

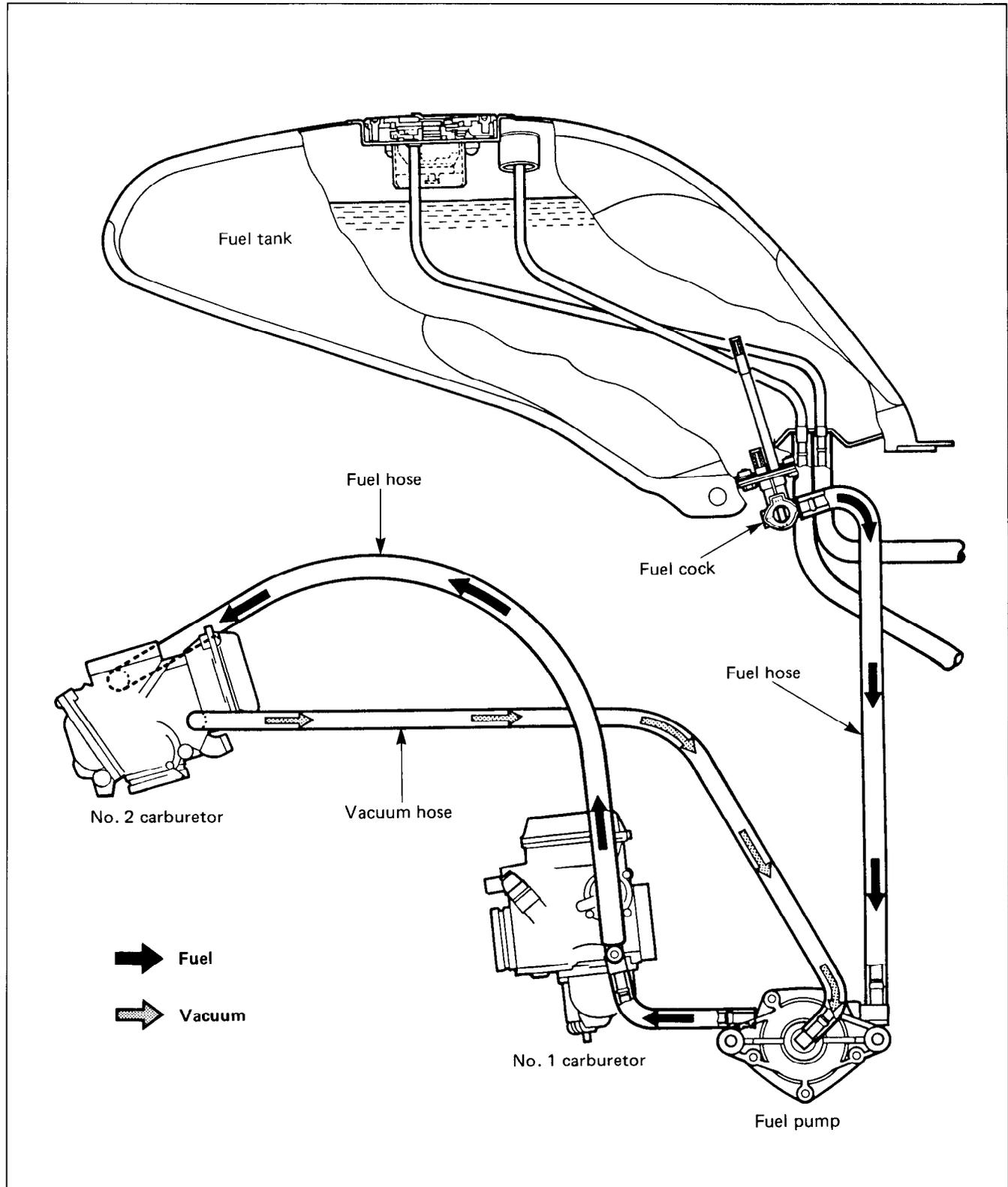
# FUEL AND LUBRICATION SYSTEM

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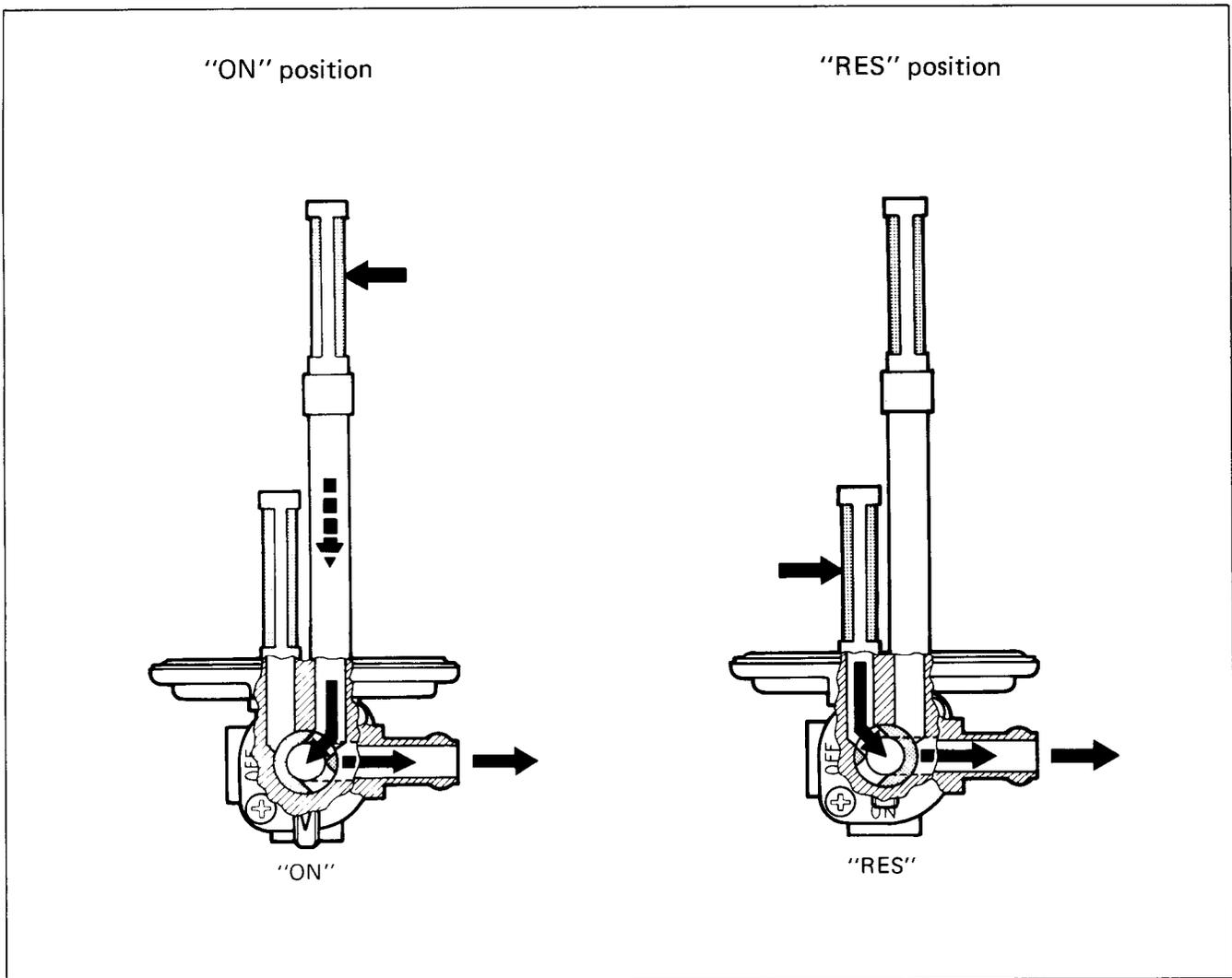
# FUEL SYSTEM

A vacuum operated fuel pump is used to supply fuel from the fuel tank to the carburetor. The pump is necessary as the fuel cock is mounted lower than the carburetor fuel bowl. In addition, the pump assures an adequate supply of fuel to the engine under the steepest climbing conditions as well as while running across rough terrain.



## FUEL COCK

A valve is provided at the top of the fuel cock lever and can switch over to "OFF", "ON" and "RES". With the valve "ON" (normal), the main passage opens. With the valve "OFF", both holes close.



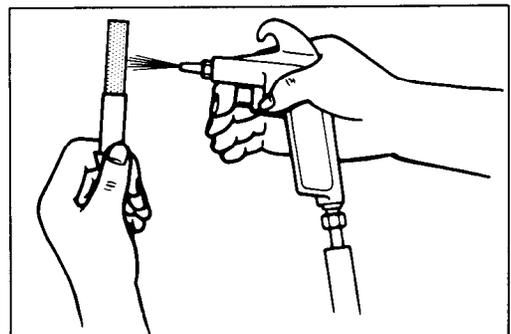
### WARNING:

Gasoline is very explosive. Extreme care must be taken.

Gaskets must be replaced with new ones to prevent fuel leakage.

