

## 5. FUEL SYSTEM

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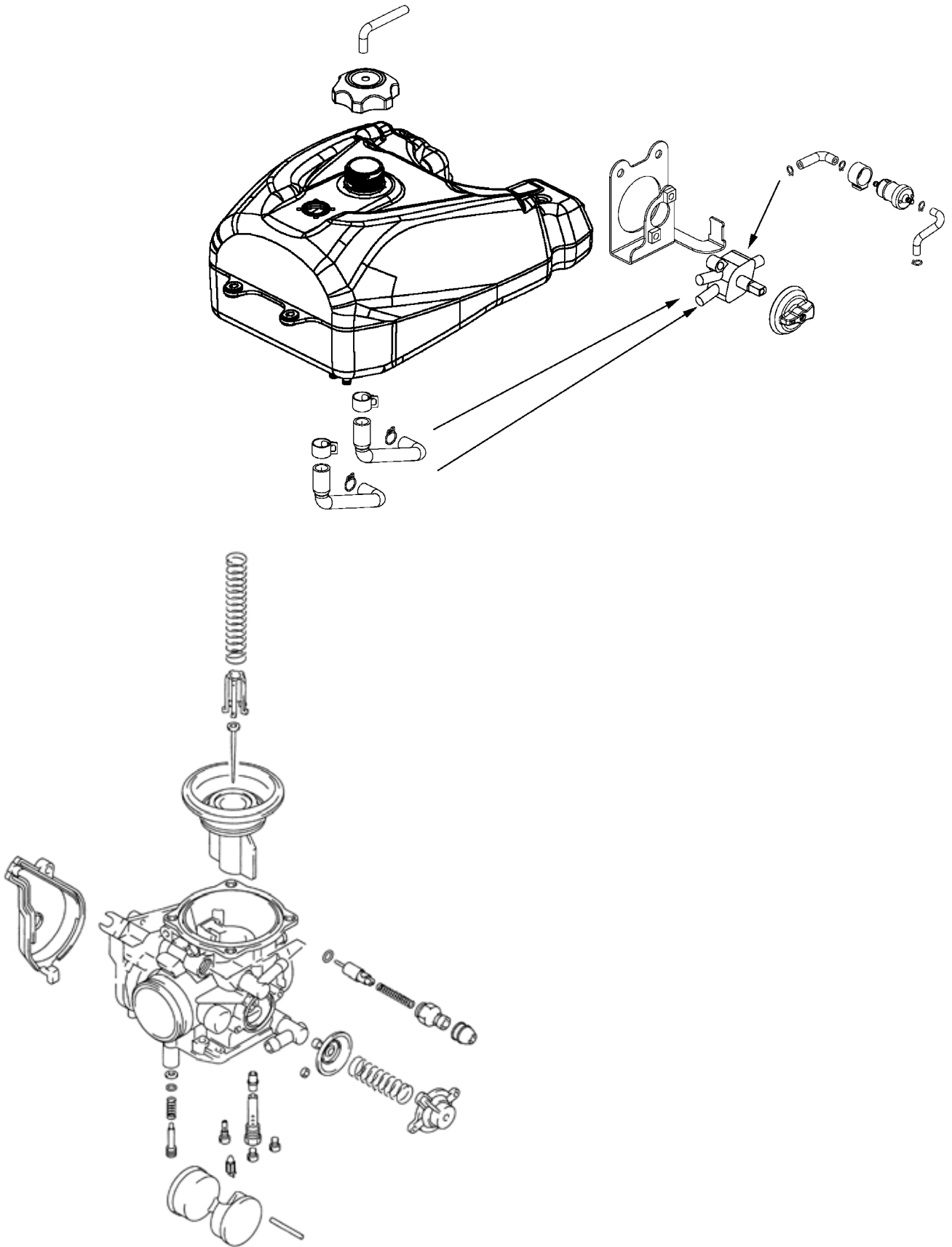
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### FUEL SYSTEM

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# 5. FUEL SYSTEM



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### SERVICE INFORMATION

#### GENERAL INSTRUCTIONS



Gasoline is very dangerous. When working with gasoline, keep sparks and flames away from the working area.  
Gasoline is extremely flammable and is explosive under certain conditions. Be sure to work in a well-ventilated area.

- Do not bend or twist control cables. Damaged control cables will not operate smoothly.
- When disassembling fuel system parts, note the locations of O-rings. Replace them with new ones during reassembly.
- Before float chamber disassembly, loosen the drain screw to drain the residual gasoline into a clean container.
- After the carburetor is removed, plug the intake manifold side with a clean shop towel to prevent foreign matters from entering.
- When cleaning the carburetor air and fuel jets, the O-rings and diaphragm must be removed first to avoid damage. Then, clean with compressed air.
- When the machine is not used for over one month, drain the residual gasoline from the float chamber to avoid erratic idling and clogged slow jet due to deteriorated fuel.

#### SPECIFICATIONS

| Item                    |          | Standard             |
|-------------------------|----------|----------------------|
| Type                    |          | CVK                  |
| I.D. No.                |          | L88A ATKF            |
| Bore size               |          | φ36.5 mm (φ1.46 in)  |
| Float level             |          | 17 mm (0.67 in)      |
| Main jet No.            | ON ROAD  | #128                 |
|                         | OFF ROAD | #130                 |
| Slow jet No.            |          | #40                  |
| Choke jet No.           |          | #90                  |
| Idle speed              |          | 1500±100 rpm         |
| Throttle grip free play |          | 3~5 mm (0.12~0.2 in) |
| Pilot screw opening     |          | 1 1/4±1/2            |

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### TROUBLESHOOTING

#### **Engine cranks but won't start**

- No fuel in tank
- No fuel to carburetor
- Cylinder flooded with fuel
- No spark at plug
- Clogged air cleaner
- Intake air leak
- Improper throttle operation

#### **Engine idles roughly, stalls or runs poorly**

- Excessively used choke
- Ignition malfunction
- Faulty carburetor
- Poor quality fuel
- Lean or rich mixture
- Incorrect idle speed

#### **Misfiring during acceleration**

- Faulty ignition system
- Faulty carburetor

#### **Backfiring at deceleration**

- Float level too low
- Incorrectly adjusted carburetor
- Faulty exhaust muffler

#### **Engine lacks power**

- Clogged air cleaner
- Faulty carburetor
- Faulty ignition system

#### **Lean mixture**

- Clogged carburetor fuel jets
- Float level too low
- Intake air leak
- Clogged fuel tank cap breather hole
- Kinked or restricted fuel line

#### **Rich mixture**

- Float level too high
- Clogged air jets
- Clogged air cleaner

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### FUEL TANK

#### REMOVAL

**Warning**

- Keep sparks and flames away from the work area.
- Wipe off any spilled gasoline.

Remove the seat, right and left side frame cover and fuel tank cover (refer to the “**FRAME COVERS**” section in the chapter 2).

