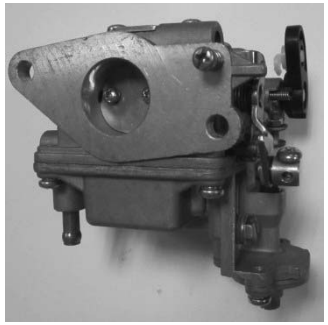
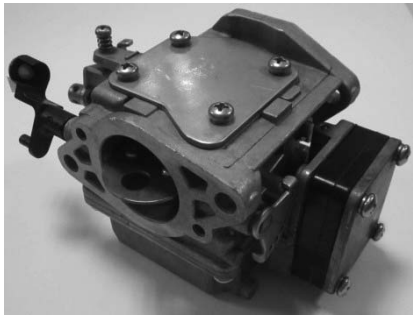
CARBURETOR CLEANING

F5

F15



T15



Suzhou Parsun Power Machine Co., Ltd.

What is the Function of a Carburetor?

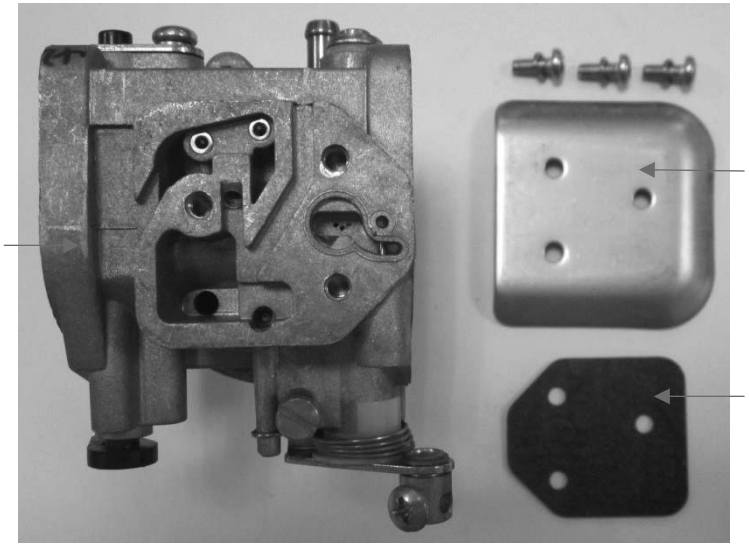
The carburetor main functions are:

A carburetor's main function is to provide an engine's air and fuel mixture in a specific ratio that is needed by the engine for proper functioning. It also supplies a steady flow of fuel to an engine as well as sucking in and injecting air into the engine.

The fuel-air mixture is formed through vaporizing and by uniformly spraying fuel into the airstream or at least by atomizing it into very small droplets.

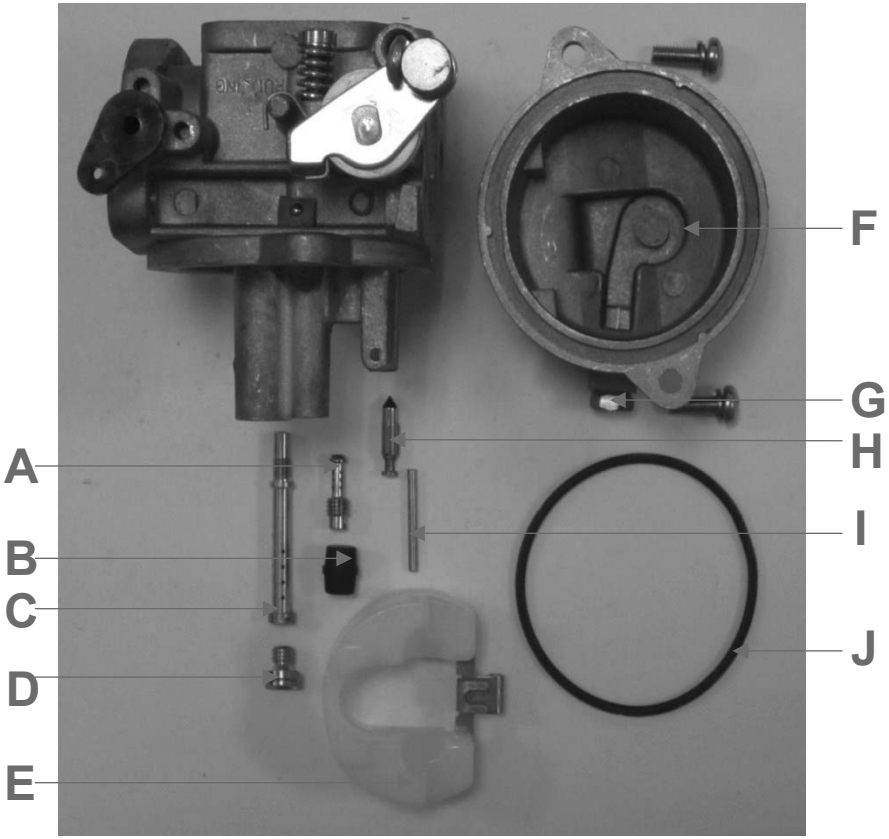
Atomization takes place in this way: liquid fuel from the atomizer nozzle meets the flow of air which carries it, broken into very fine droplets, to the combustion chamber.

F5 carburetor main spare parts-1



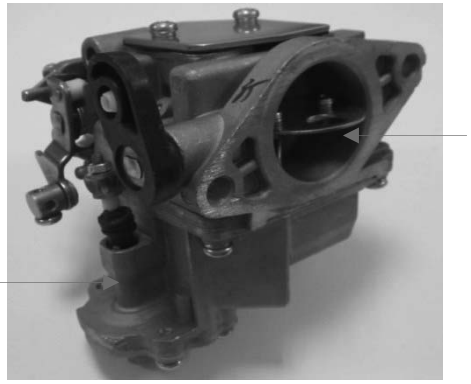
A: Air vent
B: Throttle plate
C: Drain bolt
D: Idle adjustment screw
E: Choke lever assy
F: Float bowl
G: Mixing ratio screw
H: Throttle lever assy
I: Carburetor body
J: Carburetor body plate
K: Carburetor body gasket

