

Safety Corner

NOT SO FAST!

By Dave McClurkin

Airplanes fly fast. That's part of the allure of flying – going faster and faster as you work your way from light singles to twins, to turbo-props and jets. But, does the PILOT have to BE **FAST** to fly an airplane? Do we need to be methodical? Yes. Do we need to be deliberate? Yes. Do we need to be **FAST**? In most situations I say no. Don't believe me? Take a look at OU's Chief Flight Instructor. He has the lightning-quick reactions and speed of a Galapagos tortoise! And yet there he is, still dawdling along after forty years and thousands of hours of flying (and dealing with the occasional emergency along the way)! Let's take a look at some specific examples – and how being **FAST** versus methodical and deliberate can get you in trouble.

Normal Landing. We brief 70 knots as an approach speed (no gusts). But, at what speed do we want to touch down? V_{so} in the warrior is 44 knots. If we touch down at 65 – 70 knots what type of control do we have? For all intents and purposes the airplane is still flying – the wheels just happen to be touching the ground. Rudder inputs at high speed can easily lead to fish-tailing. How do you know if you're too fast in the round out and flare? If you float more than 200 feet in the round out to bleed off airspeed, that's an indication. If you balloon in the round out, that's another indication. Finally, if you're doing a three-point landing you're definitely too **FAST**.

Flap Retraction. When to retract flaps after landing? Do we have to be **FAST** and get the flaps retracted right after touch-down when we're still going at a good rate of speed? Seems to me this is a good way to get distracted and end up putting differential input on the rudders and start fish-tailing. For normal and soft-field landings, flap retraction is part of the after landing checklist. We do the after-landing checklist after taxiing off the runway.

Braking. OMG! The runway is only 4000 feet long. I'd better be **FAST** on the brakes to make sure I get stopped after my 65 knot touch down! Applying brakes faster than 20-30 knots is a recipe for skidding and losing control. Let the airplane slow down before applying brakes!

What about **short field** landings? Don't I have to be **FAST** on the flaps and brakes to properly execute this landing? **NO!** The emphasis on short field landings is a slightly steeper approach path and touching down on the designated spot

(usually the numbers) just above stall speed. If you can do this there is no urgency whatsoever in flap retraction and braking. As I've said before: Touch-down – maintain control, take a deep breath – smoothly retract the flaps – take a deep breath – yoke smoothly full back – take a deep breath - apply some brakes. Let's look at this from a different perspective. On a standard day, at max gross weight, the warrior max performance take-off ground roll is 1500 feet. The landing distance is only 700 feet. This is the case for most aircraft – takeoff roll is significantly greater than landing roll. Let's assume that most sensible pilots won't land at an airport from which they can't take off. This means that in a warrior you won't land at an airport with a runway shorter than 1500 feet. In reality the shortest runway we use is 17/35 at DJ Perry and that's 1900 feet. So, in the worst case you've got 1500 feet of runway for a 700 foot landing. As long as you get the first part right - touch down on the numbers just above stall speed - you've got at least 800 feet of leeway to get the airplane stopped. There is no urgency to retract the flaps and jump on the brakes. You certainly don't want to land with the brakes applied – something that we've seen on practical tests! Of course, if you **don't** get the first part right, it's time to **GO AROUND** and try again.

What about **touch and gos**? Don't I need to be **FAST** and get the flaps retracted quickly so I can get the airplane in the air again before running out of runway? Again, **NO!** As long as you touch down in the first third of the runway, even at 13/31 at DJ Perry or 17/35 at Purcell or Chickasha, there is plenty of runway to maintain control, slow down a bit (no braking), retract the flaps and smoothly apply power for the takeoff. If you're landing on 17/35 at DJ Perry, that's the time to do a full stop vice a touch and go. Now, if you see that you're not going to touch down on the first third of the runway what should you do? Hopefully by now I don't have to say it!

ATC (who most pilots think of as God, even me) tells me to expedite taxi and turn off on the next taxiway – there's an aircraft on short final. Well, if God tells you to do something you'd better be **FAST**, right? When receiving this instruction I've seen pilots **ADD POWER** to get to that taxiway and get off the runway as quickly as possible. This is a recipe for attempting a 90 degree turn at too great

a speed and going off the runway. What to do? First, realize that ATC is not God. Even they will tell you that. So when that "EXPEDITE YOUR TAXI" instruction comes over the head set, acknowledge, and then keep that RPM down at 1000 and taxi down and off the runway at your normal speed. What's the worst that will happen? The aircraft on short final gets to do a go around. If you go off the runway the aircraft behind you (and a few more after that) will be going around anyway!

EMERGENCIES. Engine failure, engine fire, electrical fire, door pops open on takeoff. This stuff is life and death. You've got to be **FAST** to survive an emergency. Not so. Why? Because we already know what we're going to do for each of these situations, right? We brief engine out procedures (even to ourselves on solo flights) as part of the Before Take-Off checklist, right? We've committed the aircraft emergency procedures checklists to memory and chair-fly them routinely, right? If we have, we don't need to be **FAST**, we just need to methodically and deliberately execute the memorized checklist(s). If you can do that you'll find that even for the most dire emergency you've got a lot of time. Don't have the emergency procedures checklists memorized? In that case the only thing being **FAST** will do for you is quickly doing the wrong thing which will cause your emergency to end up in disaster more quickly. Read up on some infamous emergencies with favorable outcomes. In most, if not all cases, those crews professionally executed the appropriate procedures and had plenty of time to select the appropriate course of action.

Surely, there must be something that requires you to be **FAST**? OK, your Mach 2 fighter is out of control and rapidly approaching the envelope for the ejection seat. The difference between a successful versus unsuccessful ejection is often a matter of less than a second. So, when we get ejection seats in the aerobat I'll start preaching **FAST!** Until then this tortoise's song is "Slow down you move too fast, you've got to make the morning last..."