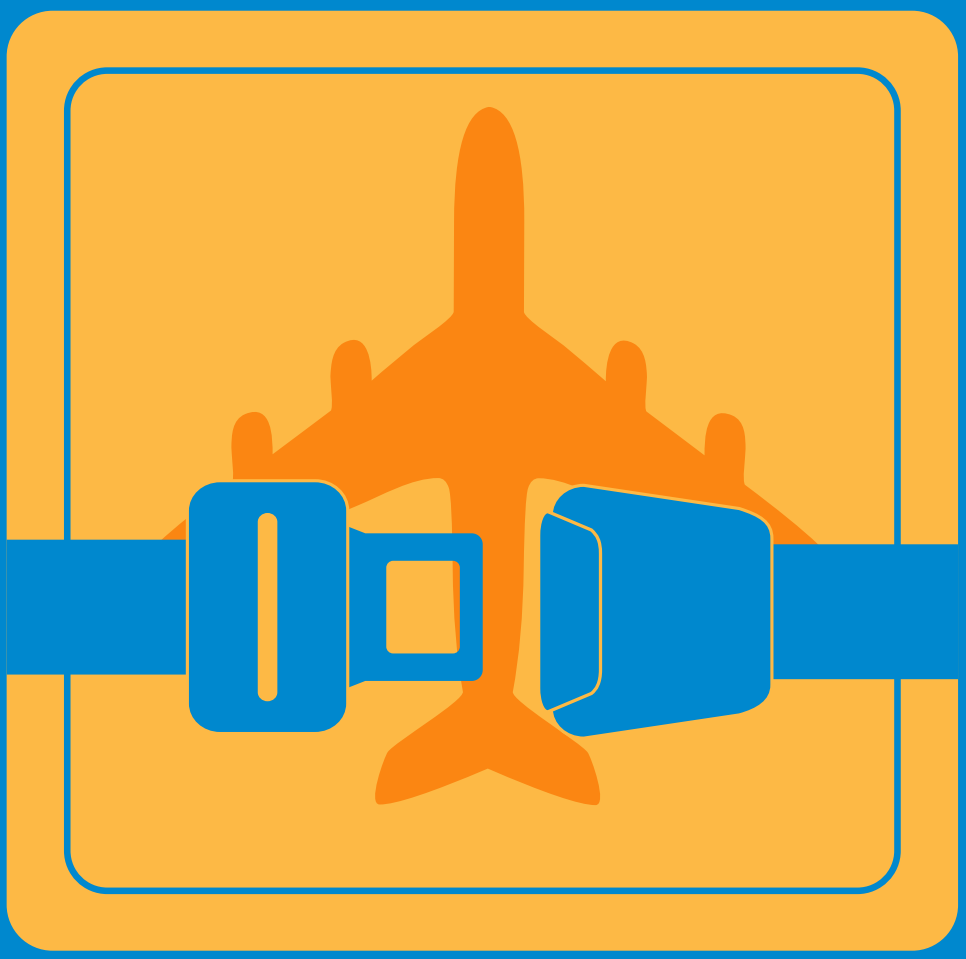
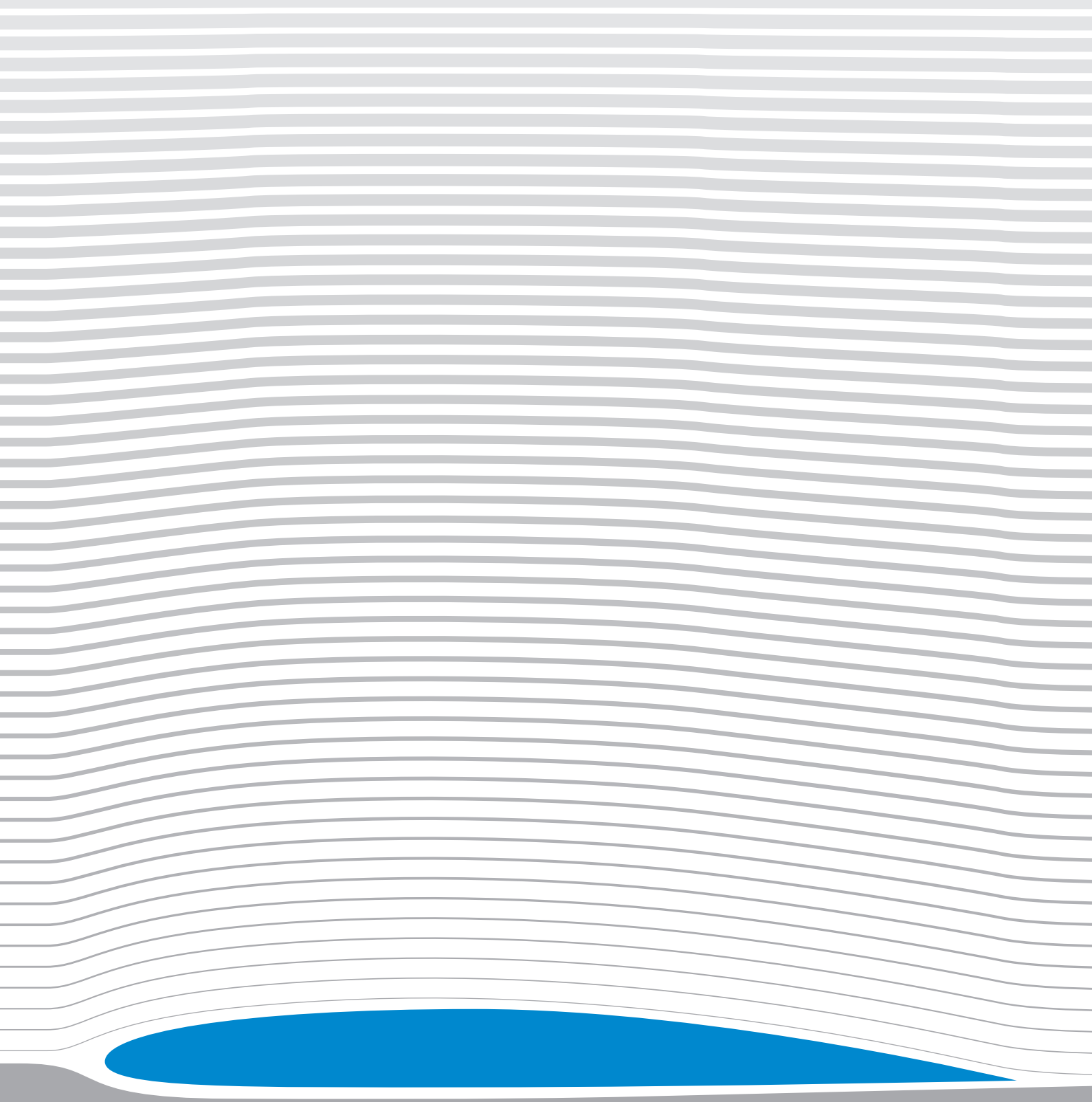
EUROPEAN AVIATION SAFETY AGENCY
AGENCE EUROPÉENNE DE LA SÉCURITÉ AÉRIENNE
EUROPÄISCHE AGENTUR FÜR FLUGSICHERHEIT

Annual Safety Recommendations Review 2012





EUROPEAN AVIATION SAFETY AGENCY
SAFETY ANALYSIS AND RESEARCH DEPARTMENT

Designed in Luxembourg

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

European Aviation Safety Agency
Safety Analysis and Research Department
Executive Directorate

2012
Annual Safety Recommendations Review

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The Annual Safety Recommendation Review is produced by the European Aviation Safety Agency (EASA). This edition provides an overview of the safety recommendations that have been addressed to EASA in 2012. It also presents the replies produced during the year.

This annual review aims at providing a feedback on the follow-up given to Safety Recommendations in the context of openness, transparency and accountability that characterises the European Public Administration.

Apart from its safety related information character, this review is also expected to provide relevant information related to raised safety concerns, both for EASA itself, as well as its stakeholders, including the European public.

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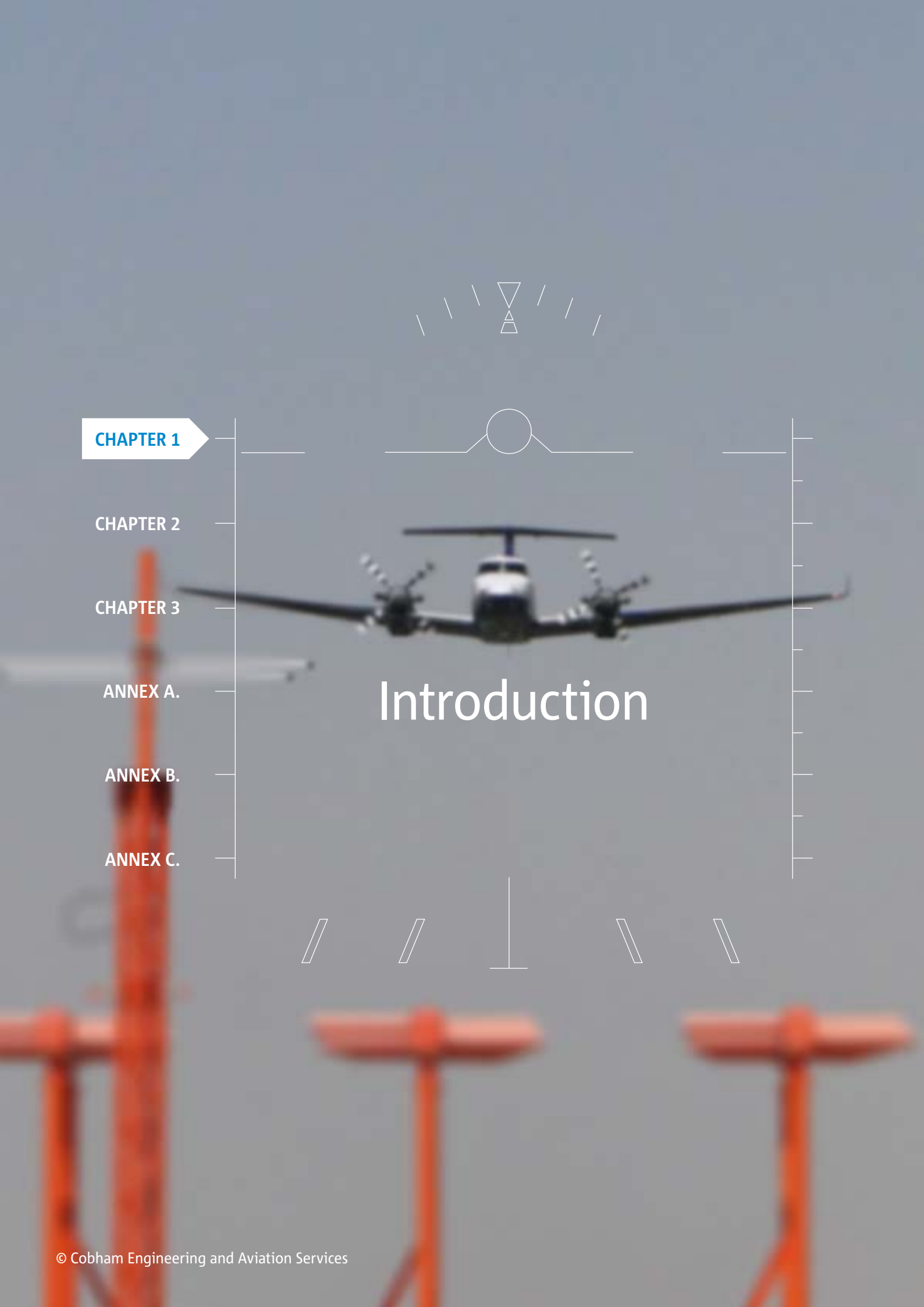

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Introduction

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Introduction

At European Union level, the principles governing the investigation of accidents and serious incidents are defined in the European Regulation (EU) No 996/2010 of the European Parliament and of the Council of 20 October 2010 on the investigation and prevention of accidents and incidents in civil aviation and repealing Directive 94/56/EC of 21 November 1994.

This Regulation is compliant with international standards and recommended practices as described in Annex 13 to the Chicago Convention on International Civil Aviation. It sets an obligation for each European Member State to establish an independent permanent national civil aviation safety authority which shall investigate accidents and serious incidents in order to improve aviation safety and prevent future occurrences without apportioning blame or liability. Investigation reports and the related safety recommendations shall be communicated to the concerned aviation authorities for consideration and appropriate action, as needed.

Basic Regulation EC No 216/2008, last amended by Regulation (EC) No 1108/2009 of the European Parliament and of the Council of 21 October 2009, defines the objectives of EASA. It states that "Results of air accident investigations should be acted upon as a matter of urgency, in particular when they relate to defective aircraft design and/or operational matters, in order to ensure consumer confidence in air transport".

Currently EASA's remit involves type-certification, (aircraft, engines, etc.), flight operations and flight crew licensing, approval and oversight of aircraft design organisations as well as production and maintenance organisations outside the EU. EASA is also directly involved in the European aviation safety rulemaking process. EASA's remit has been expanded in 2009 to Air Traffic Management and Airport. As a consequence, EASA has adopted an organisational structure commensurate with its activities.

The European Regulation (EU) No 996/2010 establishes, in article 18, the follow-up process to give to safety recommendations. Consequently, the Agency procedures have been aligned with this European legal requirement.

Thus, the handling of the safety recommendations in both an expeditious and responsible manner constitutes one of the pivotal responsibilities of EASA. Consequently, EASA provides responses to Safety Recommendations addressed to it and publishes an annual review of the safety recommendations handled in 2012 with a statistical overview of the situation.

The aim of this annual safety recommendations review is twofold:

- first, the review presents general statistical data of the final safety recommendations that the safety investigation authorities have addressed to EASA in 2012. It gives an overview of the work performed by EASA in the area of safety recommendations.

- second, it presents the replies that EASA has given in 2012 to safety recommendations and shows the safety issues that have been managed and their follow-up.

Overview of Safety Recommendations in 2012

© Schroeder Fire Balloons

Overview of Safety Recommendations in 2012

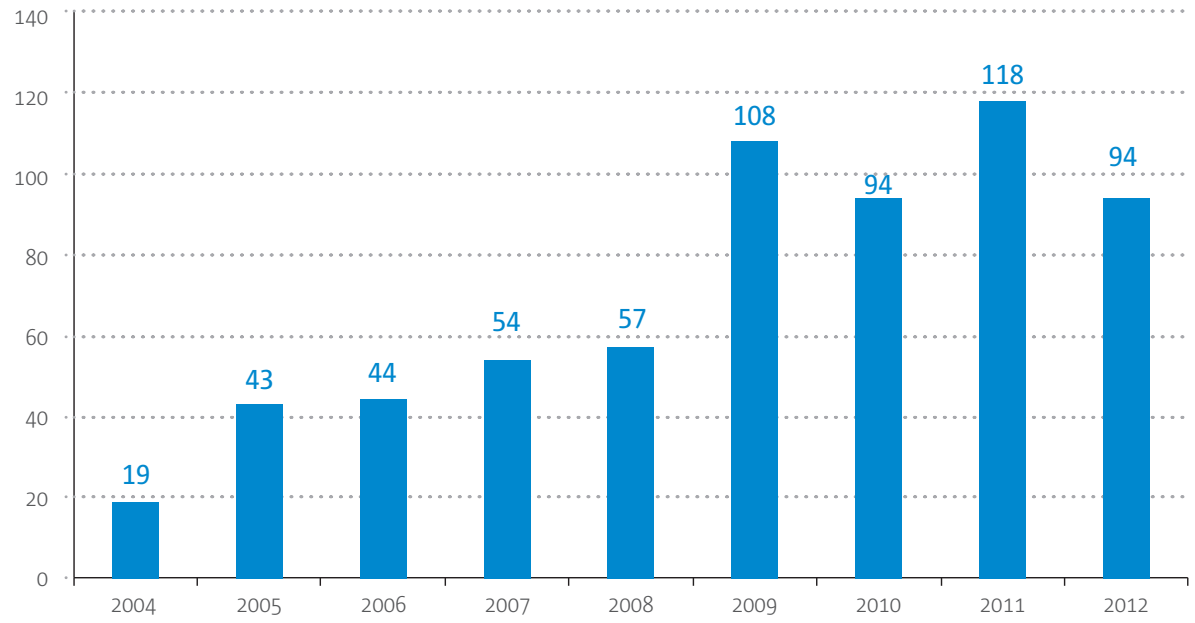
2.1 Safety recommendations received in 2012

During the year 2012, 94 final safety recommendations were received by EASA. These safety recommendations were related to 54 different occurrences distributed as follows: 30 accidents, 16 serious incidents and 8 incidents.

The total annual number of the final safety recommendations that the Agency has received until 2012 is shown in Chart 1. The number of safety recommendations varies according to aircraft operations and number of safety events.

In 2009 it is observed a significant increase of incoming final safety recommendations that is maintained since then.

Chart 1: Final Safety Recommendations per year



As the remit of EASA expanded, final safety recommendations related to this new remit and initially addressed to the Member States have now been transferred to EASA.

Also in some exceptional cases, EASA, acting on its own initiative, has taken on board final safety recommendations which, although they were not addressed to it, were found to fall within its area of activities.

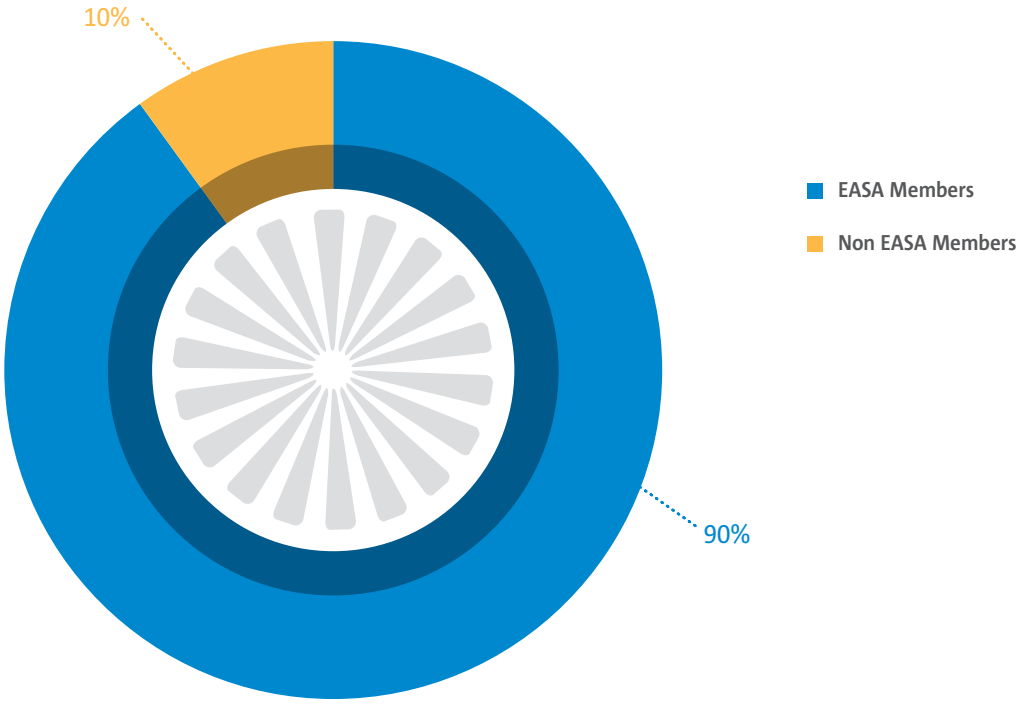
2.2 Origin of the final safety recommendations received in 2012

In 2012, Safety Investigation Authorities of 18 different States addressed 94 final safety recommendations to EASA.

With the exemption of 3 countries, which addressed to EASA 9 final safety recommendations accounting for 10% of the total amount, the remaining part was issued by EASA Member States.

2.3 Trends of investigated occurrences giving way to safety recommendations in 2012, by categories

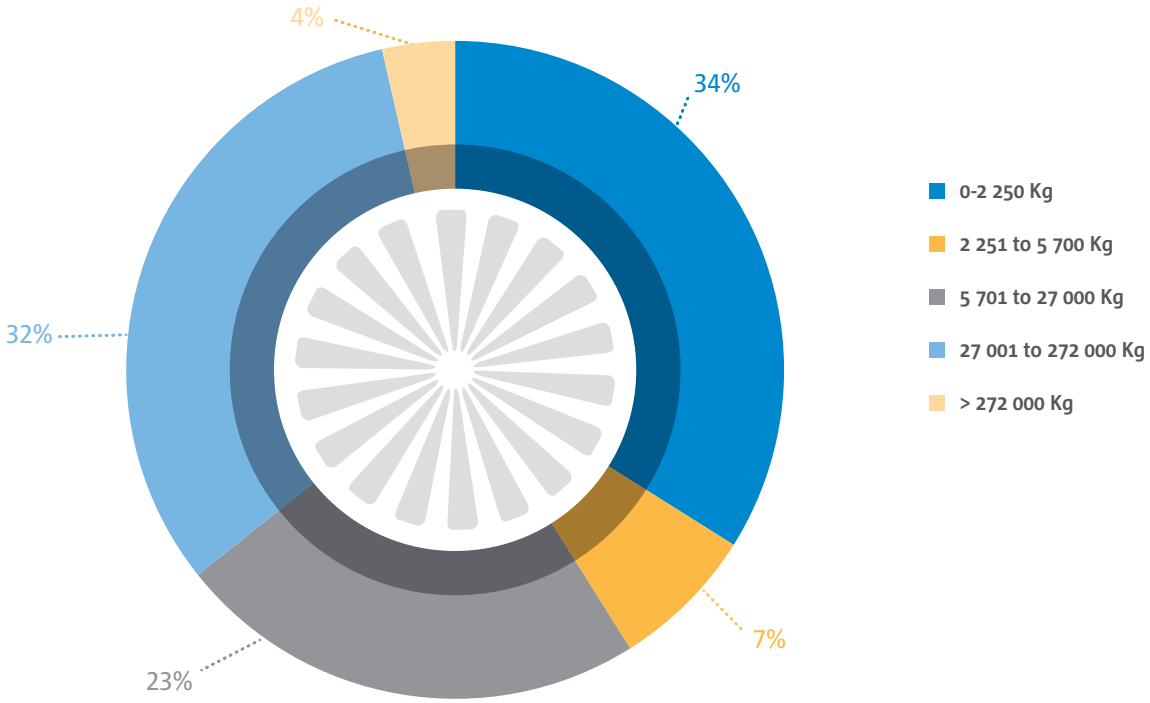
Chart2: Final Safety Recommendations received by EASA Member and Non Member States.



Drawing up a categorisation from a number of relatively limited events has to be carried out with caution. However, a distribution of the 54 occurrences addressed in 2012 to the Agency, for which safety recommendations were issued, has been done. It has to be mentioned that these statistics come from the ICAO ADREP database.

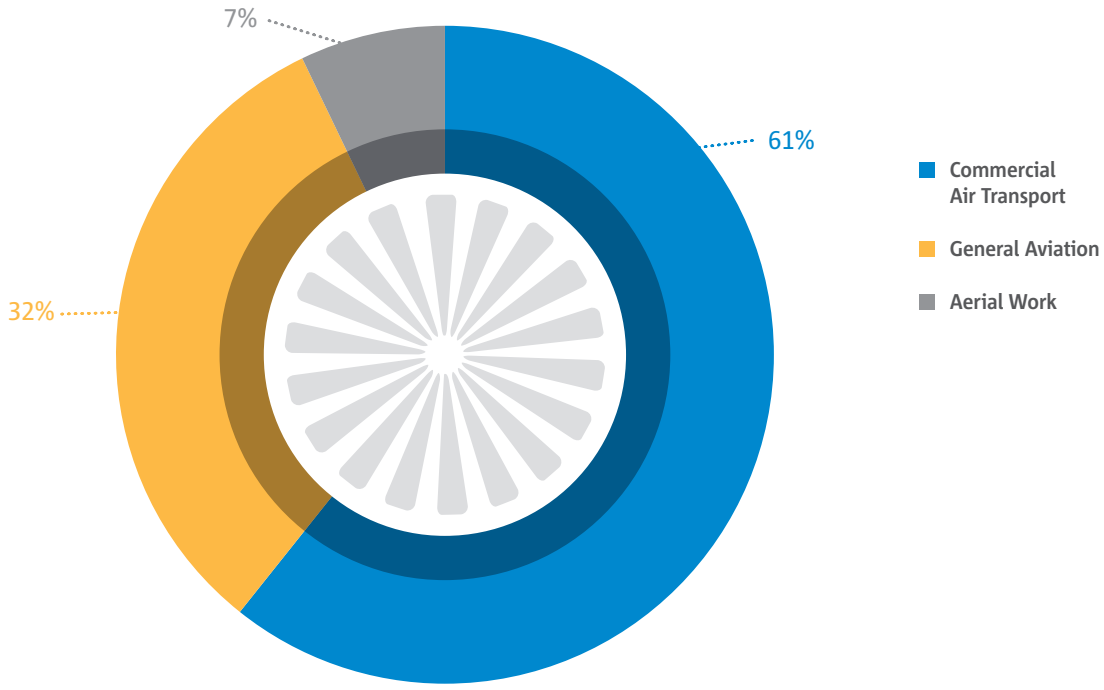
In chart 3, it is observed the percentage of aircrafts involved in the referred occurrences by mass group. It shows the same pattern as in 2011. Aircrafts below 2 250 kg (34%) and the mass group from 27 001kg to 272000kg (32%) are the main participants.

Chart 3: Aircraft mass group involved in the occurrences in 2012



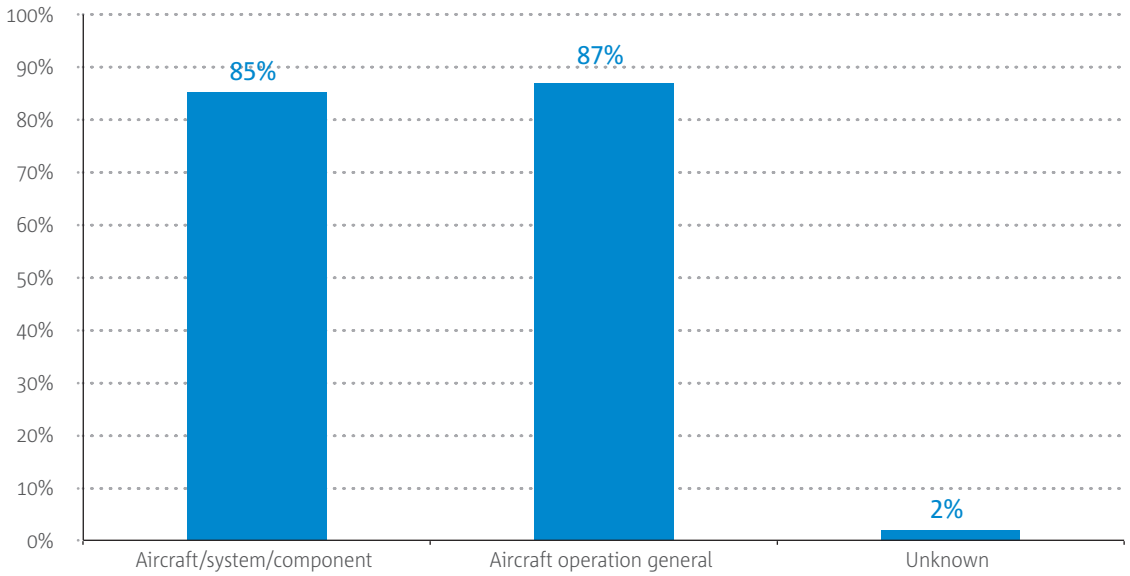
As shown in Chart 4, for 2012, the pattern of the distribution by type of operations is similar as in 2011, except there were not occurrences involving aircrafts that conducted State Flights in 2012.

Chart 4: Type of operation in the occurrences in 2012



For the year 2012, the categorising occurrences by event type (Chart 5) shows, as the previous year, the events related to the aircraft system or component (85%) and the aircraft operation (87%) are almost always presented. “Aerodrome & Ground aids” type is not present this year, representing a decrease of 5%. Consequential events are not depicted. This chart provides a picture of the occurrences´ context.

Chart 5: Percentage of event types by total amount of occurrences in 2012



2.4 Thematic distribution of final recommendations received in 2012

The thematic distribution of the final safety recommendations covers the full range of safety concerns identified by the Safety Investigation Authorities during the investigation process. Depending on the domain concerned, the safety recommendation is allocated to a specific unit that has established responsibilities to act in the domain. The various area in which the EASA is taking actions are as followed.

The Executive directorate (E) concentrates the executive tasks for managing the Agency as a whole. The area in which the EASA is taking action is as followed:

E – Safety Analysis& Research for safety studies and research projects related to safety recommendations follow-up.

The Rulemaking Directorate (R) produces opinions addressed to the Commission and certification specifications, including airworthiness codes and acceptable means of compliance, as well as any guidance material for the application of Regulation and its implementing rules. The handling of Safety Recommendations is dealt with:

R – Product Safety for the initial and continuing airworthiness.

R – Flight Standard for the flight crew licensing and air operations.

R - ATM/Airport Safety for air traffic management and aerodromes.

The Certification Directorate (C) concentrates all certification tasks, consisting of type certification and continued airworthiness of products, parts and appliances; as well as the environmental approval of products; the handling of safety recommendations is dealt with:

C – Large Aeroplanes

C – General Aviation for Normal, Utility, Aerobatic, and Commuter Category Aeroplanes

C – Rotorcraft, balloons, airships

C – Propulsion

C – Part & Appliances

C – Experts section for support and assistance in technical domains

The Approvals and Standardisation Directorate (S) performs inspections, training and standardisation programmes to ensure uniform implementation of European aviation safety legislation in all Member States. It also deals with design organisations and production organisations approval; foreign organisations approval; and coordinates the European Community programme SAFA (Safety Assessment of Foreign Aircraft) regarding the safety of foreign aircraft using Community airports. The handling of Safety Recommendations is dealt with:

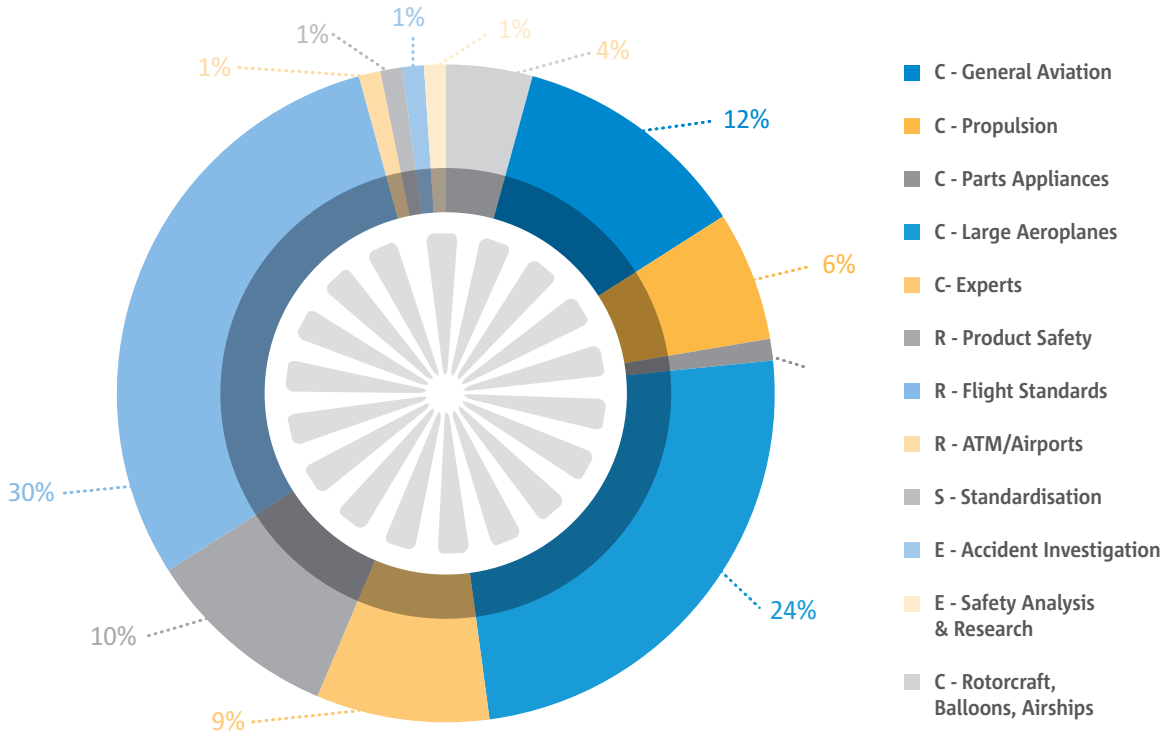
S – Organisations

S – SAFA coordination

S - Standardisation

As shown in Chart 6, the final safety recommendations whose content was related to certification issues corresponded to 56% and 41% had a rulemaking character. The remaining 3% came within the field of Safety Analysis & Research and Standardisation.

Chart 6: Thematic distribution of Final Safety Recommendations in 2012



Thus, taking into account that there are areas in which EASA's involvement is growing, it is expected that in the future, the number of safety recommendations sent to EASA will further increase, considering the new expanded EASA's competencies to other aviation areas.

Final safety recommendations replied

© EASA

Final safety recommendations replied

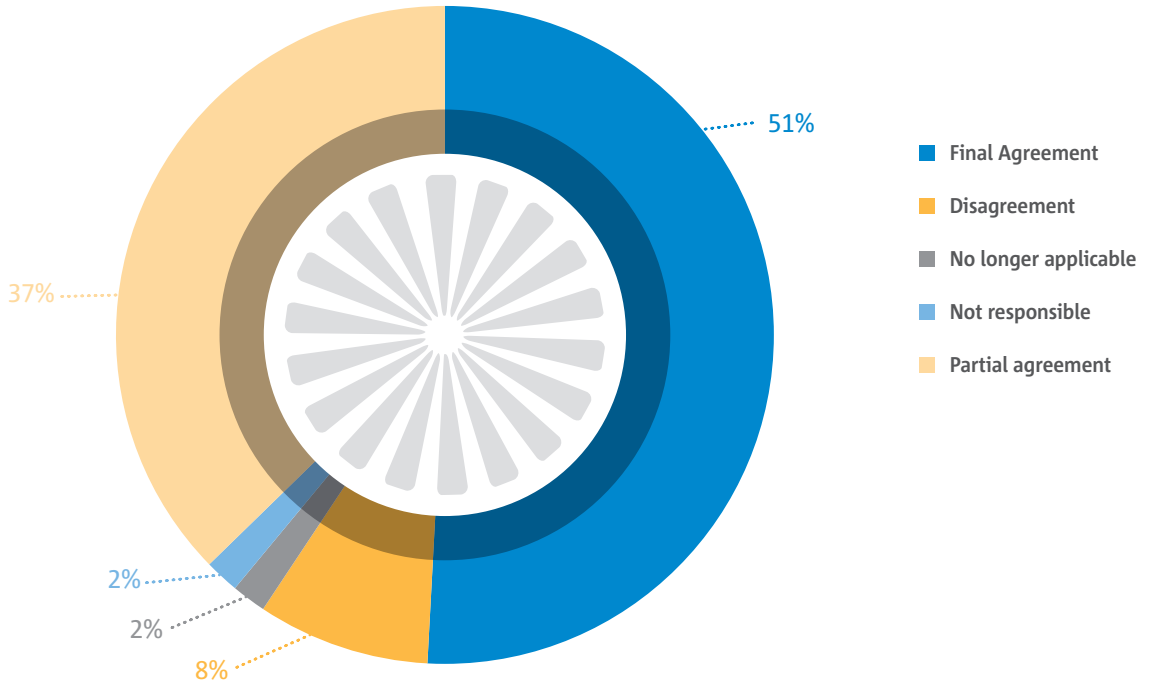
3.1 Final Safety Recommendations replied in 2012

In 2012, EASA replied to 210 final safety recommendations, concerning 118 different events, similar number of replies compared to the previous year. The final safety recommendations that were reviewed and replied had been received in the years 2004 (2%), 2005 (4%), 2006 (2%), 2007 (2%), 2008 (1%), 2009 (3%), 2010 (14%), 2011 (31%) and 2012 (41%).

When the final safety recommendation is closed, the final assessment is usually given using the definitions of classification categories[1] given in Annex C.

Thus, in 2012, EASA agreed and acted upon the final safety recommendations made by the Safety Investigation Authorities in 51% of the cases. Furthermore, in 37% of the cases EASA partially agreed with the final safety recommendations thus recognising the safety issue but taking other remedial actions as the one recommended. In another 8% the final safety recommendations were not followed as depicted in Chart 7. It must be mentioned that in very few cases (2%) the recommended actions were not in the scope of the Agency's responsibility.

Chart 7: Categories of closing replies to Final Safety Recommendations in 2012



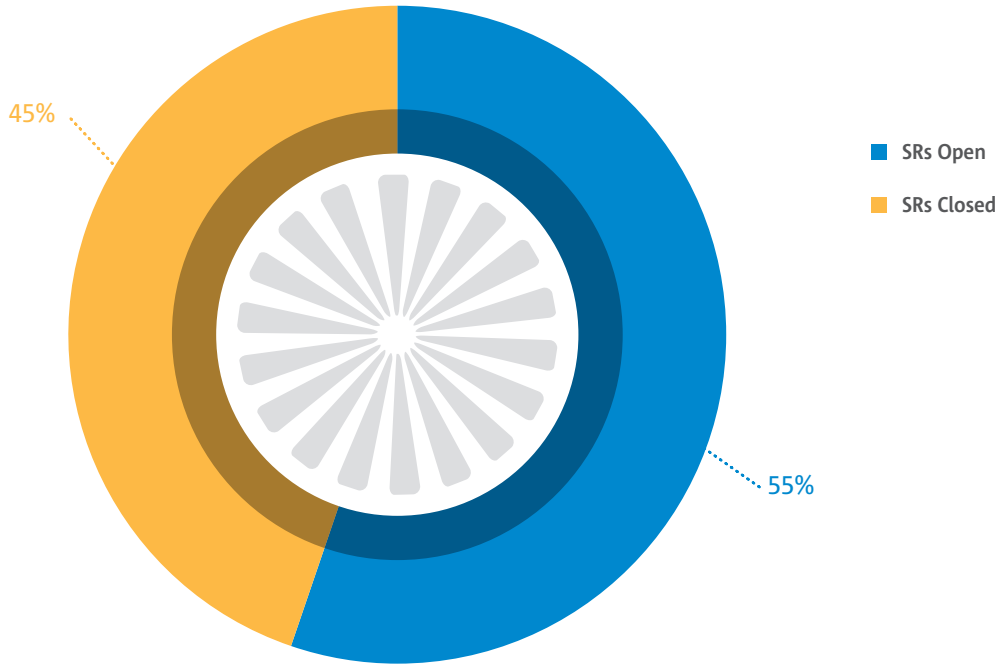
1 These definitions of classification categories have been developed in the frame of an ECAC working group involving European Accident Investigation authorities and are part of a taxonomy aimed at facilitating a the management of safety recommendations.

3.2 Status of final safety recommendations replied in 2012

As far as the status of the safety recommendations replied in 2012 is concerned, 116 final safety recommendations were closed (55%), while 94 remained open (45%) as it was assessed that the following activities are not yet completed. In order to ensure the monitoring of safety recommendations, their status remain open until the proposed action has reached a matured stage as displayed in Chart 8.

It must be noted a significant increased amount of over 50% with respect to the Safety Recommendatvions closed in 2011. The biggest contribution was in the field of rulemaking and directives issuance (see 3.3).

Chart 8: Status of Final Safety Recommendations replied in 2012



3.3 Concluding actions

When a safety recommendation is closed, if the closing status is “Agreement” or “Partial Agreement” a concluding action is always decided. Whenever the closing status is “Disagreement”, no concluding action will be run.

As shown in Chart 9, the majority of the closed final safety recommendations classified as “agreement” or “partial agreement” led to a new/modified rule/directive (40%) in 2012.

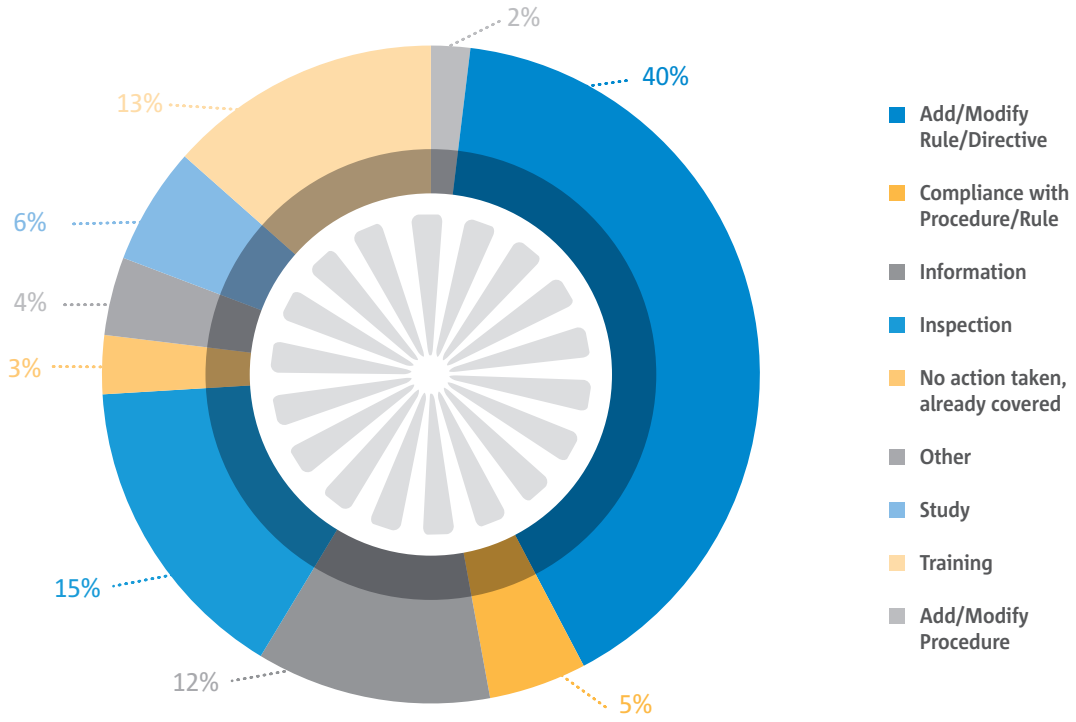
It has to be reminded that rule changes require time, thus affecting the overall picture of the open final safety recommendations. As such, a regulatory modification has a wider impact on the overall aviation system and needs to be carefully assessed before being implemented. Such rulemaking activity requires getting the feedback of qualified entities and needs a minimum of stability and continuity to be implemented by organisations and States.

This is why the processing of some rulemaking activities and associated recommendations can take years. As a general criteria since 2012, once the Terms of References for a Rulemaking Task are published, the Safety Recommendation is closed. The traceability of the following rulemaking process and its deliverables is then fully available online on the EASA website, thus allowing an easy monitoring of the recommendation follow-up till the final publication of the rule.

Some safety recommendations issued several years ago can still be open even though EASA agrees with the recommendation. This is for instance the case whenever the corrective action is not feasible because the subject is not mature enough or other safety actions are given a higher priority and take available resources.

Chart 9: Concluding actions taken from Safety Recommendations in 2012

The definition of actions included in each category is given in Annex C.



Since 2011 a process to assess and mitigate risks at European level has been established as an integral part of the European Aviation Safety Programme (EASP). It represents a move towards a more pro-active approach that attempts to anticipate potential safety risks in order to further reduce the likelihood of an accident. The outcome of this process is a European Aviation Safety Plan (EASp), which describes what the major risks in Europe´s aviation system are together with the numerous actions that are underway to mitigate them. Information about this new process can be found at www.easa.europa.eu/sms.

Safety Recommendations contain information on the hazards as well as the solutions that are proposed to mitigate the associated safety risks to the aviation system. They constitute a knowledge base and are therefore a valuable input to the safety risk management process at European level. Several EASp actions originate from Safety Recommendations received by the Agency.

3.4 CONCLUSIONS

In the year 2012, the number of final safety recommendations addressed to EASA were in line with the last three years.

The number of EASA replies to Safety Recommendations (260) increased by 8% with respect to the previous year.

The majority (90%) of the final safety recommendations has been addressed to EASA by the Safety Investigation Authorities of the EASA Member States.

The largest portion of the safety recommendations received in 2012 have implications on the certification activity (56%) and rulemaking (41%).

Replies to Recommendations in 2012

© Bell Helicopters

Replies to Recommendations in 2012

The responses made in 2012 to Final Safety Recommendations are listed below. In the case of multiple replies sent during the year, only the latest reply is provided. They are sorted by country of origin and grouped by occurrence.

Argentina

Registration	Aircraft Type	Location	Date of event	Event Type
1. PT-MVA	AIRBUS A330	International Airport Ezeiza / Ministro Pistarini, provincia de Buenos Aires, Argentina	05/01/2009	Accident

Synopsis of the event: El 05 ENE 09, el Comandante con la aeronave matrícula PT-MVA, luego de efectuar un aterrizaje normal, en pista 11 del Aeropuerto Internacional de Ezeiza/Ministró Pistarini (SAEZ), realizó la salida por la pista 17/35 hacia la calle de rodaje H; cuando se encontraba en cercanías de este cruce, escuchó una explosión en el tren de aterrizaje derecho. Posteriormente, detuvo los motores y permaneció en la calle de rodaje; el Comisario de a bordo le informó que se veía mucho humo saliendo del tren de aterrizaje derecho. Inmediatamente observó que el instrumento de temperatura de frenos del conjunto N0 8 llegó a 735° C. El comandante ordenó que se realice el descenso de los pasajeros, el cual se efectuó en forma normal. El Operador de la TWR EZE cuando observó que salía humo del tren de aterrizaje derecho activó los servicios de emergencia, los que asistieron al lugar del suceso El incidente ocurrió de día y con buenas condiciones de visibilidad.

Safety Recommendation ARGT-2010-003 (JIAAC):
Consideration of the appropriateness of recommending that the company manufacturing the aircraft study the possibility of taking suitable measures to ensure the independence of the mechanical transmission of the anti-skid system tacho-generator drive peg, to minimise the probability of its failing when affected by the tire pressure indication system (TPIS), which in the present case caused the failure of both systems.

Reply

In accordance with the here above safety recommendation, EASA has considered the safety case for a design change.

