

ERA16LA085, CGXXJ, Concord NC, 1/8/16 Time correlation between google earth file and ATC video playback files								
58576	0.677963	16:16:16	20:23:12			20:23:12	Time syn data point	
	0	0:00:00	0:00:00	Delta Time		4:06:56		
Google Earth (GE) File Time (s	GE (DAY)	GE (HMS)	ATC playback time (UTC)					
57724	0.668102	16:02:04	20:09:00	Autopilot mode changes from GPSS-VS to GPSS-APP-VS				
57760	0.668519	16:02:40	20:09:36	GPS Invalid annunciator illuminates				
57792	0.668889	16:03:12	20:10:08	Autopilot Disconnected				
57800	0.668981	16:03:20	20:10:16	Autopilot re-engaged, pitch/roll mode				
57838	0.669421	16:03:58	20:10:54	CLT TWR advises left of course, verify you are still receiving localizer				
			20:11:02	Pilot responds, yeah, off course				
			20:11:06	CLT TWR: your're correcting, do you want to continue?				
				pilot responds: wer're trying to correct				
57864	0.669722	16:04:24	20:11:20	Autopilot disconnected.				
57866	0.669745	16:04:26	20:11:22	CLT TWR: you're still drifting left, cancel approach clearance turn right 090, climb and maintain 4,000				
				Pilot :We've got the airport in sight				
				CLT TWR: unable turn right 090, climb and maintain 4000				
				CLT TWR: repeates instructions to turn right immediately (several times)				
57880	0.669907	16:04:40	20:11:36	airplane begins turn to the right				
57912	0.670278	16:05:12	20:12:08	Autopilot activated, GPSS-APPR-Pitch mode, then swiched to HDG-Pitch				
57992	0.671204	16:06:32	20:13:28	CLT Twr advises to contact approach/pilot acknowlged.				
			20:13:47	CLT approach asks where he would like to go, and suggest the GPS approach to rwy 02 at JQF				
			20:14:17	pilot asks for the "call sign" for the airport				
				CLT approach provides he airport identifier as JQF				
58050	0.671875	16:07:30	20:14:26	pilot reponds "ok I'll put that in"				
58072	0.67213	16:07:52	20:14:48	autopilot mode changes from HDG-PITCH to GPSS-PITCH, the Next Waypoint is JQF.				
58080	0.672222	16:08:00	20:14:56	airplane begins a left turn toward JQF				
			20:15:05	CLT approach instructs to fly heading 270, descend and maintain 3000, and asks if the pilot would like that approach (GPS 02 at JQF)				
58100	0.672454	16:08:20	20:15:16	CLT approach corrects the assigned heading to 090, descend and maintain 3000, and again asks if the pilot would like that approach, and advises ceilings were 500 OVC, and he will provide vectors to the first fix shortly, which is east of the airplane's position. The pilot acknnowleged the heading.				
58100	0.672454	16:08:20	20:15:16	Autopilot changes from GPSS-Pitch to HDG-Pitch mode, then about 4s later to HDG-VS mode, airplane begins R turn toward 090.				
58128	0.672778	16:08:48	20:15:44	CLT approach instructst when able, proceed direct ECEGA, and join the final approach course inbound.				
			20:15:54	Pilot asks "what Runway?"				
			20:15:56	CLT Approach advises runway 2 at Concord, and repeats and spells out the fix as ECEGA.				
			20:16:24	CLT approach asks pilot if he is descending to 3000 so he can get on the approach (airplane is at 3400 at this time)				
			20:16:28	pilot acknowledges he is descending to 3000, and asks for the initial fix again				
			20:16:31	CLT approach repeats the fix and spells it again as ECEGA				
			20:16:39	Pilots asks if that is an ILS for Runway 20 (not 02)				
			20:16:40	CLT approach advises it's a GPS to runway 2 at Concord.				
			20:16:43	pilot responds [unintelligible] "two zero approach"				
			20:16:45	CLT approach asks "you need two zero you said?"				
			20:16:48	[pilot explains that he 's not able to look up the fix ECEGA, and lists the fixes he can find (such as MEATT and NASCAR) which are associated with the GPS RWY 20 (not rwy 02). Controller tries to verify that the pilot is able to accept and fly a GPS approach as opposed to an ILS approach. This pilot ultimately verifies that he is able to fly a GPS approach. By this time he has passed by the inbound course to ECEGA, the controller then provides vectorsto return]				

