

NATIONAL TRANSPORTATION SAFETY BOARD
Vehicle Recorders Division
Washington, D.C. 20594



SPECIALIST'S FACTUAL REPORT OF INVESTIGATION

DCA06MA009

by

Joseph A. Gregor
Vehicle Recorder Specialist (CVR)

WARNING

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

NATIONAL TRANSPORTATION SAFETY BOARD
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April 27, 2006

Cockpit Voice Recorder

Factual Report
by **Joseph A. Gregor**

A. ACCIDENT

Location: Chicago Midway, IL
Date: December 8, 2005
Time: 1914 Central Standard Time (CST)
Aircraft: Boeing 737-700, N471WN
NTSB Number: DCA06MA009

B. GROUP

Chairman: Joseph A. Gregor
Electrical Engineer (CVR)
National Transportation Safety Board

Member: Daniel P. Diggins
Air Safety Investigator
Federal Aviation Administration

Member: William C. Roberson
Senior Safety Pilot
The Boeing Company

Member: Hugh Knighton
SWAPA Captain
Southwest Airlines Co.

Member: Craig Henrichsen
Captain
Southwest Airlines Co.

C. SUMMARY

On December 8, 2005, at 1914 Central Standard Time, Southwest Airlines flight 1248, a Boeing B-737-7H4 registered as N471WN, over ran runway 31C at Chicago Midway Airport in Chicago, Illinois, during the landing rollout. The airplane departed the end of the runway, rolled through a blast fence, a perimeter fence, and onto the roadway. The airplane came to a stop after impacting one automobile. There were four minor injuries among the 98 passengers and 5 crewmembers on board; however, there was one ground fatality and several other ground injuries. Instrument meteorological conditions prevailed at the time. The airplane was substantially damaged. The flight was conducted under 14 CFR Part 121 and had departed from the Baltimore/Washington International Thurgood Marshal Airport, Maryland.

A Honeywell SSCVR 6022 cockpit voice recorder (CVR) (s/n cvr120-05823) was delivered to the audio laboratory of the National Transportation Safety Board on December 12, 2005. The incident was captured near the end of the 2-hour long recording. A CVR Group was convened on December 12, 2005 and a transcript of the last 30 minutes of the recording was prepared covering the period from 18:43:38.8 to 19:14:00.6 Central Standard Time (CST). The Group was re-convened on April 4, 2006 to complete a transcript of the first 90 minutes, to produce a full transcript covering the period from 17:13:15.9 to 19:14:00.6 Central Standard Time (CST).

D. DETAILS OF INVESTIGATION

The exterior of the CVR showed no signs of impact or heat damage. The underwater locator beacon was present and tested good. The information from the CVR consisted of six tracks of good quality audio recordings. Two tracks were approximately 2 hours long and the remaining four were each approximately 30 minutes long. The two-hour recording consisted of one track containing the sum of both the captain (CAPT) and first officer's (FO) audio panel information, and one track containing information from the cockpit area

microphone (CAM). The 30-minute recording consisted of audio information from four independent sources. The first track contained audio information from the cockpit radios; the second and third tracks contained FO and CAPT audio panel information, respectively; the fourth track contained audio information from the cockpit area microphone (CAM). The incident was captured at near the end of the recording. Conversion from elapsed time to local time was established using FAA radar data obtained via the Performance Group.

The flight crew was invited to listen to the CVR audio, review the transcript, and suggest any corrections or additions. On February 7, 2006 the crew reviewed a transcript for the last 30 minutes of the recording, which is all that had been transcribed at that time. The crew suggested one addition between 19:12:28.6 and 19:12:35.5. With this addition the transcript in this region would read as follows:

		19:12:28.4 TWR	Southwest twelve forty eight runway three one center cleared to land wind zero nine zero at nine brakin' action fair to poor.
		RDO	<i>crew recommended addition</i> thank ya.
19:12:35.3 HOT-2	four hundred.		

All times as shown in the following transcript are accurate to ± 200 ms. For purposes of correlation with respect to the performance group, the times for certain events are reported to a greater precision in table 1 below. The accuracy of those times reported in table 1 remains ± 200 ms.

19:12:56.54 HOT-2	one hundred.		
19:13:02.73 CAM	[sound similar to click].		
19:13:07.19 CAM	[sound similar to click and squeak].		
19:13:07.90 CAM	[sounds similar to aircraft touchdown].		
19:13:15.91 HOT-2	you jumpin' on the?		
19:13:23.23 CAM	[sound similar to double clunk].		
19:13:23.46 HOT-1	get that back there.		
19:13:31.26 CAM	[sound similar to increased engine noise].		
19:13:36.56 CAM	[sound similar to impact].		
19:13:39.08 CAM	[sound similar to impact].		
		19:13:51.47 RDO-2	Southwest twelve forty eight went over the end.
		19:13:54.34 RDO-2	we went off the end of the runway.

Table 1. Selected events from the transcript reported to 10 ms precision. All times are accurate to ± 200 ms.

Joseph A. Gregor
CVR Specialist

Transcript of a recording obtained from a Honeywell SSCVR 6022 cockpit voice recorder (s/n cvr120-05823) installed on a Boeing 737-700 (N471WN), which ran off the end of runway 31C at Chicago Midway Airport in Chicago, Illinois on December 8, 2005.

LEGEND

CAM	Cockpit area microphone voice or sound source
CTR	Transmission from FAA Center controller
EXEC902	Transmission from Exec Jet 902
G3KF	Transmission from landing aircraft G3KF
HOT	Crewmember hot microphone voice or sound source
NAV	Signal from ground-based navigational aid
OPS	Transmission Company operations center at Midway airport
RDO	Radio transmission from N471WN
SW1952	Transmission from Southwest Airlines Flight 1952
TWR	Transmission from Midway tower
-1	Voice identified as the captain
-2	Voice identified as the first officer
-?	Voice unidentified
*	Unintelligible word
#	Expletive
\$	Proper name
()	Questionable insertion
...	Pause
--	Voice cut-off

Note 1: All times are Central Standard Time (CST).

Note 2: Words shown with excess vowels, letters, or drawn out syllables are a phonetic representation of the words as spoken.

Note 3: A non-pertinent word or phrase, where noted, refers to a word or phrase not directly related to the operation, control or condition of the aircraft.

Note 4: Only radio transmissions to and from the accident aircraft were transcribed.

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.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
	Start of Transcript
17:12:58.2	[start of recording]
17:13:15.9 CAM-2	I thought it said that read before fly said actually it was in the weather packet. (the) front page said don't do the new procedures until you post the change and then then have at it.
17:13:26.5 CAM-1	oh really?
17:13:28.2 CAM-2	there was a big long thing on it and it's not on there any more.
17:13:32.8 CAM-2	have to read that that little blurb again.

17:15:43.5 CAM-1	well?
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AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:15:37.2 CTR	Southwest twelve forty eight climb maintain flight level three three zero.
17:15:41.0 RDO-2	flight level three three zero Southwest twelve forty.
17:15:43.6 CTR	Southwest twelve forty eight contact Washington one one eight point zero two she'll have higher.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:16:04.1 HOT-1	three nine zero now.
17:16:05.2 HOT-2	thirty nine.
17:16:13.6 CAM-1	(see) anything exciting in there?
17:16:16.2 CAM-2	if I knew how to read it would be a lot easier.
17:16:17.9 CAM-1	ahuh.
17:16:18.5 CAM-2	[sound similar to laughter].

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:15:48.2 RDO-2	eighteen oh two have a great night Southwest twelve forty eight.
17:15:50.7 CTR	goodnight.
17:15:54.3 RDO-2	center Southwest twelve forty eight leavin' thirty for flight level three three zero.
17:15:57.6 CTR	Southwest twelve forty eight Washington center roger climb maintain flight level three niner zero.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:16:21.6 CAM-2	you know we're gonna get rid of all the two, two hundred (stuff). that should make it (a) little bit skinnier.
17:17:53.3 HOT-1	talkin' to a buddy a mine \$. said yesterday the winds, most they got were the winds hundred and eighty eight knots dead on their nose.
17:18:02.4 HOT-2	man.
17:18:03.0 HOT-1	yea.
17:18:03.7 HOT-2	the highest I ever saw and it made me wonder what the plane what the computer went up to we're over Atlanta like couple months ago and it was two seven zero at one ninety nine. we were goin' north to Baltimore but...
17:18:15.1 HOT-1	yeah yeah.
17:18:16.3 CAM-2	...(that) made me wonder if it didn't go any higher, sure it does but.
17:18:27.2 HOT-2	its a lot a wind, that blows [sound similar to laughter].

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:18:29.7 HOT-1	yup.
17:19:58.5 CAM-1	gonna do it huh?
17:19:59.7 CAM-2	I don't want to but.
17:20:03.2 HOT-1	kinda light drinkin' the spittoon.
17:20:04.6 HOT-2	[sound similar to laughter].
17:20:11.2 CAM	[sound similar to altitude alert warning tone].
17:20:12.7 HOT-1	(thirty) eight one fer thirty nine.
17:20:14.6 CAM-2	eight one thirty five.
17:20:39.9 HOT-1	same all the way up.
17:20:41.2 CAM-2	yea (looks), no penalty.
17:20:43.0 CAM-1	unchanged two sixty five oh one fifty.
17:20:48.8 HOT-1	for the last nine thousand feet.
17:20:50.8 HOT-2	man, well.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:20:59.5 CAM-2	* * * *
17:21:01.6 CAM-1	yea.
17:21:02.7 CAM-1	(think) we have a ninety eight on board wow.
17:21:04.9 CAM-2	(that's good) we're supposed to only have fifty one right when we started?
17:21:07.6 CAM-1	yea it kept on gettin' more and more.
17:21:17.1 HOT-1	I'll put three nine zero in there I don't know if we're goin' up or not but.
17:21:19.6 CAM-2	'kay.
17:21:23.5 HOT-1	yeah.
17:21:55.0 CAM-1	okay.
17:22:01.6 CAM-2	okay now or you want me to wait till we get (up)?
17:22:04.1 CAM-1	you can let 'em up.
17:22:04.6 CAM-2	okay cool I'll be right back.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

TIME (CST)
SOURCE

CONTENT

17:22:07.8
PA-2

and folks good evenin' ah again from the guys up front thank you so much for your patience this evenin' ah with our troubles with mother nature we sure do appreciate your understanding * * * are at thirty nine thousand feet we're gonna make a slow climb to forty thousand feet here in just a couple minutes our friends at air traffic controller (tell) us its gonna be a pretty smooth flight this evenin' [sound similar to seatbelt warning tone] the seatbelt signs comin' off so folks if you wanna get up and stretch your legs or move about you sure can do so well please folks while you're in your seats always stay buckled up just in case we do find a few unexpected bumps along the way. ah folks as long as the flight attendants are busy trying to get their service out you sure can do them a big favor by trying to keep those aisles clear they really do appreciate it and so do we * * * no lines up by the forward lavatory and you can't stand up in the forward galley area ah these are FAA security regulations and each of us want to thank you here in advance for complyin'. ahhh pretty strong headwinds right now folks are out of the West at about a hundred and fifty knots 'bout a hundred seventy five mile an hour right on the nose ah normal a normally our speed across the ground is close to about five hundred miles an hour right now it's only about three hundred and fifty or so so it's not gonna help us make up any time at all right now about four hundred and fifty miles to go. showin' us ah - touchin' down in Chicago at about an hour twenty minutes or so 'bout an hour twenty five minutes we should have you safely at the gate. folks as we get closer * we'll keep you posted get you up to date on the latest for the Chicago weather. for now folks again ah thanks so much for your patience and understanding this evening we really do appreciate it and finally folks one extra note ah we have three great flight attendants and I promise ya they didn't have a single thing to do with us gettin' off to the late start this evenin' so folks please be kind to them 'cause they're gonna take excellent care of you thanks so much folks again and good evenin'.

AIR-GROUND COMMUNICATION

TIME (CST)
SOURCE

CONTENT

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:23:51.7 CAM-1	wow whaddy say?
17:23:53.8 CAM-2	yadda yadda yadda. yadda yadda yadda. good flight attendants yadda yadda. we like visitors yadda yadda.
17:24:01.6 CAM-1	wow.
17:24:03.7 CAM-2	I always give 'em the be good to our flight attendants 'cause it's not their fault we're late. they're they always say ohh that's so nice thank you.
17:24:13.9 HOT-1	huh.
17:24:14.2 HOT-2	it's all lies and garbage.
17:24:15.5 HOT-1	yeap.
17:24:17.0 HOT-2	windy windy windy.
17:25:01.0 HOT-1	big three hundred and thirteen knots a groundspeed.
17:25:04.2 HOT-2	man oh man.
17:25:11.6 HOT-1	hope this stays with us for the last day.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:25:14.0 CAM-2	yea no kidding.
17:25:14.9 CAM-1	although it doesn't matter.
17:25:16.3 CAM-2	that's true.
17:25:17.0 CAM-1	ain't no flights I can make.
17:25:18.6 CAM-2	yea me neither.
17:25:22.0 HOT-1	see.
17:25:23.4 HOT-2	it's not even close for me.
17:25:28.1 HOT-1	Albany?
17:25:29.2 HOT-2	I think it's like eight, actually Saturday it's earlier it's seven somethin'.
17:25:33.6 HOT-1	(no) it's five somethin' on Saturday.
17:25:35.5 HOT-2	five.
17:25:36.0 HOT-1	yeah.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:25:36.6 HOT-2	man.
17:25:37.3 HOT-1	(see) I better turn this off I guess (huh)?
17:25:38.8 HOT-2	[sound similar to laughter].
17:25:40.4 HOT-1	(ah) it is off how 'bout that it's smarter than I think.
17:25:42.6 HOT-2	my battery's probably dead already.
17:26:32.5 CAM-1	wow wow wow.
17:26:35.2 CAM-2	big stuff right here.
17:26:36.4 CAM-1	yeah.
17:26:37.2 CAM-2	be sleep *.
17:26:37.9 CAM-1	be the next leg for me.
17:26:39.0 CAM-2	[sound similar to laughter].
17:27:10.7 CAM-2	you know this is some heavy stuff. (think I'm) gonna be sorry I (got into this).

