

Firewall Coating Change

Don Burton (VA) - The Ocean 1644 has been replaced with 1522 from fire research labs. A gallon of 1522 was \$80.73 with shipping and tax. Some folks are using 477. It only comes by the gallon, and that will paint 4 airplanes (including root heat shields). I found 3 others who needed it and bought some new paint cans from HomeDepot and mailed them out. I think the paint + shipping + cans + reshipping, divided by 4 came out to about \$30/person.

I painted my root shields just because I had extra (really expensive) paint.

Get the paint from Hi-Grade in Chicago 770-463-3050. The import from Canada was REALLY expensive. Fire Research can be found at <http://www.firelab.com/> Following is the FAA certification text of the 1522:

Samples: 2024-T3 aluminum panels measuring 20 inches by 26 inches and having a nominal thickness of 0.032" were coated with the (1522) material to a dry coat mil thickness of 30 mils. Samples were subjected to a 2000 degree F flame impinging on an area of approximately twenty five square inches for a minimum period of fifteen minutes.

Test Results: The aluminum substrate remained intact and there was no discoloration of the aluminum back face.

Firewall Fasteners

Don Burton (VA) - One of the "innovations" of the firewall plumbing experience was the use of wood inserts.

I bought some 10-32 screw-in wood inserts from McMaster Carr. The first bit has an Allen head so you can wrench them in place. Below that is all 10-32 thread. The top has a flange so that it looks pretty once tightened down. I then just used a little Proset Adhesive on each one and it is permanent. I actually had to drill one out.

I used some aluminum stand-offs and a washer head AN-3 screw to mount everything to the firewall. I can lift the plane by my plumbing components!

Thoughts on Leaning Techniques and Increasing Range

Gary Hertzler (AZ) - The article referred to by one of the canardians on leaning is excellent. <http://www.avweb.com/articles/pelperch/pelp0018.html> Read it if you haven't.

One thing is apparent, if your mixture distribution is excellent, you can over lean. It looks like you get most of the economy benefit in the first 25 degrees lean of peak. You can go as much as 75 degrees lean of peak and see little improvement in BSFC. With further leaning past 75 degrees, the BSFC gets worse.

This whole leaning process only works if you have good mixture distribution and the right pitch prop that, after leaning, gives you the rpm you want. Wide-open throttle on a standard carburetor will usually result in the best mixture distribution, since the butterfly valve is

not influencing the path of the gas droplets. This improved mixture distribution will allow the greatest reduction in rpm while still running smoothly.

Also the wide-open throttle will reduce the engine pumping losses to a minimum, since the pistons have the least back pressure when drawing the air/fuel mixture in. This, of course, will reduce horsepower loss. The point where you get 75% power full throttle, best power mixture is at a density altitude of approximately 8200 ft. This doesn't mean that you can't lean until you get to this altitude, but only that you can't lean as aggressively. Remember the rule of 48. Typically on take off I will back off full power as soon as I get clear of the airport and established on a climb. I generally climb at about 60% power and 125-130 KIAS.

This allows me to lean aggressively right after I reduce the power. I find that this will give me the most economical climb to altitude. By the way, with a notorious lead fouling O-235-L2C for power, I have never had a fouled plug. I never use TCP either.

Fly Leaner Fly Farther Fly Cheaper

