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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 flames.
- When disassembling fuel system parts, note the locations of the O-rings. Replace them during assembly.
- The float bowls have drain plugs that can be loosened to drain residual gasoline.

### SPECIAL TOOLS

#### Special Tools

Carburetor Throttle Wrench	07908-4220100
Carburetor Pilot Screw Wrench	07908-4220200

#### Common Tool

Float gauge	07401-0010000
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### TORQUE VALUES

Front bracket	0.40-0.60 kg-m (3-4 ft-lb)
Rear bracket	0.28-0.42 kg-m (2-3 ft-lb)
Choke valve	0.06-0.12 kg-m (5-11 in-lb)

### SPECIFICATIONS

Venturi dia.	30 mm (1.18 in)
Setting mark	VB42A or VB42C
Float level	15.5 mm (0.61 in)
Main jet	Pri.: 68 2nd: 102
Idle speed	1000 ± 100 rpm
Throttle grip free play	2-6 mm (0.08-0.24 in)
Fast idle	2,000±500 rpm (after break-in)
Pilot screw	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 or accelerator pump

### Backfiring

1. Ignition malfunction
2. Carburetor malfunction
3. Faulty air cutoff valve or accelerator pump

### Poor performance (driveability) and poor fuel economy

1. Fuel system clogged
2. Ignition malfunction
3. Faulty accelerator pump

### 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. Stuck closed air cutoff valve
6. Dirty air cleaner



## CARBURETOR REMOVAL

Turn the fuel valve "OFF" and disconnect the fuel line at the carburetor.

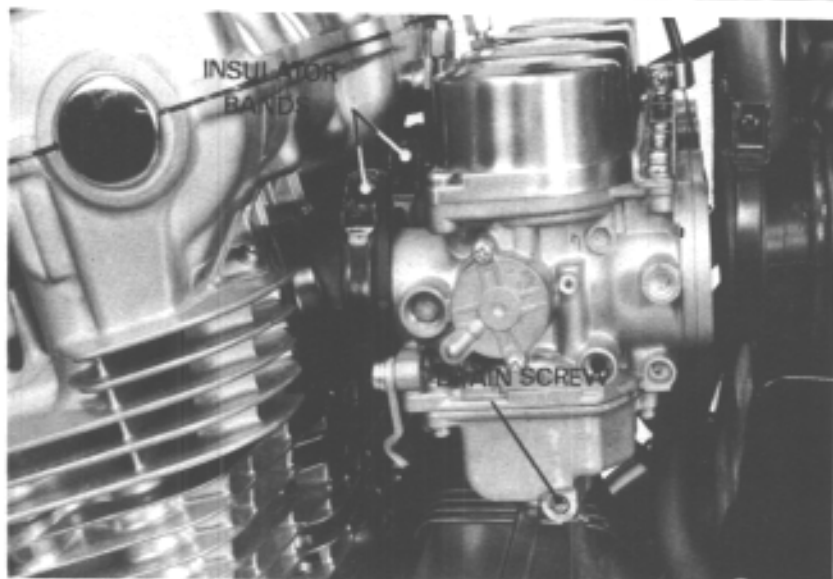
Remove both side covers and raise the seat.

Loosen the air cleaner connecting bands.

Move the air cleaner to the rear.



Loosen the carburetor manifold bands.  
Drain residual fuel 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.

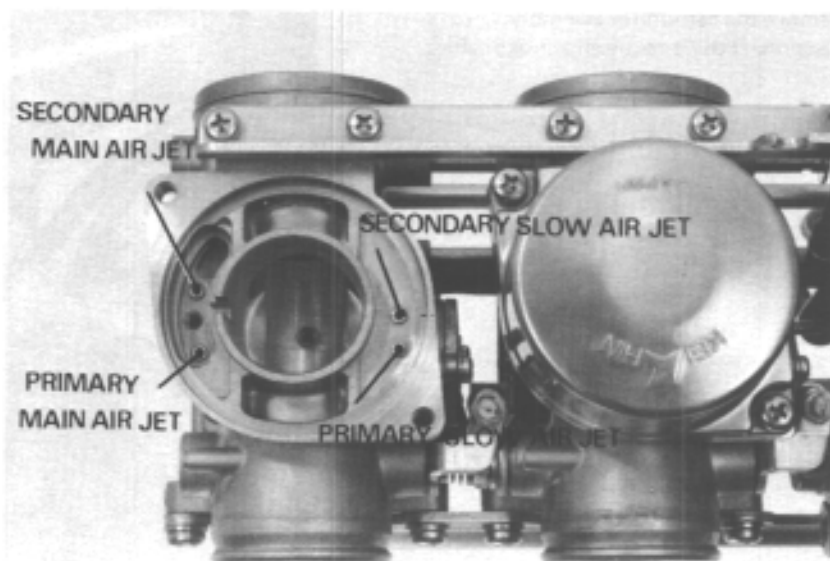
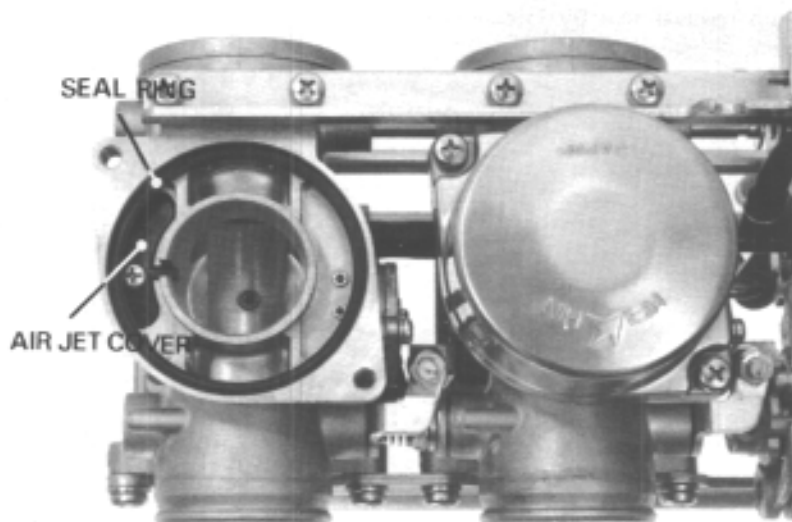
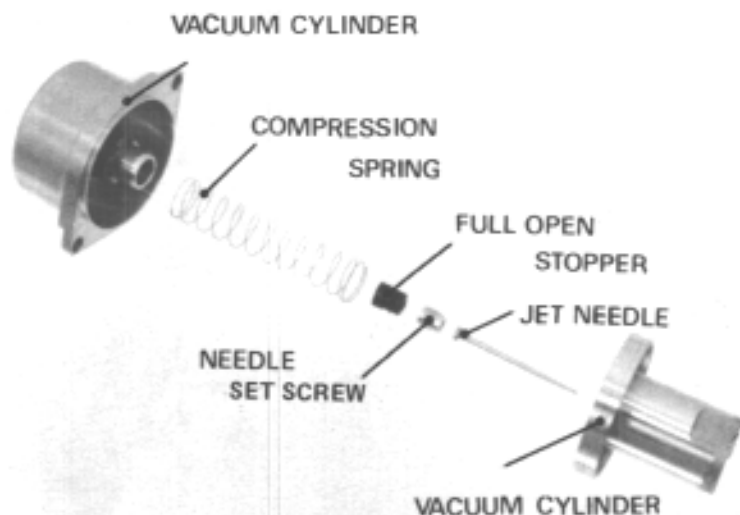
Carefully lift the seal ring off the carburetor body.

Remove the air jet cover.

Blow open the primary main air jet, secondary main air jet and slow air jet with compressed air.

### NOTE

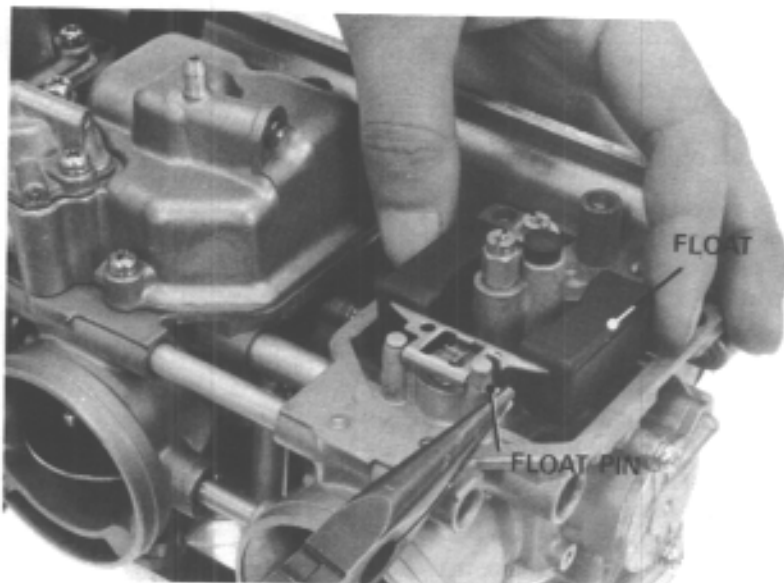
Never clean carburetor jets with wire or drills. This will enlarge the openings and result in excessive fuel consumption.



