

Taming the toughest taildraggers

If you think you might have mastered taildragger flying, consider the Sopwith Triplane or Fokker Dr1 – or even the Lockheed U-2

Most of us who mess about with older aeroplanes are secretly a bit smug about our taildragger skills. It seems a bit of a mystique has developed about what some would like to think of as a black art - even if it isn't really.

So long as you remain reasonably alert on the rudder pedals, this mysterious controlling of a craft where the centre of gravity is a few feet behind the mainwheel axle line

is not really rocket science. After all, for the first four decades of flight, countless freckly-faced youths were able to go solo in about the same time as a typical student of today, although it has to be said that their into-wind grass aerodromes were perhaps a little more benign than our inevitably crosswind, tarmac runways.

Of course some tailwheel aeroplanes are more demanding than others, although (as I regularly demonstrate) the humble Piper Cub is more than capable of denting any over-confidence on the part of its pilot. Big-engined monsters such as the warbirds of World War Two naturally require special attention, while aircraft of even earlier vintage such as the fighter aircraft of the First World War can be particularly demanding.

Gordon Brander, leader of the Great War Display Team, describes flying their Sopwith and Fokker Triplane replicas as "an ideal pick-me-up for bored pilots". Even taxiing one of these veterans is a special skill, as there is little forward ground visibility so a mental picture of your taxi route is essential, as well as energetic weaving. Some Fokker pilots even slip off the shoulder harness and almost stand in the cockpit to look over the nose to chart the path to the takeoff point. Fine, as long as you remember to do the harness up again!

Gordon tells me the DR1 will ground loop energetically with excessive use of throttle. The wooden skids on each lower wing were introduced as protection against its tendency to corkscrew on the ground and, due to its high centre of gravity, tip onto a wingtip. There are of course no brakes

other than the plough-like qualities of the tailskid and steering is done with bursts of power to blow air over the rudder.

Landing is apparently even more of a challenge. Forward vision is minimal once

an approach speed of around 65 to 70 knots is achieved and the nose comes up to blot out the runway. In addition as the nose comes up, the forward view also disappears as the wing angle increases, closing up like a venetian blind!

Once on the ground, the tail is held up to maintain some modicum of forward vision and as it is essential to keep airflow over the rudder to have any control on the ground, Gordon advocates the rather counter-intuitive method of keeping the rudder energised by increasing power just after touchdown.

Needless to say, tailwinds and crosswinds above a few knots are strictly Verboten!

However, if you really want to tackle the ultimate taildragger challenge, you have to fast forward a half century or so. The Lockheed U-2 spy plane is almost without doubt the trickiest taildragger of all. In order to optimize the design to fly at heights in excess of 70,000 feet, the long, slim, high-aspect ratio wings demand a 'bicycle' undercarriage with tandem mainwheels set on the centerline of the aircraft. That's fine on a glider with reasonable forward visibility and a low

landing speed, but try it with a 100mph-plus approach while wearing a constrictive pressure suit and fishbowl helmet that limits peripheral vision. The massive 106 foot wingspan demands that in addition to being pitch-perfect in the flare, you have to land with the wings absolutely level. One U-2 pilot, un-named for 'the sake of National security' described the landing as "wrestling your arms back and forth the entire time just to keep the wingtips from touching the ground. It's a nonstop game."

It is perhaps unsurprising then that the U-2 has earned the distinction of being the most difficult aircraft to fly in the US Air Force. In its sixty years of operation, fewer than 950 pilots have been certified to fly the type. Such is the landing workload and the lack of visibility that chase cars driven by fellow U-2 pilots follow the aircraft on each landing, with the driver talking the pilots through touchdown radioing reports on altitude and attitude. These chase cars are typically big, V8 muscle cars, largely because they can launch from a standstill to landing speed in just a few hundred yards.

These drivers, known as 'mobile pilots', face their own challenges. If they are too far behind the aircraft their advice is of limited use, alternatively if they are too

close, they risk getting their paint fried by the jet's exhaust. The preferred position is three car lengths behind the tail and slightly to the side to avoid the wash of the 19,000 pound-thrust General Electric

F118-101 turbofan.

Chasing the landing isn't the only sport with the U-2. Further down the runway, a pick-up truck will pull out with a brave soul on the back, trying to insert a 'pogo stick' into an underwing socket to prevent the wing tip dragging on the ground. Apparently, according to one windswept mechanic, 'U-2 jousting' at over 70 mph, is truly the sport of kings! ■

Triplane replicas are "an ideal pick-me-up for bored pilots"

The U-2 is the most difficult aircraft to fly in the US Air Force