Based upon the following technical considerations:

- TPIS rotating mechanism/tachometer drive assembly conditions are checked at the opportunity of each wheel removal [for tire change every 200-300 flight cycles (FC)] that implies removal/installation of the hubcap.

- Industry practice is to check the general condition of components when accessing to them. In addition, there are specific notes in the relevant procedures asking to verify the correct installation and condition of the tachometer drive assemble/TPIS rotating mechanism drive. Furthermore, a built in test equipment (BITE) test of the TPIS shall be conducted after the hubcap installation.

- The system is monitored; the integrity of the tachometer signal/tachometer drive assembly is checked at each take-off.

- The TPIS rotating mechanism and tachometer drive are concentric and independent. It is acknowledged they are in the same area and a single mechanical failure may impact both systems. However, the risk of rupture of the TPIS rotating mechanism or of the tachometer drive assembly remains remote.

EASA does not consider that the redesign of the system to introduce a new segregation is deemed necessary.

Status: Closed – **Category**: Partial agreement

Austria

Registration	Aircraft Type	Location	Date of event	Event Type
1.	DIAMOND DA42	Sankt Pantaleon, Austria	20/09/2007	Accident

Synopsis of the event: Der Pilot führte mit einem Passagier vom Flughafen Linz zum Flugplatz Krems/Gneixendorf mit dem gegenständlichen Luftfahrzeug einen Privatflug durch. Beim Rückflug nach Linz fiel nach dem Start das rechte Triebwerk aus, worauf der rechte Propeller in Segelstellung wechselte. Der Pilot wollte jedoch den Flug zum Zielflugplatz fortsetzen. Da er Probleme bekam, den ausfallsbedingten Momentenausgleich zu bewerkstelligen und Flughöhe verlor, versuchte er das rechte Triebwerk wieder zu starten, was jedoch misslang. Der rechte Propeller befand sich nunmehr nicht mehr in Segelstellung, wodurch das Luftfahrzeug stärker an Flughöhe verlor. Der Pilot entschloss sich nahe St. Pantaleon/NÖ zu einer Notlandung. Im Endanflug bemerkte er eine etwa quer zur Anflugrichtung verlaufende Stromleitung, die er versuchte zu unterfliegen. Nach dem Aufsetzen überschlug sich das Luftfahrzeug. Der Pilot wurde schwer, seine Passagierin leicht verletzt. Das Luftfahrzeug wurde zerstört.

Safety Recommendation AUST-2009-013 (AAIB):
Qualifikation von Teilen ausfallkritischer Systeme für Luftfahrzeuge nach CS-23: In Luftfahrzeugen der Typen DA 40 und DA 42, die mit TAE Triebwerken der Type Centurion 1,7 und 2,0 betrieben werden, wurden Teile (z.B. Kabel, Stecker usw.) insbesondere in ausfallkritischen Systemen festgestellt, die keinen luftfahrtspezifischen Normen entsprechen. In Luftfahrzeugen, die den Certification Specifications Nr. 23 (CS-23) unterliegen, sollten für ausfallkritische Systeme ausschließlich Teile verwendet werden dürfen, die luftfahrtspezifischen Normen entsprechen (z.B. Kabel, Stecker usw.), wenn nicht im Zuge der Zertifizierung die entsprechenden gleichwertigen Qualifikationen nachgewiesen wurden.

Reply

The Original Equipment Manufacturer (OEM) as an approved Design Organisation is according to Part 21 responsible to show qualification of used material/components upon certification of the aeroplane/equipment; that means that the Design Organisation Approval (DOA) has to show to the certifying authority that the used materials/components are appropriate for the intended use and area and that it keeps the qualified properties, or otherwise to introduce an airworthiness limitation.

There are only limited specific aeronautical norms for cables and connectors that mostly are based on military standards. The Agency is normally not putting into place norms for certain parts being industry supplies as cables and connectors. Showing compliance to the applicable Certification Specifications must ensure the used components are appropriate for the intended use and the specific environment.

On the engine side Acceptable Means of Compliance E 50 specifies requirements for wiring that are part of the engine controls. Certification Specifications for Engines (CS-E) 70 requires using only suitable and durable material and tests of experience. The endurance tests include the installed cables and connectors as well.

We agree that there are technical differences between norms used in the automotive industry and norms used in aviation. On the other hand the environmental conditions do have a certain similarity which does not allow disqualifying parts from automotive industry per se. We agree that a careful selection has to be performed and

that some parts may not be adequate to meet aviation demand. Further there is sufficient capability to misuse or to install incorrectly parts specifically designed for aviation use as well.

In case a potential unsafe condition is identified after the issuance of a Type Certificate, the Agency has, according to 21A.3B in Part 21, the obligation to issue an Airworthiness Directive.

Status: Closed – **Category**: Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1.	BELL 204	Maria Alm, Ortsteil Hinterthal, Bereich Gabühel, Austria	23/07/2010	Accident

Synopsis of the event: Der Pilot startete nach einer wetterbedingten Pause am 23. Juli 2010 mit dem Hubschrauber der Type Bell 204B zu einem Arbeitsflug (Außenlastflug mit Betonkübel) von einem Außenlandeplatz (Start- und Landeplatz) zum zu errichtenden Fundament einer Seilbahnstütze. Der Pilot als einziger Insasse befand sich am Kopilotensitz und navigierte durch das Bubble Window. An beiden Rändern der steil ansteigenden Lifttrasse befanden sich Bäume. Das vom Piloten ausgewählte Seil mit Gehänge hatte eine Gesamtlänge von 25m. Der Hubschrauber berührte nach dem Entleeren des Betonkübels beim Wegdrehen nach links mit dem Heckrotor einen Nadelbaum. Der außer Kontrolle geratene Hubschrauber drehte sich daraufhin im Uhrzeigersinn und stürzte in den Wald. Der Pilot erlitt tödliche Verletzungen, am Hubschrauber entstand Totalschaden.

Safety Recommendation AUST-2011-010 (AAIB):

Ergeht an: Bell Helicopter Textron; FAA; EASA. Es sollten die technischen sowie flugbetrieblichen Unterschiede der beiden Hubschrauber Typen Bell 204B und Bell 205 im Detail evaluiert werden und die Notverfahren (Emergency Procedures: Directional Control Failure) im Flughandbuch AFM 204B entsprechend angepasst und erweitert werden. (SE/UUB/LF/10/2011)

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

Status: Open – **Category**:

Safety Recommendation AUST-2011-011 (AAIB):

Ergeht an: FAA; EASA. Um dem erhöhten Gefahrenpotential bei Arbeitsflügen (Außenlastflügen) zu begegnen, sollten Hubschrauber mit aufprallresistenteren Pilotensitzen, die zumindest annähernd den gültigen Zertifizierungsvorschriften CS 27 (FAR 27) und CS 29 (FAR 29) entsprechen, ausgerüstet sein. In diesem Zusammenhang sollte die Gewährung von Grandfather Rights (CAR 7) überdacht und in einem geeigneten, technisch möglichen Ausmaß evaluiert und Verbesserungen im Bereich der Aufschlagsicherheit und der Rückhaltesysteme vorgenommen werden. (SE/UUB/LF/11/2011)

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

Status: Open – **Category**:

Registration	Aircraft Type	Location	Date of event	Event Type
1.	AVIONS ROBIN DR400	Flugpaltz Mauterndorf, Sbg, Austria	11/07/2008	Accident

Synopsis of the event: Der Flugverlauf und der Unfallhergang wurden aufgrund der Auswertung von Filmaufnahmen, der Aussagen der Luftfahrzeuginsassen und von Zeugen, in Verbindung mit den Erhebungen der Polizei and der Mitarbeiter.der Unfalluntersuchungsstelle des Bundes, Fachbereich Luftfahrt wie folgt rekonstruiert: Am Unfalltag startete der Pilot um 09:49 Uhr auf der Piste 07 mit drei Passagieren vom Flugplatz Mauterndorf (LOSM) zu einem privaten Rundflug. Bereits im Startlauf beröhrte das Heck des Luftfahrzeuges mehrmals die Graspiste. Einem kurzen Abheben folgte ein erneutes Aufsetzen des Fahrwerks. Beim und nach dem Start nahm das Luftfahrzeug einen hohen Anstellwinkel ein und bewegte sich um die Längsachse immer unruhiger werdend bis es schließlich plötzlich nach links kippte, hart am Boden aufschlug undam Röcken liegen blieb. Der Pilot und der rechts vorne sitzende Passagier wurden schwer, die zwei hinten sitzenden Passagiere leicht verletzt, das Luftfahrzeug wurde: zerstört. Ein Angehöriger eines Passagiers filmte den Unfallflug vom Boden, ein Passagier den Unfallflug aus der Passagierkabine. Beide Filmaufnahmen standen der Unfalluntersuchungsstelle zur Verfügung und bestätigten die Beobachtungen der Zeugen. Der Pilot gab. an, ganz normal gestartet zu sein, im Abflug Scherwinde bzw. kleine Thermikablösungen bemerkt zu: haben, wodurch das Flugzeug instabil geworden sei und schließlich abkippte. Der Pilot konnte keine Startstreckenberechnung vorlegen.

Safety Recommendation AUST-2012-001 (AAIB):
EASA, Luftfahrtbundesamt (LBA), Deutschland: SE/UUB/BLF/1/2012: Ausstattung von Luftfahrzeugen mit zutreffenden und revidierten Flughandbüchern: Bei gegenständlichem Luftfahrzeug wurde bereits seit mehreren Jahren ein Betriebshandbuch verwendet, das zumindestens teilweise nicht zutreffend war. Wetters wurden die Revisionslisten nicht geführt. Diese Umstände sind bei den durchgeführten Jahreskontrollen offenbar nicht aufgefallen. Für Piloten war es daher nicht ersichtlich, welche der im Flughandbuch ersichtlichen Daten zutreffend waren. Die EASA und das LBA sollen geeignete Maßnahmen ergreifen, die sicherstellen, dass Luftfahrzeuge mit zutreffenden und revidierten Betriebshandbüchern ausgestattet sind.

Reply

EASA is not competent since the oversight of the individual aircraft and the availability of proper revisions of the Flight Manual has to be done by the National Aviation Authority.

Status: Closed – **Category**: Not responsible

Registration	Aircraft Type	Location	Date of event	Event Type
1.	CESSNA 152	Flughafen Linz, Austria	19/03/2011	Accident

Synopsis of the event: Der Flugverlauf und der Unfallhergang wurden aufgrund der Aussagen der Pilotin, des Fluglehrers und des Flugplatzbetriebsleiters wie folgt rekonstruiert: Die Flugschülerin startete um 18:25 Uhr im Zuge Ihrer Nachtsichtflugausbildung (NVFR) zu fünf Alleinstarts und Landungen am Flughafen Linz (LOWL). Der Aufsichtsführende Fluglehrer befand sich am beleuchteten Vorfeld des Flughafens und stand mit einem Handfunkgerät in unk Verbindung mit der Schülerin. Seine Sichtverbindung zur Aufsetzzone der Piste war aufgrund der Vorfeldbeleuchtung sowie der Entfernung eingeschränkt. Bei der fünften Landung, der Abschlusslandung, kam es zu einem harten Aufsetzen. Dabei hob das Luftfahrzeug zweimal vom Boden ab. Durch die geringe Geschwindigkeit erfolgte kurz darauf eine dritte Bodenberührung. Diesmal mit dem Bugfahrwerk zuerst, wobei dieses seitlich nach hinten weggebrochen ist. Daraus resultierend erfolgten mehrere Bodenberührungen mit dem Propeller sowie der linken Tragflächenspitze. In dieser Lage kam das Luftfahrzeug auf der Piste 26 zum Stillstand. Die Pilotin alarmierte über Funk die Flugplatzkontrollstelle Linz und verließ im Anschluss daran selbstständig das Luftfahrzeug. Nach dem Eintreffen der Einsatzkräfte wurde das Luftfahrzeug von der Feuerwehr gesichert und die Pilotin bis zur Übergabe an die Rettung betreut.

Safety Recommendation AUST-2012-004 (AAIB):
Sicherheitsempfehlung an EASA, Austro Control SE/UUB/LF/4/2012: Vor dem ersten Alleinflug soll sichergestellt werden, dass der Flugschüler mit einem möglichen Springen des Luftfahrzeuges bei der Landung zurechtkommt und geeignete Gegenmaßnahmen (Korrektur der Landung oder Durchstarten) treffen kann. Dies gilt besonders bei Nachtflügen, weil aufsichtsführende Fluglehrer von außen den Verlauf der Landung schwer erkennen können.

Reply

The following requirements include the training issues raised in the Safety Recommendation:

- Commission Regulation (EU) No 1178/2011 related to civil aviation aircrew - Annex 1 (Part-FCL);
- Executive Director (ED) Decision 2011/016/R - Acceptable Means of Compliance (AMC) and Guidance Material (GM) to Part-FCL;
- Commission Regulation (EU) No 290/2012 related to civil aviation aircrew - Annex VI (Part-ARA) and Annex VII [Part-ORA (Organisation Requirements for Aircrew)];
- Executive Director (ED) Decision 2012/006/R – AMC and GM to Part-ARA (Authority Requirements for Aircrew);
- Executive Director (ED) Decision 2012/007/R – AMC and GM to Part-ORA.

The bounced landing is a consequence of a common handling error made by student pilots. The Private Pilot Licence [PPL(A)] training syllabus in AMC1 FCL.210.A to Annex I (Part-FCL) includes exercises on different landing techniques as well as corrective actions required for problems which could be encountered during the approaches and landings. This should ensure that the student pilot will be sufficiently prepared for the possibility of a bounced landing in order to take appropriate counter measures.

Before a student pilot is allowed to fly any solo flight, he/she has to be authorised and to be supervised by a flight instructor (FCL.020). The mitigating methods regarding night flying are included in the requirements for night rating (FCL.810). According to Part-FCL, the night rating is an additional rating and therefore the pilot having flight training for night rating will already be a licence holder. This requirement will ensure that the pilot has sufficient solo landing experience in day-VFR (visual flight rules) conditions before conducting solo night landings.

Further assurance is also provided by Part-ORA and Part-ARA which address the responsibilities of the instructors, the Approved Training Organisations (ATOs) and the oversight authorities.

In conclusion, as the mitigation for the safety issues raised in the Safety Recommendation is already embedded in the published requirements, the Agency does not foresee any action to amend the rules.

Status: Closed – **Category**: Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1.	BELL 206	Ungenach, Oberösterreich, Austria	23/05/2009	Accident

Synopsis of the event: Der Pilot startete mit einem Hubschrauber der Type Bell 206BII am 23. Mai 2009 um 07:35 Uhr vom Flugplatz Wels (LOLW) mit drei Passagieren zu einem nicht gewerblichen Arbeitsflug (Fotoflug). Es wurde eine Gaspipeline im Bereich der Ortschaft Timelkam gefilmt und fotografiert. Der Hubschrauber befand sich beim Übergang von einem Schiebeflug (Versetzung ungefähr 20° rechts zur Flugrichtung) mit einer ungefähren Fluggeschwindigkeit von 30kts GS, mit einer hohen Beladung, unter der Mindestflughöhe, in eine Rechtskurve, als sich der Hubschrauber plötzlich entgegen der Hauptrotordrehrichtung im Uhrzeigersinn drehte. Der Pilot konnte die folgende Rechtsdrehung durch Betätigung des linken Leistungspedals nicht mehr stoppen. Die Wirkungsweise des Heckrotors war nicht mehr gegeben (Loss of Tail Rotor Effectiveness - LTE). Es folgte eine Autorotation, wobei der Hubschrauber beim Aufprall um ungefähr 08:02 Uhr zerstört wurde. Die Insassen und der Pilot erlitten leichte Verletzungen.

Safety Recommendation AUST-2012-006 (AAIB):

SE/UUB/LF/06/2012 ergeht an EASA: Die standardisierte praktische Prüfung bzw. Befähigungsüberprüfung für Hubschrauber mit einem Piloten sollte im Protokoll für den Type Rating Skill Test (gemäß Anhang 3 zu JAR-FCL 2.240) sowie für den Prof. Check (gemäß JAR-FCL 2.245 (b) (1)) unter Punkt 4 „Außergewöhnliche Verfahren und Notverfahren“ um den Inhalt LTE, bezüglich Verhalten und Verfahren in einem geeigneten theoretischen Umfang ergänzt werden.

Reply

The Joint Aviation Requirements on Flight Crew Licencing (JAR-FCL) have been replaced by Commission Regulation (EU) No 1178/2011 of 03 November 2011, related to civil aviation aircrew.

Appendix 9 to Annex I (Part-FCL) of this regulation includes details of the training, skill test and proficiency check for the Multi-crew Pilot Licence (MPL), the Airline Transport Pilot Licence (ATPL), the type and class ratings and proficiency check for Instrument Ratings (IR).

Item 7 of subpart A (General) in Appendix 9 states that the examiner shall verify, during the proficiency check, that the holder of the class or type rating maintains an adequate level of theoretical knowledge. The specific manoeuvres or procedures checked are practical exercises and not theoretical test/check items. It is not foreseen that specific theoretical topics, such as Loss of Tail Rotor Effectiveness (LTE) will be included in the skill tests or proficiency checks contained in this Appendix.

Rulemaking tasks RMT.0188 and RMT.0189 [former FCL.002 (a) and (b)] 'Updating EASA FCL implementing rules' address open issues and necessary changes to Annex 1 (Part-FCL). The rulemaking group is actively reviewing the theoretical knowledge and initial flight training for helicopter pilots and is considering including the Loss of Tail Rotor Effectiveness (LTE) phenomenon. The outcome of the group's consideration will be published in the associated Notice of Proposed Amendment (NPA), in accordance with the Agency's Rulemaking Procedure.

In addition, the Agency has published a Safety Information Bulletin (SIB No. 2010-12R1, dated 21 October 2010) on LTE, which covers the conditions under which LTE may be encountered, how it can be prevented and recovery techniques to be applied if LTE is encountered.

Status: Closed – **Category**: Partial agreement

Belgium

Registration	Aircraft Type	Location	Date of event	Event Type
1.	PIK PIK20D	Weelde, Belgium	12/06/2010	Accident

Synopsis of the event: On Saturday 12 June, the pilot arrived on the EBWE airfield with his own sailplane, a PIK-20D, registered OO-YEB, stored in a trailer. He assembled his sailplane. The flight preparation procedure occurred normally. He took off at 12:15, launched by the winch, located 1430m further on the Runway 25 of EBWE. As witnessed by the flight instructor, the initial climb occurred normally; there was no lateral drift, and no sign of abnormal speed build-up. The winch man saw the sailplane coming, and when it reached the separation point, the winch man cut the power of the winch. The winch man noticed that the tow cable did not detach from the sailplane. When the sailplane came vertical above him, the winch man activated the emergency cable cut-off. The system worked, and the cable was cut; the remaining length was 525m. Witnesses showed the sailplane in a steady dive, nose down, without any lateral movement of the sailplane. The sailplane crashed 310m away from the winch in a very steep dive. The pilot was fatally injured by impact.

Safety Recommendation BELG-2010-004 (AIB):
AAIU(be) recommends EASA to incorporate a requirement for a "positive check" after assembly of sailplanes equipped with l'Hotellier couplings, such as the ones used on OO-YEB. This requirement could be incorporated in the existing Airworthiness Directives, or in another adequate document.

Reply

The Agency issued on 15 April 2012 the Safety Information Bulletin (SIB) 2012-04 which recommends Owners and Operators of sailplanes equipped with l'Hotellier couplings to perform a positive check of the control surfaces after the assembly of the sailplane.

Status: Closed – **Category**: Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1.	SPORTINE AVIACIJA LAK17	Suarlee-Namur, Belgium	09/05/2009	Accident

Synopsis of the event: After a major modification was embodied to his sailplane; the installation of an engine, and further certification in Germany, the pilot wanted to perform a flight to test the modifications.

The sailplane was towed to an altitude of 1600 ft, without any problem. The pilot of the towing airplane had a last radio contact when the sailplane separated from the towing airplane. The sailplane was last seen crossing the EBNM airfield, in the direction of the landing circuit. A witness saw the engine was out, but did not hear the engine operating. The airbrakes were seen extended. Upon reaching the circuit, when it was expected to turn left, the sailplane went into a spin (or hook turn, according to a witness) to the right. The sailplane crashed alongside the motorway E411. The pilot died on impact.

Safety Recommendation BELG-2010-006 (AIB):
AAIU(be) recommends EASA to advise the TC-Holder to take appropriate actions and to revise the Information Bulletin N°017.A.8.65.0121I and subsequently revise the Major Change Approval EASA.AC.11123, in order to ensure conformity of the modified LAK-17A with all the conditions identified in the LAK-17AT Flight Manual, and take all appropriate interim measures for the modified LAK-17A already flying.

Reply

A revision to the major change and the related Service Bulletin has been produced by the Type Certificate (TC) Holder and approved by EASA with approval n.10040855. The revised Service Bulletin clarifies the actions to be performed to modify the placards, the markings [including the one on the Airspeed Indicator (ASI)] and instructs to use the manuals of the LAK-17AT.

A specific section of the Service Bulletin identifies the inspections to verify that the already converted gliders have all marking, placards and manuals corresponding to the ones of the LAK-17AT. There are only 4 converted aircraft according to this modification, and EASA has checked through the manufacturer that they have the appropriate marking, placards and manuals. EASA considers this action satisfactory.

Status: Closed – **Category**: Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1.	CESSNA 172	Ebul, Belgium	02/01/2010	Accident

Synopsis of the event: The airplane took off from the airfield of Ursel at 15.00 UTC with two persons on board for a local flight. Around 15:20 UTC, the meteorological conditions around Ursel degraded rapidly, involving an important snowfall. At 15:40 the airfield staff called by radio the OO-TRB without success. Later after contacting the neighbouring airfields it became evident that the airplane was missing. A search action was initiated, involving a SAR helicopter from the Military and a Federal Police helicopter. The wreckage of the airplane was found around 21:00 UTC at a short distance North of the airfield. The two occupants were fatally injured.

Safety Recommendation BELG-2010-010 (AIB):
The BCAA/EASA to revise the biannual skill test program for general/recreational aviation pilots to include topics such as:

- Decision making when encountering adverse meteorological condition
- Unintentional IMC condition
- Navigation flight capabilities.

Reply

In Annex 1 (Part-FCL on Flight Crew Licensing) of Commission Regulation (EU) No 1178/2011, related to civil aviation aircrew, light aircraft pilot licence holders and private pilot licence holders are required to complete a training flight with an instructor every 24 months in order to revalidate his/her pilot licence.

There is no specific mandatory biannual skill test program to be conducted with an examiner.

However, rulemaking tasks RMT.0188 and RMT.0189 [former FCL.002 (a) and (b)] 'Updating EASA FCL implementing rules', launched on 20 July 2011, include a review of the training programmes for the light aircraft pilot licence and the private pilot licence.

The following topics are being considered for inclusion:

- Decision making when encountering adverse meteorological condition;
- Unintentional Instrument Meteorological Conditions (IMC) condition;
- Navigation flight capabilities.

The outcome of the group's consideration will be published in the associated Notice of Proposed Amendment (NPA), in accordance with the Agency's Rulemaking Procedure.

Status: Closed – **Category**: Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1.	BAE AVRO146RJ	during climb from LFML passing 10.000 ft, France	11/02/2011	Incident

Synopsis of the event: During climb at approx 10.000 ft, a bang has been heard by the crew. There was some slight vibration but all parameters remained unchanged. Aircraft continued his flight to BRU and landed uneventfully. In BRU it was discovered that the composite top wing leading edge fairing panel above centertank was lost. No one got injured.

Safety Recommendation BELG-2011-022 (AIB):
AAIU(be) recommends EASA to revise EASA AD 2008-0180 to make reference to ISB 53-202 Revision 5, once the latter has been issued, and to make a clear statement that the next inspections have to be performed in accordance with the ISB 53-202 Revision 5. The current statement "The use of later approved revisions of this document is acceptable for compliance with the requirements of this AD" doesn't mandate compliance with the latest approved revision of the ISB 53-202.

Reply

In accordance with the terms of this SR, EASA published on 09.07.2012 EASA AD 2012-0125 superseding EASA AD 2008-0180 dated 30.09.2008 and mandating compliance with the ISB 53-202 Revision 5 or later approved versions of that document.

Status: Closed – **Category**: Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1.	AVIONS ROBIN DR400	a field in the Commune of Pecq, Belgium	02/08/2011	Serious incident

Synopsis of the event: At the end of a gliding flight exercise the engine did not respond to the command when the pilot pushed the throttle forward. The pilot moved the throttle several times forward causing the engine re-viving briefly before returning to low speed. At 400 ft, the pilot selected a wheat field adequate for a forced landing and landed the airplane successfully.

Safety Recommendation BELG-2011-023 (AIB):

Recommendation Number 2011-P-23 to EASA to request the airframe TC holder to publish a detailed guideline in order to:

- Properly inspect and, if necessary, repair the exhaust shrouds and mufflers allowing penetration of contaminants in the carburettor heat induction system;
- Adequately drain, rinse or flush the carburettor float chamber.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

Safety Recommendation BELG-2011-024 (AIB):

Recommendation Number 2011-P-24 to EASA to request the airframe TC Holder to improve the design and/or the manufacture of carburettor heat induction system in order to avoid penetration and/or retain of contaminant in-side the carburettor heater system.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

Canada

Registration	Aircraft Type	Location	Date of event	Event Type
1. HB-IWF	MCDONNELL DOUGLAS MD11	Peggy's Cove, Nova Scotia 5 nm SW, Canada	02/09/1998	Accident

Synopsis of the event: On 2 September 1998, Swissair Flight 111 departed New York, United States of America, at 2018 eastern daylight savings time on a scheduled flight to Geneva, Switzerland, with 215 passengers and 14 crew members on board. About 53 minutes after departure, while cruising at flight level 330, the flight crew smelled an abnormal odour in the cockpit. Their attention was then drawn to an unspecified area behind and above them and they began to investigate the source. Whatever they saw initially was shortly thereafter no longer perceived to be visible. They agreed that the origin of the anomaly was the air conditioning system. When they assessed that what they had seen or were now seeing was definitely smoke, they decided to divert. They initially began a turn toward Boston; however, when air traffic services mentioned Halifax, Nova Scotia, as an alternative airport, they changed the destination to the Halifax International Airport. While the flight crew was preparing for the landing in Halifax, they were unaware that a fire was spreading above the ceiling in the front area of the aircraft. About 13 minutes after the abnormal odour was detected, the aircraft's flight data recorder began to record a rapid succession of aircraft systems-related failures. The flight crew declared an emergency and indicated a need to land immediately. About one minute later, radio communications and secondary radar contact with the aircraft were lost, and the flight recorders stopped functioning. About five and one-half minutes later, the aircraft crashed into the ocean about five nautical miles southwest of Peggy's Cove, Nova Scotia, Canada. The aircraft was destroyed and there were no survivors.

Safety Recommendation CAND-1999-002 (TSB):

As of 01 January 2005, all aircraft that require both an FDR and a CVR be required to be fitted with a CVR having a recording capacity of at least two hours. (A99-02)

Reply

The Agency was made aware of this Safety Recommendation in 2011. The Agency's interim response [Ref. 22/03/2012 – Reply doc Ref. 51418 (2012)] referred to rulemaking tasks RMT.0404 and 0405 [former OPS.092 (a) and (b)]. These tasks have been merged with RMT.0400 and 0401, which were launched on 26 September 2012 with the publication of the associated Terms of Reference. This Safety Recommendation is being considered within the framework of these tasks.

Status: Closed – **Category**: Partial agreement

Safety Recommendation CAND-1999-003 (TSB):
As of 01 January 2005, for all aircraft equipped with CVRs having a recording capacity of at least two hours, a dedicated independent power supply be required to be installed adjacent or integral to the CVR, to power the CVR and the cockpit area microphone for a period of 10 minutes whenever normal aircraft power sources to the CVR are interrupted. (A99-03)

Reply

The Agency was made aware of this Safety Recommendation in 2011 and will consider it in the frame of rulemaking task RMT.0076 'Introduction of FDR and CVR improvements' which will propose the introduction of Cockpit Voice Recorder (CVR) and Flight Data Recorder (FDR) specifications for already type certificated aircraft. This task is part of the Rulemaking Programme inventory list.

Status: Open – **Category**:

Hong Kong

Registration	Aircraft Type	Location	Date of event	Event Type
1. B-MHJ	AGUSTA BELL AB139	Sheung Wan/Sky Shuttle Heliport, Hong Kong	03/07/2010	Accident

Synopsis of the event: Shortly after take-off from Sheung Wan/Sky Shuttle Heliport (ashore Victoria Harbour) for Macao, B-MHJ ditched into the harbour north-west of the heliport.

Safety Recommendation CHNH-2011-004 (AIB):
European Aviation Safety Agency to require Agusta Westland to perform static, fatigue, dynamic and aerodynamic tests and analyses on AW139 tail rotor blades so as to minimise the possibilities of tail rotor blade failure which could have been caused by one or the combination of these effects.

Reply

In the frame of the continuing airworthiness activities, following the subject event and those two similar ones (02 May 2011, A7-GHA, in Doha International Airport and 19 August 2011, PR-SEK, in Brazil), EASA promptly required the manufacturer to perform static and fatigue tests, and dynamic and aerodynamic analyses on the AW139 tail rotor blades (TRB) in order to determine the root cause of the accidents and take the most appropriate actions for the in-service fleet. A comprehensive re-evaluation of the design and manufacturing aspects possibly affecting the tail rotor blade static and fatigue strength has been performed by the manufacturer jointly with EASA. The failure mode was replicated during the tests carried out; as a result of the activity performed an understanding of the failure mode and of the factors contributing to it was achieved. Additional tests and detailed analyses are still on going in order to disclose further details of the failure mode. In particular, the following tests and analysis have been performed:

- Temperature survey to determine the possible effects of operating environment on the blade strength.
- In-flight blade load survey, in order to investigate local strain distribution in the failure area. The load survey included the most significant flight conditions of AW139 spectrum. The load survey identified a local strain in the area of the failure due to a bending moment.
- Full scale fatigue tests with different combinations of blade defects and possible damages (e.g., voids and delaminations in the strap, reduced torsion box thickness and pitch change arm debonding).
- Static test survey on tail rotor blades. These tests have been performed after fatigue testing to demonstrate the residual strength of the components.
- Blade dynamic stability evaluation.
- Finite Element Method (FEM) model analysis of the root blade area to find out more on the failure modes affecting the different parts of the tail rotor blades.

Status: Closed – **Category**: Agreement

Denmark

Registration	Aircraft Type	Location	Date of event	Event Type
1. LN-RDI	DE HAVILLAND DHC8	Copenhagen Airport Kastrup, Denmark	27/10/2007	Accident

Synopsis of the event: The accident flight was a scheduled IFR flight from Bergen Flesland Airport (ENBR) in Norway to Copenhagen Airport Kastrup (EKCH) in Denmark. During the approach to EKCH, the flight crew was unable to fully extend the right Main Landing Gear (MLG). After a number of unsuccessful alternate extension attempts, the flight crew declared that the landing would be an emergency landing. The MLG was stuck in an almost up position.

The aircraft landed on runway 04R and came to rest on taxiway C area. The aircraft was evacuated within 50 seconds and no one was injured. The accident occurred in daylight and under visual meteorological conditions (VMC).

Safety Recommendation DENM-2010-001 (AAIB):

It is recommended to review if an in-line filter to protect the extend port of the Main Landing Gear Retraction/Extension Actuator is necessary. It is also recommended to review the design of the single line Main Landing Gear hydraulic system in order to prevent hydraulic locking of the Main Landing Gear system. The review should include a possible in-line filter blockage.

Reply

The Type Certificate Holder (TCH) has introduced an in-service modification; Modification Summary Package No. IS4Q3200033 in November, 2007. This modification introduced an in-line filter/screen, as an in service product improvement to reduce the possibility of foreign object debris being lodged in orifices within the actuator assembly.

Along with the position of Transport Canada (TCCA, the primary certification authority of this aircraft type), EASA is of the opinion that the in-line filter/screen product improvement introduced by Bombardier has fulfilled the intent of this Safety Recommendation.

Status: Closed – **Category**: Agreement

Safety Recommendation DENM-2010-002 (AAIB):

It is recommended to review the information that was available to the maintenance personnel in its unified whole to avoid misunderstandings of the definitions of aircraft components and/or aircraft parts as described. The information sources were the aircraft manufacturer serialization list, operator computerized data support system, the Illustrated Parts Catalog (IPC), the documentation following the Mechanical Sequence Valve (MSV) and the identification plate fitted to the MSV.

Reply

In this specific case, the information that was available to the maintenance personnel has been reviewed. It is believed that the introduction text within the Illustrated Parts Catalogue (IPC) clearly explains and identifies instructions with regards to part identification and configuration. The IPC also states, in addition to the fact that it is a companion document to the Aircraft Maintenance Manual (AMM) that it should not be utilised for assembly/disassembly purposes and does not contain data related to the overhaul of components.

Review of the AMM and IPC confirm that the reconfiguration of the Mechanical Sequence Valve (MSV) is not identified in either manual and consequently, the reconfiguration of the MSV, as identified in the accident report, was not in accordance with the manufacturer's instructions and was therefore not approved.

The EASA, in agreement with the primary certification authority Transport Canada (TCCA), is satisfied that the Instructions for Continuing Airworthiness (ICA's), if read in its entirety and followed completely, are clear and do not need to be amended.

As a complementary action, the type certificate holder released an All Operators Message (AOM N°263) recommending that any operator having replaced a Solenoid Sequence Valve (SSV) or Mechanical Sequence Valve (MSV) in the last 500 flight cycles flush the hydraulic lines within 50 hours following the Reference Instruction Letter (RIL N° 84-29-035). Bombardier is also considering an update of the IPC with a dedicated note to prevent any new occurrence.

Status: Closed – **Category**: Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. OY-KFF	BOMBARDIER CL600 2B19	Copenhagen Airport, Kastrup (EKCH), Runway 04R, Denmark	09/10/2009	Incident

Synopsis of the event: The incident occurred during a flight from Copenhagen's Kastrup Airport (EKCH) with Aarhus Airport (AKAH) as the planned destination. Following initial take-off from Runway 04R, the pilots noticed a flock of birds in the beam of the aircraft's searchlights. Immediately thereafter, at an altitude of 256 ft, the aircraft was hit by birds, which resulted in powerful vibrations in the aircraft. The vibrations made it difficult for the pilots to read the engine instruments, but they were nevertheless able to read the level of vibrations in the right engine which were fluctuating around the maximum values. The pilots were not able to tell whether the left engine had been hit which is why, in the first instance, they were hesitant to stop the right engine. Since the vibrations in the right engine only partially ceased when the pilots pulled the throttle grip back, they decided to stop the engine. The left engine functioned normally throughout the flight. The incident was observed from the ground and from the control tower (TWR). EKCH's on-duty Bird and Wildlife Control Unit warden was approximately 800 m east of the intersection between Runway 04R and Taxiway I at the time of the incident. He heard a loud bang from the starting aircraft and then saw shooting flames and sparks come from the right engine as it passed Taxiway I above Runway 04R. The air traffic controller from TWR also saw flames come from the right engine of the aircraft immediately after it was in the air. When TWR was informed of the "bird strike" incident by the pilots, the air traffic controller gave the pilots their free choice of landing runway. The pilots turned the aircraft round and flew visually in a right tailwind to Runway 04R where they landed at 21.17 UTC without further incident. The incident occurred in darkness under visual meteorological conditions (VMC).

Safety Recommendation DENM-2010-003 (AAIB):
It is recommended that the authorities evaluate possible technical solutions for the observation of and warning against migratory birds in darkness and in reduced visibility. This includes the option of installing and using radar equipment for this purpose.

Reply

The Notice of Proposed Amendment (NPA) 2011-20 (Authority, Organisation and Operations Requirements for Aerodromes) published on 13 December 2011 includes the operational requirements for wildlife management by the aerodrome operators (ADR-OPS.B.020, AMC—ADR-OPS.B.020, as well GM1—ADR-OPS.B.020 up to GM4—ADR-OPS.B.020).

As far as the issue of technical equipment for wildlife monitoring in darkness and in reduced visibility is concerned, the Agency intends to address it through rulemaking task RMT.0161/0162 [requirements for systems, constituents and equipment used in air traffic management (ATM)/air navigation services (ANS) and aerodromes (ADR)] of the Agency's rulemaking programme 2012-2015.

Status: Open – **Category**:

Registration	Aircraft Type	Location	Date of event	Event Type
1. OY-XXB	SCHEMPP HIRTH VENTUS2CT	the Gliding Centre Arnborg, Denmark	05/04/2009	Accident

Synopsis of the event: The accident occurred during a private VFR flight from Gliding Centre Arnborg. After five hours flight, the pilot of the aircraft turned back towards Gliding Centre Arnborg with the intention of landing the aircraft. The pilot prepared for a long final approach to runway 27. Approximately five kilometres from the airfield, the aircraft was positioned for a long final approach to runway 27 at 1400 ft elevation. Approximately four kilometres from Gliding Centre Arnborg, the main wheel was extended at a speed of approximately 150 km/h and flaps were set to position -1. Flight speed was then increased by 30-50 km/h due to a surplus altitude of 100 metres. One kilometre from Gliding Centre Arnborg, the glider was flying at 30-40 metres altitude, at which point flaps were set to neutral. Approximately 400 metres before runway 27, the air brake was opened about 1/4 to 1/3, until speed had decreased to 150-160 km/h. Upon crossing the beginning of runway 27 at 10-15 metres altitude, the air brake was fully opened. Shortly after - at 5-8 metres altitude - the pilot heard loud rattling noises, followed by a loud bang. Hereupon the glider decelerated drastically and it was no longer possible to control the aircraft. The glider crashed on runway 27 and, as a consequence of the accident, the glider was destroyed. The accident took place in daylight and under visual meteorological conditions (VMC).

Safety Recommendation DENM-2010-004 (AAIB):
The Accident Investigation Board recommends that, the European Aviation Safety Agency (EASA) evaluates the design, and/or possibly introduces a maintenance scheme including wear and tear limitations for the flaps locking device as well as an adjustment procedure for the handle spring, so that unintentional changing of the flaps position is not possible.

Reply

A maintenance information has been approved by EASA (Ref. minor change 100367696). The Service Bulletin (SB) covers both aspects addressed in the Safety Recommendation.

Status: Closed – **Category**: Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. OY-CIM	ATR ATR72	Copenhagen Airport, Kastrup (EKCH), Denmark	13/09/2011	Serious incident

Synopsis of the event: Shortly after take-off from runway 22R while climbing through approximately 134 feet Radio Altitude (RA), a cockpit Master Warning was triggered referring to left engine low oil pressure. The cockpit Master Warning was silenced. Subsequently, a cockpit Master Caution was triggered referring to left engine high Inner stage Turbine Temperature (ITT). Smoke was present in the cockpit and in the passenger cabin. The flight crew decided to shut down the left engine (memory items). While climbing through approximately 750 feet RA, a cockpit Master Warning was triggered referring to left engine fire. The cockpit Master Warning was silenced. A Mayday call to Kastrup Tower was made. A left hand visual circling to runway 22L was initiated. The flight crew noted the left engine fire warning lights. Sequentially, both engine fire agents were discharged and the flight crew decided to land on runway 30. Descending through approximately 486 feet RA, a cockpit Master Warning was triggered. The Master Warning was silenced. A single engine landing was performed. On runway 30, the flight crew observed that the fire had extinguished and they cancelled the emergency evacuation of the aircraft.

Safety Recommendation DENM-2012-003 (AAIB):
EASA to review the emergency procedures on ATR aircraft in order to ensure efficient removal of persisting smoke and appropriate cockpit/passenger cabin ventilation.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

Safety Recommendation DENM-2012-004 (AAIB):
EASA to consider the need to harmonize the procedures, or to review the existing documentation as necessary, in order to establish in all cases a time limit within which to make effective in the AFM owned by operators the amendments approved by EASA.

Reply

The Agency understands that the intention of the Safety Recommendation is to establish a time limit for operators to apply changes in the aircraft flight manual (AFM) as provided to them by the manufacturers. This will be considered during rulemaking tasks RMT.0292 and RMT.0293 'Updating EASA OPS (Operations) implementing rules' which are on the Agency's Rulemaking Programme 2013-2016.

Status: Open – **Category**:

Safety Recommendation DENM-2012-005 (AAIB):
EASA to promote an internal debate (e.g.: dedicated working group, workshop, etc.) to carefully evaluate the pros and cons of a continuously increasing of memory items introduced in the implementation or review of the emergency procedure, mainly when to be applied in a critical phase of flight.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

Estonia

Registration	Aircraft Type	Location	Date of event	Event Type
1. OH-HCI	SIKORSKY S76	Tallinn Bay, Estonia	10/08/2005	Accident

Synopsis of the event: On 10 August 2005, a Sikorsky S-76C+ helicopter, registration OH–HCI, was operating a scheduled passenger service by Copterline between Helsinki, Finland and Tallinn, Estonia. The helicopter departed Tallinn at 12:39 hours (local time) with 12 passengers and two pilots on board. Approximately three minutes after take-off while climbing at 1380 ft above sea level, the flight data recorder showed that the flight was interrupted by a sudden helicopter pitch-up and left roll maneuver, then remained in varying attitudes of right yaw (rotation), roll and pitch for 37 seconds until impacting the water at 12:42:28 hours. There were no survivors. The Aircraft Accident Investigation Commission determined that the cause of the accident was an uncommanded extension of the main rotor forward actuator and subsequent loss of control of the helicopter. Contributing to the uncommanded extension of the actuator was the separation of the plasma coating on one of two actuator pistons and the operator's failure to detect the internal leakage of the main rotor forward actuator.

Safety Recommendation ESTO-2008-001 (AIB):

It is recommended that FAA and EASA will introduce the means requiring fitting helicopters operating on regular passenger flights with floats automatically inflating in contact with water.

Reply

An EASA rulemaking task was initiated in May 2012 [Reference: RMT.0120 (former 27&29.008)], which aims to undertake a broad review of helicopter ditching, water impact events and subsequent occupant survivability. A determination will be made on how certification rules and guidance material can best be developed to further enhance helicopter safety. Automatic float inflation was one of many safety enhancements to be identified during earlier work and an assessment of the safety/impact benefits is an integral part of this task. Both future and retroactive certification requirement are being considered.

Status: Closed – **Category**: Agreement

Safety Recommendation ESTO-2008-003 (AIB):

To aid flight safety and also accident investigation, the Commission recommends that the FAA and EASA implement the use of crash-protected cockpit image system on helicopter operations that carry passengers for hire.

Reply

Further to the Agency's interim response [Ref. 05/12/2011 – Reply doc. Ref. 55766 (2011), here is an update on the issue.

We understand that the Safety Recommendation refers to an airborne image recorder that would capture a general view of the cockpit area, in addition to the information recorded by the Flight Data Recorder (FDR) and the Cockpit Voice Recorder (CVR). Operators may install such equipment on a voulentary basis.

A consultation with Contracting States, conducted by ICAO in 2009 and 2010, precisely revealed that most States had not implemented any legislation to protect the contents of image recorders from improper use and that many States were concerned that safety data collection might be adversely impacted by the misuse of image recordings. In addition, while the protection of airborne image recorders in the frame of a safety investigation is addressed in ICAO Annex 13, there is no equivalent ICAO provision addressing their use in day-to-day operation. This may have a significant negative impact on safety culture and on safety data collection that would outweigh the potential benefits of airborne image recorders for the safety investigation.

The Agency considers legal protection a prerequisite to mandatory carriage requirement, but it does not have the regulatory tools to put in place this legal protection at a global level. The Agency is promoting at ICAO the introduction of Standards to prohibit the use of recordings of airborne image recorders for other purposes than the safety investigation.

Once legal protection of airborne image recordings has been established by a majority of Contracting States, the Agency will re-consider the mandatory carriage of airborne image recorders.

Status: Closed – **Category**: Partial agreement

Finland

Registration	Aircraft Type	Location	Date of event	Event Type
1. OH-ATB	ATR ATR42	Seinäjoki Airport, Finland	11/12/2006	Incident

Synopsis of the event: On 11 December 2006 a Finnish Commuter Airlines ATR 42-500 passenger aircraft, registration OH-ATB, was on a scheduled flight from Helsinki to Seinäjoki from where the flight was to continue to Kokkola. The aircraft's callsign was Westbird 287S. There were 27 passengers and 3 crew members onboard. An incident occurred during landing at Seinäjoki aerodrome when the aircraft veered off the paved runway onto the left side's sand/gravel runway shoulder during the landing roll. The left main landing gear broke two runway edge lights and its anti skid wiring was cut. The captain was able to steer the aircraft back onto the runway. After the damage was inspected the remaining leg to Kokkola was cancelled. The aircraft stayed overnight at Seinäjoki and was flown back to Helsinki the following morning.

Safety Recommendation FINL-2007-001 (AIB):
The investigation commission recommends that EASA investigate the prevalence of flight data recorder malfunctions and, depending on the results, consider shortening the applicable maintenance cycles in order to ensure continuous proper functioning of flight data recorders.

Reply

This Safety Recommendation is addressed in Commission Regulation (EU) No 965/2012 related to air operations, which was published on 25 October 2012.

EASA Executive Director (ED) Decision 2012/018/R, also published on 25 October 2012, contains associated Acceptable Means of Compliance (AMC) and Guidance Material (GM):

Paragraph CAT.GEN.MPA.195 requires the aircraft operator to "conduct operational checks and evaluations (...) to ensure the continued serviceability of the recorders".

In addition, AMC1 CAT.GEN.MPA.195(b) states that whenever a recorder is required to be carried, the operator should:

1) perform an annual inspection of flight data recorder (FDR) recording (...); and

2) check every five years or in accordance with the recommendations of the sensor manufacturer, that the parameters dedicated to the FDR and not monitored by other means are being recorded within the calibration tolerances.

Status: Closed – **Category**: Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. OH-LQE	AIRBUS A340	Helsinki-Vantaa Airport, Finland	22/06/2009	Serious incident

Synopsis of the event: At takeoff the inner tyre on the main landing gear's rear wheel delaminated and the tread tore into pieces, damaging hydraulic lines on the landing gear system. In addition, one wheel's brake line was damaged either at takeoff or landing. The aircraft flew to Helsinki-Vantaa where it landed without any further damage. There were no injuries to persons.