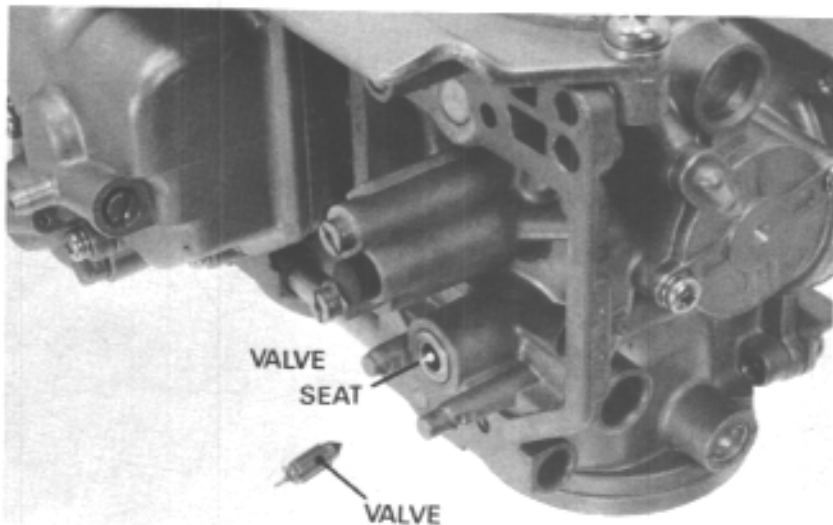


### FLOAT CHAMBER DISASSEMBLY

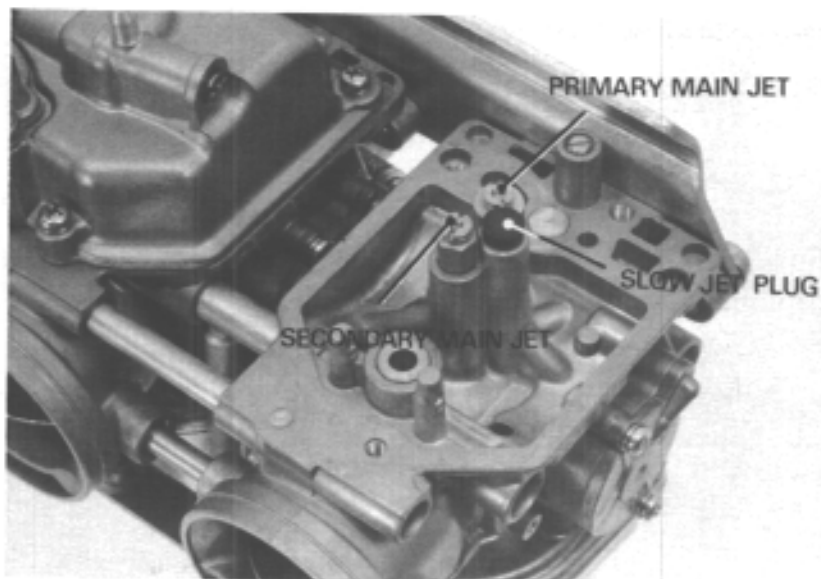
- Remove the float chamber body.
- Pull out the float arm pin with a pair of pliers.
- Remove the float and float valve.



- 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 plugs.





## NOTE

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

Remove the primary nozzle.

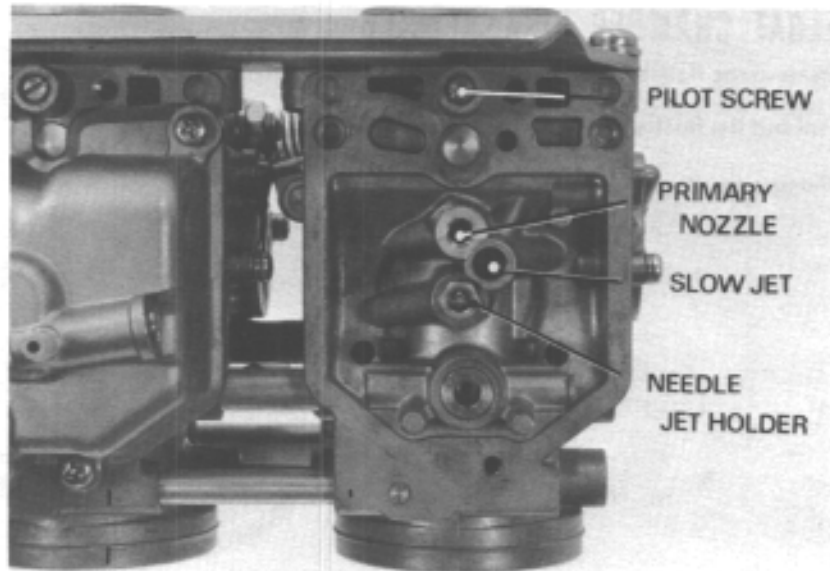
Remove the needle jet holder.

Tilt the carburetor to remove the needle jet.

Blow all jets and body passages with compressed air.

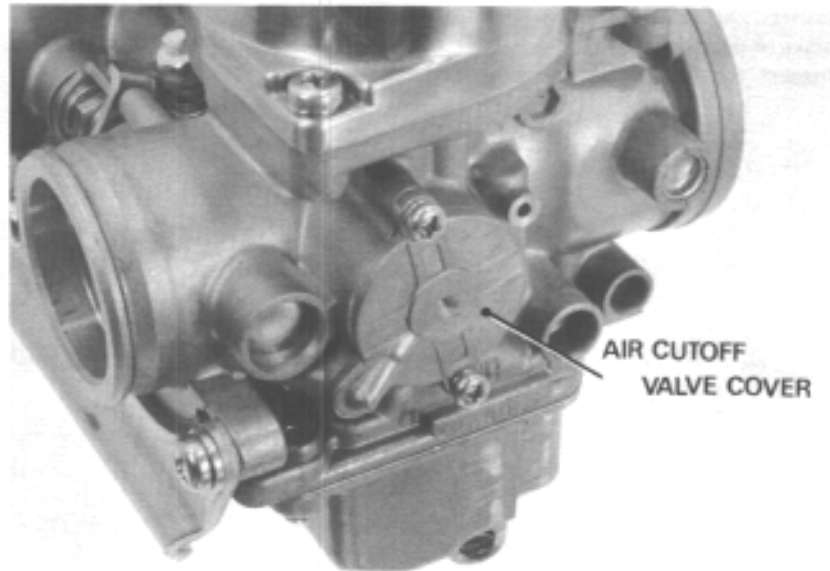
## NOTE

- If the needle jet is difficult to remove, carefully press the needle jet from the cylinder side with a soft material.
- Before removing the pilot screws, record the number of turns necessary to make them seat to ensure original assembly.
- Do not damage the pilot screw threads when removing the plain washer and O-ring.

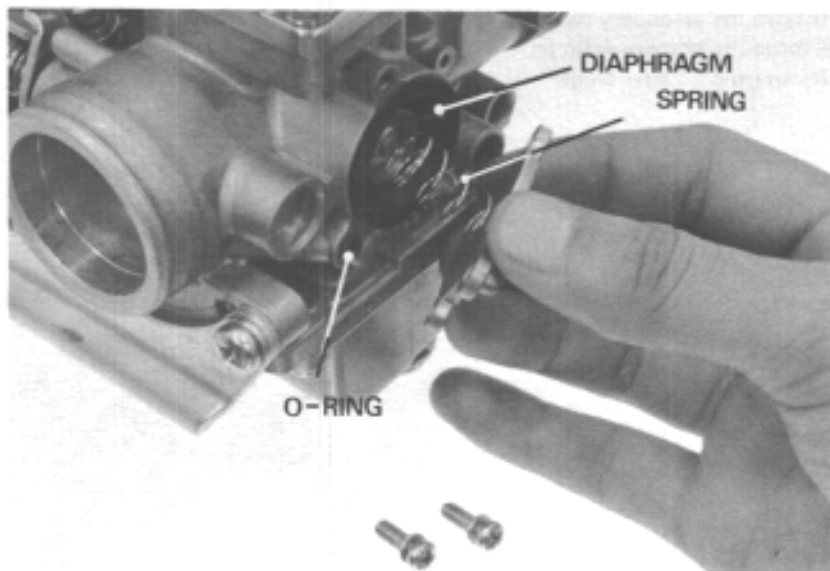


## AIR CUTOFF VALVE DISASSEMBLY

Remove the air cutoff valve cover and spring.

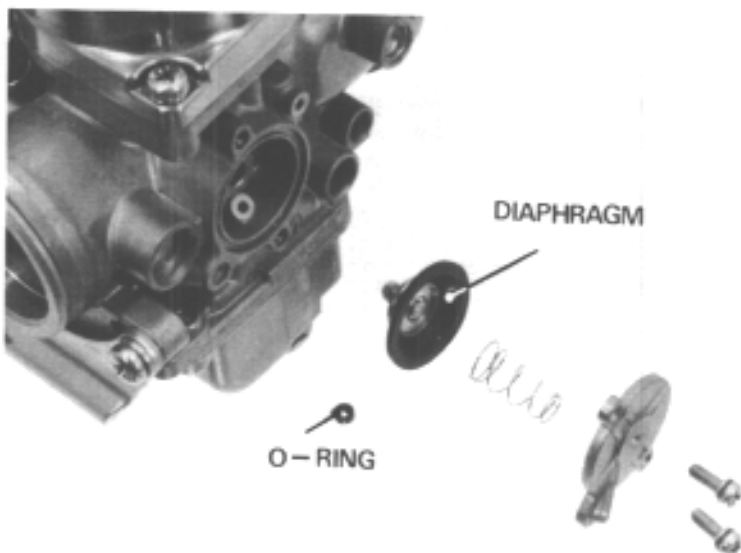


Remove the diaphragm and O-ring.