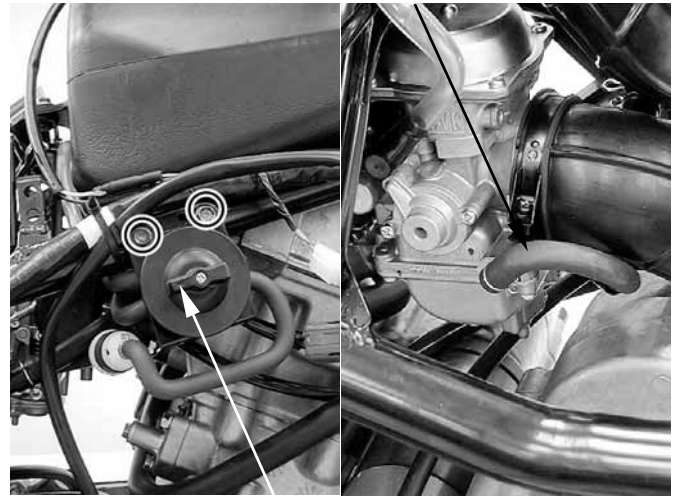
Switch the fuel valve “OFF”.  
Remove the 2 mounting bolts.  
Disconnect the fuel tube from carburetor.

Disconnect the fuel unit connectors.  
Remove the two bolts and two nuts from the fuel tank, then remove the fuel tank.

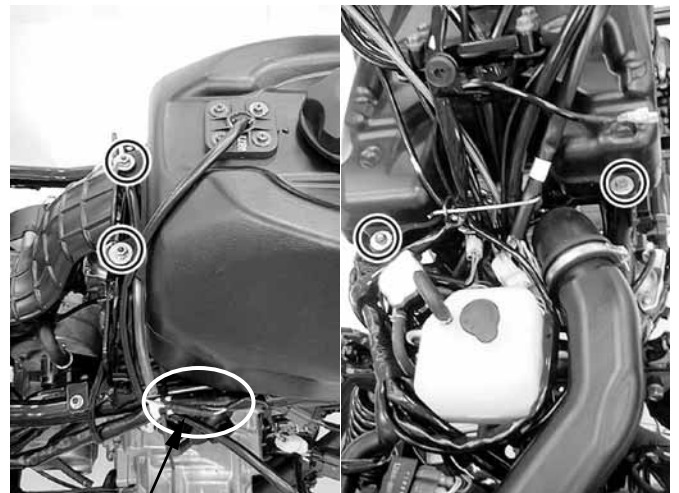
#### INSTALLATION

Fuel tank installation is in the reverse order of removal.

Fuel Tube



Fuel Valve



Fuel Unit Connectors

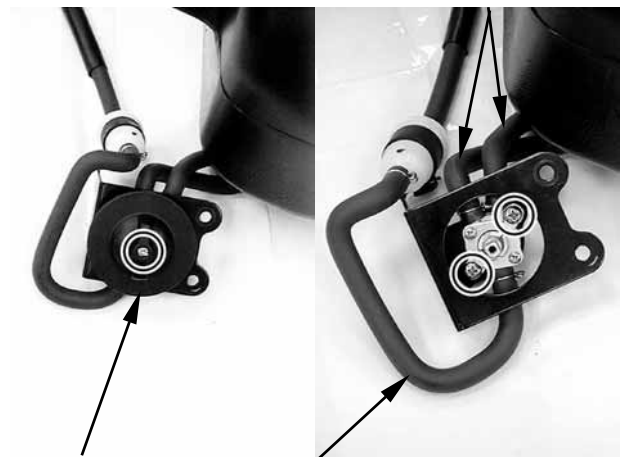
### FUEL VALVE

#### REMOVAL

- \*
- Keep sparks and flames away from the work area.
  - Drain gasoline into a clean container.

Remove the screw and then remove control switch.  
Disconnect all fuel tubes and remove the two screws, then remove fuel valve.

Fuel Tubes



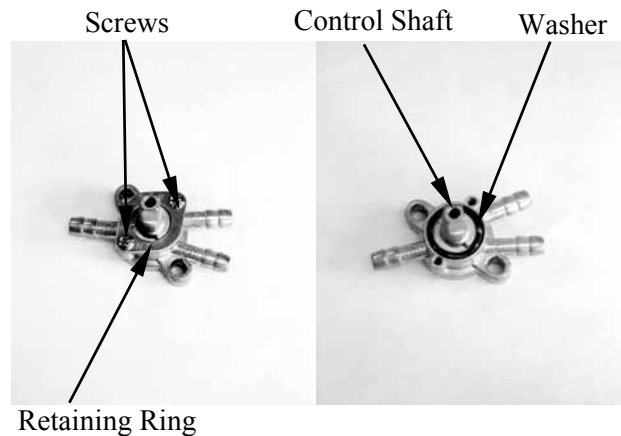
Control Switch

Fuel Tube

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### DISASSEMBLY

Remove the two screws on the retaining ring and then remove retaining ring.  
Remove the washer and control shaft.

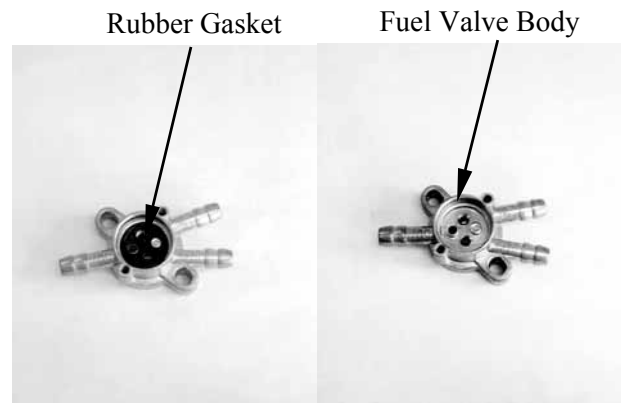


Remove the rubber gasket from the fuel valve body.

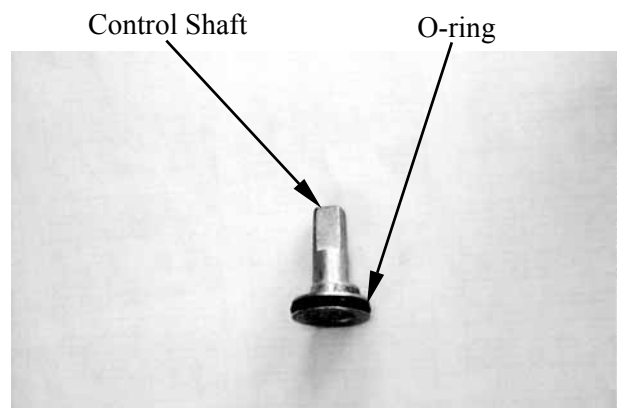
### INSPECTION

Inspect the fuel valve body for dirt and clog.  
Clean if necessary.

Replace the rubber gasket with new ones if they are damaged or deteriorated.



