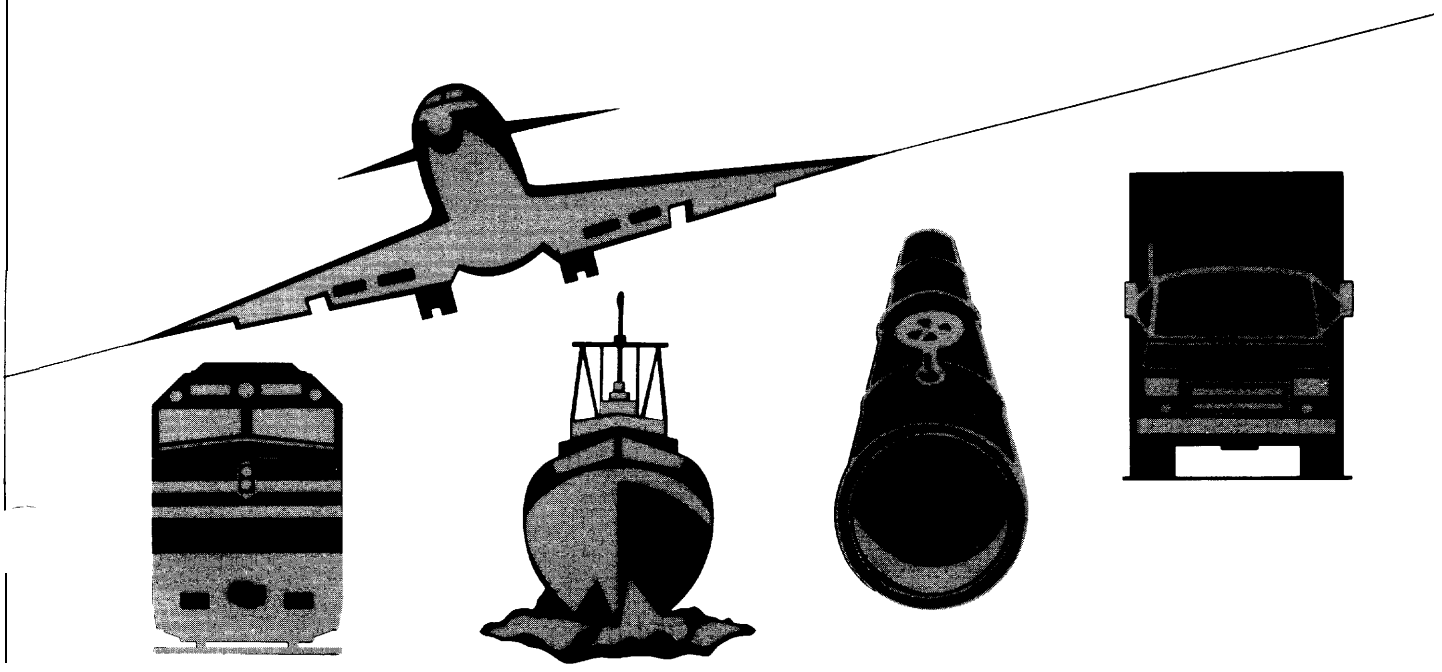
PB96-145180
NTSB/ARC-96/01

NATIONAL TRANSPORTATION SAFETY BOARD

WASHINGTON, D.C. 20594

ANNUAL REVIEW OF AIRCRAFT ACCIDENT DATA

U.S. AIR CARRIER OPERATIONS
CALENDAR YEAR 1994



TECHNICAL REPORT DOCUMENTATION PAGE

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
NTSB/ARC-96/01	PB96-145180	

4. Title and Subtitle	5. Report Date
Annual Review of Aircraft Accidents Data U.S. Air Carrier Operations Calendar Year 1994	March 18, 1996
	6. Performing Organization Code
7. Author(s)	8. Performing Organization Report No.
9. Performing Organization Name and Address	10. Work Unit No. 6658
	11. Contract or Grant No.
	13. Type of Report and
12. Sponsoring Agency Name and Address NATIONAL TRANSPORTATION SAFETY BOARD Washington, D.C. 20594	14. Sponsoring Agency Code

15. Supplementary Notes

16. Abstract

This publication presents the record of aviation accidents involving revenue operations of U.S. Air Carriers including Commuter Air Carriers and On Demand Air Taxis for calendar year 1994.

The report is divided into three major sections according to the federal regulations under which the flight was conducted - 14 CFR 121, Scheduled 14 CFR 135, or Nonscheduled 14 CFR 135. In each section of the report tables are presented to describe the losses and characteristics of 1994 accidents to enable comparison with prior years.

17. Key Words	18. Distribution Statement
Aviation, Air Carrier, Commuter, On Demand Air Taxi, Accident Rates, 14 CFR 121, 14 CFR 135	

19. Security Classification (of this report)	20. Security Classification (of this page)	21. No. of Pages	22. Price
UNCLASSIFIED	UNCLASSIFIED	72	

this page intentionally left blank

CONTENTS

this page intentionally left blank

LIST OF TABLES WITH TABLE NUMBERS

this page intentionally left blank

INTRODUCTION

This report presents a statistical compilation and review of air carrier accidents that occurred in 1994, and involved U.S. registered aircraft conducting operations under Title 14 CFR Parts 121 and 135. Briefly stated, Part 121 applies to air carriers, such as major airlines and cargo haulers, that fly large transport aircraft. Part 135 applies to commercial air carriers commonly referred to as commuter airlines, and to air taxis. For a complete definition of operations under each of these Parts, consult the applicable sections of the Code of Federal Regulations.

The report is divided into three major sections: 14 CFR 121 Operations; Scheduled 14 CFR. 135 Operations; and Nonscheduled 14 CFR 135 Operations. Each section begins with an overview of accidents and their consequences for 1994 and for the ten preceding years. Several tables then present accident parameters for 1994 only. Each section concludes with tabulations that present comparative statistics for 1994 and for the 10–year period 1984-1993.

Exposure data (flight hours, miles, and departures) used to compute accident rates for operations under Parts 121 and for scheduled operations under Part 135 were obtained from the Federal Aviation Administration (FAA), which compiled data reported by carriers to the Research and Special Programs Administration (RSPA) of the U.S. Department of Transportation (DOT). Flight hours for nonscheduled operations under Part 135 were obtained by the FAA in its surveys of general aviation activity. National Transportation Safety Board Report Form 6120.4 (Appendix F) shows the data elements upon which this report is based.

In many of the tables presented in this report (such as table 4), the number of accidents in a given category is small. In these tables, even a small change in the number of accidents would result in a significant change in the accident rate. Therefore, the reader should exercise caution in the use of these rates and in comparing numbers and percentages of accidents between two time periods when the number of accidents is small.

14 CFR 121 OPERATIONS

There were 23 accidents in Part 121 operations in 1994. The overall accident rate for 1994 was 0.165 accidents per 100,000 hours flown, a 7 percent decrease from the 1993 rate of 0.178. The 1994 rate was about 26 percent lower than the overall rate of 0.222 for the period from 1984 through 1993.

There were four fatal accidents in Part 121 operators during 1994, equalling the average for the period 1984 through 1993. The four fatal accidents in 1994 were responsible for a total of 239 fatalities. The most serious of these accidents involved a Boeing 737 at Aliquippa, Pennsylvania (132 fatalities), an Aerospatiale ATR-72 at Roselawn, Indiana (68 fatalities) and a McDonnell Douglas DC-9 at Charlotte, North Carolina (37 fatalities).

Table 1 - SUMMARY OF LOSSES
14 CFR 121 OPERATIONS
1984 - 1994

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Accidents											
Fatal	1	7	3	5	3	11	6	4	4	1	4
Serious Injury	10	8	15	12	16	5	11	11	12	13	12
Minor Injury	1	2	2	3	4	5	1	2	0	3	3
No Injury	4	4	4	14	6	7	6	9	2	6	4
Total	16	21	24	34	29	28	24	26	18	23	23
Fatalities											
Passenger	1	486	4	213	255	259	8	40	26	0	228
Crew	3	39	3	17	19	17	4	9	5	0	9
Other Persons	0	1	1	2	11	2	27	13	2	1	2
Total	4	526	8	232	285	278	39	62	33	1	239
Aircraft Damage*											
Destroyed	2	8	2	5	3	7	3	5	3	1	3
Substantial	7	8	8	16	12	11	8	10	3	8	8
Minor	2	0	4	4	0	0	4	3	1	3	3
None	5	5	10	12	14	10	10	9	11	11	9
Total	16	21	24	37	29	28	25	27	18	23	23

Table 2 – ACCIDENT RATES
14 CFR 121 OPERATIONS
1984 - 1994

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Accidents Rates @											
Miles Flown *	.0047	.0058	.0057	.0076	.0062	.0061	.0048	.0054	.0035	.0043	.0040
Hours Flown **	.196	.241	.231	.310	.251	.248	.198	.218	.144	.178	.165
Departures Flown **	.271	.333	.319	.434	.363	.366	.292	.326	.223	.278	.260
Fatal Accident Rates @											
Miles Flown *	.0003	.0019	.0005	.0009	.0004	.0024	.0012	.0008	.0008	.0002	.0007
Hours Flown **	.012	.080	.020	.038	.018	.098	.049	.034	.032	.008	.030
Departures Flown **	.017	.111	.028	.053	.026	.144	.073	.050	.049	.012	.047

* Per Million Miles Flown
** Per Hundred Thousand Hours and Departures Flown

@ A nonfatal accident, occurring 4/7/94, that involved criminal activity is excluded from accident rates. The 12/21/88 sabotage involving a Pan Am B747-1OO, 12/7/87 suicide/sabotage involving a PSA BAe-146e and the 4/2/86 sabotage of a TWA B727-200 are also excluded from accident rate computations.

Table 3 - LIST OF ACCIDENTS
14 CFR 121 OPERATIONS
1994

Date	Location	Type of Operation	Air Carrier	Aircraft Type	Aircraft Damage	Degree of Injury	First Occurrence
2/01	New Roads, LA	Sch Passenger	Simmons	Saab 340B	Substantial	Minor	Loss of power (total) – non-mechanical
2/12	Pacific Ocean, PO	Sch Passenger	United	Boeing 747-400	None	Serious	In flight encounter with weather
3/01	Narita, Japan	Sch Passenger	Northwest	Boeing 747	Substantial	None	Engine tearaway
3/02	Flushing, NY	Sch Passenger	Continental	McD-Douglas MD–82	Substantial	Minor	Overrun
3/15	Covington, KY	Nonsch Cargo	American Int	McD-Douglas DC–8-61	None	Serious	Miscellaneous/other (decompression sickness)
4/07	Memphis, TN	Sch Cargo	Federal Exp.	McD-Douglas DC-10–3O	Minor	Serious	Loss of control - in flight
6/29	Caribbean, CB	Sch Passenger	American	McD-Douglas MD–11	Minor	Serious	Altitude deviation, uncontrolled
6/29	East Hampton, NY	Sch Pax/Cargo	Trans World	Boeing 767-200	None	Serious	In flight encounter with weather
7/02	Charlotte, NC	Sch Passenger	U.S. Air	McD–Douglas DC–9-31	Destroyed	Fatal (37)	In flight collision with terrain
1/05	Valdosta, GA	Sch Passenger	Valujet	McD-Douglas DC-9–32	None	Serious	In flight encounter with weather
7/07	South Bend, IN	Sch Passenger	Southwest	Boeing 737-2H4	None	Serious	In flight encounter with weather
8/01	Washington, DC	Sch Passenger	Air Wisconsin	DeHavilland DHC-8	Substantial	Minor	On ground collision with object
8/19	Phoenix, AZ	Sch Passenger	America West	Boeing 757-200	None	Serious	Miscellaneous/other (ground crew injury)
9/08	Aliquippa, PA	Sch Passenger	U.S. Air	Boeing 737–300	Destroyed	Fatal (132)	Loss of control – in flight
9/08	Burbank, CA	Sch Passenger	Skywest	Canadair CL-600	Substantial	None	On ground collision with object
9/19	Atlantic Ocean, OF	Sch Passenger	U.S. AIR	Boeing 737-400	None	Serious	In flight encounter with weather

Table 3 – LIST OF ACCIDENTS (Continued)
14 CFR 121 OPERATIONS
1994

Date	Location	Type of Operation	Air Carrier	Aircraft Type	Aircraft Damage	Degree of Injury	First Occurrence
10/31	Roselawn, IN	Sch Passenger	Am. Eagle	Aerospatiale ATR–72	Destroyed	Fatal (68)	Abrupt maneuver
11/04	Anchorage, AK	Nonsch Cargo	Federal Exp.	McD-Douglas MD–11	Substantial	None	Hard landing
11/06	St. Paul, MN	Sch Passenger	Northwest	Boeing 757-231	None	Serious	Propeller blast or jet exhaust/suction
11/22	Bridgeton, MO	Sch Pax/Cargo	Trans World	McD-Douglas DC–9–82	Substantial	Fatal (2)	On ground collision with object
11/25	Tulsa, OK	Nonsch Cargo	United Parcel	Boeing 757	Substantial	None	Dragged wing, rotor, pod, or float
11/30	Chicago, IL	Nonsch Cargo	Air Transport	McD-Douglas DC-8	Minor	Serious	Tail gear collapsed
12/11	Anchorage, AK	Sch Pax/Cargo	Markair	Boeing 737-300	None	Serious	Airframe/component / system

Table 4 – ACCIDENTS AND RATES BY TYPE OF OPERATION *
14 CFR 121 OPERATIONS
1994

	Type of Operation				
	Scheduled				
	Passenger/ Cargo	All Cargo	All	All Non-Scheduled	All
Accidents	19	0	19	4	23
Fatal Accidents	4	0	4	0	4
Aircraft Miles Flown (Thousands)	4,48587915	243,898	5,102,814	366, 618	5,469,432
Aircraft Hours Flown	11,822,836	649, 974	12,472,810	833, 675	13,306,485
Departures Flown	1,613,066	428,733	8,041,799	418,101	8,459,900
Accident Rates					
Per Million Miles Flown	0.0037	0.	0.0035	0.0109	0.0040
Per Hundred Thousand Hours Flown	0.152	0.	0.144	0.480	0.165
Per Hundred Thousand Departures Flown	0.236	0.	0.224	0.957	0.260
Fatal Accident Rates					
Per Million Miles Flown	0.0008	0.	0.0008	0.	0.0007
Per Hundred Thousand Hours Flown	0.034	0.	0.032	0.	0.030
Per Hundred Thousand Departures Flown	0.052	0.	0.050	0.	0.047

* The occurrence of 4/7/94, the result of criminal activity, involving a Federal Express McDonnell Douglas DC-10 is excluded from accident rate computations.

Table 5 – PERSONS BY ROLE AND DEGREE OF INJURY
14 CFR 121 OPERATIONS
1994

	Degree of Injury				
Role of Person	Fatal	Serious	Minor	None	Total
Pilot	2	2	2	18	24
Copilot	2	0	2	20	24
Flight engineer	0	0	0	3	3
Cabin attendants	5	9	8	66	88
Other crew	0	2	0	6	8
Passenger	228	16	42	1872	2158
Total aboard	237	29	54	1985	2305
Other aircraft*	2	0	0	0	2
Other ground	0	2	1	5	8
Grand total	239	31	55	1740	2065
Percent	11.6	1.5	2.7	84.3	

* Injuries carried opposite Other aircraft are injuries occurring in aircraft that are not part of this tabulation, but which were involved in collisions with aircraft which are a part of this tabulation.

Table 6 - AIRCRAFT BY DAMAGE AND DEGREE OF INJURY
14 CFR 121 OPERATIONS
1994

Aircraft damage	Degree of injury				Aircraft	
	None	Minor	Serious	Fatal	No.	Percent
None	0	0	9	0	9	39.1
Minor	0	0	3	0	3	13.0
Substantial	4	3	0	1	8	34.8
Destroyed	0	0	0	3	3	13.0
Aircraft						
Number -	4	3	12	4	23	
Percent -	17.4	13.0	52.2	17.4		

Table 7 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY AND BY DAMAGE
14 CFR 121 OPERATIONS
1994

Type of first occurrence *	Degree of injury				Aircraft damage				Aircraft	
	None	Minor	Serious	Fatal	None	Minor	Substantial	Destroy	No.	Percent
Abrupt maneuver	0	0	0	1	0	0	0	1	1	4.3
Altitude deviation, uncontrolled	0	0	1	0	0	1	0	0	1	4.3
Airframe/component/system failure/malfunction	0	0	1	0	1	0	0	0	1	4.3
Dragged wing, rotor, pod or float	1	0	0	0	0	0	1	0	1	4.3
Tail gear collapsed	0	0	1	0	0	1	0	0	1	4.3
Hard landing	1	0	0	0	0	0	1	0	1	4.3
In flight collision with terrain	0	0	0	1	0	0	0	1	1	4.3
In flight encounter with weather	0	0	5	0	5	0	0	0	5	21.7
Loss of control - in flight	0	0	1	1	0	1	0	1	2	8.7
On ground collision with object	1	1	0	1	0	0	3	0	3	13.0
Overrun	0	1	0	0	0	0	1	0	1	4.3
Loss of engine power (total) - non-mechanical	0	1	0	0	0	0	1	0	1	4.3
Engine tearaway	1	0	0	0	0	0	1	0	1	4.3
Propeller blast or jet exhaust/ suction	0	0	1	0	1	0	0	0	1	4.3
Miscellaneous/other	0	0	2	0	2	0	0	0	2	8.7
Aircraft										
Number -	4	3	12	4	9	3	8	3	23	
Percent -	17.4	13.0	52.2	17.4	39.1	13.0	34.8	13.0		

* First Occurrence is the first (or in some cases the only) occurrence in the accident sequence of events. "Occurrences" are relatively major events that may be further described by "findings". See Appendix B for further explanation and an example.

Table 8 - AIRCRAFT BY FIRST OCCURRENCE AND BROAD PHASE OF OPERATION
14 CFR 121 OPERATIONS
1994

Type of first occurrence	Phase of operation									Aircraft	
	Stndg	Taxi	Tkoff	Climb	Cruis	Dscnt	Aprch	Landg	Manvr	No.	Percent
Abrupt maneuver	0	0	0	0	0	0	0	0	1	1	4.3
Altitude deviation, uncontrolled	0	0	0	0	1	0	0	0	0	1	4.3
Airframe/component/system failure/malfunction	0	0	0	1	0	0	0	0	0	1	4.3
Dragged wing, rotor, pod, or float	0	0	0	0	0	0	0	1	0	1	4.3
Tail gear collapsed	1	0	0	0	0	0	0	0	0	1	4.3
Hard landing	0	0	0	0	0	0	0	1	0	1	4.3
In flight collision w/ter.	0	0	0	0	0	0	1	0	0	1	4.3
In flight encounter w/wx.	0	0	0	2	1	1	0	0	1	5	21.7
Loss of control - in flight	0	0	0	1	0	0	1	0	0	2	8.7
On ground collision w/obj.	1	1	1	0	0	0	0	0	0	3	13.0
Overrun	0	0	1	0	0	0	0	0	0	1	4.3
Loss of engine power (total) non-mechanical	0	0	0	0	0	1	0	0	0	1	4.3
Engine tearaway	0	0	0	0	0	0	0	1	0	1	4.3
Propeller blast or jet exhaust/suction	0	1	0	0	0	0	0	0	0	1	4.3
Miscellaneous/other	0	1	0	1	0	0	0	0	0	2	8.7
Aircraft											
Number -	2	3	2	5	2	2	2	3	2	23	
Percent -	8.7	13.0	8.7	21.7	8.7	8.7	8.7	13.0	8.7		

Table 9 - AIRCRAFT BY PHASE OF OPERATION AND DEGREE OF INJURY AND BY DAMAGE
14 CFR 121 OPERATIONS
1994

Phase of operation *	Degree of injury				Aircraft damage				Aircraft	
	None	Minor	Ser	Fatal	None	Minor	Subs	Dest	No.	Percent
Standing	0	1	0	0	0	0	1	0	1	4.3
Standing - engines not operating	0	0	1	0	0	1	0	0	1	4.3
Taxi - pushback/tow	1	0	1	0	1	0	1	0	2	8.7
Taxi - to takeoff	0	0	1	0	1	0	0	0	1	4.3
Takeoff - roll/run	0	0	0	1	0	0	1	0	1	4.3
Takeoff - aborted	0	1	0	0	0	0	1	0	1	4.3
Climb	0	0	1	0	0	1	0	0	1	4.3
Climb - to cruise	0	0	4	0	4	0	0	0	4	17.4
Cruise - normal	0	0	2	0	1	1	0	0	2	8.7
Descent	0	0	1	0	1	0	0	0	1	4.3
Descent - normal	0	1	0	0	0	0	1	0	1	4.3
Approach	0	0	0	1	0	0	0	1	1	4.3
Approach - missed approach (IFR)	0	0	0	1	0	0	0	1	1	4.3
Landing	1	0	0	0	0	0	1	0	1	4.3
Landing - flare/touchdown	1	0	0	0	0	0	1	0	1	4.3
Landing roll	1	0	0	0	0	0	1	0	1	4.3
Maneuvering - holding (IFR)	0	0	1	1	1	0	0	1	2	8.7
Aircraft										
Number -	4	3	12	4	9	3	8	3	23	
Percent -	17.4	13.0	52.2	17.4	39.1	13.0	34.8	13.0		

* Phase of Operation is the phase of flight in which the first occurrence happened.

