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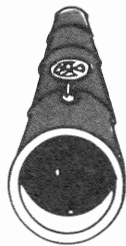
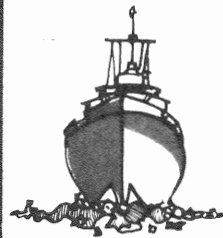
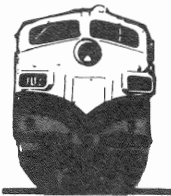
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ANNUAL REVIEW OF AIRCRAFT ACCIDENT DATA

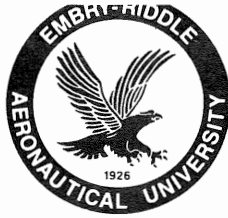
U.S. GENERAL AVIATION
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<p>16. Abstract</p> <p>This report presents a statistical compilation and review of general aviation accidents which occurred in 1985 in the United States, its territories and possessions, and in international waters. The accidents reported are all those involving U.S. registered aircraft not conducting operations under 14 CFR 121, 14 CFR 125, 14 CFR 127, or 14 CFR 135.</p> <p>This report is divided into sections, each of which (except for the "All Operations" section) presents a review of a subset of all general aviation accidents. Each subset represents aircraft of similar types or aircraft being operated for particular purposes. Several tables present accident parameters for 1985 only, and each section includes tabulations which present comparative statistics for 1985 and for the five-year period 1980-1984.</p>					
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INTRODUCTION

This report presents a statistical compilation and review of general aviation accidents which occurred in 1985. The accidents reported are all those involving U.S. registered aircraft not conducting air carrier revenue operations under 14 CFR 121, 14 CFR 125, 14 CFR 127, or 14 CFR 135.

Accident data upon which this review is based have been extracted from the Safety Board's automated Aviation Accident Data System. Flight hours used for computing accident rates were estimated using data published by the Federal Aviation Administration.

This report is divided into sections, each of which (except for the "All Operations" section) presents a review of a subset of all general aviation accidents. Each subset represents aircraft of similar types or aircraft being operated for particular purposes.

In general, each section begins with an overview of accidents and their consequences for 1985 and for each of the two preceding years. Several tables then present accident parameters for 1985 only. Concluding each section are tabulations which present comparative statistics for 1985 and for the five-year period 1980-1984.

In 1985, a total of 2,771 U.S. registered general aviation aircraft were involved in accidents in the United States and its territories. Since a collision between aircraft is counted as one accident for the purposes of this report, and since there were 30 cases in which two general aviation aircraft collided, the number of accidents in 1985 was 2,741.

The total number of accidents in 1985 decreased 8.9 percent from 1984. The number of fatal accidents decreased by 8.3 percent from the 1984 total. There also was a decrease of 8.6 percent in the number of fatalities in 1985. The 1985 total and fatal accident rates both decreased 9.0 percent from the average of the 3 preceding years.

The lowest accident rates (total and fatal) among aircraft types were recorded for turbojet airplanes. The highest total accident rate was for reciprocating engine powered rotorcraft (21.36 accidents per 100,000 hours flown). This rate was 2.4 times the rate for all aircraft. Reciprocating engine powered rotorcraft also had the highest fatal accident rate (2.15 fatal accidents per 100,000 hours flown).

Although reciprocating engine powered rotorcraft had the highest fatal accident rate, the 1985 rate decreased 44 percent from 1984, to the lowest level since 1975. The fatal accident rate for turbine powered rotorcraft increased during 1985 to the highest level in the eleven years covered in this report. The result of these changes is that the fatal accident rates for rotorcraft with reciprocating and turbine engines are nearly equal (2.15 and 2.09 fatal accidents per 100,000 hours flown respectively). The ratio of reciprocating engine rotorcraft fatal accident rate to that of turbine engine rotorcraft varies in the eleven years 1975 - 1985 from a low of 1.03 (1985) to a high of 3.79 (1981) with a median of 1.83.

For categories under kind of flying, the highest rates (total and fatal) were recorded for the personal/business combination. During 1985, 73 percent of aircraft involved in General Aviation accidents and 78 percent of aircraft involved in fatal accidents were operating in the personal/business category.

The greatest decrease in General Aviation accident rates during 1985 was in the aerial application category. Compared with the average rates for the ten year period 1975 - 1984, the accident rate for all 1985 aerial application accidents decreased 56 percent and the fatal accident rate decreased 68 percent.

The NTSB no longer uses accident types (first and second type) to describe an accident but rather, as of 1982, uses a classification called occurrences which describes more precisely the sequence of events in an accident. Table 6 presents a list of the occurrences which are being used. Up to seven occurrences may be used to describe an accident sequence. Although similar in appearance to the accident types formerly used by the Board, the application of the occurrences differs significantly from that of accident types, by providing a better description of the accident scenario and by facilitating citation of underlying causes. The majority of tables in this report that list occurrences are based only on the first occurrence in the accident sequence. Further explanation of the terms used in this report is provided in Appendix A.

To facilitate comparison of 1985 occurrences to accident types under the pre-1982 system, similar types of occurrences have been combined into categories resembling accident types. (A table comparing occurrence types with the accident types previously used is presented in appendix A.) Table 22 presents this comparison for all operations. Similar tables are included for each category of aircraft type and kind of flying.

Table 1 - SUMMARY OF LOSSES
ALL OPERATIONS
1983 - 1985

	1985	1984	1983
	----	----	----
Accidents			

Fatal	498	543	555
Involved Serious Injury	306	348	319
Involved Minor Injury	411	443	431
Involved No Injury	1526	1676	1770
	----	----	----
Total	2741	3010	3075
Fatalities			

Passenger	432	469	484
Crew	509	549	573
Other Persons	9	21	7
	----	----	----
Total	950	1039	1064
Aircraft Damaged*			

Destroyed	796	894	860
Substantial	1930	2085	2205
Minor	23	26	12
None	22	42	30
	----	----	----
Total	2771	3047	3107



* Number of General Aviation Aircraft

Table 2 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
BY TYPE OF AIRCRAFT AND BY KIND OF FLYING
ALL OPERATIONS
1985

Type of Aircraft	Accidents	Fatal Accidents	Fatalities Aboard	Accident Rate Per 100,000 Aircraft Hours Flown	
				Total	Fatal
Fixed Wing	2467	455	885	8.65	1.59
Single Recip. Engine	2180	368	664	9.93	1.67
Multiple Recip. Engine	229	68	160	6.26	1.87
Turboprop	46	17	51	3.24	1.20
Turbojet	15	5	10	1.01	0.34
Rotorcraft	206	36	47	12.08	2.11
Recip. Engine(s)	119	12	13	21.36	2.15
Turbine Powered	87	24	34	7.57	2.09
Gliders	43	5	6	N/A	N/A
Kind of Flying					
Personal	1742	326	631	12.26*	2.38*
Business	259	63	114		
Corporate/Executive	37	13	32		
Aerial Application	167	9	9		
Instructional	314	27	40		
All Aircraft	2741	498	941	8.95	1.62

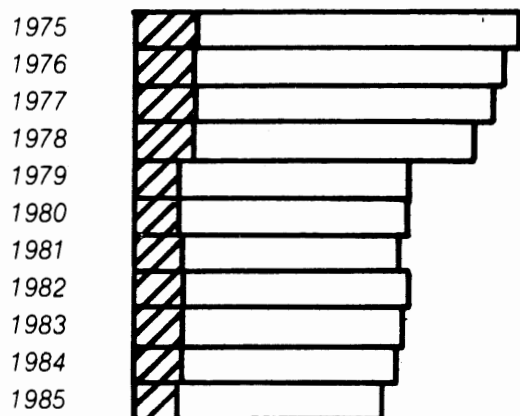
* The accident rate per 100,000 flying hours is presented for the combination of personal flying and business flying and not for each category separately. The NTSB has previously stated its objections to presenting separate rates until exposure data are available which depict a more credible division of flying hours between the two categories.

FIG-1 Airplane Accident Rates by Type of Power

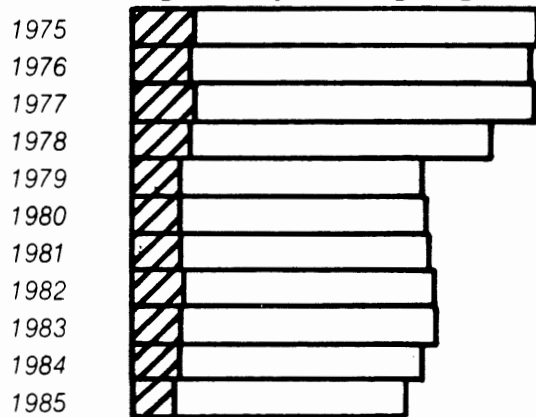
Accident Rate per 100,000 Hours Flown — Legend:  **FATAL**  **TOTAL**

0 5 10 15 20 25 30 35 40

All



Single Reciprocating Engine



Multiple Reciprocating Engines

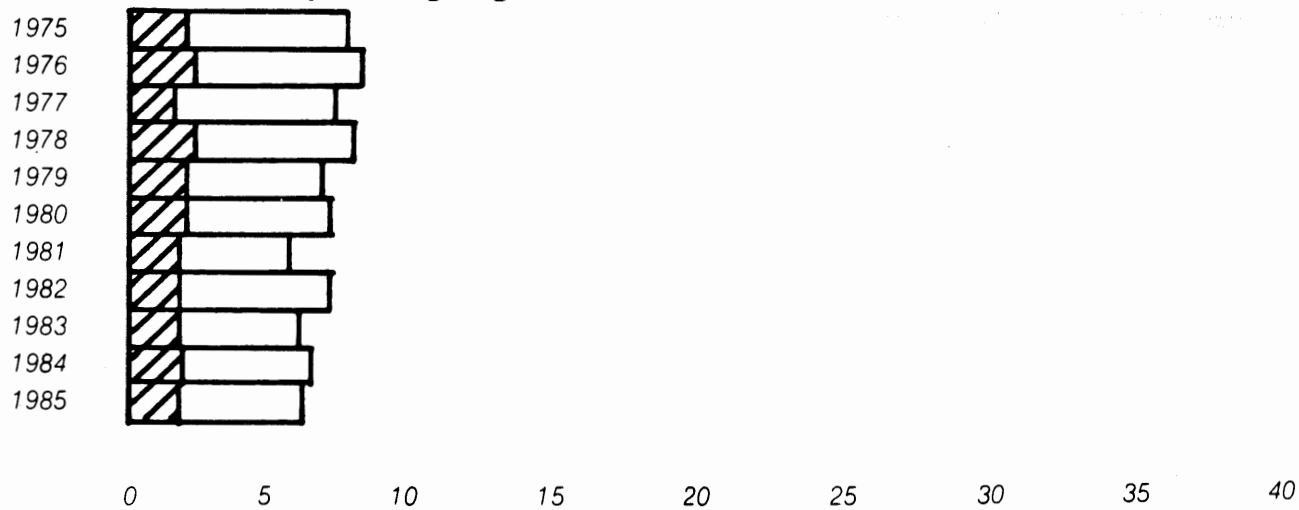


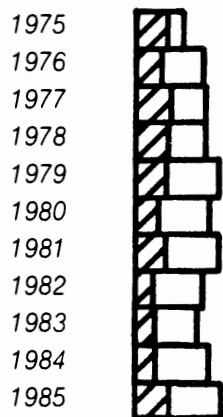


FIG-1 Airplane Accident Rates by Type of Power — Continued

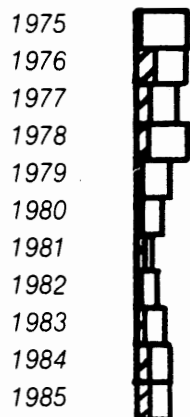
ACCIDENT RATE (per 100,000 hours flown) — Legend:  FATAL  TOTAL

0 5 10 15 20 25 30 35 40

Turboprop



Turbojet



0 5 10 15 20 25 30 35 40

FIG-2 Rotorcraft Accident Rates by Type of Power

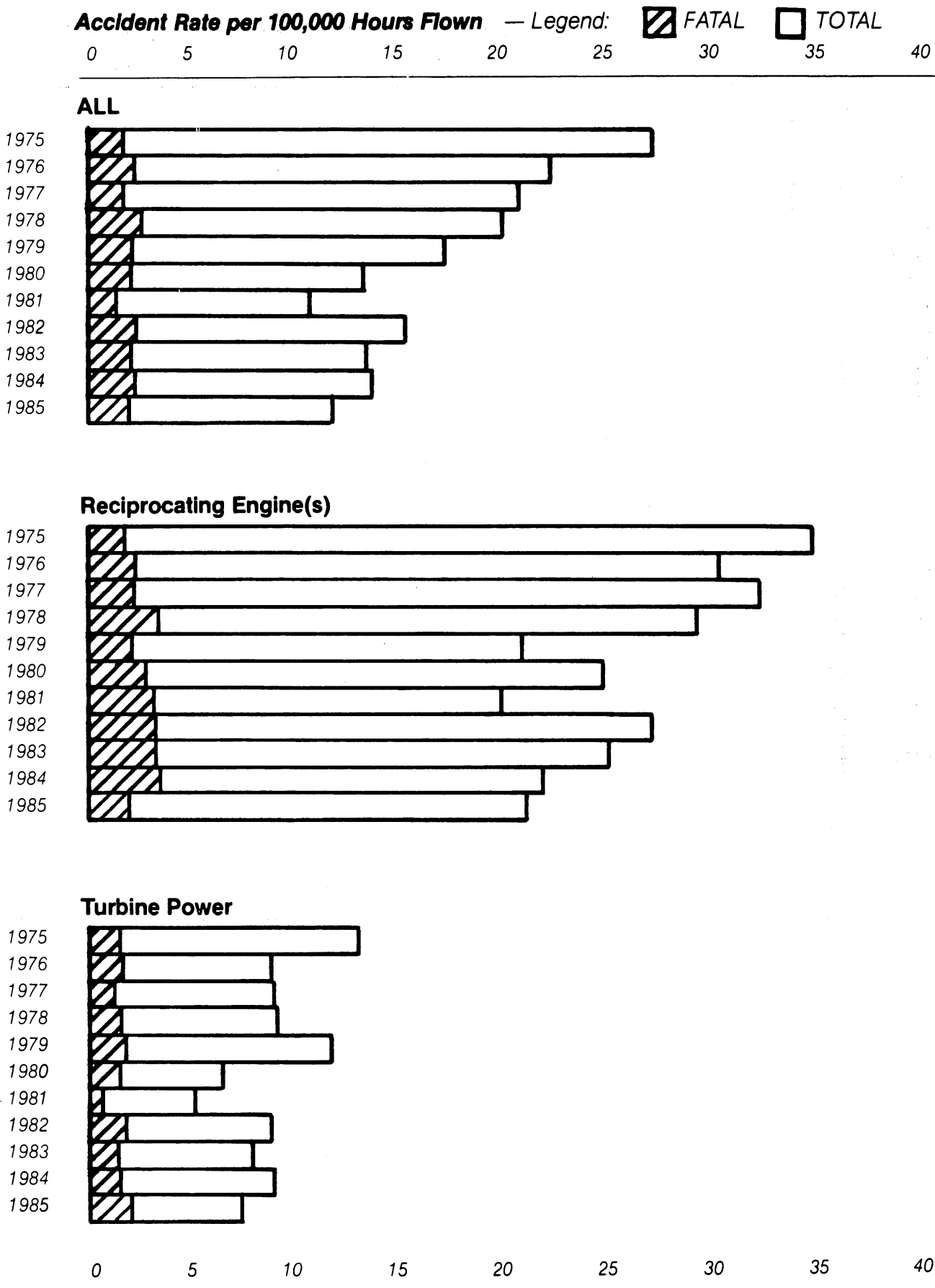


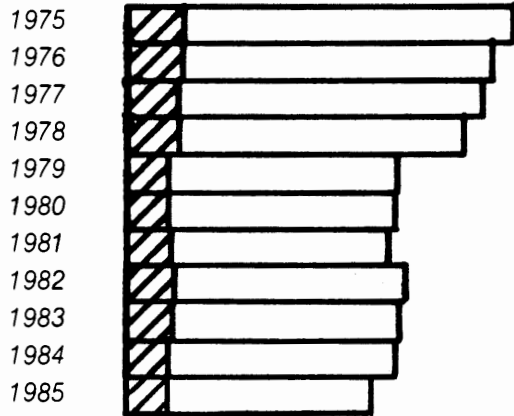


FIG-3 Accident Rates by Kind of Flying

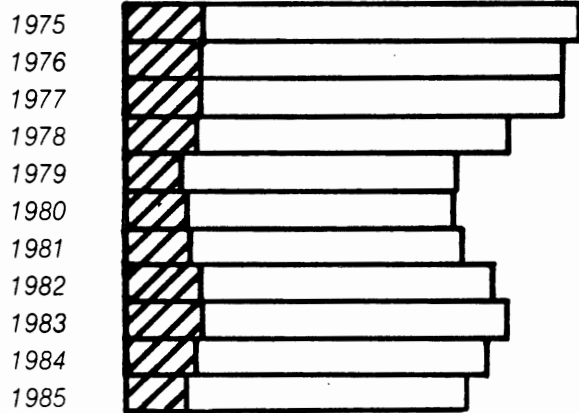
Accident Rate per 100,000 Hours Flown — Legend:  FATAL  TOTAL

