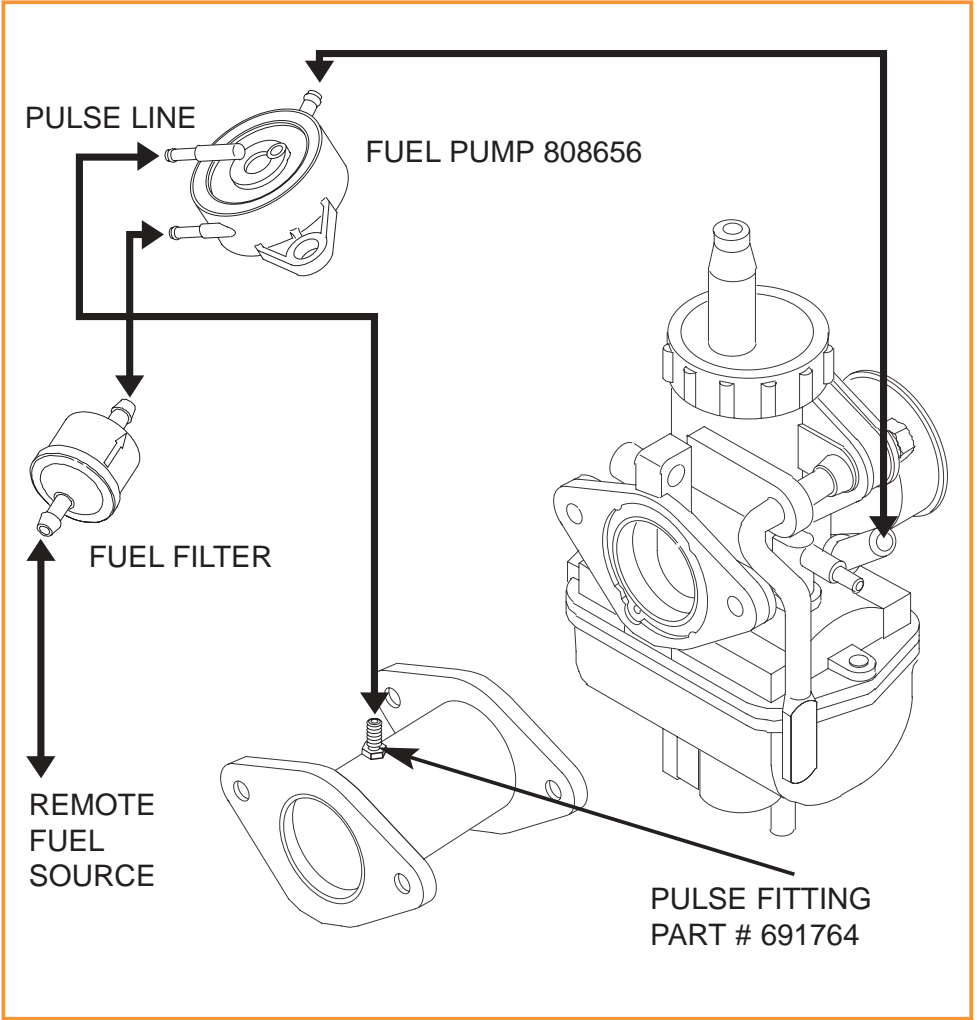


Sample Fuel Pump Diagram



PZ Carburetor Tuning Guide

Idle / Low Speed

Tuning of the engine at idle and low speeds is accomplished by adjusting the idle mixture screw (555585) or changing the size of the pilot jet, also called slow jet. The jet size or diameter in millimeters is stamped on the jet (32 = .32mm orifice). The idle mixture screw is an air bleed adjustment, so closing the screw or turning it clockwise will richen the fuel mixture, and opening the screw or turning it counterclockwise will lean the fuel mixture.

To adjust the idle mixture screw proceed as follows. Turn the idle mixture screw in until it lightly seats or stops. Back the screw out the specified number of turns. Warm the engine and set the Idle Speed screw slightly higher than the desired idle rpm. Turn the idle mixture screw in or out to obtain the highest rpm. Turn the idle speed screw to the desired idle rpm. A slightly rich idle mixture is usually better for acceleration.

If a smooth idle cannot be obtained with the idle mixture screw between 1/4 - 2 1/4 turns out from closed, a different size pilot jet may be needed. The proper size pilot jet will allow for smooth acceleration from an idle and steady engine speed up to/throttle opening.

Mechanical Idle SPEED Adjustments

The overall idle speed is set using the Idle speed screw (555586). Movement of this screw clockwise will raise the slide, effectively raising idle speed. Counterclockwise movement of the screw will lower idle speed. This adjustment will affect the overall idle speed of the engine and with adjustments of the mixing screw, will control idle and initial responsiveness/acceleration of the engine.

