ANSV AGENZIA NAZIONALE PER LA SICUREZZA DEL VOLO

SAFETY RECOMMENDATION

To: European Aviation Safety Agency (EASA)
Safety Analysis and Research
Postfach 10 12 53
D-50452 Koeln, Germany

Federal Aviation Administration (FAA)
800 Independence Avenue, SW
Washington, DC 20591

Copy to: ENAC
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Subject: accident occurred on Palermo airport to the aircraft Airbus A319 registration marks EI-EDM, on September 24th, 2010.

1. Synopsis.

At 18.08 UTC, during final approach for runway 07 with adverse meteorological conditions on Palermo airport, aircraft collided with terrain immediately before the beginning of the runway (figure 1), hit the opposite RWY localiser antenna, slid on the wet runway with main gear collapsed for about 900 meters before stopping out of the left side of the runway. Passengers evacuation was performed. Aircraft was severely damaged, very minor injuries to persons onboard.

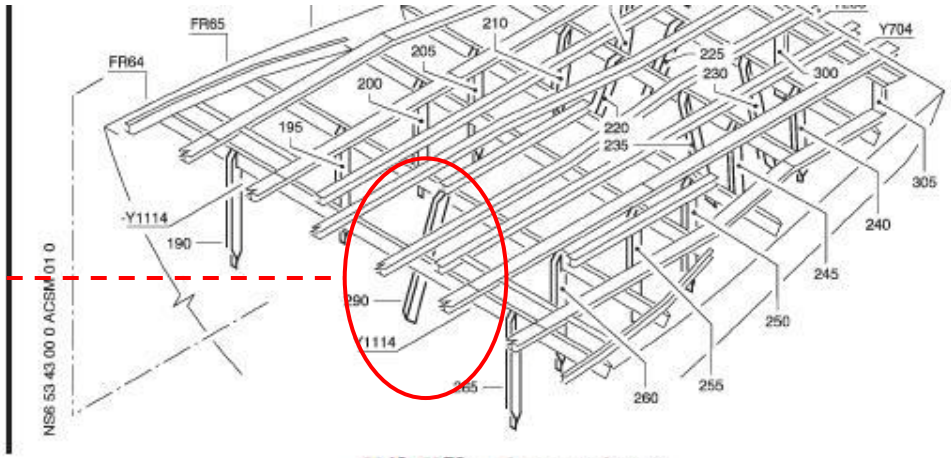
Figure 1: aircraft tracking.

2. Technical investigation.

During the ongoing investigation it has been determined that the frame "*cross beam* FR65" (picture 1 and figure 2) had penetrated the floor just in correspondence of the rear part of the escape way of the pax cabin. There is some statements who let us know that passengers fell to the ground during the cabin evacuation due to the presence of part of the FR65 coming out from the cabin floor, deeply slowing down the operation.

The pax cabin has showed a consistent grade of impact suppressor and only the FR65 damage became dangerous for survivability with specific mention to the passenger evacuation (picture 2).

Picture 1: *cross beam* FR65.



FR60-FR70 - Support Struts
Figure 1 (sheet 2)

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ITEM	NOMENCLATURE	SPECIFICATION AND/OR SECTION CODE	THICKNESS IN MM(IN.) AND/ OR PARTNUMBER	I C	ACTION OR REPAIR	STATUS (MOD/PROP) SB/RC
275D	Support, cross-beam FR62 assy		D53472262030			A36386K10546AZ
280	Support, cross-beam FR61 assy		D53472261002			
280A	Support, cross-beam FR61 assy		D53472261004	01		A26903K4946DJ
280B	Support, cross-beam FR61 assy		D53472261008			A27117K5351CZ
280C	Support, cross-beam FR61 assy		D53472261014			A36386K10546AY
280D	Support, cross-beam FR61 assy		D53472261016			A36386K10546AZ
285	Support, cross-beam FR60 assy		D53472260002			
285A	Support, cross-beam FR60 assy		D53472260006	01		A26903K4946ER
285B	Support, cross-beam FR60 assy		D53472260014			A27117K5351FU
290	Support, cross-beam FR65 assy		D53472265006			
295	Strut, drag RH	T762 LN9073AK16	D53570304201 1.6 (0.063)			
300	Strut, drag middle	T761 LN9073AK16	D53570318200 1.6 (0.063)			

Figure 2: *cross beam* FR65 - Structural repair manual.

Picture 2: pax cabin condition after impact on the accident in subject.

The NTSB issued on last year the Safety Recommendations A-10-92 addressed to EASA and A-10-77 addressed to FAA related to same component we are speaking about, following the investigation on the accident occurred in USA on January 15th, 2009, in which an A320-214 ditched on the Hudson River. On this accident the "*cross beam* FR65" come out from the pax cabin floor in the same way showed in picture 1 and the flight attendant B sustained a deep V-shaped laceration to her left shin during the accident. In that case, after ditching, people leave the aircraft from the wing and forward emergency exits due to the pitch up position of the aircraft in the river (picture 3).

Picture 3: emergency exit used on the Hudson River accident occurred on Jan 15, 2009.

For this reason the presence of the FR65 on the rear pax cabin floor did not slow down the evacuation. On the contrary, on the Palermo accident passengers used mostly the aft emergency exits because they were at ground level due to the main gear collapse (the aircraft was in a pitch up position too but on ground).

3. Conclusion.

The position of the only evidenced damage of the pax cabin (FR65 coming out from the baggage compartment) has hindered and deeply slowed down the evacuation to the aft emergency exits and for this reason it represents one important safety issue. Same damage due to same structural component (FR65 *cross beam*) has been experienced on the Hudson River accident occurred on January 15th, 2009 (where a deep V-shaped laceration was sustained by the flight attendant as a result of the cross beam position).

Therefore injuries can be caused by the presence of the cross beam in the passenger compartment and in addition it could deeply slow down the evacuation procedure.

4. Recommendation.

Addressee 1: EASA, Safety Analysis and Research, Postfach 10 12 53, D-50452 Koeln, Germany.

Addressee 2: FAA, 800 Independence Avenue, SW Washington, DC 20591.

Text.

ANSV - considering the consequences on the survivability aspects of the pax cabin damage due to the "*cross beam* FR65" structural component (injuries can be caused by its present, after penetration, in the passenger compartment and in addition it could deeply slow down the evacuation procedure), considering the Safety Recommendations issued by NTSB on same component (A-10-92 addressed to EASA and A-10-77 addressed to FAA), considering the FAA and EASA response on them regarding the action ongoing by the manufacturer to "redesign of the *vertical beam* FR65 such that it would break instead of penetrating the floor of the aft cabin", considering that the modification mentioned will be proposed as "product improvement" and "retrofit" - recommends EASA and FAA that:

- the aim of such modification is to avoid to establish unsafe condition for passengers and for this reason the modification must be proposed as "mandatory" on all A320-family fleet now in operation (as prescribed by EASA Part 21A.3B – «a document issued or adopted by EASA … which mandates actions to be performed on an aircraft to restore an acceptable level of safety, when evidence shows that the safety level of this aircraft may be otherwise compromised») **(ANSV-18/1836-10/1/A/11)**.

President of ANSV
(Prof. Bruno Franchi)