



European Aviation Safety Agency  
Safety Analysis and Research Department  
Executive Directorate

**2010**

*Annual Safety Recommendations review*



# 2010

## Annual Safety Recommendations review

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## Table of Contents

1	Introduction.....	5
2	Overview of Safety Recommendations in 2010.....	6
2.1	Safety recommendations received in 2010.....	6
2.2	Origin of the final safety recommendations received in 2010.....	7
2.3	Trends of investigated occurrences giving way to safety recommendations in 2010, by categories .....	7
2.4	Thematic distribution of final recommendations received in 2010.....	9
3	Final safety recommendations replied .....	11
3.1	Final Safety Recommendations replied in 2010.....	11
3.2	Status of final safety recommendations replied in 2010.....	11
3.3	Concluding actions.....	12
4	Conclusions .....	13
5	Annex A: Replies to Recommendations in 2010.....	14
6	Annex B: Definitions .....	108
7	Annex C: Safety Recommendations classification.....	110



## **Executive summary**

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 2010. 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.



## **1 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 new 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 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 to 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 2010 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 2010. 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 2010 to safety recommendations and shows the safety issues that have been managed and their follow-up.



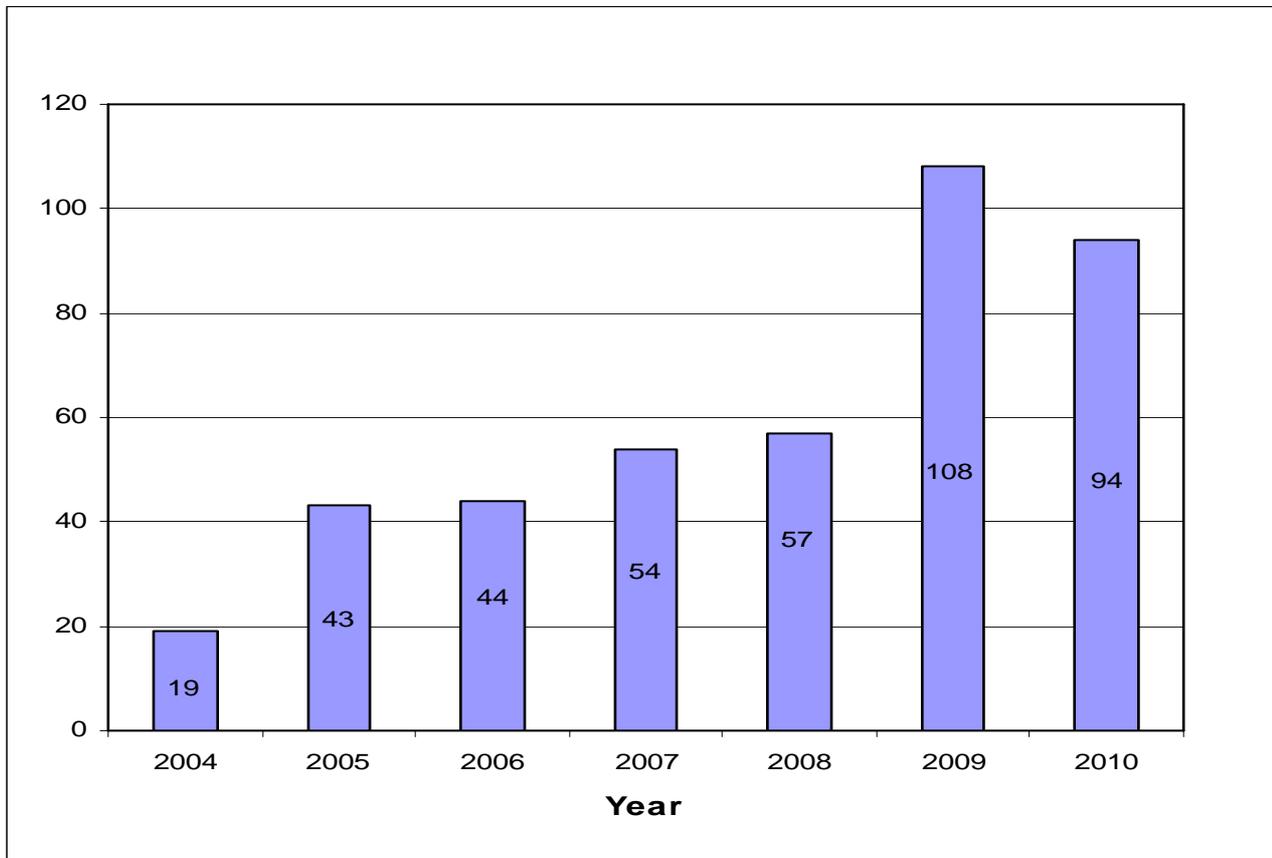
## 2 Overview of Safety Recommendations in 2010

### 2.1 Safety recommendations received in 2010

During the year 2010, 94 final safety recommendations<sup>1</sup> were received by EASA. These safety recommendations were related to 44 different occurrences.

The total annual number of the final safety recommendations that the Agency has received so far, is shown in Chart 1.

Compared to the constant increase of incoming recommendations observed during the previous years, the number of final safety recommendations per year seems to stabilize around a hundred.



**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.

<sup>1</sup> Safety recommendations which are still draft are not included.



## 2.2 Origin of the final safety recommendations received in 2010

In 2010, Safety Investigation Authorities of 14 different States addressed final safety recommendations to EASA.

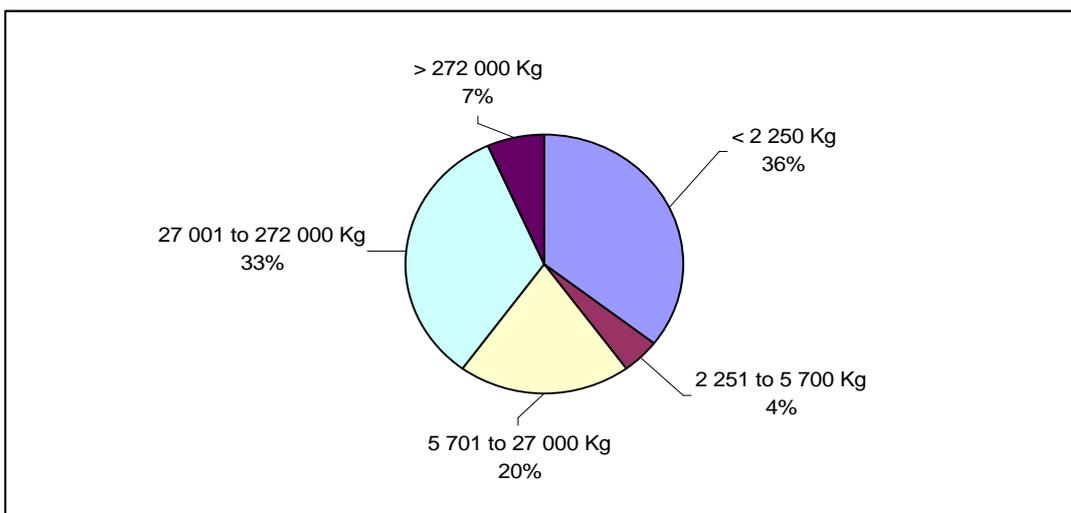
With the exemption of 2 countries (USA, and South Africa), which addressed to EASA 18 final safety recommendations accounting for 19% of the total amount, the remaining part was issued by EASA Member States.

There is not a standardised approach on the criteria that trigger recommendations therefore, the majority of safety recommendations originate from a very limited group of countries.

## 2.3 Trends of investigated occurrences giving way to safety recommendations in 2010, by categories

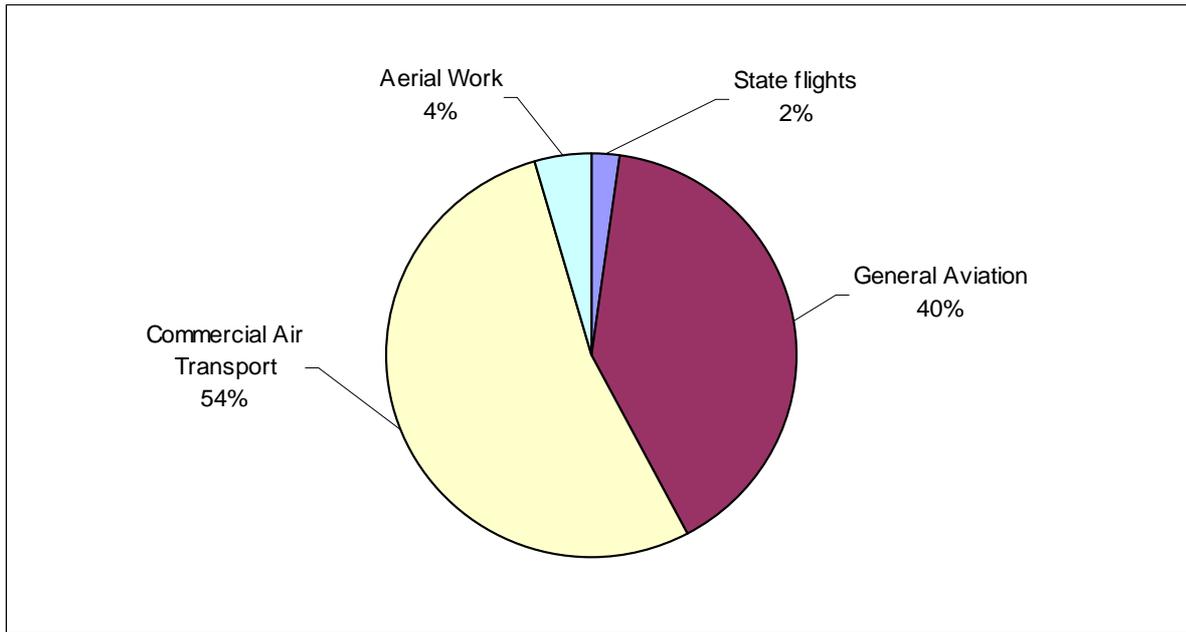
Drawing up a categorisation from a number of relatively limited events has to be carried out with caution. However, a distribution of the 44 occurrences addressed in 2010 to the Agency, for which safety recommendations were issued, has been done. It has to be mentioned that these statistics come from the ICAO ADREP database.

In chart 2, the outcome of the distribution of investigated occurrences by aircraft mass group shows two main categories which are the aircraft below 2 250 kg (36%) and the large aircraft, with a mass from 27 000 kg and above (40%).



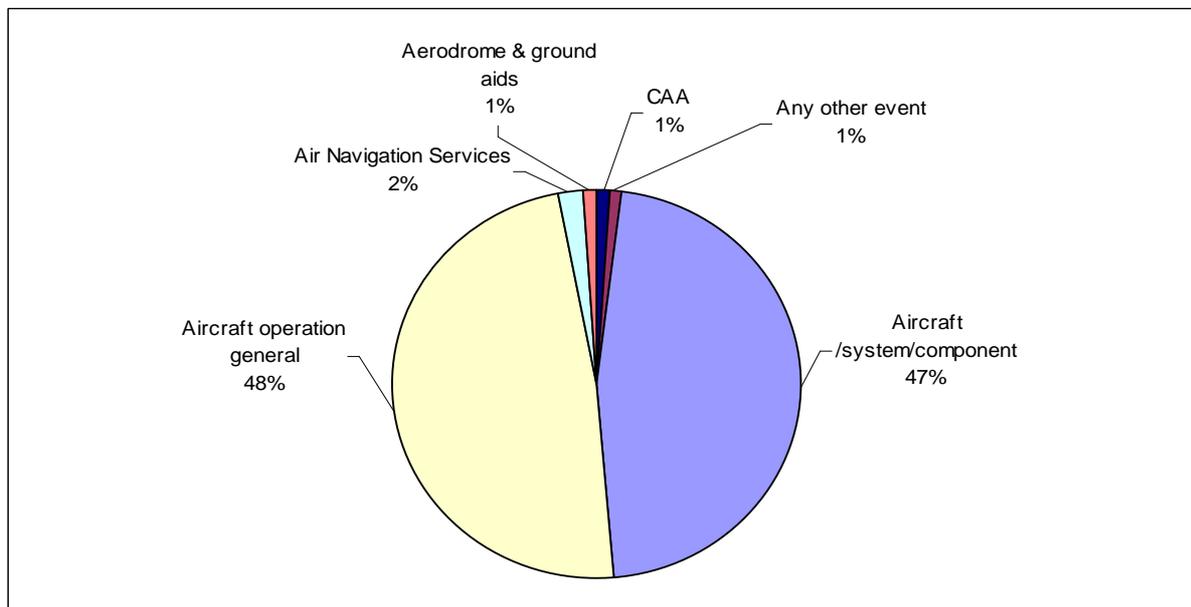
**Chart 2 Occurrences by aircraft mass group in 2010**

As shown in Chart 3, the majority of events are related to commercial air transport operations. In 2010, events related to Aerial Work and Commercial Air Transport and leading to recommendations decreased while the General Aviation part increased from 26% to 40%. It has to be mentioned that in 2010 there was an occurrence involving an aircraft conducting a "State flight" for which 3 safety recommendations were addressed to the Agency.



**Chart 3 Occurrences by type of operation in 2010**

Categorising occurrences by event type (Chart 4) indicates that, for 2010, a fall by 13 % of events related to the operation of the aircraft and an increase by 8% of occurrences concerning a failure of an aircraft system or component. This distribution makes these 2 areas more or less balanced. It is worth noticing that new areas appear this year and represent the remaining part (5%) of the distribution. This chart does not depict the consequential events.



**Chart 4 Occurrences by event type in 2010**

The outcome of this general presentation of occurrences by event type provides a picture of the occurrences' context. Most of the occurrences that lead to safety recommendations in 2010 are related to operation issues or system/components problems. A literature review of all Safety Recommendations addressed to EASA highlight a special interest on crew stall training aspects as well as, like previous year, recurrent safety actions on flight recorder design and serviceability improvement.



## 2.4 Thematic distribution of final recommendations received in 2010

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 – Flight Standards for the operational evaluation of individual type design

C – Experts section for technical 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:

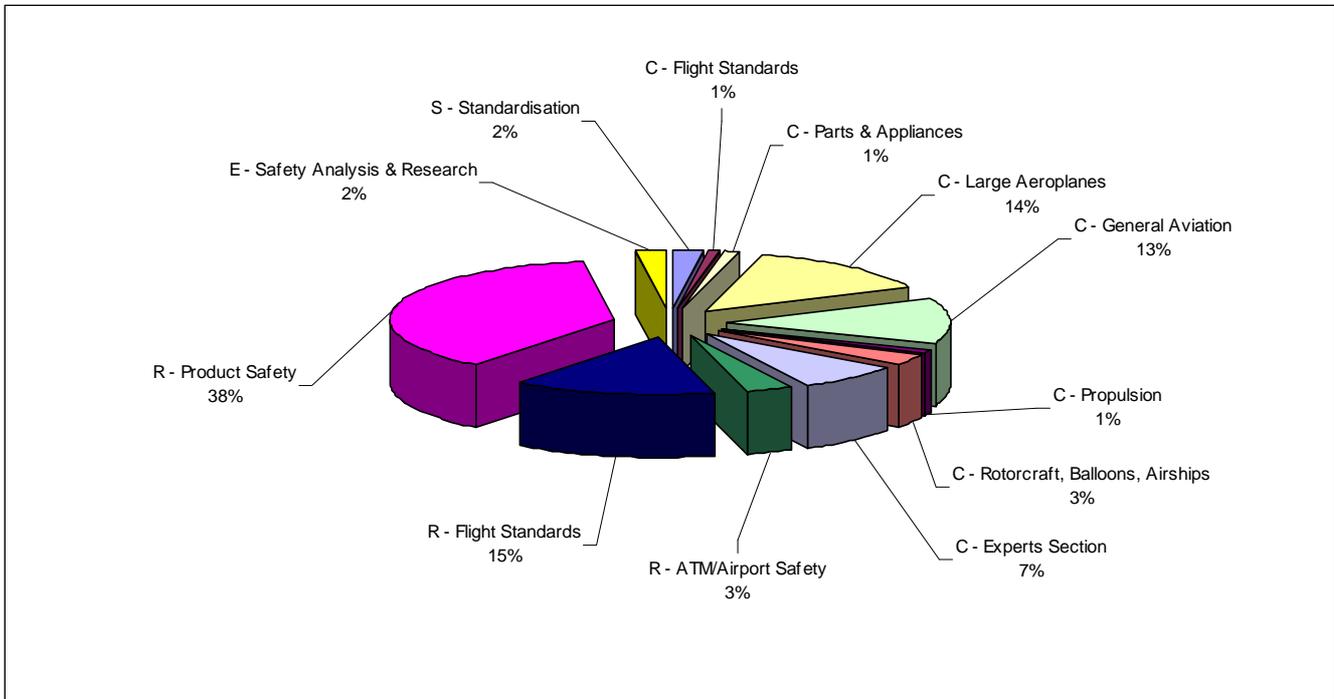
S – Organizations

S – SAFA coordination

S - Standardisation



As shown in Chart 5, the final safety recommendations whose content was related to certification issues corresponded to 40%. 56% had a rulemaking character. The remaining 4% came within the field of Safety Analysis & Research and Standardisation.



**Chart 5: Thematic distribution of Final Safety Recommendations in 2010**

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.



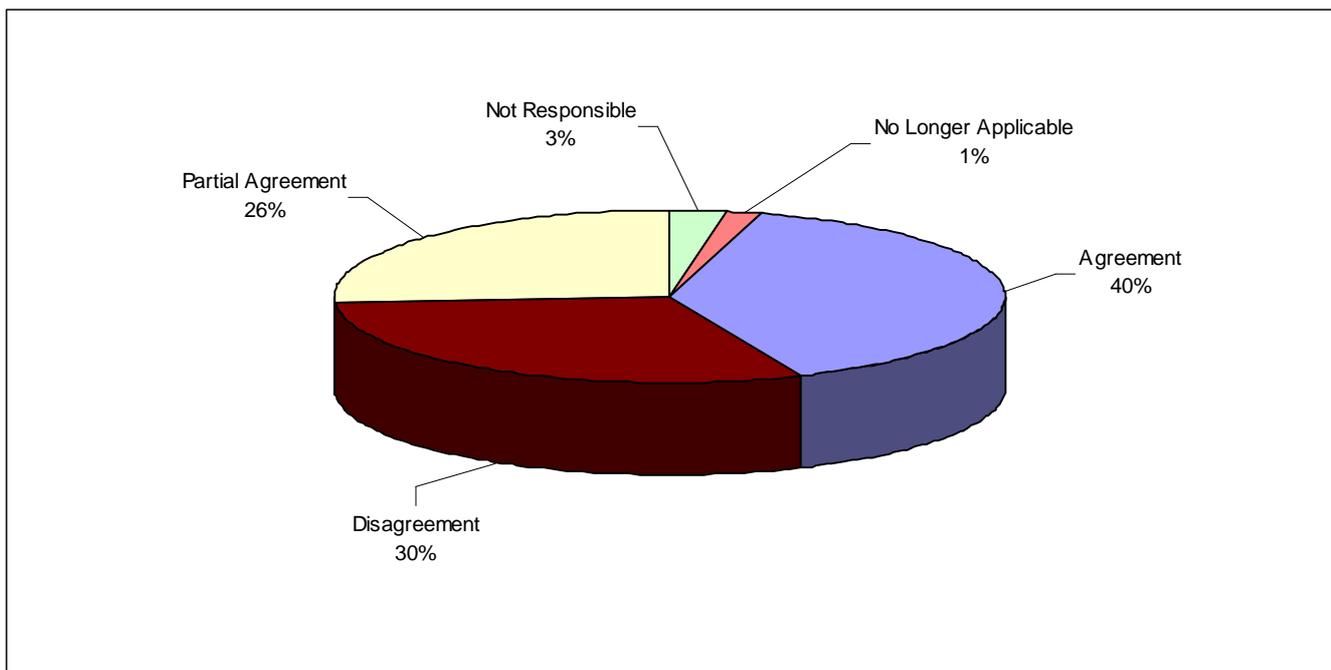
### 3 Final safety recommendations replied

#### 3.1 Final Safety Recommendations replied in 2010

In 2010, EASA replied to 186 final safety recommendations, concerning 102 different events, which represents respectively an increase of 58% with regard to the last year. The final safety recommendations that were reviewed and replied had been received in the years 2004 (2%), 2005 (4%), 2006 (7%), 2007 (4%), 2008 (5%), 2009 (31%) and 2010 (47%).

When the final safety recommendation is closed, the final assessment is usually given using the definitions of classification categories<sup>2</sup> given in Annex C.

Thus, in 2010, EASA agreed and acted upon the final safety recommendations made by the Safety Investigation Authorities in 40% of the cases. Furthermore, in 26% 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 30% the final safety recommendations were not followed as depicted in Chart 6. It has to be mentioned that in very few cases (4%) the recommended actions were no longer applicable or not in the scope of the Agency's responsibility.



**Chart 6: Categories of replies to Final Safety Recommendations in 2010**

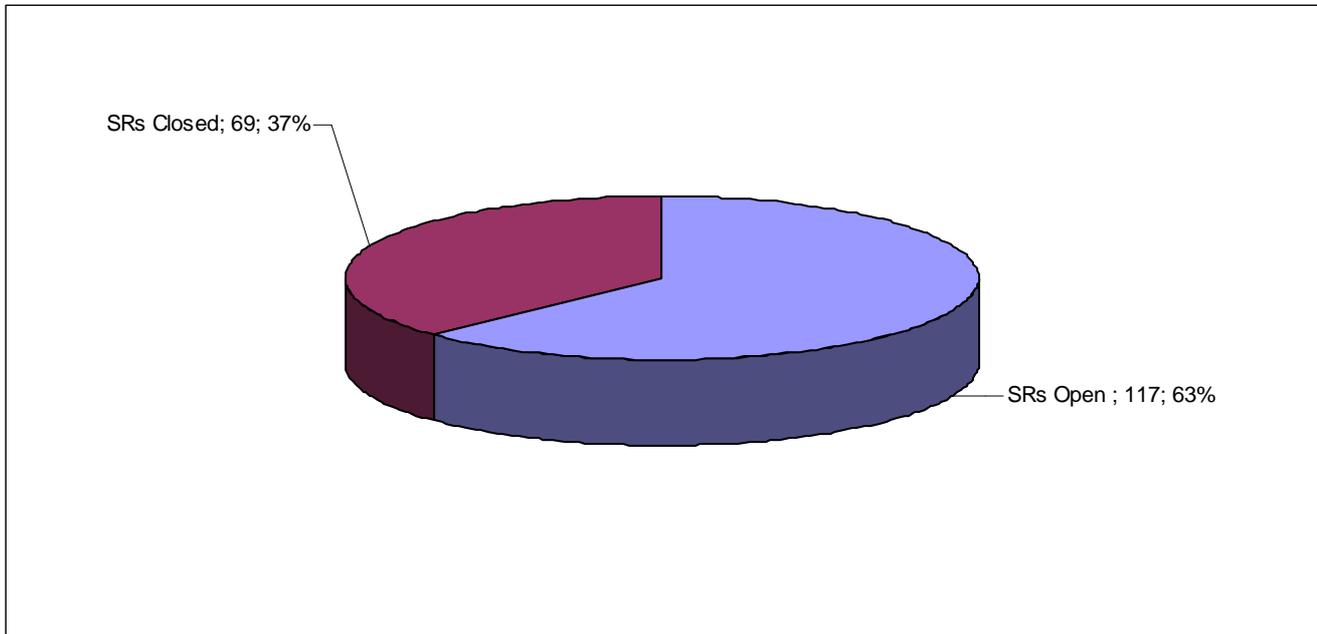
#### 3.2 Status of final safety recommendations replied in 2010

As far as the status of the safety recommendations replied in 2010 is concerned, 69 (37%) final safety recommendations were closed, while 117(63%) remained open as it was assessed that

<sup>2</sup> 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.



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 its final stage as displayed in Chart 7.



**Chart 7: Status of Final Safety Recommendations replied in 2010**

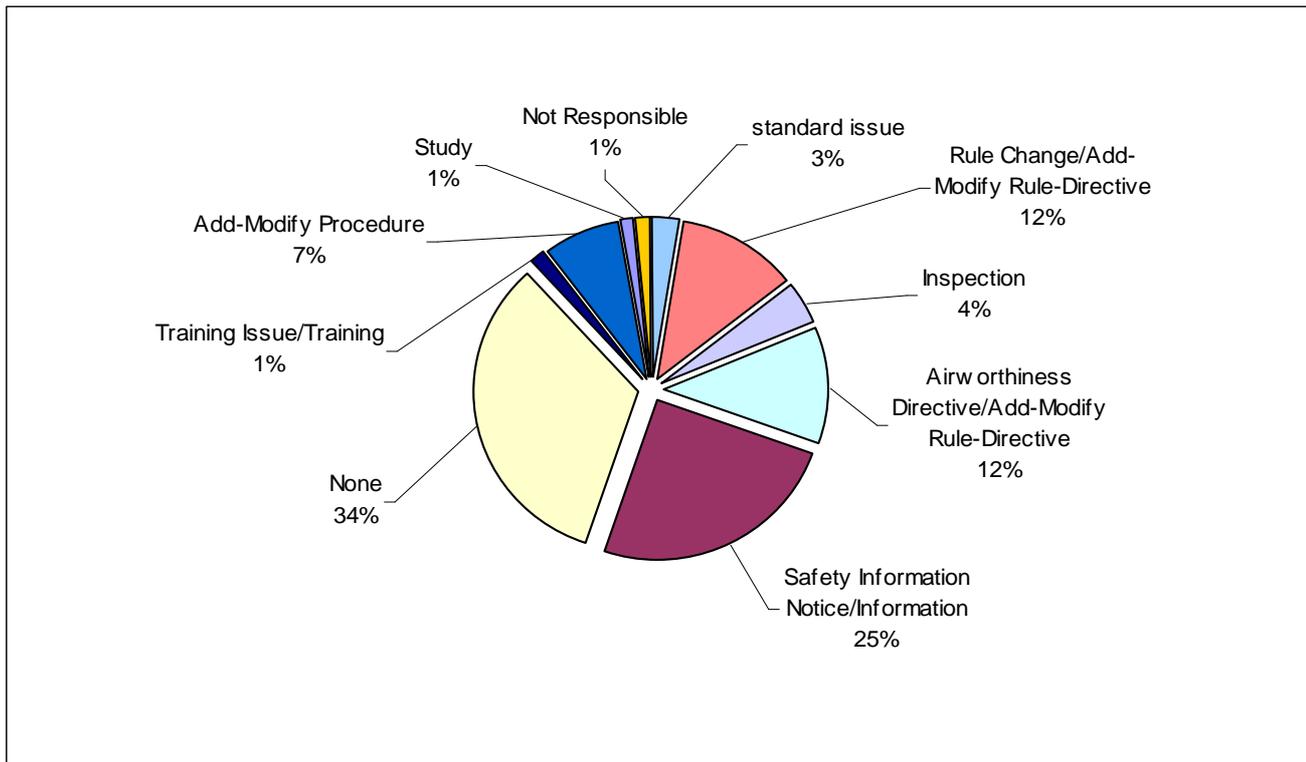
### 3.3 Concluding actions

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 8, the majority of the closed final safety recommendations classified as "agreement" or "partial agreement" led to a Safety information Bulletin (25%).

