MIDGE Modification for Primary Air Control

The Parts

On the far right is a plain tapered can. In the middle is a tapered can with holes cut to be a burner, fit inside a straight can to show the height that is just a little less than the cowling. The cowling shows at the bottom a piece of steel tubing –electrical conduit- sticking out a little. This tubing goes across the whole stove, going through holes in the bottom of an assembly like the two cans in the middle. Also seen is the bolt and washer placed in the tubing, this just sits there and can be pushed in to close off the air. Another one would be on the other side.

This picture is from the top and shows the straight can held in the middle of the cowling by the tubing going across. The burner has been removed. You can see the tubing on one side. It isn't visible on the other side in this picture, but it is there. The oblong shape in the middle is actually a hole in the tubing. The white material is sealing the tubing to the can. I did not have a neat method for cutting a smooth round hole in the cans for putting the tubing in, I merely cut slits with a razor knife and bent them back to make a rough hole that was tight on the tubing. The leakage of air around the tubing on the cowling makes no difference, but the tubing needs to be sealed to the straight sided can.

The inside diameter of the tubing is 0.62 inches

Hopefully it is plain that air comes in the tubing from the sides, goes into the straight sided can through this oblong hole, (I made two angled cuts with a hacksaw) and rises up to the tapered burner jammed into the straight sided can.

And here is the stove all put together, except the other bolt and washer valve, is not there. Lots of different kinds of valve should work.

Good luck!

Arthur Noll