Replace the O-ring with a new one if they are damaged or deteriorated.

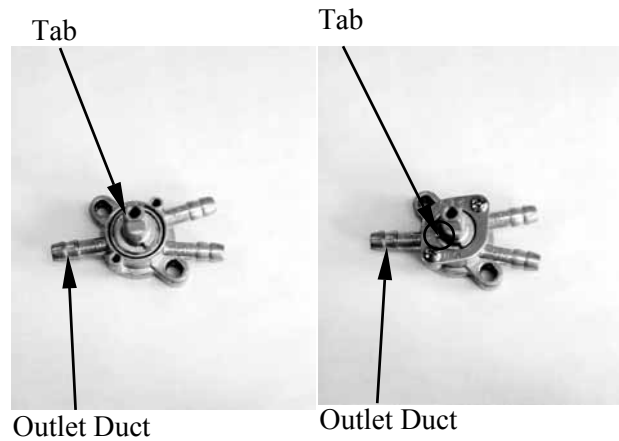


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### ASSEMBLY

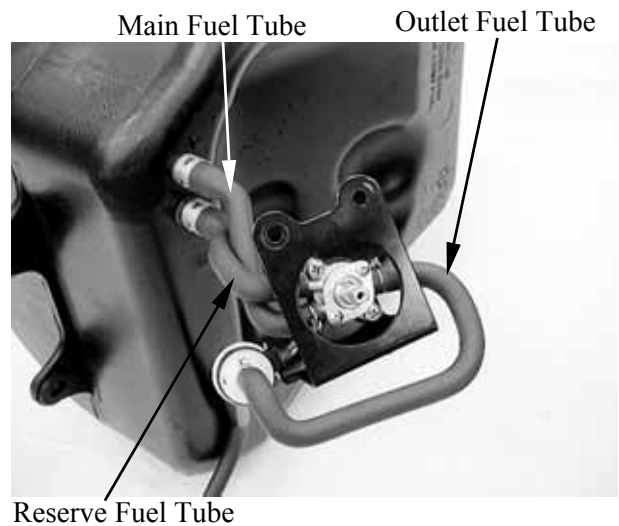
Reverse the “DISASSEMBLY” procedures.  
Install rubber gasket, control shaft, washer  
and retaining ring.

- \* Aligning the tab on the control shaft with the outlet duct in the fuel valve body.
- \* Aligning the tab on the retaining ring with the outlet duct in the fuel valve body.

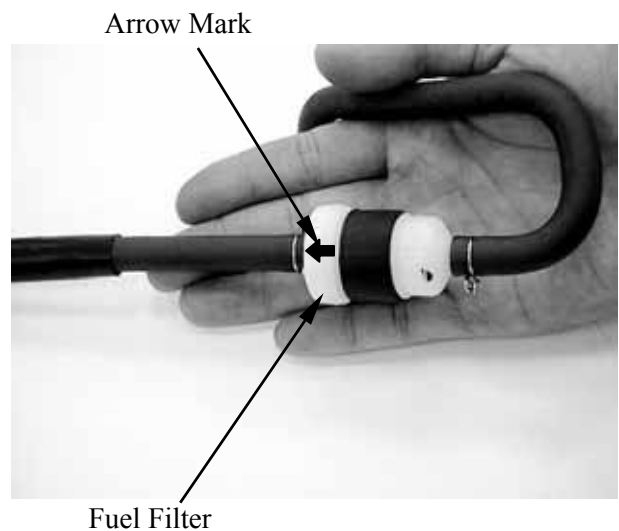


### INSTALLATION

Reverse the “REMOVEAL” procedures.  
Connect all fuel tube.



Install the fuel filter with the arrow mark facing forward.



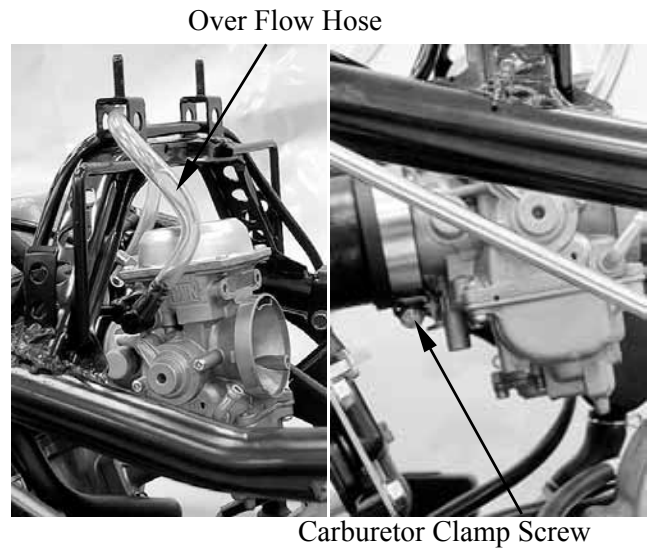
## 5. FUEL SYSTEM

### CARBURETOR REMOVAL/CHOKE INSPECTION/INSTALLATION

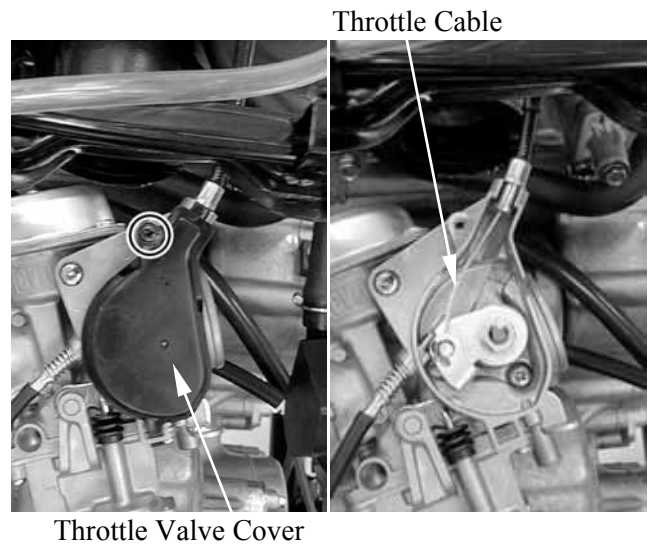
#### REMOVAL

Remove the fuel tank (refer to the “**FUEL TANK**” section in this chapter).  
Remove the air cleaner housing (refer to the “**AIR CLEANER HOUSING**” section in this chapter).

