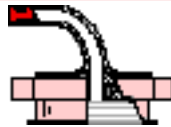




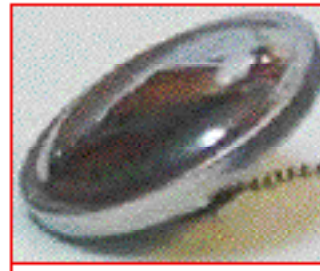
The original two hole gas cap for the 120/140's

## Array of 120/140/140A Gas Caps

Free air/vapor passage with the original cap. The Monarch requires a pressure to open in or out.



Forward-facing cap cutaway (cute) not to be used on the 120/140's except with STC'ed Lycoming, causing problems with them



The Monarch cap

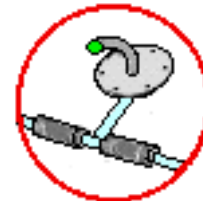
The 140A cap, shown incorrectly in the parts manual as the two-hole cap, actually had the two hole cap whose holes were filled with rivets as shown on the left. In the middle, the next generation, still with rivets in the holes but neater. On the right, the final cap with the indents of the spot welding barely visible through the paint and no rivets.



Because the A model has the open vent above the wing and a juncture which joins a tube to both tanks, the cap had to be a zero flow type in order for the ram pressure to not force fuel out of the caps.



The silicone valve, opens in but never out.



Overwing scupper vent joined to the tank-to-tank vent line

And then came reality, about thirty years later. The 1979 AD was issued to counter the fact that if the single top-of-the-wing vent was occluded with bugs or their nests or freezing rain, no fuel would go to the engine. The '79 AD mandated that at least one cap for the 140A be replaced with the half-vented cap shown here to allow vacuum relief if the common vent was plugged. The red silicone "valve" was designed to open and allow air in whenever the pressure of the vacuum was X (never stated and never tested since installation). The silicone valve would not allow any outward venting. Inadequately tested in real life, Cessna, the actual developer, and the FAA missed the fact that the silicone valve could adhere to its seat with such tenacity that it would sometimes not vent inwardly.

The consequence of using the half-vented cap on the 120-140's was sometimes severe, including loss of plane and other lesser ills, such as grossly expanded tanks when the expanding fuel and vapors in the tank could not get out. Although an intense effort was made in '91 to have the '79 AD revised to explicitly exclude the 120/140's, the appeal was denied by the FAA and the mandatory bulletin by Cessna was "sold" to the FAA and quickly disappeared, so the problem of this cap being put on the 120/140's is still evident in '05, often forced on the owner by the FAA sanctioned FBO's mechanic.

In early '05, the other brand of the '79 AD'ed caps were loaned and pictures taken. They appear as at the right, and are marked as made by C.A.P. Note that they have the same silicone valve and are also half-vented. In '05, this brand is the type still being sold by Cessna for \$41, and is often available on ebay for a bit more.

The half-vented caps are sometimes misrepresented as correct for the 120/140's, but they are not and the Monarch cap, if used on the 120/140's, can also cause the engine to quit on climbout.



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