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.



**Chart 8: Concluding actions in 2010**

The other important area is Continuing Airworthiness. Unlike the rulemaking activity, the follow-up of such activity has a narrower impact and tends to be implemented shortly afterwards.

It should also be noted that in 34% of these final safety recommendations, no action was deemed necessary. This is the case when the safety recommendation was classified as disagreed, no longer applicable or not in the Agency's remit and closed.

## 4 Conclusions

In the year 2010, the number of final safety recommendations addressed to EASA stabilized around a hundred. However, the number of replies increased of 58%.

The majority (81%) 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 2010 have implications on the rulemaking activity.



## **5 Annex A: Replies to Recommendations in 2010**

The responses made in 2010 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.

**AUSTRIA**

Registration	Aircraft Type	Location	Date of event	Event Type
OE-FCL	DIAMOND - DA42	Sankt Pantaleon	20/07/2007	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-2009-009:** Gesamtanalyse der Auswirkungen der Acceptable Means of Compliance (AMC), der Certification Review Items (CRI) bzw. der Special Conditions im Rahmen von Zertifizierungen von Luftfahrzeugen/Triebwerken/Propeller nach Certification Specifications 23 (CS-23), Certification Specifications Engines (CS-E) bzw. Certification Specifications Propeller (CS-P):

Im Rahmen der Zertifizierungen von Luftfahrzeugen/Triebwerken/Propellern nach CS-23/CS-E/CS-P können und werden aus verschiedenen Gründen (z.B. weil die CS-23/CS-E/CS-P noch keine Regelungen enthalten, die dem Stand der Technik entsprechen, auf Wunsch des Herstellers o.a.) oft zahlreiche CRI's bzw. Special Conditions festgelegt, die Teil der genehmigten Zertifizierung werden. Auch wenn einzelne AMC's, CRI's bzw. Special Conditions unproblematisch erscheinen, besteht dennoch die Möglichkeit, dass diese im Zusammenwirken mit anderen AMC's, CRI's bzw. Special Conditions im Betrieb des Gesamtluftfahrzeuges zu kritischen Störungen führen können.

Im Rahmen von Zertifizierungen von Luftfahrzeugen, Triebwerken und Propellern nach CS- 23, CS-E beziehungsweise CS-P sollten die AMC's, CRI's und Special Conditions in Bezug auf mögliche Auswirkungen auf das Gesamtluftfahrzeug einer Gesamtanalyse unterzogen werden.

**Reply:** The Agency agrees with this recommendation but believes that the current regulations are covering this Safety Recommendation. Certification of aviation products is carried out in accordance with Commission Regulation (EC) 1702/2003 and its Annex, Part 21 which details the establishment of certification basis, including Special Conditions (21A.16B). Certification Review Items are part of the certification process and are raised to record the means of compliance to be shown with the appropriate Certification Specifications in cases where direct applicability and compliance is not directly clear and where special conditions, alternative means of compliance or equivalent safety findings are proposed. In addition, guidance material is issued by EASA to assist in this process. The impact of these mechanisms in establishing compliance with the Essential Requirements of Commission Regulation (EC) 216/2008 is subject to an overall analysis in the context of the certification of aircraft, engines and propellers according to the appropriate Certification Specifications. As a result of this a Final Report is issued and the Type Certificate is issued on the basis of the statements of compliance contained therein.

**Category:** Agreement - **Status:** Closed

**CANADA**

Registration	Aircraft Type	Location	Date of event	Event Type
C-GNMJ	AEROSPATIALE - AS350	Kamarang, Guyana	06/02/2005	Accident

**Synopsis of the event:** At 1725 local time, the pilot of the Eurocopter AS 350 B2 helicopter (registration C-GNMJ, serial number 2829) with a 120-foot longline attached, entered a stable, out-of-ground-effect hover to begin coiling the longline onto the ground below the helicopter. As the pilot gradually descended, and at a height of about 10 feet above ground level, he experienced significant binding in the flight controls. The pilot was unable to rectify the control binding and had considerable difficulty maintaining attitude and altitude control of the helicopter. During 15 seconds of random, uncontrolled hover flight, the helicopter turned and climbed to about 20 feet above ground level, whereupon the pilot retarded the throttle lever, causing the main rotor rpm to decay rapidly. As a result, the helicopter descended quickly, struck the ground, bounced, and landed upright, causing substantial damage to the skids, the tail boom, and the main rotor head. The pilot was not injured and the impact forces were insufficient to activate the emergency locator transmitter.

**Safety Recommendation CAND-2009-001:** The Board recommends that: The European Aviation Safety Agency, in coordination with other involved regulatory authorities and industry, ensure that the AS 350 helicopter hydraulic cut-off (HYD CUT OFF) switch is capable of handling the inductive electrical load of the circuit.

**Reply:** The manufacturer recognizes that the hydraulic cut-off switch experienced a series of problems following the introduction of a design change which increased from 3 to 4 the number of electro-valves commanded by the switch. The risk analysis conducted by the manufacturer considers the severity of the failure of the hydraulic cut-off switch which can be detected during the pre-flight check as minor and the loss of the hydraulic cut-off switch together with the seizure of the servo-slide valve distributor as catastrophic. The probabilities associated to both cases have been shown acceptable when compared with the certification safety objectives for the two failure criticality levels. On top of that, Eurocopter developed a new design change which is intended at avoiding premature deterioration of the switch. Such design change is applicable on all new aircraft since December 2008 and a retrofit is to be recommended via a non mandatory Service Bulletin. Given the above, EASA partially accepts this recommendation in that the analysis performed was able to show still an acceptable safety level. In addition a way ahead has been agreed with the manufacturer to introduce an improved design.

**Category:** Partial Agreement - **Status:** Closed



## DENMARK

Registration	Aircraft Type	Location	Date of event	Event Type
LN-RDI	DE HAVILLAND - DHC8	Copenhagen Airport, Kastrup	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:** 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:** 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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation DENM-2010-002:** 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:** 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.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
OY-KFF	BOMBARDIER - CL600 2D24	Copenhagen Airport, Kastrup (EKCH), Runway 04R	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:** 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:** 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.

**Category:** Unknown - **Status:** Open

**ECUADOR**

Registration	Aircraft Type	Location	Date of event	Event Type
EC-JOH	AIRBUS - A340	Aeropuerto Mariscal Sucre, Quito	09/11/2007	Accident

**Synopsis of the event:** En noviembre 09 de 2007, se cumplía el vuelo en la ruta Madrid-Quito-Guayaquil, con 359 personas a bordo, 345 pasajeros y 14 tripulantes. Las condiciones meteorológicas en el aeropuerto Mariscal Sucre de Quito, exigían la aplicación de las reglas de vuelo por Instrumentos, razón por la cual la tripulación de la aeronave, autorizada por el Control de Aproximación del aeropuerto de Quito, realizó el procedimiento de aproximación por instrumentos número 4 (VOR OIT DME/ILS), para la pista 35. El avión sufrió un aterrizaje violento, con las siguientes consecuencias:

- Los neumáticos números 3 y 8 del tren de aterrizaje principal explotaron al momento del tope de ruedas
- Las barras Lower Articulation Link (LAL) de los dos trenes de aterrizaje principales se rompieron provocando la falla del sistema de reversas, quedando en modo APP IDLE y ocasionando que los frenos de las ruedas 1 a 4 fueren liberados durante la fase de frenado en modo NORMAL.

**Safety Recommendation ECUD-2009-003:** PARA EASA

- Que las autoridades de certificación se aseguren de que las barras LAL cumplan con lo establecido en las regulaciones sean instaladas en los aviones en servicio.

**Reply:** Main Landing Gear Lower Articulation Links (LAL) post modification 54125 installed on A340-500/600 have been determined to have insufficient static strength. The LAL has been redesigned through Modification 57992, which is mandated by Airworthiness Directive (AD) 2009-0061R1.

**Category:** Agreement - **Status:** Closed



## ESTONIA

Registration	Aircraft Type	Location	Date of event	Event Type
OH-HCI	SIKORSKY - S76	Tallinn Bay	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 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:** 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:** Proposed rule OPS.GEN.425.H [see Notice of Proposed Amendment (NPA) 2009-02] will require emergency flotation equipment fitting (as it was already in JAR-OPS 3.843) for helicopters operated in:

- 1) Performance Class 1 or 2 on a flight over water in a non-hostile environment at a distance corresponding to more than 10 minutes flying time (at normal cruise speed),
- 2) Performance Class 3 on a flight over water beyond safe forced landing distance from land, or
- 3) Performance Class 2, when taking-off or landing over water [with exception provisions for Helicopter Emergency Medical Services (HEMS) operations].

The issue of automatic deployment on water contact is part of the rulemaking task "Ditching Occupant Survivability" (27&29.008), which is identified in the 2009-2012 rulemaking programme.

**Category:** Unknown - **Status:** Open

**Safety Recommendation ESTO-2008-002:** Commission also recommends that FAA or EASA will introduce a requirement for deployable ELT for helicopters operating on passenger flights over water.

**Reply:** Proposed rule OPS.GEN.430 [see Notice of Proposed Amendment (NPA) 2009-02] will require one survival Emergency Locator Transmitter [ELT(S)] in a life-saving raft or life jacket for helicopters operated in Performance Class 1 or 2 on a flight over water at a distance corresponding to more than 10 minutes flying time (at normal cruise speed) or in Performance Class 3 on a flight over water at a distance corresponding to more than 3 minutes flying time. EASA believes this covers the intent of the safety recommendation.

**Category:** Partial Agreement - **Status:** Closed

**Safety Recommendation ESTO-2008-003:** 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:** Rulemaking task "Feasibility of crash protected image recorders on the flight deck" (OPS.035) is identified in the 2009-2012 Rulemaking Programme and will address the issue.

**Category:** Unknown - **Status:** Open

## FINLAND

Registration	Aircraft Type	Location	Date of event	Event Type
OH-ATB	ATR - ATR42	Seinäjoki Airport	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:** 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:** In order to be able to assess the prevalence of FDR malfunctions, EASA issued Safety Information Bulletin (SIB) 2009-28 on 9 December 2009 on Flight Data Recorder (FDR) and Cockpit Voice Recorder (CVR) dormant failures. It recommends commercial operators and aircraft maintenance organisations to follow, as a minimum, ICAO Annex 6 Part 1 Attachment D maintenance criteria and to report FDR and CVR malfunction occurrences to the competent authority and to the (supplemental) type certificate holder. EASA proposed, in Notice of Proposed Amendment (NPA) 2009-02, a guidance material related to Preservation of FDR and CVR recordings [GM OPS.GEN.505 (b) and (c)], stating that procedures for the inspections and maintenance practices of the FDR and CVR systems are available in ICAO Annex 6 and in EUROCAE ED-112. It should be published in accordance with the rulemaking procedures.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
OH-CAU	CESSNA - 172	Porvoo motorway	28/09/2007	Accident

**Synopsis of the event:** An air accident occurred at approximately 16:29 on Friday 28 September 2007 at Sipoonlahti, west of the city of Porvoo. A Cessna 172N, registration OH-CAU, made an emergency landing on Porvoo motorway, close to the Sipoonlahti exit. In addition to the pilot there were two passengers onboard. No-one was injured; however, the aircraft sustained major damage. The incident caused no harm to road traffic.

**Safety Recommendation FINL-2009-001:** The investigation commission recommends that the EASA take action to establish whether JET A1 can safely be used as fuel in diesel engine-equipped aircraft, and if it can, the required measures.

**Reply:** EASA has reviewed the issues related to JET A1 and determined that it can be used safely in diesel-engine powered aircraft. EASA will monitor also possible future changes of JET A1. EASA issued 22 January 2009 the Safety Information Bulletin 2009-02 "Piston Engine Powered Aircraft, operated on Automotive-or Jet Fuel" which is partly addressing this issue.

**Category:** Agreement - **Status:** Closed



**Safety Recommendation FINL-2009-002:** The investigation commission recommends that the EASA consider whether a new type certificate test be required for TAE engine high-pressure fuel pumps, using such JET A1 fuel which meets the lowest permissible lubricity value set for jet engine fuel.

**Reply:** The engine manufacturer has retested the high-pressure fuel pumps with low lubricity test fuels, High Frequency Reciprocating Rig (HFRR) tests, (HFRR >900 µm). Necessary design changes to the high pressure pumps are implemented during the mandatory pump inspections where all pumps are sent back to Thielert for complete inspection. These measures will ensure safe operation in the future. It should be noted that there is no lowest permissible HFRR lubricity value set for jet engine fuels. So testing was done for fuels of the lowest known HFRR lubricity value.

**Category:** Agreement - **Status:** Closed

Registration	Aircraft Type	Location	Date of event	Event Type
OH-PDY	PIPER - PA28R	Taipalsaari	15/08/2008	Accident

**Synopsis of the event:** An air accident occurred at Taipalsaari on Friday, 15 August 2008 at approximately 13:14 (all times are Finnish local time) when a Piper PA-28R-200 Arrow II, registration OH-PDY, crashed into Lake Saimaa near the southern tip of Peräluoto Island. The accident site is located approximately 20 km north of Lappeenranta Airport. The aircraft was destroyed upon impact and all occupants, the flight instructor and two student pilots, were killed instantly. They had flown an instrument training flight from Helsinki-Malmi to Kuopio in accordance with the training syllabus. The flight from Kuopio to Lappeenranta was an internal progress flight test arranged by the flight school. As the aircraft was approaching Lappeenranta Terminal Control Area, the pilot requested to leave the cruising altitude of 8000 ft (ca. 2400 m) in order to fly some manoeuvres included in the progress check flight's programme. The topic was upset recovery practice. Air traffic control gave 3000 ft (900 m) as the lower limit for their exercise. A person who witnessed the aircraft crash into the water reported the accident to the Emergency Response Centre of South-East Finland at about 13:17. The wreckage and the occupants in the aircraft were quickly located. After the crash some eyewitnesses saw loose aircraft parts fall from a cloud and plunge into the lake. When the wreckage was recovered, it was confirmed that approximately half of both wings and the right stabilator were missing.

**Safety Recommendation FINL-2010-005:** The investigation commission recommends that EASA, when drafting regulations for flight training, ensure that flight training organisation audits also cover the standardisation training of flight instructors and a quality assessment of standardised training.

**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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation FINL-2010-006:** The investigation commission advises that EASA study a proposal for a standard which would suggest that all GPS devices intended for use in aviation would have a function that records the parameters of the route flown. Moreover, the memory of the device should be such that no battery is needed to retain the stored data (flash card).



**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.

**Category:** Unknown - **Status:** Open



## FRANCE

Registration	Aircraft Type	Location	Date of event	Event Type
3X-GDO	BOEING - 727	Cotonou, Republic of Benin	25/12/2003	Accident

**Synopsis of the event:** On 25 December 2003, arriving from Conakry (Guinea), the Boeing 727-223 registered 3X-GDO undertaking flight to Kufra (Libya) and Beirut (Lebanon) and Dubai (United Arab Emirates) stopped over at Cotonou. During takeoff, the airplane, overloaded in an anarchic manner, was not able to climb at the usual rate and struck an airport building located a hundred and eighteen meters past the runway end on the extended runway centerline, crashed onto the beach and ended up in the ocean.

**Safety Recommendation FRAN-2005-001:** The BEA recommends that: the Civil Aviation Authorities, in particular the FAA in the United States and the EASA in Europe, modify the certification requirements so as to ensure the presence, on new generation airplanes to be used for commercial flights, of on-board systems to determine weight and balance, as well as recording of the parameters supplied by these systems; the Civil Aviation Authorities put in place the necessary regulatory measures to require, where technically possible, retrofitting on airplanes used for commercial flights of such systems and the recording of the parameters supplied.

**Reply:** The European Organization for Civil Aviation Equipment (EUROCAE) has implemented in its working programme a task to prepare a new standard for weight and balance systems. The task is listed as an activity of the working group (WG)-88.

In addition the recommendation concerning the recording of parameters from such systems has also been transmitted to EUROCAE Working Group 90. The objective of this Working Group is to revise EUROCAE Document 112 titled "Minimum Operational Performance Specification for Crash Protected Airborne Recorder Systems".

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
	Various types	Various locations	Various dates	Various events

**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 is 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:** 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:** EASA has obtained the inclusion of the issue pointed out by this Safety Recommendation into the working programme of the European Organization for Civil Aviation Equipment (EUROCAE) Working Group 90. The objective of this Working Group is to revise EUROCAE Document 112 titled "Minimum Operational Performance Specification for Crash Protected Airborne Recorder Systems".

**Category:** Unknown - **Status:** Open

**Safety Recommendation FRAN-2005-005:** The BEA recommends that the DGAC, in cooperation with the JAA, study a comprehensive calibration programme for mandatory parameters' measuring and processing channels.

**Reply:** In order to justify this recommendation, the study of the Bureau d'Enquêtes et d'Analyses (BEA) provides two examples of events:

- "2.3.3.1 Event that occurred outside of France in 2001 involving a French-manufactured aircraft": a malfunctioning synchronization signal acquisition card on the acquisition unit, which generated errors on the aircraft attitude and flight controls parameters with deviations ranging from 2 to 3 degrees.
- "2.3.3.2 Events involving a French operator": in this case, wrong (underestimated) exhaust gas temperature (EGT) values were recorded due to an error in the conversion equation. This is understood by the Agency not being a true calibration defect; this is probably a mistake coming either from the conversion equation entered in the decoding software, or from the original data frame layout document.

The Agency attempted to obtain more substantiating material to assess the extent of this problem and its possible factors, it made a survey of Members States Accident Investigation Boards (AIB). The eight received AIB responses indicated that either no calibration problems were found or at least they were not significant enough to have been recorded or to raise a recommendation. Because of this the Agency will not initiate a regulatory action to define a flight data recorder (FDR) parameter calibration programme as recommended. Nevertheless, the Agency already issued a Safety Information Bulletin (SIB) entitled "Flight Data Recorder and Cockpit Voice Recorder Dormant Failures" (SIB 2009-28, dated 09 December 2009) which reminds the importance of proper maintenance for maintaining recorders serviceability. The calibration of measuring and processing chains is included, with reference to the European Organisation for Civil Aviation Equipment (EUROCAE) EUROCAE Document (ED) 112 recommended maintenance practices (refer to Annex II-B, which provides for a system analysis done by the installer to define maintenance tasks and intervals).

**Category:** Partial Agreement - **Status:** Closed

Registration	Aircraft Type	Location	Date of event	Event Type
A6-BSM	LOCKHEED - L1011 385	Paris Charles de Gaulle Airport	04/07/2005	Incident

**Synopsis of the event:** After difficulties during boarding, the airplane, took off late. A short time after retracting the landing gear, the crew heard a series of thumps and noticed that engine 3 TGT was increasing. They applied the FIRE OR SEVERE DAMAGE procedure, performed an aerodrome circuit and landed. The investigation showed that the engine had suffered from a serious sustained (pop) surge. This was caused by a combination of wear to the compressor blades, damage caused by an object passing through the intermediate and high-pressure compressor stages and the stresses induced by this phase of takeoff. The investigation also showed that the airplane was in bad overall condition and that the absence of a framework for documentation made it impossible for the operator to ensure appropriate follow-up of maintenance operations. The investigation showed that, in general, there were numerous failings in the operation. The safety inspections performed at several levels did not enable these failings to be corrected. Nor did they prevent the airplane from being flown in Europe.



**Safety Recommendation FRAN-2009-006:** Le BEA recommande que l'AESA impose au personnel de cabine des compétences minimales en langue anglaise, ainsi que dans l'une au moins des langues du pays d'origine ou de destination.

**Reply:** Rulemaking Tasks OPS.076 (a) "Cabin crew language skills for safety-related communications with passengers (Implementing Rules)" and OPS.076 (b) "Cabin crew language skills for safety-related communications with passengers (CS/AMC/GM)" are identified in the Rulemaking programme inventory as published in the EASA website, and will address the issue.

**Category:** Unknown - **Status:** Open

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

**Synopsis of the event:** Flight 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-2009-003:** The BEA recommends that EASA detail in the EU-OPS the various types of non-revenue flights that an operator from EU state is authorised to perform.

**Reply:** Rulemaking Tasks OPS.075 (a) "Operator's description of non-revenue flights (Implementing Rules)" and OPS.075 (b) "Operator's description of non-revenue flights (CS/AMC/GM)" are identified in the Rulemaking programme inventory as published in the EASA website, and will address the issue.

**Category:** Unknown - **Status:** Open

**Safety Recommendation FRAN-2009-004:** The BEA recommends that EASA require that non-revenue flights be described precisely in the approved parts of the operations manual this description specifically determining their preparation, programme and operational framework as well as the qualifications and training of crews.

**Reply:** Rulemaking Tasks OPS.075 (a) "Operator's description of non-revenue flights (Implementing Rules)" and OPS.075 (b) "Operator's description of non-revenue flights (CS/AMC/GM)" are identified in the Rulemaking programme inventory as published in the EASA website, and will address the issue.

**Category:** Unknown - **Status:** Open

**Safety Recommendation FRAN-2010-003:** The BEA recommends that EASA, in liaison with the other regulatory authorities, ensures that, in order to certify the adequacy of an item of equipment in relation to the regulatory requirements as well as to the specifications defined by a manufacturer, the equipment installation conditions during tests performed by equipment manufacturers are representative of those on the aeroplane.

**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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation FRAN-2010-004:** The BEA recommends that EASA undertake a safety study with a view to improving the certification standards of warning systems for crews during reconfigurations of flight control systems or the training of crews in identifying these reconfigurations and determining the immediate operational consequences.

**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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation FRAN-2010-005:** 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 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.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
F-GVPD	BEECH - C90	Besançon - La Vèze	18/10/2006	Accident

**Synopsis of the event:** Le 18 octobre 2006 à 22 h 40, l'avion débute son décollage en piste 23 revêtue sur l'aérodrome de Besançon - La Vèze. Après avoir roulé pendant 950 mètres, il quitte le sol mais prend peu de hauteur. Quelques instants plus tard, il heurte la cime d'arbres situés dans l'axe de piste, prend feu et tombe dans un bois. Le pilote n'a signalé aucune difficulté et n'a pas émis de message de détresse.

**Safety Recommendation FRAN-2009-007:** Le BEA recommande que l'AESA étudie l'élargissement des conditions imposant la présence d'un équipage à deux pilotes en transport public.

**Reply:** Task OPS.062, addressing Second pilot requirement for air ambulance flights with aeroplanes has been introduced in the Agency 2010-2013 Rulemaking Programme. The Agency considers that this addresses the issue.

**Category:** Unknown - **Status:** Open

**Safety Recommendation FRAN-2009-008:** Le BEA recommande que l'AESA élargisse les conditions d'obligation d'emport d'enregistreurs de vol en transport public.



**Reply:** Rulemaking Tasks Multi Disciplinary Measure MDM.073 (a) Recorders for small aircraft "Review of the operational and certification requirements (Implementing Rules) for recorders for small aircraft" and MDM.073 (b) Recorders for small aircraft "Review of the operational and certification requirements (Certification Specification/Acceptable Means of Compliance/Guidance Material) for recorders for small aircraft" are identified in the Rulemaking Programme Inventory as published in the EASA website and will address the issue.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
V2-LFL	DE HAVILLAND - DHC6	Pointe-A-Pitre Airport	28/06/2008	Serious incident

**Synopsis of the event:** L'avion, en provenance d'Antigua, effectue une liaison régulière vers Pointe-à-Pitre en régime de vol à vue. A l'arrivée, des orages à proximité de l'aérodrome ne permettent pas à l'équipage de poursuivre à vue. Il demande à effectuer l'approche aux instruments. Au cours de la procédure ILS, l'équipage prolonge la branche d'éloignement au-delà du début de la procédure d'inversion afin d'éviter un grain. L'avion passe 2 200 ft en descente dans un secteur où l'altitude de sécurité est de 3 600 ft. Le contrôleur constate l'altitude anormale de l'avion alors que celui-ci est en virage de procédure en direction du relief. Il demande à l'équipage de remonter à 3 600 ft. L'avion rejoint les axes de l'ILS. La fin de l'approche et l'atterrissage se déroulent normalement.

**Safety Recommendation FRAN-2009-009:** Le BEA recommande que l'AESA et l'ECCAA fassent préciser aux exploitants les principes d'utilisation du TAWS et les procédures associées en distinguant les conditions d'exploitation (IFR et VFR).

**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.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
F-GLZC	AIRBUS - A340	Cayenne Rochambeau airport	25/05/2001	Incident

**Synopsis of the event:** En approche finale ILS en piste 08 de l'aérodrome de Cayenne-Rochambeau, l'avion rencontre un cisaillement de vent et s'enfoncé brutalement à une hauteur d'environ cent pieds. Une alarme SINK RATE retentit. Le copilote, aux commandes, tire sur le manche puis réduit la poussée pour atterrir. Le commandant de bord augmente la poussée et reprend les commandes. L'avion touche sur le train gauche trente mètres avant le seuil de piste, rebondit et atterrit environ cinq cents mètres plus loin.

**Safety Recommendation FRAN-2009-012:** Le BEA recommande que la DGAC, en liaison avec les autres autorités européennes, établisse les conditions réglementaires d'emport d'un système prédictif de cisaillement de vent conformément aux recommandations du paragraphe 6.21 de l'Annexe 6 (OACI).

**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.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of	Event
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			<b>event</b>	<b>Type</b>
F-BXHD	MUDRY - CAP10	Saint Léger en Yvelines	21/10/2007	Accident

**Synopsis of the event:** Le dimanche 21 octobre 2007 à 9 h 47, le pilote du CAP 10 immatriculé F-BXHD décolle de l'aérodrome de Chavenay-Villepreux. Il est seul à bord et annonce son intention d'effectuer un vol local dans le sud. Des enregistrements radar et des témoignages indiquent que le pilote réalise des figures de voltige de 9 h 59 à 10 h 07 entre l'Etang Neuf et Gambaiseuil. A l'issue, il s'éloigne en direction du sud-est. A 10 h 08 min 54, les radars perdent la trace de l'avion. L'épave est retrouvée sur la commune de Saint Léger en Yvelines, dans le Bois des Longues Mares en forêt de Rambouillet.

**Safety Recommendation FRAN-2009-013:** Le BEA recommande que l'EASA et la DGAC s'assurent du contrôle des commandes de vol de tous les avions équipés d'assemblages dont les tendeurs sont pourvus de gorges afin de s'assurer de la présence d'épingles de sécurité.

**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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation FRAN-2009-014:** Le BEA recommande que l'EASA et la DGAC s'assurent que leur soient rapportées toutes les anomalies de montages constatées.

**Reply:** EASA issued SIB 2010-06 on 11 February 2010 that recommends that operators report to the aircraft manufacturer, competent authority and to EASA all turnbuckle installation anomalies.

**Category:** Agreement - **Status:** Closed

**Safety Recommendation FRAN-2009-015:** Le BEA recommande que l'EASA et la DGAC étudient la réalisation d'équipements dont les propriétés réduisent ou évitent les possibilités de dévissage/vissage naturels.

