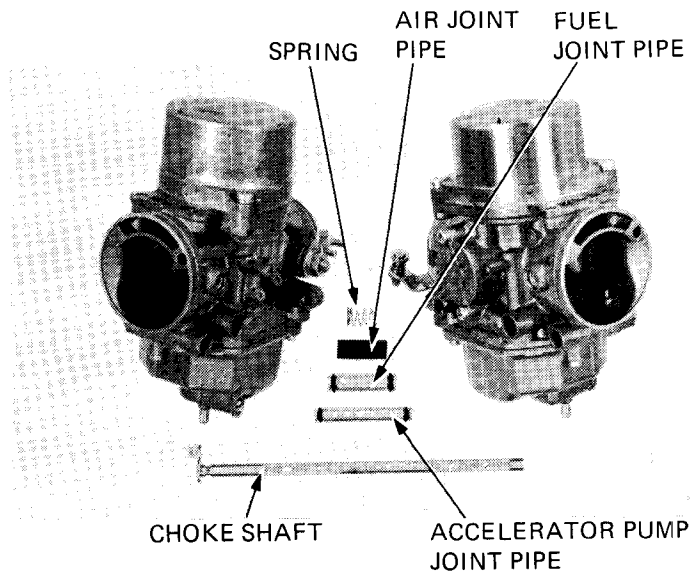
Do not allow the cut ends to enter the carburetors.



Carefully separate the individual carburetors.

**CAUTION:**

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





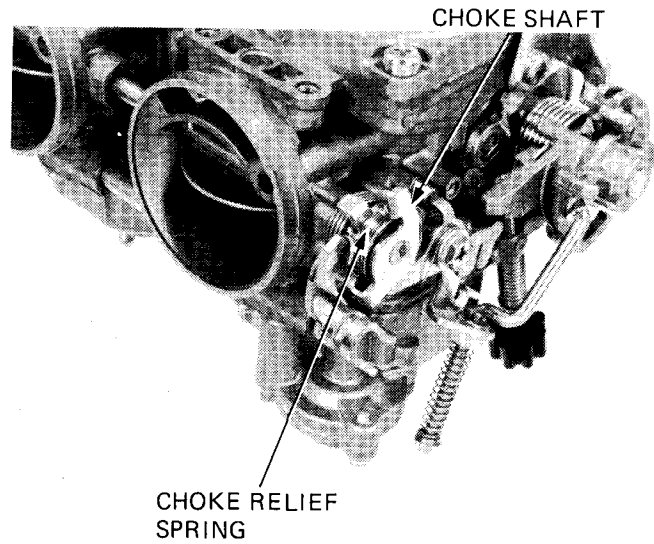
## LINKAGE

### DISASSEMBLY

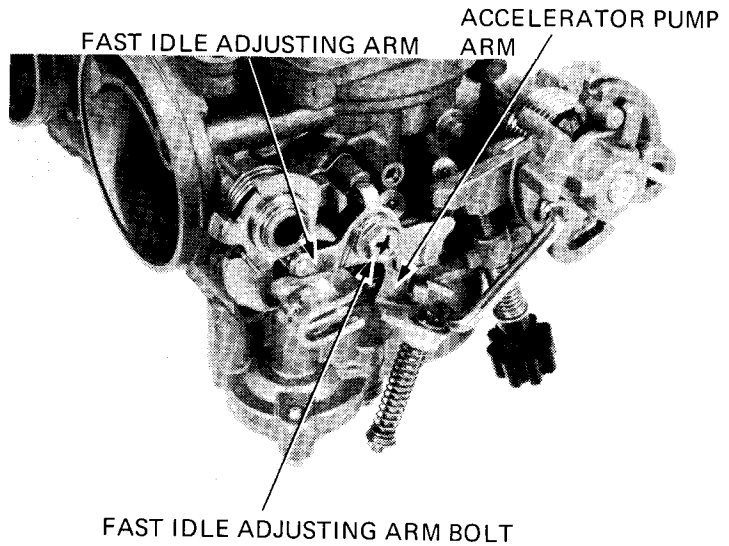
Note the spring positions.  
Remove the choke valves.  
Remove the choke relief spring from the choke link and pull the choke shaft out.