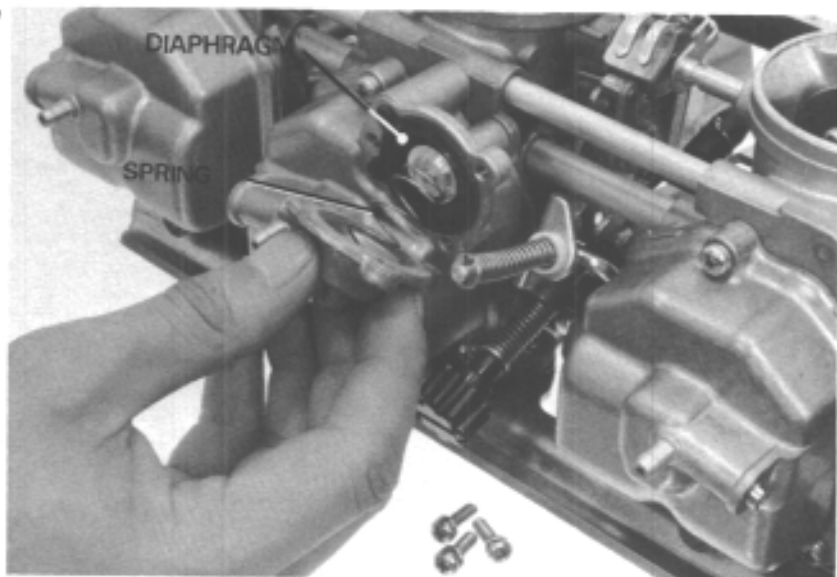


Inspect the diaphragm and valve for cracks and brittleness.



### ACCELERATOR PUMP DISASSEMBLY

Remove the accelerator pump cover and spring.



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

**NOTE**

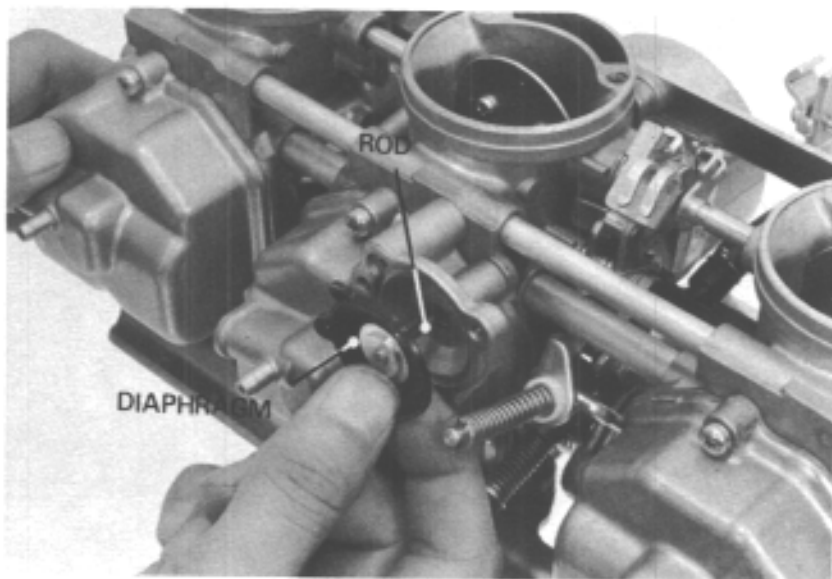
Be sure the accelerator pump rod is not bent.

### 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.







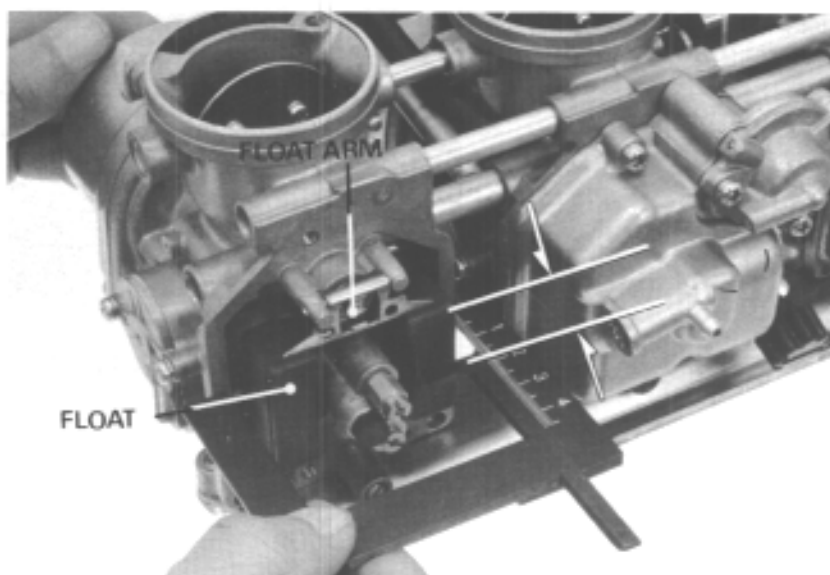
## FLOAT LEVEL ADJUSTMENT

To adjust the float level, bend the float arm carefully until it just contacts the float valve.

**FLOAT LEVEL: 15.5 mm (0.61 in)**

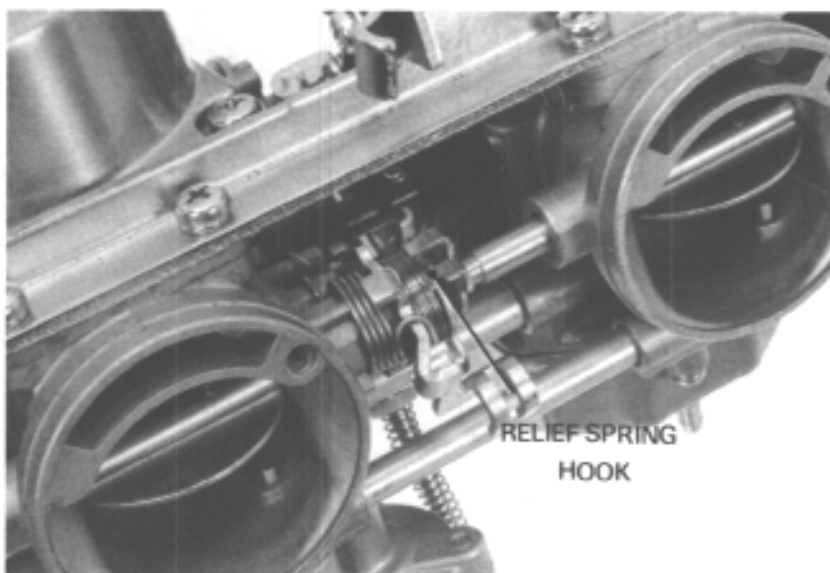
### NOTE

Before adjusting, remove the adjacent chambers.



## CARBURETOR SEPARATION

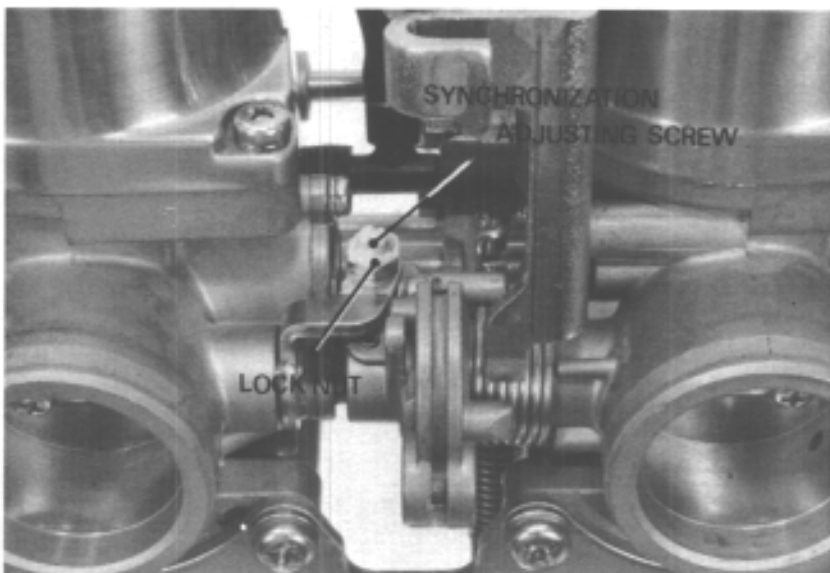
Unhook the choke relief spring from the choke shaft arm of the No.3 and No.4 carburetors.