### INSPECTION AND CLEANING

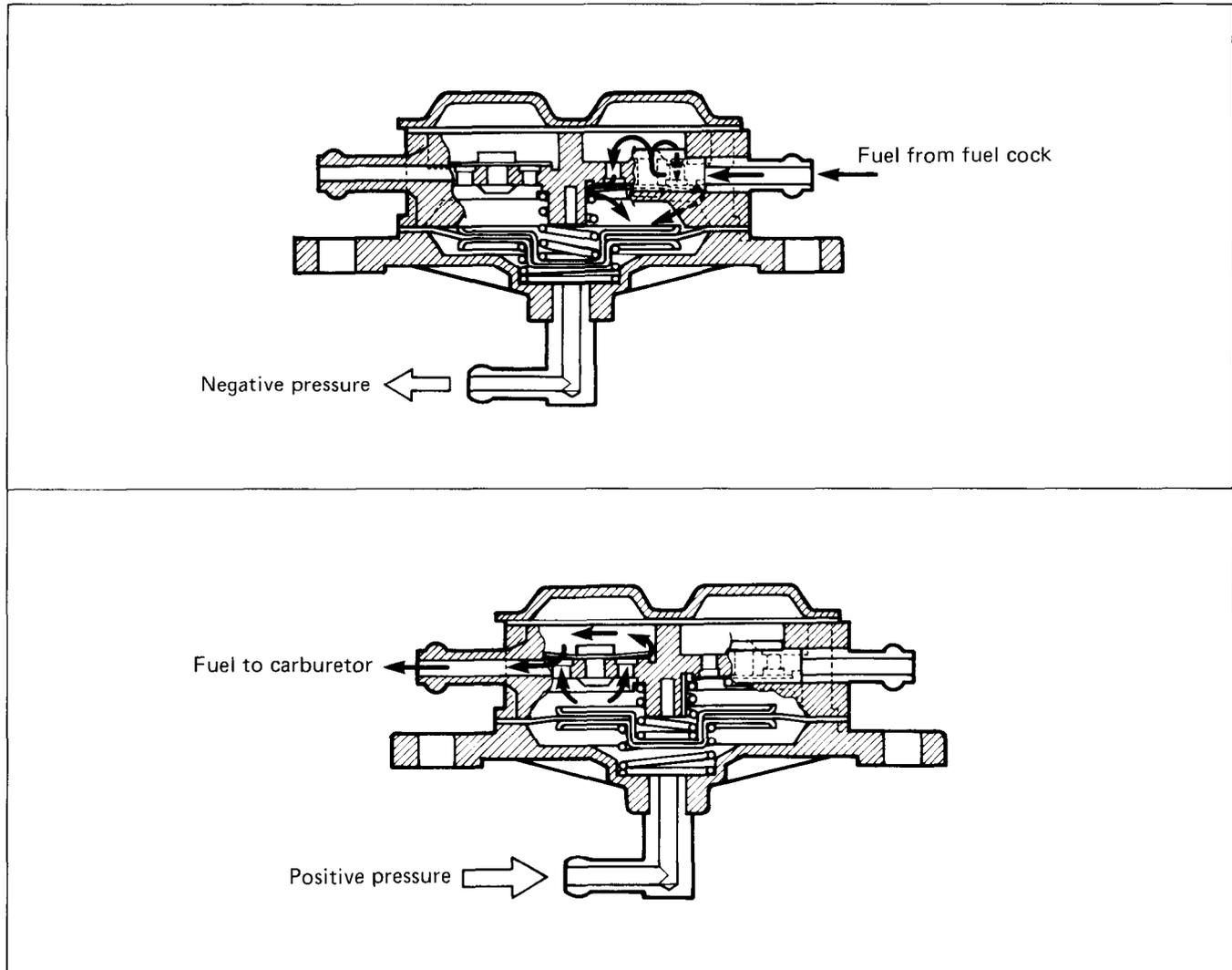
If the fuel strainer is dirty with sediment or rust, fuel will not flow smoothly and loss in engine power may result. Clean the fuel strainer with compressed air.



## FUEL PUMP

Vacuum pulsations from the carburetor intake tract are used to operate the pump diaphragm. When vacuum is applied to the diaphragm, fuel is drawn from the tank into the diaphragm's chamber. As positive pressure is applied, the spring forces the diaphragm back, pushing the fuel through the outlet to the carburetor.

A series of check valves is used in the fuel flow route to allow the fuel to move in only one direction, through the pump body.

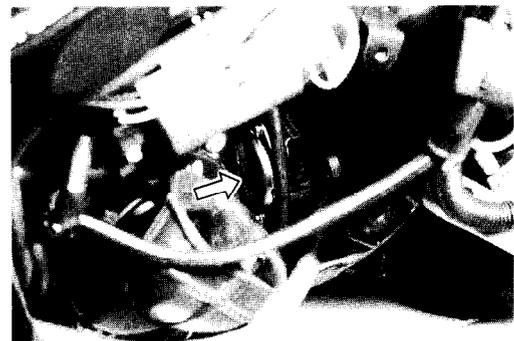


### FUEL PUMP INSPECTION

In case of fuel leak at fuel pump or air leak into the fuel line, check the following items:

- \* Broken diaphragm
- \* Malfunction of check valve
- \* Loose screws on fuel pump

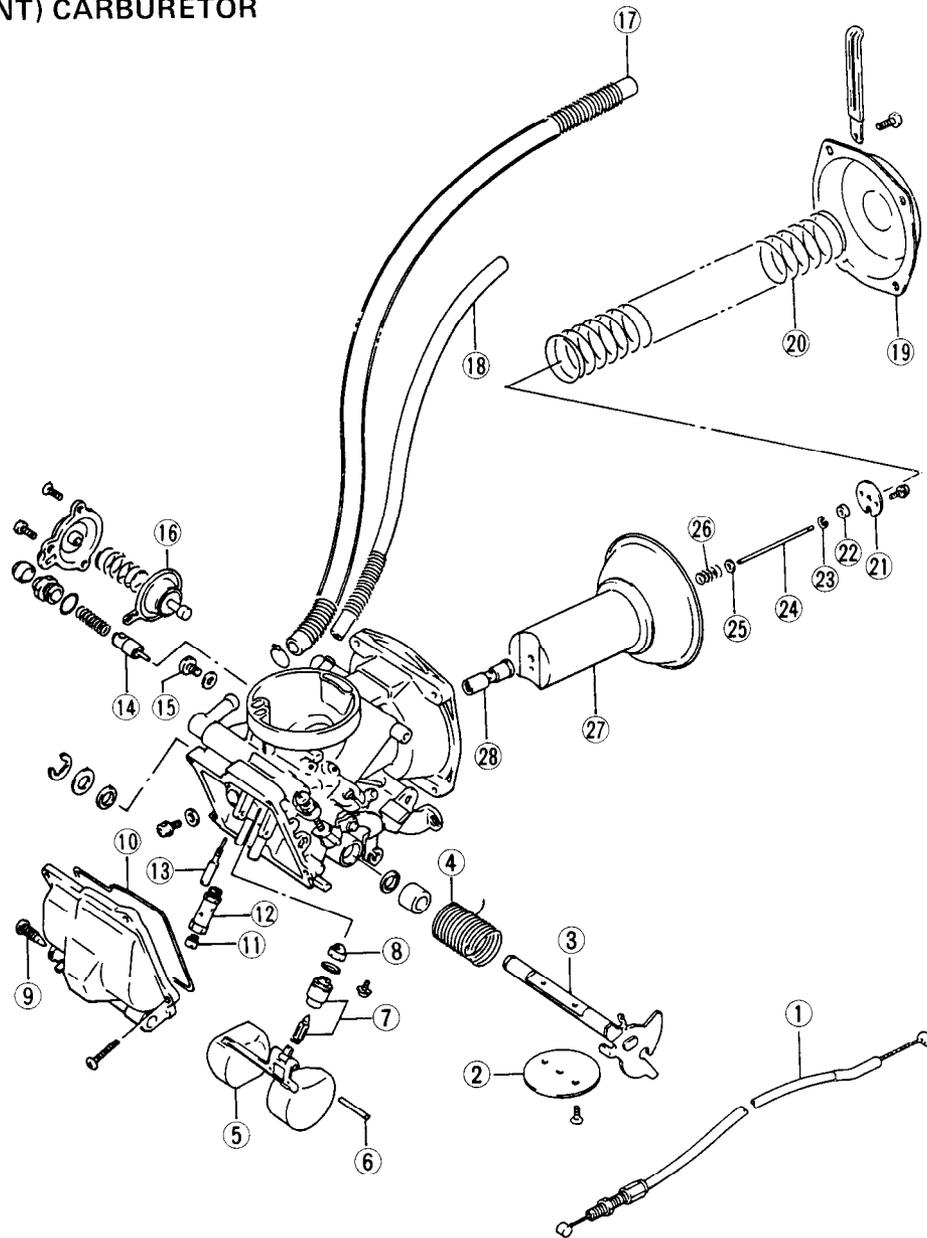
If any defect is found, replace the fuel pump assembly with a new one.



