

# Make Your Classic Car Gas Pump Friendly

By Larry Klusza, 2023

**Disclaimer:** What is documented here applies specifically to a stock or replacement fuel tank in a 1970 GTO but may also serve as a guide for other vehicles as well. I hope you find it helpful. As always, think safety first! Be sure your fuel tank is empty, dry, and devoid of any gas fumes that may ignite before doing any work. L.K.

Unlike modern unleaded-fuel-only cars, the one thing that all the classic car fuel tanks have in common is a large diameter filler neck opening. Often, they're on the order of 1 7/8" to 2" in diameter. On the other hand, modern unleaded fuel pump nozzles are government mandated to be only about 7/8" in diameter. After the shift to unleaded fuels, fuel tank manufacturers incorporated a special insert into the end of the filler neck to match the smaller nozzle. The adaptation was necessary in order to prevent the larger diameter leaded fuel gas pump nozzle from being used on an unleaded fuel-only vehicle. This special insert has a few air vents plus a small spring-loaded door sized to allow only the smaller unleaded fuel nozzle to be used. It also orients the smaller pump nozzle to properly shut off automatically when the tank is full.

Why is this a problem for classic car owners? Because during a fueling operation, the small diameter unleaded pump nozzle will often not "trip" if the tip of the nozzle is oriented improperly in an old-style large diameter filler neck such as we have on our classic cars. Inattention during fueling often results in a gusher or an overflow. No one likes their clothes or shoes reeking of raw fuel. What can be done? Follow along and see how I addressed that on my 1970 GTO.

My goal was to somehow adapt a modern fuel tank filler neck cap and end section to my current tank. I measured my filler neck diameter and came up with 2" in outside diameter. I could have scrounged to find some modern car with the same size neck. Instead, I chose to see what was online. I came across a site called [Filler Neck Supply Co.](#) There may be other companies out there, but this is where I ended up getting my parts from.

Looking through the "Universal" parts, I came across a short, straight section that was only 2 3/4" long. Figure 1 shows the universal filler neck and cap I purchased next to the stock filler neck.

I didn't want to weld it on although you certainly can if you wish. Since it wouldn't be a structural part of the assembly, I was aiming for a butt joint with a large rubber coupling sleeve and hose clamps.

It's important to note the location of the spot weld for the internal anti-splash baffle (arrow). The edge of the baffle will terminate slightly forward of that weld. With the fill cap off you should be better able to view and measure from the end of the neck to the leading edge of the baffle. That measurement will be the



Figure 1: NJ-2-20-F Universal filler neck from Filler Neck Supply Co. and cap next to the stock filler neck.

maximum that you can remove. It's vitally important that the baffle not be damaged in any way. Damage to, or removal of, the baffle from the tank will disable the automatic shutoff action of the fuel pump nozzle, making the whole exercise a waste of time and ruining your tank.



*Figure 2: Cutting off the original filler neck end.*

I measured from the end of the filler neck to the edge of the baffle inside the tube. Subtracting about 1/16" or so from that, I marked and cut the tube in my saw.

Supporting the whole tank to keep the neck level and square was a chore, but worth it in the end. The cut was perfect.

Figure 3 shows the filler neck after the end and cap are removed. Notice the edge of the internal splash baffle. This is about as close as you would want to get to the baffle with your cut. The dotted red circle shows the location of the spot weld.



*Figure 3: Filler neck after cutting, showing the end of the internal splash baffle. The spot-welded area is shown in red.*