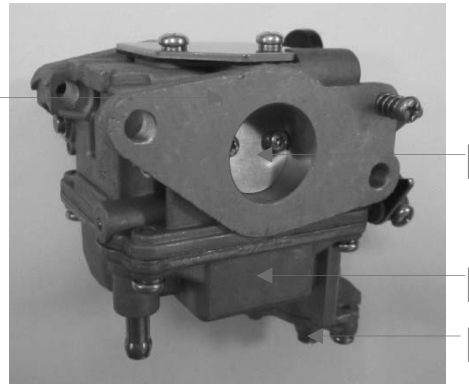
F5 carburetor main spare parts-2

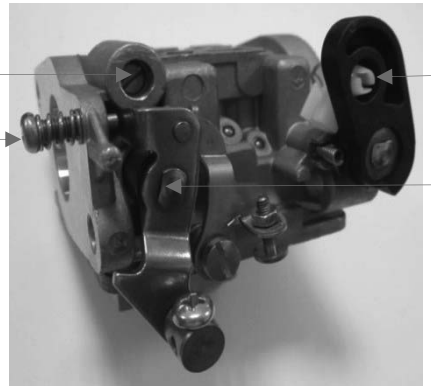


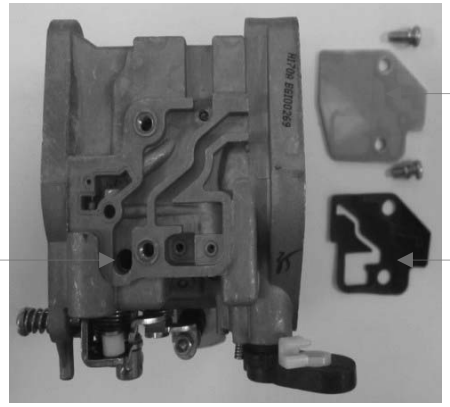
A: Idle jet
B: Rubber cap
C: Main nozzle
D: Main jet
E: Float
F: Float bowl
G: Drain bolt
H: Needle valve
I: Needle valve pin
J: O-ring

F15 carburetor main spare parts-1



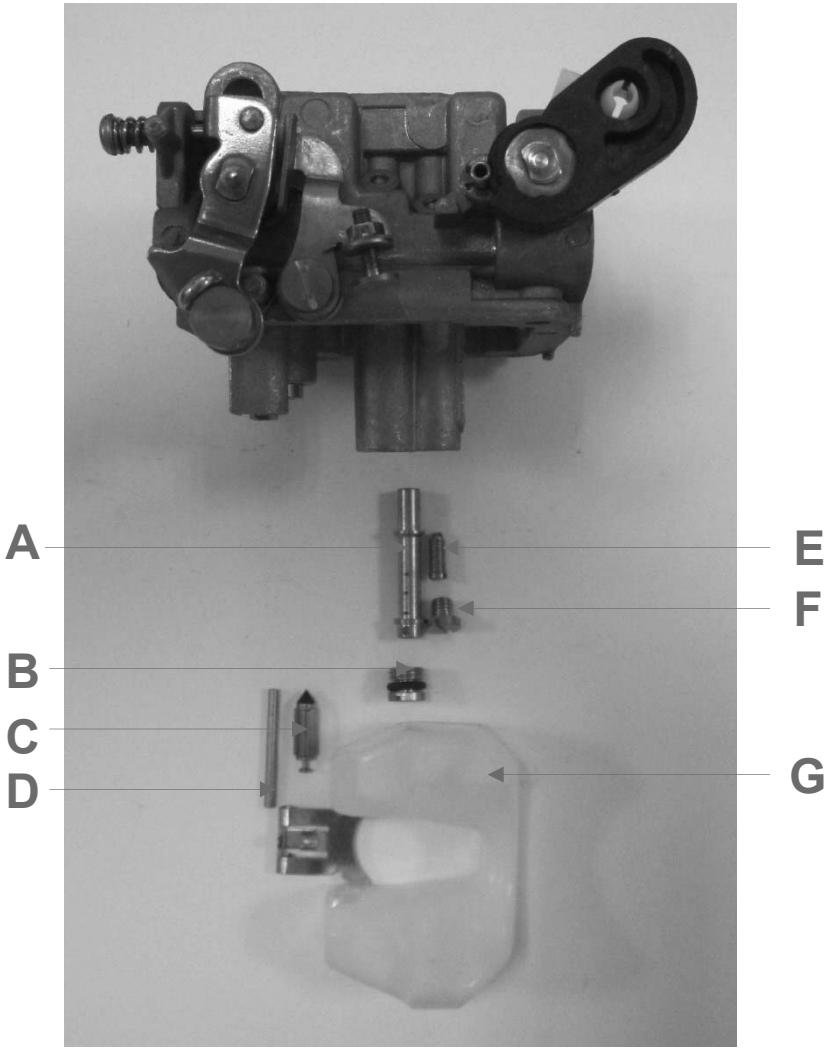






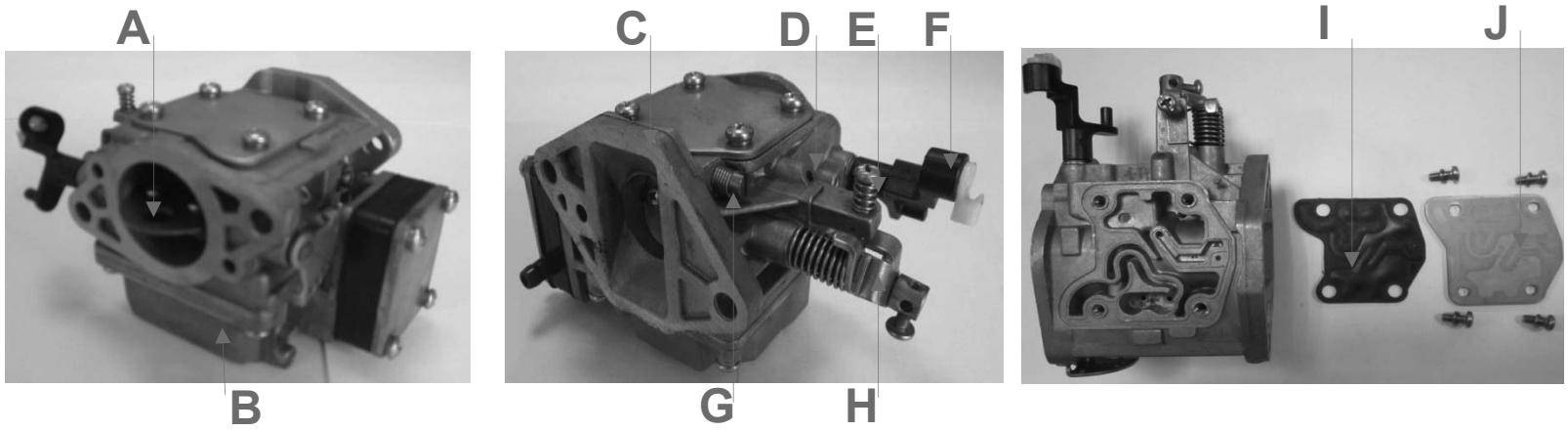
A: Accelerator pump
B: Choke plate
C: Carburetor body
D: Throttle plate
E: Float bowl
F: Drain bolt
G: Mixing ratio screw
H: Idle adjustment screw
I: Choke lever assy
J: Throttle lever assy
K: Air vent
L: Carburetor body plate
M: Carburetor body gasket