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:27:14.8 CAM-1	yup.
17:31:12.0 CAM	[sound similar to ACARS chime].
17:31:22.6 HOT-1	landin' north Salt Lake ten miles fifteen thousand.
17:31:28.3 HOT-2	alright nice from Vegas.
17:31:32.5 HOT-2	alright here's the autobrakes. autobrakes if operational will be used when min two stopping margin is less than five hundred feet and the reported or anticipated runway condition is not dry.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:29:56.8 CTR	Southwest twelve forty eight contact Indianapolis center one two zero point two seven.
17:30:01.4 RDO-2	twenty twenty seven have a great night Southwest twelve forty eight.
17:30:04.0 CTR	'kay.
17:30:21.4 RDO-2	and center Southwest twelve forty eight flight level three nine zero.
17:30:24.6 CTR	Southwest twelve forty eight Indy center roger.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:31:49.1 CAM-1	alright.
17:31:50.8 CAM-2	use the lowest autobrake setting resulting in a stopping margin of five hundred feet or more.
17:31:56.7 CAM-2	if stopping margin of at least five hundred feet cannot be achieved with autobrake setting landing is still authorized using MAX provided a positive stopping margin is computed.
17:32:08.6 CAM-1	alright what does that mean? I cause I can't...
17:32:12.4 CAM-2	I have no idea. [sound similar to laughter].
17:32:14.1 CAM-1	I gotta read it.
17:32:15.2 CAM-2	it (has it) in here I'll show you. (you) get a good idea now.
17:32:20.1 HOT-1	yeah.
17:32:22.0 CAM-2	I guess if you use MAX my buddy flew whales for Atlas and he said when you land at max it'll get your freakin' attention.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:32:30.3 HOT-2	I mean it's a mega-stop. it like throws ya for you know he said I when they used max he used to do the - he never did the crotchstrap till he did his first MAX.
17:32:36.1 HOT-1	yeah.
17:32:40.9 HOT-1	really?
17:32:41.4 HOT-2	yeah.
17:32:42.6 HOT-2	he said after that I use it every time.
17:32:53.7 HOT-2	let's see.
17:32:54.8 HOT-1	crossfeedin' the centers.
17:32:55.9 HOT-2	alright.
17:33:11.3 CAM	[sound similar to ACARS chime].
17:33:13.3 CAM-1	Romeo. Romeo Romeo where art thou?
17:33:17.7 HOT-2	half a mile snow freezing fog two hundred who hoo.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:33:22.3 CAM-2	you wanted to go first.
17:33:24.1 HOT-1	half a mile we can't do it can we?
17:33:26.6 HOT-2	three one center we can if they're using three one center.
17:33:32.3 CAM-2	you need three thousand RVR.
17:33:35.2 CAM-2	you prob - you probably won't get in but.
17:33:35.3 CAM-1	* *.
17:33:37.5 CAM-1	you got a different one? it says four thousand or three quarters unless you got a...
17:33:40.5 CAM-2	you can do that ILS-Z.
17:33:42.6 HOT-1	I haven't got that one.
17:33:43.8 HOT-2	you don't?
17:33:46.6 CAM-2	pretty sure it's a (V).
17:33:47.7 CAM-1	okay. it's a HUD one?

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:33:51.2 CAM-2	it's the same approach but.
17:33:53.2 CAM-1	yeah get a little lower.
17:33:55.4 CAM-1	no where it went.
17:33:55.8 CAM-2	I I don't know if we'll see it.
17:33:57.2 HOT-2	'cause there's no approach lights.
17:34:00.6 CAM-2	(see).
17:34:03.9 CAM-1	(two hundred broken).
17:34:04.4 CAM-2	there's a lead in that's it three one center.
17:34:13.3 CAM-1	direct Fort Wayne.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:34:07.7 CTR	Southwest twelve forty eight cleared direct Fort Wayne.
17:34:10.5 RDO-2	wow direct Fort Wayne thanks Southwest twelve forty eight.
17:34:12.9 CTR	you're welcome.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:34:15.4 CAM-2	you had the the Zee.
17:34:17.8 CAM-1	well let me take a peak then how's that look direct Fort Wayne.
17:34:20.5 CAM-2	good to me.
17:34:22.6 CAM-2	here we go three thousand or five (E).
17:34:27.5 CAM-1	yeah.
17:34:31.5 HOT-2	(well) there's.
17:34:32.9 HOT-1	okay.
17:34:33.8 HOT-2	probably a two -- what's the --
17:34:39.0 HOT-2	the so what's to altitude on it though a * two hundred.
17:34:41.7 HOT-1	eight seventeen.
17:34:42.7 HOT-2	two hundred and fifty.
17:34:43.6 HOT-1	two hundred and four.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:34:44.5 HOT-2	oh two oh four so we'll probably see it.
17:34:47.2 HOT-1	neh heh.
17:34:50.1 CAM-2	temperature.
17:34:52.3 CAM-1	but five eighths is not a half a mile.
17:34:54.9 CAM-2	no I know (the).
17:34:55.8 CAM-1	gotta have three thousand.
17:34:57.1 HOT-2	he sent me a a dispatch message.
17:35:00.3 HOT-1	okay.
17:35:00.8 HOT-2	and he said fair and three thousand RVR.
17:35:03.4 HOT-1	alright it's three thousand RVR we can do it.
17:35:09.5 CAM-2	I can type him a little message and see what he's got now.
17:35:11.3 CAM-1	nah 'at's all right.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:35:14.9 CAM-2	* * *
17:35:18.9 CAM-2	so I'll do I'll do wet fair just for # and giggles.
17:35:29.5 CAM-?	I'm with you.
17:35:34.9 HOT-2	four point five.
17:35:58.6 HOT-2	so the - the way I get it since this is the one that has five hundred.
17:36:03.9 HOT-1	yeah.
17:36:07.2 HOT-2	and you can't use one.
17:36:10.0 HOT-2	two is - min so you'd have to use ah three.
17:36:13.1 HOT-1	three.
17:36:14.7 HOT-2	that's the way I get it but.
17:36:15.9 HOT-1	okay.
17:36:19.1 HOT-2	if its ah.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:36:20.2 HOT-1	Hmmm.
17:36:21.0 HOT-2	use those.
17:36:21.2 HOT-1	I would I would agree with that.
17:36:22.4 HOT-2	yeah yeah I think that's what I get.
17:36:24.2 HOT-2	you can't use one so it starts at two.
17:36:26.5 HOT-2	like two three from MAX.
17:36:28.3 HOT-1	you got wet fair.
17:36:29.8 HOT-2	and then ah ice on.
17:36:32.0 HOT-1	okay.
17:36:34.0 HOT-1	'kay.
17:36:34.6 HOT-2	no clutter we'll see.
17:36:36.4 HOT-1	didn't say any clutter add some clutter if they got any.
17:36:37.7 HOT-2	yeah.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:36:38.7 HOT-2	yeah.
17:36:39.5 HOT-1	add some clutter see what it says.
17:36:40.8 HOT-2	okay ah.
17:36:44.1 HOT-1	please.
17:36:44.7 HOT-2	sure.
17:36:47.6 HOT-2	well lemee see.
17:36:49.7 HOT-2	do ya just do clutter fer ahhh.
17:36:53.9 HOT-1	(ten).
17:36:54.3 HOT-2	maybe you just do clutter for takeoff I think you just do...
17:36:56.2 HOT-1	yeah.
17:36:56.5 HOT-2	...clutter.
17:36:57.4 HOT-2	but if it was wet poor we'll do wet poor and see.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:36:59.8 HOT-1	yeah we can.
17:37:05.3 HOT-1	hmm ha.
17:37:07.4 HOT-2	wow. wooo. if it's poor it's scary.
17:37:12.0 HOT-1	I ain't doin' it.
17:37:12.8 HOT-2	max is thirty that's really scary.
17:37:15.2 HOT-1	yeah.
17:37:16.5 HOT-1	naw that's no good.
17:37:21.1 CAM-2	six knot tailwind.
17:37:23.4 HOT-1	did ya put in ah go back to wet fair did ya put in a.
17:37:29.0 HOT-2	HGS?
17:37:29.9 HOT-1	yeah.
17:37:30.8 HOT-2	well do we?
17:37:32.9 HOT-1	says it's a requirement.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:37:34.1 HOT-2	it is?
17:37:36.7 HOT-2	I did less than four thousand.
17:37:39.7 HOT-2	*.
17:37:39.7 HOT-1	ah you did less than four okay. ah that's good enough.
17:37:41.7 CAM-2	when when you put in the HGS I've never seen that before.
17:37:45.6 CAM-1	runway limited.
17:37:47.2 CAM-2	maybe it maybe it 'cause I don't think we're...
17:37:50.4 HOT-1	yeah just do wet poor ah ah poor and then ah below four yeah not HGS though.
17:37:56.4 HOT-1	you just have to be HGS cert- certified.
17:37:57.3 HOT-2	...maybe 'cause they don't have... we'll do it we'll see as we get the next one but. (oh).

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:38:02.2 HOT-1	alright it's gotta have the lead in gotta have the REIL gotta have the VASI gotta have the HIRL and RVR for three one center must be operating. and DME is required.
17:38:11.2 HOT-2	let's see if they got a the fi- there's a field condition one in here.
17:38:14.9 HOT-1	yeah.
17:38:16.7 HOT-2	it didn't have the RVR in there before but.
17:38:21.7 HOT-2	field METAR.
17:38:26.4 HOT-2	that's really the only reason I wanna look.
17:38:29.3 CAM-2	hate to have somethin' happen when ya got the.
17:38:38.1 HOT-2	then the only other stuffs that really is gonna (bra-).
17:38:40.7 HOT	okay? [sound similar to ACARS chime]
17:38:41.1 HOT-2	yeah.
17:38:43.8 HOT-1	there's field conditions and the METAR too.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:38:47.0 HOT-2	field condition.
17:38:49.1 HOT-1	wet poor.
17:38:50.0 HOT-2	wow.
17:38:51.0 HOT-1	can't do it.
17:38:52.3 HOT-2	I (I oh).
17:38:53.1 HOT-1	wait a minute that was ah.
17:38:55.9 HOT-2	it says ya can but I don't wanna. [sound similar to laughter]
17:38:58.2 HOT-1	what's ah thirty one center though? wet snow no clutter wet poor.
17:39:04.3 HOT-2	so that I mean it the books says you can as long it's positive but man that's whoo.
17:39:09.6 HOT-1	yeah.
17:39:15.6 HOT-2	I mean it's (what is it) thirty feet at max braking whao #.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:39:20.1 HOT-1	I know.
17:39:20.2 HOT-2	know you're good but.
17:39:25.3 HOT-2	I mean that's really tight.
17:39:29.3 HOT-1	nope
17:39:30.8 HOT-2	and then you know what's funny like if if you know we got we got that thirty feet of stopping MAX.
17:39:36.1 HOT-1	ah ha.
17:39:36.5 CAM-2	no procedure if that sucker fails when you touch down? we just go through the fence? we never talk about any of that stuff ya know?
17:39:45.1 HOT-2	er if it fails on * on landing?
17:39:47.3 HOT-1	yeah.
17:39:47.7 HOT-2	you do I tell you to go around? what you know what what if it doesn't there's no guidance on it.
17:39:53.7 HOT-1	yeah I don't know stand on the brakes?

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:39:55.9 HOT-2	maybe there is once we get in here there might be something further down the road that.
17:40:01.3 HOT-2	that tells us what to do but.
17:40:24.1 HOT-1	what's the date on this thing?
17:40:29.7 HOT-2	it's August ah.
17:40:34.9 HOT-1	what's it say ah hey where's the date?
17:40:36.3 HOT-1	November ninth oh five.
17:40:38.8 HOT-1	what is it?
17:40:39.5 CAM-2	November ninth.
17:40:41.9 CAM-1	on these revisions?
17:40:43.4 CAM-2	yeah.
17:40:43.7 CAM-1	oh yea there it is down there.
17:40:45.4 HOT-1	#.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:40:48.6 CAM-1	we haven't had it that long.
17:40:49.9 CAM-2	no.
17:41:06.9 HOT-1	where's that sucker * *.
17:41:11.5 HOT-2	I'm hoping that in the like the normal.
17:41:14.5 CAM-2	or in the approach it might have some guidance on it.
17:41:21.9 HOT-1	zero eight zero at ten. huh.
17:41:26.8 HOT-2	yeah it's a eight knot tailwind.
17:41:28.3 HOT-1	#.
17:41:33.4 HOT-1	let's go ah.
17:41:38.1 HOT-1	one three zero at ten.
17:41:38.3 HOT-2	I put in fair.
17:41:43.4 HOT-1	wet fair landing *.
17:41:53.0 HOT-1	close to ten knots can't do it.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:41:55.2 HOT-2	ahmm did you check in HGS?
17:42:00.4 HOT-1	no.
17:42:01.3 HOT-2	did I not take it out?
17:42:02.9 HOT-1	RVR four thousand.
17:42:06.3 HOT-1	with one three zero at ah ten.
17:42:08.4 HOT-2	oh yeah.
17:42:08.8 HOT-2	yeah with a ten knot tailwind you can't do it.
17:42:10.6 HOT-1	yeah.
17:42:11.5 HOT-2	well (do I) eh ah that's a less than four thousand thing.
17:42:15.1 HOT-2	it's like a five with anything less than with wet poor I think it's a five knot tailwind.
17:42:15.1 HOT-1	okay.
17:42:20.0 HOT-2	if it's poor you can only have a five - oh.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:42:22.0 HOT-1	that would make sense.
17:42:22.7 HOT-2	yeah. I think.
17:42:23.1 HOT-1	(they).
17:42:24.6 HOT-2	I think it is.
17:42:24.7 HOT-1	how 'bout one three zero at nine?
17:42:28.4 HOT-2	peak gust tailwind brakin' poor five knots.
17:42:33.9 HOT-1	can't do it there either.
17:42:37.2 HOT-1	so what is our?
17:42:39.9 HOT-1	you had a zero eight zero at ah.
17:42:43.8 HOT-2	eh I can throw it back up quick.
17:42:48.8 HOT-2	the I think it was. ahhh. oh.
17:42:56.1 HOT-1	Romeo wasn't it?
17:42:57.1 HOT-2	(L M) P Q R I think it was Romeo.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:43:00.4 HOT-2	zero eight zero at ten, must be right on the limit.
17:43:17.4 HOT-1	that gives us six knots a tailwind.
17:43:20.5 CAM-2	and it still says it's legal?
17:43:29.6 HOT-2	*.
17:43:34.2 CAM-1	(but) like you say.
17:43:36.6 CAM-2	that thing says five knot tailwind.
17:43:38.2 CAM-1	yeah. so really.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:43:20.6 CTR	Southwest twelve forty eight contact Indy center one tree tree point seven seven.
17:43:25.8 RDO-2	thirty three seventy seven have a great night Southwest twelve forty eight.
17:43:28.7 CTR	see ya.
17:43:39.6 RDO-2	howdy center Southwest twelve forty at flight level three nine zero.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:43:42.3 HOT-2	well that's kinda scary that that doesn't save your # you know?
17:43:47.8 HOT-1	peak gust.
17:43:57.2 HOT-1	that's braking poor.
17:43:59.7 CAM-1	braking fair is ten knots.
17:44:01.9 CAM-2	yeah but the field conditions was poor.
17:44:04.4 CAM-1	yeah.
17:44:04.8 HOT-2	which means we couldn't do it anyway.
17:44:06.3 HOT-1	right.
17:44:06.5 HOT-2	well * we could but -

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:43:46.7 CTR	who's that checkin' in?
17:43:48.4 RDO-2	Southwest twelve forty eight at flight level three nine zero good evening.
17:43:51.1 CTR	Southwest twelve forty eight ** rog.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:44:08.2 CAM-2	I'm my butt's gonna be squeezed so tight * you never seen a butt squeezed tighter.
17:44:11.4 HOT-1	no.
17:44:12.1 HOT-2	[sound similar to laughter].
17:44:14.0 HOT-1	we got too much tailwind we can't do it.
17:44:15.6 HOT-2	yea with six.
17:44:16.2 HOT-1	that's our savior.
17:44:17.4 HOT-2	yup.
17:44:17.6 HOT-1	[sound similar to laughter].
17:44:18.1 HOT-2	get another one in a few.
17:44:19.7 HOT-1	ah huh.
17:44:21.0 HOT-2	let's see.
17:44:34.9 HOT-1	well you want your own copy?