Table 10 – AIRCRAFT BY CONDITION OF LIGHT AND TYPE OF WEATHER
14 CFR 121 OPERATIONS
1994

Condition of light	Type of weather		Aircraft	
	VMC	IMC	No.	Percent
Dawn	1	0	1	4.3
Daylight	10	4	14	60.9
Night (dark)	6	1	7	30.4
Dusk	0	1	1	4.3
Aircraft				
Number –	17	6	23	
Percent –	73.9	26.1		

Table 11 - AIRCRAFT BY TYPE OF OPERATION AND DEGREE OF INJURY
14 CFR 121 OPERATIONS
1994

Type of Operation	Degree of Injury				Aircraft	
	None	Minor	Serious	Fatal	No.	Percent
Scheduled Domestic Passenger	1	3	5	3	12	52.2
Scheduled Domestic Cargo	0	0	1	0	1	4.3
Scheduled Domestic Pax/Cargo	0	0	1	1	2	8.7
Scheduled International Pass.	1	0	2	0	3	13.0
Scheduled Int'1 Pax/Cargo	0	0	1	0	1	4.3
Nonscheduled Domestic Cargo	1	0	2	0	3	13.0
Nonscheduled International Cargo	1	0	0	0	1	4.3
Aircraft						
Number –	4	3	12	4	23	
Percent -	17.4	13.0	52.2	17.4		

Table 12 – AIRCRAFT BY OCCURRENCE OF FIRE AND DEGREE OF INJURY AND BY DAMAGE
14 CFR 121 OPERATIONS
1994

Aircraft fire	Degree of injury				Aircraft damage				Aircraft	
	None	Minor	Ser	Fatal	None	Minor	Subs	Dest	No.	Percent
None	4	3	12	2	9	3	8	1	21	91.3
On ground	0	0	0	2	0	0	0	2	2	8.7
Aircraft										
Number -	4	3	12	4	9	3	8	3	23	
Percent -	17.4	13.0	52.2	17.4	39.1	13.0	34.8	13.0		

Table 13 - BROAD CAUSE/FACTOR ASSIGNMENTS*
14 CFR 121 OPERATIONS
1994

Cause/Factor	Cited as a Cause		Cited as a Factor		Cited as Either a Cause or a Factor(or Both)	
	Fatal Accidents	All Accidents	Fatal Accidents	All Accidents	Fatal Accidents	All Accidents
Aircraft #	**0**	**1**	**1**	**3**	**1**	**4**
Airframe	0	0	0	1	0	1
Systems/Equipment/Instruments	0	1	1	3	1	4
Environment #	**1**	**5**	**1**	**4**	**1**	**8**
Weather	0	0	0	2	0	6
Light Conditions	0	0	1	2	1	2
Object (trees, wires, etc.)	1	1	0	0	1	1
Personnel #	**1**	**11**	**1**	**8**	**1**	**13**
Pilot	0	4	0	3	0	6
Others (Aboard)	0	2	0	1	0	2
Others (Not Aboard)	1	7	1	4	1	8
Number of Aircraft					4	23
NTSB Determined Probable Cause					1	18

---

* Multiple causes and factors may be assigned in an accident

\# This category is composed of the sub-categories indented below it. The number of aircraft cited in a category may be less than or equal to the sum of the sub-category citations.

Table 14 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
ALL 14 CFR 121 OPERATIONS
1984 - 1994

Year	Accidents	Fatal Accidents	Fatalities Total	Fatalities Aboard In This Aircraft Category	Hours Flown	Accident Rate per 100,000* Aircraft Hours Flown Total	Accident Rate per 100,000* Aircraft Hours Flown Fatal
1984	16	1	4	4	8,165,124	0.196	0.012
1985	21	7	526	525	8,709,894	0.241	0.080
1986	24	3	8	7	9,976,104	0.231	0.020
1987	34	5	232	230	10,645,192	0.310	0.038
1988	29	3	285	274	11,140,548	0.251	0.018
1989	28	11	278	276	11,274,543	0.248	0.098
1990	24	6	39	12	12,150,116	0.198	0.049
1991	26	4	62	49	11,900,023	0.218	0.034
1992	18	4	33	31	12,508,618	0.144	0.032
1993	23	1	1	0	12,913,491	0.178	0.008
1994	23	4	239	237	13,306,485	0.165	0.030

* Suicide and sabotage accidents excluded from rates as follows:
Total – 1986 (1), i987 (l), 1988 (l), 1994 (1)
Fatal - 1986 (l), 1987 (l), 1988 (1)

Figure l-ACCIDENTS AND FATAL ACCIDENTS
ALL 14 CFR 121 OPERATIONS

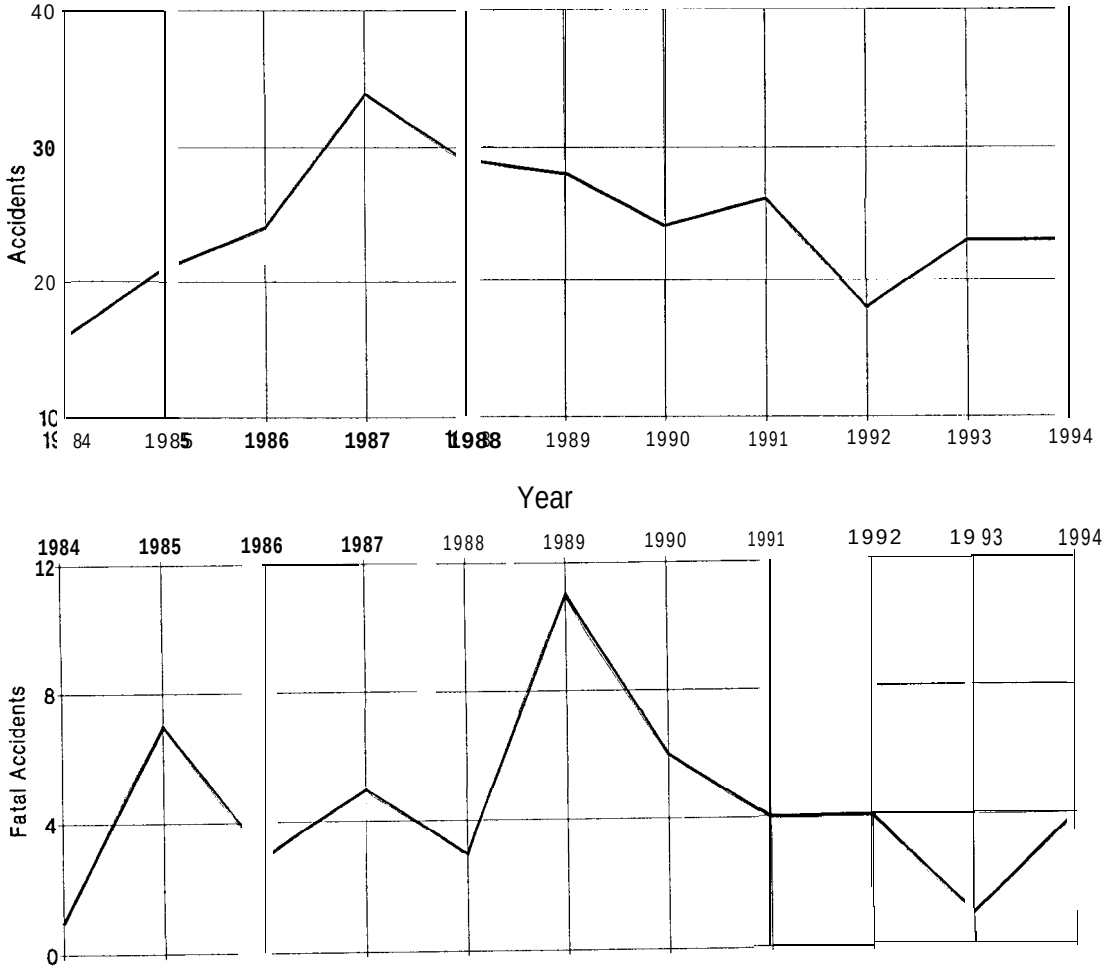


Figure 2- NUMBER OF FATALITIES
ALL 14 CFR 121 OPERATIONS

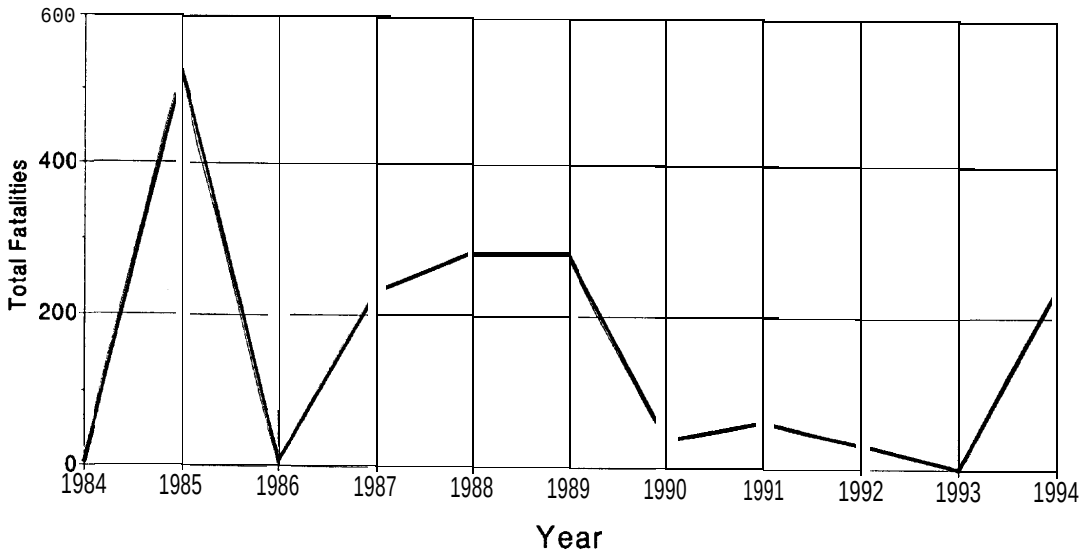


Figure 3- ACCIDENTS PER 100,000 HOURS FLOWN
ALL 14 CFR 121 OPERATIONS

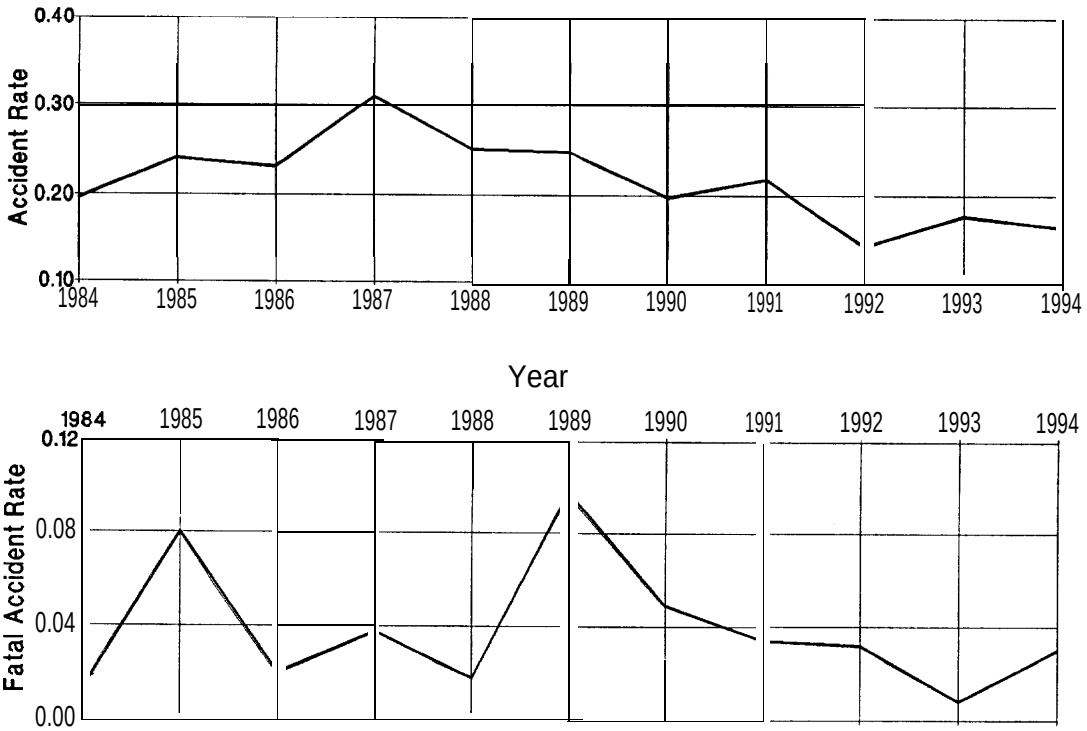


Table 15 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
SCHEDULED 14 CFR 121 OPERATIONS
1984 - 1994

Year	Accidents	Fatal Accidents	Fatalities		Hours Flown	Accident Rate per 100,000* Aircraft Hours Flown	
			Total	Aboard In This Aircraft Category		Total	Fatal
1984	13	1	4	4	7,736,037	0.168	0.013
1985	17	4	197	196	8,265,332	0.206	0.048
1986	21	2	5	4	9,495,158	0.211	0.011
1987	32	4	231	229	10,115,407	0.306	0.030
1988	28	3	285	274	10,521,052	0.257	0.019
1989	24	8	131	130	10,597,922	0.226	0.075
1990	22	6	39	12	11,524,726	0.191	0.052
1991	25	4	62	49	ll,258,579	0.222	0.036
1992	16	4	33	31	11,880,929	0.135	0.034
1993	22	1	1	0	12,189,525	0.180	0.008
1994	19	4	239	237	12,472,810	0.144	0.032

* Suicide and sabotage accidents excluded from rates as follows:
Total – 1986 (l), 1987 (l), 1988 (l), 1994 (1)
Fatal - 1986 (l), 1987 (l), 1988 (1)

Figure 4-ACCIDENTS AND FATAL ACCIDENTS
SCHEDULED 14 CFR 121 0PERATIONS

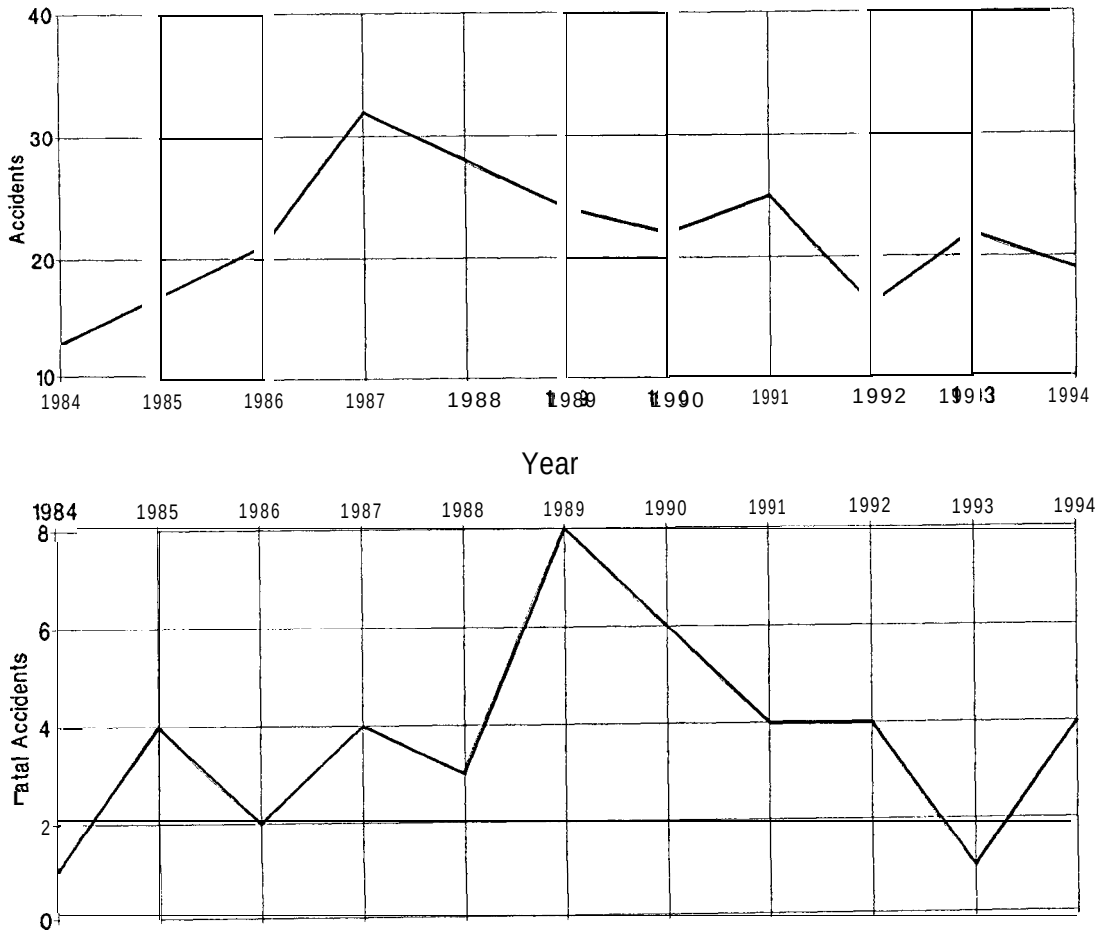


Figure 5- NUMBER OF FATALITIES
SCHEDULED 14 CFR 121 OPERATIONS

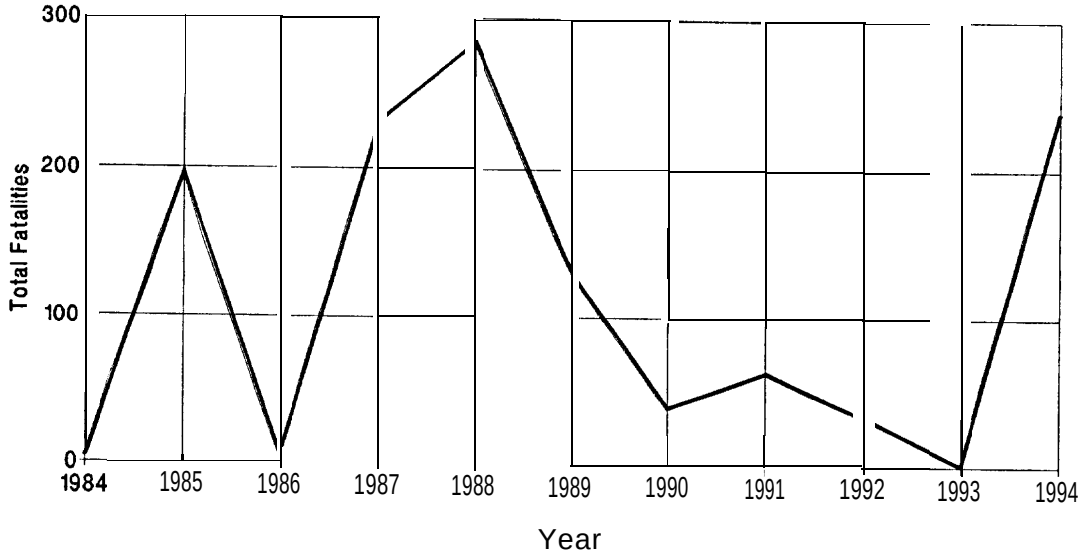


Figure 6- ACCIDENTS PER 100,000 HOURS FLOWN
SCHEDULED CFR 121 OPERATIONS

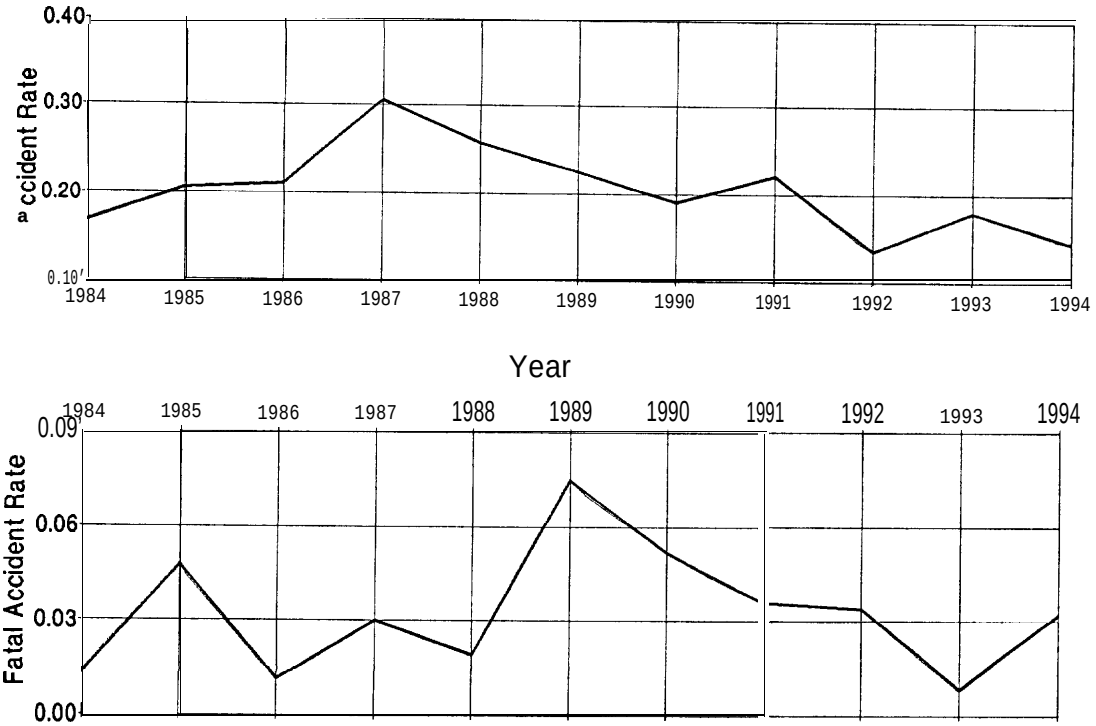


Table 16 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
NONSCHEDULED 14 CFR 121 OPERATIONS
1984 - 1994

