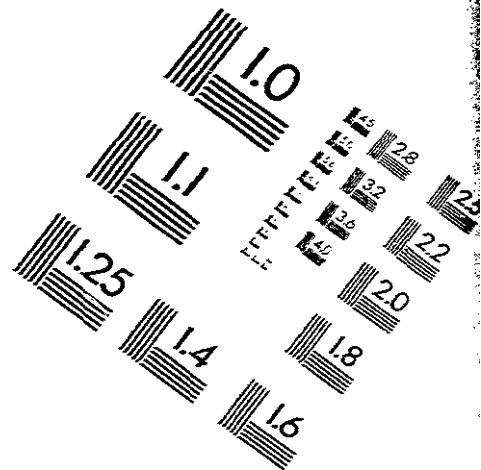
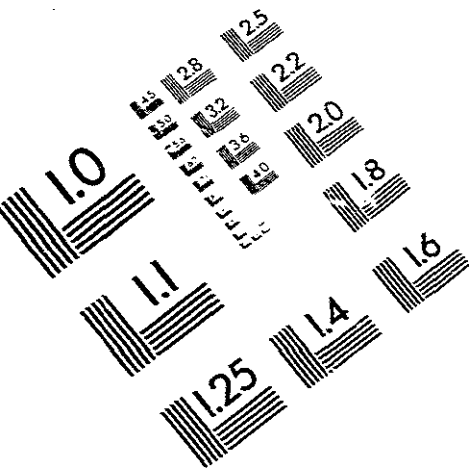




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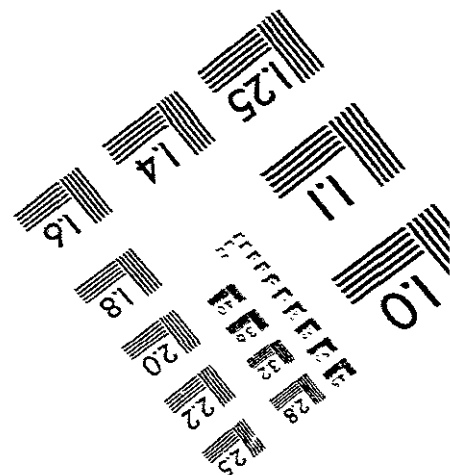
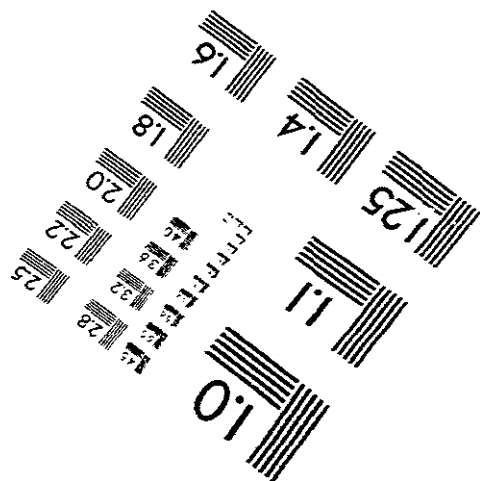
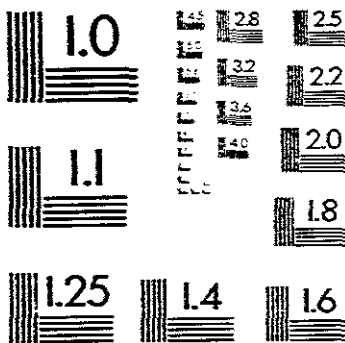
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Silver Spring, Maryland 20910
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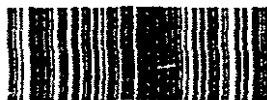
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PB94-910401

National Transportation Safety Board Aircraft Accident/Incident
Summary Report: Controlled Flight into Terrain GP Express
Airlines, Inc., N115GP, Beechcraft C-99, Shelton
Nebraska, April 28, 1993

(U.S.) National Transportation Safety Board, Washington, DC

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U.S. DEPARTMENT OF COMMERCE
National Technical Information Service

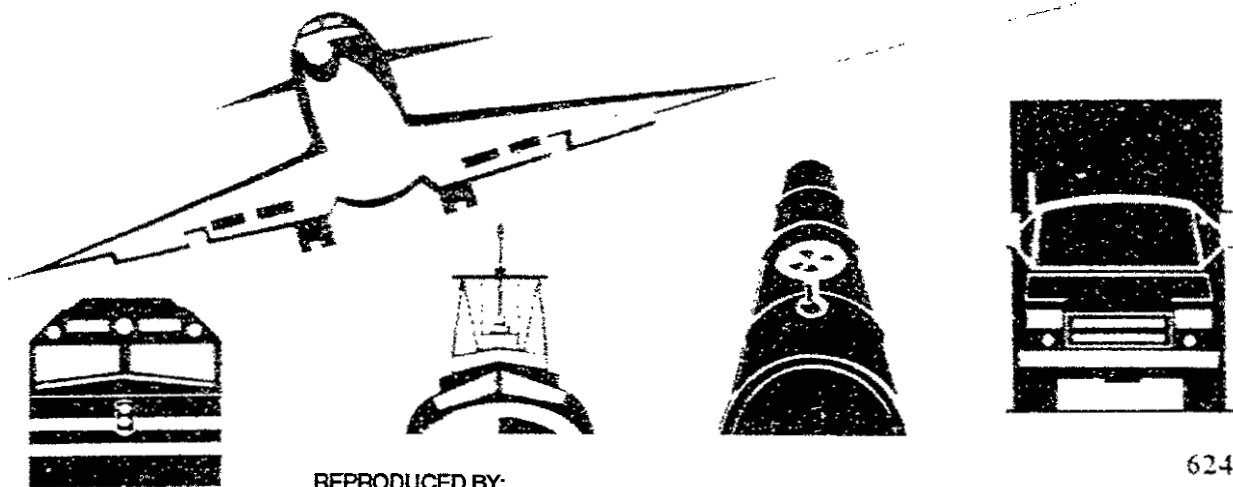
NTIS

NATIONAL TRANSPORTATION SAFETY BOARD

WASHINGTON, D.C. 20594

AIRCRAFT ACCIDENT/INCIDENT SUMMARY REPORT

CONTROLLED FLIGHT INTO TERRAIN
GP EXPRESS AIRLINES, INC., N115GP
BEECHCRAFT C-99
SHELTON, NEBRASKA
APRIL 28, 1993



REPRODUCED BY:
DEPARTMENT OF COMMERCE
National Technical *information* Service
Springfield, Virginia 22161

6249

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**NATIONAL TRANSPORTATION
SAFETY BOARD
WASHINGTON, D.C. 20594**

**AIRCRAFT ACCIDENT/INCIDENT
SUMMARY REPORT**

**CONTROLLED FLIGHT INTO TERRAIN
GP EXPRESS AIRLINES, INC., N115GP
BEECHCRAFT C-99
SHELTON, NEBRASKA
APRIL 28, 1993**

**Adopted. January 19, 1994
Notation 6249**

Abstract: This report explains the crash of N115GP into terrain at Shelton, Nebraska. The safety issues discussed include attempted aerobatic maneuvers in commercial aircraft, check flights among peers, management responsibility to instill commitment of flight safety, and Federal Aviation Administration oversight of 14 CFR Part 135 operations.



National
Transportation
Safety Board

Washington, D.C. 20594

AIRCRAFT ACCIDENT/INCIDENT SUMMARY

Accident Number: **CHI-93-MA-143**
Airplane Operator: **GP Express Airlines, Inc.**
Airplane Type: **Beech Aircraft Corporation C-99, N115GP**
Location: **Shelton, Nebraska**
Date and Time: **April 28, 1993; 2350 cdt**
Injuries: **2 Fatal**
Type of Occurrence: **Controlled Flight into Terrain**

1. THE ACCIDENT

On April 28, 1993, at 2350 central daylight time, a Beech Aircraft Corporation Beech C-99, N115GP, operated by GP Express Airlines, crashed near Shelton, Nebraska. The airplane was destroyed, and the two pilots on board sustained fatal injuries. The purpose of the flight was for the pilot in the right seat (the check pilot) to administer a 6-month competency/proficiency check, required under the provisions of title 14 Code of Federal Regulations (CFR) Part 135, to the pilot in the left seat (the flying pilot). Both pilots were qualified check airmen with the airline. The flight, which was conducted under 14 CFR Part 91, originated at the Central Nebraska Regional Airport, Grand Island, Nebraska (GRI), at 2343. No flight plan was filed, nor was one required, and visual meteorological conditions prevailed at the time.

About 1 minute after departure, the check pilot contacted the Federal Aviation Administration's (FAA) Minneapolis Air Route Traffic Control Center (Minneapolis Center) and requested a transponder check on the airplane's transponder. After Minneapolis Center determined that the transponder was operational, the check pilot terminated the Center's services, switched to a visual flight rules transponder code of 1200, and continued with the flight.

A witness who had been looking out a window of her home, which was along what was determined to be the flightpath of the airplane, reported seeing red and blue lights at a low level, moving in what she classified as an erratic manner. Because she thought it was an airplane and was concerned about the nature of its flightpath, she went outside to get a better look. The witness described the

airplane lights **as going** up sharply, and then coming down sharply. She called to her **son**, who also observed the lights. He reported that the lights disappeared **behind** the trees several **times** and then reappeared, heading upward **sharply**. The woman and her **son** watched the airplane continue to the west **until** it was out of sight.

About midnight, a motorist who was driving west **on** Interstate **80** **near** the Shelton interchange reported that, to the **north**, he had observed an orange-colored fireball shooting into the **air**. He described the **initial** fireball **as** lasting about **10** to **15** seconds, and a secondary fireball of lesser intensity that lasted about **10 seconds**. He reported the occurrence to the Buffalo County (Nebraska) Sheriff's Department. The Sheriff's Department initiated a search for the source **of** the reported fireball but was unable to locate the site that night. The next morning, the wreckage of N115GP was found by the owner of a farm **near** Shelton, who reported the finding at **0715** to the Hall County Sheriff's Department.

GP Express' policy was to **close** all **corporate** offices after the last scheduled flight had arrived at **GRI** until the first scheduled flight prepared for departure the next morning. As a result, its management was unaware that the airplane was missing when it opened the office at **0400** on April **29**. The wife of the **flying** pilot had become concerned when he failed to return home by **0200**, **as** he had told her he would, and had attempted to call the company repeatedly, but was **not** successful until she called at **0430**. At **0630**, the company contacted the **FAA** and reported that the airplane was missing.

The wreckage extended **1,560** feet from the point **of** initial impact, **on** a heading **of** **294°** magnetic. The **coordinates** of the impact site were **40°49'20"** North; and **98°41'14"** West. The **location** was **on** a **243"** radial, **19.3** miles from **GRI**.

The examination **of** the wreckage showed that the airplane had struck the ground in a nose-level attitude with the left wing slightly down. There was a **fan-shaped** fire scar extending approximately **400** feet from the point of initial impact. The wreckage path was strewn with airplane parts from the point of **initial** impact to the main wreckage, which came to rest **1,200** feet from the **point** of initial impact. The main wreckage was consumed by a postcrash fire (**see** Figure 1).



Figure 1--Main Wreckage Path

The maintenance records of N15GP for the year preceding the accident showed no significant discrepancies relating to the airplane's systems, flight controls, powerplants, airframe, or major components. Examination of the wreckage did not reveal evidence of preexisting airframe or system malfunction. Both engines and propellers were examined at their respective manufacturer's facilities and were found to have sustained damage consistent with the generation of power at impact.

Before the accident flight, the airplane had been flown from Kearney, Nebraska, (EAR) to GRI as a repositioning flight, under the provisions of 14 CFR Part 91, after completing several legs of scheduled revenue service. It was flown by a different crew than the pilots on the accident flight, and it arrived at GRI about 2300. The captain of the repositioning flight reported no problems with the airplane. The airplane was serviced and fueled with 231 gallons of jet fuel.