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:44:36.8 HOT-2	yeah that'd be great.
17:44:45.5 HOT-2	ah I don't feel like doin' the rest of this.
17:44:47.9 HOT-2	we got the meat 'n potatoes.
17:44:50.3 HOT-2	let's see.
17:45:13.7 HOT-2	oh there is some more stuff in here. three nine one (that's).
17:45:20.4 CAM-2	kinda gives ya the --
17:45:21.7 CAM-1	[sound similar to violent sneeze]. * *.
17:45:22.7 CAM-2	bless ya.
17:45:40.6 HOT-1	alright let me look in there.
17:46:00.4 HOT-1	alright. I said I sent ah. okay what is it? (Maryland's) I'm Midway status for zero zero five zero ETA.
17:46:07.5 HOT-2	cool.
17:46:09.0 HOT-1	sent.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:46:42.1 HOT-2	ah it says you can put clutter in but if there is clutter you can only have a twenty knot crosswind limit. which that won't be a big deal.
17:46:51.5 HOT-1	'kay.
17:46:58.7 HOT-2	I got a PC next month ha ha this is good ha ha.
17:47:00.9 HOT-1	yah hah.
17:47:02.5 CAM-1	I gotta PT.
17:47:05.8 CAM-2	select autobrakes as required here's the operational part of it.
17:47:11.7 HOT-1	'kay.
17:47:14.8 HOT-2	if it's operational it must be used. use the lowest...
17:47:19.1 CAM	[sound similar to ACARS chime].
17:47:20.0 HOT-2	...brake level that gets you five hundred feet.
17:47:24.6 CAM-2	if neither setting results in a stopping margin of five hundred feet or more *

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:47:29.3 HOT-1	huh oh.
17:47:30.8 CAM-1	not good back to you in a minute.
17:47:32.2 CAM-2	[sound similar to laughter].
17:47:32.5 CAM-1	[sound similar to laughter].
17:47:39.4 HOT-2	wow it says if neither setting results in a stopping margin of five hundred feet or more landing is still authorized using MAX provided a positive (starch) stopping margin is computed.
17:48:02.4 HOT-1	what are we hurryin' to get there for then? [sound similar to laughter].
17:48:04.9 HOT-2	yeah really.
17:48:08.7 HOT-2	uh well that I see that's in here really.
17:48:28.2 CAM-1	I'm gettin' ri- rid of all these (received messages).
17:48:30.9 HOT-2	that's cool delete delete delete.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:48:51.4 CAM-1	well let's see here our alternate happens to be Kansas City or St. Louis.
17:48:57.0 CAM-2	think ah Kansas City was a little better weather.
17:49:02.3 CAM-1	let's look. **
17:49:04.0 HOT-2	think a St. Louis was snowin' a little bit (I mean) either way.
17:49:13.3 HOT-1	let's look a St. Louie first that's the closest.
17:49:18.8 HOT-2	oh I can show you somethin' cool in here too you probably seen it before.
17:49:28.1 CAM	[sound similar to ACARS chime].
17:49:30.2 HOT-1	alright there's St Louis. alright five miles light snow mist twenty three hundred broken forty five hundred broken. twenty five thousand broken. 'kay.
17:49:55.7 HOT-2	okay if we touch down and we get this -- where's the auto --
17:50:02.3 HOT-1	hang on hang on a second lets ah let's sit the passengers down a little bit here.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:50:07.1 HOT-2	okay.
17:50:07.9 HOT-1	since we're gettin' in that area.
17:50:10.6 PA-2	and folks from the guys up front a few bumps [sound of single chime] seatbelts signs comin' back on so please folks if you're up (and about) head on back to your seats and buckle up thanks so much.
17:50:15.9 HOT-1	**.
17:50:20.2 HOT-1	okay.
17:50:24.8 CAM	[sound similar to ACARS chime].
17:50:26.5 HOT-1	I'm gonna sit the flight attendants down too.
17:50:27.9 HOT-2	okay.
17:50:28.7 PA-1	ah flight attendants go ahead and take your seats for a few minutes as well. folks I've asked the flight attendants to take their seats so ah make sure that you're in your seats as well seatbelts fastened thank you.
17:50:39.4 CAM-2	(yeah).

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:50:40.8 HOT-1	Kansas City is - clear I like that. cold but clear.
17:50:44.6 HOT-2	clear. woo hoo.
17:50:47.9 HOT-2	that's alright aw I wanted to do this thirty eleven fer Midway.
17:50:51.3 HOT-1	alright.
17:51:07.4 HOT-2	this one.
17:51:08.9 HOT-1	okay get that on?
17:51:09.9 HOT-2	if that pops on it says you can achieve the OPC stopping distance by applying brakes as it would do so if it comes on you just jam 'em baby and.
17:51:21.3 HOT-1	hmm kay.
17:51:22.2 HOT-2	hold on.
17:51:26.4 HOT-1	sounds good I can do that except where it says a -
17:51:27.6 HOT-2	et cetera da da tada.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:51:32.3 CAM-1	maximum thirty feet.
17:51:34.0 CAM-2	yeah that's.
17:51:34.8 CAM-1	that's outside my limits.
17:51:36.2 CAM-2	yeah.
17:51:38.1 HOT-1	that plus the tailwind.
17:51:41.4 HOT-1	wet poor tailwind.
17:51:46.6 HOT-2	eh and it says like if you want it to disarm - wow that was a nice shooting star.
17:51:50.4 HOT-1	what was it?
17:51:50.9 HOT-2	once you land.
17:51:51.8 HOT-1	yeah.
17:51:52.2 HOT-2	if you want it to disarm ah if you start pushing on the brakes and it's not letting go it says you might have to go a little further to get it to pop off.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:52:01.4 HOT-1	okay.
17:52:01.9 HOT-2	that's about the only thing that I see in here that's different.
17:52:20.0 CAM-2	it's in my flow now so if we use it hit me or remind me to turn that stupid thing off after we land.
17:52:37.1 HOT-1	okay I'm turnin' this off.
17:52:39.0 HOT-2	alright.
17:53:01.6 CAM-1	oh boy ah uh oh oh huh.
17:53:12.9 CAM-1	let's see here checking the just for the # of it here.
17:53:18.8 HOT-2	hey know we can do?
17:53:21.5 CAM-1	last I heard that was even worse.
17:53:24.1 HOT-2	yeah I heard 'em sayin' ah. ah they asked if there was a ground...
17:53:29.0 CAM-2	...groundhold but it wasn't a groundhold.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:53:30.8 HOT-1	just delayed.
17:53:31.0 HOT-2	they had a little bit of a delay though.
17:53:33.0 CAM	[sound similar to ACARS chime].
17:53:37.9 CAM-1	quarter mile snow freezing fog.
17:53:40.2 CAM-2	wo hoo.
17:53:40.7 CAM-1	* *.
17:53:47.8 HOT-1	ILS five right approach in use.
17:53:52.1 HOT-2	I got mine out if you don't wanna dig.
17:53:53.7 HOT-1	Indy?
17:53:55.6 CAM-1	ah take a look and see what they got there they got a HGS I think.
17:53:58.9 CAM-2	yeah I think so.
17:54:00.3 HOT-2	five five *.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:54:02.5 CAM-1	five right.
17:54:03.7 CAM-2	*.
17:54:10.8 HOT-2	ah brakin' action advisories I'll pull in the field conditions for them too and see what the the brakin' action is.
17:54:19.3 HOT-1	'kay.
17:54:22.5 HOT-2	five right CAT two and CAT three eight forty one fifty foot seven hundred RVR.
17:54:30.4 HOT-1	okay yeah.
17:54:31.8 HOT-2	we'll see what this is.
17:54:35.1 HOT-2	ahhh.
17:54:35.7 HOT-1	one forty at ten there too.
17:54:37.5 HOT-2	yeah let's do this (field)
17:54:42.2 HOT-1	crosswind.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:54:43.1 HOT-2	here's some completely useless knowledge for ya. this is great when you have two alternates.
17:54:50.9 HOT-1	one right.
17:54:55.1 HOT	[sound similar to ACARS chime].
17:54:58.0 HOT-2	I didn't mean to have it on my side (but). this thing kicks # [sound similar to laughter] it'll give ya ETA and fuel from your present position.
17:55:07.7 HOT-1	alright. how about that how'd ya do that?
17:55:11.7 HOT-2	\$ showed me that a long time ago he's a great guy outta Chicago.
17:55:14.1 HOT-1	huh.
17:55:15.7 HOT-1	huh.
17:55:16.2 HOT-2	I said how the # did you learn that he said I don't know somebody else showed me.
17:55:18.7 HOT-1	ahah.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:55:22.1 HOT-1	Indy field.
17:55:24.5 HOT-1	wet good.
17:55:25.0 HOT-2	wet good see that's not a bad alter-
17:55:27.4 CAM-1	no.
17:55:27.8 CAM-2	what was the ceiling?
17:55:29.4 HOT-2	do you remember?
17:55:29.9 HOT-1	four hundred.
17:55:30.7 HOT-2	now see that's not bad.
17:55:37.4 HOT-1	and that'll keep changin huh?
17:55:40.2 HOT-2	yeah.
17:55:40.5 HOT-2	I.
17:55:41.5 CAM-2	oh let's see thought it did.
17:55:49.0 CAM-2	is it clicking down?

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:55:50.1 HOT-1	(I don't).
17:55:50.6 HOT-2	yeah it is clicking down.
17:55:50.6 HOT-1	no.
17:55:52.2 CAM-2	St. Louis just *.
17:55:58.5 HOT-1	sixty seven five fifty seven.
17:56:00.7 CAM-2	takin' an awful long time.
17:56:03.9 CAM-2	(see if we) go out (then go) back.
17:56:09.0 HOT-1	sixty six.
17:56:12.8 HOT-2	guess maybe ya go back and forth.
17:56:14.5 CAM-2	but if you go between 'em
17:56:16.4 CAM-1	the (S) changed a minute earlier.
17:56:18.3 HOT-2	it also gives you ah like the closest airports.
17:56:21.7 HOT-1	'kay.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:56:22.6 HOT-2	it's kinda cool.
17:56:23.1 HOT-1	closest one is Columbus.
17:56:25.6 CAM-1	how did ya get to that point.
17:56:27.5 CAM-2	this.
17:56:28.2 CAM-1	say I'm right here.
17:56:29.4 CAM-2	yeah.
17:56:30.1 HOT-1	you have to do it on (both)?
17:56:30.1 HOT-2	ya have to.
17:56:31.2 CAM-2	yeah.
17:56:32.3 HOT-2	* I guess you can pay fer the software but we didn't pay for it so you gotta do like jump through a bunch of hoops.
17:56:37.6 HOT-2	hit that INIT reference page.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:56:42.7 PA-2	flight level three eight zero Southwest.
17:56:47.3 HOT-2	hate when I do that.
17:56:47.3 HOT-1	(three) eight zero.
17:56:48.7 CAM-2	people in the back know we're goin' to three eight zero.
17:56:50.2 HOT-1	ha ha.
17:56:51.9 HOT-2	if ya hit ya hit this button.
17:56:56.1 CAM-2	ya get to the index wa --
17:56:58.5 HOT	[sound similar to single chime].
17:56:59.7 HOT-1	I'm sorry say eh which one?

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:56:38.4 CTR	Southwest twel- twelve forty eight descend maintain flight level three eight zero.
17:56:45.4 RDO-2	flight level three eight zero Southwest twelve forty eight.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:57:01.0 HOT-2	hit the INIT REF.
17:57:01.6 HOT-1	initial reference at same time
17:57:03.3 CAM-2	* you don't have to a -- [sound similar to single chime] the only thing you have to do at the same time is.
17:57:06.6 CAM-1	delete 'em.
17:57:07.4 CAM-2	so you can just go. go to the main index page. and go to the offset mode.
17:57:13.4 CAM-1	alright.
17:57:14.0 CAM-2	and then you can you can have this guy do it er have me do it or you can do it. and then go to offset.
17:57:17.6 CAM-1	go to offset alright and then what?
17:57:19.3 HOT-2	either side you just put in any offset. (just) one right er one left er.
17:57:21.3 HOT-1	okay.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:57:23.2 HOT-1	'kay.
17:57:24.6 HOT-2	and eh ya only have to do it in one.
17:57:26.3 HOT-2	the only thing you have to do at the same time is you have to hit erase right at the same time.
17:57:30.1 HOT-1	alright.
17:57:30.8 HOT-2	eh I think if you do yours a little bit quicker it'll put 'em on yer side if you do mine like a split second quicker. I'll try to do it on-.
17:57:36.0 HOT-1	alright.
17:57:39.5 CAM-2	see now I'll put it on your side. now you can kinda play back and forth.
17:57:43.1 CAM-1	alright.
17:57:43.9 CAM-2	there'll be a test later. [sound similar to chuckle].
17:57:49.9 HOT-1	zero zero two one huh? to Columbus.
17:57:54.5 HOT-1	it's close.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:57:56.3 HOT-2	yeah.
17:57:58.5 CAM-2	we should be able to get the new weather now.
17:58:00.3 CAM-1	just passed over.
17:58:01.3 CAM-2	the bummer is like.
17:58:02.8 HOT-2	if you click out of that 'cause you wanna see a progress page you gotta do the whole thing again to get back to it.
17:58:08.0 HOT-1	yeah.
17:58:26.1 CAM	[sound similar to ACARS chime].
17:58:27.8 HOT-1	Sierra.
17:58:30.7 HOT-2	quarter mile. can't do that.
17:58:32.5 HOT-1	can't do it.
17:58:35.6 HOT-2	see. oh.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
17:58:40.6 HOT-1	well if they call that quarter mile and three thousand we can do it.
17:58:44.5 HOT-2	four left two two right three one only runway open's three one center.
17:58:47.6 HOT-1	yeah.
17:59:09.1 CAM	[sound similar to ACARS chime].
17:59:10.5 HOT-2	see what that has to say.
17:59:14.5 HOT-2	wet poor wet poor no clutter wet poor.
17:59:17.4 HOT-1	yeah but its what they tell us.
17:59:19.0 HOT-2	yeah.
17:59:21.5 HOT-1	verbally that counts.
17:59:22.8 HOT-2	yup.
17:59:27.0 CAM-2	well the weather outside. [in a sing song voice].

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

TIME (CST)
SOURCE

CONTENT

17:59:45.4
HOT-1 [unintelligible vocalizations].
17:59:49.3
HOT-2 * * *.
18:00:23.3
HOT-2 the weather outside is frightful [in a sing song voice].
18:00:27.2
HOT-1 the weather outside is rosey.
18:00:29.4
HOT-2 [sound similar laughter].
18:00:30.8
HOT-1 [sound similar to humming].