Midrange / Part Throttle

The jet needle (555602) primarily controls fuel flow between 1/4 and 3/4 throttle opening. The jet needle has five notches and a C-clip on the top of it. To richen the part throttle operation, move the clip to the next lower notch. To lean the part throttle operation, move the clip to the next higher position. The highest notch (farthest from the tip) is considered the first position. Needle taper reference letters are stamped on the needle for identification.

High Speed / Full Throttle

The main jet (contained in kit 555536 and 555537) controls the fuel

flow at throttle positions of 1/2 to full throttle. The jet size or diameter in millimeters is stamped on the jet. Altitude and weather conditions can effect the engine operation enough to require changing the size of the main jet. High air temperature, humidity, or altitude could require a smaller main jet. Low temperature, humidity, or altitude would require a larger diameter main jet. Running the engine with an improper main jet size could result in a loss of power or engine damage.

PZ Carburetor General Specifications

Gasoline

Main Jet -	#95
Pilot Jet - (Slow Jet)	#32
Jet Needle -	BGB 2nd notch
Main Nozzle diameter	2.6mm
Idle Mixture Screw turns out -	1 1/2
Float Height* -	22.0 mm
Float Drop -	24.0 mm
Slide Cutaway -	2.5 mm

Methanol

Main Jet -	#137
Pilot Jet - (Slow Jet)	#40
Jet Needle -	BHA 3 rd notch
Main Nozzle diameter -	2.70 mm
Idle Mixture Screw turns out -	1 1/2
Float Height* -	22.0 mm
Float Drop -	24.0 mm
Slide Cutaway -	3.0 mm

* To check float height

- Remove float bowl and hold carburetor upside down
- Allow float to rest on the inlet needle
- Measure from the fuel bowl mating surface to the bottom edge of the float
- Bend tab were it makes contact with the inlet needle as needed to obtain the correct float height

Torque Specifications

Bowl Screws	17 – 20 in-lbs
Pilot Jet	9 – 12 in-lbs
Needle Jet	14 – 16 in-lbs
Main Jet	9 – 11 in-lbs

Conversion to Methanol

To convert carburetor to use methanol fuel, several changes need to be made. The parts that need to be replaced are the main jet, pilot jet, jet needle, and main nozzle.

Remove the throttle valve slide assembly (555590 + 555602).

Remove the float bowl (555590).

Remove the pilot jet (555594).

Remove the main emulsion tube (555593), which is the large tube screwed into the bottom of the carburetor body. This will also give access to the main nozzle which can then be replaced.

The main jet (555536 and 555537) is also screwed into the bottom of the main emulsion tube.

The main nozzle is held in place by the main emulsion tube and can now be pushed out from the inside bore of the carburetor.

The carburetor can be reassembled in the reverse order with the correct parts for the application.

To remove the jet needle push the needle out of the top of the slide taking care not to lose the V-shaped retaining clip in the top of the slide.

Carburetor Pump Requirements

In our testing we used the Walbro WIP-28 fuel pump, it is fully compatible with methanol fuels and is rebuildable. This pump is designed to deliver 1-2 psi pressure at the carburetor on the Animal engine. It also has two longer thru bolts for mounting.

The Walbro PZ Carburetor should not be used with a fuel pump rated at or higher than 5 psi, flooding could occur.

General Pump Requirements:

7 lbs./hr (MAX) of fuel or gasoline

14 lbs./hr (MAX) on alcohol



555596
Spring



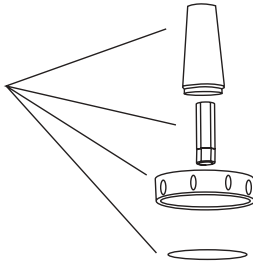
555590
Throttle Slide



555602
Needle Jet Kit

555603

Throttle Cable Cap Kit



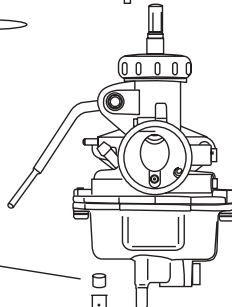
555586

Idle Speed Screw



555585

Idle Mixture Screw



555537

Main Nozzle - Part of Jet Kit

555593

Emulsion Tube

555537

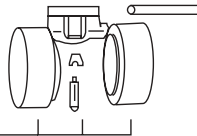
Methonal Kit

555536

Gas Jet Kit

555591

Float Kit



555594
Pilot Jet

Main Jet
(Part of Kits)

555607

Drain Screw
(Also Part of Kit 555598)



555598
Float Bowl Kit