F15 carburetor main spare parts-2



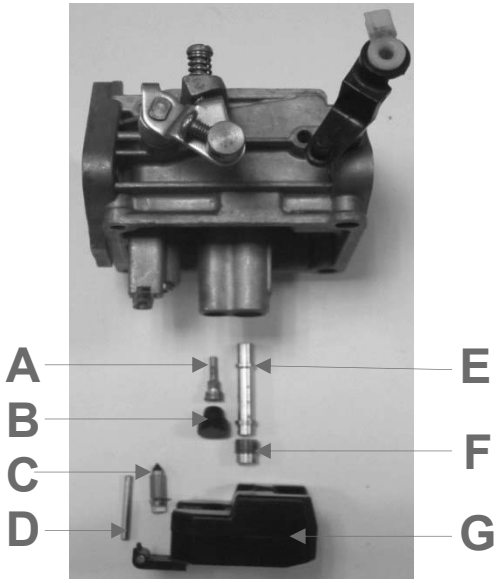
A: Main nozzle
B: Main jet
C: Needle valve
D: Needle valve pin
E: Idle jet
F: Idle jet screw
G: Float

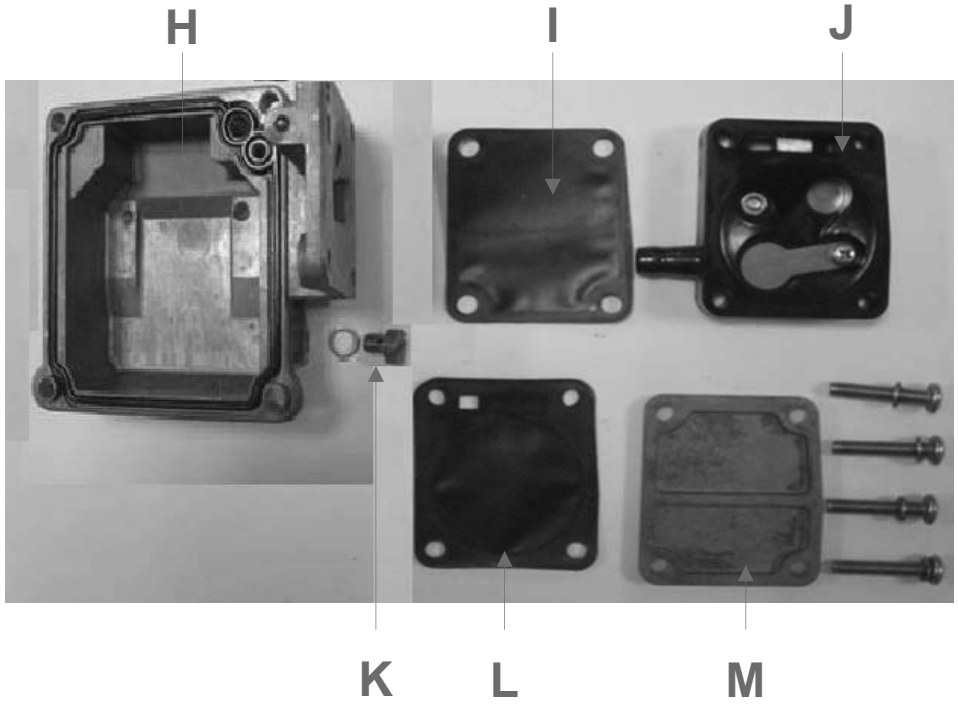
T15 carburetor main spare parts-1



A: Choke plate
B: Float bowl
C: Carburetor body
D: Air vent
E: Idle adjustment screw
F: Choke lever assy
G: Mixing ratio screw
H: Throttle lever assy
I: Carburetor body gasket
J: Carburetor body plate

T15 carburetor main spare parts-2





A: Idle jet
B: Rubber cap
C: Needle valve
D: Needle valve pin
E: Main nozzle
F: Main jet
G: Float

H: Float bowl
I: Fuel pump body diaphragm
J: Fuel pump body
K: Drain bolt
L: Fuel pump cover diaphragm
M: Fuel pump cover

Why Clean the Carburetor?

When an engine sits for a long period of time without running, the fuel can go bad. Make sure you replace the fuel in your tank and clean the carburetor before you start your engine, otherwise you will just create your troubles:

1) Can not be started or difficult to start
2) Unsteady idling
3) Discharge black smoke
4) Will flameout when accelerate or decelerate the throttle
5) Gasoline leakage from the carburetor's air vent
6) Fuel consumption increased greatly
7) Stored for a long time
8) Used unqualified gasoline frequently
9) Reach the servicing & maintenance interval

The Basic Type of Carburetor's Foreign Matters

1. Fiber: small fiber material will block the idle jet and others air vent in carburetor.

2. Sand grain: small sand grain not only blocks the jet and fuel channels, but also makes the needle valve not sealed well which causes leakage of the fuel.

3. Colloid: when an engine sits for a long period of time without running, the remaining fuel in the carburetor will start to go bad and become colloid, which will adhere to the fuel channel and jet, causing the problem.

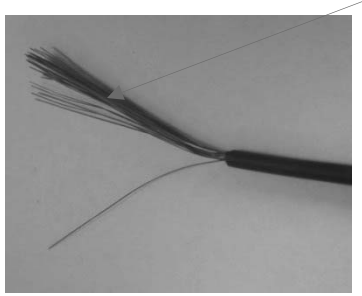
4. Black carbon deposits: normally appear in the joints between the carburetor and the intake manifold.

