

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



GROUP CHAIRMAN'S FACTUAL REPORT OF INVESTIGATION

DCA07MA310

**By
Joe Gregor**

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

Vehicle Recorder Division
Washington, D.C. 20594

July 24, 2008

Cockpit Voice Recorder - 12

**Group Chairman's Factual Report
By Joe Gregor**

A. EVENT

Location: St. Louis, MO
Date: September 28, 2007, approx. 1316 central daylight time (CDT)
Aircraft: MD-82, N454AA
Operator: American Airlines, Flight 1400
NTSB Number: DCA07MA310

B. GROUP A group was convened on October 10, 2007 and May 20, 2008.

Chairman: Al Reitan (October 10, 2007 Group)
National Transportation Safety Board

Chairman: Dr. Joseph Gregor (May 20, 2007 Group)
National Transportation Safety Board

Member: Bob Hendrickson
Air Safety Investigator
Federal Aviation Administration

Member: Capt Wiley L. Moore
Chief Pilot TwinJet/Safety
Boeing

Member: Capt Kevin G. Elmore
Captain
American Airlines

Member: Mark Maestas (October 10, 2007 Group only)
MD80 Program manager/Tech Pilot
American Airlines

C. SUMMARY

On September 28, 2007, a MD-82, registration N454AA operated by American Airlines, executed an emergency landing at Lambert-St. Louis International Airport (STL), St. Louis, Missouri, after the flight crew received a left engine fire warning during departure climb from the airport. A solid-state cockpit voice recorder (CVR) was sent to the National Transportation Safety Board's Audio Laboratory for readout. The CVR group meeting convened on October 10, 2007 and again on May 20, 2008 and a transcript was prepared for the last 1-hour, 28-minutes, 14-seconds of the 2-hour, 21-second digital recording (see attached).

D. DETAILS OF INVESTIGATION

On October 2, 2007, the NTSB Vehicle Recorder Division's Audio Laboratory received the following CVR:

Recorder Manufacturer/Model: **L-3 Communications FA2100-1020**
Recorder Serial Number: **121794**

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 L-3 Communications FA2100-1020, is a solid-state CVR that records 2 hours of digital cockpit audio. Specifically, it contains a 2-channel recording of the last 2 hours of operation and separately contains a 4-channel recording of the last 30 minutes of operation. The 2-hour portion of the recording is comprised of one channel of audio information from the cockpit area microphone (CAM) and one channel that combines 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, the CAM channel recording contained fair quality¹ audio information, and the mixed flight crew channel contained good quality audio information. As shown in the table below, the 30-minute portion of the recording

¹ See attached CVR Quality Rating Scale.

consisted of four channels of useable audio information. Each channel's audio quality² is indicated in the table below.

Channel Number	Content/Source	Quality
1	INT ³	good
2	FO ⁴	good
3	CAPT ⁵	good
4	CAM ⁶	fair

Timing and Correlation

Timing on the transcript was established by correlating the CVR events to common events on the flight data recorder (FDR). Specifically, twenty radio transmissions that the aircraft made during the last 1-hour 30-minutes of the recording were correlated to the radio transmit microphone key parameter from the FDR. A linear interpolation was made to determine the conversion between the remaining CVR events. Once a correlation between the two recorders was established, a reference to UTC time was determined. Using a partial transcript from the FAA St. Louis Airport Traffic Control Tower the UTC time for two radio transmissions from the accident aircraft were linked to the corresponding CVR events. The CVR and FDR times were offset to reflect the UTC time of the accident.

Description of Audio Events

The recording began at 1228:26. At 1229:56 CDT, the cockpit crew reviewed guidance for the Engine Start Valve Manual Operation Procedure in the QRH. At 1238:55 CDT, a ground crewman informed the captain that they were set up to perform the manual start procedure on the left engine. The crew proceeded to review the manual start procedure. At 1240:57 CDT, the crew performed the before starting engines checklist and the takeoff briefing. At 1245:36 CDT, the captain initiated the left engine start by holding the switch in the START position while instructing the ground crew to open the start valve. At 1246:34 CDT, the Captain informed the ground crew that he saw no indication of start valve opening. At 1249:53 CDT, a ground crewman notified the captain that they were having a problem manually opening the start valve and had opened the lower cowling for the left engine. The first officer noted that the captain should release the start switch. At 1251:31 CDT, a ground crewman notified the captain that maintenance requested he shut off the air supply to enable replacement of the start valve, since the ground crew could not open the start valve. The captain was informed that maintenance personnel had returned to their line office and that the ground crew were re-connecting the external air supply. At 1255:05 CDT, the jump seat rider verified that the start valve had been replaced the day before yesterday, and that

² See attached CVR Quality Rating Scale.

³ Intercom.

⁴ First officer.

⁵ Captain.

⁶ Cockpit Area Microphone.

this had not solved the start problem. Also, while the aircraft was in Chicago the day before, the start valve had opened only partially on the first manual start attempt. But that the engine started normally on the second manual start attempt. The transcript began at 1300:29 and captured all voiced audio events from this time up to the end of the recording, at 1428:47 CDT.

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. The captain and first officer both listened to the CVR recording after the first Group activity, on October 25, 2007.

Joe Gregor
Vehicle Recorder Division

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 L-3 Communications FA2100-1020 solid-state cockpit voice recorder, serial number 121794, installed on an American Airlines MD-82 (N454AA), which made an emergency landing at Lambert-St Louis International Airport (STL), St. Louis, Missouri, after the flight crew received a left engine fire warning during departure climb from the airport.

LEGEND

APR	Radio transmission from the St. Louis approach controller
CAM	Cockpit area microphone voice or sound source
C-2	Radio transmission from Car 2
C-19	Radio transmission from Car 19
DEP	Radio transmission from the St. Louis departure controller
GND	Radio transmission from the St. Louis ground controller
HOT	Flight crew audio panel voice or sound source
INT	Flight crew interphone voice or sound source
MET	Radio transmission from metering controller
OPS	Radio transmission from Operations
RDO	Radio transmissions from N454AA
STL-CC	Radio transmission from the St. Louis Communications Center
TRK-42	Radio transmission from Truck 42
TRK-53	Radio transmission from Truck 53
TRK-100	Radio transmission from Truck 100
TRK-107	Radio transmission from Truck 107
TRK-167	Radio transmission from Truck 167
SWP-145	Radio transmission from Sweeper 145
TWR	Radio transmission from the St. Louis airport tower controller
V-61	Radio transmission from Vehicle 61
-1	Voice identified as the captain/PIC/pilot
-2	Voice identified as the first officer/SIC/co-pilot
-3	Voice identified as the ground crewman #1
-4	Voice identified as the dead head passenger acting as FO on previous flight
-5	Voice identified as the flight attendant #1
-6	Voice identified as the flight attendant #2
-7	Voice identified as the flight attendant #3
-A	Voice identified as air rescue fire personnel (ARFF)
-F	Voice identified as an FAA official
-J	Voice identified as the jump seat pilot

-M	Voice identified as ground/maintenance personnel
-?	Voice unidentified
*	Unintelligible word
#	Expletive
@	Non-pertinent word
()	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.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1228:25.6 Beginning of Recording	
1300:28.9 Beginning of Transcript	
1229:55.8 CAM	[The captain and FO review the guidance for Engine Start Valve Manual Operation Procedure in the QRH].
1238:55.3 CAM	[A ground crewman notifies the captain that they are set up to perform a manual start procedure on the left engine. The captain and FO review the manual engine start procedure].
1240:57.3 CAM	[The captain and FO perform the before starting engines checklist and takeoff briefing].
1245:35.8 INT	[The captain initiates left engine start by holding the switch in the <i>start</i> position while instructing the ground crew to open the start valve].
1246:34.1 INT	[The captain informs ground crew that he sees no indication of start valve opening].

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATIONTIME and
SOURCECONTENT

1249:52.8

INT [A ground crewman notifies the captain that they are having difficulty manually opening the start valve and had opened the lower cowling for the left engine. The FO suggested that the Captain should release the start switch].

1251:31.1

INT [A ground crewman notifies the captain that maintenance wanted him to shut off the air supply to enable replacement of the start valve, since they could not open the start valve manually. The ground crewman notifies the captain that both maintenance personnel had returned to their line office and that the ground crew were re-connecting the external air supply].

1255:04.6

CAM [The jump seat rider verifies that the start valve had been replaced the day before yesterday, and that this had not solved the start problem. Also, while the aircraft was in Chicago the day before, the start valve opened only partially on the first manual start attempt. But the engine started normally on the second manual start attempt,].

1300:28.9

INT-3 'kay cockpit we're cleared ta- if we go ahead and uh we're gonna start this thing up and when you uh get to twenty percent open it run the fuel to it and let me know when to kill the air.

AIR-GROUND COMMUNICATIONTIME and
SOURCECONTENT

INTRA-COCKPIT COMMUNICATION

AIR-GROUND COMMUNICATION

TIME and
SOURCE

CONTENT

TIME and
SOURCE

CONTENT

1300:40.2
INT-1 okay ah you want us to go ahead and try to start
 now huh?

1300:43.7
INT-3 correct, we're gonna wind it up and uh go ahead
 and do just like a regular light-off and let me
 know ah when to kill the air.

1300:51.4
INT-1 okay all right I'm uh I got a start valve open light
 right now.

1300:56.1
INT-3 okay you got rpm?

1300:59.0
INT-1 uh yes we do.

1301:00.5
INT-3 okay go for a regular light-off and let me know
 when about thirty five percent.

1301:05.0
INT-1 all right.

1301:06.2
CAM-2 * * * * * .

1301:08.6
INT-1 does that mean they've already got the valve
 open or uh what?

1301:10.8
INT-3 yes the valve's open we're spinnin' the engine.

1301:12.7
INT-1 okay.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1301:14.7 INT-1	I mean ah di- did I open it with the switch or did they open it?
1301:17.3 INT-3	we're opening this ourselves.
1301:19.8 INT-1	all right thanks.
1301:21.5 CAM-J	that's ah all we would get twenty one twenty two percent.
1301:24.1 CAM-1	'kay give it to 'em.
1301:26.1 INT-1	okay we just put fuel in.
1301:28.2 INT-3	okay.
1301:31.6 INT-1	there's thirty-five percent right there.
1301:33.6 INT-3	okay, we got it.
1301:37.1 INT	[sound of noise transient similar to electrical power source switching]
1301:37.6 CAM	[sound similar to cockpit window being closed]

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1301:41.4 INT-1	okay looks like we're good to go uh. it's the let's get clearance to push then.
1301:46.4 INT-3	all right uh I'll give it back over the ramp.
1301:50.4 CAM-1	all right.
1301:50.4 CAM-2	* I guess it's gonna be * won't be (an event).
1301:53.4 CAM-J	glad I can help you guys. see?
1301:54.9 CAM-2	[sound of chuckle].
1301:58.5 CAM-1	thanks a lot @.
1301:59.2 CAM-J	you bet.
1302:00.4 CAM-2	ah * a nice family man.
1302:02.7 CAM-1	yeah.
1302:05.4 CAM-1	I'm ambivalent right now. I got six months to go and.
1302:07.9 CAM-2	do you really?

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1302:08.7 CAM-1	(yeah).
1302:09.1 CAM-2	@ #. how many how many years you got?
1302:13.9 CAM-1	it's not quite eighteen for me by the time I get done but I did I did active duty for twenty years.
1302:19.0 CAM-2	did you okay. Air Force or?
1302:21.5 CAM-1	yeah Air Force tankers.
1302:23.0 CAM-2	ooh where were did you fly'em out of?
1302:26.1 CAM-1	mostly out of mid-west uh Grissom.
1302:28.9 CAM-2	okay.
1302:29.1 CAM-1	Wright Patt.
1302:29.8 CAM-2	eh well you refueled us guys up at uh up at Battle Creek.
1302:33.4 CAM-1	oh yeah I'm sure we did. * had the airborne command post * * *.
1302:37.2 CAM-2	okay.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1302:40.2 CAM-2	* (this that) * * *. as soon as you're ready to shove off, I'll tell 'em.
1302:46.7 INT-4	cockpit do you copy?
1302:48.4 INT-1	I hear ya.
1302:49.4 INT-4	ah yes the ground area is clear uh you can give 'em a call any time you're ready.
1302:52.4 INT-?	I ah.
1302:54.4 INT-1	okay thanks.
1302:59.1 CAM-2	you got a nice little pay check coming in * * * see well now you're already getting your military retirement.
1303:07.9 PA-1	okay folks we got the left engine started and we'll be underway ah in just a second.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1303:06.8 RDO-2	hey uh.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1303:32.8 INT-1	brakes are released uh cleared to push tail west spot twelve.
1303:36.2 INT-4	copy clearance push tail west spot twelve.
1303:39.2 CAM-2	you know what? spot twelve, cleared to do 'er.
1303:41.1 CAM-1	'kay.
1303:45.6 CAM-1	got a new ATIS already?

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1303:11.8 RAMP	tremendous fourteen hundred uh why don't you uh if you're set then switch to metering on twenty seven fifty five ask 'em for uh ask 'em for tail west spot number uh, spot number twelve we'll see you later.
1303:26.2 RDO-2	tail west twelve *.
1303:29.2 RDO-2	hey meter American fourteen hundred ready to go off Charlie sixteen for a tail west spot twelve.
1303:33.0 GND	American fourteen hundred * * * * push as requested advise * *.
1303:37.4 RDO-2	* * thanks.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1303:46.9 CAM-2	yeah, * * * .
1303:49.8 CAM-1	'kay we're supposed to do what a forty or forty five?
1303:52.0 CAM-2	forty yeah * * twenty * .
1303:54.4 CAM-1	ah we can make the turn.
1303:55.6 CAM-1	I gotta guess ah if there's no more delays I can get down to Orlando and * .
1303:59.3 CAM-2	it was ah, earlier flight time you guys were were like fifteen hundred coming off so from Orlando.
1304:06.1 CAM-?	[low level mostly unintelligible speech consistent with the flight attendant safety briefing together with Morse code identifier sounds].
1304:07.4 CAM-2	* * * * (right)?
1304:10.7 CAM-2	pickup time and make a * .
1304:13.4 CAM-2	put thirty twenty in there please * .
1304:14.6 CAM-1	* * .

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1304:21.3 CAM-2	back on.
1304:29.1 CAM-1	(we were) right here man.
1304:30.6 CAM-2	yeah.
1304:33.5 CAM-1	yeah this whole * * do that little dance on the inside.
1304:38.4 CAM-1	yeah you remember that?
1304:39.8 CAM-2	* * remember comin' down during the F-one hundred. did you ever do that?
1304:43.5 CAM-1	not in the one hundred but I did it * * did on the inside in the eighty a couple of times before I got pushed off the seat.
1304:49.7 CAM-2	did the F-one hundred for # five years after that then did the seven three for a couple then jumped back to, jumped into.
1304:59.5 CAM-1	(did you ever get displaced)?

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1305:00.9 CAM-2	no I, no I uhm I left before when they announced the airplane was going to come out I I jumped ship so, real quick and then I was up their and then then lines started getting # and # but you know what # with that * * * * (gettin close).
1305:17.0 CAM-1	maybe we'll get four right into Chicago or something.
1305:19.7 CAM-2	yeah I can * (three zero) * * * okay see ah.
1305:28.7 CAM-1	if you see anything prior V one, let me know I'll probably decide when we get within twenty knots of V one I think we're flying, unless it's catastrophic and ah.
1305:36.7 INT-4	ah cockpit, brakes parked.
1305:40.9 INT-1	uh, brakes are parked that was a nice push-out uh you can ah release if you want and ah disconnect and we'll see you up front.
1305:46.3 INT-4	all right, area being cleared disconnecting interphone have a good day.
1305:49.9 INT-1	okay thank you.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1305:56.3 CAM-1	anyway if uh unless we're on fire we'll go to Chicago. if we're on fire we'll come back and land here.
1306:01.9 CAM-2	all righty.
1306:22.1 CAM-2	oh there there's an old crew in here.
1306:24.7 CAM-1	okay start light.
1306:27.0 CAM-2	yeah these boys are doing * thirty-five minute turns here.
1306:33.6 CAM-1	yeah, fifteen minute down change. * probably wasn't even fifteen minutes.
1306:38.5 CAM-1	we get the log book back?
1306:40.1 CAM-2	yeah yeah they didn't even take it ah.
1306:43.1 CAM-1	okay we're going to have them defer it or something if it's working.
1306:46.9 CAM-2	uuhm I don't know what the # they just did.
1306:49.4 CAM-1	well they said they manually opened it for us.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1306:51.2 CAM-2	yeah.
1306:59.7 CAM-1	let's try not to screw anything up too much before I you know *.
1307:05.9 CAM-2	* * there's forty percent.
1307:06.9 CAM-1	*.
1307:07.5 INT	[sound of electrical transient similar to electrical power source switching]
1307:15.3 CAM-1	good day.
1307:15.7 CAM-2	all right and I'm on number one now.
1307:17.7 CAM-1	number one and what'd they say?

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1307:08.6 RDO-2	hey meter American uh fourteen hundred we are ready to taxi.
1307:12.8 MET	American fourteen hundred monitor ground point niner.
1307:15.3 RDO-1	day.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1307:19.0 CAM-2	just monitor this it's 'cause they're so busy here they (you know) they have to over control everything.
1307:27.1 CAM-1	the metering thing is * * just a joke but.
1307:30.7 CAM-?	hint hint we're gonna go out this.
1307:32.5 CAM-?	yeah you.
1307:38.0 CAM-2	right.
1307:38.1 CAM-1	I thinkin' I wanna go left and.
1307:39.6 CAM-2	yeah, swing off of Delta and * * .
1307:42.4 CAM-1	if you go down Charlie, Southwest will run you over.
1307:46.1 CAM-1	clear left.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1307:33.0 GND	American fourteen hundred St. Louis ground taxi runway three zero left.
1307:35.7 RDO-2	down to thirty left American fourteen hundred.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1307:46.6 CAM-2	right side clear.
1307:48.3 CAM-1	flaps when you're ready ah checklist and all that stuff when you're ready watch your feet.
1307:59.7 CAM-2	yeah we have to get to Chicago * * * *. my wife's coming in from Orange county from.
1308:02.7 CAM-2	* * * .
1308:04.8 CAM-1	is that right?
1308:05.6 CAM-1	you takin' her to Orlando?
1308:07.0 CAM-2	no, she's working ah tonight she's working ah she works contract for ah flight attendant for McDonalds corporation at the base there so she was with us for twenty years twenty-two years and uh she's coming in from Orange County we're gonna fly home in the morning to Grand Rapids * * # I got a hotel at the * Holiday Inn Select * * * * * .
1308:09.5 CAM-1	oh.
1308:14.9 CAM-1	oh yeah.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1308:34.0 CAM-2	we'll let's see, we talked about the weight * * * and we did have a headwind variable four but * * * .
1308:39.3 CAM-2	* * * .
1308:40.1 CAM-1	* * * .
1308:41.1 CAM-2	yeah you're good. yup.
1308:44.0 CAM-1	* .
1308:44.3 CAM	[several low level unintelligible comments between pilots]
1308:44.8 CAM-2	* woulda turned around.
1308:46.7 CAM-1	hey @.
1308:50.6 CAM-2	how about flight instruments and bugs?
1308:52.5 CAM-1	okay we're set for uh standard uh runway ah thirty left at uh St. Louis * .
1308:58.3 CAM-2	* * how about flaps and slats?

