In <1993Apr3.233154.7045@Princeton.EDU> lije@cognito.Princeton.EDU (Elijah Millgram) writes:

>A friend of mine and I were wondering where the expression "pushing

>the envelope" comes from. Anyone out there know?

Every aircraft has flight constraints for speed/AOA/power. When

graphed, these define the 'flight envelope' of that aircraft,

presumably so named because the graphed line encloses (envelopes) the

area on the graph that represents conditions where the aircraft

doesn't fall out of the sky. Hence, 'pushing the envelope' becomes

'operating at (or beyond) the edge of the flight (or operational)

envelope'.

Note that the envelope isn't precisely known until someone actually

flies the airplane in those regions -- up to that point, all there are

are the theoretical predictions. Hence, one of the things test pilots

do for a living is 'push the envelope' to find out how close the

correspondence between the paper airplane and the metal one is -- in

essence, 'pushing back' the edges of the theoretical envelope to where

the airplane actually starts to fail to fly. Note, too, that this is

done is a quite calculated and careful way; flight tests are generally

carefully coreographed and just what is going to be 'pushed' and how

far is precisely planned (despite occasional deviations from plans,

such as the 'early' first flight of the F-16 during its high-speed

taxi tests).

I'm sure Mary can tell you everything you ever wanted to know about

this process (and then some).

"Insisting on perfect safety is for people who don't have the balls to live

in the real world."   -- Mary Shafer, NASA Ames Dryden

Fred.McCall@dseg.ti.com - I don't speak for others and they don't speak for me.