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

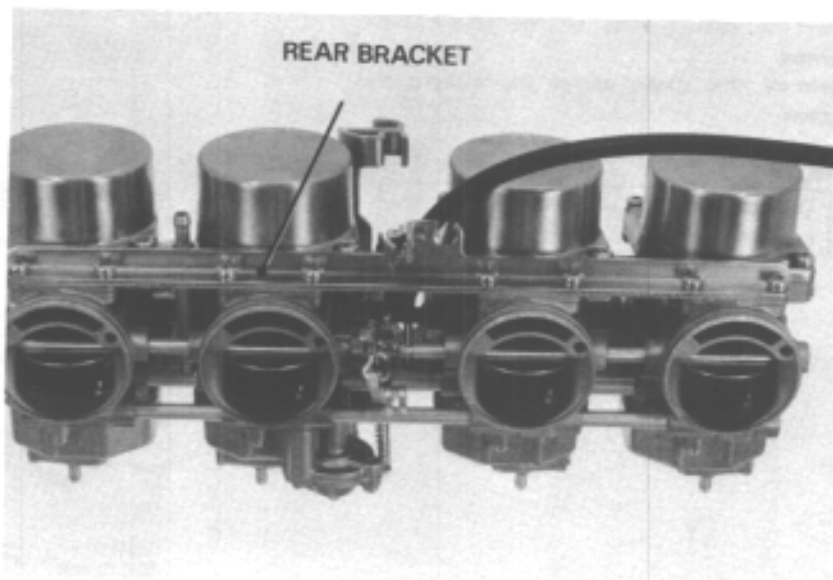
### NOTE

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

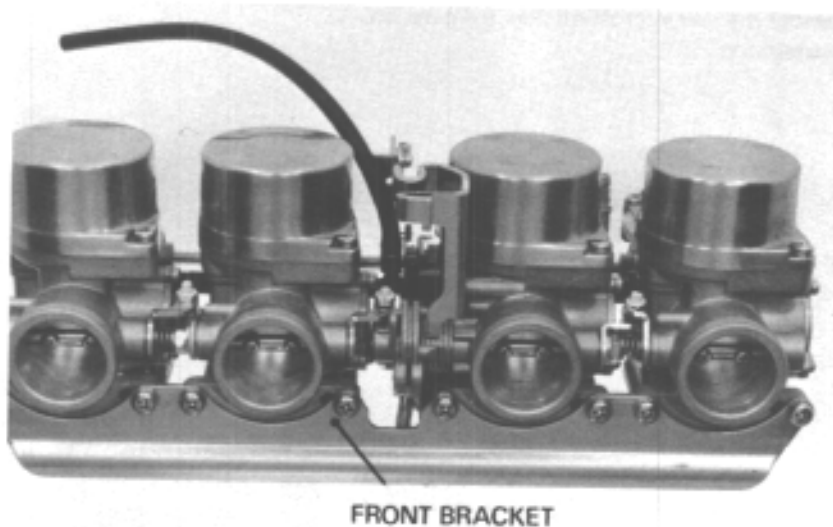




Remove the rear bracket.



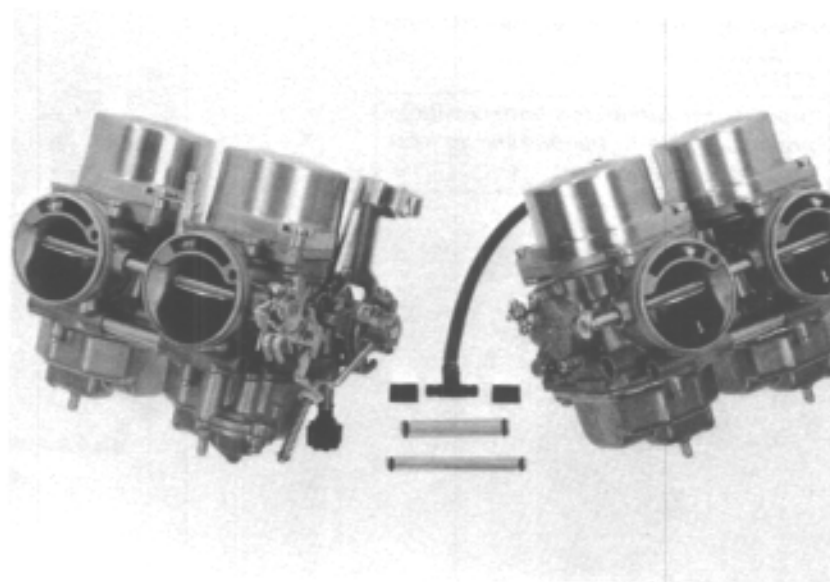
Remove the front bracket.



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

**CAUTION**

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

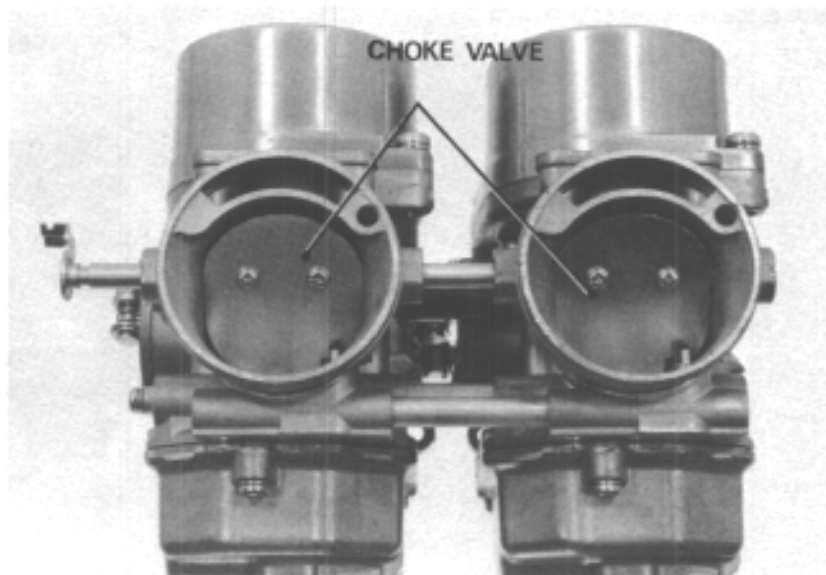




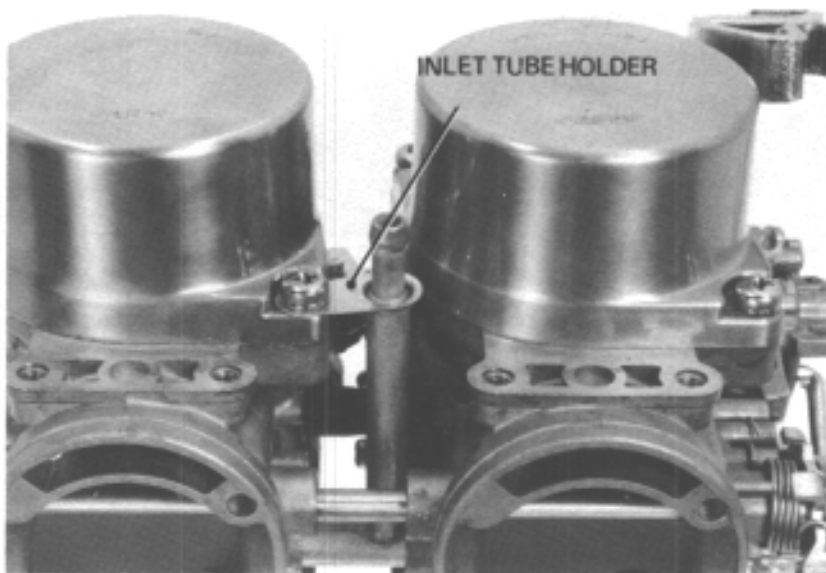
File the staked ends of the choke valve screws.  
 Remove the choke valves and discard the screws.

**NOTE**

Do not allow the cut ends to enter the carburetors.



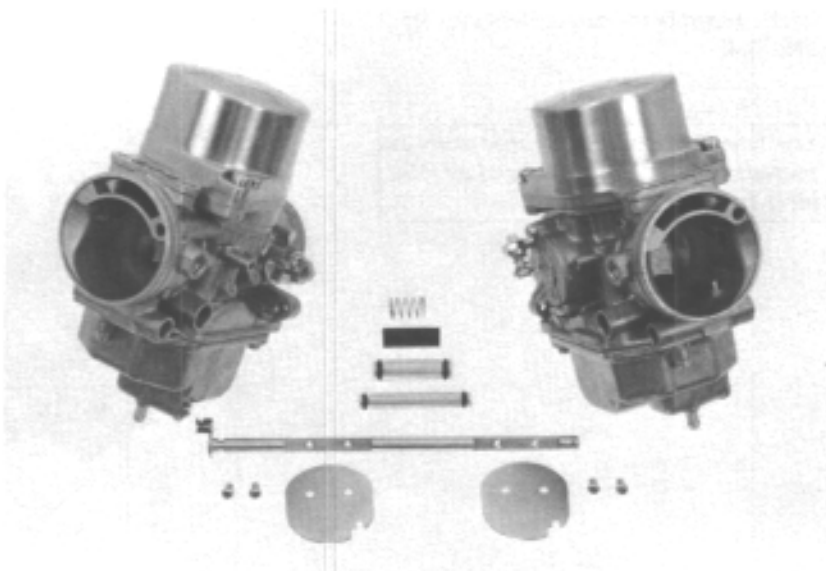
Remove the fuel inlet tube holder from the No. 1 carburetor.