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1309:00.6 CAM-1	okay T-P-S said eight I got eight I got eight got eight and takeoff.
1309:06.2 CAM-2	all righty verified eight stab trim with eight flaps five four.
1309:10.1 CAM-1	set.
1309:10.6 CAM-2	'bout anti-skid?
1309:12.0 CAM-1	is (armed).
1309:12.9 CAM-2	A-B-S?
1309:14.6 CAM-1	takeoff and armed.
1309:15.3 CAM-2	spoiler lever?
1309:16.8 CAM-1	armed.
1309:17.3 CAM-2	and the APU?
1309:19.6 CAM-1	comin' down.
1309:20.6 CAM-2	alright crossfeeds?

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1309:21.6 CAM-1	closed.
1309:22.6 CAM-2	anti-ice?
1309:24.1 CAM-1	windshield * * * .
1309:24.7 CAM-2	and * the packs?
1309:26.0 CAM-1	and uhm auto and pressure on [sound similar to single chime] * * * .
1309:31.4 CAM-2	briefing.
1309:32.5 CAM-1	* * * we're pretty much done there.
1309:36.1 PA-1	and folks we'll be down to the departure end of the runway in about a minute or so uh like the flight attendants prepare for takeoff now.
1309:59.1 CAM-1	okay got two engines running just gotta make sure we have both of 'em started. [sound of chuckle].
1310:05.4 CAM-1	okay. * * .
1310:07.3 CAM-2	I'm sure it's been attempted before.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

TIME and
SOURCE

CONTENT

1310:09.3

CAM-1 oh yeah.

1310:10.7

CAM-1 I almost forgot the other day I think.

1310:14.0

CAM-2 I know I almost did it in the simulator, but we we
uh * Chicago long time ago in the F-one hundred
one of these things we we're ah going off of
three two left * * ten they're like yeah cleared to
hold no okay you know we were sittin' in line and
we're like okay we'll get ready to start ah well
you guys go to the other side you got a you
know little bit a * in trail so we cut across the * * *
side hey you guys are cleared to make a loop
back around and we're like, cleared for takeoff
like * * (instruments). * * * * * they knock you
out of your routine * *.

1310:45.6

CAM-1 yeah I know.

1310:46.9

CAM-2 * * now you're ready to go and I'm like well # * * *
*. well there's tower so * * we're * we're ready to
go.

AIR-GROUND COMMUNICATION

TIME and
SOURCE

CONTENT

1311:01.0

RDO-2 American fourteen hundred we'll be ready to go
at the end.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1311:20.9 CAM-2	all right how 'bout PA?
1311:21.4 CAM	[sound of hi-lo chime]
1311:23.3 CAM-1	* * .
1311:23.9 CAM-2	annunciator lights?
1311:25.4 CAM-1	they're checked.
1311:26.2 CAM-2	engine ignition?
1311:28.2 CAM-1	continuous.
1311:28.8 CAM-2	transponder?
1311:29.8 CAM-1	TARA.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1311:05.4 TWR	American fourteen hundred St. Louis tower runway three zero left turn right heading three four five cleared for takeoff with the transponder.
1311:12.2 RDO-2	all righty uh transponder's on up to uh make it a left uh right turn to three forty-five cleared take off thirty left American ah fourteen hundred.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1311:30.7 CAM-2	nose wheel lights?
1311:31.8 CAM-1	they're on bright.
1311:32.4 CAM-2	complete for the takeoff checklist then.
1311:35.0 CAM	[sound of multiple snaps similar to seat adjustments].
1311:36.6 CAM-1	line 'er up * * * roll.
1311:48.3 CAM	'kay auto-throttles on.
1311:49.4 CAM	[sounds similar to aircraft accelerating on takeoff roll].
1312:03.7 CAM-2	there's eighty knots.
1312:21.0 CAM-2	V one.
1312:22.1 CAM-2	rotate.
1312:25.2 CAM-2	V two.
1312:28.1 CAM-1	positive rate, gear up.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1312:29.0 CAM-2	*
1312:29.8 CAM	[sound of click similar to landing gear handle being moved].
1312:34.3 CAM-1	heading select.
1312:35.3 CAM	[sound similar to nose gear door closing].
1312:59.5 CAM-1	there's five thousand set and armed half rate.
1312:59.9 CAM-2	fifteen er.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1312:37.8 TWR	American fourteen hundred three four five contact departure good day.
1312:42.4 RDO-2	good day.
1312:49.0 RDO-2	and departure American three forty er fourteen hundred actually we're out of uh one point five for five thousand.
1312:53.9 DEP	American fourteen hundred St. Louis radar contact climb maintain one five thousand.
1312:57.7 RDO-2	one five fifteen American fourteen hundred.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1313:02.2 CAM-2	ah that # uh start valve light thing is * on.
1313:05.6 CAM-1	# I didn't see that before.
1313:07.4 CAM-2	well * I didn't either.
1313:11.1 CAM-1	does that mean the start valve is open?
1313:13.2 CAM-2	ahm.
1313:14.5 CAM-1	could very well mean that.
1313:29.0 CAM-1	and half rate, flaps up, climb power.
1313:32.0 CAM-2	oh.
1313:33.4 CAM-2	* *.
1313:33.6 CAM-1	one five thousand.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1313:15.1 DEP	American fourteen hundred turn right heading zero five zero don't join the departure vector for traffic.
1313:19.5 RDO-2	okay we'll make a right turn zero five zero and uh not join American uh fourteen hundred.

INTRA-COCKPIT COMMUNICATIONTIME and
SOURCECONTENT

1313:36.6

CAM-2 * * * we'll look at it.

1313:55.0

CAM [sound similar to fire warning bell] fire left engine
[sound similar to fire warning bell] fire left engine
[sound similar to fire warning bell] fire left engine
[sound similar to fire warning bell] fire left engine
[sound similar to fire warning bell] fire left engine.

1313:58.9

CAM-2 fire light oh my gosh.

1314:02.5

CAM-1 alright we have to go back and land.

1314:03.6

CAM-2 * * .

1314:05.6

CAM-? * * * .

1314:10.7

CAM-1 declare an emergency.

AIR-GROUND COMMUNICATIONTIME and
SOURCECONTENT

1314:12.4

RDO-2 hey uh St. Louis American ah fourteen hundred.

1314:14.7

DEP yes sir.

1314:15.7

RDO-2 yeah we're gonna have to uh declare an
emergency swing back around there and land at
St. Louis.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1314:29.2 CAM-1	* * * * * .
1314:37.2 CAM-2	you gonna fly or are you ah you run * * .
1314:40.0 CAM-1	run the checklist I'll fly it.
1314:41.3 CAM-2	you betcha.
1314:47.8 CAM-2	one thousand.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1314:22.3 DEP	five seven Charlie roger American fourteen hundred roger just maintain ah (whatever altitude) you need at or below five thousand be fine need to uh do some work first or come right back?
1314:29.8 RDO-2	ah no we're gonna come right back around uh we've just got a uh left engine fire indication.
1314:34.6 DEP	five seven Charlie thank you the altimeter's three zero one nine American fourteen hundred turn right heading one two zero.
1314:43.0 DEP	American fourteen hundred turn right to a heading of ah one two zero.
1314:46.0 RDO-1	* one-twenty American uh five hundred.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1314:48.4 CAM-1	*
1314:49.8 CAM-2	engine failure * * * fire one * * damage separation let's see auto-throttles pilot flying off.
1314:59.3 CAM-1	off.
1314:59.8 CAM-2	okay left throttle pilot flying idle. * *.
1315:05.1 CAM-1	idle.
1315:10.6 CAM-2	wanna do that?
1315:17.7 CAM-1	I gotta tell the flight attendants.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1315:04.3 DEP	American fourteen hundred I can get you right back in for two four if you need to.
1315:08.1 RDO-2	uum yeah they're * two four would work.
1315:11.1 DEP	American fourteen hundred roger the airport's at uh three o'clock and six miles maintain two thousand five hundred.
1315:16.4 RDO-2	we're going up two thousand five hundred we do have the field in sight fourteen hundred.

INTRA-COCKPIT COMMUNICATIONTIME and
SOURCECONTENT

1315:33.8
CAM-1 let's do thirty right.

1315:44.2
CAM-2 I can I can fly for you wanna talk to those * *.

1315:44.3
CAM-1 okay.

1315:45.9
CAM-1 yeah just fly the airplane.

AIR-GROUND COMMUNICATIONTIME and
SOURCECONTENT

1315:19.9
DEP * roger what's the nature of the emergency? do you need the uh the uh equipment's standing by it's going to be a short notice for 'em.

1315:24.7
RDO-2 yeah you're gonna have to roll the trucks for us ah I got a left indication of a left engine fire.

1315:29.5
DEP left engine fire you wannoo ah you wanna do thirty right or do you wanna ah do two four?

1315:34.8
RDO-2 let's do uh if it's good better for the uh ARFF guys let's do thirty right.

1315:38.6
DEP American fourteen hundred maintain two thousand five hundred heading one four zero.

1315:41.9
RDO-2 'kay one-forty down to two thousand five hundred.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1315:46.8 CAM	[sound of hi-lo chime].
1315:47.8 CAM-2	all righty.
1315:49.8 CAM	[sound of two hi-lo chimes]
1315:50.7 CAM-?	* * * * .
1315:53.9 INT-5	this is @ on C.
1315:54.4 INT-?	*.
1315:55.4 INT-1	hey this is @ uh I got ah fire indication on the left engine we're going back to land at St. Louis we're gonna to be on the ground in uh probably less than ten minutes uh.
1316:02.5 INT-5	all right.
1316:03.1 INT-1	okay I don't think we'll have to evacuate but uh if we do you know what the signal is it'll be uhm easy victor easy victor three times.
1316:10.1 INT-6	okay.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1315:48.5 RDO-?	[sound similar to an electronic transient].

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1316:10.3 INT-1	'kay.
1316:11.1 INT-1	all right uh can you prepare the cabin? we're gonna be on the ground in probably uh five minutes or less.
1316:14.3 CAM	twenty-five hundred [electronic voice].
1316:15.2 INT-5	okay.
1316:15.5 INT-6	thanks.
1316:15.7 INT-1	okay? thanks.
1316:16.9 CAM-1	* * * make sure it's the loop that's uh that's *.
1316:20.6 CAM-2	yeah well uh * * * *.
1316:22.7 CAM-2	the light? now it's back on. * * one more time.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1316:23.7 DEP	American fourteen hundred they're building a hole for you on final right now so maintain two thousand five hundred and uh one forty heading. contact approach on one two four point two five twenty four twenty five they'll get you right in.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1316:26.3 CAM	[sound similar to mechanical click].
1316:34.4 INT-6	* * * seats we do need for you to remain in your seats with your seatbelts fastened we will be landing in five minutes.
1316:40.9 CAM-2	that valve goes in and out.
1316:44.0 CAM-1	got it.
1316:44.5 CAM-2	got it? cool all right ah be right there.
1316:46.9 CAM-2	the valve is.
1316:47.7 CAM	[sound similar to two mechanical clunks].
1316:48.3 CAM-?	* * * *.
1316:59.0 CAM-2	okay it says ah fuel lever.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1316:35.3 RDO-1	twenty four twenty-five American uh fourteen hundred.
1316:48.2 RDO-1	and arrival American uh twenty oh fourteen hundred ah we're with you.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1317:01.3 CAM-1	okay.
1317:01.7 CAM	[sound similar to fire warning bell] fire left engine [sound similar to fire warning bell] fire left engine [sound similar to fire warning bell] fire left engine.
1317:01.8 CAM-2	fire light.
1317:02.6 CAM-1	okay yeah *.
1317:04.0 INT-5	I'm gonna go tell these pilots up here what we just heard okay, I'm just gonna tell the pilots up here what I heard..
1317:04.3 CAM-2	it says ah fuel lever at (Captain's) command, off.
1317:07.4 INT-6	what are you gonna say?
1317:08.7 CAM	confirm that's the left.
1317:10.9 INT-6	she's got the door open up there.
1317:11.3 CAM-1	well now it went out.
1317:12.6 CAM-1	this thing is fallin' apart.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1317:12.9 INT-5	oh, okay.
1317:15.3 CAM-1	gotta a verser unlocked light got a.
1317:16.7 CAM	[sound similar to fire warning bell] fire left engine [sound similar to fire warning bell] fire [sound similar to fire warning bell] fire left engine [sound similar to fire warning bell] fire left engine [sound similar to fire warning bell] fire left engine.
1317:19.3 CAM-2	I just got power transfer too.
1317:19.3 CAM-1	now you lost what?
1317:21.6 CAM-2	do you want me to kill this one?
1317:23.7 CAM-1	yes.
1317:25.8 CAM-2	oh # I can't even shut it off.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1317:16.7 RDO-?	[sound similar to knock].
1317:20.4 RDO-?	[sound similar to electrical transient].
1317:23.2 RDO-?	[sound similar to electrical transient].

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1317:30.1 CAM-?	* * .
1317:32.4 CAM-2	ahh fire handle.
1317:36.3 CAM-2	captain says to pull.
1317:37.1 CAM	[sound similar to fire warning bell] fire left engine.
1317:42.1 CAM-?	* * * .
1317:44.5 CAM-?	* * * * * .
1317:51.7 CAM-2	all right it blew agent two.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1317:38.5 APR	American fourteen if you're on turn right heading two five zero.
1317:43.0 RDO-1	two five zero American fourteen hundred.
1317:44.6 APR	American fourteen hundred the airport one o'clock one zero miles when you get established on the heading just advise when you have it in sight.
1317:50.6 RDO-1	American fourteen hundred.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1317:56.8 CAM-2	I'm gonna get you some bugs.
1317:59.7 CAM-2	all I gotta worry 'bout is puttin' gear and the flaps that all right?
1318:04.3 CAM-1	say again.
1318:04.9 CAM-2	gear and the flaps I'll get you some speeds we're gonna be heavy weight but big deal.
1318:10.4 CAM-1	all right.
1318:12.2 CAM-2	here do whatever you need to do with that and I'll uh.
1318:17.1 CAM-?	* * .
1318:18.7 CAM-2	straight out there.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1318:13.7 APR	American fourteen hundred I'm sorry you say airport in sight?
1318:17.1 RDO-1	negative I didn't say that.
1318:18.4 APR	all right American fourteen hundred roger fly heading two five zero.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1318:19.3 CAM	[sound similar to the cockpit door being operated].
1318:21.7 CAM-2	* * * we've lost all # power * *.
1318:27.0 CAM-2	this # will not discharge.
1318:29.8 CAM-2	[sound similar to the cockpit door being operating multiple times] it's not gonna shut.
1318:30.0 CAM-1	* * *.
1318:30.3 CAM-2	(valves * * eleven).
1318:34.7 CAM-2	it's that we've lost all power to them [sound similar to the cockpit door being operated] just hold it shut for me [sound similar to the cockpit door being operated].
1318:37.2 INT-5	yeah.
1318:38.3 INT-6	what uhm why is the door keep opening up there?

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1318:21.8 RDO-2	two five zero fourteen hundred.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1318:40.0 CAM-2	come on. I'm not gonna # with the door [sound similar to mechanical bang] #.
1318:42.0 INT-5	I don't know I didn't know it was.
1318:44.8 INT-6	do you hear like popping stuff over here on by that engine?
1318:48.2 CAM-2	can you op- close the door and I'll I'll latch it?
1318:48.6 INT-5	no.
1318:49.0 INT-6	I hear like pops and I don't know if it's the toilet or what it is.
1318:53.0 CAM-2	[sound similar to the cockpit door being operated] * # everything here. [sound similar to the cockpit door being operated] all right * * # with that.
1318:55.7 INT-5	* * * * * . ahm you're not gonna use your door I don't believe.
1318:59.0 CAM-1	okay so that's.
1318:59.9 CAM-?	all right.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1319:02.2 INT-6	why? I didn't hear you.
1319:03.4 INT-5	I don't know I don't know.
1319:05.3 INT-6	okay.
1319:05.5 CAM-1	I'm not going to # with this thing any more.
1319:06.4 INT-5	ah okay it could be it could be what they are talking about.
1319:07.4 CAM-2	*.
1319:07.6 CAM-1	* fired both of the both bottles just give me thirty flaps speed.
1319:12.8 CAM-1	er a no, twenty-eight flap speed.
1319:12.9 INT-6	yeah, it could be.
1319:13.1 CAM-2	we're gonna shoot a two thirty-seven.
1319:14.0 INT-5	yeah.
1319:16.2 INT-6	okay.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1319:17.4 CAM-2	and uh eighty six.
1319:18.8 INT-6	'kay.
1319:22.0 CAM-1	just give me the bottom bug.
1319:23.3 CAM-2	uuh.
1319:24.2 CAM	[low level background sound].
1319:29.1 CAM-1	where is?
1319:29.6 CAM-2	# was that?

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1319:22.4 APR	American fourteen hundred uh cleared visual approach runway three zero right.
1319:26.9 RDO-2	cleared visual thirty right American uh fourteen hundred.
1319:29.5 APR	American fourteen hundred if you can give me fuel and souls.
1319:32.3 RDO-2	uuh we got ah one thirty seven on board four er five crewmember and uhm.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1319:46.8 CAM-?	I'm kidding.
1319:47.0 CAM-2	uh your flaps twenty eight should be one thirty eight.
1319:49.9 CAM-1	one thirty-eight set just gimme ah.
1319:53.2 CAM-2	three thirty-seven.
1319:53.3 CAM-1	localizer, localizer pretty * * ah?
1319:56.6 CAM-2	yup.
1319:58.2 CAM-1	eh let's put the gear down.
1320:00.5 CAM	[sound similar to landing gear handle being operated].

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1319:38.3 RDO-2	twenty-one and three on the fuel.
1319:41.8 APR	I'm sorry I missed the fuel say again.
1319:43.8 RDO-2	uuh it's about three hours.
1319:45.4 APR	thanks.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1320:01.0 CAM-2	got the runway?
1320:01.8 CAM-1	yup I got it yeah.
1320:12.2 CAM	[sound similar to spoiler handle being armed].
1320:14.0 CAM-2	I got about five * *.
1320:16.2 CAM-?	'kay.
1320:26.6 CAM-?	zero zero five.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1320:09.9 APR	American fourteen hundred contact tower one two zero point zero five.
1320:13.1 RDO-2	two zero zero five.
1320:18.7 RDO-2	hey tower American five hundred 'bout five out on the visual for thirty left with emergency.
1320:30.5 RDO-2	tower, American five hundred, five out on the visual thirty uh, right with emergency.
1320:34.8 TWR	American fourteen hundred St. Louis tower runway three zero right, cleared to land. wind three one zero at one three.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1320:43.5 CAM-2	okay I'm gonna run through some of this other # hydraulic pumps those are all high and on.
1320:49.0 CAM-2	uhhh altimeters I ain't worrying about it flight instruments bugs.
1320:53.2 CAM-2	yeah I guess.
1320:55.3 CAM-2	one thirty-eight for the final bug speed.
1320:57.1 CAM-1	yup flaps twenty-eight.
1320:59.5 CAM-2	twenty-eight yeah okay no smoking seatbelt sign. but you already set 'em down correct?