Safety Recommendation FINL-2010-007 (AIB):
The investigation commission recommends that Airbus Industries evaluate the need and possibilities of shielding hydraulic and electric systems in wheel wells.

Reply

The Accident Investigation Board addressed by letter the proposed recommendation to EASA. The Agency has reviewed the safety recommendation as requested by the Safety Investigation Authority and comes the following conclusion.

For protection against the hazard of a wheel and tyre failure in the wheel well, the installed systems in this area are segregated and redundant. In particular, independent hydraulic distribution systems as well as normal and back-up systems are segregated. The compliance to the related requirements [Joint Aviation Requirement (JAR) 25.1309, JAR 25.729(f)] was shown by a failure analysis and system inspections.

In addition the hydraulic lines which are located in the brakes vicinity are fused. The amount of fluid which can be spilled is not enough to sustain a fire.

Status: Closed – **Category**: Disagreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. OH-LTO	AIRBUS A330	Russian Airspace, Russia	11/12/2010	Serious incident

Synopsis of the event: In December 2010 two similar serious incidents occurred to Airbus S.A.S manufactured and Finnair Plc -operated A330-302 aircraft in Russian airspace as results of engine bleed air system malfunctions. The first serious incident occurred on 11 December 2010, approximately 300 km northeast of the city of Arkhangelsk. The aircraft, registration OH-LTO, was on a scheduled flight from Osaka, Japan to Helsinki-Vantaa airport. Apart from the three crew members in the cockpit, the aircraft was empty. The second serious incident occurred south of Moscow on 22 December 2010. The aircraft, registration OH-LTS, was on a scheduled chartered flight from Krabi, Thailand to Helsinki-Vantaa airport. There were 286 passengers and 15 crew members onboard. Both aircraft experienced a loss of pressurisation due to dual engine bleed air system failures. The flight crews donned their emergency oxygen masks because of the decrease of cabin pressure. On OH-LTO the cabin emergency oxygen masks also deployed automatically. OH-LTO flight crew initiated an emergency descent from cruise level about five minutes after the loss of pressurisation and about two minutes after the excessive cabin altitude warning which is a master warning. Due to a bigger fuel consumption than anticipated OH-LTO diverted to Kuopio airport. OH-LTS flight crew initiated a rapid descent from cruise level about two minutes after the loss

of pressurisation. Excessive cabin altitude warning came on during the descent after which the flight crew continued by an emergency descent. OH-LTS continued to Helsinki-Vantaa airport, its planned destination. Neither serious incident resulted in injuries to persons or damage to equipment.

Safety Recommendation FINL-2012-001 (AIB):
It is recommended that EASA require Airbus S.A.S. to replace the pressure transducers ZRA380-00 by pressure transducers (p/n ZRA691-00 or equivalent) of A330 aircraft equipped with GE CF6-80E1 engines with such that function in conditions approved for the A330 fleet.

Reply

The case of dual bleed loss on A330 has led to a specific review with the Type Certificate Holder, bringing the following conclusions:

The occurrence rate is under monitoring via a dedicated reliability tracking file.

Cumulated rate probability of Dual Bleed loss event is still consistent with assigned safety objective (1.0 E-05 per flight hour); fleet airworthiness is confirmed not affected.

Replacement of the pressure transducers with Pr P/N ZRA691-00 is in progress (retrofit via Service Bulletin nearly completed; fix implemented in production line).

Mandatory replacement is not justified by the impact on airworthiness (major).

EASA considers that appropriate actions have been undertaken and that they address the Safety Recommendation.

Status: Closed – **Category**: Agreement

Safety Recommendation FINL-2012-002 (AIB):
It is recommended that EASA require Airbus S.A.S. to also include Dual Bleed Loss abnormal procedures in the A330 ECAM action.

Reply

The case of dual bleed loss on A330 has led to a specific review with the Type Certificate Holder, addressing the need for implementation of dual bleed loss abnormal procedures in A330 Electronic Centralised Aircraft Monitoring (ECAM).

An ECAM Dual Bleed Loss procedure, with ECAM logic adapted to the causes leading to each Bleed loss, will be implemented in next version (T5) of Flight Warning Computer to be certified end of 2012.

In light of the above, EASA considers that appropriate actions have been undertaken to address the Safety Recommendation.

Status: Closed – **Category**: Agreement

Safety Recommendation FINL-2012-003 (AIB):
It is recommended that EASA and ICAO sufficiently lengthen the time recording requirement of CVRs so as to cover the entire routing of the flight.

Reply

The Agency has launched rulemaking tasks RMT.0400 and RMT.0401 with the publication of the associated Terms of Reference on 26 September 2012. This Safety Recommendation is being considered within the framework of these tasks, which includes a review of the recording duration of the cockpit voice recorder.

Status: Closed – **Category**: Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. OH-SAK	BAE AVRO146RJ	Helsinki-Vantaa airport, Finland	17/12/2009	Incident

Synopsis of the event: On 17 December 2009, at approximately 17:05 an incident occurred to a Blue1 airliner which was on the scheduled flight BLF284 from Vaasa airport to Helsinki-Vantaa airport. The incident was caused by a fuel feed problem. The aircraft, registration OH-SAK, was a four-engine Avro 146-RJ85 manufactured by BAE Systems Limited. There were 64 passengers and four crew members onboard. Approximately 11 minutes after takeoff, during the climb, the master warning panel annunciated the following right wing inner feed tank warning: R FEED TANK LO LEVEL. The flight crew began completing the related emergency checklist. The checklist instructs the flight crew to LAND ASAP, unless the warning disappears. The flight crew continued the flight to their destination even though the warning light remained on. As they were passing the city of Tampere the flight crew noticed that the fuel quantity in the right wing's outer feed tank had begun to decrease. Approximately two minutes later the warning system also generated a fuel level warning from the left wing's inner feed tank. At that point in time the flight crew had simultaneous problems with three separate feed tanks. When the aircraft landed at Helsinki-Vantaa airport the flight crew used the normal trailing edge flap setting of 33 degrees. The checklist that relates to this particular mal-function calls for 24 degrees flaps.

The rescue units alerted by the air traffic control were ready at their stations, poised to provide assistance as the flight landed at its destination. The incident did not result in any injuries to per-sons nor damage.

A technical inspection following the landing showed that frozen water in the fuel probably obstructed the transfer of fuel from the main tank to the engines' feed tanks. This caused the fuel level in the feed tanks to drop during the flight. In a normal situation each engine's feed tank is always full of fuel. According to the information received from the aircraft's manufacturer, other operators, too, have had similar fuel feed problems, particularly during cold winters. The number of such occurrences decreased when operators increased the fuel tank water drain frequency. The manufacturer-recommended minimum fuel temperatures must also be observed during water draining so as to make the procedure adequately efficient. Blue1 also began to add an anti-icing additive to its fuel.

The flight crew's decision to disregard the emergency checklist's LAND ASAP instruction also contributed to the incident. Due to its location, good weather and runway conditions Tampere-Pirkkala airport would have been

a suitable en-route alternate. Contributing factors included the flight crew's poor airmanship and decision-making. The layout of the checklist for this emergency is both complex and verbose.

Safety Recommendation FINL-2012-005 (AIB):
It is recommended that the EASA oblige BAE Systems Limited, the aircraft manufacturer, to make the Feed Tank Low Level checklist easier to use.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

France

Registration	Aircraft Type	Location	Date of event	Event Type
1. F-BTSC	AEROSPATIALE CONCORDE	Gonesse, France	25/07/2000	Accident

Synopsis of the event: During take-off from RWY26 right at Roissy Charles de Gaullle Airport, shortly before rotation, the right front tyre (No2) of the left landing gear ran over a strip of metal, which had fallen from another aircraft, and was damaged. Debris were thrown against the wing structure leading to a rupture of tank 5. A major fire, fuelled by the leak, broke out almost immediately under the left wing. Problems appeared shortly afterwards on engine 2 and for a brief period on engine 1. The aircraft took-off. The crew shut down engine 2, then only operating at near idle power, following an engine fire alarm. They noticed that the landing gear would not retract. The aircraft flew for around a minute at a speed of 200 Kt at a radio altitude of 200 ft, but was unable to gain height or speed. Engine 1 then lost thrust, the aircraft's angle of attack and bank increased sharply. The thrust on engines 3 and 4 fell suddenly. The aircraft crashed into an hotel.

Safety Recommendation FRAN-2002-001 (BEA):
The DGAC in liaison with the appropriate regulatory bodies, study the reinforcement of the regulatory requirements and demonstrations of conformity with regard to aviation tyres.

Reply

The Agency is conducting a rulemaking task RMT.0048 (former 25.028) 'Protection From Debris Impacts and Fire, Landing gear mechanism' which will propose an amendment of Certification Specification (CS)-25 to better protect the aircraft against debris, including tyre debris. A tyre debris model will be provided along with pass-fail criteria for structure and system items.

Status: Closed – **Category**: Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. FDR STUDY		France		Not determined

Synopsis of the event: The readout of Flight Data Recorders (FDR), whether performed in France or elsewhere, often brings to light a variety of problems such as aircraft operators having incomplete, outdated or inappropriate documents or not having the relevant documentation at all. Sometimes this significantly delays the validation of the readout work. However, rapidly obtaining complete and accurate data after an accident or an incident is often critical for the technical investigation and, in a broader way, to air transport safety. Data extracted from FDRs help to determine causes and to develop appropriate preventive measures. There are no single guideline document relating to FDR regulations. Several international and French texts touch on these aspects, though not always in a coherent fashion. In order to get a complete picture of the problems encountered, the BEA has produced this study, based on the analysis of known issues and on consultations with French aircraft operators. Its objective is to increase awareness among the various actors of the importance of FDRs for accident prevention and to recommend improvements.

Safety Recommendation FRAN-2005-003 (BEA):
The BEA recommends that the EASA define the regulatory requirements to have data frame layout information recorded on FDRs themselves, in a format that is readable by investigative bodies.

Reply

The European Organisation for Civil Aviation Equipment (EUROCAE) Document 112 "Minimum Operational Performance Specification for Crash Protected Airborne Recorder Systems", dated March 2003, specifies in its Annex II-D that "for aircraft with a recording system architecture that readily supports file transfer protocols, the documentation shall be stored in the flight data recorder (FDR) crash protected recording medium and automatically refreshed as needed". The European Technical Standard Order (ETSO)-C124b refers to EUROCAE Document 112 for the minimum performance standard applicable to FDR Systems.

In addition, EUROCAE Working Group (WG) 90 considered this safety recommendation when preparing the revision of EUROCAE Document 112. WG 90 decided not to modify the specification on data frame layout recording because many recorder architectures do not allow for two-ways file transfer protocols. The Agency evaluated the conclusion of WG 90 and decided not to mandate the recording of data frame layout information on the recording medium of the FDR.

Status: Closed – **Category**: Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. F-WWCJ	AIRBUS A340	Toulouse Blagnac airport, France	15/11/2007	Accident

Synopsis of the event: Le 15 novembre 2007, l'Airbus A 340-600 F-WWCJ faisait l'objet d'essais au point fixe sur l'aérodrome de Toulouse Blagnac. L'essai en cours consistait à tester différents systèmes avec des techniciens de la compagnie aérienne qui avait commandé l'avion. Il se déroulait moteurs en fonctionnement sans cales de roue. A l'issue de ces tests, après avoir arrêté et inspecter les moteurs, les techniciens les ont redémarrés pour un nouveau point fixe a puissance élevée, pour rechercher l'origine de suintements d'huile. Environ trois minutes après la mise en puissance, l'avion a commencé à avancer. Le technicien en place gauche a perçu le mouvement et a informé le technicien d'essais en place droite. Ce dernier a agi sur les freins situes aux palonniers puis a relâché le frein de parc. Le DFDR montre ensuite un relâchement de l'ordre de freinage au palonnier. L'avion continuant d'avancer, il a essayé de dévier sa trajectoire en utilisant le volant de direction. Le train avant s'est rapidement mis en travers alors que l'avion accélérait. L'avion a heurté le plan incliné du mur anti-souffle. Sa partie avant s'est brisée et a bascule de l'autre cote. Il s'est écoulé treize secondes entre le début de mouvement de l'avion et le choc avec le mur.

Safety Recommendation FRAN-2008-002 (BEA):
Le BEA et le BEAD-Air recommandent que l'AESA et le CEV évaluent les procédures utilisées lors des essais au sol et des vols de livraison clients, et contrôlent leur bonne application.

Reply

The Agency carried out a combined audit both on the Production Organisation Approval (POA) and Design Organisation Approval (DOA) side, in cooperation with the French Ministry of Defence, Direction Générale de l'Armement/Centre d'Essais en Vol (Flight Test Centre).

The scope of this audit included a review of the actions taken by Airbus further to the accident of the A340 registered F-WWCJ, which occurred during ground testing.

EASA's audit confirmed that the Safety Recommendation issued by the BEA was properly taken into account and corrective actions made by the manufacturer demonstrate compliance with Part 21 [the requirements and procedures for the certification of aircraft and related products, parts and appliances, and of design and production organisations annexed to the Regulation (EC) No 1702/2003] and are considered appropriate by the Agency.

Status: Closed – **Category**: Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
F-GZCP	AIRBUS A330	en route between Rio de Janeiro and Paris	01/06/2009	Accident

Synopsis of the event: On 31 May 2009, flight AF447 took off from Rio de Janeiro Galeão airport bound for Paris Charles de Gaulle. The airplane was in contact with the Brazilian ATLANTICO ATC on the INTOL - SALPU - ORARO - TASIL route at FL350. At around 2 h 02, the Captain left the cockpit. At around 2 h 08, the crew made a course change of about ten degrees to the left, probably to avoid echoes detected by the weather radar. At 2 h 10 min 05, likely following the obstruction of the Pitot probes in an ice crystal environment, the speed indications became erroneous and the automatic systems disconnected. The airplane's flight path was not brought under control by the two copilots, who were rejoined shortly after by the Captain. The airplane went into a stall that lasted until the impact with the sea at 2 h 14 min 28.

Safety Recommendation FRAN-2009-018 (BEA):
The BEA recommends that EASA and ICAO study the possibility of making it mandatory for airplanes performing public transport flights to regularly transmit basic flight parameters (for example position, altitude, speed, heading).

Reply

The Agency has initiated a preliminary regulatory impact assessment (Pre-RIA) in the frame of the preparation of a future rulemaking task RMT.0265 on this subject that is in the Rulemaking Programme inventory.

Overall the objective would be to improve the recovery of flight data and of the wreckage after accident of a large transport aeroplane over an oceanic area or a remote continental area.

Various options related to this objective have been identified by the reports of the flight data recovery working group and of the triggered flight data transmission working group led by the Bureau d'Enquêtes et d'Analyses pour la sécurité de l'aviation civile (BEA).

They include the periodic transmission of flight parameters to the ground, the transmission of flight parameters triggered by emergency situations, the installation of deployable recorders and the activation of the ELT as soon as an emergency situation is detected on board.

Status: Open – **Category**:

Safety Recommendation FRAN-2009-019 (BEA):

The BEA recommends that EASA undertake studies to determine with appropriate precision the composition of cloud masses at high altitude.

Reply

EASA is involved in coordinated research activities which have been triggered and launched. The objective is:

- to determine with appropriate precision the composition of cloud masses at high altitude,
- to have a characterization of high altitude atmosphere, and
- to investigate the engineering and scientific issues related to characteristics of convective clouds.

EASA launched the study HighIWC (High Ice Water Content), which will contribute to the international project HAIC (High Altitude Ice Crystals).

Status: Closed – **Category**: Agreement

Safety Recommendation FRAN-2009-020 (BEA):

The BEA recommends that EASA in coordination with the other regulatory authorities, based on the results obtained, modify the certification criteria.

Reply

A rulemaking task RMT.0058 (former 25.058) "Large Aeroplane Certification Specifications in Supercooled Large Drop, Mixed phase, and Ice Crystal Icing Conditions" is on-going which is proposing an extension of the icing environment to be used for certification of large aeroplanes and turbine engines installed on those aircraft. Refer to Notice of Proposed Amendment (NPA) 2011-03 and NPA 2011-04. The proposal uses the best available knowledge at the moment and is coordinated with the Federal Aviation Administration (FAA) and Transport Canada (TCCA).

In parallel, the Agency has published a call for tender EASA.2011.OP.28 to conduct a study entitled "HighIWC - Ice Water Content of clouds at High altitude". The objective is, by using most recent available flight test data, the validation of the proposed mixed phase and glaciated icing environment, the assessment of the necessity for actions to further amend the icing envelope and the definition of necessary actions for a more detailed flight test characterisation with in particular the determination of the composition of cloud masses at high altitude with the appropriate precision.

This EASA study will contribute to the international project HighIWC which is preparing for a flight test campaign to perform in-situ measurements and characterisation of clouds in convective areas. Once those projects deliver conclusions and recommendations, the Agency will consider further improvement of certification specifications to include the last information and lessons learnt on clouds icing parameters at high altitude.

Status: Open – **Category**:

Safety Recommendation FRAN-2011-009 (BEA):
The BEA recommends that EASA review the content of check and training programmes and make mandatory, in particular, the setting up of specific and regular exercises dedicated to manual aircraft handling of approach to stall and stall recovery, including at high altitude.

Reply

EASA has provided an interim response [Ref. 06/06/2012 – Reply doc. Ref. 52494 (2012)] which referred to Commission Regulation (EU) No 1178/2011 and Regulation (EC) 859/2008 (so called EU-OPS) which already include certain elements proposed by this safety recommendation.

To address the additional elements recommended by this safety recommendation, rulemaking tasks RMT.0581 and RMT.0582 'Loss of control avoidance and recovery training' are included in the Agency's Rulemaking Programme.

Status: Open – **Category**:

Safety Recommendation FRAN-2011-017 (BEA):
The BEA recommends that EASA and ICAO make mandatory as quickly as possible, for airplanes making public transport flights with passengers over maritime or remote areas, triggering of data transmission to facilitate localisation as soon as an emergency situation is detected on board.

Reply

The Agency has initiated a preliminary regulatory impact assessment (Pre-RIA) in the frame of the preparation of a future rulemaking task RMT.0265 on this subject that is in the Rulemaking Programme inventory.

Overall the objective would be to improve the recovery of flight data and of the wreckage after accident of a large transport aeroplane over an oceanic area or a remote continental area.

Various options related to this objective have been identified by the reports of the flight data recovery working group and of the triggered flight data transmission working group led by the Bureau d'Enquêtes et d'Analyses pour la sécurité de l'aviation civile (BEA).

They include the periodic transmission of flight parameters to the ground, the transmission of flight parameters triggered by emergency situations, the installation of deployable recorders and the activation of the emergency locator transmitters (ELT) as soon as an emergency situation is detected on board.

Status: Open – **Category**:

Safety Recommendation FRAN-2011-018 (BEA):
The BEA recommends that EASA and ICAO study the possibility of making mandatory, for airplanes making public transport flights with passengers over maritime or remote areas, the activation of the emergency locator transmitter (ELT), as soon as an emergency situation is detected on board.

Reply

The Agency has initiated a preliminary regulatory impact assessment (Pre-RIA) in the frame of the preparation of a future rulemaking task RMT.0265 on this subject that is in the Rulemaking Programme inventory. Overall the objective would be to improve the recovery of flight data and of the wreckage after accident of a large transport aeroplane over an oceanic area or a remote continental area. Various options related to this objective have been identified by the reports of the flight data recovery working group and of the triggered flight data transmission working group led by the Bureau d'Enquêtes et d'Analyses pour la sécurité de l'aviation civile (BEA). They include the periodic transmission of flight parameters to the ground, the transmission of flight parameters triggered by emergency situations, the installation of deployable recorders and the activation of the emergency locator transmitters (ELT) as soon as an emergency situation is detected on board.

Status: Open – **Category**:

Safety Recommendation FRAN-2012-039 (BEA):
The BEA recommends that EASA ensure the integration, in type rating and recurrent training programmes, of exercises that take into account all of the reconfiguration laws. The objective sought is to make its recognition and understanding easier for crews especially when dealing with the level of protection available and the possible differences in handling characteristics, including at the limits of the flight envelope.

Reply

Regulation 1178/2011, as amended by Regulation 290/2012 (Aircrew Regulation) and the future OPS requirements as published with Opinion 04/2011 already contain appropriate obligations on training provided by organisations and operators to take into account Operational Suitability Data (OSD) when establishing flight crew training programmes. Control laws are so far not specifically mentioned in the type and recurrent training and checking requirements. The Agency therefore envisages to include with RMT.0581 and RMT.0582 'Loss of control avoidance and recovery training' provisions in FCL and OPS concerning the training of configuration laws. Such rule provisions can only be of general nature as the configuration laws and aircraft handling are type specific. Type specific data will be generated through the implementation of the future OSD process.

Status: Open – **Category**:

Safety Recommendation FRAN-2012-040 (BEA):
The BEA recommends that EASA ensure that type rating and recurrent training programmes take into account the specificities of the aircraft for which they are designed.

Reply

Regulation 1178/2011, as amended by Regulation 290/2012 (Aircrew Regulation) and the future OPS requirements as published with Opinion 04/2011 already contain appropriate obligations on training provided by organisations and operators to take into account Operational Suitability Data (OSD) when establishing flight crew training programmes. Control laws are so far not specifically mentioned in the type and recurrent training and checking requirements. The Agency therefore envisages to include with RMT.0581 and RMT.0582 'Loss of control avoidance and recovery training' provisions in FCL and OPS concerning the training of configuration laws. Such rule provisions can only be of general nature as the configuration laws and aircraft handling are type specific. Type specific data will be generated through the implementation of the future OSD process.

Status: Open – **Category**:

Safety Recommendation FRAN-2012-041 (BEA):
The BEA recommends that EASA define recurrent training programme requirements to make sure, through practical exercises, that the theoretical knowledge, particularly on flight mechanics, is well understood.

Reply

Rulemaking tasks RMT.0581 and RMT.0582 'Loss of control avoidance and recovery training' are identified in the Agency's Rulemaking Programme and this Safety Recommendation will be considered in those tasks.

Status: Open – **Category**:

Safety Recommendation FRAN-2012-042 (BEA):
The BEA recommends that EASA review the 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.

Reply

EASA has started RMT.0411 Crew resource management which is going to take this Safety Recommendation into consideration.

Status: Closed – **Category**: Agreement

Safety Recommendation FRAN-2012-043 (BEA):
The BEA recommends that EASA ensure that operators reinforce CRM training to enable acquisition and maintenance of adequate behavioural automatic responses in unexpected and unusual situations with a highly charged emotional factor.

Reply

It is the responsibility of the national aviation authorities conducting oversight of Air Operator Certificate (AOC) holders to ensure that operators reinforce Crew Resource Management (CRM) training. In addition, EASA has started rulemaking task RMT.0411 'Crew resource management' where EASA, with the assistance of experts, is generally reviewing the appropriateness of the present provisions.

Status: Closed – **Category**: Partial agreement

Safety Recommendation FRAN-2012-044 (BEA):
The BEA recommends that EASA define criteria for selection and recurrent training among instructors that would allow a high and standardized level of instruction to be reached.

Reply

It is EASA's understanding that this safety recommendation relates to CRM skills. EASA has started RMT.0411 Crew resource management which is going to take this Safety Recommendation into consideration.

Status: Closed – **Category**: Agreement

Safety Recommendation FRAN-2012-045 (BEA):
The BEA recommends that EASA modify the basis of the regulations in order to ensure better fidelity for simulators in reproducing realistic scenarios of abnormal situations.

Reply

It is EASA's understanding that this safety recommendation refers to the fidelity of Flight Simulation Training Devices (FSTDs) in the context of improving simulator realism during abnormal situations.

Rulemaking tasks RMT.0196 and RMT.0197 [former FCL.007 (a) and (b)] 'FSTDs', are already included in the Agency's Rulemaking Programme dealing with new fidelity levels of FSTDs in support of Safety Recommendation SPAN-2011-020.

The Certification Specifications (CS-FSTD), based on the former Joint Aviation JAR-FSTD requirements, have become the European standard for the qualification of FSTDs.

As current requirements for FSTDs (CS-FSTD) and the data package delivered by the aircraft manufacturers do not allow simulator training to cover sustained take-off stalls that reproduce situations that could exceed the flight envelope limits and do not provide the necessary realism that is needed, this will be addressed with this rulemaking task.

This safety recommendation asking for a better fidelity for simulators in reproducing realistic scenarios of abnormal situations will also be addressed with this task.

Finally, this task will also include the results of the initiatives on stall recovery training and checking also trying to identify additional elements for improving the loss of control training capabilities of FSTDs.

Status: Open – **Category**:

Safety Recommendation FRAN-2012-046 (BEA):

The BEA recommends that EASA ensure the introduction into the training scenarios of the effects of surprise in order to train pilots to face these phenomena and to work in situations with a highly charged emotional factor.

Reply

It is the responsibility of national aviation authorities conducting oversight and certifying Approved Training Organisations to ensure that operators and training organisations include such surprise effects into the pilot training. In addition, EASA has included in its Rulemaking Programme, rulemaking tasks RMT.0581 and RMT.0582 'Loss of control avoidance and recovery training' where this safety recommendation will be considered.

Status: Open – **Category**:

Safety Recommendation FRAN-2012-047 (BEA):

The BEA recommends that EASA require a review of the re-display and reconnection logic of the flight directors after their disappearance, in particular to review the conditions in which an action by the crew would be necessary to re-engage them.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

Safety Recommendation FRAN-2012-048 (BEA):
The BEA recommends that EASA require a review of the functional or display logic of the flight director so that it disappears or presents appropriate orders when the stall warning is triggered.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010

Status: Open – **Category**:

Safety Recommendation FRAN-2012-049 (BEA):
The BEA recommends that EASA study the relevance of having a dedicated warning provided to the crew when specific monitoring is triggered, in order to facilitate comprehension of the situation.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

Safety Recommendation FRAN-2012-050 (BEA):
The BEA recommends that EASA determine the conditions in which, on approach to stall, the presence of a dedicated visual indications, combined with an aural warning should be made mandatory.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

Safety Recommendation FRAN-2012-051 (BEA):
The BEA recommends that EASA require a review of the conditions for the functioning of the stall warning in flight when speed measurements are very low.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

Safety Recommendation FRAN-2012-052 (BEA):
The BEA recommends that EASA improve the feedback process by making mandatory the operational and human factors analysis of in-service events in order to improve procedures and the content of training programmes.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

Registration	Aircraft Type	Location	Date of event	Event Type
1. D-AXLA	AIRBUS A320	Canet-Plage (by Perpignan), France	27/11/2008	Accident

Synopsis of the event: Flight GXL888T from Perpignan - Rivesaltes aerodrome was undertaken in the context of the end of a leasing agreement, before the return of D-AXLA to its owner. The programme of planned checks could not be performed in general air traffic, so the flight was shortened. In level flight at FL320, angle of attack sensors 1 and 2 stopped moving and their positions did not change until the end of the flight. After about an hour of flight, the aeroplane returned to the departure aerodrome airspace and the crew was cleared to carry out an ILS procedure to runway 33, followed by a go around and a departure towards Frankfurt/Main (Germany). Shortly before overflying the initial approach fix, the crew carried out the check on the angle of attack protections in normal law. They lost control of the aeroplane, which crashed into the sea.

Safety Recommendation FRAN-2010-005 (BEA):
The BEA recommends that EASA, in cooperation with manufacturers, improves training exercises and techniques relating to approach-to-stall to ensure control of the aeroplane in the pitch axis.

Reply

EASA supports and follows up the International Committee for Aviation Training in Extended Envelopes (ICATEE) which has been requested by the International Civil Aviation Organisation (ICAO) to produce a circular on recommended best practices for Upset Prevention and Recovery Training (UPRT).

ICATEE is an international initiative involving manufacturers and authorities, to deliver a comprehensive long-term strategy to eliminate or reduce the rate of loss of control. A key goal of UPRT is to improve current basic and recurrent training, as well as proficiency checks, by an integrated academic, in-flight and simulator training on recovery technique and stall recognition.

In addition, the current edition of ICAO Doc 9625 on Simulator Training Requirements is also undergoing revision, enacted through the International Committee for Flight Simulator Training Device Qualification (ICFQ).

EASA is involved in ICATEE and ICAO work aiming at preventing loss of control.

Moreover, the Agency will organise a workshop in the 3rd Quarter of 2012 to identify and promote requirements and guidance in Part-FCL and Air Operations regulations related to the prevention of Loss of Control (LoC) accidents.

Status: Open – **Category**:

Registration	Aircraft Type	Location	Date of event	Event Type
1. CN-RMX	BOEING 737	Aerodrome Metz Nancy Lorraine (57), France	22/05/2006	Serious incident

Synopsis of the event: A 11 h 51, le vol BMM 2091 décolle en piste 22 de l'aérodrome de Metz Nancy Lorraine à destination de Marrakech. Des travaux en cours sur l'aérodrome, commencés la veille, limitent les distances utilisables au décollage. L'équipage ne connait pas ces restrictions et a prévu son décollage avec la longueur de piste habituelle. Lors du décollage, l'avion souffle des feux provisoires non fixés positionnés au seuil temporaire 04 et survole à faible hauteur la clôture frangible du chantier trois cents mètres plus loin. Le vol est poursuivi vers Marrakech. L'équipage est averti, au cours de la descente, de l'arrachage de balises provisoires au cours de son décollage de Metz; il effectue un atterrissage de précaution.

Safety Recommendation FRAN-2010-008 (BEA):
Le BEA recommande que l'OACI et l'EASA définissent des normes de balisage et de panneautage et des consignes d'utilisation qui permettent une identification sans ambiguïté des travaux et des restrictions associées.

Reply

The Notice of Proposed Amendment (NPA) 2011-20 (Authority, Organisation and Operations Requirements for Aerodromes) published on 13 December 2011 includes the operational requirement ADR-OPS.B.070 for aerodrome works safety.

In addition, AMC1—ADR-OPS.B.070, AMC2—ADR-OPS.B.070 and AMC3—ADR-OPS.B.070, as well as GM1 — ADR-OPS.B.070 up to GM4 — ADR.OPS.B.70 associated with the above-mentioned operational requirement have also been included in this NPA.

Finally, requirement ADR.OR.B.045 (Assessment of changes) foresees the coordinated assessment of all changes at the aerodrome, including those related to aerodrome works, as part of the aerodrome operator's management system which is required by ADR.OR.D.005 (Management).

Status: Open – **Category**:

Safety Recommendation FRAN-2010-009 (BEA):
Le BEA recommande que l'OACI, l'EASA et la DGAC établissent un guide permettant aux exploitants aéroportuaires de programmer et coordonner l'ensemble des actions liées aux travaux afin que le niveau de sécurité ne soit pas compromis à cette occasion.

Reply

The Notice of Proposed Amendment (NPA) 2011-20 (Authority, Organisation and Operations Requirements for Aerodromes) published on 13 December 2011 includes the operational requirement ADR-OPS.B.070 for aerodrome works safety.

In addition, AMC1—ADR-OPS.B.070, AMC2—ADR-OPS.B.070 and AMC3—ADR-OPS.B.070, as well as GM1 — ADR-OPS.B.070 up to GM4 — ADR.OPS.B.70 associated with the above-mentioned operational requirement have also been included in this NPA.

Finally, requirement ADR.OR.B.045 (Assessment of changes) foresees the coordinated assessment of all changes at the aerodrome, including those related to aerodrome works, as part of the aerodrome operator's management system which is required by ADR.OR.D.005 (Management).

Status: Open – **Category**:

Registration	Aircraft Type	Location	Date of event	Event Type
1. HS-TGL	BOEING 747	Aerodrome of Paris Charles de Gaulle (95), France	18/03/2010	Serious incident

Synopsis of the event: Both incidents were caused by a short-circuit in the avionics compartment, a short time after the connection of the GPUs, during supply of electrical current. In both cases, the short-circuits resulted in a fire starting while the passengers were disembarking. It was shown that one of the two GPU electrical connectors was incorrectly connected on the B-HOV. It is likely that the same applied to HS-TGL. This incorrect connection associated with inappropriate actions by ground technicians, was the cause of the two incidents. The design of the electrical connector guides, installed on Boeing 747-400 before 2003, allows this incorrect connection to occur. These same guides were also installed originally on all other types of B747 as well as on the B737-300, B737-400 and B737-500. However, the NTSB has specified that no known cases of damage have been reported to Boeing on 737 models. A fire of electrical origin in a confined area of an aeroplane can have very serious consequences for the aeroplane, which may include its destruction. If the fire is not brought under control in time, this can constitute a danger for those on board, in particular during passenger disembarkation. The misalignment of one of the electrical connectors led to a short-circuit. A solution was developed by Boeing, which

consisted of installing the guide referenced P/N MS17845-1., initially installed on the Boeing 767. Boeing has, since then, not been informed of any cases of misalignment on aeroplanes equipped with this guide. Furthermore, Boeing recommends that operators of B747 should check the condition of the existing guides and, in case of damage, replace them with the recommended guide MS17845-1. This recommendation does not make it mandatory to systematically replace the existing guides.

Safety Recommendation FRAN-2010-013 (BEA):
The BEA recommends that EASA and the FAA make mandatory the replacement of the original parts, with the reference 66-9236, by parts with the reference MS17845-1 on all versions of B747 aeroplanes.

Reply

FAA has issued a Special Airworthiness Information Bulletin (SAIB NM-12-40 dated 03 August 2012) "External Power System Connector". The External Power System Connector can be replaced by operators with an alternative Part Number having an improved design. EASA has reviewed FAA SAIB NM-12-40. The Agency has agreed with the corrective action proposed by FAA. FAA SAIB NM-12-40 is endorsed by EASA. Associated FAA SAIB publication is available at the EASA website since 07 August 2012.

Status: Closed – **Category**: Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. F-BXPQ	PIPER PA28	Commune de Saint-Martin-de-Nigelles (28), France	04/02/2010	Accident

Synopsis of the event: Jabiru 28-AGV: Le pilote décolle de la plateforme ULM de Pierres (28) pour un vol local. L'enquête n'a pas permis de déterminer l'heure du décollage.

Piper F-BXPQ: L'élève pilote décolle à 10 h 38 de la piste 07 droite de l'aérodrome contrôlé de Toussus-le-Noble (78) pour un vol de navigation solo de 150 NM minimum, tel que prévu dans sa formation en vue de l'obtention du PPL(A). Le pilote atterrit successivement sur les aérodromes de l'Aigle vers 11 h 15 et d'Alençon vers 11 h 50. Il décolle de l'aérodrome d'Alençon pour un retour sur l'aérodrome de Toussus-le-Noble, dès les formalités administratives accomplies (validation du carnet de vol).

Les deux aéronefs entrent en collision en vol à 12 h 57 à la verticale du Bois de Saint-Martin, à une distance de 1 NM du VOR d'Epernon et de 20 NM de l'aérodrome de Toussus-le-Noble. La trace radar indique que l'avion Piper F-BXPQ suivait une route au 075°. L'ULM 28-AGV a été aperçu par un témoin en provenance du secteur sud-est.

Safety Recommendation FRAN-2010-019 (BEA):
The BEA recommends that EASA accelerate the evaluation of various systems that assist in detection of traffic and promote the deployment of such systems in the field of general aviation.

Reply

EASA has launched beginning of 2012 a study "SISA" (Scoping Improvements to See and Avoid; contract number EASA.E2.2011.C.02) for general aviation and based on the 'see and avoid' principle used by pilots flying according to visual flight rules (VFR) with the aim to assess the potential candidate systems to enhance traffic situational awareness and to identify the main constraints for their generalised use in Europe. The study is coordinated with National Aviation Authorities and the main relevant stakeholders through the European General Aviation Team Safety Initiative (EGAST) and the final report will be available at the end of year 2012.

Status: Closed – **Category**: Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. F-GRIB	ROBINSON R22	La Falaise (78), France	21/09/2005	Accident

Synopsis of the event: L'élève effectue une épreuve en vol avec un examinateur en vue de l'obtention de la licence de pilote privé hélicoptère. A 15 h 02, il décolle d'Issy-les-Moulineaux (92) vers Pontoise (95). Le vol prévoit une mise en place à Pontoise puis une navigation vers Dreux (27) au cours de laquelle des exercices de maniabilité seront exécutés. Vers 15 h 25, ils atterrissent à Pontoise puis redécollent, montent vers 1 500 pieds et quittent le circuit. Six minutes plus tard, après avoir survolé la vallée de la Seine, l'équipage perd le contrôle de l'hélicoptère qui entre en collision avec le sol.

Safety Recommendation FRAN-2011-003 (BEA):
EASA make it mandatory for pilots to undertake training in the specific characteristics of the R22 Mariner when equipped with float-type landing gear.

Reply

EASA issued on 25 October 2012 the Safety Information Bulletin (SIB) 2012-18: "Potential effects of inflated floats or float-type landing gears on flight characteristics of helicopters", for all helicopters fitted with float-type landing gear or inflated emergency floatation equipment.

Status: Closed – **Category**: Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. F-GRRA	MUDRY CAP10	Saint Rambert d'Albon (26), France	04/06/2010	Accident

Synopsis of the event: Le vendredi 4 juin 2010, les 2 pilotes décollent à bord du CAP10 C immatriculé F-GRRA pour réaliser un vol de réentraînement à la voltige. L'instructeur est en place gauche. Ils montent à une hauteur de 5 000 ft à la verticale de l'aérodrome de Saint Rambert d'Albon (26) pour débuter les exercices qui ont été préparés lors d'un briefing avant le décollage. Après avoir exécuté une vrille « dos », ils remontent à la même altitude pour débuter une vrille « plate ». La mise en vrille plate à droite est réalisée selon la procédure décrite

au briefing par l'instructeur. Après plusieurs tours de vrille, le pilote en place droite puis l'instructeur tentent sans succès d'arrêter la rotation de l'avion. L'instructeur décide de l'évacuation et largue la verrière. Le pilote en place droite s'extrait de l'avion et actionne la commande d'ouverture du parachute qui s'ouvre normalement. L'instructeur n'a pas le temps d'évacuer avant que l'avion entre en collision avec le sol.

Safety Recommendation FRAN-2011-006 (BEA):
The BEA recommends that EASA study the possibility of mandatorily equipping aerobatic airplanes with parachutes with a strap for automatic opening of the parachute whatever the state of consciousness of the pilot who has evacuated.

Reply

Rulemaking tasks RMT.0340 and RMT.0341 [former OPS.067(a) and (b)] 'Standard operating procedures and specific requirements/alleviations for specialised operations' are on the Agency's Rulemaking Programme 2013-2016. The recommendation to equip aerobatic aeroplanes with parachutes with a strap for automatic opening will be considered during these tasks, as defined in the task description.

Status: Open – **Category**:

Registration	Aircraft Type	Location	Date of event	Event Type
1. F-ORGB	ROBINSON R22	Col des boeufs, Saint Benoit Commune (974), France	31/05/2010	Accident

Synopsis of the event: Le pilote du Robinson R22 décolle de la commune de La Nouvelle dans le cirque de Mafate à destination du « Col des Boeufs » situé à 1 940 mètres d'altitude pour récupérer des colis. Trois personnes d'une société d'électricité sont présentes sur le col et doivent se rendre dans une maison forestière pour réaliser des travaux. Le pilote qu'ils ont eu au téléphone leur a proposé de les amener avec le R22 sur le site de la maison forestière depuis le « Col des Boeufs » à l'issue de la première rotation qu'il devait effectuer. Le pilote se pose sur l'hélisurface du « Col des Boeufs » et procède, moteur tournant, à l'embarquement du premier passager. Le pilote décolle en stationnaire d'environ un mètre, puis recule avant de virer à droite dans la pente. Au cours de cette manœuvre, la queue touche le relief dans la pente puis le patin droit se bloque sous un rocher. L'hélicoptère s'écrase et s'immobilise en contrebas.

Safety Recommendation FRAN-2011-021 (BEA):
The BEA recommends that EASA and the FAA make mandatory the installation of a fuel cock with a selector as modified since July 2007 on R22 type helicopters in order to avoid any accidental manoeuvres.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

Status: Open – **Category**:

Registration	Aircraft Type	Location	Date of event	Event Type
1. F-GIXD	BOEING 737	Aérodrome de Montpellier Méditerranée (34), France	10/01/2010	Incident

Synopsis of the event: On 10 January 2011, the crew took off from runway 31 right at Montpellier Méditerranée for a ferry flight bound for Toulouse Blagnac. At the time of the rotation, the leading edge slats extended from the intermediate position to the fully extended position. The left stick shaker activated immediately. The Captain noticed an erroneous indication on his PFD speed strip. He didn't note any anomalies on the co-pilot's PFD, on the backup display or on the engine displays. The slats returned to their initial position. Twelve seconds after activation, the stick shaker stopped. After analyzing the systems' behaviour, the crew decided to continue the flight to the destination. No other events were noted during the flight. Readout of the QAR data showed that at the time of rotation, the angle measured by the left angle of attack sensor was not representative of the real angle of attack. As the airplane lease was coming to an end, the airplane was ferried to Montpellier, to the workshops of Latécoère Aeroservices, a part 145 approved organization contracted by Europe Airpost to be repainted in white for restitution to its owner. During the painting operations, the lease was finally extended at the request of the operator. Latécoère Aeroservices could not quickly provide a new slot to repaint the airplane in the colors of Europe Airpost. The operator then decided to ferry the airplane to another paint shop, STTS, located at Toulouse Blagnac. The second painting operations began after the ferry flight. During these operations, the left AOA sensor was identified as the cause of the stick shaker activation. It was removed on January 19, 2011.

Safety Recommendation FRAN-2012-003 (BEA):

Le BEA recommande que l'AESA s'assure que les constructeurs développent dans leur documentation approuvée des procédures spécifiques de protection et de vérification des capteurs extérieurs lors des opérations de peinture.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

Status: Open – **Category**:

Safety Recommendation FRAN-2012-004 (BEA):

Le BEA recommande que l'AESA mette en place des exigences de formation relatives aux éléments critiques des aéronefs pour les personnels de maintenance spécialisés non titulaires d'une licence Partie 66.

Reply

Part 145 (Annex II) to Commission Regulation EC No.2042/2003 already requires in 145.A.30 Personnel requirements, sub-paragraph (e), that the maintenance organisation "shall establish and control the competence of personnel involved in any maintenance, management and/or quality audits in accordance with a procedure and to a standard agreed by the competent authority". This includes training to all elements of the aircraft including the critical parts. As a result, no change of regulation is deemed necessary.

Status: Closed – **Category**: Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. F-GRZK	BOMBARDIER CL600 2B19	AD Paris - Charles de Gaulle (95), France	19/01/2010	Incident

Synopsis of the event: Les procédures LVP sont en vigueur à Paris Charles de Gaulle. Etabli sur l'ILS piste 08R(2) en approche de précision CAT III A(3), l'équipage constate à partir de 1 700 ft AMSL un fonctionnement par intermittence du radioaltimètre 1. L'équipage interrompt l'approche

vers 800 ft AMSL après avoir détecté un message APCH WARN affiché au système de guidage tête haute (HGS) et au PFD. L'origine de ce message est un écart supérieur aux tolérances entre les hauteurs mesurées par les deux radioaltimètres de l'avion. Une seconde approche CAT III A est effectuée en piste 08R. A environ 1 700 ft AMSL, le radioaltimètre 1 fonctionne à nouveau par intermittence. Vers 1 000 ft AMSL, un message d'alerte MASTER CAUTION, accompagné du message EFIS COMP MON à l'EICAS(4) et du message APCH WARN au HGS se déclenche durant quelques secondes pour les mêmes raisons qu'au cours de la première approche. L'équipage interrompt l'approche environ quinze secondes plus tard, à une altitude d'environ 800 ft AMSL.

Les messages d'alerte EFIS COMP MON et APCH WARN se déclenchent à nouveau. La RVR est suffisante pour effectuer une approche de précision CAT I(5) en piste 08R. En se basant sur le plafond nuageux constaté lors des deux premières approches, l'équipage indique au contrôleur qu'il souhaite faire une approche de CAT I et qu'en cas de nouvelle approche interrompue, il se dérouterait vers l'aérodrome de Lille. Vers 1 700 ft AMSL, le radioaltimètre 1 fonctionne à nouveau par intermittence. Le PA est connecté. A partir de 700 ft AMSL, soit 160 ft au-dessus de la DA et jusqu'à 340 ft AMSL le radioaltimètre 1 ne fournit pas de hauteur. Pendant cette période, l'assiette longitudinale de l'avion commence à osciller. A l'altitude correspondant à la DA, elle est légèrement positive (0,3 degrés à cabrer) puis augmente jusqu'à 1,3 degré à cabrer avant de décroître rapidement jusqu'à une assiette d'environ 7 degrés à piquer vers 100 ft AGL. La déviation G/S est alors d'un point en dessous du plan de descente de l'ILS. Le PF déconnecte le PA dès qu'il constate la diminution d'assiette, vers 120 ft AGL. Il reprend le plan de descente et, en vue de la rampe d'approche, poursuit pour atterrir sans autre difficulté en piste 08R.

Safety Recommendation FRAN-2012-008 (BEA):

The BEA recommends that EASA ensure that aircraft manufacturers examine and correct when possible the undesirable effects produced on onboard systems by erroneous altitude values provided by at least one radio altimeter.

Reply

The EASA has recently developed a Continued Airworthiness Review Item (CARI) dealing with radio-altimeters failures and sent to all Part 25 type certificate holders.

This CARI requests each TC holder to carry out a review of the design of aircraft systems using output from low range radio altimeter.

Flight deck alerts and indications that may contribute to crew awareness of undetected radio altimeter failures shall be also reviewed, as well as existing flight crew procedures and training material to ensure crew awareness of potential consequences of radio altimeter failures.

As a result of the above review in the design or associated operating procedures or limitations, any necessary actions will be considered.

Status: Closed – **Category**: Agreement

Safety Recommendation FRAN-2012-009 (BEA):
The BEA recommends that EASA ensure that aircraft manufacturers modify airplane operations manuals specifying the operation by onboard systems of data provided by radio altimeters as well as recommendations or procedures for crews to follow in the event that erroneous data is detected from at least one radio altimeter.

Reply

The EASA has recently developed a Continued Airworthiness Review Item (CARI) dealing with radio-altimeters failures and sent to all Part 25 type certificate holders.

This CARI requests each TC holder to carry out a review of the design of aircraft systems using output from low range radio altimeter.

Flight deck alerts and indications that may contribute to crew awareness of undetected radio altimeter failures shall be also reviewed, as well as existing flight crew procedures and training material to ensure crew awareness of potential consequences of radio altimeter failures.

