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

Exercise 2

For each question, choose the best answer

The black box is painted	<ul style="list-style-type: none"> ✓ pink ✓ black ✓ <u>fluorescent orange</u>
It was called black box	<ul style="list-style-type: none"> ✓ because it was painted black ✓ <u>when everything to do with electronics was new and strange</u>
If the aircraft were made of the same material as the black box then,	<ul style="list-style-type: none"> ✓ the aircraft would be faster ✓ <u>everybody would survive</u> ✓ the flight would be funnier
There are.....kinds of black box	<ul style="list-style-type: none"> ✓ 1 ✓ <u>2</u> ✓ 99
FDR	<ul style="list-style-type: none"> ✓ <u>is the flight data recorder</u> ✓ is the cockpit voice recorder ✓ is the passenger's voice recorder ✓ makes an electronic record of the plane mechanical performance
CVR	<ul style="list-style-type: none"> ✓ is the flight data recorder ✓ <u>is the cockpit voice recorder</u> ✓ is the passenger's voice recorder ✓ it records the communication between the crew
Passengers are safer	<ul style="list-style-type: none"> ✓ at the airport ✓ <u>at the back</u> ✓ in the cockpit
Flight recorders are encased in two thicknesses of	<ul style="list-style-type: none"> ✓ silver ✓ <u>titanium</u> ✓ uranium
Flight records send a sonar 'ping'	<ul style="list-style-type: none"> ✓ after a crash in the desert ✓ after a crash in mountains ✓ <u>after a crash in water</u>
They are recovered in	<ul style="list-style-type: none"> ✓ <u>80% of accidents</u> ✓ 5% of accidents ✓ 100% of accidents

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