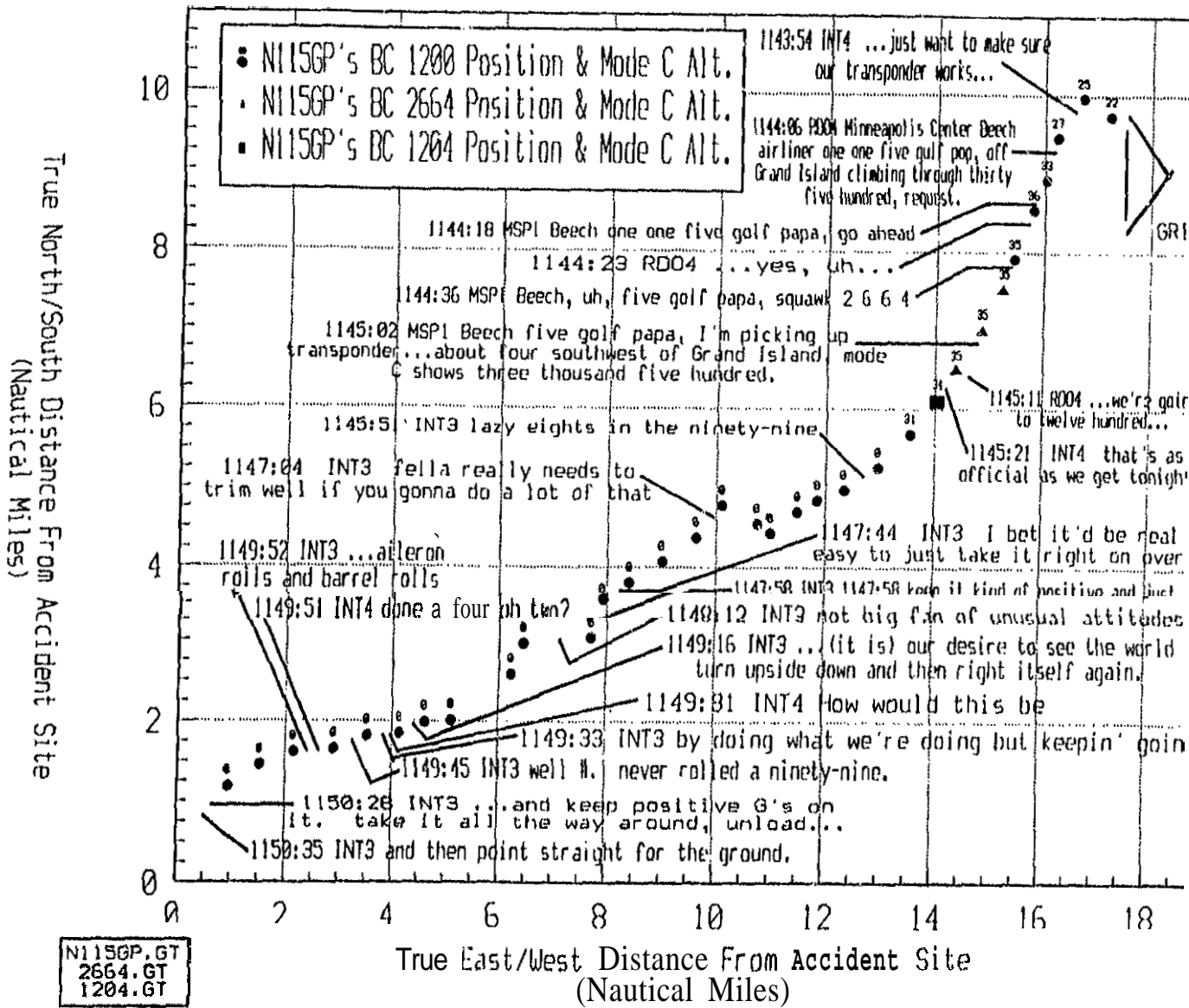
N15GP, which was owned and operated by GP Express Airlines, Inc., was equipped with 14 passenger seats and two pilot seats. It was powered by two Pratt & Whitney PT-6A-36 engines rated at 750 shaft horsepower, each with a Hartzell three-bladed propeller. The airframe and both engines had accumulated 6,971 total flight hours at the time of the accident and 24 hours since the last inspection, a "B" check, which was completed on April 26, 1993.

2. AIRPLANE INFORMATION

A filled out and graded, but unsigned, Airman Competency/Proficiency Check grade sheet (FAA Form 8410-3), for the proficiency check being flown when the accident occurred was found in the check pilot's company mailbox (Figure 3).

The airplane was equipped with a cockpit voice recorder (CVR) that recorded the conversation between the pilots throughout the flight. The examination of the recording disclosed that the pilots were discussing the flying technique for rolling an airplane (an aerobatic maneuver) immediately before the crash. The ground track of the accident flight, plotted from radar data recorded at the FAA's Minneapolis Center, annotated with remarks from the CVR, is presented as Figure 2.

Figure 2—Ground Track of N115GP



AIRMAN COMPETENCY/PROFICIENCY CHECK FAR 135				LOCATION GR1		DATE OF CHECK 04 28 93			
NAME OF AIRMAN (last, first, middle initial) RALL, STEPHEN J				TYPE OF CHECK FAR 135.293 <input checked="" type="checkbox"/> FAR 135.297 <input checked="" type="checkbox"/> FAR 135.299 <input checked="" type="checkbox"/>					
PILOT CERTIFICATION INFORMATION: Grade ATP Number 278041117		MEDICAL INFORMATION: Date of Exam.		Date of Birth 09 18 63		Class R1DET			
EMPLOYED BY FAA/FAA - AIRMAN EVALUATION UNIT		BASED AT (City, State) FAA/FAA - AIRMAN EVALUATION UNIT		TYPE AIRPLANE (Make/Model) RC-90		Simulator/Training Device (Make/Model)			
NAME OF CHECK AIRMAN LARRY PIERCE		SIG. OF CHECK AIRMAN		FLIGHT TIME					
FLIGHT MANEUVERS GRADE IS - <i>S</i> -satisfactory <i>U</i> -Unsatisfactory									
PILOT				Air-craft	Simu-lator	Trng. Dev.	Air-craft	Simu-lator	Trng. Dev.
PREFLIGHT				HELICOPTER					
1. Equipment Examination (Oral or written)				1. Ground and/or Air Taxi					
2. Preflight Inspection				2. Hovering Maneuvers					
3. Taxiing				3. Normal & Crosswind T.O. & Landings					
4. Powerplant Checks				4. High Altitude Takeoffs & Landings					
TAKEOFFS				5. Sim. Engine Failure					
5. Normal				6. Confined Areas, Slopes, & Pinaches					
6. Instrument				7. Rapid Deceleration (Quick Stops)					
7. Crosswind				8. Autorotations (Single Engine)					
8. With Simulated Powerplant Failure				9. Hovering Autorotations (Single Engine)					
9. Rejected Takeoff				10. Tail Rotor Failures (Oral)					
INFLIGHT MANEUVERS				11. Settling With Power (Oral or Flight)					
10. Sharp Turns				SEAPLANE OPERATIONS					
11. Approaches to Stalls				1. Taxiing, Sailing, Docking					
12. Specific Flight Characteristics				2. Step Taxi & Turns					
13. Powerplant Failure				3. Choppy/Rough Water T.O./Landings					
LANDINGS				4. Normal Takeoff & Landings					
14. Normal				5. Crosswind T.O. & Landings					
15. From an ILS				OTHER					
16. Crosswind				6. Ski Plane Ops. (when applicable)					
17. With Simulated Powerplant(s) Failure				GENERAL					
18. Rejected Landing				7. Judgment					
19. From Circling Approach				8. Crew Coordination					
EMERGENCIES				AIRMAN COMPETENCY INFORMATION:					
20. Normal and Abnormal Procedures				Demonstrated Current Knowledge FAR 135.293(a)					
21. Emergency Procedures				Make/Model Expires (12 months)					
INSTRUMENT PROCEDURES				Demonstrated Competency FAR 135.293(b)					
22. Area Departure				Make/Model Expires (12 months)					
23. Holdings				Satisfactorily Demonstrated Line Checks					
24. Area Arrival				FAR 135.299 Expires (12 months)					
25. ILS Approaches				Satisfactorily Demonstrated IFR Proficiency					
26. Other Instrument Approaches				FAR 135.297 Expires (6 months)					
Approaches: NDB/ADF				Use of Autopilot (a) (is not) Authorized.					
VOR				Expires (12 months)					
ILS				REMARKS					
Other (Specify)									
27. Circling Approaches									
28. Missed Approaches									
29. Comm./Nav. Procedures									
30. Use of Auto. Pilot									
RESULT OF CHECK		<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved		CHECK AIRMAN'S PERFORMANCE (FAA Only)		<input type="checkbox"/> Satisfactory <input checked="" type="checkbox"/> Unsatisfactory			
REGION		DISTRICT OFFICE		FAA INSPECTOR'S SIGNATURE					

FAA Form 8410-3 (8-81)

Figure 3--FAA Form 8410-3

The GP Express Pilot Operating Handbook and Aircraft Flight **Manual**, combined into one publication, governs the operation of the **C-99**; it prohibits the performance of any aerobatic maneuver in the **C-99**.

3. FLIGHTCREW INFORMATION

The pilots on the accident airplane were instructors and check **airmen** who were authorized by the **FAA** to perform flight checks for the airline's C-99 crewmembers. One other GP Express pilot, the chief pilot, was a C-99 check **airman**. The chief **pilot** described both as "extremely competent" and very knowledgeable about aircraft system. He told Safety Board investigators that neither pilot had applied to be a check **airman**. The airline had asked them to apply because of their superior piloting skills and knowledge of aircraft systems,

The autopsies and post mortem toxicological tests revealed no evidence of medical problems or the presence of any drugs or alcohol that could have impaired either pilot's performance. A search of the National Drivers Register did not reveal that either pilot had been convicted of violating Driving While Intoxicated or similar automobile-related rules or regulations. Neither had been involved in an aviation accident nor did either have any record of violating an aviation-related rule or regulation.

The Left Seat Pilot (Flying Pilot)

The flying **pilot**, age 29, held an airline **transport** pilot (ATP) certificate with an **airplane** multiengine land rating and a type rating in the Beech 1900. He also held a certified flight instructor certificate with ratings for airplane single-engine and multiengine land, and instrument airplane. He had a first-class **medical** certificate, issued March 17, 1993, without limitations or waivers.

The flying pilot was hired by GP Express on September 20, 1989. According to the résumé on file with GP Express, at the time of hire the flying pilot had accrued 1,666 total flight hours, of which 44 were in multiengine airplanes and 93 were in either actual or simulated instrument conditions. Before his hire, the flying pilot had been familiar to GP Express personnel because of his association with Keamey State College and his flight activities in the central Nebraska area. Airline personnel had developed a relationship with the nearby college.

GP Express initially assigned the **flying** pilot to the position of first officer on the Cessna 402. On January **30**, 1990, he transitioned to **the** C-99 as a **first** officer. On May **5**, 1990, he upgraded to a captain's position on **the** Cessna **402**, and **to** the same position on the C-99 on October 4, 1990. He became a ground instructor on January **10**, 1991, a day later he became a company flight instructor, and **5** days after that he became a check airman, all on the C-99. On October 19, 1992, he transitioned **to** the Beech 1900. He was qualified to perform line, competency, and proficiency checks in the C-99. He was a line captain in both the C-99 and Beech 1900 airplanes.

According to company records, at the time of the accident, the pilot had **5,611** hours total flight time, of which the company estimated 2,200 were in **the** C-99. During the **24** hours, **30** days, and 90 days preceding the accident, **the** flying pilot had flown **4**, **82**, and **275** hours, respectively.

Two performance-related comments were found in his GP Express personnel file at the time of the accident. He had received a verbal warning on February 10, 1992, for **not** adhering to the GP Express dress requirements for pilots on **duty**. **Three** days later he received a letter of commendation for his performance **as** captain **of** a flight **based on** an observation of an FAA inspector who had been on **board**. The letter **from** the director **of** operations noted that:

[the inspector had] nothing but praise for the conduct of the flight and the performance of [the] Captain ... and [the] First Officer ... [The inspector] said **the** briefing was clear, the flight was smooth, and he enjoyed it. In an industry where the negative is usually emphasized, **those** kinds of comments are good to get. Keep up the good **work!**

GP Express records indicated that on April 21, 1993, the flying pilot provided **8 hours of** ground school training. The next day he flew a trip that began at 1240 and ended at 2329, with eleven takeoffs and landings. On April **23** he logged **3.5** flight hours during a day that began at 1550 and ended at **2020**. **He** was off duty on April 24 and **25** and had gone hunting with some friends. On April **26**, he flew **3.8 hours in** a trip that began at 0705 and ended at 1409 and **involved** six takeoffs and landings. On April **27**, he flew **7** hours in a trip that began at 0605 and ended at 1545. On April **28**, the day of the accident, he flew **the same** trip that he flew on April **26**, with his duty day ending at 1429. According to **his** wife, the flying pilot had maintained a relatively constant sleep-

wake cycle for several days **before** the accident., and he had rested briefly before the accident flight.

Safety Board investigators interviewed numerous pilots who had flown with the flying pilot or had received flight instruction from him. He was consistently described as one of the best pilots with whom they had flown. All positively described his wealth of knowledge about the systems and engines of the airplanes he was flying at the time and about the Federal Aviation Regulations (FARs). His flight students at GP Express characterized him as an excellent instructor and as one of the best pilots employed by the airline. He was highly respected for his knowledge of the C-99. The instructor who had taught him to fly, had provided him with advanced instruction, and had checked him on his commercial and two of his flight instructor certificates described him as the best pilot he had observed. His observation was based on a comparison to many other pilots that he had instructed and checked during his 20-year Air Force career and his civilian employment.

The flying pilot's former supervisor at the *fixed* base operator (FBO) operated with Kearney *State College* described him as an employee who was well liked by his students and who was very responsible. He consistently reported on time for work and performed his duties professionally.