As a result of the above review in the design or associated operating procedures or limitations, any necessary actions will be considered.

Status: Closed – **Category**: Agreement

Safety Recommendation FRAN-2012-010 (BEA):
The BEA recommends that EASA ensure that Aircraft manufacturers modify maintenance procedures that could have consequences on the radio altimetry system in order to take into account the risks of damage.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

Registration	Aircraft Type	Location	Date of event	Event Type
1. F-CHRK	SCHLEICHER ASK13	Saint Rémy de Provence (13) aerodrome, France	24/02/2012	Serious incident

Synopsis of the event: During a takeoff using a winch, the student pilot was unable to pitch up the glider sufficiently. The instructor took over the controls. Noticing an anomaly in the glider's behaviour, he released the winch cable at a height of about 150 metres. The glider pitched nose-down. The instructor managed to land in a field by manoeuvring the glider around the pitch axis using the speed brakes. On the ground, an examination of the glider showed that the elevator was disconnected. This elevator is automatically connected and the elevator's integral bearing, which fits into one of the rods that make up the elevator control channel (see photo), had come out of its housing. Preliminary examinations showed that the axle of this bearing, when the elevator

control was in place, was in a higher position than on other gliders of the same type. Moderate effort on the elevator was enough to push it out of its housing. The reason for this anomaly has not been determined at present and is linked to the non-adjustable position of the bearing axle.

Safety Recommendation FRAN-2012-011 (BEA):
The BEA recommends that EASA proceed with an inspection of Schleicher ASK13 gliders in order to check that the aforementioned anomaly is not present on other gliders of the same type.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

Registration	Aircraft Type	Location	Date of event	Event Type
1. F-GMPO	BEECH 200	Montpellier Aerodrome (34), France	07/01/2011	Accident

Synopsis of the event: The crew took off from Runway 13 left for an IFR flight bound for Albert Bray (80) with two passengers. During initial climb, the co-pilot, PF, found that the left horizon was unusable. The Captain, in the right seat, took over the controls and used the information from the right horizon to continue the flight. The co-pilot noticed that the amber generator lights were on. He tried unsuccessfully to stop and start them. The Captain decided to abort the flight. He asked the co-pilot to extend the landing gear. During the extension sequence, the aircraft suffered a total electrical failure. The lighting conditions in the cockpit were then very dark and the crew had difficulty in reading the instrument displays. The Captain shouted to the co-pilot to shine a flashlight on the instruments. He briefly saw the threshold of runway 31 right. The co-pilot suggested that he go around as he was unsure that the gear was locked down. During the aerodrome circuit at low height the co-pilot continued extending the landing gear manually. The emergency landing being imminent, the co-pilot stopped doing this, even though he was unsure that the gear was locked down because he didn't feel the "hard point". Given the weather and the difficulty of reading the instruments, the Captain decided to land. During the landing roll the main landing gear collapsed slowly, the fuselage came into contact with the ground and the aircraft stopped on the runway.

Safety Recommendation FRAN-2012-012 (BEA):
The BEA recommends that EASA and the FAA ask the manufacturer to modify the ergonomics of the ENG AUTO IGNITION and IGNITION AND ENGINE START switches on Beech 200 aeroplanes in order to avoid any confusion in their use by flight crew.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

Registration	Aircraft Type	Location	Date of event	Event Type
1. F-GJGQ	SCHWEIZER 269C	Saint-Aignan (45), France	25/07/2010	Accident

Synopsis of the event: The pilot, accompanied by a female passenger, took off to ferry the helicopter from the Saint-Aignan (45) helipad to that at Breuil (03) in order to undertake initiation flights in the context of an air show. After about 10 minutes flight, in meteorological conditions favourable for visual flight, the helicopter struck the tops of some trees in a wood and crashed underneath.

Safety Recommendation FRAN-2012-013 (BEA):
The BEA recommends that EASA modify, for companies without an AOC in the context of their specific commercial activities, the approval procedure for re-entry into service of an aircraft. This procedure must ensure that the approval be performed by a different person from the one that performed the work or by organisation independent of the operator.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

Registration	Aircraft Type	Location	Date of event	Event Type
1. F-GJFJ	AEROSPATIALE AS350	Terre Adélie	28/10/2010	Accident

Synopsis of the event: Le 28 octobre 2010, les pilotes des deux hélicoptères exploités par SAF HELICOPTERES effectuent un vol de transport de passagers et de matériels depuis le navire l'Astrolabe vers la base de Dumont d'Urville en Terre Adélie. Ces vols sont entrepris pour faire suite à l'avarie d'hélice du navire contraint d'interrompre sa progression vers Dumont d'Urville. Au moment de décider d'entreprendre les vols, les conditions météorologiques sur le navire et sur la base distante de 207 NM sont bonnes. L'autonomie et les performances des hélicoptères permettent de réaliser les vols. Les pilotes des deux hélicoptères décollent

à environ quinze minutes d'intervalle. Le pilote du premier hélicoptère rencontre en croisière des conditions météorologiques le conduisant à décider de poursuivre le vol à une hauteur faible, parfois inférieure à 200 ft pour rester sous la couche nuageuse. Le pilote du second hélicoptère, immatriculé F-GJFJ, choisit dans un premier temps de survoler cette couche nuageuse puis décide de faire demi-tour pour passer également sous la couche nuageuse. Le pilote réalise deux virages de 360 ° à faible vitesse et faible hauteur après être passé sous la couche nuageuse. L'hélicoptère entre en collision avec la surface de la banquise. Les derniers points de trajectoire enregistrés indiquent une hauteur d'environ 30 ft.

Safety Recommendation FRAN-2012-014 (BEA):
BEA recommends that DGAC and EASA define explicitly, in the regulations relating to the operation of helicopters for the transportation of passengers, the concept of a "base of operations" and the procedures for notifying the authority of the creation of a new base of operations."

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

Registration	Aircraft Type	Location	Date of event	Event Type
1. F-GLZU	AIRBUS A340	FL350, over the North Altantic Ocean	22/07/2011	Serious incident

Synopsis of the event: This serious incident was due to inadequate monitoring of the flight parameters, which led to the failure to notice AP disengagement and the level bust, following a reflex action on the controls. The following factors contributed to the serious incident: the AP disengagement aural warning was not broadcast, because of simultaneity with the "OVERSPEED" warning with higher priority; the turbulence encountered at the start of climb made parameter reading difficult; checking AP engagement, as required in the operator's "Severe Turbulence" procedure, was not carried out; inappropriate use of the weather radar meant it was not possible to avoid entering a zone of turbulence.

Safety Recommendation FRAN-2012-021 (BEA):
The BEA recommends that EASA introduce the surprise effect in training scenarios in order to train pilots to react to these phenomena and work under stress.

Reply

EASA has started rulemaking task RMT.0411 'Crew resource management', which is taking this Safety Recommendation into consideration. Moreover, rulemaking tasks RMT.0581 and RMT.0582 'Loss of control avoidance and recovery training' are identified in the Agency's Rulemaking Programme to review in how far training scenarios including the effects of surprise should be included in initial, type and recurrent training.

Status: Open – **Category**:

Safety Recommendation FRAN-2012-022 (BEA):
The BEA recommends that EASA evaluate the possibility of requiring that the autopilot disengagement aural warning for all aeroplanes of a maximum mass on take-off of more than 5.7 t be triggered in compliance with paragraphs AMC 25.1322 and AMC 25.1329(j) of the CS-25. [Recommendation FRAN- 2012-022]

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

Safety Recommendation FRAN-2012-025 (BEA):
The BEA recommends that EASA and ICAO require that the minimum recording duration of CVR's be increased to allow the recording in full of long-haul flights. [Recommendation FRAN-2012-025]

Reply

The Agency has launched rulemaking tasks RMT.0400 and RMT.0401 with the publication of the associated Terms of Reference on 26 September 2012. This Safety Recommendation is being considered within the framework of these tasks.

Status: Closed – **Category**: Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. EI-RJW	BAE BAE146	Basel-Mulhouse-Freiburg Airport (68), France	17/06/2010	Incident

Synopsis of the event:

The crew was performing a flight from Paris Charles de Gaulle to Zürich. On arrival at Zürich at about 16 h 50, the crew made a go-around during final approach because of bad meteorological conditions. Given the immediate forecast and the absence of an estimated time for a new approach, the crew decided to divert to the diversion aerodrome, Basel-Mulhouse-Freiburg, without holding at Zürich. The remaining fuel quantity was about 2,170 kg, which corresponded to about 75 minutes of flight at cruising speed. The Zürich controller informed the controller in charge of coordination at Basel-Mulhouse-Freiburg of the diversion of the BAE 146 due to meteorological conditions. At 17 h 11, during the first contact with the Basel-Mulhouse-Freiburg approach controller, the crew declared that they had diverted. The controller informed them that they would be radar-vectored for runway 33. About 8 minutes later, during radar vectoring, the crew asked for a shortened flight path, without giving any reason. At 17 h 20, the approach controller cleared the crew to intercept the ILS and to perform the approach then asked them to change frequency. The crew then contacted the tower controller and said they were 14 NM from runway 33. At 17 h 24 min 29, the tower controller asked, in French, the crew of an A319, situated at the holding point, if they were "ready for a departure within a minute". The latter answered immediately: "ah within a minute yes in thirty seconds". The controller then cleared them to line up on the runway and to take off. On final approach, the crew of the BAE 146 noticed the A319 on the runway. When the airplane was about 4.7 NM from the runway threshold, they contacted the tower controller to ask him to confirm that they were in fact cleared to land. The controller answered: "negative, continue approach runway three three, an Airbus three one nine at departure". At 17 h 26 min 16, while the BAe146 was 1.8 NM from the runway threshold, the crew of the A319 not having taken off, the tower controller told them: "stop immediately, hold position, repeat, stop immediately, a BAe 46 on go-around". Then he asked the crew of the BAe to make a go-around. The latter refused because they did not have enough fuel and asked that the A319 vacate the runway. Note: At this time and according to the airline's analysis, the quantity of fuel remaining was estimated at 1,400 kg. The final reserve is defined as 850 kg. At 17 h 26 min 36, the controller ordered a go-around, which the crew performed. At 17 h 26 min 58, the crew stated: "we are declaring a fuel emergency now we request priority vectors for landing". The tower controller contacted the approach controller by telephone. They decided to have the airplane climb to 6,000 ft on the extended runway centreline and to "make it as short as possible". The tower controller asked the crew to climb to 6,000 ft and to change frequency. At 17 h 28 min 23, the crew of the BAe 146 contacted approach control: "Mayday Mayday Mayday, City 108X, declaring fuel emergency, request priority landing". After ensuring that they had the runway in sight, the approach controller offered the crew of the BAe 146 a visual approach, which was accepted. At 17 h 34, the crew landed. On the ground, the quantity of fuel remaining was 1,220 kg.

Safety Recommendation FRAN-2012-026 (BEA):
The BEA recommends that the DGAC and EASA implement the "minimum fuel" message already defined by ICAO, with the associated procedures.

Reply

Rulemaking tasks RMT.0573 and RMT.0574 'Fuel planning and management' are on the Agency's Rulemaking Programme 2013-2016. This Safety Recommendation will be considered within the framework of these tasks.

More specifically, the above-mentioned tasks will take into account amendment 36 of International Civil Aviation Organization (ICAO) Annex 6 Part I, in particular the following fuel related messages to be applied by the pilot-in-command/commander:

- To request delay information from Air Traffic Control (ATC);
- To advise ATC of a minimum fuel state by declaring 'MINIMUM FUEL';
- To declare a situation of fuel emergency by broadcasting 'MAYDAY MAYDAY MAYDAY FUEL'.

Status: Open – **Category**:

Registration	Aircraft Type	Location	Date of event	Event Type
1. F-OIEL	AEROSPATIALE AS350	1 NM au Sud Est de la Croisée d'Apatou	04/08/2010	Accident

Synopsis of the event: On 4 August 2010, the pilot was transporting flexible petrol tanks with a sling between the Croisée d'Apatou landing zone and the gold prospecting site at Saint Pierre. At around 14 h 15, during the fourth rotation, he put the helicopter in a hover about 1.50 m above the ground vertically above the load. A ground assistant attached the load to the hook located under the helicopter. The pilot lifted the load from the ground and the assistant checked that it was correctly positioned inside the net. He signalled to the pilot that everything was normal and the latter took off in the direction of Saint Pierre. About one minute later, the aircraft crashed in the forest in an area that was difficult to access, around 1 Nm from its departure point. A few hours later the rescue services found the burnt-out wreckage.

Safety Recommendation FRAN-2012-028 (BEA):
Le BEA recommande que l'AESA et la DGAC s'assurent que le matériel d'élingage pour le transport de charge externe inerte soit conçu et utilisé selon les normes de sécurité définies par la Directive Européenne «Machines» (ou sa transposition en droit français dans le Code du travail).

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

Safety Recommendation FRAN-2012-029 (BEA):
Le BEA recommande que l'AESA et la DGAC définissent une formation spécifique destinée aux acteurs du travail aérien dans le cadre du transport de charge externe inerte, ou s'assurent que les opérateurs définissent et appliquent une formation d'un niveau équivalent.

Reply

As sling load operations with helicopters are covering a wide spectrum of operations, a standard, specific training course cannot be produced at EASA level.

Specific training must be provided in relation to the mission in question, or to each operators specific operational concept, and must be the responsibility of the operator under authority oversight.

EASA considers the recommendation to be fulfilled through Opinion No 02/2012 of the European Aviation Safety Agency of 16 April 2012 for a Commission Regulation establishing the Implementing Rules for air operations "Air Operations – OPS".

The opinion includes Annex VIII Part-SPO (Specialised operations). Subpart E, Section 1 to Part-SPO is related to "Helicopter external sling load operations." This section defines the operator's responsibilities to establish standard operating procedures.

In relation to training the procedures specify requirements to establish relevant training for crew members and task specialists to perform their task. (A task specialist is a person, not part of the flight crew, required for the mission.)

Training shall also include normal, abnormal and emergency procedures.

Furthermore qualification and nomination of persons providing the training shall be included in the standard operating procedures.

Status: Closed – **Category**: Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. F-GRZF	BOMBARDIER CL600 2B19	Paris Roissy-Charles de Gaulle Airport (95), France	01/07/2010	Incident

Synopsis of the event: During the landing roll, the crew heard a loud bang and smelled smoke. They noted the loss on the EICAS of the indication of the oxygen pressure on the crew system. After exiting the runway, the crew requested assistance from the fire service for an external examination of the airplane. On arrival at the parking zone, maintenance technicians found that the oxygen pressure transducer on the flight crew oxygen system was damaged and showed traces of burning.

Safety Recommendation FRAN-2012-030 (BEA):
Le BEA recommande que l'AESA s'assure que la conception des systèmes d'oxygène gazeux ne permette pas une concentration d'oxygène sous pression dans des zones non prévues à cet effet.

Reply

Certification Specification (CS) 25 provides the specifications for protecting the aircraft against hazards from oxygen systems [CS 25.869(c), CS 25.1301, CS 25.1309, 25.1441(b), CS 25.1453]. Part of the CS 25.1309 compliance, the Common Cause Analysis addresses Particular Risk Analysis such as Fire & Explosion Risk at aircraft level in consideration of foreseen failure modes.

In light of some in-service events, the interpretation of the specifications related to the Oxygen Fed Fire Hazards has been reviewed and further detailed in a Certification Review Item (CRI) that is becoming generic on certification projects. It addresses Oxygen system installation precautions, Failure Mode and Effect Analysis (FMEA) and System Safety Assessment (SSA) and requires a specific Oxygen Hazard Analysis with considerations given to operating conditions, use of material and ignition mechanism. Finally, the CRI provides design considerations.

The application of this CRI would ensure that an oxygen fed fire or explosion would not result from a single failure. Therefore this would address the failure mode illustrated by this event and meet the intent of this Safety Recommendation. In addition, the Agency will amend CS-25 to incorporate the material of this CRI (rulemaking task RMT.0458 of the Rulemaking Programme 2013-2016).

Status: Closed – **Category**: Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. F-GABB	AVIONS ROBIN DR400	AD Le Touquet Paris-Plage (62), France	04/04/2011	Accident

Synopsis of the event: The student was undertaking a dual-control instruction flight between Dunkirk (59) and Le Touquet aerodromes. On arrival, he flew the downwind leg for a landing on runway 32. The flare and main landing gear touchdown occurred without any problems. When the nose gear touched down, the aeroplane was subject to strong vibrations. The instructor pushed the control column forwards and braked. The nose gear collapsed and the aeroplane came to a stop on the runway.

Safety Recommendation FRAN-2012-031 (BEA):
Le BEA recommande que l'AESA mette en place, en collaboration avec la DGAC, une solution technique afin de prévenir l'apparition de nouvelles ruptures de ce type, et de modifier la consigne de navigabilité EU-2010-0231 en conséquence.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

Registration	Aircraft Type	Location	Date of event	Event Type
1. F-GUVQ	DIAMOND DA40	Montélimar aerodrome (26), France	26/06/2011	Incident

Synopsis of the event: Le pilote réalise une navigation entre les aérodromes de Clermont-Ferrand Aulnat (63) et Cannes Mandelieu (83). Après environ 1 heure de vol, en croisière au FL95, à la verticale de l'aérodrome de Montélimar, le pilote constate l'allumage des voyants « ECU(2) A fail » et « ECU? fail » puis une baisse de puissance du moteur vers 5 %. Il réalise un atterrissage forcé sur l'aérodrome de Montélimar.

Safety Recommendation FRAN-2012-057 (BEA):

Le BEA recommande que l'AESA requière de Thielert une amélioration de la partie électrique du système de régulation de la pression de carburant des moteurs TAE 125, de manière à la rendre moins vulnérable aux interruptions électriques.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

Safety Recommendation FRAN-2012-058 (BEA):

Le BEA recommande que l'AESA requière de Thielert le développement de vérifications spécifiques à l'issue des interventions sur la chaîne de régulation de la pression de carburant, afin de détecter d'éventuelles défaillances.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

Registration	Aircraft Type	Location	Date of event	Event Type
1. I-MLHT	FOKKER F27	AD Paris Charles de Gaulle (95), France	20/09/2011	Serious incident

Synopsis of the event: L'équipage décolle à 23 h 37 de l'aérodrome de Paris Charles de Gaulle à destination de Dôle Tavaux. A 23 h 46 alors que le Fokker 27 approche le niveau de vol 60 en montée, l'équipage constate l'allumage du voyant « feu moteur » droit avec le fonctionnement de l'alarme sonore. Il applique la procédure « feu moteur » et se déclare en détresse. Après avoir utilisé l'un des deux extincteurs et arrêté le moteur droit, il constate l'extinction du voyant « feu moteur ». Il fait demi-tour et atterrit sans autre incident à Paris-Charles-de-Gaulle.

Safety Recommendation FRAN-2012-060 (BEA):

Le BEA recommande que l'EASA s'assure de la modification des Manuels de Maintenance des moteurs Rolls-Royce Dart RDa6, Dart RDa7 et Dart RDa10 pour qu'ils prennent en compte les particularités des opérations sur une seule chambre de combustion lorsque le moteur est monté sur avion, notamment celles relatives aux opérations de la chambre de combustion n° 3.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

Safety Recommendation FRAN-2012-061 (BEA):

Le BEA recommande que l'EASA s'assure de la modification des IPC relatifs à chacun des moteurs Rolls-Royce Dart RDa6, Dart RDa7 et Dart RDa10 pour que l'embout rapporté de la « prise 3 voies » du côté des parties froides soit indiqué.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

Germany

Registration	Aircraft Type	Location	Date of event	Event Type
1. D-AIQP	AIRBUS A320	Hamburg, Germany	01/03/2008	Serious incident

Synopsis of the event:

Because of the weather associated with hurricane Emma, on 1 March 2008 the Airbus A320 left Munich Airport on a scheduled flight to Hamburg at 1231hrs about two hours behind schedule, with a crew of five and 132 passengers. Given the ATIS weather report including wind of 280°/23 kt with gusts of up to 37 kt, during the cruise phase of the flight the crew decided on an approach to Runway 23, the runway then also in use by other traffic. During the approach to land, the aerodrome controller gave several updates on the wind. Immediately prior to touchdown, the wind was reported as 300°/33 kt, gusting up to 47 kt. The initial descent was flown by autopilot and the co-pilot assumed manual control from 940 ft above ground. After the aircraft left main landing gear had touched down, the aircraft lifted off again and immediately adopted a left wing down attitude, whereupon the left wingtip touched the ground. The crew initiated a go-around procedure. The aircraft continued to climb under radar guidance to the downwind leg of runway 33, where it landed at 1352 hrs. No aircraft occupants were injured. The aircraft left wingtip suffered damage from contact with the runway.

Safety Recommendation GERF-2010-006 (BFU):
EASA should place a contract with a suitable research institute (DLR, University or similar) to determine what measuring systems are suitable to detect the presence of near-surface gusts on airports, and how the resulting gust data and wind direction information should be processed and communicated to pilots. The results should lead to a process through which the information so obtained can be standardised and incorporated into the regulations governing air operations.

Reply

The contract with a research organisation for a survey of existing sensors and techniques suitable for the detection of near-ground wind gusts and the analysis of issues in communicating such information efficiently to pilots is in place. The Authority in charge of the investigation, the Bundesstelle für Flugunfalluntersuchung (BFU), is associated with the project. The results will be available at the end of 2012.

Status: Closed – **Category**: Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1.	GROB	Mindelheim-Mattsies, Germany	29/11/2006	Accident

Synopsis of the event: At 13:341 hrs on 29 November 2006 the German Federal Bureau of Aircraft Accident Investigation (BFU) was informed by the Search and Rescue service (SAR) of an accident to a Grob G 180A aircraft in Mattsies. Three members of BFU staff arrived at the accident site at about 21:00 hrs and began an investigation. Their arrival was preceded by an external expert for field investigation. The aircraft had taken off from the Grob

company airfield of Mindelheim-Mattsies at 13:12 hrs with the intention of demonstrating the aircraft' performance with a fly-past to a group of visitors on the ground at the invitation of the aircraft manufacturer. After the G 180A had flown east around the village of Tussenhausen and turned to line up for the fly-past towards Mindelheim-Mattsies airfield, parts of the stabilizer detached. The aircraft rapidly lost height and at 13:15 hrs crashed into a meadow about 1,500 m south-east of the airfield. The pilot was fatally injured and the aircraft destroyed in the crash. The cause of the accident was that the horizontal stabilizer broke up in flight due to aerodynamic flutter, with the result that the aircraft could no longer be controlled. Due to the absence of flight data and the limited investigation options, it was not possible to conclusively determine the factors that led to the flutter.

Safety Recommendation GERF-2010-014 (BFU):
The European Aviation Safety Agency (EASA) should ensure that aircraft with a maximum take off weight (MTOW) of more than 5,700 kg will be fitted with a Flight Data Recorder (FDR) and a Cockpit Voice Recorder (CVR) during the entire flight test programme leading to Type Certification and during demonstration flights. In lieu of which, the uninterrupted transmission of flight data via telemetry is acceptable.

Reply

The Agency will take into account this safety recommendation in the frame of rulemaking tasks RMT.0348 and RMT.0349 which will propose air operations implementing rules and associated acceptable means of compliance and guidance material applicable to flights related to design and production activities. The terms of reference for these two tasks, dated 31 May 2012, have been published on the EASA Website.

Status: Closed – **Category**: Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. D-ALCR	MCDONNELL DOUGLAS MD11	Dakar, Senegal	19/02/2006	Accident

Synopsis of the event: On the cargo flight Dakar – Frankfurt, both pilots and a passenger experienced intense pain in their ears during climb out of Dakar at 1558 hrs in Flight Level (FL) 250 which was accompanied by a loud noise. The Alert Display (AD) of the Engine and Alert Displays (EAD) showed message Cabin Rate. The crew noticed an almost fully open outflow valve being indicated on the Cabin Pressure Control Panel. A cabin rate of more than 2,000 ft/min had been indicated. The crew reported the incident via Aircraft Communications Addressing and Reporting System (ARCAS) to the maintenance organisation in Frankfurt and decided to continue their flight to Frankfurt at a reduced cruising altitude. There were no further problems with the pressurised cabin on the flight to Frankfurt. After the landing, the occupants of the aircraft sought medical help because of the pain in their ears. Minor injuries were diagnosed for the co-pilot and the passenger. The PIC suffered an injury of his right inner ear with permanent hearing loss. This diagnosis resulted in a permanent loss of his medical certificate.

Safety Recommendation GERF-2012-010 (BFU):
EASA should amend the aeronautical regulations for commercial air transport regarding continuous airworthiness. The aviation regulation should ensure that aircraft operators recognise error messages and malfunctions which recur in spite of routine maintenance procedures and their risk potential. If applicable, actions to recognize failures and remedy them should be initiated which go beyond the manufacturer instructions, the standard trouble shooting routine and the so-called Return to Service Test.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010

Status: Open – **Category**:

Registration	Aircraft Type	Location	Date of event	Event Type
1. D-CTOB	DORNIER 328	Mannheim, Germany	19/03/2008	Accident

Synopsis of the event: Am 19. März 2008 verunfallte eine Do 328-100, als sie nach der Landung auf dem Flugplatz Mannheim-City über das Pistenende hinausrollte und mit einem Erdwall kollidierte. Das Luftfahrzeug war in Berlin-Tempelhof zu einem Linienflug nach Mannheim City gestartet. Es befanden sich 24 Passagiere und drei Besatzungsmitglieder an Bord. Das Flugzeug wurde auf diesem Flug vom Copiloten gesteuert. Nach einem ereignislosen Reiseflug erfolgte der Anflug in Mannheim auf die Piste 27 gemäß dem veröffentlichten LOC/DME-Anflugverfahren. Wenige Sekunden vor dem Aufsetzen übergab der Copilot die Steuerung an den verantwortlichen Flugzeugführer. Dieser setzte die Landung fort. Aufgrund einer unpassenden Leistungseinstellung der Triebwerke berührte das Hauptfahrwerk erst hinter der Aufsetzzone zum ersten Mal die Piste und das Flugzeug bekam erst auf den letzten 150 m der Piste endgültigen Bodenkontakt. Nach Aussagen der Besatzung ließen sich nach dem Aufsetzen die Leistungshebel der Triebwerke zunächst nicht in den Leerlaufbereich ziehen und somit stand keine Schubumkehr zur Verfügung. Daraufhin wurde die Emergency/Park Brake (E/P Brake) betätigt. Das Flugzeug rollte über das Ende der Piste hinaus und prallte ca. 50 m hinter dem Pistenende gegen einen Erdwall. Es wurde hierbei schwer beschädigt.

Safety Recommendation GERF-2012-030 (BFU):
The European Aviation Safety Agency (EASA) should define a written process for the handling of safety recommendations which ensures that they are processed, assessed and answered in a documented fashion.

Reply

EASA has a written procedure for handling Safety Recommendations, which complies with the ICAO Annex 13 Chapter 6 and the European Regulation (EU) No 996/2010, article 18.

This procedure is part of the Agency's quality management system and fulfils the ISO Standards Requirements (NF EN ISO 9001:2008), for which EASA has been certified.

Status: Closed – **Category**: No longer applicable

Greece

Registration	Aircraft Type	Location	Date of event	Event Type
1. 5B-DBY	BOEING 737	Grammatiko, Greece	14/08/2005	Accident

Synopsis of the event: On 14 August 2005, a Boeing 737-300 aircraft, registration number 5B-DBY, operated by Helios Airways, departed Larnaca, Cyprus at 06:07 h for Prague, Czech Republic, via Athens, Hellas. The aircraft was cleared to climb to FL340 and to proceed direct to RDS VOR. As the aircraft climbed through 16 000 ft, the Captain contacted the company Operations Centre and reported a Take-off Configuration Warning and an Equipment Cooling system problem. Several communications between the Captain and the Operations Centre took place in the next eight minutes concerning the above problems and ended as the aircraft climbed through 28 900 ft. Thereafter, there was no response to radio calls to the aircraft. During the climb, at an aircraft altitude of 18 200 ft, the passenger oxygen masks deployed in the cabin. The aircraft leveled off at FL340 and continued on its programmed route. At 07:21 h, the aircraft flew over the KEA VOR, then over the Athens International Airport, and subsequently entered the KEA VOR holding pattern at 07:38 h. At 08:24 h, during the sixth holding pattern, the Boeing 737 was intercepted by two F-16 aircraft of the Hellenic Air Force. One of the F-16 pilots observed the aircraft at close range and reported at 08:32 h that the Captain's seat was vacant, the First Officer's seat was occupied by someone who was slumped over the controls, the passenger oxygen masks were seen dangling and three motionless passengers were seen seated wearing oxygen masks in the cabin. No external damage or fire was noted and the aircraft was not responding to radio calls. At 08:49 h, he reported a person not wearing an oxygen mask entering the cockpit and occupying the Captain's seat. The F-16 pilot tried to attract his attention without success. At 08:50 h, the left engine flamed out due to fuel depletion and the aircraft started descending. At 08:54 h, two MAYDAY messages were recorded on the CVR. At 09:00 h, the right engine also flamed out at an altitude of approximately 7 100 ft. The aircraft continued descending rapidly and impacted hilly terrain at 09:03 h in the vicinity of Grammatiko village, Hellas, approximately 33 km northwest of the Athens International Airport. The 115 passengers and 6 crew members on board were fatally injured. The aircraft was destroyed.

Safety Recommendation GREC-2006-042 (AAIASB):

EASA/JAA require aircraft manufacturers to install in newly manufactured aircraft, and on a retrofit basis in older aircraft, in addition to the existing cabin altitude warning horn, a visual and/or an oral alert warning when the cabin altitude exceeds 10 000 ft.

Reply

Rulemaking Task 25.037(a) (referred in our initial reply letter) has led to amendment 11 to Certification Specification (CS)-25. The new CS 25.1322 specification requires that Warning and Caution alerts provide timely attention-getting cues through at least two different senses by a combination of aural, visual, or tactile indications. The new standard is applicable to new large aeroplane Types certification (or to some major changes to already certificated Types).

Concerning the proposal of retrofitting already certificated Types with new alerting system requirements for cabin altitude, the Agency assessment concluded that the induced cost would not be proportionate to the associated safety benefit. There is no indication that a general safety case exists for all large aeroplanes with regard to this particular alert. Furthermore, adequate mandatory corrective actions have been taken on the Type involved in this accident to improve the Aircraft Flight Manual procedures (improved procedures for pre-flight setup of the cabin pressurization system, improved procedures for interpreting and responding to the cabin altitude and take-off configuration warning horn).

Status: Closed – **Category**: Partial agreement

Safety Recommendation GREC-2006-048 (AAIASB):
EASA/JAA and ICAO study the feasibility of requiring the installation of crash protected image recorders on the flight deck of commercial aircraft.

Reply

Further to the Agency's interim response [Ref. 05/12/2011 – Reply doc. Ref. 55766 (2011), here is an update on the issue.

We understand that the Safety Recommendation refers to an airborne image recorder that would capture a general view of the cockpit area, in addition to the information recorded by the Flight Data Recorder (FDR) and the Cockpit Voice Recorder (CVR). Operators may install such equipment on a voulentary basis.

A consultation with Contracting States, conducted by ICAO in 2009 and 2010, precisely revealed that most States had not implemented any legislation to protect the contents of image recorders from improper use and that many States were concerned that safety data collection might be adversely impacted by the misuse of image recordings. In addition, while the protection of airborne image recorders in the frame of a safety investigation is addressed in ICAO Annex 13, there is no equivalent ICAO provision addressing their use in day-to-day operation. This may have a significant negative impact on safety culture and on safety data collection that would outweigh the potential benefits of airborne image recorders for the safety investigation.

The Agency considers legal protection a prerequisite to mandatory carriage requirement, but it does not have the regulatory tools to put in place this legal protection at a global level. The Agency is promoting at ICAO the introduction of Standards to prohibit the use of recordings of airborne image recorders for other purposes than the safety investigation.

Once legal protection of airborne image recordings has been established by a majority of Contracting States, the Agency will re-consider the mandatory carriage of airborne image recorders.

Status: Closed – **Category**: Partial agreement

Hungary

Registration	Aircraft Type	Location	Date of event	Event Type
1. YR-ATG	ATR ATR42	Budapest Airport (LHBP), Hungary	17/06/2011	Serious incident

Synopsis of the event: After take-off from runway 31L, at around 1200 ft AGL, the crew noticed what sounded like engine stall of engine? 2. They set the affected engine to Flight Idle. Shortly thereafter the Engine Low Oil Pressure Warning came in, followed by Engine Fire Warning. The crew performed - from memory - the required emergency checklist actions (in-flight engine fire or severe mechanical damage). The propeller of the malfunctioned engine was set to feather. The crew declared an emergency by reporting MAYDAY and requested an immediate landing. The Tower secured runway 13L for the emergency landing. The captain took the aircraft into a tight right turn while the first officer initiated the fire extinguishing system by discharging first the agent No 1 then No 2. The fire inside the engine nacelle was successfully put out. The passengers saw the flames and the smoke coming out of the engine nacelle. Some smoke was visible inside the main cabin which caused panic among the passengers. A single engine landing was performed on runway 13L. Once the aircraft stopped on a taxiway, the passengers were evacuated on the captain's command. The aerodrome emergency services were waiting for the aircraft but there was no need for intervention because the fire had already been stopped. Based on the information received from the operator, the crew used a QRH issued by the manufacturer in December 2009.

Safety Recommendation HUNG-2012-001 (TSB):

EASA to review the emergency procedures on ATR aircraft in order to ensure efficient removal of persisting smoke and appropriate cockpit/passenger cabin ventilation.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

Safety Recommendation HUNG-2012-004 (TSB):

EASA to consider the need to harmonize the procedures, or to review the existing documentation as necessary, in order to establish in all cases a time limit within which to make effective in the AFM owned by operators the amendments approved by EASA.

Reply

The Agency understands that the intention of the Safety Recommendation is to establish a time limit for operators to apply changes in the aircraft flight manual (AFM) as provided to them by the manufacturers.

This will be considered during rulemaking tasks RMT.0292 and RMT.0293 'Updating EASA OPS (Operations) implementing rules' which are on the Agency's Rulemaking Programme 2013-2016.

Status: Open – **Category**:

Safety Recommendation HUNG-2012-005 (TSB):
EASA to promote an internal debate (e.g.: dedicated working group, workshop, etc.) to carefully evaluate the pros and cons of a continuously increasing of memory items introduced in the implementation or review of the emergency procedure, mainly when to be applied in a critical phase of flight.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010

Status: Open – **Category**:

Iceland

Registration	Aircraft Type	Location	Date of event	Event Type
1. TF-JXF	BOEING 737	Keflavic, Iceland	28/10/2007	Serious incident

Synopsis of the event: JetX flight AEU804 (callsign Flightstar 804) was a subcharter to carry a 189 passengers from Antalya, Turkey to Keflavik, Iceland. The flight was a positioning flight from Keflavik to Antalya and the actual passenger load from Antalya was 187 passengers plus one infant. The flight crew was augmented by one pilot as the duration of the flight duty was estimated to be 14 hours and 15 minutes. Due to technical reasons and flight planning the flight was delayed and the actual duration of the flight duty period was 17 hours and 20 minutes. The flight crew rested in the cockpit of the aircraft and did not use the crew rest area located in the passenger compartment from Keflavik to Antalya nor on the way back to Keflavik. The flight crew made an unscheduled fuel stop in Edinburgh before continuing on the last leg to Keflavik. An approach was set up for runway 02 at Keflavik International Airport. The aircraft contacted the runway and then bounced up into the air again before full runway contact was made with the main landing gear tires followed by the nose landing gear tire. The aircraft was not decelerated enough when nearing the runway end so the pilot flying attempted to turn the aircraft onto taxiway November at the end of the runway. The aircraft skidded off the taxiway and came to rest parallel to the taxiway with the nose landing gear and the right main landing gear off the paved surface. There were no injuries to the passengers or the crew.

Safety Recommendation ICLD-2011-001 (AIB):

Recommendation to EASA: Modify the flight and duty time regulations to take into consideration factors shown by recent research, scientific evidence, and current industry experience to affect crew alertness (reference NTSB recommendation A-06-010).

Reply

The Safety Recommendation is addressed in Agency Opinion 04/2012 and draft EASA Executive Director (ED) Decision on "Implementing Rules on Flight and Duty Time Limitations and rest requirements (FTL) for commercial air transport (CAT) with aeroplanes", which were published on 01 October 2012.

Status: Closed – **Category**: Partial agreement

Safety Recommendation ICLD-2011-002 (AIB):

Recommendation to EASA: Ensure operators have adequate on-board rest facilities when required by regulations. The crew rest facility should ensure a dark and quiet (most silent area on-board aircraft) environment where the skeletal muscles can fully relax in a horizontal position.

Reply

The Safety Recommendation is addressed in Agency Opinion 04/2012 and draft EASA Executive Director (ED) Decision on "Implementing Rules on Flight and Duty Time Limitations and rest requirements (FTL) for commercial air transport (CAT) with aeroplanes", which were published on 01 October 2012.

Status: Closed – **Category**: Partial agreement

Safety Recommendation ICLD-2011-003 (AIB):
Recommendation to EASA: Develop guidance, based on empirical and scientific evidence, for operators to establish fatigue management systems, including information about the content and implementation of these systems (reference NTSB recommendation A-08-044).

Reply

The Safety Recommendation is addressed in Agency Opinion 04/2012 and draft EASA Executive Director (ED) Decision on "Implementing Rules on Flight and Duty Time Limitations and rest requirements (FTL) for commercial air transport (CAT) with aeroplanes", which were published on 01 October 2012.

Status: Closed – **Category**: Partial agreement

Safety Recommendation ICLD-2011-004 (AIB):
Recommendation to EASA: Develop and use a methodology that will continually assess the effectiveness of fatigue management systems implemented by operators, including their ability to improve sleep and alertness, mitigate performance errors, and prevent incidents and accidents (reference NTSB recommendation A-08-045).

Reply

The Safety Recommendation is addressed in Agency Opinion 04/2012 and draft EASA Executive Director (ED) Decision on "Implementing Rules on Flight and Duty Time Limitations and rest requirements (FTL) for commercial air transport (CAT) with aeroplanes", which were published on 01 October 2012.

Status: Closed – **Category**: Partial agreement

Ireland

Registration	Aircraft Type	Location	Date of event	Event Type
1. EI-CBK	ATR ATR42	Dublin, Ireland	08/08/2003	Serious incident

Synopsis of the event: The aircraft was in the cruise, routing from Luton Airport (EGGW) in the UK, to Galway (EICM), when the RH engine spooled down and stopped. The crew made a PAN call to Shannon ATC. They initially considered diverting to Dublin (EIDW) or Belfast (EGAA) but these were closed due to fog. They then decided to divert to Shannon (EINN) and landed there safely on one engine. The Investigation subsequently found that the RH engine stopped because the fuel tank feeding this engine was empty.

Safety Recommendation IRLD-2005-010 (AAIU):
The EASA should review the certification criteria for public transport aircraft low fuel contents warning systems, with a view to requiring such systems to be independent of the main contents gauging systems.

Reply

This Safety Recommendation has been considered under EASA rulemaking task 25.055. The Notice of Proposed Amendment (NPA) 2011-13 was published on 22 July 2011 and the Comment Response Document (CRD) 2011-13 was published on 27 January 2012.

New Certification Specifications (CS)-25 fuel indication system(s) standards [CS 25.1305(a)(2) and a corresponding AMC] are introduced. A low fuel level alert is required, and this alert must be such that the alert and the fuel quantity indication are not adversely affected by the same single failure. The new standards will be published in the next amendment of CS-25.

Status: Closed – **Category**: Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. EI-ENB	BOEING 737	Kerry Airport (EIKY), Co. Kerry, Ireland	21/12/2010	Incident

Synopsis of the event: Shortly after landing, smoke was observed in both the cockpit and cabin. The aircraft was stopped, the engines were shut down and an evacuation was carried out. No technical defect was found during the subsequent examination. It is probable that the smoke was caused by the engines ingesting granular urea, which had been used to de-ice the runway during a very cold weather period.

Safety Recommendation IRLD-2012-003 (AAIU):
European Aviation Safety Agency (EASA) should introduce a requirement that the CVR should continue to record in the event of power failure.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010 (ICAO Annex 13, paragraph 6.10).

Status: Open – **Category**:

Italy

Registration	Aircraft Type	Location	Date of event	Event Type
1. TS-LBB	ATR ATR72	Palermo (Sicily), Italy	06/08/2005	Accident

Synopsis of the event: The accident occurred on August 6th, 2005, at 13.39 UTC (15.39 local time) and involved an ATR 72-202 aircraft, registration marks TS-LBB, operating the flight TUI 1153 from Bari to Djerba (Tunisia). The aircraft had ditched into the sea off the coast of Capo Gallo (Palermo) following the failure of both engines. The aircraft had taken off from Bari at 12.32 UTC with 39 people on board (4 crew members and 35 passengers, among which 1 airline engineer). While cruising, approximately 50 minutes after takeoff, at flight level 230 (FL 230, 23.000 feet), the right engine shut down (no. 2) and after approximately 100 seconds also the left engine shut down (no. 1). The flight crew decided to divert to the airport at Palermo, Punta Raisi, to make a precautionary landing. The crew referred to having tried to restart both engines, but without success. After gliding for approximately 16 minutes, the aircraft ditched approximately 23 nautical miles northeast from Palermo's airport, Punta Raisi, within Italian territorial waters. On impact with the surface of the sea, the aircraft broke into three pieces; 14 passengers, the airline engineer and a member of the crew (senior flight attendant) reported fatal injuries. The other occupants suffered serious to minor injuries.

Safety Recommendation ITAL-2005-013 (ANSV):

The EASA should consider the possibility to change the fuel system certification regulation for public transport aircraft, in order to require that the fuel low level warnings be independent from the fuel gauging systems.

Reply

This Safety Recommendation has been considered under EASA rulemaking task 25.055. The Notice of Proposed Amendment (NPA) 2011-13 was published on 22 July 2011 and the Comment Response Document (CRD) 2011-13 was published on 27 January 2012.

New Certification Specifications (CS)-25 fuel indication system(s) standards [CS 25.1305(a)(2) and a corresponding AMC] are introduced. A low fuel level alert is required, and this alert must be such that the alert and the fuel quantity indication are not adversely affected by the same single failure. The new standards will be published in the next amendment of CS-25.

Status: Closed – **Category**: Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. S5-DNE	DIAMOND DA42	Trieste-Ronchi dei Legionari airport (LIPQ), Italy	11/04/2010	Accident

Synopsis of the event: On April 11th, 2010, a Diamond DA42 'TwinStar" registration marks S5-DNE, due to landing gear extension problems during approach to Portoroz airport (LJPZ), diverted to Trieste-Ronchi dei Legionari airport (LIPQ) to land on a safer runway, with the left main landing gear not down. The aircraft stopped safely on the runway and the emergency services on the airport approached the aircraft but no action has been needed.

Minor damages to the aircraft no damages to the airport and no injuries were reported. The aircraft was moved to a parking area through the use of a little crane.

Safety Recommendation ITAL-2011-014 (ANSV):
ANSV recommends EASA and FAA that an additional inspection should be asked as soon as possible to the Operators/Owner of the aircraft now in operation, in order to check the component for the installation of the item "9" -figure 1, on all dumpers not yet modified as per RSB 42-089/1. (ANSV-14/351-10/1/A/11)

Reply

The Type Certificate Holder has issued the Mandatory Service Bulletin MSB 42-095 that provides instructions for inspection and replacement of the Main Landing Gear damper nut. Airworthiness Directive (AD) 2012-0174 has been issued to mandate this action.

Status: Closed – **Category**: Agreement

Safety Recommendation ITAL-2011-015 (ANSV):
ANSV recommends EASA and FAA that the different choice on the nut locking method stated on the RSB 42-089/1 should become "mandatory" since the previous solution adopted by Designer (application of Loctite 262 only) appears to be not sufficient at all. (ANSV-15/351-10/2/A/11)

Reply

The Type Certificate Holder has issued the Mandatory Service Bulletin MSB 42-095 that provides instructions for inspection and replacement of the Main Landing Gear damper nut. Airworthiness Directive (AD) 2012-0174 has been issued to mandate this action.

Status: Closed – **Category**: Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. EI-EDM	AIRBUS A319	Palermo airport, Italy	24/09/2010	Accident

Synopsis of the event: 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, 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.

Safety Recommendation ITAL-2011-018 (ANSV):
ANSV 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 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)

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

Status: Open – **Category**:

Registration	Aircraft Type	Location	Date of event	Event Type
1. I-ADCC	ATR ATR72	Firenze Airport-Peretola (LIRQ), Italy	03/10/2011	Serious incident

Synopsis of the event: After a bleed-off aircraft configuration take-off from runway 23, at around 400 ft AGL, the cockpit Master Warning was triggered referring to Engine 1 low oil pressure, but shortly after any malfunction indication disappeared. Climb continued till acceleration altitude with one more short Engl oil LP indication. At 1570 ft, when climb sequence was completed and bleed valves switched on, oil LP indication popped up again while ITT value dropped to zero. In absence of additional abnormal parameters, the crew believed in a faulty indication, but soon visual and aural warnings notified an Engine 1 fire condition, together with smoke in the cabin. So, an in-flight engine fire emergency procedure was applied by shutting down the engine and attempting to discharge the extinguisher agent. An emergency call was made to Firenze APP and the crew stated his intention to come back to the airport to land on runway 05. Approach and landing took place uneventfully and the precautionary fire brigade assistance was provided when aircraft stopped on Taxiway P. Precautionary evacuation was carried out at that stage due to "HT brake warning light on". The investigation highlighted that the "fire or severe mechanical damage" emergency procedures were revised by ATR at least three times in fourteen months (only the month is edited on the revised pages) and introduced with a consistent delay in the AFM owned by the operator, therefore being effective for the crew.

Common Findings

During the joint meeting held at ANSV premises in Rome on 7-9 February 2012, the safety investigation authorities in charge of the three events verified the following main commonalities:

- All events occurred at initial climb;
- The events were all due to the initial distress of a Power Turbine 1st stage blade causing subsequent damages and heavy unbalance of the whole PT assembly, further unbalance of the LP rotor through No. 6 & 7 bearing housing, and final oil leakage due to breaking of No. 6 & 7 bearing compartment retaining bolts and distress of the radial transfer tubes. Fire was then originated by such a leakage in presence of hot parts;
- In all these serious incidents distress of the PT1 rotor blade was due to a crack propagated from an internal casting defect (shrinkage porosity) in the vicinity of the blade core pocket. Propagation is in accordance with a Low Cycle Fatigue mechanism.