AIR-GROUND COMMUNICATION

TIME (CST)
SOURCE

CONTENT

17:59:28.1
CTR Southwest twelve forty eight contact Indy center one two eight point seven seven.
17:59:32.0
RDO-2 two eight seven seven you have a great night Southwest twelve forty eight.
17:59:35.1
CTR you too.
17:59:37.8
RDO-2 howdy center Southwest twelve forty eight at flight level three eight zero.
17:59:40.6
CTR Southwest twenty forty eight Indy center roger.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:00:31.2 HOT-2	and I -- ten thousand at AWSUM.
18:00:40.0 HOT-2	oh'right.
18:00:50.1 CAM	[sound similar to ACARS chime].
18:00:51.4 CAM-2	uh oh there he is it's your friend dispatch.
18:01:02.2 CAM-1	well alright aloha. [sound similar to laughter] alright.
18:01:05.8 CAM-2	I'll ask him how's the RVR.
18:01:53.3 HOT-1	\$.
18:01:54.9 HOT-2	[sound similar to laughter].
18:01:57.5 CAM-1	* and \$. [in a sing song voice]
18:02:09.2 CAM-2	the weather outside is. [in a sing song voice]
18:02:12.7 CAM	[sound similar to ACARS chime].
18:02:14.2 CAM-2	oh oh oh oh oh oh. [in a sing song voice]
18:02:23.9 HOT-2	right now it's at fifty five hundred.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:02:27.1 CAM-2	whoo.
18:02:28.5 CAM-1	alright that's good.
18:02:30.2 CAM-2	that's is das'n zere gud.
18:03:17.3 CAM-1	da da da da da. [in a sing song voice].
18:03:22.3 HOT-2	you working Christmas \$?
18:03:23.9 HOT-1	say again?
18:03:24.5 HOT-2	you working Christmas?
18:03:25.5 HOT-1	I am working Christmas.
18:03:26.8 HOT-1	be where ya gotta be.
18:03:28.5 CAM-1	I picked it up for a guy so he could be home with his three year old and ah six year old.
18:03:33.3 CAM-2	aren't you a nice guy.
18:03:35.9 CAM-2	where ya gonna be.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:03:37.5 CAM-1	ah I just do a turn.
18:03:39.0 CAM-2	oh cool.
18:03:39.9 CAM-1	back through Baltimore unfortunately.
18:03:42.4 CAM-1	there's nothin' there.
18:03:43.4 CAM-2	yeah.
18:03:45.9 CAM-2	you're a good man.
18:03:50.8 HOT-1	hmmm.
18:04:13.8 HOT-2	do you wanna let the girls up again.
18:04:15.4 HOT-1	oh yeah.
18:04:18.0 HOT-1	yeah go ahead.
18:04:18.6 HOT-2	I'll be right back.
18:04:20.7 HOT-2	let everybody up?
18:04:21.8 HOT-1	sure.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:04:23.2 HOT	[sound similar to double chime].
18:04:28.3 INT	[non-pertinent conversation between pilots and flight attendants not transcribed].
18:05:00.7 PA-2	hey folks and from the guys up front you have a few minutes if you need to get up again ah you sure can do so * * * * * into Chicago in ah about another thirteen minutes and that's when I'll turn the seatbelt sign back on thanks so much folks a total distance two hundred twelve miles looks good to be in the gate ah touchin' down at fifty after in the gate about fifty five past. thanks so much folks.
18:05:26.3 CAM-2	alright.
18:05:28.3 CAM-1	yeah.
18:05:37.5 CAM-2	one hundred at (nine). * *.
18:05:45.9 CAM-2	* *.
18:05:48.3 CAM-2	vertical visibility a hundred feet. woo hoo.
18:05:52.1 CAM-1	huh.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:05:53.6 CAM-2	*. go around thrust TOGA. [sound similar to laughter]
18:05:57.6 CAM-1	yeah.
18:05:59.6 CAM-2	ah they got four right open.
18:06:05.7 CAM-2	I'll put in ah well he said it was good I'll put in fair just for # and giggles.
18:06:10.5 HOT-1	okay.
18:06:11.6 HOT-1	yeah.
18:06:13.4 CAM-1	still snowin' isn't it?
18:06:14.5 CAM-2	yeah freezin' fog.
18:06:16.8 HOT-2	which means type four on the way out.
18:06:20.2 HOT-1	yup.
18:06:23.1 HOT-2	gonna be an expensive night tonight.
18:06:24.8 HOT-1	yeah that is.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:07:35.6 HOT-1	you I don't know if I'm comfortable usin' the autobrakes * in --
18:07:39.2 HOT-2	yeah.
18:07:39.5 HOT-1	in ah in this ah situation.
18:07:43.4 HOT-2	first time.
18:07:44.3 CAM-1	you know havin' not even seen 'em operate before and then all of a sudden go in with a.
18:07:47.9 CAM-2	yeah.
18:07:50.7 CAM-2	it's MAX now.
18:07:51.3 CAM-1	number three.
18:07:52.8 CAM-2	yeah you gotta use MAX now.
18:07:55.6 CAM-2	to get five sixty it's a eight knot tailwind.
18:08:00.9 CAM-1	#.
18:08:02.9 CAM-2	we gotta check if it's fair.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:08:06.2 CAM-1	yeah.
18:08:23.4 CAM-2	alright.
18:08:24.5 CAM-1	three six zero down.
18:08:31.2 CAM-2	this is wet fair.
18:08:35.1 CAM-1	wet good we don't need it right?
18:08:43.1 CAM-2	there's ten.
18:08:46.2 CAM-2	can't do poor.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:08:07.1 CTR	ah Southwest twelve forty eight descend and maintain flight level three six zero.
18:08:10.7 RDO-2	flight level three six zero Southwest twelve forty eight you have any complaints about the rides in the descent?
18:08:14.9 CTR	I think what's - in this area anyway its ah twenty and below are the only bad rides.
18:08:21.1 RDO-2	okay thanks alot.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:08:49.3 CAM	[sound similar to metallic clank].
18:09:03.7 CAM-2	(let me make) sure nothing's broke.
18:09:13.1 CAM-2	* (percent) *.
18:09:17.1 CAM-1	(stay) this side at three zero zero.
18:09:18.9 CAM-2	should be able to do that.
18:09:20.4 CAM-1	so let me put ah I've already got twenty so another ten huh?
18:09:24.5 CAM-2	thirty this side of Fort Wayne not *.
18:09:26.2 CAM-1	oh Fort Wayne.
18:09:27.2 CAM-2	yeah.
18:09:27.4 CAM-1	oh yeah that's thirty nine miles.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:09:05.7 CTR	*** if able cross three five ah thirty miles south of Fort Wayne at maintain flight level three zero zero.
18:09:13.2 RDO-2	thirty this side of (Fort Wayne).

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:09:29.4 CAM-1	there ya go.
18:09:30.5 CAM-2	'at's.
18:09:33.9 CAM-1	three zero zero.
18:09:35.0 CAM-2	(got it).
18:09:39.1 HOT-1	(it's)*.
18:09:40.6 CAM-2	(operative).
18:09:50.9 HOT-2	why does it do that?
18:09:52.6 HOT-1	hm hm.
18:09:55.0 HOT-2	sometimes they.
18:09:55.8 CAM-1	well I got sixteen miles to get down I'll just get on (down).
18:09:58.5 CAM-2	it's really crazy sometimes I don't know why (yeah).
18:10:05.7 HOT-1	I can do it.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:10:07.7 CAM-2	(maybe it) won't let you the next one *.
18:10:10.5 HOT-2	yeah I don't know why ah.
18:10:15.7 CAM-1	oh well we're gonna make it. got fourteen miles to do it.
18:10:17.8 CAM-2	yeah.
18:10:19.0 CAM-2	yup.
18:10:20.1 CAM-1	(my side) ten fifteen (we're good).
18:10:23.0 HOT-1	not a problem.
18:10:23.8 HOT-2	nope.
18:10:25.0 HOT-2	it's sure not.
18:10:27.9 HOT-2	and he said below twenty it's kinda yucky.
18:10:30.2 HOT-1	yeah that's what I heard yeah. 'kay.
18:10:33.8 HOT-1	well. why don't ya hand me the doodly bopper there for a ILS zay Z.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:10:40.8 HOT-2	Zee.
18:10:41.2 HOT-1	and ah or should say. not much difference really.
18:10:46.6 HOT-2	nah.
18:10:49.2 CAM-1	twenty May oh five eleven seven.
18:10:55.3 HOT-1	ten miles.
18:10:55.9 CAM-?	* one thousand (three).
18:11:02.4 CAM-1	one oh nine nine three fifteen inbound seventeen hundred at HOBEL that's (ten ten) eighty seven.
18:11:07.9 HOT-1	eight seventeen the decision height two hundred we'll keep in the radar altimeter.
18:11:12.2 CAM-1	six thirteen is touchdown.
18:11:34.7 HOT-1	'kay.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:11:26.7 CTR	Southwest twelve forty eight * * * speed your discretion (expect) vectors * * * comin' out.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:11:39.3 CAM-1	(alright) we'll slow 'er down.
18:11:43.4 HOT-1	so anyway six thirteen touchdown ah we got the minsafes there they're at twenty eight and thirty four north.
18:11:50.0 HOT-1	ahmm.
18:11:53.0 HOT-1	we got all those special aircrew certification required we got that ah lead in REILs VASIs HIRLs RVR three one center must be operating and DME required. ahmm need three thousand RVR three degree glideslope. if we have to go missed approach it's climb to eleven hundred feet then ah climbing left turn to twenty one via heading one five zero * the PEON VOR zero zero one until crossing the IGECY.
18:11:56.6 HOT	[sound similar to ACARS chime].
18:12:00.4 CAM	[sound similar to altitude warning horn].
18:12:31.2 HOT-2	you're at thirty.
18:12:31.9 HOT-1	- intersection then climb to twenty six. fracken a.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:11:35.3 RDO-2	okay where's everybody holdin'?

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:12:35.8 HOT-2	(I know).
18:12:36.1 HOT-1	what a #.
18:12:38.0 HOT-1	so anyway what we'll do we'll (hook) it up. if we have to go around it's ah go around thrust TOGA flaps fifteen landing gear up.
18:12:48.9 CAM-2	L-NAV [sound similar to laughter].
18:12:50.2 CAM-1	L-NAV [sound similar to laughter].
18:12:52.7 CAM-2	yeah # it.
18:12:53.6 CAM-1	L-NAV # it and then we'll clean it up as required okay.
18:12:56.5 HOT-2	okay.
18:12:56.9 HOT-1	you double check that get a good IDENT.
18:12:59.3 HOT-2	I'll just write it down.
18:13:00.3 HOT-1	yeah.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:13:01.1 CAM-2	and you - since you're gonna be flying it.
18:13:04.7 CAM-2	eight seventeen.
18:13:09.1 CAM-1	and.
18:13:14.0 CAM-1	we'll probably take her down the end turn off see what the weather's like. [sound similar to chuckle]
18:13:20.5 HOT-1	flaps forty.
18:13:23.0 HOT-2	MAX brakin'.
18:13:28.5 CAM-1	('kay) hold airspeed.
18:13:36.2 HOT-2	* *.
18:13:53.7 CAM-1	direct GOSHN how's that look?
18:13:55.1 CAM-2	yeah GOSHN (you can) * *.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:13:46.0 CTR	Southwest twelve forty eight * *direct GOSHN descend and maintain flight level two eight zero.
18:13:51.5 RDO-2	direct GOSHN flight level two eight zero Southwest.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:13:56.6 CAM-1	two eight zero.
18:13:57.7 CAM-2	okay.
18:13:58.0 CAM-1	here we go.
18:14:11.2 CAM-2	ah we have this missed in here? ah three one center eleven hundred one fifty IGECY * .
18:14:19.7 HOT-1	and all the altitudes in there good.
18:14:21.5 HOT-2	ahhh what's the eight seventeen. we need three thousand. or five (eighths). okay. that's good enough for me.
18:14:40.5 HOT-1	I'll hold around two twenty does that sound good to you?
18:14:42.8 HOT-2	sure.
18:14:43.1 HOT-1	you know actually I don't need this anymore.
18:14:44.9 HOT-2	you don't need it?
18:14:46.1 HOT-1	I don't believe so.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:14:47.2 HOT-2	okay.
18:14:49.5 CAM-1	see.
18:14:52.9 CAM-2	I looked in the NOTAMS on the on the ATIS and it didn't say anything was out.
18:14:56.5 CAM-1	okay good.
18:14:57.1 CAM-2	it looks like all that stuff * *.
18:14:59.2 CAM-1	'kay.
18:14:59.5 CAM-2	if you want it 'cause you're flyin' it's cool I wrote it down.
18:15:01.6 HOT-1	no you need you need it. yeah you need it there.
18:15:03.9 HOT-2	okay.
18:15:04.2 HOT-1	I'm good with it.
18:15:05.1 HOT-2	okay.
18:15:05.5 HOT-1	I trust ya.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:15:06.3 HOT-2	whatever makes you happy I don't care. twenty nine twenty eight.
18:15:10.6 HOT-1	twenty nine twenty eight.
18:15:12.1 HOT-2	how we doin' here?
18:15:13.1 CAM	[sound similar to altitude warning horn].
18:15:14.9 CAM-?	* * .
18:15:47.2 CAM-1	and I think as far as the autobrakes go.
18:15:49.6 HOT-1	I think I will use ah manual braking.
18:15:53.8 CAM-?	*.
18:15:54.7 HOT-1	yeah.
18:15:55.3 HOT-2	(okay).
18:15:55.3 HOT-1	we'll try 'em into Vegas. if that's alright with you.
18:15:59.7 HOT-2	do you really wanna?

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:16:01.0 HOT-1	huh?
18:16:01.5 HOT-2	you really wanna?
18:16:03.0 CAM-1	you want to try 'em into Midway?
18:16:04.9 CAM-2	I know they work better than we do at least that's what my buddy told me. he said they kick ass. like you'll be when you land in MAX you it is gonna get maximum braking out of the aircraft.
18:16:14.8 CAM-1	yeah.
18:16:17.5 CAM-1	I you know I just I don't know I don't know what to do. like if it starts to and it starts.
18:16:18.8 CAM-2	[sound similar to laughter].
18:16:25.4 CAM-2	yeah.
18:16:25.9 CAM-1	takin' us off course ya know?
18:16:27.7 CAM-2	yeah.
18:16:28.1 CAM-1	then I gotta come in ah brake it.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:16:31.1 CAM-1	I guess.
18:16:31.9 CAM-2	I*.
18:16:32.1 CAM-1	let me think about maybe we can do it.
18:16:34.1 CAM-2	eh I would be cool with whatever your decision is.
18:16:36.7 CAM-1	okay.
18:16:37.9 CAM-2	fine.
18:16:39.4 CAM-1	it's the old guys fear of.
18:16:41.3 CAM-2	[sound similar to laughter].
18:16:42.1 CAM-1	[sound similar to laughter].
18:16:42.5 CAM-2	they say it's better it's better than we could ever be.
18:16:45.4 CAM-1	yeah okay.
18:16:46.1 CAM-2	but that's cool I will you know what I'll be happy with whatever you decide.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:16:49.4 HOT-1	well keep talkin' I I I guess we could do it let's let's see what the conditions are up there. we'll do it.
18:16:58.7 HOT-1	if you're comfortable with that I am too.
18:17:00.8 CAM-2	I will be happy with whatever you decide.
18:17:08.3 CAM-1	if it goes to ah autobrake.
18:17:10.8 CAM	[sound similar to ACARS chime].
18:17:11.3 CAM-1	eh uh oh.
18:17:14.9 CAM-2	then you just jump on it as hard as you can.
18:17:17.0 HOT-1	yup.
18:17:19.5 CAM-2	if I'm not already there for ya. [sound similar to laughter]
18:17:21.2 HOT-1	yeah.
18:17:23.3 HOT-2	hey it's bumpy.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:17:24.5 CAM-2	Pennsylvania New Jersey Ohio Indiana Wisconsin my # Detroit. eastern Kentucky western Kentucky West Virginia Virginia.
18:17:34.3 HOT-2	code three one eight oh to three two oh.
18:17:37.8 HOT-1	'kay.
18:17:38.2 HOT-2	mostly below thirty.
18:17:45.7 HOT-2	well the weather -- [in a sing song voice]
18:17:46.6 HOT-1	the other part of my briefing is.
18:17:49.0 HOT-2	*.
18:17:49.4 HOT-1	on this day If we're all together here. if. sometimes when we do a descent checklist you know we're so far out that ya switch things around a little bit.
18:17:57.6 HOT-2	oh.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:17:58.0 HOT-1	so if I'm ever in a position down there and I'll do the same for you. on approach or whathaveyou and you would normally have the localizer course in or the frequency in and and I don't have it in there say sumpin'.
18:18:07.4 HOT-2	okay.
18:18:11.1 HOT-2	and ah you can't hurt my feelings you can try if I'm not doin' what - .
18:18:12.9 HOT-1	[sound similar to laughter].
18:18:23.2 HOT-1	two ten.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:18:14.2 CTR	Southwest twelve forty eight turn right heading three five zero for sequence maintain, two hundred and fifty knots. well what are you doing right now actually for knots?
18:18:23.8 RDO-2	we're slowed to two ten we're heading right to three fifty for Southwest twelve forty eight.
18:18:27.6 CTR	and Southwest twelve forty eight you can keep your current airspeed fly heading three five zero they're out of the hold they gotta sequence you now.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:18:38.4 CAM-1	two fifty heading.
18:18:39.3 CAM-2	if I'm not doin' what you asked me to do it's not because I'm disobeying you it's 'cause I'm stupid and so sometimes this this is the most effective thing that ya ha ha.
18:18:49.7 CAM-1	well sometimes I might not hear ya.
18:18:51.6 CAM-2	[sound similar to laughter].
18:18:54.5 HOT-1	ya can't hurt my feelings by yelling.
18:18:56.1 HOT-2	you can feel free to smash me right over the head with that thing.
18:18:58.5 HOT-1	yeah.
18:19:02.0 CAM-1	now we're gonna pick up some speed.
18:19:03.7 CAM-2	yeah.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:18:33.0 RDO-2	okay great three fifty heading and two ten Southwest twelve forty eight.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:19:05.9 CAM-2	I told you two ten not three ten.
18:19:08.0 CAM-1	uhuh.
18:19:08.4 CAM-2	[sound similar to laughter].
18:19:10.8 CAM-1	alright three five zero come on baby. what's the story here?
18:19:22.1 HOT-1	alright two five zero there we go.
18:19:23.6 CAM-1	go ahead and * * * *.
18:19:25.0 CAM-2	yeah.
18:19:27.7 HOT-1	five zero.
18:19:28.4 HOT-2	(three) fifty (now).
18:19:29.3 CAM-1	down to a two five.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:19:14.3 CTR	Northwest twelve forty correction Southwest twelve forty eight descend and maintain flight level * five zero.
18:19:19.7 RDO-2	* level two five zero Southwest twelve forty eight.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:19:30.4 CAM-2	alright.
18:19:31.3 CAM-2	I'm gonna sit 'em down. * *.
18:19:32.9 CAM-1	okay yeah yeah. sounds good.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

