



**EASA**  
European Aviation Safety Agency

# ATO Perspective

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FS 3

**Your safety is our mission.**

An agency of the European Union 



# Mitigating Loss of Control In-flight (LOCI)

Adaptation of the term “Upset” from numbers to broader definition

‘Aeroplane upset’ means an undesired aircraft state characterised by **unintentional divergences from parameters normally experienced during operations**. An aeroplane upset may involve pitch and/or bank angle divergences as well as inappropriate airspeeds for the conditions.’



Aircraft

- Instructor course for delivering Advanced UPRT
- Advanced UPRT included in MPL, and ATP(A) courses
- Initial issue relevant Class and Type Ratings

Non type specific



Type specific



# The ATO Approval process

- The vetting process for the first instructor trainers (one year approvals)
- An ATO approval based on documentation
  - Risk assessments / SMS integration
  - Focus on the Aims;
  - Instructor course
  - Type of aeroplanes selected for the course
  - The advanced UPRT course itself
- Training observations at the first suitable opportunity (**Instructor course**)
- The training observations are tricky because of the inspector qualifications. Part of the instructor course must be on an aerobatic certified aircraft. Typically a two seater, this means the CA inspector need to be acting as pilot/student...



# How to get started (the first year) – Train the Trainer

- FCL.900.(b)(1) What is a reasonable background for granting a **specific privilege** to get started?
  - Aerobic Rating or equivalent Military background for the Manoeuvre competence
  - Instructor privileges relevant to the ATO courses, in order to facilitate Aims and assure positive transfer in the education
  - A thorough knowledge of the regulation
  - A thorough understanding of the overall objectives and the relationship between prevention and recovery, and
  - Preferably AOC experience





# Transfer to normal advanced UPRT instructor training during licensing phase

## Instructor Trainers

- Preferably aerobatic rated or equivalent
- 25 Hours acting as Advanced UPRT instructor according to FCL.745.A
- Refresher training during the last year
- Assessment of Competence for the privileges as instructor trainer
- Logbook entry
- Within the SMS system of the ATO

## Instructors

- Preferably aerobatic rated or equivalent
- 500 PIC
- 200 Hours Instructor
- ATO Instructor course
- Course completion certificate
- Logbook entry
- Within the SMS system of the ATO





# Positive transfer from light to heavy

## Advanced UPRT course



Orientation  
Familiarity with G  
Exposure to startle  
Resilience

Flight characteristics including  
Rudder and Aileron responses  
Energy  
Weight distribution  
Swept wings