**Reply:** EASA considers that the current designs of turnbuckles already address the intent of this Safety Recommendation, and that the service experience of turnbuckles, when properly installed and maintained, is satisfactory.

**Category:** Disagreement - **Status:** Closed

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

**Synopsis of the event:** On 31 May 2009, flight took off from Rio de Janeiro Galeão airport bound for Paris Charles de Gaulle. The airplane was in contact with the Brazilian ATLANTICO ATC centre on the INTOL - SALPU - ORARO route at FL350. There were no further communications with the crew after passing the INTOL point. At 2 h 10, a position message and some maintenance messages were transmitted by the ACARS automatic system. Bodies and airplane parts were found from 6 June 2009 onwards by the French and Brazilian navies.



**Safety Recommendation FRAN-2009-016:** The BEA recommends that EASA and ICAO extend as rapidly as possible to 90 days the regulatory transmission time for ULB's installed on flight recorders on airplanes performing public transport flights over maritime areas.

**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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation FRAN-2009-017:** The BEA recommends that EASA and ICAO make it mandatory, as rapidly as possible, for airplanes performing public transport flights over maritime areas to be equipped with an additional ULB capable of transmitting on a frequency (for example between 8.5 kHz and 9.5 kHz) and for a duration adapted to the pre-localisation of wreckage.

**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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation FRAN-2009-018:** 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:** 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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation FRAN-2009-019:** The BEA recommends that EASA undertake studies to determine with appropriate precision the composition of cloud masses at high altitude.

**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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation FRAN-2009-020:** The BEA recommends that EASA in coordination with the other regulatory authorities, based on the results obtained, modify the certification criteria.

**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.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
G-BDXE	BOEING - 747	Saint-Denis Gilliot	25/10/2004	Incident

**Synopsis of the event:** Au décollage de nuit de l'aérodrome de Saint-Denis Gillot, alors que l'avion a atteint une hauteur d'environ 300 ft, le réacteur n° 4 subit un pompage. Des flammes sont aperçues par certains passagers et membres de l'équipage de cabine. L'équipage de conduite applique la procédure d'urgence « feu, grave dommage ou séparation-réacteur », ce qui le conduit



à arrêter le réacteur n° 4. Il décide de poursuivre le vol sur trois réacteurs, avec comme objectif, dans un premier temps, d'atteindre l'Europe. Arrivé au-dessus de l'Italie, il prend la décision de poursuivre jusqu'à la destination planifiée, Paris Charles de Gaulle. L'avion atterrit après 11 h 34 min de vol, soit quarante-quatre minutes de plus que la durée prévue au plan de vol, avec une quantité de carburant proche de la réserve finale.

**Safety Recommendation FRAN-2009-021:** Le BEA recommande que les autorités européennes imposent aux exploitants de fournir à leurs équipages des consignes opérationnelles détaillées sur la poursuite éventuelle du vol vers un aéroport autre que l'aéroport accessible le plus proche.

**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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation FRAN-2009-022:** A l'occasion de l'Incident survenu le 4 juillet 2005 à l'avion immatriculé A6-BSM, le BEA a recommandé à l'AESA «qu'elle impose au personnel de cabine des compétences minimales en langue anglaise, ainsi que dans l'une au moins des langues du pays d'origine ou de destination» (recommandation no FRAN-2009-004). L'événement survenu à l'avion immatriculé G-BDXE confirme cette nécessité et, en conséquence, le BEA renouvelle sa recommandation.

**Reply:** Rulemaking Tasks OPS.076 (a) "Cabin crew language skills for safety-related communications with passengers (Implementing Rules)" and OPS.076 (b) "Cabin crew language skills for safety-related communications with passengers (CS/AMC/GM)" are identified in the Rulemaking programme inventory as published in the EASA website, and will address the issue.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
F-GVCE	AEROSPATIALE - AS350	Montferrier	27/05/2009	Accident

**Synopsis of the event:** Le déroulement du vol a été restitué à partir des témoignages recueillis. Le 27 mai 2009, le pilote décolle à 8 h 20 de l'héliport de Préchac (65) pour deux jours de travail aérien dans les Pyrénées. Le programme comporte des ravitaillements au profit de refuges en altitude et des enlèvements de pylônes d'un ancien téléphérique minier sur le versant boisé d'une montagne. Vers 16 h 30, pour la sixième fois consécutive, le pilote se présente en vol stationnaire au cap 220° à la verticale d'un morceau de pylône dont la masse est estimée entre 700 et 1 000 kg. L'opérateur au sol accroche le crochet de l'élingue au fardeau. Il est en contact radiophonique avec le pilote. Après l'accrochage, l'opérateur prévient le pilote qu'il peut lever la charge. Alors que l'élingue se tend, le crochet se coince dans le câble entourant la charge puis se décroince. L'hélicoptère tangue puis part subitement et rapidement en rotation par la gauche. Pour reprendre le contrôle en lacet, le pilote enfonce le palonnier droit mais sans résultat. Il diminue alors le pas collectif mais n'obtient aucun effet sur le lacet. L'hélicoptère en rotation heurte les arbres et s'écrase sur le dos à proximité du fardeau.

**Safety Recommendation FRAN-2010-001:** Le BEA recommande que: L'agence européenne pour la sécurité aérienne (AESA) rende obligatoire le port du casque de protection par les équipages des hélicoptères, au moins pour certaines activités.

**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.

**Category:** Unknown - **Status:** Open



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

**Synopsis of the event:** A 11 h 51, l'avion 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 connaît 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:** 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:** 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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation FRAN-2010-009:** 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:** 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.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
F-GAVH	AVIONS ROBIN - DR400	Aérodrome Bordeaux-Léognan-Saucats (33)	03/07/2010	Accident

**Synopsis of the event:** Le 3 juillet 2010, un avion Robin DR 400/160, immatriculé F-GAVH décolle de l'aérodrome de Bordeaux-Léognan-Saucats (33) en piste 03 revêtue pour un vol local avec quatre personnes à bord. Après la rotation, plusieurs témoins rapportent que l'avion ne parvient pas à prendre de la hauteur. A une hauteur qu'ils estiment entre trente et cinquante mètres, ils le voient s'incliner brusquement à droite et glisser sur l'aile droite jusqu'au sol. Les quatre occupants sont grièvement blessés, l'avion est détruit.

**Safety Recommendation FRAN-2010-011:** Le Bureau d'Enquêtes et d'Analyses pour la Sécurité de l'Aviation Civile recommande que dans le cadre du suivi de navigabilité des avions Robin, l'AESA et la DGAC étudient avec le constructeur et fassent mettre en œuvre une solution simple qui évite aux opérateurs de maintenance tout montage incorrect du filtre à air.

**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.

**Category:** Unknown - **Status:** Open



Registration	Aircraft Type	Location	Date of event	Event Type
RA-3332K	YAKOVLEV - YAK54	Longchamps (27)	04/05/2008	Accident

**Synopsis of the event:** Le pilote décolle de l'aérodrome de Beauvais à 15 h 15 pour un vol local. Des habitants du lieu dit « Entre-Deux-Boscs » indiquent que, vers 15 h 30, l'avion effectue une boucle à très basse hauteur. En fin d'évolution, le pilote se trouve face à une ligne électrique basse tension. Il parvient à reprendre un peu de hauteur, survole le toit d'une maison, la ligne électrique et retombe ensuite avec une faible incidence à piquer. L'avion heurte le sol dans un champ situé à l'ouest du lieu-dit et prend feu.

**Safety Recommendation FRAN-2010-012:** Le BEA recommande que la DGAC et l'EASA, en relation avec les autorités de l'Aviation Civile russe, clarifient la situation de la FLA et prennent, en conséquence, les dispositions nécessaires.

**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.

**Category:** Unknown - **Status:** Open

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

**Synopsis of the event:**

Flight from Bangkok Airport (Thailand) to Paris Charles de Gaulle Airport terminal 1. HS-TGL left Bangkok with an acceptable deferred defect in the inoperative auxiliary power unit (APU). On arrival at gate Z4 at terminal 1 at Paris Charles de Gaulle Airport, the crew kept engine No4 running until a GPU was connected. The crew then shut down engine No4 and the electrical power supply was then supposed to be provided by the GPU. The ground technicians tried to open the forward and aft cargo hold doors without success. They contacted the Captain, who informed them that there was no electrical power supply on board. The ground technicians noticed a high level of heat emanating from the fuselage around the GPU connectors. They disconnected the cables and noticed that both the cables and the fuselage were red hot. They opened the avionics compartment inside which they observed flames. They put out the fire with the aid of a 50 kg dry-chemical type fire extinguisher that they emptied. Firemen noted that the fire had stopped when they arrived. Using a thermal camera, a temperature of almost 800 °C was measured in the area.

Flight from Hong Kong Airport (Hong Kong, China) to Paris Charles de Gaulle Airport, terminal 2. After its arrival, the aeroplane was parked at gate A34 at terminal 2 at Paris Charles de Gaulle Airport. During connection of the GPU, the ground technician had some difficulties in supplying electrical current to the aeroplane. On this type of GPU, the power switch remains in current supply position only when the GPU receives a return signal from the aeroplane. Unless this happens, the switch returns to an intermediate position and cuts the power supply. During the incident, the ground technician had some difficulties in supplying electrical current to the aeroplane and held the switch manually, forcing the supply of current. He then noticed a temporary large fall in GPU engine revs.

A short time later, he noticed a strong wave of heat and disconnected the GPU cables. An agent from Cathay Pacific Airways then intervened and opened the avionics compartment. He saw flames inside and used a dry-chemical type fire extinguisher to put out the fire.



**Safety Recommendation FRAN-2010-013:** 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:** 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.

**Category:** Unknown - **Status:** Open

**GERMANY**

Registration	Aircraft Type	Location	Date of event	Event Type
X-XXXX	BAE - BAE146	Initial climb after Frankfurt departure	12/03/2005	Serious incident

**Synopsis of the event:** On 12 March 2005 a BAe 146-300 experienced a slow pitch oscillation with increasing amplitude during climb from flight level (FL) 80 to FL100 with engaged autopilot. The airplane was on a cargo flight from Frankfurt to Stuttgart. Since the checklist for abnormal situations and emergencies did not contain a solution to the problem an immediate landing was intended. The flight was continued to Stuttgart because of the better weather situation. Until touchdown, the airplane was only controllable by means of the manual elevator trim. The airplane was examined immediately after the landing and significant amounts of frozen and swollen up de-icing fluid residues were found in the gap between elevator and horizontal stabilizer and in the area of ailerons and rudder. The ice blocked the movement of the control surfaces. On 8 March 2005 the airplane had last been cleared of de-icing fluid residues. After that cleaning procedure the airplane had been de-iced three times with thickened de-icing fluids.

**Safety Recommendation GERF-2006-009:** Aircraft de-icing to maintain the airworthiness of aircraft during winter operation should be accomplished by certified and approved companies under the supervision of civil aviation authorities. If aircraft de-icing is not accomplished by an operator or an approved maintenance organisation the ground service "aircraft de-icing" should be subject to appropriate aeronautical regulation. EASA should agree with the European National Authorities on establishing such regulations.

**Reply:** In line with the EASA action plan on the issue of de-/anti-icing mentioned in the Common Response Document (CRD) to the Advance-Notice of Proposed Amendment (A-NPA) 2007-11 the Agency has taken action with respect to point 3 of the said action plan: 3. Investigate and recommend the means in which Aviation Authorities of the Member States manage matters with respect to the certification of service providers, availability of fluids at aerodromes ect. On 13 October 2009 EASA has launched an Open Tender Procedure (EASA.2009.OP21) for a study on the regulation of ground de-icing and anti-icing services in the EASA Member States. The aim of the study is to arrive at recommendations as to how EASA Member States could regulate these services in a harmonised way in the future. This study also foresees a stakeholder conference in order to test the recommendations that the prospective consultants will develop.

**Category:** Unknown - **Status:** Open

**Safety Recommendation GERF-2006-010:** The expected drying and re-hydration properties of thickened de-icing fluids (Type II, III, IV) for aircraft de-icing should be described and defined by standardisation in such detail as to eliminate significant quality variations among the products of different manufacturers.

**Reply:** The regulation and certification of aviation fluids is currently not in the remit of EASA as defined in regulation (EC) No 216/2008 of the European Parliament and of the Council of 20 February 2008 [the Basic Regulation last amended by regulation (EC) No 1108/2009 of the European Parliament and of the Council of 21 October 2009]. The extension of the EASA responsibilities to aviation fluids is an item identified in the Rulemaking Inventory List and it may be proposed to the European Commission in the future. In the meantime, the EASA cannot regulate de-icing or anti-icing fluids and can only contribute to and promote the improvement of existing standards. EASA is involved in the Society of Automobile Engineers (SAE) G-12 Committee (working on Aircraft Ground Deicing) who is working to improve the existing standards for de-icing and anti-icing fluids. Although EASA is not able to rule on the fluid characteristics, EASA published



the Safety Information Notice (SIN) 2008-29 to recommend operators a two-step process for application of de-icing and anti-icing fluids as a mitigating measure on the residues build-up.

**Category:** Partial Agreement - **Status:** Closed

**Safety Recommendation GERF-2006-011:** Considering the thickened de-icing fluids currently available EASA should impose a mandatory requirement on non-powered flying controlled aircraft manufacturers to develop reliable procedures for the aircraft types to ensure the identification and removal of re-hydrated de-icing fluid residues in such time as to prevent any risk to the safety of flight operation.

**Reply:** The Agency published a Safety Information Notice (SIN) 2008-29, addressed to operators, to draw attention to the importance of the need for the eradication of frozen deposits and the hazards of anti-icing fluid residues that might rehydrate and freeze. A letter was also addressed in April 2009 to Type Certificate (TC) Holders of large and commuter aeroplanes, requiring action to update information for correct application of de-icing/anti-icing fluids and guidelines on how to proceed when there is a potential for residue formation from these fluids. Then the Agency launched Rulemaking Task Multi Disciplinary Measures (MDM).054. The outcome of this Task was Decision ED 2010/006/R. This Decision allows the operator to establish a procedure for the inspection, control and when necessary removal of fluids residues by an approved maintenance organisation, using their own experience and aircraft manufacturer recommendations. This decision was adopted on 31 August 2010 and entered into force on 07 September 2010.

**Category:** Partial Agreement - **Status:** Closed

Registration	Aircraft Type	Location	Date of event	Event Type
Several	Various Types	Various Locations	Various dates	Accident

**Synopsis of the event:** On 15 April 2008, an aircraft Diamond DA 42 on a flight from Oberschleißheim to Colmar-Houssen (France) conducted under visual flight rules was hit by lightning close to the destination airport. The aircraft was damaged in flight and crashed on farmland. The pilot was fatally injured and the aircraft destroyed. The 406 MHz emergency locator transmitter was functional; the external antenna was separated from the ELT due to the impact.

**Safety Recommendation GERF-2009-019:** The European Aviation Safety Agency (EASA) and the Federal Aviation Administration (FAA) should ensure that in case of new installations and refitting of 406 MHz emergency locator transmitters (ELT) in aircraft only ELTs with an additional internal antenna, or an external antenna designed in a way that the emission of the emergency signal is ensured after an accident are installed.

**Reply:** The internal antenna and integrated antenna suffer from shielding effects of the aircraft structure which doesn't guarantee an adequate signal transmission. Requiring two antennas on automatic ELT (one external and one additional internal antenna) would not insure a better signal transmission during an accident because the internal antenna would probably face the shielding effect mentioned above when the ELT unit is stuck inside the aircraft structure; it would however require an ELT re-design to provide double transmission power and thus induce a cost burden on owners. It has also to be noted that the accidents examples provided in the BFU report are very severe, as in all but one of the cases where the ELT signal wasn't transmitted, the aircraft was completely destroyed (sometimes in small pieces) and the pilot(s) were fatally injured. A revised standard exists which provides ELT installation requirements: EUROCAE ED-62A (dated February 2009), refer to chapter 6. First, the Agency will revise the ELT ETSO 2C126 to reflect ED-62A instead of ED-62. This will provide only an indirect link to ED-62A installation requirements as the ETSO only deals with equipment performance standards, however this will remind ELT



manufacturers that they should include these requirements in their installation and user manuals. Second, the Agency has included in the rulemaking inventory list a task to add provisions in aircraft Certification Specifications enforcing ED-62A installation requirements.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
X-XXXX	DIAMOND - DA40	Bayreuth	18/05/2007	Accident

**Synopsis of the event:** Das Flugzeug startete um 11:22 Uhr auf dem Flugplatz Hof-Plauen zu einem Sichtflug (VFR) nach Calvi (Sainte Catherine) auf Korsika. An Bord befanden sich der Pilot und ein Passagier. Beim Rollen vor dem Flug und während des Fluges blinkte nach Aussage des Passagiers mehrfach eine „Attention“-Anzeige auf dem Panel. Er gab an, den Piloten darauf hingewiesen zu haben. Der Pilot gab an, keine Warnlampen vor dem Start gesehen zu haben. Eine halbe Stunde nach dem Start fielen die Displays des integrierten Avionik-Systems aus. Daraufhin wurde um 11:50 die Absicht, nach Calvi zu fliegen, aufgegeben. Der weitere Flugverlauf erfolgte mit wechselnden Kursen. Dabei wurde versucht, ein GPS-Handgerät und ein Funkgerät in Betrieb zu nehmen. Nach Aussage des Piloten erhielt der GPS-Empfänger keinen Strom aus dem elektrischen System des Flugzeuges. Es wurde daraufhin, wie das Funkgerät, mit den Gerätebatterien betrieben.

**Safety Recommendation GERF-2009-020:** Die European Aviation Safety Agency (EASA) sollte den Hersteller veranlassen, das Flughandbuch so zu ändern, dass die Notwendigkeit der Spannungsversorgung des Motors (ECU) und die Konsequenzen für den sicheren Betrieb des Motors bei Störungen des elektrischen Systems sowie die Funktion des ECU-Backup-Systems in allen betroffenen Kapiteln besonders hervorgehoben wird.

**Reply:** The Aircraft Flight Manual (AFM) in the present stage already contains a detailed description of the electrical system as well as several warnings for the pilot that electrical power is required for proper function of the engine. The Agency considers that no further action is required.

**Category:** Disagreement - **Status:** Closed

**Safety Recommendation GERF-2009-021:** Die European Aviation Safety Agency (EASA) sollte den Hersteller veranlassen, das Flughandbuch so zu ändern, dass die Gestaltung des Flughandbuches den Maßgaben der General Aviation Manufacturers Association (GAMA) Specification No. 1 entspricht, d.h. "Abnormale Betriebsverfahren" sind dem Kapitel 3 - Notverfahren (Emergency Procedure) zuzuordnen.

**Reply:** At the time of type certification, the applicant demonstrated compliance with Joint Aviation Requirements (JAR)23 Subpart G. The guidance material to JAR 23.1581 at the time of DA40D certification did not specifically refer to GAMA specification 1 as the only acceptable means of compliance. It is true that the Abnormal Procedures of the Diamond DA40D Aircraft Flight Manual (AFM) are not a part of the Section 3 as recommended by the General Aviation Manufacturers Association (GAMA) specification or International Civil Aviation Organization Doc 9516 - AN/930. Nevertheless, it has to be noted that the general ordering, as well as the content of the AFM, follow these principles. In addition, all required information can be found in the AFM, including Alternator failure. Therefore no further action is considered necessary. Now, GAMA specification 1 is introduced in Certification Specification (CS)-23 ACJ material [ACJ 23.1585(a)] and in the Flight Test Guide.

**Category:** Disagreement - **Status:** Closed



**Safety Recommendation GERF-2009-022:** Die European Aviation Safety Agency (EASA) sollte den Hersteller veranlassen, das Flughandbuch so zu ändern, dass im Anhang A31 und A32 des Flughandbuches im Kapitel 4 - Normalverfahren Festlegungen zur Vorbereitung und Kontrolle der Backup-Instrumente enthalten sind.

**Reply:** The Aircraft Flight Manual (AFM) already contains in 4A.3.4 Item 4 the checkpoint for instruments and avionics. This is a standard in any AFM. The AFM cannot replace the standard operating procedures for the pilot. The Altimeter setting procedure is at various stages of the flight and requires all altimeters be set.

**Category:** Disagreement - **Status:** Closed

**Safety Recommendation GERF-2009-023:** Die European Aviation Safety Agency (EASA) sollte den Wechsel des Alternatorkabels, wie er in dem Service Bulletin DAI-SB-D4-064 vorgesehen ist, für alle in Betrieb befindlichen Flugzeuge des Musters DA 40D verbindlich vorschreiben.

**Reply:** The failure of the alternator cable has the same effect as the failure of the alternator itself which has been properly addressed in the design by installation of an additional backup battery and proper indications to the pilot. In addition, this cable failure is an isolated occurrence and in this case happened on ground. Therefore, i.a.w. Part 21.A3(b), there is no established unsafe condition that would warrant issuance of an Airworthiness Directive.

**Category:** Disagreement - **Status:** Closed

Registration	Aircraft Type	Location	Date of event	Event Type
X-XXXX	EUROCOPTER - EC120	Aerodrome Bonn-Hangelar	29/01/2009	Accident

**Synopsis of the event:** In the scope of a training flight for obtaining the minimum type experience for flight instructors (JAR-FCL 2.330), emergency procedures were to be performed at the Bonn-Hangelar aerodrome. For this, two flight instructors started with the helicopter EC120B at 11:19 a.m. According to the statements of the pilots, the first two simulated engine failures were to be flown by the pilot sitting on the right side, and subsequently the pilot in command sitting on the left side was to execute the next ones. During his first simulated forced landing, he went round again, because, as he reported, it was difficult to reduce the throttle (fuel flow twist grip) at the left collective pitch lever for idle operation. During the next attempt, he initiated the simulated forced landing at approximately 1,200 ft MSL. After stabilizing the airspeed and the main rotor speed, the pilot on the right side reduced the throttle at the right collective pitch lever. The pilot sitting on the left side continued the autorotation in easterly direction towards the emergency landing point in the northern grass area. At a height of approximately 100 ft GND, the pilot initiated the flare. The other pilot supported him by announcing the indicated horizontal degree values from the artificial horizon. During the flare, the sinking tendency was broken. The helicopter reduced the forward speed and touched the ground easterly of the designed landing area with less than 30 kt, with a slight "nose up" attitude of approximately five degrees. During the subsequent slide out there was a strong deceleration. The helicopter rolled slightly to the right side around the longitudinal axis, turned to the right around the vertical axis, and received a nose-down attitude. The nose of the helicopter touched the ground; the helicopter continued to move to the right and tilted to the left, where the main rotor blades hit the ground. The pilots stopped the engine manually, switched off the electric system with the emergency power off switch and left the helicopter through the right cockpit door without any injuries.



**Safety Recommendation GERF-2009-024:** The European Aviation Safety Agency (EASA) should induce the manufacturer of the helicopter EC 120 B to revise the skid landing gear. The tilting tendency to the front should be reduced and more ground clearance below the tail should be provided.

**Reply:** The EC120 B does not show appreciable differences from the other light helicopters manufactured by Eurocopter: the real forward inclination of the rotor mast on ground is 1,4° and ground clearance at the tail is 7,2°. The forward inclination of the rotor mast (1,4°) is comparable to the SE3130 one and is lower than the SA341/342 or the AS350 values; furthermore the upward bending angle of the skid with the position of the center of gravity is very similar to the AS350 one. The ground clearance at the tail (7,2°) is very comparable to the SA341/342 or the AS350. Those helicopters are very commonly used for autorotation training. Any helicopter will tend to trip forward if the collective is lowered too sharply at too high ground speed following touch down especially in case of high coefficient of friction of the ground surfaces. The certification tests performed to demonstrate compliance of the EC120 with JAR 27§ 75 have shown the landing of the rotorcraft during autorotation did not require any special piloting skills, the vertical speed was low and the rotorcraft did not tend to rebound. Several autorotations have been carried out, the tail boom skid did not come into contact with the ground during these tests. EASA considers that no unsafe condition is established.

**Category:** Disagreement - **Status:** Closed

Registration	Aircraft Type	Location	Date of event	Event Type
X-XXXX	AIRBUS - A320	Hamburg	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 goaround 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-2010-004:** EASA should revise the Flight Test Guide Material requirements contained in the Certification Specifications CS 25.233 (Directional stability and control) and CS 25.237 (Wind velocities) to define and elucidate the term maximum crosswind demonstrated for landing. The definition adopted should make clear that this value has the character of 'Information', and that the same uniform terminology is adopted throughout all instruction documentation relating to flight operations. Air operators should be advised to set operational crosswind limits for their own specific operations. The value should be described either as a dual value (average wind speed and gust) or as a single value (average wind speed including gusts).

**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.

**Category:** Unknown - **Status:** Open



**Safety Recommendation GERF-2010-005:** EASA should initiate an amendment to EU No. 859/2008 (EU-OPS) requiring special operating procedures for the operation of civil aircraft by airlines engaged in public transport activities in the presence of extreme weather situations. In addition to provisions and decision guidance air operators should establish an organisational structure or unit to provide assistance to crews for pre-flight preparation and in-flight support, when faced with defined (extreme) weather conditions. If necessary, the organisational structure or unit must take the decision to cancel a flight for reasons of weather. In this context, the pilot-in-command's power of decision should remain unaffected.

**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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation GERF-2010-006:** 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:** 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.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
X-XXXX	GROB - G180	Mindelheim-Mattsies	29/11/2009	Accident

**Synopsis of the event:** The aircraft had taken off from the 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:** 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:** 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.

**Category:** Unknown - **Status:** Open



**Safety Recommendation GERF-2010-015:** The European Aviation Safety Agency (EASA) and other National Civil Aviation Authorities should check and monitor the integration of sub-contractors in design organisations engaged in the design and construction of aircraft as described in EASA Part 21, 21A.239, and regulate as necessary.

**Reply:** Since March 2007, Commission Regulation (EC) No 1702/2003 amended by Commission Regulation (EC) No 375/2007 has added approval of flight conditions and issue of permits to fly to EASA's competences. The latest amendment of Commission Regulation (EC) No 1702/2003, which is Commission Regulation (EC) No 1194/2009 lays down the implementing rules of – among others – the certification of Design Organisations. EASA has recognised that there may be a general issue regarding oversight and compliance monitoring of highly technical and specialised services, including those providing flutter analysis. As part of EASA's monitoring of the implementation of the new regulation, EASA is conducting a survey of Design Organisation Approval (DOA) holders to establish current practice regarding sub-contractor control and will evaluate, as part of its normal business, whether there is a need to further strengthen DOA requirements in this area.

**Category:** Agreement - **Status:** Closed



## GREECE

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

**Synopsis of the event:** On 14 August 2005, a Boeing 737-300 aircraft, registration number 5B-DBY, 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-2006-041:** EASA/JAA require all airlines to amend cabin crew procedures, so that, when the oxygen masks deploy in the cabin due to loss of cabin pressure or insufficient cabin pressure and if the aircraft does not suspend climb, or level-off or start a descent, the Cabin Chief (or the cabin crew member situated closest to the flight deck) be required to immediately notify the flight crew of the oxygen masks deployment and to confirm that the flight crew have donned their oxygen masks.

