

APPENDIX B : COCKPIT VOICE RECORDER TRANSCRIPT

Transcript of a Cockpit Voice Recorder, removed from an AIRBUS A-320 registered A40-EK, which was involved in an accident on August 23 2000, in Bahrain.

*** WARNING ***

The following represents the transcription of what was intelligible, on the day this report was edited, from the read out of the CVR. This transcript comprises the conversations between the crew members, the radio telephony messages between the crew and the traffic control, and the diverse noises corresponding, for example, to selectors actuators or to alarms.

It should be pointed out to the reader that the recording and the transcription of a CVR only partially reflects the events and the atmosphere in a cockpit. Consequently, such a document should be interpreted very carefully.

*** MAIN LEGEND ***

UTC	: Aircraft UTC time
⇔	: Communication from the crew to the ATC
CMV	: Voice identified as the Cockpit Mechanical Voice
PA	: Public address (communication from the pilots or flight attendants) on a specific channel
F/A	: Voice identified as a Flight Attendant (1, 2, ...)
(*)	: Unintelligible word or sentences
(@)	: Sounds, alarms
(...)	: General conversation (non pertinent conversation or slang for example)
(#)	: Exclamations
()	: Words or sentence which are still doubtful
<i>example</i>	: Words or sentences in italic in the remarks column are translated from the Arabic

UTC time	CPT	F/O	RADAR/TWR	CMV and sounds in cockpit	Remarks
15 h 59 min 41 s	START OF RECORDING				
16 h 21 min 35 s	START OF TRANSCRIPT				
21 min 37 s	Non-pertinent conversation between captain and first officer.				
21 min 48 s			Gulf Air 072 uh, self navigation for Runway One Two is approved. Three point five as well approved and Bahrain Approach One Two Seven Eight Five approved.		Three point five = 3,500 feet One Two Seven Eight Five = 127.85 MHz
21 min 59 s	⇔ Gulf Air 072 confirm we can go for Runway One Two.				
16 h 22 min 02 s			Affirmative. Three approvals you have: Direct for One Two. Three point five approved. One Two Seven Eight Five approved.		One Two = Runway 12 Three point five = 3,500 feet One Two Seven Eight Five = 127.85 MHz
22 min 09 s	⇔ Have a good day.				
22 min 10 s	Call Bahrain and tell them are we going for Runway uh One Two.				
22 min 16 s	(*)				
22 min 19 s		⇔ Bahrain approach, salam alaykom, Gulf Air 072 . We copied information Tango and uh, Runway One Two is approved.			

UTC time	CPT	F/O	RADAR/TWR	CMV and sounds in cockpit	Remarks
22 min 28 s			Gulf Air 072 Bahrain Approach, good evening to you. Identified on handover. (*) Runway One Two cleared self position and uh, as you're cleared by Dhahran. Confirm Three Thousand Five Hundred feet.		
22 min 42 s		(*)			
22 min 44 s	Tell them we are cleared to Seven Thousand.				Seven Thousand = 7,000 feet
22 min 46 s		⇔ We are cleared to Seven Thousand, Gulf Air 072.			Seven Thousand = 7,000 feet
22 min 50 s			Roger Gulf Air 072. Continue descent Three Thousand Five Hundred feet on the QNH One Zero Zero One. Cleared self position Runway One Two. Request souls on board.		Descent = descent to QNH One Zero Zero One = QNH 1001hP
22 min 59 s		⇔ Clear self positioning Runway One Two. Continue descent Three Thousand Five Hundred, and we have One Four Three souls on board, Gulf Air 072.			Three Thousand Five Hundred = 3,500 feet
16 h 23 min 08 s			Thank you.		
23 min 09 s	Approach checklist please.				
23 min 16 s		Briefing?			
23 min 18 s	Confirmed.				
23 min 19 s		ECAM status?			

UTC time	CPT	F/O	RADAR/TWR	CMV and sounds in cockpit	Remarks
23 min 20 s	Checked.				
23 min 21 s		(*)	Gulf Air 072, continue descent to One Thousand Five Hundred feet. Report established (the) VOR/DME Runway One Two radial Three Zero One.		Three Zero One = 301 degrees established = established on
23 min 28 s		⇔ Continue descent to One Thousand Five Hundred uh, report established on the VOR/DME Runway One Two, Gulf Air 072.			One Thousand Five Hundred uh = 1,500 feet
23 min 36 s		V bugs?			
23 min 37 s	V bugs, One Three Six, Two Zero Six, set.				One Three Six, Two Zero Six = 136 knots and 206 knots
23 min 41 s		Checked. seatbelts?			
23 min 43 s	On.				
23 min 44 s		Baro MDA?			
23 min 46 s	Okaaaay, baro One Zero Zero One, Four Seven Zero				One Zero Zero One = 1001 hP Four Seven Zero = 470 feet
23 min 53 s				(@)	Single chime similar to master caution aural.
23 min 54 s		(*) ECAM			
23 min 56 s	We know about that.				
23 min 58 s		Leave it?			