Tools Needed for Cleaning the Carburetor

Clean container

Brush

Thin copper wire (φ0.2mm)



Solvent naphtha

Phillips & flat screwdriver

Carburetor cleaner

WARNING

Gasoline and its vapors are highly flammable and explosive. Keep away from sparks, cigarettes, flames, or other sources of ignition when cleaning the carburetor.

Remove the Carburetor

1) The first step in taking off the carburetor is turning the fuel valve off on the fuel tank (if exist).

2) Track the fuel line down to the carburetor and remove the hose. (If the line is old and cracked you will want to replace the hose to ensure there are no leaks.)

3) There will also be an overflow hose coming out of the carburetor, remove this hose too.

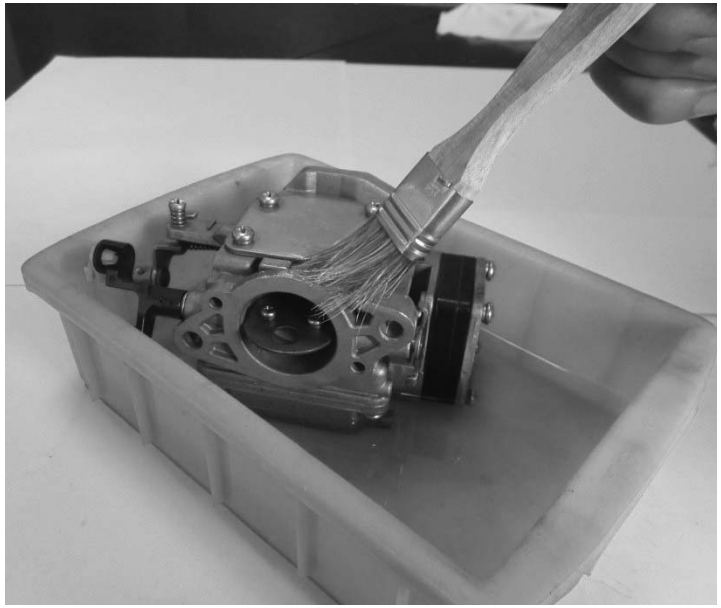
4) Next, loosen the screws in the clamps in the front and rear of the carburetor. The carburetor should be loose; you should be able to wiggle and twist the carburetor to remove it. The carburetor will be held in by the throttle cable. The throttle comes off by twisting the top cap. The carburetor should now be removed.

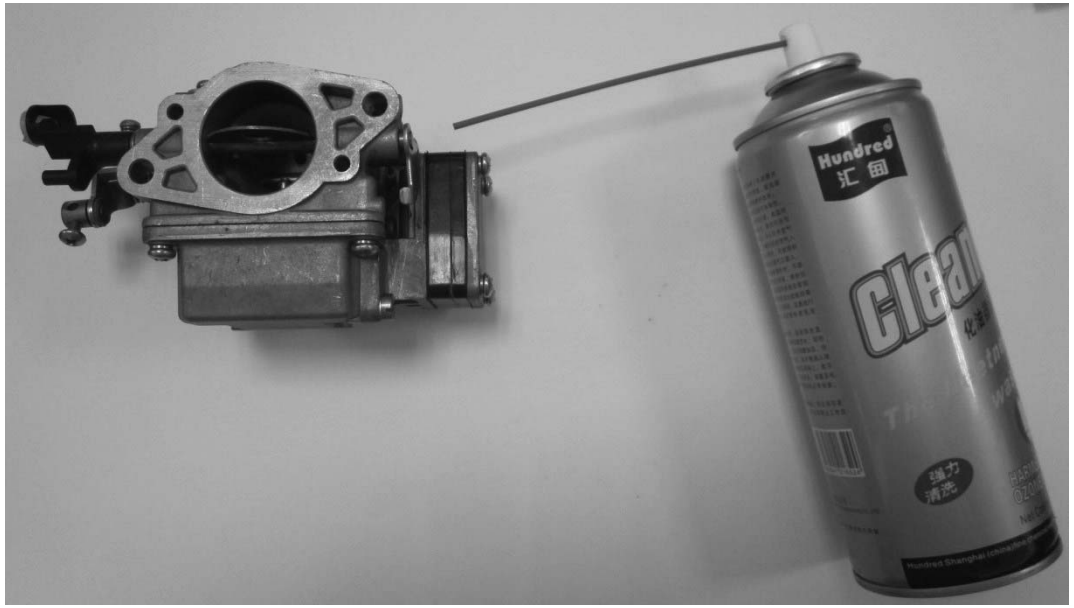
5) Please be note on some models (for example: F25, you need to disconnect the wire of the electronic enrichment valve of the carburetor).