**Reply:** EASA issued the Safety Information Bulletin (SIB) 2009-33 "Amendment of Cabin Crew Procedures for the Deployment of Oxygen Masks in the Cabin" on 25 November 2009. The Agency believes that this SIB addresses the concerns expressed in the recommendation.

**Category:** Agreement - **Status:** Closed

**Safety Recommendation GREC-2006-044:** EASA/JAA require practical hypoxia training as a mandatory part of flight crew and cabin crew training. This training should include the use of recently developed hypoxia training tools that reduce the amount of oxygen a trainee receives while wearing a mask and performing tasks.

**Reply:** Rulemaking task OPS.020 on "Practical hypoxia training" is identified in the 2009-2012 rulemaking programme and will address the issue.

**Category:** Unknown - **Status:** Open



**Safety Recommendation GREC-2006-047:** EASA/JAA and ICAO require the aircraft manufacturers to also record cabin altitude on the FDR.

**Reply:** EASA has obtained the inclusion of the issue pointed out by this Safety Recommendation into the Working Programme of the European Organization for Civil Aviation Equipment (EUROCAE) Working Group 90. The objective of this Working Group is to revise EUROCAE Document 112 titled "Minimum Operational Performance Specification for Crash Protected Airborne Recorder Systems", which is already referenced in EASA's proposed OPS rules.

**Category:** Unknown - **Status:** Open

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

**Reply:** Rulemaking task "Feasibility of crash protected image recorders on the flight deck" (OPS.035) is identified in the 2009-2012 rulemaking programme and will address the issue.

**Category:** Unknown - **Status:** Open

**HUNGARY**

Registration	Aircraft Type	Location	Date of event	Event Type
HA-ECE	EUROCOPTER - EC135	Kiskunlacháza	31/07/2008	Accident

**Synopsis of the event:** The Air Ambulance helicopter (registration HA-ECE, call sign MEDIC-14) flew a patient transportation mission on 31 July 2008 from Paks to Budapest. The helicopter's mark disappeared from the radar screen at 13:43. Its last indicated position was 2.2 kms from Kiskunlacháza at 197°. The pilot of the helicopter could not be reached either by radio or cell phone afterwards. Minutes later, several passenger planes in the Ráckeve-Kiskunlacháza area reported to HungaroControl that they were receiving signals from an emergency locator transmitter. About the same time, the flight physician called the central dispatch of OMSZ with his cell phone, reported about the crash and requested urgent medical help. Another air ambulance helicopter, MEDIC-17 was the first one to find the crashed helicopter. The helicopter had overturned, the skids and the tail boom had broken off, the cabin had been severely damaged. Out of the five persons on board, one died on the scene, one suffered serious, life-threatening injuries, two were seriously injured, and one person suffered minor injuries. (The person who suffered life-threatening injuries died in the hospital three days later.)

**Safety Recommendation HUNG-2008-002:** The IC recommends the EASA to promote the safety benefits of fitting, as a minimum, of an aircraft data recording system (ADRS) and a cockpit audio recording system (CARS) to all twin-engine helicopters flying Category A missions.

**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.

**Category:** Unknown - **Status:** Open



## IRELAND

Registration	Aircraft Type	Location	Date of event	Event Type
G-AYMW	BELL - 206	Newgrange, Co. Meath	05/04/2004	Accident

**Synopsis of the event:** The helicopter was engaged in aerial filming of the Megalithic Passage Tomb at Newgrange, Co. Meath. During its fourth orbit of the mound, the helicopter was seen to yaw suddenly to the right and spiral out of control. Appropriate corrective action by the Pilot, ie of opposite left pedal, reduction of collective and pitching the nose down to increase airspeed, proved ineffective as the helicopter continued yawing right in a spiral descent. The helicopter impacted heavily into a field immediately east of the mound, but remained upright. The three persons on board suffered various sudden impact injuries and were transferred to hospital by the emergency services a short time later. There was no fire. Distribution and analysis of the wreckage and the evidence of an eyewitness determined that the helicopter was fully intact at the point of initial impact. An engineering investigation did not find any technical fault that could have accounted for the accident. Onboard film footage recovered from the accident site did, however, provide evidence that the helicopter was operating in a part of the flight envelope where it was susceptible to loss of tail rotor effectiveness (LTE).

**Safety Recommendation IRLD-2004-043:** That the USA FAA, Transport Canada, and EASA, being the main certification authorities for helicopter manufacturers, develop a combined initiative to have, where appropriate, information pertaining to LTE included in helicopter Flight Manuals.

**Reply:** The Agency is of the opinion that the Loss of Tail Rotor Effectiveness (LTE) and the environmental factors which can induce it are well understood and have been promulgated for many years throughout the industry through various operational related publications. Here are examples of these publications:

- IAA Operations Advisory Memorandum (OAM) 07/05 "Loss of tail rotor effectiveness (LTE)" (issued: 31/03/05)
- UK CAA FODCOM 1/2004 "Loss of tail rotor effectiveness (LTE)"
- FAA AC 90-95 "Unanticipated right yaw in helicopters" (07 Feb 1995)
- Flight Safety Foundation: Unanticipated right yaw at low speeds – Helicopter Safety – Vol. 15 (March-April 1989)
- Bell Helicopter Textron Information Letter 206-84-41 dated 06 July 1984 "Low speed flight characteristics which can result in unanticipated right yaw".

However, the Agency published Safety Information Bulletin (SIB) 2010-12 "Loss of tail rotor effectiveness (LTE) or unanticipated yaw in helicopters" on 24 February 2010. This document reminds the general principle of the LTE and refers to those available documents which provide detailed explanations on the conditions under which the phenomenon can be encountered, how it can be prevented, or what are the recommended recovery techniques. Finally, it also recommends pilots awareness and flight training in this domain, as part of their training courses.

**Category:** Partial Agreement - **Status:** Closed

Registration	Aircraft Type	Location	Date of event	Event Type
N208EC	CESSNA - 208	Connemara Airport (EICA)	05/07/2007	Accident

**Synopsis of the event:** The aircraft was returning on a short flight from Inis Meáin (EIMN), one of the Aran Islands in Galway Bay, to Connemara Airport (EICA), in marginal weather conditions when the accident occurred. There had been a significant wind shift, since the time the aircraft had departed earlier from EICA that morning, of which the Pilot appeared to be unaware. As a result a



landing was attempted downwind. At a late stage, a go-around was initiated, at a very low speed and high power setting. The aircraft turned to the left, did not gain altitude and maintained a horizontal trajectory. It hit a mound, left wing first and cartwheeled. The Pilot and one of the passengers were fatally injured. The remaining seven passengers were seriously injured. The aircraft was destroyed.

**Safety Recommendation IRLD-2009-002:** It is recommended that the FAA and EASA should require that Flight Manuals, or STC supplements to Flight Manuals, should contain information on the location and de-activation of ELTs fitted to an aircraft.

**Reply:** Standards are available for four basic types of Emergency Locator Transmitters (ELT), as described in EUROCAE ED-62A document. They are: Automatic Fixed [ELT (AF)], Automatic Portable [ELT (AP)], Survival [ELT (S)] and Automatic Deployable [ELT (AD)]. Moreover, the requirements for aircraft to be equipped with ELT's (type and number) depend on the aircraft type, the date of issuance of the Certificate of Airworthiness, its type of operation, and the State of Registry. Currently the minimum requirements are provided by ICAO Annex 6 and then implemented by Member States in their national laws. In the European Union (EU), the EU-OPS (Annex to Commission regulation EC No 859/2008) provides the requirements for aeroplanes used for commercial air transportation. Generally, the regulations refer either to automatic ELT or to any type of ELT without further details. Note: in order to harmonize the regulation within the EU, the Agency is preparing implementing rules for all types of air operations (refer to NPA 2009-02B available on EASA website). These implementing rules will establish the ELT requirements for general aviation and all commercial operations. The installation and the location of the ELT depend on the ELT type considered. Some ELT's are rigidly attached to the aircraft (AF, AP, AD) though other ELT's are not rigidly installed and may even move from one aircraft to another one (S). In the case of deployable ELT's (AD), the equipment will be separated from the aircraft when an accident happens. Thus the safety recommendation is not applicable to all types of ELT's. For loose equipment, no description can be expected in the Flight Manual as it is up to the individual operator to position the ELT in the aircraft. The Agency agrees on the principle that information should be readily available onboard aircraft equipped with automatic ELT's that are rigidly attached to the aircraft and not deployable, permitting to locate and de-activate the ELTs after an accident. EASA aircraft Certification Specifications already have provisions meeting the intent of this Safety Recommendation: CS 23/25/27/29.1501 requires providing information necessary for safe operation to the crew members; CS 23/25/27/29.1561 requires to mark the stowage provisions for the required safety or emergency equipment; CS 23/25/27/29.1581 requires providing information necessary for safe operation or to comply with operating rules in the Flight Manual. Despite some requirements are already in place, the Agency will study regulatory options to ensure these principles are applied. A rulemaking task addressing this topic has been included in the rulemaking inventory list.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
EI-IHL	AEROSPATIALE - AS350	Ballynacally, Co. Clare	12/07/2007	Accident

**Synopsis of the event:** On 12 July 2007, the helicopter was undertaking a routine safety inspection of gas pipelines under contract to the National gas supplier. A crew of two were on board, a Pilot and an Observer. The inspection route took the helicopter south of Ennis and along the Shannon estuary towards Foynes. In the vicinity of Lisheen, a descent was made to facilitate closer inspection of works on the surface. A 360-degree inspection turn was carried out to the left before following the pipeline onwards. Shortly after the completion of the inspection turn, the engine stopped suddenly and without warning. The Pilot lowered the collective and attempted to enter autorotation from a low level and over difficult and undulating terrain. The helicopter



impacted into farmland to the west of Ballynacally in rising terrain. The Observer was pronounced dead at the scene. The Pilot suffered serious impact injuries and was airlifted by Coast Guard helicopter to hospital in Galway. The Investigation determined that the engine stoppage was as a result of the 41-tooth Bevel Gear disintegrating due to fatigue. The 41-tooth Bevel Gear is a component of the engine accessory gearbox, and resulted in a loss of drive to the Fuel Control Unit (FCU) stopping the engine within seconds.

**Safety Recommendation IRLD-2009-004:** It is recommended that EASA issue an Airworthiness Directive to all operators of AS350 series helicopters for a mandatory modification of original seats as described in Service Bulletin SB25.00.63 (or optionally SB25.00.57) as outlined in the Manufacturer's Service Letter 1424-25-99 dated 24 November 1999.

**Reply:** The original front seats, identified by Eurocopter as bucket seats, have been verified and approved during the certification against Federal Aviation Administration Regulation (FAR) 27 at amendment 10 (in particular against 27.561) requirements which is the certification basis for AS350. During the Type Certificate process the strength of seats and their attachment has been found compliant and in excess of the standard prescribed in the above mentioned certification requirements. The Report and the Safety Recommendation do not question FAR 27.561 at amendment 10 as the applicable certification airworthiness requirement as well as compliance shown against these requirements. The Report confirms that there is no obligation for the AS350 series of helicopters to meet the more stringent current requirements as set out in CS27 amendment 2. In the Report there are no arguments towards an unsafe condition existence in the affected aircraft or in the AS350 fleet. EASA finds no substantiation to mandate, through an Airworthiness Directive (AD), incorporation of front seat modifications on the AS350 fleet in order to increase the safety level in this particular aircraft type significantly above the applicable certification standard. EASA considers that the status of these modifications should remain "recommended". By issuing Safety Information Bulletin No. 2010-05 (Correction), dated 26 February 2010 EASA has promoted incorporation of these improvements by the operators.

**Category:** Partial Agreement - **Status:** Closed

Registration	Aircraft Type	Location	Date of event	Event Type
EI-SBM	AGUSTA - A109	Lagore, Dunshaughlin, Co. Meath	20/03/2008	Accident

**Synopsis of the event:** The Pilot, the sole occupant of EI-SBM, was on a flight from Celtic Heliport, Knocksedan, Co. Dublin to Weston Airport, Co. Kildare. En route, the Pilot advised Air Traffic Control (ATC) that he was approaching Dunshaughlin. Shortly thereafter, he informed ATC that he had a problem and then, almost immediately, reported that he would have to make an emergency landing and made a "MAYDAY" call. This was the Pilot's final transmission to ATC. The helicopter landed heavily on soft ground and rolled over onto its left hand side. The helicopter was substantially damaged and the Pilot suffered serious back injuries. During the initial AAIU Investigation at the accident site, some cleaning cloth material was found entangled on the long tail rotor drive-shaft, between the first and second bearing (first bearing facing FWD). It was also found that the drive-shaft had completely severed just forward of the second bearing, thus cutting off the vital drive to the tail rotor gearbox. The Investigation concluded that the cloth induced out-of-balance forces on the shaft, causing the drive-shaft to fail. There was no fire.



**Safety Recommendation IRLD-2009-012:** The European Aviation Safety Agency (EASA) should strongly encourage all helicopter pilots to undergo Simulator Training, where available, on their initial Type Rating Course and, thereafter, to undertake recurrent Emergency Training when training for its revalidation.

**Reply:** Most of the national helicopter flight crew licencing regulations, based on JAR FCL-2 contain the requirements. JAR FCL-2 and EASA Notice of Proposed Amendment (NPA) 2008-17B already contains credit provisions for Flight Simulation Training Devices in any Commercial Pilot Licence (Helicopter) CPL(H), Airline Transport Pilot Licence (Helicopter) ATPL(H), Instrument Rating (Helicopter) IR(H), integrated and modular courses. In addition Type Rating training, skill test and proficiency check can be conducted on helicopter flight simulators. A number of in-flight failures and emergency situations are modelled nearest to realistic conditions. However a part of emergency situations involving aerodynamic behaviours cannot be accurately simulated. This limitation results in producing only an approximate experienced emergency situation; that does not reflect all actual in-flight aerodynamic conditions. As such, JAR FCL-2 and EASA-NPA 2008-17B already encourage simulator training. EASA considers that no specific additional action is necessary, pending the transition from JAR FCL-2 into a European FCL rule.

**Category:** Partial Agreement - **Status:** Closed

Registration	Aircraft Type	Location	Date of event	Event Type
EI-ECS	PIPISTREL	Near Birr Airfield, Co. Offaly	06/12/2008	Accident

**Synopsis of the event:** The new motor glider took off from Birr Airfield (EIBR) on a check flight prior to issuance of a Permit to Fly. There were two persons on board, the Check Pilot and the Owner. During the climb the engine suddenly stopped and subsequent attempts to restart it failed. An attempt was made to return to the airfield but the aircraft became low on approach. In attempting a forced landing into a field short of EIBR the aircraft struck the topmost branches of a tree and descended into a garden. Neither occupant was injured other than minor cuts. The Pilot candidly stated that he had misjudged the approach back to the airfield, having been distracted by the engine stoppage and the attempts to restart it.

**Safety Recommendation IRLD-2010-018:** The European Aviation Safety Agency should include in the certification requirements for light aircraft that manufacturers within the EU should place adequate markings on the exterior of an aircraft equipped with a ballistic parachute.

**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.

**Category:** Unknown - **Status:** Open



## ITALY

Registration	Aircraft Type	Location	Date of event	Event Type
TS-LBB	ATR - ATR72	Palermo (Sicily)	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 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-2005-017:** EASA to consider the possibility of integrating information available in emergency procedures concerning the ditching, in order to consider also the possibility of ditching without both engines operating.

**Reply:** The Agency has reviewed the current Aircraft Flight Manual (AFM) Ditching Emergency procedure and does not support the integration of a new ditching procedure "with engine" vs. "no engine" for following reasons:

- The current emergency procedure requiring basic pilot skills and experience to manage flight with minimal energy at impact, requests anyway to shutdown both engines and to feather the propellers at 200 feet. Moreover, there is no reason for the crew to adjust the power to reach a specific touch down zone when ditching.
- It was also judged that the application of a new procedure in such a high work load environment could confuse crews and possibly reduce crew performance.
- The 'engine on/off' situation would make very little difference (if any) on the current AFM Emergency Procedure contents.

**Category:** Disagreement - **Status:** Closed

**Safety Recommendation ITAL-2005-020:** EASA, FAA and Tunisian DGAC to consider the possibility that all air transport operators perform a systematic check of the correspondence between P/Ns shown in the applicable IPC with information contained/recorded in software/databases generally used for spares management, with particular reference to components which directly influence the aircraft's operation and safety.

**Reply:** The Agency supports the safety recommendation and the attached Safety Information Bulletin (SIB) No. 2010-11, dated 16 April 2010, has been published. With the SIB, EASA recommends operators to perform a systematic check or have an established system to ensure the proper identification and applicability/interchangeability data between part numbers shown in the maintenance data and information contained/recorded in software/databases used for spares management.

**Category:** Agreement - **Status:** Closed



Registration	Aircraft Type	Location	Date of event	Event Type
I-CVDA	PIPER - PA28	Voghera Airport	30/08/2009	Accident

**Synopsis of the event:** Il 30 giugno 2009, l'allievo pilota effettuava il primo volo da solista con l'aeromobile I-CVDA nell'ambito del conseguimento dell'attestato di allievo pilota. Il decollo avveniva dall'aeroporto di Voghera/Rivanazzano alle ore 16.25 UTC, per pista 34. Dopo aver eseguito un circuito di traffico ad Ovest dell'aeroporto, l'aeromobile, alle 16.40 UTC, atterrava per pista 34. Al contatto con la pista, il velivolo rimbalzava e successivamente, dopo altri due rimbalzi, ritoccava la pista con il carrello anteriore, che, piegandosi sul lato destro, generava una brusca imbardata dell'aeromobile, con conseguente contatto della semiala sinistra e dell'elica con la superficie asfaltata. L'aeromobile si fermava al bordo pista; l'allievo, dopo aver spento il motore, abbandonava incolume il velivolo.

**Safety Recommendation ITAL-2010-001:** Ente nazionale per l'aviazione civile e EASA valutare la possibilità di fissare dei vincoli di carattere temporale per il completamento dell'iter addestrativo teorico-pratico per il conseguimento dell'attestato di allievo pilota e delle licenze di volo non professionali.

**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.

**Category:** Unknown - **Status:** Open



## LUXEMBOURG

Registration	Aircraft Type	Location	Date of event	Event Type
XX-XXX	PIPER - PA28	Luxembourg-Findel International Airport	22/08/2009	Incident

**Synopsis of the event:** On Tuesday, 22 August 2009, at 18:03 UTC after take-off from ELLX, a Piper PA28-161 aircraft reengined with a Thielert Aircraft Engines TAE 125-01 unit encountered an in-flight power loss which resulted in an emergency off-airport landing on an uphill sloped pasture field. The glider experienced pilot and his passenger were uninjured and the airplane did not sustain any damage resulting from the emergency landing.

**Safety Recommendation LUXM-2009-001:** EASA should request the engine manufacturer to withdraw the inspection method using a flexible magnet from (SB) TM TAE125-0017.

**Reply:** EASA has reviewed the inspection methods of the Thielert Aircraft Engines (TAE). It was found that both methods can be used but the areas for investigation in the oil sump have to be described more detailed in Service Bulletin (SB) TM TAE 125-0017. TAE revised the SB (Rev. 3 dated 5 March 2010) and extended the instructions for both methods by adding pictures and information about the inner walls of the oil pan.

**Category:** Partial Agreement - **Status:** Closed

**Safety Recommendation LUXM-2009-002:** EASA should require all engines inspected with a flexible magnet in accordance with Service Bulletin (SB) TM TAE125-0017 to undergo, as soon as possible, an inspection using a flexible borescope in accordance with SB TM TAE125-0017.

**Reply:** Due to the declining number of affected engines (because of implanting Thielert Aircraft Engine (TAE) modification No 2007-001 and replacement of TAE 125-01 engines by TAE 125-02-99 engines), the revised instructions and the overall experience from the field, the low likelihood of undetected oil nozzle failure is being reduced further. The flexible magnet method does provide the same results as the borescope method, if carried out properly.

**Category:** Disagreement - **Status:** Closed

**Safety Recommendation LUXM-2009-003:** EASA should consider mandating the TAE Design Modification No. 2007-001 for aircraft affected by AD No.: 2008-0016 R1.

**Reply:** EASA together with Thielert Aircraft Engine (TAE) GmbH has reviewed the issues related to the oil nozzle problem of the TAE 125-01 engines. The in-service experience of the fleet does not concur to warrant the TAE design Modification No 2007-001.

**Category:** Disagreement - **Status:** Closed

**MALAYSIA**

Registration	Aircraft Type	Location	Date of event	Event Type
9M-STR	AEROSPATIALE - AS332	South China Sea, off the coast of Bintulu	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-2009-001:** The EASA should consider mandating the manufacturer to conduct extensively an investigation in the cause of such fire in the hydraulic components as it have the necessary resources compared with the local authorities. The type of helicopter is operating worldwide and the operators need to have information so that the necessary measures can be taken to prevent such incidence from happening again.

**Reply:** The Agency agrees that manufacturers have to be involved in a technical investigation in order to provide all the technical support. This advisory role is defined by the international standards and recommended practices of ICAO Annex 13. Furthermore, Annex 13 defines that the Investigator In Charge (IIC) is responsible for conducting an investigation and should involve the State of Design to get relevant expertise. Most relevant parts and components involved in this event have been submitted to in-depth examinations, performed either by Eurocopter or in conjunction with equipment suppliers' assistance. Beyond those examinations, EASA was informed that some units also undergone additional testing aiming at understanding the fire hazard conditions. As mentioned in the Air Accident Report, each detailed examination and/or complementary testing did not bring conclusive findings. Therefore, it has not been possible to determine the root cause of the event. Considering the very bad condition of the wreckage following a fire and water immersion, additional investigation tasks will bring now no relevant and significant results to conclude this investigation. However EASA, in liaison with the manufacturer, carried out a worldwide review of all AS 332 accidents involving a fire in the hydraulic system. For each occurrences, the root cause was indentified and modifications were done accordingly to improve the fire protection (e.g. pipes and hydraulic tank; routing of the hydraulic system and alternators wiring). With regard to the 9M-STR case, EASA perceives the activities carried out by the manufacturer and the assistance it provided for the sake of the investigation have been adequate.

**Category:** Partial Agreement - **Status:** Closed



**Safety Recommendation MALB-2009-002:** 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:** 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.

**Category:** Unknown - **Status:** Open



## NETHERLANDS

Registration	Aircraft Type	Location	Date of event	Event Type
TC-ONP	MCDONNELL DOUGLAS - MD88	Groningen Airport Eelde	17/06/2003	Accident

**Synopsis of the event:** During take-off at a speed of approximately 130 knots the captain, who was pilot flying, rejected the take-off above the decision speed because he experienced a heavy elevator control force at rotation. The stabilizer warning sounded during the entire take-off roll. The aircraft overran the runway end and came to a stop in the soft soil. During subsequent evacuation one cabin crew member and a few passengers sustained minor injuries. The aircraft sustained substantial damage. There was no fire.

**Safety Recommendation NETH-2007-005:** The recommendation is made to the European Aviation Safety Authority (EASA) to stimulate attention being given on a European scale to the development of the method with which aviation authorities and airlines from non-EU countries can be assessed.

**Reply:** With the first extension of EASA competences through Regulation (EC) No 216/2008 of 20 February 2008 (Article 9), the Agency became responsible for the operation of third country operators (TCO). The third country aircraft as well as their crew and their operations must comply with applicable ICAO Standards. At the moment EASA is in the process of developing implementing rules with regard to TCO. These rules, once entered into force, will in particular regulate all commercial operations, non-commercial operations with complex motor-powered aircraft, aircraft not holding a standard ICAO Certificate of Airworthiness and pilots not holding a standard ICAO licence operating in Europe. A notice of proposed amendment for the draft rules will be published for public consultation on the EASA website. In this specific case it can be highlighted that Turkey has signed a "Working Arrangement between the European Aviation Safety Agency and the Turkish Directorate General of Civil Aviation", effective from 01 July 2009. The scope of the Working Arrangement is defined as follows: "This Working Arrangement covers all aspects of the regulation of civil aviation safety and environmental protection of products, organisations and personnel". The Working Arrangement includes also the provisions for EASA to conduct standardisation inspection visits of the certification and oversight activities of the Turkish Directorate General of Civil Aviation in line with the Commission Regulation (EC) No 736/2006, in continuation of the former Joint Aviation Authorities (JAA) regulatory framework.

**Category:** Agreement - **Status:** Closed

Registration	Aircraft Type	Location	Date of event	Event Type
G-JSAR	AEROSPATIALE - AS332	North Sea, near Den Helder	21/11/2006	Accident

**Synopsis of the event:** On 21 November 2006 at 23.28 hours a rescue helicopter, a Eurocopter AS332L2 Super Puma, with registration G-JSAR made an emergency landing in the North Sea, approximately 10 nautical miles North West of Den Helder in the Netherlands. The 4 crew members and 13 passengers were rescued out of the water after approximately one hour and were transported ashore to Den Helder. One passenger suffered from light hypothermia and was taken to hospital, but was discharged within a few hours. The other occupants were not injured. The passengers were staff from the offshore installation K15B. Because of a blackout that had started at 20.00 hours that day, they had walked over to the Noble George Sauvageau, a drilling rig located next to the K15B, via a bridge. It was decided to take these non-essential staff from K15B ashore with the search and rescue helicopter G-JSAR. During the return flight of the G-JSAR, the cockpit crew reported engine speed fluctuations and experienced controllability problems and



decided to make an emergency landing. All occupants evacuated the helicopter, but the life rafts located in the sponsons were not used during the evacuation. The Netherlands Coastguard organized and coordinated the rescue operation.

**Safety Recommendation NETH-2010-001:** The Board recommends that EASA consider expanding the parameters for the flight data recorders of helicopters to include the forces of the steering ("control forces"), as is the case in some categories of fixed wing aircrafts.

**Reply:** EASA has obtained the inclusion of the issue pointed out by this Safety Recommendation into the working programme of the European Organization for Civil Aviation Equipment (EUROCAE) Working Group 90. The objective of this Working Group is to revise EUROCAE Document 112 titled "Minimum Operational Performance Specification for Crash Protected Airborne Recorder Systems", which is already referenced in EASA's proposed OPS rules.

**Category:** Unknown - **Status:** Open

**Safety Recommendation NETH-2010-002:** The Dutch Safety Board recommends that EASA considers to provide solutions concerning the "smoothness" of survival suits in combination with inflated life jackets in order that speedy retrieval of survivors from the water is not hampered.

**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.

**Category:** Unknown - **Status:** Open

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

**Synopsis of the event:** A Boeing 737-800 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-2010-004:** The FAA and EASA should ensure that the undesirable response of the autothrottle and flight management computer caused by incorrect radio altimeter values is evaluated and that the autothrottle and flight management computer is improved in accordance with the design specifications.

**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.

**Category:** Unknown - **Status:** Open



**Safety Recommendation NETH-2010-005:** Boeing, FAA and EASA should assess the use of an auditory low-speed warning signal as a means of warning the crew and - if such a warning signal proves effective - mandate its 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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation NETH-2010-007:** 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:** 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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation NETH-2010-008:** FAA, EASA and DGCA should make (renewed) efforts to make airlines aware of the importance of reporting and ensure that reporting procedures are adhered to.