Carefully separate the individual carburetors.

**CAUTION**

Separate the carburetors horizontally to prevent damage to the fuel and air joint pipes and choke link.



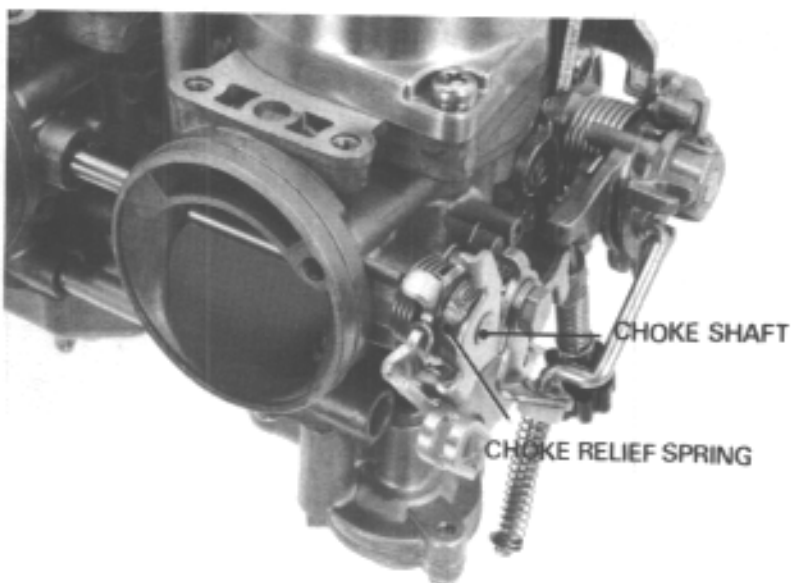


## LINKAGE DISASSEMBLY

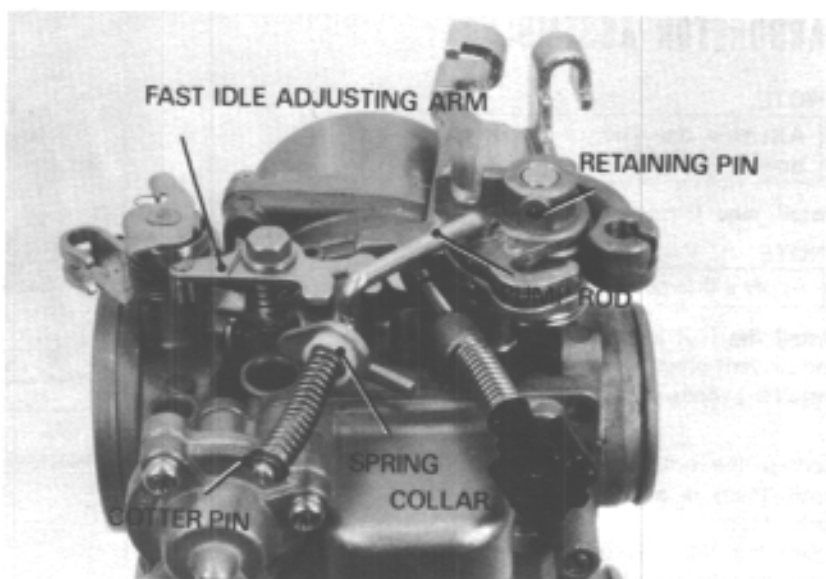
Note the spring positions.  
Remove the choke relief spring from the choke link and pull the choke shaft out.

**CAUTION**

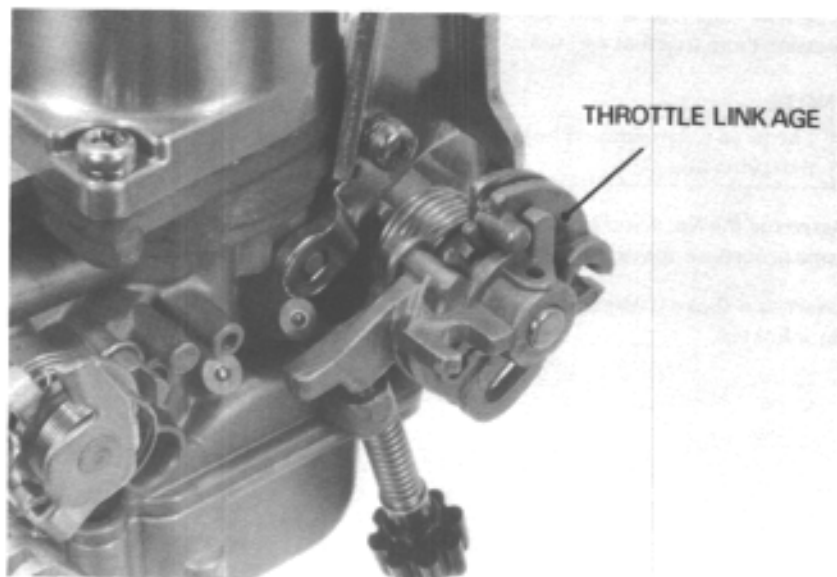
*Do not reuse the choke shaft, or choke valves and screws.*



Remove the cotter pin from the accelerator pump rod.  
Remove the plain washers, spring and collar.  
Remove the fast idle adjusting arm bolt.  
Remove the fast idle adjusting arm and springs.  
Remove the accelerator pump rod.  
Drive out the throttle link retaining pin.



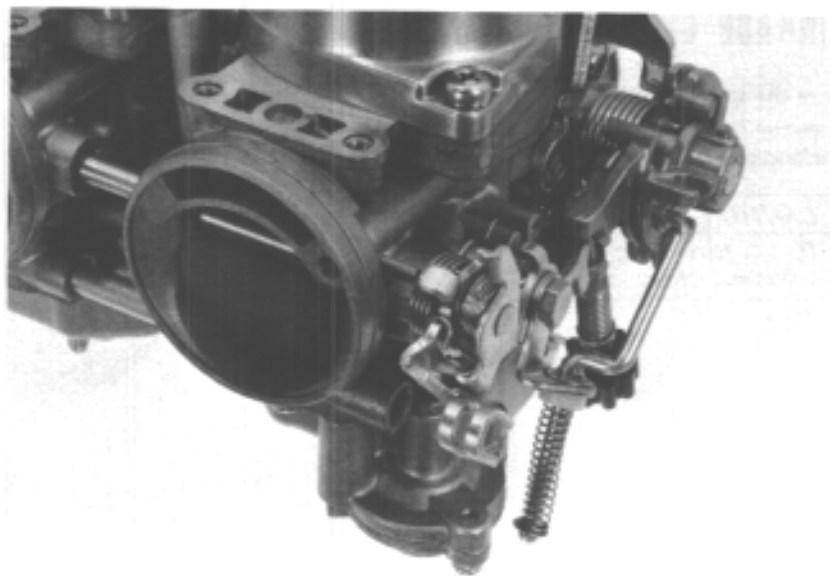
Remove the throttle linkage.





## 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 on the No. 3 carburetor.  
Install the choke dust tube.

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

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

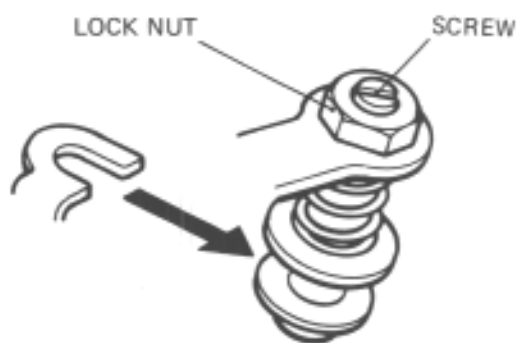
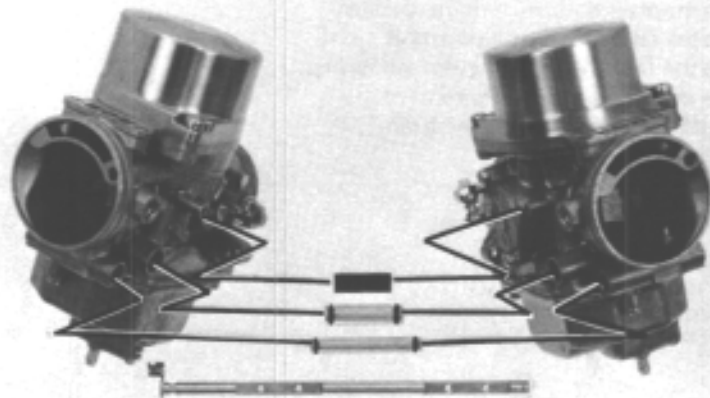
Assemble the No. 3 and No. 4 carburetors, pressing them together carefully.

### NOTE

The large washer should be positioned on the spring side.