0 5 10 15 20 25 30 35 40

All Operations



Personal and Business



Corporate/Executive

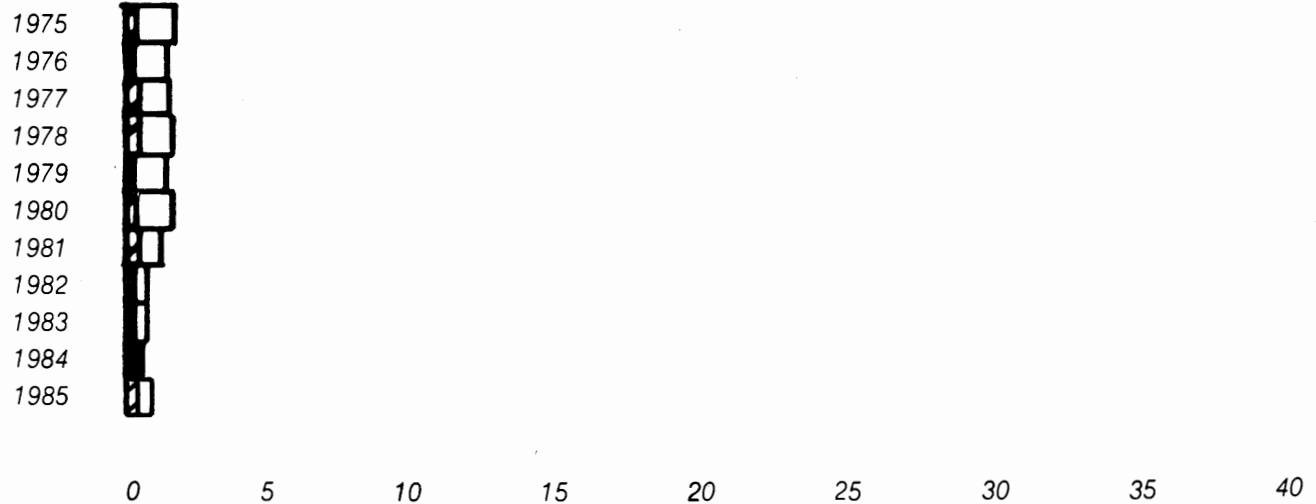


FIG-3 Accident Rates by Kind of Flying — Continued

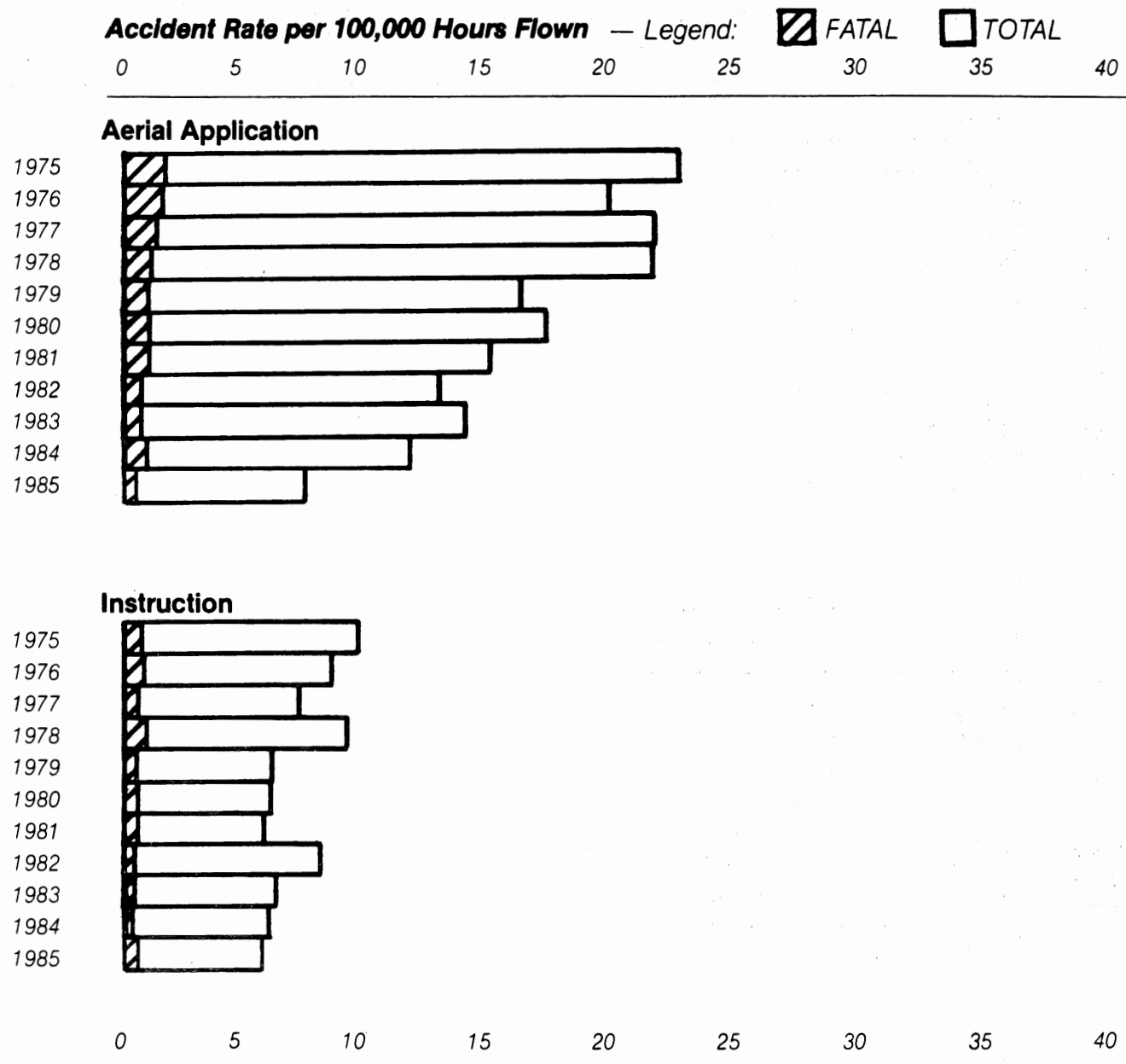


Table 3 - PERSONS BY ROLE AND DEGREE OF INJURY
ALL OPERATIONS
1985

Role of Person	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Pilot	462	276	403	1623	2764
Copilot	26	7	18	39	90
Dual student	9	9	20	89	127
Check pilot	3	0	0	12	15
Flight engineer	0	0	2	0	2
Other crew	9	5	10	26	50
Passenger	432	173	335	1248	2188
Total aboard	941	470	788	3037	5236
Other aircraft*	3	3	5	78	89
Other ground	6	10	12	27	55
Grand total	950	483	805	3142	5380
Percent	17.7	9.0	15.0	58.4	

* 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 4 - PERSONS ABOARD BY KIND OF FLYING AND DEGREE OF INJURY
ALL OPERATIONS
1985

Kind of Flying	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Personal	631	312	509	2036	3488
Business	114	53	95	316	578
Corporate/Executive	32	5	14	56	107
Aerial application	9	16	22	127	174
Instructional	40	48	65	335	488
Other	115	36	83	167	401
Total	941	470	788	3037	5236
Percent	18.0	9.0	15.0	58.0	

Table 5 - AIRCRAFT BY DAMAGE AND DEGREE OF INJURY
ALL OPERATIONS
1985

Aircraft damage	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
None	4	1	12	5	22	0.8
Minor	12	1	6	4	23	0.8
Substantial	1397	319	165	49	1930	69.6
Destroyed	130	91	124	451	796	28.7
Aircraft						
Number -	1543	412	307	509	2771	
Percent -	55.7	14.9	11.1	18.4		

Table 6 - AIRCRAFT BY FIRST THRU FIFTH OCCURRENCES
ALL OPERATIONS
1985

Occurrence	Occurrence					Occurrences 1 - 5	
	One	Two	Three	Four	Five	No.	Percent of Accident Involved Aircraft
Abrupt Maneuver	19	6	2	0	0	27	0.97
Altitude Deviation, Uncontrolled	9	5	2	2	0	18	0.65
Cargo Shift	0	1	0	0	0	1	0.04
Airframe/Component/System Failure/Malfunction	110	38	17	1	0	163	5.88
Decompression	1	0	0	0	0	1	0.04
Ditching	2	9	24	2	0	36	1.30
Dragged Wing, Rotor, Pod or Float	20	22	11	1	0	54	1.95
Fire/Explosion	5	1	4	1	1	12	0.43
Fire	33	15	13	18	0	74	2.67
Explosion	2	0	1	0	0	3	0.11
Forced Landing	17	601	75	4	1	695	25.08
Gear Collapsed	16	17	19	5	2	59	2.13
Main Gear Collapsed	22	39	21	6	0	85	3.07
Nose Gear Collapsed	23	46	40	11	1	115	4.15
Tail Gear Collapsed	0	0	0	0	0	0	0.00
Complete Gear Collapsed	12	8	5	5	1	29	1.05
Other Gear Collapsed	0	0	0	0	0	0	0.00
Gear not extended	8	1	0	0	0	9	0.32
Hard Landing	118	53	66	5	1	237	8.55
Hazardous Materials Leak/Spill (Fumes/Smoke)	1	0	0	0	0	1	0.04
In Flight Col. w/ Object	208	141	147	12	0	499	18.01
In Flight Col. w/ Terrain	211	484	408	137	12	1195	43.13
In Flight Enc. w/ Weather	175	9	0	1	0	184	6.64
Loss of Control-In Flight	367	241	51	7	0	662	23.89
Loss of Control-On Ground	252	82	16	1	0	348	12.56
Midair Collision	41	1	1	0	0	42	1.52
Near Col. Between Aircraft	1	0	0	0	0	1	0.04
Nose Down	1	13	6	2	0	22	0.79
Nose Over	48	105	164	67	9	373	13.46
On Ground Col. w/ Object	89	95	115	32	2	316	11.40
On Ground Col. w/ Terrain	78	145	101	20	0	334	12.05
On Ground Enc. w/ Weather	16	3	0	0	0	18	0.65
Overrun	77	23	10	1	0	110	3.97
Loss of Power	135	22	0	0	0	157	5.67
Loss of Power (Total) Mech. Failure/Malfunction	130	18	1	0	0	149	5.38
Loss of Power (Partial) Mech. Failure/Malfunction	64	9	1	0	0	74	2.67

Table 6 - (continued)

Occurrence	Occurrence					Occurrences 1 - 5	
	One	Two	Three	Four	Five	No.	Percent of Accident Involved Aircraft
Loss of Power (Total)							
Non-Mechanical	297	38	3	0	0	338	12.20
Loss of Power (Partial)							
Non-Mechanical	46	12	0	0	0	58	2.09
Engine Tearaway	0	0	0	0	0	0	0.00
Propeller Blast or Jet							
Exhaust/Suction	2	0	0	0	0	2	0.07
Propeller/Rotor Contact	12	3	0	1	0	16	0.58
Roll Over	10	23	16	14	1	61	2.20
Undershoot	40	8	7	0	0	55	1.98
Undetermined	2	1	0	0	0	3	0.11
Vortex Turbulence Enc.	6	1	0	0	0	7	0.25
Missing Aircraft	11	1	0	0	0	12	0.43
Miscellaneous/Other	34	6	2	0	0	42	1.52
Not reported	0	425	1422	2415	2740	2740	98.88
Number of Aircraft						2771	

Table 7 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
ALL OPERATIONS
1985

Type of first occurrence	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Abrupt maneuver	6	3	2	8	19	0.7
Altitude deviation,uncontrolled	6	1	1	1	9	0.3
Airframe/component/system failure/malfunction	69	16	7	18	110	4.0
Decompression	0	0	0	1	1	0.0
Ditching	1	0	0	1	2	0.1
Dragged wing, rotor, pod, or float	15	2	2	1	20	0.7
Fire/explosion	1	1	0	3	5	0.2
Fire	22	4	3	4	33	1.2
Explosion	1	0	0	1	2	0.1
Forced landing	10	3	2	2	17	0.6
Gear collapsed	15	1	0	0	16	0.6
Main gear collapsed	18	4	0	0	22	0.8
Nose gear collapsed	22	1	0	0	23	0.8
Complete gear collapsed	9	0	3	0	12	0.4
Gear not extended	8	0	0	0	8	0.3
Hard landing	91	14	11	2	118	4.3
Hazardous materials leak/spill (fumes/smoke)	1	0	0	0	1	0.0
In flight collision with object	71	32	46	59	208	7.5
In flight collision with terrain	77	33	31	70	211	7.6
In flight encounter with weather	33	12	23	107	175	6.3
Loss of control - in flight	146	51	55	115	367	13.2
Loss of control - on ground	224	24	3	1	252	9.1
Midair collision	17	0	1	23	41	1.5
Near collision between aircraft	0	0	1	0	1	0.0
Nose down	1	0	0	0	1	0.0
Nose over	42	5	1	0	48	1.7
On ground collision with object	65	13	9	2	89	3.2
On ground collision with terrain	67	9	2	0	78	2.8
On ground encounter with weather	11	2	1	2	16	0.6
Overrun	57	16	1	3	77	2.8
Loss of power	84	22	16	13	135	4.9
Loss of power(total) - mech failure/malfunction	74	29	15	12	130	4.7
Loss of power(partial) - mech failure/malfunction	40	14	5	5	64	2.3

(con't)

Table 7 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY (Continued)
ALL OPERATIONS
1985

Type of first occurrence	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Loss of power(total) - non-mechanical	162	69	45	21	297	10.7
Loss of power(partial) - non-mechanical	22	13	8	3	46	1.7
Propeller blast or jet exhaust/suction	1	0	0	1	2	0.1
Propeller/rotor contact	3	1	5	3	12	0.4
Roll over	4	1	2	3	10	0.4
Undershoot	28	10	0	2	40	1.4
Undetermined	1	0	0	1	2	0.1
Vortex turbulence encountered	2	2	1	1	6	0.2
Missing aircraft	0	0	0	11	11	0.4
Miscellaneous/other	16	4	5	9	34	1.2
Aircraft						
Number -	1543	412	307	509	2771	
Percent -	55.7	14.9	11.1	18.4		

Table 8 - AIRCRAFT BY FIRST OCCURRENCE AND DAMAGE
ALL OPERATIONS
1985

Type of first occurrence	Aircraft damage				Aircraft	
	None	Minor	Subs	Dest	No.	Percent
Abrupt maneuver	0	0	14	5	19	0.7
Altitude deviation, uncontrolled	0	0	4	5	9	0.3
Airframe/component/system failure/malfunction	0	0	80	30	110	4.0
Decompression	0	0	0	1	1	0.0
Ditching	0	0	0	2	2	0.1
Dragged wing, rotor, pod, or float	0	0	17	3	20	0.7
Fire/explosion	0	0	2	3	5	0.2
Fire	0	0	11	22	33	1.2
Explosion	0	0	0	2	2	0.1
Forced landing	0	0	12	5	17	0.6
Gear collapsed	0	0	15	1	16	0.6
Main gear collapsed	0	0	21	1	22	0.8
Nose gear collapsed	0	0	23	0	23	0.8
Complete gear collapsed	0	0	10	2	12	0.4
Gear not extended	0	0	7	1	8	0.3
Hard landing	5	1	105	7	118	4.3
Hazardous materials leak/spill (fumes/smoke)	0	0	0	1	1	0.0
In flight collision with object	2	3	110	93	208	7.5
In flight collision with terrain	1	4	103	103	211	7.6
In flight encounter with weather	1	1	52	121	175	6.3
Loss of control - in flight	0	0	209	158	367	13.2
Loss of control - on ground	1	0	238	13	252	9.1
Midair collision	1	3	20	17	41	1.5
Near collision between aircraft	0	0	1	0	1	0.0
Nose down	0	0	1	0	1	0.0
Nose over	0	0	42	6	48	1.7
On ground collision with object	1	5	78	5	89	3.2
On ground collision with terrain	0	2	73	3	78	2.8
On ground encounter with weather	0	0	13	3	16	0.6
Overrun	0	0	70	7	77	2.8
Loss of power	0	0	93	42	135	4.9
Loss of power(total) - mech failure/malfunction	1	0	99	30	130	4.7
Loss of power(partial) - mech failure/malfunction	0	0	51	13	64	2.3

