



EUROPEAN AVIATION SAFETY AGENCY
AGENCE EUROPÉENNE DE LA SÉCURITÉ AÉRIENNE
EUROPÄISCHE AGENTUR FÜR FLUGSICHERHEIT

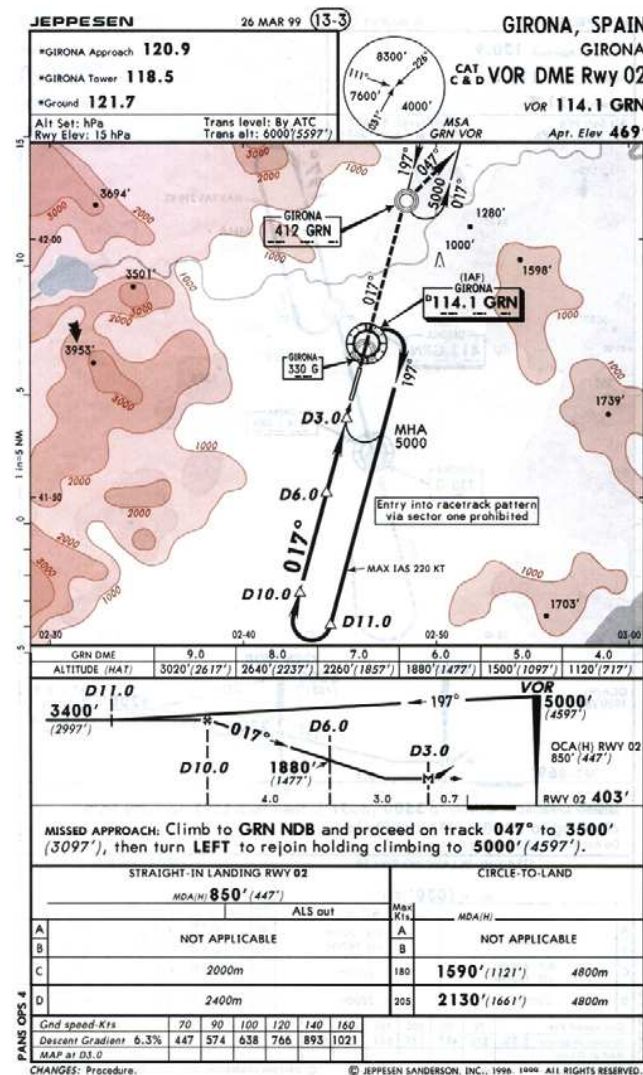
Go-Around below Decision Height

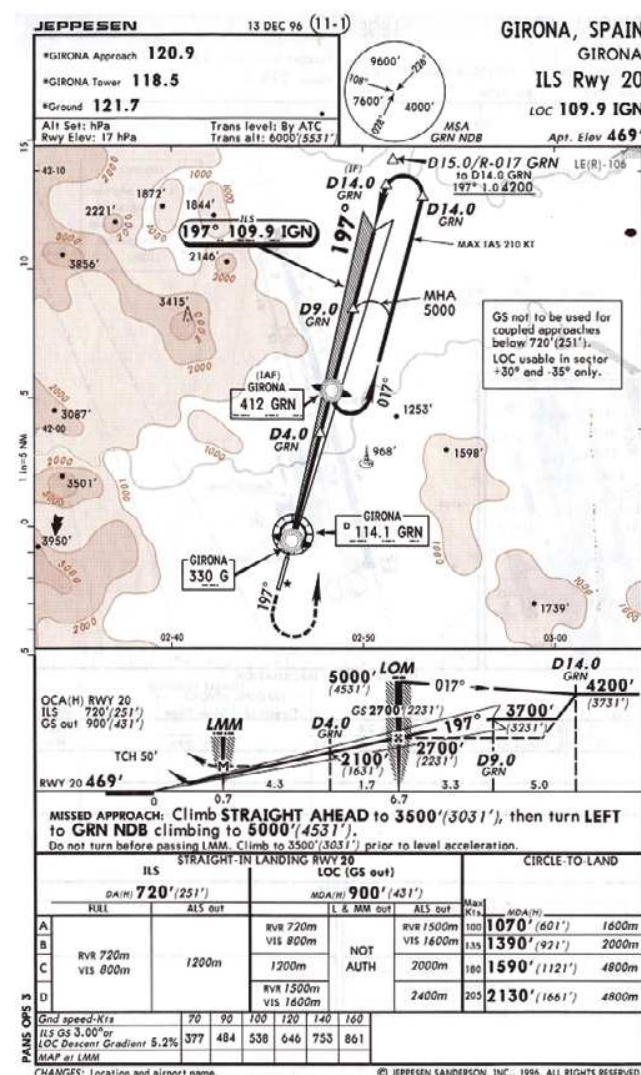
Go-Around Safety Forum
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Safety Analysis & Research Dpt.
Accident Investigation Section



