NATIONAL TRANSPORTATION SAFETY BOARD
Office of Research and Engineering
Vehicle Recorder Division
Washington, D.C. 20594

GROUP CHAIRMAN'S FACTUAL REPORT OF INVESTIGATION

ENG11IA047

By
Bill Tuccio

WARNING

The reader of this report is cautioned that the transcription of a cockpit voice recorder audio recording is not a precise science but is the best product possible from a Safety Board group investigative effort. The transcript or parts thereof, if taken out of context, could be misleading. The transcript should be viewed as an accident investigation tool to be used in conjunction with other evidence gathered during the investigation. Conclusions or interpretations should not be made using the transcript as the sole source of information.

NATIONAL TRANSPORTATION SAFETY BOARD
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November 15, 2011

Cockpit Voice Recorder - 12

Group Chairman's Factual Report
By Bill Tuccio

A. EVENT

Location:	Moline, IL
Date:	August 29, 2011, 1236 Central Daylight Time (CDT) *
Aircraft:	Embraer EMB-145XR, N21752
Operator:	Express Jet Airlines, Flight 5821
NTSB Number:	ENG11IA047

B. GROUP

A group was convened on September 15, 2011.

Chairman:	Bill Tuccio National Transportation Safety Board
Member:	TR Proven Air Safety Investigator Federal Aviation Administration
Member:	Trey Ables Manager, Safety and Regulator Compliance ExpressJet Airlines
Member:	Dan Ramirez Air Safety Specialist Embraer Aircraft Holding, Inc.
Member:	Michael Shanks Chairman, XJT Central Air Safety Committee Air Line Pilots Association

* All times are expressed in CDT, unless otherwise noted.

C. SUMMARY

On August 29, 2011 at about 1236 central daylight time (CDT), United Express flight 5821, an Embraer EMB-145XR, registration N27152, departed the left side of Runway 10 during the landing roll out at Quad City International Airport, Moline, Illinois. There were 53 passengers and crew on board with no injuries reported. The airplane sustained minor damage. The airplane was operated by ExpressJet Airlines under the provisions of 14 Code of Federal Regulations Part 121 as domestic passenger flight from Denver International Airport. A solid-state cockpit voice recorder (CVR) was sent to the National Transportation Safety Board Vehicle Recorder Division's Audio Laboratory for readout. The CVR group meeting convened on June 28, 2011 and a partial transcript was prepared for the last 11-minutes, 49-seconds of the 2-hour, 5-minute, 2-second digital recording (see attached).

D. DETAILS OF INVESTIGATION

On September 6, 2011, the NTSB Vehicle Recorder Division's Audio Laboratory received the following CVR:

Recorder Manufacturer/Model: **Honeywell 6022 SSCVR 120**
Recorder Serial Number: **06147**

Recorder Description

Per Federal regulation, CVRs record a minimum of the last 30 minutes of aircraft operation; this is accomplished by recording over the oldest audio data. When the CVR is deactivated or removed from the airplane, it retains only the most recent 30 minutes or 2 hours of CVR operation, depending on the CVR model. This model CVR, the Honeywell 6022 SSCVR 120, is a solid-state CVR that records 2 hours of digital cockpit audio. The recorded audio data is separated by the Honeywell download software into 2 sets of audio data files: a) a 2-channel recording containing the last 2 hours of recorded events and b) a 4-channel recording containing the last 30 minutes of recorded events. During the 2-hour portion of the recording, one channel contains audio information from the cockpit area microphone (CAM) and the other channel contains a mixture or two audio sources: the captain's audio panel information and the first officer's audio panel information. The 30-minute portion of the recording contains 4 channels of audio data; one channel for each flight crew and one channel for the CAM audio information.

Recorder Damage

Upon arrival at the audio laboratory, it was evident that the CVR had not sustained any heat or structural damage and the audio information was extracted from the recorder normally, without difficulty.

Audio Recording Description

For the 2-hour portion of the CVR recording, each channel contained good quality[†] audio information. As shown in the table below, the 30-minute portion of the recording

[†] See attached CVR Quality Rating Scale.

consisted of four channels of useable audio information. Each channel's audio quality[‡] is indicated in Table 1.

