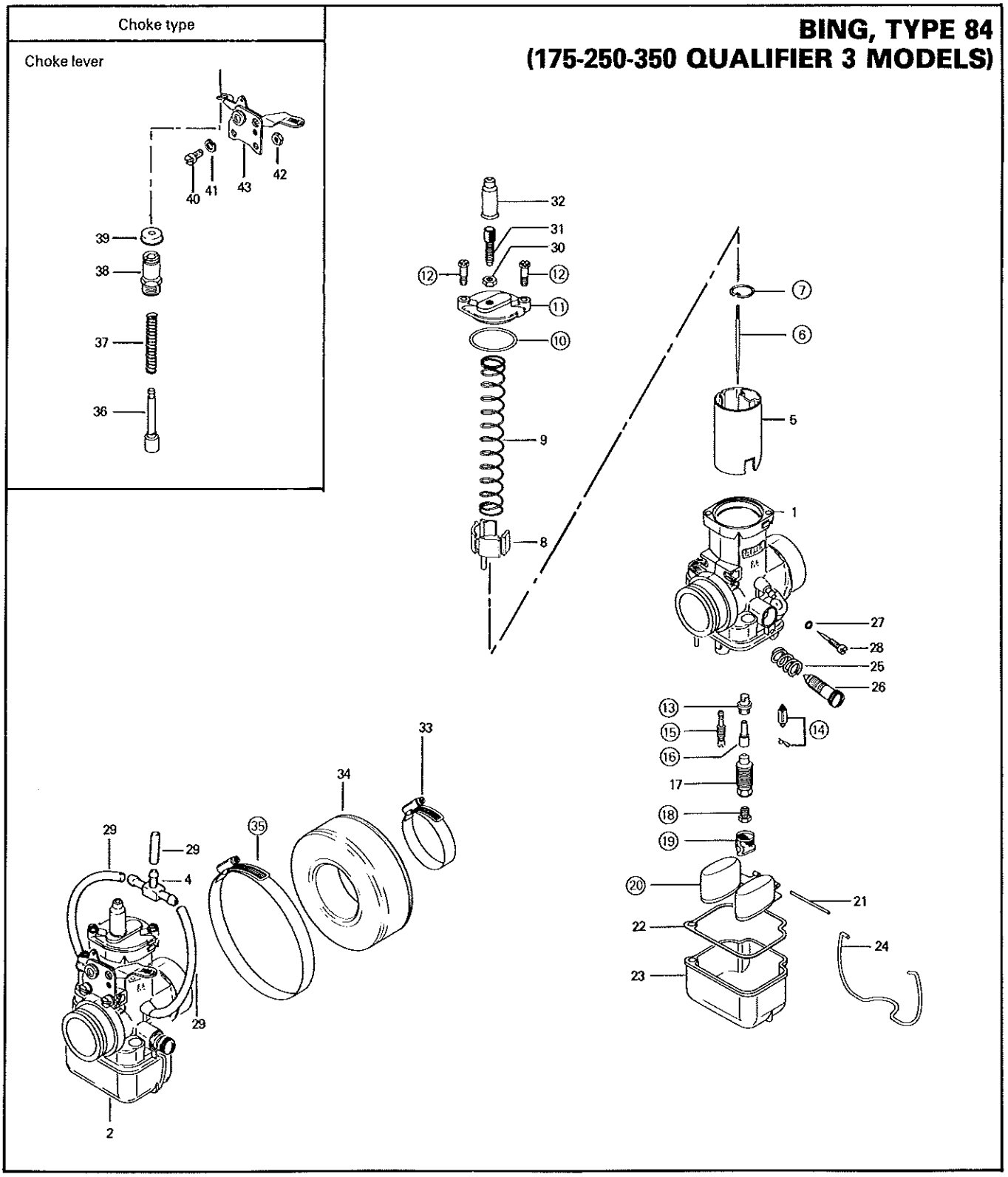