**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.

**Category:** Unknown - **Status:** Open

## NORWAY

Registration	Aircraft Type	Location	Date of event	Event Type
LN-OLT	AEROSPATIALE - AS365	Brokskar, Troms County	17/05/1999	Accident

**Synopsis of the event:** During an ambulance mission from Tromsø to Senja the helicopter flew into an area of strong turbulence and at the same time encountered a wind vortex with horizontal axis. This resulted in a large pitch down attitude and both sides of the helicopter's horizontal stabiliser ruptured. The Commander's control reaction to achieve a normal flight attitude, plus the effect of the Stability and Control Augmentation System (SCAS), resulted in a severe rotor flapping. The flapping resulted in contact between the main rotor blades and the helicopter fuselage. The flight continued towards its destination with the crew unaware of the extent of the damage, except that the trim attitude was more nose-down than normal. The landing at the destination of Sifjord, Senja, was uneventful, but the return flight was cancelled.

**Safety Recommendation NORW-2005-022:** The Norwegian Civil Aviation Authority evaluates whether the Aircraft Flight Manual should be revised to include a warning against landing in hilly terrain or snow-covered ground, which will increase the danger of the stabiliser fins touching the ground. The review of the Flight Manual should also consider a note that if such contact is suspected, the stabiliser must be checked by qualified personnel before any further flying takes place.

**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.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
LN-FAO	ATR - ATR42	Glacier Folgefonna	14/09/2005	Serious incident

**Synopsis of the event:** Flight 602 from Stord Airport Sørstokken to Oslo Airport Gardermoen had 24 passengers and a crew of 3 on board when it took off on the morning of 14 September 2005. A cold front had passed over the coast and was on its way east, and local moderate icing was forecast. While climbing, when passing flight level FL100 (approx. 10,000 ft), ice began to form on the aircraft. The aircraft's de-icing systems were switched on and functioned normally. Nevertheless, more ice built up and, when passing through FL120, there was a marked reduction in the aircraft's climb ability. At FL140 the autopilot disconnected, at much the same time as the aircraft entered an uncommanded roll to approx. 45 degrees to the right and began to lose height. When the crew believed they had regained control, the aircraft suddenly rolled uncommanded to the left in a similar manner. Around one and a half minutes after the first uncommanded roll movement, the climb was stable once more. The flight continued to Gardermoen without any further problems. The loss of altitude in the incident was approx. 1500 ft, and was not critical in relation to terrain height. No personal injuries or material damage occurred.



**Safety Recommendation NORW-2009-003:** It is important that flight crews on the ATR 42 know by heart the manual actions to take if uncommanded roll movements occur during icing conditions. This is to avoid losing control of the aircraft, and/or to regain control more quickly. Experience has shown that crews forget to extend flaps to 15°. The AIBN recommends that the CAA-N should request EASA reconsider the layout of the procedure in question in AFM in consultation with ATR. The item on setting flaps to 15° after losing control in icing conditions ought to be an item that should be known off by heart, and this should be reflected in the manufacturer's training programme.

**Reply:** Although all existing Aircraft Flight Manuals (AFM) for ATR 42/72 models contain today adequate Emergency Procedures for severe icing conditions specifically addressing this issue, ATR has considered more efficient (and EASA agreed with it) to directly link this "memory step" to the loss of aircraft control applicable on any circumstances (not only those induced by severe icing conditions) by creating a completely new emergency procedure titled "recovery after stall or uncommanded roll control". In that perspective, ATR 42/72 AFM Normal Revisions have been issued including this new emergency procedure:

- AFM Normal Revision 28 for ATR 42-200/300/320 approved on 26 November 2009;
- AFM Normal Revision 23 for ATR 72-101/102/201/202/211/212 approved on 13 January 2010;
- AFM Normal Revision 12 for ATR 72-212A approved on 17 February 2010;
- AFM Normal Revision 14 for ATR 42-400/500 models approved on 17 April 2010.

In addition the AFM revisions approved by EASA on behalf of Federal Aviation Administration (FAA) and Transport Canada (TC) for those ATR 42/72 models validated on these countries have also been updated and approved in the same way. Therefore, all existing AFMs for ATR 42/72s models contain today adequate Emergency Procedures with "memory step" addressing this issue.

**Category:** Agreement - **Status:** Closed

Registration	Aircraft Type	Location	Date of event	Event Type
LN-LVT	CESSNA - 172	Skien airport Geiteryggen (ENSN)	19/04/2009	Serious incident

**Synopsis of the event:** The candidate's private pilot license had expired in August 2008. In order to have his license reissued, the candidate had undergone training. The day before the serious incident, the candidate had practiced handling engine failure after take-off. A skill test was scheduled for the candidate on 19 April. The aero club had two Cessna 172s, one older model with a carburettor engine and one more recent model, LN-LVT, with an injection engine. The training had taken place with the older model, but it became necessary to use LN-LVT on the day of the incident. The procedures for starting the engine are relatively different between the two models, partly due to the fact that the more recent models have an electric auxiliary fuel pump. In accordance with the checklists for the aircraft, the engine needs to be primed with use of the auxiliary fuel pump switch to ON before starting up, and be switched to OFF again before engaging the starter. The candidate has explained that he was unaware of this. Although the checklist was read, the switch was left in the ON position after start-up. After take-off from runway 19, the aircraft's engine failed at a height of about 550 feet above the airport. The candidate informed the aerodrome flight information service (AFIS) unit that he was turning back towards the runway. Another aircraft, which had recently landed, was therefore asked to quickly exit the runway. After a flight of about one minute, LN-LVT successfully landed on runway 01. The two on board evacuated from the aircraft out on the runway. They observed that fuel had leaked out from the aircraft onto the runway, and that a lot of fuel continued to run under the engine cowlings. The aircraft's fuel shutoff valve was then closed and after some time the leak stopped. The airport's fire and rescue crew came quickly to the aircraft and covered the fuel on the runway with foam.



**Safety Recommendation NORW-2010-009:** The AIBN recommends that the EASA, who has given Type Certificate A.051 for the Cessna 172S, to consider the need for replacing the standpipes in question with a version with longer thread section.

**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.

**Category:** Unknown - **Status:** Open

**RUSSIAN FEDERATION**

Registration	Aircraft Type	Location	Date of event	Event Type
F-OGYP	AIRBUS - A310	Irkutsk	08/07/2006	Accident

**Synopsis of the event:** On July 8, 2006 at 22:44 UTC (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-2007-003:** It is recommended to EASA and other Certifying authorities together with the manufacturers of large transport aircraft to evaluate the usefulness of cabin crew smoke hood devices in assisting the evacuation of airplanes; to evaluate the possibility of equipping large transport airplanes with devices for passengers and/or flight attendants to be used in case of an emergency evacuation without suffering from the effects of smoke and toxic flames.

**Reply:** Rulemaking task "Devices for reducing the effect of smoke and toxic fumes in large transport aircraft" (OPS.060) is identified in the 2009-2012 rulemaking programme and will address the issue.

**Category:** Unknown - **Status:** Open



## SOUTH AFRICA

Registration	Aircraft Type	Location	Date of event	Event Type
G-BYGA	BOEING - 747	O.R. Tambo Airport, Johannesburg	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-2010-003:** It is recommended that the Regulatory and Certificating Authorities of all States of Design and States of Manufacture should introduce requirements to review all software control and hardware control logics and combinations thereof to ensure that all probable defect possibilities are identified.

**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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation SOUF-2010-004:** It is recommended that the Regulatory and Certificating Authorities of all States of Design and States of Manufacture should introduce requirements to review the processes used to introduce modifications to control software since issuance of the original type certification, e.g. consider a recertification process.

**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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation SOUF-2010-005:** It is recommended that the Regulatory and Certificating Authorities of all States of Design and States of Manufacture should verify that appropriate resolutions for such occurrences have been developed and are in place to prevent un-commanded actions that can result in an accident. (Related to SOUF-2010-004)

**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.

**Category:** Unknown - **Status:** Open



**Safety Recommendation SOUF-2010-006:** 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 in critical control surfaces.

**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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation SOUF-2010-007:** 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:** 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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation SOUF-2010-008:** 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:** 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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation SOUF-2010-009:** 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 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.

**Category:** Unknown - **Status:** Open



## SPAIN

Registration	Aircraft Type	Location	Date of event	Event Type
EC-FTG	SOCATA - TB10	Sierra de Peña de Francia (Salamanca)	08/03/2003	Incident

**Synopsis of the event:** El día 8 de marzo de 2003, a las 10:30 hora local, la aeronave Socata TB-10, matrícula EC-FTG, sufrió la parada del motor cuando se encontraba a 6.500 ft de altura en las estribaciones de la Sierra de Peña de Francia (Salamanca). El piloto era un alumno de una escuela de vuelo que realizaba un vuelo de navegación como alumno solo. El tripulante de la aeronave, puesto en contacto con la torre de control del Aeropuerto de Salamanca, declaró emergencia y llevó a cabo el procedimiento de puesta en marcha sin resultado positivo. Finalmente, seleccionó el terreno que valoró más adecuado y aterrizó sin consecuencias para él. Después de evacuar la aeronave comunicó, por teléfono móvil, el aterrizaje a la oficina de operaciones de la escuela.

**Safety Recommendation SPAN-2003-007:** With respect to a Recommendation issued by the BEA, in combination with the FAA of USA and the DGAC France, regarding a similar accident happened in France, to consider the need to make mandatory the provisions of the service bulletin no 261, issued on 17 March 1995 for the Teledyne Continental, for aircraft Socata Tobago TB-10, Spanish registered.

**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.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
G-BYAG	BOEING - 757	Girona Airport	14/09/1999	Accident

**Synopsis of the event:** The aircraft made an approach and landing at Girona Airport, Spain, at night through heavy thunderstorms with rain. At a late stage of the approach the airfield lighting failed for a few seconds. The aircraft touched down hard simultaneously on the nose and main wheels and bounced. A second harder touchdown on the nose wheel displaced the nose landing gear and its support structure. Resultant aircraft systems damage caused the loss of virtually all electrical power, interference with controls and uncommanded forward thrust increase. The aircraft ran off the side at high speed around 1,000 metres after the second touchdown. After crossing a number of obstacles it landed heavily in a field outside the airfield boundary and come to rest after having travelled almost 1,900 metres from the second touchdown. The fuselage had been fractured in two places and there was considerable disruption to the cabin. There was no fire. Evacuation of all the occupants, initiated by the cabin crew, was completed rapidly. Emergency services had difficulty in locating the aircraft in the adverse conditions and arrived on the scene after evacuation had been completed.

**Safety Recommendation SPAN-2004-030:** It is recommended to EASA that they evaluate the possibility of making mandatory requirements to train flight crew in go-around manoeuvres even from below the decision height, with the aim of reducing the response time when faced with unforeseen events.

**Reply:** Rulemaking task "Flight crew training for go-around below DA/H" (OPS.061) is identified in the 2009-2012 rulemaking programme and will address the issue.

**Category:** Unknown - **Status:** Open



Registration	Aircraft Type	Location	Date of event	Event Type
EC-HXS	AEROSPATIALE - AS350	Bustiello	03/04/2005	Incident

**Synopsis of the event:** El domingo 3 de abril de 2005, el helicóptero EC-HXS estaba realizando trabajos de extinción de incendios forestales para el Gobierno del Principado de Asturias, utilizando como base de operaciones el Aeródromo de La Morgal (LEMR). Después de haber realizado dos salidas previas ese mismo día, a las 16:27 h local la aeronave despegó desde Castañeda con el piloto y una cuadrilla de cinco bomberos a bordo con intención de volver a la base, pero durante el trayecto recibieron un aviso de fuego en las inmediaciones de Bustiello. El piloto dejó a la cuadrilla en una loma y comenzó a realizar descargas de agua con el « Bambi Bucket » (en adelante, bambi) sobre el incendio. Después de realizar 11 descargas, el jefe del retén le indicó la finalización de los trabajos y acordaron la recogida de la cuadrilla en el mismo emplazamiento donde los había dejado. Alrededor de las 17:14 h depositó el bambi en el suelo, y durante la maniobra de descenso, realizada íntegramente en retroceso, el rotor de cola contactó con unos arbustos (según confirmaron posteriormente los bomberos) produciendo vibraciones de alta frecuencia en el helicóptero y la indicación de la luz de alarma en cabina del detector de partículas de la caja de transmisión del rotor de cola. En estas circunstancias el piloto decidió realizar un aterrizaje de emergencia en una zona más segura situada en el valle a unos 750 m. El aterrizaje, según el piloto, se realizó con normalidad a excepción de las vibraciones, manteniendo el control en guiñada. El piloto resultó ileso y el helicóptero, en una primera inspección visual, mostró daños en el rotor de cola.

**Safety Recommendation SPAN-2006-009:** Se recomienda a la Dirección General de Aviación Civil que regule aspectos de la formación necesaria, así como las funciones y responsabilidades en relación al vuelo de aquellos miembros de la tripulación requeridos para la operación, distintos de la tripulación de vuelo, que participan en las operaciones de extinción de incendios.

**Reply:** This Safety Recommendation was originally addressed to the Dirección General de Aviación Civil (DGAC) of Spain. As the remit of the Agency was expanded by the amended Basic Regulation No (EC) 216/2008 the Spanish Accident Investigation Board (CIAIAC) decided to forward it to EASA. However, Regulation (EC) No 1108/2009 of the European Parliament and of the Council, of 21 October 2009, amending Regulation (EC) No 216/2008 by attributing to EASA new competences in the field of aerodromes, air traffic management and air navigation services came into force on 14 December 2009, Article 1 paragraph 2 (a) of this amendment clarifies that the Regulation does not apply to fire fighting. Therefore, the Safety Recommendation is not in the scope of the Agency's responsibility.

**Category:** Not Responsible - **Status:** Closed

Registration	Aircraft Type	Location	Date of event	Event Type
EC-DCG	SOCATA - RALLYE180	San Luis Airfield (Minorca)	23/03/2006	Accident

**Synopsis of the event:** La aeronave realizaba un vuelo local con origen y destino en el aeropuerto de Menorca (LEMH) y se dirigió al aeródromo de San Luis (LESL) para realizar prácticas de arrastre de cartel. A bordo viajaban tres personas: el piloto al mando y otros dos pilotos que se estaban formando en la actividad de arrastre de cartel. Cuando llevaba a cabo una maniobra de aproximación a la derecha de la pista 20, simulando el enganche de la pancarta, a poca altura sobre el terreno el avión realizó un alabeo a la izquierda y golpeó con el plano izquierdo contra el suelo quedando detenido con el eje longitudinal formando un ángulo de 210° con la dirección de vuelo. Los tres ocupantes resultaron heridos de diversa consideración.



**Safety Recommendation SPAN-2008-005:** Se recomienda a la Dirección General de Aviación Civil (DGAC) que desarrolle una regulación específica sobre la formación de los pilotos en las operaciones de arrastre de cartel mediante la cual se establezcan criterios homogéneos de instrucción en la referente a los conocimientos teóricos que se tienen que impartir y a las maniobras que se deben practicar.

**Reply:** This Safety Recommendation was originally addressed to the Dirección General de Aviación Civil (DGAC) of Spain. As the remit of the Agency was expanded by the amended Basic Regulation No (EC) 216/2008 the Spanish Accident Investigation Board (CIAIAC) decided to forward it to EASA. Proposed rule FCL.805 [see Notice of Proposed Amendment (NPA) 2008-17 "Implementing Rules for Pilot Licensing"] and related Acceptable Means of Compliance (AMC) addresses training for banner towing operations.

**Category:** Agreement - **Status:** Closed

Registration	Aircraft Type	Location	Date of event	Event Type
F-GPJF	AEROPSATIALE - SA316	La Pobleta de Bellvei	25/04/2006	Accident

**Synopsis of the event:** While carrying out scheduled Inspection work on the high voltage line near the town of La Pobleta de Bellvei, the aircraft crashed into the ground and caught on fire, as a result of which it was destroyed. All four crewmembers were fatally injured in the event. During an inspection of the terrain, a piece of the aircraft, the freewheel, was found. This part transfers power to the main gear box (MBG). The report determined the most probable cause of the accident was the detachment of the freewheel in flight, which interrupted power to the main rotor while the helicopter was under flight conditions and in an area that did not allow for a safe emergency landing. The detachment of the freewheel was caused by the fatigue failure of the bolts and the flange used to connect the freewheel to the engine coupling. The fatigue process was triggered by contamination from water and other impurities in the freewheel lubricant. The lubricant was probably contaminated due to non-compliance with the instructions in the manufacturer's maintenance manual on storage.

**Safety Recommendation SPAN-2009-006:** It is recommended that Eurocopter France modify those maintenance instructions aimed at detecting and correcting any contamination of the main gear box (MGB) lubricant so as to increase the reliability of the methods employed.

**Reply:** As part of the process following F-GPJF accident, Eurocopter have revised contents of the Standard Practices by issuing 30 March 2010 the Service Bulletin (SB) 05.101 (revision 0) and the Safety Information Notice (SIN) 2075-S-05 (revision 0). These add procedures to enhance detection of water presence in Main Gear Box (MGB) lubricants events that might lead to wear or internal damages into the MGB and free wheel coupling, by corrosion development. EASA issued the Safety Information Bulletin no 2010-20 dated the 18th of June 2010 "EUROCOPTER helicopters - Main Gear Box - Monitoring of lubricating oils", addressing the safety recommendation.

**Category:** Agreement - **Status:** Closed



Registration	Aircraft Type	Location	Date of event	Event Type
EC-HFP	DOUGLAS - DC9	Madrid-Barajas Airport	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 takeoff 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.

**Safety Recommendation SPAN-2009-010:** It is recommended that the European Aviation Safety Agency and the FAA of the United States revise regulations CS-25 and FAR 25, respectively, on the certification of large transport airplanes to add a requirement that ensures that Takeoff Warning Systems (TOWS) are not disabled by a single failure or that they provide the crew with a clear and unequivocal warning when the system fails.

**Reply:** The service experience of Takeoff Warning Systems (TOWS) on Large Aeroplanes was reviewed. It was found that aeroplanes more recently certified under the current Certification Specifications (CS) 25 provisions have satisfactory in-service experience. The review indicated that accidents and incidents have mainly occurred on aeroplanes of the same vintage or older than the MD-82. The certification basis of these aeroplanes did not require a TOWS, however manufacturers decided to include a TOWS in their design. Requirements were introduced later in 1978 by Federal Aviation Administration (FAA) and in 1979 by the Joint Aviation Authorities (JAA) (paragraph 25.703). Since this time, only limited improvements were made to the initial Joint Aviation Requirements (JAR) 25.703 text, thus other changes appear to have caused the improvement on recent aeroplanes. Firstly the criticality of the TOWS has been upgraded from non essential to essential as a result of the accidents to older aeroplanes. In current CS-25, the TOWS failure condition is considered Major when using the criteria of Acceptable Means of Compliance (AMC) 25.1309; this is mentioned in AMC 25.703, paragraph 5.b.3. In addition, per AMC 25.703 paragraph 5.c.11, no Master Minimum Equipment List (MMEL) relief is provided for an inoperative TOWS. Secondly, the overall integrity of the TOWS in newer aeroplanes is much higher anyway as most tend to have a centralised warning system, and the integrity of the centralized system is driven to a higher level than would be required of the TOWS alone by other more significant primary warnings. Thirdly, crew error is now considered more thoroughly. CS 25.1302 requires an analysis be performed to take into account potential and reasonable flight crew errors in the design of systems so that the crew can detect and recover from these errors. It is concluded that the increase in reliability of the TOWS in new aeroplanes, which the recommendation aims at improving, has already occurred. Therefore the Agency concludes that the current TOWS certification policy and CS-25 provisions are adequate.

**Category:** Disagreement - **Status:** Closed



**Safety Recommendation SPAN-2009-011:** It is recommended that the European Aviation Safety Agency revise the accompanying guidelines and the clarifying material for the CS-25 certification regulations for large transport airplanes so as to consider the human errors associated with faults in takeoff configurations when analytically justifying the safety of the TOWS, and to analyze whether the assumptions used when evaluating these systems during their certification are consistent with existing operational experience and with the lessons learned from accidents and incidents.

**Reply:** Certification Specifications (CS) 25.1302 requires an analysis be performed to take into account potential and reasonable flight crew errors in the design of systems. In the case of Takeoff Warning Systems (TOWS), CS 25.703 and its Acceptable Means of Compliance (AMC) already considers the safety implication which exists from the combination of an unsafe takeoff configuration and a failure of the TOWS. For this reason, the TOWS failure case is considered Major, no Master Minimum Equipment List (MMEL) relief is provided for an inoperative TOWS, and therefore the design of these systems should be of sufficient integrity. Service experience shows that these provisions are adequate. The Agency performed a review of reported events (accidents or serious incidents) which found that all the events only concern aeroplanes of the same vintage or older than the MD-82. The Agency concludes that current CS-25 is adequate.

**Category:** Disagreement - **Status:** Closed

**Safety Recommendation SPAN-2009-012:** It is recommended that the International Civil Aviation Organization (ICAO), the FAA of the United States and European Aviation Safety Agency jointly promote the holding of an international conference, to be attended by every civil aviation representative organization, such as authorities, industry, academic and research institutions, professional associations and the like, for the purpose of drafting directives on good industry practices in the area of aviation operations as they apply to checklist design, personnel training and improved procedures and cockpit work methods so as to ensure that crews properly configure aircraft for takeoffs and landings.

**Reply:** Industry practices are reflected in the international Standards and Recommended Practices (SARPs) as contained in the Annexes to the Convention on International Civil Aviation. ICAO also produces guidance material to assist States and civil aviation administrations in implementing those SARPs. In the frame of the ICAO High Level Safety Conference 2010, the ICAO Secretariat presented Working Paper 10 related to Safety Initiatives arising from recent accidents and reviewing this recommendation. This provides the foundation for reviewing current provisions and guidance material on aviation operations to ensure their adequacy and in this manner aims to implement the spirit of the recommendation.

**Category:** Partial Agreement - **Status:** Closed

Registration	Aircraft Type	Location	Date of event	Event Type
EC-FBI	PZL MIELEC - M18	Castellon	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:** 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:** 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.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
OE-LMM	DOUGLAS - DC9	Lanzarote Airport	06/06/2007	Serious incident

**Synopsis of the event:** The crew started its day at Barajas Airport on 5 June 2007 at around 06:55 local time. The flight was under a wet lease arrangement. The crew picked up the documentation for the flight at the office at Barajas Airport. The flights scheduled for that day were Madrid-Lanzarote-Barcelona and then back to Madrid as passengers. The aircraft assigned for the flight was an MD-83, s/n 53377, registration OE-LMM. During the night, the maintenance crew had performed the Service check and the Daily check, which are required every 72 and 24 hours, respectively.

**Safety Recommendation SPAN-2009-029:** It is recommended that the EASA evaluate the methods and procedures used by Austrocontrol to issue AOCs and to track the conditions in place at operators required to maintain the AOC.

**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.

**Category:** Agreement - **Status:** Open



## SWEDEN

Registration	Aircraft Type	Location	Date of event	Event Type
LN-RDA	DE HAVILLAND - DHC8	Kalmar airport, H county	06/04/2006	Accident

**Synopsis of the event:** The aircraft departed from Stockholm/Arlanda Airport for a scheduled flight to Kalmar. On board were four crew members and 69 passengers. The first part of the flight proceeded normally, with the commander as PF (pilot flying). During the flight a technical failure occurred which meant that the right side propeller oversped. According to the emergency checklist a number of actions are to be taken, ending with feathering the faulty propeller and switching off the engine to reduce the air resistance (drag) of the propeller. The commander decided however to keep that engine at flight idle during the approach, which meant that the angle of the propeller blades remained flat to the aircraft direction, thereby causing severe drag. This severe drag caused great control problems for the aircraft and the commander thus had to use a power output from the other engine that exceeded the maximum permitted power. The approach was not stabilised and the final stage was at a very low height. The crew had not practised dealing with faults in this system during approach and landing, and considered that the emergency checklist was unclear. During the three week period immediately preceding the incident, three failures of the same type occurred on this individual aircraft. In no case had the crew completely followed the instructions in the emergency checklist. Nor had the technical fault been located correctly. The incident was caused by the fact that the emergency checklist was not completed, and a combination of the pilots not being aware of the risks due to leaving an unfeathered propeller in flight idle, unclear operations documentation concerning the propeller overspeeding type of propeller fault, and deficient follow-up of previous similar occurrences.

**Safety Recommendation SWED-2007-002:** It is recommended that EASA makes efforts to set up a working group, with representatives of the manufacturer and the airline, and possibly other operators of the Q 400. The purpose should be to improve both the content and the method of application of the emergency checklist for the Q 400.

**Reply:** The DHC8-400 Airplane Flight Manual (AFM) abnormal procedure for "Propeller Overspeed" has been revised in February 2007, with the objective to remove any room for interpretation of the procedure, and to ensure systematic timely power reduction down to Flight Idle and feathering of the propeller. EASA believes that this action meets the intent of the safety recommendation.

**Category:** Partial Agreement - **Status:** Closed

Registration	Aircraft Type	Location	Date of event	Event Type
SE-LTF	DIAMOND - DA40	Road E45, North of Kungälv	07/02/2008	Accident

**Synopsis of the event:** The pilot took off from Gothenburg City Airport for a solo navigation exercise to gain a night-time endorsement to his pilot's licence. After about ten minutes of flight the engine stopped. The pilot carried out an emergency landing on the only available lit area, on the E45, which is a four-lane motorway. The right wing struck a lighting column before the aircraft landed on the ground. Immediately after touching down the aircraft collided with a private car. The aircraft then slid off the road and continued along the grass to the left of the road. Another private car was struck by gravel and wreckage parts as the aircraft finally stopped. The pilot was unhurt and could exit the aircraft without assistance. Neither of the car drivers were injured.



**Safety Recommendation SWED-2009-015:** It is recommended that EASA considers a fresh evaluation of its criteria in assessing airworthiness, so that aircraft with known serious design faults are not permitted to fly.

**Reply:** A structural or fatigue analysis, various types of risk assessment methodologies such as provided in Part 21 Guidance Material 21A.3(b), or engineering judgment, are routinely used to define acceptable compliance times for the correction of an unsafe condition and provide for acceptable safety levels. The Agency agrees that for the specific issue of the Thielert cracked fuel pipe, corrective action should be taken with a compliance time of "before further flight". This was implemented by EASA through Emergency Airworthiness Directive (EAD) 2008-0056R1-E, as soon as sufficient information was available to justify this decision.