# Recovery training – spins included in GM1 FCL.915(e)

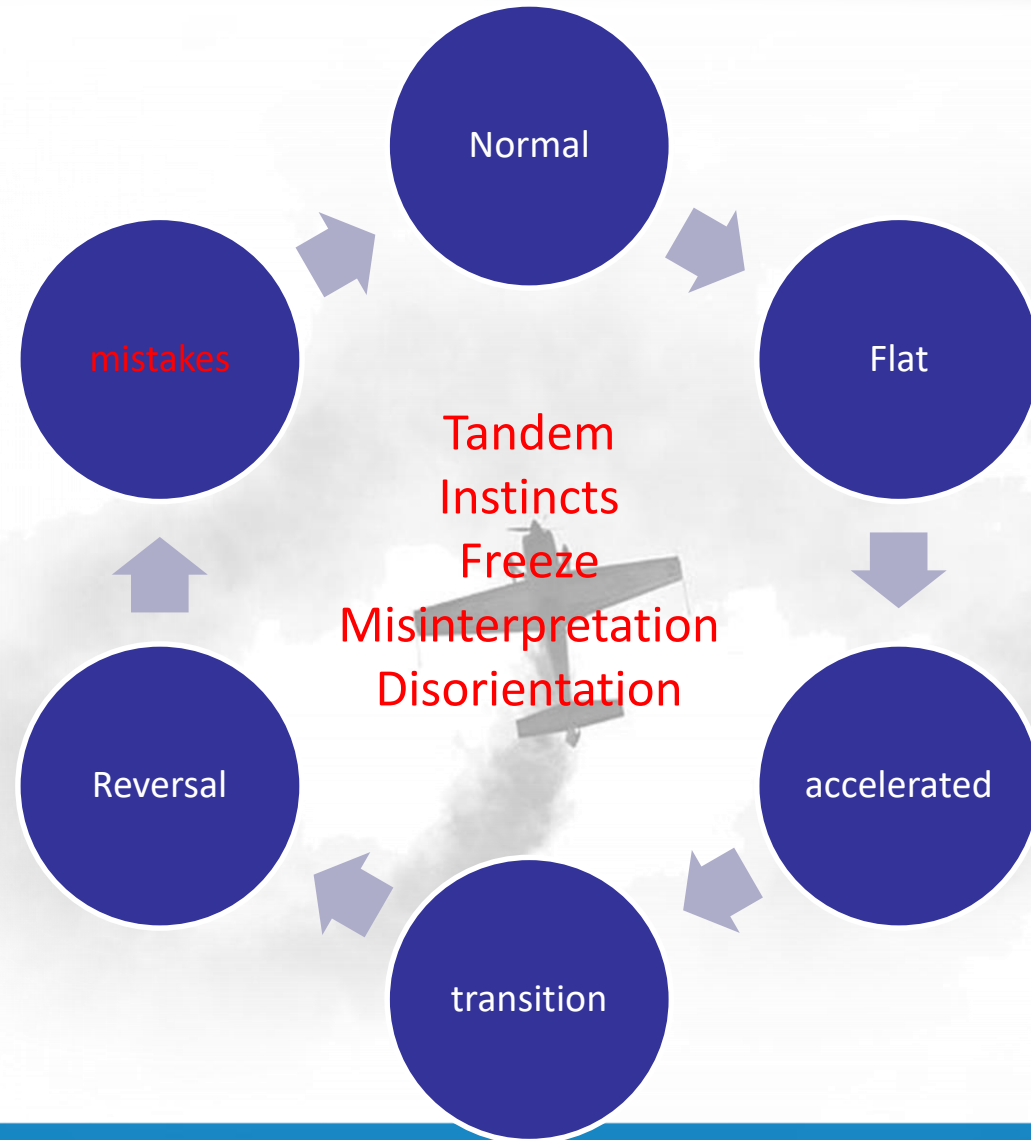
Advanced UPRT course





# Recovery training – spins included in GM1 FCL.915(e)

Instructor training for advanced  
UPRT course on aeroplanes

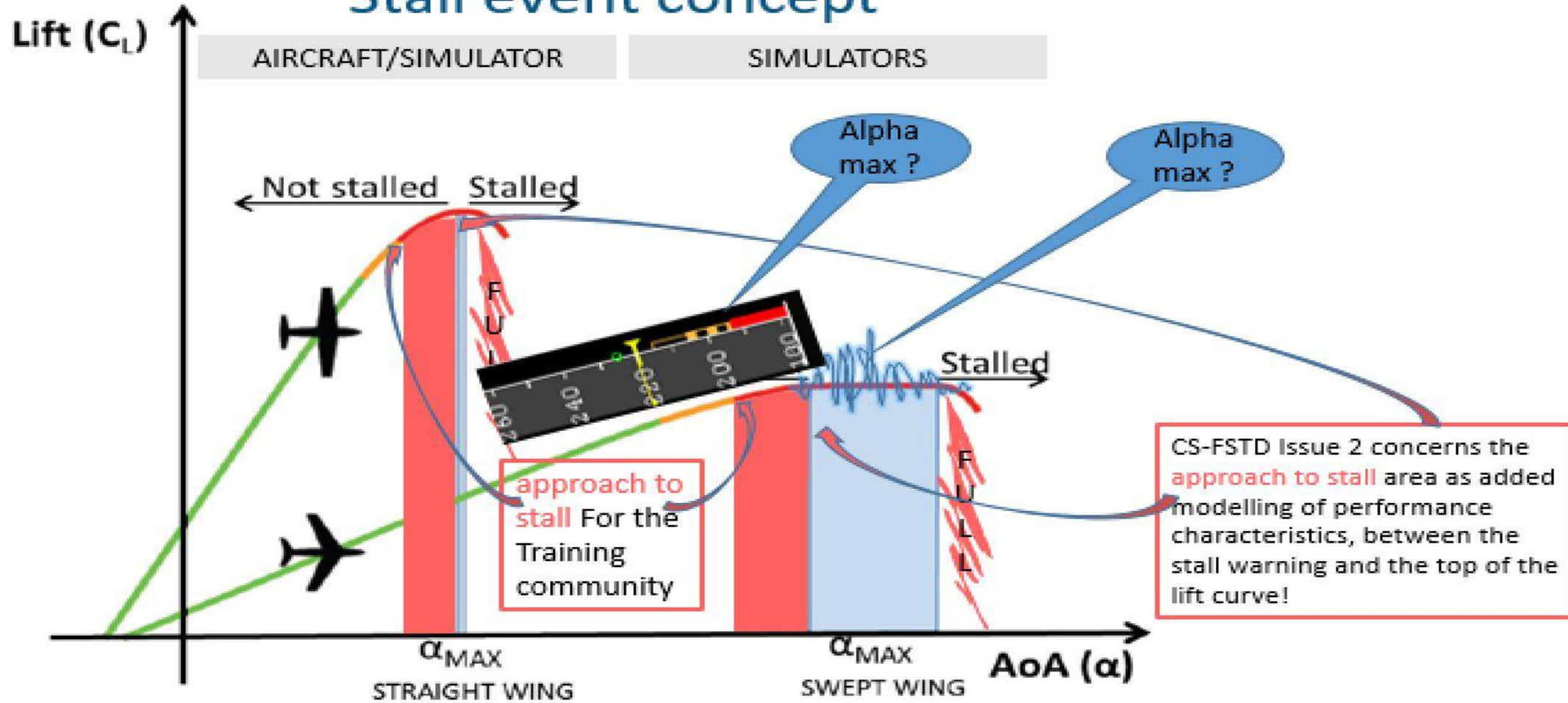






# Stall event concept

## Stall event concept



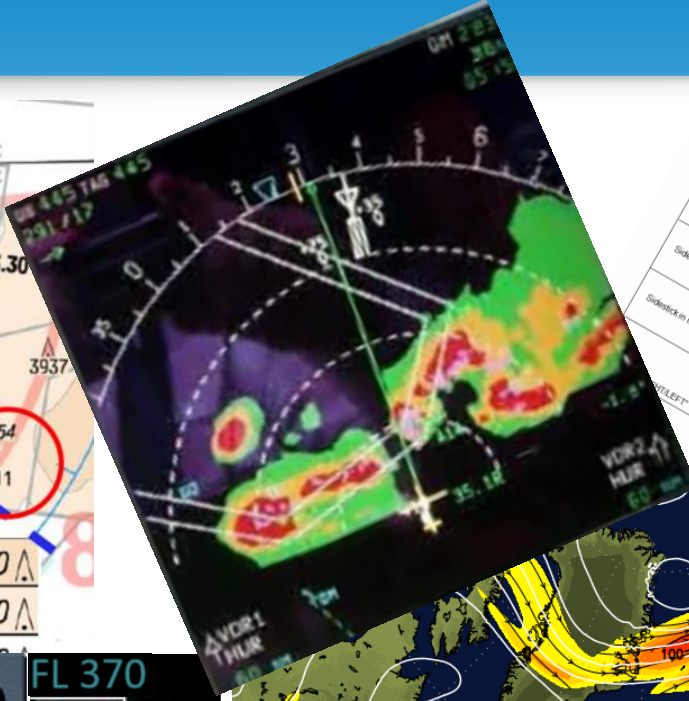


# Active monitoring

- Combined with TEM = Earlier recognition
- New philosophy enables an upset with wings level before the situation becomes “unusual attitudes”
- Monitoring concept should be part of the Multi Pilot training programs
- Ex. Monitor / Assist / Direct / Intervene (MADI)