TIME (CST)
SOURCE

CONTENT

18:19:36.4 PA-2 * * * * startin' our very gradual descent into Chicago Midway airport [sound similar to single chime] ah seatbelt signs comin' back on so folks please if you're up and about head on back to your seats * * * for the duration. there's only a hundred and twenty three miles between us and the airport. ah that's the good news * * * get our sequence into arrival * * * * into Chicago * * * * ah out of the east a ten miles an hour ah low visibility due to on and off light snow and it's very chilly it's only twenty five degrees. folks again ah * * * * this evenin' ah we sure do appreciate all your patience and understanding and all and we welcome you to Chicago folks if you're continuing ah da ah Las Vegas and then ah finally to Salt Lake City with us we're gonna be on the ground in Chicago hopefully for only about twenty five minutes and we're gonna get you (safely on your way) yeah folks thanks so much for your patience and understanding tonight (and we hope) everybody has a wonderful night on your way home buckle up drive safely and next time you're gonna go flying we'd sure love for you to come back and see us again here at Southwest thanks so much folks good night.

AIR-GROUND COMMUNICATION

TIME (CST)
SOURCE

CONTENT

18:20:23.8 CTR Southwest twelve forty eight turn left heading three one zero.
18:20:27.6 RDO-1 three one zero Southwest ah twelve forty (eight).

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:20:48.7 HOT-1	down ta two four zero now.
18:20:50.3 HOT-2	twenty four I am back.
18:20:52.5 HOT-?	'kay.
18:21:04.2 CAM-2	try try to grab a gate.
18:21:06.4 CAM-1	okay.
18:21:06.6 CAM-2	I'll be right back.
18:21:07.8 CAM-1	we won't have one.
18:21:08.9 CAM-2	yeah.
18:21:09.6 CAM-1	[sound similar to laughter].

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:21:09.6 RDO-2	hey Midway Twelve forty eight.
18:21:13.8 OPS	twelve forty eight go ahead.
18:21:16.2 RDO-2	we're not on time I guess you probably knew that by now though we're gonna be there around fifty with thirteen eight.

INTRA-COCKPIT COMMUNICATION

TIME (CST)
SOURCE

CONTENT

18:21:46.7
CAM-1 she doesn't know, she doesn't know.

18:21:52.2
HOT-2 thanks.

AIR-GROUND COMMUNICATION

TIME (CST)
SOURCE

CONTENT

18:21:23.8
OPS okay your gate is Alpha eleven A eleven with gate services.

18:21:28.2
RDO-2 A eleven with the service ah you think it's gonna be open?

18:21:31.7
OPS ah yeah I mean the visibility is better ah the last one we had ah the braking action was was fair snow covered taxiways that's the last report I have.

18:21:40.7
RDO-2 it was fair you said?

18:21:42.1
OPS ah that's the last flight that came into Chicago that's how he reported it.

18:21:46.3
OPS okay thanks eh and I I meant d-do you know if eleven gonna be open?

18:21:50.7
OPS ah yes it will.

18:21:52.0
RDO-2 great.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:21:54.4 CAM-2	yeah [sound of chuckle] we oughta get a little better report than hers.
18:21:58.0 CAM-1	well our.
18:22:00.5 HOT-2	she made it sound like there hasn't been anybody that landed for a while.
18:22:02.8 HOT-1	yeah our twenty one year old at at a a operations said it was poi fair.
18:22:07.9 CAM-2	[sound similar to laughter].
18:22:08.5 CAM	[sound similar to altitude warning horn].
18:22:09.0 CAM-2	whaddy mean we did sumpin' wrong?
18:22:10.1 CAM-1	twenty four nine twenty four.
18:22:14.8 CAM-2	twenty four nine is twenty four.
18:22:23.7 CAM-1	Alpha eleven.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:21:53.1 RDO-2	thank you.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:22:25.2 CAM-2	yeah.
18:22:25.5 CAM-1	that's right way the # over there.
18:22:26.2 CAM-2	* *.
18:22:27.1 CAM-2	horrible Potbellies * *.
18:22:29.6 CAM-2	ah it's not so bad.
18:22:30.4 CAM-1	it's not so bad.
18:22:32.0 CAM-1	somebody had the number.
18:22:34.7 CAM-1	let me (ask 'em) * there.
18:22:40.1 CAM-1	what are you going to have?
18:22:41.7 CAM-2	ahhh.
18:22:44.9 INT-1	hello.
18:22:45.9 INT-1	hey you guys got the number to Potbellies?
18:22:48.2 FA	no.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:22:49.7 INT-1	why not?
18:22:50.6 FA	I don't know.
18:22:51.6 FA	do you have the number to Potbellies?
18:22:53.5 FA	(bummer) (good job) * * * (I don't know how) * * (I can't believe it). [sound similar to laughter]
18:23:02.8 INT-1	ya don't have it.
18:23:03.8 FA	nooo.
18:23:04.7 INT-1	okay well we'll just have ta we're goin' to A eleven.
18:23:12.0 CAM-1	direct GOSH.N.
18:23:12.8 CAM-2	direct GOSH.N two ten she said still * *.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:22:53.9 CTR	Southwest twelve forty eight cleared direct GOSH.N * * * * at two hundred and ten knots.
18:22:59.5 RDO-2	kay two hundred ten knots direct GOSH.N * * Southwest *.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:23:16.3 INT-1	oh well all right we'll see ya later. bye.
18:23:17.3 FA	*.
18:23:28.5 CAM-1	two ten.
18:23:55.3 CAM-1	(I don't know).
18:24:00.2 CAM-2	okay.
18:24:02.6 CAM-1	two fifty or less.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:23:33.6 RDO-2	* * Southwest twelve forty eight.
18:23:40.4 RDO-2	...two hundred and ten knots.
18:23:41.9 CTR	* twelve forty eight * confirmed good evening descend and maintain one six thousand and * altimeter * three zero one three.
18:23:49.3 RDO-2	Southwest twelve forty eight do you still * * *.
18:23:52.1 CTR	ah now ah what do you wanna do? * * *.
18:23:58.7 CTR	...how 'bout two fifty or less (from now)?

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:24:06.9 CAM-1	okay sir we're goin' down to one six thousand.
18:24:09.8 CAM-2	(sixteen).
18:24:13.8 CAM-1	* slowly picked up speed.
18:24:15.4 CAM-2	ohhhh.
18:24:19.4 HOT-2	nice night up here.
18:24:41.9 HOT	[sound similar to ACARS chime].
18:24:43.6 HOT-2	Tango.
18:24:43.9 HOT-1	Tango another new one huh?
18:24:45.8 HOT-2	quarter snow freezin' fog hundred feet.
18:24:48.2 HOT-1	oh well.
18:24:51.8 HOT-1	# man.
18:24:53.1 HOT-2	three thousand feet what's * * * .
18:24:57.1 HOT-1	[sound similar to laughter].

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:24:58.4 HOT-2	snow (inch) three ninths?
18:25:01.0 HOT-1	I don't know.
18:25:03.3 HOT-1	snow NCR?
18:25:04.6 HOT-2	[sound similar to laughter].
18:25:07.9 HOT-1	what's that mean?
18:25:08.7 HOT-2	[sound similar to laughter] # if I know.
18:25:10.3 HOT-1	snow increasing.
18:25:12.2 HOT-2	snow increasing.
18:25:16.1 HOT-1	three to nine four to nine.
18:25:18.8 HOT-2	[sound similar to laughter].
18:25:28.7 CAM-1	one hundred at nine?
18:25:30.7 CAM-2	# I don't know.
18:25:31.4 CAM-1	alright anti-ice comin' on.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:25:40.1 CAM-2	* three thousand RVR * * *.
18:25:42.5 CAM-1	that what it says?
18:25:43.6 CAM-2	three thousand feet ah yeah.
18:25:44.9 CAM-1	oh three thousand feet.
18:25:46.7 CAM-2	snow increasing.
18:25:56.7 HOT-2	uh. hey now.
18:26:07.5 HOT-2	AWSUM at ten.
18:26:08.5 CAM-1	'kay. got it AWSUM at ten.
18:26:13.3 HOT-1	well lets see. we aren't there yet. at eighteen but.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:25:58.6 CTR	Southwest twelve forty eight you can resume normal airspeed and cross AWSUM at and maintain one zero (ten) thousand.
18:26:04.2 RDO-2	Normal speed AWSUM at ten Southwest twelve forty eight.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:26:33.9 CAM-1	nice.
18:26:46.4 CAM-2	* * * * * (it) up here *.
18:26:48.4 CAM-1	yeah.
18:26:49.9 CAM-1	ahhh (pickin') some out there. don't ya get the lights on there for a second.
18:26:54.4 HOT-2	you got it.
18:26:56.2 CAM-2	little bit.
18:26:56.9 CAM-1	eh let's put it on.
18:26:58.0 CAM-2	alright.
18:26:58.8 HOT-1	there we go.
18:27:11.7 HOT-2	one hundred and nine is a eight knot tailwind so if anybody says poor. we can't do it.
18:27:18.1 HOT-1	yeah.
18:27:22.9 HOT-1	it's comin' off it's comin' on.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:27:27.5 HOT-1	haven't gotten any on the outside on the very eh outer edge do we?
18:27:31.4 HOT-2	ah vee looks like ah on top --
18:27:33.9 HOT-1	I mean we have it there but we don't have any anti-ice on there.
18:27:36.0 HOT-2	(anti-) no no.
18:27:38.8 HOT-2	not there the tail. bummer.
18:27:40.3 HOT-1	eh.

18:27:50.8 CAM-2	uh oh.
18:28:09.1 CAM-1	hmm.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:27:45.8 CTR	* three Kilo Fox * * * * forty eight they are plowing the runway at Midway now so the next sector is in the hold you can expect to hold on the next frequency reaching one zero thousand slow to two hundred and fifty knots.
18:28:09.2 CTR	Southwest twelve forty eight reaching one zero thousand maintain a speed of two five zero.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:28:10.3 CAM-2	* *.
18:28:18.1 HOT-1	two fifty at ten.
18:28:21.6 HOT-1	'kay.
18:28:23.4 HOT-2	what do we say thirty thirty oh nine when we get there.
18:28:24.0 HOT-1	we can do that.
18:28:27.5 HOT-1	alright lets do it thirty oh nine
18:28:35.2 HOT-1	wow.
18:28:42.3 CAM-1	well let's see what kinda lights we got here and a descent check please.
18:28:46.8 CAM-2	altimeters and bugs.
18:28:48.8 HOT-1	well eight seventeen and ah altimeters and bugs set and crosschecked.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:28:13.9 RDO-2	'kay two fifty knots at ten thousand Southwest twelve forty eight.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:28:54.6 HOT-2	Vref and target.
18:28:56.4 HOT-1	whadda we got here?
18:28:58.1 HOT-2	twenty.
18:28:59.3 HOT-1	we have --
18:29:08.2 CAM-1	hurryin' down. alright let me see ah one twenty five one thirty?
18:29:13.0 CAM-2	yeah.
18:29:23.6 CAM-1	alright.
18:29:25.7 HOT-1	twenty five thirty set.
18:29:27.1 HOT-2	autobrake. [sound similar to laughter]