(Con't)

Table 8 - AIRCRAFT BY FIRST OCCURRENCE AND DAMAGE (Continued)
ALL OPERATIONS
1985

Type of first occurrence	Aircraft damage				Aircraft	
	None	Minor	Subs	Dest	No.	Percent
Loss of power(total) - non-mechanical	1	1	245	50	297	10.7
Loss of power(partial) - non-mechanical	0	1	32	13	46	1.7
Propeller blast or jet exhaust/suction	0	0	1	1	2	0.1
Propeller/rotor contact	5	2	5	0	12	0.4
Roll over	0	0	7	3	10	0.4
Undershoot	0	0	36	4	40	1.4
Undetermined	0	0	1	1	2	0.1
Vortex turbulence encountered	0	0	5	1	6	0.2
Missing aircraft	1	0	1	9	11	0.4
Miscellaneous/other	2	0	23	9	34	1.2
Aircraft						
Number -	22	23	1930	796	2771	
Percent -	0.8	0.8	69.6	28.7		

Table 9 - AIRCRAFT BY FIRST OCCURRENCE AND BROAD PHASE OF OPERATION
ALL OPERATIONS
1985

Type of first occurrence	Phase of operation											Aircraft	
	Stdng	Taxi	Tkoff	Climb	Cruis	Dscnt	Aprch	Landg	Manvr	Other	Unk	No.	Percent
Abrupt maneuver	0	0	6	1	0	0	4	4	4	0	0	19	0.7
Altitude deviation, uncontrolled	0	0	2	2	0	1	2	0	2	0	0	9	0.3
Airframe/component/system failure/malfunction	1	2	20	6	33	8	12	12	10	5	1	110	4.0
Decompression	0	0	0	1	0	0	0	0	0	0	0	1	0.0
Ditching	0	0	0	0	0	0	0	1	1	0	0	2	0.1
Dragged wing, rotor, pod, or float	0	0	5	0	0	0	2	10	3	0	0	20	0.7
Fire/explosion	0	0	1	0	0	3	0	1	0	0	0	5	0.2
Fire	6	2	4	1	7	2	0	7	0	1	3	33	1.2
Explosion	0	0	0	0	1	0	0	0	0	0	1	2	0.1
Forced landing	0	0	1	0	1	8	0	4	3	0	0	17	0.6
Gear collapsed	0	1	3	0	0	0	0	12	0	0	0	16	0.6
Main gear collapsed	0	1	2	0	0	0	0	19	0	0	0	22	0.8
Nose gear collapsed	0	1	2	0	0	0	0	20	0	0	0	23	0.8
Complete gear collapsed	0	1	1	0	0	0	0	9	0	0	1	12	0.4
Gear not extended	0	0	0	0	0	0	0	8	0	0	0	8	0.3
Hard landing	0	0	2	0	0	0	1	115	0	0	0	118	4.3
Hazardous materials leak/spill (fumes/smoke)	0	0	0	0	0	0	0	1	0	0	0	1	0.0
In flight collision with object	1	1	38	5	20	9	47	20	63	4	0	208	7.5
In flight collision with terrain	0	1	21	1	8	55	26	46	48	5	0	211	7.6
In flight encounter with weather	0	0	18	10	90	7	21	5	20	3	1	175	6.3
Loss of control - in flight	1	0	107	15	12	3	72	50	103	4	0	367	13.2
Loss of control - on ground	5	9	62	0	0	0	1	174	1	0	0	252	9.1
Midair collision	0	0	1	2	12	3	13	3	7	0	0	41	1.5
Near collision between aircraft	0	0	0	0	1	0	0	0	0	0	0	1	0.0

(con't)

Table 9 - AIRCRAFT BY FIRST OCCURRENCE AND BROAD PHASE OF OPERATION (Continued)
ALL OPERATIONS
1985

Type of first occurrence	Phase of operation											Aircraft	
	Stdng	Taxi	Tkoff	Climb	Cruis	Dscnt	Aprch	Landg	Manvr	Other	Unk	No.	Percent
Nose down	0	0	0	0	0	0	0	1	0	0	0	1	0.0
Nose over	0	4	2	0	0	3	0	39	0	0	0	48	1.7
On ground collision with object	1	24	16	0	0	0	1	47	0	0	0	89	3.2
On ground collision with terrain	1	7	20	0	0	0	0	50	0	0	0	78	2.8
On ground encounter with weather	0	5	3	0	0	0	0	8	0	0	0	16	0.6
Overrun	0	0	13	0	0	0	1	62	0	1	0	77	2.8
Loss of power	0	0	38	5	38	5	19	2	26	1	1	135	4.9
Loss of power(total) - mech failure/malfunction	0	0	29	16	47	7	7	0	23	1	0	130	4.7
Loss of power(partial) - mech failure/malfunction	0	0	19	5	25	1	5	1	8	0	0	64	2.3
Loss of power(total) - non-mechanical	0	0	48	8	104	39	66	1	31	0	0	297	10.7
Loss of power(partial) - non-mechanical	0	0	20	1	9	3	7	2	4	0	0	46	1.7
Propeller blast or jet exhaust/suction	0	2	0	0	0	0	0	0	0	0	0	2	0.1
Propeller/rotor contact	8	1	0	0	0	0	0	3	0	0	0	12	0.4
Roll over	0	0	0	0	0	0	0	9	1	0	0	10	0.4
Undershoot	0	0	0	0	0	0	28	12	0	0	0	40	1.4
Undetermined	0	0	0	0	1	0	0	1	0	0	0	2	0.1
Vortex turbulence encountered	0	0	4	0	1	0	0	1	0	0	0	6	0.2
Missing aircraft	0	0	0	0	0	0	0	0	0	11	0	11	0.4
Miscellaneous/other	6	1	10	1	5	0	3	4	4	0	0	34	1.2
Aircraft													
Number -	30	63	518	80	415	157	338	764	362	36	8	2771	
Percent -	1.1	2.3	18.7	2.9	15.0	5.7	12.2	27.6	13.1	1.3	0.3		

Table 10 - AIRCRAFT BY PHASE OF OPERATION AND DEGREE OF INJURY
ALL OPERATIONS
1985

Phase of operation	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Standing	1	1	1	0	3	0.1
Standing - pre-flight	2	1	1	1	5	0.2
Standing - starting engine(s)	6	1	0	1	8	0.3
Standing - engine(s) operating	3	2	5	2	12	0.4
Standing - idling rotors	2	0	0	0	2	0.1
Taxi	7	0	1	1	9	0.3
Taxi - to takeoff	19	1	0	1	21	0.8
Taxi - from landing	25	3	0	2	30	1.1
Taxi - aerial	2	1	0	0	3	0.1
Takeoff	25	7	4	8	44	1.6
Takeoff - ground run	99	20	7	0	126	4.5
Takeoff - initial climb	164	84	46	54	348	12.6
Climb	11	3	7	10	31	1.1
Climb - to cruise	18	9	5	17	49	1.8
Cruise	57	21	16	41	135	4.9
Cruise - normal	133	42	30	75	280	10.1
Descent	6	4	3	9	22	0.8
Descent - normal	27	14	6	11	58	2.1
Descent - emergency	7	1	4	1	13	0.5
Descent - uncontrolled	15	12	16	21	64	2.3
Approach	23	11	8	12	54	1.9
Approach - VFR pattern - downwind	13	4	3	5	25	0.9
Approach - VFR pattern - base turn	6	2	2	6	16	0.6
Approach - VFR pattern - base to final	9	3	3	5	20	0.7
Approach - VFR pattern - final approach	71	19	25	9	124	4.5
Approach - go-around (VFR)	28	17	8	11	64	2.3
Approach - IAF to FAF/outer marker (IFR)	3	0	0	4	7	0.3
Approach - FAF/outer marker to threshold (IFR)	5	0	3	11	19	0.7
Approach - circling(IFR)	0	0	1	3	4	0.1
Approach - missed approach (IFR)	1	1	0	3	5	0.2
Landing	45	16	13	4	78	2.8
Landing - flare/touchdown	249	35	20	7	311	11.2
Landing - roll	328	37	9	1	375	13.5

(con't)

Table 10 - AIRCRAFT BY PHASE OF OPERATION AND DEGREE OF INJURY (Continued)
ALL OPERATIONS
1985

Phase of operation	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Maneuvering	52	21	32	116	221	8.0
Maneuvering - aerial application	49	10	14	9	82	3.0
Maneuvering - turn to reverse direction	9	3	7	9	28	1.0
Maneuvering - turn to landing area (emergency)	2	1	0	2	5	0.2
Hover	17	3	2	4	26	0.9
Other	2	1	2	3	8	0.3
Unknown	2	1	3	30	36	1.3
Aircraft						
Number -	1543	412	307	509	2771	
Percent -	55.7	14.9	11.1	18.4		

Table 11 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
ALL OPERATIONS
1985

Phase of operation	Aircraft damage				Aircraft	
	None	Minor	Subs	Dest	No.	Percent
Standing	1	0	1	1	3	0.1
Standing - pre-flight	0	0	3	2	5	0.2
Standing - starting engine(s)	1	0	5	2	8	0.3
Standing - engine(s) operating	4	2	5	1	12	0.4
Standing - idling rotors	0	0	2	0	2	0.1
Taxi	0	1	8	0	9	0.3
Taxi - to takeoff	0	0	20	1	21	0.8
Taxi - from landing	0	2	26	2	30	1.1
Taxi - aerial	0	1	1	1	3	0.1
Takeoff	0	1	35	8	44	1.6
Takeoff - ground run	0	2	114	10	126	4.5
Takeoff - initial climb	1	1	225	121	348	12.6
Climb	0	1	16	14	31	1.1
Climb - to cruise	0	0	26	23	49	1.8
Cruise	0	0	81	54	135	4.9
Cruise - normal	0	0	178	102	280	10.1
Descent	0	0	9	13	22	0.8
Descent - normal	1	0	41	16	58	2.1
Descent - emergency	0	0	11	2	13	0.5
Descent - uncontrolled	1	0	25	38	64	2.3
Approach	0	0	36	18	54	1.9
Approach - VFR pattern - downwind	0	0	17	8	25	0.9
Approach - VFR pattern - base turn	0	0	8	8	16	0.6
Approach - VFR pattern - base to final	1	0	14	5	20	0.7
Approach - VFR pattern - final approach	1	1	99	23	124	4.5
Approach - go-around (VFR)	0	1	39	24	64	2.3
Approach - IAF to FAF/outer marker (IFR)	0	0	3	4	7	0.3
Approach - FAF/outer marker to threshold (IFR)	0	0	4	15	19	0.7
Approach - circling(IFR)	0	0	1	3	4	0.1
Approach - missed approach (IFR)	0	0	2	3	5	0.2
Landing	2	2	57	17	78	2.8
Landing - flare/touchdown	5	4	274	28	311	11.2
Landing - roll	0	2	356	17	375	13.5

(Con't)

Table 11 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE (Continued)
ALL OPERATIONS
1985

Phase of operation	Aircraft damage				Aircraft	
	None	Minor	Subs	Dest	No.	Percent
Maneuvering	2	0	92	127	221	8.0
Maneuvering - aerial application	0	1	55	26	82	3.0
Maneuvering - turn to reverse direction	0	0	15	13	28	1.0
Maneuvering - turn to landing area (emergency)	0	0	4	1	5	0.2
Hover	1	1	16	8	26	0.9
Other	0	0	1	7	8	0.3
Unknown	1	0	5	30	36	1.3
Aircraft						
Number -	22	23	1930	796	2771	
Percent -	0.8	0.8	69.6	28.7		

Table 12 - AIRCRAFT BY CONDITION OF LIGHT AND TYPE OF WEATHER
ALL OPERATIONS
1985

Condition of light	Type of weather			Aircraft	
	VMC	IMC	Not reptd	No.	Percent
Dawn	30	3	0	33	1.2
Daylight	2199	135	16	2350	84.8
Night (dark)	155	61	10	226	8.2
Night (bright)	45	1	1	47	1.7
Dusk	96	13	2	111	4.0
Not reported	0	0	4	4	0.1
Aircraft					
Number -	2525	213	33	2771	
Percent -	91.1	7.7	1.2		

Table 13 - AIRCRAFT BY STATE AND MONTH
ALL OPERATIONS
1985

State	Month												Aircraft	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	No.	Percent
Alabama	1	0	3	4	6	3	6	5	6	3	3	1	41	1.5
Alaska	5	4	10	12	7	28	24	23	18	11	2	8	152	5.5
Arizona	5	3	6	11	9	4	6	8	5	6	5	8	76	2.7
Arkansas	1	4	4	4	9	4	6	3	3	3	3	2	46	1.7
California	26	23	28	32	28	31	30	33	22	27	18	20	318	11.5
Colorado	4	3	4	3	8	7	14	6	8	7	8	9	81	2.9
Connecticut	0	0	1	2	1	1	4	2	2	0	1	2	16	0.6
Delaware	0	0	1	0	0	0	1	0	1	0	0	1	4	0.1
District of Columbia	1	0	0	0	0	0	0	0	0	0	0	0	1	0.0
Florida	13	16	25	17	15	13	8	14	22	16	9	13	181	6.5
Georgia	0	5	5	2	12	4	8	11	5	9	1	5	67	2.4
Hawaii	3	3	0	2	0	1	2	2	0	0	2	1	16	0.6
Idaho	0	2	3	2	4	6	8	7	4	2	1	2	41	1.5
Illinois	4	5	4	3	5	6	14	7	6	3	5	3	65	2.3
Indiana	2	2	6	5	6	7	7	2	4	7	2	1	51	1.8
Iowa	2	1	3	1	3	4	9	2	6	1	1	2	35	1.3
Kansas	5	1	1	5	4	7	8	8	4	4	3	1	51	1.8
Kentucky	1	1	3	4	1	0	5	4	3	3	1	1	27	1.0
Louisiana	3	5	4	6	5	6	5	8	4	5	3	0	54	1.9
Maine	1	1	0	1	1	1	4	2	1	2	0	0	14	0.5
Maryland	1	1	4	3	3	3	5	0	1	3	1	3	28	1.0
Massachusetts	1	0	4	2	3	4	9	2	2	4	3	1	35	1.3
Michigan	3	5	1	5	6	12	13	8	5	7	3	6	74	2.7
Minnesota	1	0	2	5	4	9	11	7	7	1	3	4	54	1.9

(con't)

Table 13 - AIRCRAFT BY STATE AND MONTH (Continued)
ALL OPERATIONS
1985

State	Month												Aircraft	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	No.	Percent
Mississippi	2	3	0	3	0	2	0	4	4	1	2	1	22	0.8
Missouri	2	4	5	6	3	6	7	12	5	10	3	3	66	2.4
Montana	3	6	1	2	4	5	6	3	1	1	0	6	38	1.4
Nebraska	1	0	1	1	5	6	5	1	4	2	1	1	28	1.0
Nevada	2	2	1	3	2	5	5	1	5	4	3	0	33	1.2
New Hampshire	1	0	0	1	1	1	1	0	1	4	0	1	11	0.4
New Jersey	1	4	4	3	4	5	6	6	3	5	4	2	47	1.7
New Mexico	2	2	5	6	6	10	9	4	3	5	5	4	61	2.2
New York	1	1	3	4	10	8	11	13	10	3	7	5	76	2.7
North Carolina	4	2	7	4	1	7	5	5	5	2	4	2	48	1.7
North Dakota	2	0	1	0	0	3	4	4	1	1	2	0	18	0.6
Ohio	0	7	4	10	7	8	11	6	6	5	1	3	68	2.5
Oklahoma	1	6	7	6	5	2	4	9	0	2	2	2	46	1.7
Oregon	1	4	2	9	7	7	8	2	4	7	2	0	53	1.9
Pennsylvania	3	7	6	5	10	3	4	10	3	5	6	4	66	2.4
Puerto Rico	0	0	0	0	0	0	0	1	0	0	1	0	2	0.1
Rhode Island	0	0	1	0	0	0	1	0	2	2	1	0	7	0.3
South Carolina	0	3	1	3	4	2	3	4	6	1	3	4	34	1.2
South Dakota	0	1	1	0	4	0	3	1	1	1	2	0	14	0.5
Tennessee	2	1	5	4	3	1	1	3	5	2	4	1	32	1.2
Texas	9	11	28	20	25	20	20	27	14	18	11	15	218	7.9
Utah	3	2	5	2	0	7	2	4	3	1	0	6	35	1.3
Vermont	0	0	2	1	1	2	1	2	1	1	0	0	11	0.4
Virginia	1	4	7	3	7	1	3	8	2	1	1	0	38	1.4
Virgin Islands	1	0	0	0	0	0	0	1	0	0	0	0	2	0.1