Safety Recommendation ITAL-2012-006 (ANSV):
EASA to review the emergency procedures on ATR aircraft in order to ensure efficient removal of persisting smoke and appropriate cockpit/passenger cabin ventilation. (ANSV-6/1826-11/1/I/12)

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

Safety Recommendation ITAL-2012-009 (ANSV):
EASA to consider the need to harmonize the procedures, or to review the existing documentation as necessary, in order to establish in all cases a time limit within which to make effective in the AFM owned by operators the amendments approved by EASA. (ANSV-9/1826-11/4/I/12)

Reply

The Agency understands that the intention of the Safety Recommendation is to establish a time limit for operators to apply changes in the aircraft flight manual (AFM) as provided to them by the manufacturers. This will be considered during rulemaking tasks RMT.0292 and RMT.0293 'Updating EASA OPS (Operations) implementing rules' which are on the Agency's Rulemaking Programme 2013-2016.

Status: Open – **Category**:

Safety Recommendation ITAL-2012-010 (ANSV):
EASA to promote an internal debate (e.g. dedicated working group, workshop, etc.) to carefully evaluate the pros and cons of a continuously increasing of memory items introduced in the implementation or review of the emergency procedure, mainly when to be applied in a critical phase of flight. (ANSV-10/1826-11/5/I/12)

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

Malaysia

Registration	Aircraft Type	Location	Date of event	Event Type
1. 9M-STR	AEROSPATIALE AS332	South China Sea, off the coast of Bintulu, Malaysia	30/01/2007	Accident

Synopsis of the event: The aircraft was carrying out the second flight of the day from Miri airport in Malaysia transporting offshore workers to the Bayan oilfield. The flight involved delivering and collecting passengers and freight from three platforms within the field. The outbound transit from Miri was uneventful and following landings on two platforms, the aircraft departed for the third. The takeoff was normal and a transit was made at a height of 500 ft with the co-pilot as the Pilot Flying (PF). Approximately 4 nm from the destination platform, smoke entered the cabin from the area of the main transmission deck. It increased rapidly in both volume and density and spread to the flight deck. Hydraulic system and main gearbox warnings were accompanied by heavy flight control forces, loss of the Automatic Pilot (AP) and a main transmission warning. The commander, who was the Pilot not Flying (PNF) transmitted a distress message and warned the passengers to prepare for ditching. The PF descended the aircraft in order to carry out a controlled ditching and also inflated the aircraft's flotation equipment. Shortly before water contact the pilots were unable to clearly see the flight instruments or the outside visual references due to the density of the smoke. The aircraft struck the surface of the sea and immediately rolled over and settled, inverted in the water. Both pilots and seven of the eight passengers were able to exit the aircraft but one passenger remained secured in his seat in the cabin. He did not escape and drowned as a result of the accident. Following a search and rescue operation, the nine survivors were rescued and taken to hospital in Bintulu. The body of the passenger who did not escape was recovered from the submerged cabin the following day.

Safety Recommendation MALB-2009-002 (AIB):

The EASA, the certification body for the AS 332 type, should require helicopter manufacturer, Eurocopter, should consider redesign or reposition of the pilot's door jettison handles that enable the pilot regardless of his size, to locate or access the emergency door jettison handle.

Reply

A certifiable design should be governed by minimum certification design criteria. Therefore, EASA does not support the Safety Recommendation asking to redesign or reposition the flight crew door jettisoning handles regardless of the size of the pilot. It would go beyond usual certification objectives of Advisory Circular (AC) 29.805 for design of flight crew emergency exits and related devices where it specifies those to be adequate for a pilots population of men with height size between 5 feet 4 inches and 6 feet 5 inches.

The pilot involved in the accident had a noticeable small physical stature enabling him to escape through his door sliding window (report refers). As a follow-up of this accident, the manufacturer has checked that a person of the lowest size, seated with seat and seat belts properly adjusted, can still reach the handle.

Notwithstanding the above, EASA agreed on the Safety Information Notice SIN 2332-S-00 issued by the manufacturer, which reminds about standard pilots good practices for cockpit pre-flight checks: after correct locking and adjustment of crew seats and seat belts, to make sure that free access is possible to all flight controls and levers as well as to emergency jettison controls of pilots' doors. Moreover, the SIN emphasises safety benefits of gaining and maintaining proper skills through regular proficiency testing and also through regularly practicing submerged cabin evacuation exercises (Helicopter Underwater Escape Training).

Status: Closed – **Category**: Partial agreement

Myanmar

Registration	Aircraft Type	Location	Date of event	Event Type
1. F-HJCS	SIKORSKY S76	the Andaman Sea, Myanmar	11/07/2011	Accident

Synopsis of the event: On 11 July 2011 the Sikorsky S76C++ helicopter registered F-HJCS went down in the Andaman Sea (Myanmar) following an engine failure on takeoff. The helicopter then overturned on contact with the water. Three occupants among the eleven persons on board died from drowning. The wreckage of the helicopter was recovered in November 2011 and an examination of the engines was performed at Turboméca facilities on 14 and 15 December 2011. The first results brought to light the failure of a blade in the HP turbine. This phenomenon, identified since 2007, is currently the subject of corrective action by Turboméca through the TU 166 modification.

Safety Recommendation FRAN-2012-002 (BEA):

The BEA recommends that EASA and the FAA take the necessary steps in order to suspend operations of Sikorsky S76C++ helicopters equipped with Arriel 2S2 engines in performance class 2 with exposure time as long as their engines have not been subject to modification TU166.

Reply

The direct oversight of operators is not in the remit of the Agency. Nevertheless and in accordance with the provisions of Regulation (EC) No 216/2008, EASA addressed to all its Member States a letter on 16 March 2012, informing them that DGAC France issued an Operational Directive (OD) prohibiting Performance Class (PC) 2 operation with exposure time as long as Arriel 2S2 engines have not been subject to modification Turbomeca TU 166.

Furthermore EASA issued the Airworthiness Directive (AD) 2012-0054 on 02 April 2012, extending the applicability of AD 2010-0198 to mandate incorporation by 15 November 2012 of modification TU166 on the Arriel 2S2 engine model.

Status: Closed – **Category**: Partial agreement

Safety Recommendation MYAN-2012-003 (AIB):

MAIB and BEA recommend that EASA modify paragraph 4 ACJ-1 appendix 1 JAR-OPS3 3.517 (a) in order to introduce a reasonable time period (annually for example) of periodically reassessed updated statistics.

Reply

Joint Aviation Requirements on Operations, version 3 (JAR-OPS 3) was under the responsibility of the Joint Aviation Authorities (JAA) that ceased its activities in 2009.

Commission Regulation (EU) No 965/2012 published on 25 October 2012, establishes common rules in the area of commercial air transport, including provisions for helicopters, which are based on JAR-OPS 3.

ED Decision 2012/018/R published also on 25 October 2012, contains the associated acceptable means of compliance (AMC) and guidance material (GM):

- ACJ-1 to Appendix 1 to JAR-OPS 3.517(a) was transposed into corresponding AMC1 CAT.POL.H.305(b) without changes.
- Paragraph (d) 4 of AMC1 CAT.POL.H.305(b) states: "After the initial assessment, updated statistics should be periodically reassessed; any adverse sustained trend will require an immediate evaluation to be accomplished by the operator in consultation with the competent authority and the manufacturers concerned. The evaluation may result in corrective action or operational restrictions being applied."

EASA considers that the notion of "periodically" addresses the Safety Recommendation. It finds it would not be beneficial to further specify the time frame. This is considered to be an operator task taking into account the type of helicopter, type of operation, operating environment and any other factors that may have an impact on the continued engine reliability.

EASA therefore considers that the current rules provide for an appropriate level of safety.

Status: Closed – **Category**: Partial agreement

Safety Recommendation MYAN-2012-004 (AIB):
MAIB and BEA recommend that EASA study a method for release of rates of which it is aware and as soon as these rates get close to acceptable limits or shows significant evolution.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

Netherlands

Registration	Aircraft Type	Location	Date of event	Event Type
1. TC-JGE	BOEING 737	a field 1,5 km away of the runway threshold of Amsterdam Schiphol Airport, The Netherlands	25/02/2009	Accident

Synopsis of the event: A Boeing 737-800 (flight TK1951) operated by Turkish Airlines was flying from Istanbul Atatürk Airport in Turkey to Amsterdam Schiphol Airport, on 25 February 2009. As this was a 'Line Flight Under Supervision', there were three crew members in the cockpit, namely the captain, who was also acting as instructor, the first officer who had to gain experience on the route of the flight and who was accordingly flying under supervision, and a safety pilot who was observing the flight. There were also four cabin crew members and 128 passengers on board. During the approach to runway 18 Right (18R) at Schiphol airport, the aircraft crashed into a field at a distance of about 1.5 kilometres from the threshold of the runway. This accident cost the lives of four crew members, including the three pilots, and five passengers, with a further three crew members and 117 passengers sustaining injuries. Shortly after the accident, the initial investigation results indicated that the left radio altimeter system had passed on an erroneous altitude reading of -8 feet to the automatic throttle control system (the autothrottle).

Safety Recommendation NETH-2010-007 (DSB):
DGCA, ICAO, FAA and EASA should change their regulations in such a way that airlines and flying training organisations see to it that their recurrent training programmes include practicing recovery from stall situations on approach.

Reply

Rulemaking tasks RMT.0581 and RMT.0582 'Loss of control avoidance and recovery training' are identified in the Agency's Rulemaking Programme and this Safety Recommendation will be considered in those tasks.

Status: Open – **Category**:

Registration	Aircraft Type	Location	Date of event	Event Type
1. PH-BDP	BOEING 737	Schiphol Airport, The Netherlands	10/02/2010	Serious incident

Synopsis of the event: Flight took off from a taxiway instead of the assigned runway. Unfortunately, the data of the event were not available on the CVR and this omission seriously hampered the investigation. As modern solid state FDRs have a recording time of 25 hours, it is sufficient for accident and incident investigation. For modern CVRs, however, this is still not the case as their minimum recording time is 2 hours at best. This requires flight crew or ground engineer action after an event has occurred. Under these conditions important data for safety investigations can be easily lost. Given the current level of technology this is considered to be unnecessary.

Safety Recommendation NETH-2011-015 (DSB):
The Board recommends that the European Aviation Safety Agency (EASA) and Federal Aviation Administration (FAA) increase the minimum recording time of the cockpit voice recorder (CVR) in order to better safeguard the availability of data for the purpose of incident and accident investigations.

Reply

The Agency's interim response [Ref. 22/03/2012 – Reply doc Ref. 51455 (2012)] referred to rulemaking tasks RMT.0404 and 0405 [former OPS.092 (a) and (b)]. These tasks have been merged with RMT.0400 and 0401, which were launched on 26 September 2012 with the publication of the associated Terms of Reference. The terms of reference includes a review of the requirements for cockpit voice recorders.

Status: Closed – **Category**: Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. PH-RUL	PILATUS PC12	Weert, The Netherlands	16/10/2009	Accident

Synopsis of the event: After taking off from Runway 21 at Budel Airport (Kempen Airport, EHBD), the Netherlands, PH-RUL turned left and started to climb. Shortly afterwards the aircraft turned right followed by a steep descent. Approximately two minutes after take -off the aircraft crashed near a farm. The two occupants did not survive the crash and the aircraft was completely destroyed.

Safety Recommendation NETH-2012-001 (DSB):
It is recommended to EASA to make flight recorder equipment mandatory for High Performance Aircraft, designed for carrying persons and/or cargo for the purpose of accident investigation.

Reply

Rulemaking tasks RMT.0271 and RMT.0272 [former MDM.073 (a) and (b)] 'Recorders for small aircraft' are identified in the Agency's Rulemaking Programme inventory and this Safety Recommendation will be considered in the tasks.

Status: Open – **Category**:

Norway

Registration	Aircraft Type	Location	Date of event	Event Type
1. OY-JRJ	ATR ATR42	Bergen Airport, Norway	31/01/2005	Accident

Synopsis of the event: Danish Air Transport flight DTR54, an aircraft of type ATR 42, had declared an emergency and returned for landing directly after take-off from Bergen Airport Flesland. The emergency landing was caused by control problems, and inspection after landing revealed that the right side elevator had partially detached and was hanging below the tail surface.

Safety Recommendation NORW-2006-012 (AAIB):
JAA/EASA consider whether the regulations should be amended in order that systems that are critical to safety are double checked following maintenance work. Special consideration should be made as to whether the manufacturer should be given a responsibility on this matter.

Reply

Rulemaking task RMT.0222 [former Multi Disciplinary Measures (MDM).020] 'Definition of "critical systems"' is on-going and is considering this Safety Recommendation. The Terms of Reference MDM.020 issue 4 is dated 11 May 2009 and available on EASA Website.

The main objectives of this task are:

- to improve safety by reducing the possibility of having undetected maintenance errors following maintenance work deemed critical to safety;
- to provide stakeholders with a methodology or key criteria in order to identify critical maintenance tasks.

Status: Closed – **Category**: Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1.		various locations		Accident

Synopsis of the event: Over a 10-year period, the Accident Investigation Board Norway (AIBN) has received 30 reports of accidents and incidents related to operations on contaminated and slippery runways. In the same period AIBN has published 12 investigation reports and issued 36 safety recommendations. This theme investigation focuses on the general framework for operations on contaminated and slippery runways and the potential for safety improvements in general.

Safety Recommendation NORW-2011-008 (AAIB):
The AIBN recommends that ICAO, FAA, EASA and CAA Norway review and validate the permitted measuring (validity) ranges for approved friction measuring devices.

Reply

The issue of the unreliability of the measurement made with continuous friction measuring equipment (CFME), as well as the differences of the measurements made with different CFME, under such conditions (contaminated runways) is already known. This is because of the equipment design and the software currently used by such CFME.

Until CFMEs and software, which may be used under such conditions, are developed, the Agency has the view that it is not possible to "validate the permitted measuring (validity) ranges".

The Agency has launched a study in 2011 (EASA.2011.OP.13) on the use of CFME on contaminated runways. The purpose of this study is to investigate the possibility for CFME to be developed that can provide the aerodrome operator with the ability to compile contaminated runway (snow, slush, de-icing slurry, flood water, etc.) reports defining snow depth, snow density, etc., and calculated contaminant drag data that can be utilised for the calculation of take-off and landing performance. The ultimate aim is to produce runway friction values that represent braking action to an aeroplane operator.

The Agency will decide on any future action needed, on the basis of the results of this study.

Status: Closed – **Category**: Partial agreement

Safety Recommendation NORW-2011-009 (AAIB):
The AIBN recommends that ICAO, FAA, EASA and CAA Norway consider revising the SNOWTAM table to reduce the degree of friction uncertainty.

Reply

International Civil Aviation Organization (ICAO) State Letter No 41 (Ref.: AN 4/1.1.52-11/41, 30 May 2011) contained proposed amendments to Annex 14 and Annex 15 to the Chicago Convention with regard to the methodology for the assessment of surface friction characteristics, and Appendix 2 of Annex 15 [SNOWTAM (Notice to Airman in the winter season on the conditions of the runways, taxiways and apron at an aerodrome) format] respectively.

The Agency has recommended the EASA Member States to accept the above-mentioned proposed amendments to both Annex 14 and Annex 15, as it has the view that they adequately address this issue.

Status: Closed – **Category**: Agreement

Safety Recommendation NORW-2011-011 (AAIB):
The AIBN recommends that FAA, EASA and CAA Norway evaluate the airlines' crosswind limits in relation to friction values and consider whether they should be subject to separate approval by the authorities.

Reply

Rulemaking tasks RMT.0296 and RMT.0297 [former OPS.008(a) and OPS.009(b)] "Review and harmonisation with Federal Aviation Administration (FAA) of Aeroplane Performance for Commercial Air Transport (CAT)" are on the Agency's Rulemaking Programme inventory. This Safety Recommendation will be considered within the scope of these tasks.

Status: Open – **Category**:

Safety Recommendation NORW-2011-012 (AAIB):
The AIBN recommends that EASA considers a more conservative determination of friction values on various types and depths of contamination.

Reply

The Agency acknowledges, as reminded by this report, the complexity of providing a friction value based on observation and reporting of the runway contaminants or from friction measurement equipment, in particular when wet contaminants are present together with ice or compacted snow contaminants.

In Certification Specifications for Large Aeroplanes (CS-25), Acceptable Means of Compliance (AMC) 25.1591 (amended at CS-25 amendment 2) provides the properties for various contaminants that are most often encountered.

However, as mentioned in its introduction, the list of contaminants is not exhaustive and it is assumed that the contaminants are uniform in properties and uniformly spread over the complete runway. The extent of their applicability should therefore be clearly stated by the applicant.

Default friction values are provided in AMC 25.1591, chapter 7.3.1 to support the calculation of aeroplane performance data. These values have been based on the available test and research data which includes the recent Joint Winter Runway Friction Measurement Program (JWRFMP) in Canada. There were two public consultations performed when preparing the amendment, the first one in 2002 under the Joint Aviation Authority (JAA) Notice of Proposed Amendment (NPA) 25G-334 (developed by the JAA Flight Study Group) and the second one in 2004 under EASA NPA 14/2004. International experts were involved in the preparation of the NPA material and in the comments on the NPA. Therefore these values are considered as based on the best available knowledge and are conservative enough.

Nevertheless, the Agency monitors developments in this area. In this frame, EASA conducted the research project EASA.2008/4 "RuFAB – Runway friction characteristics measurement and aircraft braking" with the organisation of a workshop in Paris in March 2010. We are also following the Federal Aviation Administration (FAA) TALPA project (Takeoff And Landing Performance Assessment - Aviation Rulemaking Committee) which may lead to rulemaking action by FAA in the near future.

Status: Closed – **Category**: Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. LN-NEX	DIAMOND DA40	2-3 Nm North of Rygge, Norway	02/07/2005	Serious incident

Synopsis of the event: The commander had practiced landing circuits at Rygge Air Force Base and was heading back to Kjeller Airport when the engine suddenly stopped with a bang. At the time the aircraft was approximately 2 - 3 NM north of the runway and the commander headed for the runway 12 threshold. As it turned out, the aircraft did not have sufficient altitude, but the commander managed to make a successful landing on a taxiway which traversed the runway. There was no personal injury or additional damage to the aircraft. It emerged from the engine investigation that a connecting rod had split in the small end bearing. The loose end of the connecting rod then made a hole in the crankcase before pushing its way up the cylinder wall and out through the water jacket. It was further established that on 19 April the same year the engine had been run with insufficient oil level and low engine oil pressure for a short period of time. According to the engine manufacturer, this had caused overheating of the pistons and the gudgeon pin. It is likely that such overheating could have impaired the connecting rod and the small end bearing, causing a split in the connecting rod just after departure from Rygge.

Safety Recommendation NORW-2011-016 (AAIB):
The Accident Investigation Board recommends that Thielert Aircraft Engines GmbH reassess the limit values in the operating instructions with regard to minimum oil pressure. (No. 2010/16T)

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

Status: Open – **Category**:

Registration	Aircraft Type	Location	Date of event	Event Type
1. OY-CRG	BAE BAE146	Stord Airport, Sørstokken (ENSO), Norway	10/10/2006	Accident

Synopsis of the event: During normal approach and landing at Stord Airport Sørstokken OY-CRG ran off the runway and plunged down a steep slope. The aircraft sustained considerable damage and caught fire immediately. The fire spread so fast that there was not enough time for everybody to evacuate the aircraft. Four people died and six were seriously injured.

Safety Recommendation NORW-2012-003 (AAIB):
The AIBN recommends that EASA in cooperation with BAE Systems makes operators of the BAe 146 aware of the problem associated with inoperative lift spoilers. This should be included in both theoretical and practical training.

Reply

In the case of lift spoilers inoperative on BAe 146/Avro 146-RJ aircraft models, BAE Systems have issued Flight Operations Support Information Leaflets (FOSIL Numbers 014-12 and 015-12 dated 07 September 2012) to their operators. The purpose of these FOSILs is to enhance awareness of the use of spoilers and the symptoms if the spoilers do not deploy when selected and the subsequent actions to be performed. Information included in the FOSILs will be incorporated in the Flight Crew Operating Manual (FCOM) at the next amendment.

BAE Systems recommend this information to all training personnel and advocates its incorporation in any training syllabus. In addition, type specific data will be generated through the implementation of the future OSD process.

EASA considers that appropriate actions have been undertaken and that they address the safety concern.

Status: Closed – **Category**: Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. LN-WIE	DE HAVILLAND DHC8	Sørkjosen airport, Norway	21/02/2006	Serious incident

Synopsis of the event: Widerøe's flight WIF922 from Tromsø to Sørkjosen airport encountered heavy turbulence during the descent. Toradjust the aircraft's speed to the turbulent air, the Commander reduced engine power by pulling both Power Levers back to the lowest possible power setting when the aircraft is airborne (Flight Idle). Unintentionally, both Power Levers ended up lower than the flight idle setting, and this was not prevented by the built-in safety stop. The result was both propellers reaching uncontrollably high rotation speeds. The right engine was severely damaged and the control of the aircraft was partly lost. After the aircraft had lost 760 feet of altitude and changed course, the crew gradually managed to achieve control over the right propeller and shut down the engine. The crew decided to return to Tromsø and landed there with only one operating engine without additional problems.

Safety Recommendation NORW-2012-004 (AAIB):

This serious aircraft incident has shown that on the aircraft type DHC-8 it is possible to inadvertently pull the Power Levers back past Flight Idle while airborne. The consequences of this may include propeller overspeed, possible engine failure and loss of aircraft control. The Accident Investigation Board Norway recommends that Transport Canada and EASA require the type certificate holder (Bombardier) to introduce measures to prevent propeller overspeed during unintended management of Power Levers. (No. 2012/04T)

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

Registration	Aircraft Type	Location	Date of event	Event Type
1. LN-OXC	AEROSPATIALE AS350	Dalamot in Ullensvang Municipality, Hordaland county	04/07/2011	Accident

Synopsis of the event: The helicopter was used to transport people to a cabin site in the mountains. The weather was good with fine flying conditions. The first flight with five passengers had been completed. There were four passengers on board during the second flight. As the helicopter started the descent towards the cabin site, the passengers of the first flight witnessed the helicopter initiating an abrupt, descending turn to the right. The witnesses have explained that during the turn, control of the helicopter appeared to be lost. At the end, it seemed as if a recovery was close, but the helicopter hit the ground hard about 500 metres from the planned landing site and caught fire immediately. All five persons on board were killed. The helicopter was a total loss.

Safety Recommendation NORW-2012-009 (AAIB):

The AIBN recommends that EASA requires the type certificate holder Eurocopter to issue a warning of this particular hazard, preferably as a permanent note in the Flight Manual.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

Safety Recommendation NORW-2012-010 (AAIB):

The Accident Investigation Board Norway (AIBN) recommends that EASA considers introducing requirements regarding flight recorders on more aircraft than are covered by the current regulations.

Reply

Rulemaking tasks RMT.0271 and RMT.0272 ‘Recorders for small aircraft’ are on the Agency’s Rulemaking Programme. This Safety Recommendation will be considered during these tasks, which are planned to be launched in 2013.

Status: Open – **Category**:

Poland

Registration	Aircraft Type	Location	Date of event	Event Type
1. D-AGPH	FOKKER F28	Warszawa-Okecie (EPWA), Poland	01/07/2010	Serious incident

Synopsis of the event: On 1 July, 2010 the flight crew of F - 100 airplane, flight No SWR343T, during „Soxer 1G" departure from EPWA approximately at FL 70 could hear an impact sound from the nose bottom part of the fuselage. The flight crew stopped climbing, reduced the flight speed to approximately 200 kt, and decided to return to the take-off aerodrome. The landing took place at 08:44. During the investigation SCAAI determined that the probable cause of the serious incident could be: Reduced strength of the radome sandwich structure caused by gradual (over time) degradation of the material in fiberglass epoxy composite structures and their bonds. Probable factor contributing to the incident could be: several bird strikes against the radome, which occurred earlier and could cause a progressive weakening of its structure. Maintenance of the radome and minor repairs made by the airplane user did not reveal weakening of the construction and did not maintain properly the composite structure and protect it from environmental factors despite they were carried out according to the procedures given in the aircraft maintenance manual.

Safety Recommendation POLD-2011-005 (AIB):
EASA should notify all F70/100 users about the occurrence.

Reply

A Fokker Technical Operational Notice (ref. TON100.093#2) as well as a repair facility NORDAM Service Letter (ref. F70/100-SL-53-001 Rev 1) have been published and distributed to Fokker 100/70 operators. These communications clearly raise the attention on the occurrence addressed by this Safety Recommendation and provide sufficient information on the required actions.

Status: Closed – **Category**: Agreement

Portugal

Registration	Aircraft Type	Location	Date of event	Event Type
1. C-GITS	AIRBUS A330	Lajes Airport, Azores, Portugal	24/08/2001	Accident

Synopsis of the event: Air Transat Flight TS236, was en route at FL390 when at 05:36 UTC, the crew became aware of a fuel imbalance between the left and right-wing main fuel tanks. Five minutes later the crew concerned about the lower-that-expected fuel quantity indication, decided to divert to Lajes Airport in the Azores. At 05:48 UTC, when the crew ascertained that a fuel leak could be the reason for the possible fuel loss, an emergency was declared to Santa Maria Oceanic Control. At 06:13, at a calculated distance of 135 miles from Lajes, the right engine (Rolls-Royce Trent 772B) flamed out. At 06:26, when the aircraft was about 85 nm from Lajes and at an altitude of about FL345, the left engine flamed out. At 06:39 the aircraft was at 13,000 feet and 8 miles from the threshold of runway 33. An engines-out visual approach was carried out and the aircraft landed on runway 33. Eight of the plane's ten tyres burst during the landing.

Investigation has determined that a low-pressure fuel line on the right engine, had failed probably as the result of its coming into contact with an adjacent hydraulic line.

Safety Recommendation PORT-2004-003 (GPIAA):
It is recommended that DGAC-France, Transport Canada, CAA UK, the JAA, EASA, and the CAAs of other states: Amend regulations and standards to require crew training on fuel leak events.

Reply

The Agency assumes that "crew" referred to in the Safety Recommendation means "flight crew".

Annex 1 (Part-FCL) of Commission Regulation (EU) No 1178/2011 of November 2011, includes requirements for flight crew training for all licences on the subjects of fuel management, fuel systems, fuel consumption, monitoring and control of fuel status, re-check of fuel status and fuel systems malfunctions during all phases of flight. Additionally, all fuel-related subjects have to be trained and checked during class and type-rating training, skill tests and proficiency checks under "Flight Manoeuvres and Procedures" [Appendix 9 to Part-FCL, 3.A.5 for SP (single-pilot) non-complex aeroplanes and 3.4.3 for MP (multi-pilot) and SP complex HP (high-performance) aeroplanes]. Therefore, the Agency considers the existing rules to be sufficient.

The theoretical knowledge syllabi for the Airline Transport Pilot Licence (ATPL), Commercial Pilot Licence (CPL) and Instrument Rating (IR), are contained in the associated EASA ED Decision 2011/016/R, which was published in December 2011. This decision includes Learning Objective 033 06 00 00 'Flight monitoring and in-flight re-planning'. Specific Learning Objectives 033 06 01 'Flight Monitoring' and 033 06 02 'In-flight re-planning in case of deviation from planned data', address the issue in more detail.

Lastly, paragraph 1.375 of Regulation (EC) 859/2008 (EU-OPS), provides for the operator to establish appropriate procedures on in-flight fuel management and specifies the conditions and required flight crew actions to be considered. Moreover, AMC-20-06 of EASA Executive Director (ED) Decision No 2010/012/R, addressing Extended Range Operations with Two-Engine Aeroplanes (ETOPS) flights, contains relevant syllabi for flight crew training.

It is therefore considered that this addresses the intent of the Safety Recommendation.

Status: Closed – **Category**: Agreement

Safety Recommendation PORT-2004-006 (GPIAA):
It is recommended that the civil aviation authorities of other transport aircraft categories manufacturing states, such as Canada, United States of America, and United Kingdom, as well as the European Aviation Safety Authority review the adequacy of aircraft indications and warning systems and procedures to detect fuel-used/fuel-loss discrepancy situations; review the capability of these systems to provide clear indications as to the causes of these situations; and review the capability of these systems to provide alerts at a level commensurate with the criticality of a fuel-loss situation.

Reply

This Safety Recommendation has been considered under EASA rulemaking task 25.055. The Notice of Proposed Amendment (NPA) 2011-13 was published on 22 July 2011 and the Comment Response Document (CRD) 2011-13 was published on 27 January 2012. New Certification Specifications (CS)-25 fuel indication system(s) standards [CS 25.1305(a)(2) and a corresponding AMC] are introduced.

In addition to the primary function of indicating usable fuel quantity on board, those systems provide, as early as possible, alerts and information to the flight crew to assist them in the task of managing the available fuel quantity and managing fuel system condition(s) that, if not corrected, present a risk of engine fuel starvation. Such conditions include fuel leaks situations, which must be detected and alerted as early as possible. Procedures must also be available to the flight crew to mitigate the consequences (leak identification and isolation, diversion, protection against potential secondary hazards). The new standards will be published in the next amendment of CS-25.

Status: Closed – **Category**: Agreement

Safety Recommendation PORT-2004-007 (GPIAA):
It is recommended that the CAAs of other aircraft manufacturing states, such as Canada, USA and UK, as well as the EASA:

Review the adequacy of the fuel indications and warning systems, as well as procedures associated with fuel imbalance situations to ensure that the possibility of a fuel leak is adequately considered.

Reply

This Safety Recommendation has been considered under EASA rulemaking task 25.055. The Notice of Proposed Amendment (NPA) 2011-13 was published on 22 July 2011 and the Comment Response Document (CRD) 2011-13 was published on 27 January 2012.

New Certification Specifications (CS)-25 fuel indication system(s) standards [CS 25.1305(a)(2) and a corresponding Acceptable Means of Compliance (AMC)] are introduced. In addition to the primary function of indicating usable fuel quantity on board, those systems provide, as early as possible, alerts and information to the flight crew to assist them in the task of managing the available fuel quantity and managing fuel system condition(s) that, if not corrected, present a risk of engine fuel starvation. Fuel imbalance situations (which typically results from an abnormal fuel transfer, a trapped fuel problem, or a fuel leak) are part of the abnormal conditions to be addressed by the fuel indication system(s). The new standards will be published in the next amendment of CS-25.

Status: Closed – **Category**: Agreement

Russian Federation

Registration	Aircraft Type	Location	Date of event	Event Type
1. F-OGYP	AIRBUS A310	Irkutsk, Russian Federation	08/07/2006	Accident

Synopsis of the event: On July 8, 2006 at 22:44 UTC1 (7:44 local time on July 9, 2006), as it was landing at Irkutsk airport, an A-310 airplane, registration F-OGYP, ran down the runway, overran the runway threshold and, at a distance of 2140 m and on a magnetic azimuth of 296° from the aerodrome reference point, collided with barriers, broke apart and burst into flames. As a result of the accident 125 individuals died, including both pilots and 3 of the cabin crew; 60 passengers and 3 cabin crew suffered physical injuries of varying degrees of severity.

Safety Recommendation RUSF-2007-002 (AIB):
It is recommended to EASA and other Certifying authorities together with the manufacturers of large transport aircraft to review the design and maintenance requirements for all FADEC controlled airplanes to ensure that throttle lever breakout forces remain at the acceptable lever and that they are checked on a periodic basis.

Reply

On A300-310 this Safety Recommendation was addressed with the review of Maintenance Planning Document (MPD) for A310/A300-600 for Pratt and Whitney (PW) and General Electric (GE) engines. As a result, the following Aircraft Maintenance Manual (AMM) and MPD tasks were introduced:

- A300-600 MPD Ref: 76-11-00-P1-2;
- A300-600 MPD Ref: 76-11-00-F1-1;
- A300-600 AMM Ref: 76-11-00 PB 501;
- A310 MPD Ref: 76-11-00-P1-2;
- A310 AMM Ref: 76-11-00 PB 501.

It introduces a throttle control test and adjustment task with a friction test at a threshold of 40000 flight hours (FH) and interval of 20000 FH. Based on the in-service experience on other EASA products and consideration of the activities performed on the use of reverse thrust with one Thrust Reverser Inhibited, no further action is needed.

Status: Closed – **Category**: Partial agreement

Singapore

Registration	Aircraft Type	Location	Date of event	Event Type
1. 9V-SKD	AIRBUS A380	Singapore Changi Airport, Singapore	31/01/2011	Serious incident

Synopsis of the event: At 10.45 p.m. on 31 January 2011, a cabin crew member on an Airbus A380 flight from Hong Kong to Singapore heard a loud bang when he was in a lavatory. He later noticed an electrical burning smell and smoke. He discharged a fire extinguisher into the area from where the smoke was coming out. The smoke subsequently cleared and the aircraft landed without further incident. No passenger or crew was injured. An inspection after the aircraft had landed in Singapore found signs of burning at the feeder terminal block and feeder cables that were situated below the lavatory, behind the left side wall of the forward cargo compartment. Some feeder cable lugs were found melted and there was soot on the components around the feeder terminal block. Some insulation blankets adjacent to the feeder terminal block were also burnt. A degraded Main Excitation Cable had probably caused an over-voltage across the Lightning Protection Units (LPUs) attached to the feeder terminal block, resulting in a short circuit between the three phase feeder cables and structural grounding. The short circuit caused excessive current to flow through the feeder cables attached to the feeder terminal block. The operation of the Over-Current protection limited the damage due to overheating. The Air Accident Investigation Bureau of Singapore (AAIB) has classified this occurrence as a serious incident.

Safety Recommendation SING-2012-004 (AAIB):

It is recommended that the European Aviation Safety Agency require the aircraft manufacturer, as holder of the type certificate, to review the design of the lightning protection system to prevent short circuiting of the feeder cables when excessive voltage is output by the Variable Frequency Generator. [AAIB Recommendation R-2012-004]

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

Safety Recommendation SING-2012-005 (AAIB):

It is recommended that the European Aviation Safety Agency require the aircraft manufacturer, as holder of the type certificate, to review the need for fire detection and suppression in the vicinity of the feeder terminal block. [AAIB Recommendation R-2012-005]

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

South Africa

Registration	Aircraft Type	Location	Date of event	Event Type
1. G-BYGA	BOEING 747	O.R. Tambo Airport, Johannesburg, South Africa	11/05/2009	Serious incident

Synopsis of the event: On the 11th May 2009, a Boeing 747-400 aircraft operated by an airline with appropriate certification and holder of an Air Operator Certificate was involved in a serious incident during takeoff from OR Tambo Airport at Johannesburg, South Africa. The serious incident involved the un-commanded retraction of the automatic Group 'A' leading edge flaps on rotation for a period of about 23 seconds. Subsequent to the initiation of the retraction of the Group 'A' leading edge flaps, the aircrew was faced with unexpected stall warnings. The pilot flying was able to prevent the aircraft from stalling, with support from the other crew members and to keep the aircraft flying until the leading edge flaps re-extended and normal performance capability returned. At no time was the aircrew aware that the Group 'A' leading edge flaps had retracted or as to the circumstances leading to the stall warnings. They were however aware that the thrust reverser in-transit EICAS amber message on the P2- Pilots Center Instruments Panel did display during takeoff roll prior to rotation. After discussing the occurrence and not being sure about what had been the cause of the event, the crew elected to return to the airport where an uneventful landing was carried out approximately 2 hours later.

Safety Recommendation SOUF-2010-006 (AIB):

It is recommended that the Regulatory and Certificating Authorities of all States of Design and States of Manufacture should introduce requirements to improve the robustness of the software/hardware logic through the introduction of additional parameters to consider prior to an automatic change is critical control surfaces.

Reply

When developed, software and hardware tests have to be achieved with requirement based tests and robustness testing activities have to be carried out to detect any error linked to abnormal input or incorrect behaviour.

The Service Bulletin (SB) 747-78A2181 has been issued on 08 June 2009 by Boeing and the Airworthiness Directive (AD) 2009-13-03 has been raised by the Federal Aviation Administration (FAA).

EASA considers that the Boeing SB and FAA AD closes the safety issue.

Status: Closed – **Category**: Partial agreement

Safety Recommendation SOUF-2010-007 (AIB):

It is recommended that the Regulatory and Certificating Authorities of all States of Design and States of Manufacture should introduce requirements to introduction of a flight deck crew "alert/approval/override" facility prior to an inadvertent change to critical control surfaces.

Reply

The Agency reviewed the root cause of this event and concluded that such design deficiencies should not be mitigated by pilot action.

Requesting an additional pilot decision in a critical flight phase is not considered a safety improvement. However, the inadvertent change to critical control surfaces must be prevented by system design. Regarding this aircraft, a design modification was introduced (refer to Federal Aviation Administration Airworthiness Directive 2009-13-03 mandating Boeing Alert Service Bulletin 747-78A2181, dated 08 June 2009).

Status: Closed – **Category**: Disagreement

Safety Recommendation SOUF-2010-008 (AIB):
It is recommended that the Regulatory and Certificating Authorities of all States of Design and States of Manufacture should introduce requirements to account for spurious mechanical and electrical failures and their impact on the software and hardware logic system.

Reply

When developed, software and hardware tests have to be achieved with requirement based tests and robustness testing activities have to be carried out to detect any error linked to abnormal input or incorrect behaviour.

The Service Bulletin (SB) 747-78A2181 has been issued on 08 June 2009 by Boeing and the Airworthiness Directive (AD) 2009-13-03 has been raised by the Federal Aviation Administration (FAA).

EASA considers that the Boeing SB and FAA AD closes the safety issue.

Status: Closed – **Category**: Partial agreement

Safety Recommendation SOUF-2010-009 (AIB):
It is recommended that the Regulatory and Certificating Authorities of all States of Design and States of Manufacture should introduce requirements to operators that they should provide flight crews with more basic hand flying and simulator flight training on new generation aircraft to address the technological developments in aviation, inclusive of effective stall training.

Reply

EASA supports and follows up the International Committee for Aviation Training in Extended Envelopes (ICATEE) which has been requested by the International Civil Aviation Organisation (ICAO) to produce a circular on recommended best practices for Upset Prevention and Recovery Training (UPRT).

ICATEE is an international initiative involving manufacturers and authorities, to deliver a comprehensive long-term strategy to eliminate or reduce the rate of loss of control. A key goal of UPRT is to improve current basic and recurrent training, as well as proficiency checks, by an integrated academic, in-flight and simulator training on recovery technique and stall recognition.

In addition, the current edition of ICAO Doc 9625 on Simulator Training Requirements is also undergoing revision, enacted through the International Committee for Flight Simulator Training Device Qualification (ICFQ).

EASA is involved in ICATEE and ICAO work aiming at preventing loss of control.

Moreover, the Agency will organise a workshop in the 3rd Quarter of 2012 to identify and promote requirements and guidance in Part-FCL and Air Operations regulations related to the prevention of Loss of Control (LoC) accidents

Status: Closed – **Category**: Agreement

Spain

Registration	Aircraft Type	Location	Date of event	Event Type
1. EC-IHD	CESSNA 208	Barcelona Airport, Spain	28/02/2005	Incident

Synopsis of the event: On Monday, February 28 2005, the aircraft EC-IHD began takeoff from runway 07L of Barcelona Airport at 06:13h UTC, in order to carry out a cargo flight (urgent post) to Palma de Mallorca. Approximately one minute after having started the takeoff run, when the aircraft was in the phase of initial climb at an altitude of around 800 feet, the pilot, noticing that the aircraft was beginning to vibrate and that he was not able to maintain airspeed or altitude despite increasing power, declared an emergency and his intention to return to the airport.

After making a 180º turn to the left, and judging it impossible to reach the runway given his low altitude, the pilot landed (with prior authorization from ATC) on taxiway Tango parallel to runway 07L-25R at 06:16h. The emergency landing was carried out normally and the aircraft did not suffer any apparent damage, making the taxi without assistance to the same parking position from which it had left. During the taxi, when the ground control controller asked the reason for the emergency, the pilot answered that it had been due to the formation of ice.

The meteorological conditions at the airport the hours before the incident and during were bad (there had been a wave of polar air in the peninsula, the temperature was low, the air humidity was high and it was snowing).

Safety Recommendation SPAN-2006-024 (CIAIAC):
It is recommended that the Spanish Civil Aviation Authority (DGAC) ask commercial aerial transport companies to carry out specific periodic training courses on flight in adverse meteorological conditions that, at least, would cover aspects such as:

- Conditions of ice formation and how to recognise them.
- Types of ice.
- Formation of ice on the aircraft.
- Recovery procedures.
- Procedures in icing conditions on the ground.
- Capability and limits of de-icing and anti-icing equipment and systems.

Reply

Since the Basic Regulation of EASA [Regulation (EC) No 216/2008] extended the duties of the Agency, this Safety Recommendation issued by the Spanish Accident Investigation Board was redirected from the Spanish National Aviation Authority (AESA, formely DGAC) to EASA. The Agency considers that this Safety Recommendation has been addressed in Commission Regulation (EU) No 965/2012, related to air operations, which was published on 25 October 2012.

The associated Acceptable Means of Compliance (AMC) and Guidance Material (GM), published on 25 October 2012 in EASA Executive Director (ED) Decision 2012/018/R state:

"AMC1-CAT.OP.MPA.255 Ice and other contaminants – flight procedures FLIGHT IN EXPECTED OR ACTUAL ICING CONDITIONS - AEROPLANES

(...)
(c) Training for dispatch and flight in expected or actual icing conditions. The content of the operations manual should reflect the training, both conversion and recurrent, which flight crew, cabin crew and all other relevant operational personnel require in order to comply with the procedures for dispatch and flight in icing conditions:
(1). For the flight crew, the training should include:
i. instruction on how to recognise, from weather reports or forecasts which are available before flight commences or during flight, the risks of encountering icing conditions along the planned route and on how to modify, as necessary, the departure and in-flight routes or profiles;
ii. instruction on the operational and performance limitations or margins;
iii. the use of in-flight ice detection, anti-icing and de-icing systems in both normal and abnormal operation; and
iv. instruction on the differing intensities and forms of ice accretion and the consequent action which should be taken.
(2) For the cabin crew, the training should include:
i. awareness of the conditions likely to produce surface contamination; and
ii. the need to inform the flight crew of significant ice accretion.
(...)
GM2-CAT.OP.MPA.250 Ice and other contaminants – ground procedures
(...)
(f) Training
The operator's initial and recurrent de-icing and/or anti-icing training programmes (including communication training) for flight crew and those of its personnel involved in the operation who are involved in de-icing and/or anti-icing should include additional training if any of the following is introduced:
(1) a new method, procedure and/or technique;
(2) a new type of fluid and/or equipment; or
(3) a new type of aircraft."

Status: Closed – **Category**: Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. EC-FBI	PZL MIELEC M18	Castellon, Spain	07/10/2006	Accident

Synopsis of the event: The aircraft took off from Castellón aerodrome, also known as the Pinar del Grau aerodrome, on a fumigation flight. After a few seconds in the air, it impacted the ground between four single-family dwellings located some 150 meters away from the aerodrome perimeter. The accident occurred after the aircraft took off with the left elevator lock pin installed, which resulted in the elevators being left in the locked position, thus seriously compromising the controllability of the aircraft.

Safety Recommendation SPAN-2009-025 (CIAIAC):

It is recommended that the EASA, as regards aerial work operators involved in single-pilot activities and so as to emphasize the need to be aware of the intrinsic risks resulting from the interruption of pre-flight processes or

normal checks, ensure that the operational procedures include those mechanisms intended to guarantee that the processes and checks to be conducted by crews prior to takeoff, and which are suspended at any point, are restarted from a safe point prior to the interruption.

Reply

The Agency has developed a draft regulatory framework, proposing to the European Commission draft Implementing Rules for all types of operations (Agency's Opinion 04/2011, 01/2012 and 02/2012).

In the case of commercial operations (according to the accident report the accident happened during a commercial operation) Part-ORO ('organisation requirements') of the Agency's Opinion 04/2011 will be applicable (see ORO.GEN.005). Part-ORO contains the following provisions related to the safety recommendation:

"ORO.GEN.110 Operator responsibilities

...

(h) The operator shall establish a checklist system for each aircraft type to be used by crew members in all phases of flight under normal, abnormal and emergency conditions to ensure that the operating procedures in the operations manual are followed. The design and utilisation of checklists shall observe human factors principles and take into account the latest relevant documentation from the aircraft manufacturer."

The Agency will evaluate the need for additional Acceptable Means of Compliance (AMC) and/or Guidance Material (GM) in rulemaking task RMT.0293 [former OPS.005(b)] 'Updating EASA OPS rules' to ensure that checks which are interrupted at any point, are restarted from a safe point prior to the interruption.

Status: Open – **Category**:

Registration	Aircraft Type	Location	Date of event	Event Type
1. EC-HFP	DOUGLAS DC9	Madrid-Barajas Airport, Spain	20/08/2008	Accident

Synopsis of the event: On 20 August 2008, the McDonnell Douglas DC-9-82 (MD-82) aircraft, registration EC-HFP, arrived from Barcelona at Madrid-Barajas Airport at 10:13 to conclude what was the first flight programmed for that day. The aircraft was then scheduled to continue on to Las Palmas with the same crew that had flown the previous leg. The estimated departure time was 13:00. Once the aircraft was on the runway threshold ready for takeoff, the crew noted an abnormally high temperature of the RAT (Ram Air Temperature) probe and returned to the stand to attempt to solve the problem. After maintenance work performed by the airline's own maintenance technicians, it was proposed and accepted that the airplane be dispatched once more. At 14:08, the aircraft was again cleared for engine start-up. At 14:23, with the airplane at the threshold of runway 36L, it was cleared for takeoff once more. The airplane started the takeoff run only to descend and impact the terrain immediately after lifting off the ground. The aircraft was destroyed as a result of the impact with the ground and the subsequent fire. Onboard the airplane were 172 people, of whom a total of 148 passengers and all 6 crew perished. Eighteen passengers, including three minors, were seriously injured. The investigation has so far determined that the take-off was attempted while in an inappropriate configuration, since neither the flaps nor slats were deployed. The system outfitted on the airplane to warn of an inadequate takeoff configuration (TOWS) also failed to function. The investigation has determined that the accident occurred because: Flight crew lost control over the plane as

a consequence of the stall that appeared immediately after the take-off, having not configured the plane correctly, as they had not executed the action of deploying flaps/slats after a chain of mistakes and omissions, and not having any warning about the incorrect take off configuration.