**Category:** Disagreement - **Status:** Closed

Registration	Aircraft Type	Location	Date of event	Event Type
SE-IVF	CASA - C212	the Northern basin of Falsterbo canal, Skåne county	26/10/2006	Accident

**Synopsis of the event:** One of aircraft, of type CASA C-212, took off at 11:09 from Ronneby airport for a routine maritime surveillance flight. The crew consisted of two pilots and two system operators. During the flight the crew received a message from the co-ordination centre concerning a request that had been received for a fly by over the Falsterbo canal, where the Swedish Coastguard has a base. The pilots accepted this and revised the final part of their flight plan so that a demonstration of the aircraft could be performed. At 13:23 KBV 585 came in over the coast at Falsterbonäset on a north-northwesterly course along the canal. The aircraft then continued out over the sea and after a left turn returned to approach the base. The aircraft then performed another fly by at low speed over the base and along the canal in the opposite direction. Beyond the end of the canal the aircraft turned back to the left and flew for the last time towards the base. As the aircraft neared the base once more it made some wing tipping. After tipping its wings two or three times a loud bang was heard, and the entire left wing separated from the aircraft. The aircraft then rolled over on to its back and fell, along with the left wing, into the harbour basin, where it disintegrated on impact. All on board were killed.

**Safety Recommendation SWED-2010-001:** It is recommended that EASA takes the necessary measures to ensure that fatigue cracks of the type that caused the wing fracture on the accident aircraft cannot occur in any CASA C-212 aircraft that is in service.

**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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation SWED-2010-002:** It is recommended that EASA evaluates the need for modification to the wing attachment to the fuselage so that the material stress situation along the critical row of rivets will be conclusively defined for all in-flight cases.

**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.

**Category:** Unknown - **Status:** Open



**Safety Recommendation SWED-2010-003:** It is recommended that EASA take steps so that the existing flight recording systems on board large aircraft, such as FDR, QAR, etc., are developed further so that they can also be used to inform pilots, while recording the data, about possible overloading during operation.

**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.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
SE-GBL	PIPER - PA34	Göteborg City Airport	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:** Its 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:** 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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation SWED-2010-007:** Ensure that, in connection with e.g. the ARC review that existing checklists and emergency checklists are in accordance with AFM and found in a legible condition.

**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.

**Category:** Not Responsible - **Status:** Open

**Safety Recommendation SWED-2010-008:** 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:** 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.

**Category:** Unknown - **Status:** Open



Registration	Aircraft Type	Location	Date of event	Event Type
SE-GEE	DE HAVILLAND - DHC6	Gryttjom airfield, Uppsala county	03/06/2009	Accident

**Synopsis of the event:** The pilot intended to take off with 21 parachutists on board the aircraft. He did not notice anything abnormal, neither during the preparations for take-off nor during the initial taxiing. After taxiing for a few minutes at low speed, suddenly the right main landing gear broke, whereupon the aircraft tipped over to the right and the right wing struck the ground. The aircraft then slowed down, turned somewhat to the right, and stopped. No person onboard was injured.

**Safety Recommendation SWED-2010-009:** It is recommended that EASA and the Swedish Transport Agency, in conjunction with the manufacturer, consider the need for supplementing the present maintenance system in respect of crack formation in the landing gear.

**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.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
SE-DZB	EMBRAER - EMB145	Malmö/Sturup airport, Skåne county	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:** 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.

**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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation SWED-2010-017:** It is recommended that EASA investigates the conditions for that transponders in the future will be equipped with a quick selection feature for the emergency code 7700. (RL 2010:12 R2)

**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.

**Category:** Unknown - **Status:** Open

**SWITZERLAND**

Registration	Aircraft Type	Location	Date of event	Event Type
HB-HEM	FFA - AS202 15	Bodensee bei Thal	11/04/2009	Accident

**Synopsis of the event:** Am 11. April 2008 traf die Pilotin am frühen Nachmittag auf dem Flugplatz St, Gallen-Altenrhein ein und begann mit den Vorbereitungen für einen Rundflug. Gemäß eigenen Angaben fühlte sie sich ausgeruht und gesund. Mit Hilfe einer weiteren Person zog sie das Flugzeug AS202/15 "Bravo", eingetragen als HB-HEM, aus dem Hangar und führte die Vorflugkontrollen aus. Da die Tanks annähernd voll waren erübrigte sich eine Betankung. Anschließend nahm sie in der HB-HEM Platz und setzte den Motor in Gang, Sie erhielt von der Bodenverkehrsleitstelle die Freigabe, um zum Rollhaltepunkt der Piste 28 zu rollen. Hier führte sie die notwendigen Kontrollen vor dem Start aus. Bei der Motorenkontrolle traten keine Besonderheiten auf. Die Pilotin konnte keine Angaben mehr dazu machen, welchen Tank sie für den Start gewählt hatte. Um 15:04:40 Uhr nahm sie über Funk mit der Platzverkehrsleitstelle Kontakt auf, Um 15:05:19 Uhr erhielt sie die Startfreigabe für Piste 28 und die Information, dass momentan ein Wind aus südlicher Richtung mit vier Knoten Geschwindigkeit vorhanden sei. Wenige Sekunden später begann die HB-HEM ihren Startlauf und hob ab. Sowohl dem Platzverkehrsleiter als auch der Pilotin fiel auf, während des Anfangsteigfluges weniger steil stieg als sonst. Auf einer Höhe von ungefähr 30 m über Grund begann der Motor zu stottern und setzte schließlich aus. Das Flugzeug neigte sich nach vorne und begann mit Querlage nach links zu sinken. Wenige Sekunden später schlug es auf dem Wasser auf. Die Pilotin wurde dabei erheblich verletzt und konnte von der Besatzung eines Bootes in Sicherheit gebracht werden. Das Flugzeug wurde zerstört.

**Safety Recommendation SWTZ-2010-001:** Die Aufsichtsbehörde sollte mit geeigneten Maßnahmen sicherstellen, dass Luftfahrzeuge, die mit dieser Art von Tankkonstruktion ausgerüstet sind, keine beschädigten Saugrohre aufweisen.

**Reply:** Airworthiness Directive 2009-0233 "Fuel Suction Tube Inspection/Replacement" as mentioned in the Final Report is considered to fully address this Safety Recommendation and no further action is required.

**Category:** No Longer Applicable - **Status:** Closed

**UNITED ARAB EMIRATES**

Registration	Aircraft Type	Location	Date of event	Event Type
9K-AKC	AIRBUS - A320	Ras Al Kbaimah (RAK) International Airport	30/01/2007	Serious incident

**Synopsis of the event:** The incident occurred when, on approach into Dubai International Airport, the NLG did not lock down. The captain executed a go-around and made several unsuccessful attempts to fully lower the NLG using the normal and alternate means of extension. The captain diverted to Ras Al Khaimah (RAK) International Airport where an emergency landing was successfully accomplished. Of the 112 passengers and 7 crew members on board, 11 passenger sustained minor injuries. All the injuries were sustained during the emergency evacuation.

**Safety Recommendation UNAR-2007-001:** U.A.E. GCAA recommends that the EASA inform all A320 operators of this occurrence and to mandate the Airbus AOT dated 05th April 2007 on the subject of Landing with the NLG Not Down-Lock and its subsequent revisions, or the relevant Airbus Service Bulletins and issue in this regard an Alert Airworthiness Directive.

**Reply:** The classification of the failure condition "All gear down but nose landing gear (NLG) not locked" is MAJOR. This event required two independent failures occurring together – the migration of the bearing in the downlock actuator and the installation of incorrect bolts. Airbus All Operator Telex (AOT) A320-32A1333, dated 04 April 2007 (revision 1 issued 12 April 2007) notified affected operators of this occurrence and requested operators to inspect for possible bearing migration and replace/reduce in length any long mounting bolts. In addition, Component Maintenance Manual (CMM) was revised in July 2007. The Airbus AOT is considered to be an appropriate level of action for the failure condition classification of this event. In-service reporting has shown that operators have carried out the specified actions. No additional mandatory action is proposed for this issue.

**Category:** Disagreement - **Status:** Closed

**Safety Recommendation UNAR-2007-002:** The U.A.E. GCAA recommends that the EASA require Airbus and suppliers to review and/or develop a design modification for the A320 NLG unlock actuator rod eye end attachment to prevent bearing migration, and to issue an Airworthiness Directive to require the installation of that modification.

**Reply:** This event required two independent failures occurring together – the migration of the bearing in the downlock actuator and the installation of too long bolts [mistakenly authorised in the Component Maintenance Manual (CMM) via a reference to an erroneous alternate part number]. Airbus All Operator Telex A320-32A1333, dated 04 April 2007 (revision 1 issued 12 April 2007) notified affected operators of this occurrence and requested operators to inspect for possible bearing migration and replace/reduce in length any long mounting bolts. In addition CMM was corrected and revised in July 2007. Airbus and Messier-Dowty have investigated potential modifications to the bearing installation. No modification action was determined but actions to ensure the swaging process is correctly performed were identified through the CMM. The classification of the failure condition "All gear down but nose landing gear (NLG) not locked" is MAJOR. The proposed actions are considered to be appropriate for the failure condition classification of this event. No additional mandatory action is proposed for this issue.

**Category:** Disagreement - **Status:** Closed



## UNITED KINGDOM

Registration	Aircraft Type	Location	Date of event	Event Type
4X-BAU	BOEING - 757	London Gatwick Airport	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 to 10 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 go-around 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:** 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:** 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.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
G-UKFI	FOKKER F28	Manchester Airport	01/04/2002	Serious incident

**Synopsis of the event:** During taxi for takeoff at Manchester International Airport, the aircraft passenger cabin filled with smoke and an emergency evacuation of the aircraft was carried out. The evacuation was carried out expeditiously, but the cabin crew had difficulty opening the Galley Service Door and some passengers using the overwing escape hatches were unsure of how to descend to the ground. The smoke had originated from a damaged Auxiliary Power Unit (APU), which had allowed oil from the unit to leak into the bleed air system.



**Safety Recommendation UNKG-2002-042:** The CAA and JAA should review the design, contrast and conspicuity of wing surface markings associated with overwing emergency exits on all relevant Public Transport aircraft, with the aim of ensuring that the route to be taken from the wing to the ground is marked unambiguously.

**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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation UNKG-2002-043:** The CAA and JAA should review the requirements for passenger safety cards to ensure that, for aircraft with overwing exits, the safety card is required to clearly depict the emergency escape route(s) from the cabin, via the wing, to the ground.

**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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation UNKG-2002-044:** The CAA and JAA should review the requirements for flight and cabin crew training in respect of the operation of all available exits, to ensure that crew members are familiar with the operating procedures, and opening characteristics, in both the normal and emergency modes of operation.

**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.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
G-DNLB	BOLKOW - BO105	Brough of Birsay, Isle of Orkney	24/05/2002	Accident

**Synopsis of the event:** The helicopter was carrying out external load lifting operations from the Brough of Birsay island lighthouse off the north-west coast of the Island of Orkney to a site some two miles away on the main island. The pilot was very experienced in carrying out external load lifting and had transported a number of loads that morning without incident. On the accident flight the load was seen to become unstable and contact the tail rotor resulting in total loss of tail rotor thrust. The helicopter was seen to descend rapidly in a spiral to the right and impact the sea. The pilot was fatally injured during the impact and the helicopter sank almost immediately.

**Safety Recommendation UNKG-2003-038:** The CAA-UK should take forward a proposal to the appropriate helicopter manufacturers and type certification bodies that the flight characteristics of a helicopter following the loss of tail rotor effectiveness should be promulgated in every helicopter type's Flight Manual.

**Reply:** The Agency notes that the loss of tail rotor effectiveness (LTE) phenomenon was not the cause of the accident, but was caused by the under slung cargo becoming unstable in flight and contacting the tail rotor. LTE phenomena are associated with the interaction of a helicopter's forward speed, wind strength and direction; they are not associated with a failure condition. The Agency is of the opinion that the Loss of Tail Rotor Effectiveness (LTE) and the environmental factors which can induce it are well understood and have been promulgated for many years



throughout the industry through various operational related publications. Here are examples of these publications:

- UK CAA FODCOM 1/2004 "Loss of tail rotor effectiveness (LTE)"
- FAA AC 90-95 "Unanticipated right yaw in helicopters" (07 Feb 1995)
- Flight Safety Foundation: Unanticipated right yaw at low speeds – Helicopter Safety – Vol. 15 (March-April 1989).

However, the Agency published Safety Information Bulletin (SIB) 2010-12 "Loss of tail rotor effectiveness (LTE) or unanticipated yaw in helicopters" on 24 February 2010. This document reminds the general principle of the LTE and refers to those available documents which provide detailed explanations on the conditions under which the phenomenon can be encountered, how it can be prevented, or what are the recommended recovery techniques. Finally, it also recommends pilots awareness and flight training in this domain, as part of their training courses.

**Category:** Partial Agreement - **Status:** Closed

Registration	Aircraft Type	Location	Date of event	Event Type
EC-FXI	DOUGLAS - DC9	Liverpool Airport	10/05/2001	Accident

**Synopsis of the event:** The aircraft carried out an automatic landing at Liverpool at 1232 hrs with the first officer (FO) being the pilot flying. The right main landing gear collapsed on touchdown and the commander took over control shortly afterwards. The aircraft continued travelling along the runway, maintaining approximately the centreline, and came to rest with the right wing in contact with the ground. A successful passenger evacuation was carried out using the forward escape slides and the left overwing emergency exit.

**Safety Recommendation UNKG-2003-048:** It is recommended that the CAA, JAA and the FAA should provide guidance as to the recommended best practice for the evacuation of infants and small children down escape slides with minimum delay.

**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.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
N90AG	BOMBARDIER - CL600 2B19	Birmingham Airport	04/01/2002	Accident

**Synopsis of the event:** Immediately after takeoff from Runway 15 at Birmingham International Airport the aircraft began a rapid left roll, which continued despite the prompt application of full opposite aileron and rudder. The left winglet contacted the runway shoulder, the outboard part of the left wing detached and the aircraft struck the ground inverted, structurally separating the forward fuselage. Fuel released from ruptured tanks ignited and the wreckage slid to a halt 2 on fire; the Airport Fire Service was in attendance less than 1 minute later. The accident was not survivable.

**Safety Recommendation UNKG-2003-060:** It is recommended that the FAA and JAA review the current procedural approach to the pre takeoff detection and elimination of airframe ice contamination and consider requiring a system that would directly monitor aircraft aerodynamic surfaces for ice contamination and warn the crew of a potentially hazardous condition. Responsibility has passed to EASA, recommendation should be addressed to the Agency.



**Reply:** Current regulation principle is that aeroplane aerodynamic surfaces must be free of significant ice contamination before initiating takeoff. This is currently required per EU-OPS 1.345: "(a) An operator shall establish procedures to be followed when ground de-icing and anti-icing and related inspections of the aeroplane(s) are necessary.

(b) A commander shall not commence take-off unless the external surfaces are clear of any deposit which might adversely affect the performance and/or controllability of the aeroplane except as permitted in the Aeroplane Flight Manual."

This principle has been kept in the proposed EASA Operations regulation (refer to Notice of Proposed Amendment 2009-2b dated 30 Jan 2009). Regarding the certification aspect, consistently, Certification Specifications (CS) 25 performance requirements assume that the aeroplane is free of any significant ice contamination at the beginning of the take-off roll due to application of appropriate ice removal and ice protection procedures during flight preparation on the ground, and ice accretion starts at liftoff (refer to CS-25 Appendix C, part II (a)(1) and Acceptable Means of Compliance (AMC) 25.21 (g) 4.1.1). Similar principles apply to CS-23 certified aircraft. However, considering that the existing operational requirements to ensure aircraft de-icing before take off may not prevent other similar events to occur (e.g. ice contamination that is difficult to detect visually), a new Rulemaking Task 25.074 has been recently created and added to the EASA 2010-2013 Rulemaking Programme. The objective of this task is to propose new CS-25 provisions which will require applicants to perform an analysis of the on-ground wings contamination effect on takeoff performance degradation. The contaminants to be considered in the analysis should be: slight ice contamination that is difficult to detect by visual observation; contamination of the upper wing caused by cold soaked fuel phenomenon; residual ice contamination present after wing de-icing procedure; de-icing fluids residue. The applicant would have to demonstrate that the effect on Takeoff performance degradation is not hazardous. If a hazardous effect is possible, then measures shall be put in place to alleviate the risk, which may include a system that monitors the aircraft aerodynamic surfaces. EASA also published, on 04 April 2008, a Safety Information Notice (SIN) 2008-29 "Groud de-/Anti-Icing of Aeroplanes; Intake/Fan blades Icing and effects of fluid residues on flight controls", replacing EASA SIN 2006.09 issued 26 September 2006. This SIN reminds the importance of the need for the eradication of frozen deposits. Additionally, it has to be noted that the Secretariat of ICAO is currently updating the ICAO Manual Document 9640 ("Manual of aircraft ground de-icing/anti-icing operations"). EASA has been associated in this task.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
G-BMVM	PIPER - PA38	Wycombe Air Park, Booker, Buckinghamshire	15/06/2003	Accident

**Synopsis of the event:** Following the completion of a training flight, the pilot experienced an unusual vibration on his first approach to Wycombe. He aborted the landing and continued in the circuit. On a subsequent landing, the nose of the aircraft continued to drop after touchdown, and so he raised the nose and took off again. He was asked by ATC to remain in the circuit and was also informed that the nose landing gear had detached from the aircraft. He was then talked through the subsequent approach and landing by the CFI of his training organisation. An engineering investigation revealed that the leg had failed as a result of a fatigue crack at a lubrication groove at the base of the nose gear strut housing, and that this mode of failure had happened on previous occasions to other PA-38 aircraft. An inspection of the groove may not have been carried out due to previous confusion over the insertion of the requirement into the Maintenance Manual by the manufacturer



**Safety Recommendation UNKG-2003-095:** The EASA should consider making the requirements to carry out a dye penetration inspection of the Piper PA-38 Tomahawk NLG cylinder lubrication groove, in accordance with the manufacturer's documentation, mandatory.

**Reply:** The Safety Recommendation has been forwarded to the Federal Aviation Administration as State of Design Authority for Piper type design. EASA has not determined the existence of an unsafe condition that would warrant the issuance of an Airworthiness Directive.

**Category:** Disagreement - **Status:** Closed

Registration	Aircraft Type	Location	Date of event	Event Type
G-BTBC	PIPER - PA28	Wellesbourne Mountford, Warwickshire	28/10/2003	Accident

**Synopsis of the event:** The aircraft was being flown for the purpose of flight instructor training. The handling pilot was the instructor under training and he was seated in the right hand seat. Weather conditions were good with a surface wind of 240<sup>o</sup>/07 kt. The aircraft made a normal approach and landing on Runway 18, which has an asphalt surface with 912 metres (2,990 feet) landing distance available. During the landing roll the pilots noticed some shaking through the airframe, the right wing began to lower towards the runway surface and the aircraft veered to the right. The aircraft came to rest at the right side of the runway, after which shutdown checks were completed and the crew evacuated. The right main wheel and leg had broken away from the underside of the wing but remained attached to the aircraft by the hydraulic brake pipe.

**Safety Recommendation UNKG-2004-015:** Until such time as they gain experience in matters of continuing airworthiness, it is recommended that the EASA review the policy of cancellation of National Mandatory Items, including Additional ADs.

**Reply:** Cancellation of additional national mandatory items, including additional national Airworthiness Directives (AD), is a consequence of implementation of Regulation (EC) 1702/2003. Nevertheless, EASA has in the last years carefully reviewed the submittals made by National Aviation Authorities regarding additional national mandatory items that were proposed to be re-introduced by EASA, and took individual decisions on a case by case basis, to issue or not specific ADs.

**Category:** Partial Agreement - **Status:** Closed

Registration	Aircraft Type	Location	Date of event	Event Type
G-BJVX	SIKORSY - 76	28NM NE of Cromer	16/07/2002	Accident

**Synopsis of the event:** The aircraft had been scheduled to complete five multi-sector flights from Norwich on the day of the accident. The first four flights were completed without incident and the aircraft departed Norwich Airport at 1731 hrs for the final scheduled flight, consisting of a series of sectors between installations in the 'Sole Pitt' and 'Leman' gas fields of the southern North Sea. The first four sectors again went without incident and the aircraft departed on its penultimate planned sector between the gas production platform 'Clipper' and the drilling rig 'Global Santa Fe Monarch'. The purpose of this sector was to transfer one passenger between the two installations before returning the remaining eight passengers to Norwich. The departure from the 'Clipper' was described as normal by the helideck crew and the aircraft climbed to 1,500 feet for the planned ten minute sector to the 'Global Santa Fe Monarch'. During the cruise, the crew spoke to Anglia Radar before establishing radio contact with the Monarch's radio operator. There was some confusion at first as the 'Monarch' had not been expecting any further flights that evening. However, the Monarch's helideck crew was quickly assembled and the aircraft commenced its approach. With the



aircraft at a height of about 320 feet on a south-easterly heading, workers on the drilling rig heard a loud bang. No witnesses were watching the aircraft at the time but some subsequently saw the aircraft dive steeply into the sea. One witness also described seeing the main rotor head with the blades attached falling into the sea after the remainder of the aircraft had impacted the surface.

**Safety Recommendation UNKG-2004-040:** It was recommended to the EASA and to the US FAA that their Airworthiness Requirements for helicopters should ensure that any future design of main rotor blade that incorporates a hollow metal spar should be designed from the outset to incorporate an automatic onboard crack detection system covering spar areas which cannot readily be inspected and are not damage tolerant.

**Reply:** While accepting the intent of this recommendation, the Agency does not agree that a prescriptive requirement that specifies a particular means to satisfy the safety objective for a specific component and material type is appropriate. The Agency, together with the Federal Aviation Administration (FAA), is at a late stage in the development of new rules and guidance material covering fatigue tolerance evaluation of rotorcraft metallic structures, and will propose that additional information on crack detection systems be included in Advisory Circular (AC) material and Acceptable Means of Compliance (AMC). The new rules and advisory material will address Certification Specifications (CS) 27 and CS-29 helicopters.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
G-BGED	CESSNA - U206	Beacon Village, near Honiton	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:** It is recommended that the European Aviation Safety Agency develop standards for appropriate recording equipment that can be practically implemented on small aircraft.

**Reply:** Rulemaking Tasks MDM.073 (a) Recorders for small aircraft "Review of the operational and certification requirements (Implementing Rules) for recorders for small aircraft" and MDM.073 (b) Recorders for small aircraft "Review of the operational and certification requirements (CS/AMC/GM) for recorders for small aircraft" are identified in the Rulemaking programme inventory as published in the EASA website, and will address the issue.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
G-CFAC	BAE - AVRO146RJ	Various locations	18/03/2005	Incident

**Synopsis of the event:** During the winter of 2004/2005, UK-based airline operators experienced numerous incidents of restricted elevator and aileron controls on their Avro 146-RJ100 fleets. One operator also reported occurrences of restricted elevator controls on its Embraer 145 and



Bombardier DHC-8 aircraft. These aircraft types are similar in having non-powered flight controls. Other European operators of Avro 146/RJ-series aircraft also reported flight control restriction events during the same period. Many of these events were found to be associated with residues of 'thickened' de-icing fluids, that had accumulated in the aerodynamically 'quiet' areas of the elevator and aileron controls. These residues rehydrate on exposure to precipitation and can freeze at altitude, with the potential for restricting control movement. In most of these incidents, the control forces returned to normal after the aircraft had descended into warmer conditions. Despite recent industry efforts at addressing the problems posed by such residues, an effective solution remains to be found.

**Safety Recommendation UNKG-2005-135:** It is recommended, that the Joint Aviation Authorities, in consultation with the European Aviation Safety Agency, issue safety documentation to strongly encourage operators of aircraft with non-powered flight controls to use Type I de/anti-icing fluids, in preference to 'thickened' fluids, for de-icing.

**Reply:** In response to the safety recommendations mentioned above, as advised in the Agency's previous replies [JVI/FKO/EASA E2(2007)D/51265 dated 11 April 2007 and JVI/hka/EASA E2(2007)D/54553 dated 11 February 2008] the Agency published the Notice of Proposed Amendment (NPA) 2007-11 in order to address the issue of de-icing and anti-icing fluid residue. 31 October 2007 was the end of the comment period. In the Notice of proposed Amendment (NPA) a number of options and possible activities were defined and the stakeholders were requested to comment on the preferred options. The Comment Response Document (CRD) has been published on the EASA website on 22 September 2008, in which the conclusion and summary of policy by which the Agency plans to address de-icing/anti-icing issues are defined. The Agency plans to proceed in accordance with the policy as defined in the CRD. In addition, the Safety Information Notice (SIN) 2008-29 issued on 04 April 2008 replacing the EASA SIN 2006-09 issued on 26 September 2006, clearly describes residues of dried fluids and indicates, in particular that the operator should consider a two step de-icing/anti-icing procedure when using thickened de-icing/anti-icing fluids, the first step preferably with hot water and/or non thickened fluids.

**Category:** Agreement - **Status:** Closed

**Safety Recommendation UNKG-2005-136:** It is recommended that where the use of 'thickened' de/anti-icing fluids is unavoidable, the Joint Aviation Authorities, in consultation with the European Aviation Safety Agency, ensure that operators of aircraft with non-powered flight controls who use such fluids, invoke controlled maintenance procedures for the frequent inspection for accumulations of fluid residues and their removal.

**Reply:** The Agency published a Safety Information Notice (SIN) 2008-29, addressed to operators, to draw attention to the importance of the need for the eradication of frozen deposits and the hazards of anti-icing fluid residues that might rehydrate and freeze. A letter was also addressed in April 2009 to Type Certificate (TC) Holders of large and commuter aeroplanes, requiring action to update information for correct application of de-icing/anti-icing fluids and guidelines on how to proceed when there is a potential for residue formation from these fluids. Then the Agency launched Rulemaking Task Multi Disciplinary Measures (MDM).054. The outcome of this Task was Decision ED 2010/006/R. This Decision allows the operator to establish a procedure for the inspection, control and when necessary removal of fluids residues by an approved maintenance organisation, using their own experience and aircraft manufacturer recommendations. This decision was adopted on 31 August 2010 and entered into force on 07 September 2010.

**Category:** Partial Agreement - **Status:** Closed

**Safety Recommendation UNKG-2005-137:** It is recommended that the European Aviation Safety Agency introduce certification requirements relating to de/anti-icing fluids for use on aircraft with both powered and non-powered flight controls.



**Reply:** The regulation and certification of aviation fluids is currently not in the remit of EASA as defined in regulation (EC) No 216/2008 of the European Parliament and of the Council of 20 February 2008 [the Basic Regulation last amended by regulation (EC) No 1108/2009 of the European Parliament and of the Council of 21 October 2009]. The extension of the EASA responsibilities to aviation fluids is an item identified in the Rulemaking Inventory List and it may be proposed to the European Commission in the future. In the meantime, the EASA cannot regulate de-icing or anti-icing fluids and can only contribute to and promote the improvement of existing standards. EASA is involved in the Society of Automobile Engineers (SAE) G-12 Committee (working on Aircraft Ground Deicing) who is working to improve the existing standards for de-icing and anti-icing fluids. Although EASA is not able to rule on the fluid characteristics, EASA published the Safety Information Notice (SIN) 2008-29 to recommend operators a two-step process for application of de-icing and anti-icing fluids as a mitigating measure on the residues build up.

**Category:** Partial Agreement - **Status:** Closed

**Safety Recommendation UNKG-2005-148:** It is recommended that prior to the European Aviation Safety Agency assuming responsibility for operational matters within Europe, they consider the future need for the training and licencing of companies who provide a de/anti-icing service, so that anti-icing fluids are applied in an appropriate manner on all aircraft types, but specifically to ensure that the entry of such fluids into flight control mechanisms and control surfaces is minimised.

