

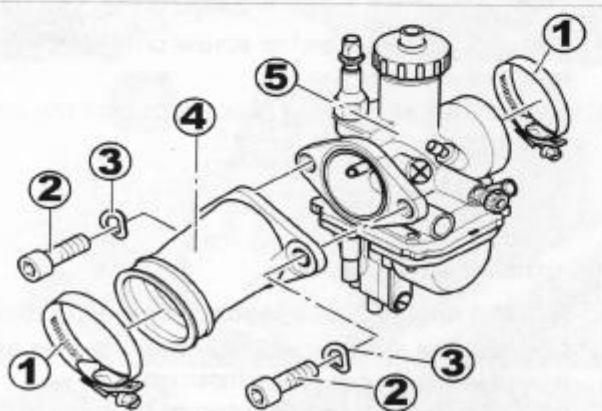
## 6.12 Carburettor



### Risk of fire and explosion!

Fuel is a flammable liquid of hazard class A1 and therefore an extreme fire risk. Fuel fumes are highly explosive.

Exercise extreme care when working with fuel and other easily flammable substances. Only work with the engine switched off and in well ventilated areas. Do not smoke, keep flames and sparks away from the entire work area. Safely remove drained or leaked flammable liquids away from the work area.



- (1) Shell
- (2) Cylinder screw
- (3) Spring washer
- (4) Carburettor connection piece
- (5) Carburettor

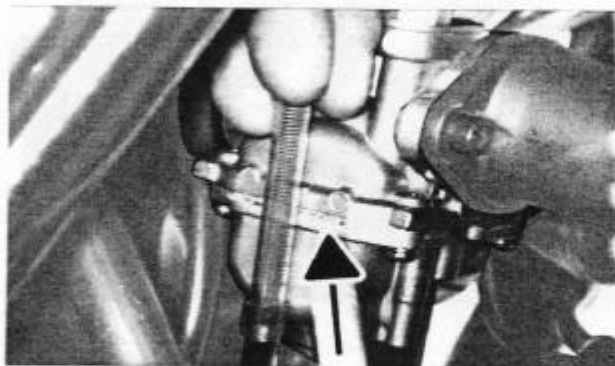
The carburettor must be free of wear and contamination for the engine to function properly.

Contamination in the carburettor and the fuel system must be removed before adjustments are made to the carburettor.

### 6.12.1 Adjustment

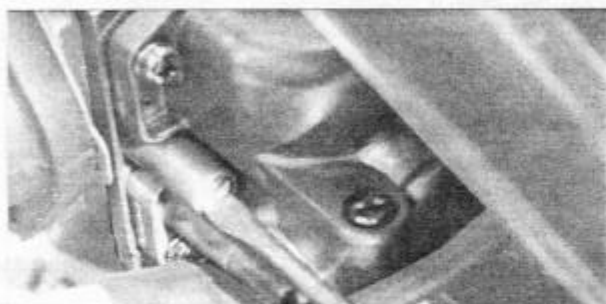
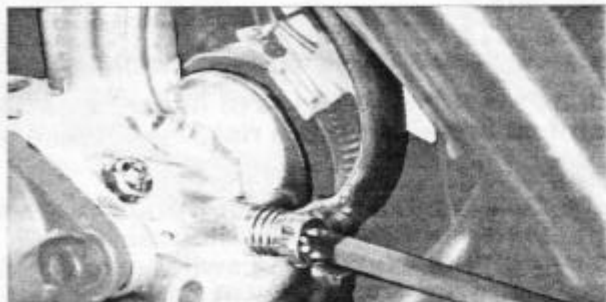
#### Fuel level

Proper functioning of the carburettor is only guaranteed when the specified fuel level is maintained. The fuel level depends on how the float is set.



1. Position the vehicle upright on the installation stand. The carburettor must be positioned vertically.
2. Attach a fuel gauge to the drainage hose.
3. Open the filter valve, open the drainage plug and start the engine.
4. Hold the fuel gauge vertical next to the carburettor. Fill the carburettor and hose up to the same level. The fuel level must be at the level of the housing joint.
5. Read the fuel level, adjust by bending the bracket on the float support plate, if necessary (see 6.12.3 "Dismantling and Inspecting", float).

Fuel level: 6 mm under the housing joint.



## Idling speed

The nominal idling speed should be  $1800^{+100}$  rpm.

The slide valve stop screw acts on the throttle slide valve to prevent it from closing completely.