Year	Accidents	Fatal Accidents	Fatalities Total	Fatalities Aboard In This Aircraft Category	Hours Flown	Accident Rate per 100,000* Aircraft Hours Flown Total	Accident Rate per 100,000* Aircraft Hours Flown Fatal
1984	3	0	0	0	429,087	0.699	0.000
1985	4	3	329	329	444,562	0.900	0.675
1986	3	1	3	3	480,946	0.624	0.208
1987	2	1	1	1	529,785	0.378	0.189
1988	1	0	0	0	619,496	0.161	0.000
1989	4	3	147	146	676,621	0.591	0.443
1990	2	0	0	0	625,390	0.320	0.000
1991	1	0	0	0	641,444	0.156	0.000
1992	2	0	0	0	627,689	0.319	0.000
1993	1	0	0	0	723,966	0.138	0.000
1994	4	0	0	0	833,675	0.480	0.000

Figure 7- ACCIDENTS AND FATAL ACCIDENTS
NONSCHEDULED 14 CFR 121 OPERATIONS

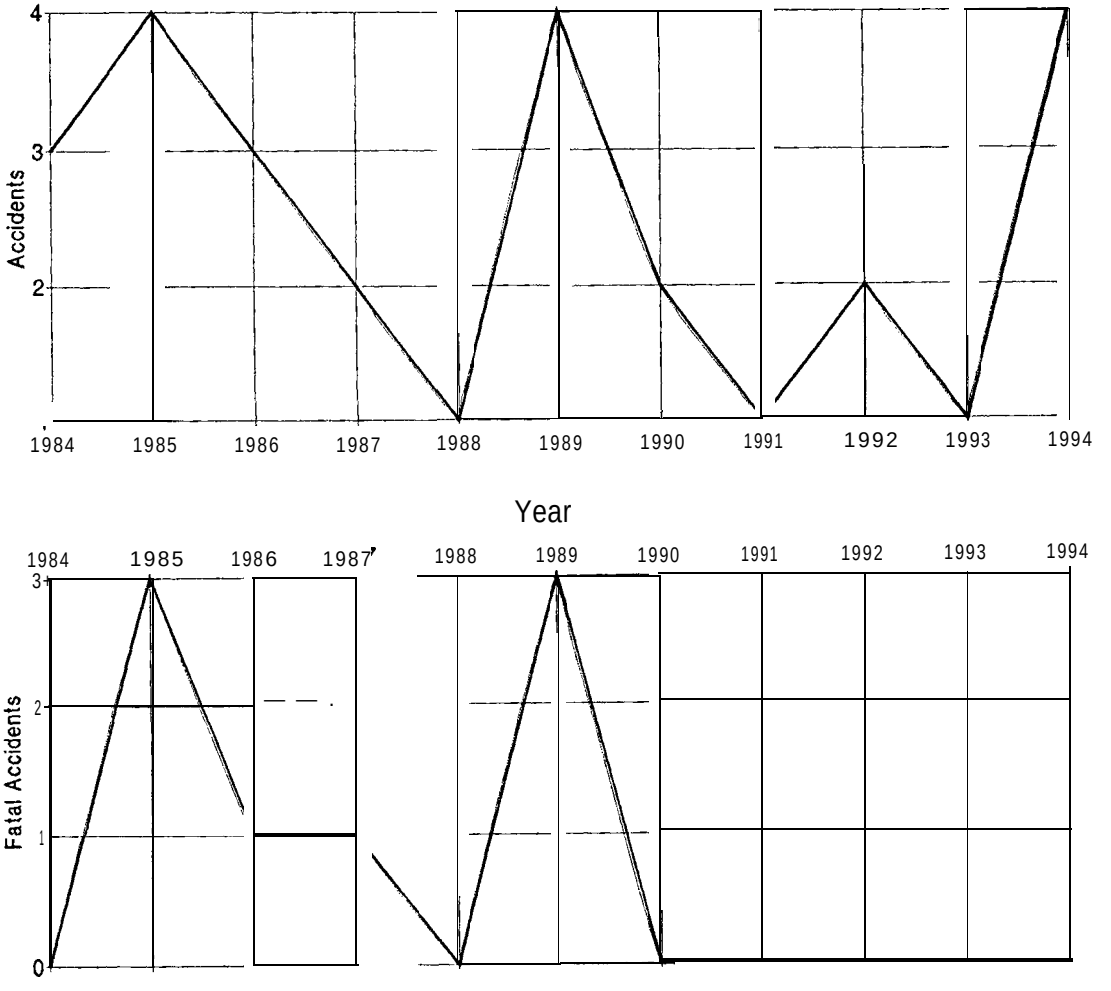


Figure 8- NUMBER OF FATALITIES
NONSCHEDULED 121 OPERATIONS

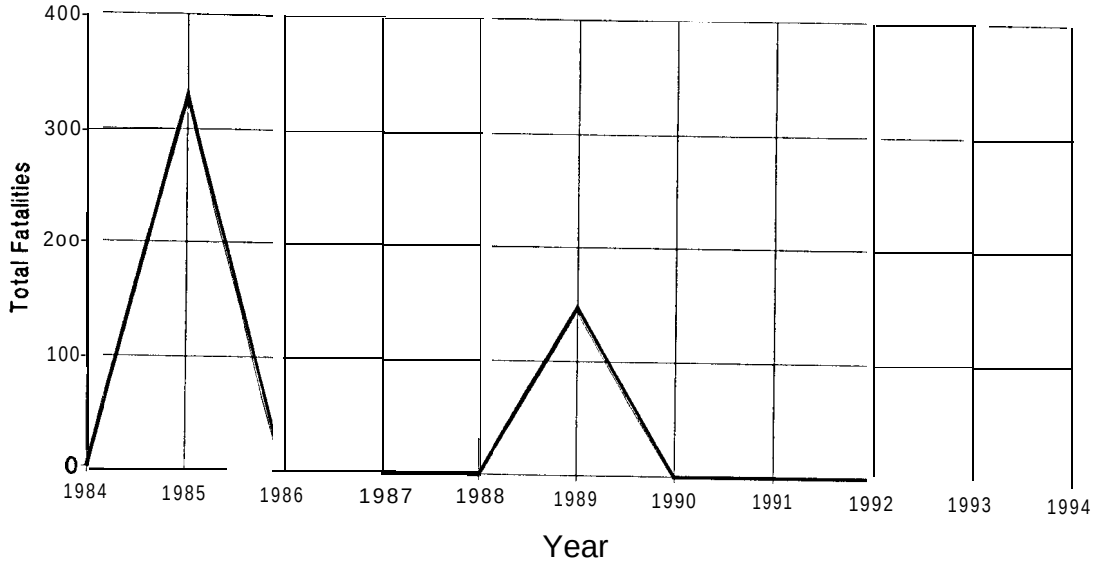


Figure 9- ACCIDENTS PER 100,000 HOURS FLOWN
NONSCHEDULED 14 CFR 121 OPERATIONS

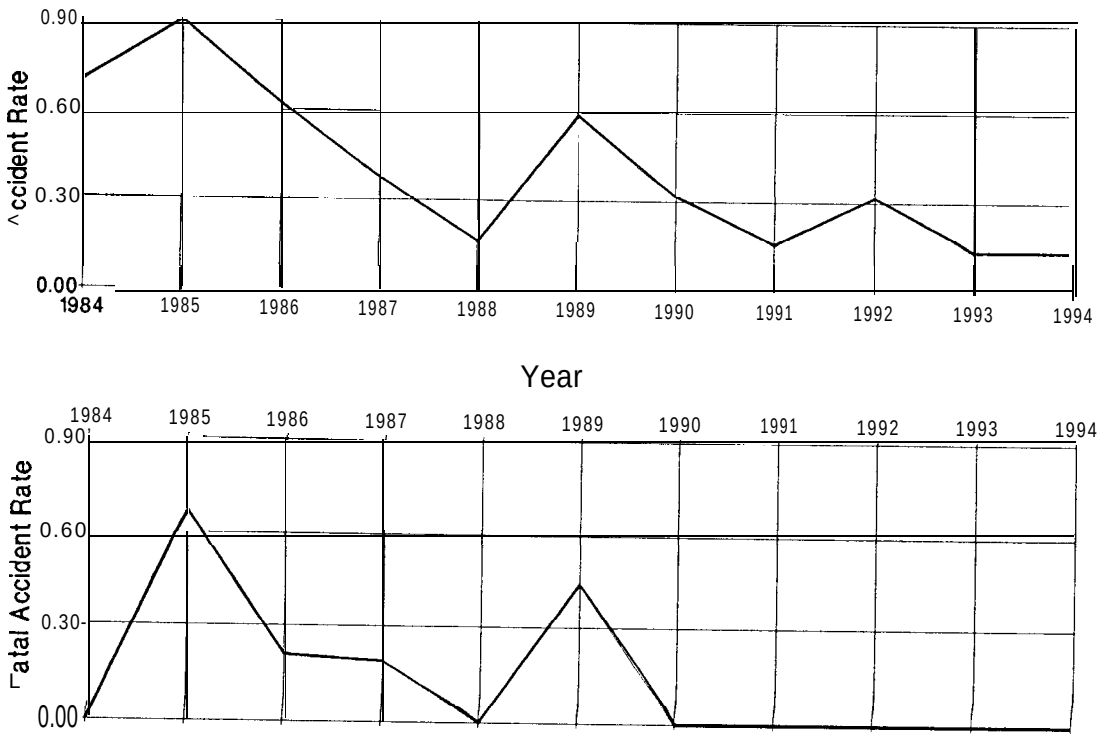


Table 17 – FIRST OCCURRENCES IN ALL ACCIDENTS AND IN FATAL ACCIDENTS
14 CFR 121 OPERATIONS
1994 AND 1984 – 1993

Type of Occurrence	All Accidents				Fatal Accidents			
	1994		1984 - 1993		1994		1984 - 1993	
	No.	Percent	Mean	Percent	No.	Percent	Mean	Percent
In flight encounter with weather	5	21.7	5.9	23.9	0	.0	.2	4.4
Airframe/component/system failure/malfunction	1	4.3	3.7	15.0	0	.0	.6	13.3
On ground collision with object	3	13.0	3.2	13.0	1	25.0	.9	20.0
Miscellaneous/other	2	8.7	2.4	9.7	0	.0	.3	6.7
Loss of control – in flight	1	4.3	1.3	5.3	0	.0	1.1	24.4
Not reported	1	4.3	1.0	4.0	1	25.0	.3	6.7
In flight collision with object	0	.0	.6	2.4	0	.0	.1	2.2
In flight collision with terrain	1	4.3	.6	2.4	1	25.0	.3	6.7
On ground collision with terrain	0	.0	.6	2.4	0	.0	.0	.0
Main gear collapsed	0	.0	.5	2.0	0	.0	.0	.0
Hard landing	1	4.3	.5	2.0	0	.0	.0	.0
Loss of engine power(total) – mech failure/malfunction	0	.0	.5	2.0	0	.0	.0	.0
Altitude deviation,uncontrolled	1	4.3	.4	1.6	0	.0	.0	.0
Loss of engine power(total) – non-mechanical	1	4.3	.4	1.6	0	.0	.1	2.2
Fire/explosion	0	.0	.3	1.2	0	.0	.0	.0
Fire	0	.0	.3	1.2	0	.0	.0	.0
Loss of control - on ground	0	.0	.3	1.2	0	.0	.1	2.2
Overrun	1	4.3	.3	1.2	0	.0	.0	.0
Loss of engine power(partial) – mech failure/malfunction	0	.0	.3	1.2	0	.0	.1	2.2
Abrupt maneuver	1	4.3	.2	.8	1	25.0	.0	.0
On ground encounter with weather	0	.0	.2	.8	0	.0	.1	2.2
Loss of engine power	0	.0	.2	.8	0	.0	.1	2.2
Propeller blast or jet exhaust	1	4.3	.2	.8	0	.0	.0	.0
Propeller/rotor contact to person	0	.0	.2	.8	0	.0	.1	2.2
Explosion	0	.0	.1	.4	0	.0	.1	2.2
Nose gear collapsed	0	.0	.1	.4	0	.0	.0	.0
Midair collision	0	.0	.1	.4	0	.0	.0	.0
Near collision between aircraft	0	.0	.1	.4	0	.0	.0	.0
Undershoot	0	.0	.1	.4	0	.0	.0	.0
Dragged wing, rotor, pod or float	1	4.3	.0	.0	0	.0	.0	.0
Tail gear collapsed	1	4.3	.0	.0	0	.0	.0	.0
Engine tearaway	1	4.3	.0	.0	0	.0	.0	.0
Total	23	100.0	24.7	100.0	4	100.0	4.5	100.0

Table 18 - FIRST PHASES OF OPERATION IN ALL ACCIDENTS AND IN FATAL ACCIDENTS
14 CFR 121 OPERATIONS
1994 AND 1984 - 1993

	All Accidents				Fatal Accidents			
	1994		1984 - 1993		1994		1984 – 1993	
Phase of Operation	No.	Percent	Mean	Percent	No.	Percent	Mean	Percent
Cruise	2	8.7	5.0	20.2	0	.0	.7	15.6
Takeoff	2	8.7	3.8	15.4	1	25.0	1.3	28.9
Taxi	3	13.0	3.3	13.4	0	.0	.5	11.1
Landing	3	13.0	2.9	11.7	0	.0	.2	4.4
Descent	2	8.7	2.7	10.9	0	.0	.1	2.2
Standing	2	8.7	2.4	9.7	0	.0	.5	11.1
Approach	2	4.3	2.1	8.5	2	50.0	.7	15.6
Climb	5	21.7	1.5	6.1	0	.0	.2	4.4
Not reported	0	.0	1.0	4.0	0	.0	.3	6.7
Maneuvering	2	8.7	.0	.0	1	25.0	.0	.0
Total Aircraft	23	100.0	24.7	100.0	4	100.0	4.5	100.0

Table 19 – BROAD CAUSE/FACTOR ASSIGNMENTS IN ALL ACCIDENTS AND IN FATAL ACCIDENTS
14 CFR 121 OPERATIONS
1994 AND 1984 – 1993

	All Accidents				Fatal Accidents			
	1994		1984 - 1993		1994		1984 – 1993	
Broad Cause/Factor	No.	Percent	Mean	Percent	No.	Percent	Mean	Percent
Pilot	6	26.1	9.8	39.7	0	.0	2.0	53.3
Other Person (Not Aboard)	8	36.8	9.1	36.8	1	25.0	2.4	53.3
Weather	6	26.1	7.7	31.2	0	.0	1.0	22.2
Other Person (Aboard)	2	8.7	4.3	17.4	0	.0	.2	4.4
Systems/Equipment/ Instruments	4	17.4	3.9	15.8	1	25.0	.8	17.8
Propulsion System and Controls	0	.0	2.2	8.9	0	.0	.3	6.7
Landing Gear	0	.0	1.7	6.9	0	.0	.1	2.2
Object (tree,wires,etc)	1	4.3	1.7	6.9	1	25.0	.4	8.9
Airframe	1	4.3	1.6	6.5	0	.0	.7	15.6
Light Conditions	2	8.7	1.5	6.1	1	25.0	.5	11.1
Terrain/Runway Condition	0	.0	1.2	4.9	0	.0	.1	2.2
Flight Control System	0	.0	.6	2.4	0	.0	.2	4.4
Airport/Airways Facilities, Aids	0	.0	.5	2.0	0	.0	.2	4.4
Total Aircraft	23	100.0	24.7	100.0	4	100.0	4.5	100.0
NTSB Determined Probable Cause	18		22.5		1		3.8	

Scheduled 14 CFR 135 Operations

There were 10 accidents involving scheduled 14 CFR 135 operations (commuter air carriers) in 1994. This is the lowest number of accidents in the eleven years covered by this report . The average number of accidents per year in this category for the years 1984 through 1993 is 20.6. The accident rate per 100,00 hours flown for 1994 is 0.384, compared with an overall rate of 0.998 for the period 1984 through 1993.

Of the 10 accidents in this category, three were fatal, which resulted in 25 fatalities . During the period 1984 through 1993, there were an average of 5.6 fatal accidents and 35.1 fatalities per year in Scheduled 14 CFR 135 operations. The fatal accident rate for 1994 was 0.115 per 100,000 hours flown.

Table 20 – SUMMARY OF LOSSES
SCHEDULED 14 CFR 135 OPERATIONS
1984 - 1994

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Accidents											
Fatal	7	7	2	10	2	5	4	8	7	4	3
Serious Injury	4	4	2	5	2	2	2	2	1	2	1
Minor Injury	0	2	1	6	3	3	1	3	3	2	1
No Injury	11	8	10	12	12	9	9	9	12	8	5
Total	22	21	15	33	19	19	16	22	23	16	10
Fatalities											
Passenger	38	28	3	42	17	25	3	64	13	19	19
Crew	8	8	1	15	4	6	2	13	8	4	6
Other Persons	2	1	0	2	0	0	2	22	0	1	0
Total	48	37	4	59	21	31	7	99	21	24	25
Aircraft Damage*											
Destroyed	7	9	1	11	3	5	3	9	7	4	3
Substantial	15	12	13	19	15	14	12	13	16	10	6
Minor	0	0	1	2	1	0	1	0	0	0	1
None	0	0	1	1	0	1	0	0	0	2	0
Total	22	21	16	33	19	20	16	22	23	16	10

Table 21 – ACCIDENT RATES
SCHEDULED 14 CFR 135 OPERATIONS
1984 – 1993

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Accidents Rates @											
Miles Flown *	.075	070	.049	094	.050	.048	.036	.058	.050	.032	.016
Hours Flown **	1.260	1.209	.870	1.695	.908	.848	.685	1.013	.995	.659	.384
Departures Flown **	.822	.820	.536	1.174	.653	.674	.506	.831	.756	.482	.277
Fatal Accident Rates @											
Miles Flown *	.024	.023	.007	.028	.005	.013	.009	.021	.016	.008	.005
Hours Flown **	.401	.403	.116	.514	.096	.223	.171	.368	.317	.165	.115
Departures Flown **	.262	.273	.071	.356	.069	.177	.127	.302	.240	.125	.083

* Per Million Miles Flown
** Per Hundred Thousand Hours and Departures Flown

@ The 4/17/92 suicide involving a Mesaba Airline Fairchild SA-227AC is excluded from accident rate computation.