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:29:00.0 CTR	Southwest twelve forty eight expedite your descent to one zero ten thousand please.
18:29:04.0 RDO-2	'kay we'll hurry down to ten Southwest twelve forty eight.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:29:29.3 HOT-1	alright four ah three four?
18:29:31.3 HOT-2	four.
18:29:31.9 HOT-1	four.
18:29:32.4 HOT-2	the big boy.
18:29:33.3 HOT-1	four for now.
18:29:34.6 HOT-1	set #.
18:29:36.5 HOT-2	[sound similar to chuckle] hey to get there you have to pull it out.
18:29:39.0 HOT-1	alright.
18:29:40.3 HOT-1	that's what she said.
18:29:41.2 HOT-2	[sound similar to laughter] *.
18:29:43.8 HOT-1	are auto.
18:29:45.7 HOT-2	start switches.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:29:46.5 CAM-1	are continuous.
18:29:48.2 CAM-2	and a recall.
18:29:50.3 HOT-1	clear.
18:29:51.3 HOT-2	Alpha eleven.
18:29:53.0 CAM-1	alright.
18:29:55.6 HOT-2	descent check is complete.
18:30:02.1 HOT-1	oh no.
18:30:02.1 HOT-2	* * Elmo.
18:30:03.4 HOT-1	uh oh.
18:30:08.3 HOT-1	hm hm I don't like Elmo.
18:30:10.9 CAM-2	(usually) what follows Elmo. [sound similar to chuckle].
18:30:10.9 CAM-1	Elmo's good.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:30:14.6 CAM-2	is a da da da da I got a four year old I love Elmo.
18:30:19.8 CAM-1	yeah Elmo's good. that respect.
18:30:22.5 HOT-2	how many kids did you have.
18:30:23.7 CAM-1	I have three ah --.
18:30:27.0 HOT-1	two five zero.
18:30:29.6 HOT-1	I have uhm.
18:30:33.2 CAM-1	yeah three children and two grandchildren.
18:30:37.5 HOT-2	two grandkids any more grandkids on the horizon?
18:30:39.9 HOT-1	nah not yet.
18:30:41.0 HOT-2	yeah.
18:30:41.8 CAM-1	although my oldest son got just got married so.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:30:25.6 CTR	-- two five zero.
18:30:27.2 RDO-2	heading two five zero Southwest twelve forty eight.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:30:44.9 HOT-2	ah that's cool.
18:30:45.4 HOT-1	and ah he (he) been married a little over a year so they're thinkin' about it. (they) weren't thinkin' about it before but they are now.
18:30:49.6 HOT-2	I.
18:30:51.0 HOT-2	yeah.
18:30:52.1 CAM-2	I never told the girls to sit either.
18:30:54.6 CAM-1	well * I know I haven't told 'em to clean up yet.
18:30:57.8 CAM-2	yeah. * too.
18:31:01.7 HOT-?	*.
18:31:03.4 PA-1	ah flight attendants take your seat if you haven't already just keep your seats 'till we let ya up thanks.
18:31:19.8 HOT-1	well we're hurryin' down.
18:31:21.0 CAM-2	yeah.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:31:23.0 CAM-1	on the heading now.
18:31:29.4 HOT-1	(looks) good out there.
18:31:33.3 HOT-1	well let's see let's try it we'll turn it off turn the wing off for a minute.
18:31:37.6 HOT-2	looks pretty clean to me.
18:31:39.0 HOT-1	alright and then we'll look back a little bit later.
18:31:41.9 HOT-2	(go).
18:31:47.9 HOT-1	I don't want the people back there seein' it.
18:31:49.8 HOT-2	ah don't blame ya.
18:32:06.5 HOT-1	(that's) a little better.
18:32:07.8 HOT-2	yeah not too bad.
18:32:15.8 HOT-1	little bit of stuff out there uh?
18:32:17.5 HOT-2	yeah.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:32:28.2 HOT-1	let's see.
18:32:31.1 HOT-1	eh its stayin' off.
18:32:32.1 HOT-2	yeah much better than before.
18:32:35.6 HOT-2	eleven for ten.
18:32:37.4 HOT-1	eleven for ten.
18:32:40.7 HOT-1	huh huh huh.
18:32:43.1 HOT-2	zero three two.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:32:59.0 CTR	Southwest twelve forty eight maintain a speed of two five zero knots and contact Chicago center one three two point niner five goodnight.
18:33:05.1 RDO-2	two fifty and thirty two ninety five you have a good night too Southwest twelve forty eight.
18:33:11.2 RDO-2	hello Chicago Southwest twelve forty eight just levelin' a * * fifty * * * *.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:33:38.3 CAM-1	spell it.
18:33:58.2 CAM-2	(LUCIT).
18:33:59.8 CAM-1	LUCIT huh? one zero miles.
18:34:02.3 CAM-2	L-U-C.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:33:17.1 CTR	* Midway altimeter (three) zero zero * and I have holding instructions advise when you're able to copy.
18:33:22.7 RDO-2	thirty oh seven go ahead.
18:33:24.6 CTR	Southwest twelve forty eight you're cleared to the LUCIT intersection via direct hold southeast as published expect further clearance zero zero five five and now maintain one zero thousand.
18:33:37.8 RDO-2	okay LUCIT hold southeast as published zero zero five five can you spell the fix for us?
18:33:43.1 CTR	and ah Southwest twelve forty eight LUCIT intersection is Lima Uniform Charlie India Tango ah and ah one zero mile DME (right) there * *.
18:33:52.3 RDO-2	* * * * *.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:34:03.3 CAM-1	how ya spell it L?
18:34:05.3 CAM-2	L-U-C-I-T.
18:34:09.6 CAM-1	C-I-T.
18:34:14.0 CAM-2	* (to go).
18:34:14.2 CAM-1	forty three miles away.
18:34:15.5 CAM-2	(we're) okay.
18:34:16.9 HOT-2	so we can go direct to there.
18:34:18.3 HOT-1	alright and then we can hold there if you would set that I'm gonna put us LNAV into LUCIT.
18:34:41.6 CAM-2	so here's the * * Boiler Two.
18:35:08.7 CAM-1	alright can you (hit) that?
18:35:10.4 CAM-2	yeah.
18:35:11.4 CAM-1	I got LUCIT down here.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:35:13.9 CAM-2	hold. LUCIT
18:35:15.5 CAM-1	there ya are grab it.
18:35:16.9 CAM-2	southeast one fifty six outbound.
18:35:22.1 CAM-1	'kay.
18:35:22.6 CAM-2	right turns. ten DME legs.
18:35:23.8 CAM-1	* * okay.
18:35:28.3 CAM-2	zero zero five five.
18:35:42.2 HOT-1	'kay there it is then.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:35:43.4 RDO-2	(Indy) Center Southwest twelve forty eight.
18:35:47.6 CTR	ah Southwest twelve forty eight go ahead --
18:35:49.2 RDO-2	* * * as well LUCIT you want us to hold as published on the Boiler Two arrival?
18:35:54.2 CTR	ah yes sir that is correct * * *...

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:35:59.6 CAM-1	yup.
18:36:00.8 CAM-2	* we weren't on that arrival I mean you they kinda give ya.
18:36:03.9 CAM-1	right turn is that the arrival LUCIT there?
18:36:06.6 CAM-2	yeah yeah.
18:36:07.3 CAM-1	okay.
18:36:07.8 HOT-2	I I'll back it up too for ya inbound the Chicago Heights fourteen two. and it is three thirty six inbound.
18:36:14.9 HOT-1	uhmm best speed is two oh seven but he gave us he gave two fifty didn't he?
18:36:18.8 HOT-2	yeah I'll ask him too.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:35:56.8 RDO-2	... * * * west twelve forty eight.
18:36:20.3 RDO-2	hey center Southwest twelve forty eight.
18:36:22.1 CTR	Southwest twelve forty eight go ahead.

INTRA-COCKPIT COMMUNICATION

TIME (CST)
SOURCE

CONTENT

18:36:56.2
CAM-1 okay good.
18:36:56.9
CAM-2 ** (thank you much).
18:36:59.0
CAM-1 alright very good.

AIR-GROUND COMMUNICATION

TIME (CST)
SOURCE

CONTENT

18:36:23.6
RDO-2 can we slow down as well?
18:36:25.0
CTR ah yes sir airspeed at your discretion sir.
18:36:27.5
RDO-2 okay thanks a lot.
18:36:28.9
RDO-2 you think the fifty five will be hard time?

18:36:32.6
CTR ah right now my understanding is ah they're just clearin'
the runway and ah I should get an update here shortly it
looks like I've got ah three jets from the west ah just
starting to go in at this time.

18:36:45.4
RDO-2 okay thanks a lot and after we exit the hold do you want
us to set the box up for the Boiler Two?

18:36:52.1
CTR ah yes sir that would be correct ahm ah it'll be right
around * * (Midway).

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:37:00.3 CAM-2	that's cool. I'll save that one * ah *ah little holding action.
18:37:02.0 CAM-1	alright.
18:37:11.1 HOT-2	L-U.
18:37:14.0 CAM-1	alright.
18:37:15.2 HOT-1	(can you) monitor the -- I'm gonna I'll talk to the folks real quick.
18:37:21.2 HOT-2	okay *.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

TIME (CST)
SOURCE

CONTENT

18:37:24.0 PA-1 well folks you've probably felt that ah we've slowed here ahm we're gonna have to hold here for about ah twenty minutes it looks like ah 'till they clear the runway off they've been off and on doing that ah as we've been flying into Chicago to get the braking action ah such that we can land. so ah it's still snowing so ah the plows are workin' on the runway we're gonna hold and let 'em do their job and then ah and then ah once they ah get * * * * then we'll be heading into Chicago so they gave us a fifty five after the hour expected approach clearance time and ah that's when we expect to ah leave the holding pattern and head to (Chicago) * * * * * .

18:38:12.3 FA ladies and gentlemen we are ah (about to make our) final approach into Chicago * * * * make sure your seatbelts are fastened * * lean forward and press the silver button * * * * ...

18:38:14.1 HOT-2 fer ah alternate forty seven. seventy seven. like eight thousand would be as low as you we could go that's probably what he's figuring out. maybe eight five hundred be extra *.

18:38:28.9 HOT-1 * ETA zero zero four three eh? alright then we'll have about ah twelve minutes in the fix eleven twelve. ten thousand feet.

AIR-GROUND COMMUNICATION

TIME (CST)
SOURCE

CONTENT

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:38:42.0 HOT-2	we got a lot a extra gas so that's not.
18:38:43.6 HOT-1	got enough gas ah holding (avail) at one plus fifteen *.
18:38:46.8 CAM-1	before we go to.
18:38:56.6 CAM-2	(where we goin') to Kansas City?
18:38:59.5 CAM-1	(let's see our worst run) Kansas City.
18:39:02.0 CAM-2	we need ah * * * *.
18:39:08.6 CAM-2	just (checking) *.
18:39:17.6 CAM-1	* (thrown it away).
18:39:19.3 CAM-2	huh.
18:39:48.1 HOT-2	yeah.
18:40:15.9 CAM-1	well let's take a peek here.
18:40:17.3 CAM-2	yeah I (knew) while you were talkin'.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:40:18.4 CAM-1	eh it's still good.
18:40:19.7 CAM-2	yeah.
18:40:32.9 CAM-1	got us holdin' all over the place.
18:40:34.5 CAM-2	yeah.
18:40:42.3 HOT-1	alright what so us comin' in this way whaddya think it's gonna do?
18:40:46.7 CAM-1	left turn isn't it?
18:40:47.0 CAM-2	well let's see.
18:40:49.5 CAM-1	parallel?
18:40:50.1 CAM-2	outbound. (it is) one fifty six so it should be. right turn. parallel.
18:41:01.7 HOT-1	so right turn you think? then the seventy?
18:41:03.8 HOT-2	yeah should turn.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:41:10.7 HOT-1	alright zero one one five now. #. 'kay.
18:41:17.9 CAM-2	I think it's gonna go.
18:41:20.1 CAM-1	right?
18:41:20.7 HOT-2	right turn so right now left should be a parallel it's gonna turn left there.
18:41:22.2 HOT-1	whadda we got here oh he's telling' us what we're gonna do.
18:41:27.0 CAM-1	yeah that's gonna be my guess.
18:41:27.1 CAM-2	(should) should turn left to one fifty six.
18:41:30.2 CAM-1	there ya go look at it.
18:41:31.5 CAM-2	do another lap.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:41:04.6 CTR	Southwest twelve forty eight expect further clearance zero one one five.
18:41:08.5 RDO-2	zero one one five thank you.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:41:32.3 CAM-1	ha ha ha.
18:41:33.8 CAM-1	I love it.
18:41:34.6 CAM-2	that's cool.
18:41:38.1 CAM-2	the map this is this is such a great deal. man
18:41:40.1 CAM-1	yeah aw yeah.
18:41:44.4 HOT-2	such a great great great aw hey (let's see) ATIS Golf quarter mile and snow Indy is not a good idea.
18:41:45.1 HOT-1	I'm slowin' her down a little here.
18:41:51.7 HOT-1	naw Indy's not good.
18:41:53.4 CAM-2	so MCI? MCI was better right?
18:41:56.7 CAM-1	STL?
18:41:58.4 CAM-2	MCI?
18:41:59.0 CAM-1	yes MCI was great but that's a ways away.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:42:01.7 CAM-2	how much further though?
18:42:17.1 HOT-1	there he is.
18:42:17.6 HOT-2	(they're at nine).
18:42:22.0 CAM-2	(they're not).
18:42:33.8 HOT-2	nine miles at St Louis.
18:42:36.3 HOT-1	ah that's good.
18:42:37.2 HOT-2	yeah.
18:42:38.6 HOT-2	thirty right.
18:42:40.5 HOT-1	yeah we can do a St Louis that'd be best.
18:42:40.7 HOT-2	let's do this S-T-L.
18:42:44.9 HOT-1	two hundred five miles.
18:42:45.3 HOT-2	two oh five.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:42:47.0 HOT-2	well let's do this wa how many we don't really have two much time forty three.
18:42:49.9 HOT-1	ah let's just enter here.
18:42:51.1 HOT-2	I was gonna put in the # again but. two oh five so really. really this is even extra cautious 'cause I'm sure the alternate gas is all the way to Kansas City.
18:43:02.2 HOT	[transients and sounds similar to telephone keypad touchtone].
18:43:03.8 HOT-?	*.
18:43:04.7 HOT-2	so if we did like eight or eighty five hundred we'd still have plenty ah gas to go.
18:43:09.3 HOT-1	yeah what does it say we're gonna go over there at?
18:43:12.1 HOT-2	forty seven and thirty two, seventy nine. plus whatever your fudge factor is.
18:43:21.3 CAM-1	'kay.
18:43:22.8 CAM-2	forty seven and then ah reserve.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:43:24.5 CAM-1	oh yeah yeah.
18:43:31.4 CAM-2	seems like they're startin' to get 'em goin'.
18:43:33.2 HOT-1	yeah.
18:43:38.5 HOT-2	you're gonna make some extra money tonight.
18:43:40.6 HOT-1	yeah.
18:44:03.2 HOT-1	here we go.
18:44:12.8 HOT-2	my pleasure.
18:44:35.0 HOT-2	it shoulda showed right turn.
18:45:13.6 CAM-2	diversion plan uplink. wow.
18:45:18.5 CAM-2	eight point * point five so that's pretty about what we figured.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:44:04.1 RDO-2	Southwest twelve forty eight's enterin' the hold at LUCIT ten thousand.
18:44:08.8 CTR	Southwest twelve forty eight ah roger thanks.

INTRA-COCKPIT COMMUNICATION

TIME (CST)
SOURCE CONTENT

18:45:23.0
CAM-1 that's to go where St. Louis?
18:45:24.6
CAM-2 yea that's pretty cool.
18:45:25.7
HOT-1 alright.
18:45:26.5
HOT-1 where did you get that?
18:45:27.7
CAM-2 it just said it on the bottom its.
18:45:29.1
HOT-1 huh.
18:45:30.7
CAM-2 'kay.
18:45:31.1
HOT-2 so I guess we accept.
18:45:36.0
HOT-1 hmm.
18:45:36.8
CAM-2 Detroit must be # too.
18:45:44.3
HOT-2 that'd be a lot closer too.
18:45:46.6
HOT-1 hmm oh yea some weather out here.
18:45:52.3
HOT-2 how we doing.

AIR-GROUND COMMUNICATION

TIME (CST)
SOURCE CONTENT

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:45:52.4 HOT-1	the weather... thank you. the weather out here is rosey.
18:45:55.0 HOT-2	ohp sorry.
18:45:55.9 HOT-1	still good uh?
18:45:56.7 HOT-2	yea looks real good.
18:45:59.3 HOT-2	oh the weather out -- here's Detroit.
18:46:03.9 HOT-1	[sound of whistling].
18:46:03.9 HOT-2	a one and a half.
18:46:08.2 HOT-1	light snow there.
18:46:09.7 HOT-2	yeah (fourteen it may not send it).
18:46:10.6 HOT-1	did they send that to us too?
18:46:12.0 HOT-2	no I just typed that in.
18:46:13.1 HOT-1	okay

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

TIME (CST)
SOURCE

CONTENT

18:46:15.3
HOT-2 light to moderate rime.

18:46:41.8
HOT-1 very good.

18:46:42.6
HOT-2 we're not doin' a parallel the mighty box is.

18:46:45.1
HOT-1 yeah.

18:46:47.7
HOT-2 I always check and I hate when they give you fixes that aren't on your route because then you gotta go diggin' through the charts to see how they're depicted. It would be easier if they just gave you the whole instruction.

18:46:52.2
HOT-1 yeah. yeah.

AIR-GROUND COMMUNICATION

TIME (CST)
SOURCE

CONTENT

18:46:16.3
CTR and Southwest twelve forty eight ah are you flyin' inbound ahm on the Chicago Heights one fifty (*) radial ah right hand turns or do ya are you set up for somethin' else.