With one exception, no pilot, family member, or acquaintance was aware that the flying pilot had ever performed aerobatics. He had not discussed aerobatics with his wife, his former instructor, or anyone whom safety Board investigators interviewed. One GP Express first officer told Safety Board investigators that while he was in training and had not yet been hired by the airline, he had observed the flying pilot perform two wingovers and an approach to a hammerhead stall in a C-99 on a nonrevenue flight from EAR, to GRI. Both maneuvers are aerobatic maneuvers and, hence, not permitted to be performed on these aircraft. The first officer believed that this was done to scare him, and because he had not yet been hired, he did not believe that he was in a position to complain to company management. As a result, GP Express did not learn of this report until after this accident.

Safety Board investigators interviewed the pilot who had acted as second-in-command while the first officer was in the aircraft in the flight described above. He told investigators that he had never witnessed a GP Express pilot perform

unauthorized maneuvers. Investigators informed him of the allegation regarding the aerobatic maneuvers that the flying pilot was reported to have performed. The pilot, now a captain with GP Express, denied witnessing the flying pilot perform the alleged maneuvers.

The flying pilot had applications for employment as a pilot on file with major airlines. He had discussed with his wife, and others, his desires to join a major airline. However, his wife told Safety Board investigators that, given the economic climate that had existed for some time preceding the accident, the flying pilot had begun to acknowledge that such opportunities would not be likely in the near future. He had discussed with her plans to apply for employment as a pilot, or as an aviation specialist, with various federal agencies.

The flying pilot was married and the father of two sons, aged 4 and 9 years. Colleagues and friends confirmed that he was happily married and was not experiencing personal or financial difficulties at the time of the accident.

The Right Seat Pilot (Check Pilot)

The check pilot, age 28, held an ATP certificate with an airplane multiengine land rating and a type rating in the Beech 1900. He also held a certified flight instructor certificate with airplane single-engine and multiengine land ratings. He had a first-class medical certificate, issued November 25, 1992, without limitations or waivers.

The check pilot was hired by GP Express on May 28, 1990. At the time he was hired, he had accrued a total of 1,002 flight hours, of which 24 were in multiengine airplanes, and 34 were in actual or simulated instrument conditions. GP Express initially assigned the check pilot as first officer on the Cessna 402. On September 24, 1990, he transitioned to the C-99 as a first officer, and on January 3, 1991, he upgraded to captain on the Cessna 402. He transitioned to the C-99 as a captain on June 20, 1991, and to the Beech 1900 as a captain on November 24, 1992. On September 21, 1992, he became a check airman on the C-99. He was a company-designated ground school and flight instructor in the C-99. He was qualified to perform line, competency, and proficiency checks in the C-99. He was a line captain in both the C-99 and Beech 1900 airplanes.

According to company records, the check pilot had 3,941 hours total flight

time, of which the company estimated **1,760** were in the C-99. **During the 24 hours, 30 days, and 90 days** preceding the accident, the check pilot had flown **4, 69, and 226 hours**, respectively.

There were **no** negative items in the **company** records **of** the check pilot. On February 6, 1992, he had received a letter of commendation **from** the director of operations for the favorable comments **of** passengers **on** two flights in which he was a crewmember. The director **of** operations told **him** that:

It is a pleasure to pass **along these** passenger's comments to you. The professionalism and airmanship demonstrated by you **on** these **two** trips was **excellent** and **is** recognized. **This is** the kind **of** service we stand for and your actions **are** the reason **GP Express** will **continue** to grow and prosper. **On** behalf of **all** of us, *dank* you and congratulations on a **job truly** well done.

The check pilot was **characterized by company pilots as** a very competent pilot who was quiet and reserved until one got to know him. Like the flying pilot, **he** was uniformly acknowledged to be an excellent pilot with an exceptional knowledge of airplane systems.

In December 1992, the check pilot **submitted** a letter to the chief **pilot** expressing **his** desire to resign **his** designation **as** a check airman, citing **as** reasons the irregular work schedule, additional workload, and time demands.' In March 1993, he **submitted** a request **to the** airline to work **as** a part-time pilot. An agreement was reached between the check pilot and **GP Express** in April, and he was **to** begin part-time status in May. According to friends and family, the check pilot had **begun** to pursue **his** avocation of home remodeling **as a** second source of income, and **was** preparing to pursue **this endeavor full** time after leaving the **airline**.

According to **GP Express**, on April 21 and **22**, a week before the accident, the check pilot flew a **3.8** hour trip that began at 0605 and ended **at 1419**, with **six takeoffs** and landings. **On** April 23 he also flew 3.8 hours on a **trip** that began at 1545 and ended at 2235, with six takeoffs and landings. He was off duty **on** April

¹Although *the* check pilot had resigned **his** position as check airman, he had reached an *agreement* with *the* company to administer check rides on an "as needed" basis.

24, **April 25**, and April **26**. He flew 3.8 hours on April 27, on a trip that **began** at **1545** and ended at 2236, with six takeoffs and **landings**. **On April 28**, the day **of** the accident, he flew 3.7 hours on a trip that began at 1042 and ended at 1535.

The check pilot was married and the father of a 4-month-old son. Colleagues and **friends** were consistent in their descriptions **of him as** a happily married man who particularly enjoyed fatherhood. He had no known personal or financial difficulties.

The *two* pilots were **friends** who regularly socialized, with their families, outside the work environment. Both family members and friends portrayed the pilots **as** individuals who enjoyed playing "jokes" on each other. These jokes, which were considered pranks, included putting petroleum jelly inside the door handles of the other's vehicle.

4. COCKPIT VOICE RECORDER

The airplane was not equipped with a flight data recorder, nor **was one** required, at the time of the accident. It was equipped with a B&D Instrument **CVR**, which contained 32 minutes of *good* quality audio information recorded **on** three channels. One channel provided audio signals from the cockpit area microphone. The other two channels contained audio signals from the captain's and the first officer's respective audio panels. The CVR contained recordings **of** both the accident flight and the prior flight, which was a repositioning flight from EAR **to** GRI (See Appendix A).

Repositioning Flight

The **CVR of** the repositioning flight indicates that at the beginning **of** the flight, the captain asked the first officer if he was up **for** a "vertical thing." The captain then contacted the **EAR** station and told the station agent to "**look** out the window." The station agent, who later told Safety Board investigators **that** she did not see the airplane flown in an unusual manner on **takeoff**, asked the crew if it could **perform** the maneuver ~~again~~. The crew did not comply with the request and proceeded to **GRI**.

Throughout the flight, **transmissions from** a local radio station could be heard on the CVR. In addition, the crew engaged in a great deal **of** conversation

not pertinent to the flight, such as singing with the music that was being broadcast. At one point in the flight the *captain* remarked on the interphone, "just about 5 minutes ago I was **telling** you, I said hey, I ain't going to be doing any more of this aerobatics...5 **minutes** later, here we are." The recording ended with the first officer remarking, "Oh gee. We laid the **seats** down pretty." The *captain* responded with, "Just like I wanted them to." The airplane landed without incident at GRI.

Safety Board investigators interviewed both pilots individually after the accident. Both denied engaging in aerobatic maneuvers. The captain said that he had been practicing a high **speed** descent, a maneuver he had **been** required to **perform** twice to successfully complete a C-99 check ride that the chief pilot had administered to him the day before.

Accident Flight

The portion of the **CVR** recording for the accident flight revealed that, just before **takeoff**, the flying pilot suggested, "Try the single wheel **takeoff** maybe." He then remarked, "We'll ride the **left** side, we'll see how long we **can** do it. Good for those **tes**." The transmission of a radio station could also be heard in the background **of** the CVR on **this** flight. After the transponder check with Minneapolis Center, the check pilot commented to the other, "That's as official as we get tonight." Shortly thereafter, the flying pilot could be heard saying, "Lazy eights in a ninety-nine." **Lazy eights are a** coordination maneuver required of applicants for an **FAA** commercial pilot certificate.

Subsequently, the flying pilot said, "I bet it would be real easy to just take it right on over." The pilots then discussed rolling airplanes. At **234952**, the flying pilot referred to his experience rolling Cessna **152** and **172** airplanes,² and said, "...I guess we've got enough speed right now. And you just kinda start coming in like this, pullin up...and keep positive Gs on it. Take it all the way around, unload...and then point straight for the ground." The recording ended after this last remark, at 2350:35.

5. COMPANY INFORMATION

² Safety Board investigators **were unable to** confirm that the flying pilot **had performed** such maneuvers **before** the accident flight.

In January 1986, the FAA granted approval to GP Express Airlines, Inc., to operate as a commuter air carrier based in GRI under 14 CFR Part 135. The airline began operations with an Essential Air Service (EAS) contract to provide air service to six cities in central Nebraska using Cessna 402 airplanes. In 1987, the company acquired its first C-99 airplane. In 1990, the company acquired its first Beech 1900. In 1992, the company applied for, and was awarded, an EAS contract to provide passenger service to cities in Alabama, Georgia, Mississippi, and South Carolina, in addition to the service it provided to cities in Colorado, Kansas, Minnesota, Missouri, Nebraska, South Dakota, and Wisconsin.

The company's corporate headquarters, scheduling, operations, and maintenance functions are located at GRI. The company maintained five pilot domiciles in its midwest operating area and four pilot domiciles in its southern operation. At the time of the accident, the company employed 65 pilots, and operated eight C-99 and five Beech 1900 airplanes.

All of the company stock was held by the chief executive officer (CEO) and his wife. Its daily operations were overseen by a president/general manager, a director of operations, a director of maintenance, and a chief pilot. There was no director of training or training department formally established in the company. The CEO, who was the founder of the airline, had also served as president until May 8, 1992, when he hired a president to oversee the company's daily operations. At the time of this accident, to comply with FAA requirements, the CEO was listed as serving as the airline's director of operations, although he stated that the duties of that position were actually performed, on an acting basis, by the chief pilot.

From the time it began scheduled passenger service in 1986 until this accident, GP Express has had 10 different directors of operations, six different directors of maintenance, and 12 different chief pilots. The company has hired another director of operations since this accident.

Before this accident, the company had experienced two other fatal accidents. On December 22, 1987, a Cessna 402 crashed on approach to Chadron, Nebraska. The Safety Board determined that the probable cause of that accident was [the application of] improper instrument flight rules (IFR) procedures, and the failure of the pilot-in-command to maintain proper altitude during a nondirectional beacon approach.

On June 8, 1992, a day after it initiated southern operations, a GP Express C-99 crashed on approach to Anniston, Alabama. On March 2, 1993, the Safety Board determined that the probable causes of the accident were:

The failure of senior management of GP Express to provide adequate training and operational support for the startup of the southern operation, which resulted in the assignment of an inadequately prepared captain with a relatively inexperienced first officer in revenue passenger service, and the failure of the flightcrew to use approved instrument flight procedures, which resulted in the loss of situational awareness and terrain clearance. Contributing to the causes of the accident was GP Express' failure to provide approach charts to each pilot and to establish s t a b i i approach criteria. Also contributing were the inadequate crew coordination and a role reversal on the part of the captain and first officer.

The CEO of the airline disagreed with the Safety Board's findings concerning management's role in the cause of the Anniston accident. He believed that the pilots of the airplane that crashed at Anniston were qualified and had been trained properly to perform their duties on that flight but that they had failed to properly execute a straightforward instrument approach.

As a result of the Anniston accident, the Safety Board issued six safety recommendations to the FAA, Safety Recommendations A-92-133 and A-93-35 through -39. Three of those addressed airlines operating under 14 CFR Part 135. These urged the FAA to require that such airlines: provide all pilots operating under 14 CFR Part 135 access to instrument approach charts, develop and include in their procedures and training programs stabilized approach criteria, and require that the pilot-in-command of flights with two or more flightcrew members have at least 100 hours of flight time in 14 CFR Part 135 operations. The FAA did not agree with the Safety Board's recommendation on individual pilot access to instrument approach charts (A-93-35), and as a result, the Safety Board classified the FAA's response "Open—Unacceptable Action" on November 19, 1993. Because the FAA had agreed, in principle, to the other two recommendations

³Aircraft Accident Report—"Controlled Collision with Terrain, GP Express Airlines, Inc., Flight 861, A Beechcraft C99, N118GP, Anniston, Alabama, June 8, 1992." (NTSB/AAR-93/03)

addressing 14 CFR Part 135 operations (A-93-36 and -39), the Safety Board classified them "Open-Acceptable Action" on November 19, 1993. The Safety Board also issued a recommendation to the FAA to develop guidance and evaluation criteria for use by Principal Operations Inspectors (POIs) to use to evaluate the quality of airline training programs in crew resource management (CRM) (A-93-37). Because the FAA, in response to the Safety Board, issued a handbook on CRM, the Safety Board classified the recommendation "Closed-Acceptable Action" on November 19, 1993. The fifth recommendation urged the FAA to require airlines to provide pilots, hired as captains and trained by outside sources of pilot training, with additional flight training on procedures unique to the airline (A-93-38). The FAA's response indicated that existing regulations met the intent of the recommendation, and as a result, the Safety Board concurred with this analysis and, also on November 19, 1993, classified the recommendation "Closed-Reconsidered." The Safety Board also reiterated previous recommendations that urged the FAA to establish minimum experience levels for pilots paired in the same airplane (A-88-137), and require that airlines operating under 14 CFR Part 135 train their pilots in CRM (A-90-135). These recommendations are being held as "Open-Acceptable Response" pending completion of FAA action. The remaining recommendation from the Anniston investigation (A-92-133) was issued before the full report and asked the FAA to require that aircraft must be operated by two crewmembers, be equipped with a four-channel CVR, the exclusive use of the third CVR channel to record only audio signals from the cockpit crew intercom system and the two "hot" boom microphones. The FAA responded by referring to the European Organization for Civil Aviation Electronics on performance standards for CVRs. On April 23, 1993, the Safety Board classified Safety Recommendation A-92-133 "Open-Unacceptable Response," pointing out that the work in Europe does not address the problem identified at Anniston.