(con't)

Table 13 - AIRCRAFT BY STATE AND MONTH (Continued)
ALL OPERATIONS
1985

State	Month												Aircraft	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	No.	Percent
Washington	7	6	6	4	6	8	8	6	12	4	1	2	70	2.5
West Virginia	0	0	3	1	1	2	1	2	3	2	0	0	15	0.5
Wisconsin	0	4	1	4	9	7	17	5	2	6	1	2	58	2.1
Wyoming	2	1	1	1	0	3	3	6	1	0	0	0	18	0.6
Gulf of Mexico	0	0	0	1	0	0	0	0	2	1	0	0	4	0.1
Pacific Ocean	0	0	0	0	0	0	0	0	1	0	0	0	1	0.0
Atlantic Ocean	0	0	0	0	0	1	0	0	0	0	0	0	1	0.0
Unknown	0	0	0	0	1	0	0	1	0	0	0	0	2	0.1
Aircraft														
Number -	134	166	230	238	266	293	356	315	249	221	145	158	2771	
Percent -	4.8	6.0	8.3	8.6	9.6	10.6	12.8	11.4	9.0	8.0	5.2	5.7		

Table 14 - AIRCRAFT BY PROXIMITY TO AIRPORT AND FLIGHT PLAN
ALL OPERATIONS
1985

Proximity to Airport -----	Type of Flight Plan -----					Aircraft -----	
	VFR	IFR	VFR/IFR	None	NRept	No.	Percent
On airport	93	71	3	852	6	1025	37.0
On airstrip	9	2	1	152	1	165	6.0
Within 5 SM	27	36	2	233	2	300	10.8
5 SM Or greater	15	28	1	135	0	179	6.5
Not Reported	90	52	2	954	4	1102	39.8
Aircraft							
Number -	234	189	9	2326	13	2771	
Percent -	8.4	6.8	0.3	83.9	0.5		

Table 15 - AIRCRAFT BY ELT OPERATION AND ELT AID IN LOCATION
ALL OPERATIONS
1985

ELT aided location -----	ELT operated -----			Aircraft -----	
	Yes	No	Not reptd	No.	Percent
Yes	102	0	8	110	4.0
No	553	1123	178	1854	66.9
Not reported	59	272	476	807	29.1
Aircraft					
Number -	714	1395	662	2771	
Percent -	25.8	50.3	23.9		

Table 16 - AIRCRAFT BY FIRE AND DAMAGE
ALL OPERATIONS
1985

Aircraft fire	Aircraft damage				Aircraft	
	None	Minor	Subs	Dest	No.	Percent
None	21	23	1872	547	2463	88.9
In-flight	0	0	14	12	26	0.9
On ground	0	0	35	218	253	9.1
In-flight and on ground	0	0	1	10	11	0.4
Other	1	0	8	9	18	0.6
Aircraft Number -	22	23	1930	796	2771	
Percent -	0.8	0.8	69.6	28.7		

Table 17 - AIRCRAFT BY FIRE AND DEGREE OF INJURY
ALL OPERATIONS
1985

Aircraft fire	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
None	1460	383	279	341	2463	88.9
In-flight	19	2	2	3	26	0.9
On ground	49	24	26	154	253	9.1
In-flight and on ground	9	1	0	1	11	0.4
Other	6	2	0	10	18	0.6
Aircraft Number -	1543	412	307	509	2771	
Percent -	55.7	14.9	11.1	18.4		

Table 18 - PILOTS BY TOTAL TIME AND TIME IN TYPE
ALL OPERATIONS
1985

Total time (hours)	Time in type (hours)								Pilots	
	1-49	50-99	100-499	500-999	1000-4999	5000-9999	10000 or more	Not reptd	No.	Percent
0 - 49	155	0	0	0	0	0	0	10	165	6.0
50 - 99	85	86	0	0	0	0	0	16	187	6.7
100 - 499	272	118	295	0	0	0	0	57	742	26.8
500 - 999	81	46	161	59	0	0	0	31	378	13.6
1000 - 4999	121	65	197	122	126	0	0	88	719	25.9
5000 - 9999	27	15	52	30	71	16	0	22	233	8.4
10000 or more	14	9	41	16	41	19	8	19	167	6.0
Not reported	4	3	5	2	6	0	0	160	180	6.5
Pilots										
Number -	759	342	751	229	244	35	8	403	2771	
Percent -	27.4	12.3	27.1	8.3	8.8	1.3	0.3	14.5		

Table 19 - PILOTS BY AGE AND ACCIDENT DEGREE OF INJURY
ALL OPERATIONS
1985

Pilot age	Degree of injury				Pilots	
	None	Minor	Ser	Fatal	No.	Percent
15 - 19	20	1	2	3	26	0.9
20 - 24	102	27	18	28	175	6.3
25 - 29	164	34	32	38	268	9.7
30 - 34	219	53	38	61	371	13.4
35 - 39	252	66	53	63	434	15.7
40 - 44	205	62	39	78	384	13.9
45 - 49	146	44	32	62	284	10.2
50 - 54	145	39	32	62	278	10.0
55 - 59	110	31	26	46	213	7.7
60 - 64	84	19	17	33	153	5.5
65 - 69	31	14	6	19	70	2.5
70 or older	18	10	5	7	40	1.4
Not reported	47	12	7	9	75	2.7
Pilots						
Number -	1543	412	307	509	2771	
Percent -	55.7	14.9	11.1	18.4		

Table 20 - MOST PREVALENT DETAILED ACCIDENT CAUSES
ALL OPERATIONS
1985

Detailed Cause	Number of Aircraft	Percent of Aircraft
Directional control - Not maintained - Pilot in command	287	10.4
Undetermined	171	6.2
Judgement - Poor - Pilot in command	150	5.4
Airspeed - Not maintained - Pilot in command	149	5.4
In-flight planning/decision - Improper - Pilot in command	109	3.9
Preflight planning/preparation - Inadequate - Pilot in command	107	3.9
Clearance - Not maintained - Pilot in command	83	3.0
Stall - Inadvertent - Pilot in command	82	3.0
Compensation for wind conditions - Inadequate - Pilot in command	80	2.9
In-flight planning/decision - Poor - Pilot in command	76	2.7
Unsuitable terrain - Selected - Pilot in command	76	2.7
Total Number of Aircraft:	2771	

Table 21 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
ALL OPERATIONS
1975 - 1985

Year	Accidents	Fatal Accidents	Total	Fatalities
				Aboard Aircraft In This Category
1975	3995	633	1252	1231
1976	4018	658	1216	1203
1977	4079	661	1276	1265
1978	4216	719	1556	1398
1979	3818	631	1221	1203
1980	3590	618	1239	1230
1981	3500	654	1282	1261
1982	3233	591	1187	1171
1983	3075	555	1064	1057
1984	3010	543	1039	1018
1985	2741	498	950	941

Accident Rate per 100,000 *
Aircraft Hours Flown

Year	Hours Flown	Total	Fatal
1975	28,799,000	13.87	2.19
1976	30,476,000	13.17	2.16
1977	31,578,000	12.91	2.09
1978	34,887,000	12.08	2.06
1979	38,641,000	9.88	1.63
1980	36,402,000	9.86	1.69
1981	36,803,000	9.51	1.78
1982	32,095,000	10.06	1.84
1983	31,048,000	9.90	1.79
1984	31,510,000	9.54	1.72
1985	30,590,000	8.95	1.62

* Suicide and sabotage accidents excluded from rates as follows :
Total - 1975 (2), 1976 (4), 1977 (1), 1978 (2), 1980 (1), 1982 (3),
1983 (1), 1984 (3), 1985 (3)
Fatal - 1975 (2), 1976 (1), 1977 (1), 1978 (2), 1980 (1), 1984 (2),
1985 (2)

Table 22 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
ALL OPERATIONS
1985 AND 1980 - 1984

Type of Occurrence	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Loss of power	672	24.3	849.2	25.6
Collision with object/terrain	594	21.4	721.0	21.7
Loss of control - in flight	367	13.2	405.4	12.2
Loss of control - on ground	252	9.1	354.4	10.7
Hard landing	118	4.3	203.2	6.1
Miscellaneous	131	4.7	161.8	4.9
Encounter with weather/turbulence	197	7.1	142.4	4.3
Airframe/component/system fail/malf	110	4.0	138.0	4.2
Undershoot	40	1.4	83.6	2.5
Gear collapsed/retracted	73	2.6	70.0	2.1
Nose over/down	49	1.8	64.0	1.9
Midair collision	41	1.5	44.2	1.3
(All other types)	127	4.6	78.4	2.4
Total	2771	100.0	3315.6	100.0

Table 23 - MOST PREVALENT FIRST OCCURRENCES IN FATAL ACCIDENTS
ALL OPERATIONS
1985 AND 1980 - 1984

Type of Occurrence	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Collision with object/terrain	131	25.7	181.0	30.0
Loss of control - in flight	115	22.6	167.4	27.7
Encounter with weather/turbulence	110	21.6	81.0	13.4
Loss of power	54	10.6	72.4	12.0
Airframe/component/system fail/malf	18	3.5	36.4	6.0
Midair collision	23	4.5	25.2	4.2
Missing aircraft	11	2.2	9.4	1.6
(All other types)	47	9.2	31.2	5.2
Total	509	100.0	604.0	100.0

Table 24 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
ALL OPERATIONS
1985 AND 1980 - 1984

Phase of Operation	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Landing	764	27.6	898.8	27.1
Takeoff	518	18.7	680.2	20.5
Cruise	415	15.0	522.4	15.8
Maneuvering	362	13.1	448.6	13.5
Approach	338	12.2	417.4	12.6
Descent	157	5.7	105.8	3.2
Taxi	63	2.3	94.8	2.9
Climb	80	2.9	79.2	2.4
Other	44	1.6	42.0	1.3
Standing	30	1.1	25.2	.8
Not reported	0	.0	1.2	.0
Total	2771	100.0	3315.6	100.0

Table 25 - MOST PREVALENT FIRST PHASES OF OPERATION IN FATAL ACCIDENTS
ALL OPERATIONS
1985 AND 1980 - 1984

Phase of Operation	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Maneuvering	140	27.5	162.0	26.8
Cruise	116	22.8	145.0	24.0
Approach	69	13.6	88.0	14.6
Takeoff	62	12.2	85.2	14.1
Descent	42	8.3	50.8	8.4
Other	33	6.5	30.0	5.0
Climb	27	5.3	22.8	3.8
Landing	12	2.4	15.8	2.6
Standing	4	.8	3.0	.5
Taxi	4	.8	1.0	.2
Not reported	0	.0	.4	.1
Total	509	100.0	604.0	100.0

Table 26 - BROAD CAUSE/FACTOR ASSIGNMENTS IN ALL ACCIDENTS
ALL OPERATIONS
1985 AND 1980 - 1984

Broad Cause/Factor	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Pilot	2328	84.0	2707.2	81.7
Weather	655	23.6	897.0	27.1
Terrain	720	26.0	847.6	25.6
Powerplant	588	21.2	636.2	19.2
Miscellaneous	625	22.6	625.4	18.9
Personnel	286	10.3	315.0	9.5
Landing Gear	165	6.0	219.4	6.6
Airport/Airways/Facilities	92	3.3	197.2	5.9
Undetermined	178	6.4	178.4	5.4
Airframe	95	3.4	96.2	2.9
Systems	72	2.6	59.0	1.8
Rotorcraft	24	.9	37.4	1.1
Instruments/Equipment/Accessories	30	1.1	26.2	.8
Number of Aircraft	2771		3315.6	

Table 27 - BROAD CAUSE/FACTOR ASSIGNMENTS IN FATAL ACCIDENTS
ALL OPERATIONS
1985 AND 1980 - 1984

Broad Cause/Factor	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Pilot	461	90.6	531.4	88.0
Weather	159	31.2	244.6	40.5
Miscellaneous	139	27.3	135.4	22.4
Terrain	96	18.9	97.8	16.2
Personnel	68	13.4	69.2	11.5
Powerplant	66	13.0	57.0	9.4
Undetermined	39	7.7	54.4	9.0
Airframe	33	6.5	38.4	6.4
Systems	10	2.0	9.8	1.6
Airport/Airways/Facilities	4	.8	8.8	1.5
Instruments/Equipment/Accessories	13	2.6	7.8	1.3
Rotorcraft	7	1.4	7.8	1.3
Landing Gear	2	.4	1.4	.2
Number of Aircraft	509		604.0	

Table 28 - SUMMARY OF LOSSES
ALL FIXED WING AIRCRAFT
1983 - 1985

	1985	1984	1983
	----	----	----
Accidents			

Fatal	455	496	503
Involved Serious Injury	249	283	251
Involved Minor Injury	369	385	389
Involved No Injury	1394	1531	1578
	----	----	----
Total	2467	2695	2729
Fatalities			

Passenger	416	443	467
Crew	469	507	518
Other Persons	7	19	5
	----	----	----
Total	892	969	990
Aircraft Damaged*			

Destroyed	720	803	778
Substantial	1744	1883	1955
Minor	15	19	11
None	14	23	14
	----	----	----
Total	2493	2728	2758

* Number of Fixed Wing, General Aviation Aircraft

Table 29 - PERSONS BY ROLE AND DEGREE OF INJURY
ALL FIXED WING AIRCRAFT
1985

Role of Person	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Pilot	425	236	359	1467	2487
Copilot	24	6	14	36	80
Dual student	8	8	16	72	104
Check pilot	3	0	0	11	14
Flight engineer	0	0	2	0	2
Other crew	9	2	9	21	41
Passenger	416	137	292	1145	1990
Total aboard	885	389	692	2752	4718
Other aircraft*	2	3	11	79	95
Other ground	5	9	12	27	53
Grand total	892	401	715	2858	4866
Percent	18.3	8.2	14.7	58.7	

* 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 30 - PERSONS ABOARD BY KIND OF FLYING AND DEGREE OF INJURY
ALL FIXED WING AIRCRAFT
1985

Kind of Flying	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Personal	615	271	485	1925	3296
Business	103	39	81	278	501
Corporate/Executive	32	5	7	45	89
Aerial application	8	13	15	100	136
Instructional	37	43	58	288	426
Other	90	18	46	116	270
Total	885	389	692	2752	4718
Percent	18.8	8.2	14.7	58.3	

Table 31 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
ALL FIXED WING AIRCRAFT
1985

Type of first occurrence	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Abrupt maneuver	5	2	2	7	16	0.6
Altitude deviation, uncontrolled	4	1	0	1	6	0.2
Airframe/component/system failure/malfunction	62	13	5	10	90	3.6
Decompression	0	0	0	1	1	0.0
Ditching	1	0	0	1	2	0.1
Dragged wing, rotor, pod, or float	11	2	1	1	15	0.6
Fire/explosion	1	0	0	3	4	0.2
Fire	19	4	3	4	30	1.2
Explosion	1	0	0	1	2	0.1
Forced landing	5	2	1	1	9	0.4
Gear collapsed	14	1	0	0	15	0.6
Main gear collapsed	18	3	0	0	21	0.8
Nose gear collapsed	22	1	0	0	23	0.9
Complete gear collapsed	9	0	2	0	11	0.4
Gear not extended	8	0	0	0	8	0.3
Hard landing	84	13	6	1	104	4.2
Hazardous materials leak/spill (fumes/smoke)	1	0	0	0	1	0.0
In flight collision with object	59	24	36	53	172	6.9
In flight collision with terrain	68	30	28	63	189	7.6
In flight encounter with weather	29	9	19	104	161	6.5
Loss of control - in flight	131	47	47	110	335	13.4
Loss of control - on ground	219	24	1	1	245	9.8
Midair collision	17	0	0	22	39	1.6
Near collision between aircraft	0	0	1	0	1	0.0
Nose down	1	0	0	0	1	0.0
Nose over	42	5	1	0	48	1.9
On ground collision with object	63	13	8	2	86	3.4
On ground collision with terrain	64	7	2	0	73	2.9
On ground encounter with weather	11	1	1	2	15	0.6
Overrun	57	16	1	3	77	3.1
Loss of power	74	19	13	12	118	4.7
Loss of power(total) - mech failure/malfunction	66	26	11	11	114	4.6
Loss of power(partial) - mech failure/malfunction	31	12	4	4	51	2.0
Loss of power(total) - non-mechanical	151	67	42	19	279	11.2
Loss of power(partial) - non-mechanical	18	12	6	3	39	1.6