18:46:27.1
RDO-2 uh that that's what we're set up for we're doin' a parallel entry so we're gonna make a left turn back to the fix in about four more miles.

18:46:35.1
CTR Southwest twelve forty eight roger thanks.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:47:01.9 HOT-1	here we go.
18:48:01.6 HOT-1	this is awesome.
18:48:02.7 HOT-2	[sound similar to laughter].
18:48:05.7 HOT-2	we're in a three hundred it wouldn't be so awesome.
18:48:07.5 HOT-1	no.
18:48:23.6 HOT-1	seven thousand.
18:48:24.2 HOT-2	seven.
18:48:26.5 HOT-2	glad we're not in a two hundred.
18:48:28.4 HOT-1	oh man. done enough of that.
18:48:31.5 HOT-2	yea I bet you have.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:48:16.5 CTR	Southwest twelve forty eight descend and maintain seven thousand.
18:48:20.5 RDO-2	seven thousand Southwest twelve forty eight.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:48:43.0 HOT-1	let's see. we got ah okay AWSUM HALIE we probably can - get rid of those but we got -
18:48:50.4 HOT-2	yeah (he said he) ah.
18:48:52.2 HOT-1	bring bring HILLS up or something.
18:48:53.6 HOT-2	I was gonna put in COKED an HEIGHTS but. he said he'll probably take us to like a vector for the thirty one center or somethin'.
18:48:59.4 HOT-1	yea.
18:49:02.3 HOT-2	HEIGHTS we could do 'cause that's really what's what's next. will it take you out of the hold though?
18:49:09.0 HOT-1	hmmm.
18:49:09.9 HOT-2	if we put in HEIGHTS now like in the discontinuity it'll take you out of the hold next time won't it?
18:49:14.8 HOT-1	I'm not sure.
18:49:16.3 HOT-2	I I think it does.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

TIME (CST)
SOURCE CONTENT

18:49:22.4
HOT-2 I think it would draw a line.

18:49:26.6
HOT-2 ah no I guess it didn't. yea it did.

18:49:35.6
HOT-2 yea it draws the line so.

18:49:37.1
HOT-1 yeah its over there.

18:49:38.2
CAM-2 that's right. yeah.

18:49:44.8
HOT-1 alright.

18:49:45.7
CAM-2 that's good.

18:49:48.4
CAM-2 we're next they're at six thousand.

18:50:12.9
HOT-2 ah we might get one more.

18:50:20.7
HOT-1 alright. eh.

AIR-GROUND COMMUNICATION

TIME (CST)
SOURCE CONTENT

18:49:37.2
CTR Southwest three twenty one ah fly heading of a two seven five intercept three one center localizer cleared to Midway airport via radar vectors and maintain ah six thousand.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:50:25.8 HOT-2	what ya do before? where did you fly before?
18:50:29.0 HOT-1	what'd I fly before?
18:50:30.0 HOT-2	yeah.
18:50:30.4 HOT-1	I was Air Force guy.
18:50:31.6 HOT-2	how how long, did you retire?
18:50:32.9 HOT-1	eight for seven.
18:50:33.8 HOT-1	I was ah I been ah here eleven years so.
18:50:36.7 HOT-2	eleven years.
18:50:37.4 HOT-1	yeah.
18:50:38.8 CAM	[sound similar to altitude warning horn].
18:50:38.9 HOT-1	on my eleventh year.
18:50:42.0 CAM-2	how long did you stay in the Air Force for?
18:50:43.6 HOT-1	twenty six.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:50:44.4 CAM-2	twenty six years how old are you?
18:50:46.8 HOT-1	I'm fifty nine.
18:50:47.9 HOT-2	are you serious?
18:50:48.5 HOT-1	yeah.
18:50:49.2 HOT-2	jeeze you'd never freakin' know it you gonna make it its gonna change? (whaddy).
18:50:52.8 HOT-1	I don't know if the if they cha- I a November I've got ah till November eight.
18:50:58.5 CAM-2	I hope it does.
18:51:00.2 HOT-1	yeah I hope so.
18:51:00.9 HOT-2	some of my favorite people had to go and it was too bad \$ he was * awesome guy to fly with outta Chicago.
18:51:07.6 HOT-2	I flew ah with \$ his second to last night.
18:51:11.9 HOT-1	is that right?

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:51:12.6 CAM-2	# there's some good guys and it just # to see 'em go.
18:51:14.9 HOT-1	you ever fly with ah \$?
18:51:22.8 CAM-2	fifty nine man. you'd never know it.
18:51:25.7 HOT-1	ha tell me about it.
18:51:27.6 CAM-2	my #.
18:51:31.3 CAM-1	seven thousand feet here we are.
18:51:33.4 CAM-2	seven.
18:51:52.1 HOT-2	ah I'm gonna give em a quick update since we told 'em fifty.
18:51:54.2 HOT-1	'kay.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:51:56.4 PA	ah folks just to give you a fast update we are estimating one more turn in the hold they're accepting aircraft back in ah Chicago Midway right now I think we're about three or four in the stack so hopefully we'll be heading that way as soon as we are we'll get back to ya but in the meantime folks thanks so much for your patience and hopefully we'll have you headin' towards the airport here in just a couple a minutes thanks.
18:52:18.6 HOT-1	well eighteen thirty's goin'.
18:52:21.9 HOT-2	yea and there is one more behind them and eh I thought they're at six the guys in front of us but.
18:52:26.4 HOT-1	yeah.
18:52:33.0 HOT-1	the other two seven zero.
18:52:34.7 HOT-2	yeah they're heading back up.
18:52:46.1 HOT-2	it's good that they're plowin'.
18:52:58.9 HOT-1	Uniform.
18:53:00.5 HOT-2	yeah that's another new one.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:53:03.4 HOT-2	zero zero two four
18:53:03.9 HOT-1	light snow three quarter mile three hundred alright.
18:53:08.4 HOT-2	zero nine zero at eleven I think I'm gonna put that in there.
18:53:10.3 CAM	[sounds similar to two very faint clicks].
18:53:12.3 HOT-1	alright.
18:53:13.3 CAM-2	just in case.
18:53:19.2 CAM-2	well this this for sure kills Salt Lake City for me.
18:53:23.5 CAM-1	yeah.
18:53:32.7 HOT-2	zero nine zero at eleven.
18:53:40.3 HOT-2	thirty oh seven now oh we got that.
18:53:44.8 HOT-1	on the altimeter? okay.
18:53:44.8 HOT-2	three zero zero seven.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:53:49.0 HOT-2	at three quarters I could probably undo the RVR less than four thousand. we'll leave it in just in case.
18:53:53.1 HOT-1	ahhhh well leave it in for now yeah that's the worst case.
18:54:02.6 HOT-1	well yeah.
18:54:04.4 HOT-2	eight knot tailwind.
18:54:17.4 HOT-1	two two zero here we go.
18:54:39.9 CAM	[sound similar to two loud clicks]
18:54:47.5 HOT-2	HILLS that sounds good.
18:54:47.6 HOT-1	I got a HILLS up there but.
18:54:53.5 CAM-1	I guess we can do that and extend it.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:54:10.4 CTR	Southwest ah twelve forty eight fly heading of ah two two zero.
18:54:14.8 RDO-2	heading two two zero Southwest twelve forty eight.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:54:56.4 CAM-2	cool.
18:55:06.8 HOT-2	two fifty.
18:55:07.3 HOT-1	'kay.
18:55:14.3 HOT-1	three one five.
18:55:16.6 HOT-1	how's that look to you.
18:55:17.8 CAM-2	s'good.
18:55:18.8 CAM-1	'kay.
18:55:28.7 HOT	[Morse code signal for G S H].
18:55:28.8 HOT-1	fifteen.
18:55:43.4 HOT-1	(oh).

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:55:07.8 CTR	Southwest twelve forty eight maintain ah two one five knots please.
18:55:11.6 RDO-2	okay ah two fifteen on the knots Southwest twelve forty eight.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:55:44.0 CAM-2	my side's up (the) DME for thirty one center.
18:55:44.0 HOT	[Morse code signal for I M X T].
18:55:47.1 HOT-1	okay.
18:55:50.2 HOT-2	and (then) my side ID's.
18:55:52.5 HOT-1	I might as well come over there with ya.
18:56:03.7 CAM-1	wow right turn zero one zero.
18:56:05.9 CAM-2	yeah.
18:56:15.4 HOT	[Morse code signal for I M X T].
18:56:19.6 CAM-2	your side ID's so I'm gonna take off just for real quick second.
18:56:22.3 CAM-1	'kay.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:55:57.8 CTR	Southwest twelve forty eight turn further right heading zero one zero.
18:56:01.7 RDO-2	heading zero one zero southwest twelve forty eight.

INTRA-COCKPIT COMMUNICATION

TIME (CST)
SOURCE

CONTENT

18:56:25.5
HOT-1 lookin' good, still lookin' good okay.

18:56:40.7
PA and folks good news we're headin' towards the airport
forty seven miles to go should be in the gate by about
ten after thanks so much. and again everybody have a
great night thanks so much for your patience.

18:56:50.1
HOT-2 I'm back.

18:56:51.2
HOT-1 okay.

AIR-GROUND COMMUNICATION

TIME (CST)
SOURCE

CONTENT

18:56:23.6
RDO-2 hey Midway twelve forty eight.

18:56:26.1
OPS twelve forty eight go.

18:56:27.7
RDO-2 hey guys ha sorry for the late update looks like about
ten after now they're just lettin' us leave holding now.

18:56:36.1
OPS okay copy that sir.

18:56:37.5
RDO-2 thank you.

18:56:52.2
CTR Southwest twelve forty eight turn further right heading
zero two zero.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:56:57.9 HOT-1	zero two zero now.
18:57:00.2 HOT-2	whohoo.
18:57:10.1 HOT-1	they're everywhere they're everywhere, okay.
18:57:11.2 HOT-2	I know it.
18:57:13.1 HOT-1	well I'll be sittin' up lookin'.
18:57:27.1 HOT-1	we're gonna have a ah zero eight zero. or was it one zero zero?
18:57:32.4 HOT-2	uhm you know what I'm sorry I didn't (even) write it down.
18:57:39.5 HOT-1	zero five zero.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:56:55.9 RDO-2	zero two zero Southwest twelve forty eight.
18:57:34.1 CTR	Southwest twelve forty eight turn right heading zero five zero.
18:57:37.5 RDO-2	zero five zero for Southwest twelve forty eight.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:57:40.4 HOT-2	it was.
18:57:41.0 HOT-1	one hundred. at nine.
18:57:41.8 HOT-2	yea * I think it was ninety. T-U-V.
18:57:45.3 HOT-1	zero five zero.
18:57:47.6 HOT-2	zero nine zero at eleven.
18:57:48.8 HOT-1	alright zero nine zero so.
18:57:50.3 HOT-2	little bit of a right crosswind.
18:57:51.5 HOT-1	right cross so. comin' like this so I'll be lookin out this way here. little bit *.
18:57:57.4 HOT-2	yeah.
18:58:05.7 HOT-1	we'll be kinda doin' HUD. * doin' it on the HUD. once we get down there.
18:58:09.9 HOT-2	yeah HGS.
18:58:14.6 HOT-2	whatta we got six?

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:58:15.3 HOT-1	two hundred.
18:58:16.8 HOT-2	six thirteen.
18:58:18.5 HOT-1	at six thirteen sixty five twenty two at three degrees.
18:58:20.9 HOT-2	three degrees and three one center is sixty five twenty two.
18:58:27.6 HOT-2	alright.
18:58:30.2 HOT-2	# this is a long Chicago flight.
18:58:33.6 HOT-2	I probably could have finished that revision.
18:58:36.2 HOT-1	yeah so what'll they do ma- a stop ya here?
18:58:39.8 CAM-2	I don't know ah say we got out a here by it would be stupid to push us back have a half hour de-icing and then have it be a four hour five minute.
18:58:49.6 CAM-2	right now nineteen. its four hours and five minutes of block to Vegas. so say nineteen forty five at the earliest.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:59:00.2 CAM-1	Hmmum.
18:59:05.6 CAM-2	so it'll be nineteen *.
18:59:11.0 CAM-2	yea I could go to Vegas I'd have twenty five minutes extra. even if we get out by twenty hundred.
18:59:18.5 HOT-1	twenty hundred outta hear?
18:59:19.8 CAM-2	That'd be five about five minutes early. and I.
18:59:22.5 CAM-1	you got an hour.
18:59:23.5 CAM-2	if it's.
18:59:24.8 CAM-1	to get outta here.
18:59:26.0 CAM-2	yea. that would give us five minutes. if it was.
18:59:30.3 HOT-2	I mean if it was five minutes on the other end would you care if we called it in early so I didn't make a big problem? you know.
18:59:36.5 HOT-1	no no I don't have a problem.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
18:59:37.3 HOT-2	if it's gonna be close then.
18:59:38.6 HOT-1	yea do whatever you got the pencil.
18:59:41.5 HOT-2	okay.
18:59:42.2 HOT-1	[sound similar to laughter].
18:59:48.2 HOT-2	looking good.
18:59:48.3 HOT-1	we're looking good man.
18:59:50.1 CAM-2	looking good Billy Ray.
18:59:54.4 CAM-2	feeling good Mortimer.
19:00:23.1 CAM-2	I bet they're gonna switch me here and do something else.
19:00:26.0 CAM-1	think so?
19:00:26.7 CAM-2	probably.
19:00:28.6 CAM-1	I don't know if they've got that far ahead --

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

TIME (CST)
SOURCE

CONTENT

19:00:30.5

CAM-2 yea.

19:00:30.7

CAM-1 they can think that far ahead today.

19:00:40.0

CAM-1 you might wanna call 'em I don't know.

19:00:41.1

CAM-2 yea I'm gonna just give 'em a (call).

19:00:44.9

CAM-2 he said call me at Midway.

19:00:52.6

HOT-1 zero tree zero here we go.

19:00:54.5

HOT-2 yeah V-P-Z Valperazo.

19:01:11.7

HOT-1 he might take us through uh.

19:01:13.4

HOT-2 yea I'm going to hard altitude these.

AIR-GROUND COMMUNICATION

TIME (CST)
SOURCE

CONTENT

19:00:45.5

CTR

Southwest twelve forty eight fly heading of ah zero three zero.

19:00:48.8

RDO-2

zero three zero southwest twelve forty eight.

19:01:15.9

CTR

Southwest twelve forty eight descend and maintain six thousand.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
19:01:21.4 HOT-1	down to six.
19:01:24.1 CAM-2	six.
19:01:27.3 CAM-2	seven for six.
19:01:33.9 CAM	[sound similar to altitude warning horn].
19:01:35.5 HOT-1	six point nine for six.
19:01:41.3 HOT-1	its alive we're gonna go through it, yea.
19:01:43.1 HOT-2	yea.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
19:01:19.3 RDO-2	six thousand Southwest twelve forty eight
19:01:53.1 RDO-2	you don't want us Southwest twelve forty eight to join do ya?
19:01:55.5 CTR	ah not yet sorry about that vector through the localizer fly heading of ah three six zero please.
19:02:01.0 RDO-2	heading three six zero no problem Southwest twelve forty eight.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
19:02:06.0 HOT-1	three six zero.
19:02:39.0 HOT-1	two nine zero to intercept.
19:02:40.2 CAM-2	two ninety.
19:03:05.7 CAM-2	[sound similar to laugh].
19:03:13.0 HOT-1	don't even think that. [sound similar to laughter].

