

# SECTION 3 — FUEL SYSTEM

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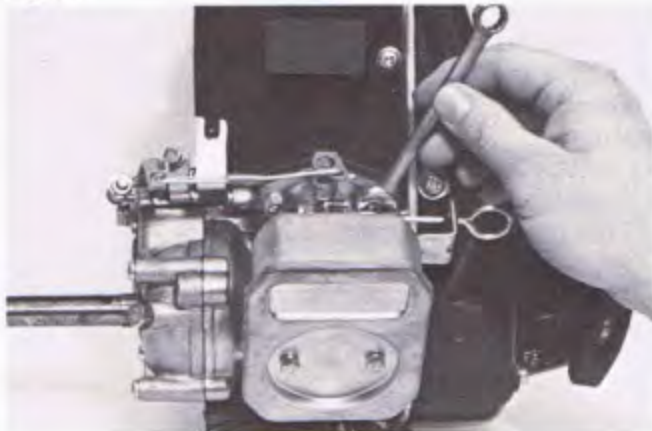
## Specifications

ITEM	SETTING
Carburetor Model	BV-18
Size	18 mm
Main Jet	72.5
Pilot Jet	35
Air Jet	1.0
Pilot Outlet	1.0
Throttle Valve	100
Pilot Screw (turns out)	1

## Removal and Disassembly

1. Rotate the fuel shut-off valve clockwise to the off position; then disconnect fuel line from the carburetor. Wipe any spilled fuel.
2. Remove the two nuts and lock washers securing carburetor to intake of cylinder.

Fig. 3-1



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3. Slide carburetor off intake studs; then disconnect the throttle rod and spring from governor arm. Disconnect rod from carburetor.
4. Remove the two nuts and lock washers securing silencer cover; then remove cover.

Fig. 3-2



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5. Remove the two silencer spacers. Slide silencer housing off carburetor studs; then disconnect choke rod from choke plate. Account for the gasket between carburetor and silencer housing.

Fig. 3-3



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6. Remove the pilot air screw; then remove the pilot jet.

Fig. 3-4

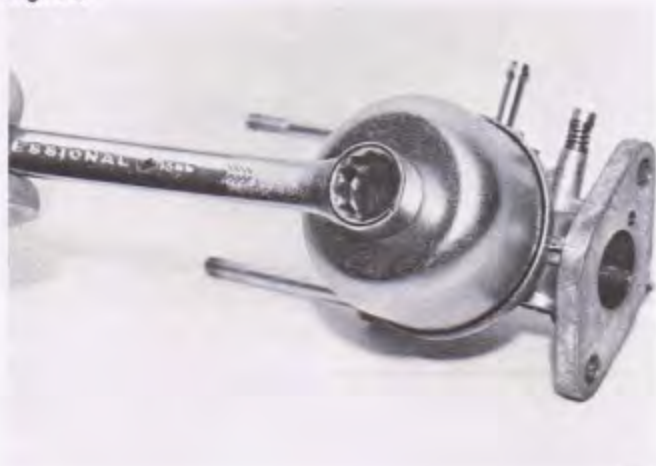


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- Remove the bolt and fiber washer securing the float bowl.

Fig. 3-5



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- Lift float bowl off carburetor. Remove main jet and main jet ring.

Fig. 3-6



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- Remove float pin; then remove float.

Fig. 3-7



A785

- Remove tube and nozzle from carburetor.

Fig. 3-8



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- Remove inlet needle, seat, and gasket.

## Cleaning

- Wash all metallic carburetor parts with a good quality carburetor cleaner. DO NOT place any of the non-metallic parts in carburetor cleaner because damage or deterioration will result.
- After all metallic parts have been washed, place the parts in a wire basket and submerge in carburetor cleaner.
- Soak the parts for about 30 minutes; then rinse with fresh carburetor cleaner.
- Dry the components with compressed air only, making sure all holes, orifices, and channels are unobstructed.