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1320:39.8 RDO-2	cleared to land thirty right American five hundred.
1320:42.0 RDO-2	fourteen hundred.
1320:50.6 TWR	American fourteen hundred I'm assuming you want to be followed down the runway?
1320:53.7 RDO-2	yeah we're gonna stop straight ahead on the runway.
1320:55.5 TWR	okay.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1321:00.6 CAM-?	* * .
1321:03.2 CAM-1	give me flaps twenty-three we got the gear down right?
1321:06.0 CAM-2	yep.
1321:07.3 CAM-2	your just not going to get anything 'cause you've lost uh, everything here but.
1321:11.6 CAM-1	okay.
1321:12.0 CAM-2	I ain't got time to # around figure out why.
1321:14.0 CAM-1	yeah I don't either.
1321:15.4 CAM-1	I tried to start the APU but it's not starting as far as I can tell.
1321:17.9 CAM-2	oh # * not showing ah shouldn't we get this?
1321:21.3 CAM-1	yeah.
1321:24.3 CAM-1	yeah.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1321:24.1 RDO-2	hey tower American fourteen hundred?

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1321:30.7 CAM-2	I don't get # gear either. we're gonna have to manually drop these #.
1321:46.0 CAM-?	(they're not there) * * .
1322:01.5 CAM-2	#.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1321:31.7 TWR	American fourteen hundred go ahead.
1321:36.1 RDO-2	hey tower American fourteen hundred?
1321:39.9 RDO-1	tower American fourteen hundred you see any indication we have our wheels down?
1321:47.1 TWR	American fourteen hundred uh. the mains appear to be down but I can't I don't there is no nose gear I don't believe there's a nose gear.
1321:57.2 RDO-2	all right we're gonna have to go around then.
1321:57.5 RDO-1	okay.
1321:58.9 RDO-1	we're goin' around I wanna make a right hand pattern.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1322:08.7 INT-5	what'd you need hon?
1322:09.8 INT-6	you could see the ground.
1322:11.0 INT-5	yes honey we're almost there.
1322:12.4 INT-6	do you suppose we had to dump fuel?
1322:15.4 INT-5	uuhm that could be.
1322:17.4 INT-6	ah 'cause I bet we went around a little bit to dump fuel we were probably too heavy to land.
1322:18.6 CAM-2	#.
1322:20.1 CAM-1	# all right uh.
1322:22.2 INT-5	oh I didn't even think of that that's a good point.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1322:03.1 TWR	American fourteen hundred okay just uh fly runway heading and climb and maintain three thousand and there is no nose gear. ah * appear to be down but no nose gear.
1322:12.0 RDO-1	oh uh we'll go straight ahead three and uh we're gonna take a block three to four for fourteen hundred.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1322:24.3 INT-6	yeah.
1322:25.4 INT-6	okay I just wondered if you could see the ground.
1322:26.1 CAM-2	let me uhm get the book out.
1322:26.1 CAM-1	okay.
1322:28.0 INT-5	yeah uh we're uhmm getting pretty close.
1322:28.7 CAM-1	call up. call up @ real quick tell her to send @ up here.
1322:31.1 INT-6	all right.
1322:32.7 INT-5	*.
1322:35.0 CAM-2	uuh, # * * * *. @.
1322:39.4 CAM-7	yes.
1322:39.9 CAM-2	can you send @ up here real quick?

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1322:22.9 TWR	yeah thank you.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1322:44.5 CAM-7	what.
1322:45.0 CAM-2	can you get @ ah other captain up here real quick?
1322:47.6 CAM-7	yes.
1322:50.2 CAM-2	you gotta be # kidding me.
1322:52.9 CAM-7	he's comin'.
1322:59.5 CAM-2	is he here?
1323:01.4 INT-6	yeah.
1323:01.8 INT-5	she just had the captain go up there to help.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1322:52.0 TWR	American fourteen hundred uuhm say your request.
1322:55.3 RDO-2	eh yeah we're gonna figure what the heck uhh try to get this nose gear down here.
1322:59.2 TWR	American fourteen hundred roger just for your information there was quite a bit of black uhm I guess soot or whatever on that left engine so I * * the fire was real.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1323:05.1 INT-6	oh she did?
1323:06.0 CAM	[sound of several clicks and bangs].
1323:06.4 INT-5	the the retiree she just had him up there.
1323:07.6 CAM-2	*can hit the latch okay can't get the # nose gear down now.
1323:10.0 INT-6	not good.
1323:10.7 CAM	[sound of mechanical clicks and bangs].
1323:11.3 INT-5	just just keep me informed.
1323:11.7 CAM-J	# okay I (I can't latch these) doors.
1323:13.5 CAM-1	I got an A-C cross-tie.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1323:08.6 RDO-2	okay.
1323:09.4 TWR	fourteen hundred ah, do you prefer to make uh you just go straight out because of the engine? do you wanna make some turns? do you wanna climb? what do you want to do?

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1323:13.6 INT-6	(eh no kidding).
1323:14.4 CAM	[sound of mechanical clicks and bangs].
1323:17.0 INT-5	alright.
1323:18.4 INT-6	* * * * .
1323:23.6 INT-5	yeah.
1323:23.8 INT-6	I'm I'm getting nervous (when he when he).
1323:25.2 CAM-?	* * * * * [multiple voices].
1323:25.7 INT-5	I am too.
1323:26.2 CAM-J	we can't get the nose gear down?
1323:26.4 INT-6	when he says the doors that means the ones to not use right?

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1323:17.7 RDO-1	well, we're gonna have to make a uh, turn to the right here just to keep us in the area and uh, we may have to come back to two four and uh, we're gonna have to let you know.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1323:29.6 CAM-J	okay?
1323:33.0 CAM-1	and I'm ah not climbin'.
1323:33.2 INT-5	yeah.
1323:37.7 CAM-2	I'll get your flaps up (a little).
1323:39.3 CAM-J	'kay well let's see.
1323:40.7 CAM-1	* * * M-C-T (as well and then) * *.
1323:41.9 CAM-J	'kay.
1323:43.5 CAM-2	yeah it's all dead * * * # everything (in) this side.
1323:47.2 CAM-J	all right.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1323:26.6 TWR	American fourteen hundred go ahead and make a right turn heading zero six zero and climb and maintain three thousand.
1323:32.0 RDO-2	all right right zero six zero and uh it's gonna be extremely slow climb here.
1323:35.7 TWR	American fourteen hundred roger.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1323:48.1 CAM-1	so we're gonna lose the other engine if we're not careful.
1323:49.2 CAM-J	* its override.
1323:51.0 CAM-2	yup.
1323:51.9 CAM-J	for whatever that's worth.
1323:54.2 CAM-J	ahhh yeah that's good too.
1323:58.0 CAM-J	alright we're-.
1323:58.3 CAM-2	alright.
1323:58.5 CAM-1	we're gonna have to.
1324:00.1 CAM-2	you wanna let's see there's no let me ch- check the # gear thing here.
1324:04.3 CAM-1	there's no way to get the nose gear down right?
1324:05.8 CAM-2	I don't think so.
1324:07.0 CAM-1	we're just have to go back and land 'cause I do- I I can't maintain airspeed.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATIONTIME and
SOURCECONTENT

1324:10.5

CAM-J yeah.

1324:11.6

CAM-1 * now

1324:12.1

CAM-2 you can get the flaps up all the way if you want.

1324:14.1

CAM-1 okay, gimme half.

1324:15.7

CAM-1 just leave the slats out.

1324:16.2

CAM-2 leave the slats out.

1324:17.4

CAM-2 while we're on four wer- give me about one forty-five or so * *.

1324:21.5

CAM-1 I don't want to burn up this engine too.

1324:23.6

CAM-1 (tell) * we gotta come back and land now.

1324:26.8

CAM-2 which one do you wanna take uuh?

1324:28.7

CAM-1 the longest runway.

1324:30.8

CAM-2 you know eleven is probably the badest the best the new one there?

AIR-GROUND COMMUNICATIONTIME and
SOURCECONTENT

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1324:30.9 CAM-J	that's two zero left.
1324:34.6 CAM-J	three zero left is eleven thousand feet.
1324:36.4 CAM-2	yeah.
1324:37.0 CAM-J	that's extra two thousand feet.
1324:38.2 CAM-1	okay.
1324:39.1 CAM-1	okay.
1324:39.2 CAM-J	we're gonna land with the nose gear up?
1324:41.1 CAM-2	thirty left all right.
1324:44.7 CAM-J	all right well you it would you got the gear handle down (but it).
1324:47.6 CAM-2	yeah.
1324:48.0 CAM-J	and the mains are down?
1324:48.6 CAM-?	the mains are down.
1324:49.0 CAM-2	mains are down they're stayin'.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1324:49.1 CAM-?	yeah.
1324:50.8 CAM-?	yeah.
1324:51.4 CAM-1	and I can't hardly turn (us).
1324:53.8 CAM-2	yeah it.
1324:59.2 CAM-2	you're ah you know I'm gonna (tell me) * * *.
1325:01.1 CAM-1	yeah.

1325:13.5
CAM-J alright (you want) me talk to @?

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1325:01.2 RDO-1	hey uh St. Louis American fourteen hundred we're gonna have to give you a block between two and four here.
1325:06.3 TWR	block between two and four right to sixty for American fourteen hundred please.
1325:09.7 RDO-1	okay and we're gonna have to have thirty left.
1325:12.0 TWR	American fourteen hundred plan runway three zero left.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1325:15.6 CAM-2	* * *
1325:15.9 CAM-1	what are the winds.
1325:24.4 CAM-J	are you gonna wanna evacuate or no?
1325:26.4 CAM-1	* not unless we have to.
1325:28.3 CAM-J	okay.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1325:15.0 RDO-1	thanks.
1325:17.4 RDO-1	and uh winds still calm?
1325:19.4 TWR	winds are c- well actually winds are three three zero at one three.
1325:23.5 RDO-1	okay and uh, you keep us coming around for thirty left.
1325:29.7 TWR	American fourteen hundred turn right heading zero niner zero.
1325:32.5 RDO-2	right zero nine zero fourteen hundred.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1325:34.7 INT-J	[sound of multiple clicks] @ [sound of multiple clicks], @, can you hear me? are you on the interphone? [sound of multiple clicks]
1325:35.7 CAM-J	@ hey @ pick up the intercom.
1325:36.3 CAM-2	gear handle * *.
1325:39.2 CAM-1	I don't know if it works.
1325:50.1 CAM-2	(okay five) I'm gonna do the I'm go in and do the (landing) gear thing here for you just take a look at that.
1325:54.4 CAM-1	I can't I can't get this sucker to climb.
1326:00.0 CAM-J	you've lost the all ah hydraulic pressure on the right side.
1326:02.9 CAM-?	* *.
1326:03.7 CAM-2	how the # did that happen?
1326:05.9 CAM-1	I don't know.
1326:12.4 CAM-1	* * * *.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1326:13.8 CAM-2	all right.
1326:21.9 CAM-?	ahh.
1326:25.1 CAM-2	emergency gear extension accomplish.
1326:30.2 CAM-?	* * * *.
1326:32.2 CAM	[increased wideband background noise consistent with landing gear extension].
1326:37.2 CAM-J	gear doors.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1326:14.7 TWR	fourteen hundred fly heading one one zero vector downwind runway three zero left.
1326:19.9 RDO-1	ah yes sir one one zero fourteen hundred.
1326:25.2 TWR	American fourteen hundred what's your heading now sir?
1326:27.7 RDO-1	we're turning to a heading of one one zero right now.
1326:30.5 TWR	all right thank you.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1326:40.1 CAM-?	* * * * .
1327:02.0 CAM-2	yeah, I told **.
1327:19.5 CAM-?	okay.
1327:20.3 CAM-2	anything you can think of on that piece of #?
1327:22.1 CAM-J	ah no * * * * * .

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1326:41.9 RDO-2	got a main uh nose gear down for American fourteen hundred now?
1326:47.1 TWR	we're looking.
1326:57.6 RDO-1	and uh just in case we haven't said these words yet American fourteen hundred we are declaring an emergency.
1327:02.4 TWR	American fourteen hundred understand that and from where we are right now it looks like the nose gear might be down as you get ah abeam the tower we'll take another look at it.
1327:09.7 RDO-2	okay yeah it uh indicating now we don't have any indications but uh the noise appears that it's down.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1327:25.8 CAM-2	no we got, we've got no # hydraulic pressure on the right side for some odd reason.
1327:32.6 CAM-2	that engine's runnin'.
1327:33.3 CAM-1	totally # up, we've got no left engine, we've got no right hydraulic pressure on the right side, we don't have any hydraulics on the left side.
1327:39.4 CAM-2	well you know what? this might be dead because.
1327:42.1 CAM-1	oh, yeah.
1327:45.6 CAM-J	'kay.
1327:47.2 CAM-J	(you have) hydraulics.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1327:41.2 TWR	American fourteen hundred uh it looks like all three gear are down there's a possibility that the gear doors on the mains are still hanging we can't tell from here.
1327:49.1 RDO-2	yeah they probably are uh due to electronic sequencing so those will drag and uhm that isn't really gonna matter but uh to make sure got all the wheels down.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1328:02.0 CAM-2	I don't re-stow this lever do I?
1328:03.6 CAM-1	no.
1328:03.6 CAM-J	no.
1328:04.0 CAM-2	okay.
1328:07.2 CAM-2	okay so one eighty-four you're good on that I let's see if this fails in the.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1327:57.0 TWR	yes sir we see three uh three appear to be down and in place.
1327:59.9 RDO-2	super thanks.
1328:11.7 TWR	American fourteen hundred traffic two o'clock four miles northwest bound twenty-four hundred descending's a company MD-80 we've moved him over to two nine you can start your base leg at your discretion and uh let me know when you start that base leg for thirty left.
1328:24.4 RDO-2	okay we'll let you know and uh traffic there about what three o'clock?

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1328:33.5 CAM-J	all right ah you want me to say anything to the passengers?
1328:36.5 CAM-1	say again.
1328:37.0 CAM-J	you want me to say anything to the passengers?
1328:38.8 CAM-1	no.
1328:39.5 CAM-J	you fly, you fly.
1328:40.6 CAM-1	yeah go ahead and tell 'em what you can.
1328:43.2 CAM-2	uuh.
1328:45.2 CAM-2	depends on what you what you wanna do here you're the uh.
1328:48.8 CAM-1	we close enough (we close in)?

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1328:28.2 TWR	eh yeah traffic's at two thirty now uh just over the outer ma- just inside the outer marker he's lined up for two nine so it won't be a problem for you.
1328:35.0 RDO-2	okay.

INTRA-COCKPIT COMMUNICATIONTIME and
SOURCECONTENT

1328:50.0

CAM-2 uum, I might swing it out

1328:54.6

PA-J well ladies and gentlemen from the uh flight deck obviously we have a problem with the aircraft ah we are returning to the uh airport for landing ah please pay attention to the flight attendants completely I you probably will have ah * * * * aircraft as we roll out on the runway ah at this point do not be alarmed by that * * but flight attendants * * * * information right now please everyone be in your seats with your seatbelts fastened.

1328:58.7

CAM-? * * .

1328:59.2

CAM-2 you're good no no that's you're fine put it right here.

1329:01.6

CAM-J goin' around * * * * * .

AIR-GROUND COMMUNICATIONTIME and
SOURCECONTENT

1329:06.7

RDO-2 American fourteen hundred we are startin' a base leg at this time for thirty left.

1329:11.3

TWR American fourteen hundred you're cleared to land runway three zero left there's an RJ on the runway he's rolling now wind zero correction three zero zero and niner gusting one six.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1329:26.2 CAM-2	that's on.
1329:29.8 CAM	auto-pilot [electronic alert and voice].
1329:30.8 CAM-2	* * you got the power there now, don't you?
1329:33.8 CAM-?	where's the ah.
1329:36.3 CAM-?	* * .
1329:42.3 CAM-2	you're good, here.
1329:44.1 CAM	[occasional traces of voice energy, completely unintelligible].
1330:16.0 CAM	altitude [electronic alert and voice].

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1329:20.4 RDO-2	good thanks cleared to land thirty left American fourteen hundred.
1330:07.0 TWR	American fourteen hundred still cleared to land three zero left you'll see a Southwest jet crossing the approach end he's heading for the parallel runway the trucks are set up for three zero left wind three one zero one niner gusting one five.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1330:17.1 CAM-J	@ we are not going to do a ground evac yet * for now but be ready.
1330:21.9 CAM-7	okay.
1330:26.1 CAM-1	what's my bottom bug?
1330:27.6 CAM-2	you're fine.
1330:28.5 CAM-2	you had ah, one thirty, I gotta get you set up here.
1330:30.5 CAM	one thousand glide slope glide slope [electronic voice].
1330:38.9 CAM-2	you got uuh * * *.
1330:41.1 CAM-J	yeah we're landing on thirty left.
1330:42.7 CAM-2	yep keep 'er * around there.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1330:18.8 RDO-2	cleared to land thirty left American fourteen hundred.
1330:51.7 TWR	American fourteen hundred did you wanna be followed down the runway?

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1330:56.1 CAM-1	* * fifteen * * *?
1330:57.5 CAM-2	fifteen.
1330:59.5 CAM-2	got a lot of speed *.
1331:03.9 CAM-1	okay, flaps twenty-eight.
1331:07.9 CAM-2	okay well we got down three green now.
1331:09.4 CAM-?	got you down three green.
1331:09.8 CAM-2	gonna get ah spoiler lever.
1331:11.9 CAM-1	armed.
1331:12.3 CAM-2	arm flap slats.
1331:13.8 CAM-1	okay I got twenty-eight twenty-eight land.
1331:16.4 CAM-2	twenty land.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1330:54.3 RDO-2	yeah affirmative.
1330:57.7 TWR	understand.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1331:16.8 CAM-1	(three).
1331:17.6 CAM-?	do we have a split flap?
1331:19.8 CAM-2	uuh no they're just they're just not working.
1331:21.4 CAM-1	yeah they are.
1331:23.3 CAM-2	(lost all) # power (to it I guess).
1331:26.4 CAM-2	I don't know.
1331:27.7 CAM-2	* there goes that.
1331:30.0 CAM-?	*.
1331:31.9 CAM-J	(I don't know) why you're not.
1331:33.1 CAM-2	uuh well we're landing checklist complete so.
1331:37.4 CAM-1	landing.
1331:38.1 CAM-?	* * * * *. [multiple voices].
1331:42.8 CAM	five hundred [electronic voice].

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1331:44.0 CAM-2	well you're about twenty hot * chop that throttle there and we're going to roll way down to the end.
1331:52.6 CAM-2	(float like) * *.
1331:54.7 CAM	too low, terrain [electronic voice].
1331:57.0 CAM-1	turn that off.
1331:58.1 CAM-?	*.
1331:59.7 CAM	too low, terrain. too low, terrain. too low, terrain. too low, terrain. too low, terrain. [electronic voice].
1332:00.2 CAM-J	* * * over on your side don't worry about it.
1332:09.7 CAM	thirty [electronic voice].
1332:10.6 CAM	twenty [electronic voice].
1332:11.9 CAM	ten [electronic voice].
1332:12.2 CAM	[sound consistent with aircraft touch down on runway]

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1332:16.7 CAM-2	* have deployed.
1332:19.7 CAM	[sound consistent with nose gear contacting runway]
1332:29.4 CAM-2	pull her outta reverse, stand on the brakes.
1332:45.2 CAM-1	'kay tell the flight attendants to stay in their seats.
1332:48.1 CAM-J	@ stay seated.
1332:49.1 CAM-?	* * * .
1332:49.1 CAM	[sound of passengers clapping]

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1332:46.8 TWR	American fourteen hundred did you want to stop on the runway?
1332:49.2 RDO-2	yeah we're gonna stop here.
1332:51.0 TWR	all right let me know well they got the trucks commin' up from behind you let me know if you need anything.
1332:54.7 RDO-2	all right.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1332:56.2 CAM-?	*.
1332:58.5 CAM-J	and you don't have nose wheel steering do you?
1333:01.1 CAM-1	nope, I don't think so.
1333:03.9 CAM-1	nope.
1333:05.2 CAM-2	brakes still workin' 'er?
1333:06.4 CAM-1	yeah we're gonna roll up behind 'em here so, so I guess tow us back.
1333:13.3 PA-J	ah ladies and gentlemen you will ah see fire equipment ah moving towards the aircraft and checking the aircraft out that is ah precautionary we did have a left engine fire indication they are checking that out so ah right now we have no indications that it was an actual fire we did ah shut that engine down ah please stay seated.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1332:55.3 RDO-2	yeah they're gonna have to take check out that left engine for us to make sure there's any uh. we're still showing * fire indication up here.
1333:01.1 TWR	understand.