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
19:02:27.1 CTR	Southwest twelve forty eight turn further left heading of ah three er correction a two niner zero intercept three one center localizer.
19:02:35.1 RDO-2	heading two nine zero to join three one center loc Southwest twelve forty eight.
19:03:02.6 EXEC 902	ah yes sir do you know if the runway is contaminated at Midway?
19:03:06.8 CTR	it is contaminated?
19:03:08.7 EXEC 902	that's the question is it contaminated?
19:03:13.9 CTR	exec jet nine zero two standby.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
19:03:15.2 HOT-2	there's the ah extended if you wanna use the L-NAV again.
19:03:19.2 HOT-1	okay.
19:03:24.0 HOT-1	we'll pick one.
19:03:25.3 HOT-2	[sound similar to laughter]. whichever one it likes better.
19:03:39.5 HOT-1	it's alive.
19:03:40.6 HOT-2	yea.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
19:03:31.6 CTR	Southwest twelve forty eight contact Chicago approach one one eight point four.
19:03:35.5 RDO-2	eighteen four you have a great night Southwest twelve forty eight.
19:03:41.6 RDO-2	hello Chicago Southwest twelve forty eight at six thousand.
19:03:44.3 APR	Southwest twelve forty eight Chicago approach Victor current intercept three one center localizer runway three one center RVR five thousand five hundred.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
19:03:50.3 HOT-1	alright.
19:03:53.2 CAM-2	we're on Victor?
19:03:53.3 CAM-1	* backup.
19:03:57.5 HOT-2	time we got.
19:04:06.0 HOT-2	* capture.
19:04:06.9 CAM-1	alright capturing.
19:04:08.8 CAM-1	victory.
19:04:11.0 CAM-2	half a mile four hundred over thirty o' six.
19:04:14.3 CAM-1	I don't think that means - they can't keep up *.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
19:03:50.7 RDO-2	thanks alot southwest twelve forty eight we'll get Victor.
19:04:12.8 APR	Southwest twelve forty eight is one eight miles from GLEAM cross GLEAM at four thousand cleared ILS three one center approach maintain ah you're doin' two ten correct?

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
19:04:17.4 CAM-1	fifty five hundred (is the).
19:04:20.2 HOT-1	beautiful day.
19:04:32.5 CAM-1	alright here we go.
19:04:38.8 HOT-1	we got fair in there right?
19:04:40.2 HOT-2	yea.
19:04:40.7 HOT-1	we got the max?

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
19:04:20.7 RDO-2	we're at two ten cleared for the ILS three one center * missed altitude if you gave us one.
19:04:24.8 APR	ah four thousand cross GLEAM and two ten speed.
19:04:28.3 RDO-2	GLEAM at four thousand two ten speed and we're cleared for the ILS three one center southwest twelve forty eight.
19:04:32.6 APR	Southwest twelve forty eight braking action reported fair except at the end its ah poor.
19:04:37.1 RDO-2	okay thanks.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
19:04:42.6 HOT-2	[sound similar to laughter] we're all we're all counting on you.
19:04:44.2 HOT-1	[sound similar to laughter].
19:04:48.8 HOT-2	picked the wrong day to stop sniffin' glue.
19:04:51.0 HOT-1	yea.
19:04:52.4 CAM	[sound similar to two clicks].
19:04:53.3 HOT-2	one more look for good measure.
19:04:56.3 HOT-2	I think you look good and clean my man.
19:04:58.0 HOT-1	alright.
19:05:02.4 HOT-2	four until GLEAM.
19:05:03.3 HOT-1	cleared the approach huh?
19:05:04.8 HOT-2	yea.
19:05:12.8 HOT-1	HILLS at four GLEAM at four.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
19:05:14.1 HOT-2	well yea he said GLEAM at four so we just have to make sure it doesn't wanna take you lower than GLEAM. lower than four at GLEAM.
19:05:20.4 HOT-1	yea okay.
19:05:22.7 HOT-2	I don't think it does but.
19:05:26.6 HOT-1	cleared the approach though.
19:05:31.0 HOT-2	one hundred at eleven.
19:05:33.7 HOT-2	that's just about a *.
19:05:34.1 HOT-1	[sound similar to autopilot disconnect warning horn].
19:05:38.5 HOT-1	well that was nice.
19:05:39.5 HOT-2	yea.
19:05:40.0 HOT-1	[sound similar to laughter].
19:05:42.6 CAM	[sound similar to altitude warning horn].
19:05:44.0 HOT-1	alright forty nine for four.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
19:05:46.2 HOT-2	forty nine for four.
19:05:47.3 HOT-1	try it again.
19:05:51.2 HOT-1	alright.
19:05:51.8 HOT-2	yea it's I remember this you were here for a while weren't ya.
19:05:55.8 HOT-2	were you based in Chicago for a while?
19:05:57.0 HOT-1	yea.
19:05:58.0 HOT-2	is that where I'd flown with you?
19:06:00.1 HOT-1	it was ah buh five years ago.
19:06:02.2 HOT-2	five but I wasn't I wasn't here that long.
19:06:20.7 HOT-1	what is it gonna be bumpy too or what?
19:06:22.2 HOT-2	[sound similar to laughter] what Chicago sheee.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

TIME (CST)
SOURCE CONTENT

19:06:51.5
HOT-2 forty five hundred.
19:06:54.6
HOT-1 # [sound similar to laughter].

19:07:04.1
HOT-1 alright slowin'.

19:07:10.5
HOT-1 go flaps to ah five please.

19:07:12.9
HOT-2 flap-o de cinco.

AIR-GROUND COMMUNICATION

TIME (CST)
SOURCE CONTENT

19:06:44.2
APR southwest nineteen fifty two Chicago approach
intercept three one center localizer Victor's current the
runway three one center RVR now four thousand five
hundred.

19:06:56.8
APR Southwest twelve forty eight reduce speed one seven
zero to RUNTS contact the tower at RUNTS.

19:07:01.4
RDO-2 one seventy to RUNTS tower there have a great night
southwest twelve forty eight.

19:07:05.1
APR Southwest nineteen fifty two last report I had for
runway three one center on the braking was ah braking
fair except at the end it was poor.

19:07:19.1
APR southwest ninety fifty two you copy last?

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
19:07:51.2 HOT-1	let's see there's sixteen miles.
19:07:54.1 HOT-1	still GLEAM is at eleven uh?
19:07:55.5 HOT-1	yea.
19:08:00.8 CAM-2	once we get over to tower I'll tell him that you wanna circle to two two left. [sound similar to laughter].
19:08:05.7 CAM-1	yea.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
19:07:20.8 SW1952	I'm sorry sir no.
19:07:22.3 APR	yea braking action on runway three one center is fair and then poor at the end as reported by company seven three.
19:08:18.7 SW1952	and ah was that braking action ah was that that poor was just or the fair was just at the end or what was the main part of the runway?
19:08:25.0 APR	okay braking action was fair except at the end it was poor.
19:08:31.8 APR	and we're just havin a Citation land now I'll get a new pilot report.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
19:08:34.5 HOT-1	oh we don't want him.
19:08:35.5 HOT-2	no [sound similar to laughter].
19:08:37.4 HOT-2	if it's poor we don't wanna hear it.
19:08:38.8 HOT-1	no.
19:08:42.2 HOT-2	GLEAM at four.
19:08:44.3 HOT-2	after GLEAM you can go to twenty five.
19:08:45.0 HOT-1	alright landing gear down here sir.
19:08:47.8 HOT-2	landing gear down.
19:08:50.0 HOT-1	down to twenty five here we go.
19:08:55.0 HOT-1	at eleven point two huh? yea.
19:08:56.2 HOT-2	yea after GLEAM.
19:08:57.2 HOT-1	yea alright.
19:08:57.5 HOT-2	you're close.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
19:08:58.5 HOT-1	ah we're close.
19:09:00.0 HOT-2	I'll never tell.
19:09:00.8 HOT-1	yea I know.
19:09:08.0 HOT-1	close enough.
19:09:09.0 HOT-2	yea.
19:09:10.6 HOT-2	and after RUNTS we go to seventeen.
19:09:13.1 HOT-1	I'll follow the glideslope down here.
19:09:14.9 HOT-2	that's cool.
19:09:41.6 HOT-1	alright let's go flaps to ah fifteen.
19:09:43.8 HOT-2	flaps fifteen.
19:09:44.2 CAM	[sound similar to metallic click].
19:09:46.4 CAM	[sound similar to altitude warning horn].
19:09:53.4 HOT-1	hmm.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
19:10:07.6 HOT-1	'kay.
19:10:09.4 HOT-2	glideslope's good I'm gonna throw a twenty one for the missed.
19:10:09.7 HOT-1	good for the first half.
19:10:11.9 HOT-1	RUNTS is six point seven alright.
19:10:16.2 HOT-1	alright glideslope looks like it's captured.
19:10:18.3 HOT-2	yea and twenty one's the missed approach altitude.
19:10:21.1 HOT-1	say again twenty one.
19:10:21.8 HOT-1	okay.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
19:09:53.7 RDO-2	Southwest twelve forty eight three one center.
19:09:57.6 TWR	Southwest twelve forty eight Midway tower continue for three one center the winds zero nine zero at nine brakin' action reported good for the first half, poor for the second half.
19:10:06.2 RDO-2	thank you.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
19:10:21.9 HOT-2	that's the missed if we need it.
19:10:22.8 HOT-1	alright.
19:10:25.0 HOT-1	ah let's go flaps to thirty sir.
19:10:27.0 HOT-2	flaps thirty.
19:10:38.3 CAM-1	yea good old tailwind *.
19:10:39.9 CAM-2	yea.
19:10:41.4 CAM-1	alright flaps forty.
19:10:43.5 HOT-2	flaps forty.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
19:10:41.2 TWR	Gulfstream three Kilo Foxtrot say brakin' action.
19:10:46.0 G3KF	fair to poor.
19:10:47.6 TWR	Three Kilo Foxtrot than ah thank you very much can you make a left on Alpha?
19:10:52.8 G3KF	standby.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
19:10:54.1 HOT-1	before landing check.
19:10:56.1 CAM-2	speedbrake.
19:10:57.1 HOT-1	armed green light.
19:10:58.1 HOT-2	landing gear.
19:10:59.2 HOT-1	down three green.
19:10:59.9 HOT-2	flaps
19:11:00.4 HOT-1	forty green light.
19:11:01.4 HOT-2	before landing checks complete.
19:11:03.9 HOT-1	thank you.
19:11:04.4 CAM-2	no landing clearance yet.
19:11:05.9 HOT-1	nope.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
19:10:54.7 TWR	if unable just let me know and go to the end.
19:10:56.5 G3KF	yea we can make a left on Alpha.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
19:11:16.7 HOT-1	I got (a) A three just disregard the ah approach warning if we get one.
19:11:20.4 CAM-2	got it.
19:11:31.3 HOT-1	'kay.
19:11:34.6 CAM-2	comin' over HOBEL at seventeen.
19:11:37.0 HOT-1	alright and a thousand feet one thirty six sink is a nine hundred.
19:11:42.2 HOT-2	you can see the ground already.
19:11:43.4 HOT-1	(yea) * (good).
19:11:44.5 HOT-2	(one).
19:11:46.5 HOT-1	no peaking.
19:11:47.1 HOT-2	we're almost up to a thousand feet.
19:11:50.0 HOT-2	now we're at a thousand feet.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
19:11:51.9 HOT-1	alright yea you're right thousand feet. one thirty two sink is ah eight fifty.
19:11:53.2 HOT-2	I always.
19:11:57.4 CAM	[sound similar to autopilot disconnect warning].
19:12:00.3 HOT-2	we're all counting on you.
19:12:01.6 HOT-1	uhmhhh.
19:12:02.2 HOT-2	[sound similar to laughter].
19:12:07.8 CAM	[sound similar to two clicks].
19:12:16.9 HOT-1	never autobraked here huh?
19:12:18.3 HOT-2	yeah. hang on tight [sound similar to laughter].
19:12:21.6 HOT-1	yeah.
19:12:25.3 HOT-2	five hundred.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
19:12:26.6 RDO-2	landing clearance for Southwest twelve forty eight.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
19:12:35.3 HOT-2	four hundred.
19:12:36.3 HOT-1	alright.
19:12:37.2 HOT-2	five green lights cleared to land.
19:12:41.0 HOT-2	approaching minimums.
19:12:42.4 HOT-1	goin' outside. landing sir.
19:12:45.6 HOT-2	alright.
19:12:46.3 CAM	[sound of thump].
19:12:47.2 HOT-1	might help.
19:12:49.9 HOT-2	* a touch high on the glideslope.
19:12:50.6 CAM	[sound similar to two thumps].
19:12:56.5 HOT-2	one hundred.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
19:12:28.4 TWR	Southwest twelve forty eight runway three one center cleared to land wind zero nine zero at nine brakin' action fair to poor.

INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
19:13:01.4 HOT-2	fifty. thirty. ten.
19:13:02.7 CAM	[sound similar to click].
19:13:07.1 CAM	[sound similar to click and squeak].
19:13:07.8 CAM	[sounds similar to aircraft touchdown].
19:13:08.5 HOT-1	oh baby I guess it comes on.
19:13:11.5 HOT-1	come on baby.
19:13:13.4 CAM-2	about two thousand feet to go.
19:13:14.7 HOT-1	feel it.
19:13:15.9 HOT-2	you jumpin' on the?
19:13:16.3 HOT-1	son of a #.
19:13:17.3 HOT-2	jump on the brakes are ya?
19:13:18.4 HOT-1	ah huh.
19:13:19.5 HOT-2	I'm ahnna.

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
19:13:21.2 CAM-2	whaddy.
19:13:22.3 HOT-1	#.
19:13:23.2 CAM	[sound similar to double clunk].
19:13:23.4 HOT-1	get that back there.
19:13:25.3 HOT-1	we aint goin' man.
19:13:27.5 HOT-2	we're #.
19:13:28.7 HOT-1	we are #.
19:13:30.6 HOT-1	alright keep it straight.
19:13:31.2 CAM	[sound similar to increased engine noise].
19:13:35.0 HOT-2	#.
19:13:35.4 HOT-1	# hang on.
19:13:35.9 HOT-2	hang on.
19:13:36.5 CAM	[sound similar to impact].

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
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INTRA-COCKPIT COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
19:13:37.3 HOT-2	*.
19:13:39.0 CAM	[sound similar to impact].
19:13:39.4 HOT-2	oh #.
19:13:42.2 HOT-2	[sound similar to groan].
19:13:43.3 HOT-1	[sound similar to grunt] # me.
19:13:46.5 HOT-2	#.
19:13:47.1 HOT-1	#.
19:13:48.1 CAM	[sound similar to stick shaker].
19:13:49.1 CAM	[sound similar to chime].
19:13:51.0 CAM	[sound similar to clunk].

AIR-GROUND COMMUNICATION

<u>TIME (CST)</u> <u>SOURCE</u>	<u>CONTENT</u>
19:13:47.5 TWR	what was that? Southwest twelve forty eight are you cleared three one center?
19:13:51.4 RDO-2	Southwest twelve forty eight went over the end.

INTRA-COCKPIT COMMUNICATION

TIME (CST)
SOURCE CONTENT

19:13:54.4
HOT-1 shut down.
19:13:58.4
HOT-2 #.
19:14:00.6
HOT-1 shuttin' down.
[end of recording]
19:14:01.3

End of Transcript

AIR-GROUND COMMUNICATION

TIME (CST)
SOURCE CONTENT

19:13:53.5
TWR say again.
19:13:54.3
RDO-2 we went off the end of the runway.