1. Start the engine and bring it to operating temperature.
2. Screw the slider valve stop screw in or out until the nominal idling speed is reached.

## Idle

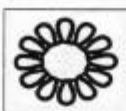
Without exhaust measurement:

1. Screw in the idling mixture screw up to the stop.
2. Then unscrew it 1.5 -2 turns.
3. Turn the slide valve stop screw until  $1800^{+10}$  rpm is reached.
4. Repeat this alternating procedure until the engine runs properly.

With exhaust measurement:

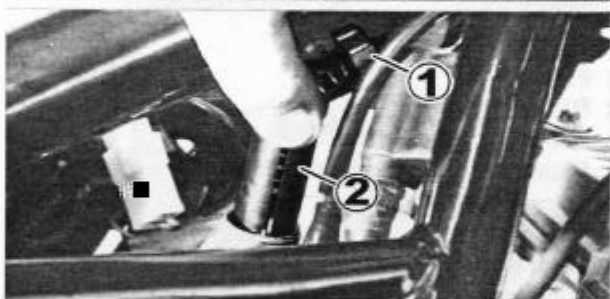
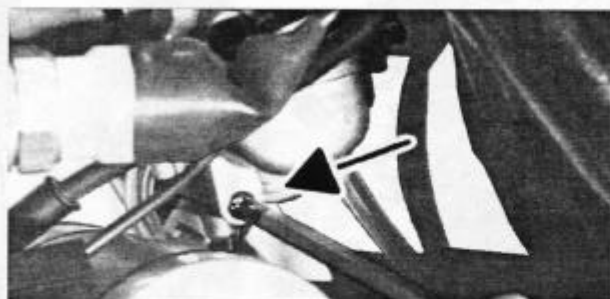
1. Run the engine until it reaches operating temperature.
2. Connect the exhaust measurement device according to the manufacturer's operating instructions.  
If the depth of the measurement probe is insufficient, connect an adapter to the exhaust silencer end which ensures the proper depth.
3. Turn the idling mixture screw until the engine runs properly in compliance with a maximum CO emission of 4.5 %.
4. Set the idling speed to  $1800^{+10}$  rpm.

## 6.12.2 Removal



### Environment!

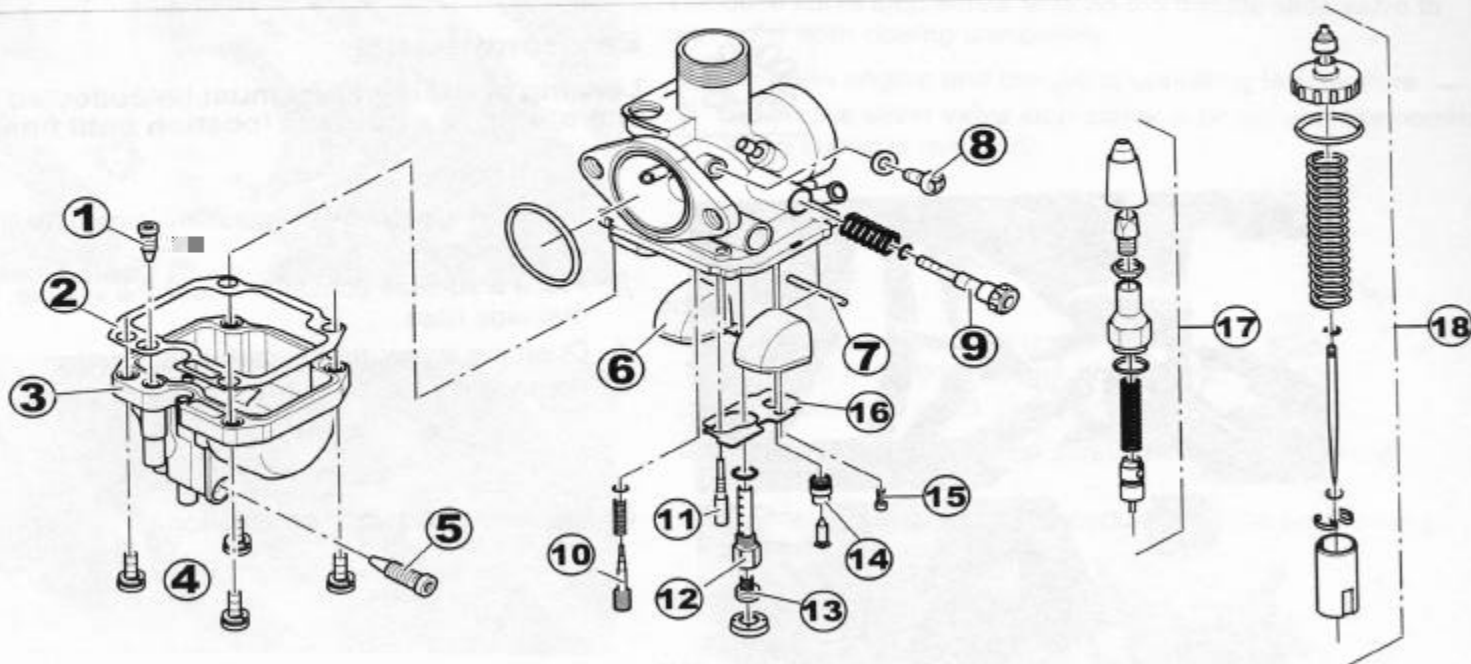
Leaking or drained fuel must be collected immediately and stored in a suitable location until final disposal.



