

Simple Carburetor



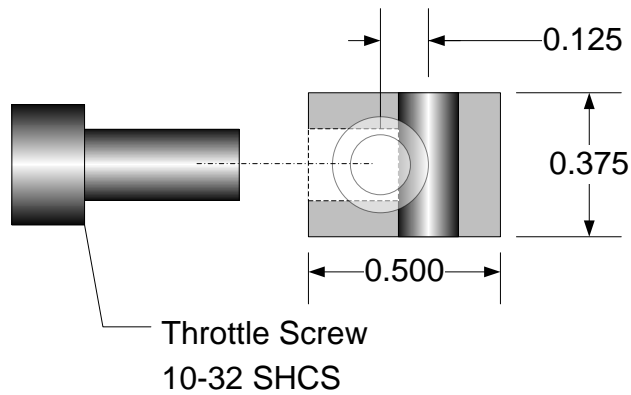
This carburetor is simple to build.

The fuel jet forms a venturi by being an interference fit with the main air passage.

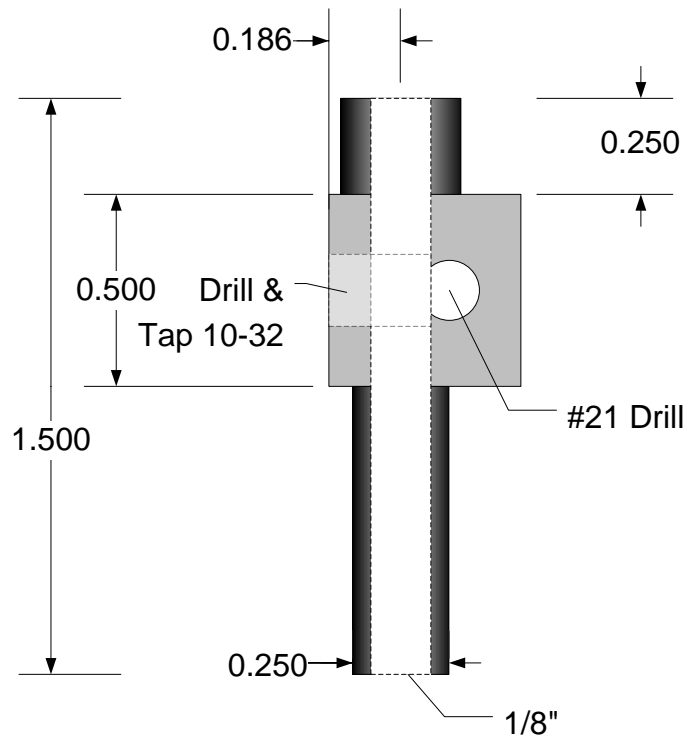
The throttle is simply a screw which closes against the jet tube which keeps the intake air close to the fuel aperture improving fuel draw and atomization.

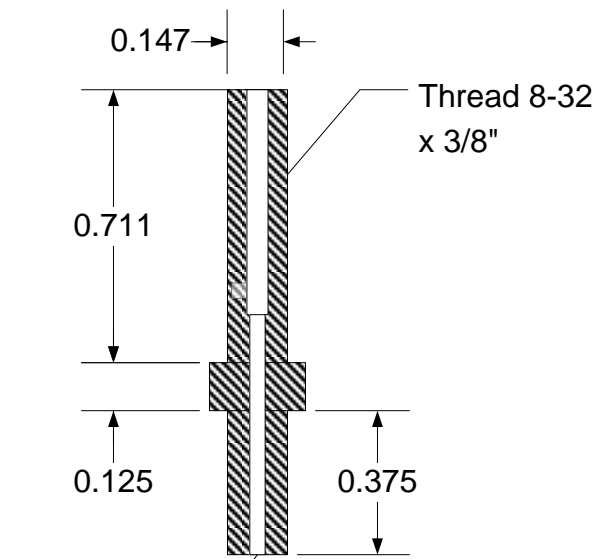


The carburetor body is made 1.5" x 0.5" x 0.375" brass or aluminum. Length may vary depending on application.



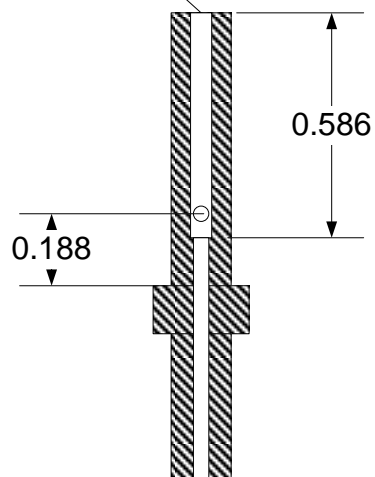
1. Drill $5/32$ " hole through the length, $.1875$ " from 3 of the 4 sides.
2. Drill hole for jet tube using #29 drill ($.135$ "), offset $.098$ " from center of main port.
3. Drill and tap 8-32 hole for throttle screw. Use a bottoming tap all the way to the opposite side of the venturi. If a purchased screw is used for the throttle, turn or grind the threaded end flat.
4. Turn down the intake boss to 0.3125 ".
5. Turn the neck on the engine mount side to 0.25 " and thread $1/4$ " model pipe taper. This part will vary depending type of engine mount to be used.





