

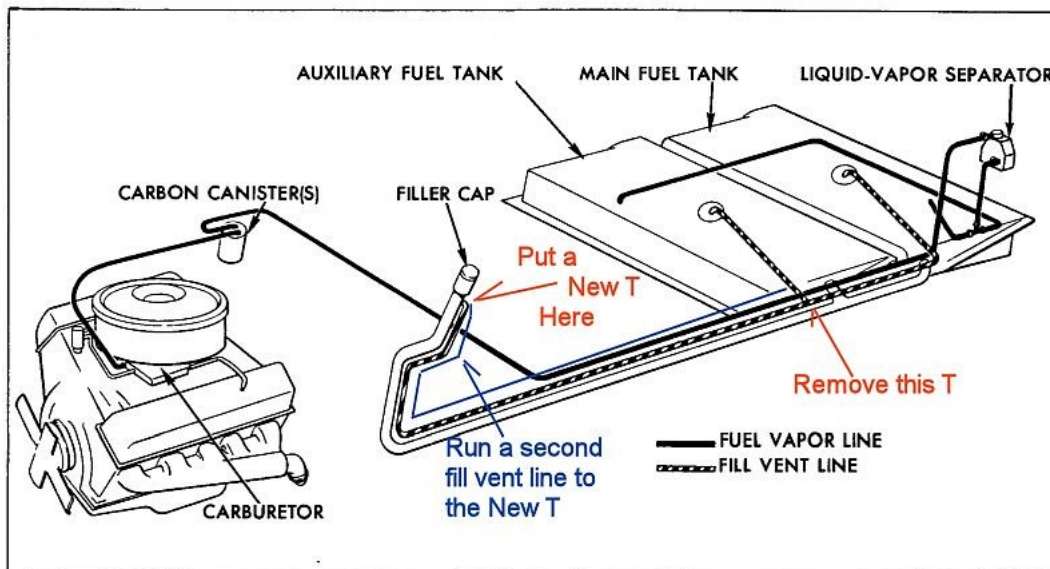
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### High-Tee Dual fuel tank vent. Improving the fuel filling experience.

The design of our dual fuel tank system causes some challenges during refilling the tanks. We are all familiar with “gurgling” coming from the filler as the tanks fill with fuel. This “gurgling” is a warning to stop or slow the fill rate, otherwise you are risking getting a gasoline bath!

In an effort to improve the refilling experience, Matt Colie came up with this idea. He noted that the design of the fuel filling tube causes the momentum of the fuel to carry the majority of fuel past the front (AUX) tank and flow into the rear tank. Only when the back-pressure of the fuel in the rear the rear tank can overcome the momentum of the incoming fuel will fuel be forced into the front tank. Meanwhile this momentum forces the rear tank completely full and fuel now backs up the rear tank’s vent line. Being as the vent line is also shared with the front tank, liquid fuel begins to back up the vent line, eventually blocking the AUX vent line. This prevents the AUX tank from escaping while it is filling. Air pressure builds up in the AUX tank causing the gurgling and possible fuel spitting.

Matt’s fix was to provide a separate vent line for each tank. The existing vent line is used for the rear (Main) tank with the connection for the Aux tank blocked off. A separate vent line is run from the front (AUX) tank and Teed into the filler at a high point right at the front fuel fill. This “Tee” connection is referred to the High Tee connection. With each tank having their own venting line, they do not interfere with each other’s venting function.



When installing the “high Tee”, I found the existing vent hose to be nearly disintegrated, despite having “all” the rubber lines replaced. Note the disintegrated black rubber dust on my hand in the photo. It is hidden behind the fender liner “out of sight and out of mind”. It would be a very good idea to replace yours even if you don’t do this modification.



The photo below shows the “High Tee” modification and a photo of the Tee connection. I used 3/8” hard line and rubber hose because the vent line from the tank are 3/8”. The OEM common vent line for both tanks was 1/2”. I used hard line strapped to the existing vent line because you don’t want any dips in the line where liquid fuel can accumulate. I plugged off the Aux connection to the existing vent line with a short 3/8” rod sealed with a hose clamp.

We have just returned from a week long trip. I can report the coach now fills like a modern vehicle. I can fill at full pump rate with no spitting or gurgling right to the near end. At that point the tanks are effectively full and the full gauge is pegged. I did not wait for the pump to auto shut off as I could tell the fuel was backed up the fill lines and did not care for a gasoline bath that may or may not occur. Some others may be braver.

The modification was easy and it improved refuelling tremendously. I highly recommend it.