1. Let the engine cool, if necessary, close the filter valve.
2. Remove the fuel tank.
3. Place a suitable container under the vehicle, connect the drainage hose.
4. Open the screw, let the carburettor drain.
5. Remove the fuel hose from the carburettor.
6. Unscrew the starting carburettor.
7. Screw off the sealing cap (1).
8. Pull out the throttle slide valve (2).
9. Open the shell on the intake pipe (rear) and the shell on the carburettor connection piece (front).
10. Pull the carburettor away from the intake manifold and intake pipe, pull it out on the front right.
11. If the carburettor connection piece must be removed, unscrew the 2 cylinder screws.



## 6.12.3 Dismantling and Inspecting



- (1) Starting jet
- (2) Seal, float chamber
- (3) Float chamber
- (4) Screws
- (5) Screw
- (6) Float
- (7) Pin
- (8) Screw with seal ring
- (9) Slide valve stop screw
- (10) Idling mixture screw
- (11) Idling jet
- (12) Main jet mount with needle jet
- (13) Main jet
- (14) Carburettor needle valve
- (15) Plate screw
- (16) Plate
- (17) Starting carburettor, complete
- (18) Throttle slide valve, complete

### Removal



#### Note:

Never clean the jets with hard objects. Changes to the jet cross-section increase fuel consumption. Use a petroleum-based solvent for cleaning. Blow through all channels with compressed air.

1. Thoroughly clean the carburettor.
2. Unscrew the 4 screws on the underside.
3. Remove the top part of the housing.
4. Remove all components, clean thoroughly and inspect.

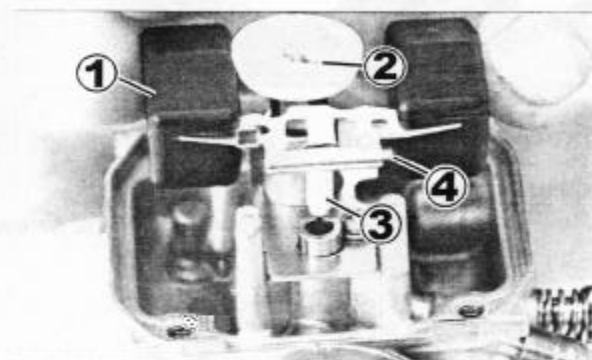


### Float

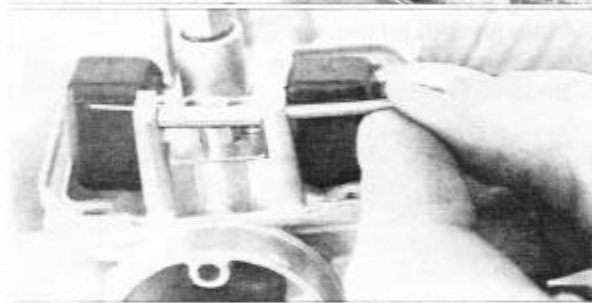


#### Note:

Never apply compressed air while the float is still in the float chamber.

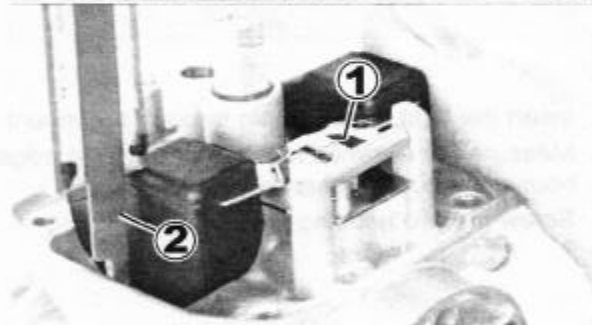


- (1) Float
- (2) Main jet with mount
- (3) carburettor needle valve
- (4) Pin



- 1. Pull out pin.
- 2. Remove the float and carburettor needle valve.
- 3. Inspect parts.