**Reply:** In line with the EASA action plan on the issue of de-/anti-icing mentioned in the Common Response Document (CRD) to the Advance-Notice of Proposed Amendment (A-NPA) 2007-11 the Agency has taken action with respect to point 3 of the said action plan: 3. Investigate and recommend the means in which Aviation Authorities of the Member States manage matters with respect to the certification of service providers, availability of fluids at aerodromes etc. On 13 October 2009 EASA has launched an Open Tender Procedure (EASA.2009.OP21) for a study on the regulation of ground de-icing and anti-icing services in the EASA Member States. The aim of the study is to arrive at recommendations as to how EASA Member States could regulate these services in a harmonised way in the future. This study also foresees a stakeholder conference in order to test the recommendations that the prospective consultants will develop. Furthermore, on 21 October 2009 the co-legislators of the European Union, European Parliament and the Council of Ministers, adopted an amending Regulation (EC) No 1108/ 2009 to the EASA Basic Regulation (EC) No 216/2008. It foresees the extension of the remit of the Agency to the safety of Air Traffic Management/Air Navigation Services (ATM/ANS) and aerodrome safety. EASA has to deliver its opinion to the European Commission for the draft rules and certification specifications for aerodrome design and operations in 2012. However, the legislation does not foresee rulemaking powers for the safety certification of ground handlers, to which ground de-icing and anti-icing belongs. Nevertheless, it obliges the operators of aerodromes to ensure that safe operations of aircraft at the aerodrome are ensured and that ground handlers are trained to operate safely on the airport and provide safe services (see Essential requirements B-Operations and Management (1) (a), (d), (e) and (f)) in annex Va to Regulation (EC) No 1108/ 2009.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
G-BOMG	BRITTEN NORMAN - BN2B	7.7 NM NW of Campbeltown Airport	15/03/2005	Accident

**Synopsis of the event:** The Glasgow based Islander aircraft was engaged on an air ambulance task when the accident occurred. The pilot allocated to the flight had not flown for 32 days; he was



therefore required to complete a short flight at Glasgow to regain currency before landing to collect a paramedic for the flight to Campbeltown Airport on the Kintyre Peninsula. Poor weather at Campbeltown Airport necessitated an instrument approach. There was neither radar nor Air Traffic Control Service at the airport, so the pilot was receiving a Flight Information Service from a Flight Information Service Officer in accordance with authorised procedures. After arriving overhead Campbeltown Airport, the aircraft flew outbound on the approach procedure for Runway 11 and began a descent. The pilot next transmitted that he had completed the 'base turn', indicating that he was inbound to the airport and commencing an approach. Nothing more was seen or heard of the aircraft and further attempts at radio contact were unsuccessful. The emergency services were alerted and an extensive search operation was mounted in an area based on the pilot's last transmission. The aircraft wreckage was subsequently located on the sea bed 7.7 nm west-north-west of the airport; there were no survivors.

**Safety Recommendation UNKG-2006-101:** The European Aviation Safety Agency and Joint Aviation Authorities should review the UK Civil Aviation Authority's proposal to mandate the fitment of Upper Torso restraints on all seats of existing Transport Category (passengers) aeroplanes below 5700 kg being operated for public transport, and consider creating regulation to implement the intent of the proposal.

**Reply:** The Agency has incorporated the proposed recommendation in the draft Implementing Rules for Air Operations of Community Operators [Notice of Proposed Amendment (NPA) 2009-02b]. It is proposed to require aeroplanes with a maximum certificated take-off mass of less than 5700 kg and with a maximum passenger seating configuration of less than 9, operated for Commercial Air Transport (CAT), to be fitted with a safety harness (upper torso restraint system) for each passenger seat.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
TF-CSB	DORNIER - 328	Sumburgh Airport, Shetland	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:** 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:** 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.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
G-EUOB	AIRBUS - A319	London Heathrow	22/10/2005	Incident



**Synopsis of the event:** As the aircraft climbed to Flight Level (FL) 200 in night Visual Meteorological Conditions (VMC) with autopilot and autothrust engaged, there was a major electrical failure. This resulted in the loss or degradation of a number of important aircraft systems. The crew reported that both the commander's and co-pilot's Primary Flight Displays (PFD) and Navigation Displays (ND) went blank, as did the upper ECAM1 display. The autopilot and autothrust systems disconnected, the VHF radio and intercom were inoperative and most of the cockpit lighting went off. There were several other more minor concurrent failures. The commander maintained control of the aircraft, flying by reference to the visible night horizon and the standby instruments, which were difficult to see in the poor light. The co-pilot carried out the abnormal checklist actions which appeared on the lower ECAM display; the only available electronic flight display. Most of the affected systems were restored after approximately 90 seconds, when the co-pilot selected the AC Essential Feed switch to Alternate ('ALTN'). There were no injuries to any of the 76 passengers or 6 crew. After the event, and following discussions between the crew and the operator's Maintenance Control, the aircraft continued to Budapest.

**Safety Recommendation UNKG-2007-062:** It is recommended that the European Aviation Safety Agency should, in consultation with other National Airworthiness Authorities outside Europe, consider requiring training for flight by sole reference to standby instruments to pilots during initial and recurrent training courses.

**Reply:** Rulemaking Tasks FCL.009 (a) "Training for flying by sole reference to standby instruments Development of Implementing Rule addressing safety recommendation UNKG-2007-062." and FCL.009 (b) "Training for flying by sole reference to standby instruments Development of AMC/GM addressing safety recommendation UNKG-2007-062." are identified in the Rulemaking programme inventory as published in the EASA website, and will address the issue.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
G-BHCP	CESSNA - F152	Meden Vale, Nottinghamshire	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'Enquêtes et D'Analyses Pour La Sécurité De L'Aviation Civile (BEA) has reports of 34 similar events occurring in France.

**Safety Recommendation UNKG-2007-092:** It is recommended that the European Aviation Safety Agency (EASA) should amend EASA Part 145 (and Part M as necessary) to require that all EASA Part 145 approved organisations supply the aircraft operator with the records associated with work that they perform on an aircraft, engine, propeller or component.

**Reply:** Annex II to Commission Regulation (EC) No 2042/2003 as last amended by regulation (EC) No 1056/2008, "Part 145", chapter 145.A.55 (b) already requires maintenance organisations to provide a copy of each certificate of release to service to the aircraft operator, together with a copy of any specific approved repair/modification data used for repairs/modifications carried out as written in the report. In the Acceptable Means of Compliance (AMC) to Part 145 [ref. Executive Director (ED) Decision 2003/19/RM as last amended by Decision 2009/007/R], chapter 145.A.50 (b) states that "When extensive maintenance has been carried out, it is acceptable for the certificate of release to service to summarise the maintenance so long as there is a unique cross-



reference to the work-pack containing full details of maintenance carried out. Dimensional information should be retained in the work-pack record." The purpose of this requirement is to make sure that the operator receives all the information required to determine the airworthiness of the aircraft and the next maintenance due. However, it is not mandatory for maintenance organisations to provide to their customers a complete copy of the "work-pack" of the maintenance performed. The benefit of requiring all Part 145, Subpart-F organisations and independent Part 66 licence holders for general aviation to implement such instruction for each product, part, and appliance has not been proven by the final report to balance the cost which would be induced.

**Category:** Disagreement - **Status:** Closed

Registration	Aircraft Type	Location	Date of event	Event Type
EI-SLD	ATR - ATR42	Stansted Airport	18/01/2007	Serious incident

**Synopsis of the event:** Soon after takeoff from London Stansted Airport the aircraft developed a yawing motion which persisted as a yawing/rolling motion of varying severity. The yaw damper could not be engaged. An emergency was declared and the aircraft returned to Stansted. No mechanical fault was found which would have caused the motion, although an undetected and intermittent fault affecting components within the rudder control system could have degraded the aircraft's handling characteristics with the yaw damper not engaged, as could a takeoff with the rudder control system incorrectly configured. The nature of the motion and observed control deflections were such that an inadvertent and inappropriate rudder input by a pilot would have been required for the oscillations to persist.

**Safety Recommendation UNKG-2008-020:** The European Aviation Safety Agency should require that, prior to the first flight of the day, the built-in test features on the flight deck for the Cockpit Voice Recorder, Flight Data Recorder and Flight Data Acquisition Unit, when installed, should be monitored to ensure correct operation.

**Reply:** Rulemaking Task OPS.063 (a) "Before first flight of the day require the built-in test features of any installed Cabin Voice Recorder (CVR)/Flight Data Recorder (FDR)/Flight Data Acquisition Unit (FDAU) to be monitored for correct operation" is identified in the 2010-2013 Rulemaking Programme and will address the issue.

**Category:** Unknown - **Status:** Open



Registration	Aircraft Type	Location	Date of event	Event Type
VP-CRC	BOMBARDIER - BD700 1A10	London Luton Airport	29/01/2008	Accident

**Synopsis of the event:** Following an extended period of heavy rain, VP-CRC took off from a dry runway for a long-range flight to London Luton Airport. During the subsequent landing roll, the left inboard main landing gear tyre suffered a slide-through failure resulting from an initially locked wheel. This tyre failure caused extensive damage to the flight control system. Although the aircraft landed safely, the investigation revealed a significant flight safety risk.

**Safety Recommendation UNKG-2008-074:** It is recommended that the Federal Aviation Administration and the European Aviation Safety Agency review the certification requirements for automatically stopping flight recorders within 10 minutes after a crash impact, with a view to including a specific reference prohibiting the use of `g` switches as a means of compliance as recommended in ED112 issued by EUROCAE Working Group 50.

**Reply:** EASA has obtained the inclusion of the issue pointed out by this Safety Recommendation into the working programme of the European Organization for Civil Aviation Equipment (EUROCAE) Working Group 90. The objective of this Working Group is to revise EUROCAE Document 112 titled "Minimum Operational Performance Specification for Crash Protected Airborne Recorder Systems", which is already referenced in EASA's proposed OPS rules.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
G-EZAC	AIRBUS - A319	near Nantes France	15/09/2006	Serious incident

**Synopsis of the event:** The serious incident occurred to an Airbus A319-111 aircraft operating a scheduled passenger flight between Alicante, Spain and Bristol, UK. The aircraft had experienced a fault affecting the No 1 (left) electrical generator on the previous flight and was dispatched on the incident flight with this generator selected off and the Auxiliary Power Unit generator supplying power to the left electrical network. While in the cruise at Flight Level (FL) 320 in day Visual Meteorological Conditions (VMC), with the autopilot and autothrust systems engaged, a failure of the electrical system occurred which caused numerous aircraft systems to become degraded or inoperative. Some of the more significant effects were that the aircraft could only be flown manually, all the aircraft's radios became inoperative and the Captain's electronic flight instrument displays blanked. Attempts by the flight crew to reconfigure the electrical system proved ineffective and the aircraft systems remained in a significantly degraded condition for the remainder of the flight, making operation of the aircraft considerably more difficult. The flight crew were unable to contact air traffic control for the rest of the flight. The aircraft landed uneventfully at Bristol, with the radios and several other systems still inoperative.

**Safety Recommendation UNKG-2008-081:** It is recommended that the EASA require modification of Airbus A320-series aircraft to provide automatic changeover of the electrical power feed to the AC Essential busbar in the event of de-energisation of the AC BUS 1 busbar.

**Reply:** EASA has issued an Airworthiness Directive (AD) 2009-0235, effective on 12 November 2009, mandating the modification of the Electrical Power Distribution System, in accordance with Airbus Service Bulletin A320-24-1120. The AD 2009-0235 is applicable to A318, A319, A320 and A321 aeroplanes, as requested by this Safety Recommendation.

**Category:** Agreement - **Status:** Closed



**Safety Recommendation UNKG-2008-083:** It is recommended that the EASA and the FAA introduce certification requirements aimed at ensuring that flight deck control selectors are designed such that an immediate and unmistakable indication of the selected position is always provided to the flight crew.

**Reply:** EASA Certification Specifications for Large Aeroplanes (CS-25) was upgraded at amendment 3 to introduce a new chapter 25.1302 which contains requirements meeting the intent of this recommendation [refer also to Notice of Proposed Amendment (NPA) 15/2004 on the Agency website]. In particular 25.1302(b) requires flight deck controls and information being presented in a clear and unambiguous form and enabling flight crew awareness of the effects on the aeroplane or systems resulting from crew actions. The related Acceptable Means of Compliance (AMC) 25.1302 provides further details and recommendations on how to comply with 25.1302 requirements. Flight deck controls are addressed in chapter 5.3. Thus the Agency believes that the current requirements satisfactorily address this issue.

**Category:** Agreement - **Status:** Closed

**Safety Recommendation UNKG-2008-084:** It is recommended that the EASA requires the modification of affected Airbus A320-series aircraft so that the loss of a single busbar does not result in the complete loss of Radio Telephony communications.

**Reply:** EASA has issued the Airworthiness Directive (AD) 2009-0235, effective on 12 November 2009, requiring the modification of the Electrical Power Distribution System, in accordance with Airbus Service Bulletin A320-24-1120. The implementation of the automatic changeover of the Alternating Current (AC) Essential Bus bar of the Electrical Power Distribution System in accordance with the above mentioned Airbus Service Bulletin, addresses the requirements of this Safety Recommendation. The AD 2009-0235 is applicable to A318, A319, A320 and A321 aeroplanes, as requested by this Safety Recommendation.

**Category:** Agreement - **Status:** Closed

**Safety Recommendation UNKG-2008-086:** It is recommended that the EASA require Airbus to review the A320-series Master Minimum Equipment List (MMEL) for the validity of dispatch with an IDG inoperative, given that an intermittent fault in a Generator Control Unit can result in significant disruption of aircraft systems.

**Reply:** Following the situation experienced by this aeroplane, the consequences on the aircraft systems and the crew workload were reviewed and deemed severe enough to recommend checking the manual in relation to the alternating current essential feed (AC ESS FEED) alternate supply function in case of dispatch with an Integrated Drive Generator (IDG) inoperative. In addition to clearing the latent failure of the AC ESS FEED alternate supply function, which might be pre-existing before the dispatch, it was considered that performing this check will also have the effect of re-familiarising flight crews with this function, should they need it in flight. In conclusion, the dispatch with an IDG inoperative (MMEL Item AC Main Generation #1) was reviewed and revised. The corresponding MMEL Temporary Revisions references are:

TR 01-24/01M – Issue 01

TR 01-24/02M – Issue 01

TR 01-24/03M – Issue 01

**Category:** Agreement - **Status:** Closed

**Safety Recommendation UNKG-2008-087:** It is recommended that the EASA require Airbus to revise the A320-series Master Minimum Equipment List to include a requirement to check for correct operation of the manual AC ESS FEED changeover function prior to dispatch with a main generator inoperative.



**Reply:** As a result of the Safety Recommendation 2008-86, it is agreed with Airbus to update the Master Minimum Equipment List (MMEL), so as to include an operational check of the manual AC ESS FEED alternate supply function when dispatching under MMEL item Alternating Current (AC) Main Generation #1. Dispatching under MMEL item AC Main Generation #2 is disregarded since the next worst-case failures in flight do not specifically impair the AC ESS and DC ESS bus bars power supply, compared to the aircraft full-up configuration. Based on further aircraft design considerations, it is agreed with Airbus to make this operational check only applicable to aircraft not being fitted:

- with Generator Control Unit (GCU) Standard 5.2, or
- with automatic AC ESS FEED alternate supply function, or
- with power supply segregated Audio Management Units (AMU).

This is based on the following rationale:

- The situation experienced by A319 G-EZAC was resulting from a logic of the GCU Standard 5.1, when deferring the aircraft with one AC Main Generation inoperative. Robustness of the GCU internal logic is improved by the implementation of the Standard 5.2.
- The automatic AC ESS FEED alternate supply function, when installed, is considered as a significant mitigation factor upon loss of AC BUS #1.
- Although the functional effects on the aircraft were not limited to total loss of radio-communications, this failure condition is considered as a factor to the severity of the overall situation experienced by A319 G-EZAC.

The MMEL was revised accordingly. The associated MMEL Temporary Revisions references are:

TR 01-24/01M – Issue 01

TR 01-24/02M – Issue 01

TR 01-24/03M – Issue 01

**Category:** Agreement - **Status:** Closed

**Safety Recommendation UNKG-2008-089:** It is recommended that the EASA and the FAA require that approved component repair organisations have procedures in place to identify units with an excessive service rejection rate or recurrent faults.

**Reply:** A new Rulemaking Task has been added to the Rulemaking Programme. The objective of this task will be to upgrade the existing regulation EC 2042/2003 to require maintenance organisations putting in place procedures for identification and control of components with recurrent faults.

**Category:** Unknown - **Status:** Open

**Safety Recommendation UNKG-2009-063:** It is recommended that the EASA extend the guidance material provided for the EASA 25-1309 certification standard for failure effect analyses, to include consideration of the effects of delayed or non-achieved crew actions, in addition to crew errors.

**Reply:** EASA Certification Specifications for Large Aroplanes CS-25 was upgraded at amendment 3 to introduce a new chapter 25.1302 which contains requirements meeting the intent of this recommendation (refer also to NPA 15/2004 on the Agency website). The principle is to require flight deck equipments designs and integration that preclude flight crew errors or non/delayed actions, and if errors or non/delayed actions occur, clear information shall be available to the crew to take action. In particular:

- CS 25.1302(b)(1) requires that controls and information be provided in a clear and unambiguous form.
- CS 25.1302(b)(2) requires that controls and information be accessible and usable by the flight crew in a manner consistent with the urgency, frequency, and duration of their tasks.
- CS 25.1302(b)(3) requires that equipment presents information advising the flight crew of the effects of their actions on the aeroplane or systems, if that awareness is required for safe



operation. The intent is that the flight crew be aware of system or aeroplane status resulting from their actions. In case of delayed or non-achieved crew action, the system indications shall reflect and make the crew aware of the situation.

- CS 25.1302(c) requires that installed equipment be designed so its behaviour that is operationally relevant to flight crew' tasks is: predictable and unambiguous; designed to enable the flight crew to intervene in a manner appropriate to the task.

As even well-trained crew may make errors, CS 25.1302(d) requires that equipment be designed to enable the flight crew to manage such errors.

The related Acceptable Means of Compliance AMC 25.1302 provides further details and recommendations on how to comply with 25.1302 requirements. (Closed)

**Category:** Disagreement - **Status:** Closed

Registration	Aircraft Type	Location	Date of event	Event Type
G-CHCF	AEROSPATIALE - AS332	Aberdeen Airport	20/11/2007	Serious incident

**Synopsis of the event:** A Training Captain was conducting an Operational Proficiency Check (OPC); the pilot under training was required to demonstrate a clear area rejected takeoff. The helicopter was equipped with a Training Idle System (TIS) which was in use to simulate a failure of the left engine. The helicopter took off along Runway 16 at Aberdeen; at about 28 kt the commander simulated a failure of the left engine and the takeoff was rejected. The pilot flared the helicopter to reduce speed and descended towards the runway. As the collective control lever was raised to reduce the rate of descent, the overspeed protection system shut down the right engine. Main Rotor RPM (Nr) decayed rapidly and the helicopter touched down firmly before rpm could be restored. The right engine free-wheel unit had failed causing that engine to overspeed, this was contained by the overspeed protection system shutting down the engine.

**Safety Recommendation UNKG-2009-006:** It is recommended that the European Aviation Safety Agency should ensure that where a Training Idle System is fitted to a flight simulator the handling qualities and performance of the helicopter, following the failure of the operating engine, are accurately modelled.

**Reply:** EASA supports the intent of this safety recommendation and has sent a letter to all Member States' National Aviation Authorities (NAA's) [reference JSA/akl/C(3) 2010(D)50381 on 21 January 2010] to highlight this safety recommendation, and specifically to recommend that: "Where Full Flight Simulators and Flight Training Devices are fitted with an One Engine Inoperative (OEI) Training mode, the helicopter handling qualities and performances, the behaviour of the engine and the man machine interface must be accurately modelled. The failure of the operative engine during OEI training should also be taken into account. European Aviation Safety Agency is recommending to NAA's, to ensure that Flight Simulator Training Devices (FSTD) fitted with an OEI Training Mode are compliant with the above before any qualification."

**Category:** Partial Agreement - **Status:** Closed

Registration	Aircraft Type	Location	Date of event	Event Type
G-IIEX	EXTRA EA400	Hastingleigh near Ashford Kent	26/05/2008	Accident

**Synopsis of the event:** The aircraft was en-route from a flying display at Southend Airport, to its home base at Shoreham. Due to inclement weather, with a low cloudbase and poor visibility, the pilot planned to fly around the Kent coast, but having encountered better weather than expected when airborne, he set off across the county. Unfortunately the visibility deteriorated and the



cloudbase lowered so he decided to abandon his route and re-trace his path. Instead of reversing his course, however, he turned through approximately 270°, and found he was flying up a valley. He elected to carry out a precautionary landing into a field, but lost control of the aircraft on final approach. The aircraft struck the ground at low speed while rolling and banked to the right. Although the airframe remained relatively intact and no ground fire occurred, both occupants were injured, one seriously.

**Safety Recommendation UNKG-2009-014:** It is recommended that the European Aviation Safety Agency revise their certification requirements applicable to light aircraft crash survivability, with the aim of reducing occupant injury in otherwise survivable accidents. Detailed consideration should be given, for example, to requiring energy absorption provisions for seats, improved padding of aircraft components that might be impacted by an occupant and the fitment of air bag systems for both crew and passengers.

**Reply:** Certification Specifications (CS) are already provided for protection of occupants in case of emergency landing. In the case of CS-23 for light aeroplanes certification:

- CS 23.561 requires structural design precautions to minimise injuries under given static inertia loads, including turnover and landing gear retracted scenarios.
- CS 23.562 requires dynamic tests of the seat/restraint systems and provides for a maximum head injury criteria to be considered when contact with adjacent components or structures can occur.

In addition, CS 23.785 provides specific design requirements for seats, berths, litters, safety belts and shoulder harnesses to protect the occupants, and it requires that areas surrounding each seat are free of injurious objects which may be impacted by the torso or the head. The Agency accepts to review potential improvements of occupants protection specifications for light aeroplanes involved in survivable accidents and a dedicated new Rulemaking Task (MDM.090) is created in the Rulemaking Programme Inventory. Both Certification Specifications and retroactive requirements options should be analysed. The Rulemaking Group will consider the improvement options proposed under this recommendation.

**Category:** Unknown - **Status:** Open

**Safety Recommendation UNKG-2009-015:** It is recommended that the European Aviation Safety Agency consider requiring the modification of light aircraft types for which they have airworthiness responsibility, where the extant restraint systems are unlikely to prevent contact of the occupants with hard parts of the aircraft, with the aim of reducing the likelihood and severity of occupant injury in an otherwise survivable accident. Detailed consideration should be given, for example, to requiring energy absorption provisions for seats, improved padding of aircraft components that might be impacted by an occupant, and the fitment of air bag systems for both crew and passengers.

**Reply:** The Agency accepts to review potential improvements of occupants protection specifications for light aeroplanes involved in survivable accidents and a dedicated new Rulemaking Task (MDM.090) is created in the Rulemaking Programme Inventory. Both Certification Specifications and retroactive requirements options should be analysed. The Rulemaking Group will consider the improvement options proposed under this recommendation.

**Category:** Unknown - **Status:** Open



Registration	Aircraft Type	Location	Date of event	Event Type
G-BYAO	BOEING - 757	Stansted	22/10/2006	Serious incident

**Synopsis of the event:** Shortly after reaching cruise altitude on a scheduled passenger flight from Newcastle to Larnaca, a blue haze was observed in the passenger cabin. A precautionary diversion was made to London Stansted, where an emergency evacuation was carried out successfully. One cabin crew member initially had difficulty in opening the rear cabin doors, due to insufficient force being used. The blue haze could not be reproduced on initial investigation, which included engine ground runs. A planned post-maintenance proving flight was aborted during the takeoff roll when smoke entered the flight deck and cabin. Further investigation, which included ground runs at higher engine power settings, identified the source of the smoke to be the No 2 (right) engine. The cause was determined to be a fractured No 1 bearing floating seal ring, which had allowed engine oil to leak into the compressor airflow path and to be ingested into the bleed air system, which provides air to the cabin air conditioning system.

**Safety Recommendation UNKG-2009-042:** It is recommended that the European Aviation Safety Agency ensure that effective measures are in place for cabin crews to become, and remain familiar with, the different opening procedures and characteristics of aircraft exits in both normal and emergency modes of operation.

**Reply:** Appendix 1 to OPS 1.1010(c) (EU-OPS) provides that:

"An operator shall ensure that:

1. each cabin crew member operates and actually opens each type or variant of normal and emergency exits in the normal and emergency modes, including failure of power assist systems where fitted. This is to include the action and forces required to operate and deploy evacuation slides. This training shall be conducted in an aeroplane or representative training device; and
2. the operation of all other exits, such as flight deck windows is demonstrated".

Additionally, Appendix 1 to OPS 1.1015 provides that:

"(b) An operator shall ensure that every 12 calendar months the programme of practical training includes the following:

[...]

3. touch-drills by each cabin crew member for opening normal and emergency exits for passenger evacuation;

[...]

(c) An operator shall ensure that, at intervals not exceeding three years, recurrent training also includes:

1. each cabin crew member operating and actually opening each type or variant of normal and emergency exit in the normal and emergency modes, including failure of power assist systems where fitted. This is to include the action and forces required to operate and deploy evacuation slides. This training shall be conducted in an aeroplane or representative training device;
2. demonstration of the operation of all other exits including flight deck windows;

[...]"

Those requirements were transferred in the draft Part CC for the aircraft type-specific training [CC.TRA.125 and related Acceptable Means of Compliance (AMC)] and in the draft Part OR (OR.OPS.CC.135 and related AMC) for recurrent training, as published in the Notice of Proposed Amendment 2009-02. The Agency will continue dedicating its efforts for the adoption of these rules. The Agency considers that the above addresses the intent of the safety recommendation. It is then within the competences of the Member States to check compliance with these rules.

**Category:** Partial Agreement - **Status:** Closed



Registration	Aircraft Type	Location	Date of event	Event Type
G-REDU	EUROCOPTER - EC225	132 NM east of Aberdeen, (Offshore)	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 life rafts. Both air and maritime Search and Rescue (SAR) assets were used to recover the survivors.

**Safety Recommendation UNKG-2009-066:** It is recommended that European Aviation Safety Agency require manufacturers of Emergency Locator Transmitters (ELTs)/Personal Locator Beacons (PLBs) units to add details, where absent, of the correct use of the antenna to the instructions annotated on the body of such beacons.

**Reply:** 1) Review of applicable requirements:

Regarding standards applicable to portable ELTs, ED-62 2.8.3 (ED-62A 2.7.3) requires already clear instructions for use on the outside of the case. No regulation change is considered necessary.

2) Design review of portable ELT's:

EASA has made a design review of portable Emergency Locator Transmitters (ELTs), which are either Survival or Automatic Portable ELTs. One of the objectives was to check that clear instructions are provided on the ELT at least in simple English language. Even though it can not be assumed that all passengers are able to read and understand English instructions, especially in a post crash condition, it is considered that this is the best way to communicate on how to use the unit especially when additional pictograms are provided.