# CARBURETOR

## CARBURETOR CONSTRUCTION

No. 2 (FRONT) CARBURETOR

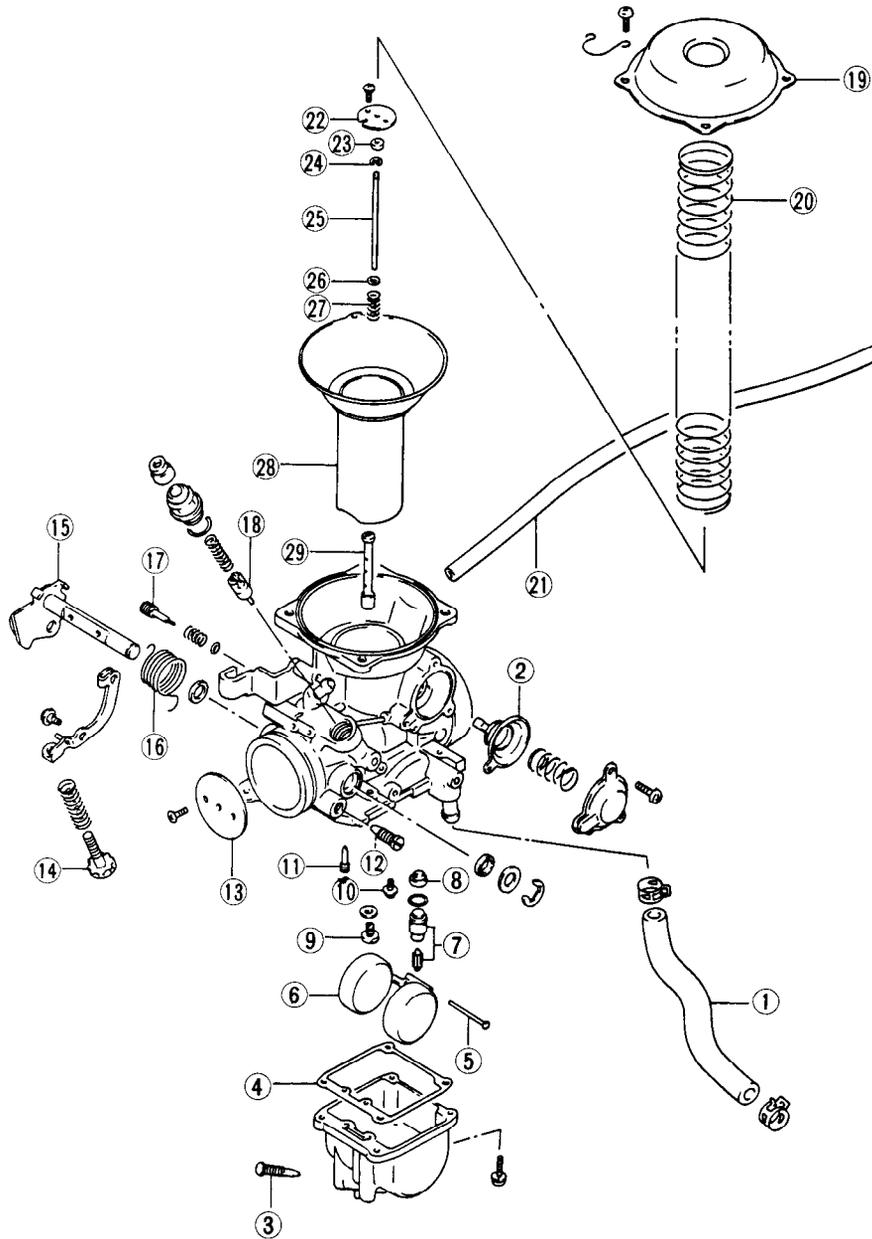


- ① Synchronizing cable
- ② Throttle valve
- ③ Throttle valve shaft
- ④ Throttle valve return spring
- ⑤ Float
- ⑥ Float pin
- ⑦ Needle valve
- ⑧ Filter
- ⑨ Drain screw
- ⑩ Seal ring

- ⑪ Main jet
- ⑫ Main jet holder
- ⑬ Pilot jet
- ⑭ Starter plunger
- ⑮ Balance screw
- ⑯ Coasting valve
- ⑰ Fuel hose
- ⑱ Breather hose
- ⑲ Carburetor top cap
- ⑳ Piston valve spring

- ㉑ Jet needle stopper plate
- ㉒ Spacer
- ㉓ E-ring
- ㉔ Jet needle
- ㉕ Washer
- ㉖ Spring
- ㉗ Piston valve
- ㉘ Needle jet

No. 1 (REAR) CARBURETOR



- |                              |                                |                            |
|------------------------------|--------------------------------|----------------------------|
| ① Fuel hose                  | ⑪ Pilot jet                    | ⑳ Breather hose            |
| ② Coasting valve             | ⑫ Balance screw                | ㉑ Jet needle stopper plate |
| ③ Drain screw                | ⑬ Throttle valve               | ㉒ Spacer                   |
| ④ Gasket                     | ⑭ Throttle stop screw          | ㉓ E-ring                   |
| ⑤ Float pin                  | ⑮ Throttle valve shaft         | ㉔ Jet needle               |
| ⑥ Float                      | ⑯ Throttle valve return spring | ㉕ Washer                   |
| ⑦ Needle valve               | ⑰ Pilot screw                  | ㉖ Spring                   |
| ⑧ Filter                     | ⑱ Starter plunger              | ㉗ Piston valve             |
| ⑨ Main jet                   | ㉒ Carburetor top cap           | ㉘ Needle jet               |
| ⑩ Needle valve stopper screw | ㉓ Piston valve spring          |                            |

**SPECIFICATIONS**

**CARBURETOR**

ITEM	SPECIFICATION	
	E-02, 04, 15, 21, 25, 28, 34	
Carburetor type	MIKUNI BS36SS (No. 1)	MIKUNI BDS36SS (No. 2)
Bore size	36 mm	←
I.D. No.	45C00	←
Idle r/min.	1100 ± 100 r/min.	←
Float height	27.7 ± 1.0 mm (1.09 ± 0.04 in)	9.1 ± 1.0 mm (0.36 ± 0.04 in)
Main jet (M.J.)	# 132.5	# 120
Main air jet (M.A.J.)	1.8 mm	←
Jet needle (J.N.)	5F108-3rd	5D49-3rd
Needle jet (N.J.)	P-4	←
Throttle valve (Th.V.)	# 115	←
Pilot jet (P.J.)	# 47.5	# 40
By-pass (B.P.)	0.8 mm x 2PCS	0.8 mm x 3 PCS
Pilot outlet (P.O.)	0.8 mm	1.0 mm
Valve seat (V.S.)	1.5 mm	←
Starter jet (G.S.)	# 25	# 22.5
Pilot screw (P.S.)	(PRE-SET) 1-3/8 turns back	(PRE-SET) 1-1/8 turns back
Pilot air jet (P.A.J.)	No. 1: (# 70), No. 2: (2.0 mm)	No. 1: (# 65), No. 2: (1.2 mm)
Throttle cable play	0.5 – 1.0 mm (0.02 – 0.04 in)	←
Choke cable play	0.5 – 1.0 mm (0.02 – 0.04 in)	←

**CARBURETOR**

ITEM	SPECIFICATION	
	E-33	
Carburetor type	MIKUNI BS36SS (No. 1)	MIKUNI BDS36SS (No. 2)
Bore size	36 mm	←
I.D. No.	45C20	←
Idle r/min.	1200 ± 50 r/min.	←
Float height	27.7 ± 1.0 mm (1.09 ± 0.04 in)	9.1 ± 1.0 mm (0.36 ± 0.04 in)
Main jet (M.J.)	# 132.5	# 122.5
Main air jet (M.A.J.)	1.8 mm	←
Jet needle (J.N.)	5E72-1st	5D47-1st
Needle jet (N.J.)	P-7	P-2
Throttle valve (Th.V.)	# 125	# 110
Pilot jet (P.J.)	# 45	# 40
By-pass (B.P.)	0.8 mm x 2PCS	0.8 mm x 3PCS
Pilot outlet (P.O.)	0.8 mm	1.0 mm
Valve seat (V.S.)	1.5 mm	←
Starter jet (G.S.)	# 25	# 22.5
Pilot screw (P.S.)	(PRE-SET)	(PRE-SET)
Pilot air jet (P.A.J.) Thr	No. 1: (# 65), No. 2: (2.0 mm)	No. 1: (# 65), No. 2: (1.2 mm)
Throttle cable play	0.5 – 1.0 mm (0.02 – 0.04 in)	←
Choke cable play	0.5 – 1.0 mm (0.02 – 0.04 in)	←

**CARBURETOR**

ITEM	SPECIFICATION	
	E-03	
Carburetor type	MIKUNI BS36SS (No. 1)	MIKUNI BDS36SS (No. 2)
Bore size	36 mm	←
I.D. No.	45C10	←
Idle r/min.	1200 ± 50 r/min.	←
Float height	27.7 ± 1.0 mm (1.09 ± 0.04 in)	9.1 ± 1.0 mm (0.36 ± 0.04 in)
Main jet (M.J.)	# 132.5	# 122.5
Main air jet (M.A.J.)	1.8 mm	←
Jet needle (J.N.)	5E72-1st	5D47-1st
Needle jet (N.J.)	P-7	P-2
Throttle valve (Th.V.)	# 125	# 110
Pilot jet (P.J.)	# 45	# 40
By-pass (B.P.)	0.8 mm x 2PCS	0.8 mm x 3 PCS
Pilot outlet (P.O.)	0.8 mm	1.0 mm
Valve seat (V.S.)	1.5 mm	←
Starter jet (G.S.)	# 25	# 22.5
Pilot screw (P.S.)	(PRE-SET)	(PRE-SET)
Pilot air jet (P.A.J.)	No. 1: (# 65), No. 2: (2.0 mm)	No. 1: (# 65), No. 2: (1.2 mm)
Throttle cable play	0.5 – 1.0 mm (0.02 – 0.04 in)	←
Choke cable play	0.5 – 1.0 mm (0.02 – 0.04 in)	←

**CARBURETOR**

ITEM	SPECIFICATION	
	E-18	
Carburetor type	MIKUNI BS36SS (No. 1)	MIKUNI BDS36SS (No. 2)
Bore size	36 mm	←
I.D. No.	45C30	←
Idle r/min.	1200 ± 100 50 r/min.	←
Float height	27.7 ± 1.0 mm (1.09 ± 0.04 in)	9.1 ± 1.0 mm (0.36 ± 0.04 in)
Main jet (M.J.)	# 135	# 125
Main air jet (M.A.J.)	1.8 mm	←
Jet needle (J.N.)	5F107-3rd	5D48-3rd
Needle jet (N.J.)	P-4	P-2
Throttle valve (Th.V.)	# 115	←
Pilot jet (P.J.)	# 45	# 40
By-pass (B.P.)	0.8 mm x 2PCS	0.8 mm x 3PCS
Pilot outlet (P.O.)	0.8 mm	1.0 mm
Valve seat (V.S.)	1.5 mm	←
Starter jet (G.S.)	# 25	# 22.5
Pilot screw (P.S.)	(PRE-SET) 2 turns back	(PRE-SET) 1-1/4 turns back
Pilot air jet (P.A.J.)	No. 1: (# 55), No. 2: (1.85 mm)	No. 1: (# 65), No. 2: (1.2 mm)
Throttle cable play	0.5 – 1.0 mm (0.02 – 0.04 in)	←
Choke cable play	0.5 – 1.0 mm (0.02 – 0.04 in)	←