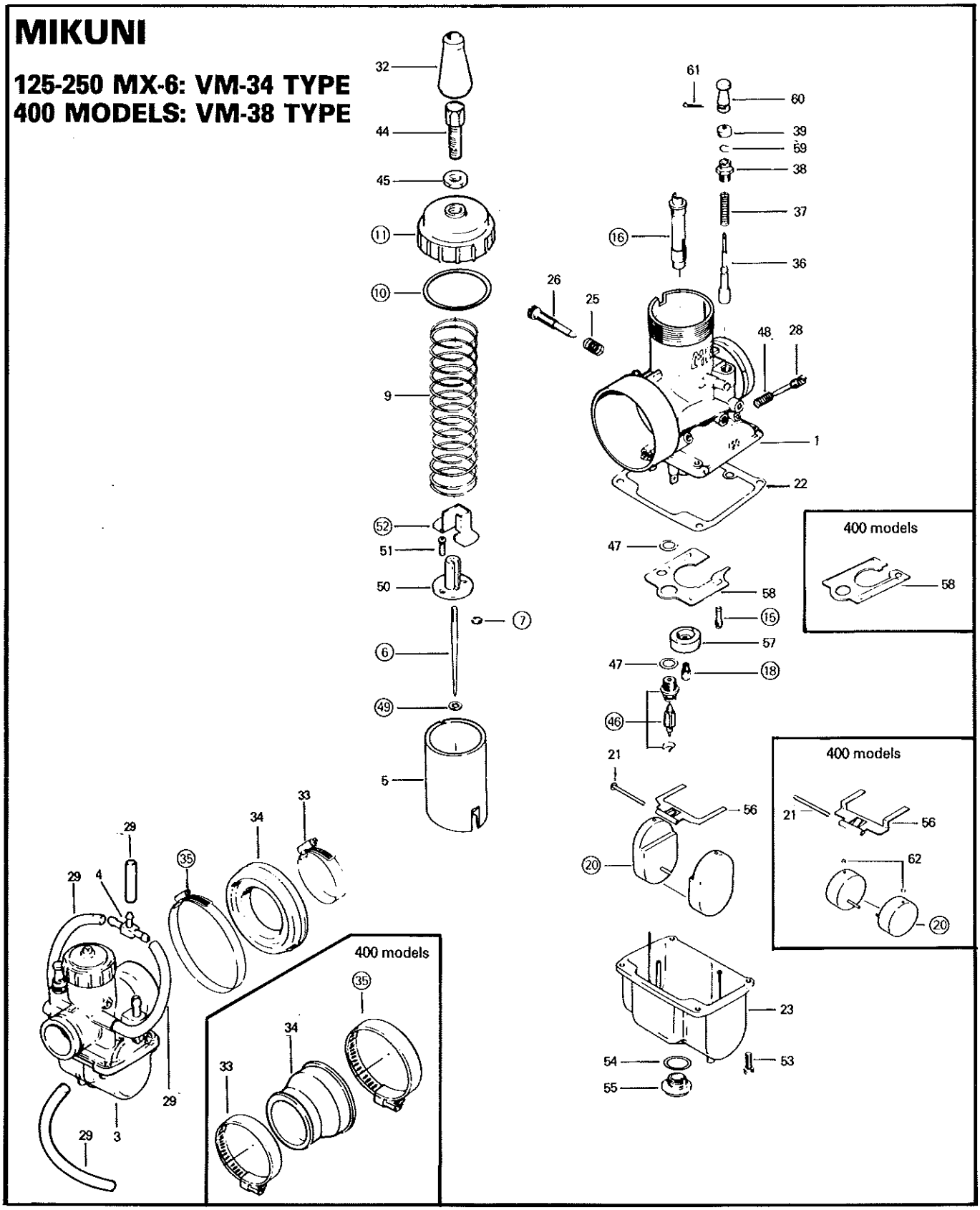
CARBURETOR

