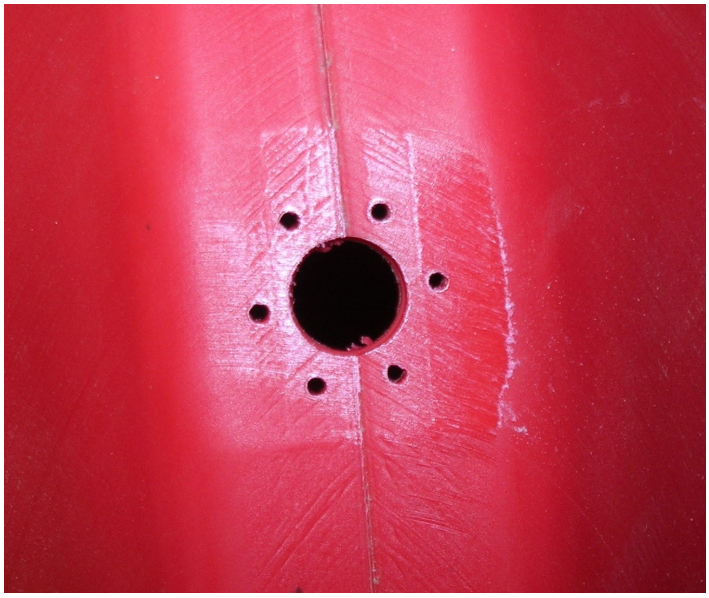
A Gas Can Mod for Faster Flow

By Rick Girard

I don't know about you but I find the new vent-in-the-spout style of gas can a pain-in-the-butt. First the spout is too short for use on any vehicle more complicated than a lawn mower and only then if its tank is completely unobstructed. And the flow out the spout? You could almost tablespoon it out faster. So what to do? Fix it, of course! Homebuilders build better airplanes, so why not make better appliances to service them.

First, I stopped at the local auto parts store and bought a couple of radiator drain valves, one per can and I'm doing two, and a package of J-B Weld. Next, I gathered together the tools required, a drill motor, 3/32" drill bit, a Unibit with 1/32" graduations, a sanding disk with a 60 grit disk, and a caliper to measure the drain valve to determine the size hole I needed.

The gas can had a convenient flat spot located near the handle and above the fill- to-here line. With the caliper I decided a 15/32" hole would be just the ticket. I chucked up the Unibit, centered it in the flat spot I'd chosen and step drilled the hole out, stopping a couple of times to clear the cuttings, until I had a nice round hole. Next I chucked up the 3/32" drill bit and drilled six holes, as evenly spaced as my Mark I eyeball could get them, around the large hole and about an 1/8" from the edge.



After roughing up the area with the sanding disk, I carefully screwed the drain valve into the plastic so that it ended up relatively straight in the hole.

I mixed up a blob of J-B Weld about the size of a grape. Since I'm experimenting here, I decided to use two different mixes. One using just straight J-B Weld and the other mixing in a little bit of flocked cotton (known to composite airplane builders as Flox) I was a bit concerned about the J-B Weld's ability to adhere to the plastic tank, which is the reason for those six little holes, too, so flox for one, no flox for the other.

Pictured is the mix with the flox. In a couple of days the J-B Weld was hardened and I was ready to see how my modified gas can flowed compared to a stocker.

Okay, the J-B Weld has cured. As to whether it makes a difference to add flox to the mix, I believe it does. The unfortified J-B Weld slumped more than that with the flox added. Since the purpose of the J-B Weld is not only to provide a better seal but also prevent the valve from unscrewing, the bulk around the hex portion of the valve will provide more resistance. When I have another repair to accomplish with J-B Weld I now know that the addition of flox adds bulk and allows sculpting of the mix.

Now, the flow test. I filled each gas can with 2.5 gallons. One had the valve fully open, the other valve was closed. It took 40 seconds to drain the gas can with the open valve. It took 118 seconds to empty the gas can with the closed valve, i.e. relying on the in-the-spout vent only, almost three times as long.

I'm happy with the results of my fix.

But, wait, as the TV pitch men say, there's more. One of my complaints against the vent-in-the-spout was the short length of the spout itself.

In the past I have tried adding an extension hose to the spout in order to fill the tanks in my Kolb since frame members make it impossible to get the gas can to the fuel tank. This did not work well at all. The fuel ran out so slowly I lost patience and used the extension hose with a funnel. This required more hands than I most often have available to keep from making a mess. On the other hand, with the valve installed in the tank, the addition of an extension hose makes no difference at all and refueling the tanks in the Kolb is now a trouble free, one person operation.

Home builder mods, One, stock from the store, Zero.