Table 1: Audio Quality

Channel Number	Content/Source	Quality
1	Observer Pilot	Excellent
2	First Officer	Excellent
3	Captain	Excellent
4	CAM	Good

Timing and Correlation

Timing on the transcript was established by correlating the CVR events to common events on the flight data recorder (FDR). Specifically, six radio transmissions that the aircraft made between 0018:36.470 and 0022:31.070 CVR elapsed time, were correlated to the radio transmit microphone key parameter from the FDR between 1229:16 and 1233:10 CST. Each of the six radio transmissions acted as an anchor point for a linear interpolation between the remaining CVR events. As a result of the correlation, 1210:38.850 FDR CST = 0000:00.000 CVR elapsed time. Using this correlation, 1210:38.850 was added to CVR elapsed time to convert to CDT.

Description of Audio Events

The recording began at 1035:58 on the ground at the Denver International Airport as the crew was preparing for the flight. The aircraft departed Denver at 1104 and flew uneventfully to the Moline terminal area. The partial transcript began at 1229:11.2 and continued until the end of the recording at 1241:00.

As part of the Safety Board's accident investigation process, the flight crew was invited to review the CVR transcript and suggest corrections or additions. Both crewmembers reviewed the audio and transcript on September 30, 2011 and had no corrections or additions.

Bill Tuccio
Vehicle Recorder Division

[‡] See attached CVR Quality Rating Scale.

CVR Quality Rating Scale

The levels of recording quality are characterized by the following traits of the cockpit voice recorder information:

Excellent Quality — Virtually all of the crew conversations could be accurately and easily understood. The transcript that was developed may indicate only one or two words that were not intelligible. Any loss in the transcript is usually attributed to simultaneous cockpit/radio transmissions that obscure each other.

Good Quality — Most of the crew conversations could be accurately and easily understood. The transcript that was developed may indicate several words or phrases that were not intelligible. Any loss in the transcript can be attributed to minor technical deficiencies or momentary dropouts in the recording system or to a large number of simultaneous cockpit/radio transmissions that obscure each other.

Fair Quality — The majority of the crew conversations were intelligible. The transcript that was developed may indicate passages where conversations were unintelligible or fragmented. This type of recording is usually caused by cockpit noise that obscures portions of the voice signals or by a minor electrical or mechanical failure of the CVR system that distorts or obscures the audio information.

Poor Quality — Extraordinary means had to be used to make some of the crew conversations intelligible. The transcript that was developed may indicate fragmented phrases and conversations and may indicate extensive passages where conversations were missing or unintelligible. This type of recording is usually caused by a combination of a high cockpit noise level with a low voice signal (poor signal-to-noise ratio) or by a mechanical or electrical failure of the CVR system that severely distorts or obscures the audio information.

Unusable — Crew conversations may be discerned, but neither ordinary nor extraordinary means made it possible to develop a meaningful transcript of the conversations. This type of recording is usually caused by an almost total mechanical or electrical failure of the CVR system.

Transcript of a Honeywell 6022 SSCVR 120 solid-state cockpit voice recorder, serial number 06147, installed on an Express Jet Airlines Embraer EMB-145XR (N21752), which departed the runway at the Quad City International Airport in Moline, Illinois.

LEGEND

CAM	Cockpit area microphone voice or sound source
HOT	Flight crew audio panel voice or sound source
RDO	Radio transmissions from N21752
CTR	Radio transmission from Chicago center controller
APR	Radio transmission from the Quad City approach controller
TWR	Radio transmission from the Quad City airport tower controller
AC	Radio transmission from miscellaneous other aircraft
PA	Public address system
AWU	Aural Warning Unit
-1	Voice identified as the captain
-2	Voice identified as the first officer
-3	Voice identified as the flight attendant
-?	Voice unidentified
*	Unintelligible word
#	Expletive
( )	Questionable insertion
[ ]	Editorial insertion

Note 1: Times are expressed in central daylight time (CDT).

Note 2: Generally, only radio transmissions to and from the accident aircraft were transcribed.

Note 3: Words shown with excess vowels, letters, or drawn out syllables are a phonetic representation of the words as spoken.

Note 4: A non-pertinent word, where noted, refers to a word not directly related to the operation, control or condition of the aircraft.