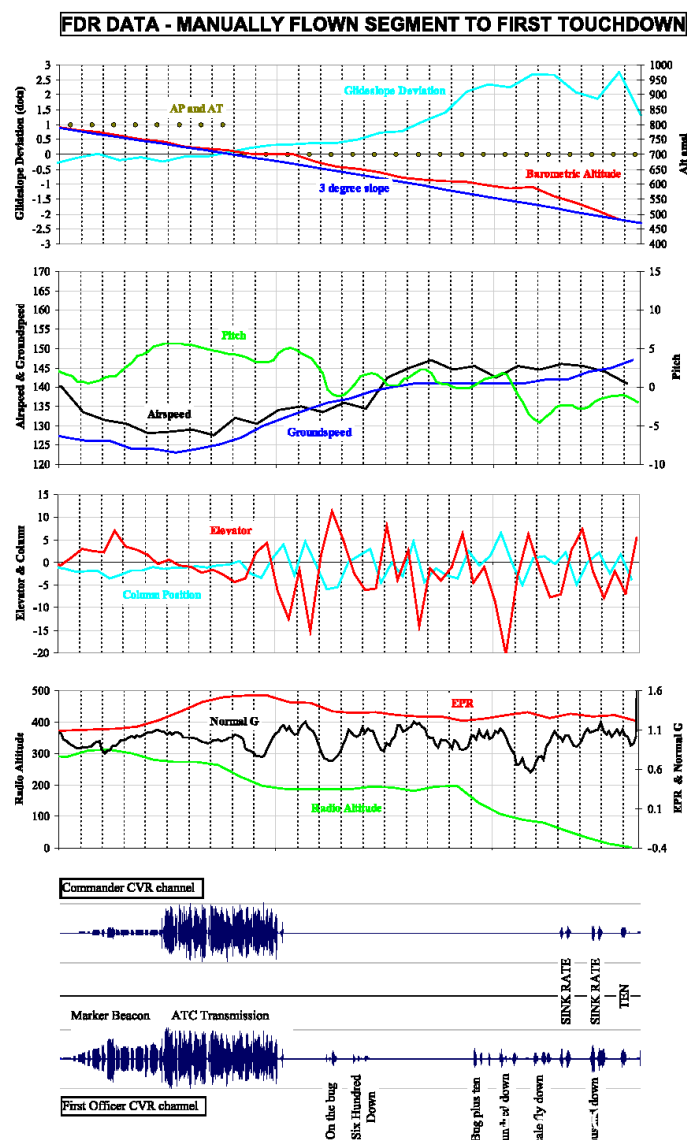
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B757 G-BYAG 14/09/1999 Girona