Safety Recommendation SPAN-2011-018 (CIAIAC):
It is recommended that the United States Federal Aviation Administration (FAA) and European Aviation Safety Agency (EASA) require takeoff stall recovery as part of initial and recurring training programs of airline transport pilots. (REC 18/11)

Reply

Part-FCL of Commission Regulation (EU) No 1178/2011 establishes the requirements for the issue of pilot licences and associated ratings and certificates and the conditions of their validity and use. Practical training on stall recovery in take-off configuration for airline transport pilots is covered in these provisions.

Regulation (EC) 859/2008 (so-called EU-OPS), contains provisions directed to the operator on recurrent training, including proficiency checks on normal, abnormal and emergency procedures. Although take-off stall recovery is not explicitly referred to, it is covered under 'automation' in the crew resource management training subjects.

The Agency is actively involved in the following on-going initiatives concerning stall recovery training and checking:

- The International Committee for Aviation Training in Extended Envelopes (ICATEE) is an international joint industry-authority initiative which has been set up to deliver a comprehensive long-term strategy to eliminate or reduce the rate of loss of control (LoC). This committee has been requested by International Civil Aviation Organization (ICAO) to produce a circular on recommended best practices for Upset Prevention and Recovery Training (UPRT). A key goal of UPRT is to improve current basic and recurrent training, as well as proficiency checks, by an integrated academic, in-flight and simulator training on recovery technique and stall recognition.
- The Loss Of Control Avoidance and Recovery Training (LOCART) initiative, established by ICAO in co-operation with the FAA and the Agency, aims to set global standards on loss of control avoidance and recovery training.

Moreover, the Agency will organise a workshop in the 4th quarter of 2012 to highlight and promote requirements and guidance related to the prevention of loss of control accidents, as published in the Aircrew and Air Operations regulations.

The Agency intends to follow-up any resulting ICAO publications, as well as any other appropriate action items arising from the above-mentioned activities.

Status: Open – **Category**:

Safety Recommendation SPAN-2011-020 (CIAIAC):
It is recommended that the European Aviation Safety Agency (EASA) establish requirements for flight simulators so as to allow simulator training to cover sustained takeoff stalls that reproduce situations that could exceed the flight envelope limits. (REC 20/11)

Reply

Neither the requirements for Flight Simulator Training Devices (FSTD) (JAR-FSTD), nor the data packages for full flight simulators and flight training devices delivered by the aircraft manufacturers, currently allow training in FSTD to cover sustained take-off stalls that reproduce situations that could exceed the flight envelope limits.

The JAR-FSTD requirements will soon be transferred into Certification Specifications (CS-FSTD), which will be the European standard for the qualification of FSTD.

An additional review will be undertaken through rulemaking tasks RMT.0196 and RMT.0197 [former FCL.007 (a) and (b)] 'FSTDs', which are included in the Agency's Rulemaking Programme.

This safety recommendation on training in FSTD for sustained take-off stalls that reproduce situations which could exceed the flight envelope, will be considered during the above-mentioned tasks.

In addition, the Agency is actively involved in the following on-going initiatives concerning stall recovery training and checking:

- The International Committee for Aviation Training in Extended Envelopes (ICATEE) is an international joint industry-authority initiative which has been set up to deliver a comprehensive long-term strategy to eliminate or reduce the rate of loss of control (LoC). This committee has been requested by ICAO to produce a circular on recommended best practices for Upset Prevention and Recovery Training (UPRT). A key goal of UPRT is to improve current basic and recurrent training, as well as proficiency checks, by an integrated academic, in-flight and training in FSTD on recovery technique and stall recognition. Possible amendments for the qualification of FSTD are one subject this initiative is dealing with.
- The Loss Of Control Avoidance and Recovery Training (LOCART) initiative, established by ICAO in co-operation with the FAA and the Agency, aims to set global standards on loss of control avoidance and recovery training and deals also with the capabilities of FSTD.

The results of these initiatives will also be taken into account within the context of the rulemaking tasks on FSTD, with the aim of identifying additional elements for improving loss of control capabilities of FSTD.

Status: Open – **Category**:

Safety Recommendation SPAN-2011-022 (CIAIAC):

It is recommended that the European Aviation Safety Agency (EASA) and national civil aviation authorities, when evaluating operator training programs, expressly ensure that:

- the concept of sterile cockpit is stressed,
- the importance of adhering to said concept is stressed, along with the consequences of even minor distractions, and

- examples of accidents are included in which non-compliance with regulations involving the sterile cockpit was a relevant factor. (REC 22/11)

Reply

Rulemaking tasks RMT.0416 and RMT.0417 [former OPS.009 (a) and (b)] 'Sterile Flight Deck Procedures' were launched on 12 September 2011. The safety recommendation is addressed in the associated Notice of Proposed Amendment (NPA) which was published 06 July 2012.

Status: Closed – **Category**: Partial agreement

Safety Recommendation SPAN-2011-024 (CIAIAC):
It is recommended that the European Aviation Safety Agency (EASA) develop guidance material for the preparation, evaluation and modification of checklists associated with normal, abnormal and emergency procedures that is based on the criteria that govern safety management systems. (REC 24/11)

Reply

Opinions on Authority Requirements and Organisation Requirements already published integrate the principles of safety management promoted by the International Civil Aviation Organisation (ICAO). They cover the domain of air operations and requirements of this Safety Recommendations will be progressively extended to other domains of the aviation system.

The Annex to the draft Commission Regulation on 'Air Operations – OPS 'ORO.GEN.110 Operator responsibilities' require each operator to establish a checklist system for each aircraft type to be used by crew members in all phases of flight under normal, abnormal and emergency conditions and to ensure that the operating procedures in the operations manual are followed. The design and utilisation of checklists shall observe human factors principles and take into account the latest relevant documentation from the aircraft manufacturer.

In addition, the European Commercial Aviation Safety Team (ECAST), a partnership among EASA, other European regulators and the aviation industry, established a Safety Management System (SMS) and safety culture working group with the objective of providing its stakeholders guidance on safety management in support to regulatory materials being developed by ICAO and EASA. The materials developed by the group are made available on the ECAST website.

Therefore, air operators tasked with the writing of checklist have to follow the criteria that govern safety management systems as recommended.

Status: Closed – **Category**: Agreement

Safety Recommendation SPAN-2011-026 (CIAIAC):
It is recommended that the European Aviation Safety Agency (EASA) perform investigations or studies intended to know the status of application and the real effectiveness of the current UE requirements applicable to Crew Resources Management (CRM). The results of these studies should permit to identify the weak points existing in this field and should contain proposals on how to strengthen them. (REC 26/11)

Reply

The Agency's interim response [Ref. 05/12/2011 – Reply doc. Ref. 55792 (2011)] referred to rulemaking task RMT.0411 (former OPS.094) 'Crew Resource Management (CRM) Training', which is included in the Agency's Rulemaking Programme.

The rulemaking task was launched on 29/06/2012, when the associated Terms of Reference were published.

The rulemaking group is actively reviewing the implementation and effectiveness of the impending EU requirements for CRM to identify any weaknesses and to consider proposing amendments to improve them.

Status: Closed – **Category**: Agreement

Safety Recommendation SPAN-2011-027 (CIAIAC):
It is recommended that the European Aviation Safety Agency (EASA) standardize the CRM training that must be provided to the operations inspectors of national authorities, and define the criteria that must be met by said inspectors in order to exercise their duties as inspectors in the area of CRM. (REC 27/11)

Reply

The Agency's interim response [Ref. 27/09/2011 – Reply doc. Ref. 54538 (2011)] referred to rulemaking task RMT.0441 [former OPS.087 (c)] 'Crew Resource Management (CRM) Training', which is included in the Agency's Rulemaking Programme.

This safety recommendation is, in fact, being addressed in rulemaking task RMT.0411 (former OPS.094) 'Crew Resource Management (CRM) Training', which was launched on 29/06/2012, when the associated Terms of Reference were published.

The rulemaking group is actively reviewing the impending EU requirements regarding the training of operations inspectors of the competent authorities. Consideration is being given to defining the criteria that must be met the inspectors in order to exercise their duties as inspectors in the area of CRM.

Status: Closed – **Category**: Agreement

Safety Recommendation SPAN-2011-033 (CIAIAC):
It is recommended that the European Aviation Safety Agency (EASA) issue an interpretation regarding the need to identify the source of a malfunction prior to using the MEL, and that it assures that national authorities accept and apply the same standards with regard to their procedures for overseeing operators in their respective States. (REC 33/11)

Reply

Regarding the first part of the Safety Recommendation on the use of the Minimum Equipment List (MEL), rulemaking task RMT.0104 [former 21.039(c)] 'Elaboration and adoption in the Community framework, of additional airworthiness specifications for a given type of aircraft and type of operation (CS-MMEL)' proposes in its associated Comment Response Document (CRD) the following new Acceptable Means of Compliance (AMC).

AMC to Part-ORO (Organisation Requirements for Air Operations), Annex III of Commission Regulation (EU) No 965/2012, ORO.MLR.105(d)(1) states that the MEL preamble provided by the operator should include guidance on how to identify the origin of a failure or malfunction to the extent necessary for appropriate action of the MEL.

Regarding the second part of the Safety Recommendation on national authorities' responsibilities, Commission Regulation (EU) No 965/2012 published on 25 October 2012 includes, in Annex II, Part-ARO (Authority Requirements for Air Operations), ARO.GEN.300, which requires the competent authority to verify compliance with the applicable requirements before issuing an approval.

Status: Closed – **Category**: Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. OE-KPC	CESSNA TU206	Moncofa (Castellon), Spain	23/04/2009	Accident

Synopsis of the event: On 23 April 2009, a Cessna TU206F aircraft, registration OE-KPC, made a water landing at 11:20 near the beach in the town of Moncofa (Castellon) following an engine failure while flying at 7,000 feet over the coast. Both occupants onboard, the pilot and a passenger, were rescued by eyewitnesses to the event. The aircraft turned over during the maneuver and ended up floating upside down.

Safety Recommendation SPAN-2012-004 (CIAIAC):
It is recommended to the European Aviation Safety Agency (EASA) that the suitability of the design of the electrical system contained in the STC (EASA.A.S.02565) be evaluated in terms of the location, identification and possible replacement of the 150-amp fuse situated next to 'Bat 1'.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

Safety Recommendation SPAN-2012-005 (CIAIAC):
It is recommended that the European Aviation Safety Agency (EASA) reconsider the approval of the supplement to the Flight Manual of the Cessna TU206F aircraft with a Centurion 4.0 engine installed so that it:

- Properly reflects the information regarding the electrical system.
- Provides the pilot with adequate instructions on what to do (or not do) in the event of an in-flight engine failure.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010

Status: Open – **Category**:

Registration	Aircraft Type	Location	Date of event	Event Type
1. EC-GDG	SWEARINGEN SA226	Gavá, Barcelona, Spain	18/02/1998	Accident

Synopsis of the event: La aeronave matrícula EC-GDG, identificador de vuelo IBT-595A, despegó del Aeropuerto de Barcelona a las 22:38 h (23:38 h local) del miércoles día 18 de Febrero de 1998, en un vuelo de transporte de carga con destino a Bruselas. A bordo iban la comandante y la copiloto y, según el manifiesto de carga, ésta consistía en 625 kg de paquetería. Durante ese día la tripulación había efectuado otros cuatro vuelos con el mismo avión, con un total 3 h y 55 m de vuelo. Los tramos de estos vuelos habían sido Barcelona-Palma de Mallorca-Alicante-Valencia-Barcelona. El aterrizaje del último tramo Valencia-Barcelona se produjo a las 21:05 h. Las condiciones meteorológicas en el Aeropuerto de Barcelona a las 22:30 h eran viento 2 kt 270°, visibilidad 2000 m, con neblina, cubierto entre 5 y 7 octas a 400 pies, temperatura 10°, punto de rocío 9o, y QNH 1035. La aeronave fue autorizada a proceder en curso hasta Bagur y a ascender a FL180. A las 22:47:15 h, cuando se encontraba controlada por el Sector Central del Centro de Control de Barcelona, a 8400 ft de altitud, a 23 NM y en el radial 060° del VOR de Barcelona (QUV), y con una velocidad respecto a tierra de 250 kt, la tripulación solicitó regresar al aeropuerto, con la frase «Requeriríamos volver al campo.» Se le autorizó a regresar y a las 22:48:32 se le indicó que contactase con el Control de Aproximación de Barcelona, el cual, después de darle instrucciones para viraje y nuevo código de transponder, de informarle que le seguía otra aeronave, y confirmarle que la pista para aproximación era la 07, preguntó a la tripulación si necesitaban alguna ayuda en tierra. La tripulación respondió: «Negativo. De momento no, gracias» a las 22:51:25 h. El control les instruyó que redujesen velocidad hasta 180 KIAS. Después, les autorizó a descender a 3000 ft. A las 22:59:35, según la grabación de comunicaciones de la torre, la tripulación contactó con el Control de la Torre de Barcelona, indicando que estaban establecidos en final, y la torre les autorizó a aterrizar en la pista 07 con viento 240/05. En ese momento se encontraban a unas 7 NM en final, librando 2400 ft y con unos 190 kt de velocidad respecto a tierra. A las 22:59:46 h, la tripulación colacionó, con voz serena en todo momento, autorizado a aterrizar en la pista 07. La aeronave pasó la baliza exterior QA a las 23:00:15 h (según comunicaciones con torre), a 1500 ft y con una velocidad respecto a tierra de 170 kt. Según los datos meteorológicos, el viento a esa altitud era en esos momentos de 215° y 15 kt. Cuando se encontraba a 3.7 NM del VOR QUV, a 700 ft y con velocidad respecto al suelo de 150 kt, empezó a desplazarse a la izquierda del localizador.

La última señal radar que se recibió de la aeronave fue a las 23:01:13 h (según el reloj de torre), a unas 2.8 NM de QUV, a 0.3 NM al norte del localizador de la pista 07, con indicación de 0 ft de altitud y 130 kt de velocidad respecto a tierra. La torre, tras comunicar con otra aeronave que se estaba aproximando a la pista 07 a unas 7.5 NM de distancia e indicarle que ya le llamaría para autorizarle a aterrizar, intentó contactar con la EC-GDG pidiendo su posición a las 23:03:35 h sin obtener respuesta. Volvió a intentarlo repetidamente y, tras un último intento a las 23:04:18 h, comprobó que la pista estaba libre y autorizó a aterrizar a la segunda aeronave. A las 23:04:48 la torre vio fuego a unas 2 NM de distancia de la cabecera de la pista 07, y tomó la decisión inmediata de declarar emergencia mediante el pulsador de alarma. Los equipos de rescate se dirigieron rápidamente al lugar. La aeronave se había precipitado sobre los terrenos de un vivero situado en el Camino de la Mutra en el término municipal de Gavá. Ambas tripulantes fallecieron como consecuencia del impacto y posterior incendio.

Safety Recommendation SPAN-2012-010 (CIAIAC):
It is recommended that the European Aviation Safety Agency (EASA) study the viability of introducing a requirement into the operational regulations that ground proximity warning systems be installed on turboprop aircraft authorized for IFR flights and used for the public transport or passengers or cargo, regardless of their weight or maximum number of seats.

Reply

A terrain awareness and warning system (TAWS) aims to prevent "Controlled Flight Into Terrain" (CFIT) accidents. The actual systems in current use are known as ground proximity warning system (GPWS) and enhanced GPWS.

Rulemaking tasks RMT.0371 and RMT.0372 [former OPS.078 (a) and (b)] 'TAWS operation in IFR (instrument flight rules) and VFR (visual flight rules) and TAWS for turbine powered aeroplanes under 5700 kg MTOM (maximum take-off mass) able to carry 6 to 9 passengers', are on the Agency's Rulemaking Programme. This safety recommendation will be considered during these tasks, which are planned to be launched in 2013.

Status: Open – **Category**:

Safety Recommendation SPAN-2012-011 (CIAIAC):
It is recommended that the European Aviation Safety Agency (EASA) study the viability of introducing a requirement into the operational regulations that cockpit voice and flight data recorders of given specifications be installed on turboprop aircraft authorized for IFR flights and used for the public transport or passengers or cargo, regardless of their weight or maximum number of seats.

Reply

Rulemaking tasks RMT.0271 and RMT.0272 'Recorders for small aircraft' are on the Agency's Rulemaking Programme. This Safety Recommendation will be considered during these tasks, which are planned to be launched in 2013.

Status: Open – **Category**:

Registration	Aircraft Type	Location	Date of event	Event Type
1. EC-IOJ	AEROSPATIALE AS350	Mollet del Vallés (Barcelona), Spain	22/06/2009	Accident

Synopsis of the event: On 22 June 2009, a Eurocopter AS 350 B3 helicopter took off with two persons onboard from the Sabadell (Barcelona) airport at 11:45 en route to the Mollet del Valles area to take part in a firefighting operation. The helicopter, equipped with a belly tank that is attached to a fill pump via a hose, was picking up water from a pond near the site of the fire. It was the third or fourth refilling operation. According to eyewitness accounts, as the helicopter climbed it was dragging a rope attached to the fill pump. After climbing a few meters, the tank emptied its contents and the rope shot upwards, becoming entangled in the main rotor and dragging with it the fill pump, which impacted the main rotor blades. The helicopter immediately started descending in a parabolic trajectory until it impacted the ground. The two occupants onboard the aircraft perished as a result of the impact and the aircraft was destroyed.

Safety Recommendation SPAN-2012-013 (CIAIAC):
It is recommended that the EASA and the FAA establish the mechanisms necessary to ensure that water-dropping system SIMPLEX 310 can be detached from a helicopter in the event that the suction pump or hose on the system is inadvertently ensnared.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

Registration	Aircraft Type	Location	Date of event	Event Type
1. EC-CXL	PIPER PA25	Sebastian Almagro airfield in Palma del Rio (Cordoba), Spain	11/04/2003	Accident

Synopsis of the event: El piloto realizaba un vuelo de instrucción para conseguir la habilitación de piloto agro forestal. Sus maniobras de lanzamiento de agua como entrenamiento en lucha contra incendios y de fumigación eran seguidas por una instructora desde tierra. No llevaba casco, sólo auriculares. El piloto había comenzado a las 9:30 h un primer período de entrenamiento de circuitos y descarga de agua ese día. Este período debió durar aproximadamente 1 h y 20 min. Después había descansado mientras otros dos pilotos realizaban otros dos períodos de 1 h de duración cada uno. Tras ello, el piloto comenzó un segundo período de entrenamiento, en el cual efectuó una descarga y una toma y volvió a despegar después de que el avión hubiese sido car¬gado con una cantidad de agua estimada entre 300 y 400 l. El avión despegó por la pista 25 y cuando se encontraba a unos 100 ft de altura con rumbo de pista, redujo un poco la potencia del motor con la intención de nivelar el avión y después girar hacia la izquierda para colocarse en viento en cola y efectuar allí la descarga, como era habitual durante los entrenamientos. Lo normal era reducir el régimen de giro del motor de 2.500 rpm a unas 2.400 rpm. En este caso, tras reducir la potencia, el piloto notó al rato que el avión no volaba bien, y el motor tenía un comportamiento anormal, por lo que metió de nuevo gases a tope. Sin embargo, la situación del vuelo no mejoró,

por lo que optó por descargar el agua mientras todavía mantenía el rumbo de pista. En el instante de descargar el agua, el avión sufrió una desestabilización y alcanzó un ángulo de encabritado muy alto que no pudo ser controlado hasta que el avión entró en pérdida y cayó del ala izquierda. En esos momentos, el piloto recordaba haber visto la luz de entrada en pérdida. Después el avión se desplomó e impactó con varios olivos y con el suelo en una posición de morro bajo y alabeo a la izquierda, hasta quedar detenida sin haber recorrido prácticamente nada de terreno arrastrando por el suelo. El rumbo final con el que quedó el fuselaje fue de unos 45°, por lo que había variado su rumbo original de 250° en unos 205° hacia la izquierda. Durante el impacto, el arnés de hombros se soltó de su sujeción superior trasera y el piloto golpeó con su cabeza el cuadro de mandos del avión. Aunque sufrió un fuerte golpe y quedó sangrando, pudo abandonar la aeronave por sus propios medios. Las lesiones se podrían haber minimizado si hubiese llevado casco. Diversos testigos que habían presenciado eí accidente corrieron hacia la aeronave y ayudaron al piloto, que fue trasladado al centro de salud de Palma del Río y posteriormente al Hospital de Córdoba, de donde fue dado de alta horas después. La aeronave sufrió daños de tal magnitud en la hélice, bancada del motor, fuselaje y ala, que se consideró destruida. El depósito de combustible se rompió y se derramó todo el combustible que contenía. No hubo incendio.

Safety Recommendation SPAN-2012-020 (CIAIAC):
It is recommended that EASA and ANAC require operators and/or manufacturer of the Piper PA-25 to introduce instructions in the aircraft's operating documentation regarding the proper operation of the safety belt and harness system such that, before each flight, the straps are adjusted and the harness take-up reel is properly locked, and that its supposed inertial function not be relied upon.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

Registration	Aircraft Type	Location	Date of event	Event Type
1. EC-KYR	AGUSTA BELL AB139	the coast of Almeria, Spain	21/01/2010	Accident

Synopsis of the event: On Thursday, 21 January 2010 at 20:16:02, an Agusta Westland AW139 helicopter, registration EC-KYR, crashed in a controlled flight into the water, inadvertently by the crew, 4.5 nautical miles (NM) south of the Almeria coast. The aircraft had started operations at 18:00 from the Almeria Airport, where it was based. It had been on a scheduled night time search and rescue (SAR) training flight for over two hours. At the completion of the training at 20:13:52, the aircraft started the return trip to the airport. Two minutes and ten seconds later, at 20:16:02, the helicopter impacted the water at a ground speed (GS) of 110 knots on a course of 081º with a 3.5º positive pitch angle and at a 1º right bank angle. The helicopter was destroyed by the impact and sank to the bottom in 91 meters of water. The entire flight took place under night time conditions with no adverse weather. Of the four persons onboard (pilot, copilot, rescue swimmer and winch operator), only the winch operator survived the accident.

Safety Recommendation SPAN-2012-037 (CIAIAC):
It is recommended that the EASA, as the certifying authority, review the proof of compliance involved with the certification standards for the HR Smith 503 emergency locator transmitters installed on the Agusta Westland AW139 helicopter.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010

Status: Open – **Category**:

Sweden

Registration	Aircraft Type	Location	Date of event	Event Type
1. SE-HSI	HUGHES 369	Linetjakke, Sweden	04/08/2004	Accident

Synopsis of the event: The pilot took off with his helicopter with four passengers on board. Approximately half a minute after takeoff he thought that increasing force was needed to keep the helicopter neutral in the roll plane. He attempted to deal with the problem by, among other things, operating the trim control on the cyclic stick, but the force grew greater and greater. After a minute or so the force to the left had become so great that the pilot was obliged to support with his left hand and left knee to keep the helicopter in normal flying attitude, he had to abort the first attempt to land. On the second attempt the helicopter struck the ground hard and turned over.

Safety Recommendation SWED-2005-002 (AIB):
The Swedish CAA is recommended in collaboration with international civil aviation authorities, to seek the inclusion of maximum permitted cyclic stick and pedal craft forces in the design regulations also for small and large helicopters.

Reply

As the Safety Recommendation requires collaboration of the civil aviation authorities this topic has been included in the discussions of the Flight Test Group, established as part of EASA Rulemaking task RMT.0134, with the aim of updating guidance material associated with Federal Aviation Requirements (FAR)/Certification Specifications (CS) 27&29.

The group considered that the safety issue was far broader than simply a need to define specific stick and pedal forces in the certification requirements and needed to encompass issues such as pilot workload, variations in pilot capabilities, and the duration of loads held by the pilot and their effects on physical fatigue. CS 27.141(b) currently requires a flight evaluation to allow the contributing factors of basic rotorcraft flying qualities, cockpit/control ergonomics, control force magnitudes and any control-load alleviation design features to be assessed in an holistic manner, and this remains the preferred approach.

In the case of power boosted controls for small and large helicopters the group did consider that further guidance was required on how to simulate power boost failures during flight test and the factors that should be taken into account. An amendment to Advisory Circular (AC) 27&29.141 has therefore been developed to provide an appropriate test sequence to enable pilot workload and physical fatigue to be assessed following loss of powered flying controls and reversion to a manual back-up.

Status: Closed – **Category**: Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. SE-GBL	PIPER PA34	Göteborg City Airport, Sweden	06/07/2009	Accident

Synopsis of the event: The pilot took off from Säve for a private flight to Sindal in Denmark. After take-off the pilot was unable to retract the landing gear. After repeated attempts at both retraction and extension, the pilot left the landing gear lever in the extended position and requested a return to land back at Säve. On the initiative of air traffic control a fly by was carried out for visual assessment from the control tower. However a definitive statement concerning the landing gear status could not be given from the tower. The pilot then continued with an approach for landing. The indications in the aircraft showed that none of the landing gear wheels were down and locked. When interviewed the pilot stated that he thought this was an incorrect indication, which was why he did not use the emergency landing gear extension system. He said that he had never practised emergency extension of the landing gear while undergoing proficiency checks (PC). When the aircraft touched down all three landing gear struts folded and the aircraft slid along the asphalt runway before coming to a halt 1,000 metres along it. No fire broke out and those on board - who with help from the rescue services were able to leave the aircraft themselves - were not injured.

Safety Recommendation SWED-2010-006 (AIB):
It is recommended that EASA should ensure that rules are prepared in respect of the minimum requirements for the content of checklists for aircraft operated within EASA's supervision. (RL 2010:06e R4).

Reply

The Certification requirements prescribe that appropriate operating procedures are established and the necessary information for safe operation must be provided. The minimum information to include are already defined and they need to be implemented in the AFM. In particular, 23.1585 (j) requires to include "(j) Procedures for the safe operation of the aeroplane's systems and equipment, both in normal use and in the event of malfunction. ..". Additional requirements or further details are not deemed to provide benefit to safety.

Status: Closed – **Category**: No longer applicable

Safety Recommendation SWED-2010-008 (AIB):
It is recommended that EASA should work towards that training of emergency procedures for aircraft with retractable landing gear is introduced at Proficiency Checks regarding private aviation.

Reply

The following published requirements address the checking and revalidation criteria for pilots in private aviation: Commission Regulation (EU) No 1178/2011 (Aircrew), Annex 1 (Part-FCL); EASA Executive Director (ED) Decision 2011/016/R.

Most of the revalidation criteria were transposed from Joint Aviation Requirements on Flight Crew Licensing (JAR-FCL) 1 and 2 into the above-mentioned new European Union legislation. As in JAR-FCL 1, a pilot holding a Private Pilot's Licence (PPL) is required to complete a proficiency check with an examiner every 12 months to revalidate a multi-engine class or type rating.

The syllabus of theoretical knowledge for the issue of class and type ratings includes the item "landing gear - components of the emergency extension system". However, the program for the related proficiency check, contained in Appendix 9 to Part-FCL, does not require specific check items to cover emergency procedures for aircraft with retractable landing gear.

The Agency has initiated rulemaking tasks RMT.0188 and RMT.0189 [former FCL.002 (a) and (b)] 'Updating EASA FCL implementing rules', to address open issues and necessary changes to Annex 1 (Part-FCL) of the Aircrew Regulation and the associated Executive Director (ED) decision. The items referred to in this Safety Recommendation (training of emergency procedures for aircraft with retractable landing gear during proficiency checks) are included in the scope of these rulemaking tasks.

Status: Closed – **Category**: Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
SE-DZB	EMBRAER EMB145	Malmö/Sturup airport, Sweden	09/11/2008	Incident

Synopsis of the event: This aviation event involved two separate incidents, where the first was a loss of cabin pressure and the other reduced aircraft separation. The aircraft, an Embraer 145 with call sign SDR051, had taken off from Gothenburg/Landvetter Airport for a scheduled flight to Prague. When the cruise altitude at FL 370 (approx. 11,300 metres) had been reached, the warning system indicated a fault in one of the systems that supplied air to, among other things, the pressure cabin. The pilots had started to take measures in accordance with the emergency checklist when the other system generated a warning and shut down.

The air conditioning system on this type of aircraft has a generally high failure rate. During fault tracing on the system the Pack Temp Sensor was changed, after which the system returned to normal operation. Whether the warning and system shutdown were caused by a fault in the unit that had been replaced has not been verified, but is entirely possible. The warning and shutdown could also, according to the manufacturer's analysis, have been caused by incorrect connections in two electrical units. It seems very likely that the remaining system became overloaded or overheated, and therefore shut down automatically as a result of the first fault. The pilots observed that the cabin pressure reduced rapidly, and they began the actions in accordance with the checklist for falling cabin pressure. The pilots donned their oxygen masks and reported to air traffic control that they were starting an "Immediate descent". The pilots did not activate the transponder emergency code. The aircraft was initially cleared to FL290 but because an "emergency descent" had been reported to air traffic control, clearance was given to FL150. The crew also reported that they wished to land at Malmö/Sturup airport. The limitation of FL150 was due to other traffic, and an ATR72 with call sign CIM027, who was cruising on a possible collision course at FL130. When the aircraft was handed over to the next air traffic controller who handled the lower airspace, information was received from the colleague that the aircraft had requested a descent to FL150, which was not the case. When the aircraft reported descent to FL100, on the new frequency there was not enough time for the air traffic controller to plan a traffic redirection that would comply with the separation rules. When interviewed, the pilots related that the procedure with the oxygen masks was awkward and that they perceived the quality of radio communications was poor during the entire sequence of events. Despite the air traffic controller instructed CIM027 to descend immediately, minimum separation was lost and SDR051 passed 1.27 nm in front of CIM027 with an altitude difference of 800 feet. However the crew of CIM027 reported that they had visual contact with the descending aircraft all the time. The first incident was caused by deficiencies in the air conditioning system in respect of automatic shutdown. The second incident was caused by a lack of co-ordination between the air traffic controllers. A contributory factor was the poor quality of radio communications between the aircraft and air traffic control.

Safety Recommendation SWED-2010-014 (AIB):
It is recommended that EASA takes the necessary measures to minimise the risk of unjustified shutdown on the CPU, and to ensure that the two air conditioning systems operate independently of each other. (RL 2010:12 R1)

Reply

The specific case of reported failure in the air conditioning system on the EMB-145 aircraft has led to a review of the Air Management System discussed with EASA and the primary certification authority (ANAC) during the regular Service Difficulty Meetings. This review was further detailed in dedicated communications (EASA and Embraer memorandums) explaining namely how the two air conditioning systems operate independently of each other. Along with the primary certification authority (ANAC), the Agency is also satisfied that necessary measures to minimise the risk of unjustified shutdown on the CPU are in place.

Status: Closed – **Category**: Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. SE-JME	EUROCOPTER EC120	Flatruet, Jämtlands county, Sweden	28/10/2009	Accident

Synopsis of the event: The pilot took off from the company's base in Östersund for a commercial air transport with several planned stops in the mountain districts west and southwest of the starting location. After a first stop on Helags mountain station, the pilot flew south towards Funäsdalen. After passing Flatruet's highest point after approximately 1 km into the flight the pilot heard a loud bang and very strong low-frequency vibrations were felt in the helicopter. It was not possible to read the instruments and parts of the interior fittings had become detached. The altitude was 500-700 feet above the ground and the pilot realized that the vibrations were linked to the main rotor speed. He decided to conduct an autorotation and turned 180° right towards a snow-covered moor and adjusted altitude to 20 foot and hovering. Touchdown was calm and soft on the intended landing area. The time from the loud bang to the landing on the moor was less than 30 seconds. After examination of the helicopter, a large open crack in the main rotor hub was discovered along with several cracks in the tail section and the tail boom. The ELT2 was not activated during the landing. The accident was caused by the fact that the maintenance system for the helicopter model did not detect this type of defect because the time from initiation of the crack to final fracture is shorter than the inspection interval.

Safety Recommendation SWED-2011-002 (AIB):
It is recommended that EASA works towards a more sensitive method aimed at detecting any defects in the main rotor hub at an earlier stage than those described in EASA AD No. 2010-0026-E proposed measures. (RL 2011:02e R1)

Reply

The MRH (Main Rotor Hub) is designed compliant with the "safe life" fatigue requirement in order to ensure structural integrity and reliability of MRH metallic parts up to their certified retirement time. While these parts are per se substantiated by Type Certification to remain free of fatigue crack initiation and propagation during their whole service life, accidental damage or unexpected defects affecting the parts couldn't however be excluded to occur (e.g. loss of blue coating in the bushes like in SE-JME accident). For that reason the continued airworthiness of the aircraft also relies on the scheduled maintenance visits of the Maintenance Servicing Manual, like for example the Daily Flight-Related Check and the other "On-Condition" Checks (Inspections/Checks) at regular intervals, by which the MRH must be duly inspected for cracks.

As regards the recommendation, the Agency reached the following conclusions. Based on the hazard assessment, technical analysis and calculations provided by Eurocopter to explain the initiation and development of the crack as the one involved in the accident of the EC120 SE-JME, the EASA Airworthiness Directive (AD) 2010-0026-E properly addresses the safety concern and restores an acceptable level of safety in line with the certification requirements for this helicopter. Indeed, the technical data from the investigation have demonstrated that the repetitive inspection mandated by the AD is adequate to provide early detection of similar MRH cracks with a satisfactory safety margin.

Status: Closed – **Category**: Disagreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. SE-IDT	PIPER PA32R	Älvsbyn/Högheden Airfield, BD County, Sweden	01/10/2010	Accident

Synopsis of the event: The flight was a private flight from Bromma Airport to Älvsbyn/Högheden Airfield. After a two and a half hour flight the pilot decided to hold over Älvsbyn Air-field for 30 minutes because of ground fog. When the ground fog dissipated, landing procedures began in the form of a right-hand circuit to runway 04. According to the pilot, the approach was carried out with full flaps and a final speed 70-75 knots, followed by a steep descent after passing a curtain of trees located just before the beginning of the runway. The landing took place well into the runway. According to witnesses, touch-down occurred about 450 metres past the beginning of the runway. The pilot commenced to go-around at a late stage. After the go-around the aircraft became airborne immediately before the end of the runway, flew into a young mixed forest 10 meters after the end of the runway and ended up on a railway track 90 metres away.

Safety Recommendation SWED-2011-004 (AIB):

It is recommended that EASA ensure that safe methods to identify and abort an unsafe visual approach, at an earlier stage (i.e. 300 feet) than that provided in appendix 9, part 4 of the proposed PART-FCL, be included in future training plans for flight training.

Reply

Commission Regulation (EU) 1178/2011 of 03 November 2011 related to civil aviation aircrew includes, in Appendix 9 details of the training, skill tests and proficiency checks for Multi-crew Pilot licence (MPL), Airline Transport Pilot Licence (ATPL), type and class ratings and proficiency checks for Instrument Ratings.

The flight test tolerances provided with every proficiency check in Appendix 9 do not exclude test scenarios as described in the Safety Recommendation. The practical exercise in Section 4 (e.g. exercise/test item 4.6 for single-pilot aeroplanes) requires a go-around at minimum height as a mandatory check item. It is up to the discretion of the examiner to decide at which altitude this exercise will be flown. As a general principle for all approaches the candidate has to demonstrate good judgement and airmanship. This means also that the abort of an approach might be initiated at an earlier stage.

During the initial flight training the training syllabus already includes different exercises focussing on the landing techniques and possible problems during visual approaches. Some examples are provided in EASA Executive Director (ED) Decision 2011/016/R published on 15 December 2011, on civil aviation aircrew:

AMC 1 to Appendix 3 provides in chapter A "ATP integrated course: aeroplanes" several exercises to provide pilots with the necessary knowledge [see (d)(1) phase 1 and (d)(2) phase 2].

AMC1-FCL.210.A related to flight instruction for the private pilot licence aeroplanes provides in Exercise 13 "Circuit Approach and Landing" (with a specific sub-category missed approach/go-around/mislanding) and in Exercise 12/13E "Emergencies" (with a sub-category for mislanding/go-around/missed approach) several exercises to provide pilots with the necessary knowledge and skill.

In addition, AMC1-FCL.235 related the content of the skill test for the Private Pilot Licence PPL(A) contains a test item called "go-around from low height" [see Section 4 item (f)].

The Agency therefore considers that this Safety Recommendation has been addressed in the above-mentioned rules and no further rulemaking action is required.

Status: Closed – **Category**: Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. SE-JBU	HUGHES 369	north - north-west of Klutsjn, Dalarna county, Sweden	01/07/2009	Accident

Synopsis of the event: This particular flight concerned reindeer herding by helicopter. During reindeer herding the helicopter is mostly flown at low speed at a low height, often including hovering, so that the reindeer herd and individual reindeer are "driven" in the desired direction. On the day concerned, the pilot himself performed the daily inspection of the helicopter. The flying session was the second of the day and began after those involved had taken a break, during which the helicopter had been refuelled. Accompanying the pilot of the helicopter was a reindeer owner who was regarded as a crew member (front seat passenger). After about an hour and a half of flight without any problems, a loud bang was heard, the helicopter shook and the engine stopped dead. At that moment the helicopter was almost hovering, at low speed, about 10-12 metres above the ground. The pilot maintained the collective pitch control position and concentrated on holding the helicopter stable horizontally by using the cyclic pitch control and the pedals. The helicopter immediately began to lose height. Just before it touched the ground, the pilot tried to reduce the sink rate by moving the collective pitch control to its highest position. He found that this action had no noticeable effect, instead the helicopter struck the ground hard on a mire, with low horizontal speed but at a high sink rate. The right side landing skid sank deeper into the bog than the left side skid and was partially broken. This caused the helicopter to tip over to the right, whereupon the main rotor blades struck the ground. After the impact, the helicopter stood partly on its skids, leaning to the right. Those on board could leave the helicopter without assistance and called the emergency services by telephoning the emergency number 112.

Safety Recommendation SWED-2011-006 (AIB):

It is recommended that the EASA and the Swedish Transport Agency prescribe measures that would lead to phasing out of Splined Adapters of the earlier design sooner than March 2012. (RL 2011:03 R1)

Reply

EASA has consulted with the primary certification authority, the Federal Aviation Administration (FAA) and the Swedish Transport Agency.

Indeed, Federal Aviation Administration (FAA) Airworthiness Directive (AD) 2004-26-09 is in effect and all the earlier design of splined adapters had to be replaced by March 2012.

The splined adapter implicated in the accident was of the latest type required by the FAA AD as a replacement for the earlier type; it has been highlighted that the maintenance action was not performed as prescribed by Commercial Engine Bulletin (CEB) A-1392 Rev.2. The Swedish Transport Agency (STA) highlighted that the engine Overhaul Manual (OH) did not make it clear enough that splined adapters should not be re-used following disassembly.

Accordingly, the manufacturer released an updated version of the OH in which the prohibition on re-use is clearly stated.

Status: Closed – **Category**: Disagreement

Safety Recommendation SWED-2011-007 (AIB):
It is recommended that the EASA and the Swedish Transport Agency ensure that the engine manufacturer investigates the risk that fretting damage and fatigue fractures on Splined Adapters could be caused by non-linearity in the engine drive shaft line as a result of loose studs in the stud and nut coupling between the compressor and the gearbox, and if this is so, to initiate the necessary maintenance measures in order to eliminate such a risk. (RL 2011:03 R2)

Reply

EASA worked on this concern, in liaison with the Federal Aviation Administration (FAA) and Rolls-Royce. The manufacturer reviewed the hardware for any evidence that could be indicative of misalignment or other distress associated with a vibratory excitation from looseness in the bolts.

No such evidence was found. These results led to the conclusion that:

- the root cause of the fretting that initiated the failure was re-use of a coupling following disassembly,
- loose studs are not a systemic problem.

Based on this outcome, EASA considers no need for additional actions.

Status: Closed – **Category**: Disagreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. LN-KKD	BOEING 737	Arlanda airport, Stockholm County, Sweden	20/12/2009	Incident

Synopsis of the event: The flight was a regular flight with passengers from Stockholm/Arlanda airport to Nice in France. The airplane was equipped with 148 seats and had 145 passengers on board. During the preparations for engine start on the apron the electrical power from the airplane's APU-generator ceased, and resulted

in that the main lighting in the cabin extinguished and the cabin internal communication- and advertisement system stopped to function. The pilots continued with the preparations for flight and during start of the right engine short fire flames from engine's exhaust appeared. A small pool of fuel on the ground behind the engine also caught fire, but soon extinct spontaneously. Some of the passengers observed the fire flames and called "it is on fire". This led to that a number of passengers left their seats and moved forward toward the exits. The cabin crew in the forward part of the cabin could not properly assess the situation, since the passengers prevented both view and passage backward, but concluded that there was a safety risk. An emergency evacuation was therefore initiated by the cabin crew in the forward part of the cabin. The cabin crew member in the rear part of the cabin observed that both the flames from the engine and the fire on the ground soon ceased, considered that there was no further risk for fire. Because of the electrical power loss, there was however no possibility by normal procedures to communicate with the other crew members. The airplane was evacuated through the front doors. No person was injured in the emergency evacuation. The serious incident to personal injury at the unexpected evacuation of the aircraft was caused by that the cabin attendants were unable to control or prevent the course of events in the cabin, when spontaneous calls about "fire" had started a reaction among the passengers.

Safety Recommendation SWED-2011-010 (AIB):
The European Aviation Safety Agency is recommended to consider the need for improved initial and recurrent training of crews in emergency situations on the ground, especially before the aircraft is ready for flight, and consequences of failures of electrical systems that affect the aircraft's internal communication systems. (RL 2011:10 R1)

Reply

It is understood that the Safety Recommendation refers to cabin crew training.

The requirements for cabin crew are contained in Commission Regulation (EU) No 290/2012, which was published on 05 April 2012. The initial training course and examination for cabin crew is covered by CC.TRA.220.

EASA Executive Director (ED) Decision 2012/005/R contains associated Acceptable Means of Compliance (AMC) and Guidance Material (GM).

The requirements for air operations are contained in Commission Regulation (EU) No 965/2012, which was published on 25 October 2012.

ED Decision 2012/017/R containes associated Acceptable Means of Compliance (AMC) and Guidance Material (GM).

The initial and recurrent training courses are covered by ORO.CC.120 and ORO.CC.140.

The aircraft type specific training and operator conversion training are covered by ORO.CC.125. ORO.CC.125(c)(2)(ii) requires cabin crew to be trained on all safety equipment and systems installed relevant to cabin crew duties. The associated AMC further specify communication equipment and all other cabin equipment and systems installed relevant to cabin crew duties.

ORO.MLR.101 defines the structure of the Operations Manual and includes abnormal and/or emergency procedures on system failures.

Moreover, with EASA Opinion 07/2011 Operational Suitability Data, provision of type specific data will facilitate harmonisation of cabin crew training.

The Agency therefore considers that this Safety Recommendation is addressed in the above-mentioned provisions and no further rulemaking action is required.

Status: Closed – **Category**: Agreement

Safety Recommendation SWED-2011-011 (AIB):
The European Aviation Safety Agency is recommended to consider the need for expanded information and checking of understanding emergency evacuation procedures, of passengers who are expected to act in emergency evacuation of aircraft. (RL 2010:10 R2)

Reply

CAT.OP.MPA.170 Passenger briefing in the EASA Opinion 4/2011 Air Operations published on 01 June 2011, requires that passengers are given safety briefings in a form that facilitates the application of the procedures applicable in the event of an emergency and further that passengers are provided with a safety briefing card on which picture type instructions indicate the operation of emergency equipment and exits likely to be used by passengers. This requirement reflects and expands the current general requirement of EU-OPS 1.285 on passenger briefing.

The related upcoming Executive Director (ED) Decision will contain Acceptable Means of Compliance covering the passenger briefing and the Agency will consider a review of the applicable paragraph in RMT.0293 [former OPS.005(b)] 'Updating EASA OPS rules', which is on the Agency's Rulemaking Programme, with regard to the safety briefing material.

This will address the intent of the first part of the safety recommendation.

The intention of the second part of the safety recommendation "..and checking of understanding emergency evacuation procedures of passengers who are expected to act in emergency evacuation of aircraft" can be interpreted in different ways.

Should the intention of the safety recommendation refer to all passengers on board, a follow-up to such intention is not feasible.

Should the intention of the safety recommendation refer only to passengers seated by cabin doors/exits, the additional safety briefing and associated checking of understanding will also be considered within the scope of rulemaking task RMT.0293 [former OPS.005(b)] 'Updating EASA OPS rules', which is on the Agency's Rulemaking Programme.

Status: Open – **Category**:

Registration	Aircraft Type	Location	Date of event	Event Type
1. SE-MAP	BAE ATP	Helsinki Vantaa airport, Finland	11/01/2010	Serious incident

Synopsis of the event: A cargo aircraft of type BAe ATP was to fly from Helsinki to Copenhagen. Owing to the prevailing weather conditions, the aircraft had undergone a twostep deicing prior to departure. In the two-step deicing procedure, hot water is mixed with glycol (Type I fluid) to remove ice, frost and snow from critical surfaces on the aircraft; after this, a fluid containing thickening agent (Type II/IV) is applied, to prevent ice from reforming. At takeoff, the control column could not be pulled back when the rotation speed was reached, and the pilot felt that the elevator movement was restricted. Takeoff was aborted and the aircraft taxied back to the apron. Once SHK's investigation had started, it was discovered that several similar incidents involving the same type of aircraft and similar conditions had occurred. Following an initial technical inspection, it could be noted that the individual craft which had experienced these incidents shared certain common denominators: deicing with Type II/IV, combined with too narrow a gap between the stabiliser and elevator, were determining factors in the incidents. In collaboration with one of the operators, SHK has carried out a series of tests to recreate and document

the phenomenon. The test results verified the connection between too small an elevator hinge gap and elevator restrictions, in situations where deicing had been carried out using fluids containing thickening agents. The investigations also showed that the process for drawing up specifications and requirements for deicing fluids is, to a certain extent, controlled by trade organisations. The investigation found, too, that at present no monitoring or specific inspection activities relating to these fluids are carried out by any pan-European aviation safety body. Neither is there any authorisation process, or any set certification rules, with regard to the types of aircraft which can/may use different types of deicing fluids. The incidents involving elevator restrictions were caused by a phenomenon which, for unknown reasons, occurs following the use of anti-icing fluids containing thickening agents, on individual aircraft where the stabiliser and elevator are too close together. One contributory factor was the fact that there were shortcomings in that part of the aircraft's type certification exercises that concerned anti-icing.