BING, TYPE 84
(175-250-350 QUALIFIER 3 MODELS)



MIKUNI

125-250 MX-6: VM-34 TYPE
400 MODELS: VM-38 TYPE



1. *Carburetor body*
2. *Bing double float carburetor*
3. *Mikuni double float carburetor*
4. *'Tee"*
5. *Throttle slide*
6. *Needle*
7. *Needle clip*
8. *Plastic spring cup*
9. *Throttle slide spring*
10. *"O" ring*
11. *Slide chamber cover*
12. *Hexagonal screw, M5 x 12 (2)*
13. *Diffuser*
14. *Inlet needle & clip*
15. *Idle jet (pilot jet)*
16. *Needle jet*
17. *Mixing tube*
18. *Main jet*
19. *Screen sleeve*
20. *Float*
21. *Float arm pin*
22. *Float chamber gasket*
23. *Float chamber*
24. *Float chamber spring clip*
25. *Idle adj. screw spring*
26. *Idle adj. screw*
27. *Idle air screw O'ring*
28. *Idle air screw*
29. *Vent tube*
30. *Hexagonal nut M6 x 0.75*
31. *Adj. screw M6 x 0.75*
32. *Rubber grommet*
33. *Hose clamp (carburetor)*
34. *Carburetor boot*
35. *Hose clamp (air box)*
36. *Choke piston*
37. *Choke piston spring*
38. *Plunger cap*
39. *Rubber cap*
40. *Cylinder screw M5 x 10 (2)*
41. *Lockwasher 5 mm (2)*
42. *Hexagonal nut M5 (2)*
43. *Choke lever ass'y*
44. *Adjustment screw*
45. *Nut*
46. *Inlet needle with clip & seat*
47. *Washer*
48. *Spring*
49. *Bushing*
50. *Connector*
51. *Screw with lockwasher (2)*
52. *Cover*
53. *Screw with lockwasher (4)*
54. *O'ring*
55. *Drain screw*
56. *Float arm*
57. *Main jet baffle ring*
58. *Baffle plate*
59. *Spring clip*
60. *Knob*
61. *Cotter pin*
62. *Cap*

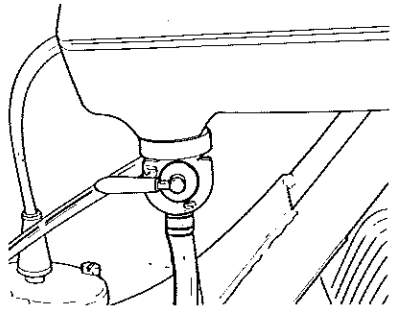
REMOVAL

WARNING: Gasoline is flammable and explosive under certain conditions. Always perform procedures in a well ventilated area. Do not smoke or allow open flames or sparks in the vicinity.

Disconnect or perform the following then remove the carburetor from engine.

– Fuel line (at carburetor).

NOTE: Make sure the fuel valve is on (off) position.



– Vent tube(s).

– On 400 Qualifier 3 & all MX-6 remove the tie-rap holding the backbone drain tube.

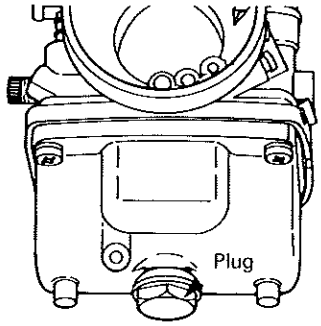
– Completely loosen both carburetor retaining hose clamps. (Slide front clamp forward and rotate carburetor towards clutch side).

– Remove the carburetor slide chamber cover & pull out throttle slide ass'y.

CAUTION: Exercise care when handling throttle slide. Damage incurred may cause throttle slide to stick open in operation.

– Pry carburetor body towards air box, out of the engine/carburetor adaptor.
– Twist carburetor body away from engine intake manifold and remove carburetor (complete with boot).

NOTE: The Mikuni carburetors can be dried out by removing the drain plug under the float bowl.



CLEANING AND INSPECTION

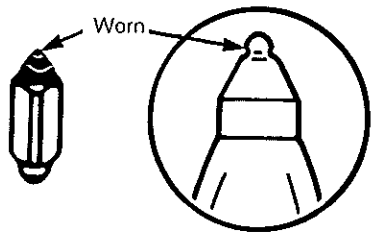
The entire carburetor should be cleaned with a general solvent and dried with compressed air before disassembly.

Carburetor body and jets should be cleaned in a carburetor cleaner following manufacturer's instructions.

CAUTION: Heavy duty carburetor cleaner may be harmful to the float material and to the rubber parts, O'ring, etc. Therefore, it is recommended to remove those parts prior to cleaning.

WARNING: Solvent with a low flash point such as gasoline, naphtha, benzol, etc., should not be used as they are flammable and explosive.

Check inlet needle tip condition ⑯ ㊻. If worn, the inlet needle should be replaced.



CAUTION: A worn inlet needle will cause carburetor overflooding.

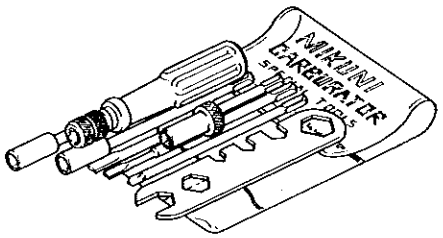
Check if floats are leaking or damaged and replace if necessary.