GP Express told Safety Board investigators that it had taken action to meet the intent of several of the recommendations. For example, it said that a CRM program had been planned as a result of the Anniston accident, and it was to implement such training on May 10, 1993. GP Express management informed the Safety Board that it had modified its policies to promote pilots into the captain position, rather than hiring someone into that position without previous experience with the airline. In addition, the airline implemented procedures to prevent two pilots who were inexperienced in the same type aircraft from flying that aircraft together, and provided additional information on new routes for pilots first flying those routes. The company had not taken action on acquiring a second approach

plate for each aircraft since the existing system appeared to be functioning adequately. Nearly all of the pilots that Safety Board investigators met with stated that they saw no changes in GP Express policies or procedures as a result of the Anniston accident?

The CEO said that he complied with all applicable FARs and would not tolerate any deviations from those regulations. He believed that, while rules for operating flights conducted under 14 CFR Part 91 were different from those conducted under Part 135, the basic operation of aircraft should be the same. This belief was not written in a company publication nor stated in a company communication. The CEO believed that the company not only met the requirements of the FARs, but in several instances it exceeded them. For example, the use of Flight Safety International (FSI) to perform pilot screening for the airline had reduced the chances of personal biases and friendships influencing the selection of pilot candidates for the airline. The airline operated its aircraft at less than the maximum allowable cruise speeds, thus placing less stress on the engines and enhancing their reliability. Further, since 1988, the company has spent in excess of \$25,000 annually on external audits of both operations and maintenance. The audits examined all areas of operations and maintenance to determine the quality of the programs, and the extent of their compliance with applicable FARs. The CEO stated that these audits "provide[d] an unbiased report on the ability of our management team to perform their function on behalf of the personnel at our organization."

He acknowledged that many pilots were unhappy with the company. He attributed many of the difficulties in the company's relationship with its pilots to its director of operations at the time, a belief shared by many of the pilots that Safety Board investigators interviewed. The CEO believed that, after discussing this and other issues repeatedly with the director of operations, the company addressed that problem by terminating his employment in February 1993. The CEO stated that he intended to hire a replacement around mid-May. Safety Board investigators were unsuccessful in their attempts to locate and communicate with

⁴ After this accident, the FAA's POI urged the company to implement each Safety Recommendation that the Safety Board issued as a result of the Anniston accident (see Appendix B). The company complied with the request. In addition, the FAA administered check rides to each captain who had been checked by a pilot on the airplane that crashed in this accident. All passed the check rides.

this former director **of** operations.

The CEO said that he intended to make ~~the~~ airline the best one possible. He solicited ideas for improving the airline from all sources, and encouraged employees to offer suggestions to management. He believed that ~~the~~ relationship the airline had maintained with the **FAA** was a good one.

He stated that GP Express terminated any employee **who** "willfully, consciously and with premeditation" violated FARs. He cited several **instances** in ~~which~~ he had acted on ~~this~~ policy, including **one** in which the employment of a director of maintenance was **terminated** for intending to **falsify** company **actions on** required maintenance **items**. The GP Express Employee Handbook contained rules with respect to safety, **among** which were the **following**:

Company Rules and Regulations are in place for the *safety* of Company personnel and passengers. Personnel witnessing or **who** are aware **of** violations of company policies are to report same **to** management immediately.

All Company equipment, whether ground or flight, *is* to be utilized in a manner consistent with care and concern.

You are expected to work and conduct your activities while on the job and at anytime while on Company **or** airport premises in a manner consistent with professionalism and absolute safety. Horseplay or other unsafe activities of any kind *are* not **permitted**

Pilots interviewed by Safety Board investigators believed **that** the president and chief pilot **of** the airline were trying to do a good job, but that they were limited by the CEO in their ability to effectively discharge their duties. **All of the** pilots had complaints regarding the scheduling practices and schedule changes, which often prevented them **from** planning vacations and taking time **off**. They attributed **this** to an insufficient number **of** pilots to meet scheduled revenue service demands. Several pilots acknowledged that at **least** some portion **of** the scheduling difficulties had also **been** caused by the crew scheduler. Largely because **of** pilot complaints about what they described **as** the scheduler's efforts to intimidate them to take flights during scheduled off-duty **periods**, GP Express had intended **to** transfer her to another position in the company. The president of *the* company

said that the transfer, which took effect on May 17, 1993, had been decided upon about 3 weeks before the accident.

GP Express records indicated that from May 1, 1990, to April 30, 1991, 35 pilots were hired. Of the 18 who had left the airline during that period, 15 had resigned and three had been furloughed. In the next 12 months, five pilots were hired and 19 left—16 of those had resigned, two had been terminated and one had been furloughed. In the next 12 months, 26 were hired, and five resigned, one was terminated, and one left for other reasons. Because GP Express did not systematically determine the reasons for the pilots' resignations, the Safety Board was unable to determine with certainty the reasons why each of the pilots left the airline. However, GP Express records indicate the following with regard to its pilot resignations/terminations:

- 15 were hired by airlines operating more sophisticated equipment
- One went on a leave of absence for maternity leave
- Two were terminated for violating company policies unrelated to flight operations
- One left due to unwillingness to relocate, and
- One was deceased.

GP Express often scheduled a pilot to fly for 6 days in the mornings, gave him or her 24 hours off and then scheduled him or her for 6 days in the afternoon and late evening. Safety Board investigators found that many GP Express pilots waited until the "grace month" to be administered proficiency checks. This was true for the flying pilot of the accident flight, who had only 2 days remaining in his grace month. GP Express management stated that most pilots were in their grace month when scheduled for checks. There were two instances of record since May 1991 when a captain had flown revenue flights while out of currency. Both

⁵14 CFR Part 135.297(a) states: "No certificate holder may use a pilot, nor may any person serve as pilot in command of an aircraft under IFR unless, since the beginning of the sixth calendar month before that service, that pilot has passed an instrument proficiency check under this section administered by the Administrator or an authorized check pilot."

14 CFR Part 135.3019(a) allows a crewmember who is required to take a test or flight check under this part to complete the test of flight check in the calendar month before or after the calendar month in which it is required. The month after the required calendar month is commonly referred to as the "gracemonth."

of these instances resulted in FAA action. After the first such instance, the Principal Operations Inspector (POI) determined that the audit system GP Express was using had failed to identify, track, or expose the possible problems of scheduling crewmembers who are not in compliance with 14 CFR 135.297.

In accordance with Compliance/Enforcement Bulletin 90.6, GP Express agreed in writing to the suggested guideline: "Schedule pilots during the grace month only with the written consent of the Director of Operations." GP Express also outlined the system that it would implement to alleviate future scheduling problems. Enforcement action on the second occurrence was pending at the time of the accident.

A number of pilots interviewed told Safety Board investigators that GP Express required pilots to attend lengthy ground school sessions (for as long as 10 hours a day) during periods in which they were flying their line schedule. Training flights and check flights usually occurred at night, due to the availability of company aircraft, after crews had flown a full duty day. On occasion, pilots were asked to fly nonscheduled ferry flights, maintenance flights, parts deliveries, and other nonrevenue-producing flights under 14 CFR Part 91.

GP Express had initially established the following minimum requirements in hiring pilots: 1,000 to 1,200 total flight hours and 100 to 200 hours of multiengine time. Before the accident at Anniston, the airline had increased the requirements to 1,500 total flight hours and 300 hours of multiengine time. The airline screened candidates for its pilot positions by examining their résumés, interviewing the candidates, and administering a test. The test was general in nature, and covered a range of flying subjects: general aircraft knowledge, 14 CFR Part 91 regulations, weather, and radar summary interpretations. The background investigation of an applicant consisted of a driver's license check, pilot certificate verification, and a check of the previous employer. Once accepted, the new hire pilots attended a company indoctrination and Cessna 402 ground school. Upon completion of ground school, the pilots were assigned as first officers to the Cessna 402, or the C-99 as the Cessna 402 was phased out of scheduled revenue passenger service in the 1991-1992 time frame.

In April 1992, the company contracted with Flight Safety International (FSI), Wichita, Kansas, to supply it with applicants for pilot positions. The candidates were required to meet GP Express' established requirements and were then

screened by FSI, which submitted a list of qualified applicants to the airline. FSI conducted a background check covering the previous 5 years, a driving record check, accident/incident verification, and a pilot certification check. If the background screening was acceptable, FSI administered a 4-hour battery of tests, which covered math, verbal, and psychological tests. The airline then selected, from the list of applicant pilots, the candidates to be trained by FSI for the C-99 or Beech 1900. Upon successful completion of their training, a check ride was administered by an airline check airman. The candidates paid for their own training at FSI.

6. FAA SURVEILLANCE

The FAA POI overseeing the operation of GP Express was located at the FAA Flight Standards District Office (FSDO), Lincoln, Nebraska. The POI had an ATP certificate with ratings in the Embraer 110, Beech 1900/300, and Fairchild SA-227. His total flying time was about 9,400 hours. He became the POI for GP Express in June 1991 and was the fifth inspector to hold the position since GP Express began operations. In addition to his POI responsibilities at GP Express, he was also the POI for three 14 CFR Part 135 On Demand Operators, thirty 14 CFR Part 137 Aerial Application Operators, and one 14 CFR Part 141 flight school. He stated that he devoted about 50 percent of his time to GP Express.

The POI performed all initial Beech 1900 type rating check rides. Since no type rating was required for the C-99, the company check airmen accomplished all checks in that airplane. The POI also conducted proficiency checks in the Beech 1900.

From October 1, 1990, to the date of the accident, FAA records for its surveillance of GP Express in its Program Tracking and Reporting Subsystem (PTRS) indicated that a total of 662 inspection reports were completed. The majority of the surveillance reports were ramp or cockpit en route inspections. Approximately 50 percent of the surveillance activity was conducted by the Lincoln FSDO, and the remainder by inspectors in the geographic units of eight other FSDOs. A total of 140 inspections, 21 percent of the surveillance reported, were conducted by one inspector at the Denver FSDO during this period. There were very few comments noted on any of the PTRS activity reports. Most of the records merely indicated an activity code, the person conducting the inspection, and the date completed.

7. ANALYSIS

The Safety Board found no evidence of preexisting airplane structural failures, system defects, or malfunctions that could have led to the accident. All structural failures observed were caused by overloads associated with ground impact. At the time of the accident, the airplane was properly certificated and maintained in accordance with the applicable FARs, and was operated within its weight and balance limitations.

The pilots of N115GP were qualified in the airplane in accordance with the FARs and company policy. There was no evidence that either of the crew had medical problems nor was there evidence of the presence of any drugs or alcohol that could have impaired either pilot's performance.

Flightcrew Conduct and Performance

The conversations between the pilots recorded on the CVR during the accident flight further support the conclusion that there were no flightcrew physical problems or airplane problems that would have affected their control of the airplane. Their conversation and the discovery of the completed grade sheet also demonstrate that neither pilot intended to conduct an airman check on the flight. The recorded cockpit discussion clearly reveals that the flying pilot of the accident airplane performed a prohibited maneuver (apparently a barrel roll) at night and at an altitude insufficient to reasonably assure recovery of the airplane. Furthermore, the check pilot exercised no authority to oppose the intentions of the flying pilot while the flying pilot described and performed the maneuver.

Other than the very challenge of its performance, the Safety Board could find no readily apparent reason to explain why the pilots attempted to perform this maneuver. Both pilots were characterized as well-adjusted individuals who enjoyed their families, friends, and community. Neither was experiencing life events that could be characterized as negative. Both had young children and, by all accounts, were active participants in good spousal and familial relationships. Both were living within their financial means. Both appeared to have every reason to avoid unnecessary risks.

All persons whom Safety Board investigators interviewed who were familiar with the piloting abilities of the pilots were consistent in their praise of those

abilities. All pilots, both company and noncompany, including FAA inspectors who had flown with the pilots, **described** them as among the most skilled pilots they had **known.** That they were selected by GP Express to be check airmen indicates the **high esteem** in which the company held their **piloting abilities.** The evidence indicates **that the pilots** acted responsibly and safely when performing as pilots of scheduled revenue passenger aircraft and when **instructing and checking on those aircraft.** **To** others and probably to company management and FAA observers, they appeared to be responsible, **self assured,** competent, and highly skilled.