TIME and SOURCE	INTRA-AIRCRAFT CONTENT	TIME and SOURCE	AIR-GROUND COMMUNICATION CONTENT
10:35:58.3 **START OF RECORDING**			
12:29:11.2 **START OF TRANSCRIPT**			
		12:29:11.6 **CTR**	Jetlink fifty eight twenty one contact Quad City Approach one one eight point two.
		12:29:15.3 **RDO-2**	eighteen two. take care.
		12:29:23.4 **RDO-2**	Approach Jetlink fifty eight twenty one out of thirteen for (level). foxtrot.
		12:29:29.6 **APR**	Jetlink fifty eiggght twenty one Quad City Approach goooooood morning. well its afternoon now I guess. turn ten degrees left join the localizer expect the localizer one zero approach. descend maintain five thousand.
		12:29:40.9 **RDO-2**	ten left join the ah ten loc. down to five thousand fifty eight twenty one.
12:29:49.2 **HOT-1**	five set.		
12:29:51.7 **HOT-2**	five set.		
12:29:54.7 **HOT-1**	[sound of mouth tick] this'll be fun.		

TIME and SOURCE	INTRA-AIRCRAFT CONTENT	TIME and SOURCE	AIR-GROUND COMMUNICATION CONTENT
12:30:08.7 **HOT-1**	[low volume] come left a little bit more.		
12:30:12.4 **HOT-1**	[sound of coughs]		
12:30:18.5 **HOT-1**	in range.		
12:30:22.0 **HOT-2**	in range. (windshield heats) are on. cabin signs are on. landing data and speeds checked set for flaps forty five. altimeters oh six set crossed.		
12:30:28.6 **HOT-1**	oh six set and cross checked.		
12:30:29.8 **HOT-2**	pressurization checked set. arrival briefs complete. *.		
12:30:32.0 **HOT-1**	thank you sir.		
12:30:41.8 **CAM**	[sound of two chimes, muffled, from cabin]		
12:30:46.1 **HOT-2**	we were going into Indy a while back and the ah dude and I were just chattin'. doo doo dah doo. twenty six thousand feet. doo do doo.		
12:30:54.2 **HOT-1**	flaps nine.		

TIME and SOURCE	INTRA-AIRCRAFT CONTENT	TIME and SOURCE	AIR-GROUND COMMUNICATION CONTENT
12:30:55.1 **HOT-2**	all of a sudden I see we're...		
12:30:56.5 **CAM**	[sound of click, similar to flap handle]		
12:30:56.8 **HOT-2**	...twenty six miles from the airport.		
12:30:58.6 **HOT-1**	at how what at twenty six thousand feet?		
12:30:59.9 **HOT-2**	twenty four twenty six but yeah.		
12:31:00.9 **HOT-1**	oh # [laughter]		
12:31:02.2 **HOT-2**	yeah they forgot about us. hey Chicago.		
		12:31:03.5 **APR**	Jetlink fifty eight twenty one. one four miles from JUGUL. maintain three thousand till established localizer. cleared localizer runway one zero approach.
		12:31:12.4 **RDO-2**	cleared till established cleared localizer ten. Jetlink fifty eight twenty one.
12:31:16.0 **HOT-1**	how about ahhh [sound of smacking of lips] gear down please.		

TIME and SOURCE	INTRA-AIRCRAFT CONTENT	TIME and SOURCE	AIR-GROUND COMMUNICATION CONTENT
12:31:20.7 **CAM**	[sound of bump and increased noise, similar to gear extension]		
12:31:21.3 **AWU**	auto pilot.		
12:31:24.9 **HOT-2**	yeah they * ah we had to (gave us) a big three sixty...Chicago # in their pants....controller said they saw us screaming in and they called Chicago no one answered the phone.		
12:31:35.8 **HOT-1**	what airport were you going to?		
12:31:37.1 **HOT-2**	Indy.		
12:31:40.0 **HOT-2**	yeah ah they they dropped the ball. they tried to blame it on us. ***.		
12:31:46.2 **HOT-2**	it was like a Minneapolis situation though you know. like those guys did.		
12:31:52.0 **HOT-1**	yeah.		
12:31:54.5 **HOT-1**	they left us pretty high. ** not like that. that's insane. but I went in there a few weeks back and...they left us really high too we were on a downwind and. I don't know what it was but...you know...six or seven thousand feet A-G-L.		