Check the throttle slide for wear, replace if worn or damaged.

WARNING: An excessively worn or damaged throttle slide may cause the slide to stick in the open position.

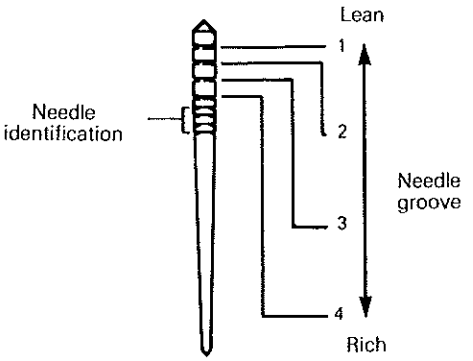
DISASSEMBLY & ASSEMBLY

NOTE: To ease the Mikuni carburetor disassembly and assembly procedures it is recommended to use a special tool kit available under P/N 404 112 000.



⑥ ⑦At assembly, refer to technical data for correct installation position of needle clip into needle grooves.

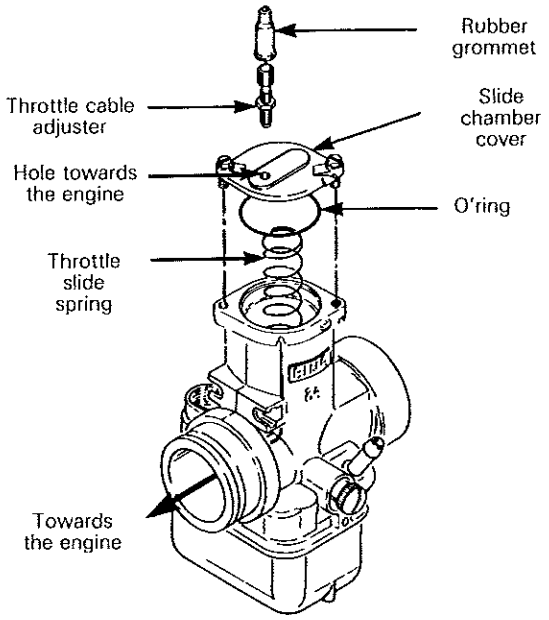
NOTE: Grooves are numbered 1 to 4, starting from the top.



NOTE: Five grooves for Mikuni carburetor.

⑩ ⑪ ⑫ **Bing carburetor**

The slide chamber cover should be installed with the throttle cable adjuster facing towards the engine. Tighten the (2) retaining screws securely.

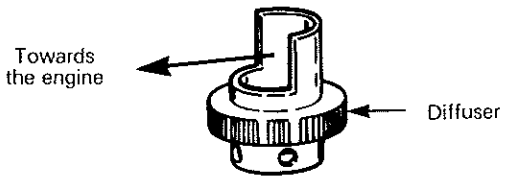


NOTE: If the slide chamber cover is positioned backwards, the throttle slide will not reach the full throttle opening.

Mikuni carburetor

At assembly, tighten the carburetor slide chamber cover securely.

⑬ The diffuser should be installed with the cut-away facing towards the engine.



NOTE: The diffuser comes with the carburetor body (1) and is not sold separately. (Bing carburetor).

⑮⑯⑱ Different size jets (main, idle, needle) are available for various temperatures and altitudes. Refer to the technical data application charts for jet selection.

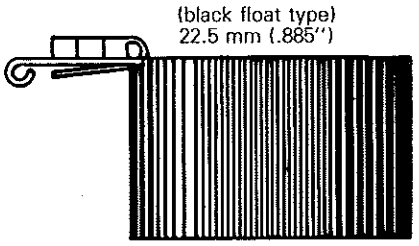
⑲ **CAUTION: At assembly, make sure to install the screen sleeve, otherwise dirt or water may reach the carburetor main jet.**

⑳ Correct fuel level in float chamber is vital for engine efficiency. To check for correct level, proceed as follows:

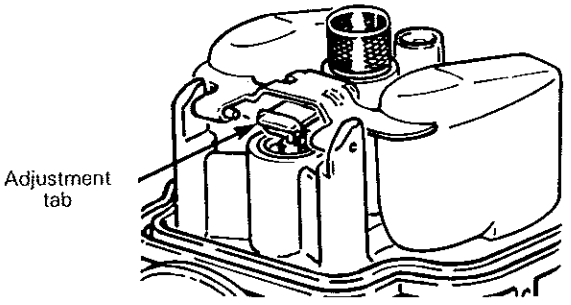
Remove float chamber and gasket from carburetor.