However, both **family** members and **friends** portrayed the pilots as **individuals** who enjoyed playing "jokes" on each other. As described to Safety Board investigators, **the jokes** appeared to be **harmless pranks.** In fact, the CVR reveals that the pilots were discussing a variety of **pranks** (albeit some **farfetched** and **hence,** without likely actual performance) that they could **potentially** play on others. Interestingly, the characterizations by friends and family of **these pranks** were in the context of the two **pilots** together. They were rarely described **performing** the pranks individually, but when together, they were described as enthusiastic practical jokers.

The **Safety Board** believes *that* it is consistent with **the practical joking** side of their character **that** the intrinsic **gratification** that would accrue from having performed a challenging maneuver **may** have provided sufficient **reward** in itself to justify the maneuver attempt. The **pilots** knew that they could **not discuss** such maneuvers with others **without jeopardizing** their aviation careers, and they knew **that** no one else would be aware of the roil because no witnesses would be **present.** **Thus,** the circumstances of this flight created the conditions under which **these** pilots could attempt such an unauthorized maneuver as a barrel roll without fear of retribution. **The** flight took place **at night,** in uncontrolled airspace, away **from** populated areas, and below the line of **sight of** the nearest ATC radar facility. Moreover, as captains with the airlie, they would have **known** that they would encounter few **opportunities to fly** a turbine-powered airplane in a **14 CFR Part 91** flight together under these circumstances.

The Safety Board believes **that,** given the **sum of the** evidence regarding the accident **flight,** the willingness of both **pilots** on the CVR to **perform the unauthorized** maneuver, and **the** completed Form 8410-3, **that** the pilots exhibited contempt for adherence to the very **FARs** and company requirements **that** they

were responsible for instilling in others. Further, even overlooking the violation of the most fundamental rules governing the conduct of flight proficiency checks, the **pilots showed** a self-destructive disregard for common sense by performing a highly demanding maneuver at night, **less than 2,000** feet above the ground. Therefore, the Safety Board believes that the **cause** of the accident was the deliberate disregard for FARs, GP Express procedures, and prudent concern for safety by the **two** pilots in their decision to execute an aerobatic maneuver during a scheduled check ride flight.

Given the late hour of the flight on the night of the accident, the Safety Board considered the possible role of fatigue in contributing to the decision of the **pilots to perform an** aerobatic maneuver, since research indicates that fatigue can contribute to poor judgment and poor decisionmaking. The evidence indicates that, on the **days** preceding the accident, both pilots were on a wake-rest cycle in which they were awake during daylight hours and **asleep** during nighttime hours. Thus, participating in a check ride at night could have been potentially disruptive to their established wake-rest cycle.

However, the wives of both **pilots** indicated that in the afternoon on the day of *the* accident the **pilots** were able to relax and that **both** pilots had received regular, restful sleep in the days before the accident. Moreover, the conversation between the **pilots** during the accident flight, as captured on the CVR, does not reveal any obvious **signs** of fatigue or sleepiness. In fact, **both pilots** could be described on the CVR as relaxed, joking, and alert during the flight. Given the difficulty in detecting or objectively measuring the presence of fatigue in human behavior, the Safety Board is unable to determine the extent, if any, that fatigue may have played in the decisions and actions of the pilots in *this* accident.

The egregious nature of this accident leads the Safety Board to consider the possibility that other **pilots operating** aircraft certificated for 14 CFR Part 135 operations, in circumstances similar to those of *this* accident, have considered performing aerobatic maneuvers. While the Safety Board was unable to conclusively determine that the **pilots** of the repositioning flight had performed aerobatic maneuvers, the conversation recorded on the CVR during the flight, specifically the references to "vertical thing" and "aerobatics," suggested that **unauthorized** maneuvers were conducted. At the very least, the CVR reveals that the pilots displayed immaturity and a lack of professionalism and responsibility about the aircraft with which the airline had entrusted them. To ensure that other

pilots are aware of the potential consequences of such irresponsible and reprehensible acts, the Safety Board believes ~~that~~ all pilots ~~operating~~ under 14 CFR Part 135 should be informed of the circumstances of this accident to dissuade them from even considering such actions. Therefore, the Safety Board believes that the Regional Airline Association should inform its members of the circumstances ~~of~~ this accident and affirm that the interests ~~of safety~~ require that strict adherence to all FARs and company operating procedures be ~~maintained~~ at all times.

Company Culture

The Safety Board found that GP Express ~~took~~ some actions to enhance safety ~~that~~ were ~~not~~ required by regulations. It regularly contracted with outside experts ~~to perform~~ audits of the company's maintenance and operations procedures. In addition, the company ~~took~~ specific action to address complaints of its pilots. For example, after ~~learning of~~ pilot dissatisfaction with its director of operations, and after observing closely the nature of his ~~interactions~~ with the pilots, the company removed him from that position, shortly before this accident. Notwithstanding these actions, the Safety Board believes that the circumstances of this accident, ~~as~~ well as the circumstances of the Anniston accident, indicate a problem that goes beyond the performance ~~of~~ individual flightcrew members.

The company experienced a high rate of turnover among its *corps* of managers responsible for developing operational procedures and policies, and overseeing their subsequent implementation. ~~As~~ a result of its inability to retain management personnel in key positions over time, the company ~~was~~ unable ~~to~~ develop and ~~maintain~~ consistent interpretation ~~and~~ application of its rules and procedures relevant to the operation and conduct ~~of~~ its flights.

The management turnover ~~may~~ have accounted for the company's difficulties in scheduling pilot competency/proficiency checks sufficiently in advance of the "grace" period provided in the regulations. The demonstrated inability of the company ~~to~~ abide by ~~FAA~~ requirements governing the scheduling of competency/proficiency checks suggests a broader difficulty of ~~GP Express~~ to oversee training and checking programs. The facts ~~of~~ this accident demonstrate that the company ~~was~~ unaware of how these two check airmen, and the pilots of the previous repositioning flight, were adhering to applicable rules ~~and~~ procedures when ~~company~~ management was not in a position to directly oversee the flights. In addition to the flagrant violation ~~of FARs~~ in the accident ~~flight~~, the failure of

the pilots in the repositioning flight to use standard challenge and response checklist callouts indicates that on some routine **flights**, the necessary appreciation of safety **standards** was absent.

The Safety Board believes that GP Express could have taken stronger action before **this** accident that would have demonstrated to its personnel a management commitment to safety. Some areas that warranted improvements were identified after the Anniston accident. However, even after the Anniston accident, there were few substantive changes that would have been apparent to line pilots. The Safety Board believes that the evidence indicates that GP Express **met** the letter **but** not the spirit of the FARs. This **was** most evident in the scheduling of pilots for the administration of competency/proficiency checks on the last possible day allowed. The Safety Board believes that the checks may have **been** given more to establish records of **FAR** compliance than for actual proficiency or competency verification. Moreover, the circumstances of **this** accident illustrate the inherent danger posed when colleagues are assigned to administer training or check flights to each other. It is **not** reasonable to expect that two friends with **nearly** equal piloting experience and stature within the company would **perform** a comprehensive check flight when they know that the flying/check pilot roles **may** be reversed on another **flight**.

The **Safety** Board believes that the company could have **been** more sensitive to the flight and duty time demands on its pilots. Although the Safety Board could **not** find any violation of current FARs, investigators received repeated **complaints** from pilots about canceled vacations and company **requests to** work on scheduled days off. The airline demonstrated repeated patterns of allowing its check airmen to work on company required tasks, within, but up to the federally **limited** requirements of, flight time and duty times.

The Safety Board recognizes that an airline cannot oversee the performance of each flightcrew on every scheduled flight. **Thus**, to assure that pilots **are** aware of their responsibilities to act professionally at **all times**, it is **necessary** for the company to promote a safety philosophy **as** the **opportunity** arises through its training and flight check structure. By requiring instructor pilots to demonstrate their performance **to pilots** more senior in the company hierarchy, the airline can be more assured that professional attitudes **and** safety philosophy are **being** passed to line pilots. Without such company oversight, airlines have no assurance that their **check** airmen are demonstrating the standards of judgment and behavior

expected of them. GP Express had a third check airman, the chief pilot, on its staff, and the Safety Board believes that, as the immediate superior of the airman needing to be checked, he should have been the individual designated to conduct the check flight. Therefore, the Safety Board believes that airlines operating scheduled passenger service should, where feasible, attempt to schedule training and check flights so that they can be administered by pilots who are higher in the company's hierarchy than the pilots being checked.

The Safety Board believes that the absence of effective CRM training is another indication of the company's less than total commitment to safety. Following the Anniston accident, in which the Safety Board cited GP Express' CRM training as "inadequate," GP Express failed to implement any changes in CRM training.

The Board recognizes that, unlike the Anniston flight, the accident and the repositioning flights were nonrevenue flights, operated under the less restrictive requirements of 14 CFR Part 91. Nevertheless, the Board believes the conduct of the flightcrews on both flights, as captured on the CVR, reflected a lack of cockpit discipline and a disregard for safe operating procedures. With regard to the accident flight, both of the pilots appeared to be willing participants in the decision to conduct an unauthorized and hazardous maneuver in violation of FARs, company policy, and prudent airmanship. In the case of the repositioning flight, the maneuvers performed by the captain represented a departure from routine flight operations and were conducted without the cooperation or explicit consent of the first officer. No briefings in preparation for the maneuvers were conducted between pilots, nor were the actions of the captain questioned or challenged by the copilot.

Although the Safety Board cannot conclude that CRM training would have prevented this accident, it notes that the provision of an effective CRM training program would have communicated to the pilots a message of company commitment to safety and proper flightcrew conduct and coordination. More importantly, CRM training places special emphasis on the role of check airmen and instructors to demonstrate and reinforce the concepts of effective CRM to other pilots. These key personnel often receive special CRM instruction and training to ensure that they understand and embrace the principles of CRM before it is administered to pilots flying the line. Had the pilots involved in the accident, as check airmen, been responsible for practicing and instructing the principles of

CRM on a daily basis, they might not have been tempted to engage in the **type of** behavior that resulted in the accident.

The Safety Board recognizes that the FAA does not require air carriers operating under **14 CFR** Part 135 to establish CRM programs. The Safety Board has previously addressed **this** issue in its investigation of the accident involving Aloha Islandair flight 1712,⁶ and in its investigation of the accident at Anniston. In its reports on the accidents cited, the Safety Board issued and reiterated **Safety** Recommendation A-90-135, which asked the FAA to:

Require that scheduled **14 CFR Part** 135 operators develop and use Cockpit Resource Management programs in their training methodology by a specified date. (A-90-135)

In its letter of February 8, 1991, the **FAA stated that it was** considering amending the training requirements of **14 CFR** Part 135 to include a requirement for CRM training. **On May 22, 1991**, the recommendation was classified "**Open-Acceptable Response**," pending further information from the FAA. The **Safety** Board has been informed **that a** draft of a notice of proposed rulemaking on **this** subject **is** now in the review process within the FAA. The Safety **Board** believes that *this* latest accident further illustrates the need to train all pilots **operating** aircraft in scheduled passenger service in the principles **of** CRM. Consequently, the Safety Board reiterates **Safety** Recommendation A-90-135 and urges the FAA to complete actions on **this** issue.

The Safety Board believes that, rather than **promoting a** strong **safety** philosophy, the airline established an environment in which the minimum expenditure necessary to meet the letter of the applicable FARs was acceptable. Although the Safety Board cannot state conclusively that changes in company procedures would have prevented two apparently competent pilots from performing unauthorized maneuvers in **its** aircraft, it does believe that establishing a commitment to the highest principles of safety could have influenced the check airmen **to** act in accordance with these principles. Therefore, the Safety Board believes that **GP Express'** failure in its obligation to communicate the message **of** **safety** and to establish an environment in which dedication to safety overrode all

⁶Aircraft Accident Report—"Aloha Islandair, Inc., Flight 1712, De Havilland Twin **Otter**, DHC-6-300, N707PV, Halawa Point, Molokai, Hawaii, October 28, 1989" (NTSB/AAR-90/05)

other concerns was a direct cause **of** *this* accident.

The Safety Board believes that while aircraft **of** airlines operating under **14 CFR Part 135** are engaged in airline-related flying activities, company personnel should be available and in a position to instantly communicate with the aircraft if necessary. Certainly in this accident, had the company had a flight following procedure, including communications and the monitoring of departures and landings of nonscheduled **as** well as scheduled **flights**, it could have recognized **that** the airplane was no longer maintaining communications, and it could have alerted the FAA **to** the missing airplane sooner. Further, if an aircraft is experiencing **an** emergency requiring rapid assistance from the company, the airline could communicate with the aircraft and be in a position to provide assistance. The Safety Board realizes that having company personnel available for all flights **may** place an undue burden on CFR Part **135** operators. If the availability **of** company personnel is not practical, the company should at least require that the flightcrews of after-hours airline-related flights file a flight plan for every flight in which they are a crewmember. This will enable a more timely rescue effort in the event that a flight plan is not closed. Therefore, the Safety Board believes that the FAA should require airlines operating under **14 CFR Part 135** to place personnel on duty with the ability to rapidly communicate with aircraft that **are** engaged in company-related flight activities when such activities are **taking** place or require that an appropriate flight plan is filed **for** the **type of** flight activity performed.