Steps for Cleaning Carburetor

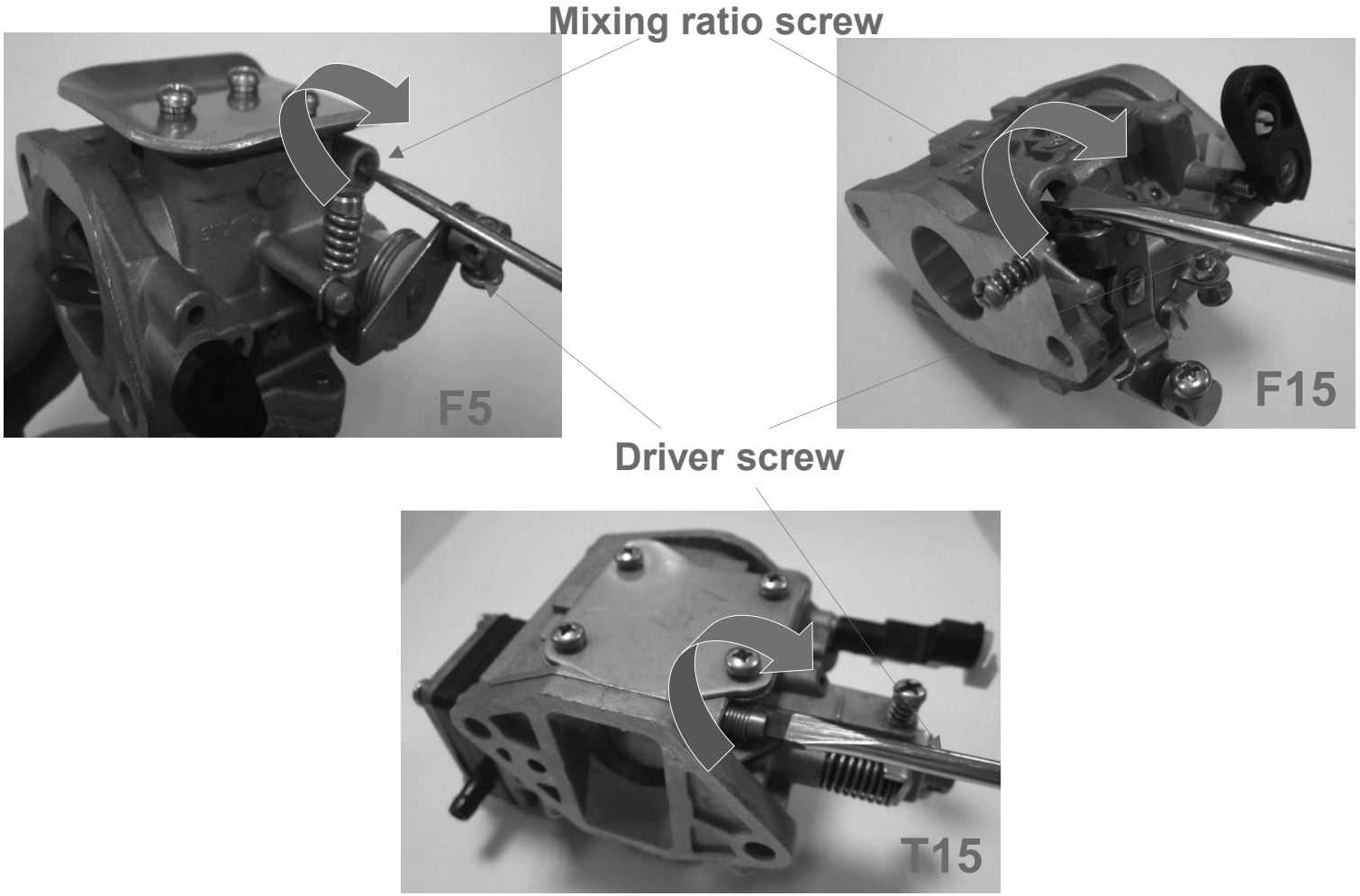
1. Cleaning carburetor surface

Use solvent naphtha & carburetor cleaner to clean the carburetor surface.

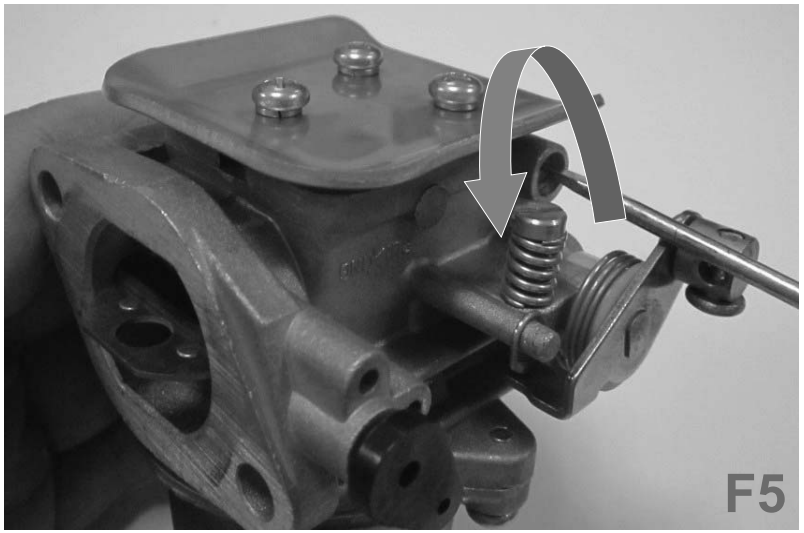


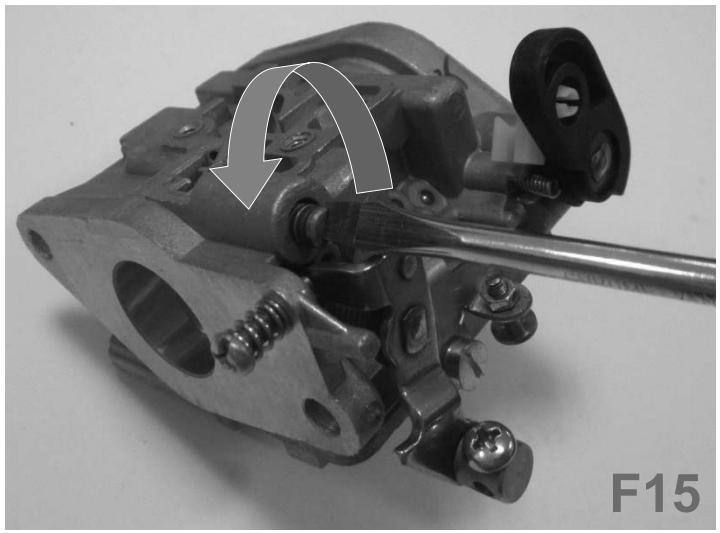


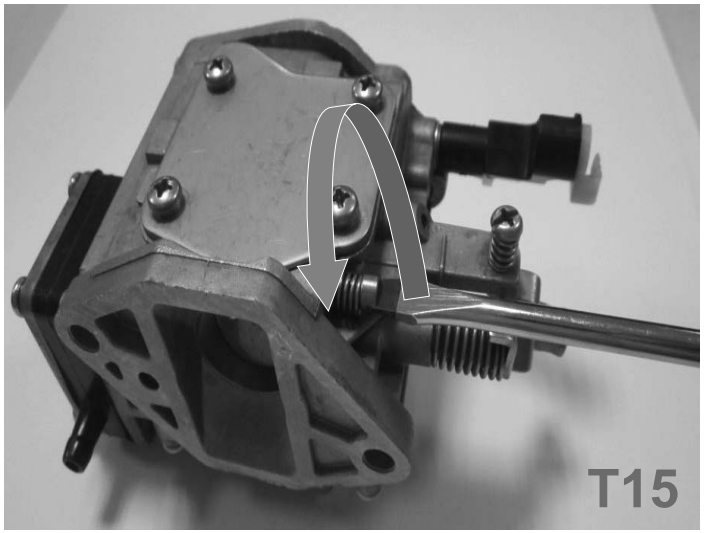
2. Clockwise tighten the mixing ratio screw by using the screwdriver. Record the number of turns before removing it.