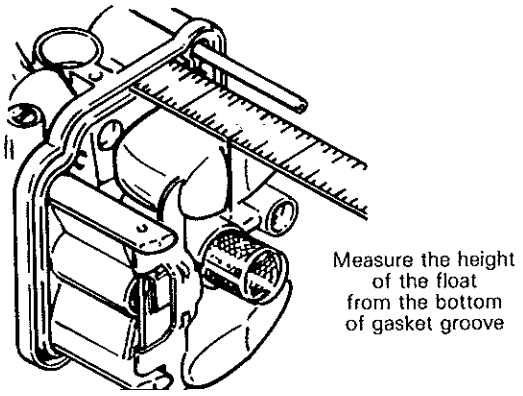
Bing carburetor

- **With carburetor on its side with float adjustment tab just touching the needle,** measure distance between top of float and chamber body (from the gasket groove bottom).
- Adjust float height to:



- To adjust, carefully bend adjustment tab of float arm until specified height is reached.





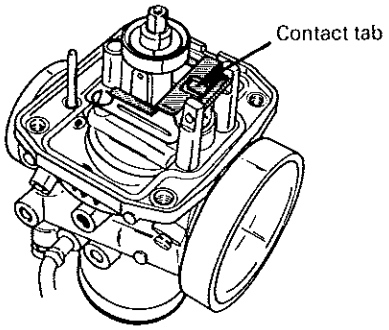
NOTE: If no measuring device is available, position the top of float parallel with the carburetor body.

Mikuni carburetor

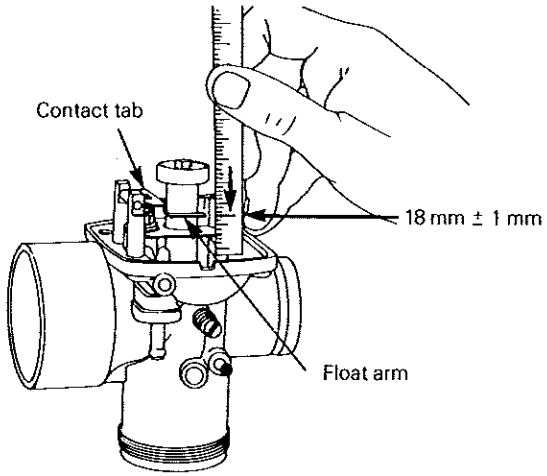
– With carburetor chamber upside-down, measure height between float chamber flange rib (gasket removed) and top edge of float arm.

– To adjust bend contact tab of float arm until the specified height is reached.

Mikuni VM 34: 23 mm ± 1 (0.905" ± 0.039")
Mikuni VM 38: 18 mm ± 1 (0.708" ± 0.039")

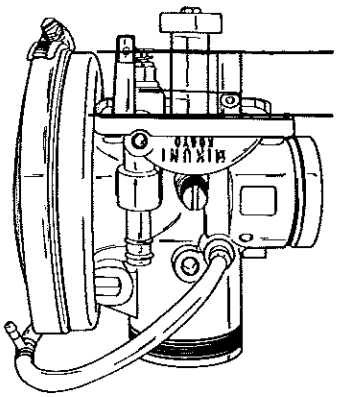


Ex: Mikuni VM 38 (400 Qualifier & MX-6)

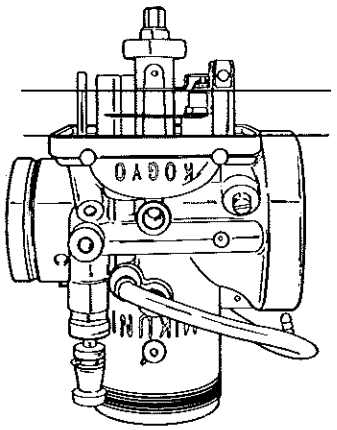


NOTE: If no measuring device is available, position the top of float tang parallel with carburetor body.