(Con't)

Table 31 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY (Continued)
ALL FIXED WING AIRCRAFT
1985

Type of first occurrence	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Propeller blast or jet exhaust/suction	1	0	0	1	2	0.1
Propeller/rotor contact	0	0	5	1	6	0.2
Roll over	0	1	0	0	1	0.0
Undershoot	26	8	0	2	36	1.4
Undetermined	1	0	0	1	2	0.1
Vortex turbulence encountered	2	2	1	1	6	0.2
Missing aircraft	0	0	0	11	11	0.4
Miscellaneous/other	13	4	3	8	28	1.1
Aircraft						
Number -	1409	369	250	465	2493	
Percent -	56.5	14.8	10.0	18.7		

Table 32 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
ALL FIXED WING AIRCRAFT
1985

Phase of operation	Aircraft damage				Aircraft	
	None	Minor	Subs	Dest	No.	Percent
Standing	1	0	1	1	3	0.1
Standing - pre-flight	0	0	3	1	4	0.2
Standing - starting engine(s)	1	0	5	2	8	0.3
Standing - engine(s) operating	4	1	2	0	7	0.3
Taxi	0	1	8	0	9	0.4
Taxi - to takeoff	0	0	19	1	20	0.8
Taxi - from landing	0	2	26	2	30	1.2
Takeoff	0	1	27	7	35	1.4
Takeoff - ground run	0	2	109	10	121	4.9
Takeoff - initial climb	1	0	210	113	324	13.0
Climb	0	1	13	11	25	1.0
Climb - to cruise	0	0	24	22	46	1.8
Cruise	0	0	72	48	120	4.8
Cruise - normal	0	0	158	95	253	10.1
Descent	0	0	7	13	20	0.8
Descent - normal	0	0	38	16	54	2.2
Descent - emergency	0	0	10	1	11	0.4
Descent - uncontrolled	1	0	22	35	58	2.3
Approach	0	0	28	14	42	1.7
Approach - VFR pattern - downwind	0	0	17	7	24	1.0
Approach - VFR pattern - base turn	0	0	8	6	14	0.6
Approach - VFR pattern - base to final	1	0	13	5	19	0.8
Approach - VFR pattern - final approach	1	1	92	21	115	4.6
Approach - go-around (VFR)	0	1	38	23	62	2.5
Approach - IAF to FAF/outer marker (IFR)	0	0	3	4	7	0.3
Approach - FAF/outer marker to threshold (IFR)	0	0	4	15	19	0.8
Approach - circling(IFR)	0	0	1	3	4	0.2
Approach - missed approach (IFR)	0	0	2	3	5	0.2
Landing	0	1	47	16	64	2.6
Landing - flare/touchdown	1	1	247	19	268	10.8
Landing - roll	0	2	352	17	371	14.9
Maneuvering	2	0	77	119	198	7.9
Maneuvering - aerial application	0	1	40	23	64	2.6

(Con't)

Table 32 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE (Continued)
ALL FIXED WING AIRCRAFT
1985

Phase of operation	Aircraft damage				Aircraft	
	None	Minor	Subs	Dest	No.	Percent
Maneuvering - turn to reverse direction	0	0	14	11	25	1.0
Maneuvering - turn to landing area (emergency)	0	0	2	0	2	0.1
Hover	0	0	0	1	1	0.0
Other	0	0	0	7	7	0.3
Unknown	1	0	5	28	34	1.4
Aircraft						
Number -	14	15	1744	720	2493	
Percent -	0.6	0.6	70.0	28.9		

Table 33 - AIRCRAFT BY CONDITION OF LIGHT AND TYPE OF WEATHER
ALL FIXED WING AIRCRAFT
1985

Condition of light	Type of weather			Aircraft	
	VMC	IMC	Not reptd	No.	Percent
Dawn	24	3	0	27	1.1
Daylight	1951	129	14	2094	84.0
Night (dark)	152	56	9	217	8.7
Night (bright)	43	1	1	45	1.8
Dusk	91	13	2	106	4.3
Not reported	0	0	4	4	0.2
Aircraft					
Number -	2261	202	30	2493	
Percent -	90.7	8.1	1.2		

Table 34 - AIRCRAFT BY PROXIMITY TO AIRPORT AND FLIGHT PLAN
ALL FIXED WING AIRCRAFT
1985

Proximity to Airport	Type of Flight Plan					Aircraft	
	VFR	IFR	VFR/IFR	None	NRept	No.	Percent
On airport	91	71	3	790	6	961	38.5
On airstrip	7	2	1	144	1	155	6.2
Within 5 SM	26	36	2	213	2	279	11.2
5 SM Or greater	15	28	1	123	0	167	6.7
Not Reported	79	52	2	794	4	931	37.3
Aircraft							
Number -	218	189	9	2064	13	2493	
Percent -	8.7	7.6	0.4	82.8	0.5		

Table 35 - MOST PREVALENT DETAILED ACCIDENT CAUSES
ALL FIXED WING AIRCRAFT
1985

Detailed Cause	Number of Aircraft	Percent of Aircraft
Directional control - Not maintained - Pilot in command	274	11.0
Undetermined	156	6.3
Airspeed - Not maintained - Pilot in command	142	5.7
Judgement - Poor - Pilot in command	140	5.6
In-flight planning/decision - Improper - Pilot in command	101	4.1
Preflight planning/preparation - Inadequate - Pilot in command	98	3.9
Stall - Inadvertent - Pilot in command	81	3.3
Compensation for wind conditions - Inadequate - Pilot in command	75	3.0
Clearance - Not maintained - Pilot in command	73	2.9
In-flight planning/decision - Poor - Pilot in command	69	2.8
Total Number of Aircraft:	2493	

Table 36 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
ALL FIXED WING AIRCRAFT
1975 - 1985

Year	Accidents	Fatal Accidents	Fatalities	
			Total	Aboard Aircraft In This Category
1975	3644	609	1216	1193
1976	3695	624	1168	1154
1977	3745	632	1240	1230
1978	3850	670	1487	1335
1979	3477	592	1155	1142
1980	3233	569	1168	1162
1981	3161	610	1208	1190
1982	2885	539	1105	1094
1983	2729	503	990	985
1984	2695	496	969	950
1985	2467	455	892	885

Year	Hours Flown	Accident Rate per 100,000 *	
		Total	Fatal
1975	28,393,000	12.83	2.14
1976	29,202,000	12.64	2.13
1977	30,166,000	12.41	2.09
1978	33,162,000	11.60	2.01
1979	36,760,000	9.46	1.61
1980	34,145,000	9.47	1.66
1981	34,113,000	9.27	1.79
1982	30,077,000	9.59	1.79
1983	28,917,000	9.43	1.74
1984	29,555,000	9.11	1.67
1985	28,471,000	8.65	1.59

* Suicide and sabotage accidents excluded from rates as follows :
Total - 1975 (1), 1976 (4), 1977 (1), 1978 (2), 1980 (1), 1982 (2),
1983 (1), 1984 (3), 1985 (3)
Fatal - 1975 (1), 1976 (1), 1977 (1), 1978 (2), 1980 (1), 1984 (2),
1985 (2)

Table 37 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
ALL FIXED WING AIRCRAFT
1985 AND 1980 - 1984

Type of Occurrence	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Loss of power	601	24.1	768.0	25.8
Collision with object/terrain	528	21.2	632.4	21.3
Loss of control - in flight	335	13.4	361.8	12.2
Loss of control - on ground	245	9.8	347.8	11.7
Hard landing	104	4.2	175.8	5.9
Miscellaneous	117	4.7	148.0	5.0
Encounter with weather/turbulence	182	7.3	132.0	4.4
Airframe/component/system fail/malf	90	3.6	98.6	3.3
Undershoot	36	1.4	76.6	2.6
Gear collapsed/retracted	70	2.8	69.6	2.3
Nose over/down	49	2.0	62.8	2.1
Midair collision	39	1.6	40.0	1.3
(All other types)	97	3.9	58.2	2.0
Total	2493	100.0	2971.6	100.0

Table 38 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
ALL FIXED WING AIRCRAFT
1985 AND 1980 - 1984

Phase of Operation	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Landing	703	28.2	824.8	27.8
Takeoff	480	19.3	625.0	21.0
Cruise	373	15.0	460.6	15.5
Approach	311	12.5	380.6	12.8
Maneuvering	290	11.6	360.8	12.1
Descent	143	5.7	97.0	3.3
Taxi	59	2.4	87.4	2.9
Climb	71	2.8	73.6	2.5
Other	41	1.6	39.6	1.3
Standing	22	.9	21.0	.7
Not reported	0	.0	1.2	.0
Total	2493	100.0	2971.6	100.0

Table 39 - BROAD CAUSE/FACTOR ASSIGNMENTS IN ALL ACCIDENTS
ALL FIXED WING AIRCRAFT
1985 AND 1980 - 1984

Broad Cause/Factor	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Pilot	2115	84.8	2451.4	82.5
Weather	605	24.3	819.8	27.6
Terrain	660	26.5	768.6	25.9
Powerplant	528	21.2	574.2	19.3
Miscellaneous	564	22.6	563.2	19.0
Personnel	244	9.8	271.4	9.1
Landing Gear	161	6.5	216.0	7.3
Airport/Airways/Facilities	88	3.5	194.0	6.5
Undetermined	163	6.5	153.8	5.2
Airframe	82	3.3	87.6	2.9
Systems	66	2.6	52.8	1.8
Instruments/Equipment/Accessories	25	1.0	20.4	.7
Rotorcraft	0	.0	.4	.0
Number of Aircraft	2493		2971.6	

Table 40 - SUMMARY OF LOSSES
 FIXED WING AIRCRAFT - SINGLE RECIPROCATING ENGINE
 1983 - 1985

	1985	1984	1983
-----	----	----	----
Accidents			

Fatal	368	405	419
Involved Serious Injury	225	251	234
Involved Minor Injury	344	358	359
Involved No Injury	1243	1367	1427
	----	----	----
Total	2180	2381	2439
Fatalities			

Passenger	298	341	349
Crew	366	407	422
Other Persons	10	17	8
	----	----	----
Total	674	765	779
Aircraft Damaged*			

Destroyed	595	680	656
Substantial	1583	1695	1783
Minor	14	13	9
None	11	20	12
	----	----	----
Total	2203	2408	2460

* Number of Fixed Wing, Single Reciprocating Engine, General Aviation Aircraft

Table 41 - PERSONS ABOARD BY KIND OF FLYING AND DEGREE OF INJURY
FIXED WING AIRCRAFT - SINGLE RECIPROCATING ENGINE
1985

Kind of Flying	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Personal	530	249	462	1746	2987
Business	59	29	42	164	294
Corporate/Executive	5	1	1	4	11
Aerial application	8	13	13	98	132
Instructional	23	35	53	267	378
Other	39	13	34	79	165
Total	664	340	605	2358	3967
Percent	16.7	8.6	15.3	59.4	

Table 42 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
FIXED WING AIRCRAFT - SINGLE RECIPROCATING ENGINE
1985

Type of first occurrence	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Abrupt maneuver	4	2	2	7	15	0.7
Altitude deviation, uncontrolled	3	1	0	0	4	0.2
Airframe/component/system failure/malfunction	47	12	5	6	70	3.2
Ditching	1	0	0	1	2	0.1
Dragged wing, rotor, pod, or float	10	1	1	0	12	0.5
Fire/explosion	0	0	0	3	3	0.1
Fire	13	4	1	3	21	1.0
Explosion	1	0	0	1	2	0.1
Forced landing	4	2	1	0	7	0.3
Gear collapsed	7	1	0	0	8	0.4
Main gear collapsed	11	3	0	0	14	0.6
Nose gear collapsed	15	1	0	0	16	0.7
Complete gear collapsed	5	0	0	0	5	0.2
Gear not extended	3	0	0	0	3	0.1
Hard landing	74	11	6	1	92	4.2
Hazardous materials leak/spill (fumes/smoke)	1	0	0	0	1	0.0
In flight collision with object	57	23	35	43	158	7.2
In flight collision with terrain	55	28	26	49	158	7.2
In flight encounter with weather	26	9	18	83	136	6.2
Loss of control - in flight	122	45	45	102	314	14.3
Loss of control - on ground	208	22	1	1	232	10.5
Midair collision	17	0	0	18	35	1.6
Nose down	1	0	0	0	1	0.0
Nose over	42	5	1	0	48	2.2
On ground collision with object	57	13	8	2	80	3.6
On ground collision with terrain	57	7	1	0	65	3.0
On ground encounter with weather	11	1	1	1	14	0.6
Overrun	48	15	0	2	65	3.0
Loss of power	69	17	12	10	108	4.9
Loss of power(total) - mech failure/malfunction	63	25	10	9	107	4.9
Loss of power(partial) - mech failure/malfunction	30	10	3	4	47	2.1
Loss of power(total) - non-mechanical	143	64	38	14	259	11.8
Loss of power(partial) - non-mechanical	16	10	4	1	31	1.4
Propeller blast or jet exhaust/suction	1	0	0	0	1	0.0

(Con't)

Table 42 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY (Continued)
 FIXED WING AIRCRAFT - SINGLE RECIPROCATING ENGINE
 1985

Type of first occurrence	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Propeller/rotor contact	0	0	4	1	5	0.2
Roll over	0	1	0	0	1	0.0
Undershoot	22	7	0	1	30	1.4
Undetermined	1	0	0	1	2	0.1
Vortex turbulence encountered	2	2	1	1	6	0.3
Missing aircraft	0	0	0	7	7	0.3
Miscellaneous/other	11	2	2	3	18	0.8
Aircraft						
Number -	1258	344	226	375	2203	
Percent -	57.1	15.6	10.3	17.0		

Table 43 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
FIXED WING AIRCRAFT - SINGLE RECIPROCATING ENGINE
1985

Phase of operation	Aircraft damage				Aircraft	
	None	Minor	Subs	Dest	No.	Percent
Standing	1	0	0	1	2	0.1
Standing - pre-flight	0	0	1	0	1	0.0
Standing - starting engine(s)	1	0	4	1	6	0.3
Standing - engine(s) operating	3	1	2	0	6	0.3
Taxi	0	1	8	0	9	0.4
Taxi - to takeoff	0	0	17	0	17	0.8
Taxi - from landing	0	2	24	1	27	1.2
Takeoff	0	1	24	6	31	1.4
Takeoff - ground run	0	2	99	8	109	4.9
Takeoff - initial climb	1	0	197	96	294	13.3
Climb	0	1	13	8	22	1.0
Climb - to cruise	0	0	23	18	41	1.9
Cruise	0	0	66	37	103	4.7
Cruise - normal	0	0	147	86	233	10.6
Descent	0	0	6	12	18	0.8
Descent - normal	0	0	36	9	45	2.0
Descent - emergency	0	0	10	1	11	0.5
Descent - uncontrolled	1	0	20	32	53	2.4
Approach	0	0	25	6	31	1.4
Approach - VFR pattern - downwind	0	0	16	5	21	1.0
Approach - VFR pattern - base turn	0	0	7	4	11	0.5
Approach - VFR pattern - base to final	1	0	12	5	18	0.8
Approach - VFR pattern - final approach	1	1	88	16	106	4.8
Approach - go-around (VFR)	0	1	37	20	58	2.6
Approach - IAF to FAF/outer marker (IFR)	0	0	2	2	4	0.2
Approach - FAF/outer marker to threshold (IFR)	0	0	2	4	6	0.3
Approach - circling(IFR)	0	0	0	2	2	0.1
Approach - missed approach (IFR)	0	0	0	3	3	0.1
Landing	0	1	43	13	57	2.6
Landing - flare/touchdown	1	1	208	15	225	10.2
Landing - roll	0	1	312	14	327	14.8
Maneuvering	1	0	76	109	186	8.4
Maneuvering - aerial application	0	1	37	23	61	2.8

