

We came back to the airplane in about 20 or 30 minutes and proceeded with the compass check. The other pilot was in the airplane and I was standing outside guiding him onto the center lines of the compass rose. When he turned on the master switch the fuel pressure gauge shot up to 10 or 12 pounds pressure. This is with electric fuel pump shut off. He engaged the starter, the engine made 1/2 revolution and kicked back on the compression stroke. Raw boiling hot gasoline just gushed out the bottom of the engine cowling all over the canopy and rear deck. I hollered to the pilot to shut off everything and to get to hell out of the airplane. There was no fire, thank the Lord. I had mounted the gascolator inside the engine cowling as per designer instructions. I had covered the stainless steel gaslines inside of cowling with the rubber coated asbestos gasoline fire protecting cover. The gascolator is the standard metal bowl type with a wire bail and thumb nut on bottom of bail to secure the bowl to housing. The thumb nut was safety wired as was the bail around the bowl. The gascolator gasket, bowl & bail were all in their proper place upon inspection. The needle valve in the carburetor had failed to hold the excess pressure and flooded gas all over the airplane. When I pushed in on the drain valve on gascolator, gas just sprayed out all over the place under high pressure.

After cleaning up the gasoline and airplane we started the engine again on the engine pump alone. The engine ran on what gas was left in carburetor and then quit. Vapor lock had set in and in no way would it start on engine pump. The electric pump was turned on, built up 3 1/2 lbs pressure and turned off normally. The engine then

started and ran normally on engine pump. (I always use electric pump for all take offs and landings.) We finished swinging the compass, shut down the engine and went to lunch.

We later flew back to homebase and all the way to Oshkosh with no further problems.

I have since moved the gascolator out of the engine compartment and into the left wheel well. I first tried pulling the gas through the gaslocator with the electric pump. The pump would not prime itself as it would not pump air. I then reversed the fuel lines and put the gascolator on the pressure side of electric pump as it was before. This has worked out just fine and gives me great piece of mind knowing that the engine heat will no longer build up pressure in the gascolator. You may get a little wet preflighting the aircraft when you drain the gascolator, but it sure beats having nightmares about fuel pressure build up and inflight fires.

I firmly believe that, in hot weather conditions, when you have to make long taxi runs and/or long waits for departure clearances you have a potential for an accident waiting to happen with the gaslocator mounted in the engine compartment. You might also think about how the heat builds up inside the cowling when you shut down the engine when no ram air is being forced through.

Happy landings,

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