#### CAUTION:

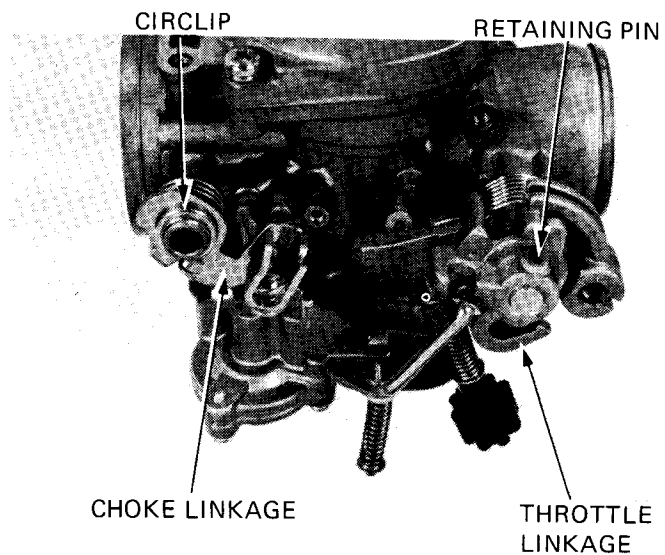
*Do not reuse the choke shaft, or choke valves and screws.*



Remove the fast idle adjusting arm bolt.  
Remove the fast idle adjusting arm and springs  
Remove the accelerator pump arm.



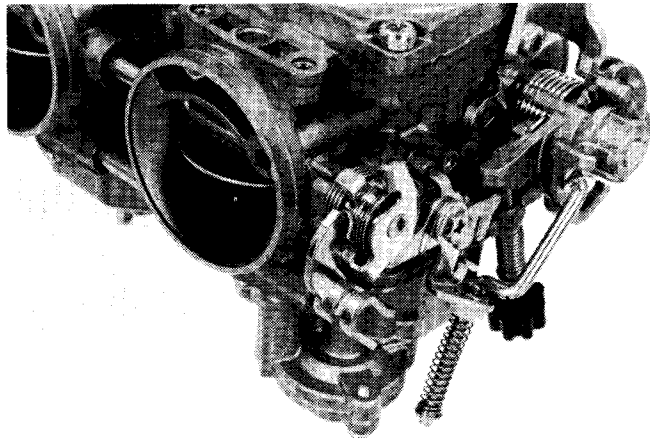
Drive out the retaining pin.  
Remove the throttle linkage.  
Remove the circlip.  
Remove the choke linkage.





**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 until there is no tension when assembling carburetors.

Insert the No. 3 carburetor throttle link between the plain washers.

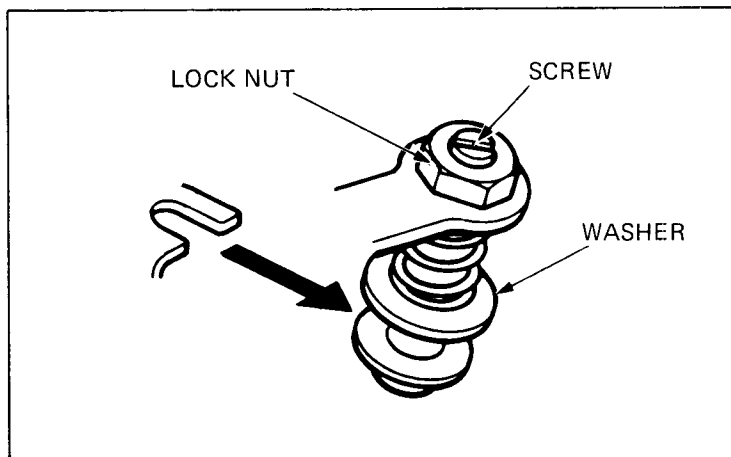
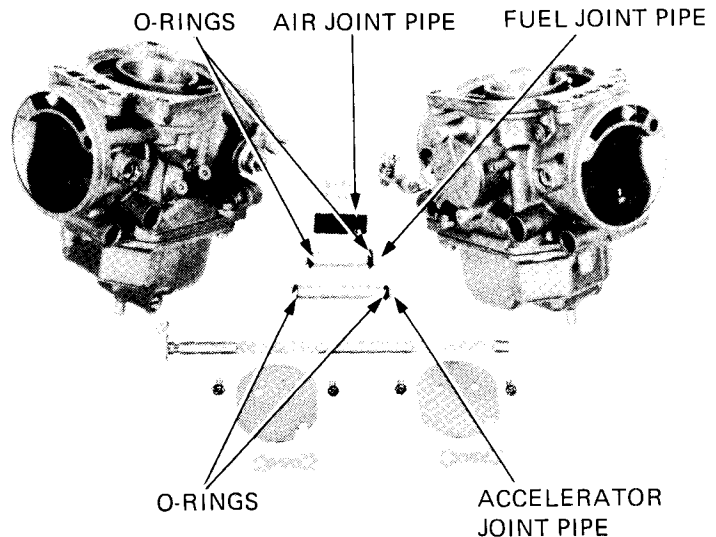
Assemble the No. 3 and No. 4 carburetors, pressing them together carefully.