INTRA-COCKPIT COMMUNICATION

TIME and
SOURCE CONTENT

1333:16.3
CAM-? * * * * * .

1333:26.3
CAM-? two lights * * * .

1333:32.7
CAM-? * * * * * .

1333:48.9
CAM-2 * * * * * .

AIR-GROUND COMMUNICATION

TIME and
SOURCE CONTENT

1333:19.3
TWR American fourteen hundred when you get just a moment change to ground twenty-one nine and uh he'll talk to you.

1333:32.8
RDO-2 and ground American fourteen hundred we're up on twenty one nine.

1333:35.5
GND thank you and I got the fire trucks if you need to talk to 'em, also on this frequency.

1333:39.1
RDO-2 thank you.

1333:43.3
RDO-? * .

1333:45.5
RDO-1 and this is American fourteen hundred do you read?

1333:49.7
RDO-1 American fourteen hundred uh to- ah rescue crew.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1333:56.1 CAM-J	you don't have to go to recurrent for two years.
1333:58.0 CAM-2	[sound of laughter]
1334:08.3 CAM-2	you gotta be # me.
1334:12.1 CAM-1	(you) fire the other bottle er * *?
1334:13.9 CAM-2	(think they're) both gone I shot 'em both.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1333:53.8 TRK-42	yeah go ahead.
1334:03.8 TRK-42	ARFF to ground left engine still a little bit of fire in there.
1334:09.9 RDO-1	uh roger copy that uh.
1334:15.8 RDO-1	de-.
1334:29.7 RDO-1	okay uh rescue this is uh American fourteen hundred you say you got still got some fire in the left engine?
1334:40.1 RDO-1	ground American fourteen hundred.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1334:59.9 CAM-2	no place for anybody to go.
1335:02.8 CAM-1	I think we're probably gonna need to be towed off 'cause I don't have any nose wheel steering we're down to one engine.
1335:04.9 CAM-?	*.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1334:41.8 GND	truck forty-two the aircraft's askin' is there still fire in that engine?
1334:46.3 TRK-42	roger that.
1334:48.0 GND	truck fourteen hundred yeah they say there is.
1334:50.4 RDO-1	all right are they gonnaowa spray it?
1334:53.0 GND	they're working on it now I believe.
1334:54.8 RDO-1	okay.
1334:58.8 TRK-53	ground this is truck fifty three putting a line on it right now.
1335:01.4 GND	thank you.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1335:20.1 CAM-?	* the engines * * it's still on fire.
1335:23.0 CAM-1	okay you gonna spray it?
1335:24.3 CAM-9	I gotta put it out.
1335:25.2 CAM-1	okay.
1335:32.2 CAM-2	we don't want to get everybody off here.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1335:11.3 RDO-1	hey ground when uh American fourteen hundred when they get this thing all ah secured here we're gonna have to be towed back ah I don't have any nose wheel steering or anything.
1335:19.9 GND	okay thank you.
1335:23.4 GND	American fourteen hundred are you going to be evacuating the aircraft?
1335:25.9 RDO-2	uuh no there's nowhere for anybody to go we've the guys got a handle on it right now they're gonna shoot it for us.
1335:31.1 GND	okay.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1335:33.4 CAM-1	no
1335:33.9 CAM-2	there's no where for them to go *.
1335:37.7 CAM-J	well they got busses standing by over there.
1335:39.9 CAM-2	sweet.
1335:44.2 CAM-J	that can't be for us that'd be too well coordinated.
1335:49.2 CAM-J	# of a job @.
1335:50.6 CAM-2	* football team coming in.
1335:52.9 CAM-2	he just said he had to be back before nine fifty-nine tonight.
1335:55.5 CAM-?	*.
1335:59.3 CAM-2	yeah # just went whack-a-doodle on us *.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1335:32.3 STL-CC	ground this is comm center we copied the uuh tow request.
1335:35.3 GND	thank you.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1336:02.0 CAM-?	* *. [multiple voices].
1336:03.6 CAM-1	we had a left start valve open light.
1336:05.8 CAM-J	open?
1336:06.2 CAM-1	after we got airborne.
1336:07.8 CAM-?	* * * *.
1336:09.5 CAM-1	start valve open light.
1336:09.7 CAM-J	hah.
1336:11.0 CAM-1	now the thrust reverser was that.
1336:13.4 CAM-1	or is it the valve indication.
1336:14.1 CAM-2	that came on too.
1336:15.7 CAM-1	we had all kinds of # goin' on there.
1336:17.2 CAM-2	you had that before you had here comes that came on and once all the # came on.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATIONTIME and
SOURCECONTENT

1336:17.3

CAM-1 * * * electricity went away uh you know * I uh started the APU but it didn't come on line that AC cross-tie lockout goin' and (you know like) # I'm like baffled.

1336:29.2

CAM-J @ I'd hate to have been in the weather.

1336:31.1

CAM-? *.

1336:32.4

CAM-2 then I, you know you got too much # at one thing
* * .

1336:39.2

CAM-J well.

1336:40.4

CAM-J obviously it's a pretty * (landing).

1336:42.5

CAM-1 did you say something to the people?

1336:43.9

CAM-J I did told everybody to stay seated 'cause there was fire trucks will be out.

1336:46.6

CAM-2 extra pay in this for you.

1336:49.9

CAM-2 @ going to be waiting for you when you get *.

1336:51.4

CAM-1 @ I appreciate you coming up here and helpin' out.

AIR-GROUND COMMUNICATIONTIME and
SOURCECONTENT

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1336:52.8 CAM-2	yeah.
1336:54.4 CAM-J	you were like your hands were full.
1336:56.5 CAM-2	# yeah I * * * no * [sound of laughter].
1337:01.7 CAM-2	did I tell you this # always always happens to me?
1337:04.0 CAM-1	no remind me to put you on my do not fly list.
1337:08.6 CAM-2	* * * * talkin' to me * *.
1337:08.8 CAM-?	* *.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1337:11.7 RDO-1	hey ground American fourteen hundred.
1337:16.8 GND	American fourteen hundred go ahead.
1337:18.2 RDO-1	yes sir and ah was just wondering does anybody on the rescue crew ah are they monitoring this frequency 'cause they're not talking to me?
1337:24.6 GND	they should be.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1337:29.6 CAM-9	think you got smoke inside?
1337:31.6 CAM-1	no is there * there no smoke inside?
1337:36.9 CAM-?	(now).
1337:39.7 CAM-?	nope.
1337:40.5 CAM-1	no, no smoke inside.
1337:42.1 CAM-9	hey we, you're basically out.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1337:26.6 TRK-53	go ahead fourteen hundred this fifty-three.
1337:32.0 TRK-53	go ahead fourteen hundred this fifty-three.
1337:34.6 RDO-1	say again.
1337:36.0 TRK-53	truck fity three.
1337:37.2 RDO-1	yeah go ahead.
1337:38.9 TRK-53	* with your message..
1337:40.6 RDO-1	are you uh you guys spray that left engine already for us?

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1337:45.1 CAM-1	okay.
1337:45.3 CAM-9	everything's good.
1337:46.5 CAM-1	okay.
1337:47.6 CAM-9	(put) a little water on it that's it.
1337:49.8 CAM-1	okay we think we can taxi in safely?
1337:52.4 CAM-?	* @.
1337:52.8 CAM-1	can we taxi in safely then?
1337:54.8 CAM-9	yeah we're gonna follow ya.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1337:44.3 TRK-53	yes they are.
1337:45.4 RDO-1	super.
1337:48.0 TRK-107	ground truck one oh seven.
1337:50.7 TRK-107	truck one oh seven ground.
1337:52.0 TRK-107	one oh seven one other truck on Charlie like to cross six two four.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1337:56.4 CAM-2	(we're) gonna have to get a tug though.
1337:57.8 CAM-1	okay.
1338:00.2 CAM-1	* * * * nose wheel steering.
1338:00.9 CAM-?	* * *. [sound similar to voice originating from outside the cockpit].
1338:01.9 CAM-2	I think you lose it but you lose it when we do that though don't you?
1338:04.3 CAM-J	what?
1338:04.7 CAM-2	nose wheel steering.
1338:06.0 CAM-?	*. [sound similar to voice originating from outside the cockpit].
1338:06.4 CAM-J	it might be.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1337:56.8 GND	cross two four.
1337:58.3 TRK-107	one oh seven company crossing two four on Charlie.

INTRA-COCKPIT COMMUNICATIONTIME and
SOURCECONTENT

1338:07.7

CAM-? * * * *.

1338:09.1

CAM-2 it's all that system # I that don't remember.

1338:10.5

CAM-J yeah stuck in the back page *.

1338:13.2

CAM-2 I'll uh * *.

1338:13.9

CAM-1 * * * all right let's let's uh, let- let's at least at least taxi clear.

1338:18.3

CAM-1 but I don't know where they want us to park 'cause I don't think I have any nose wheel steering in here.

AIR-GROUND COMMUNICATIONTIME and
SOURCECONTENT

1338:22.2

TRK-107 one oh seven and company clear of two four.

1338:22.6

RDO-2 hey operation ah operation America ah fourteen hundred.

1338:24.9

GND thank you.

1338:29.7

RDO-1 ground American uh fourteen hundred.

1338:32.1

GND American fourteen hundred go ahead.

INTRA-COCKPIT COMMUNICATIONTIME and
SOURCECONTENTAIR-GROUND COMMUNICATIONTIME and
SOURCECONTENT

1338:33.2

CAM-OPS flight fourteen hundred?

1338:34.2

RDO-1 sir uh they say the fire's out uh we're gonna taxi clear uhm but I don't have nose wheel steering we're gonna have to probably park someplace ah off the gate uh and uh uh not- we're checking with our OPS now what they want us wher-theyr- aw where they want us to go.

1338:34.2

RDO-2 yeah uhm we're down here at the end of thirty left and ah I think we're going to be able to taxi clear but ah we don't have any nose wheel steering so they're gonna have to have a tug * * out.

1338:48.1

GND okay understand I was- understand I believe they're bringing a tug out to you.

1338:48.2

CAM-OPS sir uh, (I inform you) we have no information we didn't know you were coming back they didn't tell me what's going on what kind of emergency.

1338:52.1

RDO-1 oh they are bringing a tug out?

1338:53.7

GND yes they are and I believe they've got some vans * * ready for you if you want eh evacuate that aircraft also, right there off to your left you can see 'em.

INTRA-COCKPIT COMMUNICATION

TIME and
SOURCE

CONTENT

1338:55.6

CAM-2 huh.

1339:13.3

CAM-J I think can ** hydraulic pressure ** extend the gear to (twenty) ***. [multiple voices].

AIR-GROUND COMMUNICATION

TIME and
SOURCE

CONTENT

1338:56.3

RDO-2 they didn't call you huh? ahm yeah we're * on the ground had an engine ah left engine fire and a multitude of other failures and ah we're on the ground now they've got it all ** uhm and ah were gonna taxi ** Victor Charlie *** .

1339:00.1

RDO-1 no I don't think there's any need to evacuate the airplane I see the vans uhm but if uh you see the tug coming out?

1339:08.0

GND no let me call and find out what they're planning on doing to but the * said *** have a tug come out.

1339:12.8

RDO-1 okay 'cause I think I can get clear of the runway uh but I ah don't really wanna try taxiing into a gate without nose wheel steering.

1339:17.0

CAM-OPS and ah I will inform maintenance ah (can you) go to maintenance on one two niner point eight five?

INTRA-COCKPIT COMMUNICATION

TIME and
SOURCE

CONTENT

1339:31.8
CAM-1 so we * even have any hydraulics.

AIR-GROUND COMMUNICATION

TIME and
SOURCE

CONTENT

1339:20.5
GND okay I understand that uhm comm center
ground are you with me?

1339:21.7
RDO-2 ahh we really didn't have any time to speak to
anybody but I'll give them a call, you know we
didn't even have any-

1339:23.8
STL-CC yes sir I did talk to maintenance they should
have a crew on the way and our uh city vehicle
will meet them at the Charlie pad.

1339:25.9
CAM-OPS well we didn't know what flight you were okay
please call maintenance one two niner point
eight five.

1339:28.8
GND okay so * me just go ahead and taxi him off the
runway then?

1339:31.9
STL-CC at pilot's discretion sir.

1339:33.7
GND okay American fourteen hundred you're
discretion you go ahead and taxi off the runway
uh you do have a lot of vehicles still around you
tho-.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1339:34.1 CAM-1	you think we can safely taxi off the runway or should we stay here?
1339:35.7 CAM-?	* * * * *. [multiple voices].
1339:36.5 CAM-?	stay here?
1339:37.5 CAM-2	let him tow it off.
1339:38.4 CAM-J	you know you gotta pin the gear before you try you make * * * pressure.
1339:43.1 CAM-?	* * * * * (over center lock) * *. [multiple voices].
1339:47.2 CAM-J	yeah.
1339:47.8 CAM-2	(#it they just want you to tow it *).

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1339:39.8 RDO-1	okay we uh uh ground uh American fourteen hundred uh upon further review here we think probably we're smarter to just wait and let 'em tow us so we're not sure we have enough hydraulic pressure to hold the gear up.
1339:50.5 CAM-OPS	fourteen hundred go ahead.
1339:50.8 GND	okay eh com center you copy that?

INTRA-COCKPIT COMMUNICATIONTIME and
SOURCECONTENTAIR-GROUND COMMUNICATIONTIME and
SOURCECONTENT

1339:51.8

RDO-2 yeah I don't know if you copy just what's goin' on uhm went back we had a left engine fire indication * * fire we had gotten the fire out and one of the mult- multitude of problems one of the things is there are no both hydraulics are out we are on thirty left we gonna need someone to pin and pin the gear and send a tug out to pull us * * .

1340:08.7

C-19 ground car nineteen.

1340:10.4

GND car nineteen go ahead.

1340:11.7

C-19 I did not copy that last transmission from the aircraft sir could you repeat it please?

1340:12.9

CAM-OPS ah we're waiting for a city escort right now let's get all that out there so they'll be there shortly.

1340:15.5

GND yeah he don't know if he has enough hydraulics to ah steer that think so he wou- re- he would like to be towed off the runway.

1340:18.3

RDO-2 okay.

1340:21.1

C-19 that's affirmative I'm waiting to see the tow crew on the Charlie pad and I'll meet them and bring them out to the aircraft.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1340:21.7 CAM-2	* * * do they have * things goin' on they're worried about what you know. # it.
1340:24.9 CAM-J	yeah.
1340:27.6 CAM-2	we got some A-C goin' on. that's cool.
1340:34.4 CAM-J	@ you want me to say anything more to the passengers er.
1340:37.2 CAM-1	yeah.
1340:37.7 CAM-J	* * *.
1340:38.6 CAM-1	no *.
1340:39.2 CAM-J	okay.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1340:27.2 GND	okay thank you.

INTRA-COCKPIT COMMUNICATION

TIME and
SOURCE

CONTENT

1340:40.0

PA-1 okay folks this is captain @ speaking ahm we have ah things under control here for the most part ah they are gonna to bring a tug out to the ah runway here to tow us off the runway ah hydraulic ah pressure is gone and ah we don't really have any steering capability right now the safest thing to do is tow the airplane in ahm we're talkin' to operations ah to see where they're gonna put us but ah the rescue people have ah secured ah the airplane and everything is good on the outside so ah just be a couple of minutes here I think before we ah standby.

1340:40.2

CAM-2 # * * * .

1340:58.9

CAM-2 well that's comin' up.

1341:00.7

CAM-J hey.

1341:01.2

CAM-2 * * * * .

1341:02.8

CAM-J [sound of laughter] * * * * .

1341:08.0

CAM-2 * like ah * * then I couldn't even shut this * * * and shut fuel *.

1341:16.8

CAM-? (yeah like).

AIR-GROUND COMMUNICATION

TIME and
SOURCE

CONTENT

INTRA-COCKPIT COMMUNICATION

AIR-GROUND COMMUNICATION

TIME and
SOURCE

CONTENT

1341:17.6

CAM-2 pull the fire handle couldn't couldn't rotate it.

1341:21.1

CAM-J (wow).

1341:22.2

CAM-2 * I don't know what * * really * this this is it * * *
(release) and then couldn't even get couldn't get
it to ah go any further than that * * push it on
down.

1341:27.1

CAM-1 * come on?

1341:28.2

CAM-A * * * * * . [sounds similar to voice originating
outside the cockpit].

1341:31.4

CAM-1 do you wanna come on board?

1341:34.2

CAM-A * * * * * . [sounds similar to voice originating
outside the cockpit].

1341:37.3

CAM-1 up here okay.

1341:41.1

CAM-1 fire department's coming on board so * * * * .

TIME and
SOURCE

CONTENT

1341:39.4

GND car nineteen ground.

1341:41.8

C-19 go ahead ground.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1341:42.9 CAM-2	* * she get that (out) the door there.
1341:45.9 CAM-A	* * * fire department * * [multiple voices].
1341:54.1 CAM-2	eh we're on the clock.
1342:02.7 CAM-7	okay it's done.
1342:03.6 CAM-J	all right thanks.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1341:43.4 GND	yeah we just called ah talked to American they said the tug is on it's way.
1341:46.9 RDO-1	okay thank you I guess fire department wants to come on board they're gonna ah come on the airplane.
1341:52.1 GND	'kay I got about five airc- or five people callin' I was lookin' for car nineteen on that one did you copy that car nineteen?
1341:57.5 C-19	roger that car nineteen copy.
1341:60.0 GND	thank you who else's callin' me?
1342:04.1 GND	who else is callin' ground on point niner?

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1342:04.5 CAM-?	*
1342:04.8 CAM-J	doors disarmed.
1342:08.0 CAM-2	(not) sure why this (lights) still on here.
1342:11.4 CAM-1	yeah they said the fire's out.
1342:12.4 CAM-2	'kay.
1342:15.9 CAM-1	ahm try the loops switch.
1342:23.1 CAM	fire right engine [electronic voice and alarm] fire right engine [electronic voice and alarm].
1342:24.8 CAM-2	well (what about the) see that's what we initially got was the ah well when everything started going crazy we got a loop light and then...
1342:34.6 CAM-1	yeah.
1342:34.8 CAM-2	...right after that this kicked in I'm like well okay maybe its a loop but then the fire bell started going off and then that's when we.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1342:41.6 CAM-1	I never did look at the EGT. saw the fire saw that big red light and that's all I. I don't ah know what it was either.
1342:53.1 CAM	[unintelligible background voices].
1343:06.8 CAM-1	did the did they disarm the door?
1343:08.0 CAM-2	yeah.
1343:08.4 CAM-J	yeah.
1343:08.8 CAM-?	*.
1343:09.2 CAM-J	(yeah).
1343:11.4 CAM-2	huh great job man.
1343:13.3 CAM-1	* say couldn't ah done it withoutchya.
1343:14.5 CAM-2	yeah [sound of laughter].
1343:16.4 CAM-1	* #.
1343:19.2 CAM-J	like * * * *.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATIONTIME and
SOURCECONTENT

1343:19.6

INT-1 everyone needs to remain in their seats with their seatbelts fastened and please keep all of your carry on items stowed.