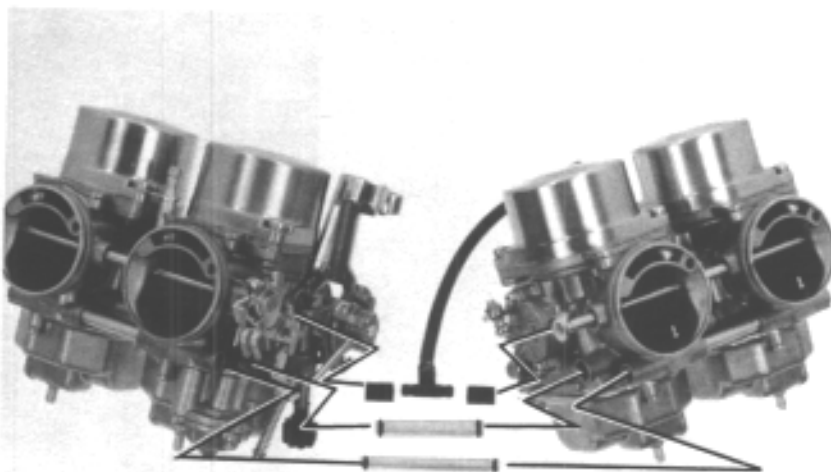
Assemble the No. 1 and No. 2 carburetors in the same procedure above.

Insert new choke shafts and assemble the carburetor linkage.





Assemble each pair of carburetor by following the procedure described for the No. 3 and 4 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.

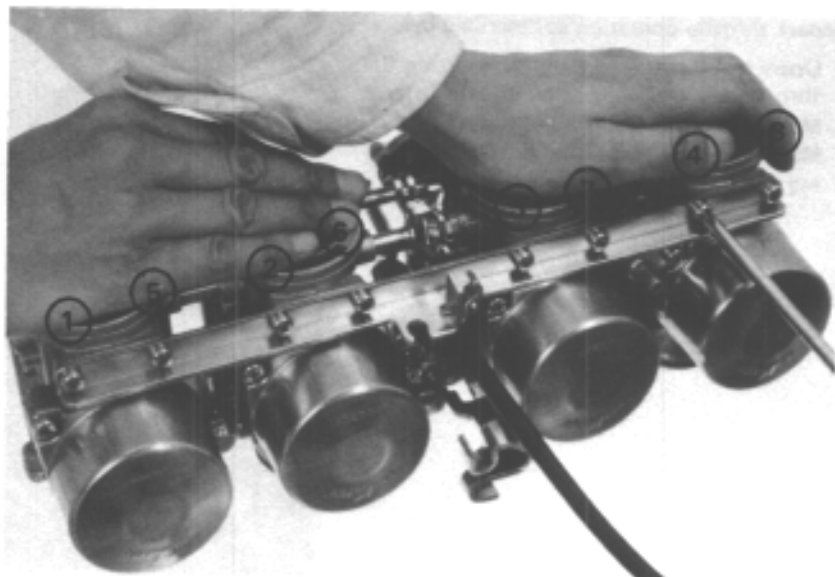
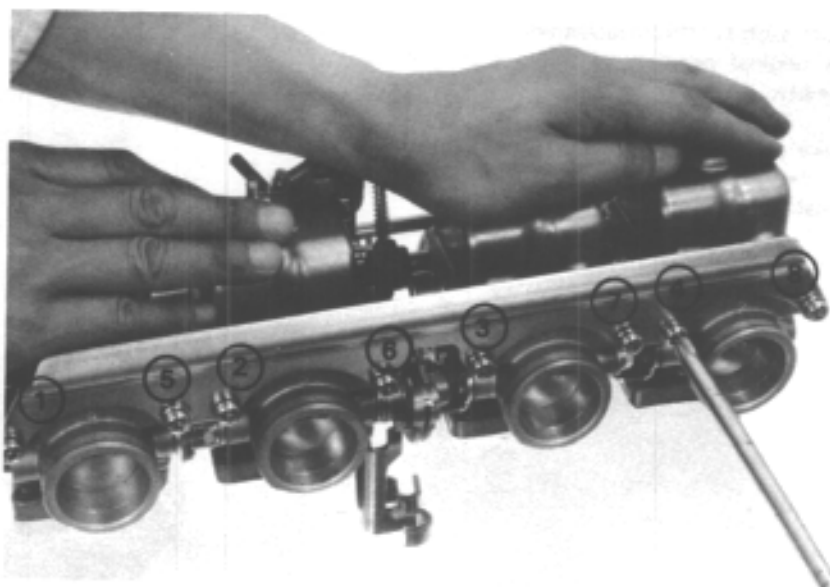
**TORQUE:** 0.4–0.6 kg-m  
(3–4 ft-lb, 36–48 in-lb)

### NOTE

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

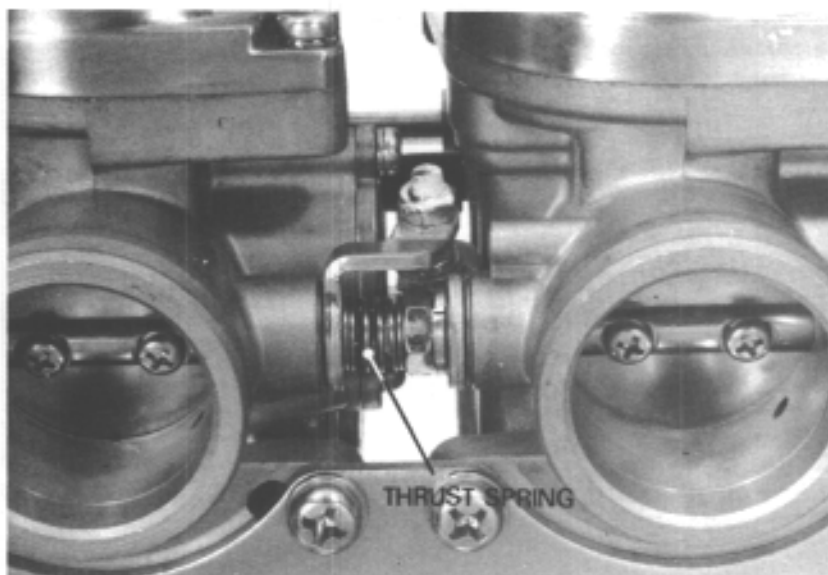
Install the rear bracket using the same procedure as for the front bracket.

**TORQUE:** 0.28–0.42 kg-m  
(2–3 ft-lb, 24–36 in-lb)



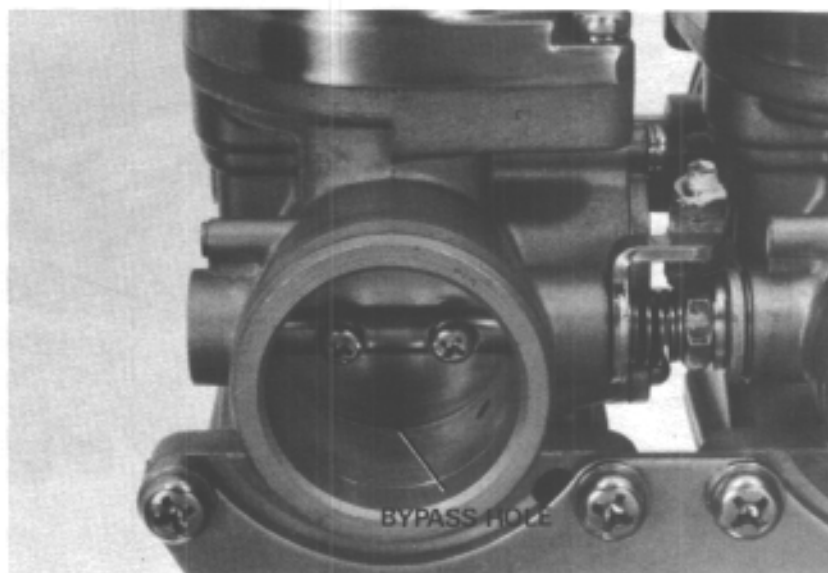


Install the thrust springs between the No. 1 and 2, and No. 3 and 4 carburetor throttle links.



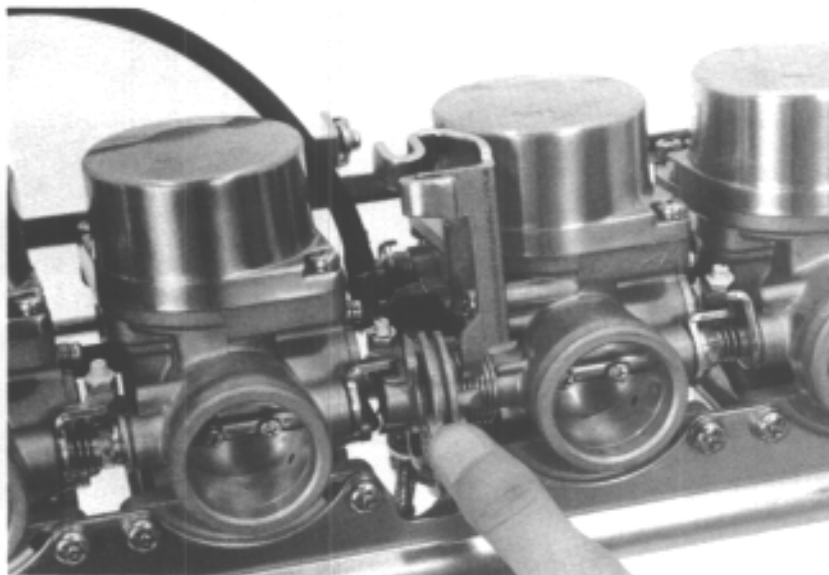
Turn each synchronization adjusting screw to its original position as noted during disassembly.