**NOTE**

The large washer should be positioned on the spring side.

Assemble the No. 1 and No. 2 carburetors in the same procedure above.

Insert new choke shafts and assemble the carburetor linkage.

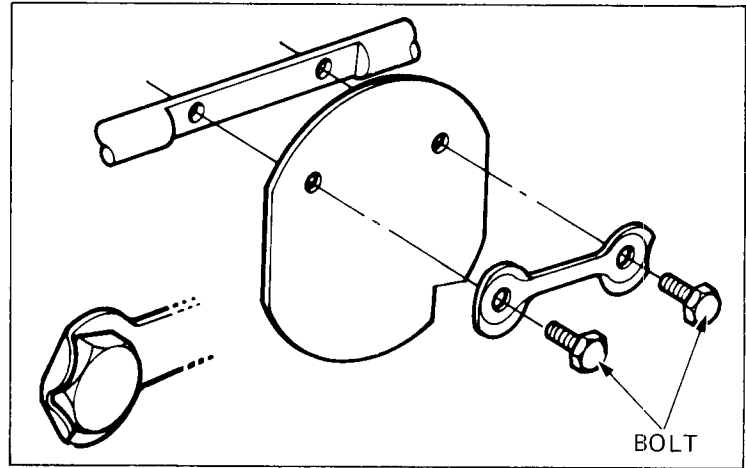




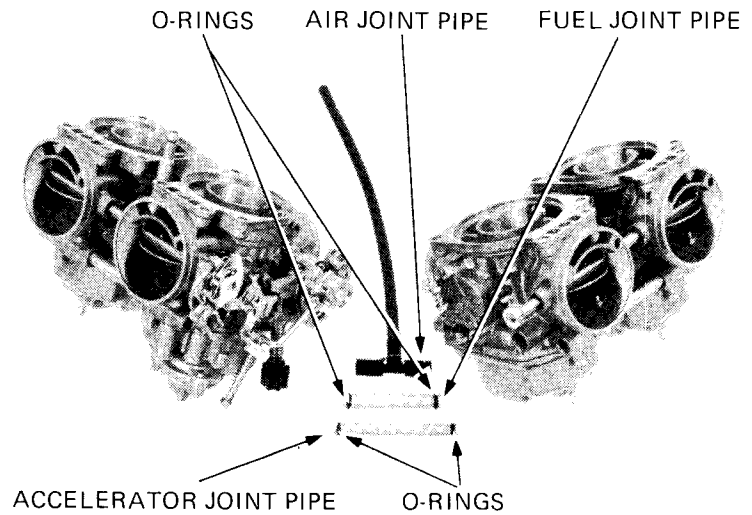
Tighten the choke valve bolts.

**TORQUE: 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 each pair of carburetors.



Install the front bracket loosely.

