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\n[toc title="Table of Contents"]\n

\n \t

1. [Origin of the Technology.](#) \n \t
2. [Benefits and Disadvantages of the technology](#) \n \t
3. [Disadvantages of the Black Box](#) \n \t
4. [References](#) \n

\n[/toc]\n \n

The black box is a flight or aircraft data recorder. It mainly collects and gathers the flight parameters information and stores them as evidence in the case of a plane crash. It is a technology that each and every corporate jet or commercial airplane should be equipped with.

Origin of the Technology.

The technology was discovered in Australia by Dr. David Warren. The technology began in 1952. Warren worked on the information and built up of the black box in Aeronautical research laboratories, in Melbourne. He argued that it was necessary for recording all the aircraft crew discussion. His view was to help trace the cause of the problem before a crash occurs. It focused on the identification of the core reasons that lead to the crash. According to him the only custodians of the information were the pilot and the core pilot, and it was necessary for having a recorded statement of their discussion with or without a crash. In addition, it monitors and records all the sounds that originate in the cockpit. It records all the sounds including; stall warnings, emergency pops and pings and engine noise. Warren indicated that the Black box will help deduct information such as the engine rpm and

the speed the airplane was moving at in the air. In his suggestion of the Black box, he indicated that it is a critical component in the determination of events timing throughout the journey. According to Warren, a black box is also capable of storing the information between other crafts in the air and the ground control systems.

The production of the first Black box was made in 1957. For easy recognition after an air crash, the Black box was painted orange or bright red. The technology was first applied in the Australian crafts, in 1960. The aircraft boards made it mandatory that each and every airplane landing in the Australian space should be installed with the technology. Warren suggested that the Black box should be placed at the tail of the plane. This would, however, increase its efficiency and effectiveness in storing and recording information. The location at the tail also assists and protects the black box in case of a collision of the black box in case of a crash. Similarly, it increases the survival chances of the box from collision in case of an accident.

Benefits and Disadvantages of the technology

Benefits

The technology assists in regaining the information after a plane crash. It records and keeps all the conversation made via the radio. The information stored is the conversation between the cockpit crew and the cockpit space. The black box acts as the first step in investigating a plane crash. It has the full evidence for all the events that took place in the plane before the crash. In addition, it offers an accurate timing of events that are very significant in determining the main cause of the accident.

Another advantage of the black box lies with its design. The black box is

designed to withstand pressures in the deep sea, low or high temperatures of ice or fire and any high or low impact of an aircraft crash. Having the ability to withstand all this it indicates that the Black box will be in a position to still store the information stored even when burned. Similarly, the information cannot be distorted for exposing the box to low ice temperature. This indicates that the Black box is a special and essential components in an airplane.

In addition, the black box can spot and record the engine performance of the aircraft. In so doing, it offers first hand information in data icons between the ground system controls, the engineering crew and the plane pilots. It provides the information in a clear, efficient and effective way.

In most cases, the black box is built and painted in bright orange or red color. The orange paint is heat resistant. This increases the visibility measure of the black box in case of wreckage. This ensures that the identification process in a crashed airplane is very simple. The painting helps the investigators to save time while looking for a black box. Similarly, it is equipped with an underwater locator beacon technology (ULB). The locator beacon works for at least thirty three days under water.

The black box is divided into two components. The flight data's recorder and the cockpit voice recorder. The flight data recorder keeps a close on look for altitude, fuel flow and speed data for more than 25 hours. This offers a clear start up to investigate engine failures in the airplane. This ensures that no problem goes in the engine unnoticed. It's a critical component in monitoring and assessing engine performance. The cockpit voice recorder is relevant in recording all the sounds and voices in the cockpit. It has ability to record the

last two hours in sound and voice. Therefore, the plane crash investigators of the plane crash can get a clear conversation of the crew until the time they get into distress.

Lastly, it has a full supply of the power supply. The black box is powered by electric generators. Anytime the plane is on the black box begins recording till the last minute the engine goes off. The full time power generation for the black box ensures that its performance is efficient. Similarly, works on an automatic basis. Any time the engine goes on it begins recording data. This ensures that all the data of the plane from zero minute is put into account. In so doing it ensures that any required information about the plane will be available.

Lastly, if the plane crash in the water, the black box can be used in tracing and locating the remains. The black box has ability to send ultrasonic pulses. The pulses are detected by the acoustical and sonar equipment's locating the crashed plane. With this knowledge, the black box enables easy tracing of the lost or crashed plane in the waters.

Disadvantages of the Black Box

The advantages of the technology outweigh the disadvantages. Though the black box has its own drawbacks. For instance, it only records voice for only two hours. This means that if the problem persists past two hours, it will not be in a position to detect the voices. This expounds that the black box may only facilitate recordings of only two hours. In addition, if there is poor transmission of waves between the ground control and the cockpit crew the black box may not be in a position to make the recording of the data efficiently and effectively.

Similarly, the black box can stay under water sending ultra-sonic pulses. Beyond the thirty days, it would be very difficult to trace where the remains of a crashed airplane are located. Lastly, the black box can only send pulses when in 14, 000 feet's depth, in water. This shows that if the crashed plane fall below 14, 000 feet, the device will not be in a position to send pulses for detection. The technology also needs high-tech retrieval of information and data from the box storage point. This is because if the box is fractured it requires maximum care to avoid loss of data. In conclusion, black box technology has been so expensive to install though its overall workability and benefits are very crucial.

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