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



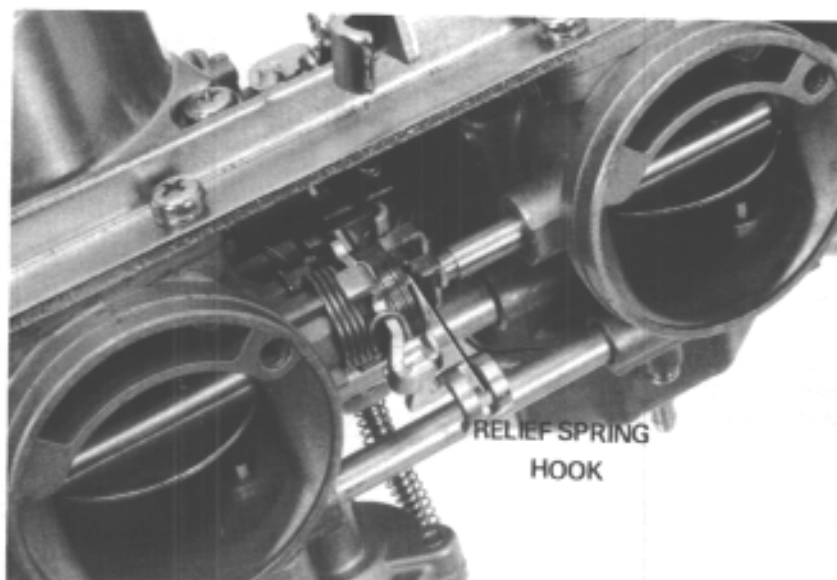
Inspect throttle operation as described below:

- 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.

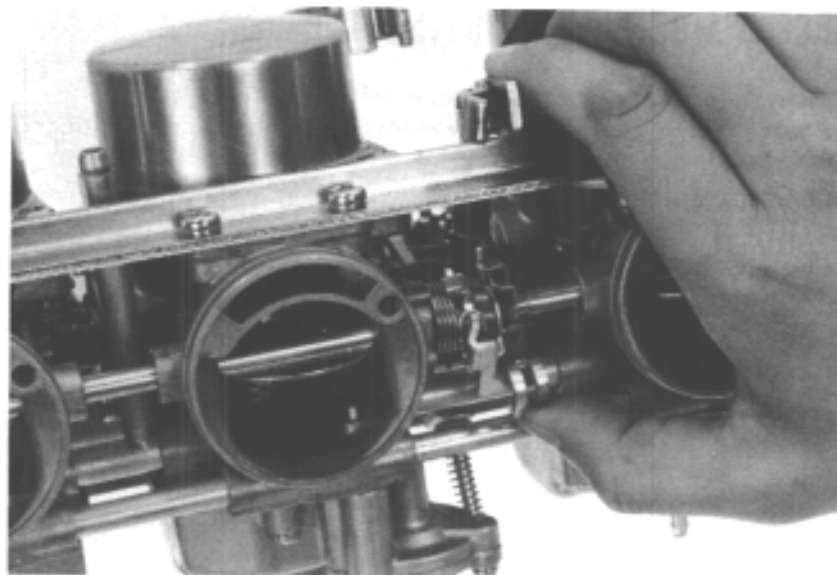




Hook the choke relief spring to the choke shaft arm of the No. 3, 4 carburetors.  
Install the choke valves, but do not tighten the bolts.



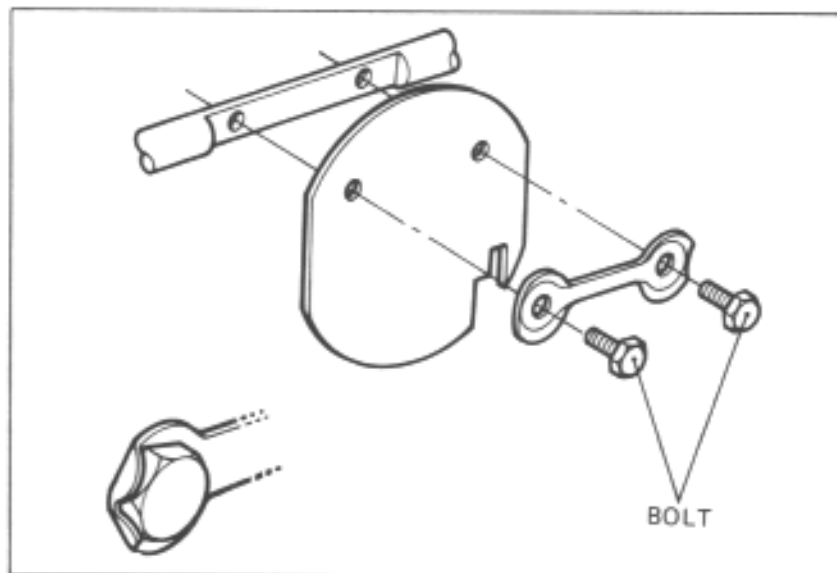
Make sure that choke valve operation is smooth by moving the choke linkage.  
Close the choke valve by turning the choke linkage.  
Release the choke linkage and make sure that it returns smoothly.



Tighten the choke valve bolts.

**TORQUE: 0.06–0.12 kg-m**  
**(0.4–0.9 ft-lb, 5–11 in-lb)**

Fold the tabs of the lock washer up.  
Recheck the throttle and choke operation.







## FAST IDLE ADJUSTMENT

**FAST IDLE:** 2000 ± 500 rpm

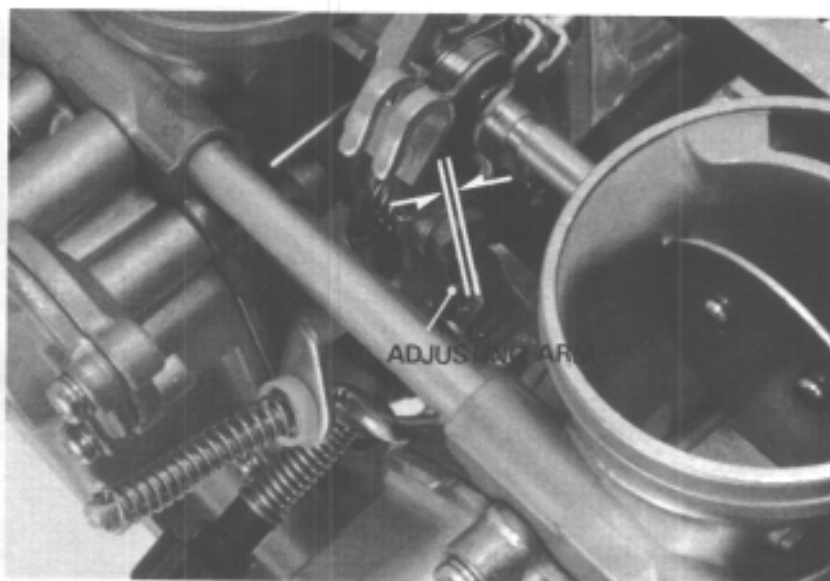
Close the throttle valve and open the choke valve.

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.



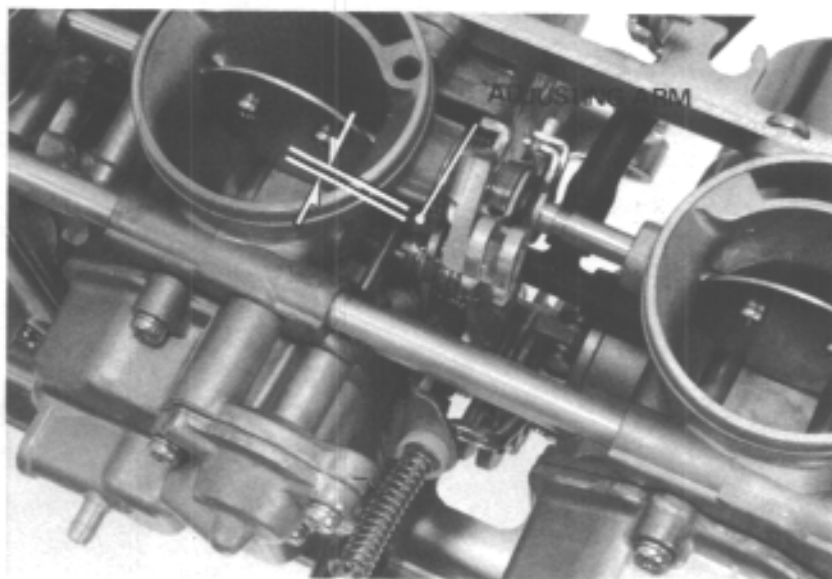
## ACCELERATOR PUMP ADJUSTMENT

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.

