UPSET RECOVERY COURSE

A BRIEF OVERVIEW

By

David Pilkington

July 2014

THE 1944 BOOK:STICK AND RUDDER

"Almost all flying accidents are caused by loss of control during a turn....

Pilots as a group simply do not know how to turn"

Have standards improved today?

BUT 70 YEARS LATER – information from Rich Stowell

"Loss of Control-Inflight remains the top fatal accident category in GA ... and occurs most often .. while turning."

The biggest single cause of fatal GA accidents is stall/spin from a turn.

QUESTION

WHAT IS THE PRIMARY CONTROL SURFACE YOU USE WHEN TURNING AN AEROPLANE?

(Survey from Rich Stowell)

ANSWERS FROM RECENT SURVEY

- AILERONS – 63%
- RUDDER – 23%
- ELEVATOR - 14%

So, 86% of pilots got it wrong!

FROM THE USA FAA'S AIRPLANE FLYING HANDBOOK

"The ailerons bank the wings."

"The rudder does not turn the airplane."

"The elevator ….. 'pulls' the nose of the airplane around in a turn."

So,the answer was: "the elevator".

UPSET RECOVERY TRAINING

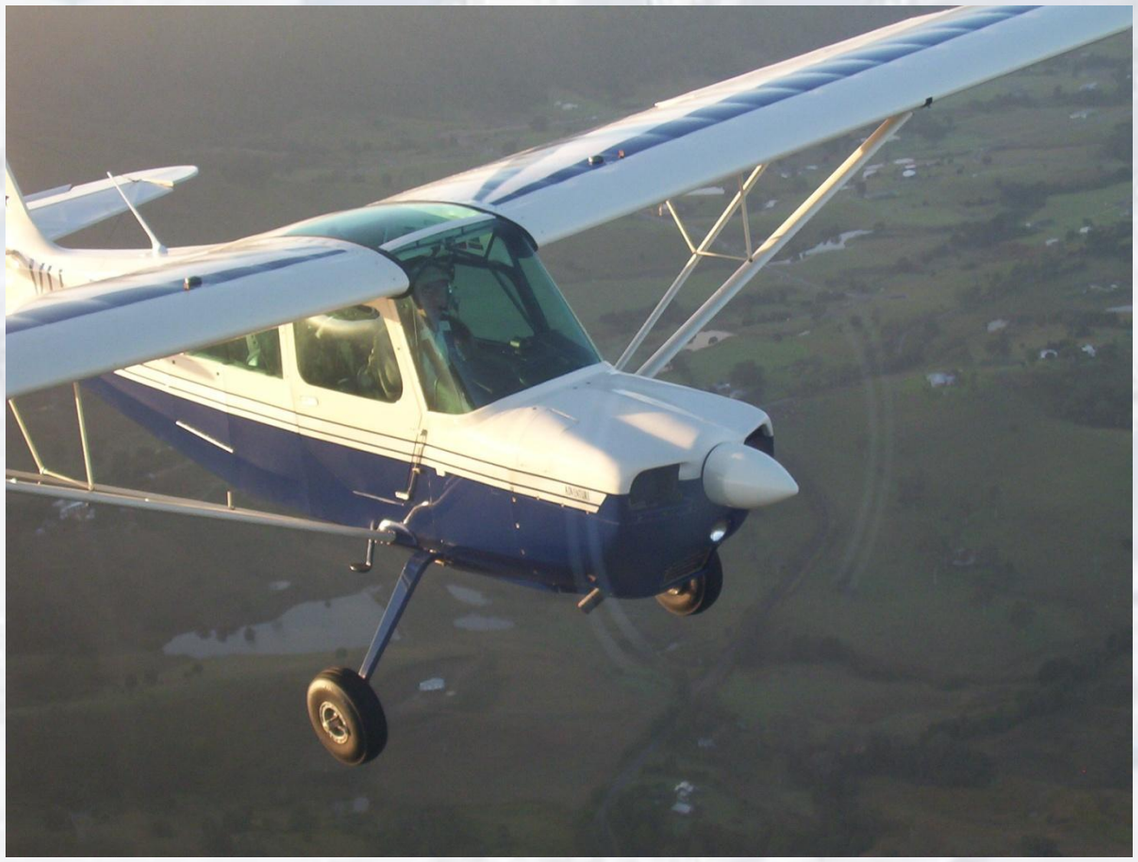
- The USA FAA mandates upset recovery training for all jet transport pilots
- CASA does not
- Elements of the course appropriate for all pilots

UPSET RECOVERY COURSE

- David Pilkington developed a course specifically for CPL students
- Course recommended for all pilots – especially instructor trainees
- Some elements of that course are explained in the following slides

