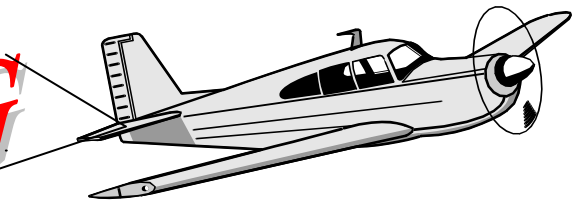
SKYWRITING



January 2011

August Flight Time — www.flyingcc.org

Aircraft	Hrs	Last Annual
N5303L	0.0	August 2010
N80213	17.4	July 2010
N6231F	0.0	June 2010
N8114F	0.0	June 2010
N2516V	0.0	September 2009

Surcharge: $.00/gal

Local ASOS Numbers

Moline	309-799-7096
Davenport	563-388-2154
Clinton	563-243-8934
Muscatine	563-263-0902

Total Hours: 17.4 (Down from 69.2 in December) **Dues Paying Members: 48**

Plane Captains

Please make note that there has been a change in a couple of the plane captains. Rich Husson has moved from N80213 to N5303L and Rob Smith has taken over as plane captain for N80213. From this point forward, please contact Rob at (563) 349-2749 with any problems, questions or concerns about N80213 and Rich for N5303L. The whiteboards in the hangers have been updated with this information.

121.5 MHz ELT Ban Update

The FCC has stayed their rule on the prohibition of 121.5 MHz ELTs (signals no longer processed by satellites) and is "planning a new Notice requesting public comment on the future of legacy 121.5 ELTs." The action is a response to concerns expressed by the FAA, one of which is supply. The FAA warned the FCC that the current supply of 406 MHz ELTs is insufficient to replace all 121.5 MHz ELTs in the near term. Because of that, reasoned the FAA, prohibiting the use of 121.5 MHz ELTs "would" effectively ground "most" general aviation aircraft. The FAA also expressed concern regarding the potential continued value provided by 121.5 MHz ELTs in locating aircraft "even without satellite monitoring of frequency 121.5 MHz." Search and rescue operators still monitor the frequency. The FAA also expressed concerned about the associated cost to operators of forcing a transition.

While future action is expected, "no action will be taken regarding 121.5 MHz ELTs until further notice, following an additional opportunity for interested parties to comment." The new Notice is expected "sometime in early 2011," according to the Aircraft Electronics Association (AEA). In 2000, Cospas-Sarsat announced it planned to terminate by 2009 satellite processing of 121.5 MHz beacons and has made good on that change. AEA and user groups had challenged the FCC's planned prohibition regarding continued use of existing 121.5 ELTs. Only 406 MHz frequency beacons are currently monitored by satellite.

I Was Just Wondering…

Rob,

I'm confused about drag. There's a few different types and some go up with airspeed, some go down with airspeed? Why?

~Slick Flyer

Slick Flyer,

This is a very good question. The two most relevant types of drag for general aviation aircraft are parasitic (or parasite) drag and induced drag. Let's look at each of them separately.

Parasitic drag is simply the drag caused by the aircraft moving through the air. Total parasitic drag is the sum of form drag, skin friction and interference drag.

Form drag is the biggest parasitic player on small aircraft. This is, very simply, the air running into the aircraft. This is the air hitting the windshield, landing gear, leading edges, cowling, etc.

Skin friction is a lesser component of parasitic drag. This is the friction of the air moving along the fuselage sides and the wing and empennage surfaces.

Even less of a player for us puddle-jumper flyers is interference drag. Without getting too much into fluid dynamics, these are pressure points where

perpendicular surfaces meet (i.e. vertical and horizontal stabilizers). Notice the little fairing that sits between the leading edge of the wing and the fuselage? This "rounds" the sharp corner where the wing and fuselage meet, reducing interference drag.

Induced drag is a completely different animal. While very complex in its entirety, I'll keep the explanation "pilot-level" and not "aerospace-engineer level". In short, this can be thought of as the "by-product" of lift. With all other parameters being the same, induced drag increases as angle of attack increases. Think of it this way: The lift that the wing produces is a vectored force perpendicular to the chord line. With a positive angle of attack, that vector is not completely vertical. It is angled slightly rearward. Only the portion of lift that is exactly vertical is working against our enemy, weight, to hold the airplane away from the ground that is just waiting to eat it What happens to the rest of the "lift" produced by the wing? It is the horizontal, rearward facing vector. We name that vector induced drag.

As you can see, the more we increase the angle of attack, the more rearward our lift vector will point. This decreases the vertical component and increases the rearward facing horizontal component of our vector.

So how do the different types of drag change with airspeed? Well, looking at what we just discussed about induced drag, the slower we fly the higher our angle of attack must be to maintain level flight. So, slow flight produces more induced drag and fast flight produces less induced drag.

Parasitic drag, on the other hand, increases as airspeed increases. We can actually estimate the increase in parasitic by using the "square rule". This says, simply, that whatever number you multiply your speed by, square that number and that's what the parasite drag will be multiplied by. In other words, doubling airspeed will increase the parasitic drag by a factor of four. Tripling airspeed will increase the parasitic drag by a factor of nine. Huh? Let's say your airspeed is 50 KIAS and parasitic drag is an arbitrary 50. If you speed up to 100 KIAS, parasitic drag will be 200. At 150 KIAS, it will be 450. 200 KIAS? You got it! A whopping 800. As you can see, parasitic drag can increase very rapidly!

~Rob

Humor in the Air

Tower: Cessna N1234, be advised wake turbulence - UA 737.
[pause]
Cessna: San Jose tower be advised the Cessna is ahead of the 737.
[longer pause]
Tower: UA 737, be advised wake turbulence Cessna 172.
Someone: Giggles and laughter in background.

A Winter to FLY!

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Plane Captains

N5303L – Rich Husson **N80213 – Rob Smtih**
N6231F – Dick Kvach **N8114F – Tim Leinbach**
N2516V – Charles Typinski

Flight Instructors

Gene Fildes CFII **Richard Hebbel CFII**
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Rob Smith CFII **Ben Sorgen CFII**