## 6-7 FUEL AND LUBRICATION SYSTEM

### CARBURETOR

ITEM	SPECIFICATION	
	E-01, 16	
Carburetor type	MIKUNI BS36SS (No. 1)	MIKUNI (BDS36SS (No. 2)
Bore size	36 mm	←
I.D. No.	45C40	←
Idle r/min.	1100 ± 100 r/min.	←
Float height	27.7 ± 1.0 mm (1.09 ± 0.04 in)	9.1 ± 1.0 mm (0.36 ± 0.04 in)
Main jet (M.J.)	# 135	# 122.5
Main air jet (M.A.J.)	1.8 mm	←
Jet needle (J.N.)	5F108-3rd	5D49-3rd
Needle jet (N.J.)	P-4	←
Throttle valve (Th.V.)	# 115	←
Pilot jet (P.J.)	# 47.5	# 40
By-pass (B.P.)	0.8 mm x 2PCS	0.8 mm x 3PCS
Pilot outlet (P.O.)	0.8 mm	1.0 mm
Valve seat (V.S.)	1.5 mm	←
Starter jet (G.S.)	# 25	# 22.5
Pilot screw (P.S.)	(PRE-SET) 1-1/2 turns back	(PRE-SET) 1-1/8 turns back
Pilot air jet (P.A.J.)	No. 1: (# 70), No. 2: (2.0 mm)	No. 1: (# 65), No. 2: (1.2 mm)
Throttle cable play	0.5 – 1.0 mm (0.02 – 0.04 in)	←
Choke cable play	0.5 – 1.0 mm (0.02 – 0.04 in)	←

### CARBURETOR

ITEM	SPECIFICATION	
	U-type of E-22	
Carburetor type	MIKUNI BS36SS (No. 1)	MIKUNI BDS36SS (No. 2)
Bore size	36 mm	←
I.D. No.	45C60	←
Idle r/min.	1100 ± 100 r/min.	←
Float height	27.7 ± 1.0 mm (1.09 ± 0.04 in)	9.1 ± 1.0 mm (0.36 ± 0.04 in)
Main jet (M.J.)	# 135	# 122.5
Main air jet (M.A.J.)	1.8 mm	←
Jet needle (J.N.)	5F108-3rd	5D49-3rd
Needle jet (N.J.)	P-4	P-6
Throttle valve (Th.V.)	# 115	←
Pilot jet (P.J.)	# 47.5	# 40
By-pass (B.P.)	0.8 mm x 2PCS	0.8 mm x 3PCS
Pilot outlet (P.O.)	0.8 mm	1.0 mm
Valve seat (V.S.)	1.5 mm	←
Starter jet (G.S.)	# 25	# 22.5
Pilot screw (P.S.)	(PRE-SET) 1-1/8 turns back	(PRE-SET) 1-1/16 turns back)
Pilot air jet (P.A.J.)	No. 1: (# 70), No. 2: (2.0 mm)	No. 1: (# 65), No. 2: (1.2 mm)
Throttle cable play	0.5 – 1.0 mm (0.02 – 0.04 in)	←
Choke cable play	0.5 – 1.0 mm (0.02 – 0.04 in)	←

### CARBURETOR

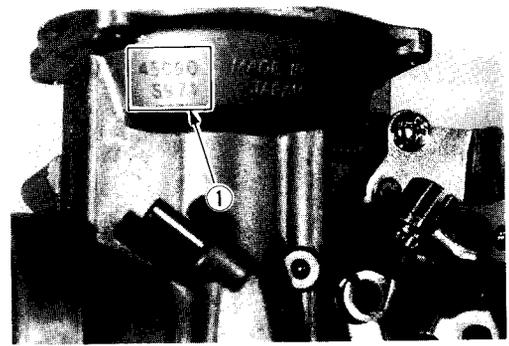
ITEM	SPECIFICATION	
	E-22, 24, 39	
Carburetor type	MIKUNI BS36SS (No. 1)	MIKUNI BDS36SS (No. 2)
Bore size	36 mm	←
I.D. No.	45C50	←
Idle r/min.	1100 ± 100 r/min.	←
Float height	27.7 ± 1.0 mm (1.09 ± 0.04 in)	9.1 ± 1.0 mm (0.36 ± 0.04 in)
Main jet (M.J.)	# 132.5	# 120
Main air jet (M.A.J.)	1.8 mm	←
Jet needle (J.N.)	5F108-3rd	5D49-3rd
Needle jet (N.J.)	P-4	←
Throttle valve (Th.V.)	# 115	←
Pilot jet (P.J.)	# 47.5	# 40
By-pass (B.P.)	0.8 mm x 2PCS	0.8 mm x 3PCS
Pilot outlet (P.O.)	0.8 mm	1.0 mm
Valve seat (V.S.)	1.5 mm	←
Starter jet (G.S.)	# 25	# 22.5
Pilot screw (P.S.)	(PRE-SET) 1-1/8 turns back	(PRE-SET) 1 turn back
Pilot air jet (P.A.J.)	No. 1: (# 70), No. 2: (2.0 mm)	No. 1: (# 65), No. 2: (1.2 mm)
Throttle cable play	0.5 – 1.0 mm (0.02 – 0.04 in)	←
Choke cable play	0.5 – 1.0 mm (0.02 – 0.04 in)	←

### CARBURETOR

ITEM	SPECIFICATION	
	E-17	
Carburetor type	MIKUNI BS36SS (No. 1)	MIKUNI BDS36SS (No. 2)
Bore size	36 mm	←
I.D. No.	45C70	←
Idle r/min.	1100 ± 100 r/min.	←
Float height	27.7 ± 1.0 mm (1.09 ± 0.04 in)	9.1 ± 1.0 mm (0.36 ± 0.04 in)
Main jet (M.J.)	# 135	# 122.5
Main air jet (M.A.J.)	1.8 mm	←
Jet needle (J.N.)	5F108-3rd	5D49-3rd
Needle jet (N.J.)	P-4	P-6
Throttle valve (Th.V.)	# 115	←
Pilot jet (P.J.)	# 47.5	# 40
By-pass (B.P.)	0.8 mm x 2PCS	0.8 mm x 3PCS
Pilot outlet (P.O.)	0.8 mm	1.0 mm
Valve seat (V.S.)	1.5 mm	←
Starter jet (G.S.)	# 25	# 22.5
Pilot screw (P.S.)	(PRE-SET) 1-3/8 turns back	(PRE-SET) 1-1/4 turns back
Pilot air jet (P.A.J.)	No. 1: (# 70), No. 2: (2.0 mm)	No. 1: (# 65), No. 2: (1.2 mm)
Throttle cable play	0.5 – 1.0 mm (0.02 – 0.04 in)	←
Choke cable play	0.5 – 1.0 mm (0.02 – 0.04 in)	←

**I.D. NO. LOCATION**

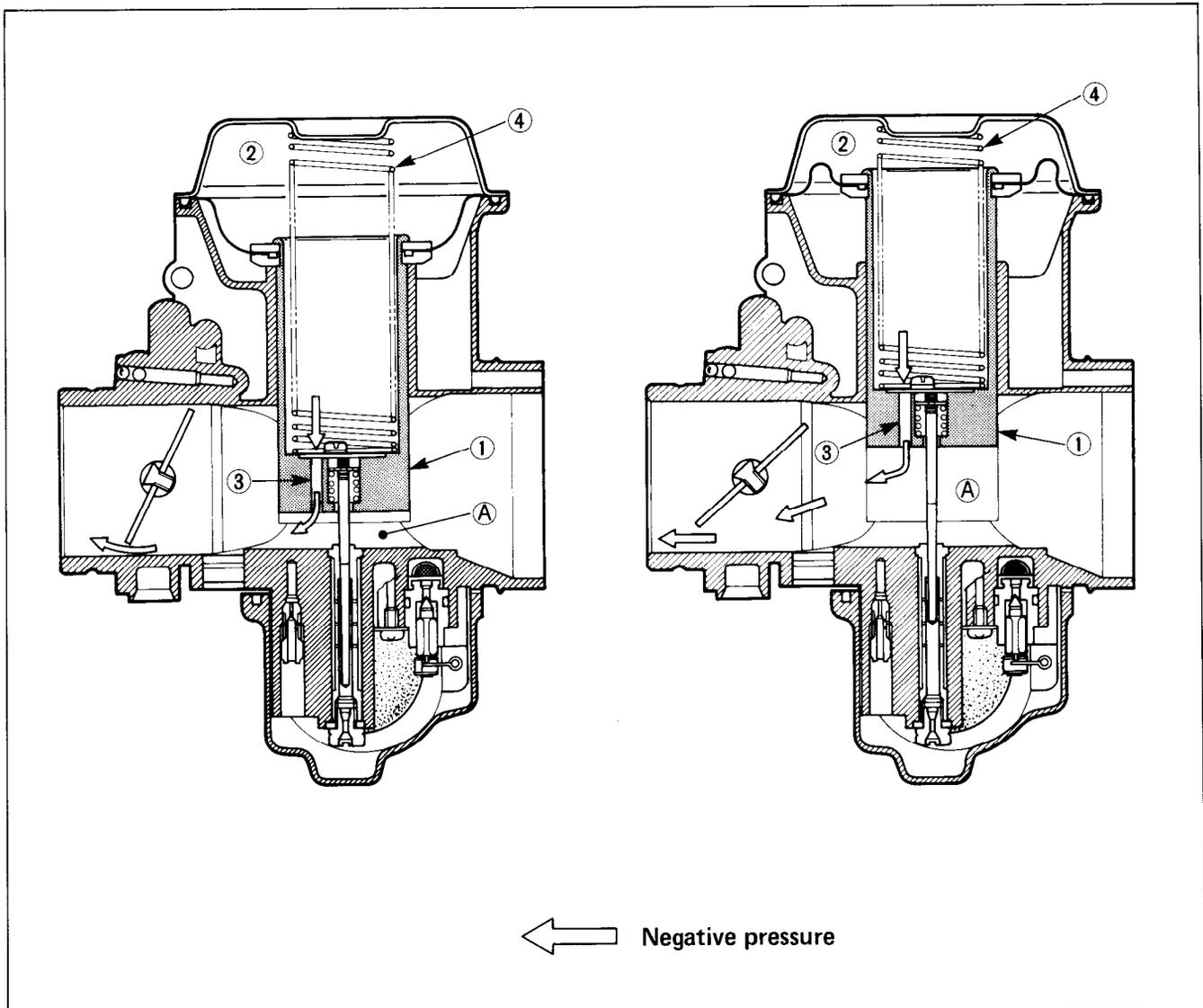
Each carburetor has I.D. Number ① stamped on the carburetor body according to its specifications.