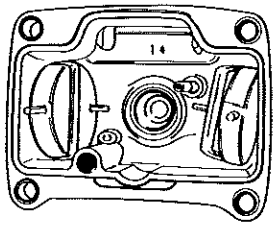
Mikuni VM 34



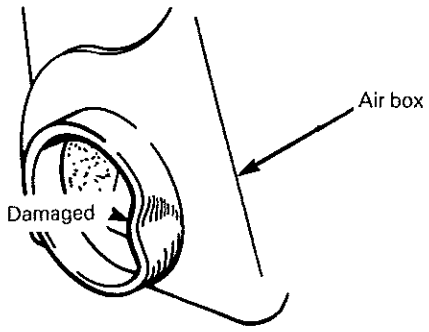
Mikuni VM 38



On Mikuni carburetors always install the floats inside the float bowl as illustrated.

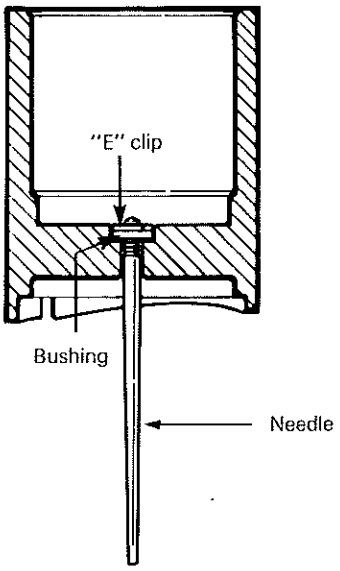


(35) ▼ CAUTION: Make sure not to overtighten the air box boot hose clamp. Air box flange may distort sufficiently to allow entry of foreign particles.

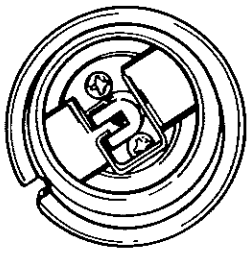


㊾Make sure the bushing is installed on all Mikuni throttle slides.

▼ **CAUTION: Serious engine damage can occur if this notice is disregarded.**



㊷At assembly, the cover should be installed as illustrated.



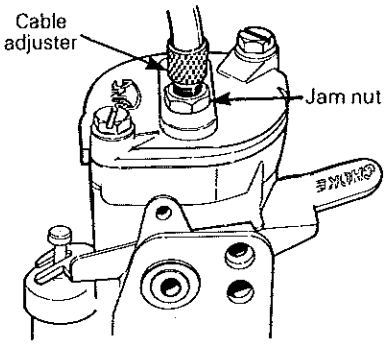
INSTALLATION AND ADJUSTMENT

To install the carburetor, inverse the removal procedure.

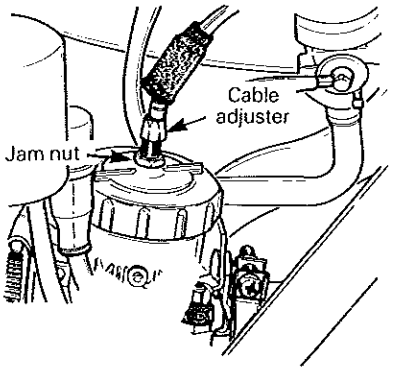
Throttle adjustment

Using the cable adjuster located on the throttle slide chamber cover, set cable slack to 1.6 mm (1/16").

Bing carburetor



Mikuni carburetor



◆ **WARNING: Before starting engine, carburetor slide must be free to snap back to idle position. Make sure the rubber grip does not rub on the throttle body or the handlebar end.**

Mixture adjustment

With the motorcycle held in a vertical position, gently turn air screw in until it stops, then back it out:
175-250-350 Qualifier 3: 1 turn
125-250-400 MX-6 & 400 Qualifier 3: 1 1/2 turn

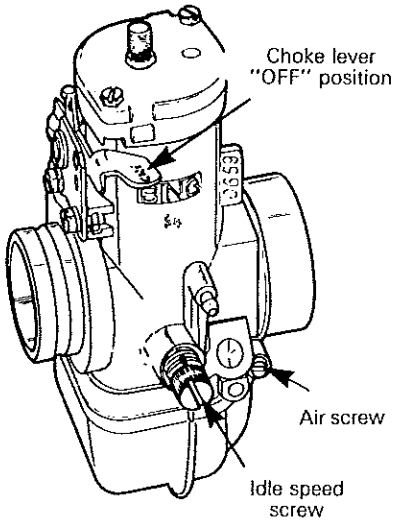
Idle speed

Start the engine and allow it to warm.