Table 22 – LIST OF ACCIDENTS
SCHEDULED 14 CFR 135 OPERATIONS
1994

Date	Location	Type of Operation	Air Carrier	Aircraft Type	Aircraft Damage	Degree of Injury	First Occurrence
1/07	Columbus, OH	Passenger	Atlantic Coast	Jetstream 4101	Destroyed	Fatal (5)	Loss of control - in-flight
2/06	Billings, MT	Passenger	Big Sky Airlines	Cessna 402C	Substantial	None	Nose gear collapsed
2/08	Kwigillingok, AK	Passenger	Yute Air Alaska	Cessna 207	Substantial	None	In flight encounter with weather
2/21	Phoenix, AZ	Passenger	Arizona Pacific	Piper PA-31-350	Minor	Serious	Fire
6/24	Orlando,FL	Passenger	Atlantic Coast	Jetstream 3201	Substantial	None	On ground collision with object
10/01	Denver, CO	Passenger	Mesa Airlines	Beech 1900D	Substantial	Minor	In flight encounter with weather
11/01	Ft. Lauderdale, FL	Passenger	Airways Int'l	Cessna 402C	Substantial	None	Main gear collapsed
12/10	Elim, AK	Passenger	Ryan Air Service	Cessna 402C	Destroyed	Fatal (5)	In flight encounter with weather
12/13	Morrisville, NC	Passenger	American Eagle	Jetstream 3201	Destroyed	Fatal (15)	Loss of control - in flight
12/15	Farmington, NM	Passenger	Mesa Airlines	Beech 1900D	Substantial	None	Miscellaneous/other (cargo door came open)

Table 23 - PERSONS BY ROLE AND DEGREE OF INJURY
SCHEDULED 14 CFR 135 OPERATIONS
1994

Role of Person	Degree of Injury				
	Fatal	Serious	Minor	None	Total
Pilot	3	0	0	7	10
Copilot	2	0	1	4	7
Cabin attendants	1	0	0	0	1
Passenger	19	6	2	55	82
Total aboard	25	6	3	66	100
Grand total	25	6	3	66	100
Percent	25.0	6.0	3.0	66.0	

Table 24 - AIRCRAFT BY DAMAGE AND DEGREE OF INJURY
SCHEDULED 14 CFR 135 OPERATIONS
1994

Aircraft damage	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Minor	0	0	1	0	1	10.0
Substantial	5	1	0	0	6	60.0
Destroyed	0	0	0	3	3	30.0
Aircraft Number -	5	1	1	3	10	
Percent –	50.0	10.0	10.0	30.0		

Table 25 – AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY AND BY DAMAGE
SCHEDULED 14 CFR 135 OPERATIONS
1994

Type of first occurrence	Degree of injury				Aircraft damage				Aircraft	
	None	Minor	Ser	Fatal	None	Minor	Subs	Dest	No.	Percent
Fire	0	0	1	0	0	1	0	0	1	10.0
Main gear collapsed	1	0	0	0	0	0	1	0	1	10.0
Nose gear collapsed	1	0	0	0	0	0	1	0	1	10.0
In flight encounter w/wx.	1	1	0	1	0	0	2	1	3	30.0
Loss of control - in flight	0	0	0	2	0	0	0	2	2	20.0
On ground collision w/Obj.	1	0	0	0	0	0	1	0	1	10.0
Miscellaneous/Other	1	0	0	0	0	0	1	0	1	10.0
Aircraft Number -	5	1	1	3	0	1	6	3	10	
Percent -	50.0	10.0	10.0	30.0	.0	10.0	60.0	30.0		

Table 26 - AIRCRAFT BY FIRST OCCURRENCE AND BROAD PHASE OF OPERATION SCHEDULED 14 CFR 135 OPERATIONS 1994

Type of first occurrence	Phase of operation						Aircraft	
	Taxi	Tkoff	Climb	Cruis	Aprch	Landg	No.	Percent
Fire	0	0	0	0	0	1	1	10.0
Main gear collapsed	0	0	0	0	0	1	1	10.0
Nose gear collapsed	0	0	0	0	0	1	1	10.0
In flight encounter with weather	0	0	1	1	1	0	3	30.0
Loss of control - in flight	0	0	0	0	2	0	2	20.0
On ground collision with object	1	0	0	0	0	0	1	10.0
Miscellaneous/other	0	1	0	0	0	0	1	10.0
Aircraft								
Number –	1	1	1	1	3	3	10	
Percent –	10.0	10.0	10.0	10.0	30.0	30.0		

Table 27 – AIRCRAFT BY PHASE OF OPERATION AND DEGREE OF INJURY AND BY DAMAGE SCHEDULED 14 CFR 135 OPERATIONS 1994

Phase of operation *	Degree of injury				Aircraft damage				Aircraft	
	None	Minor	Ser	Fatal	None	Minor	Subs	Dest	No.	Percent
Taxi – from landing	1	0	0	0	0	0	1	0	1	10.0
Takeoff - initial climb	1	0	0	0	0	0	1	0	1	10.0
Climb – to cruise	0	1	0	0	0	0	1	0	1	10.0
Cruise	0	0	0	1	0	0	0	1	1	10.0
Approach – VFR pattern – final approach	1	0	0	0	0	0	1	0	1	10.0
Approach – FAF/outer marker threshold (IFR)	0	0	0	2	0	0	0	2	2	20.0
Landing	1	0	0	0	0	0	1	0	1	10.0
Landing – roll	1	0	1	0	0	1	1	0	2	20.0
Aircraft										
Number –	5	1	1	3	0	1	6	3	10	
Percent –	50.0	10.0	10.0	30.0	.0	10.0	60.0	30.0		

* Phase of Operation is the phase of flight in which the first occurrence happened.

Table 28 - AIRCRAFT BY CONDITION OF LIGHT AND TYPE OF WEATHER SCHEDULED 14 CFR 135 OPERATIONS 1994

Condition of light	Type of weather		Aircraft	
	VMC	IMC	No.	Percent
Daylight	5	1	6	60.0
Night (dark)	1	3	4	40.0
Aircraft Number -	6	4	10	
Percent –	60.0	40.0		

Table 29 – AIRCRAFT BY TYPE OF OPERATION AND DEGREE OF INJURY SCHEDULED 14 CFR 135 OPERATIONS 1994

Type of Operation	Degree of Injury				Aircraft	
	None	Minor	Serious	Fatal	No.	Percent
Scheduled Domestic Passenger	5	1	1	3	10	100.0
Aircraft Number -	5	1	1	3	10	
Percent –	50.0	10.0	10.0	30.0		

Table 30 - AIRCRAFT BY PROXIMITY TO AIRPORT AND FLIGHT PLAN SCHEDULED 14 CFR 135 OPERATIONS 1994

Accident location	Flight Plan			Aircraft	
	VFR	IFR	Cmpny VFR	No.	Percent
Off Airport/Airstrip	1	3	0	4	40.0
On Airport	1	3	2	6	60.0
Aircraft Number -	2	6	2	10	
Percent -	20.0	60.0	20.0		

Table 31 – AIRCRAFT BY OCCURRENCE OF FIRE AND DEGREE OF INJURY AND BY DAMAGE SCHEDULED 14 CFR 135 OPERATIONS 1994

Aircraft fire	Degree of injury				Aircraft damage				Aircraft	
	None	Minor	Ser	Fatal	None	Minor	Subs	Dest	No.	Percent
None	5	1	0	1	0	0	6	1	7	70.0
Inflight	0	0	1	0	0	1	0	0	1	10.0
On ground	0	0	0	2	0	0	0	2	2	20.0
Aircraft										
Number -	5	1	1	3	0	1	6	3	10	
Percent -	50.0	10.0	10.0	30.0	.0	10.0	60.0	30.0		

Table 32 – AIRCRAFT BY TYPE OF AIRCRAFT AND DEGREE OF INJURY AND BY DAMAGE SCHEDULED 14 CFR 135 OPERATIONS 1994

Type of aircraft	Degree of injury				Aircraft damage				Aircraft	
	None	Minor	Ser	Fatal	None	Minor	Subs	Dest	No.	Percent
Fixed Wing – Single Recip. Engine	1	0	0	0	0	0	1	0	1	10.0
Fixed Wing – Multiple Recip. Engine	2	0	1	1	0	1	2	1	4	40.0
Fixed Wing – Turboprop	2	1	0	2	0	0	3	2	5	50.0
Aircraft										
Number –	5	1	1	3	0	1	6	3	10	
Percent –	50.0	10.0	10.0	30.0	.0	10.0	60.0	30.0		

Table 33 – BROAD CAUSE/FACTOR ASSIGNMENTS*
SCHEDULED 14 CFR 135 OPERATIONS
1994

Cause/Factor	Cited as a Cause		Cited as a Factor		Cited as Either a Cause or a Factor (or Both)	
	Fatal Accidents	All Accidents	Fatal Accidents	All Accidents	Fatal Accidents	All Accidents
Aircraft #	0	4	0	1	0	5
Propulsion System and Controls	0	1	0	0	0	1
Airframe	0	1	0	0	0	1
Landing Gear	0	2	0	1	0	3
Environment #	0	0	1	4	1	4
Weather	0	0	1	4	1	4
Light Conditions	0	0	1	1	1	1
Personnel #	2	7	0	0	2	7
Pilot	2	5	0	0	2	5
Others (Not Aboard)	1	3	0	0	1	3
Number of Aircraft					3	10
NTSB Determined Probable Cause					2	9

* Multiple causes and factors may be assigned in an accident

\# This category is composed of the sub-categories indented below it. The number of aircraft cited in a category may be less than or equal to the sum of the sub-category citations.

Table 34 – ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
SCHEDULED 14 CFR 135 OPERATIONS
1984 – 1994

Year	Accidents	Fatal Accidents	Fatalities Total	Fatalities Aboard In This Aircraft Category	Hours Flown	Accident Rate per 100,000* Aircraft Hours Flown Total	Fatal
1984	22	7	48	46	1,745,762	1.260	0.401
1985	21	7	37	36	1,737,106	1.209	0.403
1986	15	2	4	4	1,724,586	0.870	0.116
1987	33	10	59	57	1,946,349	1.695	0.514
1988	19	2	21	21	2,092,689	0.908	0.096
1989	19	5	31	31	2,240,555	0.848	0.223
1990	16	4	7	5	2,336,952	0.685	0.171
1991	22	8	99	77	2,171,829	1.013	0.368
1992	23	7	21	21	2,210,576	0.995	0.317
1993	16	4	24	23	2,428,102	0.659	0.165
1994	10	3	25	25	2,601,823	0.384	0.115

*** Suicide and sabotage accidents excluded from rates as follows :**
Total - 1992 (1)

Figure 10- ACCIDENTS AND FATAL ACCIDENTS
SCHEDULED 14 CFR 135 OPERATIONS

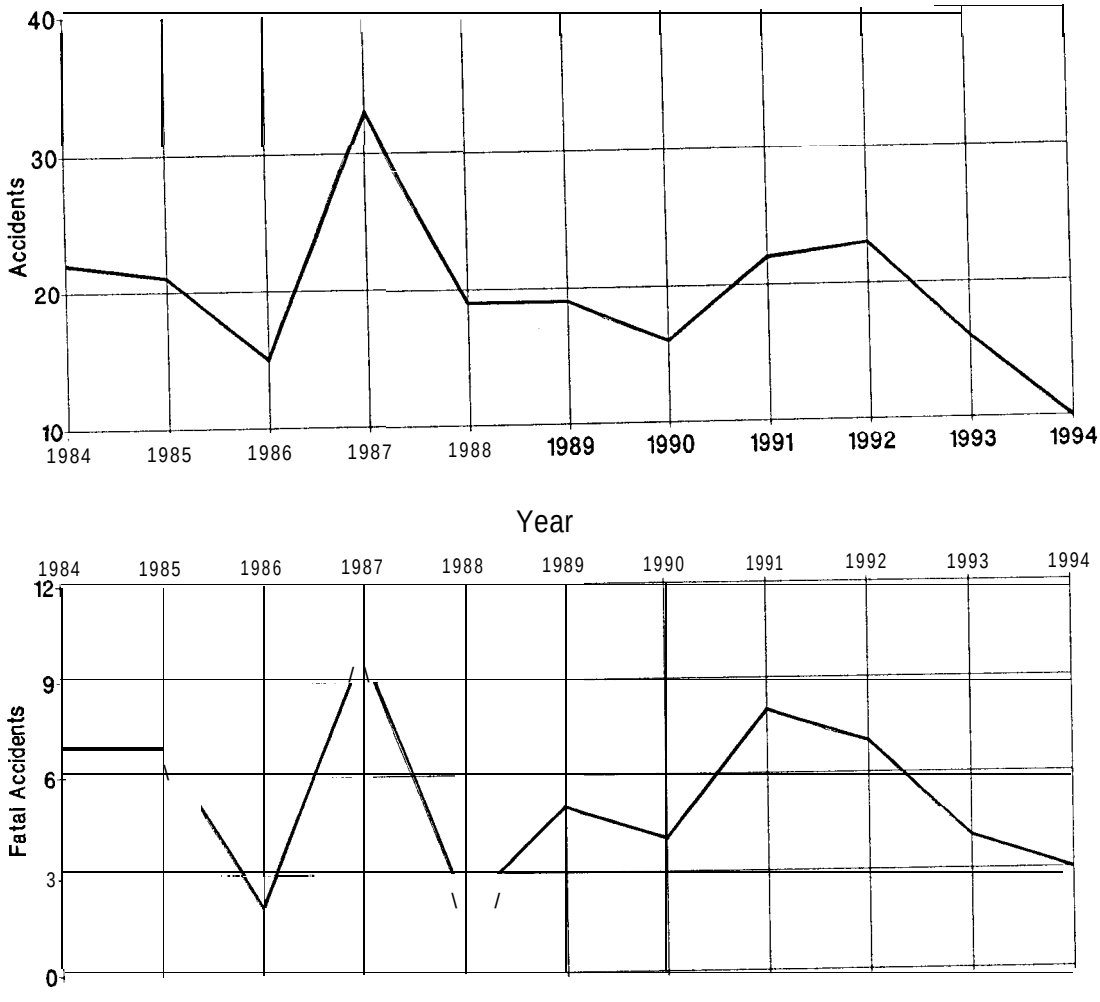


Figure 11- NUMBER OF FATALITIES
SCHEDULED 14 CFR 135 OPERATIONS

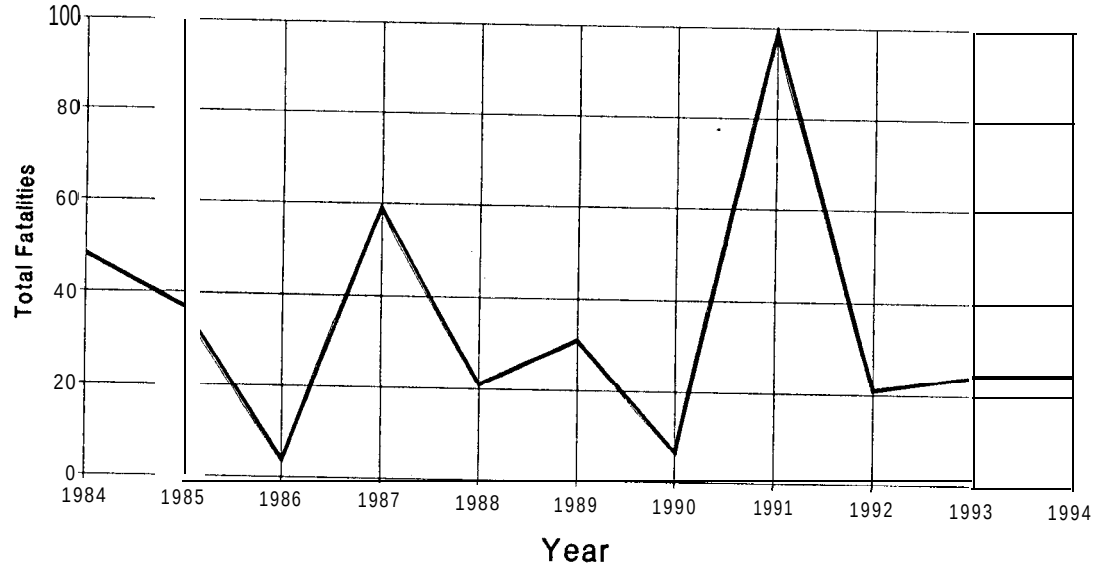


Figure 12- ACCIDENT RATE PER 100,000 HOURS FLOWN
SCHEDULED 14 CFR 135 OPERATIONS

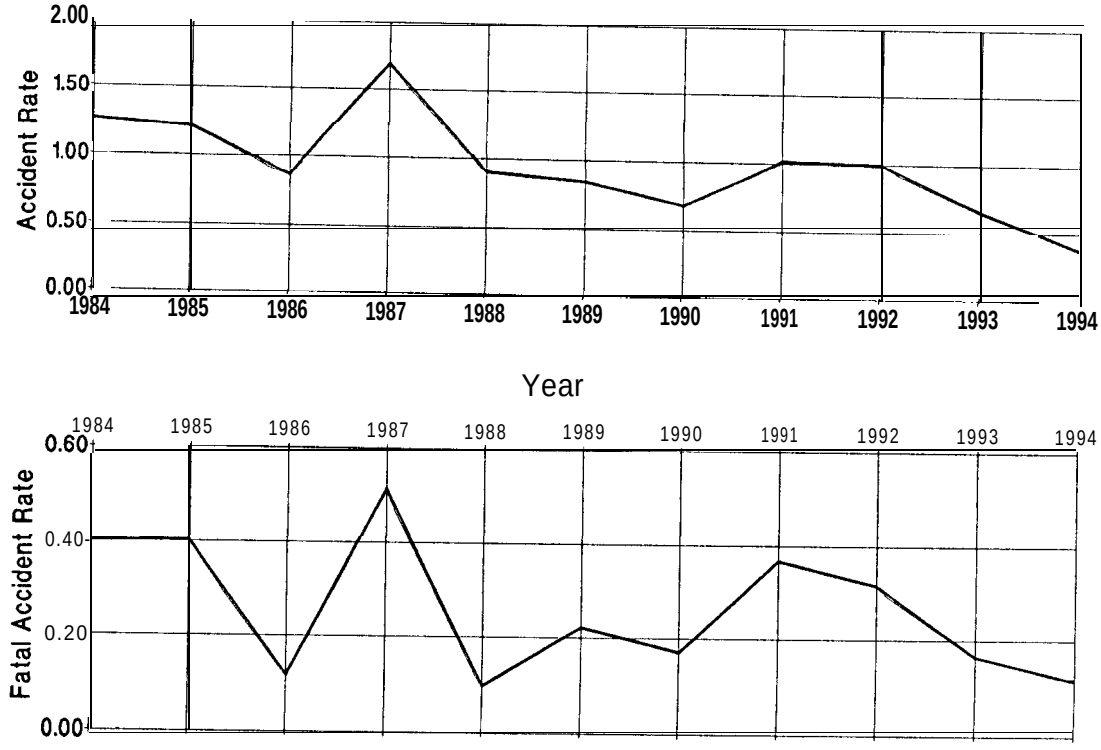


Table 35 - FIRST OCCURRENCES IN ALL ACCIDENTS AND IN FATAL ACCIDENTS SCHEDULED 14 CFR 135 OPERATIONS 1994 AND 1984 – 1993

Type of Occurrence	All Accidents				Fatal Accidents			
	1994		1984 - 1993		1994		1984 – 1993	
	No.	Percent	Mean	Percent	No.	Percent	Mean	Percent
On ground collision with object	1	10.0	2.4	11.5	0	.0	.2	3.6
Airframe/component/system failure/ malfunction	0	.0	2.3	11.0	0	.0	.6	10.7
Loss of control - in flight	2	20.0	2.2	10.5	2	66.7	.9	16.1
In flight collision with terrain	0	.0	2.1	10.0	0	.0	1.2	21.4
In flight encounter with weather	3	30.0	2.0	9.6	1	33.3	1.0	17.9
Loss of engine power(total) – non–mechanical	0	.0	1.2	5.7	0	.0	.3	5.4
Loss of control – on ground	0	.0	1.1	5.3	0	.0	.0	.0
In flight collision with object	0	.0	.7	3.3	0	.0	.2	3.6
Hard landing	0	.0	.6	2.9	0	.0	.0	.0
Overrun	0	.0	.6	2.9	0	.0	.0	.0
Loss of engine power(partial) – non–mechanical	0	.0	.6	2.9	0	.0	.1	1.8
Midair collision	0	.0	.5	2.4	0	.0	.3	5.4
Undershoot	0	.0	.5	2.4	0	.0	.0	.0
Gear not extended	0	.0	.4	1.9	0	.0	.0	.0
Loss of engine power	0	.0	.4	1.9	0	.0	.3	5.4
Loss of engine power(total) – mech failure/malfunction	0	.0	.4	1.9	0	.0	.0	.0
Propeller/rotor contact to person	0	.0	.4	1.9	0	.0	.1	1.8
Not reported	0	.0	.3	1.4	0	.0	.2	3.6
Complete gear collapsed	0	.0	.3	1.4	0	.0	.0	.0
Vortex turbulence encountered	0	.0	.3	1.4	0	.0	.1	1.8
Miscellaneous/other	1	10.0	.3	1.4	0	.0	.0	.0
Gear collapsed	0	.0	.2	1.0	0	.0	.0	.0
Main gear collapsed	1	10.0	.2	1.0	0	.0	.0	.0
Nose gear collapsed	1	10.0	.2	1.0	0	.0	.0	.0
On ground collision with terrain	0	.0	.2	1.0	0	.0	.0	.0
Loss of engine power(partial)- mech failure/malfunction	0	.0	.2	1.0	0	.0	.1	1.8
Dragged wing, rotor, pod, or float	0	.0	.1	.5	0	.0	.0	.0
Explosion	0	.0	.1	.5	0	.0	.0	.0
Undetermined	0	.0	.1	.5	0	.0	.0	.0
Fire	1	10.0	.0	.0	0	.0	.0	.0
Total	10	100.0	20.9	100.0	3	100.0	5.6	100.0

Table 36 – FIRST PHASES OF OPERATION IN ALL ACCIDENTS AND IN FATAL ACCIDENTS SCHEDULED 14 CFR 135 OPERATIONS 1994 AND 1984 - 1993