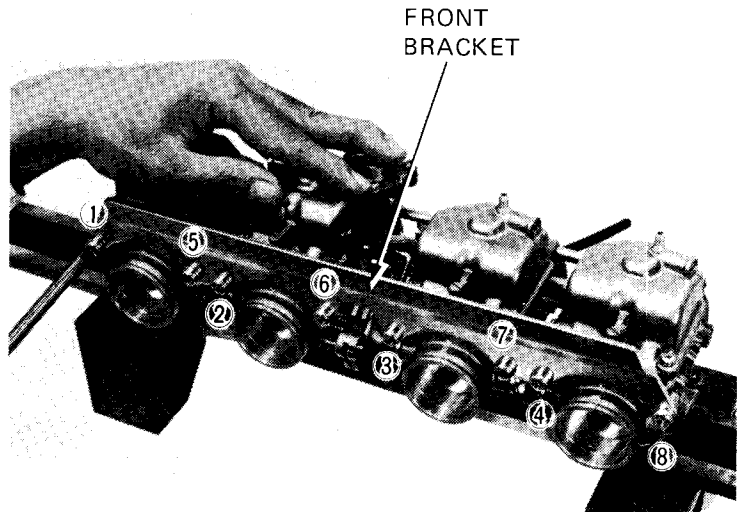
Place the carburetors on a flat surface with the float chamber up.

Press the carburetors together carefully and evenly tighten the screws in the sequence shown in two or more steps to prevent carburetor misalignment.

**TORQUE: 0.28–0.42 kg-m (2–3 ft-lb)**

**NOTE**

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

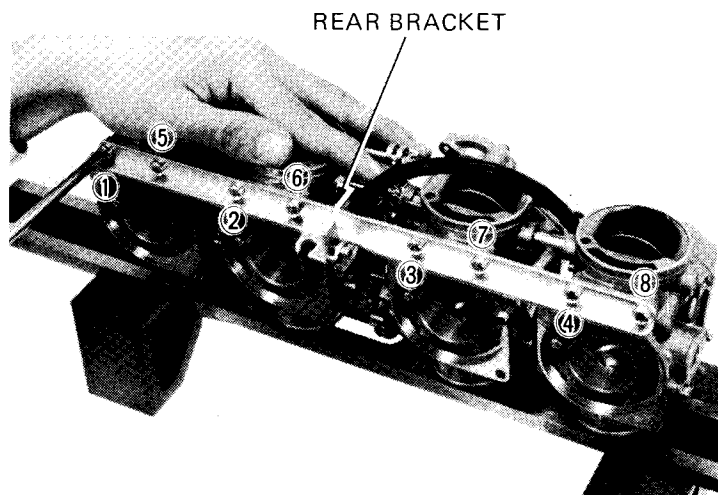




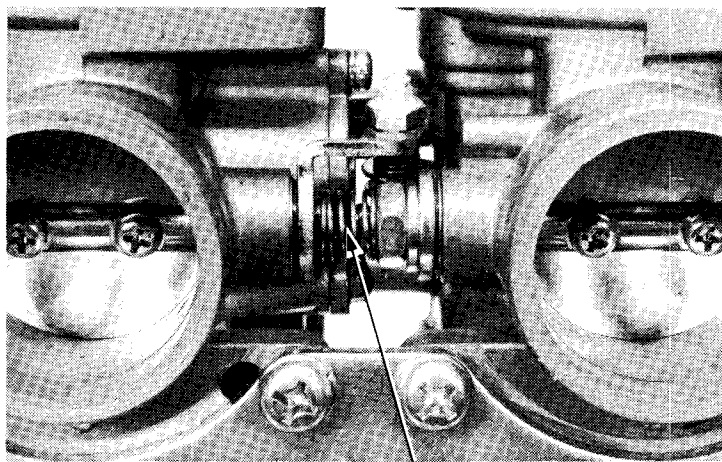
Install the rear bracket using the same procedure as for the front bracket.

**TORQUE: 0.28–0.42 kg-m (2–3 ft-lb)**

Install the throttle cable holder.

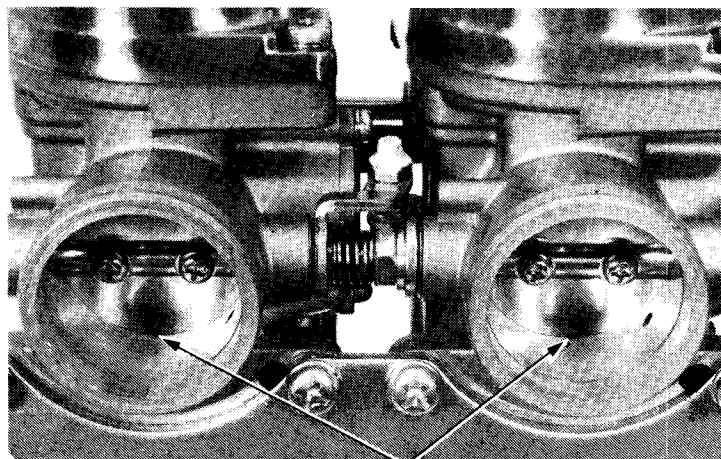


Install the thrust springs between the No. 1 and 2, and No. 3 and 4 carburetor throttle links.



