
Text 5: The orange black box

There's a story that is told again and again whenever a plane crash hits the headlines. If only the craft were made of the same material as the black box, there everybody would survive.

The legendary invincibility of the famous box is familiar to most of us. Yet for such a well-known object, it's remarkably mysterious. How many of us know that the "black box" is in fact painted fluorescent **orange**?

"It was originally called a black box in the days when anything to do with electronics was new and strange" explains Pete Cook, from a flight recorder manufacturer. "They are painted **orange** nowadays to make them more easily visible in the event of crash".

There are two kinds of black box:

1. the flight data recorder (FDR) and;
2. the cockpit voice recorder (CVR).

Both are normally stored at the rear of an aircraft, where the fuselage meets the upper tail fin-the part of planes that has the best survival record. The same principle applies to passengers-you're safer at the back. Despite their reputation, neither box is in fact indestructible. However, they can withstand a temperature of 1,100°C for 30 minutes and 250°C for 10 hours. They must also be able to survive an impact force of 3,500g-3,500 times the force of gravity. To make this kind of strain, flight recorders are incased in two thicknesses of titanium. Memory ships hold the flight data. While FDRs make an electronic record of the plane mechanical performance, CVRs record the communication between the crew. "After a crash in water, they send out a sonar "ping" so that they can be found" says Cook. But they are still recovered in 80 percent of accidents.

Exercise 1

Determine if the following statements are true or false

N°	Sentence	True	False
1	RDF is the flight data recorder		
2	CVRs make an electronic record of the plane mechanical performance		
3	Flight recorders also be able to survive an impact force of 3,500g-3,750 times the force of gravity		
4	CVRs record the communication between the passengers		
5	If only the craft were made of the same material as the black box, there everybody would die		
6	CVR is the flight data recorder		
7	Flight recorders can withstand a pressure of 1,100°C		
8	Flight recorders are incased in two thicknesses of titanium		
9	FDRs record the communication between the crew		
10	The black box is in fact painted fluorescent green		
11	Flight recorders must also be able to survive an impact force of 3,500g-3,500 times the force of gravity		
12	Flight recorders are incased in two thicknesses of gold		
13	If only the craft were made of the same material as the black box, there nobody would survive		
14	FDR is the cockpit voice recorder		
15	Flight recorders are incased in two thicknesses of uranium		
16	Flight recorders can withstand a temperature of 1,100°K		
17	VRC is the cockpit voice recorder		
18	The red box is in fact painted fluorescent orange		
19	If only the craft were made of the same material as the black box, there everybody would survive		
20	CVRs record the communication between the crew		
21	FDRs make an electronic record of the engine mechanical performance		
22	Flight recorders are incased in two thicknesses of titanium		
23	The black box is in fact painted fluorescent orange		
24	Flight recorders can withstand a temperature of 1,100°C		
25	FDR is the flight data recorder		
26	CVR is the cockpit voice recorder		
27	FDRs make an electronic record of the plane mechanical performance		

Exercise 2

For each question, choose the best answer

The black box is painted	<input checked="" type="checkbox"/> pink <input checked="" type="checkbox"/> black <input checked="" type="checkbox"/> fluorescent orange
It was called black box	<input checked="" type="checkbox"/> because it was painted black <input checked="" type="checkbox"/> when everything to do with electronics was new and strange
If the aircraft were made of the same material as the black box then,	<input checked="" type="checkbox"/> the aircraft would be faster <input checked="" type="checkbox"/> everybody would survive <input checked="" type="checkbox"/> the flight would be funnier
There are.....kinds of black box	<input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input checked="" type="checkbox"/> 99
FDR	<input checked="" type="checkbox"/> is the flight data recorder <input checked="" type="checkbox"/> is the cockpit voice recorder <input checked="" type="checkbox"/> is the passenger's voice recorder <input checked="" type="checkbox"/> makes an electronic record of the plane mechanical performance
CVR	<input checked="" type="checkbox"/> is the flight data recorder <input checked="" type="checkbox"/> is the cockpit voice recorder <input checked="" type="checkbox"/> is the passenger's voice recorder <input checked="" type="checkbox"/> it records the communication between the crew
Passengers are safer	<input checked="" type="checkbox"/> at the airport <input checked="" type="checkbox"/> at the back <input checked="" type="checkbox"/> in the cockpit
Flight recorders are encased in two thicknesses of	<input checked="" type="checkbox"/> silver <input checked="" type="checkbox"/> titanium <input checked="" type="checkbox"/> uranium
Flight records send a sonar 'ping'	<input checked="" type="checkbox"/> after a crash in the desert <input checked="" type="checkbox"/> after a crash in mountains <input checked="" type="checkbox"/> after a crash in water
They are recovered in	<input checked="" type="checkbox"/> 80% of accidents <input checked="" type="checkbox"/> 5% of accidents <input checked="" type="checkbox"/> 100% of accidents

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