**DIAPHRAGM AND PISTON OPERATION**

The carburetor is a variable-venturi type, whose venturi cross section area is increased or decreased automatically by the piston valve ① which moves according to the negative pressure present on the downstream side of the venturi A. Negative pressure is admitted into the diaphragm chamber ② through an orifice ③ provided in the piston valve ①.

Rising negative pressure overcomes the spring ④ force, causing the piston valve ① to rise to increase the said area and thus prevent the air velocity from increasing. Thus, air velocity in the venturi passage is kept relatively constant for improved fuel atomization and for securing optimum ratio of fuel/air mixture.



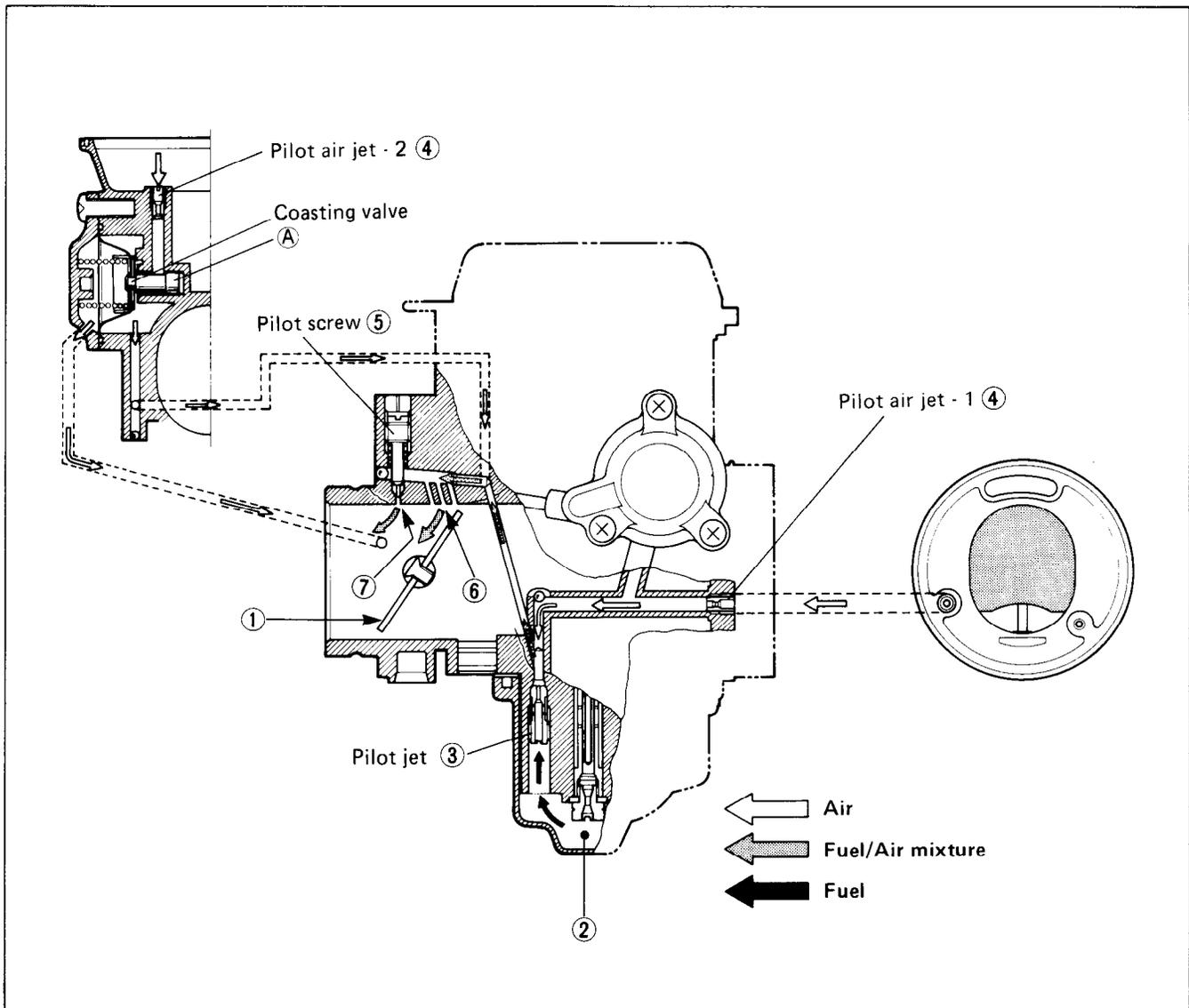
**SLOW SYSTEM**

This system supplies fuel during engine operation with throttle valve ① closed or slight opened. The fuel from float chamber ② is metered by pilot jet ③ where it mixes with air coming in through pilot air jets (#1 and #2) ④. This mixture, rich with fuel, then goes up through pilot passage to pilot screw ⑤. A part of the mixture is discharged into the main bore out of by-pass ports ⑥. The remainder is then metered by pilot screw ⑤ and sprayed out into the main bore through pilot outlet ⑦.

**TRANSIENT ENRICHMENT SYSTEM**

This transient enrichment system is a device which keeps fuel/air mixture ratio constant in order not to generate unstable combustion when the throttle grip is returned suddenly during high speed driving. For normal operation, joining of the air from upper part of carburetor inlet side to pilot air passage obtains proper fuel/air mixture ratio. But if the throttle valve is suddenly closed, a large negative pressure generated on cylinder side is applied to a diaphragm. The valve (A) which interlocks with the diaphragm closes an air passage, thus, the pressure flows out to the pilot air passage.

This is system to keep the combustion condition constant by varying the fuel/air mixture ratio by controlling air flow in the pilot circuit.



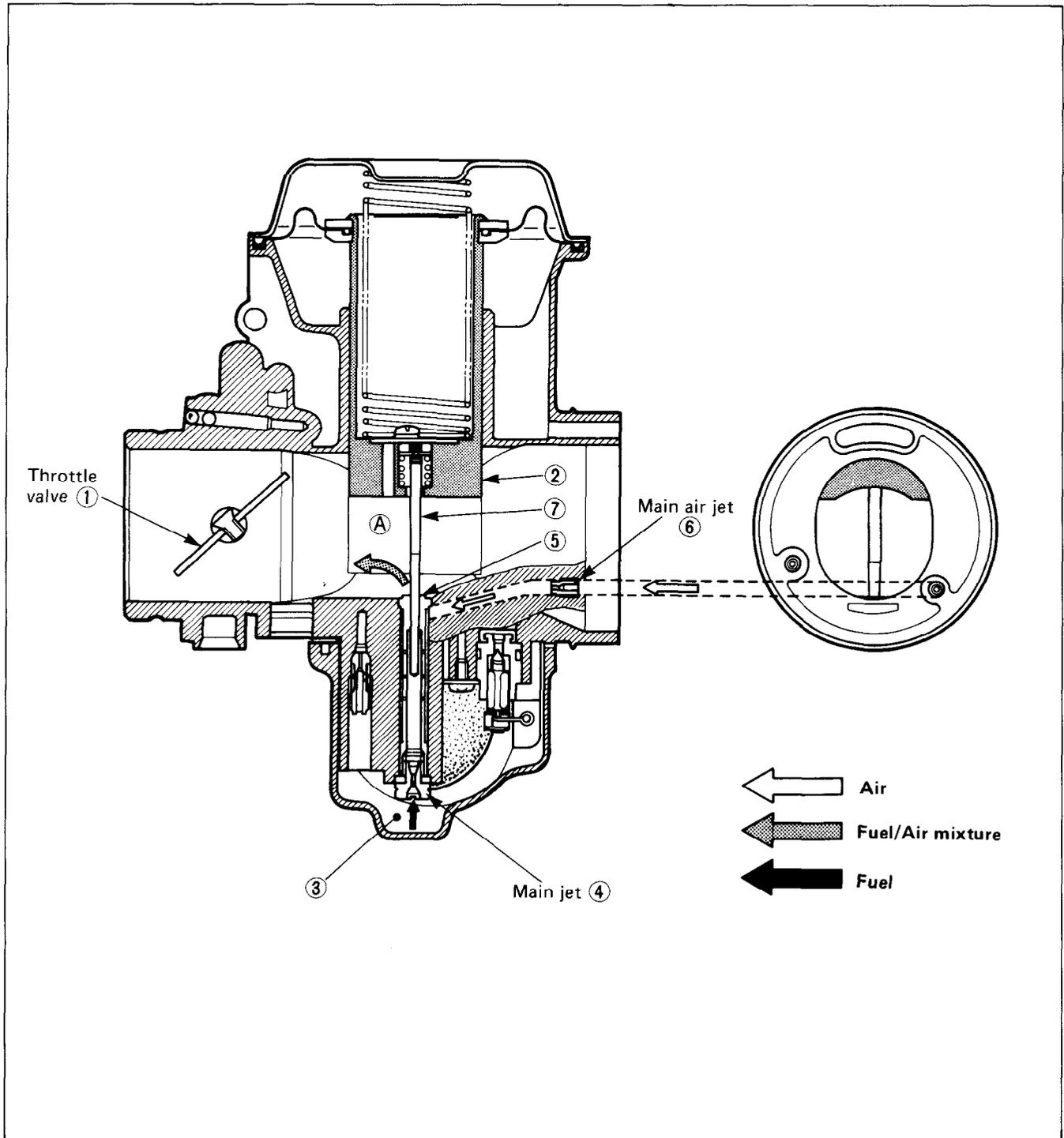
### MAIN SYSTEM

As throttle valve ① is opened, engine speed rises, and this increases negative pressure in the venturi (A). Consequently the piston valve ② moves upward.