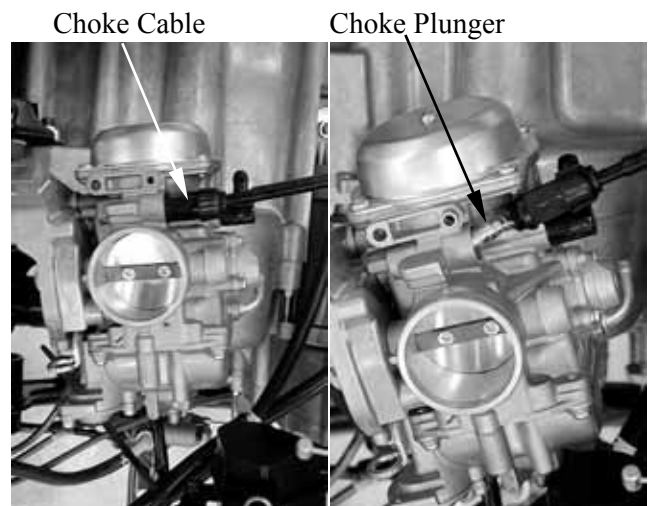
Disconnect the over flow hose.  
Loosen the carburetor clamp screw, then remove carburetor from intake pipe.



Remove a screw, then remove the throttle valve cover.  
Disconnect the throttle cable from carburetor.



Remove the choke cable/choke plunger from carburetor, then remove the carburetor.

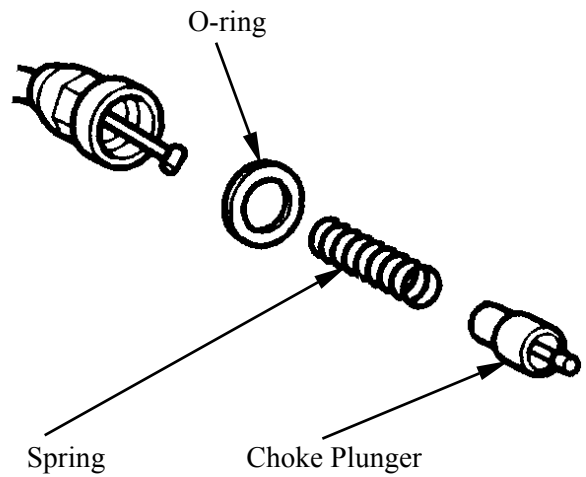




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### CHOKE INSPECTION

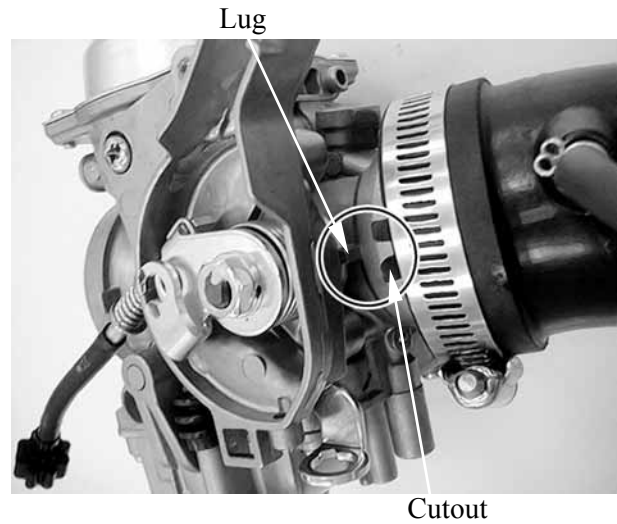
Inspection the choke plunger, spring and O-ring for bends, wear or damage.



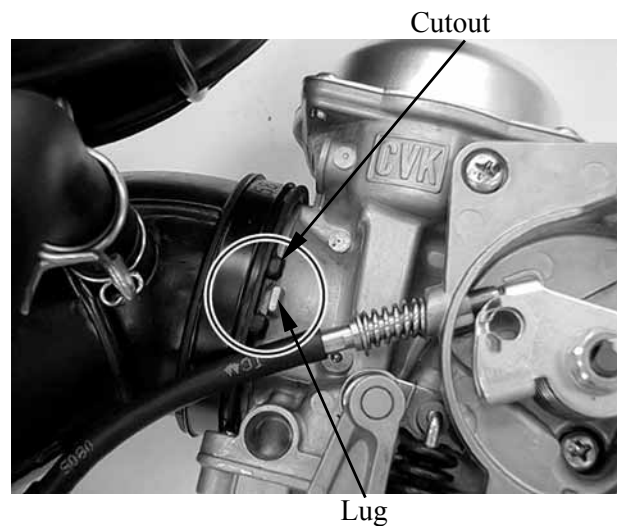
### INSTALLATION

Installation is in the reverse order of removal.

\* Make sure the lug on the carburetor into the cutout on the intake pipe.



\* Make sure the lug on the carburetor into the cutout on the air cleaner hose.



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### CARBURETOR DISASSEMBLY/INSPECTION/ ASSEMBLY

#### DISASSEMBLY

Remove the carburetor (refer to the "CARBURETOR REMOVAL/CHOKE INSPECTION/INSTALLATION" section in this chapter).

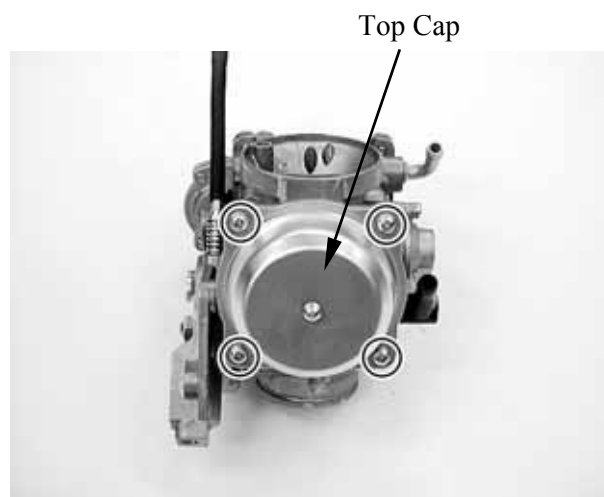
Loosen the drain screw to drain the gasoline from the float chamber.

- \*
- Keep sparks and flames away from the work area.
  - Drain gasoline into a clean container.
  - Do not loosen or tighten the painted bolts and screws of the carburetor. Loosening or tightening them can cause throttle and piston valve synchronization failure.

Remove the four screws and top cap

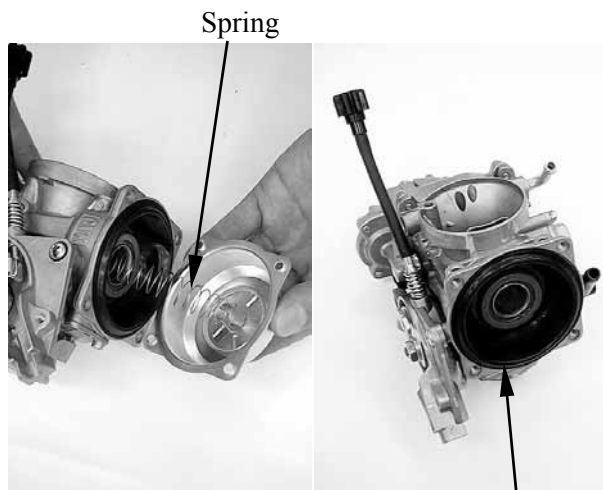


Fuel Drain Plug



Top Cap

Remove the spring and piston valve.