TIME and SOURCE	INTRA-AIRCRAFT CONTENT	TIME and SOURCE	AIR-GROUND COMMUNICATION CONTENT
12:32:09.1 **HOT-2**	yeah.		
12:32:09.5 **HOT-1**	you guys have the airport in sight. yeah. can you make a short approach. ahhhh sort'a.		
12:32:14.2 **HOT-2**	[sound of laughter]		
12:32:16.3 **HOT-1**	we'll try.		
12:32:17.3 **HOT-2**	define short.		
12:32:18.3 **HOT-1**	I'll try anything once.		
12:32:21.5 **HOT-2**	I'm like do we get penalized for go arounds?		
12:32:32.6 **HOT-1**	let's see...twenty two please.		
12:32:35.0 **CAM**	[sound of two clicks, similar to flap handle movement]		
		12:32:43.6 **APR**	Jetlink fifty eight twenty one radar service terminated. contact tower one one niner point four.

TIME and SOURCE	INTRA-AIRCRAFT CONTENT	TIME and SOURCE	AIR-GROUND COMMUNICATION CONTENT
		12:32:47.0 **RDO-2**	nineteen four good'day.
12:32:48.9 **HOT-2**	radar service terminated. what the #.		
12:32:50.9 **HOT-1**	I'm scared.		
12:32:53.4 **HOT-2**	what are we gonna do. oh my God.		
		12:32:56.5 **RDO-2**	Tower Jetlink fifty eight twenty one...ah localizer ten.
		12:33:01.6 **TWR**	Jetlink fifty eight twenty one Quad City Tower traffic just coming up over the numbers runway one zero cleared to land. wind one five zero at tree.
		12:33:08.1 **RDO-2**	one zero cleared to land fifty eight twenty one.
12:33:16.1 **HOT-1**	[low volume] cleared to land.		
12:33:18.2 **HOT-1**	did we do an approach checklist?		
12:33:21.3 **HOT-2**	[sound of two beeps, similar to Morse code identifier]		

TIME and SOURCE	INTRA-AIRCRAFT CONTENT	TIME and SOURCE	AIR-GROUND COMMUNICATION CONTENT
12:33:22.0 **HOT-1**	yeah I'm lazy.		
12:33:25.0 **HOT-1**	flaps forty five please.		
12:33:26.6 **CAM**	[sound of click, similar to flap handle movement]		
12:33:31.8 **HOT-1**	approach and landing.		
12:33:31.9 **HOT-2**	[sound of Morse code, dot, dot, dash, dot, dot]		
12:33:33.8 **HOT-2**	approach checklist. radios identified. nav displays are * set *. inbound courses are set. and the cross feed is off. approach complete. landing check(list). landing gear's down three green.		
12:33:41.5 **HOT-1**	down and three green.		
12:33:42.7 **HOT-2**	flaps are set forty five.		
12:33:43.8 **HOT-1**	forty five.		
12:33:45.2 **CAM**	[sound of click]		

TIME and SOURCE	INTRA-AIRCRAFT CONTENT	TIME and SOURCE	AIR-GROUND COMMUNICATION CONTENT
12:33:45.7 **HOT-2**	yaw damper's off. landing checklist complete.		
12:33:45.7 **AWU**	[sound of three buzzes, similar to altitude alerter]		
12:34:00.9 **HOT-2**	there's...touchdown.		
12:34:02.8 **HOT-1**	thanks.		
12:34:30.7 **HOT-1**	it's a little deceptive too because the runway is so # skinny it makes you feel like you're like...		
12:34:34.7 **HOT-2**	yeah.		
12:34:35.7 **HOT-1**	...super high...we are a little bit...so this is called Quad City. what cities around here?		
12:34:46.0 **HOT-2**	got me dude.		
12:34:47.0 **HOT-1**	Moline.		
12:34:48.5 **HOT-2**	Davenport Iowa.		

