

# Punching the Gas Tank

I haven't felt the need to have to do this before, but due to the nature of this mod I must make an exception.

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## DISCLAIMER

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## WARNING!

Performing this mod can be HAZARDOUS!

Should you elect to follow the directions contained herein, either in part or in whole, you, or others acting on your behalf, agree that I, anyone cited in this work, or any person or entity hosting this information, shall not be held liable for any damage/injury/death that may occur by attempting this mod. You are solely responsible for your actions.

I'm not kidding, this mod can be dangerous and I actively discourage you from attempting it.

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Still here? OK, now why would you want to punch holes in the neck of your gas tank anyway? When the tank becomes full, additional air is trapped causing the pump to prematurely shut off, and once it reaches the neck, it will not allow any more gas to be added, wasting valuable space. Also, while filling, the air does not have an easy means of escape, which causes the gas to spray back up more. Punching the neck will allow you to put about another .5 gals in the tank (which can make a handy reserve). If nothing else, it will make filling the tank a little cleaner and faster.

I've really resisted creating a how-to for this mod as others have already described how they did this, or even doing it myself, but I've relented due to the multiple requests I have received for it.

This is beyond a doubt the most brief how-to I've done. I didn't go into a lot of detail with this. I figured if you are determined to do this, then you are competent with tools and don't need a lot of hand-holding. :)

Morg has a very good writeup of this mod that I encourage you to read. You can see that here:

<http://1300tourer.com/node/4443>

What I needed:

Hammer

Scratch awl (plastic handle)

Center punch (plastic handle)

Protective cloth

Start with the tank full of gas. Since the vapor is what is combustibile, the idea is that the fuller the tank, the less the vapor. I also waited until the morning the next day after filling so the bike would be nice and cool.

Crank the bars over to the right and place a protective cloth on the gas tank:



The holes will be punched on the right (throttle) side of the filler neck. The general consensus seems to be 4 holes. I made mine about 3/8 inches in diameter. I happened to have a 3/8 inch pin punch, so that's how I knew how big I made them. Sitting on the bike, the front of the tank is 12 o'clock. Place the holes at approx 12 o'clock, 2:00, 3:30 and 5. The external vent hole is at 6 o'clock.

With the scratch awl, dimple the places where the holes will go by lightly tapping it with the hammer. The holes will be approx 1 1/4 inches from the top of the gas tank. Don't worry about measuring, there is a ring inside the neck, so place the holes just beneath that:



Repeat for the other 3 locations.

Dimples in neck:



Again using the scratch awl, CAREFULLY give it a solid hit to make the initial hole. Be careful to not let it skid about:



Repeat for other 3 locations.

Pilot holes:



Use the center punch to carefully expand the size of the holes:



Repeat for the other 3 holes.

NOTE: I didn't hammer on the center punch every time. After I got the holes started pretty good, I then just pushed on the center punch with my weight and worked it back and forth.



The final result:

NOTE: The 4th hole at the 12 o'clock position can't be seen here.



Conclusion:

So if I'm so adamant about you not doing this mod, then why did I? Good question, and I don't have a good answer. There's a gas station that is very convenient to my office, but the pump handles are either on or off – it's very hard to throttle them, which causes a lot of back splash. I'm tired of the spray.

I tried using a rubber mallet, but couldn't get it to impart enough force to effectively punch the holes.

I used plastic handled scratch awl and center punch so there wouldn't be any metal on metal contact from the hammer. Why a scratch awl? Well, I had it, and since it is small and my center punch is large (and dull), I figured it would be better for making the initial hole.

Why 1 1/4 inches? GaryTJ has a good description of why:

"I did some calculations before doing mine and it comes down to:

Fuel expands at the rate of .069% per degree of temp rise (F) so a 4.5 gallon tank full will expand to 4.65 gallons with a 50 degree rise in temp. Figuring on the shape of the tank and a safety reserve of 3 to one (.45 gallons plus) I did mine 1.2 inches down from the top outside of the tank and now can put in 4.3 gallons when the light turns on. (was 3.3 gallons before). I can go over 200 miles before the light comes on and approx 240 before seriously thinking I am low."

You can read his full description here:

<http://1300tourer.com/node/1944>

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