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

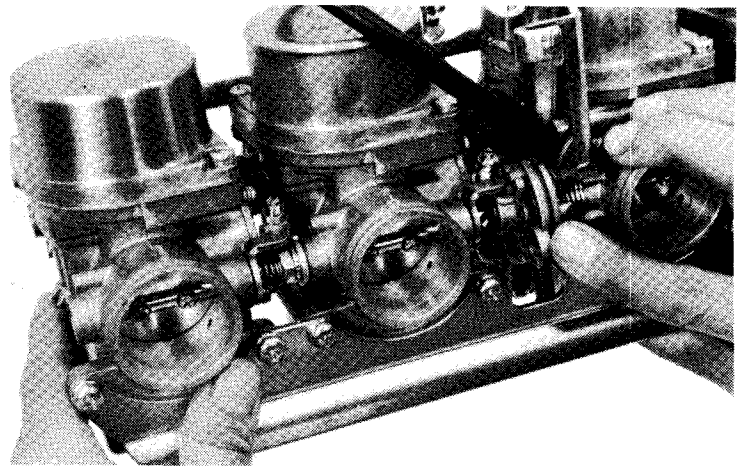
Make the distance between each by-pass hole and throttle valve equal.





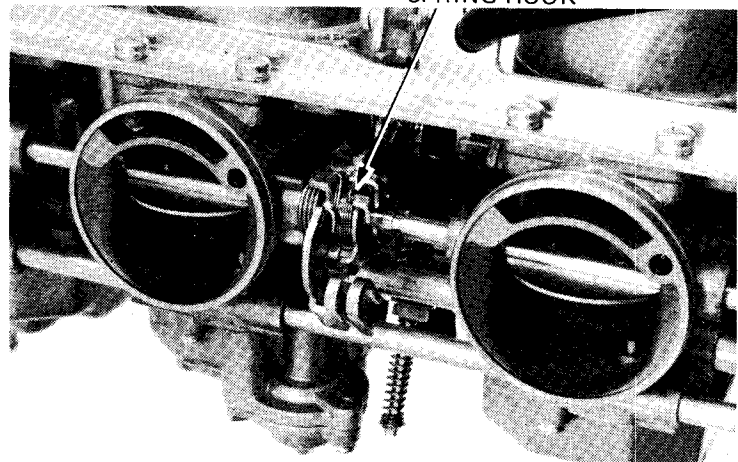
Inspect throttle operation as described below:

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

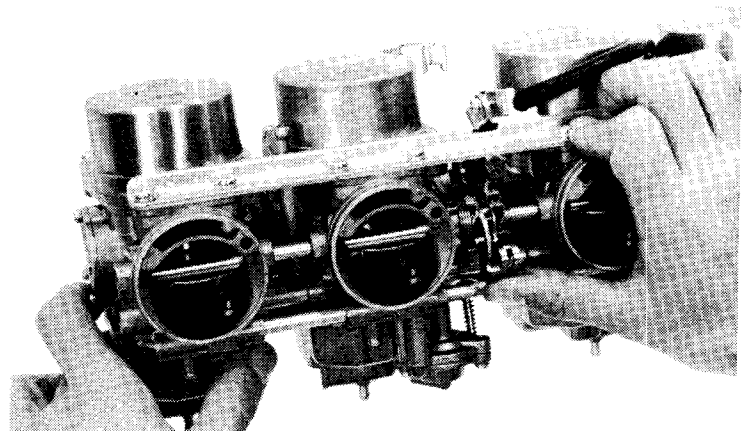


Hook the choke relief spring to the choke shaft arm of the No. 3, 4 carburetors. Install the choke valves, but do not tighten the bolts.

