

Technical Notes

My Ethanol Story

By Steve Pargeter



I recently replaced the sediment bowl in my Model A with a new one made by Vintique. The new unit looked great and came with a neoprene gasket and a copper screen. Neoprene is a synthetic rubber and is common today in gas lines and gaskets. Prior to the 10% ethanol mixture in gasoline I had no problems with neoprene gaskets but that has changed with today's fuel mix. Shortly after I replaced the sediment bowl I saw a layer of what looked like a gel forming inside the bowl. The strange layer looks like a jelly with bits of black arrayed across it. When you remove the sediment bowl to clean it, the jelly layer disappears on the ground but is clearly seen in the sediment bowl.

When I removed the glass sediment bowl the neoprene gasket quickly expanded about 25% larger than it had been and it could not be placed back. Needless to say this is a real problem since you cannot drive the car with the sediment bowl off. I was lucky that one of the Model A club members was with me at the time and we went to his house and found another gasket which allowed me to get home. After about three days the swollen gasket returned to its original shape and size, ready to trick the next sucker who uses it. I contacted the supplier of the bowl and was told the rest of his stock had a composition cork gasket in place of the neoprene gasket. It appears Vintique has heard of this problem and made a running change. I contacted MAFCA's Technical Director to see if others had experienced a similar problem. From the replies to my inquiry I learned many others are having similar problems with neoprene gaskets and fuel hoses swelling and deteriorating. One reply came from a chemist who said the black specks and gel I saw were parts of the gasket and the jelly layer was caused by the reaction of ethanol and neoprene.

Now that I think I know what was causing the jelly layer in my sediment bowl, I changed the gasket from neoprene to composition cork gasket material. This is not straight cork but a manufactured gasket material with a dark background imbedded in the cork. I found this gasket material at the local NAPA store. I am also going to try a gasket made of leather since I believe it might provide long term protection to the ethanol. Since I changed gasket material I have not seen any more jelly layers so it appears the gasket was causing the problem.

The moral of the story for me is being careful with ethanol blend gasoline and neoprene, whether in gaskets or fuel lines. This should be a caution to those of you who have neoprene gas lines or filter connectors in your engine compartment since they could deteriorate and spring a leak and start a fire. You should also watch the gasket in your fuel cap since it is normally neoprene and is just a susceptible to the ethanol mix.