3. Remove mixing ratio screw



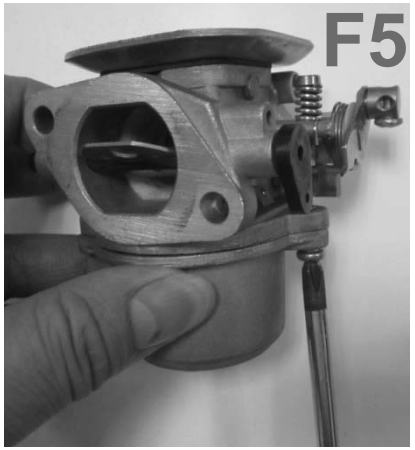


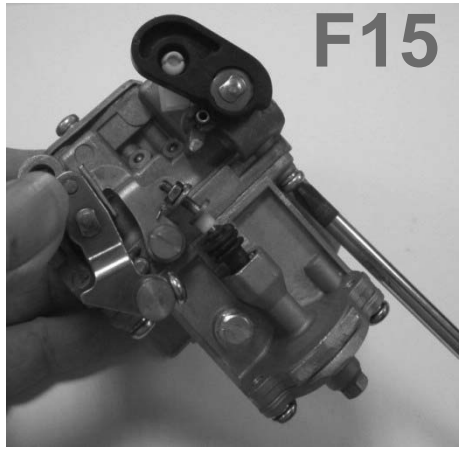


4. Remove the float bowl

1) The float is the bottom part of carburetor and is the first thing taken apart when cleaning the carburetor. To remove the float bowl, unscrew the four screws on the bottom of the carburetor. Remove these screws with care because they strip very easily.

2) The float bowl then can be pulled off the carburetor. If you are not replacing the gasket be sure to not tear it. Cleaning the parts will be addressed later so don't start cleaning yet.



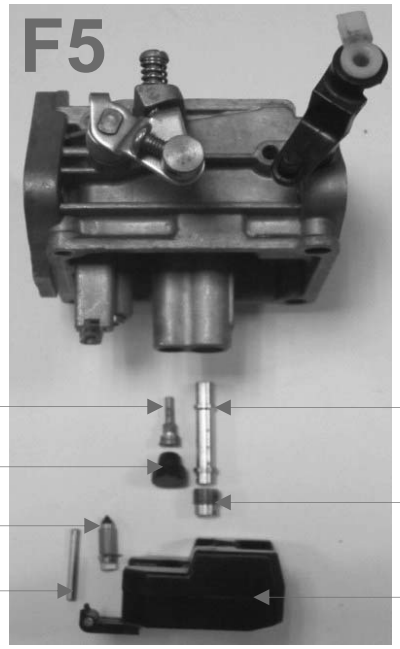


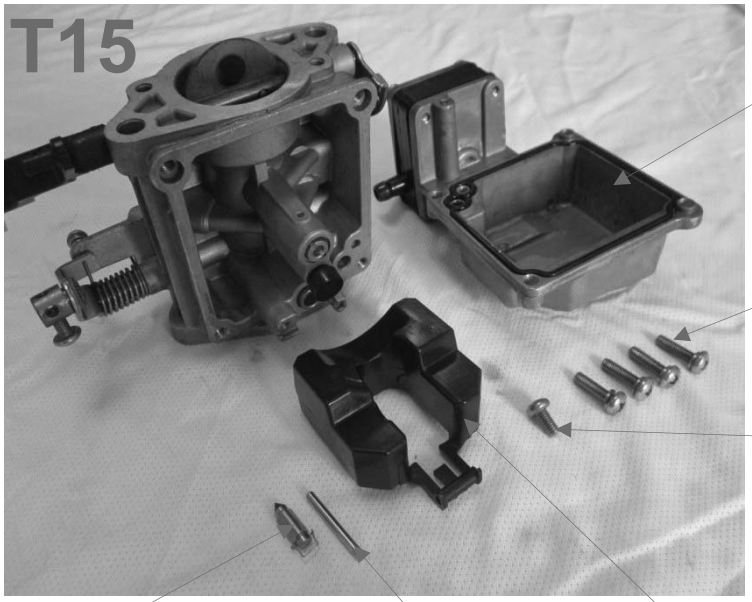
5. Separately disassemble float, needle valve, main jet, main nozzle, idle jet…

1) Remove the float pin by pulling it out with a pair of needle nose pliers. After the pin is removed, the float can be removed.

2) Then the jets will need to be removed. In some carburetors there is a rubber cap that needed to be taken off, not all carburetors will have this. Jets are screws that have a hole through the center of them which the fuel flows through to mix with air. The main jet and idle jet is short and fat; will have a hex head or a flat screwdriver head to remove. The pilot jet is long and skinny which will take a flat head screwdriver to remove.

3) Please refer to the following photos:

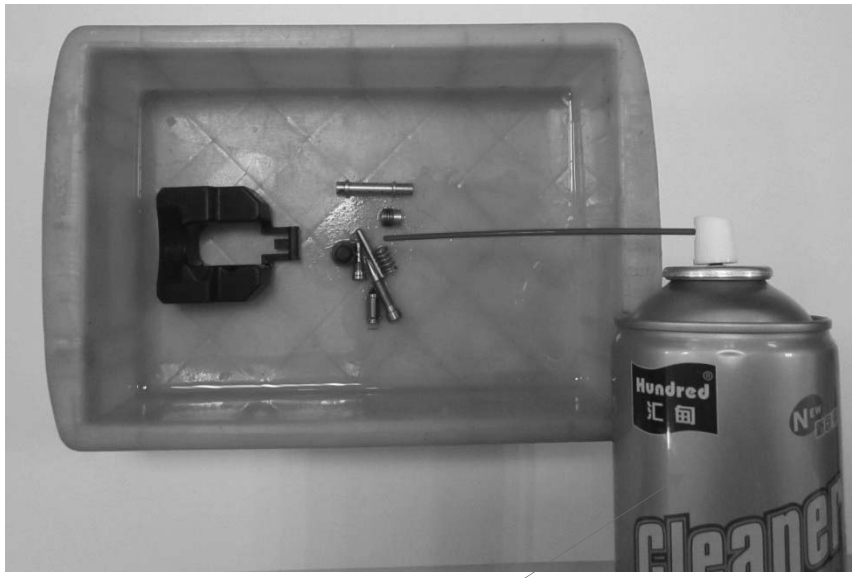

F5
Idle jet
Rubber cap
Needle valve
Needle valve pin
Main nozzle
Main jet
Float


T15
Float bowl
Float bowl bolt
Needle valve screw
Needle
Needle valve pin
Float

6. Use solvent naphtha & carburetor cleaner to clean the carburetor spare parts

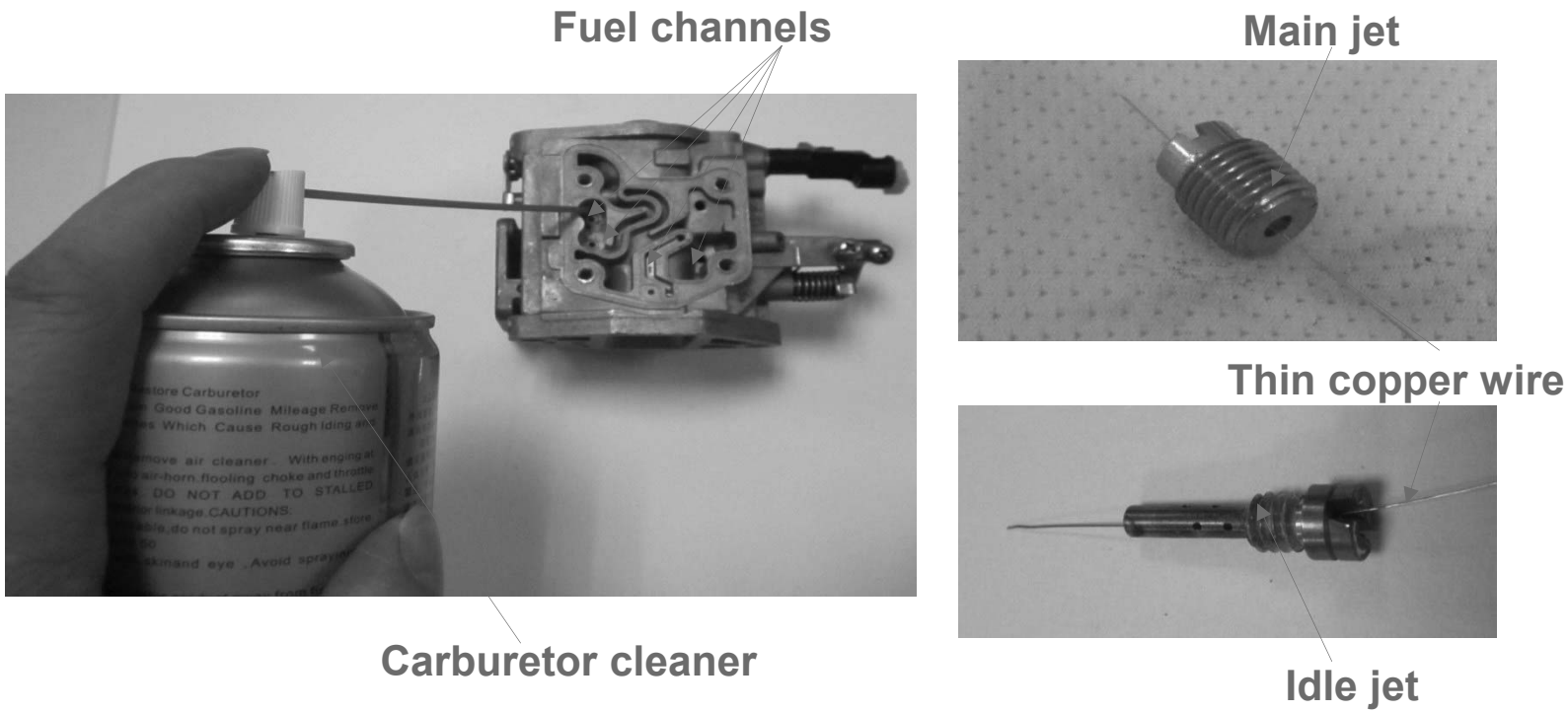
1) Before cleaning carburetor and parts, remove all gaskets and O-rings. The easiest way to clean the carburetor and the parts is to soak them in a gallon of carburetor cleaner, however the can is pretty expensive for just one use. Follow the instructions on the can for cleaning. Parts can also be cleaned by spraying carburetor cleaner.

Solvent naphtha



Carburetor cleaner

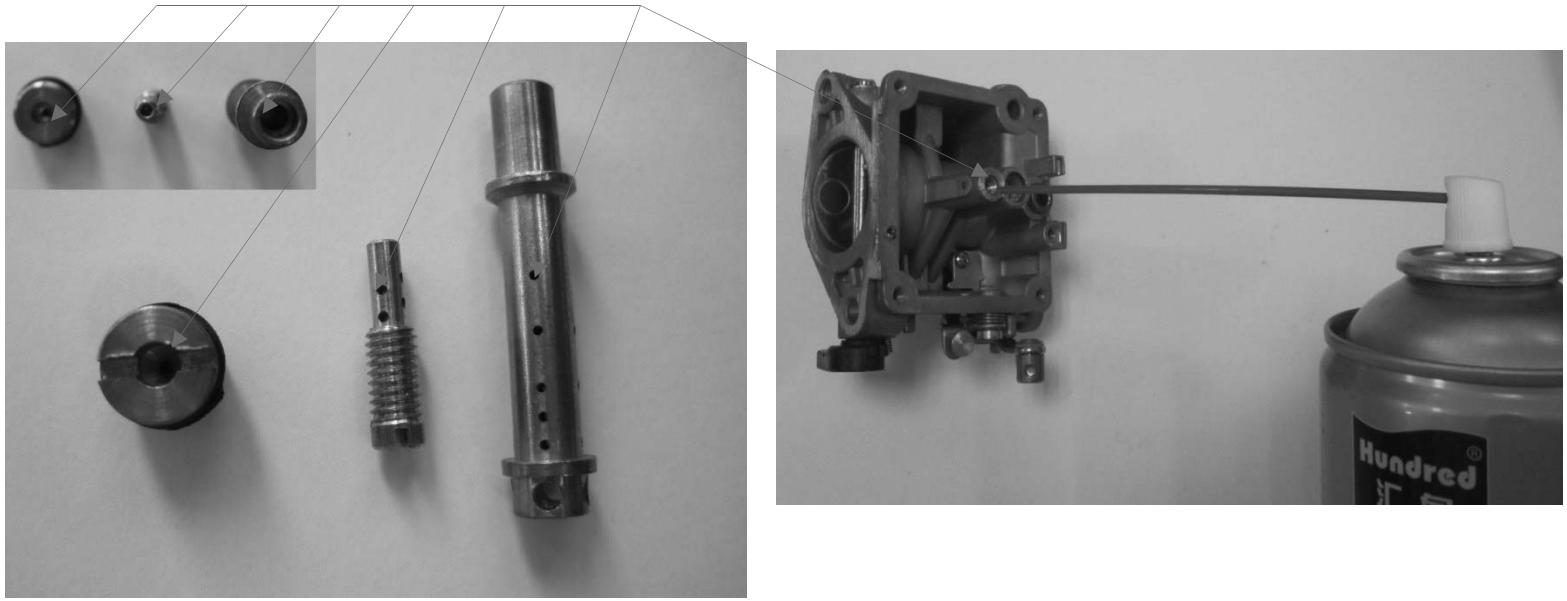
2) Be sure so wear safety glasses, and do not use the gloves, for cleaning. Parts should be bellowed with the compressed air and then sprayed with carburetor cleaner. Spray the cleaner into the holes that the jets, air and idle screws, float, needle, and choke came from. When cleaning the jets, be sure to spray cleaner into the holes. To make sure the jets are clean, look through them into light to make sure the hole is cleaned. If jets are not completely clean, blowing compressed air through the hole will remove left over debris. Recommend use thin copper wire φ0.2mm to clear it if need.



