2012 Reported Aviation Accidents
2012 Reported Aviation Accidents and Serious Incidents

Aviation safety is imperative to the growth of the industry and accidents are detrimental to industry growth. Aircraft accidents can be very costly, as they may result in the loss of vital resources such as people and equipment. Accidents are financially expensive and the social cost, however unquantifiable, is significant. This is why there is a need for hazards identification and incidents and accidents investigations. We can all agree that it is not enough to simply identify hazards and investigate accidents. Steps must be taken in an attempt to prevent further accidents and serious incidents from happening. This requires a collaborative effort between the regulator and the flying community. We want to create a safe environment for the safe operation of aircraft and have public confidence; this will in turn grow our industry.

The accurate analysis of the status of aviation safety depends on the reporting of incidents and accidents to the regulator. We wish to remind pilots and operators that the aim of reporting is not to apportion blame or liability, but to improve safety through data analysis and the formulation of safety recommendations to avoid future accidents from happening.

Following is an overview of reported accidents for 2012. This is a glimpse of reported accidents. Some of these accidents are still under investigation to determine the probable cause. It must, however, be noted that not all reported accidents warrant full investigation. All accidents are looked into, some for data collection and analysis. These reports include events such as when a pilot admitted forgetting to lower the landing gear.

A total of 111 accidents were reported in 2011. This figure has increased to 123 in 2012. This is an increase of 9.75 % in total reported accidents. Fatal accidents have increased by 15.78 %. Fatalities have decreased by 25.64 %. According to the reported accidents, engine failures and loss of control are the main causes of accidents, followed by mechanical failures, including loss of engine power. The weather played a major role in some of the accidents and incidents that were reported.
Let us have an overview of the 5 leading reported accidents.

**Engine failures**

An engine may fail to function because of fuel starvation; fuel exhaustion; foreign object damage; mechanical failure due to improper maintenance; mechanical failure caused by an original manufacturing component defect in the engine; improper maintenance; pilot error and fuel mismanagement. A single engine failure usually results in an unsuccessful emergency landing being performed. An aircraft may also suffer severe damages during precautionary landings; hence the skill of the pilot is so important. We recorded a total of 16 engine failures in the period under review. Investigations are under way to determine the probable causes of these engine failures. Recommendations will then be devised and implemented in an attempt to minimize or prevent engine failures from occurring. In the meantime, pilots would benefit tremendously by doing simulated engine failures and thus learn to deal with engine failures.

**Loss of control on the ground**

Sixteen (16) loss of control occurrences were reported. These occurred either during takeoff or the landing phase. A separate article has been prepared to address this issue. The article will be published in the Safety Link Magazine and also on the CAA website.
**Mechanical failures**

Mechanical failures include instances where a landing gear collapsed during landing and landing gears’ failure to extend. Further investigations are under way to establish the probable causes of these mechanical failures. Four (4) fatalities reported were due to mechanical failures during flight.

**Engine power loss**

The loss of engine power normally results in precautionary landings being executed. Investigators are currently looking into the matter to establish the type of engines involved in the occurrence category. A total of two (2) fatal aircraft accidents resulted from a loss of engine power during flight.

**Weather**

As the weather is an environmental issue which pilots have no control over, pilots should obtain a satisfactory weather report before the intended flight. We have recorded three weather-related fatalities in this regard. These accidents happen in either the take-off or landing phase. Weather factors are mostly gusty wind conditions; tail and head winds. Landings performed in crosswind conditions including tail wind components must be addressed during the training phase in order to avoid these types of accidents. Out of thirteen (13) weather-related occurrences, 11 were during private operations, one (1) during an agricultural operation and one (1) from aerial operations.

**Wire strikes**

Two (2) fatalities were recorded relating to an aircraft that collided with high tension wires. Pilots must at all times be very observant of high tension and telephone wires during takeoff and landings. All wire strikes occurred during private operations, with the exception of one during training and one during a balloon flight.

**Pilot errors**

These are instances where a pilot admitted a mishap that may have occurred. These include instances where a pilot reported that he/she was distracted and/or forgot to lower the landing gear and misjudged the approach during the landing phase.
Accidents by operation type

In many states, general aviation accidents constitute a major loss of resources. As a consequence, this group can benefit from safety interventions. General aviation operators share facilities such as aerodromes and air traffic services with airline operators. This mixing of operations with differing requirements and performance standards may introduce hazards.

General aviation embraces a very wide range of aircraft types, crew qualifications and operating environments. It includes various types of operations with sophisticated aircraft, helicopters flown by professional pilots, to non-professional pilots who only fly occasionally for pleasure. Motivating an interest in safe aviation practices and an awareness of these safe practices, must be one of the first steps towards accident prevention in this category.
Accidents by phase of flight

Most accidents occurred in flight. These include engine failures and some mechanical failures. The reported loss of control accidents occurred mostly during the landing phase of flight. This emphasizes the importance of managing engine failures in flight. Pilot reaction is crucial.
Accidents by aircraft type

The South African Civil Aviation Authority (SACAA) has a total of 5907 type certificated aircraft and 5868 non type certificated aircraft. Fixed wing aircraft are dominating the registry, hence there are more fixed wing accidents than helicopter accidents. Fixed wings are also more utilized than helicopters. Also included in the SACAA registry are microlights, gliders and motorized gliders, hot air balloons, airships, para-planes etc. The total of the types of aircraft amounts to 11,775.

NTCA and Type Certified Aircraft Accidents

The civil aviation register is half-shared between NTCA and Type Certified aircraft. Type certified aircraft account for 50.16 % while NTCA account for 49.83. We do not have answers with regards to hours flown or the utilisation of these two categories. With regard to accidents, NTCA accounted for 42 % of all accidents while type certified aircraft accounted for 56 %. Are the 42% accidents in the NTCA category justifiable? Have we done all we can to reduce accidents in this category? This question is directed to all NTCA owners and role players. We will do our best to provide further analysis in this area to pinpoint problematic areas which need to be addressed by the industry as a whole.
Conclusion

This is an overview of the reported accidents. During aircraft accident investigations, the accident investigators’ main objectives are to establish the probable causes of these accidents and to formulate recommendations to prevent such recurrences. This is a collaborative effort with the entire industry. The causes of aircraft accidents will be concluded in future reports.

It must be noted that the AIID's primary focus is on enhancing safety with respect to all aviation occurrences, from parachute to fare-paying passengers in particular; those occurrences that may present a significant threat to public safety and are the subject of widespread public interest. The AIID therefore needs to direct particular attention to identifying the significant failures in aviation that have the potential to result in catastrophic accidents and which are often characterised by large numbers of fatalities and serious injuries.

In addition, the AIID has observed that many occurrences involve similarities in past occurrences where the contributing factors are similar and the safety issues well known. In these circumstances, the likely safety benefits and lessons to be learned may not always justify allocating significant resources. In such cases the AIID may undertake a limited fact-gathering investigation only, if so, it will outline the reasons why an extensive investigation has not been conducted. Most of these occurrences are captured on the ECCAIRS data base for trends monitoring and data analysis. Equally, there is often as much or more to be learned from serious incidents or patterns of incidents as there is from accidents and where appropriate, the AIID will give priority to these sorts of investigations.

The office of the SM: AIID decides in consultation with the IIC and the information available at the time, whether to investigate or not. Therefore it is important to make sure that all reporters give as many details as possible when reporting an occurrence.

We welcome your feedback and comments on this article. Kindly direct them to:

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