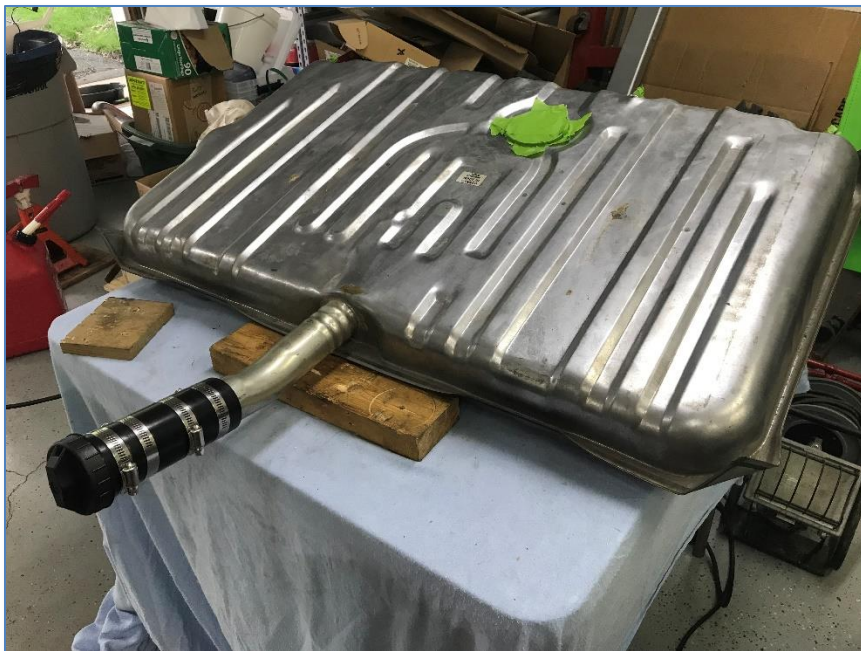
Here are the two pieces side by side for comparison. About this time, I realized that the new cap was larger and bulkier than the old one.

Since I was going for a butt-style connection, I cut off the barb end from the replacement neck (arrow) so the two ends would mate perfectly. Doing so also reduces the completed filler neck length by an additional  $3/8$ ", which would be better able to accommodate the bigger cap.

Accounting for the different cap might be important, so bear that in mind as you make your calculations. As my GTO fills from the center, behind the license plate and not from either side, it turned out to make all the difference.



*Figure 4: Cutt-off and replacement comparison. Ultimately, the barb end (arrow) of the replacement filler neck was also removed to facilitate a proper butt end connection.*



*Figure 5: Completed assembly*

After removing the barb end from the new filler neck, I used a 2" inside diameter x 6" long fuel tank coupler hose from Tanks Inc., part number **GH-2** to sleeve both pieces together at the butt joint.

Four hose clamps (two on each side of the butt joint) secured the whole assembly. It seals perfectly and is very sturdy.



Figure 6

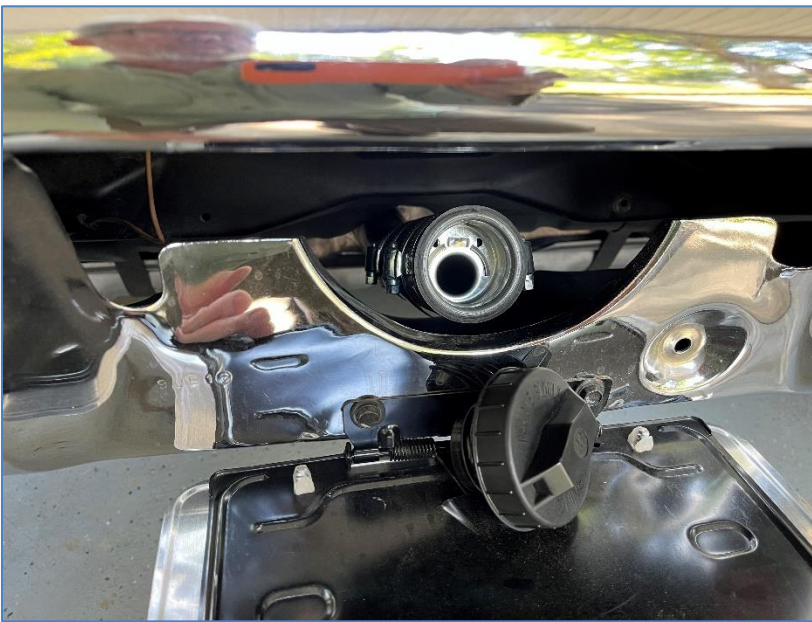


Figure 7

Figures 6 & 7 show the tank with the new neck and cap after re-installation. With the filler neck slightly shorter, the somewhat bulky cap can be easily removed. The new filler neck accepts an unleaded fuel pump nozzle as any other modern car would.

If your car is a numbers-matching, museum quality original, then this modification is likely not for you. However, if yours is any sort of driver, this fuel tank modification makes perfect sense and doesn't cost much. Although there is the matter of draining fuel along with removal and re-installation of your fuel tank to consider, it's still better than getting splashed or soaked by fuel at the pump – especially if you were just about to go out on a cruise somewhere. With my GTO now more gas pump friendly, it's nice to finally be able to “set it and forget it” without making a mess!