1343:27.8

CAM-J (okay) * * * * (firemen on board ah there is no indication of fire) * * * .

1343:28.4

PA-1 ah folks this is captain @ the ah rescue crew just said they wanted to come on board and check things out inside ah they're gonna be comin'; up on the ah front door here of the left side ah.

1343:33.7

CAM-? * * * .

1343:34.5

CAM-J I know.

1343:37.1

CAM-? * * * .

1343:38.8

CAM-J * * (nobody wants to go quietly).

AIR-GROUND COMMUNICATIONTIME and
SOURCECONTENT

1343:39.0

GND car nineteen ground.

1343:40.9

C-19 go ahead ground.

1343:42.6

GND okay do you to swing- * go arou- ba ah run down ah thirty left see if there's any debris on that runway at the end?

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1343:44.2 CAM-2	* didya get that whisky yet?
1343:46.0 CAM-J	yeah.
1343:46.4 CAM-7	yeah I got it for ya.
1343:47.3 CAM-J	[sound of laughter].
1343:47.7 CAM-1	what's the brake temperature.
1343:51.6 CAM-1	it doesn't doesn't matter I don't I don't guess I have anything uh?
1343:55.8 CAM-1	I'm holdin' these but they're probably just wasting my time.
1343:58.1 CAM-2	he chocked ya too so that was the ah uhm first guy came out but.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1343:49.9 C-19	yes ah I'll do that ah once the aircraft starts to move sir.
1343:54.4 GND	okay.
1344:01.9 C-19	ground car nineteen.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1344:05.3 CAM-2	yeah I don't, I mean he's still got, * * out on that block us out on that eh eh, according to that.
1344:08.1 CAM	[sound of double chime].
1344:13.8 CAM-?	* * * * (come on back).
1344:15.6 INT-7	@.
1344:16.3 INT-5	hey this is * is * any way they can use their cell phones?
1344:19.9 INT -7	ahm ah are I don't just a minute I'll ask thos-guys are comin' on.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1344:03.6 GND	car nineteen go ahead.
1344:04.8 C-19	yeah ground I have car two zero with me ah he'll do ee- the ah runway inspection on three zero left from two four down.
1344:11.8 GND	okay yeah we got ah I believe they got thirty left and two four right now shut down also.
1344:16.3 C-19	and that's affirmative he'll * * from here out on two four make the turn on * left * *.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1344:21.3 CAM-?	I don't * * double check before I * .
1344:21.7 CAM-1	(hi there).
1344:22.3 CAM-?	'kay.
1344:22.4 INT -5	oh okay.
1344:23.0 CAM-1	* * * * *?
1344:23.4 CAM-2	Thanks @.
1344:23.6 INT -5	okay I'll tell 'em.
1344:24.8 INT -6	can they use their cell phones they wanna know. cell phones.
1344:28.0 CAM-?	(cell phone)? [multiple voices].
1344:28.9 CAM-2	yeah.
1344:29.0 INT -7	yeah they use *cell phones.
1344:29.3 CAM-J	yeah.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1344:30.0 CAM-J	yeah your not gonna 'fear for the navigation equipment now eh.
1344:33.5 CAM-2	[sound of laughter] what left we have.
1344:35.2 CAM	[sound of double chime].
1344:38.2 CAM-1	that was a good catch though, * * nose gear.
1344:39.8 CAM-2	* * *.
1344:40.3 INT -6	this is @.
1344:40.8 INT -7	yes they can use their cell phones.
1344:41.5 CAM-2	well I didn't e- I'm like seemed awfully quiet that's the only way.
1344:42.1 INT -6	okay thank's, bye.
1344:45.9 CAM-1	we're halfway down final the first time and he's goin' oh # shouldn't that be up? *I'm goin'.
1344:51.1 CAM-2	# #.
1344:52.5 CAM-J	yeah.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1344:53.3 CAM-2	but that that # all mechanical why the # would that stick up?
1344:57.6 CAM-J	(don't know).
1344:58.2 CAM-1	I don't know.
1344:58.3 CAM-2	there's nothin' electronic in the-.
1345:00.6 CAM-1	* * * hydraulic unlocks.
1345:00.6 CAM-2	well other than.
1345:00.6 CAM-?	* * * .
1345:02.6 CAM-?	* * ?
1345:03.5 CAM-1	no no you're right it's a mechanical lock.
1345:04.4 CAM-2	it's just a mechanical uplock and it it hydraulically drops but.
1345:10.5 CAM-2	he had.
1345:11.1 CAM-2	he said nothin' was down. gear doors were * draggin' too.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1345:12.4 CAM-1	so when this thing * * * when you (cut) this and the left engine shut down so didn't even get follow any checklists like we're supposed to you know.
1345:20.9 CAM-1	I'm just like keep this this thing flyin'.
1345:24.8 CAM-2	yeah * like bring it around and land it you know get what # you can get done and then, course we'd a been down quicker if it was.
1345:31.9 CAM-2	ah you got 'er do an overweight landing.
1345:33.9 CAM-J	[sound of laughter].
1345:37.7 CAM-2	you can punch me any time * * just don't hit my shoulder.
1345:41.4 CAM-2	I just had I broke my collarbone in May and had it screwed back together so it's just a little sore right there.
1345:45.2 CAM-J	ouww.
1345:52.3 CAM-2	I suppose now we're gonna have to debrief all this #.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1345:52.4 CAM-1	* * * .
1346:00.5 CAM-2	yup.
1346:02.0 CAM	[sound of multiple bells].
1346:05.5 CAM-1	that's probably the ACARS wants your in fuel.
1346:06.4 CAM-2	ah, oh missing arrival fuel.
1346:09.2 CAM-J	[sound of laughter] update your ETO as necessary.
1346:15.9 CAM	* * * * * . [multiple voices].
1346:20.6 CAM-2	(we had) plenty of fuel.
1346:23.6 CAM-1	those guys did not. all (I) had to figure is they did not make sure that start valve was, (set).
1346:29.0 CAM-2	that would be my only indication that they didn't have it fully seated. 'cause it was but it was cycling on and off. I * this was goin' on and off and a bunch of different * * * * * .
1346:30.8 CAM-?	* * * * .

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1346:36.9 INT -6	yes.
1346:38.0 CAM-1	alright everything good?
1346:38.1 INT -5	the fireman said ah on the flyby we were on fire, half of the engine is gone.
1346:40.4 CAM-2	thank you.
1346:41.6 CAM-?	we got it captain.
1346:43.2 CAM-1	okay.
1346:46.8 INT -6	oh my #. ah.
1346:47.7 CAM-?	* * * * .
1346:50.0 INT -5	just though you might wanna know.
1346:51.7 INT -6	thank you honey. thank you thank you.
1346:53.0 INT -5	[sound of laughter] okay.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1346:51.7 CAM-OPS	fourteen hundred go ahead.
1346:53.0 RDO-2	* * * * * .

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1346:53.8 CAM-?	* (exit) * fire * so [sound of laughter].
1346:59.9 CAM-A	okay every- everything is looking good ah.
1347:02.9 CAM-A	no well there's nothin' back there we just wanted to be ah on the safe side.
1347:06.0 CAM-1	alright.
1347:06.4 CAM-?	and the engine is completely out.
1347:08.3 CAM-2	super.
1347:09.1 CAM-1	okay so where was the fire front end front section aft section?

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1346:55.6 OPS	ah we're waitin' on the city they don't move too fast around here we- we're got people standin' by ready to come out there but we have to wait for the- them to escort us.
1347:03.2 RDO-2	okay I'll talk to the ground guys see if ma- they can ah nudge them along a little bit.
1347:07.2 OPS	okay.
1347:11.0 RDO-2	hey ground American fourteen hundred.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1347:13.4 CAM-A	well in the ah middle toward the rear of the engine.
1347:20.3 CAM-1	and you can see it from the rear you cannot see it from the front?
1347:23.6 CAM-A	well I mean it's burnt it's burnt all the way through underneath that (that engine).
1347:28.4 CAM-1	okay I see alright.
1347:29.8 CAM-A	ah ha.
1347:30.9 CAM-1	yeah ah huh alright.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1347:12.7 GND	go ahead American fourteen hundred.
1347:14.2 RDO-2	yeah er ah maintenance guys are all set standin' by to send out a tug and to ah pin us but ah I guess they're havin' a delay with the city to get clearance to come out here?
1347:23.8 GND	* the city's waiting for you guys at Charlie pad.
1347:26.5 RDO-2	oh I guess everybody's waitin' for everybody ahh is there somebody else they should call?

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1347:34.4 CAM-?	* * *. [multiple voices].
1347:36.0 CAM-A	good flyin' you 'all.
1347:36.9 CAM-1	thanks guys.
1347:37.5 CAM-1	thanks.
1347:38.7 CAM-?	* * *. [multiple voices].
1347:39.6 CAM-?	* * * * (heard a pop) * *.
1347:43.4 CAM-?	okay.
1347:44.0 CAM-?	I don't know * * (in there) or not.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1347:32.1 RDO-2	er is there ah someone in the tower can give our guys a shout and let them know they're clear to come out?
1347:37.0 GND	ah * * * car nineteen ground you with me still?
1347:40.1 C-19	hmm hearin' everything he's sayin I got the American guy in the car with me we got four vehicles but no we're waitin' for it to show up.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1347:46.6 CAM-J	* but that was during the event not now.
1347:49.1 CAM-?	right.
1347:49.5 CAM-?	* * * *.
1347:51.4 CAM-?	(that's) okay.
1347:52.1 CAM-?	alright we'll * the guys we.
1347:53.4 CAM-J	appreciate that.
1347:55.5 CAM-2	we really wanna.
1347:55.8 CAM-2	well we just we needed them to find a tug then is that what it was?

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1347:47.2 GND	yeah he was sayin' that they guess ah they're waitin' for you clearance from you guys I don't understand that either though.
1347:52.6 C-19	* little miscommunication on their part.
1347:55.3 RDO-2	alright so we just we needed them to find a tug then is that what it is?

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1347:58.0 CAM-1	I don't really wanna let these people out right here in the middle of the runway.
1348:00.2 CAM-J	ah I wouldn't either.
1348:04.0 CAM-?	*.
1348:04.3 CAM-2	tug's on the way.
1348:04.6 CAM-1	so we probably just cheated death by that much I think.
1348:07.4 CAM-2	so.
1348:07.9 CAM-2	what happened to it?
1348:08.9 CAM-1	ah the engine was burned through it burned *.
1348:10.8 CAM-1	cowling burned.
1348:11.2 CAM-J	burned the cowling.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1348:00.7 C-19	ground tug is in route.
1348:03.4 GND	okay.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1348:12.3 CAM-?	(burned through the cowling).
1348:14.0 CAM-1	* * * .
1348:17.2 CAM-?	* * * .
1348:19.0 CAM-J	yeah and ya know you you.
1348:20.6 CAM-J	the electric the hydraulics * * melted lines and wires shorted # out.
1348:27.3 CAM-J	there's no such thing as a simple fire is there?
1348:29.5 CAM-?	[sound of laughter].
1348:29.6 CAM-1	but what I was I was gettin' a little worried because it seemed like I was having to use more and more aileron to keep the the wing up and ah I wasn't climbin' and 'course I had the gear down so you know I'm not gonna climb.
1348:31.5 INT-6	ladies and gentlemen we do need you in your seats please until we ahm taxi over to the gate thank you so much for your patience.
1348:39.6 CAM-?	yeah.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1348:41.8 CAM-2	yeah that's.
1348:42.8 CAM-1	you know how you know and no you know no no guidance from this thing so I don't know how much can I how much can I do to the engine.
1348:53.5 CAM-J	whatever it takes.
1348:54.3 CAM-1	yeah yeah but I didn't wanna use up.
1348:55.6 CAM-J	well I oh yeah right.
1348:56.8 CAM-2	use up the only good one.
1348:57.0 CAM-J	use up the last engine.
1348:58.3 CAM-?	*.
1348:58.3 CAM-?	[sound of laughter].
1348:58.3 CAM-?	* * *.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1348:43.4 GND	and car nineteen ah the tug is just comin' er ah by the base of the tower right now looks like.
1348:48.3 C-19	roger that.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1348:59.8 CAM-2	well now we're down to APU power. [sound of laughter].
1349:02.5 CAM-1	okay now we're a glider.
1349:03.7 CAM-J	* * * * .
1349:04.9 CAM-2	there's a field right over here too * * * nice long runway but still you never woulda made it not with the gear down you (wouldn't make that).
1349:22.7 CAM-1	but basically pullin' up that thing is what got the nose gear down.
1349:25.1 CAM-2	yeah, which I do-I don't I'm gonna have to read 'cause I don't understand why *. 'cause I was under the ah.
1349:30.8 CAM-7	(@) can you help me get this door shut?
1349:33.1 CAM-J	sure.
1349:34.1 CAM-2	ahm.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1349:32.8 TRK-42	ground truck forty two.
1349:35.9 GND	truck forty two ground. go ahead.

INTRA-COCKPIT COMMUNICATIONTIME and
SOURCECONTENT

1349:36.0

CAM-? * * *. [multiple voices].

1349:36.0

CAM-2 I would.

1349:57.2

CAM-2 you know we ahm.

1350:02.7

CAM-2 yeah I don't get * we don't have a you don't have a red book so I er grey book but. I'm almost positive but that's *. the doors, everything's mechanical on it the doors are hydraulic.

AIR-GROUND COMMUNICATIONTIME and
SOURCECONTENT

1349:37.5

TRK-42 we've checked out the aircraft the fire is out ah we ah the inside is good and ah we 'onna ahh prepare to let it taxi on it's own to the gate.

1349:48.8

GND okay he's gonna be tugged in ahm you wanna go ahead and secure the equipment just keep it come on with him?

1349:53.9

TRK-42 yeah we 'onna we gonna all follow 'im in on that side first.

1349:57.8

GND okay you gon- * you guy all gonna follow him into the * pen or * * *.

1350:04.6

TRK-42 standby.

INTRA-COCKPIT COMMUNICATION

TIME and
SOURCE

CONTENT

1350:18.5
CAM-2 maybe that's what was holding (this) *.
1350:20.5
CAM-1 what?
1350:21.6
CAM-2 the doors should drop you have no hydraulic
power.
1350:22.5
CAM-1 yeah.

1350:25.0
CAM-1 I don't know * either just the mechanical lock
was holdin' it 'n it never released till you pulled
up the handle?

AIR-GROUND COMMUNICATION

TIME and
SOURCE

CONTENT

1350:10.8
TRK-42 yeah ground we ah we just all follow him over to
the terminal side and then we ah disperse from
there.
1350:18.4
GND okay yeah just let you know the tug is enroute
he should be out there shortly.

1350:22.6
TRK-42 roger.

1350:25.8
TRK-42 * ground truck forty two.
1350:27.9
GND truck forty two ground.

INTRA-COCKPIT COMMUNICATIONTIME and
SOURCECONTENT

1350:35.7

CAM-2 aw #.

1350:40.9

CAM-2 sheddin' # on the runway too huh?

AIR-GROUND COMMUNICATIONTIME and
SOURCECONTENT

1350:29.3

TRK-42 truck forty's down here at the ah at the aircraft we lost a couple pieces equipment on the runway around Juliet I'm askin' for permission to go back down the runway and pickup that equipment.

1350:41.1

GND eh truck forty two that's approved.

1350:44.6

TRK-42 ah could you repeat I I didn't hear you.

1350:47.1

GND truck forty ground that's approved you can drive down three zero left.

1350:50.8

TRK-42 ah message received thank you *.

1350:54.9

C-2 ground car this car two I picked that stuff up I'll meet him.

1350:58.8

GND car two you got the stuff?

1351:00.7

C-2 yeah I got it.

INTRA-COCKPIT COMMUNICATIONTIME and
SOURCECONTENT

1351:11.2
CAM-1 what do we know about the tug?

1351:13.0
CAM-2 it's on the way.

1351:16.7
PA-1 okay folks ah the rescue folks have said the airplane is ah all safe and secure we're waiting on ah tug from ah the company to come out here and pull us off the runway ah as I said ah all my hy- hydraulics are ah gone and I don't wanna try and taxi the airplane ah without ah some way to steer it so ah we're gonna wait for the tug and I'm hopin' they'll be here shortly but ah please be patient we'll ah get ya back to the terminal as soon as we can.

1351:44.8
CAM-2 he was he was passin' the tower they said the last.

1351:50.1
CAM-? * * .

AIR-GROUND COMMUNICATIONTIME and
SOURCECONTENT

1351:01.9
GND yeah truck forty ah one of the city vehicles has got your equipment.

1351:05.6
TRK-42 okay message received thank you very much.

1351:48.3
RDO-2 there is a tug gettin' close * fourteen hundred.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1351:52.0 PA-1	they should be * *those tugs don't drive very fast because ah all the ah power is a goes into the wheels for power not for speed.
1352:02.6 CAM-2	you know what.
1352:06.3 CAM-2	it I bet ten bucks (it's) all (we go) * * # * *.
1352:11.8 CAM-1	yeah.
1352:12.6 CAM-1	yeah * as soon as that happened I'm thinkin' (well) you know if you were doin' on an engine start and it didn't ah close what do ya do you shut the engine down. we shoulda just immediately headed back to the field when that happened * *.
1352:22.5 CAM-2	well yeah in in retrospect yeah but I mean *.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1352:03.6 C-19	ground car nineteen.
1352:05.5 GND	car nineteen ground.
1352:07.3 C-19	yeah we got the tug here it'll be the tug and three pickups and myself I'll lead 'em out.
1352:12.1 GND	okay yeah yeah kinda waitin' for ya I guess.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1352:25.2 CAM-1	but I mean we were headed back to the field almost (right away).
1352:27.1 CAM-2	but it was.
1352:28.4 CAM-1	I mean yeah it was like seconds.
1352:30.2 CAM-2	and you weren't even at what four thousand feet?
1352:32.4 CAM-1	so huh.
1352:33.2 CAM-1	I never got we never got above four thousand.
1352:34.9 CAM-2	basically what is says is go to in-flight shutdown, * * * again so.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1352:36.3 C-2	ground car two.
1352:38.9 GND	car two ground.
1352:40.1 C-2	yeah three zero left's clear ah debris and I'm a leavin' the field.
1352:43.9 GND	thank you.

INTRA-COCKPIT COMMUNICATIONTIME and
SOURCECONTENT

1352:44.8

CAM-2 but anyway.

1352:47.0

CAM-1 naw I guess we're not goin' to Orlando today.

1352:48.8

CAM-2 probably not probably not naw good chance
that's not gonna happen. (that) * *. * water * * * *
water anyway.

1352:57.2

CAM-1 yeah.

1352:57.6

CAM-? * * * .

1353:09.6

CAM-2 well good thing he was on board * * * too # much
for # two people to be # with * you got just a
simple thing * you got this now we got this.

1353:18.4

CAM-? * * .

1353:20.7

CAM-1 well wha- what do they say you know in the
simulator they're not allowed to give us
compound emergencies (right)?

1353:25.1

CAM [unidentifiable sound].