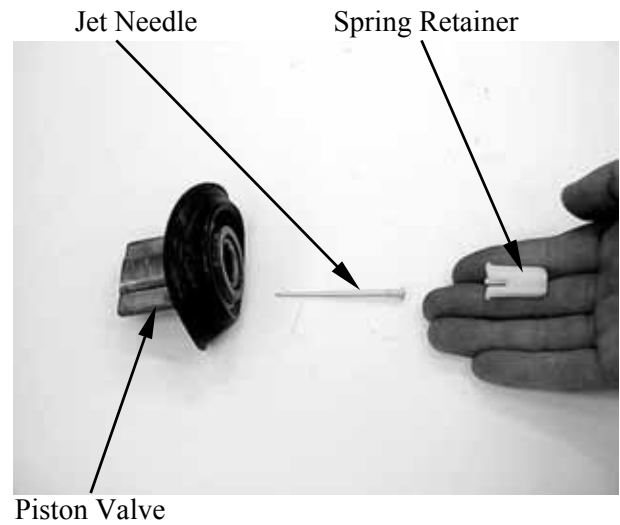


Spring

Piston Valve

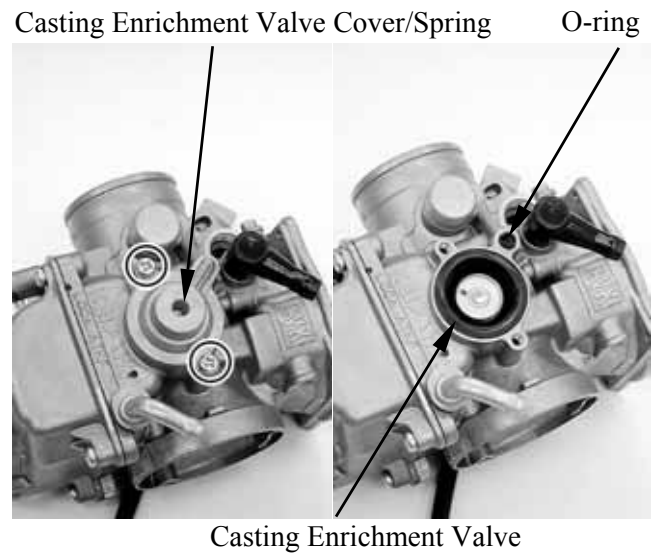
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Remove the spring retainer, jet needle.



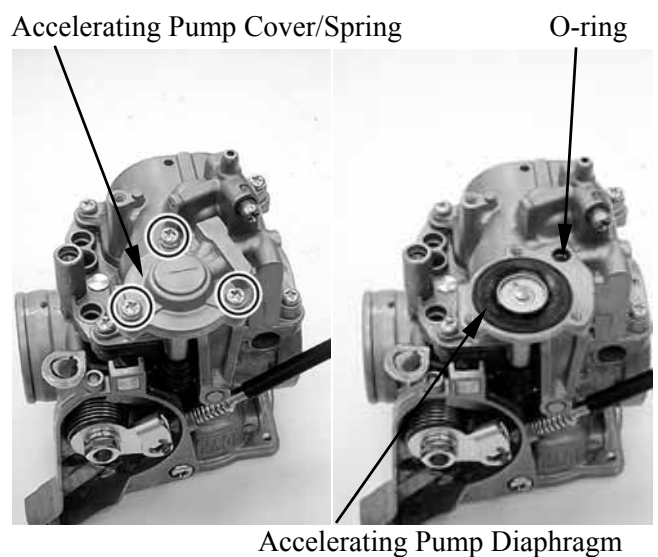
Remove the two screws and casting enrichment valve cover and then take out the spring.

Remove the casting enrichment valve and O-ring.



Remove the three screws and accelerating pump cover and then take out the spring.

Remove the accelerating pump and O-ring.



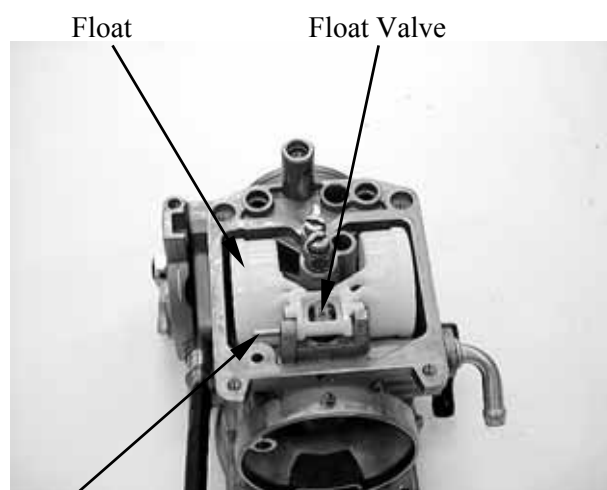
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Remove the four screws and float chamber.



Float Chamber

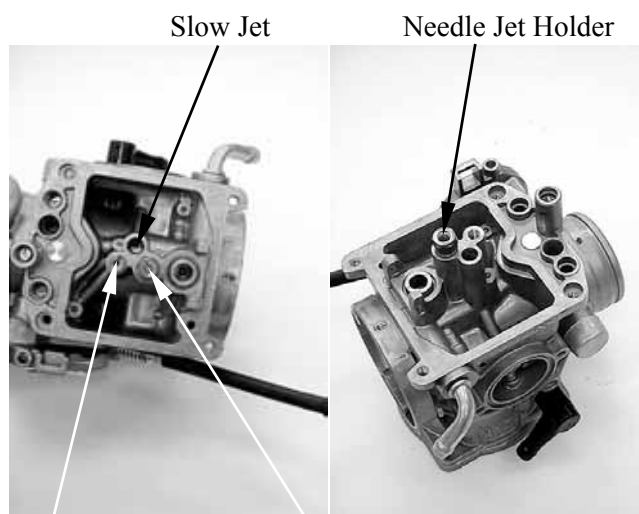
Pull float pin outs, then remove the float and float valve.



Float Valve

Remove the slow jet.  
Remove choke jet.  
Remove main jet.

Remove the needle jet holder.



Choke Jet

Main Jet

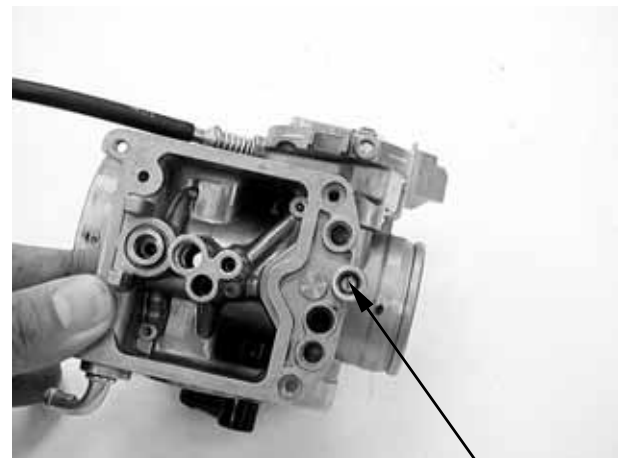
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Remove the needle jet.