G-BYAG GROUND TRACK

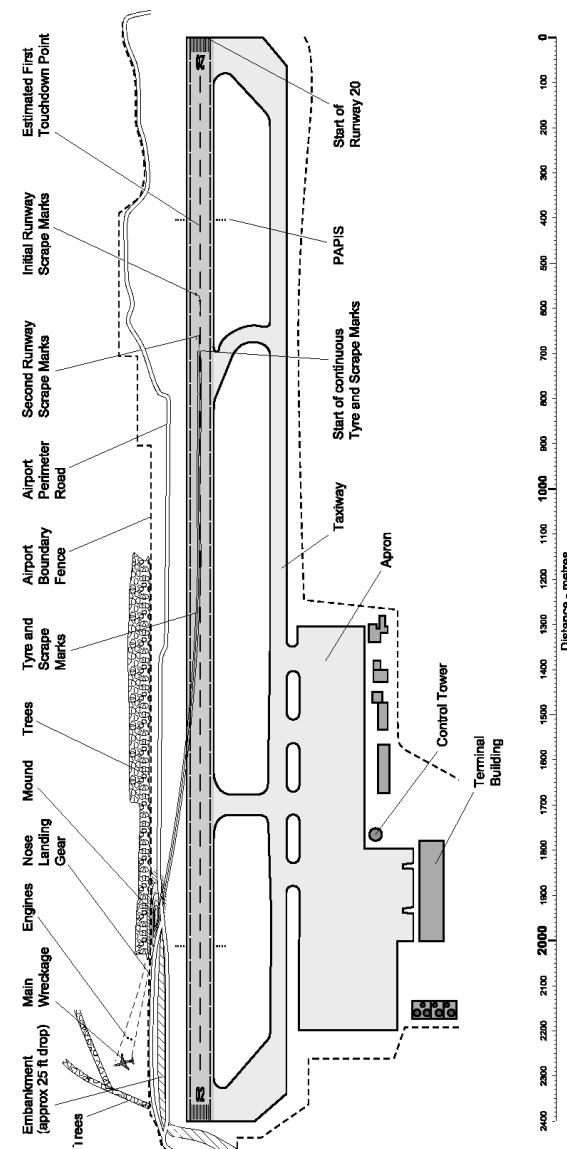


Figure 18



B757 G-BYAG 14/09/1999 Girona

most probable cause was the destabilisation of the approach below DH with loss of external visual references and automatic height callouts immediately before landing, resulting in touchdown with excessive descent rate in a nose down attitude.





➤ **Safety Recommendation SPAN-2004-030 (CIAIAC):**

- It is recommended to EASA that they evaluate the possibility of making mandatory requirements to train flight crew in go-around manoeuvres even from below the decision height, with the aim of reducing the response time when faced with unforeseen events.

**AFR358 A340 F-GLZQ
TORONTO 02/08/2005**





ADREP Data collection

incapacity to respond to a problem that occurred in the final approach; unexpected and disorienting event, which then resulted in either a runway excursion, loss of control once on the runway, bounced landing, wing scraping, etc.

Date	Aircraft reg. marks	Aircraft type and location	Occurrence class - Injuries level
11/02/1999	N31240	Beech-190N - USA	Acc - Serious
16/02/1999	N711TE	G1159 - USA	Acc - None
13/07/1999	EC-EMD	DC-8-62 - Tenerife	Acc - None
14/09/1999	G-BYAG	B757 - Gerona	Acc - Fatal
22/02/2000	SU-GAO	B767 - Zimbabwe	Acc - Minor
01/03/2000	ZS-SHD	A320 - Zambia	Acc
14/06/2001	LN-WIS	DHC-8 - Norway	Acc - None
06/01/2003	N16571	EMB-145 - USA	Acc. None
22/06/2003	F-GRJS	CL-600 - France	Acc - Fatal
20/12/2003	PR-GOO	B737 - Brazil	Acc. - None
10/02/2004	OK-XGB	B737 - Lithuania	SI - None
25/02/2004	ZS-SJP	B737 - South Africa	Acc. None
19/03/2004	N800AW	Learjet 35 - USA	Acc. None
21/03/2004	SU-BMF	MD-80 - France	SI - None
30/08/2004	N742RW	B727 - USA	Acc. None
21/10/2004	HB-INV	DC-9 - Pristina	SI - None
18/01/2005	SE-RDN	A321 - Egypt	Acc. - None
02/08/2005	F-GLZQ	A340 - Toronto	Acc - Minor
26/11/2005	EK-32010	A320 - Russian Fed	Acc. - None
18/05/2006	N949AS	MD-80 - USA	SI - None
15/06/2006	OO-TND	B737-UK	Acc. - None
29/01/2008	PT-LEB	Learjet 35 - Brazil	Acc. None
22/03/2010	RA-64011	TU-204	Acc. Serious
10/02/2011	EC-ITP	Fairchild Metro III	Acc - Fatal
03/11/2011	9V-SWQ	B777 - Munich	SI-None