1353:26.2

CAM-2 I'm thinkin' maybe it's not them * * * . [sound of
laughter].AIR-GROUND COMMUNICATIONTIME and
SOURCECONTENT

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1353:30.6 CAM-2	I mean you lost, electrical, you never and it and it never cross-tied.
1353:35.9 CAM-1	no. * * *.
1353:37.4 CAM-2	when this is runnin'.
1353:38.4 CAM-1	and then when the engine went down I lost the whole left side.
1353:40.4 CAM-2	yeah.
1353:41.3 CAM-2	and now the odd thing is this the APU picked up the left side.
1353:44.6 CAM-1	probably shoulda gone over ta.
1353:47.0 CAM-2	yeah * * (but).
1353:51.8 CAM-2	we're here safely now.
1353:53.2 CAM-?	do you have no right hydraulics? [sound similar to voice originating from outside the cockpit].
1353:55.7 CAM-1	it's all gone * looks like it's all gone I didn't have any nose wheel steering.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1353:59.9 CAM-2	(comin' 'em) back?
1354:00.6 CAM-J	yeah.
1354:01.1 CAM-2	alright.
1354:01.2 CAM-J	I wanna * * * enjoy this.
1354:03.4 CAM-2	[sound of laughter]. tug ride in?
1354:07.4 CAM-2	maybe we'll get a fire truck salute.
1354:09.6 CAM-1	* * *.
1354:10.1 CAM-J	it already did. whsss.
1354:11.4 CAM-?	* *.
1354:12.3 CAM-2	you you should have it 'cause you got ah.
1354:15.3 CAM-1	is there any fluid is that like pegged ah that's (on) zero * * any (right) hydraulic?
1354:15.4 CAM-?	* *.
1354:24.3 CAM-1	what have I got now?

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1354:29.3 CAM-2	* (have) quantity gotta (de-pressurize).
1354:33.2 CAM-?	hm.
1354:34.5 CAM-2	that's odd I just shut it off and look what it did?
1354:37.2 CAM-?	* * * .
1354:40.0 CAM-2	hey I.
1354:41.1 CAM-?	* * * . [sound similar to voice originating from outside the cockpit].
1354:42.2 CAM-2	okay.
1354:43.9 CAM-?	* * . [sound similar to voice originating from outside the cockpit].
1354:45.1 CAM-1	well thanks.
1354:45.7 CAM-?	* * * * * . [sound similar to voice originating from outside the cockpit].
1354:48.5 CAM-1	yeah I just wanted to get on the ground.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1354:51.2 CAM-?	touch down at. [sound similar to voice originating from outside the cockpit].
1354:53.8 CAM-1	ah probably about one fifty.
1354:55.6 CAM-?	* * *. [sound similar to voice originating from outside the cockpit].
1354:58.1 CAM-2	you have right pressure.
1355:00.1 CAM-1	okay we got it now where was it before?
1355:02.5 CAM-2	don't know.
1355:05.4 CAM-2	I just cycled the switch and then it started workin'.
1355:09.2 CAM-2	you don't have left.
1355:11.0 CAM-1	I don't have left don't have right.
1355:13.2 CAM-2	ah # it the caravan's here. but the transfer * this died though.
1355:17.3 CAM-1	yeah.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1355:19.8 CAM-J	now it just went back zero.
1355:21.5 CAM-2	yeah I just * cut the transfer off. but that should be well that should workin' 'cause you got power on.
1355:32.6 CAM-2	I don't know man.
1355:33.6 CAM-J	(you got).
1355:42.3 CAM-2	yeah but it's not ah.
1355:46.1 CAM-1	what we have where'd that go?
1355:47.8 CAM-2	(great shape). well that popped out when I pushed it.
1355:49.1 CAM-1	* * .
1355:51.0 CAM-2	right generator's workin'. and that should be dead, that's (working).
1355:56.6 CAM-2	that should be pickin' up, (do this).
1356:01.2 CAM-1	so the APU's not pickin' up the right bus?

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATIONTIME and
SOURCECONTENT

1356:03.2

CAM-2 ah uh.

1356:04.0

CAM-1 well that's 'cause the engine's running.

1356:05.9

CAM [sound similar to truck's backup horn].

1356:06.1

CAM-2 but the ah but the engines not even runnin' it.

1356:09.4

CAM-1 the engine's not runnin the right bus either?

1356:13.5

CAM-1 you get one reset.

1356:15.0

CAM [unidentified sound].

1356:16.2

HOT [sound of electronic bell and tone].

1356:23.7

CAM-2 why are we * *? trans fails to wherever you had it set. taken out provided you don't get any power back if we have to it it aughta work.

1356:24.9

CAM [unintelligible voices and sounds similar to a truck's backup horn].

1356:41.1

CAM-2 yeah that was working.

1356:45.9

CAM-J you got it now.

AIR-GROUND COMMUNICATIONTIME and
SOURCECONTENT

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1356:47.1 CAM-1	yeah but this aughta be aughta be be three thousand.
1357:00.5 CAM	[unintelligible voices].
1357:05.5 CAM-2	I don't know.
1357:12.8 CAM-1	we should have them pin the gear anyway and tow it after all the # we went through I don't need to have the gear collapse taxiing in.
1357:18.2 CAM-2	yeah.
1357:30.0 CAM	[unintelligible voices].
1357:41.8 CAM-4	[warning bell and electronic voice] fire left engine [warning bell and electronic voice] fire left engine.
1357:43.0 CAM-2	oh, you gotta be # me.
1357:44.8 CAM-1	oh.
1357:46.2 CAM-2	I just moved that thing and it just.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1357:51.4 CAM-2	that's 'cause it went back in when I pulled it yeah *. I was just lettin' the air back in. * * * * * pull it back out. # # it was hot.
1357:54.8 CAM-?	* * * * * . [multiple voices].
1358:02.2 CAM-?	(pull) fire alarm shutoff for the left engine. [sound similar to voice originating from outside the cockpit].
1358:06.2 CAM-2	yeah, careful it's really hot.
1358:06.3 CAM-?	dumping gas. [sound similar to voice originating from outside the cockpit].
1358:07.7 INT-M	cockpit ground.... pull the left engine isolation. pull the left engine shutoff valve. you're dumping fuel.
1358:09.7 CAM-1	is it still dumpin'?
1358:12.7 CAM-2	how the # * this # all off?
1358:14.3 CAM-?	* * gear pins? [sound similar to voice originating from outside the cockpit].
1358:16.8 CAM-1	you got the gear pins?

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1358:17.8 CAM-J	they're over there I think.
1358:18.7 CAM-1	get the gear pins for him.
1358:18.9 INT-M	cockpit you read?
1358:30.1 INT-M	cockpit, ground?
1358:32.1 CAM-2	suppose that is?
1358:34.4 CAM-1	hm.
1358:36.4 CAM-1	* * the start valve?
1358:38.5 CAM-2	(ah something ain't good).
1358:41.9 CAM-2	yeah * for the start valve.
1358:43.4 INT-M	cockpit, ground?
1358:46.0 CAM-2	you know this whole thing is fricken gone here.
1358:48.4 INT-M	cockpit, ground?
1358:49.5 INT-1	you read me?.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1358:50.6 CAM-J	yeah you know when you have a you don't know what burned through and what's what's you know melted back there and get to be.
1358:52.2 INT-1	uh eh this is cockpit to ground how do you hear?
1358:56.6 CAM-2	yeah.
1358:57.5 CAM-J	anything or nothing, this point.
1359:01.5 INT-1	cockpit to ground how do you hear?
1359:01.7 CAM-2	it's hot.
1359:03.8 INT-1	okay, you're pu-
1359:04.4 INT-A	yeah read you loud and clear.
1359:04.5 CAM-2	load closeout's been updated.
1359:05.2 INT-1	yeah you're plugged into the cabin.
1359:06.1 INT-M	do you have the left engine fire pull pulled?
1359:08.5 INT-1	yeah uh yeah w- we did uh we pushed it back in for a moment, but it's out now.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1359:14.5 INT-M	copy groun-? copy cockpit?
1359:17.6 INT-1	yeah, I copy you're plugged into the cabin interphone * plug into the flight side?
1359:23.1 INT-7	and we we need everyone * in their seats with their seatbelts fastened with all carry on items stowed please.
1359:26.3 INT-M	uh you copy uh cockpit?
1359:28.5 INT-1	I hear you yeah I hear you.
1359:30.7 INT-M	you can hear me?
1359:31.7 CAM-1	yes.
1359:32.4 INT-M	do you have the left engine fire pull pulled?
1359:34.9 INT-1	yes.
1359:35.4 CAM-1	yes.
1359:36.3 INT-M	okay do you have uh are the right hyd- why do you have uh you have no right hydraulic either?

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1359:37.4 CAM-2	but the loop's testing right?
1359:40.6 CAM-J	well * * * * *.
1359:48.1 CAM-?	* * * * *.
1359:53.2 CAM-1	you're plugged into the cabin interphone. can you plug into the other interphone slot?
1400:00.6 CAM-1	plug into the other interphone.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1359:44.1 GND	American fourteen hundred ground.
1359:46.1 RDO-2	yeah go ahead.
1359:47.1 GND	yeah is there * * another problem now?
1359:49.4 RDO-2	well no they're just uhm trying to pin the gear and uh I guess a couple of other things.
1359:56.2 GND	okay.
1400:00.6 TRK-53	St. Louis ground truck fifty three.
1400:02.3 GND	truck fifty three ground go ahead.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1400:13.1 CAM-2	no good. * * emergency for fire personnel.
1400:17.9 INT-M	cockpit ground, copy?
1400:19.1 CAM-2	ah.
1400:19.4 INT-1	yeah can you hear me now? how do you hear? you still don't hear me?
1400:19.9 CAM-?	(yeah).

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1400:04.2 TRK-53	truck fifty three I need ground I need to expedite to the D-concourse with a medical emergency of one of the fire personnel.
1400:10.5 TRK-53	I'm on ah thirty left.
1400:13.5 GND	abs- proceed as requested where do you need to go again.
1400:16.0 TRK-53	D-concourse.
1400:17.3 GND	D-concourse? go ahead and proceed it.
1400:19.8 TRK-53	truck fifty three proceeding down thirty left to Papa heading for D-concourse fifty three.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1400:21.1 CAM-1	* (here).
1400:29.3 INT-1	how do you hear me now?
1400:32.7 CAM-2	man look at this #.
1400:34.2 CAM-1	I don't know I can't even talk to him what what do you mean we have a medical emergency for the.
1400:37.7 CAM-2	these guys.
1400:39.1 CAM-2	why they ah one of them get sick or somethin?
1400:40.8 CAM-2	naw.
1400:41.0 CAM-2	hey they probably got a call they're going to the terminal.
1400:42.7 CAM-1	he was said he was said for it was an emer- er ah medical for emergency personnel.
1400:48.7 INT-2	you guys there?
1400:50.6 CAM-?	[unintelligible voices in background].
1400:52.6 INT-1	you guys hear me?

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1400:53.5 CAM-1	what?
1400:53.8 CAM-?	* * * * *. [sound similar to voice originating from outside the cockpit].
1400:56.4 CAM-1	okay.
1400:57.1 CAM-?	[unintelligible voices in background].
1401:00.1 CAM-1	now they want to take everybody off.
1401:02.9 CAM-2	why where we going to put 'em?
1401:04.4 CAM-?	[unintelligible voices in background].
1401:13.6 CAM-2	no no no. naw that's *.
1401:23.4 CAM-2	(#).
1401:25.8 CAM-?	do you have you have the APU on line? [sound similar to voice originating from outside the cockpit].

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1401:25.8 GND	and truck fifty three you said * * * the D-concourse or the Bravo concourse.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1401:29.6 CAM-1	yes.
1401:30.6 CAM-?	shut the right engine off. shut the right engine off. [sound similar to voice originating from outside the cockpit].
1401:33.6 CAM-2	*?
1401:34.0 CAM-1	shut the right engine off he says.
1401:35.6 CAM-?	*.
1401:36.6 CAM-2	see if that works.
1401:42.1 CAM	[sound of single electronic chime].
1401:45.2 CAM	[sound similar to automobile horn].
1402:07.6 CAM-2	(just) hope to @ that doesn't quit.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1401:29.9 TRK-53	D-concourse ground.
1401:31.8 GND	'kay the Delta concourse okay thank you.
1402:10.6 GND	car nineteen ground.

INTRA-COCKPIT COMMUNICATION

TIME and
SOURCE

CONTENT

1402:28.5
CAM-? okay.

1402:29.3
CAM-? (you count the passengers).

AIR-GROUND COMMUNICATION

TIME and
SOURCE

CONTENT

1402:12.5
C-19 go ahead ground.

1402:14.2
GND understand youse gonna be deplaning the ah
 aircraft you need a stepper out there?

1402:19.8
C-19 I'm sorry sir say again.

1402:22.1
GND yeah we're bein' told you're gonna be *
 deplaning that aircraft now?

1402:24.8
C-19 yes the firefighters want to get the passengers
 off I'm calling for the busses now.

1402:29.0
GND okay do you need some stairs out there also
 'cause the stairs just left we saw?

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1402:30.8 CAM-1	well it appears that now we do but there was a period there where a lot of things were giving us funny indications and we we appeared to not have any right hydraulics ah I was landing the airplane I had a pretty good handful trying to maintain directional control and uh we just kinda decided that we didn't have nose wheel steering you know or you know very little.
1402:53.4 CAM	[unintelligible voices from outside the cockpit].
1402:58.8 CAM-1	yeah but now we've got the uh aux pump on.
1402:59.3 CAM-2	that's it.
1403:02.0 CAM-2	it's off right now but.
1403:03.8 CAM-2	so far.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1402:38.1 C-19	roger that ah operations center should be calling 'em.
1402:42.2 GND	okay.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1403:04.4 CAM-1	I mean when we turn the aux pump on we get everything back now but there was a period there wh- where I think we didn't have the aux pump.
1403:11.3 CAM-1	* there's been some strange electrical.
1403:12.8 CAM-J	yeah *.
1403:13.1 CAM-2	the trans pump's dead though I.
1403:15.2 CAM-1	what's that?
1403:15.8 CAM-2	the trans pump is dead which is a.
1403:15.9 CAM-?	okay ah I don't want to know why they wanna move the people off the airplane here. [sound similar to voice originating from outside the cockpit].
1403:19.8 CAM-1	who's idea who's * *?
1403:20.9 CAM-?	* * the fire department said they were gonna. [sound similar to voice originating from outside the cockpit].

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1403:20.4 TRK-107	ground truck one oh seven.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1403:23.3 CAM-1	why do they want to do that?
1403:27.1 CAM-?	* * * * *. [sound similar to voice originating from outside the cockpit].
1403:29.2 CAM-1	alright.
1403:29.7 CAM-?	what we're gonna do is we're gonna. [sound similar to voice originating from outside the cockpit].
1403:34.3 CAM-1	what are you gonna do?
1403:34.9 CAM-?	what we're gonna do is I'm gonna go up there I'm gonna ah we got the bypass * * about here we're gonna stow that bypass get the flaps slats gear doors back up and then we'll we'll either tow or tug back to the gate. [sound similar to voice originating from outside the cockpit].
1403:45.9 CAM-1	okay.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1403:23.4 GND	truck one oh seven if you're on Charlie cross two four.
1403:25.9 TRK-107	one oh seven and company crossin' two four on Charlie yes sir.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1403:47.1 CAM-?	* * *?
1403:47.9 CAM-?	I don't think they want to take the people off out here. [sound similar to voice originating from outside the cockpit].
1403:50.0 CAM-2	no.
1403:50.3 CAM-1	I didn't think so either.
1403:51.8 CAM-2	no, no, no.
1404:14.6 CAM-2	never gonna get everybody on those busses *.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1403:51.9 RDO-1	hey ground ah this American fourteen hundred.
1403:54.7 GND	American fourteen hundred go ahead.
1403:56.3 RDO-1	yes sir uuuh some of the crash folks are saying they want to deplane the people here but we don't understand why they want to do that we d- we're ready to we're hooked up and ready to be towed t- ah in just a couple of minutes and uh that's all just going to take that much longer.
1404:10.6 GND	stand by just a minute truck uh or car nineteen with me?

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1404:20.5 CAM-?	where is you're uh where's your gear handle selector. [sound similar to voice originating from outside the cockpit].
1404:23.6 CAM-1	it's down.
1404:24.9 CAM-J	the emergency gear.
1404:25.3 CAM-?	trouble with your emergency extension. [sound similar to voice originating from outside the cockpit].
1404:27.0 CAM-1	it's up we pulled it up.
1404:28.5 CAM-?	okay. [sound similar to voice originating from outside the cockpit].

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1404:15.7 C-19	that's affirmative ground I'm right here.
1404:18.2 GND	'kay he was ah American would like to know why they're wantin' to deplane the aircraft eah do you know why?
1404:23.9 C-19	for the safety of the passengers I believe sir let me try contact the chief I'll be right with ya.
1404:29.3 GND	okay.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1404:30.9 CAM-?	huh? [sound similar to voice originating from outside the cockpit].
1404:31.7 CAM-?	* * * *. [sound similar to voice originating from outside the cockpit].
1404:33.0 CAM-?	no no. * * * stow that handle. you know how to stow the handle? [sound similar to voice originating from outside the cockpit].
1404:37.5 CAM-1	yeah well we had to pull that up to get the nose gear down.
1404:41.5 CAM-?	* * the right hydraulic * *. [sound similar to voice originating from outside the cockpit].
1404:43.8 CAM-1	for a while there we didn't have much of anything.
1404:47.2 CAM-1	I don't know what was going on. I was just trying to keep the blue side up.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1404:30.1 RDO-2	well. it's actually gonna be safer to leave the folks here on the airplane everything is under control uhm they're just trying to get all the gear pinned and everything just for safety's sake and uh, we don't want to be dumping people out here on the ah on the runway.

INTRA-COCKPIT COMMUNICATIONTIME and
SOURCECONTENT

1404:51.4

CAM-? I know uh. [sound similar to voice originating from outside the cockpit].

1404:54.9

CAM-1 we just basically in the end just said put the gear down (give me my) flaps * * landed.

1405:00.7

CAM-? to stow the handle just push the lever and push it down. [sound similar to voice originating from outside the cockpit].

1405:03.9

CAM-1 yeah yeah you got the nose gear pinned?

AIR-GROUND COMMUNICATIONTIME and
SOURCECONTENT

1404:48.7

GND nokay yeah the ther city's going to try to find out why the fire chief wants to deplane 'em stand by.

1404:52.7

RDO-2 yeah okay.

1405:01.9

C-19 ground car nineteen.

1405:04.0

GND car nineteen go ahead.

