

16 May 88

Dear Rufus,

I am finally getting a little breather from planning our company's upcoming move so I'll have more time to contribute to our squadron newsletter.

1. I have been flying for 500+ hours with a full flow oil filter on my 0-320. It is a custom designed affair that is not easily duplicated, except by someone with considerable machine shop background and ability. The remote filter adaptor that mounts to the standard A/C oil filter block is the tough part; not the simple part that actually holds the filter. We have been approached by a great number of people to provide copies of the engineering drawings for the required components. Quite frankly, I haven't done this due to the extreme difficulty in routing the oil lines SAFELY with all the other things going on forward of the accessory case. I am convinced that most people would not take adequate care in this installation - it is at least 10 times more difficult than any other hose routing in the engine compartment!

The purpose of this drivel is not to say that I am competent and others are not - it is just that if a person is truly capable of a safe installation, coming up with a design for the necessary parts should not be a problem. Moving the oil around outside of the engine is very serious business and should not be taken lightly - I encourage those with the experience and expertise to develop a system for their own use and those who don't feel comfortable with betting their life on their own oil filter design to stick with the oil screen - dirty oil has never caused an engine to quit!

2. I agree that the best 0-320 for a Long-EZ is an 0-320-D3G as used in late model Piper Cherokee Warriors. The bad news is that there wasn't too many of this configuration ever built. However, builders should be aware that at least two other versions are essentially identical with a couple of variations:
0-320-D2J: This is the same as a D3G except it does not have a mechanical fuel pump - the accessory case can be machined for the engine driven pump and an A/C 41271 pump installed and voila - 0-320-D3G clone!
The D2J has been used extensively in late model C-172 Skyhawks.

0-320-E2A : This engine is a 150 HP version of the -D3G. It does have a fuel pump but has Bendix mags. This is considered absolutely the most reliable 0-320 ever built. I know for a fact (by spending hours in LYC's parts books) that all of the other parts (case, crank, cylinders, rods, cam, etc) are the same as a -D3G. This would be a good engine to find because by merely replacing the 7.0:1 compression ratio pistons and substituting the 8.5:1 pistons from a - D3G you have a 160 HP engine. You will have to swap somebody your Bendix mags for the 4200 series Slick mags. E2A was built in large numbers (compared to D3G) for the Piper Cherokee 140. If you are planning to overhaul your engine before you fly, the E2A is just as desirable as the D3G. These are usually less expensive than a - D3G.

0-320-E2D and 0-320-E3D: These are not as desirable as the D3G/E2A because they utilize the main bearings from an 0-235. Although the 8.5:1 pistons will fit, Lycoming DOES NOT recommend the extra 10 HP because of the shorter front main bearings, different crankcase and crankshaft. Advantages: They are plentiful! If you insist on converting one of these to 160 HP, call Bob Walters at Lycoming first.

3. I have personally seen numerous successful installations of the Ellison Throttle Body Injector using the stock Brock Throttle Quadrant - However, it is not as straight forward as the MA4 installation.
4. I am in agreement with David Orr on most of his suggestions on how to deal with the F.A.A. but do not advocate an adversarial approach when a controller makes a mistake. I fly from a tower airport and frequently fly IFR and have contact with the local TRACONS and ARTCC. When a controller makes an error (they are people too, remember?) a simple query to him will resolve the problem 99 times out of 100. Why make trouble? If the controllers had gone by the letter (but not intent) of the Regs every time I made a minor deviation I would be permanently screwed and nailed to the wall. Just because the people who make the rules are pinheads doesn't mean that those of us who share the responsibility for safe flight (controllers and pilots) shouldn't cooperate with each other. Every pilot should go visit a TRACON or Center via "Operation Raincheck" to find out what a difficult job the controllers have - contact a GADO office for more info.