UTC time	CPT	F/O	RADAR/TWR	CMV and sounds in cockpit	Remarks
16 h 24 min 09 s		(*). uh huh....			Pilots start to use hot mikes
24 min 10 s		(Continue).			
24 min 11 s		(Stand by please cabin pressure low differential. Clear?)			
24 min 16 s	Raw VOR for me please.				
24 min 23 s		Ya.			
24 min 26 s					Pilots select interphone position
24 min 28 s	Okay, speed ALT STAR approach nav.				
24 min 31 s		Check.			
24 min 34 s				(@)	Sound of click similar to seatbelt buckle.
24 min 38 s	Now you see you have to be ready, for all this, okay? If (it) change on you all of a sudden, you don't say, I'll go. You have to know DME, if you can make it or not. Okay?				
24 min 50 s		Okay.			
24 min 51 s	Now, I've just changed all the flight plan, RAD NAV, everything for you, before you even blink.				
24 min 58 s	Yeah? Okay Ammy?				
16 h 25 min 00 s		Okay Ammy.			

UTC time	CPT	F/O	RADAR/TWR	CMV and sounds in cockpit	Remarks
25 min 02 s	Ammek mawlaak.				
25 min 03 s		Okay sir.			
25 min 05 s	Activate approach is One Three Six. It's already done. Magenta high and positive.	(high) (*) checked.			
25 min 11 s		(*) Checked.			
25 min 12 s	And Approach NAV, final green.				
25 min 14 s		Checked green, check.			
25 min 15 s	Final descent is seven - DME.				
25 min 18 s		Check.			
25 min 20 s					Sound of unidentifiable intermittent tone.
25 min 31 s	ALT green.				
25 min 32 s		Check.			
25 min 34 s					Sound of unidentifiable intermittent tone.
25 min 37 s	Call established.				Call established on the VOR
25 min 41 s		⇨ Gulf Air 072, established on the VOR.			
25 min 45 s			Gulf Air 072, clear VOR/DME Runway One Two. Seven mile from touchdown. Contact tower One One Eight Five.		One One Eight Five = 118.5 MHz
25 min 51 s		⇨ Clear for the approach and uh contact Tower One			Contact Tower One One Eight Five = Contact tower

UTC time	CPT	F/O	RADAR/TWR	CMV and sounds in cockpit	Remarks
		One Eight Five, Gulf Air 072.			on 118.5 MHz
16 h 26 min 00 s	Final, green.				
26 min 02 s		Check.			
26 min 04 s		↔ Bahrain Tower, salam alaykom, Gulf Air 072, Eight -DME established.			
26 min 08 s			Gulf Air 072, cleared to land Runway One Two. Wind Zero Nine Zero Eight.		Wind Zero Nine Zero Eight = 090 degrees/8 knots
26 min 13 s	Flaps one.	↔ Cleared to land Runway One Two, Gulf Air 072			
26 min 17 s		Speed checked, Flaps "1".			
26 min 20 s		(Ehsan) status clear .			
26 min 22 s	Clear status, gear down.				
26 min 25 s				(@)	Sound similar to landing gear being activated.
26 min 26 s		Checked gear down.			
26 min 28 s	(*) step.				
26 min 30 s		Descent.			
26 min 36 s		Is (down or done)			
26 min 37 s	Okay, visual with airfield.				
26 min 39 s		Check.			
26 min 42 s		Gears are down and flaps at "1".			
26 min 44 s				(@)	[Sound of] "Cavalry charge" similar to auto-

UTC time	CPT	F/O	RADAR/TWR	CMV and sounds in cockpit	Remarks
					pilot disconnect signal.
26 min 45 s	Auto-pilot's coming off.				
26 min 46 s		Check.			
26 min 47 s	Flight directors off.				
26 min 49 s	Have to be stabilized by Five Hundred feet. Okay.	Off.		(CMV) One thousand.	(PA) Ladies and gentlemen, the no-smoking sign has now been illuminated. Please ensure that you carefully extinguish your cigarettes. No further smoking please until you are inside the designated smoking areas of the airport terminal building. Thank you. One Thousand = 1,000 Feet
26 min 50 s					
26 min 51 s		Yes.			
26 min 53 s					
26 min 54 s					
26 min 56 s		We're on radial.			
16 h 27 min 06 s	(#), We're not gonna make it.				
27 min 08 s		Yeah.			
27 min 09 s	Flaps Two.				
27 min 10 s		(Speed), Check Flaps Two.			
27 min 13 s	We're not gonna make it (bwana).				
27 min 15 s	(#)				
27 min 19 s		Mushkella. flaps at Two.			
27 min 23 s	Tell him to do a Three Six Zero left.				Three Six Zero = 360 degrees orbit
27 min 25 s		↔ Gulf Air 072 request			