Safety Recommendation SWED-2011-016 (AIB):
It is recommended that EASA should investigate the possibility of tightening requirements on aircraft design organizations in terms of demonstrating that the aircraft has full manoeuvrability during all phases of the takeoff procedure after the application of de- and anti-icing fluids. (RL 2011: 16e R2)

Reply

The Agency is organising a Ground De-icing Workshop on 19 April 2012 in Cologne. The aim is to discuss potential improvements of the ground de-icing activity with industry and national aviation authorities; part of the discussion will be the review of the Safety Recommendations addressed to EASA by accident investigation authorities.

The issue highlighted by this Safety Recommendation has also been added to the scope of rulemaking task RMT.0118 'Analysis of on-ground ice contamination effect on take-off performance' which is on the inventory list of the EASA Rulemaking Programme.

Status: Open – **Category**:

Safety Recommendation SWED-2011-017 (AIB):
It is recommended that EASA should work for an extension of EASA's remit to include certification of fluids used for ground de- and antiicing of aircraft. (RL 2011: 16e R1)

Reply

The regulation and certification of aviation fluids is currently not in the remit of EASA as defined in regulation (EC) No 216/2008 (the Basic Regulation). The extension of the EASA responsibilities to aviation fluids is an item identified in the Rulemaking Programme inventory and it may be proposed to the European Commission in the future.

In the meantime, EASA cannot regulate de-icing or anti-icing fluids and can only contribute to and promote the improvement of existing standards. In this respect, EASA is involved in the SAE G-12 committee that is working to improve the existing standards for de-icing and ant-icing fluids.

EASA is also exploring other means to be more closely involved in the recognition of fluid's brand as compliant with the widely recognised standards. This idea may be consulted by means of an Advanced Notice of Proposed Amendment (A-NPA).

Status: Closed – **Category**: Partial agreement

Safety Recommendation SWED-2011-018 (AIB):
It is recommended that EASA should actively consider the value of a wider use of Type III fluids, (or correspondant fluids), within the field of European Civil Aviation. (RL 2011:16e R3)

Reply

The regulation and certification of aviation fluids is currently not in the remit of EASA as defined in regulation (EC) No 216/2008 (the Basic Regulation). The extension of the EASA responsibilities to aviation fluids is an item identified in the Rulemaking Programme inventory and it may be proposed to the European Commission in the future.

In the meantime, EASA cannot regulate de-icing or anti-icing fluids and can only contribute to and promote the improvement of existing standards. In this respect, EASA is involved in the SAE G-12 committee that is working to improve the existing standards for de-icing and ant-icing fluids.

Status: Closed – **Category**: Not responsible

Switzerland

Registration	Aircraft Type	Location	Date of event	Event Type
1. HB-LUO	DIAMOND DA42	Zurich Airport, Switzerland	19/04/2010	Accident

Synopsis of the event:

At 14:23 UTC the DA 42 aircraft, registration HB-LUO, took off from Lausanne on a training flight under visual flight rules. On board were pilot A in the left-hand seat in his role as trainee pilot and pilot B in the right-hand seat in his role as flying instructor. The second participant on the flying instructors' course was sitting as a passenger in the rear seat. After an aerodrome circuit in Lausanne, followed by a low go-around, the crew flew into the Villeneuve-Aigle region to perform various flying manoeuvres. One of these exercises required a slow descent at an airspeed of 80 kt and a rate of descent of 500 ft per minute. In order to be able to do this, the landing gear had to be extended. The aircraft was at an altitude of 6500 ft QNH. After extending the landing gear, the crew noticed that only the lights for the right main landing gear and the nosewheel were showing green. The left main landing gear indicated no green light and the red unsafe light lit up. The flying exercises were aborted and fault-finding was initiated. A second aircraft from the flying school, a DA 42, callsign HB-LUK, which was also in the air was called on the radio to check the landing gear visually from outside. The crew of HB-LUK confirmed that the right main landing gear and the nosewheel were extended and that the left main landing gear was retracted. This corresponded to the display inside the cockpit of HB-LUO. It was also possible to ascertain from outside that on extension and retraction, the left main landing gear only moved slightly from the retracted position. With the help of the crew of HB-LUK, telephone contact was also established with a specialist in the type DA 42 from the flight maintenance of the Motorfluggruppe Zürich (MFGZ). In addition to consultation of the corresponding checklists and the information in the aircraft manufacturer's airplane flight manual (AFM), various flying manoeuvres with positive and negative acceleration were also performed to try to get the landing gear to extend. All the attempts, which also included operation of the emergency gear extension lever, were unsuccessful. A further attempt was made by switching off the electrical power to the aircraft. Overhead the airport Langenthal, the crew switched off both alternators and the electrical master switch. The crew got the impression that the gear extended immediately after switching off the electrical power. Since there was no indication in the powerless cockpit, the crew of the HB-LUO let the condition be verified from outside by the crew of the HB-LUK. The known condition of the asymmetrically extended gear was shown. The second participant on the flying instructors' course, in the rear seat, was also involved in the fault-finding effort. Since all attempts to extend the landing gear failed, the crew decided to make a gear-up landing at Zurich Kloten airport. For the gear-up landing the crew consulted the corresponding emergency procedures in the checklists and the aircraft manufacturer's airplane flight manual (AFM). The crew then decided, as mentioned in the AFM, to shut down both engines and to shut off the fuel supply shortly before the landing in order to reduce the risk of a fire on landing. However they refrained from switching off the electrical master switch because they wanted to avoid an incomplete extension of the landing gear again. The crew of the second DA 42, which was in the air, HB-LUK, called Zurich Airport aerodrome control at 16:47:24 UTC. They informed them that they were five miles south of the airport at 3500 ft QNH and requested a landing. Approximately half a minute later they informed aerodrome control that in about five minutes a second DA 42 with landing gear problems would contact them in order to make a gear-up landing in Zurich. At 16:53:56 UTC the crew of HB-LUO reported to Zurich aerodrome control as follows: "Zuri tower gute Tag [good day] Hotel Bravo Lima Uniform Oskar, approaching Sierra at three thousand five hundred feet, we have er gear problem and for that reason I declare PAN-PAN, PAN-PAN, PAN-PAN for a gear up landing in Zurich and we request a very long runway." The air traffic controller (ATCO) then cleared the crew for a direct approach on runway 34. At 16:55:09 UTC the crew also requested the fire brigade from aerodrome control, which was confirmed immediately by the ATCO concerned. In the meantime, the second DA 42, HB-LUK, made

a landing on runway 28 at Zurich-Kloten. After a brief discussion concerning the touchdown point on landing, the crew of HB-LUO confirmed to the ATCO that they wanted to touch down at the start of runway 34 in order to come to a standstill before the intersection with runway 28. At 16:57:31 UTC the crew reported to the ATCO as follows: "Roger, and er short before touchdown we shut down two, er both engines and er after landing we will not have er communication er with you." The ATCO confirmed this message and shortly afterwards gave the landing clearance with the additional info that the fire brigade were ready. Shortly before touchdown the crew shut down both engines, switched off the fuel supply and put the aircraft down on the centreline at a speed of approximately 60 kt just before the runway marking "34". The aircraft came to a standstill after 220 metres (Annex 5). The two pilots and the third pilot flying with them as a passenger were able to leave the aircraft uninjured. The aircraft was damaged.

Safety Recommendation SWTZ-2011-438 (AAIB):
The Federal Office for Civil Aviation (FOCA) respectively the European Aviation Safety Agency (EASA) should ensure that on the Diamond DA 42 aircraft type, sufficient circumferential clearance is guaranteed between the main landing gear wheel well and the wheel, so that lodging of the wheel is not possible in normal operation.

Reply

EASA and the Type Certificate Holder have reviewed the type design of the DIAMOND DA 42 in that specific area. In this specific occurrence the installed tires were not conforming to type design, this has been identified as the primary root cause. The required tires of the type design are adequate documented and the data are available to the maintenance personal, thus no immediate action was necessary. The generic problem of different dimensions of general European Technical Standard Order (ETSO) approved tires by different brands is addressed in Safety Information Bulletin (SIB) 2012-011 "Tyre Specifications and installations". In that specific case for the DA42, it is directly linked to a properly centring of the wheel. The Type Certificate Holder has issued changes to Aircraft Maintenance Manual (AMM) and Approved Flight Manual (AFM) as a result of this occurrence.

Status: Closed – **Category**: Partial agreement

United Kingdom

Registration	Aircraft Type	Location	Date of event	Event Type
1. 4X-BAU	BOEING 757	London Gatwick Airport, United Kingdom	03/10/2000	Incident

Synopsis of the event: After an uneventful flight from Ben Gurion Airport, Tel Aviv, the crew made an ILS approach to Runway 26 Left at London Gatwick Airport. The commander was 'pilot not flying' (PNF) in the right seat and another captain was the 'pilot flying' (PF) in the left seat. Prior to commencing their approach, the crew had received ATIS Information 'Delta', timed at 1920 hrs, which broadcast the following information: "Runway in use 26 Left; surface wind 180°/10 kt; visibility 10 km or more; cloud, scattered two thousand feet; temperature +16°, dew point +13°; QNH 1015, QFE 1008." There was no significant change in ATIS Information 'Echo' timed at 1950 hrs. Along with their landing clearance, the crew were advised by ATC that the surface wind was 190°/ 9 kt. The landing was made with Flap 25 and Mode 2 autobrake selected in conditions of slight drizzle. The crew considered that a normal landing had been made, touching down at approximately 135 kt, just beyond the PAPIs and slightly left of the runway centre-line. Shortly after touchdown the commander stated that the autobrake had disconnected. The PF acknowledged and reselected Mode 2 on the autobrake. The PF had selected reverse thrust and both pilots considered that retardation was normal until 100 kt when some vibration was felt. Around this time an engineer working on an aircraft to the north of the runway heard what he described as two separate distinct "bangs", separated by some 5 to10 seconds. The PF continued to slow the aircraft and, on the instructions from ATC, cleared the runway at fast exit 'Golf Romeo'. On initial check-in with the ground controller, the PNF advised that they would be holding position as they suspected a "flat tyre". The crew had also noticed an indicated loss of some hydraulic fluid contents in both Left and Right Systems. The controller cleared the crew to hold at 'Golf 1' and advised them that the AFS were on their way to inspect the aircraft. He also declared an 'Aircraft Ground Incident' and advised the tower controller. As a precaution, the tower controller instructed the next landing aircraft to goaround and then initiated a runway inspection. The inspection revealed tyre debris on the runway and the runway was declared closed at 1955 hrs. By now, the AFS had inspected the aircraft and informed the crew that the two right rear tyres had burst. The passengers deplaned via the normal exits and the aircraft was then towed onto stand. The runway was swept and, following a further inspection, was declared open at 2044 hrs.

Safety Recommendation UNKG-2002-014 (AAIB):

It is recommended that Airworthiness Authorities such as the JAA and FAA consider implementing the measures outlined in AAIB Safety Recommendations 99-11 and 99-12 concerning requirements for tyre pressure monitoring and warning systems.

Reply

The Agency prepared a pre-Regulatory Impact Assessment (pre-RIA) proposing the creation of a rulemaking task that would require the installation of a tyre pressure monitoring system on large aeroplanes. The pre-RIA will be used to consult with our advisory bodies representing aviation authorities and industry. The Agency will make a decision to create a rulemaking task after this consultation.

Status: Open – **Category**:

Registration	Aircraft Type	Location	Date of event	Event Type
1. G-OUEL	ROBINSON R22	Carlenrig, Teviohead, United Kingdom	30/07/2003	Accident

Synopsis of the event: The helicopter departed on a VFR flight from a private site near Hawick in Scotland to route to Barton Airfield in Manchester. Initially it flew southwards at 1,500 feet amsl but as it approached hills, whose tops were reportedly covered by an area of low cloud, it turned away from the planned route and probably entered cloud. As the turn continued the helicopter accelerated, entered a rapid descent and the main rotor blades struck the tailboom. Most of the tailboom detached, the rotors virtually stopped and the helicopter impacted the ground at the bottom of a valley, fatally injuring the pilot. A number of military aircraft were operating in the area at the time of the accident but none of these could have influenced the safe progress of the flight. No signs of pre-accident malfunction of the helicopter were found, but full determination of its pre-impact serviceability was prevented by extensive post-crash fire damage. The available evidence indicated that the accident followed a main rotor blade strike on the tailboom, probably caused by excessively low rotor RPM. The control loss and low rotor RPM may have resulted from spatial disorientation and mishandling of the controls but the possibility that aircraft malfunction had contributed to the accident could not be eliminated.

Safety Recommendation UNKG-2005-022 (AAIB):
It is recommended that the FAA and the EASA reassess the 'corrective action time delay' in reducing the collective control after sudden power loss on a single-engined helicopter, with the aim of ensuring, as far as possible, that the minimum reaction time required is realistically within the capability of an average qualified pilot.

Reply

In May 2012 the Agency launched a study (EASA.2012.OP.09) aimed at assessing the cost/safety benefit and other impacts associated with extending the reaction time available to the pilot following total loss of power in a single-engined helicopter. The study is expected to report in the Summer 2013, at which time the Agency will consider the need for future action, including regulatory changes.

Status: Closed – **Category**: Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. G-BGED	CESSNA U206	Beacon Village, near Honiton, United Kingdom	27/06/2004	Accident

Synopsis of the event: Shortly after takeoff, with the pilot and five parachutists on board (including one 'tandem' pair), the aircraft's engine began to lose power. The pilot flew to the east away from the airfield for a distance of some 6 nm, achieving a maximum height of approximately 1,100 ft agl, before turning back. As the engine lost power the pilot was unable to maintain height and, in attempting a forced landing, the aircraft clipped the tops of several tall trees and crashed steeply nose down into a sloping grass field.

Safety Recommendation UNKG-2005-062 (AAIB):
It is recommended that the European Aviation Safety Agency develop standards for appropriate recording equipment that can be practically implemented on small aircraft.

Reply

In notice of proposed amendment (NPA) 2011-12 on the systematic review and transposition of existing Federal Aviation Administration (FAA) Technical Standard Order (TSO) standards for parts and appliances into EASA European Technical Standard Order (ETSO), the Agency has introduced a new ETSO 2C-197 on Information Collection and Monitoring Systems.

This ETSO gives the requirements which lightweight systems that record cockpit audio, aircraft data, airborne images, or data link communications must meet. This ETSO refers to European Organisation for Civil Aviation Equipment (EUROCAE) document ED-155, Minimum Operational Performance Specification for Lightweight Flight Recording Systems, which is an industry standard for recording equipment on small aircraft. With this action, the Agency considers having addressed the intent of this safety recommendation.

The comments response document to NPA 2011-12 was published on 30 April 2012.

Status: Closed – **Category**: Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. G-VATL	AIRBUS A340	en-route from Hong Kong to London Heathrow, United Kingdom	08/02/2005	Incident

Synopsis of the event: Some hours after takeoff, at about 0330 hrs with the aircraft in Dutch airspace and at Flight Level 380, the No 1 (number one) engine lost power and ran down. Initially the pilots suspected a leak had emptied the contents of the fuel tank feeding No engine but a few minutes later, the No 4 engine started to lose power. At that point all the fuel crossfeed valves were manually opened and No 4 engine recovered to normal operation. The pilots then observed that the fuel tank feed ng No 4 engine was also indicating empty and they realised that they had a fuel management problem. Fuel had not been transferring from the centre, trim and outer wing tanks to the inner wing tanks so the pilots attempted to transfer fuel manually. Although transfer was partially achieved, the expected indications of fuel transfer in progress were not displayed so the commander decided to divert to Amsterdam (Schipol) Airport where the aircraft landed safely on three engines.

Safety Recommendation UNKG-2005-108 (AAIB):
It is recommended that the EASA introduces into CS-25 the requirement for a low fuel warning system for each engine feed fuel tank. This low fuel warning system should be independent of the fuel control and quantity indication system(s).

Reply

This Safety Recommendation has been considered under EASA rulemaking task 25.055. The Notice of Proposed Amendment (NPA) 2011-13 was published on 22 July 2011 and the Comment Response Document (CRD) 2011-13 was published on 27 January 2012.

New Certification Specifications (CS)-25 fuel indication system(s) standards [CS 25.1305(a)(2) and a corresponding Acceptable Means of Compliance (AMC)] are introduced. A low fuel level alert is required, and this alert must be such that the alert and the fuel quantity indication are not adversely affected by the same single failure. The new standards will be published in the next amendment of CS-25.

Status: Closed – **Category**: Partial agreement

Safety Recommendation UNKG-2005-109 (AAIB):
It is recommended that the EASA should review all aircraft currently certified to EASA CS-25 and JAR-25 to ensure that if an engine fuel feed low fuel warning system is installed, it is independent of the fuel control and quantity indication system(s).

Reply

The Agency conducted a review of already certified European aircraft types. This exercise was done with large aeroplane Type Certificate Holders (TCH) between 2009 and 2010 using a Continuing Airworthiness Review Item (CARI) entitled "Design review of fuel system in relation to fuel low level awareness". The review of non-European aircraft types certificated in Canada, the United States of America and Brazil are in the concluding phase and have been reviewed with the assistance of the responsible National Aviation Authorities. The review included in-service experiences with regard to fuel exhaustion, and the review of the designs of fuel systems and operational procedures, with the objective of correcting any shortcoming identified, in agreement with Part-21 [Annex to Commission Regulation (EC) No. 1702/2003] provisions related to unsafe condition.

Although not required through Joint Aviation Requirement (JAR)-25/Certification Specification (CS)-25, most of the large aeroplanes design incorporate a low fuel level alert, but not necessarily fully independent from the fuel quantity indicating system (FQIS). Some recent designs using highly integrated systems have been considered as safe by the Agency although not providing a completely independent low fuel level alerting system.

Where service-experience revealed deficiencies, the manufacturers satisfactorily modified their designs and/or operational procedures [Aircraft Flight Manual (AFM)] to correct the issue identified (i.e. Airbus, ATR).

As concluded by rulemaking task 25.055 for future designs, it is important that the low level alert and the fuel quantity indication for a given fuel tank are not adversely affected by the same single failure.

Status: Closed – **Category**: Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. G-CPER	BOEING 757	Between London Heathrow and London Gatwick, United Kingdom	07/09/2003	Incident

Synopsis of the event: The incident to the Boeing 757 aircraft occurred on the first flight following a 26-day major maintenance check. Shortly after takeoff on a scheduled passenger flight from London Heathrow to Paris, a hot oil smell, that had been present in the cockpit on engine startup, returned. The flight crew donned oxygen masks and immediately diverted to London Gatwick Airport. During the autopilot-coupled ILS approach to Gatwick, the aircraft drifted to the right of the localiser after selection of Flap 30. When the autopilot was disconnected, a large amount of manual left roll control was needed to prevent the aircraft from turning to the right. It was necessary to maintain this control input until touch down. The aircraft landed safely despite these difficulties, with no injuries to any of the passengers or crew.

Safety Recommendation UNKG-2005-123 (AAIB):
The EASA should consider introducing a requirement to carry out a duplicate inspection on aircraft access panels, removed and refitted or opened and closed as part of a maintenance procedure, that could significantly affect airworthiness if incorrectly secured and should they detach in flight, endanger either the aircraft, or persons on the ground.

Reply

The Agency is conducting a rulemaking task RMT.0222 [former Multi Disciplinary Measures (MDM).020] 'Definition of "critical systems"' which aims at improving regulation to better protect against potential errors which might occur when performing maintenance tasks that are critical to safety. Continuing airworthiness management organisations and maintenance organisations should assess whether the maintenance tasks, including removal and installation of such flap panels, could be classified as a critical maintenance task and therefore be subject of precautions that will be proposed under this task.

The Terms of Reference MDM.020 issue 4 is dated 11 May 2009 and available on EASA Website. The main objectives of this task are:

- to improve safety by reducing the possibility of having undetected maintenance errors following maintenance work deemed critical to safety;
- to provide stakeholders with a methodology or key criteria in order to identify critical maintenance tasks.

Status: Closed – **Category**: Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. G-EKMW	MOONEY M20J	Jersey Airport, United Kingdom	16/10/2004	Accident

Synopsis of the event: Shortly after takeoff, the aircraft suffered an engine malfunction and the pilot attempted to return to the airfield. During the turn, the aircraft appeared to stall and impacted the ground in a nose low attitude, fatally injuring the pilot. A defect was discovered within the engine's dual magneto, which had recently been refitted following a 500 hr inspection, affecting both ignition systems. This led to a loss of power, accompanied by misfiring, that was consistent with aural evidence from witnesses. Issues concerning quality control of maintenance activities and maintenance data were identified during the investigation.

Safety Recommendation UNKG-2006-030 (AAIB):
It is recommended that the European Aviation Safety Agency (EASA) should amend the EASA Part 145 Regulation to require that EASA Part 145 approved maintenance and component overhaul organisations use pre-planned work/process sheets when carrying out work on safety critical components.

Reply

The Agency published Notice of Proposed Amendment (NPA) 2012-04 'Critical tasks' as part of rulemaking task RMT.022 (former MDM.020). This NPA is aimed at providing requirements and detailed guidance for the identification of flight safety sensitive maintenance tasks and the measures necessary to detect errors. To that end, this NPA proposes:

- A new requirement 145.A.48 [Annex II of Regulation (EC) No 2042/2003], for Part-145 organisations to establish procedures to prevent and detect errors during the performance of maintenance.
- Acceptable Means of Compliance (AMC) and Guidance Material (GM) to 145.A.48 on the contents of such procedures and how to implement error capturing methods.
- Amending M.A.402 [Section A in Annex I of Regulation (EC) No 2042/2003] in order to clearly identify the applicability of the requirements.

In addition, we remind that the existing EASA Regulation already contains a requirement to establish a work card system in order to prevent forgetting/slipping steps of a maintenance task. Indeed, Annex II (Part-145) to Commission Regulation (EC) 2042/2003 in paragraph 145.A.45 (e) states that:

"The organisation shall provide a common work card or worksheet system to be used throughout relevant parts of the organisation. In addition, the organisation shall either transcribe accurately the maintenance data contained in paragraphs (b) and (d) onto such work cards or worksheets or make precise reference to the particular maintenance task or tasks contained in such maintenance data. Work cards and worksheets may be computer generated and held on an electronic database subject to both adequate safeguards against unauthorised alteration and a back-up electronic database which shall be updated within 24 hours of any entry made to the main electronic database. Complex maintenance tasks shall be transcribed onto the work cards or worksheets and subdivided into clear stages to ensure a record of the accomplishment of the complete maintenance task."

The AMC 145.A.45 (e) provides further explanation:

1. The maintenance organisation should:

transcribe accurately the maintenance data onto such work cards or worksheets, or

make precise reference to the particular maintenance task(s) contained in such maintenance data, which already identifies the task as a Critical Design Configuration Control Limitations (CDCCL) where applicable.

2. Relevant parts of the organisation means with regard to aircraft base maintenance, aircraft line maintenance, engine workshops, mechanical workshops and avionic workshops. Therefore, engine workshops for example should have a common system throughout such engine workshops that may be different to that in the aircraft base maintenance.

3. The work cards should differentiate and specify, when relevant, disassembly, accomplishment of task, reassembly and testing. In the case of a lengthy maintenance task involving a succession of personnel to complete such a task, it may be necessary to use supplementary work cards or worksheets to indicate what was actually accomplished by each individual person."

Status: Closed – **Category**: Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. TF-CSB	DORNIER 328	Sumburgh Airport, Shetland, United Kingdom	11/06/2006	Incident

Synopsis of the event: During a visual approach to Sumburgh Airport, the aircraft encountered worsening weather conditions and inadvertently flew into close proximity with the terrain. The crew were alerted to the situation by on-board equipment, but the commander did not respond to the 'PULL UP' warnings it generated. The approach was continued and a safe landing made at the airport. The investigation identified a number of organisational, training and human factors issues which contributed to the crew's incorrect response to the situation.

Safety Recommendation UNKG-2006-130 (AAIB):
The Joint Aviation Authorities should review the training requirements for flights crews operating aircraft required to be equipped with a predictive terrain hazard warning function, with a view to ensuring that such crews are adequately trained in its use, interpretation and response.

Reply

Commission Regulation (EU) No 1178/2011 of 03 November 2011, related to civil aviation aircrew, covers Ground Proximity Warning System training.

EASA Executive Director (ED) Decision 2012/018/R on air operations, published on 25 October 2012, contains Guidance Material (GM) for flight crew training on Terrain Awareness Warning Systems (TAWS).

The Joint Aviation Authorities (JAA) learning objectives, which explicitly include training on Enhanced Ground Proximity Warning Systems (EGPWS), are currently being transposed into the European regulations structure within the framework of Rulemaking tasks RMT.0188 and RMT.0189 [former FCL.002(a) and (b)].

Status: Closed – **Category**: Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. G-JECE	DE HAVILLAND DHC8	Leeds, West Yorkshire, United Kingdom	04/08/2005	Incident

Synopsis of the event: Shortly after initiating a descent, an oily smell was noticed on the flight deck, followed by a smoke build-up in the flight deck and cabin. The flight crew carried out the initial part of the smoke checklist procedure, declared an emergency and carried out a diversion. The cabin crew smoke hoods caused appreciable communication difficulties. After landing, an emergency evacuation was carried out, without injury. The smoke was found to be the result of fatigue cracking of a compressor support member of the No 2 engine.

Safety Recommendation UNKG-2007-002 (AAIB):
It is recommended that the EASA consider requiring, for all large aeroplanes operating for the purposes of commercial air transport, a system to enable the flight crew to identify rapidly the source of smoke by providing a flight deck warning of smoke or oil mist in the air delivered from each air conditioning unit.

Reply

The Agency has performed a review on the subject of cabin air contamination by engine/auxiliary power unit (APU) lubricating fluids, through rulemaking task 25.035. An Advanced Notice of Proposed Amendment (A-NPA) 2009-10 was published on 28 September 2009 along with on-line questionnaires, and the corresponding Comment Response Document (CRD) 2009-10 was published on 28 May 2011.

Based on the knowledge and evidences in the safety and health domains gathered during task 25.035, the Agency has decided not to launch rulemaking measures on this subject. This conclusion is confirmed in EASA Executive Director (ED) Decision 2012/001/R which was published on 10 February 2012 on the EASA Website.

Status: Closed – **Category**: Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. G-BHCP	CESSNA F152	Meden Vale, Nottinghamshire, United Kingdom	28/01/2006	Accident

Synopsis of the event: After approximately 20 minutes of flight the engine rpm started to decrease, with the engine running unevenly and producing severe vibration prior to stopping. The pilot successfully landed the aircraft in a field, with no injury to the occupants. An engineering examination revealed that the No 4 cylinder had separated from the engine due to a fatigue crack that had originated from an external surface corrosion pit. A search of the Civil Aviation Authority's Mandatory Occurrence Reporting database revealed 23 similar events. The Bureau D'Enquetes et D'Analyses Pour La Securite De L'Aviation Civile (BEA) has reports of 34 similar events occurring in France. This AAIB report carries seven safety recommendations.

Safety Recommendation UNKG-2007-091 (AAIB):
It is recommended that the European Aviation Safety Agency (EASA) amend EASA Part 145 (and Part M as necessary) to require that maintenance and overhaul records that are referred to in airframe, engine and propeller log books, and component record cards, are deemed to be part of that log book or record card and are retained until the aircraft, engine, propeller or component has been destroyed or permanently removed from service.

Reply

The Terms of Reference (ToR) for Rulemaking Task RMT.0276 (former MDM.076) 'Technical Records', was published on 28 November 2011 on the EASA Website. This Safety Recommendation will be considered within the framework of this rulemaking task.

Status: Closed – **Category**: Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. G-YMMM	BOEING 777	London Heathrow, United Kingdom	17/01/2008	Accident

Synopsis of the event: Whilst on approach to London (Heathrow) from Beijing, China, at 720 feet agl, the right engine of G-YMMM ceased responding to autothrottle commands for increased power and instead the thrust reduced to 1.03 Engine Pressure Ratio (EPR). Seven seconds later the left engine thrust reduced to 1.02 EPR. This reduction in thrust led to a loss of airspeed and the aircraft touching down some 330 m short of the paved surface of Runway 27L at London Heathrow. The investigation identified that the reduction in thrust was due to restricted fuel flow to both engines.

Safety Recommendation UNKG-2009-091 (AAIB):
It is recommended that the European Aviation Safety Agency introduce a requirement to record, on a DFDR, the operational position of each engine fuel metering device where practicable.

Reply

The European Organization for Civil Aviation Equipment (EUROCAE) Working Group 90 considered this recommendation when preparing the revision of EUROCAE Document 112 "Minimum Operational Performance Specification for Crash Protected Airborne Recorder Systems".

This parameter has been added to the list of parameters required for aeroplanes' engines. EASA will take this into account in rulemaking tasks RMT.0308 and RMT.0309 [former OPS.023(a) and (b)] entitled "FDRs – alignment with ED-112", which are on the Agency's Rulemaking Programme.

Status: Open – **Category**:

Safety Recommendation UNKG-2009-098 (AAIB):

It is recommended that the Federal Aviation Administration and the European Aviation Safety Agency, review the qualification testing requirements applied by manufacturers to cabin fittings, to allow for dynamic flexing of fuselage and cabin structure.

Reply

This Safety Recommendation has been considered in collaboration with the Federal Aviation Administration (FAA). It has been determined that the risk of broken glass from indirect ceiling light assemblies causing injury serious enough to impede emergency egress would be extremely low. This item does not meet the unsafe condition criteria for mandatory action on the light design or the fittings in question. For the same reason, no rulemaking action is deemed necessary.

Status: Closed – **Category**: Disagreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. G-EZJK	BOEING 737	West of Norwich, Norfolk, United Kingdom	12/01/2009	Serious incident

Synopsis of the event: A flight control manual reversion check was being conducted as part of a post maintenance check flight. During the check, the aircraft pitched rapidly nose-down, descending approximately 9,000 ft before control was recovered. A number of maintenance and airworthiness check issues were identified.

Safety Recommendation UNKG-2010-073 (AAIB):

It is recommended that the European Aviation Safety Agency require AOC operators to have, and comply with, a detailed procedure and a controlled test schedule and record of findings for briefing, conducting and debriefing check flights that assess or demonstrate the serviceability or airworthiness of an aircraft.

Reply

This Safety Recommendation is considered under rulemaking tasks RMT.0393 and RMT.0394 'Airworthiness and operational aspects for maintenance check flights' [former Multi Disciplinary Measures (MDM).097]. The Terms of Reference (ToR) of MDM.097(a) and (b) were published on 04 April 2011.

In the meantime, the Agency published on 05 May 2011 a Safety Information Bulletin (SIB) 2011-07 providing information and recommendations for the performance of functional check flights, which include maintenance check flights.

Status: Closed – **Category**: Agreement

Safety Recommendation UNKG-2010-075 (AAIB):
It is recommended that the European Aviation Safety Agency provide guidance on minimum crew proficiency requirements and recommended crew composition and training for those undertaking check flights that assess or demonstrate the serviceability or airworthiness of an aircraft.

Reply

This Safety Recommendation is considered under rulemaking tasks RMT.0393 and RMT.0394 'Airworthiness and operational aspects for maintenance check flights' [former Multi Disciplinary Measures (MDM).097]. The Terms of Reference (ToR) of MDM.097(a) and (b) were published on 04 April 2011.

In the meantime, the Agency published on 05 May 2011 a Safety Information Bulletin (SIB) 2011-07 providing information and recommendations for the performance of functional check flights, which include maintenance check flights.

Status: Closed – **Category**: Agreement

Safety Recommendation UNKG-2010-076 (AAIB):
It is recommended that the European Aviation Safety Agency provide guidance to National Airworthiness Authorities on monitoring continuing airworthiness.

Reply

The Rulemaking Drafting Group in charge of Rulemaking Task RMT.0216 (former M.027) 'Aircraft Continuing Airworthiness Monitoring' decided not to maintain in-flight surveys as part of the National Aviation Authorities continuing airworthiness monitoring.

However, the Agency initiated rulemaking task RMT.0393 and 0394 [former MDM.097(a) and (b)] 'Airworthiness and operational aspects for maintenance check flights'. This task has the following objective which fulfils the issue raised through this safety recommendation: "establish Acceptable Means of Compliance or Guidance Material to help to determine when a maintenance check flight should be performed and under which protocol and responsibilities" (refer to the Terms of Reference MDM.097(a) and (b) published on 01 April 2011, available on EASA Website).

Status: Closed – **Category**: Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. G-BYWH	GROB G115	RAF Leeming, North Yorkshire, United Kingdom	12/09/2009	Accident

Synopsis of the event: During the rollout from a three aircraft 'stream' landing, the pilot and passenger of the rear aircraft had to apply full brake pressure to avoid a collision with the aircraft in front. Although the aircraft did not collide, the resulting loads experienced by the wing structure supporting the landing gear, caused it to fail in overload. Subsequent analysis of the failed structure identified possible manufacturing issues, which may have contributed to the failure.

Safety Recommendation UNKG-2010-078 (AAIB):
It is recommended that the European Aviation Safety Agency in cooperation with the Luftfahrt-Bundesamt (LBA) conduct an audit of Grob Aircraft AG's design and quality standards, manufacturing processes and facilities to ensure that they meet current regulatory standards.

Reply

EASA carried out a combined audit both on Production Organisation Approval (POA) and Design Organisation Approval (DOA) side at Grob manufacture, in cooperation with the Luftfahrt-Bundesamt (LBA).

One of the scope of this audit was notably to check the actions taken by the manufacturer further to the accident Grob G115E registered G-BYWH, more specifically on its design and quality standards, and manufacturing processes.

These processes have been subject to improvement by the manufacturer, in the definition of Type Design and the manufacturing processes and are considered as appropriate by the Agency.

Status: Closed – **Category**: Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. SX-BIO	DE HAVILLAND DHC8	Bristol International Airport, United Kingdom	24/04/2010	Serious incident

Synopsis of the event: After a base maintenance check at Exeter the aircraft was flown uneventfully to East Midlands to be repainted. During the return flight to Exeter the right engine suffered a significant oil leak and lost oil pressure, so the flight crew shut it down. Subsequently, the crew noticed the left engine also leaking oil, with a fluctuating oil pressure, so they initiated a diversion to Bristol, where they landed safely. The oil leaks were traced to damaged O-ring seals within the oil cooler fittings on both engines. Both oil coolers had been removed and refitted during the base maintenance check at Exeter. It was probably during re-installation that the O-ring seals were damaged. A number of factors led to this damage and to missed oil leak checks.

Safety Recommendation UNKG-2011-018 (AAIB):
It is recommended that the European Aviation Safety Agency expand the advisory or guidance material in Annex II (Part 145) of European Commission Regulation (EC) No. 2042/2003 on how approved maintenance organisations

should manage and monitor the risk of maintenance engineer fatigue as part of their requirement to take human performance limitations into account.

Reply

As part of the implementation of the International Civil Aviation Organization (ICAO) standards on Safety Management System (SMS), maintenance organisations will be required to implement a system to identify hazards, to assess associated risks and to take appropriate mitigation action [ICAO standard 8.7.3.3 (Annex 6 Part I)]. The Agency is addressing the relevant ICAO SMS standards for Regulation (EC) No. 2042/2003 by means of rulemaking task RMT.0251 (former MDM.055). In the framework of this rulemaking task the Agency will identify the need for additonal requirements, acceptable means of compliance and guidance material to properly consider human factors in maintenance and continuing airworthiness management. Maintenance staff fatigue will be addressed as part of this review. The Terms of Reference (ToR) was published on 18 July 2011 on the EASA Website; it includes the reference to this Safety Recommendation.

Status: Closed – **Category**: Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. G-REDL	AEROSPATIALE AS332	11 miles NE Petershead (Offshore), United Kingdom	01/04/2009	Accident

Synopsis of the event: The accident occurred whilst the helicopter was operating a scheduled passenger flight from the Miller Platform in the North Sea, to Aberdeen. Whilst cruising at 2,000 ft amsl, and some 50 minutes into the flight, there was a catastrophic failure of the helicopter's Main Rotor Gearbox (MGB). The helicopter departed from cruise flight and shortly after this the main rotor and part of the epicyclic module separated from the fuselage. The helicopter then struck the surface of the sea with a high vertical speed. An extensive and complex investigation revealed that the failure of the MGB initiated in one of the eight second stage planet gears in the epicyclic module. The planet gear had fractured as a result of a fatigue crack, the precise origin of which could not be determined. However, analysis indicated that this is likely to have occurred in the loaded area of the planet gear bearing outer race. A metallic particle had been discovered on the epicyclic chip detector during maintenance on 25 March 2009, some 36 flying hours prior to the accident. This was the only indication of the impending failure of the second stage planet gear. The lack of damage on the recovered areas of the bearing outer race indicated that the initiation was not entirely consistent with the understood characteristics of spalling (see 1.6.5.7). The possibility of a material defect in the planet gear or damage due to the presence of foreign object debris could not be discounted. The investigation identified the following causal factor:

1. The catastrophic failure of the Main Rotor Gearbox was a result of a fatigue fracture of a second stage planet gear in the epicyclic module.

In addition the investigation identified the following contributory factors:

1. The actions taken following the discovery of a magnetic particle on the epicyclic module chip detector on 25 March 2009, 36 flying hours prior to the accident, resulted in the particle not being recognised as an indication of degradation of the second stage planet gear, which subsequently failed.

2. After 25 March 2009, the existing detection methods did not provide any further indication of the degradation of the second stage planet gear.

3. The ring of magnets installed on the AS332 L2 and EC225 main rotor gearboxes reduced the probability of detecting released debris from the epicyclic module.

Safety Recommendation UNKG-2011-034 (AAIB):
It is recommended that the European Aviation Safety Agency (EASA) review helicopter Type Certificate Holder's procedures for evaluating defective parts to ensure that they satisfy the continued airworthiness requirements of EASA Part 21.A.3.

Reply

The Agency carried out in April 2010 an audit of Eurocopter Design Organisation Approval (DOA) related to occurrence reporting system, as part of the defined DOA annual surveillance plan. The scope of this audit included the review of the actions taken by the Type Certificate Holder on occurrences.

EASA's audit confirmed that the manufacturer was able to demonstrate that its procedures for compliance with the requirements of Part 21.A.3 are comprehensive and appropriately used.

Status: Closed – **Category**: Agreement

Safety Recommendation UNKG-2011-036 (AAIB):
It is recommended that the European Aviation Safety Agency (EASA) re-evaluate the continued airworthiness of the main rotor gearbox fitted to the AS332 L2 and EC225 helicopters to ensure that it satisfies the requirements of Certification Specification (CS) 29.571 and EASA Notice of Proposed Amendment 2010-06.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

Status: Open – **Category**:

Safety Recommendation UNKG-2011-041 (AAIB):
It is recommended that the European Aviation Safety Agency research methods for improving the detection of component degradation in helicopter epicyclic planet gear bearings.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

Status: Open – **Category**:

Safety Recommendation UNKG-2011-045 (AAIB):
It is recommended that the European Aviation Safety Agency require the 'crash sensor' in helicopters, fitted to stop a Cockpit Voice Recorder in the event of an accident, to comply with EUROCAE ED62A.

Reply

This item is added to the list of issues to be treated under rulemaking task RMT.0268 for amendment of certification specifications and rulemaking task RMT.0076 for retroactive requirements. These two tasks are currently identified in the inventory list of the Agency's Rulemaking Programme.

Status: Open – **Category**:

Registration	Aircraft Type	Location	Date of event	Event Type
1. G-REDU	EUROCOPTER EC225	132 NM east of Aberdeen, offshore, United Kingdom	18/02/2009	Accident

Synopsis of the event: The Helicopter departed Aberdeen Airport at 1742 hrs on a scheduled flight to the Eastern Trough Area Project (ETAP). The flight consisted of three sectors with the first landing being made, at night, on the ETAP Central Production Facility platform. Weather conditions at the platform deteriorated after the aircraft departed Aberdeen; the visibility and cloud base were estimated as being 0.5 nm and 500 ft respectively. At 1835 hrs the flight crew made a visual approach to the platform during which the helicopter descended and impacted the surface of the sea. The helicopter remained upright, supported by its flotation equipment which had inflated automatically. All those onboard were able to evacuate the helicopter into its liferafts and they were successfully rescued by air and maritime Search and Rescue (SAR) assets.

Safety Recommendation UNKG-2011-064 (AAIB):
It is recommended that the European Aviation Safety Agency establishes the feasibility of recording, in crash-protected memory, status indications from each avionic system on an aircraft.

Reply

It is acknowledged that non-volatile memories have delivered important information in a number of investigations. However, non-volatile memories are not designed to survive accident conditions (such as crash impact forces, fire, water ingestion etc.) because avionics systems are intended to perform other functions than recording data.

Instead, the crash-protected flight data recorder is specifically designed to record flight parameters, including those coming from avionic systems. In addition, adding flight parameters to the mandatory parameter list has always been done on a case by case basis. This is because establishing a set of well-defined flight parameters corresponding to specific aircraft functions has been deemed a better tool for the accident investigation authorities to identify their needs and for the industry to provide a satisfactory solution than relying on generic requirements. EUROCAE Document 112 (ED-112) already specifies that the status of some essential avionic systems of a helicopter should be recorded (see flight parameters 14, 46 and 47 of table II-A.2 "Parameters to be recorded – helicopters"). ED-112 is referenced in Annex to EASA Executive Director (ED) Decision 2012/018/R (Acceptable means of compliance and guidance material to Air Operation Rules, Part Commercial Air Transport). In addition, EUROCAE Working Group 90 is revising ED-112, and EASA has proposed to this group to add the technical status of the Terrain Awareness Warning System (TAWS) and of the Anti Collision Aircraft System (ACAS) to ED-112 table II-A.2. Rulemaking tasks RMT.0308 and RMT.0309 are in the Agency's Rulemaking Programme and they will address the update of the flight parameters list, taking into account the latest ED-112 revision.

Status: Closed – **Category**: Partial agreement

Safety Recommendation UNKG-2011-065 (AAIB):
IIt is recommended that the European Aviation Safety Agency considers amending certification requirements for rotorcraft, that are certified in accordance with ditching provisions, to include a means of automatically inflating emergency flotation equipment following water entry.

Reply

A rulemaking task was initiated in May 2012 [Reference: RMT.0120 (former 27&29.008)], which aims to undertake a broad review of helicopter ditching, water impact events and subsequent occupant survivability. A determination will be made on how certification rules and guidance material can best be developed to further enhance helicopter safety. Automatic float inflation was one of many safety enhancements to be identified during earlier work and an assessment of the safety/impact benefits is an integral part of this task. Both future and retroactive certification requirement are being considered.

Status: Closed – **Category**: Agreement

Safety Recommendation UNKG-2011-066 (AAIB):
It is recommended that the European Aviation Safety Agency modifies European Technical Standard Order (ETSO) 2C70a and ETSO 2C505 to include a requirement for multi-seat liferafts, that do not automatically deploy their Sea Anchor, to include a label, visible from within the inflated liferaft, reminding the occupants when to deploy the Sea Anchor.

Reply

EASA is assessing the possible safety benefit of additional life raft marking, taking into consideration also the operational aspects as well as related necessary improvement in crew training.

The issue of amending the label will be brought forward to the relevant SAE S-9A Safety Equipment and Survival Systems Committee to be discussed with life raft manufacturers, the Federal Aviation Administration (FAA) and EASA. A new relevant standard for life rafts (ref. AS1356) is presently in progress and the requested amendment of the label may become part of it. The new standard AS1356 will form the basis of a future revision of the European Technical Standard Orders, ETSO-2C70a, -2C505 and TSO-C70a for life rafts.

Status: Open – **Category**:

Safety Recommendation UNKG-2011-069 (AAIB):
It is recommended that the European Aviation Safety Agency, in conjunction with the Federal Aviation Administration, review the design requirements and advisory material for helicopters to require 'delethalisation' of the fuselage to prevent damage to deploying and floating liferafts following a survivable water impact.

Reply

Ditching, as defined in Advisory Circular (AC) 29.801, is an emergency landing on water, deliberately executed, with the intent of abandoning the rotorcraft as soon as practical. Ditching structural design considerations are based on a limited ditching envelope with a descent rate of 300ft/min, and acceptable means of compliance aims to ensure that probable damage to the airframe within this envelope is fully considered. Furthermore, AC 29.1411 (Safety Equipment – General) addresses the accessibility and stowage of safety equipment, including life raft, and additional guidance was included in AC 29-2C at Change 3 (September 2008), which specifically relates to protection of life raft from damage due to fuselage projections. This event cannot be considered a ditching in the accepted design definition, as the water impact was not a deliberate act on the part of the pilot and the descent rate at impact was 1380ft/min, which is considerably beyond the ditching envelope.

However, it is recognised that survivable water impact events beyond the ditching envelope do occur and having survival equipment that can properly function in such cases would lead to enhanced safety. The Agency will launch a rulemaking task RMT.0120 (former 27&29.008) 'Ditching Occupant Survivability' on ditching, water impact and survivability, to review and amend the rotorcraft certification specifications CS-27 and CS-29. This rulemaking task will consider multiple facets of the problem, including structural design aspects and possible expansion of the ditching envelope.

Status: Closed – **Category**: Agreement

Safety Recommendation UNKG-2011-070 (AAIB):
It is recommended that the European Aviation Safety Agency ensures that a requirement is developed for all emergency equipment, stowed in deployable survival bags, to be capable of being easily accessed and utilised by the gloved hands of a liferaft occupant whilst in challenging survival situations when a liferaft may be subject to considerable motion in cold, wet and dark conditions.

Reply

EASA is involved within the S9 group (Cabin Safety) of the SAE (Society of Automotive Engineers) and works on two proposition of Aerospace Standards (AS) relating to emergency equipments as follows:

- AS 1354: for Individual Inflatable Life Preservers and
- AS 1356: for Life rafts.