Meanwhile, the fuel in float chamber ③ is metered by main jet ④, and the metered fuel enters needle jet ⑤, in which it mixes with the air admitted through main air jet ⑥ to form an emulsion.

The emulsified fuel then passes through the clearance between needle jet ⑤ and jet needle ⑦, and is discharged into the venturi (A), in which it meets main air stream being drawn by the engine.

Mixture proportioning is accomplished in needle jet ⑤; the clearance through which the emulsified fuel must flow is large or small, depending ultimately on throttle position.

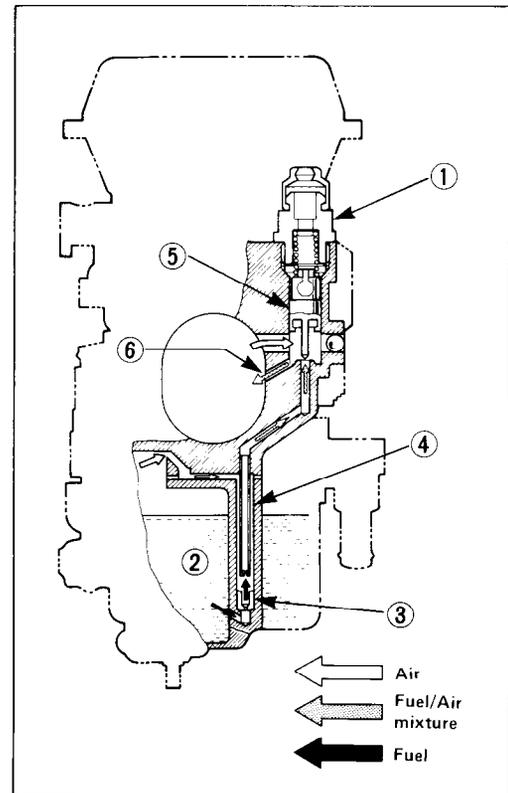


## STARTER SYSTEM

Pulling up the starter shaft ①, fuel is drawn into the starter circuit from the float chamber ②.

Starter jet ③ meters this fuel, which then flows into starter pipe ④ and mixes with the air coming from the float chamber ②. The mixture, rich in fuel content, reaches starter plunger ⑤ and mixes again with the air coming through a passage extending from main bore.

The two successive mixings of fuel with air are such that proper fuel/air mixture for starting is produced when the mixture is sprayed out through starter outlet ⑥ into the main bore.

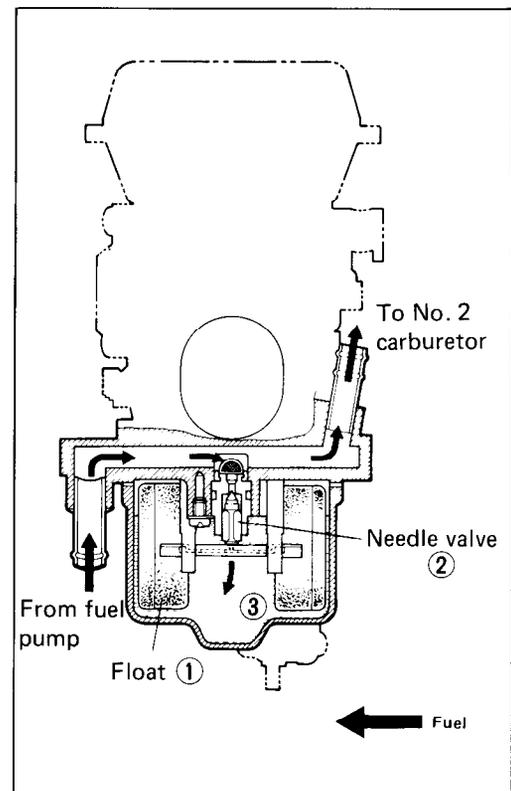


## FLOAT SYSTEM

Floats ① and needle valve ② are associated with the same mechanism, so that, as the floats ① move up and down, the needle valve ② too moves likewise.

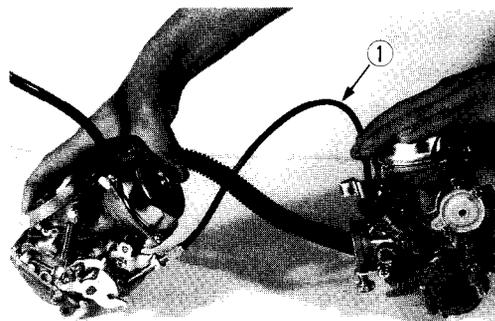
When fuel level is up in float chamber ③, floats ① are up and needle valve ② remains pushed up against valve seat. Under this condition, no fuel enters the float chamber ③. As the fuel level falls, floats ① go down and needle valve ② unseats itself to admit fuel into the chamber ③.

In this manner, needle valve ② admits and shuts off fuel alternately to maintain a practically constant fuel level inside the float chamber ③.



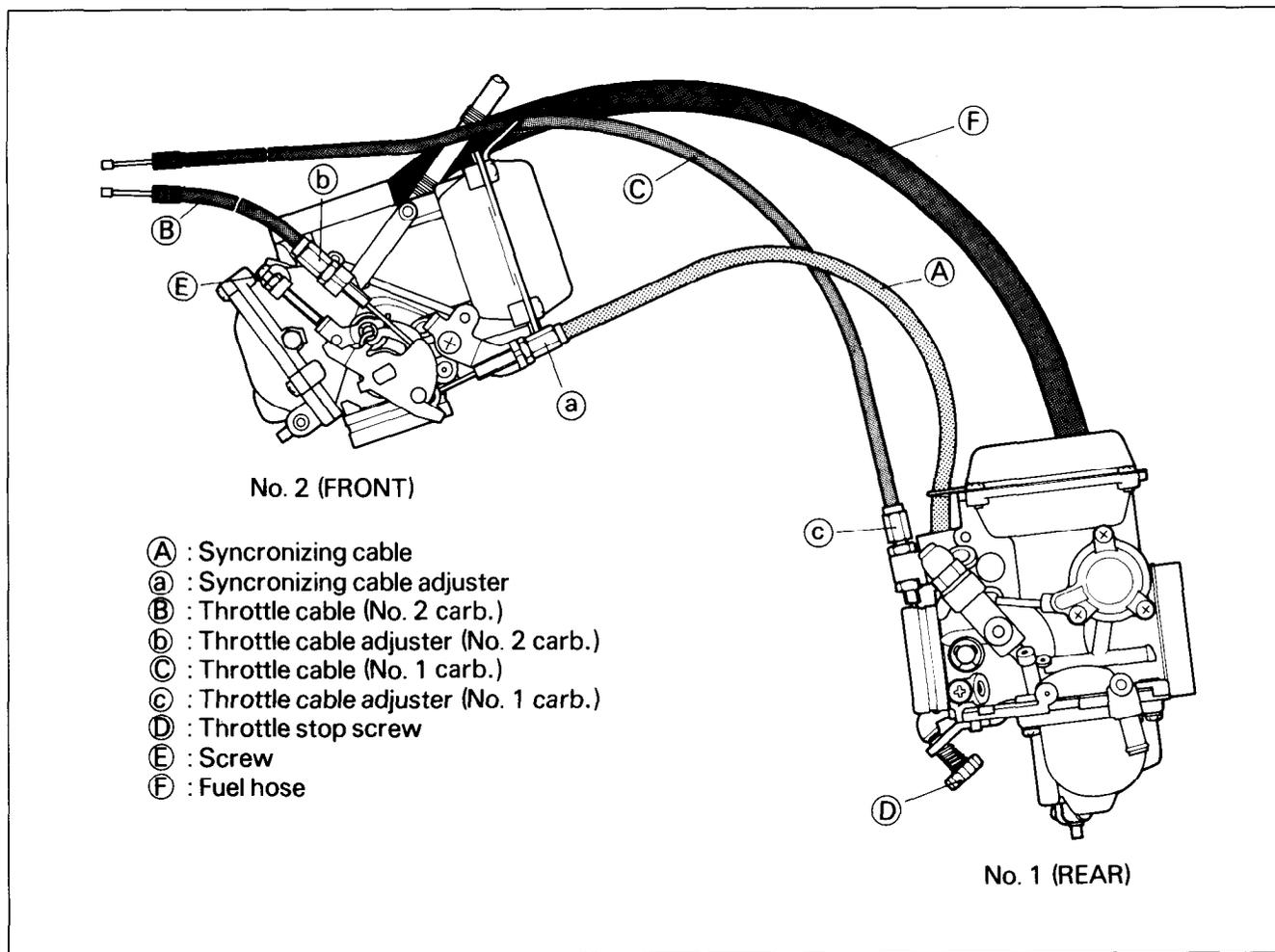
**REMOVAL**

- Refer to page 3-3.
- Remove the No. 1 and No. 2 carburetors along with the synchronizing cable ① attached to the carburetors.



**CAUTION:**

Be sure to identify each removed parts as to its location, and lay the parts out in groups designated as "No. 1 carburetor", "No. 2 carburetor", so that each will be restored to the original location during assembly.



**NOTE:**

Do not turn the throttle cable adjusters (b) , (c) and the synchronizing cable adjuster (a) .

**CAUTION:**

Do not turn the screw (E) of the No. 2 carburetor.  
 Once removing a throttle cable or the synchronizing cable or a carburetor body, it is necessary to balance the two carburetors.