	All Accidents				Fatal Accidents			
	1994		1984 – 1993		1994		1984 - 1993	
Phase of operation	No.	Percent	Mean	Percent	No.	Percent	Mean	Percent
Approach	3	30.0	4.5	21.5	2	66.7	2.1	37.5
Landing	3	30.0	3.9	18.7	0	.0	.0	.0
Takeoff	1	10.0	2.9	13.9	0	.0	.8	14.3
Taxi	1	10.0	2.8	13.4	0	.0	.1	1.8
Cruise	1	10.0	1.9	9.1	1	33.3	1.0	17.9
Descent	0	.0	1.3	6.2	0	.0	.2	3.6
Standing	0	.0	1.2	5.7	0	.0	,2	3.6
Climb	1	10.0	.8	3.8	0	.0	.3	5.4
Maneuvering	0	.0	.8	3.8	0	.0	.5	8.9
Other	0	.0	.4	1.9	0	.0	.1	1.8
Not reported	0	.0	.3	1.4	0	.0	.2	3.6
Total Aircraft	10	100.0	20.9	100.0	3	100.0	5.6	100.0

Table 37 BROAD CAUSE/FACTOR ASSIGNMENTS IN ALL ACCIDENTS AND IN FATAL ACCIDENTS SCHEDULED 14 CFR 135 OPERATIONS 1994 AND 1984 – 1993

	All Accidents				Fatal Accidents			
	1994		1984 – 1993		1994		1984 – 1993	
Broad Cause/Factor	No.	Percent	Mean	Percent	No.	Percent	Mean	Percent
Pilot	5	50.0	15.4	73.7	2	66.7	4.4	78.6
Other Person (Not Aboard)	3	30.0	7.7	36.8	1	33.3	2.4	42.9
Weather	4	40.0	6.4	30.6	1	33.3	2.4	42.9
Terrain/Runway Condition	0	.0	5.4	25.8	0	.0	1.6	28.6
Propulsion System and Controls	1	10.0	2.9	13.9	0	.0	.9	16.1
Light Conditions	1	10.0	2.7	12.9	1	33.3	.8	14.3
Systems/Equipment / Instruments	0	.0	2.5	12.0	0	.0	.8	14.3
Object (tree,wires,etc)	0	.0	1.9	9.1	0	.0	.3	5.4
Landing Gear	3	30.0	1.8	8.6	0	.0	.0	.0
Airframe	1	10.0	1.2	5.7	0	.0	.4	7.1
Airport/Airways Facilities, Aids	0	.0	1.0	4.8	0	.0	.2	3.6
Flight Control System	0	.0	.7	3.3	0	.0	.5	8.9
Other Person (Aboard)	0	.0	.3	1.4	0	.0	.1	1.8
Total Aircraft	10	100.0	20.9	100.0	3	100.0	5.6	100.0
NTSB Determined Probable Cause	9		20.4		2		5.4	

Nonscheduled 14 CFR 35 Operations

There were 85 accidents involving nonscheduled 14 CFR 135 aircraft (air taxis) in 1994. The average number of accidents per year for the years 1984 through 1993 is 106.2. The accident rate for 1994 was 4.26 accidents per 100,000 hours flown, 12 percent higher than the 1993 rate of 3.81, but about equal to the overall rate of 4.30 for the period from 1984 through 1993.

There were 25 fatal accidents that were responsible for 63 fatalities in 1994. During the period 1984 through 1993, the yearly average was 27 fatal accidents and 63 fatalities. The fatal accident rate for 1994 was 1.30 per 100,000 hours flown.

One of the accidents reported in this section involved a collision between two non-scheduled 14 CFR 135 aircraft. Therefore, this section lists 85 accidents involving 86 aircraft .

Table 38 – SUMMARY OF LOSSES
NONSCHEDULED 14 CFR 135 OPERATIONS
1984 – 1994

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Accidents											
Fatal	23	35	31	30	28	25	28	27	24	19	26
Serious Injury	19	13	13	9	15	12	14	10	5	8	9
Minor Injury	25	22	19	7	10	14	12	8	9	13	13
No Injury	79	84	54	50	48	59	52	42	38	29	37
Total	146	154	117	96	101	110	106	87	76	69	85
Fatalities											
Passenger	22	39	26	31	22	46	20	35	43	20	40
Crew	30	36	35	32	33	35	28	31	22	22	22
Other Persons	0	1	4	2	4	2	2	4	3	0	1
Total	52	76	65	65	59	83	50	70	68	42	63
Aircraft Damage*											
Destroyed	40	50	38	34	37	32	38	31	26	26	24
Substantial	104	104	77	61	62	79	68	53	49	44	60
Minor	1	2	1	4	1	0	1	2	1	0	0
None	2	1	2	0	1	0	1	2	0	0	2
Total	147	157	118	99	101	111	108	88	76	70	86

Table 39 - ACCIDENT RATES
NONSCHEDULED 14 CFR 135 OPERATIONS
1984 - 1994

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Accident Rates											
Hours Flown *	5.14	5.99	4.35	3.61	3.84	3.64	4.71	3.88	3.78	3.81	4.26
Fatal Accident Rates											
Hours Flown *	0.81	1.36	1.15	1.13	1.06	0.83	1.24	1.20	1.19	1.05	1.30

* Per Hundred Thousand Hours Flown

Table 40 – LIST OF ACCIDENTS
NONSCHEDULED 14 CFR 135 OPERATIONS
1994

Date	Location	Type of Operation	Aircraft Type	Aircraft Damage	Degree of Injury	First Occurrence
1/07	Vacherie, LA	Cargo	Piper PA–34-200	Substantial	Minor	Loss of power(total) – non-mechanical
1/08	Santa Rosa Isl, CA	Passenger	Britten–Norman BN–2A8	Substantial	None	Undershoot
1/20	Lebec, CA	Not Reported	Aerospatiale AS–3502	Destroyed	Fatal (2)	In flight collision with object
1/26	Newtown, OH	Cargo	Beech BE-58	Destroyed	Fatal (1)	Loss of control – in flight
1/26	McCook, NE	Passenger	Cessna 421C	Destroyed	Fatal (2)	Airframe/component/system failure/malfunction
1/27	Memphis, TN	Cargo	Cessna 31OR	Substantial	None	On ground collision with object
1/27	Olathe, KS	Cargo	Cessna T21OM	Substantial	Serious	Loss of power (total) – non-mechanical
1/31	Anderson, IN	Cargo	Douglas DC3C	Substantial	None	Loss of control – on ground
2/03	St. Petersburg, FL	Cargo	Cessna U–206	Substantial	None	On ground collision with object
2/07	La Jolla, CA	Cargo	Cessna 31OR	Destroyed	Fatal (1)	Loss of control – in flight
2/08	Havre, MT	Cargo	Cessna T21ON	Substantial	Nose	Loss of power
2/16	Emmett, ID	Cargo	Cessna T21ON II	Destroyed	Fatal (1)	Loss of power (total) – non–mechanical
2/21	Norwood, MA	Passenger	Piper PA–31T	Substantial	Minor	In flight collision with terrain
2/23	Humuula, HI	Passenger	Aerospatiale AS–350B	Substantial	Serious	In flight encounter with weather
3/03	Frazier Park, CA	Cargo	Piper PA–31–350	Destroyed	Fatal (1)	In flight collision with terrain
3/07	Hayden, CO	Cargo	Rockwell 690C	Substantial	None	In flight collision with object
3/12	Phoenix, AZ	Passenger	Rockwell 681	Substantial	None	Airframe/component/system failure/malfunction
3/14	Kansas City, MO	Cargo	Beech 18S	Substantial	Minor	On ground collision with object
3/18	Spokane, WA	Cargo	Douglas DC-3C	Destroyed	Fatal (2)	Loss of power (total) – mech failure/malfunction
3/21	Gillette, WY	Passenger	Beech 95–C55	Substantial	None	Gear not extended

Table 40 - LIST OF ACCIDENTS (Continued)
NONSCHEDULED 14 CFR 135 OPERATIONS
1994

Date	Location	Type of Operation	Aircraft Type	Aircraft Damage	Degree of Injury	First Occurrence
3/25	HI Nat'1 Park, HI	Passenger	Hughes 369D	Substantial	Minor	Loss of control - in flight
3/26	Wrangell, AK	Passenger	Bell 206B	Destroyed	Minor	On ground collision with terrain
4/01	Telluride, CO	Passenger	Aerospatiale AS-350B2	Substantial	Serious	Loss of control - in flight
4/03	Lamoille, NV	Passenger	Bell 206B3	Destroyed	Fatal (4)	Loss of power
4/06	Smithville, TN	Cargo	Piper PA-32RT-300	Destroyed	Fatal (1)	In flight encounter with weather
4/08	Manley Hot Spg, AK	Pax and Cargo	Helio Courier 295	Substantial	None	Loss of power
4/09	Valdez, AK	Passenger	Hiller UH12E	Substantial	None	Loss of power
4/21	Laredo, TX	Cargo	Piper PA-31-350	Substantial	None	Loss of power(total) - non-mechanical
4/27	Stratford, CT	Passenger	Piper PA-31-350	Destroyed	Fatal (8)	Overrun
5/07	Allakaket, AK	Passenger	Piper PA-32-300	Substantial	None	On ground collision with object
5/23	Page, AZ	Pax and Cargo	Cessna 172N	Substantial	Minor	Loss of power
5/25	Friday Harbor, WA	Passenger	DeHavilland DHC-2	None	Serious	Propeller/rotor contact
6/08	Kassan Bay, AK	Pax and Cargo	Cessna 185	Substantial	None	Dragged wing, rotor, pod, or float
6/22	Juneau, AK	Passenger	DeHavilland DHC-3	Substantial	Fatal (7)	In flight encounter with weather
7/05	Elko, NV	Cargo	Cessna 31OJ	Substantial	None	Main gear collapsed
7/08	Kenai, AK	Cargo	Cessna T207	Substantial	Serious	Loss of power(total) - mech failure/malfunction
7/09	Nondalton, AK	Pax and Cargo	DeHavilland DHC-2	Substantial	None	Dragged wing, rotor, pod, or float
7/11	Portage Creek, AK	Pax and Cargo	Piper PA-32-301	Substantial	Fatal (3)	In flight collision with terrain
7/13	Galveston, TX	Pax and Cargo	Aerospatiale AS-350B1	Destroyed	Fatal (4)	Airframe/component/system failure/malfunction
7/13	Atlantic City, NJ	Passenger	Gates Learjet 35	Substantial	None	Airframe/component/system failure/malfunction

Table 40 - LIST OF ACCIDENTS (Continued)
NONSCHEDULED 14 CFR 135 OPERATIONS
1994

Date	Location	Type of Operation	Aircraft Type	Aircraft Damage	Degree of Injury	First Occurrence
7/14	Hanalei, HI	Passenger	Aerospatiale AS-350D	Substantial	Fatal (3)	Loss of power(total) – mech failure/malfunction
7/14	Kalaupapa, HI	Passenger	Aerospatiale AS-350B	Substantial	Serious	Forced landing
7/16	Noatak, AK	Passenger	Cessna 206	Substantial	None	On ground collision with terrain
7/18	McCarthy, AK	Passenger	Piper PA-31–31O	Substantial	Serious	In flight collision with terrain
7/18	Anchorage, AK	Passenger	Cessna 206	Substantial	None	Loss of power(partial) - non–mechanical
7/19	Juneau, AK	Passenger	Aerospatiale AS-350	Substantial	None	Nose down
7/19	Taft, CA	Passenger	Cessna 414	Destroyed	Fatal (1)	Dragged wing, rotor, pod, or float
7/29	Kenai, AK	Passenger	Bell 206	Substantial	Serious	Loss of control - in flight
7/29	Polacca, AZ	Passenger	Cessna 421C	Substantial	None	On ground collision with object
7/29	Orlando, FL	Cargo	Cessna 21OM	Substantial	None	Gear not extended
8/03	Martinsburg, WV	Cargo	Cessna 21ON	Destroyed	Fatal (1)	In flight collision with terrain
8/05	Mosquito Flats, AK	Passenger	Cessna 206	Substantial	None	Loss of power(total) - mech failure/malfunction
8/06	Salmon, ID	Passenger	Piper PA-34-200T	Substantial	Minor	Undershoot
8/07	Kodiak, AK	Passenger	DeHavilland DHC-2	Destroyed	Fatal (6)	In flight collision with terrain
8/09	Bethel, AK	Cargo	Cessna 206	Substantial	Minor	Overrun
8/09	Marion, IA	Passenger	Piper PA-34-200	Destroyed	Minor	Loss of control - on ground
8/11	Port Alsworth, AK	Passenger	DeHavilland DHC–2	Destroyed	Fatal (3)	In flight collision with terrain
8/11	Kukuihaele, HI	Passenger	Aerospatiale AS-350D	Substantial	None	Loss of power(partial) - mech failure/malfunction
8/12	Tok, AK	Pax and Cargo	Helio–Courier H-700	Substantial	None	On ground collision with terrain
8/12	Whiting, NJ	Passenger	Bell 206L–4	Destroyed	Fatal (3)	In flight encounter with weather

Table 40 – LIST OF ACCIDENTS (Continued)
NONSCHEDULED 14 CFR 135 OPERATIONS
1994

Date	Location	Type of Operation	Aircraft Type	Aircraft Damage	Degree of Injury	First Occurrence
8/14	Kenai, AK	Pax and Cargo	Piper PA-32-260	Destroyed	Fatal (3)	Loss of power(total) - mech failure/malfunction
8/17	Hite, UT	Passenger	Cessna 180K	Substantial	None	Loss of control - on ground
8/18	Skwenta, AK	Passenger	DeHavilland DHC-2	Substantial	None	On ground collision with object
8/20	Helena, MT	Cargo	Beech 99	Substantial	None	Gear collapsed
8/28	Harlingen, TX	Pax and Cargo	Cessna 402	Substantial	Minor	Loss of power(partial) - mech failure/malfunction
8/31	Cape Sabine, AK	Passenger	Cessna 208	Substantial	None	Dragged wing, rotor, pod, or float
9/02	Tok, AK	Pax and Cargo	Piper PA–18	Substantial	None	Loss of power(partial) - mech failure/malfunction
9/03	Volcano, HI	Passenger	Hughes 369E	Substantial	Minor	Loss of control - in flight
9/06	Reno, NV	Cargo	Cessna 31OH	Destroyed	Fatal (1)	Loss of control – in flight
9/14	Port Alsworth, AK	Pax and Cargo	Piper PA–18–150	Substantial	None	In flight collision with object
9/17	Whittier, AK	Passenger	DeHavilland DHC-2	Substantial	None	Loss of control - on ground
10/15	Kotzebue, AK	Passenger	Cessna A185F	Substantial	None	On ground collision with terrain
10/24	Kaupo, HI	Passenger	Eurocopter AS–350D	Substantial	Minor	Loss of power(total) – mech failure/malfunction
11/12	Bethel, AK	Passenger	Cessna 172	Substantial	None	Loss of control – on ground
11/16	Avenal, CA	Cargo	Beech C-99	Destroyed	Fatal 1)	Loss of control - in flight
11/18	Akiachak, AK	Pax and Cargo	Cessna 207	Substantial	None	Loss of control – on ground
11/20	Juneau, AK	Passenger	Bell 206	None	Fatal 1)	Propeller/rotor contact
12/03	Kenai, AK	Cargo	Cessna 206	Substantial	Fatal (1)	Missing aircraft
12/08	Kansas City, MO	Cargo	Beech E18S	Destroyed	Fatal (1)	Loss of control – in flight
12/10	Sylvan Springs, AL	Cargo	Piper PA–32RT–300	Destroyed	Fatal (1)	In flight encounter with weather

Table 40 - LIST OF ACCIDENTS (Continued)
NONSCHEDULED 14 CFR 135 OPERATIONS
1994

Date	Location	Type of Operation	Aircraft Type	Aircraft Damage	Degree of Injury	First Occurrence
12/12	Takotna, AK	Passenger	Cessna 185	Destroyed	Serious	In flight collision with terrain
12/13	Saint Mary's, AK	Pax and Cargo	Cessna 207	Substantial	None	In flight encounter with weather
12/14	Hickory, NC	Cargo	Cessna 402B	Substantial	Minor	Overrun
12/15	Memphis, TN	Cargo	Cessna 208B	Substantial	None	Collision between aircraft (other than midair)
	Memphis, TN	Cargo	Douglas DC-3A	Substantial	None	
12/30	Fort Huachuca, AZ	Cargo	Cessna 207	Substantial	None	On ground collision with object

Table 41 – PERSONS BY ROLE AND DEGREE OF INJURY
NONSCHEDULED 14 CFR 135 OPERATIONS
1994

Role of Person	Degree of Injury				
	Fatal	Serious	Minor	None	Total
Pilot	21	8	10	46	85
Copilot	1	0	0	5	6
Other crew	0	2	0	3	5
Passenger	40	22	25	102	189
Total aboard	62	32	35	156	285
Other aircraft*	0	0	0	2	2
Other ground	1	0	1	1	3
Grand total	63	32	36	159	290
Percent	21.7	11.0	12.4	54.8	

* Injuries carried opposite Other aircraft are injuries occurring in aircraft that are not part of this tabulation, but which were involved in collisions with aircraft which are a part of this tabulation.

Table 42 - AIRCRAFT BY DAMAGE AND DEGREE OF INJURY
NONSCHEDULED 14 CFR 135 OPERATIONS
1994

Aircraft damage	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
None	0	0	1	1	2	2.3
Substantial	38	11	7	4	60	69.8
Destroyed	0	2	1	21	24	27.9
Aircraft						
Number -	38	13	9	26	86	
Percent -	44.2	15.1	10.5	30.2		

Table 43 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY AND BY DAMAGE
NONSCHEDULED 14 CFR 135 OPERATIONS
1994

Type of first occurrence	Degree of injury				Aircraft damage				Aircraft	
	None	Minor	Ser	Fatal	None	Minor	Subs	Dest	No.	Percent
Airframe/component/system failure/malfunction	2	o	0	2	0	0	2	2	4	4.7
Dragged wing,rotor,pod,or float	3	0	0	1	0	0	3	1	4	4.7
Forced landing	0	0	1	0	0	0	1	0	1	1.2
Gear collapsed	1	0	0	0	0	0	1	0	1	1.2
Main gear collapsed	1	0	0	0	0	0	1	0	1	1.2
Gear not extended	2	0	0	0	0	0	2	0	2	2.3
In flight collision with object	2	0	0	1	0	0	2	1	3	3.5
In flight collision with terrain	o	1	2	5	0	0	3	5	8	9.3
In flight encounter with weather	1	0	1	4	0	0	3	3	6	7.0
Loss of control – in flight	0	2	2	5	0	0	4	5	9	10.5
Loss of control – on ground	5	1	0	0	0	0	5	1	6	7.0
Collision between aircraft (other than midair)	2	0	0	0	0	0	2	0	2	2.3
Nose down	1	0	0	0	0	0	1	0	1	1.2
On ground collision with object	6	1	0	0	0	0	7	0		8.1
On ground collision with terrain	3	1	0	0	0	0	3	1	4	4.7
Overrun	0	2	0	1	0	0	2	1	3	3.5
Loss of power	3	1	0	1	0	0	4	1	5	5.8
Loss of power(total) – mech failure/malfunction	1	1	1	3	0	0	4	2	6	7.0
Loss of power(partial) - mech failure/malfunction	2	1	0	0	0	0	3	0	3	3.5
Loss of power(total) – non–mechanical	1	1	1	1	0	0	3	1	4	4.7
Loss of power(partial) – non–mechanical	1	0	0	0	0	0	1	0		1.2
Propeller/rotor contact to person	0	0	1	1	2	0	0	0	2	2.3
Undershoot	1	1	0	0	0	0	2	0	2	2.3
Missing aircraft	0	0	0	1	0	0	1	0	1	1.2
Aircraft										
Number –	38	13	9	26	2	0	60	24	86	
Percent -	44.2	15.1	10.5	30.2	2.3	.0	69.8	27.9		