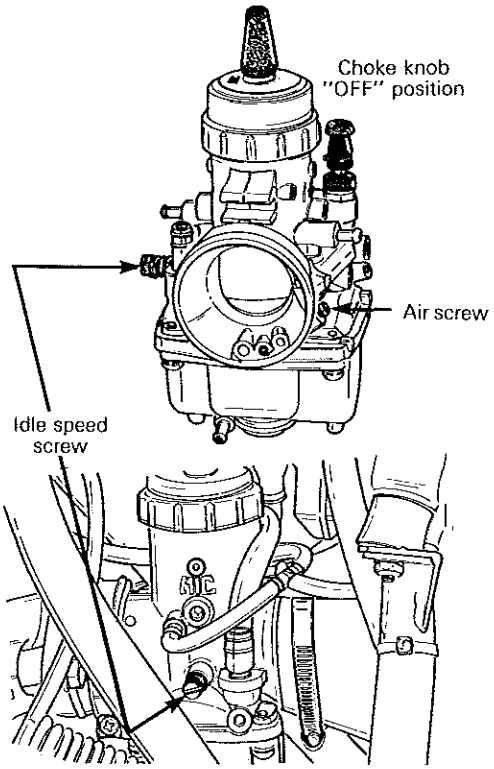
Adjust idle speed screw in or out for desired idle speed (approximately 1,000 R.P.M.).

NOTE: The air mixture screw can be turned in or out (within 1/4 turn of basic setting) to achieve smoothest idle possible. Re-adjust idle speed if necessary.

Bing carburetor



Mikuni carburetor



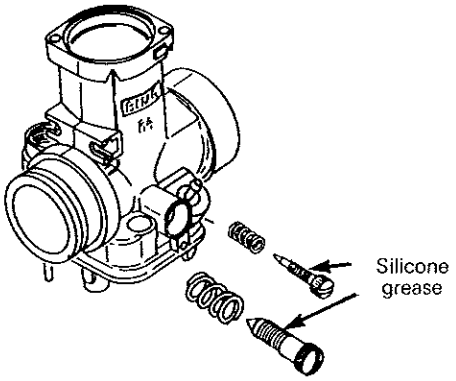
CAUTION: Do not attempt to set the idle speed by using the air mixture screw. Severe engine damage can occur.

WATERPROOFING

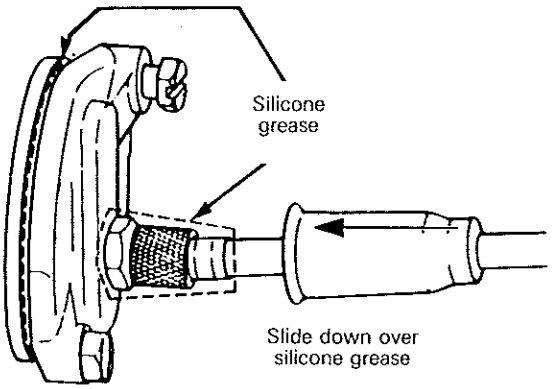
Under wet and muddy conditions it is recommended to properly seal the carburetor.

Proceed as follows:

To improve the sealing ability, apply a light coat of silicone **grease** (DC-4 or equivalent), on the adjustment screw threads.



Apply silicone **grease** (DC-4 or equivalent) to the carburetor cover and throttle cable rubber boot (at carburetor top).



Ensure carburetor/engine and carburetor/air box connections are leakproof.

CAUTION: The carburetor-air filter servicing/sealing is of the upmost importance under wet and muddy conditions.

FUEL

Recommended gasoline (all models)

The correct gasoline is premium gasoline leaded or unleaded.

FUEL MIXING

Recommended oil

Use concentrated Bombardier snowmobile oil or Bombardier Blizzard oil. These types of oil have specially formulated oil bases to meet the lubrication requirements of the Bombardier-Rotax engine.

If Bombardier oil is unavailable substitute with a high-quality 2 cycle oil, ex: Castrol Super TT, Belray MC3. The oil gas mix must meet the vehicle requirements. See oil manufacturer recommendations on container.

CAUTION: Never use outboard oils, straight mineral oils or injector oils.

Fuel mixture ratio

The importance of using the correct fuel mixture cannot be overstressed. An incorrect fuel ratio results in serious engine damage. Recommended fuel ratios are:
125-175-250-350 models: 32 to 1
400 models: 20 to 1

(Refer to "Technical Data", at the end of this section, for complete mixing charts).

AIR FILTER SERVICING

Refer to section 07 chassis, sub-section 02, (Body).