TIME and SOURCE	INTRA-AIRCRAFT CONTENT	TIME and SOURCE	AIR-GROUND COMMUNICATION CONTENT
12:34:51.1 **HOT-2**	Moline.		
12:34:53.3 **HOT-2**	I don't know. two more apparently.		
		12:34:57.7 **AC**	[other aircraft, John Deere, calls Quad City Tower on radio]
12:34:57.8 **HOT-1**	**		
12:34:58.9 **CAM**	[sound of squeak, similar to armrest movement or adjustment]		
12:35:00.3 **HOT-1**	John Deere?		
12:35:04.5 **HOT-2**	it's their flight department.		
12:35:08.5 **HOT-1**	[imitates tractor noise with a few ticks] it's like on a tractor [imitates tractor noise with a few ticks]		
12:35:15.3 **HOT-2**	sexy tractor.		
12:35:26.5 **CAM**	[sound of high pitch whine, similar to seat or rudder adjustment]		
12:35:32.5 **AWU**	[sound of three buzzes, similar to altitude alerter]		

TIME and SOURCE	INTRA-AIRCRAFT CONTENT	TIME and SOURCE	AIR-GROUND COMMUNICATION CONTENT
12:35:41.1 **HOT-1**	wonder how much that job pays?		
12:35:43.9 **HOT-2**	John Deere?		
12:35:44.8 **HOT-1**	yeah.		
12:35:45.3 **HOT-2**	probably pretty good.		
12:35:46.2 **HOT-1**	that's what I was thinkin'.		
12:35:50.3 **HOT-2**	the ah REILS are NOTAMed out of service.		
12:35:54.7 **HOT-1**	were they?		
12:35:54.8 **HOT-2**	they look to be workin' too me.		
12:35:56.4 **HOT-1**	yeah.		
12:35:57.0 **HOT-1**	they're not very bright but of course its ah you know sunny out. so.		
12:35:60.0 **HOT-2**	yeah.		

TIME and SOURCE	INTRA-AIRCRAFT CONTENT	TIME and SOURCE	AIR-GROUND COMMUNICATION CONTENT
12:36:08.2 **HOT-1**	doin' the space shuttle approach this morning I guess.		
12:36:08.8 **AWU**	five hundred.		
12:36:15.2 **HOT-2**	G-four it's pretty sweet G-five whatever the hell it is.		
12:36:21.7 **AWU**	approaching minimums.		
12:36:26.1 **AWU**	minimums minimums.		
12:36:32.5 **AWU**	one hundred.		
12:36:41.1 **HOT-2**	oh wow.		
12:36:42.2 **CAM**	[sound of rattling]		
12:36:43.8 **HOT-2**	yee hah.		
12:36:44.4 **CAM**	[sound of increased noise]		
12:36:48.1 **HOT-1**	take the tops for me.		

TIME and SOURCE	INTRA-AIRCRAFT CONTENT	TIME and SOURCE	AIR-GROUND COMMUNICATION CONTENT
12:36:48.7 **HOT-2**	I got it.		
12:36:48.8 **CAM**	[sound of momentary rattle]		
12:36:49.6 **HOT-1**	[low volume] this thing is like.		
12:36:49.9 **HOT-2**	***.		
12:36:51.2 **HOT-1**	this things like. steering's all # up.		
12:36:52.1 **CAM**	[sound of increased noise, rustling]		
12:36:53.3 **HOT-1**	[grunting] ah.		
12:36:54.0 **HOT-1**	[increasing in intensity] trigger trigger trigger.		
12:36:54.4 **CAM**	[sound of higher pitch tone, similar to screeching]		
12:36:55.2 **HOT-1**	#.		
12:36:56.1 **CAM**	[sound of increased noise, more rustling, similar to runway departure]		

TIME and SOURCE	INTRA-AIRCRAFT CONTENT	TIME and SOURCE	AIR-GROUND COMMUNICATION CONTENT
12:36:56.1 **HOT**	[sound of single chime]		
12:36:56.7 **HOT-2**	aw # hold off **.		
		12:36:57.7 **TWR**	* fifty eight twenty one turn right at---ah disregard.
12:36:58.3 **HOT**	[sound of springy, rattling sound]		
12:37:01.1 **CAM**	[momentary decrease in background sound]		
12:37:01.7 **CAM**	[sound of single chime]		
12:37:02.7 **HOT-1**	#.		
12:37:04.8 **CAM**	[decrease in background sound and rattling]		
12:37:05.7 **HOT-2**	please remain seated remain seated.		
12:37:07.3 **CAM**	[sound of single chime]		
		12:37:09.0 **RDO-2**	tower roll the trucks.