### ● CAUTION ●

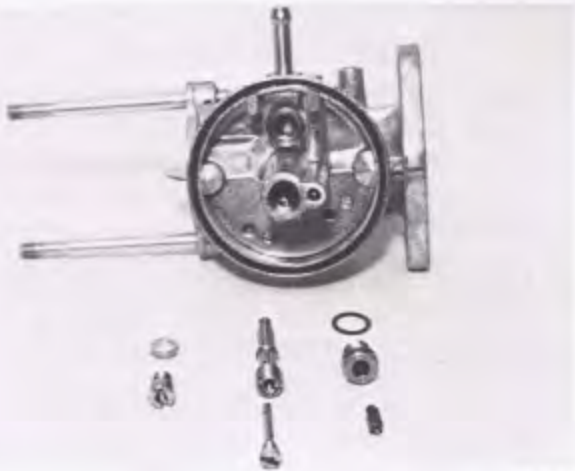
DO NOT use wire or small drill bits to clean carburetor orifices, holes, or channels. Distorted or damaged orifices, holes, or channels can result in poor carburetor operation. The carburetor must be cleaned with carburetor cleaner only.

# Inspection

**NOTE:** Whenever a part is worn excessively, cracked, defective, or damaged in any way, replacement is necessary.

1. Examine the carburetor body, float bowl, and mixing chamber for cracks, nicks, stripped threads, and any other imperfections in the casting.
2. Examine the throttle and choke plates for any bends or damage.
3. Check condition of the throttle return spring.
4. Inspect float for holes or damage.
5. Inspect all gaskets and O-rings for distortion, tears, or noticeable damage.
6. Inspect nozzle and tube for damaged holes or threads.
7. Inspect tip of inlet needle valve. Replace valve if tip is worn or grooved.

Fig. 3-9



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8. Inspect starter plunger and seat for wear or damage.
9. Check carburetor mounting gaskets for damage.
10. Place carburetor insulator on a surface plate covered with 400 grit "Wetordry" emery paper. Move the insulator over the surface plate using a figure 8 motion. The motion should produce an even wear pattern over the entire sealing area.

Fig. 3-10



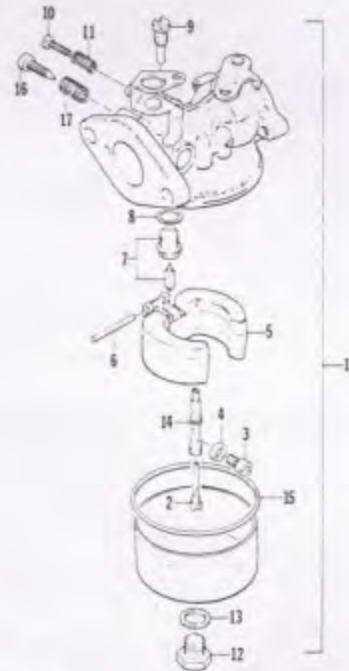
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## CAUTION

An air leak between the carburetor and engine will cause severe engine damage.

# Assembly and Installation

Fig. 3-11



### KEY

- |                       |                              |
|-----------------------|------------------------------|
| 1. Carb. Assy.        | 10. Throttle Adjusting Screw |
| 2. Tube               | 11. Spring                   |
| 3. Main Jet           | 12. Bolt                     |
| 4. Ring               | 13. Washer                   |
| 5. Float              | 14. Nozzle                   |
| 6. Float Pin          | 15. Float Chamber Gasket     |
| 7. Needle Valve Assy. | 16. Pilot Adjusting Screw    |
| 8. Washer             | 17. Spring                   |
| 9. Pilot Jet No. 35   |                              |

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1. Install the inlet needle, seat, and gasket.
2. Install the nozzle and nozzle tube.
3. Place the float in position; then secure with float pin.
4. Invert the carburetor so the float is positioned upward. Using a calipers, measure the distance from the edge of the float to the float bowl base. Correct float height should be 16.5-17.8 mm (0.65-0.70 in.). If an adjustment is necessary, bend the float arm actuating tab to establish correct float height.

Fig. 3-12



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Fig. 3-13



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13. In order, place a gasket, insulator, and gasket onto the cylinder intake studs.