(Con't)

Table 43 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE (Continued)
 FIXED WING AIRCRAFT - SINGLE RECIPROCATING ENGINE
 1985

Phase of operation	Aircraft damage				Aircraft	
	None	Minor	Subs	Dest	No.	Percent
Maneuvering - turn to reverse direction	0	0	14	11	25	1.1
Maneuvering - turn to landing area (emergency)	0	0	2	0	2	0.1
Hover	0	0	0	1	1	0.0
Other	0	0	0	5	5	0.2
Unknown	0	0	5	21	26	1.2
Aircraft						
Number -	11	14	1583	595	2203	
Percent -	0.5	0.6	71.9	27.0		

Table 44 - MOST PREVALENT DETAILED ACCIDENT CAUSES
FIXED WING AIRCRAFT - SINGLE RECIPROCATING ENGINE
1985

Detailed Cause -----	Number of Aircraft -----	Percent of Aircraft -----
Directional control - Not maintained - Pilot in command	256	11.6
Undetermined	136	6.2
Airspeed - Not maintained - Pilot in command	127	5.8
Judgement - Poor - Pilot in command	125	5.7
Preflight planning/preparation - Inadequate - Pilot in command	93	4.2
In-flight planning/decision - Improper - Pilot in command	87	3.9
Stall - Inadvertent - Pilot in command	75	3.4
Compensation for wind conditions - Inadequate - Pilot in command	70	3.2
Unsuitable terrain - Selected - Pilot in command	66	3.0
In-flight planning/decision - Poor - Pilot in command	65	2.9
Total Number of Aircraft:	2203	

Table 45 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
FIXED WING AIRCRAFT - SINGLE RECIPROCATING ENGINE
1975 - 1985

Year	Accidents	Fatal Accidents	Total	Fatalities
				Aboard Aircraft In This Category
1975	3305	514	972	949
1976	3319	510	899	887
1977	3383	542	996	987
1978	3440	544	1150	997
1979	3071	471	869	856
1980	2854	459	876	864
1981	2819	496	918	906
1982	2547	455	862	846
1983	2439	419	779	771
1984	2381	405	765	748
1985	2180	368	674	664

Accident Rate per 100,000 *
Aircraft Hours Flown

Year	Hours Flown	Total	Fatal
1975	22,881,000	14.44	2.24
1976	23,442,000	14.15	2.17
1977	23,798,000	14.21	2.27
1978	26,556,000	12.95	2.04
1979	29,128,000	10.54	1.62
1980	26,876,000	10.62	1.70
1981	26,347,000	10.70	1.88
1982	23,165,000	10.99	1.96
1983	22,152,000	11.01	1.89
1984	22,710,000	10.47	1.77
1985	21,926,000	9.93	1.67

* Suicide and sabotage accidents excluded from rates as follows :

Total - 1975 (1), 1976 (2), 1977 (1), 1978 (2), 1980 (1), 1982 (1), 1983 (1), 1984

Fatal - 1975 (1), 1976 (1), 1977 (1), 1978 (2), 1980 (1), 1984 (2), 1985 (1)

Table 46 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
FIXED WING AIRCRAFT - SINGLE RECIPROCATING ENGINE
1985 AND 1980 - 1984

Type of Occurrence	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Loss of power	552	25.1	685.0	26.0
Collision with object/terrain	464	21.1	551.4	20.9
Loss of control - on ground	232	10.5	328.2	12.5
Loss of control - in flight	314	14.3	328.0	12.5
Hard landing	92	4.2	160.6	6.1
Miscellaneous	91	4.1	133.0	5.1
Encounter with weather/turbulence	156	7.1	115.2	4.4
Airframe/component/system fail/malf	70	3.2	80.0	3.0
Undershoot	30	1.4	68.8	2.6
Nose over/down	49	2.2	61.8	2.3
Gear collapsed/retracted	43	2.0	40.6	1.5
Midair collision	35	1.6	34.0	1.3
(All other types)	75	3.4	45.8	1.7
Total	2203	100.0	2632.4	100.0

Table 47 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
FIXED WING AIRCRAFT - SINGLE RECIPROCATING ENGINE
1985 AND 1980 - 1984

Phase of Operation	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Landing	609	27.6	727.8	27.6
Takeoff	434	19.7	558.6	21.2
Cruise	336	15.3	413.8	15.7
Maneuvering	275	12.5	343.0	13.0
Approach	260	11.8	320.4	12.2
Descent	127	5.8	80.4	3.1
Taxi	53	2.4	77.0	2.9
Climb	63	2.9	60.8	2.3
Other	31	1.4	32.6	1.2
Standing	15	.7	17.0	.6
Not reported	0	.0	1.0	.0
Total	2203	100.0	2632.4	100.0

Table 48 - SUMMARY OF LOSSES
FIXED WING AIRCRAFT - MULTIPLE RECIPROCATING ENGINES
1983 - 1985

	1985	1984	1983
-----	-----	-----	-----
Accidents			

Fatal	68	74	74
Involved Serious Injury	21	28	22
Involved Minor Injury	19	22	22
Involved No Injury	121	133	125
-----	-----	-----	-----
Total	229	257	243
Fatalities			

Passenger	86	86	108
Crew	74	78	80
Other Persons	2	2	5
-----	-----	-----	-----
Total	162	166	193
Aircraft Damaged*			

Destroyed	97	102	104
Substantial	128	148	139
Minor	1	5	2
None	3	3	0
-----	-----	-----	-----
Total	229	258	245

* Number of Fixed Wing, Multiple Reciprocating Engine, General Aviation Aircraft

Table 49 - PERSONS ABOARD BY KIND OF FLYING AND DEGREE OF INJURY
FIXED WING AIRCRAFT - MULTIPLE RECIPROCATING ENGINES
1985

Kind of Flying	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Personal	85	22	22	155	284
Business	28	3	13	75	119
Corporate/Executive	15	3	6	23	47
Instructional	8	8	3	14	33
Other	24	4	10	26	64
Total	160	40	54	293	547
Percent	29.3	7.3	9.9	53.6	

Table 50 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
FIXED WING AIRCRAFT - MULTIPLE RECIPROCATING ENGINES
1985

Type of first occurrence	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Abrupt maneuver	1	0	0	0	1	0.4
Altitude deviation, uncontrolled	1	0	0	1	2	0.9
Airframe/component/system failure/malfunction	11	0	0	4	15	6.6
Dragged wing, rotor, pod, or float	0	1	0	1	2	0.9
Fire/explosion	1	0	0	0	1	0.4
Fire	5	0	2	1	8	3.5
Forced landing	1	0	0	1	2	0.9
Gear collapsed	4	0	0	0	4	1.7
Main gear collapsed	4	0	0	0	4	1.7
Nose gear collapsed	6	0	0	0	6	2.6
Complete gear collapsed	4	0	1	0	5	2.2
Gear not extended	5	0	0	0	5	2.2
Hard landing	9	2	0	0	11	4.8
In flight collision with object	2	1	1	7	11	4.8
In flight collision with terrain	12	1	2	9	24	10.5
In flight encounter with weather	3	0	1	18	22	9.6
Loss of control - in flight	8	1	2	6	17	7.4
Loss of control - on ground	8	2	0	0	10	4.4
Near collision between aircraft	0	0	1	0	1	0.4
On ground collision with object	5	0	0	0	5	2.2
On ground collision with terrain	4	0	0	0	4	1.7
On ground encounter with weather	0	0	0	1	1	0.4
Overrun	7	1	0	0	8	3.5
Loss of power	5	2	1	2	10	4.4
Loss of power(total) - mech failure/malfunction	2	1	1	1	5	2.2
Loss of power(partial) - mech failure/malfunction	1	1	1	0	3	1.3
Loss of power(total) - non-mechanical	8	2	4	4	18	7.9
Loss of power(partial) - non-mechanical	2	2	2	2	8	3.5
Propeller blast or jet exhaust/suction	0	0	0	1	1	0.4
Propeller/rotor contact	0	0	1	0	1	0.4
Undershoot	1	0	0	1	2	0.9
Missing aircraft	0	0	0	3	3	1.3
Miscellaneous/other	1	2	1	5	9	3.9
Aircraft						
Number -	121	19	21	68	229	
Percent -	52.8	8.3	9.2	29.7		

Table 51 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
FIXED WING AIRCRAFT - MULTIPLE RECIPROCATING ENGINES
1985

Phase of operation	Aircraft damage				Aircraft	
	None	Minor	Subs	Dest	No.	Percent
Standing	0	0	1	0	1	0.4
Standing - pre-flight	0	0	2	1	3	1.3
Standing - starting engine(s)	0	0	1	1	2	0.9
Standing - engine(s) operating	1	0	0	0	1	0.4
Taxi - to takeoff	0	0	2	1	3	1.3
Taxi - from landing	0	0	2	1	3	1.3
Takeoff	0	0	3	1	4	1.7
Takeoff - ground run	0	0	8	2	10	4.4
Takeoff - initial climb	0	0	13	13	26	11.4
Climb	0	0	0	3	3	1.3
Climb - to cruise	0	0	1	3	4	1.7
Cruise	0	0	4	9	13	5.7
Cruise - normal	0	0	11	9	20	8.7
Descent	0	0	1	0	1	0.4
Descent - normal	0	0	2	5	7	3.1
Descent - uncontrolled	0	0	2	2	4	1.7
Approach	0	0	2	7	9	3.9
Approach - VFR pattern - downwind	0	0	1	1	2	0.9
Approach - VFR pattern - base turn	0	0	1	2	3	1.3
Approach - VFR pattern - base to final	0	0	1	0	1	0.4
Approach - VFR pattern - final approach	0	0	4	4	8	3.5
Approach - go-around (VFR)	0	0	1	2	3	1.3
Approach - IAF to FAF/outer marker (IFR)	0	0	1	1	2	0.9
Approach - FAF/outer marker to threshold (IFR)	0	0	2	8	10	4.4
Approach - circling(IFR)	0	0	1	0	1	0.4
Approach - missed approach (IFR)	0	0	1	0	1	0.4
Landing	0	0	2	2	4	1.7
Landing - flare/touchdown	0	0	33	2	35	15.3
Landing - roll	0	1	24	2	27	11.8
Maneuvering	1	0	1	8	10	4.4
Other	0	0	0	2	2	0.9
Unknown	1	0	0	5	6	2.6
Aircraft						
Number -	3	1	128	97	229	
Percent -	1.3	0.4	55.9	42.4		

Table 52 - MOST PREVALENT DETAILED ACCIDENT CAUSES
FIXED WING AIRCRAFT - MULTIPLE RECIPROCATING ENGINES
1985

Detailed Cause -----	Number of Aircraft -----	Percent of Aircraft -----
Undetermined	15	6.6
Directional control - Not maintained - Pilot in command	12	5.2
Judgement - Poor - Pilot in command	11	4.8
Airspeed - Not maintained - Pilot in command	11	4.8
Clearance - Not maintained - Pilot in command	11	4.8
Proper altitude - Not maintained - Pilot in command	10	4.4
In-flight planning/decision - Improper - Pilot in command	9	3.9
Gear extension - Not performed - Pilot in command	7	3.1
Procedures/directives - Not followed - Pilot in command	7	3.1
Fluid, fuel - Exhaustion	6	2.6
Emergency procedure - Improper - Pilot in command	6	2.6
Wheels up landing - Inadvertent - Pilot in command	6	2.6
Total Number of Aircraft:	229	

Table 53 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
FIXED WING AIRCRAFT - MULTIPLE RECIPROCATING ENGINE
1975 - 1985

Year	Accidents	Fatal Accidents	Fatalities	
			Total	Aboard Aircraft In This Category
1975	312	84	208	208
1976	346	103	238	231
1977	324	73	173	166
1978	367	112	295	292
1979	358	108	258	247
1980	330	99	262	256
1981	289	94	220	218
1982	297	78	212	208
1983	243	74	193	188
1984	257	74	166	164
1985	229	68	162	160

Accident Rate per 100,000 *
Aircraft Hours Flown

Year	Hours Flown	Total	Fatal
1975	3,918,000	7.96	2.14
1976	4,085,000	8.42	2.52
1977	4,320,000	7.50	1.69
1978	4,496,000	8.16	2.49
1979	5,098,000	7.02	2.12
1980	4,491,000	7.35	2.20
1981	4,833,000	5.98	1.94
1982	4,026,000	7.35	1.94
1983	3,828,000	6.35	1.93
1984	3,853,000	6.67	1.92
1985	3,639,000	6.26	1.87

* Suicide and sabotage accidents excluded from rates as follows :
Total - 1976 (2), 1982 (1), 1985 (1)
Fatal - 1985 (1)

Table 54 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
FIXED WING AIRCRAFT - MULTIPLE RECIPROCATING ENGINES
1985 AND 1980 - 1984

Type of Occurrence	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Loss of power	44	19.2	76.0	26.7
Collision with object/terrain	49	21.4	67.6	23.8
Loss of control - in flight	17	7.4	27.2	9.6
Gear collapsed/retracted	19	8.3	26.4	9.3
Airframe/component/system fail/malf	15	6.6	14.6	5.1
Encounter with weather/turbulence	23	10.0	14.4	5.1
Loss of control - on ground	10	4.4	13.2	4.6
Hard landing	11	4.8	12.0	4.2
Miscellaneous	20	8.7	11.0	3.9
Undershoot	2	.9	6.4	2.3
Fire/explosion	9	3.9	5.6	2.0
Midair collision	0	.0	3.8	1.3
(All other types)	10	4.4	6.2	2.2
Total	229	100.0	284.4	100.0

Table 55 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
FIXED WING AIRCRAFT - MULTIPLE RECIPROCATING ENGINES
1985 AND 1980 - 1984

Phase of Operation	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Landing	66	28.8	78.8	27.7
Takeoff	40	17.5	57.4	20.2
Approach	40	17.5	52.8	18.6
Cruise	33	14.4	40.2	14.1
Descent	12	5.2	13.0	4.6
Maneuvering	10	4.4	11.8	4.1
Climb	7	3.1	11.0	3.9
Taxi	6	2.6	9.8	3.4
Other	8	3.5	6.6	2.3
Standing	7	3.1	2.8	1.0
Not reported	0	.0	.2	.1
Total	229	100.0	284.4	100.0

Table 56 - SUMMARY OF LOSSES
FIXED WING AIRCRAFT - TURBOPROP
1983 - 1985

	1985	1984	1983
	----	----	----
Accidents			

Fatal	17	12	10
Involved Serious Injury	2	3	1
Involved Minor Injury	4	5	3
Involved No Injury	23	26	19
	----	----	----
Total	46	46	33
 Fatalities			

Passenger	30	9	8
Crew	21	14	11
Other Persons	4	0	1
	----	----	----
Total	55	23	20
 Aircraft Damaged*			

Destroyed	22	15	10
Substantial	24	33	21
None	0	0	2
	----	----	----
Total	46	48	33

* Number of Turboprop General Aviation Airplanes

Table 57 - PERSONS ABOARD BY KIND OF FLYING AND DEGREE OF INJURY
FIXED WING AIRCRAFT - TURBOPROP
1985

Kind of Flying	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Personal	0	0	1	13	14
Business	15	1	19	39	74
Corporate/Executive	8	0	0	6	14
Aerial application	0	0	2	2	4
Instructional	3	0	2	7	12
Other	25	1	0	6	32
Total	51	2	24	73	150
Percent	34.0	1.3	16.0	48.7	

Table 58 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
FIXED WING AIRCRAFT - TURBOPROP
1985

Type of first occurrence	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Airframe/component/system failure/malfunction	4	0	0	0	4	8.7
Decompression	0	0	0	1	1	2.2
Dragged wing, rotor, pod, or float	1	0	0	0	1	2.2
Fire	1	0	0	0	1	2.2
Gear collapsed	2	0	0	0	2	4.3
Main gear collapsed	3	0	0	0	3	6.5
Complete gear collapsed	0	0	1	0	1	2.2
Hard landing	1	0	0	0	1	2.2
In flight collision with object	0	0	0	3	3	6.5
In flight collision with terrain	1	1	0	4	6	13.0
In flight encounter with weather	0	0	0	3	3	6.5
Loss of control - in flight	1	1	0	1	3	6.5
Loss of control - on ground	3	0	0	0	3	6.5
Midair collision	0	0	0	2	2	4.3
On ground collision with object	1	0	0	0	1	2.2
On ground collision with terrain	1	0	0	0	1	2.2
Overrun	0	0	1	1	2	4.3
Loss of power(total) - mech failure/malfunction	1	0	0	0	1	2.2
Loss of power(partial) - mech failure/malfunction	0	1	0	0	1	2.2
Loss of power(total) - non-mechanical	0	1	0	1	2	4.3
Undershoot	2	0	0	0	2	4.3
Missing aircraft	0	0	0	1	1	2.2
Miscellaneous/other	1	0	0	0	1	2.2
Aircraft						
Number -	23	4	2	17	46	
Percent -	50.0	8.7	4.3	37.0		

