

The Startle Effect

By Captain Andy Wilkins



I never cease to be amazed at the effect of surprise that pilots on the AUPRT courses talk about. The Startle Effect is briefed prior to the flight and again inside the aircraft and is therefore pre-warned something will happen. Without exception all the pilots admit to excitement of the moment and the usefulness of the practice which is not covered in any other type of training.

Startle is a major contributor in almost all the accident cases we look at during the course and was a major factor in the confusion in the accident of AirFrance 447. As pilots, in training we are given tools to tackle the effect of startle. One of these is TDODAR which is designed to give the crew thinking time before acting and it has been proven in most cases that thinking time is needed to assess the problem. (Remember Sully and the court case that proved between 5-10 seconds was needed to diagnose the problem) which is fine if the aircraft is still flying straight and level.

Most of the cases we train for are major upsets to the aircraft. This includes simulating yaw damper failures and trim runaways where the pilot suddenly finds the aircraft inverted and in a crazy dive. In this type of recovery you don't have the luxury of thinking time as you have a maximum of 10 seconds before it will be too late to save the aircraft.

The Super Decathlon configuration is pilot in the front seat and instructor in the rear. This offers a great opportunity to the instructor to introduce the

element of surprise. What the instructor is then looking for is the correct response to the event including the Startle Recovery.

As instructors we must be mindful of being overzealous on our inputs as the person under training will never have experienced such unusual control inputs and external views.

In training the CAA state that the required 'G' force required is two G. Most of the time we can stick to this limit but if a pilot is able to cope with more 'G' then a candidate can really experience some very unusual upsets and recoveries. We proud ourselves on assessing each individual pilot on the first flight to assess how each person will cope with the course. Enjoyment all round and a great learning experience is the aim of the course.