1405:05.3

C-19 I spoke directly to the chief they wanna to deplane the passengers there's still heat and uh smoke coming out of the left engine they want to deplane the passengers outta here.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1405:05.5 CAM-?	* * * * *. [multiple voices originating from outside the cockpit].
1405:08.9 CAM-?	gear gear handle's down? [sound similar to voice originating from outside the cockpit].
1405:09.4 CAM-1	no.
1405:11.3 CAM-1	the main gear handle is down 'kay.
1405:15.5 CAM-2	is there still smoke coming out of the engine?
1405:17.3 CAM-?	nosegear. [sound similar to voice originating from outside the cockpit].
1405:18.6 CAM-1	I don't know is that what they're saying?
1405:23.2 CAM-2	they said there's smoke coming out of the engine still.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1405:15.5 GND	okay American fourteen hundred did you copy that?
1405:18.7 RDO-2	yeah.
1405:20.3 GND	okay that's the reason they're gonna be deplaning the aircraft.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1405:24.7 CAM-1	still showing smoke coming out of the engine or something?
1405:28.0 CAM-?	no.
1405:28.6 CAM-?	all the * * * (with you). [sound similar to voice originating from outside the cockpit].
1405:31.1 CAM-1	well we pushed we pushed the handle in, we pushed the fire handle in for a moment.
1405:35.6 CAM-?	okay *. [sound similar to voice originating from outside the cockpit].
1405:36.1 CAM-2	* * started dumpin' (fuel).
1405:36.1 CAM-J	* why * *.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1405:25.9 OPS	ground comm center.
1405:27.2 GND	comm center ground.
1405:28.2 OPS	yeah can you inquire if they're gonna need air stairs or if they have ah integrated ah steps that they can use?
1405:33.7 GND	car nineteen ground.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1405:37.0 CAM-?	* * * * * . [sound similar to voice originating from outside the cockpit].
1405:40.4 CAM-2	aw okay.
1405:41.6 CAM-2	alright.
1405:42.1 CAM-2	there're gonna.
1405:45.7 CAM-2	they're ga- they're gonna deplane it.
1405:46.6 CAM-?	* * * * * . [sound similar to voice originating from outside the cockpit].
1405:47.7 CAM-2	* said there's smoke coming out of the engine still so.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1405:36.2 C-19	car nineteen ground yes we're gonna need the air stairs.
1405:42.4 GND	com center did you copy that?
1405:44.7 OPS	that's firm.
1405:45.7 GND	okay.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1405:47.9 CAM-1	talking to ground?
1405:51.3 CAM-1	huh?
1405:52.7 CAM-2	okay.
1405:54.1 CAM-1	do you want us to put the emergency handle?
1405:55.7 CAM-?	* * * *. [sound similar to voice originating from outside the cockpit].
1405:56.9 CAM-?	(stop). [sound similar to voice originating from outside the cockpit].
1405:59.4 CAM-?	all three gear are pinned.
1406:00.8 CAM-2	cool.
1406:06.0 CAM-2	I think it's asinine to send people out on the busses but.
1406:12.9 CAM-1	when you ah pushed the fire handle in that started dumping fuel * *.
1406:16.4 CAM-2	uh * lifted this up * *.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1406:18.2 CAM-?	* * * * *. [sound similar to voice originating from outside the cockpit].
1406:21.3 CAM-2	that's my fault there.
1406:22.2 CAM-1	so now that's why the fire department wants to take everybody off.
1406:24.6 CAM-2	oh.
1406:28.7 CAM-2	well that's my ah # up there.
1406:30.6 CAM-1	okay.
1406:31.0 CAM-?	* * * person * landing gear doors (and are closed). [sound similar to voice originating from outside the cockpit].
1406:34.4 CAM-1	okay.
1406:35.5 CAM-?	* *. [multiple voices].
1406:36.2 CAM-1	'kay go ahead and.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1406:36.4 TRK-100	truck one hundred ground.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1406:36.6 CAM-2	but all it's he's gonna get I can't.
1406:38.8 CAM-1	okay.
1406:40.6 CAM-?	huh.
1406:40.9 CAM-?	(there ya go) *.
1406:42.2 CAM-2	but it's you know they're not.
1406:43.5 CAM-1	yeah.
1406:45.6 CAM-1	well he's * (wants) you to stow the handle.
1406:48.4 CAM-1	* they got the gear pinned so they wanna get the.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1406:39.3 GND	truck one hundred ground.
1406:40.4 TRK-100	leaving field maintenance we're gonna go west of the aircraft on three zero left and pick up the passengers.
1406:46.8 GND	thank you.
1406:48.4 TRK-53	St. Louis ground truck fifty three.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1406:50.7 CAM-J	stow the emergency handle.
1406:51.8 CAM-2	aw okay.
1406:52.5 CAM-1	stow the gear handle. yeah he wants to try the get the uh. he wanna try and get get the doors up.
1406:59.4 CAM-2	piece a #. ah.
1407:05.8 CAM-1	hang on a second he's trying to get the handle down.
1407:07.7 CAM-?	* * * the handle comes * * * little lever comes * * door * *. [sound similar to voice originating from outside the cockpit].
1407:08.4 CAM-2	(in a best spot).

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1406:50.9 GND	truck fitty three ground.
1406:53.5 TRK-53	truck fifty three is on leaving the D-concourse like to go back out to the incident on thirty left.
1406:59.4 GND	truck fifty three at Kilo or Lima proceed on two nine and drive down thirty left.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1407:09.0 CAM-1	okay.
1407:13.6 CAM-?	* * * * *. [multiple voices originating from outside the cockpit].
1407:14.0 CAM-2	* sumpin'.
1407:16.8 CAM-1	got it down?
1407:16.9 CAM-2	they go up?
1407:17.6 CAM-?	* * * *. [sound similar to voice originating from outside the cockpit].
1407:17.8 CAM-2	yeah.
1407:18.3 CAM-J	I heard something happenin'.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1407:08.9 TRK-53	ground this truck fifty three I'm leaving D-concourse I'm over on the Charlie pad right now I'd like to go back out on thirty left.
1407:16.7 GND	truck fifty three proceed back on thirty left to the aircraft.
1407:19.8 TRK-53	(fifty) three proceeding thirty left to the aircraft.

INTRA-COCKPIT COMMUNICATION

TIME and
SOURCE

CONTENT

1407:25.2

CAM-? got the handle stowed now? [sound similar to voice originating from outside the cockpit].

1407:26.6

CAM-1 yeah.

1407:31.4

CAM-1 the handle is stowed right?

1407:32.4

CAM-2 yeah.

1407:36.1

CAM-2 I just don't have any hydraulics for some reason.

1407:37.6

CAM-1 do you got @ there?

1407:40.1

CAM-J *.

1407:40.2

CAM-2 * * * *.

1407:48.4

CAM-2 we're gonna boar- * kick everybody off out here *
* *.

1407:50.7

CAM-1 even with the pumps on we're not gettin' any pressure.

1407:53.3

CAM-? *.

AIR-GROUND COMMUNICATION

TIME and
SOURCE

CONTENT

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1407:54.0 CAM-2	weee no we're * fight with them but the fire department says do it so.
1407:58.4 CAM-7	where are they go. where are they going to go?
1408:01.6 CAM-2	they're gonna put 'em all on busses.
1408:02.3 CAM-1	there's three busses right there they're gonna de- they wanna deplane the fire department insists because they saw some residual fuel coming out of the engine, it's still smoking or something so.
1408:03.7 CAM-7	oh oh okay. okay I thought I smelled fuel. okay.
1408:12.8 CAM-7	alright so I need I need to disarm this door and we'll use the front entry with stairs. and and do we need to talk them into keeping all their crap on the plane. 'cause they're all gonna try to carry all their crap.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1408:00.3 SWP-145	St. Louis ground sweeper one four five.
1408:03.7 GND	sweeper one forty five ground.
1408:05.4 SWP-145	sweeper one four five is at Victor and thirty left requesting to go out to the aircraft just in case.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1408:12.9 CAM-1	we want to ah *.
1408:16.1 CAM-2	yeah.
1408:17.3 CAM-1	yeah.
1408:18.3 CAM-2	yeah yeah.
1408:23.1 CAM-?	* * * *. [multiple voices].
1408:26.7 CAM-2	well.
1408:28.6 CAM-1	is there a- can we just let 'em take all their stuff off they probably should just take everything with them.
1408:29.8 CAM-7	* * * * *.
1408:34.2 CAM-1	that isn't quite right.
1408:35.8 CAM-2	got a screw driver?

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1408:13.3 GND	proceed on thirty left.
1408:15.1 SWP-145	one four five proceeding on thirty left.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1408:37.2 CAM-1	naw I'm not allowed to carry one, but I do have something that might work just as well. here try this.
1408:38.2 CAM-?	[sound of laughter] * * *.
1408:43.2 CAM-7	I have scissors.
1408:44.7 CAM-?	* * *.
1408:46.1 CAM-2	(there we go those # are hot).
1408:51.3 CAM-?	whoo.
1408:51.5 CAM	[unintelligible voices, multiple speakers].
1408:52.4 CAM-2	that thing burn your hand too?
1408:53.7 CAM-1	yeah.
1408:54.0 CAM-2	I gonna * I-O-D on that.
1408:56.6 CAM-1	* didn't burn it that bad I I used a rag I didn't.
1409:02.9 CAM-2	see they're making some calls here trying to.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1409:05.2 CAM-1	(are we still on the clock then)?
1409:06.6 CAM-2	* * * *. [sound of laughter].
1409:07.0 CAM-7	yeah would you be sure on that that's important. ahm. I'm not sure about all their stuff I (think) they'll fall down the stairs and break their necks carrying all their bags so I'm not sure what the procedure is on the *.
1409:18.6 CAM-2	no.
1409:21.4 CAM-?	[unintelligible voices, multiple speakers].
1409:22.2 CAM-J	yeah.
1409:28.5 CAM-?	* * * * *. [sound similar to voice originating from outside the cockpit].
1409:34.7 CAM-2	okay.
1409:35.1 CAM-?	* * * .
1409:36.9 CAM-1	do you care whether they take all carry on stuff with 'em or what? leave it on? they want 'em to leave it on.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1409:45.6 CAM-1	alright thank you.
1409:46.5 CAM-1	the fire department says to tell them to leave everything on the airplane. and he wants you to open the door. maybe you ought to do that @ can you do that?.
1409:54.8 CAM-J	* yeah.
1409:57.6 CAM-1	all right you want to do it, @? @ gonna do it.
1409:58.7 CAM-?	*.
1409:59.6 CAM-2	I'll do this.
1409:59.6 CAM-7	are you gonna make an announcement or do you want me?
1410:01.3 CAM-1	yeah, I'll make an announcement.
1410:02.6 CAM-?	* * * *. [sound similar to voice originating from outside the cockpit].
1410:05.8 CAM-?	* *.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

TIME and
SOURCE

CONTENT

1410:05.9

PA-1

okay uh folks this is captain @ speaking uuhm the fire department now has decided they saw some rel- residual fuel draining out of the uh left engine which was the engine that we had a problem with ah they want to uh in the interest I guess of being very cautious they want to deplane all of you folks uh out here there are some busses standing by uhm they've told me that they would uh request that you leave your carry-on luggage on the airplane you'll be able to get it once we get back to the terminal area but they want to take for in the interests of safety they want you folks to get off the airplane and then they're gonna tow us back into a gate uhm so I'd appreciate you cooperation ah just take the minimum amount of ah things you need to take with you but if you could leave your carry-ons on the airplane ah that's what the fire departments instructions were thank you.

1410:10.5

CAM-?

[unintelligible voices, multiple speakers].

1410:23.0

CAM-J

* tired * * * * .

1411:07.3

INT-7

when you're ready you can deplane but once again leave your carry-on items on the airplane we- we'll get them back to you as soon as the plane gets to the gate.

AIR-GROUND COMMUNICATION

TIME and
SOURCE

CONTENT

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1411:22.5 CAM-1	how much of a gap do they have to cross there?
1411:25.7 INT-7	ladies and gentlemen once again leave your carry on bags * * * * *
1411:26.1 CAM-7	the ca- the fireman has * * * .
1411:27.5 CAM-?	anybody need any help gettin' down the stairs * *? [sound similar to voice originating from outside the cockpit].
1411:28.4 CAM-1	there's somebody there helpin' 'em?
1411:29.9 CAM-7	yeah the firemen.
1411:32.9 CAM-?	(what's up). [sound similar to voice originating from outside the cockpit].
1411:33.5 CAM-?	(I don't know) * * * . [sound similar to voice originating from outside the cockpit].
1411:35.0 PA-1	and folks as you ah deplane through the front door here please ah use caution there's a slight gap between the aircraft and the stairs ah so just watch your step as you go off the airplane please thank you.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1411:48.9 CAM-?	* * * * *. [sound of laughter].
1412:00.6 CAM-7	well this has been exciting you did a wonderful job.
1412:03.6 CAM-1	thanks.
1412:03.8 CAM-7	he to- he told me that it wasn't pretty.
1412:06.6 CAM-1	yeah it was.
1412:07.7 CAM-J	* these guys act like she thinks *.
1412:09.2 CAM-1	thank you.
1412:09.4 CAM-7	all stuff you learned paid off today.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1412:00.2 C-19	ground car nineteen.
1412:01.6 GND	car nineteen ground.
1412:03.4 C-19	yes ground car nineteen I'll be out of the vehicle ah for a couple of minutes OPS center is gonna be monitoring the frequency they can get me on my eight hundred radio if you need me.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1412:11.7 CAM-1	I guess so well I'm just glad it was a nice bright sunny da-.
1412:13.3 CAM-?	thank you very much.
1412:14.8 CAM-1	oh you're welcome thank you thank you.
1412:15.3 CAM-7	thanks your welcome.
1412:18.1 CAM-?	nice job guys.
1412:19.3 CAM-1	thanks.
1412:19.9 CAM-?	great job.
1412:21.0 CAM-1	thanks.
1412:21.8 CAM-?	* * that ah.
1412:24.6 CAM-7	we're all fine.
1412:25.5 CAM-?	yeah thank you.
1412:27.1 CAM-1	there was never a *. there was never a problem.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1412:12.2 GND	okay.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1412:30.1 CAM-?	no * is good.
1412:31.3 CAM-?	*.
1412:35.7 CAM-1	we were just overwhelmed (when stuff happen).
1412:37.9 CAM-7	(that's what) I said everything went wrong at once isn't that what they always say on T-V, the cascading of events. probably always say that when they talk about *.
1412:45.9 CAM-1	* * stuff happening and you know when * it all goes back to changing that start valve.
1412:50.4 CAM-?	thanks guys.
1412:51.7 CAM-1	thank you.
1412:53.2 CAM-7	thanks for flyin' American.
1412:55.6 CAM-1	even though the flight was short.
1413:00.0 CAM-7	all back to that? 'cause @ said he been flyin' around for a couple of days in this airplane * *.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATIONTIME and
SOURCECONTENT

1413:06.8

CAM-1 first thing we had was we * we got the gear up and we got up to about I don't know twenty three twenty five hundred feet or so and was just turnin' out of traffic and we got a indication that the left start valve was open which you can't have * you can't in flight it's not a good thing you know * I goin' oh shh.

1413:27.4

CAM-7 I heard all that stuff goin' on.

1413:28.2

CAM-1 time to think about yeah before we had time to even figure out okay what are w- do with that next thing we got was * fire light and ah and then we're losin' stuff and ah.

1413:40.3

CAM-7 and the gear wouldn't go down?

1413:41.7

CAM-1 gear wouldn't well the nosegear wouldn't go down that's why I went around the first *. and then I'm out there and I'm goin'. I'm havin' a # of a time holdin' altitude.

1413:52.7

CAM-7 oh my @.

1413:55.1

CAM-1 * so main gear were down we're down to one engine can't get the gear back up.

1414:01.4

CAM-1 but we didn't want to put the gear back up.

AIR-GROUND COMMUNICATIONTIME and
SOURCECONTENT

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1414:03.5 CAM-7	no.
1414:04.1 CAM-1	I didn't think * * * * .
1414:05.1 CAM-7	(no). (you did a good job).
1414:09.1 CAM-1	(thanks).
1414:09.6 CAM-7	both of ya.
1414:11.3 CAM-1	* * * * @ was * I was just tryin' to fly the airplane and @ was tryin' to deal with radios and work figure out what the you know problem was.
1414:11.5 CAM-7	or all three of you.
1414:21.8 CAM-?	thank you all.
1414:22.9 CAM-7	# door kept opening I couldn't get the door shut.
1414:23.9 CAM-1	* * * we lost *, we're losin' our instruments up here. and ah so I said get @ up here we need a third guy.
1414:32.9 CAM-7	yeah that's good.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1414:40.8 CAM-1	so I guess you guys aren't gonna do your La Guardia turn.
1414:43.0 CAM-7	Hmmm?
1414:43.6 CAM-1	at least your not gonna do your La Guardia turn.
1414:45.1 CAM-7	darn it I just love that so much.
1414:49.9 CAM-?	go ahead?
1414:51.8 CAM-1	I should.
1414:53.8 CAM-1	you know in.
1414:57.2 CAM-1	thirty five years of flyin' that's the first time I've ever had anything like that happen.
1415:02.3 CAM-7	that's what @ said he never had * done * ever neither.
1415:07.5 CAM-7	the only thing I've had are a couple of aborted landed because there's a plane or somethin' on the runway and that's it I've never had anything I was really kinda hopin' once we're on the ground I really wanted to do that evacuation 'cause I've never done * * * training.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1415:19.7 CAM-1	oh yeah well I just I was you know unless we were burnin' up I didn't wann dump all the people out here.
1415:25.7 CAM-7	yeah oh yeah 'cause then they'll all break their legs goin' down the slide.
1415:29.7 CAM-1	* * * * *?
1415:32.8 CAM-7	we've * right on it with the busses and the firemen and all that stuff.
1415:43.2 CAM-1	'cause I was one point (when) we were halfway over after we landed got on the runway it just started goin' to the right * * pushin' with everything I got on the left and.
1415:59.2 CAM-7	oh my @.
1416:07.1 CAM-1	* * (do that) * * put the engines in reverse so the right engine was probably helpin' to push us over * * *. didn't have any nose wheel steering.
1416:22.3 CAM-?	yeah that's it.
1416:26.7 CAM-?	nice work skipper.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1416:28.3 CAM-1	thank you.
1416:33.8 CAM-7	when we started I could hard you know I could hardly see but I after we were thinking it's gonna be in just a couple minutes we're landing and when we didn't land and I saw fields and stuff I though oh my @ he's gonna put it down in a field that's what I'm thinkin' you're gonna land in out there somewhere.
1416:49.2 CAM-1	* * * * .
1416:51.9 CAM-1	we turned we're turned on to final and put the gear down and the nosegear didn't (go down) and I'm goin'.
1416:59.8 CAM-7	ohhhh.
1417:00.7 CAM-1	I wa- I'm just tryin' to fly the airplane at that point.
1417:02.2 CAM-7	yeah.
1417:02.6 CAM-1	@ looks over and see this little thing?
1417:04.4 CAM-7	yeah.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1417:04.6 CAM-1	when the nose gear's down this sticks up, when the nose gear's up that's down and flush. @ looks over there and he says isn't that supposed to be stickin' up? I'm goin' aw #.
1417:14.6 CAM-7	oh my @.
1417:15.9 CAM-1	so we call the tower he says ehh it looks like only your mains are down * * goin' around.
1417:20.7 CAM-7	oh @.
1417:21.5 CAM-1	figure out why we * how we're gonna get the nose * I I though we were comin' back I thought we were gonna come back and land * with the nosegear up. and I was gettin' ready for that.
1417:31.7 CAM-7	oh my @.
1417:32.7 CAM-1	and @ was able to pull up the emergency gear handle and when he pulled that up that unlocked at that point we lost all the power that would've unlatched should have unlatched the gear when we put the put the main gear handle down. whatever was supposed to have unlocked the nosegear didn't unlock it.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1417:46.2 CAM-?	* * a good job I was impressed. yeah okay you did you did. * heckuvajob hey I was impressed, * you brought it in safe. say (sumpthin'). (yeah but you did it) * (did it did it * * (that engines though).
1417:49.6 CAM-7	oh my @.
1417:52.9 CAM-1	hey thank you.
1417:55.7 CAM-1	well that's what they train us for [sound of laughter]. I guess the trainin' works.
1418:00.3 CAM-1	yeah well I'm sure glad that it was no I * * glad it was a bright sunny day.
1418:03.8 CAM-?	yeah [sound of laughter].
1418:05.0 CAM-?	yeah I'll (stand) for * *.
1418:06.3 CAM-1	thank you.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1417:52.9 TRK-167	St. Louis ground this is truck one sixty seven I'm on Charlie I'd like to cross two four.
1417:57.0 GND	cross two four.
1417:58.6 TRK-167	sixty seven crossing two four.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1418:07.6 CAM-4	thank * guys heluvajob I mean I.
1418:10.1 CAM-4	unbelievable, no flaps no spoilers.
1418:13.6 CAM-2	did we have any flaps? I mean I don't know.
1418:17.4 CAM-4	you didn't have anything for the landing.
1418:18.6 CAM-2	didn't we?
1418:19.7 CAM-1	is that right? we didn't have any flaps. flaps?
1418:21.4 CAM-4	huh?
1418:21.8 CAM-1	we didn't have any flaps huh?
1418:22.8 CAM-4	no flaps. and you had no spoilers.
1418:23.4 CAM-1	we didn't. we didn't really know what we had.
1418:26.0 CAM-4	yeah.
1418:26.1 CAM-2	it's showin' that they're down to twenty eight (but).