FAA Surveillance

The Safety Board believes that the level **of** FAA surveillance **of** GP Express was equal to or perhaps even higher than the average level **of** surveillance for similar airlines. However, the occurrence of this accident indicates **that** even *this* level of surveillance was not sufficient to accurately assess **the** safety philosophy **of** the company and its check pilots. While 662 reports of inspection activities had been entered into the PTRS since October 1, 1990, the absence **of** substantive comments makes it difficult **to** assess the scope **of** the inspections and trends that might be valuable to the POI's oversight role.

The FAA formerly had a list of air carrier compliance alert indicators, which were contained in Action Notice **1800.6** of August **4, 1988**. These indicators were changes in certificate holder operating characteristics **that may** affect safety and regulatory compliance. However, the **Action** Notice was not

given the permanency of the Air Transportation **Operations Inspection Handbook**. Such a tool would have helped the **POI** of GP Express *to* spot the indicators **that** may accompany potential safety deficiencies. For example, had more emphasis **been** given **to** the frequent turnover in management personnel, particularly the director **of** operations, and to the absence **of** a dedicated **training** officer, the **FAA** might have **been** prompted *to* give more attention to the C-99 check pilot program.

In view **of** the recent history **of** air **carrier** management being cited **as** causal or contributory in aircraft accidents; the **Safety Board** believes that the FAA should complete Chapter **8** of Volume **3** of its "*Air Transportation Operations Inspectors Handbook*," (**FAA** Order 8400.10), which deals with "*Air Carrier Management Effectiveness*."

8. FINDINGS

1. The flightcrew was qualified and current in accordance with **FARs** and company policy.
2. There was no evidence of **airframe** or powerplant failure **or** malfunction before the airplane **struck** the ground.
3. The flying pilot was scheduled to be given a proficiency check **by** the check pilot.
4. The **flying** pilot **and** the check pilot, who were **both** check airmen with the company, were *good* friends.
5. The flying pilot discussed and apparently attempted to demonstrate a prohibited aerobatic maneuver to the checking

⁷Aircraft Accident Reports—"Controlled Collision with Terrain, GP Express Airlines, Inc., Flight 861, A Beechcraft C99, N118GP, Anniston, Alabama, June 8, 1992." (NTSB/AAR-93/03); "Tomy International, Inc., d/b/a Scenic Air Tours, Flight 22, Beech Model E18S, N342E, In-flight Collision with Terrain, Mount Haleakala, Maui, Hawaii, April 22, 1992." (NTSB/AAR-93/01); and "Britt Airways, Inc., d/b/a Continental Express Flight 2574, In-flight Structural Breakup, EMB-120RT, N33701, Eagle Lake, Texas, September 11, 1991." (NTSB/AAR-92/04); and Aircraft Accident/Incident Summary Report—"Loss of Control, Business Express, Inc., Beechcraft 1900C N811BE, Near Block Island, Rhode Island, December 28, 1991." (NTSB/AAR-93/01/SUM).

pilot, who voiced no objections.

6. **A** lack of professionalism on the part of the pilots on the accident flight and the prior repositioning flight **was** indicative that the company safety philosophy **was** not effectively passed on to check or line pilots.
7. Company management personnel did not adequately supervise the airline's scheduling, flight, and training operations.

9. **PROBABLE CAUSE**

The National Transportation Safety Board determines that the probable causes of this accident were the deliberate disregard for Federal Aviation Regulations, GP Express procedures, and prudent **concern** for safety by the two pilots in their decision to execute an aerobatic maneuver during a scheduled check ride flight, and the failure of GP Express management to establish and **maintain** a commitment to instill professionalism in their pilots consistent with the highest levels of safety necessary for an airline operating scheduled passenger service.

10. **SAFETY RECOMMENDATIONS**

As a result of the investigation of this accident, the National Transportation Safety Board recommends that the Federal Aviation Administration:

Require airlines operating under **14 CFR Part** 135 to place personnel on **duty** with the ability to rapidly communicate with aircraft that are engaged in company-related flight activities or require that an appropriate flight plan is filed for the type **of** flight activity performed. (Class **II**, Priority Action)(A-94-11)

Complete Chapter 8 of Volume **3** of its "Air Transportation Operations Inspectors Handbook," (FAA Order 8400.10), which deals **with** "Air Carrier Management Effectiveness." (Class **II**, Priority Action)(A-94-12)

The National Transportation Safety Board also recommends that the Regional Airline Association:

Inform its members of the circumstances of the GP Express Airlines accident in Shelton, Nebraska, on April 28, 1993, and of the Safety Board's safety recommendations to the Federal Aviation Administration regarding *this* accident. (Class II, Priority Action) (A-94-13)

BY THE NATIONAL TRANSPORTATION SAFETY BOARD

Susan Coughlin
Vice Chairman

John K. Lauber
Member

James E. Hall
Member

Statement of Chairman Carl W. Vogt and Member John A. Hammerschmidt, concurring in part *and* dissenting in part:

We agree that this accident occurred because the pilots deliberately disregarded the FARs, GP Express' procedures, and aviation safety by attempting an aerobatic maneuver during the scheduled check ride. However, we cannot make the leap that GP Express' failure to establish and maintain a commitment to instill a higher level of professionalism in their pilots probably caused these well trained and experienced pilots to fly in such an unprofessional and unsafe manner. We concur with the report and recommendations as adopted by the majority, but in line with staff recommendations would find that the probable and contributing causes of the accident were as follows:

The National Transportation Safety Board determines that the probable cause of this accident was the deliberate disregard for Federal Aviation Regulations, GP Express procedures, and prudent concern for safety by the two pilots in their decision to execute an aerobatic maneuver during a scheduled check ride flight. Contributing to the accident was the failure of GP Express management to establish and maintain a commitment to instill professionalism in their pilots consistent with the highest levels of safety necessary for an airline operating scheduled passenger service.

January 19, 1994

APPENDIX A

Transcript of a B & D Instruments cockpit voice recorder (CVR), s/n unknown, installed on a Beechcraft C-99, N115GP, which was involved in an accident near Shelton, Nebraska, on April 28, 1993. The text of the transcript includes a repositioning flight in the same aircraft that was completed shortly before the accident flight.

LEGEND

INT	Crewmember interphone voice or sound source
R.D.O	Radio transmission from accident aircraft
CAM	Cockpit area microphone voice or sound source
-1	Voice identified as Pilot-in-Command (PIC) of repositioning flight
-2	Voice identified as Co-Pilot of repositioning flight
-3	Voice identified as Pilot-in-Command (PIC) of accident flight
-4	Voice identified as Co-Pilot of accident flight
-?	Voice unidentified
OPS-1	Radio transmission from Kearney operations
LKS-1	Radio transmission from Lakes Air flight eighty seven
MSP-1	Radio transmission from Minneapolis Air Route Traffic Control Center
.	Unintelligible word
@	Non pertinent word
#	<i>Expletive</i>
%	Break in continuity
()	Questionable insertion
(())	Editorial insertion
---	Pause

Note: Times are expressed in central daylight time (CDT).
Times shown in brackets { } are computer reference times.

INTRA-COCKPIT COMMUNICATION

AIR-GROUND COMMUNICATION

TIME &
SOURCE

CONTENT

TIME &
SOURCE

CONTENT

START of RECORDING

START of TRANSCRIPT of REPOSITIONING FLIGHT

1035:49 CAM	{00:04} ((sound of music similar to standard broadcast radio station))
1036:22 CAM	(0037) ((sound of engine increasing in RPM))
1036:54 CAM	{01:09} ((sound of another engine increasing in RPM))
1037:26 INT-1	{01:41} I guess we're gonna do a vertical (thing here, huh?) huh?
1037:35 INT-2	{01:50} uh? --- what?
1037:37 INT-1	{01:52} are you up for it.
1037:38 INT-2	{01:53} ah, I could handle it.
1037:40 INT-1	{01:55} OK. --- I'm such a boring person.
1037:45 INT-2	{02:00} no doubt.
1037:49 INT-1	{02:04} ** (auto feather)

INTRA-COCKPIT COMMUNICATION

AIR-GROUND COMMUNICATION

TIME & SOURCE	CONTENT	TIME & SOURCE	CONTENT
1037:52 INT-2	{02:07} good over here,		
1037:55 INT-1	{02:10} up inside. -- ((sound similar to rhythmic blowing into microphone)) ladles and gentlemen, now performing for your pleasure.		
1038:06 INT-2	{02:21} the @ man.		
1038:14 INT-1	{02:29} ((sound similar to whistling into microphone))		
		1038:27 OPS-1	{02:42} **
		1038:30 RDO-1	{02:45} hay is for horses, go ahead.
		1038:32 OPS-1	{02:47} **
		1038:33 RDO-1	{02:48} go ahead.
		1038:35 OPS-1	{02:50} *** you're so funny.
		1038:37 RDO-1	{02:52} hey, no problem, kiddo . hey uh, zero zero zero two. PD, seven ten , PD.
		1038:50 OPS-1	{03:05} OK , zero zero zero two Papa Delta, zero seven ten Papa Della. you guys have a nice night, we'll talk to you later.

INTRA-COCKPIT COMMUNICATION

AIR-GROUND COMMUNICATION

TIME & SOURCE	CONTENT	TIME & SOURCE	CONTENT
		1038:56 RDO-1	{03:11} you bet. look out your window, OK.
		1038:59 OPS-1	{03:14} OK, you got an audience.
		1039:01 RDO-1	{03:16} roger. --- who's the best pilot you ever met?
		1039:05 OPS-1	{03:20} you are.
		1039:06 RDO-2	{03:21} @ is.
		1039:09 OPS-1	{03:24} as fer as you know
1039:14 INT-1	{03:29} roady to go? final check?		
1039:17 INT-2	{03:32} final's clear. --- final is clear. and an. ciators, exteriors, transponder, water meth, cabin temp, auto ignition, timo.		
1039:28 INT-1	{03:43} alright hold onto your #.		
1039:30 INT-2	{03:45} really?		
1039:32 CAM	{03:47} ((sound similar to engine RPM increasing.))		

INTRA-COCKPIT COMMUNICATION

AIR-GROUND COMMUNICATION

TIME & SOURCE	CONTENT	TIME & SOURCE	CONTENT
1039:34 INT-2	{03:49} they're out. they're on, they're set, they're alive.		
1039:53 INT-2	{04:08} they're at a hundred, there's one.		
1040:00 CAM	{04:15} ((several beep sounds similar to trim in motion))		
1040:10 INT-1	{04:25} • max power.		
1040:53 INT-1	{05:08} **		
1041:03 INT-1	{05:18} power back to cruise (on) props.		
1041:06 CAM	{05:21} ((sounds similar to engine RPM decreasing))		
1041:15 CAM	{05:30} ((sound of several beeps similar to landing gear warning horn))		
1041:19 CAM	{05:34} ((simultaneous sounds similar to: engine power increasing, landing gear warning horn and trim in motion.))		
1041:59 INT-1	{06:14} beep, beep. --- cool, huh?		
1042:19 INT-2	{06:34} pretty wicked.		

INTRA-COCKPIT COMMUNICATION

AIR-GROUND COMMUNICATION

TIME & SOURCE	CONTENT	TIME & SOURCE	CONTENT
		1042:22 OPS-1	{06:37} hey, do it again.
		1042:25 RDO-2	{06:40} ((sound of laughter))
		1042:26 RDO-1	{06:41} ((sound of laughter))sorry.
1042:27 INT-2	{06:42} ***		
		1042:28 OPS-1	{06:43} ** we missed it.
		1042:29 RDO-1	{06:44} what's that?
		1042:30 OPS-1	{06:45} we missed it. one more time.
		1042:32 ROO-1	{06:47} no, sorry kids.
1042:35 CAM	{06:50} ((sounds similar to trim in motion))		
		1042:38 OPS-1	{06:53} ahhhhhhh.
		1042:43 RDO-1	{06:58} good night.
		1042:46 OPS-1	{07:01} ahhhhhh. good bye.

INTRA-COCKPIT COMMUNICATION

AIR-GROUND COMMUNICATION

TIME & SOURCE	CONTENT	TIME & SOURCE	CONTENT
		1042:48 RDO-1	{07:03} see ya.
1042:51 INT-1	{07:06} climb check.		
1042:54 INT-2	{07:09} gear and flaps?		
1042:55 INT-1	{07:10} up and up.		
1042:56 INT-2	{07:11} power and props?		
1042:56 INT-1	{07:11} fourteen and two.		
1042:57 INT-2	{07:12} props sync?		
1042:58 INT-1	{07:13} it's on.		
1042:58 INT-2	{07:13} engine gauges?		
1042:59 INT-1	{07:14} green and matched.		
1042:59 INT-2	{07:14} water meth?		
1043:00 INT-1	{07:15} it is uh.		

