

COX ENGINES AND CASTOR OIL GUMMING

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Through the years I have observed some folks having trouble starting their Cox engines on the flying field. One such event took place about 7-8 years ago, but is still very memorable in my mind. This fellow had a reed valve Cox Pee Wee .020 on a plane and couldn't get it running. The engine constantly ran out the prime and would not continue running. Remember the old saying about what a person is called that keeps doing the exact same thing over and over, and expects a different result?

Then just recently another fellow was having the same thing happening to him only this time it was with a Cox Tee Dee .049. What was taking place here in both cases is symptomatic to Cox engines in particular. Both engines had been put away wet without clearing out the fuel left inside the carburetor section of the engine. In the case of the reed valve Pee Wee the area under the reed had a deposit of castor oil varnish that only disassembly and lacquer thinner could clean out. I asked the fellow when he last had the engine apart, and he replied that he had bought it new in 1961. If you fly these engines regularly there is no particular problem, but for long term storage they must be cleared out of fuel residue. Did you know that the 3 holes in the carb of the TD .049 have a diameter of .023? This is smaller than the smallest dress-makers pin which is .025. The TD .020 carb. has 3 ea. .014 holes in it. Castor oil fuel left in these discharge holes will oxidize and plug up solid if left over a long period of time.

I flush all of my engines out with Stoddard solvent when I'm finished flying for the day. This solvent also cleans the oil residue from my models very nicely without harming the finish. Stoddard solvent carries a mil-spec number, but to those who are not familiar with it let us just say that it can be obtained in various size cans at Home Depot under the name of mineral spirits or also known as oil base paint thinner. I keep a small 1 oz. atomizer bottle in my flight box for general clean up when needed. It will not clear a plugged reed or orifice, it's not lacquer thinner, and, it would be hard on a doped finish if it was that strong. Orally blowing through the fuel line on a T/D and/or injecting some solvent will generally clear the residue out. A reed valve engine is a bit more difficult to address. You can remove the needle valve and flush out the area with solvent, but note the number of turns out from closed so as to return to the same spot on installation. Lastly, let me say that the engine should be oiled well inside every place you can get to with Shaler RISLONE oil supplement from the auto supply store.

No other after run oil can come close to it for its quality of protection.