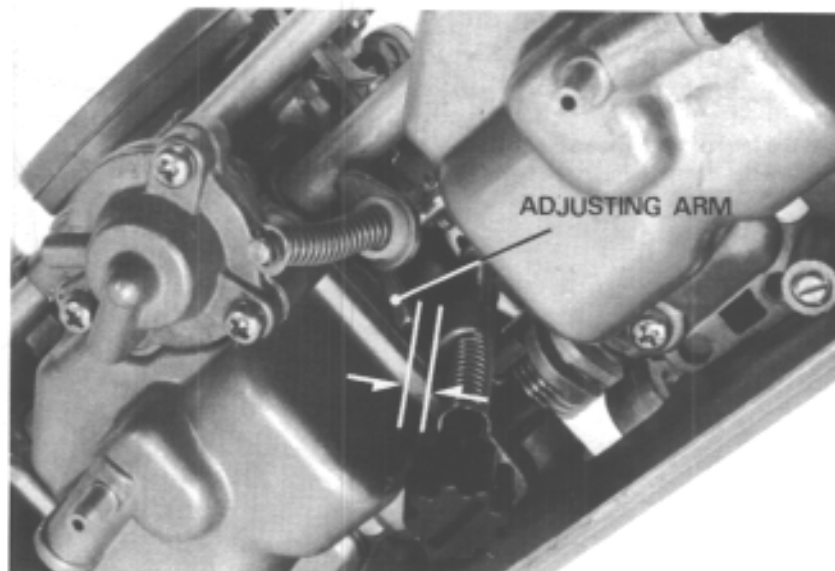


Measure the clearance between the adjusting arm and stopper on the carburetor body.

**CLEARANCE:**

3.1–3.3 mm (0.12–0.13 in)

Adjust by bending the adjusting arm.





## PILOT SCREW ADJUSTMENT

### IDLE DROP PROCEDURE

#### NOTE

The pilot screw is factory pre-set and no adjustment is necessary unless the carburetor is overhauled.

#### NOTE

Use a tachometer with graduations of 50 rpm.

Turn the pilot screw clockwise until it seats lightly and back it out to the specification. This is a preliminary setting prior to the final pilot screw adjustment.

**PILOT SCREW OPENING: 1-1/2 (VB42A)  
1-3/4 (VB42C)**

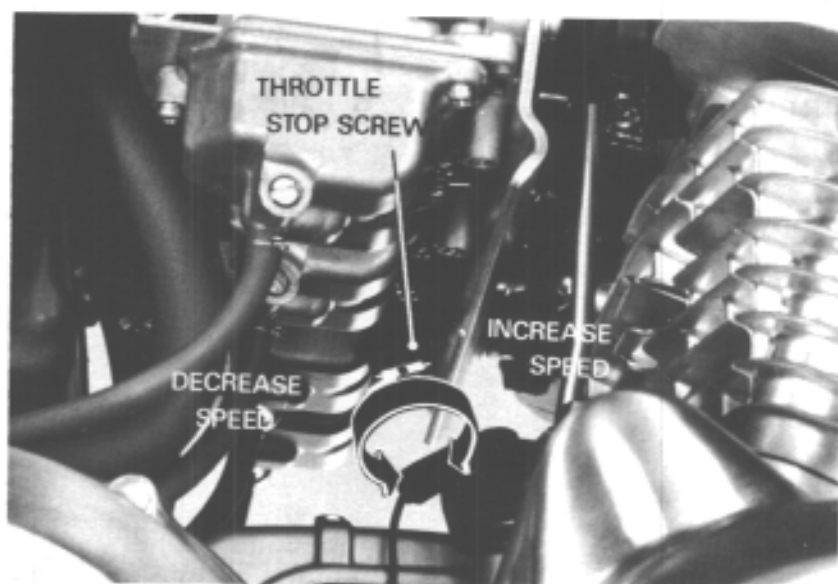
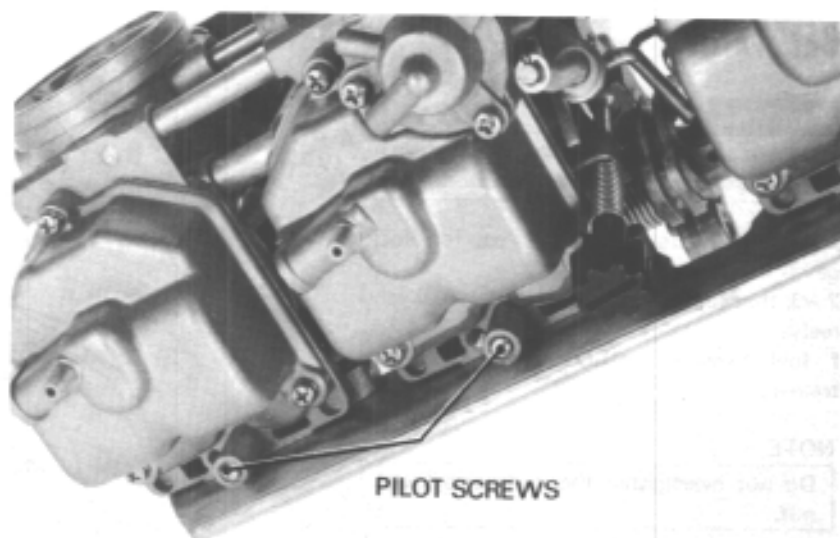
#### CAUTION

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

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

**IDLE SPEED: 1,000 ± 100 rpm**

4. Turn each pilot screw 1/2 turn out from the initial setting position.
5. 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.
6. Adjust the idle speed with the throttle stop screw.
7. Turn the No. 1 carburetor pilot screw in until the engine speed drops 50 rpm.
8. Turn the No. 1 carburetor pilot screw (3/8 = VB42A, 3/4 = VB42C) turn out from the position obtained in Step 7.
9. Adjust the idle speed with the throttle stop screw.
10. Perform Steps 7, 8 and 9 for the 2, 3 and 4 carburetor pilot screws.





## 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.

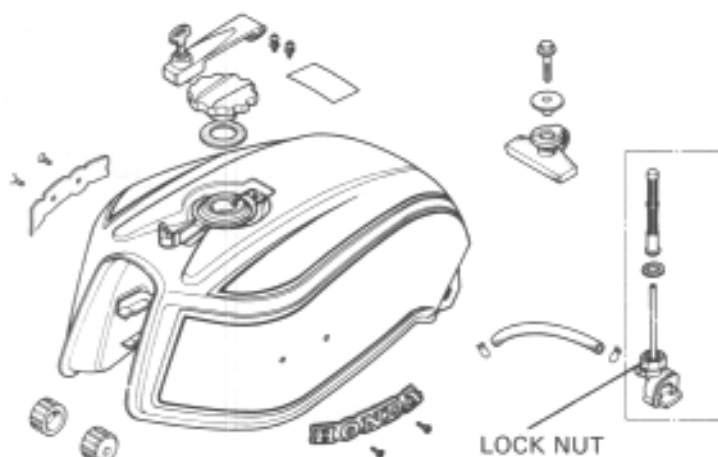
Check that fuel is flowing out of the fuel valve freely.

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.



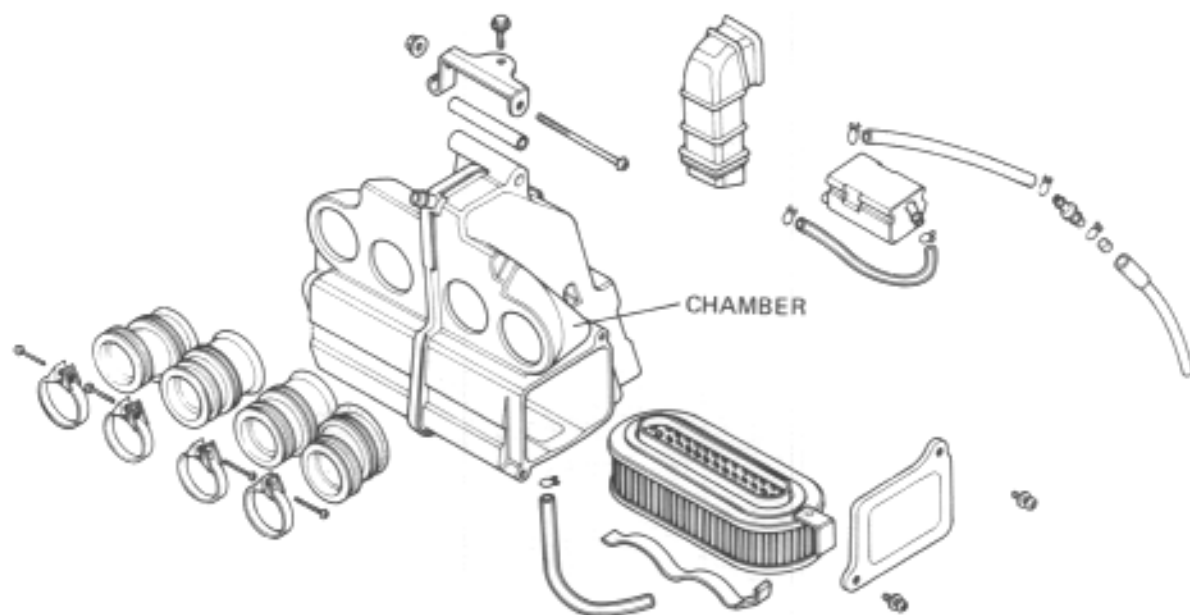
## AIR CLEANER CASE

### AIR CLEANER CASE/CHAMBER

Check the air cleaner case for deterioration.

### CRANKCASE VENTILATION SYSTEM

Check that the breather tube is not restricted.





MEMO