Table 59 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
FIXED WING AIRCRAFT - TURBOPROP
1985

Phase of operation	Aircraft damage		Aircraft	
	Subs	Dest	No.	Percent
Takeoff - ground run	2	0	2	4.3
Takeoff - initial climb	0	3	3	6.5
Climb - to cruise	0	1	1	2.2
Cruise	2	2	4	8.7
Descent	0	1	1	2.2
Descent - normal	0	2	2	4.3
Descent - uncontrolled	0	1	1	2.2
Approach	1	1	2	4.3
Approach - IAF to FAF/outer marker (IFR)	0	1	1	2.2
Approach - FAF/outer marker to threshold (IFR)	0	2	2	4.3
Approach - circling(IFR)	0	1	1	2.2
Landing	2	1	3	6.5
Landing - flare/touchdown	5	1	6	13.0
Landing - roll	9	1	10	21.7
Maneuvering	0	2	2	4.3
Maneuvering - aerial application	3	0	3	6.5
Unknown	0	2	2	4.3
Aircraft				
Number -	24	22	46	
Percent -	52.2	47.8		

Table 60 - MOST PREVALENT DETAILED ACCIDENT CAUSES
FIXED WING AIRCRAFT - TURBOPROP
1985

Detailed Cause -----	Number of Aircraft -----	Percent of Aircraft -----
Directional control - Not maintained - Pilot in command	6	13.0
In-flight planning/decision - Improper - Pilot in command	4	8.7
Airspeed - Not maintained - Pilot in command	4	8.7
IFR procedure - Improper - Pilot in command	3	6.5
Proper altitude - Not maintained - Pilot in command	3	6.5
Missed approach - Not performed - Pilot in command	3	6.5
Undetermined	3	6.5
Landing gear, main gear attachment - Fatigue	2	4.4
Became lost/disoriented - Inadvertent - Pilot in command	2	4.4
Judgement - Poor - Pilot in command	2	4.4
Clearance - Not maintained - Pilot in command	2	4.4
Total Number of Aircraft:	46	

Table 61 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
FIXED WING AIRCRAFT - TURBOPROP
1975 - 1985

Year	Accidents	Fatal Accidents	Fatalities	
			Total	Aboard Aircraft In This Category
1975	16	10	35	35
1976	22	8	19	18
1977	29	14	61	59
1978	28	11	32	31
1979	42	14	31	30
1980	41	11	38	35
1981	49	17	61	48
1982	38	9	37	33
1983	33	10	20	19
1984	46	12	23	23
1985	46	17	55	51

Year	Hours Flown	Accident Rate per 100,000 Aircraft Hours Flown	
		Total	Fatal
1975	900,000	1.78	1.11
1976	901,000	2.44	0.89
1977	1,093,000	2.65	1.28
1978	1,056,000	2.65	1.04
1979	1,375,000	3.05	1.02
1980	1,524,000	2.69	0.72
1981	1,606,000	3.05	1.06
1982	1,515,000	2.51	0.59
1983	1,460,000	2.26	0.68
1984	1,689,000	2.72	0.71
1985	1,418,000	3.24	1.20

Table 62 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
FIXED WING AIRCRAFT - TURBOPROP
1985 AND 1980 - 1984

Type of Occurrence	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Collision with object/terrain	11	23.9	9.8	23.4
Loss of power	4	8.7	6.4	15.3
Loss of control - on ground	3	6.5	5.4	12.9
Loss of control - in flight	3	6.5	4.2	10.0
Airframe/component/system fail/malf	4	8.7	3.2	7.7
Gear collapsed/retracted	6	13.0	2.6	6.2
Hard landing	1	2.2	2.4	5.7
Miscellaneous	4	8.7	2.2	5.3
Midair collision	2	4.3	1.8	4.3
Encounter with weather/turbulence	3	6.5	1.6	3.8
Prop/rotor contact	0	.0	1.0	2.4
Undershoot	2	4.3	.8	1.9
(All other types)	3	6.5	.4	1.0
Total	46	100.0	41.8	100.0

Table 63 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
FIXED WING AIRCRAFT - TURBOPROP
1985 AND 1980 - 1984

Phase of Operation	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Landing	19	41.3	14.0	33.5
Takeoff	5	10.9	6.8	16.3
Cruise	4	8.7	5.6	13.4
Maneuvering	5	10.9	5.0	12.0
Approach	6	13.0	4.6	11.0
Descent	4	8.7	2.8	6.7
Climb	1	2.2	1.4	3.3
Standing	0	.0	1.0	2.4
Other	2	4.3	.4	1.0
Taxi	0	.0	.2	.5
Total	46	100.0	41.8	100.0

Table 64 - SUMMARY OF LOSSES
FIXED WING AIRCRAFT - TURBOJET
1983 - 1985

	1985	1984	1983
	----	----	----
Accidents			

Fatal	5	5	4
Involved Serious Injury	1	1	2
Involved Minor Injury	2	0	2
Involved No Injury	7	8	6
	----	----	----
Total	15	14	14
Fatalities			

Passenger	2	7	2
Crew	8	8	4
Other Persons	5	0	9
	----	----	----
Total	15	15	15
Aircraft Damaged*			

Destroyed	6	6	6
Substantial	9	7	9
Minor	0	1	0
	----	----	----
Total	15	14	15

* Number of Turbojet General Aviation Airplanes

Table 65 - PERSONS ABOARD BY KIND OF FLYING AND DEGREE OF INJURY
FIXED WING AIRCRAFT - TURBOJET
1985

Kind of Flying	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Personal	0	0	0	11	11
Business	1	6	7	0	14
Corporate/Executive	4	1	0	12	17
Instructional	3	0	0	0	3
Other	2	0	2	5	9
Total	10	7	9	28	54
Percent	18.5	13.0	16.7	51.9	

Table 66 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
FIXED WING AIRCRAFT - TURBOJET
1985

Type of first occurrence	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Airframe/component/system failure/malfunction	0	1	0	0	1	6.7
Gear collapsed	1	0	0	0	1	6.7
Nose gear collapsed	1	0	0	0	1	6.7
In flight collision with terrain	0	0	0	1	1	6.7
Loss of control - in flight	0	0	0	1	1	6.7
Midair collision	0	0	0	2	2	13.3
On ground collision with terrain	2	0	1	0	3	20.0
Overrun	2	0	0	0	2	13.3
Loss of power(total) - mech failure/malfunction	0	0	0	1	1	6.7
Undershoot	1	1	0	0	2	13.3
Aircraft						
Number -	7	2	1	5	15	
Percent -	46.7	13.3	6.7	33.3		

Table 67 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
FIXED WING AIRCRAFT - TURBOJET
1985

Phase of operation	Aircraft damage		Aircraft	
	Subs	Dest	No.	Percent
Takeoff - initial climb	0	1	1	6.7
Approach - VFR pattern - downwind	0	1	1	6.7
Approach - VFR pattern - final approach	0	1	1	6.7
Approach - go-around (VFR)	0	1	1	6.7
Approach - FAF/outer marker to threshold (IFR)	0	1	1	6.7
Approach - missed approach (IFR)	1	0	1	6.7
Landing - flare/touchdown	1	1	2	13.3
Landing - roll	7	0	7	46.7
Aircraft				
Number -	9	6	15	
Percent -	60.0	40.0		

Table 68 - MOST PREVALENT DETAILED ACCIDENT CAUSES
FIXED WING AIRCRAFT - TURBOJET
1985

Detailed Cause -----	Number of Aircraft -----	Percent of Aircraft -----
Landing gear, anti-skid brake system - Failure, partial	2	13.3
Hydraulic system, line - Incorrect	1	6.7
Compressor assembly, forward fan - Failure, total	1	6.7
Compressor assembly, forward fan - Fatigue	1	6.7
Compressor assembly, forward fan - Separation	1	6.7
Aircraft performance, hydroplaning condition - Water	1	6.7
Airport facilities, runway/landing area condition - Foreign substance covered	1	6.7
Terrain condition - Downhill	1	6.7
Terrain condition - Rough/uneven	1	6.7
Terrain condition - Wet	1	6.7
Brakes(normal) - Delayed - Pilot in command	1	6.7
Brakes(emergency) - Improper use of - Pilot in command	1	6.7
Reversers - Not used - Pilot in command	1	6.7
Flight and navigation instruments - Improper use of - Pilot in command	1	6.7
Planning-decision - Inadequate - Pilot in command	1	6.7
In-flight planning/decision - Improper - Pilot in command	1	6.7
Visual lookout - Inadequate - Pilot in command	1	6.7
Visual lookout - Inadequate - Pilot of other aircraft	1	6.7
IFR procedure - Improper - Pilot in command	1	6.7
Judgement - Poor - Pilot in command	1	6.7
Planned approach - Improper - Pilot in command	1	6.7
Maintenance, installation - Improper - Company maintenance psnl	1	6.7
Runway maintenance - Inadequate - Airport personnel	1	6.7
Aborted takeoff - Delayed - Pilot in command	1	6.7
Airspeed - Excessive - Pilot in command	1	6.7
Airspeed - Misjudged - Pilot in command	1	6.7
Distance - Misjudged - Pilot in command	1	6.7
Proper descent rate - Uncontrolled - Pilot in command	1	6.7
Proper touchdown point - Exceeded - Pilot in command	1	6.7
Ground loop/swerve - Not corrected - Pilot in command	1	6.7
Directional control - Not corrected - Pilot in command(CFI)	1	6.7
Directional control - Poor - Pilot in command	1	6.7
Remedial action - Delayed - Pilot in command	1	6.7
Remedial action - Improper - Copilot	1	6.7
Remedial action - Not performed - Pilot in command(CFI)	1	6.7
Information - Not identified - Airport personnel	1	6.7
Unsafe/hazardous condition warning - Not issued - Airport personnel	1	6.7
Undetermined	1	6.7
Airman - Company/operator mgmt	1	6.7
Total Number of Aircraft:	15	

Table 69 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
FIXED WING AIRCRAFT - TURBOJET
1975 - 1985

Year	Accidents	Fatal Accidents	Fatalities	
			Total	Aboard Aircraft In This Category
1975	13	1	1	1
1976	13	5	19	18
1977	13	5	18	18
1978	20	5	17	15
1979	13	3	9	9
1980	12	3	7	7
1981	7	4	17	17
1982	10	2	7	7
1983	14	4	15	6
1984	14	5	15	15
1985	15	5	15	10

Year	Hours Flown	Accident Rate per 100,000 Aircraft Hours Flown	
		Total	Fatal
1975	687,000	1.89	0.15
1976	752,000	1.73	0.66
1977	943,000	1.38	0.53
1978	1,061,000	1.89	0.47
1979	1,120,000	1.16	0.27
1980	1,244,000	0.96	0.24
1981	1,318,000	0.53	0.30
1982	1,349,000	0.74	0.15
1983	1,452,000	0.96	0.28
1984	1,303,000	1.07	0.38
1985	1,488,000	1.01	0.34

Table 70 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
FIXED WING AIRCRAFT - TURBOJET
1985 AND 1980 - 1984

Type of Occurrence	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Collision with object/terrain	4	26.7	3.2	27.6
Loss of control - in flight	1	6.7	2.0	17.2
Miscellaneous	2	13.3	1.8	15.5
Airframe/component/system fail/malf	1	6.7	.8	6.9
Encounter with weather/turbulence	0	.0	.8	6.9
Hard landing	0	.0	.8	6.9
Loss of control - on ground	0	.0	.8	6.9
Undershoot	2	13.3	.6	5.2
Midair collision	2	13.3	.4	3.4
Fire/explosion	0	.0	.2	1.7
Loss of power	1	6.7	.2	1.7
(All other types)	2	13.3	.0	.0
Total	15	100.0	11.6	100.0

Table 71 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
FIXED WING AIRCRAFT - TURBOJET
1985 AND 1980 - 1984

Phase of Operation	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Landing	9	60.0	4.0	34.5
Approach	5	33.3	2.2	19.0
Takeoff	1	6.7	2.0	17.2
Cruise	0	.0	1.0	8.6
Descent	0	.0	.8	6.9
Maneuvering	0	.0	.6	5.2
Taxi	0	.0	.4	3.4
Climb	0	.0	.4	3.4
Standing	0	.0	.2	1.7
Total	15	100.0	11.6	100.0

Table 72 - SUMMARY OF LOSSES
ALL ROTORCRAFT
1983 - 1985

	1985	1984	1983
	----	----	----
Accidents			

Fatal	36	38	37
Involved Serious Injury	34	30	30
Involved Minor Injury	33	47	33
Involved No Injury	103	109	138
	----	----	----
Total	206	224	238
Fatalities			

Passenger	14	25	16
Crew	33	34	40
Other Persons	3	2	2
	----	----	----
Total	50	61	58
Aircraft Damaged*			

Destroyed	61	70	69
Substantial	139	150	167
Minor	4	1	0
None	2	3	2
	----	----	----
Total	206	224	238

* Number of General Aviation Rotorcraft

Table 73 - PERSONS BY ROLE AND DEGREE OF INJURY
ALL ROTORCRAFT
1985

Role of Person	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Pilot	30	28	34	114	206
Copilot	2	1	3	3	9
Dual student	1	1	4	13	19
Other crew	0	3	1	4	8
Passenger	14	20	36	57	127
Total aboard	47	53	78	191	369
Other aircraft*	2	1	0	3	6
Other ground	1	1	0	0	2
Grand total	50	55	78	194	377
Percent	13.3	14.6	20.7	51.5	

* 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 74 - PERSONS ABOARD BY KIND OF FLYING AND DEGREE OF INJURY
ALL ROTORCRAFT
1985

Kind of Flying	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Personal	9	24	9	45	87
Business	10	7	12	28	57
Corporate/Executive	0	0	7	11	18
Aerial application	1	3	7	27	38
Instructional	3	3	6	36	48
Other	24	16	37	44	121
Total	47	53	78	191	369
Percent	12.7	14.4	21.1	51.8	

Table 75 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
ALL ROTORCRAFT
1985

Type of first occurrence	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Abrupt maneuver	1	0	0	1	2	1.0
Altitude deviation, uncontrolled	1	0	1	0	2	1.0
Airframe/component/system failure/malfunction	5	2	1	7	15	7.3
Dragged wing, rotor, pod, or float	1	0	0	0	1	0.5
Fire	3	0	0	0	3	1.5
Forced landing	1	0	0	0	1	0.5
Gear collapsed	1	0	0	0	1	0.5
Main gear collapsed	0	1	0	0	1	0.5
Complete gear collapsed	0	0	1	0	1	0.5
Hard landing	5	1	1	1	8	3.9
In flight collision with object	9	6	5	6	26	12.6
In flight collision with terrain	7	2	2	4	15	7.3
In flight encounter with weather	1	2	2	3	8	3.9
Loss of control - in flight	13	4	4	2	23	11.2
Loss of control - on ground	4	0	0	0	4	1.9
Midair collision	0	0	0	1	1	0.5
On ground collision with terrain	2	2	0	0	4	1.9
On ground encounter with weather	0	1	0	0	1	0.5
Loss of power	9	3	3	1	16	7.8
Loss of power(total) - mech failure/malfunction	8	3	4	1	16	7.8
Loss of power(partial) - mech failure/malfunction	8	2	1	1	12	5.8
Loss of power(total) - non-mechanical	11	2	3	2	18	8.7
Loss of power(partial) - non-mechanical	4	1	2	0	7	3.4
Propeller/rotor contact	3	1	0	2	6	2.9
Roll over	4	0	2	3	9	4.4
Miscellaneous/other	2	0	2	1	5	2.4
Aircraft						
Number -	103	33	34	36	206	
Percent -	50.0	16.0	16.5	17.5		

Table 76 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
ALL ROTORCRAFT
1985

