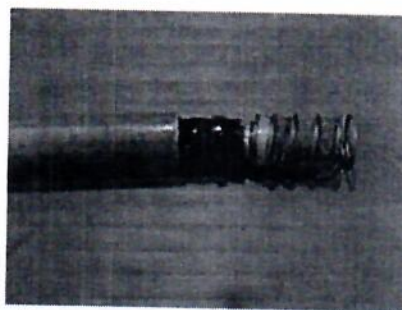
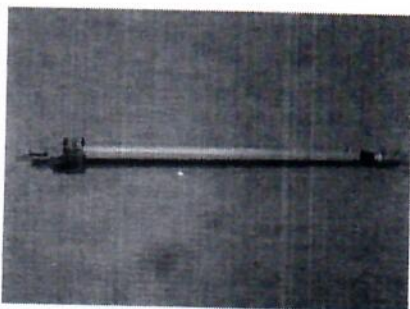


Fuel Contamination Advisory - July 23, 2004

The following is an overview of a recent experience that I personally went through in preparation of getting my Chinook 912 ready for its first test flight with the new ASAP Retract gear.

During the week of July 12, we installed the new ASAP retract for the Full Lotus floats on my Chinook 912. The airplane had been sitting in our hangar for about 9 months. It had normal mo-gas in the tanks. We finished the installation and rolled the airplane out to do a complete and thorough engine run-up. From past experience I know that the gas will have deteriorated to the point that it required draining, but I decided since I was just going to do a static run-up that I would just use what was in the tanks. The engine started but of course ran rough, it would idle and then during the application of RPM it would stumble and then catch after a certain amount of throttle movement. So I decided to switch tanks and after a minute or so the engine completely quit. So I said that's it, enough is enough lets roll it in and go through the fuel system.

The first thing I did was pull out the pick-ups in the strut mount fuel tanks (part # 12-16's), I gave them both a shake, one was loose and free and one was stuck. So found out the cause as to why I had the engine quit on that one fuel tank. As it states in our owner's operator's manual, **the pick-ups are to be changed Every 50 hours...**([click here](#)) or 4 weeks. (Please note that we have moved this out of the 100 hour section into the 50 hour and also put a 4-week notation as well.) I then changed both pick-ups and fuel lines inside the tank. Note: the grade of gas can greatly reduce or increase the life of fuel line, fuel filter, screens etc etc. For example if one was to use AV gas there have been reports of AV gas being used for a year or longer, however there is even a notation to this statement and that is dependant on climate, which will once again affect the above mentioned items. Water and UV being two of the more notable culprits.



It is easy to check these by unscrewing the pick-up tube inspecting the one-way valve.

After filling the tanks with new fuel I noticed I had one drain valve leaking, so I drained the fuel and unscrewed the drain valve, you can see the condition of the drain valve in the photo. I also replaced the fuel filter which was also contaminated.

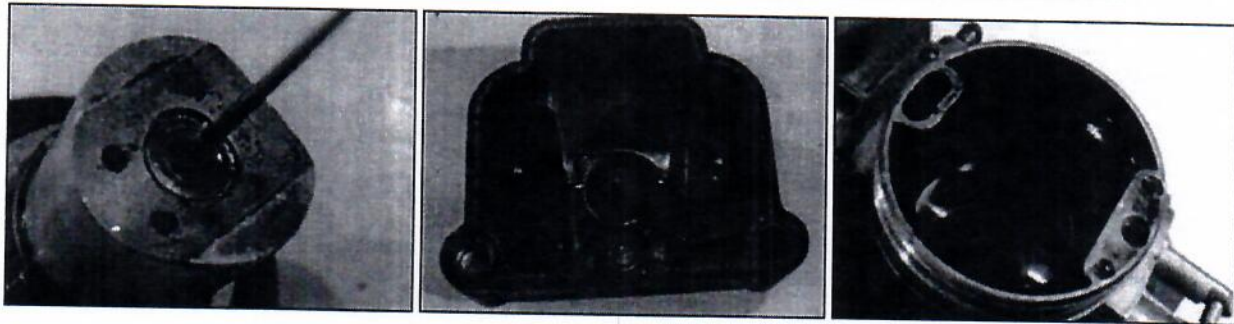
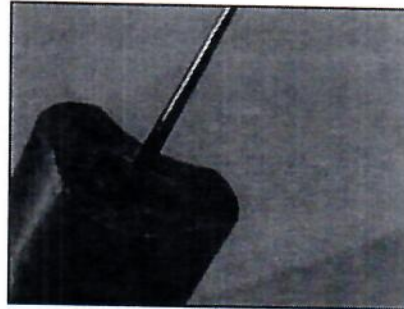
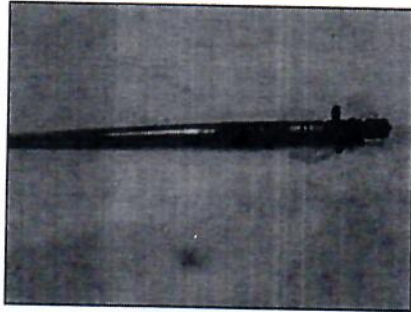
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So with new items (as noted above) and new fuel installed I once again pushed the airplane out and tied up the tail and proceeded to do a full power run-up. The idle was noticeably improved but I still had a hesitation from idle to