UTC time	CPT	F/O	RADAR/TWR	CMV and sounds in cockpit	Remarks
		Three Six Zero to the left.			
27 min 29 s			Approved, Sir.		
27 min 31 s		↔ Approved, Gulf Air 072.			
27 min 33 s	Flaps Three.				
27 min 34 s		(Speed) checked, Flaps Three.			
27 min 38 s				(@)	Sound similar to increase in engine RPM.
27 min 44 s	Flaps full.				
27 min 45 s		Speed check, Flaps full.			
27 min 47 s				(@)	Sound similar to decrease in engine RPM.
27 min 51 s		Flaps at full.			
27 min 53 s	Thanks.				
27 min 54 s		and Seven Hundred.			Seven Hundred = 700 feet
16 h 28 min 17 s	Landing checklist.				
28 min 23 s		Cabin crew?			
28 min 24 s	Advised.	Auto-thrust?			
28 min 25 s	Speed.				
28 min 26 s		ECAM memo?			
28 min 27 s	Landing, no blue.				
28 min 28 s		Landing checklist completed.			
28 min 41 s				(CMV) Four Hundred.	Four Hundred = 400 feet
28 min 43 s		(*) Okay.			

UTC time	CPT	F/O	RADAR/TWR	CMV and sounds in cockpit	Remarks
28 min 47 s		Runway in sight ...three hundred.			Three hundred = 300 Feet
28 min 48 s			Gulf Air 072, cleared to land Runway One Two.		
28 min 52 s		⇔ Cleared to land Runway One Two, Gulf Air 072.			
28 min 57 s	(#) We overshoot it (*).				
28 min 59 s				(@)	Sound similar to increase in engine RPM.
16 h 29 min 04 s	(@)				Sound of tongue clicking.
29 min 07 s	Tell him going around.				
29 min 08 s		⇔ Gulf Air 072, going around.			
29 min 10 s				(@)	Sound of selector similar to throttle pushed to the wall followed by sound similar to increase in engine RPM.
29 min 11 s			I can see that, 072. Sir, uh would you like radar vectors for final again?		072 = Gulf Air 072
29 min 15 s	Go around flaps.				
29 min 17 s	Yes.				
29 min 18 s	Go around flaps set.	⇔ (*) We'd like radar vectors, Gulf Air 072.			
29 min 22 s	Gear up.				
29 min 23 s				(@)	Sound similar to landing gear operation.
29 min 25 s		(Speed) check positive climb gear up.	Roger uh, fly heading Three Hundred uh, climb Two		Three Hundred = 300 degrees

UTC time	CPT	F/O	RADAR/TWR	CMV and sounds in cockpit	Remarks
		climb gear up.	Thousand Five Hundred feet.		degrees
29 min 30 s		⇨ Heading Three Hundred climb Two Thousand Five Hundred feet. Gulf Air 072.			Three Hundred = 300 degrees
29 min 33 s	Heading?				
29 min 34 s		Yes, Three Hundred.			Three Hundred = 300 degrees
29 min 37 s	Three Hundred?				Three Hundred = 300 degrees
29 min 38 s		Zero yes. Right? Left.			Right? Left = Right? or Left
29 min 41 s				(@)	Continuous repetitive chime (CRC) similar to over speed warning.
29 min 42 s 29 min 44 s		Speed, Over speed limit (*)	And contact approach, One Two Seven Eight Five Sir.		One Two Seven Eight Five = 127.85 MHz
29 min 46 s	(#).				
29 min 47 s 29 min 48 s		⇨ One Two Seven Eight Five.		(CMV) priority left.	One Two Seven Eight Five = 127.85 MHz
29 min 50 s		Speed checks, Flaps Three.			
29 min 51 s				(CMV) Sink rate.	
29 min 52 s	Flaps up.			(CMV) Whoop whoop pull up	
29 min 53 s				(CMV) Whoop whoop pull up	
29 min 54 s				(CMV) Whoop whoop pull up	End of CRC
29 min 55 s					
29 min 56 s				(@)(CMV) Whoop whoop pull	Start of CRC

UTC time	CPT	F/O	RADAR/TWR	CMV and sounds in cockpit	Remarks
				up	
29 min 57 s	(#)			(CMV) Whoop whoop pull up	
29 min 58 s		Gear's up, flaps..		(CMV) Whoop whoop pull up	
29 min 59 s	Flaps all the way.			(CMV) Whoop whoop pull up	End of CRC (59,5 s)
16 h 30 min 00 s		Zero.		(@)(CMV) Whoop whoop pull up	Start of CRC (00,5 s)
30 min 01 s				(CMV) Whoop whoop pull up	
16 h 30 min 02	END OF RECORDING / TRANSCRIPT				