Always replace the carburettor needle valve and the valve seat as a set.



- 4. Attach the needle valve to the bracket on the float mounting plate (1).
- 5. Install the float, slide in the pin.  
The float mounting plate should touch the needle valve but not press it down.
- 6. Measure the distance between the parting joint of the carburettor housing and the upper edge of the float, adjust if necessary (2).

Distance:  $20^{+1}$  mm

If the float height does not match the specified value, inspect the needle valve and valve seat, replacing if necessary.

If both parts are in good condition, bend the bracket of the float mounting plate until the value is set correctly.

### Starting jet

Inspect for wear and contamination.

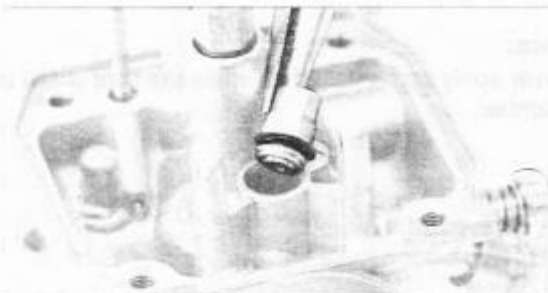
Clean if necessary.





### Carburettor needle valve

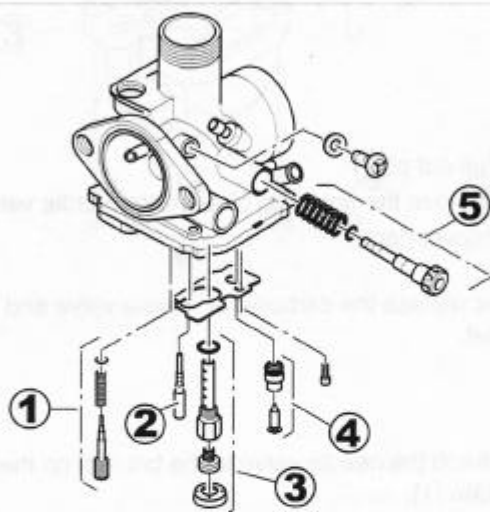
Inspect for wear and contamination.  
Inspect rubber ring.



### 6.12.4 Installation

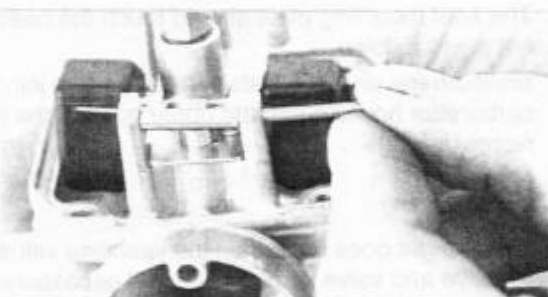
Always use new seals.

1. Insert the plate (1) and screw on with the screw (2).
2. Screw in all jets.

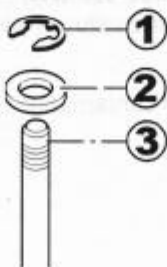


- (1) Idling mixture screw
- (2) Idling jet
- (3) Main jet with jet mount
- (4) Carburettor needle valve
- (5) Slide valve stop screw

3. Screw the starting jet into the float chamber.



4. Insert the float, slide the pin through the mount.
5. Measure the distance from the float to the edge of the housing, adjust if necessary.
6. Screw the two housing halves together.



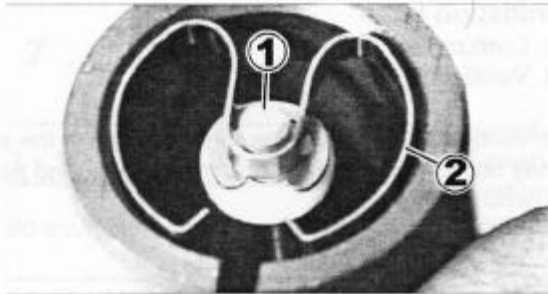
7. Assemble the injector needle.