full power. I switched tanks and the problem still existed so once again I pushed the airplane back in the hangar and said I will work on the airplane first thing Monday. Saturday and Sunday were extremely nice days and it would have been a great day to go flying but also not having an airplane 100% healthy was and always is a no go for me!

Monday morning I removed the carbs and found the reason for my mid range hesitation. As you can see by the photo the jet needle was fully engaged with spent fuel residue. Seeing the needle in this condition I decided to disassemble the complete carb.



You can see the amount of contamination throughout the complete carb. This could have been resolved very simply by draining the fuel before the airplane was put away.

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Fuel Contamination Advisory cont'd - July 23, 2004

Even though this was on the 4-stroke 912, carb fuel contamination can be even more of a concern on a 2-stroke when that fuel is also being used as a lubricant. Further to this the many different grades of fuel and all the many different additives that your local fuel station may be adding (some with your knowledge and some without), is causing further fuel contamination problems and issues. We cannot **stress enough** to know where your gas is coming from, what is in the gas you are using and how it has been stored. Next time you are at the pumps filling up your car look at all the labels on the pumps showing new and improved fuel injector cleaner, we now use 20% of this and that is to help with a cleaner environment BUT this is all great when you are on the ground and running it in your car or truck but not so great when you are flying in your 2 or 4 stroke airplane.



With my carbs re-installed and cleaned and the fuel system completely inspected I pushed the airplane out and did a full power run-up off and on for about 5-10 minutes on each tank. The engine once again ran like it did when it was new without one bit of hesitation. So last night I had the opportunity to fly my Chinook 912 with the 1260 Full Lotus floats and the ASAP retract system. The outside air temp was 98 degrees, HOT, HOT HOT but after getting off the hot pavement and retracting the wheels and being able to land and take off anywhere on our big Okanagan Lake, was just way to cool!!

SUMMARY: Without spending the time to go through the complete fuel system and if after my initial run-up on the first tank I had decided to go flying, things could have been a lot different. Without a proper and good ground run-up on both tanks I could have easily taken off and exhausted the fuel in the first tank and then switched over to the second tank which more than likely would have resulted in an engine out. So it is imperative to take the time to go over your airplane before each and every flight and more so when it has been stored for a long period of time. **Some other helpful hints:**

- If pre-mixing, only premix enough gas as for your immediate needs. Gas that sits for longer than 10 days will go stale causing greatly reduced engine performance and gumming and varnishing of engine components and fuel components.
- Always drain carburetor and fuel lines if the aircraft is going to sit for an extended period of time -If your airplane is stored outdoors always drain your fuel or check for water contamination
- If moving your airplane from a hot (heated storage) into a cold environment and back into the heated storage, check for condensation in your fuel tanks.
- If your airplane is stored outside UV can degrade the fuel in either your fuel tanks or your fuel storage cans, this can happen within a 2 week period, only use fresh clean fuel.
- Octane rating is degraded with time and UV contact.
- When using the dual Fuel strut tanks do not completely exhaust all the fuel from one tank before switching over to the other.
- Do not use gasoline with any alcohol additive of any kind.
- Buy and use the best possible gas you can get in your area.
- Fly Safe!!!

Fuel contamination is the leading cause of engine outs.