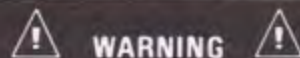
Fig. 3-14



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5. Install the main jet and main jet ring.
6. Make sure float bowl O-ring is correctly positioned; then install float bowl. Secure bowl with bolt and fiber washer.
7. Slide spring onto pilot air screw; then carefully tighten screw until lightly seated. From the seated position, rotate the pilot air screw one turn counterclockwise.
8. Install the pilot jet.
9. Place the small air silencer gasket onto the carburetor studs.
10. Thread choke rod through hole in silencer housing; then connect choke rod to choke plate. Slide air silencer onto mounting studs.
11. Slide the two spacers onto the mounting studs.
12. Make sure silencer gasket is positioned on outer cover; then install cover and secure with two cap screws and lock washers.

14. Connect carburetor and carburetor rod spring to both the throttle control lever and the throttle plate.
15. Slide carburetor onto the cylinder intake mounting studs. Secure with two lock washers and nuts.
16. Connect fuel line to the carburetor. Rotate the fuel shut-off valve counterclockwise.
17. Check throttle cable operation. Throttle system must work smoothly and must not stick or bind. If throttle does not operate smoothly, replace necessary parts.



**WARNING**



**DO NOT** operate the Kitty Cat if any component of the throttle system binds or sticks. Faulty throttle operation could result in personal injury or property damage.

18. Start engine and test run.

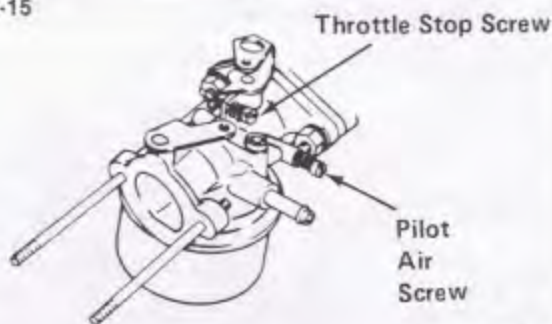


## Adjusting

The Kitty Cat is equipped with a Mikuni carburetor that has been adjusted at the factory. However, altitude, temperature, and wear may cause changes to the carburetor.

Three external adjustments can be performed on the Mikuni carburetor; the throttle stop screw, the air screw, and throttle cable.

Fig. 3-15



### Throttle Stop Screw

The throttle stop screw controls the seating position of the throttle valve, which determines the proper idle speed. Turn clockwise to increase the engine idle speed and counter-clockwise to decrease engine idle speed.

### Air Screw

The air screw determines the air/fuel mixture for idling. When the air screw is turned clockwise, the amount of air is reduced and the mixture is enriched. When the air screw is turned counter-clockwise, the amount of air is increased and the mixture is leaned.

### CAUTION

**DO NOT force the air screw; doing so may cause damage to the screw and/or seat.**

### Throttle Cable

The correct throttle cable adjustment is when (with the engine stopped) the carburetor throttle is completely open (against its limit) while the throttle control lever lightly contacts the handlebar grip. The throttle arm should also contact the throttle stop screw when the throttle control lever is released.

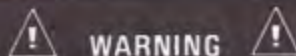
To adjust the throttle cable, use the following procedure:

1. Loosen the throttle cable wire binding screw.

Fig. 3-16



2. Pull all slack from the throttle cable wire and exert slight tension on the wire.
3. Tighten the throttle cable wire binding screw.



### WARNING

**DO NOT** operate the snowmobile when any component in the throttle system is damaged, frayed, kinked, worn, or improperly adjusted.

## Fuel Filter

A fuel filter is incorporated in the fuel shut-off valve located in the bottom of the fuel tank. The only cleaning is a backflush of the filter using parts washing solvent.

1. Drain all fuel from the fuel tank.
2. Pull the fuel shut-off valve/filter from the bottom of the fuel tank.
3. Remove fuel line clamp; then separate fuel line from valve/filter.
4. Clean or replace valve/filter.
5. Install valve/filter into the grommet on the fuel tank.
6. Connect fuel line; then secure with clamp.