- (1) Locking washer
- (2) Seal
- (3) Injector needle

The injector needle normally hangs in the 3rd (middle) notch.

Other settings:

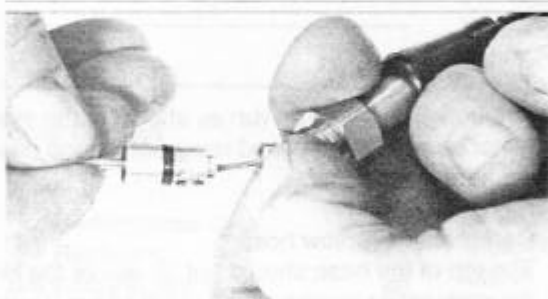
- Injector needle hung deeper (1st - 3rd notch):  
Mixture lower in fuel
- Injector needle hung higher (5th notch):  
Mixture richer in fuel



8. Insert the injector needle (1) into the throttle slide valve, insert the E-ring (2).
9. Install the carburettor.



10. Pull the end of the throttle bowden cable out as far as possible.
11. Press the spring back toward the sealing cap and hold it there.
12. Attach the end of the throttle bowden cable to the throttle slide valve.
13. Insert the throttle slide valve into the carburettor, screw on the sealing cap.

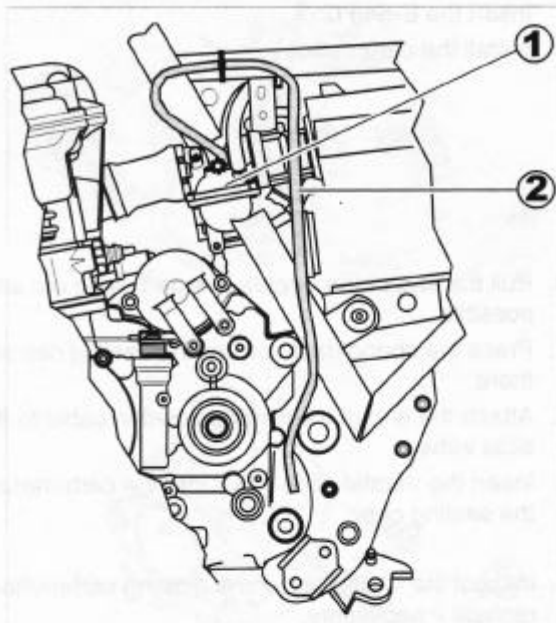


14. Inspect the O-ring under the starting carburettor housing, replace if necessary.
15. Compress the spring of the starting carburettor, connect the starter bowden cable to the starter piston.
16. Install the starting carburettor in the carburettor.
17. Inspect the fuel level.

18. Connect the overflow and ventilation hoses.
19. Adjust the play in throttle bowden cable.
20. Adjust the play in the starting carburettor bowden cable.
21. Functional test with adjustment of the idling and the idling speed (see 6.12.1 "Adjustment").

### Ventilation hose

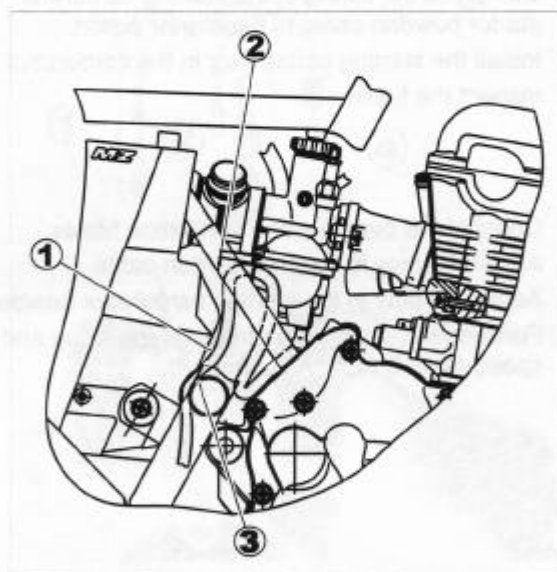
- (1) Carburettor
- (2) Ventilation hose



The ventilation hose must be run as shown in the sketch. It may not be pinched. The end must not extend past the underside of the engine.

### Overflow hose

The overflow hose must be run as shown in the sketch. It may not be pinched, the end must not extend past the underside of the engine.



- (1) Carburettor overflow hose
- (2) The top of the hose should not be above the lower edge of the carburettor parting joint near the hose clamp.
- (3) Overflow hose clamped between the frame pipe and intake muffler.