Remove the pilot screw, spring, washer and O-ring.

\* Before pilot screw removal, slowly turn the pilot screw clockwise and count the number of turns until the screw is lightly seated. Make a note of how many turns were made so the screw can be reset correctly.



Pilot Screw

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### INSPECTION

#### CARBURETOR BODY/JETS CLEANING

Check carburetor body and each jet for wear or damage.

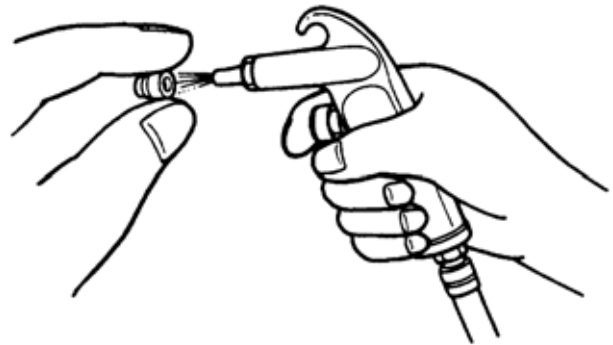
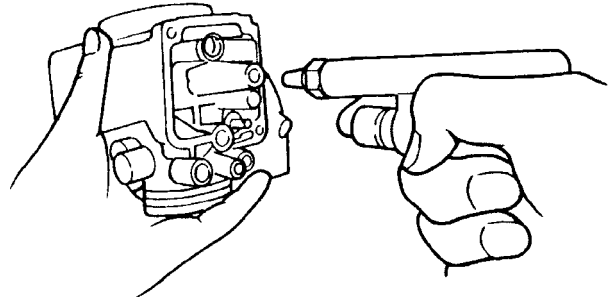
Clean all jets with a spray-type carburetor cleaner and dry them using compressed air.

Clean all circuits of the carburetor thoroughly-not just the perceived problem area.

Clean the circuits in the carburetor body with a spray-type cleaner and allow each circuit to soak, if necessary, to loosen dirt and varnish. Blow the body dry using compressed air.

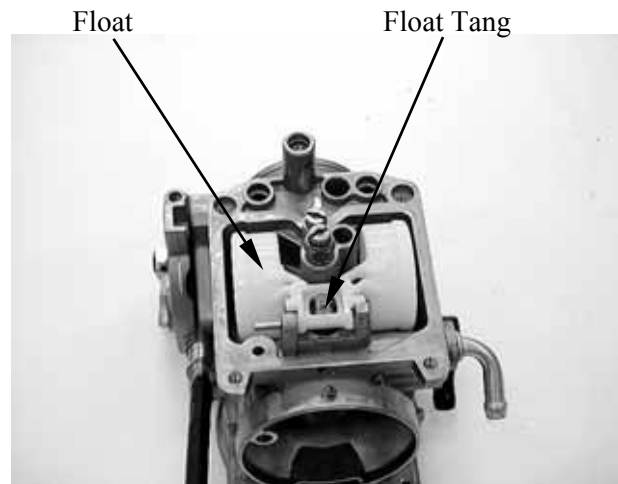
- \* • Some carburetor cleaning chemicals, especially dip type soaking solutions, are very corrosive and must be handled carefully. Always follow the chemical manufacturer's instructions on proper use, handling and storage.
- Do not use a wire to clean the jets or passageways. A wire can damage the jets and passageways. If the components cannot be cleaned with a spray cleaner it may be necessary to use a dip-type cleaning solution and allow them to soak. Always follow the chemical manufacturer's instructions for proper use and cleaning of the carburetor components.

After cleaning, reassemble the carburetor with new seals.



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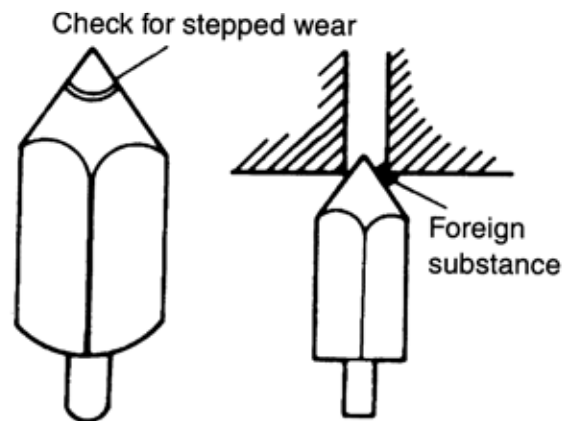
Check the float and float tang for deformation or damage.



Check the float valve and valve seat for foreign substance, clogging or damage.

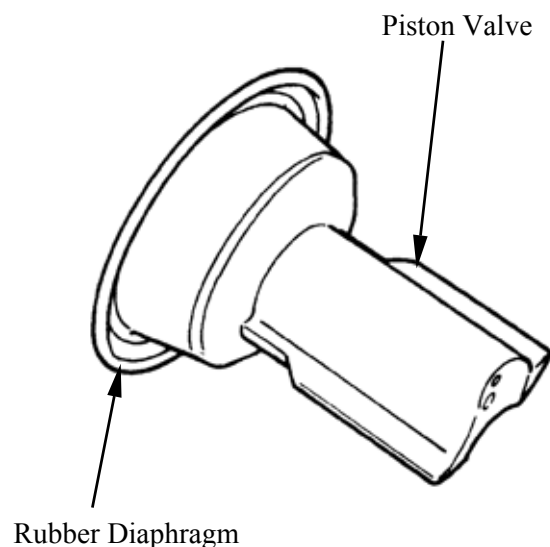
Check the tip of the float valve, where it contacts the valve seat, for stepped wear or contamination.

Check the operation of the float valve.



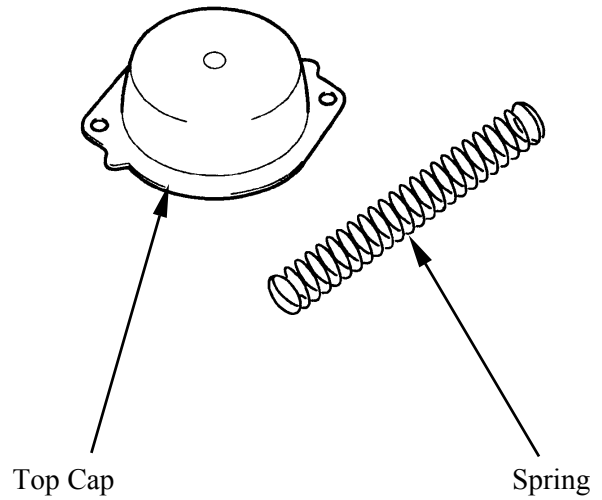
Check the piston valve for scratches, wear and damage.