Common factors

- Un-stabilized approach during final approach.
- High workload environment.
- Eagerness to reach destination and deviation from SOPs.
- Un-coordinated/contradicting actions by crew members.
- Lack of cockpit communication and coordination.
- Continuation a non-stabilised approach after DH/A
- Adverse meteorological conditions (heavy rain, thunderstorm, high crosswind, etc.).
- Improper flare, delay in reaction or go-around manoeuvre executed not compliant with SOPs.



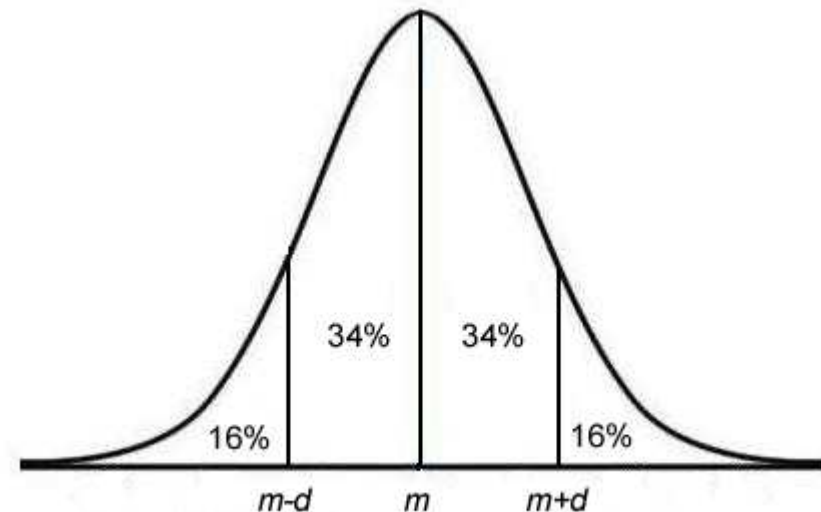
Part FCL

- Current regulation includes in the initial practical training for multi-pilot aeroplanes and single pilot high-performance complex aeroplanes
 - Rejected landing at 15m (50ft) above runway threshold and go-around
 - However, an operator is not required to provide specific training in initiating a go-around from below DH.