Table 44 – AIRCRAFT BY FIRST OCCURRENCE AND BROAD PHASE OF OPERATION
NONSCHEDULED 14 CFR 135 OPERATIONS
1994

Type OF first occurrence	Phase of operation											Aircraft	
	Stnd	Taxi	Tkof	Clmb	Crus	Dsct	Aprh	Land	Manv	Hovr	Othr	No.	Pct.
Airframe/component/system failure/malfunction	0	0	1	1	1	0	1	0	0	0	0	4	4.7
Dragged wing, rotor, pod, or float	0	0	2	0	0	0	0	2	0	0	0	4	4.7
landing	0	0	0	0	0	0	0	1	0	0	0	1	1.2
Gear collapsed	0	1	0	0	0	0	0	0	0	0	0	1	1.2
Main gear collapsed	0	0	0	0	0	0	0	1	0	0	0	1	1.2
Gear not extended	0	0	0	0	0	0	0	2	0	0	0	2	2.3
In flight collision w/object	O	0	1	0	0	1	0	0	1	0	0	3	3.5
In flight collision w/terrain	O	0	3	0	2	0	1	1	1	0	0	8	9.3
In flight encounter w/weather	O	0	0	0	4	0	0	0	2	0	0	6	7.0
Loss of control – in flight	o	0	1	2	1	0	4	0	0	1	0	9	10.5
Loss of control - on ground	o	0	3	0	0	0	0	3	0	0	0	6	7.0
Collision between aircraft (other than midair)	1	1	0	0	0	0	0	0	0	0	0	2	2.3
Nose down	1	0	0	0	0	0	0	0	0	0	0	1	1.2
On ground collision w/object	1	3	0	0	0	0	0	3	0	0	0	7	8.1
On ground encounter w/terrain	O	1	0	0	0	0	0	3	0	0	0	4	4.7
Overrun	o	0	0	0	0	0	0	3	0	0	0	3	3.5
Loss of engine power	o	0	1	0	2	0	0	0	2	0	0	5	5.8
Loss of engine power(total)– mech failure/malfunction	O	0	1	1	4	0	0	0	0	0	0	6	7.0
Loss of engine power(partial)- mech failure/malfunction	O	0	2	0	1	0	0	0	0	0	0	3	3.5
Loss of engine power(total)- non-mechanical	O	0	0	0	1	1	2	0	0	0	0	4	4.7
Loss of engine power(partial)– non—mechanical	O	0	0	0	1	0	0	0	0	0	0	1	1.2
Propeller/rotor contact to person	1	1	0	0	0	0	0	0	0	0	0	2	2.3
Undershoot	o	0	0	0	0	0	1	1	0	0	0	2	2.3
Missing aircraft	o	0	0	0	0	0	0	0	0	0	1	1	1.2
Aircraft													
Number –	4	7	15	4	17	2	9	20	6	1	1	86	
Percent -	4.7	8.1	17.4	4.7	19.8	2.3	10.5	23.3	7.0	1.2	1.2		

Table 45 – AIRCRAFT BY PHASE OF OPERATION AND DEGREE OF INJURY AND BY DAMAGE
NONSCHEDULED 14 CFR 135 OPERATIONS
1994

Phase of operation	Degree of injury				Aircraft damage				Aircraft	
	None	Minor	Ser	Fatal	None	Minor	Subs	Dest	No.	Percent
Standing – engines operating	2	0	0	1	1	0	2	0	3	3..5
Standing – idling rotors	1	0	0	0	0	0	1	0	1	1.2
Taxi – to takeoff	3	0	0	0	0	0	3	0	3	3.5
Taxi – from landing	2	1	1	0	1	0	3	0	4	4.7
Takeoff	0	1	1	2	0	0	3	1	4	4.7
Takeoff – roll/run	4	1	0	0	0	0	4	1	5	5.8
Takeoff – initial climb	3	1	1	1	0	0	4	2	6	7.0
Climb	0	0	1	0	0	0	1	0	1	1.2
Climb - to cruise	0	0	0	3	0	0	0	3	3	3.5
Cruise	2	1	1	5	0	0	5	4	9	10.5
Cruise - normal	2	2	0	4	0	0	4	4	8	9.3
Descent	0	0	0	1	0	0	0	1	1	1.2
Descent – normal	1	0	0	0	0	0	1	0	1	1.2
Approach - VFR pattern – base to final	0	0	1	0	0	0	1	0	1	1.2
Approach – VFR pattern - final approach	1	1	1	0	0	0	3	0	3	3.5
Approach - go-around (VFR)	0	0	0	1	0	0	0	1	1	1.2
Approach – IAF to FAF/outer marker (IFR)	1	0	0	0	0	0	1	0	1	1.2
Approach - FAF/outer marker to threshold (IFR)	0	0	1	1	0	0	1	1	2	2.3
Missed approach (IFR)	0	0	0	1	0	0	0	1	1	1.2
Landing	2	1	0	0	0	0	2	1	3	3.5
Landing – flare/touchdown	3	1	0	0	0	0	4	0	4	4.7
Landing - roll	8	2	0	1	0	0	10	1	11	12.8
Landing – aborted	1	0	0	0	0	0	1	0	1	1..2
Landing - emergency descent/ landing	0	0	1	0	0	0	1	0	1	1.2
Maneuvering	2	0	0	4	0	0	3	3	6	7.0
Hover	0	1	0	0	0	0	1	0	1	1.2
Unknown	0	0	0	1	0	0	1	0	1	1.2
Aircraft										
Number –	38	13	9	26	2	0	60	24	86	
Percent –	44.2	15.1	10.5	30.2	2.3	.0	69.8	27.9		

Table 46 – AIRCRAFT BY CONDITION OF LIGHT AND TYPE OF WEATHER
NONSCHEDULED 14 CFR 135 OPERATIONS
1994

Condition of light	Type of weather			Aircraft	
	VMC	IMC	Not reptd	No.	Percent
Daylight	53	8	1	62	72.1
Night (dark)	15	9	0	24	27.9
Aircraft					
Number -	68	17	1	86	
Percent -	79.1	19.8	1.2		

Table 47 – AIRCRAFT BY TYPE OF OPERATION AND DEGREE OF INJURY
NONSCHEDULED 14 CFR 135 OPERATIONS
1994

Type of Operation	Degree of Injury				Aircraft	
	None	Minor	Serious	Fatal	No.	Percent
Domestic Passenger	18	7	7	10	42	48.8
Domestic Cargo	12	4	2	12	30	34.9
Domestic Pass/Cargo	8	1	0	3	12	13.9
International Pass/Cargo	0	1	0	0	1	1.2
Not Reported	0	0	0	1	1	1.2
Aircraft						
Number –	38	13	9	26	86	
Percent –	44.2	15.1	10.5	30.2		

Table 48 - AIRCRAFT BY PROXIMITY TO AIRPORT AND FLIGHT PLAN
NONSCHEDULED 14 CFR 135 OPERATIONS
1994

Accident location	Flight plan				Aircraft	
	None	VFR	IFR	Cmpny VFR	No.	Percent
Off airport/airstrip	2	6	12	30	50	58.1
On airport	0	5	16	11	32	37.2
On airstrip	0	1	0	3	4	4.7
Aircraft						
Number -	2	12	28	44	86	
Percent -	2.3	13.9	32.6	51.2		

Table 49 – AIRCRAFT BY OCCURRENCE OF FIRE AND DEGREE OF INJURY AND BY DAMAGE
NONSCHEDULED 14 CFR 135 OPERATIONS
1994

	Degree of injury				Aircraft damage				Aircraft	
Aircraft fire	None	Minor	Ser	Fatal	None	Minor	Subs	Dest	No.	Percent
None	38	11	7	15	2	0	57	12	71	82.5
Inflight	0	0	0	1	0	0	0	1	1	1.2
On ground	0	2	2	10	0	0	3	11	14	16.3
Aircraft										
Number –	38	13	9	26	2	0	60	24	86	
Percent –	44.2	15.1	10.5	30.2	2.3	.0	69.8	27.9		

Table 50 - AIRCRAFT BY TYPE OF AIRCRAFT AND DEGREE OF INJURY AND BY DAMAGE
NONSCHEDULED 14 CFR 135 OPERATIONS
1994

	Degree of injury				Aircraft damage			Aircraft	
Type of Aircraft	None	Minor	Ser	Fatal	Minor	Subs	Dest	No.	Percent
All Fixed Wing *	35	9	5	20	1	0	49	19	69	80.2
Fixed Wing Single Recip. Eng.	21	2	4	10	1	0	28	8	37	43.0
Fixed Wing Multiple Recip. Eng.	8	6	1	9	0	0	14	10	24	27.9
Fixed Wing Turboprop	5	1	0	1	0	0	6	1	7	8.1
Fixed Wing Turbojet	1	0	0	0	0	0	1	0	1	1.2
All Rotorcraft *	3	4	4	6	1	0	11	5	17	19.8
Rotorcraft, Reciprocating Engine	1	0	0	0	0	0	1	0	1	1.2
Rotorcraft, Turbine Engine	2	4	4	6	1	0	10	5	16	18.6
Aircraft										
Number –	38	13	9	26	2	0	60	24	86	
Percent –	44.2	15.1	10.5	30.2	2.3	.0	69.8	27.9		

* Not included in column totals

Table 51 - BROAD CAUSE/FACTOR ASSIGNMENTS*
NONSCHEDULED 14 CFR 135 OPERATIONS
1994

Cause/Factor	Cited as a Cause		Cited as a Factor		Cited as Either a Cause or a Factor (or Both)	
	Fatal Accidents	All Accidents	Fatal Accidents	All Accidents	Fatal Accidents	All Accidents
Aircraft #	**4**	**23**	5	8	**8**	**29**
Propulsion System and Controls	2	11	2	3	4	14
Flight Control System	1	1	0	0	1	1
Airframe	0	0	2	2	2	2
Landing Gear	0	6	0	1	0	6
Systems/Equipment/ Instruments	3	7	2	4	4	10
Environment #	**0**	**1**	19	50	19	**51**
Weather	0	0	12	27	12	27
Light Conditions	0	0	5	14	5	14
Object (trees,wires, etc.)	0	0	1	2	1	2
Airport/Airways Facilities, Aids	0	0	0	0	0	0
Terrain/Runway Condition	0	1	7	24	7	25
Personnel #	**23**	**72**	**14**	**25**	**25**	**76**
Pilot	20	60	11	22	22	64
Others (Not Aboard)	2	12	4	6	6	18
Number of Aircraft					26	86
NTSB Determined Probable Cause					26	86

---

* Multiple causes and factors may be assigned in an accident

\# This category is composed of sub-categories indented below it. The number of aircraft cited in a category may be less than or equal to the sum of the sub-category citations.

Table 52 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
NONSCHEDULED 14 CFR 135 OPERATIONS
1984 - 1994

Year	Accidents	Fatal Accidents	Fatalities		Accident Rate per 100,000 Aircraft Hours Flow		
			Total	Aboard In This Aircraft Category	Hours Flown	Total	Fatal
1984	146	23	52	52	2,843,000	5.135	0.809
1985	154	35	76	75	2,570,000	5.992	1.362
1986	117	31	65	61	2,690,000	4.349	1.152
1987	96	30	65	63	2,657,000	3.613	1.12
1988	101	28	59	55	2,632,000	3.837	1.06
1989	110	25	83	81	3,020,000	3.642	0.82
1990	106	28	50	48	2,249,000	4.713	1.24
1991	87	27	70	66	2,241,000	3.882	1.20
1992	76	24	68	65	2,009,000	3.783	1.19
1993	69	19	42	42	1,809,000	3.814	1.05
1994	85	26	63	62	1,993,000	4.265	1.30

Figure 13- ACCIDENTS AND FATAL ACCIDENTS
NONSCHEDULED 14 CFR 135 OPERATIONS

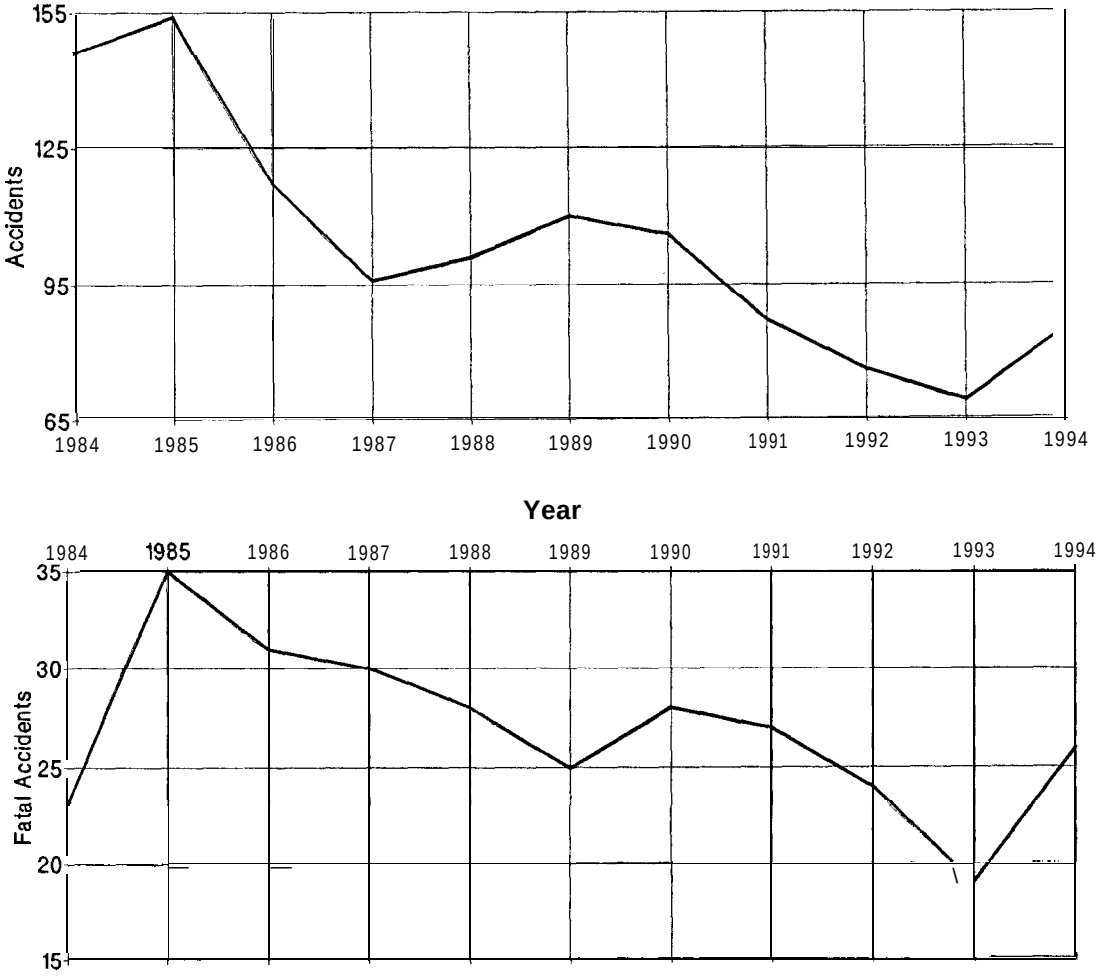


Figure 14- NUMBER OF FATALITIES
NONSCHEDULED 14 CFR 135 OPERATIONS

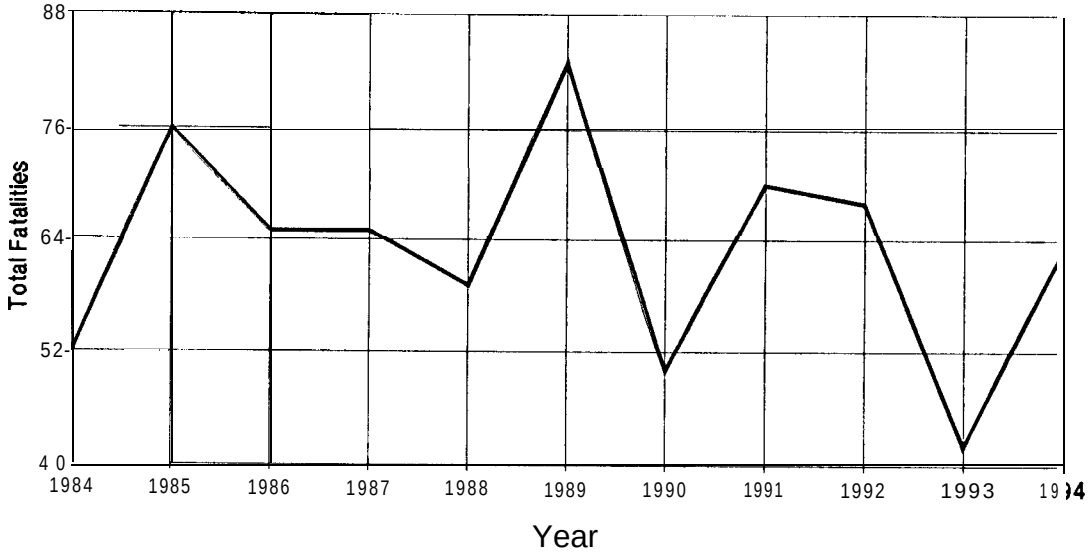
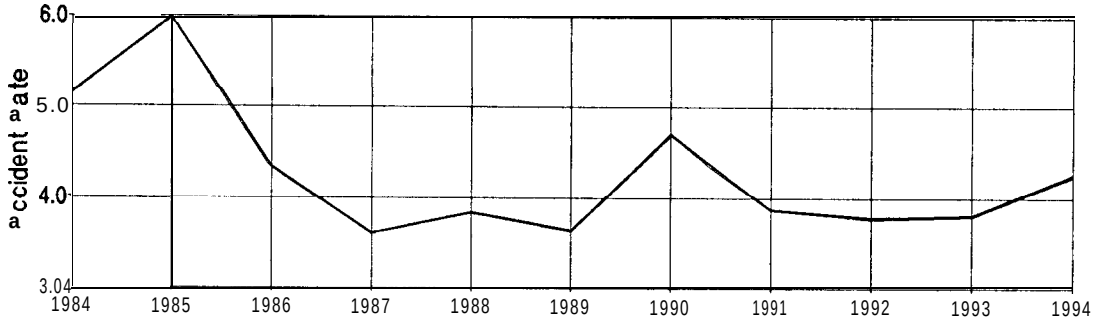


Figure 15- ACCIDENT RATE PER 100,000 HOURS FLOWN
NONSCHEDULED 14 CFR 135 OPERATIONS



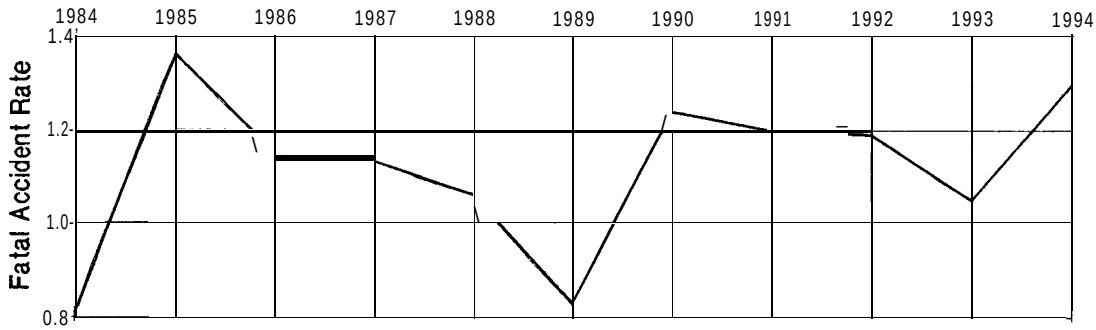


Table 53 - FIRST OCCURRENCES IN ALL ACCIDENTS AND IN FATAL ACCIDENTS NONSCHEDULED 14 CFR 135 OPERATIONS 1994 AND 1984 – 1993

Type of Occurrence	All Accidents				Fatal Accidents			
	1994		1984 - 1993		1994		1984 - 1993	
	No.	Percent	Mean	Percent	No.	Percent	Mean	Percent
Loss of control - in flight	9	10.5	11.3	10.5	5	19.2	5.4	19.9
In flight collision with terrain	8	9.3	10.2	9.5	5	19.2	5.6	20.6
Loss of control - on ground	6	7.0	8.8	8.2	0	.0	.2	.7
In flight encounter with weather	6	7.0	8.5	7.9	4	15.4	4.2	15.4
Loss of engine power(total) - mech failure/malfunction	6	7.0	8.5	7.9	3	11.5	1.4	5.1
Airframe/component/system failure/ malfunction	4	4.7	7.8	7.3	2	7.7	2.1	7.7
Loss of engine power(total) - non-mechanical	4	4.7	7.7	7.2	1	3.8	.7	2.6
In flight collision with object	3	3.5	7,2	6.7	1	3.8	2.2	8.1
On ground collision with object	7	8.1	5.2	4.8	0	.0	.3	1.1
Loss of engine power	5	5.8	3.9	3.6	1	3.8	.8	2.9
Overrun	3	3.5	3.2	3.0	1	3.8	.0	.0
Loss of engine power(partial) - mech failure/malfunction	3	3.5	2.9	2.7	0	.0	.7	2.6
Main gear collapsed	1	1.2	2.3	2.1	0	.0	.0	.0
On ground collision with terrain	4	4.7	2.2	2.0	0	.0	.0	.0
Hard landing	0	.0	1.9	1.8	0	.0	.0	.0
Midair collision	0	.0	1.7	1.6	0	.0	1.0	3.7
Fire	0	.0	1.6	1.5	0	.0	.5	1.8
Loss of engine power(partial) - non-mechanical	1	1.2	1.5	1.4	0	.0	.2	.7
Undershoot	2	2.3	1.3	1.2	0	.0	.1	.4
Miscellaneous/other	0	.0	1.3	1.2	0	.0	.5	1.8
Not reported	0	.0	1.0	0.9	0	.0	.0	.0
Roll over	0	.0	.9	.8	0	.0	.1	.4
Nose gear collapsed	0	.0	.8	.7	0	.0	.0	.0
Nose over	0	.0	.7	.7	0	.0	.0	.0
Altitude deviation, uncontrolled	0	0	.6	.6	0	.0	.1	.4
Gear not extended	2	2.3	.6	.6	0	.0	.0	.0
Propeller/rotor contact to person	2	2.3	.6	.6	1	3.8	.1	.4
Abrupt maneuver	0	.0	.4	.4	0	.0	.3	1.1
Dragged wing, rotor, pod, or float	4	4.7	.4	.4	1	3.8	.0	.0
Explosion	0	.0	.4	.4	0	.0	.1	.4
Fire/explosion	0	.0	.3	.3	0	.0	.0	.0
Gear collapsed	1	1.2	.3	3	0	.0	.0	.0
Forced landing	1	1.2	.2	.2	0	.0	.0	.0
Gear not retracted	0	.0	.2	.2	0	.0	.0	.0
On ground encounter with weather	0	.0	.2	.2	0	.0	.0	.0
Propeller blast or jet exhaust	0	.0	.2	.2	0	.0	.0	.0
Undetermined	0	.0	.2	.2	0	0	.2	.7
Missing aircraft	1	1.2	.2	.2	1	3.8	.2	.7
Cargo shift	0	.0	.1	.1	0	.0	.1	.4
Other gear collapsed	0	.0	.1	.1	0	.0	.0	.0
Vortex turbulence encountered	0	.0	.1	.1	0	.0	.1	.4
Collision between aircraft (other than midair)	2	2.3	.0	.0	0	.0	.0	.0
Nose down	1	1.2	.0	.0	0	.0	.0	.0
Total	86	100.0	107.5	100.0	26	100.0	27.2	100.0