# What could be elements in scenario based UPRT?

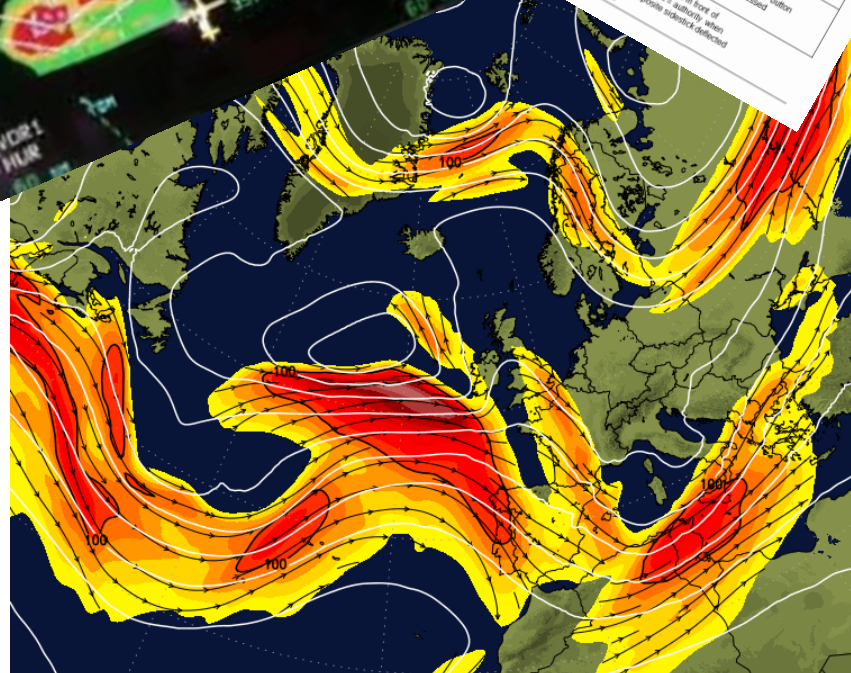
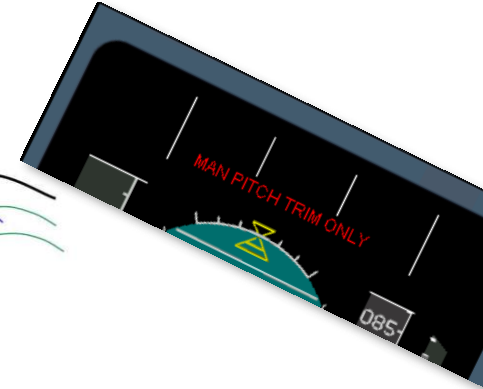
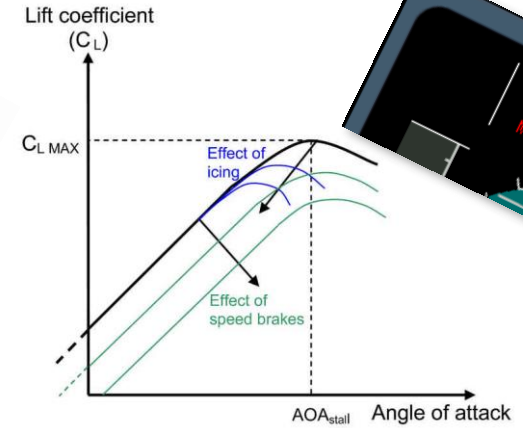


EFCS Sidestick Priority Display Logic

Captain's side		First Officer's side	
Sidestick Take-over button depressed	Annunciation	Annunciation	Sidestick
Sidestick deflected	Green	Red	Sidestick deflected
Sidestick in neutral	Light off	Red	Sidestick in neutral
Sidestick in neutral	Red	Green	Take-over button pressed
Red arrow in front of the pilot = loss of authority	Light off	Green	Take-over button depressed
Red arrow in front of the pilot = loss of authority	Light off	Green	Take-over button depressed
Green light in front of the pilot = authority when opposite sidestick deflected	Light off	Green	Take-over button depressed

(mph)