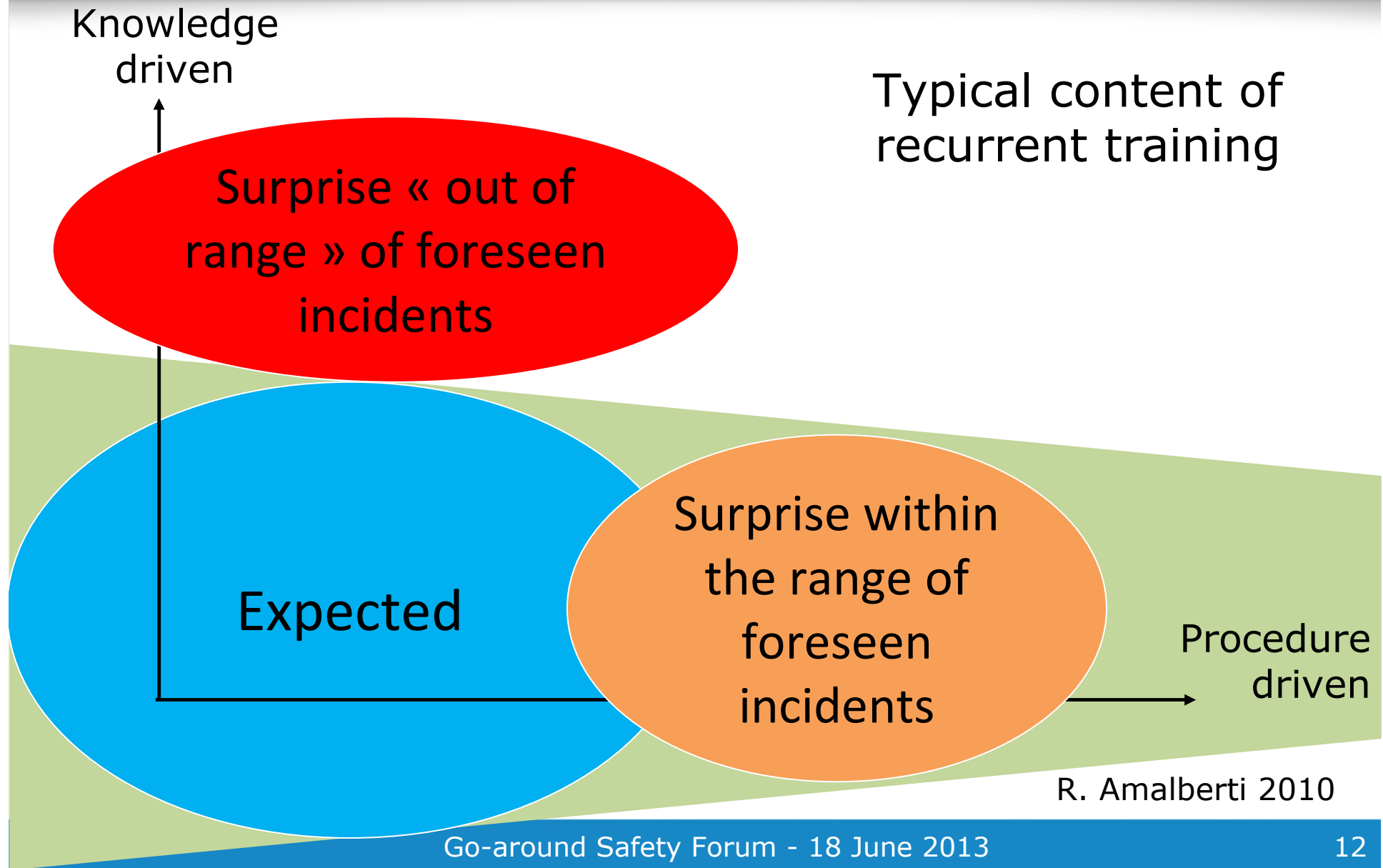
Training considerations

- We should train for the statistically likely
- We can anticipate maybe 95% of events?
- The big problem is the 5% remaining?





Resilience : coping with the unexpected in unstable systems





Current situation

- Initial training includes go-around at 15m (50ft) above runway threshold
- Existing publications
 - Flight Safety Foundation – Approach-and-Landing Accident Reduction briefing notes
 - Manufacturer Briefings and guidance
- Training could foresee scenarios that demonstrate the need to execute timely GA below DA/H.
- Additional recurrent training can be integrated in the existing operators training schedule.



What to do next

Skill based Approach

- Rulemaking task "Flight crew training for go-around below DA/H" (OPS.061)

Surprise management

- RMT.0411 "Crew resource management"
 - requirements for initial, recurrent and type rating training for pilots in order to develop and maintain a capacity to manage crew resources when faced with the surprise generated by unexpected situations.
- RMT.0581 and RMT.0582 "Loss of control avoidance and recovery training"
 - how far training scenarios including the effects of surprise should be included in initial, type and recurrent training with a special focus on the prevention of the loss of control

Thank you for your attention Questions?

- European Aviation Safety Agency