INTRA-COCKPIT COMMUNICATION

AIR-GROUND COMMUNICATION

TIME & SOURCE	CONTENT	TIME & SOURCE	CONTENT
1043:02 INT-2	{07:17} we don't have it. is that what you're trying to say? -- auto feather?		
1043:04 INT-1	{07:19} I was looking for the switch. it's off.		
1043:08 INT-2	{07:23} and exterior lights?		
1043:08 INT-1	{07:23} yeah.		
1043:09 INT-2	{07:24} station call?		
1043:11 INT-1	{07:26} it's ah, done. 'three minutes, like we're supposed to he. that's pretty cool man. came down like a # rock there.		
1043:18 INT-2	{07:33} oh yeah.		
1043:30 INT-1	{07:45} ((sound of whistling)) cool beans man, cool beans. **** ((sound of yawning)) --- where the #am I going? ((sound of laughter)) just climin' like a banshee.		
1044:09 INT-2	{08:24} let's see how high we can go @.		

INTRA-COCKPIT COMMUNICATION

AIR-GROUND COMMUNICATION

TIME & SOURCE	CONTENT	TIME & SOURCE	CONTENT
1044:10 INT-1	{08:25} one time we went to ten thousand feet from Grand Island to Kearney. @ ** had the can you know, he was doing this. we were going to Kearney one day. I was flying. I was just sitting there smiling. we went to ten thousand feet.		
1044:18 INT-2	{08:33} ((sound of laughter))		
1044:19 INT-1	{08:34} he looks up and he goes, aw #@, ###.		
1044:22 INT-2	{08:37} ((sound of laughter))		
1044:24 INT-1	{08:39} I got a cold @, it's gonna take us forever to get down. it's like oh, I'm sorry. here we go.		
1045:20 CAM	{09:35} ((sound similar to change in engine power))		
1046:31 INT-1	{10:46} you're quiet		
1046:33 INT-2	{10:48} what? ((sound similar to standard radio broadcast)) -" ** quiet.		
1046:35 INT-2	{10:50} ((increased volume of sound similar to standard radio broadcast))		
1046:46 INT-1	{11:01} great balls of fire. ((singing along with radio broadcast))		

INTRA-COCKPIT COMMUNICATION

AIR-GROUND COMMUNICATION

TIME & SOURCE	CONTENT	TIME & SOURCE	CONTENT
1046:57 INT-2	{11:12} ((sound of music stops))		
1046:58 INT-1	{11:13} ((whistling sound))		
1047:03 INT-?	{11:18} here we go, justa walking down the street.		
1047:12 INT-2	{11:27} ((sound similar to standard broadcast station resumes))		
1047:13 INT-1	{11:28} just about five minutes ago I was telling you I said hey #, I ain't going to be doing any more of this aerobatics #. ((sound of laughter))		
1047:19 INT-2	{11:34} no no @		
1047:19 INT-1	{11:34} five minutes later here we are.		
1047:21 INT-?	{11:36} rooaar. ((sound of laughter))		
1047:22 INT-1	{11:37} you know? really sucks.		
1047:34 INT-2	{11:49} well, altimeters are still fourteen, probably, and left traffic three five7		
1047:40 INT-1	{11:55} yep.		

INTRA-COCKPIT COMMUNICATION

AIR-GROUND COMMUNICATION

TIME & SOURCE	CONTENT	TIME & SOURCE	CONTENT
1047:41 INT-2	{11:56} in range. exterior lights, and in range is pretty much done.		
1047:44 INT-1	{11:59} oh. ((sound of whistling))		
1048:16 INT-?	{12:31}		
1048:44 INT-1	{12:59} we only got one problem here.		
1048:46 INT-2	{13:01} what's that?		
1048:48 INT-1	{13:03} uh, we only got one missile left.		
1048:51 INT-2	{13:06} oh no, what do we do? what are you doing?		
1048:54 INT-1	{13:09} slowin' down. I'm bringing 'em in closer.		
1048:56 INT-2	{13:11} you're gonna do what?		
1049:00 INT-1	{13:15} I'll hit the the brakes. he'll fly right by. then *** what's that called uh? what was it called? ooooh, hot shots. they hit the brakes, the brake pedal, you know?		
1049:13 INT-2	{13:28} yeah.		

INTRA-COCKPIT COMMUNICATION		AIR-GROUND COMMUNICATION	
TIME & SOURCE	CONTENT	TIME & SOURCE	CONTENT
1049:14 INT-1	{13:29} they fly right by 'em. hit the brakes. they fly right by. ((sound of whistling))	1050:48 RDO-2	{15:03} Grand Island traffic, Regional Express twenty six, is ten to the southwest, be straight in, runway three five Grand Island.
1051:34 INT-1	{15:49} ((sound of whistling))		
1051:43 INT-1	{15:58} approach flaps.		
1051:44 INT-2	{15:59} comin' down.		
1051:45 CAM	{16:00} ((sound similar to landing gear warning horn))		
1051:47 INT-1	{16:02} horn works.		
1051:48 INT-2	{16:03} twice.		
1051:52 INT-1	{16:07} good horn		
1051:53 INT-2	{16:08} oh yeah, lights are on, radar's on standby, cabin temp mode's set, auto feather?		
1051:59 INT-1	{16:14} it's armed.		

INTRA-COCKPIT COMMUNICATION

AIR-GROUND COMMUNICATION

TIME & SOURCE	CONTENT	TIME & SOURCE	CONTENT
1052:00 INT-2	{16:15} flaps are at approach. gear, prop sync to go.		
1052:05 INT-1	{16:20} yep. yeah boy. yeah bo,		
1052:09 INT-2	{16:24} ye bo.		
1052:11 INT-1	{16:26} ye bo. bok at all these softball fields. I can really groove on them.		
1052:22 INT-2	{16:37} what's this softball#.		
1052:24 INT-1	{16:39} those guys are out there working on the field. --- yep, they're out there fixin' it. --- cool.		
1052:39 INT-?	{16:54} cool.		
1052:41 INT-1	{16:56} we're just like cruisin' along here aren't we? we're just like toolin'.		
1052:45 INT-2	{17:00} just havin' fun.		
1052:46 INT-1	{17:01} toolin' over downtown Grand Island. what are you doin'?		
1052:49 INT-2	{17:04} nothing, why?		

INTRA-COCKPIT COMMUNICATION

AIR-GROUND COMMUNICATION

TIME & SOURCE	CONTENT	TIME & SOURCE	CONTENT
1052:51 INT-1	{17:06} what do you think I am, stupid?		
1052:53 INT-2	{17:08} didn't catch it the first time though, did you?		
1052:56 INT-1	{17:11} I thought, why's he *** my rudder? does he want to fly?		
1053:00 INT-2	{17:15} I see you lookin' like this, like you're, what a head fake there. lot of traffic.		
1053:06 INT-1	{17:21} what a bull #.		
1053:09 INT-2	{17:24} final's clear.		
		1053:11 RDO-2	{17:26} Grand Island traffic, Regional Express twenty six on, three mile final, runway three five, Grand island.
1053:18 INT-1	{17:33} ((sound of whistling))		
1053:23 CAM	{17:38} ((sound of clicking similar to radio being keyed several times))		
1053:28 INT-?	{17:43} ((sound of laughter))		
1053:31 INT-?	{17:46} ((sound of mor0 clicks and laughter))		

INTRA-COCKPIT COMMUNICATION

AIR-GROUND COMMUNICATION

TIME & SOURCE	CONTENT	TIME & SOURCE	CONTENT
1053:37 INT-1	{17:52} sixty flaps.		
1053:39 INT-2	{17:54} comin' now.		
1053:53 INT-1	{18:08} ** told me he's going to get my car today cause i put a Mr. Potato Head on his car.		
1053:58 INT-2	{18:13} yeah.		
1053:59 INT-1	{18:14} 'cause he put the PotatoHead in my in my box so I thought I'd put it on his car as a hood ornament, you know.		
1054:05 INT-1	{18:20} **** probably golin' to come back and my tires are gonna be gone.		
1054:07 INT-?	{18:22} ((voice sound similar to whoop whoop whoop))		
1054:09 INT-2	{18:24} that'll be good. I'm sure he'll do something.		
1054:11 INT-1	{18:26} lull drag. I'm golin' to be#. I'm gonna call the sheriff, have him go to his house and arrest him. ((sound of laughter))		
1054:16 INT-2	{18:31} that's full flaps three green. we're cleared to land.		

INTRA-COCKPIT COMMUNICATION

AIR-GROUND COMMUNICATION

TIME & SOURCE	CONTENT	TIME & SOURCE	CONTENT
1054:19 INT-1	{18:34} hope so.		
1054:21 INT-2	{18:36} and uh, blue lines. lookin' good. good. you're slowing down, that's good. no babe in the back the uh, you don't have to (press) her. -- there's the red line. eighty five, eighty, seventy five, sixty, forty, thirty, twenty, wow.		
1054:51 INT-1	{19:06} two in a row. I'm too cool.		
1054:54 INT-2	{19:09} of course.		
1054:55 INT-?	{19:10}		
1054:56 INT-2	{19:11} want me to get that for you?		
1054:56 INT-1	{19:11} ((sound of laughter)) oh no. just you relax. take a break.		
1055:05 INT-?	{19:20} ** tires.		
1055:06 INT-1	{19:21} ((sound of laughter)) sorry, had to be done, smack. the master caution thing here and there. the imprint.		
1055:22 INT-2	{19:37} look in the mirror. it looks real cool though.		

INTRA-COCKPIT COMMUNICATION

AIR-GROUND COMMUNICATION

TIME & SOURCE	CONTENT	TIME & SOURCE	CONTENT
1055:27 INT-1	{19:42} he walks around all day going like this, trying to reset it.		
1055:33 INT-2	{19:48} auto ignition, auto feather?		
1055:34 INT-1	{19:49} off and off.		
1055:35 INT-2	{19:50} lights and ice?		
1055:35 INT-1	{19:50} off and off,		
1055:35 INT-2	{19:50} flaps?		
1055:36 INT-1	{19:51} up.		
1055:36 INT-2	{19:51} trim?		
1055:37 INT-1	{19:52} set checked.		
1055:37 INT-2	{19:52} electrical load?		
1055:38 INT-1	{19:53} good.		
1055:38 INT-2	{19:53} ?		

INTRA-COCKPIT COMMUNICATION

AIR-GROUND COMMUNICATION

TIME & SOURCE	CONTENT	TIME & SOURCE	CONTENT
1055:39 INT-1	{19:54} good.		
1055:40 INT-2	{19:55}		
1055:41 INT-1	{19:56} good, that's good , and they're all good, everything's good.		
1055:51 INT-2	{20:06} that's good. well hey, we're done.		
1055:52 INT-1	{20:07} guess I can park this way. nope, I still have tires. oh, cool. oh, oh, look at what's on top of my car. what the # is on top of my car? that #.		
1056:07 INT-2	{20:22} what is it?		
1056:08 INT-1	{20:23} Mr. Potato head. oh, I'm goin' to have to gel him,		
1056:12 INT-2	{20:27} oh gee. we laid the seats down pretty,		
1056:16 INT-1	{20:31} just like I wanted them to.		

END of TRANSCRIPT of REPOSITIONING FLIGHT

INTRA-COCKPIT COMMUNICATION

AIR-GROUND COMMUNICATION

TIME & SOURCE	CONTENT	TIME & SOURCE	CONTENT
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BEGINNING of TRANSCRIPT OF ACCIDENT FLIGHT

1139:13 CAM	{20:55} ((sound similar to engine ignition))		
1140:01 INT-3	{21:43} The sdventure begins.		
1140:02 INT-4	{21:44} da, dit, dil, da, da.		
1140:12 CAM	{21:54} ((sound of engine RPM increasing))		
1140:15 INT-3	{21:57} ((sound similar to radio broadcast))		
1140:20 INT-3	{22:02} it's me clicking on your company this afternoon, as you approached the terminal in Grand Island.		
1140:33 INT-4	{22:15} did you hear that?		
1140:34 INT-3	{22:16} what?		
1140:35 INT-4	{22:17} did you hear me clicking?		
1140:36 INT-3	{22:10} yeah.		

INTRA-COCKPIT COMMUNICATION

AIR-GROUND COMMUNICATION

TIME & SOURCE	CONTENT	TIME & SOURCE	CONTENT
114030 INT-4	{22:20} was that you clicking or was that @?		
1140:41 INT-3	{22:23} that's me.		
114050 INT-4	{22:32} its lots of fun endeavoring to be as, as annoying as possible, isn't it?		
1140:56 INT-3	{22:38} to annoy the correct people too.		
1141:05 CAM	{22:47} (sound similar to engine RPM increasing))		
1141 :07 INT-4	{22:49} oh, that would be so sweet if @ parked my truck out here. oh, # that would be open season on his ##.		
1141:13 INT-3	{22:55} (sound of laughter))		
1141:18 INT-4	{23:00} I don't think the airport authority would groove on that, do you?		
1141:20 INT-3	{23:02} no I don't think so. I was telling @ that uh, he he needs to bring his front end loader here and we're thinking about cool places we could put his jeep like on top of the fuel truck, or places that would support it.		

INTRA-COCKPIT COMMUNICATION

AIR-GROUND COMMUNICATION

TIME &
SOURCE

CONTENT

TIME &
SOURCE

CONTENT

1141:41
INT-4 {23:23}
that'd be fun to put it, you know, **ABC truss** has that big dumpster, have the front bumper sitting on one side of it and the back bumper sitting on the other side of it **so** none of the wheels touched it.