Influence of speed brakes and icing on Lift Coefficient versus Angle of Attack



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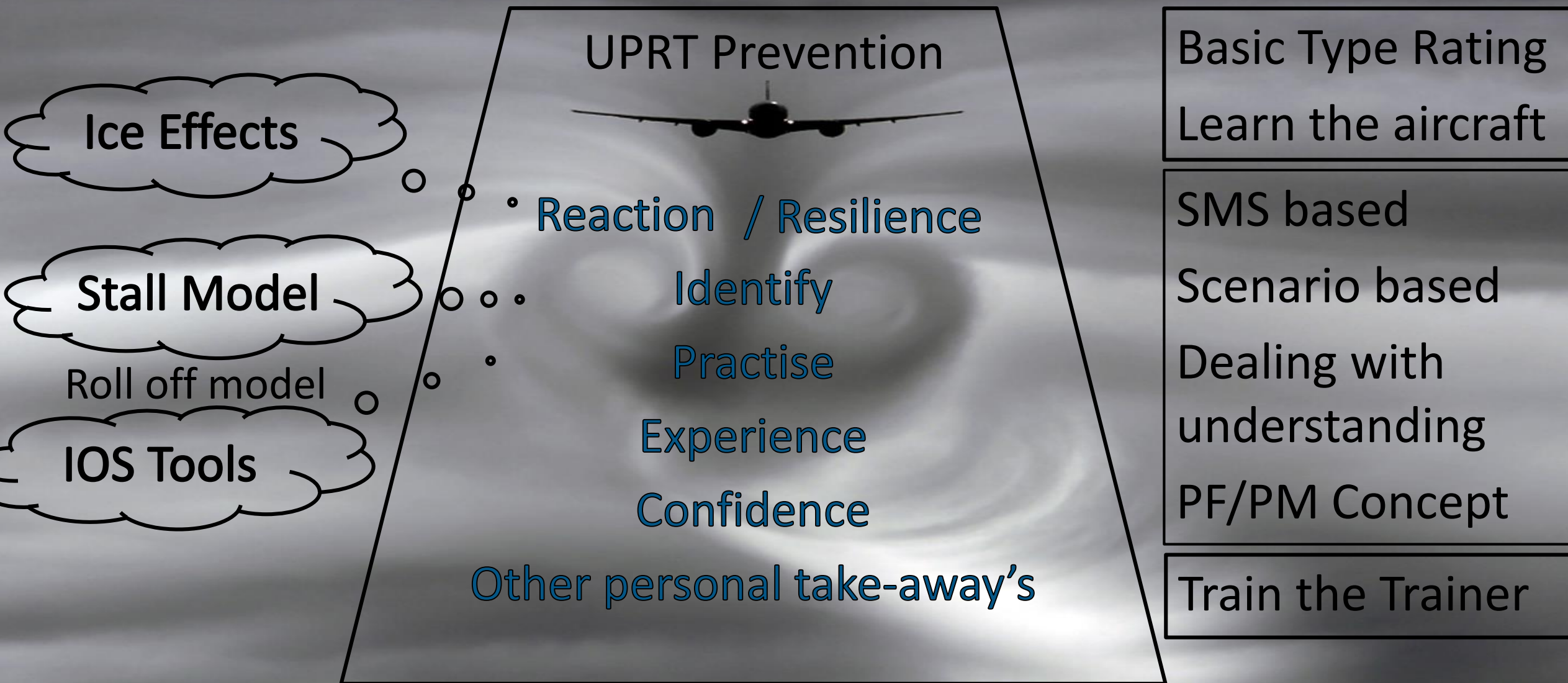


ALWAYS TRUST YOUR INSTRUMENTS, SON





# How is UPRT going to change the ATO approach





# Part FCL Ammendments Examiners

- The intent of UPRT is to train pilots and not to check
- This does not mean that such manoeuvres cannot be performed during a check
- An examiner has to be qualified to act as PIC
- In this case the FE has to hold the appropriate instructor's privileges





#### BEFORE START

Oil Pressure	REMOVED	1/2
Oil Temperature	CHECKED	1/2
Oil Level	ON AUTO	1
Fuel	ON	1
Alternator	ON	1
Starter Switch	OFF	1
Ignition	ON	1
BEACON	ON	1
Parking Brake	ON	1
Master Battery	OFF	1

#### AFTER START

ANTI-ICE	OFF	1
Flight Controls	CHECKED	1

LDG GEAR	DOWN	1
SPLRS	DOWN	1
FLAPS	DOWN	1

AUTO BRK	ON	1
SPLRS	DOWN	1
FLAPS	DOWN	1
LDG CONF	ON	1
Power	ON	1

IGN	OFF	1
STALL	OFF	1
DECEL	OFF	1

#### FLYING

FLYING	OFF	1
FLYING	OFF	1
FLYING	OFF	1
FLYING	OFF	1
FLYING	OFF	1
FLYING	OFF	1
FLYING	OFF	1