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1418:26.8 TRK-167	truck one sixty seven cleared two four thanks.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1418:27.9 CAM-4	no.
1418:29.2 CAM-2	they're twenty eight now.
1418:30.8 CAM-4	they were nothin' (when we landed).
1418:33.5 CAM-1	so I don't even know, I didn't know what was wrong with the airplane it was just all kinds of (goofy) stuff.
1418:35.1 CAM-2	so like I said it just everything started going start valve light came on and then the then the fire light came on and then after tha- everything just went * * *.
1418:48.0 CAM-2	everything froze. I mean and then had A-C crosstie and then you wouldn't believe all the # that went wild I mean it's just.
1418:53.7 CAM-?	I just need to know the numbers * * * *. * at everybody, I mean left on the plane * * *.
141902.2 CAM-?	* *.
1419:02.6 CAM-?	* * * *.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1418:29.1 GND	thank you.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1419:04.2 CAM-2	* * * .
1419:05.1 CAM-2	well (he was) * * yeah but (he's got seven) * * .
1419:07.8 CAM-?	you got it.
1419:11.5 CAM-4	it's eight it's eight it's eight eight eight eight eight eight eight eight. [multiple voices overlapping].
1419:13.5 CAM-?	ah.
1419:16.1 CAM-?	* * * * .
1419:16.7 CAM-?	* * * you sure now? you sure? [sound similar to voice originating from outside the cockpit].
1419:19.2 CAM-?	yeah.
1419:28.4 CAM-4	(I haven't looked at the union but I understand that) * * .
1419:29.8 CAM-6	hey you did a good job.
1419:31.4 CAM-1	thank's.
1419:32.2 CAM-6	did a good job.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATIONTIME and
SOURCECONTENT

1419:38.6
CAM-6 I kept tryin' to get ahold of the number four goin'
can you see the ground yet can you see the.

1419:45.5
CAM-1 oh well then what did you think when we went
around?

1419:48.4
CAM-6 well I I know we went around a couple- I knew
the minute we took off something was wrong.

1419:53.8
CAM-1 did ya?

1419:54.4
CAM-6 yea as soo- like when we took off and you s- you
like stopped a little bit.

1419:59.2
CAM-1 oh yeah.

1419:59.8
CAM-6 and we we hesitated. and I though oh well
maybe there's some traffic in the way and then
when we didn't climb any more I thought
somethin's not right.

1420:07.7
CAM-2 start valve *.

1420:09.0
CAM-1 we had the we had a whole bunch of stuff
happinin' and we can't even figure out why * *
some of it doesn't make any sense.

AIR-GROUND COMMUNICATIONTIME and
SOURCECONTENT

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1420:12.6 CAM-2	because because we were climbing out it cyc- * * it cycled on and then right after that * *.
1420:19.4 CAM-1	start valve the start valve that they changed uhm I don't know if they didn't secure it properly but by the time we were * but
1420:27.5 CAM-6	is that in the same?
1420:28.8 CAM-1	but on the on the left engine 'bout the 'bout the time we got through about two thousand twenty five hundred feet the light came on up here that told us that start valve was open it can't be open when the engine's running.
1420:39.5 CAM-J	but they the first one that they had they couldn't get it * * * open and so then they swapped it out.
1420:40.6 CAM-1	and then I don't know within ten or fifteen seconds they had an engine fire *.
1420:48.0 CAM-1	he he couldn't.
1420:49.1 CAM-M	you need to shut that hy- hydraulic pump off it's it's not * * in here it's gonna just overheat here in a second I sure do not understand, what is goin' on with this airplane.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

TIME and
SOURCE

CONTENT

1420:55.2

CAM-1 * (you want me to depress-) * well we're not quite sure what happened either I mean it it was just there was so many different things happenin' and uh. but I think was started it all was uhm we had a they brought this thing in it's been flyin' around with a left start valve inop.

1421:14.8

CAM-M mmh hmm.

1421:16.1

CAM-1 required manual opening (okay) when we were gonna start to leave the gate they said they could not get it open manually so they did it they did it they changed it.

1421:16.4

CAM-2 * last leg. last leg (I'm tired). I should get a picture of myself * too.

1421:24.7

CAM-M yeah.

1421:27.7

CAM-2 yeah we didn't have nose gear * * * *.

1421:28.9

CAM-1 they slipped a news- they put a new start valve in and-

1421:31.0

CAM-M no they didn't change the start valve.

1421:32.6

CAM-1 hah?

AIR-GROUND COMMUNICATION

TIME and
SOURCE

CONTENT

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1421:32.9 CAM-M	they jus- they didn't change the start valve they just opened it up manually.
1421:34.1 CAM-1	oh they didn't?
1421:36.0 CAM-1	well.
1421:37.2 CAM-1	he said they were gonna change it.
1421:38.8 CAM-M	well * well they couldn't open it up we they couldn't open up there's there's a button on there that you could can use to open it up ahm manually but the button wouldn't open the valve.
1421:39.1 CAM-2	well when we came around the first * * I looked (up) and it's just quiet * I mean * * * * *.
1421:39.9 CAM-?	* * whatever.
1421:46.9 CAM-?	uhm.
1421:49.0 CAM-1	yeah.
1421:51.2 CAM-1	thought you hadda put a wrench on it er ah.
1421:53.1 CAM-M	well that's what they did they put a wrench on it.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1421:55.8 CAM-1	okay.
1421:56.2 CAM-M	you didn't see the start valve light come open did it?
1421:56.9 CAM-2	no that was ta to go back around and com here ah we already knew * * but then * * * * * nosegear * * had no indication either I don't what's wrong * think * * *.
1421:58.2 CAM-1	yeah.
1421:58.6 CAM-M	the start valve came open?
1421:59.9 CAM-1	about oh when se- when we were starting?
1422:02.5 CAM-M	no no when you were ah in cruise *.
1422:03.7 CAM-1	yeah about twenty five hundred feet the start valve light came on.
1422:06.9 CAM-M	it came on?
1422:07.7 CAM-1	yeah and then shortly after that we got the engine fire light and uh fire left engine warning and all that stuff.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

TIME and
SOURCE

CONTENT

1422:15.5

CAM-1 then we ah stopped our climb ah between I don't know about thirty five hundred we didn't make it to four thousand feet.

1422:15.5

CAM-4 * * * * * so people around me wouldn't think that we were about to die I read the same page like twenty five times I couldn't tell ya what * * *.

1422:20.0

CAM-2 I jus- I jus- I just threw that (cap) *.

1422:24.3

CAM-1 that wouldn't go out the light in this thing wouldn't go out the light bulbs are down here they were just it was made it so hot. the reason that it dumped fuel was because he was I don't know what he was doin' with the he pushed it back in for a moment and that's when it started dumpin it- that was the fuel between here and the spar I guess.

1422:44.0

CAM-1 ahm what else happened okay so then we were getting that and then ah we were just gonna go back to land and we were lined up on thirty right and put the gear down and the nose gear didn't go down.

AIR-GROUND COMMUNICATION

TIME and
SOURCE

CONTENT

INTRA-COCKPIT COMMUNICATIONTIME and
SOURCECONTENT

1422:52.7

CAM-2 so * * come dow- see what's really weird now
turn the transfer pump on? turn the * * turn the
aux pump * * turn the transfer pump on goes
dead.

1422:57.6

CAM-M well see something happened to the hydraulic
system too.

1423:01.2

CAM-1 yeah we couldn't figure out what was goin'
because about that time ah we had cut off the
fuel to the left engine you know to shut it down
and my left generator wound down and next
thing I knew my instruments were goin' crazy we
got a cross a ah crosstie lockout up here I
reached up and turned on I moved the ah APU
master switch to start I'm tryin' to get the APU up
and it came up I guess but I could never really
tell that I ever got electricity back. so then when
we got on the runway ahm.

1423:07.3

CAM-2 you gotta be # me.

1423:14.1

CAM-2 I wondered where it said that. (whaddya say?)

1423:18.2

CAM-M well there's a lot of wiring that burned up.

1423:19.7

CAM-4 can't can't wait.

AIR-GROUND COMMUNICATIONTIME and
SOURCECONTENT

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1423:28.5 CAM-4	stick this one where the sun doesn't shine I mean you had fifty percent man.
1423:33.6 CAM-2	you know when you got what time you gotta be to work?
1423:35.6 CAM-M	no there.
1423:36.6 CAM-1	I ah.
1423:37.2 CAM-M	you never had you never had any hydraulic you mighta.
1423:39.0 CAM-1	did I ever get the did I ever get the reverser out? Just wonder if I got the right reverser out because it did start-.
1423:44.4 CAM-M	(the) accumulator would've shut the reverser down.
1423:46.8 CAM-1	yeah so I got the right reverser open then I started goin' to the right and I almost couldn't stop it. * pushin' with everything I had on the left rudder and uh once we got down to slow speed I couldn't even work the the tiller.
1423:49.1 CAM-2	* * * the eagle thing after that?

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1423:52.1 CAM-?	what's that?
1423:55.1 CAM-M	oh okay.
1424:01.8 CAM-M	well you have see there's no hydraulics on the airplane at all now. I don't know why you had see you have two failures here you had the engine failure and hydraulic failure.
1424:11.1 CAM-M	seems strange.
1424:12.4 CAM-1	don't we have hydraulic fluid now?
1424:14.3 CAM-M	yeah you got fluid.
1424:15.1 CAM-1	but we don't have any pressure so.
1424:16.3 CAM-M	no.
1424:17.2 CAM-2	you know they were what was your name again?
1424:19.2 CAM-?	it's @.
1424:19.7 CAM-1	so we didn't know what.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1424:20.2 CAM-2	he was. he was saying that we had no flaps when we landed.
1424:24.2 CAM-4	you guys had nothin' you had you had a- you had the slat you had nothin' else.
1424:25.6 CAM-M	no because you-.
1424:28.6 CAM-1	no #.
1424:29.2 CAM-2	and then.
1424:30.1 CAM-1	good thing I didn't go any slower, huh?
1424:31.5 CAM-2	yeah well yeah in retrospect yeah.
1424:33.2 CAM-4	* and you know you- and the same thing was when you were up in flight when you were doin' the pattern.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1424:28.7 V-61	St. Louis ground vehicle sixty one.
1424:34.3 GND	vehicle sixty one ground.

INTRA-COCKPIT COMMUNICATIONTIME and
SOURCECONTENT

1424:37.8
CAM-1 yeah.

1424:38.1
CAM-4 and you were tryin' to * a little bit to get the gear
down.

1424:40.3
CAM-1 yeah. nothin' huh?

1424:42.3
CAM-4 slats that it.

1424:43.3
CAM-2 what uhm isn't the nosegear all mechanical?

1424:46.5
CAM-M the the nosegear would should ahm
mechanically fa- fall out in here when you pull up
on this handle here you are actually physically
kickin' the over-center open.

AIR-GROUND COMMUNICATIONTIME and
SOURCECONTENT

1424:36.5
V-61 St. Louis ground vehicle sixty one requests
permission to enter taxiway Sierra from the
Charlie pad to go to the incident on three zero
left.

1424:49.3
GND okay that was truck sixty one is that correct?

1424:51.4
V-61 that is correct I'll have one in trail.

1424:54.8
GND proceed * on thirty left.

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1424:56.1 CAM-4	right.
1424:56.5 CAM-M	and also what you do to when you pull this up is you in the hy- in the control valve all the spools line up to where there there's the pressure goes to return so there's no pressure on the gear up or down or nothin' and so basically the hydraulic system is not even there basically it's just ah it's just a mechanical thing that falls.
1424:57.3 CAM-M	also.
1425:07.8 CAM-2	okay that okay.
1425:10.2 CAM-2	right okay.
1425:13.4 CAM-2	okay.
1425:13.9 CAM-M	why the gear didn't fall ahm.
1425:16.1 CAM-2	the mains did but the nose didn't.
1425:17.6 CAM-M	did you get a ahm did you get an unlock, light.
1425:20.9 CAM-2	we had nothin' was workin'.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1424:56.7 V-61	vehicle sixty one.

INTRA-COCKPIT COMMUNICATIONTIME and
SOURCECONTENT

1425:22.5

CAM-1 yeah we no * * * .

1425:23.5

CAM-2 all the * everything was out.

1425:24.3

CAM-1 the electricity was all screwed up up here I mean
we didn't know what we (had).

1425:26.3

CAM-2 I mean the cross-tie failed and so it was just kind
of a multitude a.

1425:27.8

CAM-? yup.

1425:29.7

CAM-M well we'll have to let well I guess what we'll do
then is we'll put down uhm.

1425:29.8

CAM-2 (missing).

1425:33.9

CAM-2 you guys gonna take it outta service or?

1425:35.3

CAM-M oh yeah it's out of service yeah.

1425:36.5

CAM-1 [sound of laughter].

1425:37.9

CAM-2 I know I'm just wonderin' ah.

AIR-GROUND COMMUNICATIONTIME and
SOURCECONTENT

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1425:38.3 CAM-M	ahm we need to we need to write up that we have ah that we lost the right hydraulic * * * hydraulic system.
1425:44.7 CAM-1	both hydraulics?
1425:45.8 CAM-2	I don't know if this'll.
1425:46.0 CAM-M	* * and lost both hydraulic system and you also need to write up that the nosegear didn't free-fall.
1425:50.9 CAM-1	okay.
1425:51.7 CAM-4	and when when you guys finally came to a stop.
1425:51.7 CAM-2	yeah 'cause.
1425:53.7 CAM-1	yeah?
1425:54.7 CAM-4	the the ground and flight spoilers popped up.
1425:57.0 CAM-1	uh huh.
1425:57.1 CAM-4	momentarily and then fell back down and the flaps went down to whatever you had it set at twenty eight.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1426:01.9 CAM-1	soooo that's. 'cause the handle 'cause the handle deployed.
1426:03.0 CAM-4	you landed with zero flaps.
1426:04.5 CAM-2	they deployed but they didn't come up.
1426:05.8 CAM-4	spoilers * * deploy.
1426:08.5 CAM-?	* * *. [multiple voices].
1426:09.8 CAM-1	no #.
1426:10.2 CAM-2	that's why you didn't slow down #.
1426:10.8 CAM-4	you didn't have anything until you came to a stop.
1426:13.0 CAM-1	wow.
1426:14.2 CAM-2	and then we nose had no nose wheel steering.
1426:16.0 CAM-4	well I'm wonderin' if you had any brakes did you just accumulator brakes?
1426:16.6 CAM-?	I down know na- * * * * .

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

AIR-GROUND COMMUNICATION

TIME and
SOURCE

CONTENT

TIME and
SOURCE

CONTENT

1426:19.0
CAM-1 * I well I did- I didn't take my feet off the brakes
till we stopped I don't know.

1426:23.1
CAM-4 * good thing you didn't because you probably
woulda- I would if you didn't have that stuff I
can't imagine you had more than accumulator
brake pressure.

1426:29.0
CAM-2 * that's * * that shoulda that shoulda * * * * *
* * .

1426:29.9
CAM-M but you were done I don't think there's any
pressure on it now well see that left * that left
stop somethin's not right about that either.

1426:37.8
CAM-1 well once we got stopped both of these needles
were over here in the red.

1426:41.2
CAM-M yeah.

1426:41.4
CAM-2 we got some training here right?

1426:42.6
CAM-M yup yeah we got some training.

1426:43.9
CAM-1 so I just I can * * * .

1426:45.6
CAM-? * * * * brand new truck [multiple voices].

INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1426:47.3 CAM-M	yeah.
1426:48.1 CAM-1	stuff kept happenen' I go what the # now.
1426:50.1 CAM-M	yeah yeah.
1426:51.0 CAM-1	get this # thing on the ground before.
1426:52.4 CAM-M	yeah.
1426:53.4 CAM-M	yeah you know what * * * * *.
1426:57.4 CAM-2	I'm goin' take a picture for us on the cell phone.
1426:59.8 CAM-1	yeah might as well.
1427:01.1 CAM-2	everybody else was.
1427:03.5 CAM-?	* * * * captain you helped the crew out a whole lot you did a # job there yes sir thank you.
1427:07.4 CAM-1	* * thanks appreciate it thanks for being there for us.
1427:10.9 CAM-?	no problem.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1427:13.1 CAM-?	good job * * .
1427:14.8 CAM-2	so are you gonna retire early now or what?
1427:21.5 CAM-?	take a look at that * .
1427:23.9 CAM-?	(you got all kinds of) * * . [sound similar to voice originating from outside the cockpit].
1427:24.6 CAM-?	* * (I can't drink this water). [sound similar to voice originating from outside the cockpit].
1427:27.0 CAM-2	* * * did you need anything er * * * .
1427:38.2 CAM-7	(bring it on).
1427:40.0 CAM-7	* did you have water here?
1427:50.0 CAM-2	catch.
1427:51.1 CAM-?	[sound of laughter].
1427:55.9 CAM-A	couple more'll do it that'll get it thank you.
1427:59.5 CAM-A	* * happens to me (eat) in the firehouse supperclub too much.

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1428:02.2 CAM-?	[sound of laughter, multiple voices].
1428:06.3 CAM-F	* * who's the FO.
1428:07.9 CAM-2	right here.
1428:08.5 CAM-F	did you pull the breakers for the ah voice recorder and ah.
1428:11.6 CAM-2	no.
1428:12.2 CAM-1	no.
1428:12.7 CAM-F	go ahead pull 'em.
1428:13.5 CAM-2	alrighty we'll get 'em wherever the # they're at.
1428:16.8 CAM-F	you'd wanna preserve that you're a hero.
1428:18.5 CAM-2	yeah well it's probably gone by now.
1428:20.0 CAM-?	* have no idea how big a hero * * * * *.
1428:21.7 CAM-2	well the # are things at flight you want flight recorder and what else?

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
1428:25.3 CAM-?	ah he wants to pull the ah if you got voice recorder and flight recorder
1428:28.8 CAM-2	(look) at this left engine oil pressure (popped).
1428:30.9 CAM-?	should be on the emergency checklist look on you yoke clip.
1428:31.7 CAM-2	yeah it would it woulda popped.
1428:33.7 CAM-?	it'll tell ya on the yoke clip.
1428:35.3 CAM-2	look at you guys man.
1428:38.1 CAM-2	voice recorder F-six.
1428:40.4 CAM-1	(okay) there we go.
1428:43.2	End of Transcript
1428:46.6	End of Recording

AIR-GROUND COMMUNICATION

<u>TIME and SOURCE</u>	<u>CONTENT</u>
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