Both propositions contain provisions for test with either gloved or chilled hands as defined below:

"CHILLED HANDS TEST METHOD: A technique to simulate the reduced dexterity of chilled hands that may occur during an emergency in a cold environment. A naïve test subject simultaneously submerges left and right forearms and hands in 50° F (10° C) water for 2 minutes, quickly dries, and immediately (within 5 seconds following immersion) attempts to open/operate designated packaging/equipment. The test subject should be healthy and wear a loose-fitting, sleeveless upper garment that will not inhibit blood-flow to the arms and hands. (Alternate: GLOVED HANDS TEST METHOD)

GLOVED HANDS TEST METHOD: A technique to simulate the reduced dexterity of chilled hands that may occur during an emergency in a cold environment. A naïve test subject wears appropriately sized, 0.2 inch (5 mm) or thicker smooth-surfaced neoprene gloves to open/operate designated packaging/equipment. (Alternate: CHILLED HANDS TEST METHOD)"

Depending on the outcome of this SAE work, the Agency may consider updating the corresponding CS-ETSO (C13f, C69c and 2C70a).

Status: Closed – **Category**: Agreement

Safety Recommendation UNKG-2011-071 (AAIB):

It is recommended that the European Aviation Safety Agency reviews the location and design of the components and installation features of Automatically Deployable Emergency Locator Transmitters and Crash Position Indicator units, when required to be fitted to offshore helicopters, to ensure the reliability of operation of such units during and after water impacts.

Reply

A rulemaking task was initiated in May 2012 [Reference: RMT.0120 (former 27&29.008)], which aims to undertake a broad review of helicopter ditching, water impact events and subsequent occupant survivability. A determination will be made on how certification rules and guidance material can best be developed to further enhance helicopter safety. The installation and functioning of all types of Emergency Locator Transmitters following water impact events is an integral part of this task. Both future and retroactive certification requirement are being considered.

Status: Closed – **Category**: Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. EI-SLG	ATR ATR72	Edimburgh Airport, United Kingdom	15/03/2011	Serious incident

Synopsis of the event: The aircraft had undergone routine maintenance at an engineering facility at Edinburgh Airport immediately prior to the incident flight. Everything appeared normal during the crew's pre-flight checks, which included a full-and-free check of the flying controls. The crew were able to visually monitor the roll control surfaces and observe the spoiler operation on a cockpit indication, but could not see the empennage and the aircraft was not fitted with a flight control position indicator. The aircraft took off at 2122 hrs from Runway 24 at Edinburgh, with the co-pilot acting as the handling pilot. After carrying out a standard instrument departure the crew climbed the aircraft to FL 230 at a speed of 170 kt with the autopilot engaged. As the aircraft levelled and accelerated through about 185 kt, the crew felt the aircraft roll to the left by about 5 to 10° and they noticed that the slip ball and rudder trim were both indicating fully right. The co-pilot disengaged the autopilot and applied right rudder in an attempt to correct the sideslip and applied aileron to correct the roll. He reported that the rudder felt unusually ''spongy" and that the aircraft did not respond to his rudder inputs. Approximately 15° to 20° of right bank was required to hold a constant heading with the speed stabilised above 185 kt and a limited amount of aileron him was applied to assist. Shortly after regaining directional control a FTL CTL caption appeared on the Crew Alert Panel (CAP) and the FLT CTL fault light illuminated on the overhead panel indicating a fault with the rudder Travel Limitation Unit (TLU). The commander requested radar vectors from ATC for a return to Edinburgh, later declaring a PAN. The crew carried out the required procedure from the Quick Reference Handbook (QRH). As part of the procedure they established that both Air Data Computers (ADC) were operating, before manually selecting the TLU switch to the LO SPD position. The aircraft had at this point temporarily slowed to below ISO kt. The co-pilot reported that on selection of LO SPD more roll control input was required to maintain heading and that roll authority to the right was further reduced. The commander therefore decided to return the TLU switch to AUTO and the required roll control input reduced. The green LO SPD indicator light did not illuminate. An approach was made to Runway 24, the aircraft was established on the ILS and was normally configured for a full flap landing. The crew added 10 kt to their approach speed, in accordance with the QRH. The co-pilot had to operate the control wheel with both hands in order to maintain directional control; the commander operated the power levers in the latter stages of the final approach. The co-pilot reported that the aircraft became slightly more difficult to control as the speed reduced, but remained controllable. The aircraft landed just to the left of the runway centreline, whereupon the commander assumed control of the aircraft and applied reverse thrust. Despite the application of full right rudder pedal during the rollout. the aircraft diverged towards the left side of the runway. The commander re-established directional contrei using the steering wheel tiller. The aircraft was taxied clear of the runway and back to the engineering facility for inspection.

Safety Recommendation UNKG-2012-002 (AAIB):
It is recommended that the European Aviation Safety Agency require ATR to modify the cams on the rudder Travel Limitation Unit on all applicable aircraft, to reduce the risk of incorrect assembly.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010

Status: Open – **Category**:

Registration	Aircraft Type	Location	Date of event	Event Type
1. G-CCPW	BAE JETSTREAM3100	runway 26, Isle of Man Airport, United Kingdom	08/03/2012	Accident

Synopsis of the event: The aircraft's right main landing gear failed as it landed on Runway 26 at Isle of Man Airport. The right main landing gear detached, the aircraft slid along the runway on its remaining landing gears, right wingtip and luggage pannier and came to rest on the grass adjacent to the runway. The passengers and crew vacated the aircraft without injury. The mechanism to final failure is not yet fully understood, but was initiated as a result of stress corrosion cracking in the forward yoke pintle at the top of the right landing gear leg.

Safety Recommendation UNKG-2012-008 (AAIB):
It is recommended that the European Aviation Safety Agency review the effectiveness of Airworthiness Directive G-003-01-86 in identifying cracks in the yoke pintle housing on landing gears fitted to Jetstream 31 aircraft.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

Registration	Aircraft Type	Location	Date of event	Event Type
1. G-OOBK	BOEING 767	Bristol Airport, United Kingdom	03/10/2010	Accident

Synopsis of the event: The aircraft landed heavily on Runway 09 at Bristol Airport, having encountered rain, reduced visibility and turbulence during the approach. The de-rotation was rapid and damage occurred as a result of the force with which the nose landing gear met the runway. The investigation found that a high rate of hard landings on that runway had not been identified through flight data monitoring, and that training material produced by the manufacturer in response to previous, similar, events had not been presented to the flight crew. The cockpit voice recorder was not disabled after the accident and thus the recording was not available to investigators. A momentary longitudinal deceleration at touchdown was reported by the flight crew and recorded by the flight data recorder.

Safety Recommendation UNKG-2012-013 (AAIB):
It is recommended that the European Aviation Safety Agency publishes guidance information that assists operators and National Aviation Authorities in the production and auditing of procedures to prevent the loss of Cockpit Voice Recorder recordings in accordance with the requirements of EU-OPS 1.160 and EU-OPS 1.085.

Reply

The previous European Union provisions for commercial air transport (CAT) operations by aeroplanes, Regulation (EC) 859/2008 (so-called EU-OPS) have been transposed as the basis for Commission Regulation (EU) No 965/2012 which was published on 25 October 2012. These provisions require the aircraft commander and the aircraft operator to preserve original recorded data following an accident or an incident subject to mandatory reporting [refer to CAT.GEN.MPA.105 and CAT.GEN.MPA.195 in Annex IV (Part-CAT) of the Commission Regulation].

However, the Agency has not yet published guidance for the operators on procedures to prevent the loss of cockpit voice recorder (CVR) recordings following an accident or an incident subject to mandatory reporting.

This is being considered within the framework of rulemaking tasks RMT.0400 and RMT.0401, which were launched on 26 September 2012 with the publication of the associated Terms of Reference. In addition, an assessment is being made on whether guidance is needed to assist competent authorities in auditing the operators' prevention of loss of CVR recordings.

Status: Closed – **Category**: Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. G-OLSA	OTHER (Breezer B600)	Membury Airfield, Berkshire, United Kingdom	25/06/2011	Accident

Synopsis of the event: Shortly after takeoff the engine stopped due to a loss of fuel pressure and the pilot made a forced landing which resulted in a heavy touchdown. The engine stoppage was probably caused by a fuel restriction when a placard blocked the fuel tank outlet. The fuel tank outlet was not fitted with a strainer or filter as none was required by the regulations for a 'Light Sport Aeroplane' (LSA). The aircraft manufacturer has taken safety action to install a fuel strainer at the fuel tank outlet of all new aircraft and is offering the same modification for retrofit.

Safety Recommendation UNKG-2012-020 (AAIB):
It is recommended that the European Aviation Safety Agency (EASA) amend 'Certification Specifications for Light Sport Aeroplanes' (CS-LSA) to require the installation of a strainer at the fuel tank outlet, to reduce the risk of foreign objects in the fuel tank restricting the fuel supply.

Reply

Further to this accident and the issuance of this safety recommendation, the ASTM International Committee F37 on Light Sport Aircraft has agreed to prepare a change to the standard ASTM F2245 "Standard Specification for Design and Performance of a Light Sport Airplane" (refer to work item ASTM WK38179, published on ASTM Website).

The Agency plans to adopt the revision of this standard through an amendment of CS-LSA (which itself requires compliance with this standard). This activity will be performed under EASA rulemaking task RMT.0003. The Terms of Reference, dated 29 August 2012, has been published on the EASA Website.

Status: Closed – **Category**: Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. G-RIAM	SOCATA TB10	Coventry Airport, United Kingdom	27/07/2011	Serious incident

Synopsis of the event: The occupants were on a local flight at 2,500 ft when they noticed smoke entering the cabin around the base of the windscreen. The aircraft diverted into Coventry Airport, with the intensity of the smoke increasing and affecting visibility, and made a safe landing. The smoke was caused by an internal failure in the alternator regulator

Safety Recommendation UNKG-2012-022 (AAIB):
It is recommended that the European Aviation Safety Agency review the alternator regulator installation of the SOCATA TB series of single-engine aircraft, with a view to reducing the risk to the operation of the aircraft as a result of smoke/fire arising from a failure of this component.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

Registration	Aircraft Type	Location	Date of event	Event Type
1. G-REDW	EUROCOPTER EC225	20 NM east of Aberdeen, United Kingdom	10/05/2012	Accident
2. G-CHCN	EUROCOPTER EC225	North Sea, 32nm southwest of Sumburgh	22/10/2012	Accident

Synopsis of the event 1:

The helicopter was on a scheduled flight from Aberdeen Airport to the Maersk Resilient platform, in the North Sea, 150 nm east of Aberdeen. On board were two flight crew and twelve passengers. The helicopter was in the cruise at an altitude of 3,000 ft, 34 nm east of Aberdeen Airport, when the flight crew were presented with indications of low pressure in the MGB main and standby oil lubrication systems. The crew activated the MGB emergency lubrication system and, following a subsequent warning indicating failure of that system, carried out a controlled ditching into the sea. All the passengers and crew evacuated the helicopter into a life raft and were subsequently rescued. Two passengers sustained minor injuries.

Synopsis of the event 2: The crew of the helicopter carried out a controlled ditching following indications of a failure of the main gearbox (MGB) lubrication system and, subsequently, a warning indicating failure of the emergency lubrication system. All passengers and crew evacuated the helicopter and were subsequently rescued without injury.

Safety Recommendation UNKG-2012-034 (AAIB):
It is recommended that the European Aviation Safety Agency requires Eurocopter to review the design of the main gearbox emergency lubrication system on the EC225 LP Super Puma to ensure that the system will provide the crew with an accurate indication of its status when activated.

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

United States

Registration	Aircraft Type	Location	Date of event	Event Type
1. N14053	AIRBUS A300	Belle Harbor, New York, United States of America	12/11/2001	Accident

Synopsis of the event: On November 12, 2001, about 0916:15 eastern standard time, flight 587, an Airbus Industrie A300-605R, N14053, crashed into a residential area of Belle Harbor, New York, shortly after takeoff from John F. Kennedy International Airport, Jamaica, New York. Flight 587 was a regularly scheduled passenger flight to Las Americas International Airport, Santo Domingo, Dominican Republic, with 2 flight crewmembers, 7 flight attendants, and 251 passengers aboard the airplane. The airplane's vertical stabilizer and rudder separated in flight and were found in Jamaica Bay, about 1 mile north of the main wreckage site. The airplane's engines subsequently separated in flight and were found several blocks north and east of the main wreckage site. All 260 people aboard the airplane and 5 people on the ground were killed, and the airplane was destroyed by impact forces and a postcrash fire. Flight 587 was operating under the provisions of 14 Code of Federal Regulations Part 121 on an instrument flight rules flight plan. Visual meteorological conditions prevailed at the time of the accident.

Safety Recommendation UNST-2004-063 (NTSB):
The NTSB recommends that the DGAC-F review the options for modifying the Airbus A300-600 and the Airbus A310 to provide increased protection from potentially hazardous rudder pedal inputs at high airspeeds and, on the basis of this review, require modifications to the A300-600 and A310 to provide increased protection from potentially hazardous rudder pedal inputs at high airspeeds.

Reply

Airbus designed a Stop Rudder Input Warning device (SRIW). The SRIW is a rudder reversal detection and alerting system, which early detects – i.e. at first reversal - any potentially dangerous rudder doublet. Airworthiness Directive 2012-0088 published on 25 June 2012 mandates the SRIW.

Status: Closed – **Category**: Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. N106US	AIRBUS A320	the Hudson River about 8,5 miles from La Guardia Airport, New York, USA	15/01/2009	Accident

Synopsis of the event: On January 15, 2009, about 1527 eastern standard time, flight 1549, an Airbus Industrie A320-214, N106US, experienced an almost complete loss of thrust in both engines after encountering a flock of birds and was subsequently ditched on the Hudson River about 8.5 miles from La Guardia Airport (LGA), New York City, New York. The flight had departed LGA about 2 minutes before the in-flight event occurred and was en route to Charlotte Douglas International Airport, Charlotte, North Carolina. The 150 passengers, including a lap-held child, and 5 crewmembers evacuated the airplane via the forward and over wing exits. One flight attendant and four passengers were seriously injured, and the airplane was substantially damaged.

Safety Recommendation UNST-2010-091 (NTSB):
Require applicants for aircraft certification to demonstrate that their ditching parameters can be attained without engine power by pilots without the use of exceptional skill or strength. (A-10-91)

Reply

Certification Specification (CS) 25.801 (c) requires that "The probable behaviour of the aeroplane in a water landing must be investigated by model tests or by comparison with aeroplanes of similar configuration for which the ditching characteristics are known". The requirement does not specify whether this should be investigated in an engine power on or power off condition.

EASA understands the "ditching parameters" are those parameters assumed at the point of impact for demonstration of compliance with CS 25.801 (c) (such as: descent rate, pitch attitude, forward velocity, etc.), and which are also used as inputs to define the ditching emergency procedure.

EASA believes that the ditching parameters of in-service aircraft might be potentially difficult to attain in a power off condition, in addition such a demonstration was not required explicitly by the certification requirements nor routinely investigated by applicants.

For new certification projects, EASA requires a demonstration that the ditching parameters can be attained by pilots without the use of exceptional skill, but not explicitly accounting for a power off condition. It is considered that the introduction of the power off condition is a significant change in the means of compliance to the rule, with a potential impact on dimensioning load cases for the aircraft structure.

However, it is recognised that the majority of actual ditching cases are power off events, therefore EASA accepts to review how this Safety Recommendation could be best addressed and the rulemaking task RMT.0453 'Ditching parameters without engine power' is added to the Rulemaking Programme inventory list.

Status: Open – **Category**:

Safety Recommendation UNST-2010-095 (NTSB):
Require modifications to life vest stowage compartments or stowage compartment locations to improve the ability of passengers to retrieve life vests for all occupants. (A-10-95)

Reply

The Agency is collaborating with the Federal Aviation Administration (FAA) in view of revising the minimum performance standards for aircraft seating systems, (European) Technical Standard Order (E) TSO-C127a to add new life vest retrieval requirements taking into account this Safety Recommendation.

The FAA draft TSO-C127b is open for comments until 05 December 2012 and the Agency will consider the final TSO for amending ETSO-C127a.

Status: Open – **Category**:

Registration	Aircraft Type	Location	Date of event	Event Type
1. N453AE	EUROCOPTER EC130	the Hudson River, New York, United States	07/07/2007	Accident

Synopsis of the event: On July 7, 2007, about 1651 eastern daylight time, Eurocopter EC-130-B4 helicopter, N453AE, experienced an in-flight separation of a section of one of the main rotor blades during flight and sustained substantial damage during an emergency descent and subsequent autorotation into the Hudson River, New York, New York. 1 The commercial pilot and seven passengers were uninjured. No flight plan was filed with the Federal Aviation Administration (FAA) for the 14 Code of Federal Regulations Part 135 and 136 sightseeing flight, nor was one required.2 Visual meteorological conditions prevailed at the time of the accident.

Safety Recommendation UNST-2011-037 (NTSB):

The National Transportation Safety Board makes the following safety recommendations to the European Aviation Safety Agency: Require Eurocopter to revise its aircraft maintenance manual for all helicopters equipped with part number 355A11-0020 and/or 355A11-0030 main rotor blades to include, as part of the daily flight-related check, specific visual inspections of the trailing edge of the blades' upper and lower skin surfaces for cracks and surface deterioration/disfiguration. (A-11-37)

Reply

Prior to issuing revisions to Maintenance Manual (MMs), Eurocopter (EC) immediately issued Safety Information Notice (SIN) No. 2334-S-00 Revision 1 dated 09 June 2011 addressed to maintenance organisations and operators of helicopters affected. Publication on the manufacturer's dedicated website of the considered SIN has been verified by the Agency. With this SIN, the manufacturer had informed on the contents of changes to maintenance documentation which were then formally incorporated in MMs through normal revisions above mentioned.

In July 2011 EC modified maintenance manuals (MM), by issuing normal revisions, for helicopter models on which main rotor blades (MRB) P/Nos 355A-11-0020 and 355A-11-0030 can be installed. Models affected are AS350 B, BA, BB, B1, B2, B3, D, EC130B4, AS355 E, F, F1, F2, N, NP. Modifications introduced in the maintenance program, within the frames of check after the last flight of the day (ALF) or Flight-Related Check, a specific visual inspection of the trailing edge skin on the main rotor blades. The complete scope of MRB visual check, with the specific inspection mentioned above incorporated, is the following:

"Main rotor blades: security, general condition of the skin (lower side, upper side and trailing edge), trim tabs and polyurethane protective strips. Visually check for bonding separation, scratches, cracks, impacts or distortions. No erosion holes on leading edge steel strips, no gaps or impacts."

In coordination with EASA, the manufacturer also modified criteria for MRB periodical inspections not to allow chordwise cracks in certain MRB skin areas.

Status: Closed – **Category**: Agreement

Safety Recommendation UNST-2011-038 (NTSB):

The National Transportation Safety Board makes the following safety recommendations to the European Aviation Safety Agency: Once the Eurocopter aircraft maintenance manual is revised as described in Safety Recommendation A-11-37, notify operators of all Eurocopter helicopters equipped with part number 355A11-0020 and/or 355A11-0030 main rotor blades that they should revise their maintenance manuals to include specific daily visual

inspections of the trailing edge of the blades upper and lower skin surfaces for cracks and surface deterioration/ disfiguration. (A-11-38)

Reply

The Agency requested and received from the manufacturer confirmation of Maintenance Manual (MM) updates being distributed to the concerned operators as required by 21A.61 subparagraph (b) in the Annex of the Regulation (EC) No 1702/2003 (Part 21). Moreover, the publication on the manufacturer's dedicated website of the Safety Information Notice (SIN) No. 2334-S-00 Revision 1 dated 09 June 2011, incorporating contents of all intended MM revisions, has also been verified by the Agency.

Status: Closed – **Category**: Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. N128CM	PILATUS PC12	Bert Mooney Airport (BTM), Butte, Montana, United States	22/03/2009	Accident

Synopsis of the event: On March 22, 2009, about 1432 mountain daylight time, a Pilatus PC-12/45, N128CM, was diverting to Bert Mooney Airport (BTM), Butte, Montana, when it crashed about 2,100 feet west of runway 33 at BTM. The pilot and the 13 airplane passengers were fatally injured, and the airplane was substantially damaged by impact forces and a postcrash fire.

Safety Recommendation UNST-2011-075 (NTSB):
The National Transportation Safety Board recommends that the European Aviation Safety Agency amend certification requirements for aircraft requiring fuel additives, including fuel system icing inhibitors, so that those limitations are highlighted by a warning in the limitations section of the airplane flight manual. (A-11-75)

Reply

The Certification Specifications CS-23 require the Aircraft Flight Manual (AFM) to specify the operating limitations in the limitation sections. The indication of fuel additives, when required by the aeroplane, is an operating limitation and, as such, must be indicated in the limitation sections.

All limitations are applicable and there is no basis for mandating some limitations as being more critical than others.

Status: Closed – **Category**: Disagreement

Safety Recommendation UNST-2011-076 (NTSB):
The National Transportation Safety Board recommends that the European Aviation Safety Agency require all existing certificated aircraft (both newly manufactured and in-service aircraft) that require fuel additives, including fuel system icing inhibitors, to have those limitations highlighted by a warning in the limitations section of the airplane flight manual. (A-11-76)

Reply

The Certification Specifications CS-23 require the Aircraft Flight Manual (AFM) to specify the operating limitations in the limitation sections. The indication of fuel additives, when required by the aeroplane, is an operating limitation and, as such, must be indicated in the limitation sections.

All limitations are applicable and there is no basis for mandating some limitations as being more critical than others.

Status: Closed – **Category**: Disagreement

Safety Recommendation UNST-2011-077 (NTSB):
The National Transportation Safety Board recommends that the European Aviation Safety Agency amend aircraft certification fuel placarding requirements so that aircraft requiring fuel additives, including fuel system icing inhibitors, have a fuel filler placard that notes this limitation and refers to the airplane flight manual for specific information about the limitation. (A-11-77)

Reply

The Certification Specifications CS-23 require the Aircraft Flight Manual (AFM) to specify the operating limitations in the limitation sections. The indication of fuel additives, when required by the aeroplane, is an operating limitation and, as such, must be indicated in the limitation sections.

All limitations are applicable and there is no basis for mandating some limitations as being more critical than others.

Status: Closed – **Category**: Disagreement

Safety Recommendation UNST-2011-078 (NTSB):
The National Transportation Safety Board recommends that the European Aviation Safety Agency require all existing certificated aircraft (both newly manufactured and in-service aircraft) that require fuel additives, including fuel system icing inhibitors, to have a fuel filler placard that notes this limitation and refers to the airplane flight manual for specific information about the limitation. (A-11-78)

Reply

As pointed out in the Safety Recommendation letter from NTSB, the regulatory requirements regarding marking and placards, require the placard to list the possible fuel designations and/or to refer to the AFM. The indication of fuel additives, when they are required by the aeroplane, is an operating limitation and, as such, must be indicated in the limitation section and it is an obligation of the pilot to respect all the limitations in the AFM.

EASA considers the regulatory requirements adequate and properly implemented in the certificated A/C. Nevertheless, even if this is not considered an unsafe condition, the TC Holder has decided to introduce a placard on the wing near the fuel filler, which also refers to the POH for Quantity and Type of additive. Service bulletin SB 11-005 has been issued to implement the placard on the fleet. No AD has been issued.

Status: Closed – **Category**: Disagreement

Registration	Aircraft Type	Location	Date of event	Event Type
1. N902FX	ATR ATR42	Lubbock, Texas, United States	27/01/2009	Accident

Synopsis of the event: On January 27, 2009, about 0437 central standard time, an Avions de Transport Régional Aerospatiale Alenia ATR 42-320, N902FX, operating as Empire Airlines flight 8284, was on an instrument approach when it crashed short of the runway at Lubbock Preston Smith International Airport, Lubbock, Texas. The captain sustained serious injuries, and the first officer sustained minor injuries. The airplane was substantially damaged. The airplane was registered to FedEx Corporation and operated by Empire Airlines, Inc., as a 14 Code of Federal Regulations Part 121 supplemental cargo flight. The flight departed from Fort Worth Alliance Airport, Fort Worth, Texas, about 0313. Instrument meteorological conditions prevailed, and an instrument flight rules flight plan was filed.

Safety Recommendation UNST-2012-026 (NTSB):

The National Transportation Safety Board makes the following recommendations to the European Aviation Safety Agency: require Avions de Transport Régional (ATR) to revise the stick pusher's activation angle of attack (AOA) on ATR 42-series airplanes to ensure that the stick pusher activates before the stall AOA in the presence of airframe ice accretions. (A-12-26)

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

Safety Recommendation UNST-2012-027 (NTSB):

The National Transportation Safety Board makes the following recommendation to the European Aviation Safety Agency: evaluate all European Aviation Safety Agency-certificated transport-category airplanes equipped with stick pushers to ensure that the stick pusher activates at an angle of attack that will provide adequate stall protection in the presence of airframe ice accretions. (A-12-27)

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

Registration	Aircraft Type	Location	Date of event	Event Type
1. F-HPJD	AIRBUS A380	John F. Kennedy International Airport, New York, United States	11/04/2011	Accident

Synopsis of the event: On May 30, 2012, about 1300 central daylight time, American Eagle Airlines flight 4265, an Embraer 135, N834AE, was struck by EVA Air flight 661, a Boeing 747-400, Taiwan registration B16481, while the 747 was taxiing at Chicago O'Hare International Airport, Chicago, Illinois. The Embraer was stopped at the ramp area and awaiting ground personnel to guide it to gate G20. Its tail section was protruding into taxiway A. The 747 was taxiing westbound on taxiway A when its right wingtip contacted the Embraer rudder and vertical stabilizer. No injuries were reported on either airplane. The Embraer experienced substantial damage to the rudder and vertical stabilizer, and the 747 experienced minor wingtip and slat damage.

On July 14, 2011, about 1933 eastern daylight time, Delta Air Lines flight 266, a Boeing 767-300ER, N185DN, was taxiing on taxiway B for departure on runway 4R at Boston Logan International Airport, Boston, Massachusetts, when its left winglet struck the horizontal stabilizer of Atlantic Southeast Airlines flight 4904, a Bombardier CRJ900, N132EV. The CRJ900 was on taxiway M, which is perpendicular to taxiway B, awaiting departure on runway 9. No injuries were reported on either airplane. The CRJ900 sustained substantial damage, including damage to the horizontal tail and vertical tail, and the airplane lost fluid in all three hydraulic systems. The 767 sustained substantial damage; parts of its winglet were sheared off and embedded in the tail of the CRJ900.

On April 11, 2011, about 2006 eastern daylight time, Air France flight 7, an Airbus A380, F-HPJD, collided with Comair flight 263, a Bombardier CRJ701, N641CA, while the A380 was taxiing for takeoff from John F. Kennedy International Airport, Jamaica, New York. At the time of the accident, the CRJ701 was stationary with the forward part of its fuselage on the parking ramp and its tail extended onto taxiway M, which intersects and is perpendicular to the taxiway on which the A380 was taxiing. No injuries were reported on either airplane. The A380 sustained substantial damage to its left wingtip and winglet, and the CRJ701 sustained substantial damage to its left horizontal stabilizer and rudder.

Safety Recommendation UNST-2012-050 (NTSB):

The National Transportation Safety Board makes the following recommendation to the European Aviation Safety Agency: Require the installation of an anti-collision aid, such as a camera system, on all newly manufactured and newly type-certificated large airplanes and other airplane models where the wingtips are not easily visible from the cockpit to provide a cockpit indication that will help pilots determine wingtip clearance and path during taxi. (A-12-50)

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:

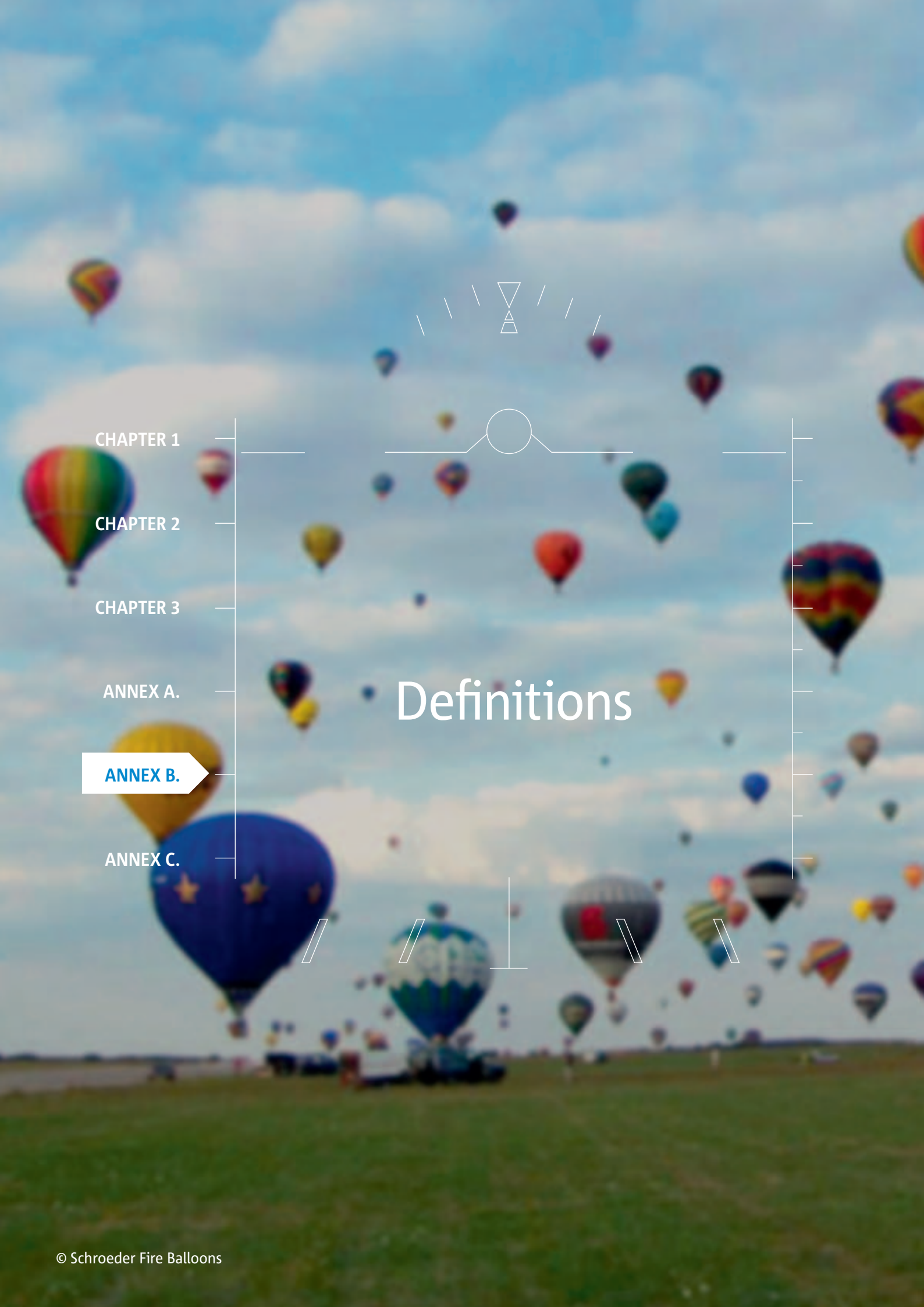
Safety Recommendation UNST-2012-051 (NTSB):
The National Transportation Safety Board makes the following recommendation to the European Aviation Safety Agency: Require all existing large airplanes and other airplane models where the wingtips are not easily visible from the cockpit to be retrofitted with an anti-collision aid, such as a camera system, to provide a cockpit indication that will help pilots determine wingtip clearance and path during taxi. (A-12-51)

Reply

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category**:



Definitions

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Definitions

The following definitions are extracted from Regulation (EU) No 996/2010 of the European Parliament and of the Council of 20 October 2010.

Accident: occurrence associated with the operation of an aircraft which, in the case of a manned aircraft, takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, or in the case of an unmanned aircraft, takes place between the time the aircraft is ready to move with the purpose of flight until such time it comes to rest at the end of the flight and the primary propulsion system is shut down, in which:

(a) a person is fatally or seriously injured as a result of:

- being in the aircraft, or,
- direct contact with any part of the aircraft, including parts which have become detached from the aircraft, or,
- direct exposure to jet blast,

except when the injuries are from natural causes, self- inflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to the passengers and crew; or

(b) the aircraft sustains damage or structural failure which adversely affects the structural strength, performance or flight characteristics of the aircraft, and would normally require major repair or replacement of the affected component, except for engine failure or damage, when the damage is limited to a single engine, (including its cowlings or accessories), to propellers, wing tips, antennas, probes, vanes, tires, brakes, wheels, fairings, panels, landing gear doors, windscreens, the aircraft skin (such as small dents or puncture holes) or minor damages to main rotor blades, tail rotor blades, landing gear, and those resulting from hail or bird strike, (including holes in the radome); or

(c) the aircraft is missing or is completely inaccessible;

Incident: an occurrence, other than an accident, associated with the operation of an aircraft which affects or would affect the safety of operation;

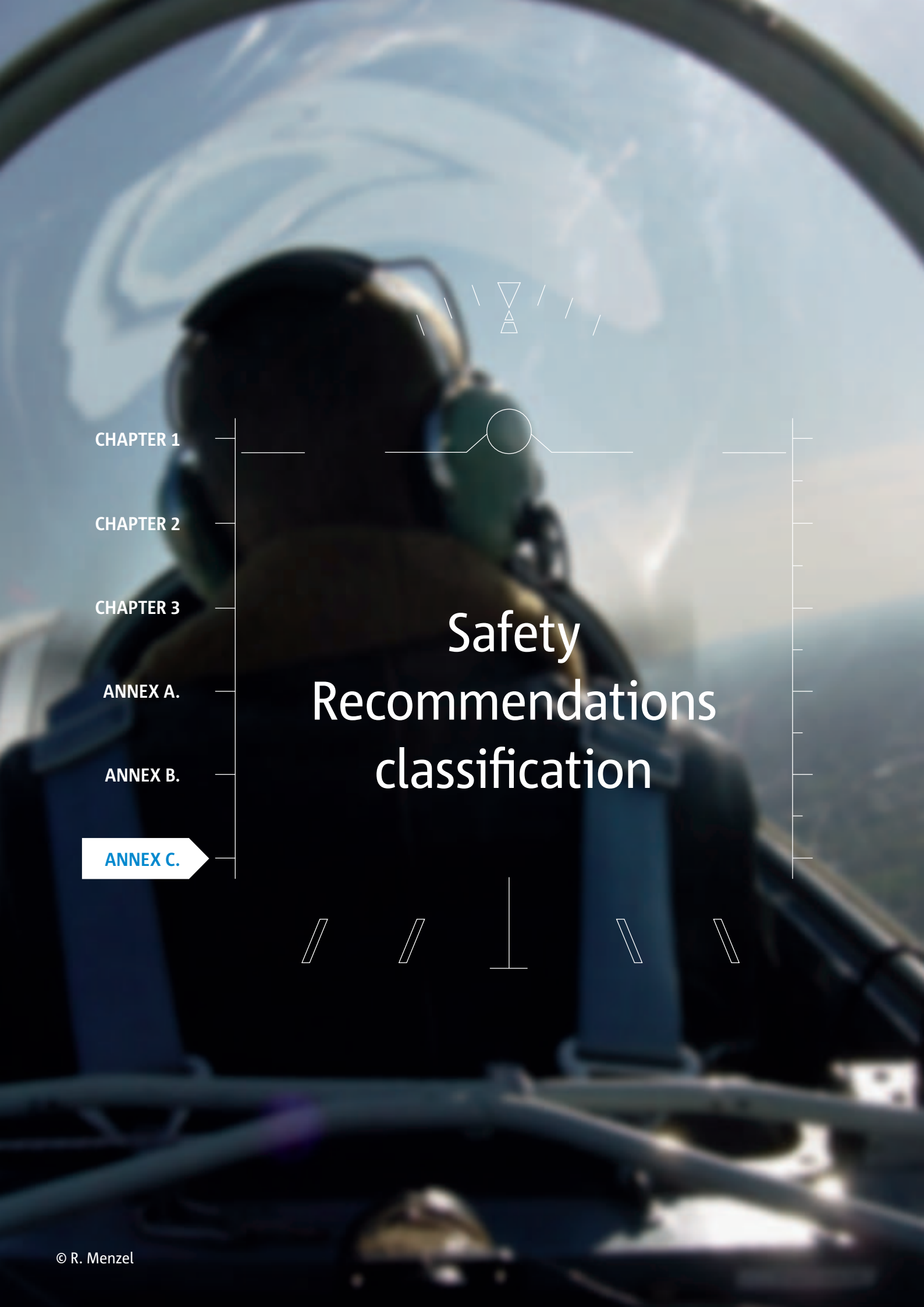
Serious incident: an incident involving circumstances indicating that there was a high probability of an accident and is associated with the operation of an aircraft, which in the case of a manned aircraft, takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, or in the case of an unmanned aircraft, takes place between the time the aircraft is ready to move with the purpose of flight until such time it comes to rest at the end of the flight and the primary propulsion system is shut down.

A list of examples of serious incidents is given below. The list is not exhaustive and only serves as guidance with respect to the definition of 'serious incident':

- a near collision requiring an avoidance manoeuvre to avoid a collision or an unsafe situation or when an avoidance action would have been appropriate,
- controlled flight into terrain only marginally avoided,
- aborted take-offs on a closed or engaged runway, on a taxiway, excluding authorised operations by helicopters, or from an unassigned runway,
- take-offs from a closed or engaged runway, from a taxiway, excluding authorised operations by helicopters, or from an unassigned runway,
- landings or attempted landings on a closed or engaged runway, on a taxiway, excluding authorised operations by helicopters, or from an unassigned runway,
- gross failures to achieve predicted performance during take-off or initial climb,
- fires and smoke in the passenger compartment, in cargo compartments or engine fires, even though such fires were extinguished by the use of extinguishing agents,
- events requiring the emergency use of oxygen by the flight crew,
- aircraft structural failure or engine disintegration, including uncontained turbine engine failures, not classified as an accident,
- multiple malfunctions of one or more aircraft systems seriously affecting the operation of the aircraft,
- flight crew incapacitation in flight,
- fuel quantity requiring the declaration of an emergency by the pilot,
- runway incursions classified with severity A according to the Manual on the Prevention of Runway Incursions (ICAO Doc 9870) which contains information on the severity classifications,
- take-off or landing incidents. Incidents such as undershooting, overrunning or running off the side of runways,
- system failures, weather phenomena, operation outside the approved flight envelope or other occurrences which could have caused difficulties controlling the aircraft,
- failure of more than one system in a redundancy system mandatory for flight guidance and navigation.

Safety investigation: process conducted by a safety investigation authority for the purpose of accident and incident prevention which includes the gathering and analysis of information, the drawing of conclusions, including the determination of cause(s) and/or contributing factors and, when appropriate, the making of safety recommendations;

Safety recommendation: proposal of a safety investigation authority, based on information derived from a safety investigation or other sources such as safety studies, made with the intention of preventing accidents and incidents.



Safety Recommendations classification

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Safety Recommendations classification

The classification has been established in the scope of the Safety Recommendations taxonomy working group in cooperation with representatives from European Accident Investigation Bodies, Eurocontrol, the European Joint Research Center (JRC) and EASA. The aim of this group was to initiate a taxonomy dedicated to recommendations. This activity took place in 2007 and is being used to implement a Safety Recommendation database developed by the JRC.

In addition to common definitions, the taxonomy also defines a unique pre-defined format for referencing safety recommendations. This format is composed by a 4 digits originating state name followed by the year it was issued and then a three digits number (ex: UNKG-2007-001 for recommendation #1 issued by United Kingdom in 2007). Consequently, all references comply with this taxonomy foreseeing that existing safety recommendations will be imported in a central database and shared with a community of users.

Classification category: assessment given to a safety recommendation by the addressee as defined below:

- **Agreement:** Safety Recommendation for which the safety concern is agreed by the addressee and subsequent action is planned or implemented.
- **Partial agreement:** Safety Recommendation considered relevant by the addressee but not applicable and for which a Safety issues has been recognised and a new orientation has been given to the recommended action.
- **Disagreement:** Safety Recommendation considered not relevant or not applicable by the addressee.
- **No longer applicable:** Safety Recommendation has been superseded or has become no longer applicable.
- **Not Responsible:** Safety Recommendation wrongly allocated or not in the scope of responsibility of the addressee.
- **More information required:** Safety Recommendation for which more information is required by the addressee before any action initiated. Additional information should be sent by the originator.
- **Unknown:** Safety Recommendation which was issued before any tracking implementation status and for which insufficient information to assign any other status has been received.

Status of a safety recommendation: progress of the implementation of the response to a recommendation as defined below:

- **Open safety recommendation:** safety recommendation for which the reply has not yet been defined or the appropriate action addressing the safety concern is still in progress.

- **Closed safety recommendation:** safety recommendation for which appropriate action has been taken and completed addressing the safety issue.

Concluding actions: measures taken by the Agency for a safety recommendation as defined below:

- **Add/Modify Rule/Directive:** Rulemaking action aiming at reviewing, developing or amending implementing rules / Acceptable Means of Compliance (AMC) / Guidance Material (GM) /Airworthiness Directives (AD) other than those below mentioned.

- **Inspection:** Inspection, review of design, replacement or test conducted in the frame of the Continued Airworthiness.

- **Information:** Information sent through Safety Information Bulletin (SIB) or other means to inform interested parties.

- **Training:** Action related to promote or improve training, including when the Safety Recommendation is taken into account in a Rulemaking Task.

- **Add/Modify Procedure:** Action modifying Aircraft and / or Operation documentation.

- **Study:** Study or research project conducted.

- **Compliance with procedure/rule:** Standardisation audit of Design Organisation Approval (DOA), Product Organisation Approval (POA), Maintenance Organisation Approval (MOA) and Air Operator Certificate (AOC) holders. Furthermore, it is also included when the Safety Recommendation leads to perform a review or inspection of a system but, after this action, EASA does not consider doing/changing anything.

- **No action taken, already covered:** When the Safety Recommendation aims at amending the current rules, but after a review, EASA does not consider to change anything.

- **Other:** Promoting or supportive EASA actions when the subject is, in that moment, out of its remit.

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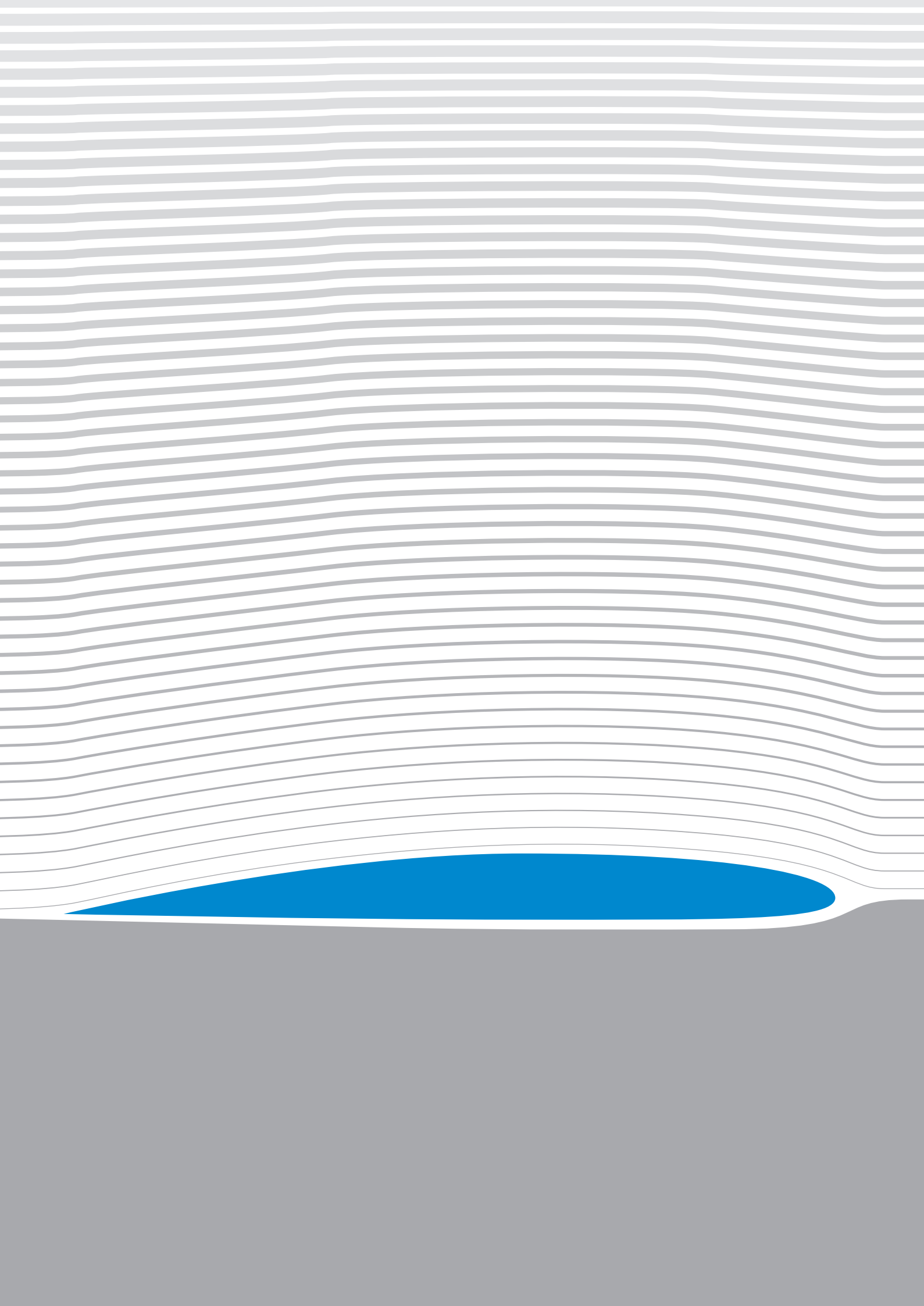

EUROPEAN AVIATION SAFETY AGENCY
AGENCE EUROPÉENNE DE LA SÉCURITÉ AÉRIENNE
EUROPÄISCHE AGENTUR FÜR FLUGSICHERHEIT

European Aviation Safety Agency,
Safety Analysis and Research
Department

Postal address
Postfach 101253
50452 Cologne
Germany

Visiting address
Ottoplatz 1
50679 Cologne
Germany

Tel. +49 221 89990-000
Fax +49 221 89990-999
Mail info@easa.europa.eu
Web www.easa.europa.eu

10TH ANNIVERSARY