3) High pressure solvent of carburetor cleaner can clean the foreign matter and colloid in fuel channels perfectly.

4) Make sure all debris is removed from the carburetor. Dry the carburetor and all parts, the easiest way is with compressed air. Blow compressed air into all holes, and blow off all parts of the carburetor. After everything is dry, install the new O-rings and gaskets back into carburetor if you have them, if not, reuse the old.

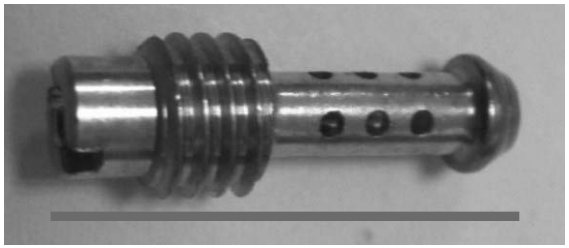
All these holes must be cleared clean and ensure there is not any deforming.



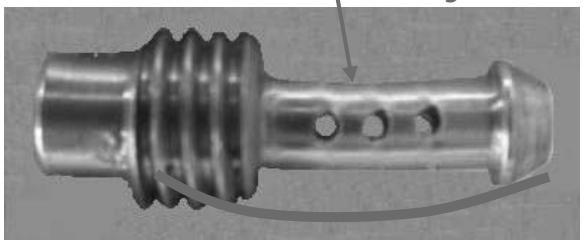
7. Install jets and float

1) Install the parts in the reverse order in which they were removed.
Please note: in order to avoid the hole on the jet being deformed, do not tighten these jets with undue torque.

Normal idle jet



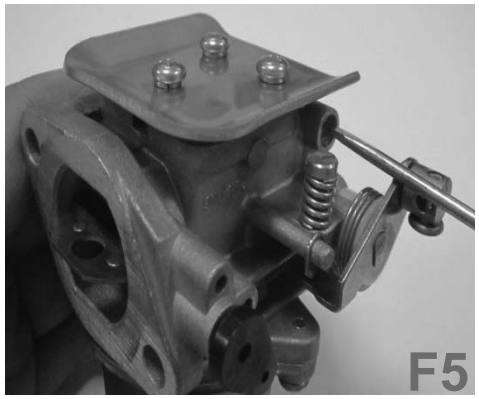
Deformed idle jet

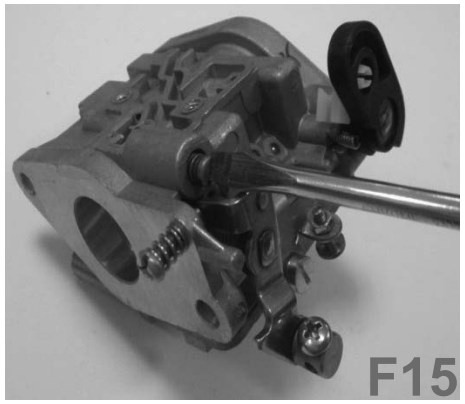


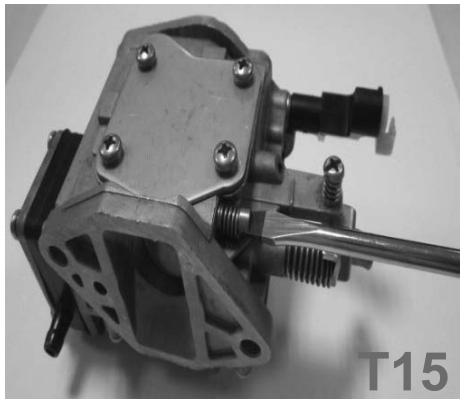
2) Install the float. To install the float, line the holes up with the holes in the carburetor and slide the float pin in. The pin will slide around freely; just make sure it is centered so it is secure. To make sure the float needle is working properly, move the float up and down to make sure the needle moves freely. If the needle gets stuck in the up position, it needs to be replaced.

3) Install the float bowl onto the carburetor with the 4 screws on the bottom.

4) Tighten the mixing ratio screw when assembling it (please do not use undue torque), then turn it counter-clockwise with the number of turns recorded in Step 2. The carburetor should now be complete, without connecting to the throttle.







Install the carburetor

1) Install the throttle slide back onto the throttle cable.

2) Tighten the screws on the clamps to hold the carburetor into place. Install the fuel line and overflow line to the carburetor.

The last step of the job will be to adjust your idle screw; to do this the engine must be running. If you want to increase the idle speed, screw the idle screw in.

Carburetor Cleaner Instructions

Carburetor cleaner is a special solvent for cleaning the carbon deposits, colloid and other dirt in the carburetor thoroughly. It will help opening up the fuel channel and air vent easily. It have various types. They can be purchased easily in auto parts stores.