Table 54 - FIRST PHASES OF OPERATION IN ALL ACCIDENTS AND IN FATAL ACCIDENTS
NONSCHEDULED 14 CFR 135 OPERATIONS
1994 AND 1984 – 1993

	All Accidents				Fatal Accidents			
	1994		1984 - 1993		1994		1984 – 1993	
Phase of operation	No.	Percent	Mean	Percent	No.	Percent	Mean	Percent
Cruise	17	19.8	22.8	21.2	9	34.6	7.7	28.3
Takeoff	15	17.4	22.4	20.8	3	11.5	4.2	15.4
Landing	20	23.3	20.4	19.0	1	3.8	.9	3.3
Approach	9	10.5	14.6	13.6	3	11.5	6.4	23.5
Maneuvering	7	8.1	8.6	8.0	4	15.4	3.4	12.5
Climb	4	4.7	4..9	4.5	3	11.5	1.6	5.9
Taxi	7	8.1	4.6	4.3	0	.0	.0	.0
Descent	2	2.3	3.8	3.5	1	3.8	1.5	5.5
Standing	4	4.7	3.1	2,9	1	3.8	.7	2.6
Other	1	1.2	1.4	1.3	1	3.8	.8	2.9
Not reported	0	.0	1.0	.9	0	.0	.0	.0
Total Aircraft	86	100.0	107.5	100.0	26	100.0	27.2	100.0

Table 55 - BROAD CAUSE/FACTOR ASSIGNMENTS IN ALL ACCIDENTS AND IN FATAL ACCIDENTS
NONSCHEDULED 14 CFR 135 OPERATIONS
1994 AND 1984 – 1993

	All Accidents				Fatal Accidents			
	1994		1984 – 1993		1994		1984 - 1993	
Broad Cause/Factor	No.	Percent	Mean	Percent	No.	Percent	Mean	Percent
Pilot	64	74.4	79.-I	74.1	22	84.6	22.4	82.4
Weather	27	31.4	32.4	30.1	12	46.2	11.6	42.6
Terrain/Runway Condition	25	29.1	31.4	29.2	7	26.9	7.2	26.5
Propulsion System and Controls	14	16.3	24.1	22.4	4	15.4	4.6	16.9
Other Person (Not Aboard)	18	20.9	18.8	17.5	6	23.1	6.3	23.2
Light Conditions	14	16.3	14.4	13.4	5	19.2	6.4	23.5
Object (tree,wires,etc)	2	2.3	13.1	12.2	1	3.8	3.7	13.6
Landing Gear	6	7.0	8.6	8.0	0	.0	.2	.7
Systems/Equipment/ Instruments	10	11.6	8.3	7.7	4	15.4	2.2	8.1
Airframe	2	2.3	4.4	4.1	2	7.7	1.3	4.8
Flight Control System	1	1.2	2.2	2.0	1	3.8	1.2	4.4
Airport/Airways Facilities, Aids	0	.0	1.7	1.6	0	.0	.2	.7
Other Person (Aboard)	0	.0	.3	.3	0	.0	.2	.7
Total Aircraft	86	100.0	107.5	1.00.0	26	100.0	27.2	100.0
NTSB Determined Probable Cause	86		106.1		26		27.2	

BY THE NATIONAL TRANSPORTATION SAFETY BOARD

/s/ JIM HALL
Chairman

/s/ ROBERT T. FRANCIS
Vice Chairman

/s/ JOHN HAMMERSCHMIDT
Member

/s/ JOHN GOGLIA
Member

/s/ GEORGE W. BLACK, JR.
Member

APPENDIX A
MIDAIR COLLISION ACCIDENTS
U s . AIR CARRIER OPERATIONS
1984 - 1994

	Accidents			Number of Accidents by Segements of Aviation Involved			
Year	Total	Fatal	Total Fatalities	S135 and GA	N135 and N135	N135 and GA	S121 and Forgn
1984	1	1	17	1	0	0	0
1985	2	1	1	0	2	0	0
1986	0	0	0	0	0	0	0
1987	5	2	12	3	0	2	0
1988	2	1	4	0	0	2	0
1989	1	1	2	0	0	1	0
1990	3	2	5	1	1	1	0
1991	2	2	9	0	1	1	0
1992	2	1	3	0	0	2	0
1993	1	0	0	0	0	0	1
1994	0	0	0	0	0	0	0
	19	11	53	5	4	9	1

NOTE : S135 = Scheduled 14 CFR 135 Operation
N135 = Nonscheduled 14 CFR 135 Operation
S121 = Scheduled 14 CFR 121 Operation
Forgn = Foreign Registered Aircraft Operation
GA = General Aviation

APPENDIX B - EXPLANATORY NOTES

AIRCRAFT ACCIDENT The accidents included herein are the occurrences incident to flight in which, "as a result of the operation of an aircraft, any person (occupant or nonoccupant) receives fatal or serious injury or any aircraft receives substantial damage." The definition of substantial damage is:

(1) Substantial damage means damage or failure which adversely affects the structural strength, performance, or flight characteristics of the aircraft, and would normally require major repair or replacement of the affected component.

(2) Engine failure, damage limited to an engine, bent fairings or cowling, dented skin, small punctured holes in the skin or fabric, ground damage to rotor or propeller blades, damage to landing gear, wheels, tires, flaps, engine accessories, brakes, or wingtips are not considered "substantial damage."

AIRCRAFT-MILES: The distance flown by aircraft in terms of great circle airport-to-airport distances measured in statute miles.

CAUSES AND RELATED FACTORS: In determining probable cause(s) of an accident, all facts, conditions, and circumstances are considered. The objective is to ascertain those cause and effect relationships in the accident sequence about which something can be done to prevent recurrence of the type of accident under consideration. Accordingly, for statistical purposes, where there are two or more causes of an accident, each is recorded and no attempt is made to establish a primary cause. Therefore, in the cause and related factor table, the figures shown in the columns dealing with cause will exceed the total number of accidents. The term "factor" is used, in general, to denote those elements of an accident that further explain or supplement the probable cause(s) ; this provides a means for collecting essential items of information that could not be readily categorized elsewhere in the system.

COLLISION BETWEEN AIRCRAFT: Collisions between aircraft are so classified only when both aircraft are occupied. This includes collisions wherein both aircraft are airborne (midair); one is airborne, the other on the ground; and both are on the ground. A collision with a parked, unoccupied aircraft is classified under the broad category of collision with objects.

FATAL INJURY: Any injury which results in death within 30 days of the accident.

INJURY INDEX: Injury index refers to the highest degree of personal injury sustained as a result of the accident.

NONSCHEDULED SERVICE: Revenue flights that are not operated in regular scheduled service, such as charter flights, and all nonrevenue flights incident to such flights.

PASSENGER-MILES: One passenger transported 1 mile. Passenger miles are computed by the summation of the products of the aircraft-miles flown on each inter-airport flight multiplied by the number of passengers carried on the flight.

PERSONNEL (NON-PILOT): As defined for the Broad Cause/Factor tables may include any of the following personnel:

Rules, Regulations, Standards Personnel
Maintenance, Servicing, Inspection Personnel
Weather Service Personnel
Airport Management
Production-Design Personnel
Ground Signalman
Passenger
Driver of Vehicle
Flight Engineer
Radio Operator
Other Flight Personnel
Flight Instructor on Ground
Operational Supervisor Personnel
Air Traffic Control Personnel
Airways Facilities Personnel
Pilot of Another Aircraft
Ground Crewman
Spectator
Third Pilot
Navigator
Flight Attendant
Dispatching Personnel

PHASE OF OPERATION: The phase of flight in which the first occurrence happened.

REVENUE PASSENGER: A person receiving air transportation from an air carrier for which remuneration is received by the air carrier. Air carrier employees and others receiving air transportation for which a token service charge is levied are considered nonrevenue passengers.

REVENUE PLANE-MILES: The total plane–miles flown in revenue service.

ROTORCRAFT (BROAD CAUSE/FACTOR): When any part, assembly, or system which is unique to rotorcraft is cited as a cause or factor, then "Rotorcraft" is considered a broad cause or factor in that accident.

SERIOUS INJURY: Any injury which 1) requires hospitalization for more than 48 hours, commencing within 7 days from the date the injury was received; 2) results in a fracture of any bone (except simple fractures of fingers, toes, or nose); 3) involves lacerations which cause severe hemorrhages, nerve, muscle, or tendon damage; 4) involves injury to any internal organ; or 5) involves second-or third-degree burns, or any burns affecting more than 5 percent of body surface.

TYPE OF OCCURRENCE: "Occurrences" is the highest level of an accident classification mechanism known as the Sequence of Events. This concept was introduced in 1982 accident investigations to describe the circumstances in an accident. To describe an accident, up to five occurrences may be used. Typically each occurrence is further defined by one or more "findings" which, when presented chronologically, depict the accident scenario from beginning to end in considerable detail.
The findings are developed by NTSB analysts from a menu of words and phrases, and are the most detailed means of classifying an accident. The findings are also the vehicle used to describe the probable cause of, and related factors in an accident. The example below illustrates the relationship between occurrences and findings.

Occurrence #1 LOSS OF POWER (PARTIAL) - MECHANICAL FAILURE/MALFUNCTION
Phase of Operation TAKEOFF - GROUND RUN

Finding(s)
1. COMPRESSOR ASSEMBLY - FATIGUE
2. COMPRESSOR ASSEMBLY - FAILURE, TOTAL
3. MATERIAL DEFECT (INADEQUATE QUALITY CONTROL) - MANUFACTURER

TYPES OF WEATHER CONDITIONS: The types of weather conditions (VMC/IMC) are determined in accordance with the prescribed minima in Part 91 of the Federal Aviation Regulations. These minima pertain to the ceiling and visibility, in conjunction with the type of airspace, at the accident site. Type of weather conditions is based on surface weather as determined from officially recognized sources. Weather conditions encountered in flight are not necessarily representative of the flight plan classifications VFR/IFR as carried under Type of Weather Conditions.

APPENDIX C

DETAILED CAUSE/FACTOR ASSIGNMENTS
14 CFR 121 OPERATIONS

CAUSE/FACTOR TABLE
14 CFR 121 OPERATIONS
1994

	Cause or Factor	Cause
AIRCRAFT		
Air cond/heating/pressurization	1	0
Automatic flight control system (AFCS)	1	1
Door,emergency exit	1	0
Pitot/static system	1	0
Warning system(other)	1	0
ENVIRONMENT		
Aircraft parked/standing	1	1
Dark night	1	0
Night	1	0
Snow	1	0
Temperature, low	1	0
Turbulence in clouds	2	2
Turbulence (thunderstorms)	1	1
Turbulence,clear air	2	1
FLIGHT CREW		
Aircraft control	1	0
Airspeed(Vref)	1	0
Autopilot	1	0
Control interference	1	0
Crew/group coordination	1	0
Flare	1	1
In-flight planning/decision	2	1
Incapacitation	1	1
Instructions, written/verbal	1	1
Lack of familiarity with aircraft	1	0
Miscellaneous equipment	1	1
Physiological condition	1	1
Planning/decision	1	1
Remedial action	1	0
Throttle/power control	1	1
OTHER PERSON		
Aborted takeoff	1	1
Acft/equip, inadequate design	2	1
Aircraft weight and balance	1	1
Aircraft/equipment inadequate	1	0
Airplane handling	1	1
Anti-ice/deice system	1	1
Checklist	1	1
Diverted attention	1	1
Equipment, other	1	1
Improper use of procedure	1	0
In-flight planning/decision	1	1
Insufficient stds/rqmts – Aircraft	1	1
Insufficient stds/rqmts - Operation/operator	1	0
Maintenance	1	0
Procedure inadequate	1	0
Procedures/directives	2	2
Recovery from bounced landing	1	1
Seat belt	1	1
Supervision	1	0
Unsafe/hazardous condition	1	1
Unsafe/hazardous condition warning	1	1
Visual lookout	1	0
Weather evaluation	1	1

APPENDIX D

DETAILED CAUSE/FACTOR ASSIGNMENTS SCHEDULED 14 CFR 135 OPERATIONS

CAUSE/FACTOR TABLE
SCHEDULED 14 CFR 135 OPERATIONS
1994

	Cause or Factor	Cause
AIRCRAFT		
Door, cargo/baggaqe	1	1
Fuel system,line	1	1
Landing gear,main gear strut	1	1
Landing gear,nose gear assembly	1	1
Landing gear,parking brake	1	0
ENVIRONMENT		
Dark night	1	0
Fog	1	0
Hail	1	0
Low ceiling	1	0
Snow	1	0
Temperature extremes	1	0
FLIGHT CREW		
Airplane handling	1	1
Airspeed	1	1
Altitude/clearance	1	1
Flight into known adverse weather	1	1
Go-around	1	1
Parking brakes	1	1
Planned approach	1	1
Stall	1	1
VFR flight into IMC	1	1
Weather evaluation	1	1
OTHER PERSON		
Aircraft service	1	1
Airspeed	1	1
Inadequate training	1	1
Insufficient stds/rqmts - Operation/operator	1	1
Lack of total experience in type of aircraft	1	1
Maintenance, installation	1	1

APPENDIX E

DETAILED CAUSE/FACTOR ASSIGNMENTS NONSCHEDULED 14 CFR 135 OPERATIONS

CAUSE/FACTOR TABLE
NONSCHEDULED 14 CFR 135 **OPERATIONS**
1994

	Cause or Factor	Cause
AIRCRAFT		
Aircraft performance, helicopter hover performance	1	1
Airframe	1	0
All engines	1	0
Anti-ice/deice system	1	0
Bleed air system,fittings	1	1
Compressor assembly,blade	1	1
Electrical system	1	0
Electrical system,alternator	1	0
Engine assembly, camshaft	1	1
Engine assembly, connecting rod cap	1	1
Engine assembly, crankcase	1	1
Engine assembly, crankshaft	1	1
Engine assembly, cylinder	1	0
Engine assembly, other	1	1
Engine assembly, valve lifter	1	1
Engine compartment	1	1
Exterior light(s)	2	2
Fluid, fuel	4	3
Fuel system, fuel shutoff	1	1
Fuel system,pump	1	1
Fuel system,vent	1	1
Hydraulic system	1	1
Hydraulic system,line	2	1
Ignition system, spark plug	1	0
Landing gear,emergency extension assembly	1	1
Landing gear,gear locking mechanism	1	1
Landing gear,gear switch	1	1
Landing gear,gear warning system	1	0
Landing gear,main gear strut	1	1
Landing gear,normal brake system	1	1
Landing gear,tire	1	1
Mist eqpt/furnishings,engine inlet covers	1	0
Mist rotorcraft, emergency flotation gear	1	1
Miscellaneous, bolt/nut/fastener/clamp	1	1
Miscellaneous, dowel/pin	1	1
Miscellaneous, engine	1	1
Rotorcraft flight control system,primary servo	1	1
Throttle/power lever,push/pull rod	1	1
Wing	2	0
FACILITY		
Airport facilities, runway/landing area condition	8	0
ENVIRONMENT		
Below approach/landing minimums	1	0
Bird (s)	1	0
Clouds	1	0
Crosswind	4	0
Dark night	11	0
Downdraft	1	0
Drizzle	1	0
Fog	7	0
Gusts	3	0
Haze/smoke	1	0
Hiqh density altitude	3	0
High wind	1	0
Icing conditions	3	0
Low ceiling	1	0
Obscuration	2	0
Other	2	0
Rain	1	0
Snow	1	0
Sunglare	1	0
Tailwind	6	0

CAUSE/FACTOR TABLE
NONSCHEDULED 14 CFR 135 OPERATIONS
1994

	Cause or Factor	Cause
ENVIRONMENT (continued)		
Terrain condition	19	1
Turbulence in clouds	1	0
Unfavorable wind	1	0
Whiteout	1	0
Wire,transmission	1	0
FLIGHT CREW		
Abort	1	1
Aircraft control	6	6
Aircraft preflight	2	1
Aircraft unattended/engine(s) running	1	0
Aircraft weight and balance	2	1
Airspeed	5	5
Airspeed	1	1
All available runway	1	0
Altitude	3	3
Altitude/clearance	1	0
Anti-ice/deice system	1	0
Checklist	1	0
Clearance	4	4
Climb	1	1
Compensation for wind conditions	8	7
Design stress limits of aircraft	1	1
Directional control	1	0
Distance	1	1
Distance/altitude	1	1
Distance/speed	1	0
Emergency procedure	1	1
Fatigue	1	0
Fatigue (flight and ground schedule)	1	0
Flaps	1	0
Flight advisories	1	0
Fuel tank selector position	1	1
Go-around	2	2
Ground loop/swerve	1	1
IFR procedure	1	0
Ice/frost removal from aircraft	1	1
In-flight planning/decision	8	8
Inadequate training	1	0
Inattentive	1	0
Lack of familiarity with geographic area	1	0
Lack of recent experience in type operation	1	0
Lack of recent instrument time	1	0
Lack of total experience in type operation	1	0
Lack of total instrument time	1	0
Missed approach	1	1
Overconfidence in personal ability	1	1
Parking brakes	1	1
Planned approach	1	0
Planning/decision	1	0
Preflight planning/preparation	8	8
Procedures/directives	3	3
Proper alignment	2	2
Proper altitude	2	2
Proper climb rate	1	1
Proper glidepath	2	2
Proper touchdown point	5	3
Refueling	2	2
Remedial action	1	1
Rotor rpm	2	2
Spatial disorientation	2	2
Stall	4	3
Stall/mush	1	1

CAUSE/FACTOR TABLE
NONSCHEDULED 14 CFR 135 OPERATIONS
1994

	Cause or Factor	Cause
FLIGHT CREW(continued)		
Stall/spin	1	1
Taxispeed	1	1
Unsuitable terrain or takeoff/landing/taxi area	2	2
VFR fliqht into IMC	5	5
Visual lookout	2	2
Weather evaluation	1	1
Wind information	1	1
Wrong runway	1	1
OTHER PERSON		
Acft/equip, inadequate aircraft manuals	1	0
Acft/equip, inadequate control location	1	0
Aircraft preflight	1	1
Checklist	1	1
Communications/information/ATC	1	1
Company-induced pressure	1	0
Crew/group briefing	1	0
Fuel supply	1	1
Inadequate surveillance of operation	3	1
Maintenance	3	2
Maintenance, 100-hour inspection	1	1
Maintenance, adjustment	1	1
Maintenance, inspection of aircraft	3	3
Maintenance, installation	1	1
Maintenance service of aircraft	1	1
Planning/decision	1	0
Procedures/directives	4	3
Supervision	1	0
Visual lookout	3	3

APPENDIX F

N.T.S.B. FORM 6120.4

National Transportation Safety Board

FACTUAL REPORT
AVIATION

NTSB Accident/Incident Number

2 1 Accident 2 Incident

3 Investigation 1 NTSB 2 FAA Delegated

4 Aircraft Registration Number	5 Nearest City/Place	6 State	7 Zip Code *(First 5 numbers only)*

8 Date of Accident *(Nos. for M,D,Y)*	9 Day of Week *(First 2 letters)*	10 Local Time (24 hour clock)	11 Time Zone

12 Narrative Statement of Facts, Conditions and Circumstances Pertinent to the Accident/Incident

Additional Persons Participating in this Accident/Incident Investigation *(Name, address, affiliation. Continue on page 2 if necessary)*

Investigated By:

13 Date *(Nos. for M,D,Y)*	14 Agency	15 Name/Signature

National Transportation Safety Board

FACTUAL REPORT
AVIATION

Narrative **Statement of Facts, Conditions and Circumstances Pertinent to the Accident/Incident** ***(continued)***

Attach additional pages as necessary (Page 2b 2c 2d etc.)