The results have shown that only one manufacturer uses an extendable antenna. Further instructions regarding the need to extend the antenna are now provided on newly produced units. No retroactive change to the units already in the field has been requested as the manufacturer demonstrated that even with the not extended antenna the ICAO minimum requirement having a radiation of at least peak effective radiated power (PERP) of 50 mW is achieved. The transmitter does have a minimum output power of 100 mW as requested by ED-62 and the ETSO. EASA will monitor the situation to determine if the ICAO recommended reduced output power is sufficient for the final rescue operation or not. Other manufacturers use an automatic erectable antenna. The erection is activated automatically when the unit is exposed to water or retracted from the fixture. Instructions for manual activation are provided on the unit as well. For Automatic Portable (AP) ELTs it is common practice to provide a separate antenna for the portable use. Instructions are provided how to disconnect the aircraft integrated antenna and how to connect the antenna provided separately for the portable use. The issue raised by the investigators is noted and was addressed. Consequently no further action is required.

**Category:** Agreement - **Status:** Closed

Registration	Aircraft Type	Location	Date of event	Event Type
G-REDL	AEROSPATIALE AS332	11 miles NE Petershead (Offshore)	01/04/2009	Accident



**Synopsis of the event:** The helicopter was operating a return scheduled passenger flight from Aberdeen to the Miller Oil Platform, situated in the North Sea approximately 145 nm north-east of Aberdeen. When it arrived from its previous flight to the Bruce Platform, approximately 190 nm north-east of Aberdeen, a 'rotors running' crew change was carried out. The helicopter was serviceable except for a deferred defect affecting a part of its ice detection system. The daily in-flight checks had already been completed satisfactorily by the off-going crew. The helicopter was refuelled, the passengers boarded, and it lifted off at 1040 hrs. The helicopter landed on the Miller platform, after an uneventful flight, at 1149 hrs, where it was refuelled again with the rotors-running. Fourteen passengers boarded the helicopter for the return flight to Aberdeen when the refuelling was complete. The weather conditions were benign with light south to south-easterly winds, good visibility with generally clear skies but with occasional broken cloud at 5,000 to 6,000 ft. Flying conditions were reported as smooth and the sea was calm. The helicopter lifted from the Miller Platform at 1203 hrs and climbed to 2,000 ft, tracking inbound towards Aberdeen. Recorded information on the combined Cockpit Voice and Flight Data Recorder (CVFDR) shows that the crew were engaged in routine cockpit activities and there were no operational abnormalities. At 1254 hrs the co-pilot made a routine call on the company operating frequency stating that the helicopter was serviceable and the ETA was 1314 hrs. Twelve seconds later one of the pilots made a brief MAYDAY call on the ATC frequency. This was followed by a similar call, that included some position information, from the other pilot. The radar controller at Aberdeen acknowledged the MAYDAY call and tried unsuccessfully to contact the crew of G-REDL. He then asked the crew of another helicopter, outbound on a similar routing, to examine the sea in the area of the last radar position. Recorded radar information showed the aircraft flying inbound towards Aberdeen at 2,000 ft, climbing momentarily to 2,200 ft and then turning right and descending rapidly. Surface visibility was good and an eye witness, working on a supply vessel approximately 2 nm from the accident site, heard the helicopter and saw it descend rapidly before it hit the surface of the sea. Immediately after impact he saw the four main rotor blades, still connected at their hub, strike the water. Around this time, he also heard two bangs close together. He immediately raised the alarm and the ship turned towards the accident site, which by now was marked by a rising column of grey then black smoke. The ship launched a fast rescue boat whilst making way towards the scene. The crew of the fast rescue boat and the helicopter arrived promptly on the scene to discover an area of disturbed water, roughly 150 m in diameter containing debris from the helicopter. Other search and rescue vessels, aircraft and helicopters arrived on scene within 40 minutes. All persons on board were fatally injured.

**Safety Recommendation UNKG-2009-075:** It is recommended that the European Aviation Safety Agency, in conjunction with Eurocopter, urgently review the design, operational life and inspection processes of the planet gears used in the epicyclic module of the Main Rotor Gearbox installed in AS332L2 and EC225LP helicopters, with the intention of minimising the potential of any cracks progressing to failure during the service life of the gears.

**Reply:** EASA in collaboration with Eurocopter have performed a detailed design review of the AS332L2 planet gears, including a review of possible failure modes, fatigue substantiation, manufacturing and maintenance processes. The review of the fatigue substantiation has addressed the following: extensive static and fatigue testing, gear hardness and carburization layer identification, crack propagation assessment, compilation of relevant data and analysis vs. AS332L2 and EC225LP airworthiness certification requirements. The results presented by Eurocopter confirm an infinite fatigue life for planet gears with Finite Element Model (FEM) modeling accounting for surface carburization layer. Because the root cause of this accident has not yet been identified, it has not been possible to identify a terminating airworthiness action with respect to the failure mode experienced by G-REDL. However, based on the current investigation findings, EASA considers that no further airworthiness actions are necessary at this time, and that the interim situation is adequately addressed by EASA Airworthiness Directive 2009-0099-E. Nevertheless, EASA will maintain a high level of involvement and continue its work in close cooperation with all involved parties in order to mandate further action as deemed necessary, in the event of any new investigation findings.

**Category:** Agreement - **Status:** Closed

Executive Directorate- Safety Analysis and Research

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Registration	Aircraft Type	Location	Date of event	Event Type
G-OJMC	AIRBUS - A330	Sangster International Airport, Montego Bay, Jamaica	28/10/2008	Serious incident

**Synopsis of the event:** Due to an error in the takeoff performance calculations, incorrect takeoff speeds were used on departure. On rotation, the aircraft initially failed to become airborne as expected, causing the commander to select TOGA power. The aircraft then became airborne and climbed away safely. Whilst the investigation could not identify the exact source of the error, deficiencies were revealed in the operator's procedures for calculating performance using their computerised performance tool. A study of previous takeoff performance events showed that the number and potential severity is sufficient to warrant additional safeguards to be identified by industry and to be required by regulators.

**Safety Recommendation UNKG-2009-080:** It is recommended that the European Aviation Safety Agency develop a specification for an aircraft takeoff performance monitoring system which provides a timely alert to flight crews when achieved takeoff performance is inadequate for given aircraft configurations and airfield conditions.

**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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation UNKG-2009-081:** It is recommended that the European Aviation Safety Agency establish a requirement for transport category aircraft to be equipped with a takeoff performance monitoring system which provides a timely alert to flight crews when achieved takeoff performance is inadequate for given aircraft configurations and airfield conditions.

**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.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
G-YMMM	BOEING - 777	London Heathrow	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:** 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:** EASA has obtained the inclusion of the issue pointed out by this Safety Recommendation into the Working Programme programme of the European Organization for Civil Aviation Equipment (EUROCAE) Working Group 90. The objective of this Working Group is to revise



EUROCAE Document 112 titled "Minimum Operational Performance Specification for Crash Protected Airborne Recorder Systems".

**Category:** Unknown - **Status:** Open

**Safety Recommendation UNKG-2009-098:** 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:** 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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation UNKG-2009-100:** It is recommended that the European Aviation Safety Agency mandate MSB4400-25MB059 Revision 3 to require the inspection and replacement of the video monitor fittings on the Recaro seat model 4400.

**Reply:** EASA has assessed the safety consequences of the dislodging of the video monitors and does not consider that an unsafe condition under Part 21A.3B has been established. Therefore EASA, whilst agreeing that the design could be improved, does not consider that mandatory action is warranted.

**Category:** Disagreement - **Status:** Closed

Registration	Aircraft Type	Location	Date of event	Event Type
G-FBEH	EMBRAER - ERJ190	40 nm NW of Wallesey, en route from Manchester to Belfast City	01/08/2008	Serious incident

**Synopsis of the event:** The aircraft was operating a scheduled passenger transport flight with the No 2 air conditioning pack inoperative, as permitted by the Minimum Equipment List (MEL). Whilst en route, a failure of the No 1 Air Cycle Machine (ACM) occurred, releasing smoke and fumes into the aircraft. A MAYDAY was declared and an expeditious diversion was carried out. After donning oxygen masks the pilots had great difficulty communicating with each other, ATC and cabin crew, because of technical problems with the masks. During the emergency evacuation the right overwing emergency exit door became jammed and unusable. Passengers who evacuated via the left overwing exit were unaware of how to get from the wing down to the ground.

**Safety Recommendation UNKG-2010-007:** It is recommended that the European Aviation Safety Agency review the design, contrast and conspicuity of wing surface markings associated with emergency exits on Public Transport aircraft, with the aim of ensuring that the route to be taken from wing to ground is marked unambiguously.

**Reply:** EASA acknowledges receipt of this Safety Recommendation. In the current Certification Specifications (CS) 25, paragraph CS 25.810 (c) requires that an escape route is established for each over-wing emergency exit; the escape route must meet given minimum criterion of width, reflectance and surface-to-marking ratio. The Agency accepts to review ways of improvement of these specifications and a dedicated Rulemaking Task (25.075) has been provisioned in the Rulemaking Programme Inventory. In addition, the Agency notes that during the evacuation of this incident, the passengers using the emergency over-wing escape route were surprised and confused by the height of the step to go down from the wing to the ground. Thus the Agency will also



consider this aspect in its review of cabin safety improvements; a recent study done for the Agency recommended to review the appropriateness of the current 6 feet height criteria above which assisting means shall be provided.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
G-MEDA	AIRBUS - A320	Addis Abeba Airport, Ethiopia	31/03/2003	Serious incident

**Synopsis of the event:** Airbus A-320 aircraft, registration G-MEDA operating on a flight from Alexandria (Bourg-el-Arab), Egypt, to Addis Abeba, Ethiopia, carried out two approaches using the Addis Abeba VHF Omni-Directional Radio Range beacon (ADS VOR) and associated Distance Measuring Equipment (DME). On the second approach the aircraft crossed over a ridge of high ground in Instrument Meteorological Conditions (IMC) and came within 56 ft of terrain at a location 5 nm to the northeast of the airport. As the aircraft crossed the ridge the crew, alerted a few seconds earlier by a radio altimeter (RA) height callout, carried out a go-around; at the same time the Enhanced Ground Proximity Warning System (EGPWS) generated a 'TOO LOW TERRAIN' aural alert. The investigation determined that the antenna of the ADS VOR had suffered water ingress and was not functioning correctly. The correct maintenance procedures for the ADS VOR/DME and its associated monitoring equipment were not followed. The aircraft received erroneous information from the ADS VOR which was fed to the flight deck VOR display, the Flight Management System (FMS), the navigation displays and the EGPWS computer with its associated Terrain Awareness Display (TAD). A single common position source error thus adversely affected all these apparently independent navigation/situational awareness systems. The existing certification standards for the aircraft navigation systems were met but were not sufficient to protect against this problem.

**Safety Recommendation UNKG-2010-023:** It is recommended that the European Aviation Safety Agency and the Federal Aviation Administration review and revise the existing TAWS certification requirements with a view to ensuring that they protect against common mode failures that could induce a CFIT accident. Furthermore the minimum requirements for the navigational accuracy of sources used for TAWS should be tightened to reflect the needs of the system to perform its function. These revised standards should then be applied retrospectively to all aircraft required to be fitted with TAWS.

**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.

**Category:** Disagreement - **Status:** Open

**Safety Recommendation UNKG-2010-024:** It is recommended that the European Aviation Safety Agency and the Federal Aviation Administration study the issues relating to the use of TAWS so that where data source problems are identified by the system the flight crew can be alerted.

**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.

**Category:** Unknown - **Status:** Open



**Safety Recommendation UNKG-2010-025:** It is recommended that the European Aviation Safety Agency and the Federal Aviation Administration consider whether the crew should be alerted when a FMS has identified a recurrent problem with a particular navigation aid and furthermore consider whether the subsequent use of that navigation aid for position information is desirable.

**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.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
G-PUMI	AEROSPATIALE - AS332	Aberdeen Airport	13/10/2006	Serious incident

**Synopsis of the event:** The aircraft was departing from Runway 14 for a flight to oil platforms in the North Sea, carrying 13 passengers. Five seconds into the takeoff the crew heard a bang and an abnormal vibration started. The crew rejected the takeoff and landed back on the runway. The aircraft started to taxi but the severe vibration continued so the commander stopped and shut down the helicopter on the threshold of Runway 32.

**Safety Recommendation UNKG-2010-027:** It is recommended that the European Aviation Safety Agency, with the assistance of the Civil Aviation Authority, conduct a review of options for extending the scope of HUMS detection into the rotating systems of helicopters.

**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.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
G-BYXR	GROB - G115	Drayton, Oxfordshire	14/06/2009	Accident

**Synopsis of the event:** A Grob 115E Tutor aircraft was undertaking a cadet air experience flight from Benson. The visibility was good and the aircraft was conducting aerobatics, in uncontrolled airspace, when it collided with a glider. The left wing of the Tutor struck the fin of the glider causing the tail section to break away. The glider pilot parachuted to safety. The Tutor entered a spiral / spinning manoeuvre before diving steeply into the ground. The Tutor pilot and cadet were both fatally injured. The Tutor pilot had a long term medical condition which restricted the movement of his head and affected his ability to conduct an effective look-out; this condition also made him more vulnerable to impact fractures of the spine. Following the collision it is probable that the Tutor remained controllable, suggesting that the pilot had become incapacitated. The cadet's harness had been released and the canopy operating handle had been moved to the open position before the Tutor impacted the ground. The canopy jettison mechanism had not been operated.

**Safety Recommendation UNKG-2010-034:** It is recommended that the European Aviation Safety Agency review the certification of the canopy jettison system on the Grob II 5 E, to ensure that it complies with the requirements of CS 23.807 with specific regard to the jettison characteristics up to Design Diving Speed and simplicity and ease of operation.

**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.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
G-TGUN	AERO - AT3	Old Sarum Airfield, Wiltshire	12/06/2009	Serious incident

**Synopsis of the event:** After engine start the aircraft moved forwards and to the left and struck a fuel bowser, despite the pilot applying pressure to the toe brakes. It is probable that the parking brake lever had inadvertently been moved to the ON position without hydraulic pressure being applied to the brakes at the time. This rendered the toe brakes inoperative, and prevented the pilot from being able to stop the aircraft.

**Safety Recommendation UNKG-2010-053:** It is recommended that the European Aviation Safety Agency (EASA) require that the AERO AT-3 brake system be modified such that the toe brakes remain functional regardless of whether the parking brake is off or on.

**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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation UNKG-2010-054:** It is recommended that the European Aviation Safety Agency (EASA) require AERO Sp to update the Flight Manual for the AERO AT-3 to explain the operation of the braking system clearly and to include a warning that the toe brakes become inoperative when the parking brake lever is selected on.

**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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation UNKG-2010-055:** It is recommended that the European Aviation Safety Agency (EASA) require AERO Sp to provide warning placards, to be installed in all affected AERO AT-3 aircraft, which state that the toe brakes become inoperative when the parking brake lever is selected on.

**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.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
D-ACHA	BOMBARDIER - CL600 2B19	stand 60L, Manchester Airport	13/11/2008	Serious incident

**Synopsis of the event:** Whilst a technician was rectifying an under-inflated tyre, a pressure of approximately six times the normal tyre pressure was developed. The tie bolts on the wheel failed, the assembly exploded and the technician was seriously injured.



**Safety Recommendation UNKG-2010-070:** It is recommended that the European Aviation Safety Agency review the number of occurrences of the overpressure failure of tyres or wheels on Large Aeroplanes and consider retrospectively applying the requirements of CS 25.731, the Certification Specifications for Large Aeroplanes for Overpressure Burst Protection on wheels.

**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.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
G-EZJK	BOEING - 737	West of Norwich, Norfolk	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-2010-072:** It is recommended that the European Aviation Safety Agency review the regulations and guidance in OPS 1, Part M and Part 145 to ensure they adequately address complex, multi-tier, sub-contract maintenance and operational arrangements. The need for assessment of the overall organisational structure, interfaces, procedures, roles, responsibilities and qualifications/competency of key personnel across all sub-contract levels within such arrangements should be highlighted.

**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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation UNKG-2010-073:** 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:** 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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation UNKG-2010-075:** 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:** 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.

**Category:** Unknown - **Status:** Open



**Safety Recommendation UNKG-2010-076:** It is recommended that the European Aviation Safety Agency provide guidance to National Airworthiness Authorities on monitoring continuing airworthiness.

**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.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
G-CHCV	AGUSTA - 139	the North Sea, 65 nm north-east of North Denes Heliport	23/12/2008	Serious incident

**Synopsis of the event:** Whilst on a flight from North Denes Heliport to a North Sea drilling platform, the aircraft's crew alerting system displayed a VNE MISCOMPARE message. This was followed by the loss of No 2 engine indications and other aircraft system parameters. The No 1 engine parameters indicated normal operation and the crew elected to return to North Denes Heliport. Whilst still in cloud, the crew received indications that there was a fire in the baggage compartment at the rear of the aircraft. The commander then lost all altitude, airspeed and vertical speed information from his Primary Flight Display. Once below cloud, another company helicopter flew alongside G-CHCV and confirmed that there was no evidence of fire and a safe landing ensued. The spurious warnings and the loss of indications were found to be due to corrosion in an avionic module. The corrosion had occurred due to the module cabinet being cooled by unfiltered, non-conditioned air drawn from intakes on the fuselage underside. The situation was exacerbated by the helicopter being operated in a maritime environment.

**Safety Recommendation UNKG-2010-077:** It is recommended that the European Aviation Safety Agency mandate the embodiment of the AgustaWestland Bollettino Tecnico BT AW139-166 on all short nose versions of the AgustaWestland AW139.

**Reply:** EASA issued on 21/09/2010 the Airworthiness Directive AD 2010-0189 for AB139 and AW139 helicopters related to Navigation - Modular Avionic Unit - Inspection / Replacement / Modification, which covers the intent of the Safety Recommendation.

**Category:** Agreement - **Status:** Closed



## UNITED STATES

Registration	Aircraft Type	Location	Date of event	Event Type
N462UA	AIRBUS - A320	Newark Liberty International Airport (EWR), Newark, New Jersey	25/01/2008	Incident

**Synopsis of the event:** On January 25, 2008, about 0945, an Airbus A320 returned to Newark Liberty International Airport (EWR), Newark, New Jersey, shortly after departure from runway 22R because three of the six electronic displays providing information to the flight crew went blank and several aircraft systems became inoperative. The flight crew landed the airplane without further incident, and no injuries were reported for anyone on board the flight. Visual meteorological conditions (VMC) prevailed at the time of the incident for the 14 Code of Federal Regulations Part 121 scheduled domestic flight, which was operating on an instrument flight rules plan.

**Safety Recommendation UNST-2008-056:** The National Transportation Safety Board recommends that the European Aviation Safety Agency require all operators of Airbus A320 family aircraft to modify these aircraft in accordance with Airbus Service Bulletin A320-24-1120 to provide the automatic reconfiguration of the AC essential bus power supply in the event that the AC 1 electrical bus fails. (A-08-56)

**Reply:** EASA has issued an Airworthiness Directive (AD) 2009-0235, effective on 12 November 2009, mandating the modification of the Electrical Power Distribution System, in accordance with Airbus Service Bulletin A320-24-1120. The AD 2009-0235 is applicable to A318, A319, A320 and A321 aeroplanes, as requested by this Safety Recommendation.

**Category:** Agreement - **Status:** Closed

Registration	Aircraft Type	Location	Date of event	Event Type
Several	AEROSPATIALE - AS350	United States of America		Accident

**Synopsis of the event:** Findings from the investigations of six events since 2002, including two fatal accidents, have raised Safety Board concern regarding the safe operation of Eurocopter AS-350 series helicopters. The Safety Board Materials Laboratory examined parts of the helicopters involved in these events, specifically the hydraulic pump assembly and pulley assembly that provide all the hydraulic power for the main rotor controls and the tail rotor controls. Staff found that the splined connection that couples the hydraulic pump to its pulley assembly displayed excessive wear that in some cases caused it to fail with subsequent loss of hydraulic power. Loss of hydraulic power hinders helicopter control and increases the possibility of a serious accident. A similar system is installed on Eurocopter EC-130 model helicopters.

**Safety Recommendation UNST-2008-077:** The National Transportation Safety Board recommends that the European Aviation Safety Agency require Eurocopter to identify AS-350 and EC-130 helicopter hydraulic pump drive shafts and coupling sleeves with splines that do not meet design specifications and take appropriate action to ensure that these parts (that is, replacement parts and parts to be installed in new helicopters) are expeditiously removed from the supply chain.

**Reply:** EASA have been informed by Eurocopter of their meeting with the NTSB at the fall of 2008 and understood that on such occasion a discussion took place on the criteria to be followed for the evaluation of the hydraulic pump shaft and coupling sleeve material characteristics. EASA was not



involved in the discussion but understands that the NTSB recommendation was based on incorrect assumptions concerning the material hardness. EASA conducted direct verification with Eurocopter from which it was confirmed that no problem of material characteristics existed for the parts in discussion. Based on that, EASA does not accept this Safety Recommendation.

**Category:** Disagreement - **Status:** Closed

**Safety Recommendation UNST-2008-078:** The National Transportation Safety Board recommends that the European Aviation Safety Agency require operators of Eurocopter AS-350 and EC-130 helicopters to perform a wear check, visual inspection, and lubrication of the hydraulic power assembly splines and coupling sleeve splines in accordance with the latest version of the maintenance manual at the earliest opportunity, and, thereafter, require operators to repeat the wear check, visual inspection, and lubrication of the splined connection at 100-hour intervals, and remove unairworthy parts from service.

**Reply:** In agreement with EASA Eurocopter has issued more conservative maintenance requirements. Eurocopter published a Service Letter highlighting the need to follow them. Since these measures had been taken by the manufacturer, no further failures have been reported. Based on that, EASA accepts the Safety Recommendation and considers having implemented it with the initiatives put in place by the manufacturer.

**Category:** Agreement - **Status:** Closed

Registration	Aircraft Type	Location	Date of event	Event Type
N106US	AIRBUS - A320	the Hudson River about 8,5 miles from La Guardia Airport, New York	15/01/2009	Accident

**Synopsis of the event:** On January 15, 2009, about 1527 eastern standard time, 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-2010-088:** Modify the small and medium flocking bird certification test standard in Joint Aviation Regulations-Engines to require that the test be conducted using the lowest expected fan speed, instead of 100-percent fan speed, for the minimum climb rate.

**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.

**Category:** Unknown - **Status:** Open



**Safety Recommendation UNST-2010-089:** During the bird-ingestion rulemaking database (BRDB) working group's reevaluation of the current engine bird-ingestion certification regulations, specifically reevaluate the Joint Aviation Regulations-Engines (JAR-E) large flocking bird certification test standards to determine whether they should 1) apply to engines with an inlet area of less than 3,875 square inches and 2) include a requirement for engine core ingestion. If the BRDB working group's reevaluation determines that such requirements are needed, incorporate them into JAR-E and require that newly certificated engines be designed and tested to these requirements.

**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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation UNST-2010-090:** Require manufacturers of turbine-powered aircraft to develop a checklist and procedure for a dual-engine failure occurring at a low altitude.

**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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation UNST-2010-091:** 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:** 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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation UNST-2010-092:** Require Airbus to redesign the frame 65 vertical beam on A318, A319, A320, and A321 series airplanes to lessen the likelihood that it will intrude into the cabin during a ditching or gear-up landing and Airbus operators to incorporate these changes on its airplanes. (A-10-92)

**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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation UNST-2010-093:** Require, on all new and in-service transport-category airplanes, that cabin safety equipment be stowed in locations that ensure that life rafts and/or slide/rafts remain accessible and that sufficient capacity is available for all occupants after a ditching. (A-10-93)

**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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation UNST-2010-094:** Require quick-release grips and handholds on all evacuation slides and ramp/slide combinations. (A-10-94)



**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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation UNST-2010-095:** 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:** 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.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
N14053	AIRBUS - A300	Belle Harbor, New York	12/11/2001	Accident

**Synopsis of the event:** On November 12, 2001, about 0916:15 eastern standard time, 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. The flight 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. The flight 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:** 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:** In order to address this Safety Recommendation, Airbus has analysed 5 possible architectures to modify the current rudder control system. The effects of these various architectures/designs of the rudder command have been evaluated and the conclusion of this study has identified a design change, named 'Reduced Pedal Travel Limiting Unit (PTLU)', which provides significantly increased protection from potentially hazardous rudder pedal inputs, across the flight envelope. Moreover, EASA recognises that its previously held position on the pilot training out as being an efficient and sufficient measure to avoid any new hazardous situations has to be reconsidered following more recent service experience which confirms that crew use of rudder pedal inputs in upset encounters cannot be "trained out". Therefore, based on the current Airbus evaluation of solutions, the 'PTLU' design change will be required on A310 and A300-600 aircraft models.

**Category:** Unknown - **Status:** Open



**Safety Recommendation UNST-2010-119:** The National Transportation Safety Board recommends that the European Aviation Safety Agency modify European Aviation Safety Agency Certification Specifications for Large Aeroplanes CS-25 to ensure safe handling qualities in the yaw axis throughout the flight envelope, including limits for rudder pedal sensitivity. (A-10-119)

**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.

**Category:** Unknown - **Status:** Open

**Safety Recommendation UNST-2010-120:** The National Transportation Safety Board recommends that the European Aviation Safety Agency after the yaw axis certification standard recommended in Safety Recommendation UNST-2010-119 (A-10-119) has been established, review the designs of existing airplanes to determine if they meet the standard. For existing airplane designs that do not meet the standard, the European Aviation Safety Agency (EASA) should determine if the airplanes would be adequately protected from the adverse effects of a potential aircraft-pilot coupling (APC) after rudder inputs at all airspeeds. If adequate protection does not exist, EASA should require modifications, as necessary, to provide the airplanes with increased protection from the adverse effects of a potential APC after rudder inputs at high airspeeds. (A-10-120)

**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.

**Category:** Unknown - **Status:** Open

Registration	Aircraft Type	Location	Date of event	Event Type
N213EH	AEROSPATIALE - AS350	34 miles east of Chickaloon, Alaska	15/04/2008	Accident

**Synopsis of the event:** On April 15, 2008, about 0923 Alaska daylight time, a Eurocopter AS350B2 helicopter, N213EH, experienced a loss of engine power during flight and sustained substantial damage during an emergency descent and impact with terrain about 34 miles east of Chickaloon, Alaska. The commercial pilot and three passengers were fatally injured, and one passenger was seriously injured. The on-demand air taxi flight was conducted under 14 Code of Federal Regulations (CFR) Part 135 in visual meteorological conditions.

**Safety Recommendation UNST-2010-131:** The National Transportation Safety Board recommends that the European Aviation Safety Agency Require Eurocopter to review the design of the fuel flow control lever (FFCL) and/or its detent track on AS350-series helicopters and require modification to ensure that the FFCL is protected to prevent unintentional movement out of its detents and that it does not move easily to an unintended position. (A-10-131)

**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.

**Category:** Unknown - **Status:** Open



## 6 Annex B: 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;



## 7 Annex C: 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.