Check the rubber diaphragm for tears.



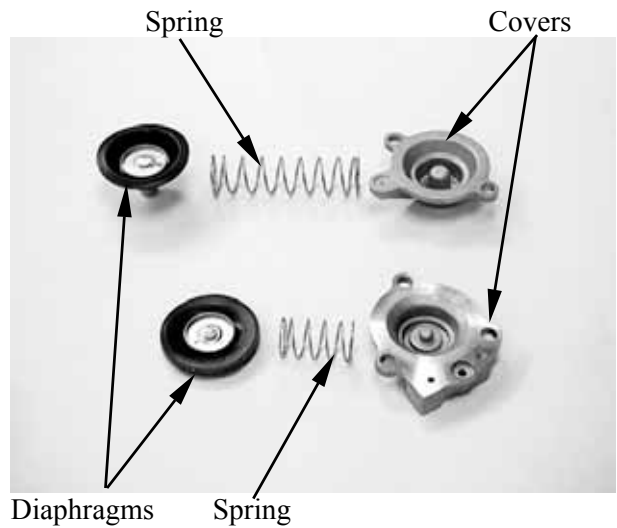
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Check top cap and spring for cracks and damage.

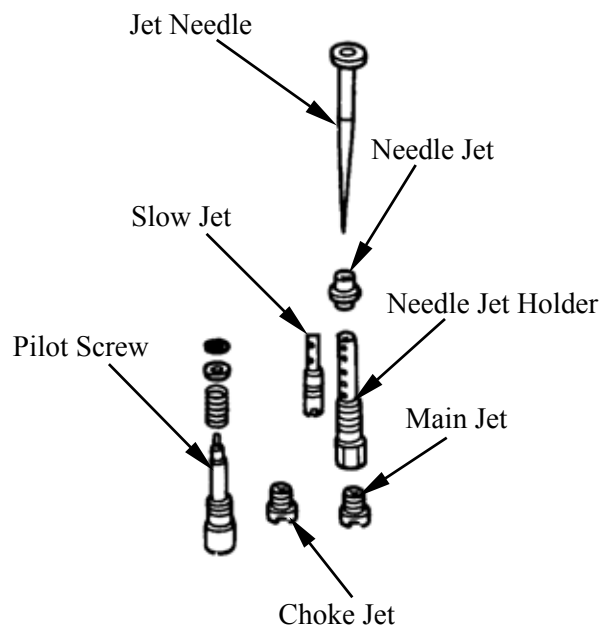


Check the diaphragms (coasting enrichment valve and accelerating pump) for tears.

Check the spring (coasting enrichment valve and accelerating pump) and cover (coasting enricher and accelerating pump) for damage.



Check jet needle, needle jet, slow jet, needle jet holder, main jet, choke jet and pilot screw for bends, wear and damage.

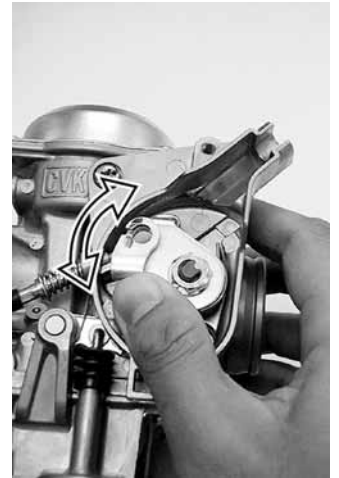
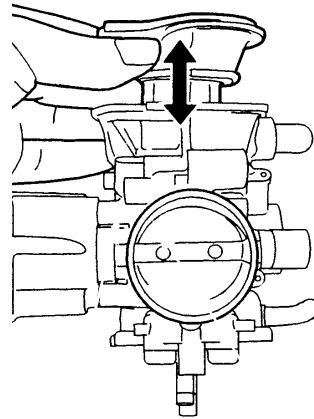




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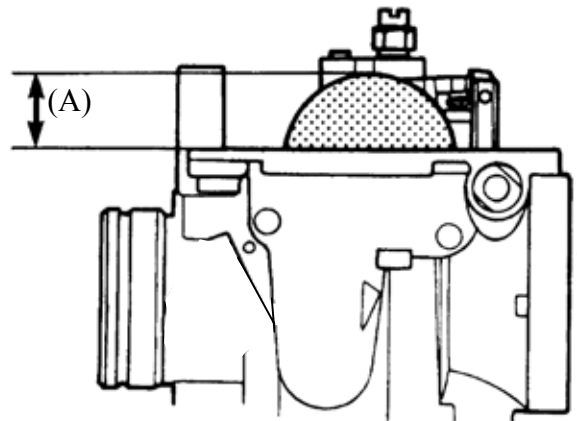
Insert the piston valve into the carburetor body, and check for free movement. If stick is found, replace the part with a new one.

Check throttle valve for free movement.  
If stick is found, replace the part with a new carburetor.



Check the float level after checking the float valve, valve seat and float.

Set the carburetor so that the float valve end just contacts the float arm lip. Make sure the float valve tip is securely in contact with the valve seat.  
Measure the float level with the float level gauge.



**Float level (A):** 17 mm (0.67 in)

Bend the tongue as necessary to bring the float height (A) to the specified level.

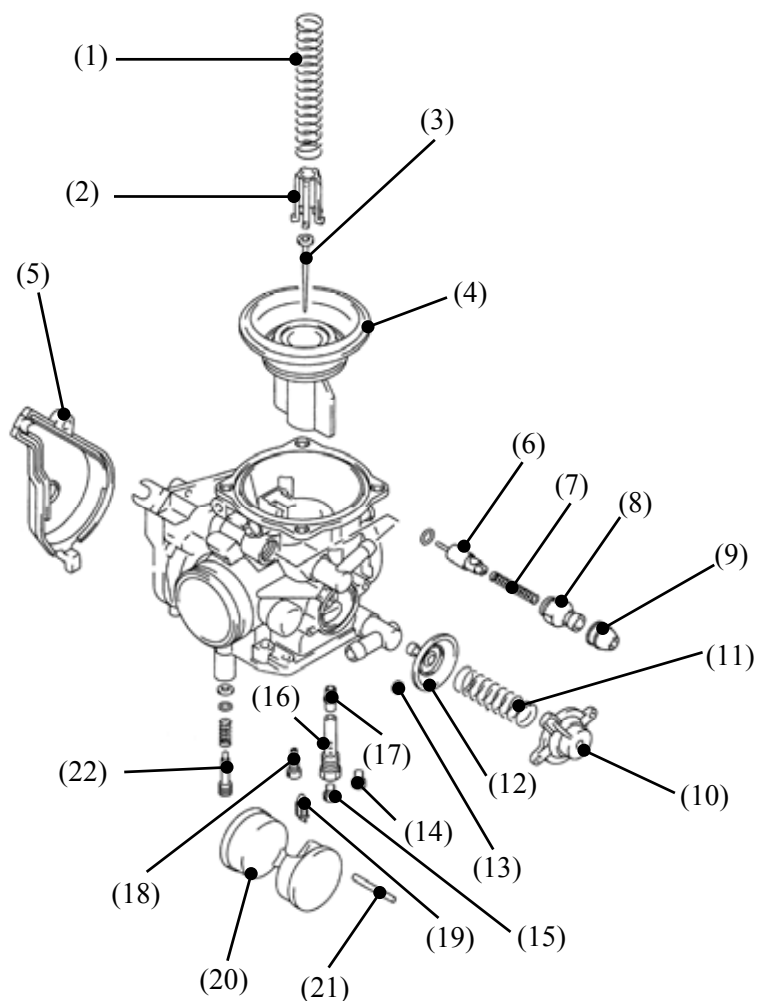
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### ASSEMBLY