58252	0.674213	16:10:52	20:17:48	CLT approach instructs turn right, heading 180, maintain 3000			
58356	0.675417	16:12:36	20:19:32	CLT aproach instructs: turn right 270			
			20:19:44	CLT approach asks if the pilot to verify that he has the approach "plugged in" and asks if he is ready for the GPS approach.			
				Pilot responds that he has the RNAV runway 20 approach plugged in, but he does not have the initial fix that the controller had previously provided			
58384	0.675741	16:13:04	20:20:00	CLT approach corrects/clarifiies rwy 02 , not rwy 20			
				The pilot and controller discuss the fix names for the rwy 2 approach, and the pilot ultimately acknowledges that he has the proper fixes.			
58416	0.676111	16:13:36	20:20:32	next waypoint changed from JQF to LALEC			
58424	0.676204	16:13:44	20:20:40	CLT approach advises he will provide vectors to join just outside ECEGA			
58424	0.676204	16:13:44	20:20:40	autopilot mode changes from HDG-ALT to GPSS-ALT			
58440	0.676389	16:14:00	20:20:56	next waypoint changes from LALEC to DOCEC			
58441	0.6764	16:14:01	20:20:57	CLT approach advises 4 miles from ECEGA, instructs to fly heading right 360, maintainin 3000 until established on the final approach course, cleared for RNAV/GPS Rwy 2 at JQF.			
				pilot acknowledges			
58468	0.676713	16:14:28	20:21:24	next waypoint changes from DOCEC to ECEGA			
			20:21:57	CLT appraoch asks pilot to advise when established on the final approach course			
				Pilot responds that he is on the final approach course, "going to ECEGA"			
58568	0.67787	16:16:08	20:23:04	pilot transmits "ok now I have to activate my approach"			
			20:23:07	CLT approach advises radar services terminated, contact Concord TWR 134.65, pilot acknowledges			
				[Concord TWR recording was not retrieved for this investigation]			
58576	0.677963	16:16:16	20:23:12	next waypoint changes from ECEGA to LALEC, airplane begins a turn to the right			
58596	0.678194	16:16:36	20:23:32	autopilot disconnects			
			20:23:43	airplane begins to descend			
58616	0.678426	16:16:56	20:23:52	next waypoint changes from LALEC to COKBA (just after airplane passes ECEGA, the autopilot is still disconnected)			
			20:23:56	CLT approach controller contacts Concord TWR, to advise of a low altitude alert for CGXXJ. Concord replied that the airplane has not contacted the TWR yet.			
58636	0.678657	16:17:16	20:24:12	airplane turns back toward the left, on a heading towards COKBA. Autopilot remains disconnected			
			20:24:14	CLT approach attempts to contact pilot on the approach frequency, and advises if still on this frequency, advises the pilot that he is east of the final approach course			
				[no response]			
58652	0.678843	16:17:32	20:24:28	autopilot engages in ROLL-PITCH mode			
58656	0.678889	16:17:36	20:24:32	airplane begins right turn			
58692	0.679306	16:18:12	20:25:08	autopilot disconnects, airplane turns sharply to the left reversing course			
58712	0.679537	16:18:32	20:25:28	straight and level mode activated			
58740	0.679861	16:19:00	20:25:56	autopilot was set to the HDG-PITCH mode. Aiplane continued northwest for about 4 minutes, during which time the autopilot mode changed to HDG, then HDG-VS, then HDG-ALT.			
58960	0.682407	16:22:40	20:29:36	airplane turns north			
59165	0.68478	16:26:05	20:33:01	CLT approach controller instructs right turn to 100 degress, descend and maintain 3,000 ft			
				pilot acknowledges			
59180	0.684954	16:26:20	20:33:16	airplane turns east			
59180	0.684954	16:26:20	20:33:16	Autopilot changes from HDG ALT to HDG VS ALT and remains in that mode until 20:35:12 (note: Google earth file point labels errantly omitted the "ALT" label and reads "HDG VS" only, see PFD tabular data)			

59220	0.685417	16:27:00	20:33:56	underspeed envelope protection activated, IAS about 85 knots			
59240	0.685648	16:27:20	20:34:16	underspeed envelope protection activated			
59244	0.685694	16:27:24	20:34:20	CLT approach controller asks "say altitude"			
				pilot responds "I'm at thirty seven for some reason its climb[ing]"			
59248	0.685741	16:27:28	20:34:24	airplane turns southeast			
59274	0.686042	16:27:54	20:34:50	CLT approach controller asks the pilot if he is turning southbound			
				pilot repsonds "It looks likes its going to GLISS"			
59296	0.686296	16:28:16	20:35:12	underspeed ends/AP disconnected			
59326	0.686644	16:28:46	20:35:42	CLT approach controller advised to join final approach course at GLISS, maintain 2400 ft until GLISS			
59332	0.686713	16:28:52	20:35:48	autopilot disconnected			
59343	0.68684	16:29:03	20:35:59	CLT approach controller advised of low altitude alert			
59388	0.687361	16:29:48	20:36:44	autopilot GPSS-PITCH mode (engaged 6 seconds prior in ROLL-PITCH			
59398	0.687477	16:29:58	20:36:54	Straight and Level mode activated			
59418	0.687708	16:30:18	20:37:14	significant longitudinal accel - caps deployment			
59444	0.688009	16:30:44	20:37:40	end of data			