**DISASSEMBLY**

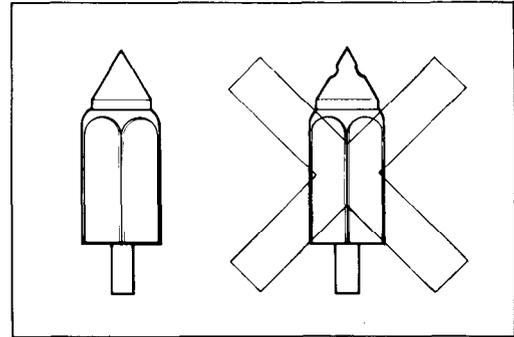
- Disassemble the carburetors as shown in the illustrations on pages 6-4 and 5.

Check following items for any damage or clogging.

- \* Pilot jet
- \* Main jet
- \* Main air jet
- \* Pilot air jet
- \* Needle jet air bleeding hole
- \* Float
- \* Needle valve mesh and O-ring
- \* Diaphragm
- \* Gasket
- \* Throttle valve shaft oil seals
- \* Pilot outlet and by-pass holes
- \* Fuel hose
- \* Coasting valve
- \* Starter jet

**NEEDLE VALVE INSPECTION**

If foreign matter is caught between the valve seat and the needle, the gasoline will continue flowing and cause it to overflow. If the seat and needle are worn beyond the permissible limits, similar trouble will occur. Conversely, if the needle sticks, the gasoline will not flow into the float chamber. Clean the float chamber and float parts with gasoline. If the needle is worn as shown in the illustration, replace it together with available seat. Clean the fuel passage of the mixing chamber with compressed air.

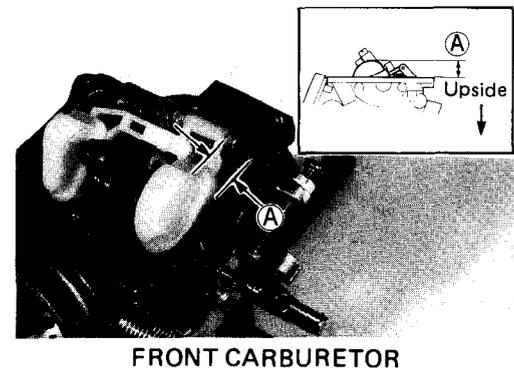
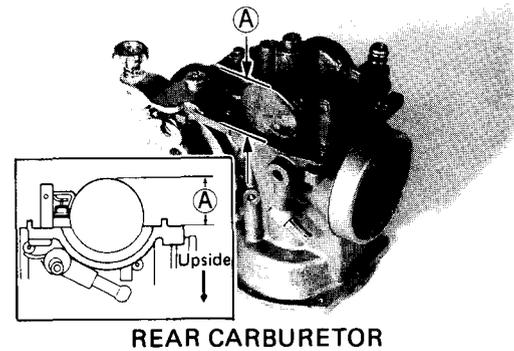


**FLOAT HEIGHT ADJUSTMENT**

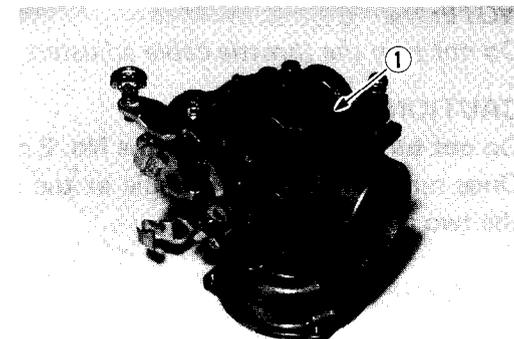
To check the float height, invert the carburetor body, with the float arm kept free, measure the height (A) while float arm is just in contact with needle valve by using calipers.

Float height (A)	No. 1	27.7 ± 1.0 mm (1.09 ± 0.04 in)
	No. 2	9.1 ± 1.0 mm (0.36 ± 0.04 in)

09900-20102 : Vernier calipers



Bend the tongue (1) as necessary to bring the height (A) to this value.

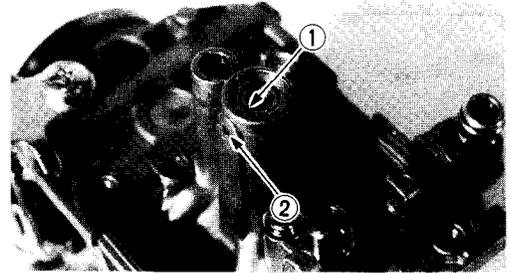


## REASSEMBLY AND REMOUNTING

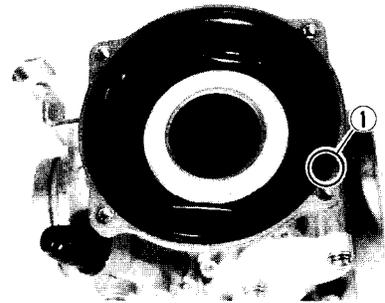
Reassemble and remount the carburetors in the reverse order of disassembly and remounting.

Pay attention to the following points:

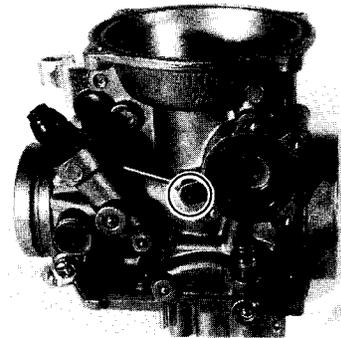
- Align the groove ① of the needle jet with the pin ② and replace it.



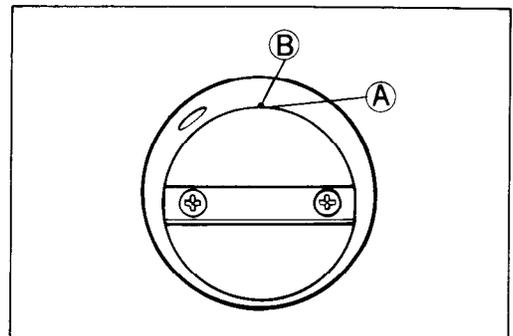
- Place the tongue ① of diaphragm to the carburetor body properly.



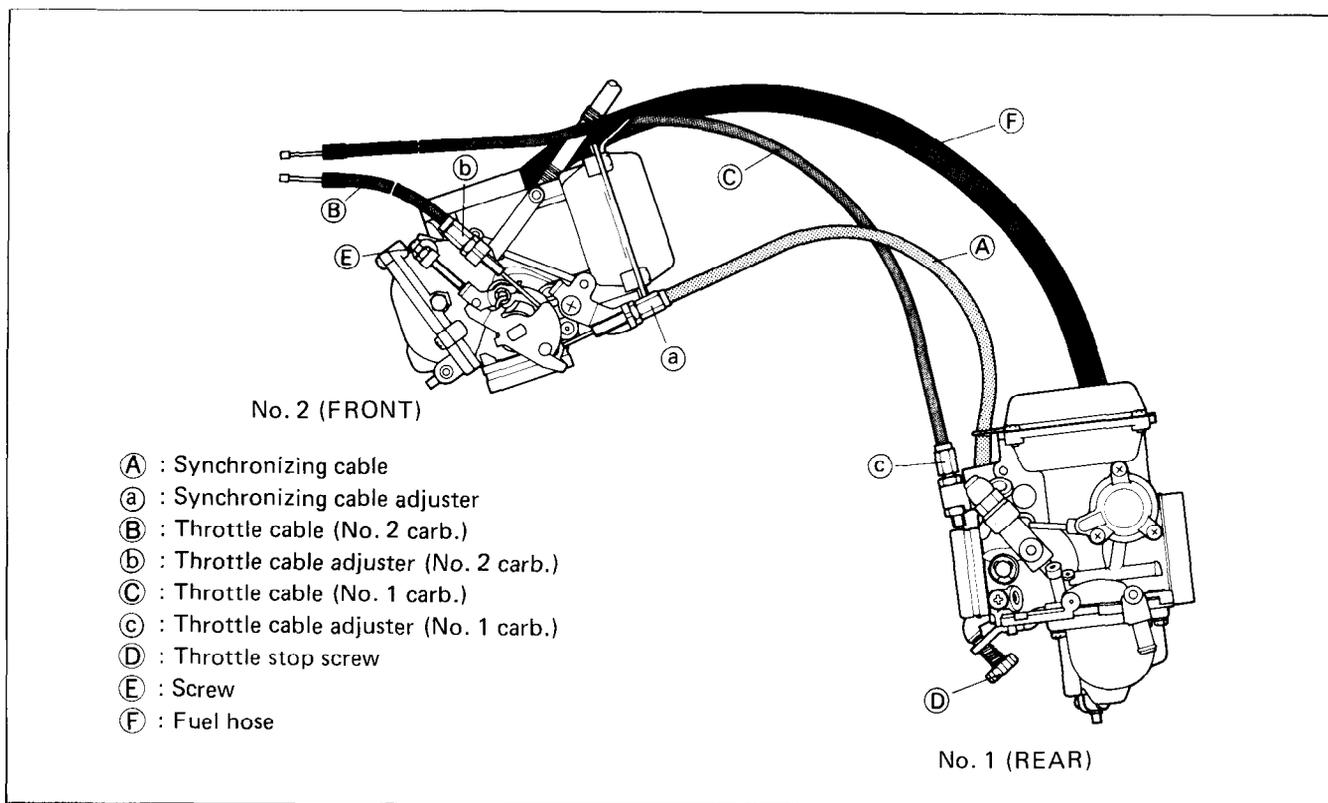
- When installing the coasting valve to the body, align the holes.



- Set each throttle valve in such a way that its top end ① meets the foremost by-pass ②.



## BALANCING CARBURETORS

**CAUTION:**

Once removing the synchronizing cable Ⓐ or throttle cables Ⓑ, Ⓒ or carburetors, it is necessary to balance the two carburetors.