Carburetor reassembly can be performed in the reverse order of disassembly. When reassembling, carefully observe the following instructions.

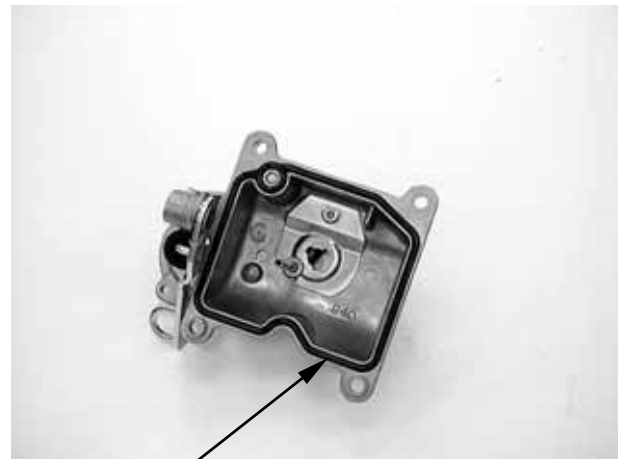
- \*
- Assemble the parts taking consideration of their function.
  - Before assembling, wash all of the parts in a clean petroleum based solvent.
  - Replace O-rings and seals with new ones.
  - After cleaning, reinstall the pilot screw to the original setting by turn the screw in until it lightly seats, and then backing it out the same number of turns counted during disassembly.

- (1) Spring
- (2) Retainer
- (3) Jet needle
- (4) Piston valve
- (5) Cover
- (6) Choke plug
- (7) Spring
- (8) Guide holder
- (9) Cap
- (10) Cover
- (11) Spring
- (12) Casting enrichment valve
- (13) O-ring
- (14) Choke jet
- (15) Main jet
- (16) Needle jet holder
- (17) Needle jet
- (18) Slow jet
- (19) Float valve
- (20) Float
- (21) Float pin
- (22) Pilot screw



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Fit a new O-ring in to the float chamber groove securely.

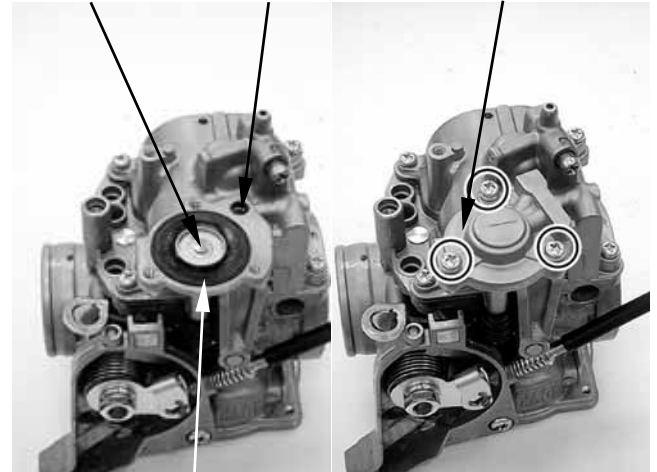


O-ring

Assemble the accelerating pump diaphragm and new O-ring.

\* Install the accelerating pump diaphragm with the small convex facing

Small Convex      O-ring      Accelerating Pump Cover



Accelerating Pump Diaphragm

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### AIR CLEANER HOUSING

#### REMOVAL/INSTALLATION

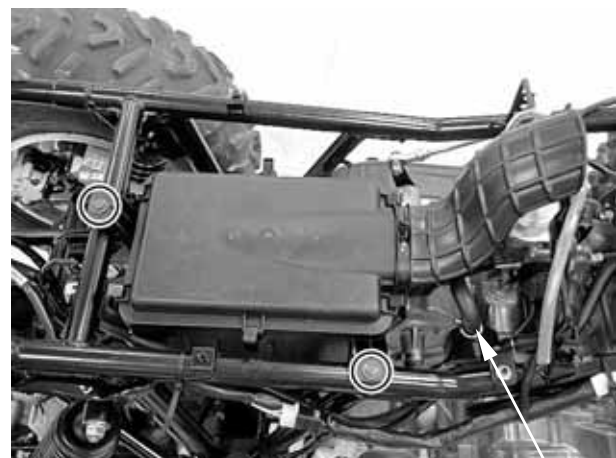
Remove the seat and side covers (refer to the “**FRAME COVERS**” section in the chapter 2).

Loosen the carburetor-to-air cleaner connecting tube band screw.



Remove the clip and disconnect the crankcase breather hose from the crankcase. Remove the mounting bolts and then remove the air cleaner housing from the carburetor and the intake duct.

Installation is in the reverse order of removal.



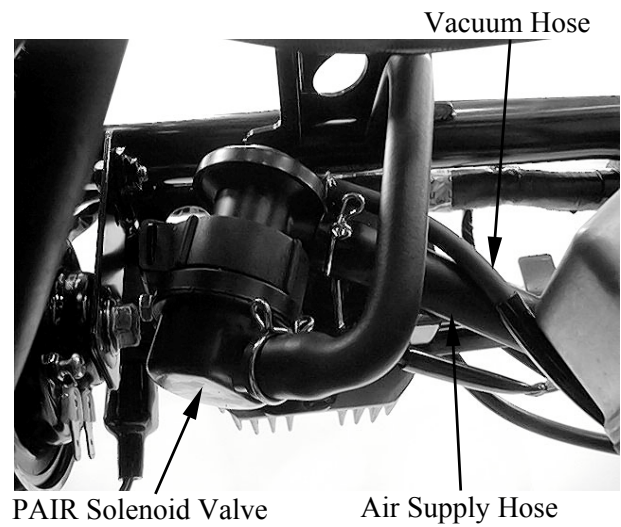
Breather Hose

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### PAIR SOLENOID VALVE

#### REMOVAL/INSTALLATION

Disconnect air supply hose and vacuum hose from the air solenoid valve, then remove the air solenoid valve from frame.



Installation is in the reverse order of removal.