Fuel Inlet,
#60 Drill

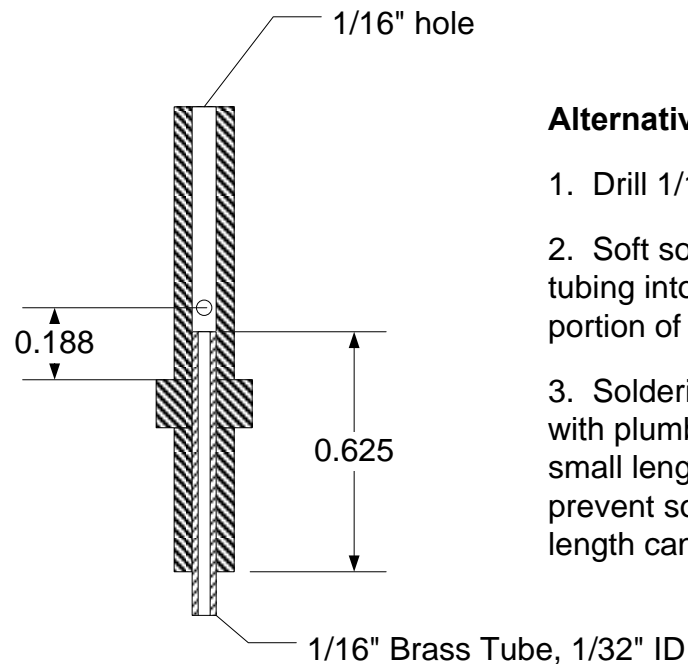
#55 Drill



Venturi
Facing Side

Jet is made from 3/16" or 1/4" brass rod approx 1.125" long. The through hole is best drilled on a lathe.

1. Start by drilling hole 0.586" deep with a #55 drill.
2. Continue drilling the hole the rest of the way thru with a #60 drill.
3. Make sure both drills are new or freshly sharpened so it will stay centered all the way through.
4. Turn both ends down to 0.157"
5. Thread the top end 8-32 for a length of 3/8"
6. Drill the venturi hole with a #60 drill.
7. The jet tube should be installed in the carburetor body with the venturi hole facing the throttle, but rotated slightly toward the air intake side.

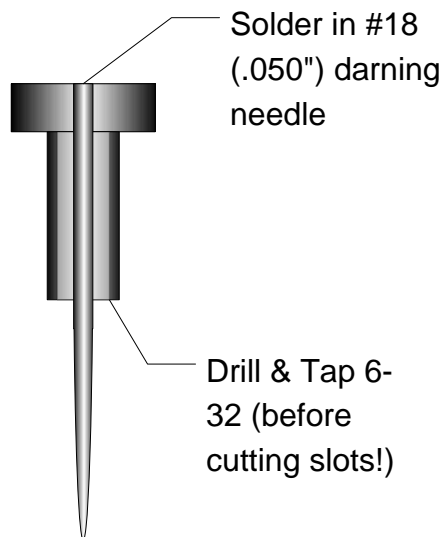
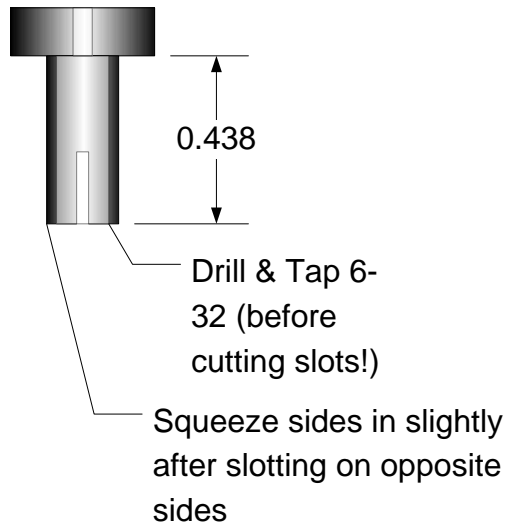


Alternative way to make jet tube...

1. Drill 1/16" hole through the entire center.
2. Soft solder a length of 1/16" OD brass tubing into bottom end of jet tube. Inserted portion of tube should be 5/8" long.
3. Soldering is made easier if tube is coated with plumber's flux before inserting. Leave a small length beyond the end of the main tube to prevent solder from getting inside. This extra length can be cut off later.

Note: The needle valve and jet are taken exactly from Phil Duclose plans of the Six Cycle Oddball Engine

**Design & Drawings
by Chuck Fellows
March 21, 2014**



The needle valve is made from 3/8" brass rod and a #18 darning needle. Use a piece long enough to chuck it in the lathe and do the machining, drilling and tapping before separating the part from the stock rod.

1. Turn down the end to 3/16" for a length of 0.4375"
2. Drill to a depth of slightly more than 5/8" using a #55 drill.
3. Drill to a depth of 0.438" with a #36 drill.
4. Tap 6-32 to the full depth of 0.438" finishin with a bottoming tap.
5. Cut the slot in the end using a hacksaw or slitting saw. Use a vise to bend the tabs in slightly so part will fit snugly on jet tube.
6. Separate the part off from the stock rod.
7. Mount the jet tube in the carburetor body and secure it with a 6-32 nut on the top.
8. Screw the needle valve part onto the jet tube until it is firmly against the nut. Then back it off a full turn.
9. Clean the needle with acetone then apply flux to it. Drop it into the hole the in the screw cap and make sure it is seated in the hole in the jet tube. Then solder it in place with soft solder.

Note, I use the flux that plumbers use for soldering copper pipe.