**IN CASE OF CHANGING THE SYNCHRONIZING CABLE Ⓐ :**

As the first step, calibrate the carburetor balancer gauge, as follows:

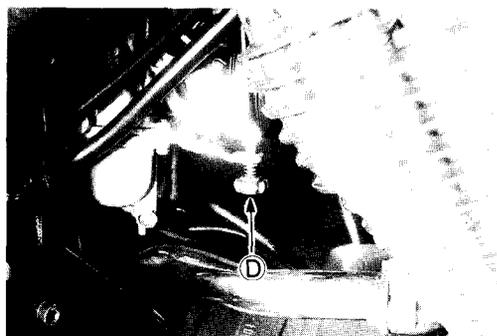
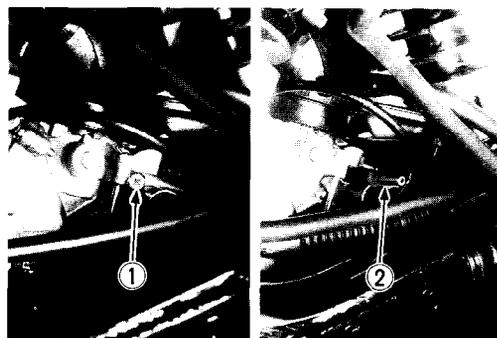
09913-13121 : Carburetor balancer

09913-13140 : Adapter

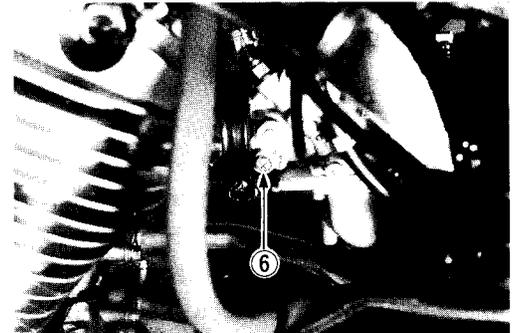
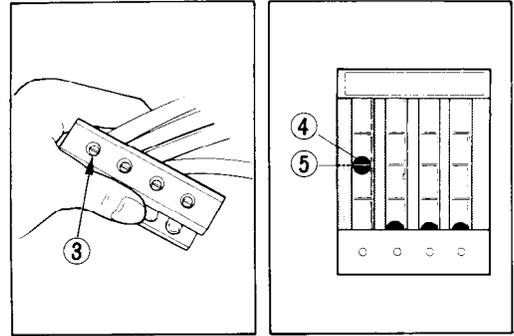
- Start up the engine and run it in idling condition for warming up.
- Stop the warm-up engine. Remove the vacuum inspection screw ① for No. 2 carburetor and install the adapter ② with gasket.
- Connect one of the four rubber hoses of the balancer gauge to this adapter, and start up the engine, and keep it running at idle speed by turning throttle stop screw Ⓓ.

**NOTE:**

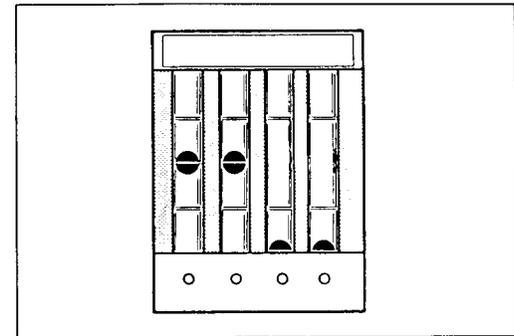
The idle speed is different among the countries. (See pages 6-6 and 7.)



- Turn the air screw ③ of the gauge so that the vacuum acting on the tube of that hose will bring the steel ball ④ in the tube to the center line ⑤.
- After making sure that the steel ball stays steady at the center line, disconnect the hose from the adapter and connect the next hose to the adapter. Turn air screw to bring the other steel ball to the center line. Now the balancer has been calibrated.
- Remove the vacuum inspection screw ⑥ for No. 1 carburetor and install the adapter with gasket.
- Connect each calibrated balancer gauge hose to their respective adapters.



- Warm up the engine, and keep it running at idle speed.
- Under this condition, see if the two steel balls stay equally at the center level line, as they should, to signify that the two carburetors are in balance: if not, loosen the lock nut and turn the synchronizing adjuster @ and the throttle stop screw ④ to bring the steel balls to the center level line by keeping the engine running at idle speed.



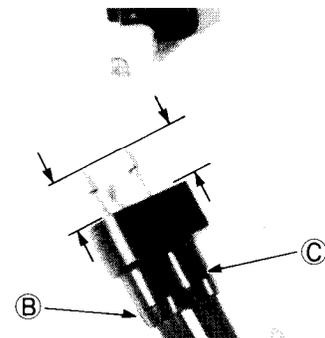
**IN CASE OF CHANGING THE THROTTLE CABLE ②, ③:**

As the first step, calibrate the carburetor balancer gauge at 1500 r/min, as the same manners of the case of changing the synchronizing cable.

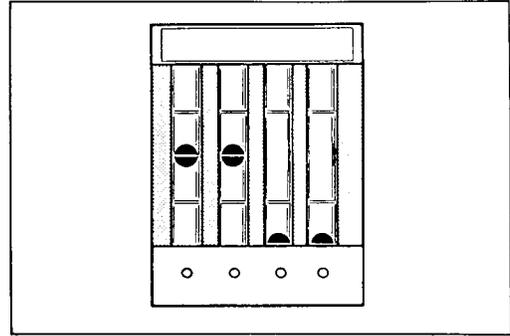
- Temporarily remove the No. 1 carburetor.
- Equalize the throttle cables' inner length at the connector by turning the adjusters ② , ③ after loosening the lock nuts.

**NOTE:**

- \* Be careful not to twist the throttle cables ②, ③.
- \* Throttle cable adjuster ③ can not be turned when the No. 1 carburetor is installed to the engine.
- \* The idle speed is different among the countries. (See pages 6-6 and 7.)



- Install the No. 1 carburetor and set the carburetor balancer which is calibrated at 1500 r/min.
- Warm up the engine, and keep it running at 1500 r/min by turning the throttle grip.
- Under this condition, see if the two steel balls stay equally at the center level line, as they should, to signify the two carburetors are in balance: if not, loosen the lock nut and turn the throttle cable adjuster ⑥ to adjust the throttle valve setting to bring the steel balls to the center level line.



**NOTE:**

*When equalizing the throttle cables' inner length, make sure that each throttle cable have enough play.*

### IN CASE OF CHANGING THE CARBURETORS

When changing the carburetors, it is necessary to remove the synchronizing cable and throttle cables. So once removing the carburetor, it becomes necessary to adjust the cables by performing above two steps (i.e. IN CASE OF CHANGING THE SYNCHRONIZING CABLE and IN CASE OF CHANGING THE THROTTLE CABLE).

**CAUTION:**

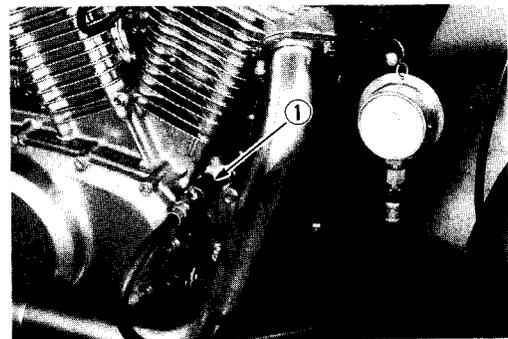
In this case first adjust the synchronizing cable.

## LUBRICATION SYSTEM

### OIL PRESSURE

Check the oil level in the inspection window and check the oil pressure in the following manner:

- Remove the oil pressure inspection bolt.
- Install the oil pressure adapter ①.
- Install the oil pressure gauge in the position shown in the figure.
- Warm up the engine as follows:
  - Summer 10 min. at 2000 r/min.
  - Winter 20 min. at 2000 r/min.
- After warming up operation, increase the engine speed to 3000 r/min, and read the oil pressure gauge.
- The oil pump pressure is specified below:



### OIL PRESSURE SPECIFICATION

Above 350 kPa (3.5 kg/cm<sup>2</sup>, 50 psi)  
Below 650 kPa (6.5 kg/cm<sup>2</sup>, 92 psi) at 3000 r/min  
Oil temp. at 60°C (140°F)

**CAUTION:**

The recommended engine oil is, API classification SE or SF, 10W-40 motor oil.

09915-74510 : Oil pressure gauge

09915-77330 : Oil pressure gauge (meter)

09915-74530 : Oil pressure gauge adapter

**NOTE:**

Engine oil must be warmed up to 60°C (140°F) when checking the oil pressure.

If the oil pressure is lower or higher than the specifications, several causes may be considered.

- \* Low oil pressure is usually the result of clogged oil filter, oil leakage from the oil passage way, damaged oil seal, a defective oil pump or a combination of these items.
- \* High oil pressure is usually caused by a engine oil which is too heavy a weight, a clogged oil passage, improper installation of the oil filter or a combination of these items.

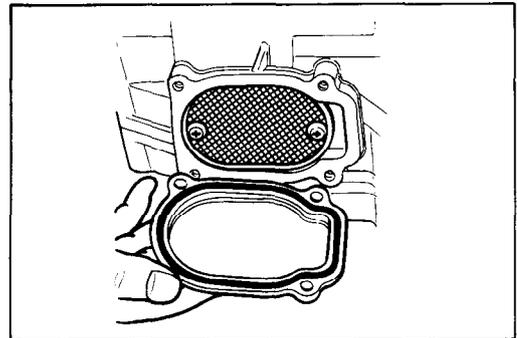
**OIL FILTER**

Refer to page 2-8 for installation procedures.

**OIL SUMP FILTER**

At the same time wash the oil sump filter cap. Check to be sure that the strainer screen is free from any sign of rupture and wash the strainer clean periodically.

Refer to page 3-46 for installation procedures.



LUBRICATION SYSTEM CHART