1141:51
INT-3 {23:33}
we're also thinking about some of **those** ditches if you could find one of **those** really deep narrow ditches and place one bumper on one **side**, the back bumper on **the** other and the wheels would be suspended.

1142:00
INT-4 {23:42}
I bet you could jack his **wheels up** and put **blocks** under there **so** they're **about** eighth inch **off** or some, **so** they touch.

1142:06
INT-3 {23:48}
that'd be a really good one to do on him.

1142:12
INT-4 {23:54}
I think the blinking headlights would be oh **so** joyous.

1142:16
INT-3 {23:57}
((sound of laughter)) -- yeah, I think that would be good. -- no body.

1142:34
RDO-4 {24:16}
Grand Island **traffic**, sky slug five Golf Pop, departing to the west, three five **Grand** Island.

1142:41
CAM (24:23)
((sounds similar to engine **RPM** increasing))

1142:50
INT-3 {24:32}
try the single wheel takeoff maybe.

SW

INTRA-COCKPIT COMMUNICATION

AIR-GROUND COMMUNICATION

TIME & SOURCE	CONTENT	TIME & SOURCE	CONTENT
1142:54 INT-4	{24:36} which one?		
1142:56 INT-3	{24:38} Well ride the left side, we'll see how long we can do it. -- good for those tires.		
1143:12 INT-4	{24:54} they're a hundred and twenty mile an hour tires, aren't they?		
1143:15 INT-3	{24:57} something like that. -- ((sound similar to radio broadcast begins)) the G indicator.		
1143:34 INT-4	{25:16} smite you in the heed?		
1143:35 INT-3	(25:17) it did.		
1143:40 INT-4	{25:22} I know where @ lives on a		
1143:43 INT-3	{25:25} OK		
1143:45 INT-4	{25:27} on @. you been there.		
1143:46 INT-3	{25:28} sure.		
1143:51 CAM	{25:33} ((sound similar to engine RPM decreasing))		

INTRA-COCKPIT COMMUNICATION

AIR-GROUND COMMUNICATION

**TIME &
SOURCE**

CONTENT

**TIME &
SOURCE**

CONTENT

1143:54 {25:36}
INT-4 just want to make sure our transponder works. @
asked me to check it.

1144:06 {25:48}
RDO-4 Minneapolis Center, Beech Airliner one one five
Golf Pop, off Grand Island climbing through thirty
five hundred, request.

1144:18 {26:00}
MSP-1 Beech one one five Qoif Papa, go ahead.

1144:23 {26:05}
RDO-4 yes sir, uh, just put a new, uh, number one
transponder in here, wondered if you could, uh,
give us a code, check it out for us?

1144:36 {26:18}
MSP-1 Beech, uh, five Golf Papa, squawk two six six four.

1144:41 {26:23}
RDO-4 twenty six sixty four, for five Golf Pop.

1144:45 {26:27}
MSP-1 Lakes Air eighty seven, change to my frequency
one one niner point four.

1144:53 {26:35}
LKS-1 Lakes Air eighty seven made the switch.

1144:55 {26:37}
MSP-1 Lakes Air eighty seven roger, the, uh, Grand Island
altimeter's three zero one three.

1145:00 {26:42}
LKS-1 zero one three, Lakes Air eighty seven.

55

INTRA-COCKPIT COMMUNICATION

AIR-GROUND COMMUNICATION

TIME & SOURCE	CONTENT	TIME & SOURCE	CONTENT
1142:54 INT-4	{24:36} which one?		
1142:56 INT-3	{24:38} we'll ride the left side, we'll see how long we can do it. -- good for those tires.		
1143:12 INT-4	{24:54} they're a hundred and twenty mile an hour tires, aren't they?		
1143:15 INT-3	{24:57} something like that. ** ((sound similar to radio broadcast begins)) the G indicator.		
1143:34 INT-4	{25:16} smite you in the head?		
1143:35 INT-3	{25:17} it did.		
1143:40 INT-4	{25:22} I know where @ lives on a		
1143:43 INT-3	{25:25} OK		
1143:45 INT-4	{25:27} on @, you been there.		
1143:46 INT-3	{25:28} sure.		
1143:51 CAM	{25:33} ((sound similar to engine RPM decreasing))		

INTRA-COCKPIT COMMUNICATION

AIR-GROUND COMMUNICATION

TIME &
SOURCE

CONTENT

TIME &
SOURCE

CONTENT

114354 {25:36}
INT-4 just want to make sure our transponder works. @
asked me to check it.

1144:06 {25:48}
RDO-4 Minneapolis **Center**, Beech Airliner one one five
Golf Pop, **off** Grand Island climbing through thirty
five hundred, request.

1144:18 {26:00}
MSP-1 Beech one one five Golf Papa, go ahead.

1144:23 {26:05}
RDO-4 yes sir, uh, **just** put a new, **uh**, number one
transponder in here, wondered if you could, **uh**,
give us a code, check it out **for us**?

1144:36 {26:18}
MSP-1 Beech, uh, five Golf Papa, squawk two six six four.

1144:41 {26:23}
RDO-4 twenty six sixty four, for five **Golf** Pop.

1144:45 {26:27}
MSP-1 Lakes Air eighty seven, change to my frequency
one one niner point four.

1144:53 {26:35}
LKS-1 Lakes Air eighty seven made the switch.

1144:55 {26:37}
MSP-1 Lakes Air eighty seven roger, the, uh, Grand island
altimeter's three zero one three.

1145:00 {26:42}
LKS-1 zero one three, **Lakes** Air eighty seven.

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INTRA-COCKPIT COMMUNICATION

AIR-GROUND COMMUNICATION

TIME & SOURCE	CONTENT	TIME & SOURCE	CONTENT
		1145:02 MSP-1	{26:44} Beech five Golf Papa I'm picking up the transponder, uh, I show you about four southwest of Grand Island, mode C shows three thousand five hundred.
		1145:11 RDO-4	{26:53} that's right on for five Golf Pop, thanks a lot, uh, we're going to twelve hundred, uh, have a nice night.
		1145:16 MSP-1	{26:58} Golf Papa roger.
1145:19 INT-4	{27:01} cool?		
1145:20 INT-3	{27:02} cool.		
1145:21 INT-4	{27:03} that's as official as we get tonight.		
1145:22 INT-3	{27:04} that's right.		
1145:23 CAM	{27:05} ((sounds similar to trim in motion))		
1145:40 INT-?	{27:22}		
1145:51 INT-3	{27:33} lazy eights in the ninety nine.		

INTRA-COCKPIT COMMUNICATION

AIR-GROUND COMMUNICATION

TIME & SOURCE	CONTENT	TIME & SOURCE	CONTENT
1145:53 INT-4	{27:35} done anybody with the, uh, rudder trim with the yaw damp on yet? then when they click it off on final, wham.		
1145:59 INT-3	{27:41} ((sound of laughter))		
1146:00 CAM	{27:42} ((soundsimilar to trim in motion))		
1146:02 INT-3	{27:44} these new guys coming might be worth that *, for (ones) that doing that to.		
1146:07 INT-4	{27:49} I was thinking like @ and those kind of people .		
1146:08 CAM	{27:50} ((sound similar to landing gear warning horn))		
1146:20 INT-4	{28:02} uh, I need to eliminate that #.		
1146:35 INT-3	(28:17) yes, mine is regularly indicating that {way} also. ** ((sound similar to human voice imitating engine noise))		
1146:46 INT-3	{28:28} ready to spew yet?		
1146:53 INT-4	{28:35} negative commandor. commander ralph blowchowski.		

INTRA-COCKPIT COMMUNICATION

AIR-GROUND COMMUNICATION

TIME & SOURCE	CONTENT	TIME & SOURCE	CONTENT
1147:04 INT-3	{28:46} fella really needs to trim well ((possibly: a trim wheel)) if you gonna do a lot of that, ((soundsimilar to trim in motion))		
1147:12 INT-3	{28:54} ((sound similar to radio broadcast continues))		
1147:15 INT-4	{28:57} need an extra one?		
1147:19 INT-7	{29:01} ((sound of chuckle))		
1147:21 INT-4	{29:03} they wonder why all the sun visors are out and all the seats are *, and all the magazines are in the aisle.		
1147:44 INT-3	{29:26} I bet it'd be real easy to just take it right on over.		
1147:47 INT-?	{29:29} whoooooooooooo.		
1147:58 INT-3	{29:40} keep it kinda positive and lust, -- * freak shut out, big time started through and messed up.		
1148:10 INT-4	{29:52} keep* (low)		
1148:12 INT-3	{29:54} ((sound of laughter)) -- not big fan of unusual altitudes.		
1148:25 INT-4	{30:07} ((sound similar to human imitating airplane engine))		

INTRA-COCKPIT COMMUNICATION

AIR-GROUND COMMUNICATION

TIME & SOURCE	CONTENT	TIME & SOURCE	CONTENT
114827 CAM	{30:09} ((sound similar to trim in motion))		
1149:07 INT-3	(3049) the switch is still broken over here.		
1149:11 INT-4	{30:53} press to talk slays on?		
1149:12 INT-3	{30:54} yeah.		
1149:16 INT-3	(3068) ((sound similar to radio broadcast ended)) -- (it is) our desire to see the world turn upside down and then right itself again.		
1149:31 INT-4	{31:13} how would this be?		
1149:33 INT-3	{31:15} by doing what we're just doing but keepin' going.		
1149:36 INT-4	{31:18} have you done such a thing?		
1149:37 INT-3	{31:19} no.		
1149:39 INT-4	{31:21} I've not either . I've never rolled an airplane.		
1149:42 INT-3	{31:24} you never rolled any airplane?		

INTRA-COCKPIT COMMUNICATION

AIR-GROUND COMMUNICATION

TIME & SOURCE	CONTENT	TIME & SOURCE	CONTENT
1149:43 INT-4	{31:25} zero point zero.		
1149:45 INT-3	{31:27} well #. never rolled a ninety nine.		
1149:51 INT-4	{31:33} done a four oh two?		
1149:52 INT-3	{31:34} nope. one fifty twos, one seventy twos. that's when I knew it was time to get out of instructing, those slugs, they don't roll very well at all. we were doing aileron rolls where you just sit like this and just crank, and they come around kinda hard the barrel roll's a lot easier on, uh, they don't have enough poop to barrel roll, one seventy two's not too bad, just where, you's kinda nose down I guess we've got enough speed right now. and you just kind start coming in like this, pullin' up. ..		
1150:28 INT-3	{32:10} and keep positive G on it. take it all the way around, unload ...		
1150:35 INT-3	{32:17} and then point straight for the ground.		

END of TRANSCRIPT of ACCIDENT FLIGHT

END of RECORDING

APPENDIX B

LETTER TO GP EXPRESS FROM FAA FLIGHT STANDARDS DISTRICT OFFICE

FLIGHT STANDARDS DISTRICT OFFICE
General Aviation Building
Municipal Airport
Lincoln, Nebraska 68524
402 437-5485

May 12, 1993

CERTIFIED MAIL

Mr. Douglas J. Caldwell
GP EXPRESS Airlines, Inc.
Box 218
Grand Island, NE 68802-0218

Dear Mr. Caldwell:

On May 4, 1993, we informed you that until further notice all BE-99 checks will be given by the FAA. As a result of the recent accident involving two of your check airmen and after reviewing the report on the accident that occurred in Aniston, Alabama, and the recommendations made by the NTSB as a result of that accident, we have made the following decisions.

a. We will not reinstate GP EXPRESS Airlines, Inc., authorization to conduct BE-99 orals or flight checks until positive action is taken to comply with the NTSB recommendations as follows:

(1) Provide all pilots operating aircraft for GP EXPRESS Airlines, Inc., with individual sets of instrument approach charts, and require they be on board during Part 135 revenue flights.

(2) Develop stabilized approach procedures for GP EXPRESS Airlines, Inc., commuter operations and include them in the approved training program and operations manual.

(3) Develop a cockpit resource management (CRM) training program addressing crew interaction, decision-making processes, information gathering, flight crew communication and leadership skills. Guidance on developing CRM training can be found in AC 120-51A.

(4) Require that pilots hired directly to be captains receive additional flight instruction pertaining to the operating environment and procedures unique to the airline from an FAA approved company check airman or instructor.

(5) Require the use of crew pairing procedures in your company manual, rather than stating that you will try to comply.

Vertical stamp area with fields for CONCURRENCES, RTC SYMBOL, INITIALS/SG, DATE, and RTC SYMBOL. Contains handwritten entries such as '5-12-93', 'SASIA', 'P10', 'P12', and '5-12-93'.

b. Additionally we need to have a written description of what you are going to do to provide oversight of your check airman program as you stated in your discussion with Inspectors McKinney and Underwood in the teleconference on May 2, 1993.

Upon satisfactory completion of the above mentioned actions, we will consider any requests for check airman authorizations.

Sincerely,

~~Original Signed by~~

William D. Stewart
Manager

DGUnderwood:jak

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