RELIEF  
SPRING HOOK



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.







## FAST IDLE ADJUSTMENT

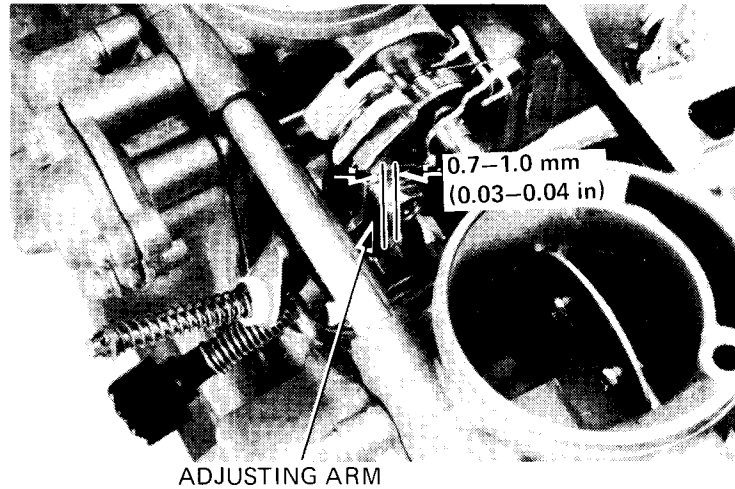
**FAST IDLE:** 1,000–2,500 rpm

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.

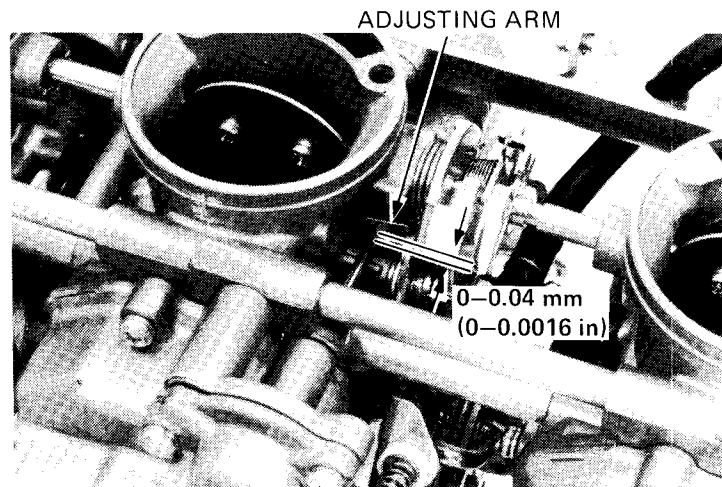


## ACCELERATOR PUMP ADJUSTMENT

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.



## CARBURETOR INSTALLATION

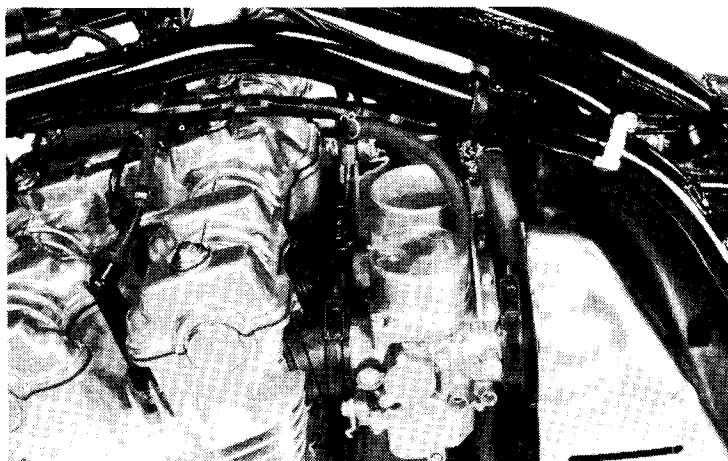
The installation sequence is essentially the reverse of removal.

### NOTE

Route the throttle and choke cables properly (Page 1–9 to 1–10).

Perform the following inspections and adjustments.