TIME and SOURCE	INTRA-AIRCRAFT CONTENT	TIME and SOURCE	AIR-GROUND COMMUNICATION CONTENT
		12:37:11.3 **TWR**	Jetlink fifty eight twenty one you alright there?
12:37:12.7 **CAM**	[sound of single chime]		
		12:37:13.8 **RDO-2**	we're fine ah standby.
12:37:17.0 **HOT**	[sound of high low chime]		
12:37:17.0 **HOT-1**	what the # happened.		
12:37:18.3 **CAM**	[single chime]		
12:37:18.6 **HOT-2**	set the brake.		
12:37:19.4 **HOT-3**	hey.		
12:37:19.5 **HOT-1**	brake.		
12:37:21.2 **HOT-2**	is everyone alright?		
12:37:21.9 **HOT-3**	yeah.		

TIME and SOURCE	INTRA-AIRCRAFT CONTENT	TIME and SOURCE	AIR-GROUND COMMUNICATION CONTENT
12:37:22.5 **CAM**	[sound of clicks followed by high frequency buzz, similar to A-P-U start sequence]		
12:37:23.5 **HOT-3**	oooh.		
12:37:23.9 **HOT**	[sound of chime]		
12:37:24.0 **HOT-2**	start the A-P-U.		
12:37:25.4 **CAM**	[sound of click click, similar to master caution button being pressed]		
12:37:26.3 **HOT-1**	alright.		
12:37:27.7 **HOT-3**	ooooh.		
12:37:28.7 **HOT-3**	you guys okay?		
12:37:29.8 **HOT-1**	steering disen---.		
12:37:30.3 **HOT-2**	we're fine we're fine.		

TIME and SOURCE	INTRA-AIRCRAFT CONTENT	TIME and SOURCE	AIR-GROUND COMMUNICATION CONTENT
12:37:31.1 **HOT-3**	okay.		
12:37:32.6 **HOT-2**	uhm alright.		
12:37:35.3 **HOT-3**	alright breathe.		
12:37:36.8 **HOT-2**	alright make sure everyone's alright.		
12:37:38.6 **HOT-3**	alright hold on don't move the plane let me just walk *.		
12:37:40.9 **HOT-1**	we can't move.		
12:37:42.0 **HOT-3**	okay.		
12:37:42.3 **PA-1**	ladies and gentlemen please remain seated.		
12:37:44.9 **HOT-2**	I already told 'em.		
12:37:46.1 **HOT-1**	okay.		
		12:37:47.4 **TWR**	[Tower advises John Deere Aircraft of delay due to aircraft excursion]

TIME and SOURCE	INTRA-AIRCRAFT CONTENT	TIME and SOURCE	AIR-GROUND COMMUNICATION CONTENT
12:37:52.3 **HOT-2**	ah steering inop uncommanded swerving on the ground. control the airplane using rudder command and differential brakes. tiller do not use.		
12:37:53.8 **HOT**	[sound of chime]		
12:37:59.3 **HOT-2**	if unable to control the airplane...steering disengagement [stammering] * press. we did. reverse thrust if available.		
12:38:06.1 **HOT-2**	uhm.		
12:38:09.1 **HOT-2**	we didn't use.		
12:38:10.5 **HOT-2**	do not actuate the steering handle since it will reengage the steering system and disable the seven degree max nosewheel deflection...protection this may cause the nosewheel to be steered up to its limit and exacerbate the swerving effect.		
12:38:21.2 **CAM**	[sound of creaking]		
12:38:22.4 **HOT-1**	I think I hit it. #.		
12:38:23.3 **CAM**	[sound of high low chime]		

TIME and SOURCE	INTRA-AIRCRAFT CONTENT	TIME and SOURCE	AIR-GROUND COMMUNICATION CONTENT
12:38:25.0 **HOT-1**	hello.		
12:38:25.3 **HOT-3**	yeah we're all good.		
12:38:26.5 **HOT-2**	okay.		
12:38:26.5 **HOT-1**	okay.		
12:38:27.3 **HOT-2**	wanna make a quick P-A to em' dude. just tell 'em.		
12:38:27.8 **HOT-3**	ooooh.		
12:38:29.8 **HOT-1**	yeah.		
12:38:30.4 **HOT-3**	ahhh.		
		12:38:32.3 **RDO-1**	ladies and gentlemen from the flight deck--
12:38:33.2 **CAM**	[sound of two thumps]		
		12:38:35.9 **TWR**	say again.