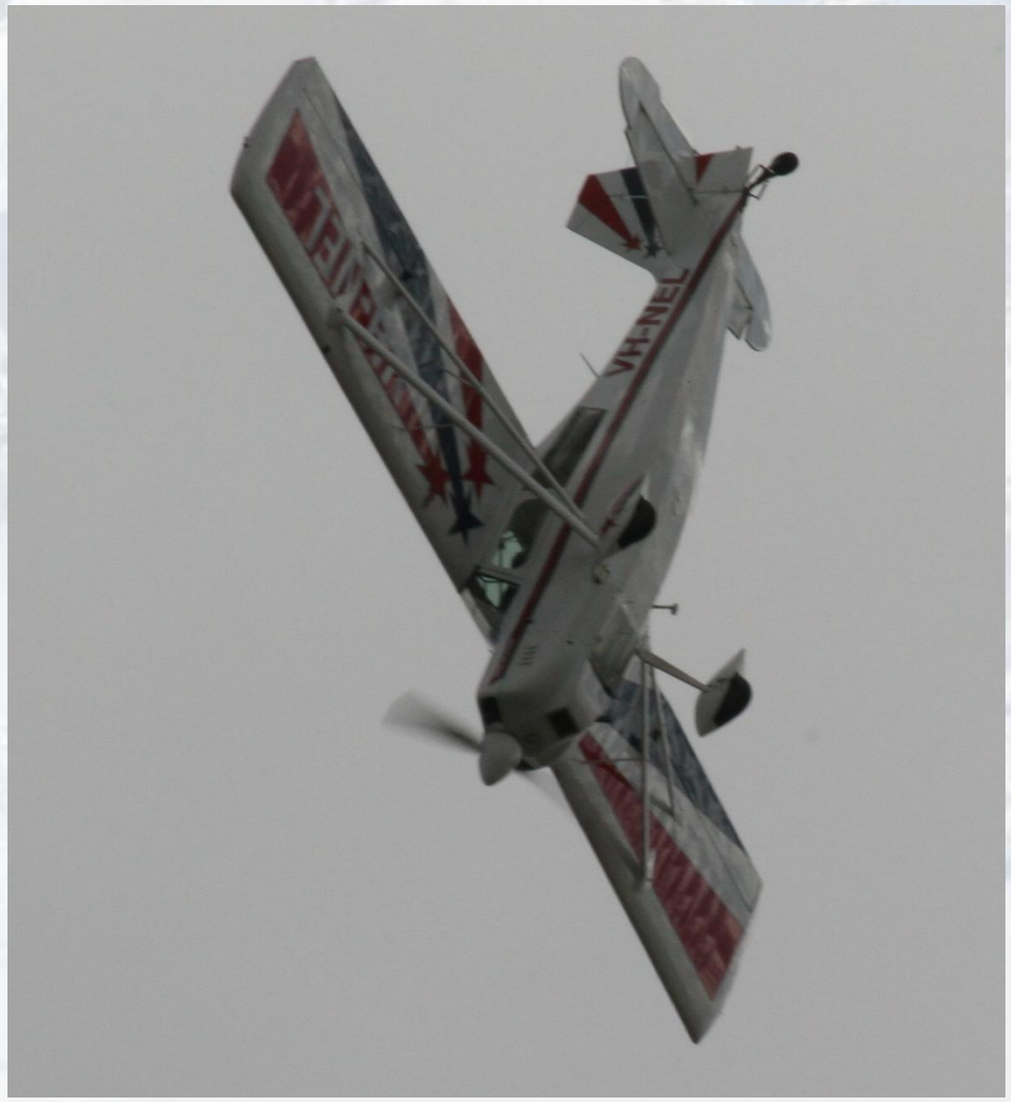
SLOW FLIGHT

- SLOW FLIGHT (S&L) 55 KTS (STALL 47) THEN 30^{O} BANKED TURNS
- EXTREMELY SLOW FLIGHT (S&L) 45 KTS THEN GENTLE TURNS



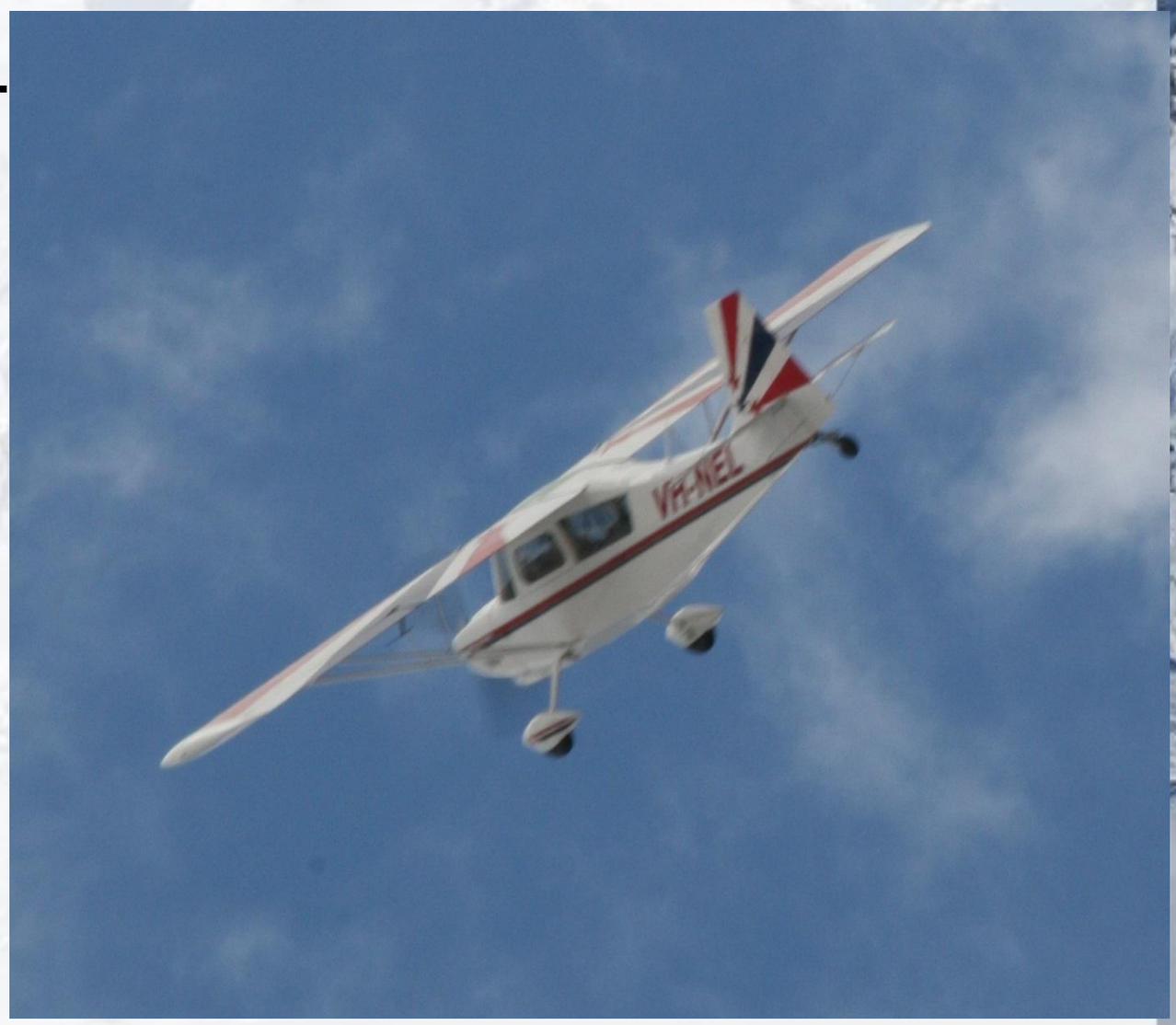
THE STARTLE FACTOR

- EYES CLOSED THEN TAKE OVER – VERTICAL DIVE WITH FULL THROTTLE AND STALLED
- Non-aerobatic pilots startled and usually pull hard and spin



STALL IN A SIDESLIP

- SIDESLIP WITH FULL RUDDER – THEN STALL & RECOVER
- Plenty of stall warning, buffeting etc, nose down pitch and perhaps uncommanded roll
- Normal recovery



STALL IN A SKIDDED TURN

- Little or no warning of the stall with aggressive spin entry
- Recovery initiated at departure
- Aerobatic pilots typically recover with significant height loss but non-aerobatic pilots typically fail to recover

STALL IN A SKIDDED TURN

Watch BruceAir's SkiddingLeftTurn video at https://onedrive.live.com/?cid=110aa5b593d58477&id=110AA5B593D58477%21205

INSTRUCTOR TRAINING

- CASA's stated aim to address this cause of GA accidents through instructor training
- Draft CAAP 5.14-2 addressed this but the final version does not

PART 61 COMPETENCY STANDARDS

- Element A5.1 includes recovery from stalls in straight and level flight, climbing, descending, approach configuration and turning
- Element A5.2 includes recovery from incipient spin from straight and level flight, climbing and turning

RESPONSIBILITY

- Flying school to ensure that the syllabus of training is consistent with the Part 61 MOS
- Instructor to ensure student is given the training and meets the standard
- Student pilot to ensure that the required training has been undertaken
- Pilot to ensure practice of basic skills
- Instructor to ensure standards at flight reviews

CLOSING REMARKS BY RICH STOWELL

https://www.youtube.com/watch?v=0QPkhdUC3mQ