National Transportation Safety Board

FACTUAL REPORT
AVIATION

NTSB Accident/Incident Number

Airport/Approach/Landing Information

6 Accident Location
1 ☐ *Oft* airport/airstrip
2 ☐ On airport
3 ☐ On airstrip
4 ☐ UNK/NA

17 Airport Information
☐ Not Applicable
(go to Block 28)

18 Airport Name

19 Airport Identifier

20 Distance From Airport Center *(Nearest SM)*
_____ SM
1 ☐ UNK/NA

21 Direction from Airport
_____ ° mag
1 ☐ UNK/NA

22 Runway Used Identifier
1 ☐ UNK/NA

23 Runway Length
_____ Feet
1 ☐ UNK/NA

24 Runway Width
_____ Feet
1 ☐ UNK/NA

25 Airport Elevation
_____ Ft. MSL
1 ☐ UNK/NA

26 Runway/Landing Surface
1 ☐ Macadam
2 ☐ Asphalt
3 ☐ Concrete
4 ☐ Gravel
5 ☐ Dirt
6 ☐ Grass/turf
7 ☐ Snow
8 ☐ Ice
9 ☐ Water
10 ☐ Metal/Wood
11 ☐ UNK/NA

2 3

27 Runway/Landing Surface Condition *(Multiple entry)*
1 ☐ Dry
2 ☐ Wet
3 ☐ Ice covered
4 ☐ Snow--dry
5 ☐ Snow--wet
6 ☐ Snow--crusted
7 ☐ Snow--compacted
8 ☐ Vegetation
9 ☐ Water--calm
10 ☐ Water--choppy
11 ☐ Water--glassy
12 ☐ Rubber deposits
13 ☐ Soft
14 ☐ Rough
15 ☐ Slush covered
16 ☐ Holes
17 ☐ UNK/NA

28 Type Instrument Approach Flown *(Multiple entry)*
1 ☐ None
2 ☐ ADF/NDB
3 ☐ SDF
4 ☐ VOR/TVOR
5 ☐ VOR/DME
6 ☐ TACAN
7 ☐ ILS-complete
8 ☐ ILS-localizer
9 ☐ ILS-backcourse
10 ☐ RNAV
11 ☐ MLS
12 ☐ LDA
13 ☐ ASR
14 ☐ PAR
15 ☐ Sidestep
16 ☐ Visual
17 ☐ Contact
18 ☐ Circling
19 ☐ Practice
20 ☐ UNK/NA

29 VFR Approach/Landing *(Multiple entry)*
1 ☐ None
2 ☐ Traffic pattern
3 ☐ Straight-in
4 ☐ Valley/terrain following
5 ☐ Go around
6 ☐ Touch and go
7 ☐ Full stop
8 ☐ Stop and go
9 ☐ Simulated forced landing
10 ☐ Forced landing
11 ☐ Precautionary landing
12 ☐ UNK/NA

Aircraft Information

30 Aircraft Manufacturer

31 Aircraft Model/Series

32 Serial No.
1 ☐ UNK/NA

Certificated Maximum Gross Weight
1 ☐ UNK/NA

34 Type of Aircraft
1 ☐ Airplane
2 ☐ Helicopter
3 ☐ Glider
4 ☐ Balloon
5 ☐ Blimp/dirigible
6 ☐ Ultralight
7 ☐ Gyroplane
A Specify _____

35 Type Airworthiness Certificate *(Multiple entry)*
Standard
1 ☐ Normal
2 ☐ Utility
3 ☐ Acrobatic
4 ☐ Transport
Special
5 ☐ Restricted
6 ☐ Limited
7 ☐ Provisional
8 ☐ Special flight
9 ☐ Experimental
10 ☐ UNK/NA

36 Home Built
1 ☐ Yes
2 ☐ No
3 ☐ UNK/NA

National Transportation Safety Board

FACTUAL REPORT AVIATION

NTSB Accident/Incident Number

Aircraft Information *(continued)*

37 Landing Gear

1 ☐ Tricycle--fixed
2 ☐ Tricycle--retractable
3 ☐ Tailwheel--all fixed
4 ☐ Tailwheel--all retractable
5 ☐ Tailwheel--retractable mains
6 ☐ Amphibian
7 ☐ Hull
8 ☐ Float
9 ☐ Emerg float
10 ☐ Ski
11 ☐ Ski/wheel
12 ☐ Skid
13 ☐ High Skid
14 ☐ UNK/NA

38 No. of Seats _____ 1 ☐ UNK/NA

39 Stall Warning System Installed 1 ☐ Yes 2 ☐ No 3 ☐ UNK/NA

40 Aircraft Not Engine Powered ☐ Go to block 46

41 Engine Type
1 ☐ Reciprocating--carburetor
2 ☐ Reciprocating--fuel injected
3 ☐ Turbo prop
4 ☐ Turbo jet
5 ☐ Turbo fan
6 ☐ Turbo shaft
7 ☐ UNK/NA

42 Engine Manufacturer

43 Engine Model and Series

44 Engine Rated Power
A _____ Horsepower
B _____ Lbs. Thrust
C _____ UNK/NA

45 Number of Engines _____ 1 ☐ UNK/NA

46 Type of Last Inspection
1 ☐ Annual
2 ☐ 100 hour
3 ☐ AAIP
4 ☐ Continuous airworthiness
5 ☐ UNK/NA

47 Date Last Inspection Performed *(Nos. for M. D. Y)* _____ 1 ☐ UNK/NA

48 Time Since Inspection _____ Hours 1 ☐ UNK/NA

49 Airframe Total Time _____ Hours 1 ☐ UNK/NA

Emergency Locator Transmitter (ELT)	1 Yes	2 No	3 UNK/NA
50 Installed			
51 Operated			
52 Aided in location of accident site			

Owner/Operator Information

53 Registered Aircraft Owner
Name

54 Address

55 Operator of Aircraft 1 ☐ Same as registered owner
A Name
B dba
2 ☐ UNK/NA

56 Address 1 ☐ Same as registered owner
A _____
2 ☐ UNK/NA

57 Operator Designator Code _____

Type of Certificate(s) Held

58 None ☐ *(Go to block 62)*

59 Air Carrier Operating Certificate *(Check all applicable)*
1 ☐ Flag carrier/domestic (121)
2 ☐ Supplemental
3 ☐ All cargo (418)
4 ☐ Large helicopter (127)
5 ☐ Commuter air carrier
6 ☐ On-demand air taxi

60 Operating Certificate
☐ Other operator of large aircraft

61 Operator Certificate
1 ☐ Rotorcraft--external load operator (133)
2 ☐ Agricultural aircraft (137)

Regulation Flight Conducted Under

62 Regulation Flight Conducted Under
1 ☐ 14 CFR 91 *(only)*
2 ☐ 14 CFR 91D
3 ☐ 14 CFR 103
4 ☐ 14 CFR 105
5 ☐ 14 CFR 121
6 ☐ 14 CFR 125
7 ☐ 14 CFR 127
8 ☐ 14 CFR 133
9 ☐ 14 CFR 135
10 ☐ 14 CFR 137
11 ☐ 14 CFR 129 *(Foreign flag)*
A Specify

Type of Flight Operation Conducted

(Complete 63 a, b, c ***ONLY*** *if flight was a revenue operation conducted under 121, 125, 127, 129, 135)*

63a
1 ☐ Scheduled
2 ☐ Non-scheduled

63b
1 ☐ Domestic
2 ☐ International

63c
1 ☐ Passenger
2 ☐ Cargo
3 ☐ Passenger/cargo
4 ☐ Mail contract ONLY

National Transportation Safety Board

FACTUAL REPORT
AVIATION

NTSB Accident/Incident Number

Owner/Operator Information *(continued)*

(Complete 64 ONLY if 63 a, b, c are not applicable)

64

1 ☐ Personal
2 ☐ Business
3 ☐ Instructional *(including air carrier training)*
4 ☐ Executive/corporate
5 ☐ Aerial application
6 ☐ Aerial observation
7 ☐ Other work use
8 ☐ Public use
9 ☐ Ferry
10 ☐ positioning
A Specify _____

First Pilot Information

S Name (Last, *First. Initial*)
1 ☐ UNK/NA

66 Pilot Certificate No.
1 ☐ UNK/NA
1 ☐ UNK/NA

68 State
1 ☐ UNK/NA

69 Date of Birth *(Nos. for M, D, Y)*
1 ☐ UNK/NA

70 Age
_____ Yrs.
1 ☐ UNK/NA

71 Sex
1 ☐ Male
2 ☐ Female

72 Seat Occupied
1 ☐ Left
2 ☐ Right
3 ☐ Center
4 ☐ Front
5 ☐ Rear
6 ☐ UNK/NA

73 Principal Profession
1 ☐ Pilot--civilian
2 ☐ Pilot--military
3 ☐ Other--military
4 ☐ Aircraft mechanic
5 ☐ Business
6 ☐ Lawyer
7 ☐ Doctor/dentist
8 ☐ Police
9 ☐ Student
10 ☐ Clergy
11 ☐ Teacher
12 ☐ Engineer
13 ☐ Farmer/rancher
14 ☐ Retired
15 ☐ UNK/NA

74 Certificate(s) *(Multiple entry)*
1 ☐ Student
2 ☐ Private
3 ☐ Commercial
4 ☐ Airline Transport
5 ☐ Flight Instructor
6 ☐ Flight Engineer
7 ☐ Military
8 ☐ None
9 ☐ Foreign
10 ☐ UNK/NA

75 Ratings--Airplane *(multiple entry)*
1 ☐ None
2 ☐ Single engine land
3 ☐ Multiengine land
4 ☐ Single engine sea
5 ☐ Multiengine sea

76 Rotorcraft/Glider/LTA *(multiple entry)*
1 ☐ None
2 ☐ Helicopter
3 ☐ Gyroplane
4 ☐ Airship
5 ☐ Free balloon
6 ☐ Glider

77 Instrument Rating *(multiple entry)*
1 ☐ None
2 ☐ Airplane
3 ☐ Helicopter

78 Instructor Rating(s) *(multiple entry)*
1 ☐ None
2 ☐ Airplane SE
3 ☐ Airplane ME
4 ☐ Helicopter
5 ☐ Gyroplane
6 ☐ Glider
7 ☐ Instrument airplane
8 ☐ Instrument helicopter

79 Type-Rating Endorsement This *Aircraft*
1 ☐ Yes
2 ☐ No
3 ☐ UNK/NA

80 Biennial Flight Review *(Or equivaknt)*
1 ☐ Yes
2 ☐ No
3 ☐ UNK/NA

81 Months since Last BFR
_____ Months
1 ☐ UNK/NA

82 BFR (or *equivalent*) *Aircraft Make/Model*
A Make _____
B Model _____
C ☐ UNK/NA

83 Medical Certificate
1 ☐ None
2 ☐ Class 1
3 ☐ Class 2
4 ☐ Class 3
5 ☐ UNK/N.

84 Medical Certificate Validity
1 ☐ Valid medical--no waivers/limitations
2 ☐ Valid medical--with waivers/limitations
3 ☐ Non valid medical for this flight
4 ☐ Expired
5 ☐ No medical certicate
6 ☐ UNK/NA

85 Date of Last Medical
(Nos. for *M, D, Y*)
1 ☐ UNK/NA

National Transportation Safety Board

FACTUAL REPORT AVIATION

NTSB Accident/Incident Number

First Pilot Information *(continued)*

6 Source of Pilot Flight Time *(Multiple entry)*

1 ☐ Pilot log
2 ☐ Company
3 ☐ FAA
4 ☐ Pilot/Operator Report
5 ☐ Investigators Estimate
6 ☐ Relative
7 ☐ Other Person
8 ☐ UNK/NA

Flight Time	A All NC	B This Make & Model	C Airplane Single Engine	D Airplane Multiengine	E Night	F Instrument Actual	G Instrument Simulated	H Rotorcraft	I Glider	J Lighter Than Air
87 Total Time										
88 Pilot in Command (PIC)										
89 Instructor										
90 Last 90 Days										
91 Lost 30 Days										
92 Last 24 Hours										

93 Seatbelt Used
1 Yes 3 ☐ UNK/NA
2 No

94 Shoulder Harness Used
1 Yes 3 ☐ UNK/NA
2 No

95 Autopsy Performed *(This pilot)*
1 ☐ Yes 3 ☐ UNK/NA
2 ☐ No

96 Toxicology Performed *(This pilot)*
1 ☐ Yes
2 ☐ No
3 ☐ UNK/NA

97 Person at Controls
1 ☐ Pilot in command 4 ☐ Non-pilot
2 ☐ Second pilot 5 ☐ No one
3 ☐ Both pilots 6 ☐ UNK/NA

98 Second Pilot
1 ☐ Yes *(Complete second pilot supplement)*
2 ☐ No

Flight Itinerary Information

99 Last Departure Point
1 ☐ Same as accident/incident location or
A Airport identifier _____
B City/Place _____
C State _____ 2 ☐ UNK/NA

100 Destination
1 Same as accident/incident location or
2 Local flight
A Airport Identifier _____
B City/Place _____
C State _____
3 ☐ UNK/NA

101 Flight Plan Filed
1 ☐ None
2 ☐ Visual Flight Rules (VFR)
3 ☐ Instrument Flight Rules (IFR)
4 ☐ VFR/IFR
5 ☐ Company (VFR)
6 ☐ Military (VFR)
7 ☐ UNK/NA

102 Time of Departure 1 ☐ UNK/NA
A Time _____
B Time Zone _____

Type of Clearance *(Multiple entry)*

104 Airspace *(Multiple entry)*
1 ☐ Uncontrolled
2 ☐ Controlled
3 ☐ Airport traffic area
4 ☐ Control zone
5 ☐ Airport advisory area
6 ☐ Positive control area
7 ☐ Terminal control area
8 ☐ Stage II TRSA
9 ☐ Stage III TRSA
10 ☐ Prohibited area
11 ☐ Restricted area
12 ☐ Military Operation Area (MOA)
13 ☐ Student Jet Training Area
14 ☐ Demo Area
15 ☐ Warning area
16 ☐ FAR 93
17 ☐ (Special air traffic areas)
18 ☐ UNK/NA

Aircraft Loading Information

105 Load Description
1 ☐ None
2 ☐ Passengers
3 ☐ Cargo
4 ☐ Towing glider
5 ☐ Towing banner
6 ☐ Other external
7 ☐ Parachutists
8 ☐ Water
9 ☐ Chemical
10 ☐ Livestock
11 ☐ Illegal cargo
12 ☐ UNK/NA

National Transportation Safety Board

FACTUAL REPORT
AVIATION

NTSB Accident/Incident Number

Weather Information

106 Source of Weather Briefing *(Multiple entry)*

1 ☐ No record of briefing (Go to *block 109)*
2 ☐ National Weather Service (NWS)
3 ☐ Flight Service Station
4 ☐ PATWAS (Pilot Automated Tot. WX Answering Svc.)
5 ☐ VRS (Voice Response System)
6 ☐ Company
7 ☐ Commercial weather service
8 ☐ TV/radio weather
9 ☐ Military
10 ☐ UNK/NA

107 Method of Briefing *(Multiple entry)*

1 ☐ In person
2 ☐ Teletype
3 ☐ Telephone
4 ☐ Aircraft radio
5 ☐ TV/radio
6 ☐ UNK/NA

108 Completeness of Weather Briefing

1 ☐ Weather not pertinent
2 ☐ Full
3 ☐ Partial--limited by pilot
4 ☐ Partial--limited by briefer/forecaster
5 ☐ UNK/NA

109 Investigator's Source of Weather Information

1 ☐ Pilot (Go to *block 111)*
2 ☐ Witness (Go to *block 111)*
3 ☐ Weather observation facility

110 Weather Observation Facility

A Identifier _____
B Time of observation _____ zone _____
C Elevation _____ feet MSL
D Distance from accident site _____ NM
E Direction from accident site _____ °magnetic

111 Basic Weather Conditions at Accident Site

1 ☐ Visual Meteorological Conditions (VMC)
2 ☐ Instrument Meteorological Conditions (IMC)
3 ☐ UNK/NA

112 Conditions of Light

1 ☐ Dawn
2 ☐ Daylight
3 ☐ Night (Dark)
4 ☐ Night (Bright)
5 ☐ Dusk
6 ☐ UNK/NA

113 Sky/Lowest/Cloud Conditions

1 ☐ Clear
2 ☐ Scattered
3 ☐ Thin broken
4 ☐ Thin overcast
5 ☐ Partial obscuration
6 ☐ UNK/NA

A _____ Feet AGL

114 Lowest Ceiling

1 ☐ None
2 ☐ Broken
3 ☐ Overcast
4 ☐ Obscured
5 ☐ UNK/NA

A _____ Feet AGL

115 Visibility *(Decimals)*

A _____ SM
B RVR _____ Feet
C RW _____ SM
1 ☐ UNK/NA

116 Temperature

_____ F
1 ☐ UNK/NA

117 Dew Point

_____ F
1 ☐ UNK/NA

118 Wind (From)

1 ☐ Variable
2 ☐ UNK/NA

A _____ Magnetic

119 Wind Speed

1 ☐ Calm
2 ☐ Light and Variable
3 ☐ UNK/NA

A _____ Kts.

120 Gusts

1 ☐ None
2 ☐ UNK/NA

A _____ Kts

121 Altimeter Setting

_____ " Hg
1 ☐ UNK/NA

122 Density Altitude

_____ feet
1 ☐ UNK/NA

123 Restrictions to Visibility

1 ☐ None
2 ☐ Haze (H)
3 ☐ Dust (D)
4 ☐ Smoke (K)
5 ☐ Fog (F)
6 ☐ Ice fog (IF)
7 ☐ Ground fog (GF)
8 ☐ Blowing spray (BY)
9 ☐ Blowing dust (BD)
10 ☐ Blowing snow (BS)
11 ☐ Blowing sand (BN)
12 ☐ UNK/NA

124 Type of Precipitation

1 ☐ None (Go to *block 126)*
2 ☐ Rain (R)
3 ☐ Snow (S)
4 ☐ Hail (A)
5 ☐ Rain showers (RW
6 ☐ Freezing rain (ZR)
7 ☐ Snow shower (SW)
8 ☐ Drizzle (L)
9 ☐ Ice pellets (IP)
10 ☐ Snow pellets (SP)
11 ☐ Snow Grains (SG)
12 ☐ Freezing drizzle (ZL)
13 ☐ Ice crystals *(It)*
14 ☐ Ice pallet shower (IPW)
15 ☐ UNK/NA

125 Intensity of Precipitation

1 ☐ Light
2 ☐ Moderate
3 ☐ Heavy
4 ☐ UNK/NA

126 Aircraft Damage

1 ☐ None
2 ☐ Minor
3 ☐ Substantial
4 ☐ Destroyed
5 ☐ UNK/NA

127 Aircraft Fire

1 ☐ None
2 ☐ In-flight
3 ☐ On ground
4 ☐ UNK/NA

128 Explosion

1 ☐ None
2 ☐ In-flight
3 ☐ On ground
4 ☐ UNK/NA

National Transportation Safety Board

FACTUAL REPORT
AVIATION

NTSB Accident/Incident Number

Accident Information

129 Injury Index *(Most critical injury)*

1 ☐ None 2 ☐ Minor 3 ☐ Serious 4 ☐ Fatal

Injury Index	A Fatal	B Serious	C Minor	D None	E Total
130 First Pilot					
131 Co-pilot					
132 Dual Student					
133 Check Pilot					
134 Flight Engineer					
135 Cabin Attendants					
136 Other Crew					
137 Passengers					
138 TOTAL ABOARD					
139 Other Aircraft					
140 Other Ground					
141 GRAND TOTAL					

142 Classification

1 ☐ U.S. Registered Aircraft on U.S. Soil, Territories and Possessions, or International Waters
2 ☐ U.S. Registered Aircraft on foreign Soil
3 ☐ U.S. Registered Aircraft operated by a Foreign Operator
4 ☐ Foreign Registered Aircraft on U.S. Soil, Territories or Possessions
5 ☐ Military Aircraft
6 ☐ Aircraft not Registered

Part Failure/Incorrect Part

143 Part Failure/Malfunction *(Multiple entry)*

1 ☐ None
2 ☐ Part/component #1
3 ☐ Part/component #2
4 ☐ Part/component #3
5 ☐ UNK/NA

144 Incorrect Part *(Multiple entry)*

1 None
2 Part/component #I
3 Part/component #2
4 Part/component #3
5 UNK/NA

	A Part/Component #1	B Part/Component #2	C Part/Component #3
145 Port Neme			
146 Bogus Part	1 ☐ Yes 2 ☐ No	1 ☐ Yes 2 ☐ No	1 ☐ Yes 2 ☐ No