TIME and SOURCE	INTRA-AIRCRAFT CONTENT	TIME and SOURCE	AIR-GROUND COMMUNICATION CONTENT
		12:38:37.5 **RDO-2**	never mind.
12:38:38.6 **PA-1**	ladies and gentlemen from the flight deck this is the captain speaking ah please remain seated for the ah momentarily. ah we had a steering issue after we ah touched down for landing here obviously and ah we departed the airplane--ah the runway. we're in the grass. the aircraft does appear to be alright right now. but ah we've called for assistance to come out [stammer] and ah help us ah deplane. so. please remain seated for the time being.		
		12:38:41.9 **RDO-2**	and tower ah it looks like the ah the aircraft is secure and ah I guess you got the trucks heading out to us. we have no injuries at this time ah that we know of.
		12:38:53.0 **TWR**	Jetlink fifty eight twenty one roger.
12:39:03.0 **HOT-2**	alright. do you want to pull the breaker?		
12:39:07.1 **HOT-1**	yeah.		
12:39:08.0 **HOT-1**	ahh B-thirty one.		
12:39:09.9 **HOT-2**	ahh C-V-R.		

TIME and SOURCE	INTRA-AIRCRAFT CONTENT	TIME and SOURCE	AIR-GROUND COMMUNICATION CONTENT
12:39:13.5 **HOT-1**	# #.		
12:39:15.4 **HOT-2**	it's alright dude. you we did everything right...it was a good landing...and ah. you know we tried our best. so we'll sit here and wait until the police come. A-P-U is up if you want to shut down the engines...		
12:39:27.2 **HOT-1**	okay.		
12:39:28.2 **HOT-2**	...you wanna park it?		
12:39:30.1 **HOT-1**	ah yes please.		
12:39:31.9 **HOT-2**	alright parking brake is set. thrust levers are idle. transponder is to standby. trim zero zero green. nose wheel steering that's disengaged. cabin signs [sound of single chime]. we'll leave those on.		
12:39:34.6 **CAM**	[sound of squeak, similar to start stop lever guard]		
12:39:37.5 **CAM**	[sound of engines spooling down]		
12:39:47.1 **HOT-2**	windshield heats are off [sound of single chime].		

TIME and SOURCE	INTRA-AIRCRAFT CONTENT	TIME and SOURCE	AIR-GROUND COMMUNICATION CONTENT
12:39:52.6 **HOT-2**	hydraulic pumps. want to turn those off?		
12:39:55.2 **HOT-1**	yeah.		
12:39:55.6 **CAM**	[sound of two clicks]		
12:39:58.1 **HOT-2**	start stop selectors are to stop. and the ah beacon is off.		
12:40:31.0 **CAM**	[sound of single chime]		
12:40:31.6 **HOT-1**	[sound of cough]		
12:40:33.0 **CAM**	[sound of multiple clicks, similar to master caution button being pressed]		
12:40:36.2 **CAM**	[sound of single chime]		
		12:40:39.7 **RDO-2**	***.
12:40:40.3 **CAM**	[sound of sirens in background]		

TIME and SOURCE	INTRA-AIRCRAFT CONTENT	TIME and SOURCE	AIR-GROUND COMMUNICATION CONTENT
12:40:49.2 **HOT-2**	alright dude. hey we did what we could man. did you pull the breaker? * find it?		
12:40:52.3 **HOT-1**	yeah.		
12:40:54.9 **HOT-1**	no its bravo thirty one.		
12:40:58.2 **HOT-2**	i've seen it a million times. here it is.		
12:41:00.3 **END OF TRANSCRIPT** **END OF RECORDING**			