- Throttle operation (Page 3–3)
- Carburetor choke (Page 3–4)
- Carburetor idle speed (Page 3–11)





## PILOT SCREW ADJUSTMENT

### IDLE DROP PROCEDURE

#### 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.

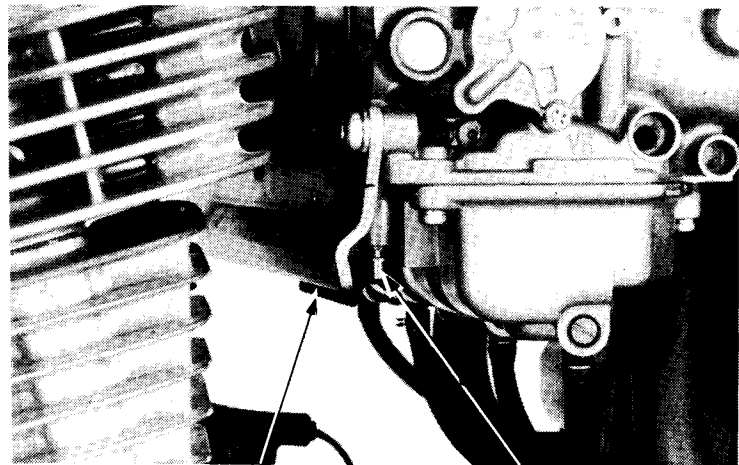
1. Turn each pilot screw clockwise until it seats lightly and back it out to the specification given. This is an initial setting prior to the final pilot screw adjustment.

**INITIAL OPENING: 2 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



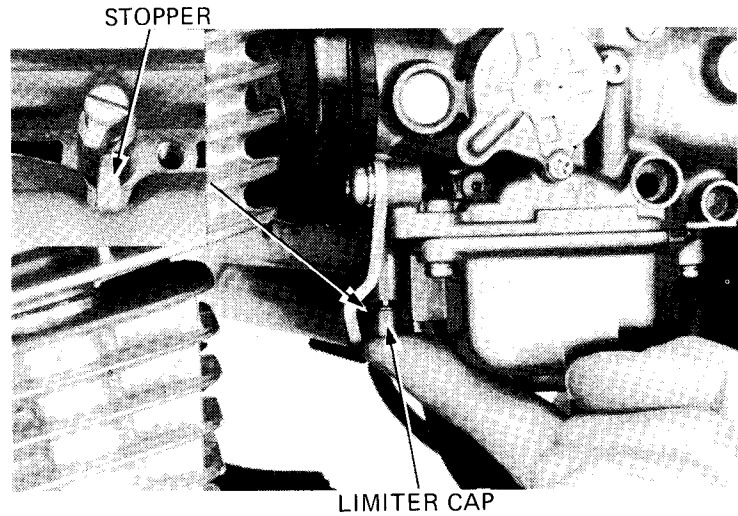
## LIMITER CAP INSTALLATION

If the pilot screw is replaced, a new limiter cap must be installed after pilot screw adjustment is completed.

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 screw when installing the limiter cap.





## FUEL TANK

**WARNING**

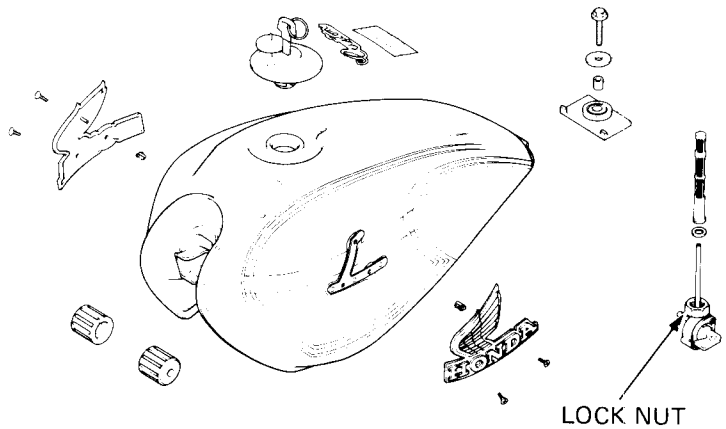
*Do not allow flames or sparks near gasoline. Wipe up spilled gasoline at once.*

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/CHAMBER

Check the air cleaner case for deterioration.

### CRANKCASE VENTILATION SYSTEM

Check that the breather tube is not restricted.