Phase of operation	Aircraft damage				Aircraft	
	None	Minor	Subs	Dest	No.	Percent
Standing - pre-flight	0	0	0	1	1	0.5
Standing - engine(s) operating	0	1	3	1	5	2.4
Standing - idling rotors	0	0	2	0	2	1.0
Taxi - to takeoff	0	0	1	0	1	0.5
Taxi - aerial	0	1	1	1	3	1.5
Takeoff	0	0	7	1	8	3.9
Takeoff - ground run	0	0	3	0	3	1.5
Takeoff - initial climb	0	1	8	6	15	7.3
Climb	0	0	2	1	3	1.5
Climb - to cruise	0	0	1	1	2	1.0
Cruise	0	0	8	6	14	6.8
Cruise - normal	0	0	17	7	24	11.7
Descent - normal	0	0	1	0	1	0.5
Descent - uncontrolled	0	0	2	3	5	2.4
Approach	0	0	5	2	7	3.4
Approach - VFR pattern - downwind	0	0	0	1	1	0.5
Approach - VFR pattern - base turn	0	0	0	2	2	1.0
Approach - VFR pattern - final approach	0	0	2	0	2	1.0
Landing	0	0	5	0	5	2.4
Landing - flare/touchdown	1	0	21	8	30	14.6
Landing - roll	0	0	2	0	2	1.0
Maneuvering	0	0	14	7	21	10.2
Maneuvering - aerial application	0	0	15	3	18	8.7
Maneuvering - turn to reverse direction	0	0	1	2	3	1.5
Maneuvering - turn to landing area (emergency)	0	0	1	0	1	0.5
Hover	1	1	16	7	25	12.1
Other	0	0	1	0	1	0.5
Unknown	0	0	0	1	1	0.5
Aircraft						
Number -	2	4	139	61	206	
Percent -	1.0	1.9	67.5	29.6		

Table 77 - AIRCRAFT BY CONDITION OF LIGHT AND TYPE OF WEATHER
ALL ROTORCRAFT
1985

Condition of light	Type of weather			Aircraft	
	VMC	IMC	Not reptd	No.	Percent
Dawn	4	0	0	4	1.9
Daylight	181	6	2	189	91.7
Night (dark)	3	4	1	8	3.9
Night (bright)	2	0	0	2	1.0
Dusk	3	0	0	3	1.5
Aircraft					
Number -	193	10	3	206	
Percent -	93.7	4.9	1.5		

Table 78 - AIRCRAFT BY PROXIMITY TO AIRPORT AND FLIGHT PLAN
ALL ROTORCRAFT
1985

Proximity to Airport	Type of Flight Plan		Aircraft	
	VFR	None	No.	Percent
On airport	2	47	49	23.8
On airstrip	2	6	8	3.9
Within 5 SM	1	8	9	4.4
5 SM Or greater	0	8	8	3.9
Not Reported	10	122	132	64.1
Aircraft				
Number -	15	191	206	
Percent -	7.3	92.7		

Table 79 - MOST PREVALENT DETAILED ACCIDENT CAUSES
ALL ROTORCRAFT
1985

----- Detailed Cause -----	----- Number of Aircraft -----	----- Percent of Aircraft -----
Undetermined	11	5.3
Directional control - Not maintained - Pilot in command	10	4.9
Airplane handling - Improper - Pilot in command	9	4.4
Fuel supply - Inadequate - Pilot in command	8	3.9
Preflight planning/preparation - Inadequate - Pilot in command	8	3.9
Visual lookout - Inadequate - Pilot in command	8	3.9
Judgement - Poor - Pilot in command	8	3.9
Clearance - Not maintained - Pilot in command	8	3.9
Airplane handling - Not maintained - Pilot in command	7	3.4
Fluid, fuel - Exhaustion	6	2.9
Total Number of Aircraft:	206	

Table 80 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
ALL ROTORCRAFT
1975 - 1985

Year	Accidents	Fatal Accidents	Total	Fatalities
				Aboard Aircraft In This Category
1975	264	18	30	28
1976	248	25	38	38
1977	246	22	28	25
1978	283	39	56	48
1979	265	33	56	51
1980	261	40	60	57
1981	257	30	55	52
1982	255	41	66	62
1983	238	37	58	56
1984	224	38	61	59
1985	206	36	50	47

Accident Rate per 100,000 *
Aircraft Hours Flown

Year	Hours Flown	Total	Fatal
1975	974,000	27.10	1.85
1976	1,103,000	22.48	2.27
1977	1,170,000	21.03	1.88
1978	1,397,000	20.26	2.79
1979	1,522,000	17.41	2.17
1980	1,891,000	13.80	2.12
1981	2,303,000	11.16	1.30
1982	1,628,000	15.60	2.52
1983	1,709,000	13.93	2.17
1984	1,599,000	14.01	2.38
1985	1,706,000	12.08	2.11

* Suicide and sabotage accidents excluded from rates as follows :
Total - 1982 (1)
Fatal - None

Table 81 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
ALL ROTORCRAFT
1985 AND 1980 - 1984

Type of Occurrence	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Loss of power	69	33.5	78.6	31.8
Collision with object/terrain	45	21.8	56.2	22.7
Airframe/component/system fail/malf	15	7.3	35.2	14.2
Loss of control - in flight	23	11.2	28.6	11.6
Hard landing	8	3.9	16.6	6.7
Roll over	9	4.4	11.6	4.7
Encounter with weather/turbulence	9	4.4	6.2	2.5
Miscellaneous	6	2.9	4.4	1.8
(All other types)	22	10.7	9.8	4.0
Total	206	100.0	247.2	100.0

Table 82 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
ALL ROTORCRAFT
1985 AND 1980 - 1984

Phase of Operation	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Maneuvering	68	33.0	79.0	32.0
Cruise	38	18.4	53.8	21.8
Takeoff	26	12.6	40.2	16.3
Landing	37	18.0	37.6	15.2
Approach	12	5.8	14.4	5.8
Taxi	4	1.9	6.8	2.8
Descent	6	2.9	5.8	2.3
Climb	5	2.4	4.0	1.6
Standing	8	3.9	3.8	1.5
Other	2	1.0	1.8	.7
Total	206	100.0	247.2	100.0

Table 83 - BROAD CAUSE/FACTOR ASSIGNMENTS IN ALL ACCIDENTS
ALL ROTORCRAFT
1985 AND 1980 - 1984

Broad Cause/Factor -----	1985 -----		1980 - 1984 -----	
	No.	Percent	Mean	Percent
Pilot	151	73.3	170.8	69.1
Powerplant	57	27.7	59.8	24.2
Terrain	47	22.8	58.6	23.7
Miscellaneous	42	20.4	42.0	17.0
Weather	25	12.1	40.0	16.2
Rotorcraft	24	11.7	37.0	15.0
Personnel	36	17.5	32.0	12.9
Undetermined	11	5.3	21.8	8.8
Systems	4	1.9	3.8	1.5
Landing Gear	4	1.9	3.4	1.4
Airframe	4	1.9	2.8	1.1
Instruments/Equipment/Accessories	2	1.0	2.8	1.1
Airport/Airways/Facilities	3	1.5	1.6	.6
Number of Aircraft	206		247.2	

Table 84 - SUMMARY OF LOSSES
 ROTORCRAFT - RECIPROCATING ENGINE(S)
 1983 - 1985

	1985	1984	1983
	----	----	----
Accidents			

Fatal	12	22	20
Involved Serious Injury	17	17	16
Involved Minor Injury	18	25	21
Involved No Injury	72	64	86
	----	----	----
Total	119	128	143
Fatalities			

Passenger	1	8	2
Crew	12	20	23
Other Persons	1	1	0
	----	----	----
Total	14	29	25
Aircraft Damaged*			

Destroyed	27	44	37
Substantial	90	81	106
Minor	2	1	0
None	0	2	0
	----	----	----
Total	119	128	143

* Number of Reciprocating Engine, General Aviation Rotorcraft

Table 85 - PERSONS ABOARD BY KIND OF FLYING AND DEGREE OF INJURY
 ROTORCRAFT - RECIPROCATING ENGINE(S)
 1985

Kind of Flying	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Personal	6	9	6	37	58
Business	0	2	6	11	19
Aerial application	1	1	6	21	29
Instructional	3	3	6	34	46
Other	3	5	7	17	32
Total	13	20	31	120	184
Percent	7.1	10.9	16.8	65.2	

Table 86 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
 ROTORCRAFT - RECIPROCATING ENGINE(S)
 1985

Type of first occurrence	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Abrupt maneuver	1	0	0	1	2	1.7
Altitude deviation, uncontrolled	1	0	1	0	2	1.7
Airframe/component/system failure/malfunction	3	1	1	3	8	6.7
Dragged wing, rotor, pod, or float	1	0	0	0	1	0.8
Fire	2	0	0	0	2	1.7
Forced landing	1	0	0	0	1	0.8
Gear collapsed	1	0	0	0	1	0.8
Hard landing	4	0	1	0	5	4.2
In flight collision with object	7	5	2	0	14	11.8
In flight collision with terrain	5	1	0	2	8	6.7
In flight encounter with weather	1	0	1	0	2	1.7
Loss of control - in flight	12	2	2	1	17	14.3
Loss of control - on ground	2	0	0	0	2	1.7
On ground collision with terrain	2	1	0	0	3	2.5
Loss of power	5	3	2	1	11	9.2
Loss of power(total) - mech failure/malfunction	5	2	1	0	8	6.7
Loss of power(partial) - mech failure/malfunction	4	0	0	0	4	3.4
Loss of power(total) - non-mechanical	6	2	3	1	12	10.1
Loss of power(partial) - non-mechanical	1	0	1	0	2	1.7
Propeller/rotor contact	2	1	0	1	4	3.4
Roll over	4	0	1	2	7	5.9
Miscellaneous/other	2	0	1	0	3	2.5
Aircraft						
Number -	72	18	17	12	119	
Percent -	60.5	15.1	14.3	10.1		

Table 87 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
 ROTORCRAFT - RECIPROCATING ENGINE(S)
 1985

Phase of operation	Aircraft damage			Aircraft	
	Minor	Subs	Dest	No.	Percent
Standing - engine(s) operating	0	3	1	4	3.4
Taxi - to takeoff	0	1	0	1	0.8
Taxi - aerial	1	1	1	3	2.5
Takeoff	0	4	0	4	3.4
Takeoff - ground run	0	2	0	2	1.7
Takeoff - initial climb	0	7	2	9	7.6
Climb	0	1	0	1	0.8
Cruise	0	3	3	6	5.0
Cruise - normal	0	6	3	9	7.6
Descent - normal	0	1	0	1	0.8
Descent - uncontrolled	0	2	2	4	3.4
Approach	0	3	1	4	3.4
Approach - VFR pattern - base turn	0	0	1	1	0.8
Approach - VFR pattern - final approach	0	1	0	1	0.8
Landing	0	3	0	3	2.5
Landing - flare/touchdown	0	15	4	19	16.0
Landing - roll	0	1	0	1	0.8
Maneuvering	0	10	2	12	10.1
Maneuvering - aerial application	0	12	3	15	12.6
Maneuvering - turn to reverse direction	0	0	1	1	0.8
Maneuvering - turn to landing area (emergency)	0	1	0	1	0.8
Hover	1	12	3	16	13.4
Other	0	1	0	1	0.8
Aircraft					
Number -	2	90	27	119	
Percent -	1.7	75.6	22.7		

Table 88 - MOST PREVALENT DETAILED ACCIDENT CAUSES
 ROTORCRAFT - RECIPROCATING ENGINE(S)
 1985

----- Detailed Cause -----	----- Number of Aircraft -----	----- Percent of Aircraft -----
Airplane handling - Improper - Pilot in command	9	7.6
Undetermined	9	7.6
Directional control - Not maintained - Pilot in command	7	5.9
Judgement - Poor - Pilot in command	6	5.0
Airplane handling - Not maintained - Pilot in command	6	5.0
Fuel supply - Inadequate - Pilot in command	5	4.2
Clearance - Not maintained - Pilot in command	5	4.2
Supervision - Inadequate - Pilot in command(CFI)	4	3.4
Fluid, fuel - Exhaustion	3	2.5
Preflight planning/preparation - Inadequate - Pilot in command	3	2.5
In-flight planning/decision - Poor - Pilot in command	3	2.5
Visual lookout - Inadequate - Pilot in command	3	2.5
Altitude - Inadequate - Pilot in command	3	2.5
Maneuver - Excessive - Pilot in command	3	2.5
Rotor rpm - Not maintained - Pilot in command	3	2.5
Rotor rpm - Not maintained - Dual student	3	2.5
Total Number of Aircraft:	119	

Table 89 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
 ROTORCRAFT - RECIPROCATING ENGINE(S)
 1975 - 1985

Year	Accidents	Fatal Accidents	Total	Fatalities
				Aboard Aircraft In This Category
1975	217	12	16	16
1976	209	17	24	24
1977	190	14	17	17
1978	223	28	40	33
1979	185	20	30	25
1980	181	22	25	24
1981	178	21	32	29
1982	157	20	24	24
1983	143	20	25	25
1984	128	22	29	28
1985	119	12	14	13

Accident Rate per 100,000 *
 Aircraft Hours Flown

Year	Hours Flown	Total	Fatal
1975	623,000	34.83	1.93
1976	680,000	30.74	2.50
1977	571,000	33.27	2.45
1978	766,000	29.11	3.66
1979	859,000	21.54	2.33
1980	719,000	25.17	3.06
1981	878,000	20.27	2.39
1982	570,000	27.37	3.51
1983	566,000	25.27	3.53
1984	578,000	22.15	3.81
1985	557,000	21.36	2.15

* Suicide and sabotage accidents excluded from rates as follows :
 Total - 1982 (1)
 Fatal - None

Table 90 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
 ROTORCRAFT - RECIPROCATING ENGINE(S)
 1985 AND 1980 - 1984

Type of Occurrence	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Loss of power	37	31.1	47.6	30.2
Collision with object/terrain	25	21.0	38.0	24.1
Airframe/component/system fail/malf	8	6.7	22.0	14.0
Loss of control - in flight	17	14.3	18.0	11.4
Hard landing	5	4.2	12.2	7.8
Roll over	7	5.9	8.2	5.2
Encounter with weather/turbulence	2	1.7	2.8	1.8
Miscellaneous	4	3.4	2.6	1.7
(All other types)	14	11.8	6.0	3.8
Total	119	100.0	157.4	100.0

Table 91 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
 ROTORCRAFT - RECIPROCATING ENGINE(S)
 1985 AND 1980 - 1984

Phase of Operation	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Maneuvering	45	37.8	55.0	34.9
Takeoff	15	12.6	27.4	17.4
Cruise	15	12.6	26.8	17.0
Landing	23	19.3	26.6	16.9
Approach	6	5.0	9.0	5.7
Taxi	4	3.4	5.0	3.2
Descent	5	4.2	3.6	2.3
Climb	1	.8	2.0	1.3
Standing	4	3.4	1.4	.9
Other	1	.8	.6	.4
Total	119	100.0	157.4	100.0

Table 92 - SUMMARY OF LOSSES
 ROTORCRAFT - TURBINE POWERED
 1983 - 1985

	1985	1984	1983
	----	----	----
Accidents			

Fatal	24	16	17
Involved Serious Injury	17	13	14
Involved Minor Injury	15	22	12
Involved No Injury	31	45	52
	----	----	----
Total	87	96	95
 Fatalities			

Passenger	13	17	14
Crew	21	14	17
Other Persons	2	1	2
	----	----	----
Total	36	32	33
 Aircraft Damaged*			

Destroyed	34	26	32
Substantial	49	69	61
Minor	2	0	0
None	2	1	2
	----	----	----
Total	87	96	95

* Number of Turbine Powered, General Aviation Rotorcraft

Table 93 - PERSONS ABOARD BY KIND OF FLYING AND DEGREE OF INJURY
 ROTORCRAFT - TURBINE POWERED
 1985

Kind of Flying	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Personal	3	15	3	8	29
Business	10	5	6	17	38
Corporate/Executive	0	0	7	11	18
Aerial application	0	2	1	6	9
Instructional	0	0	0	2	2
Other	21	11	30	27	89
Total	34	33	47	71	185
Percent	18.4	17.8	25.4	38.4	

Table 94 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
 ROTORCRAFT - TURBINE POWERED
 1985

Type of first occurrence	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Airframe/component/system failure/malfunction	2	1	0	4	7	8.0
Fire	1	0	0	0	1	1.1
Main gear collapsed	0	1	0	0	1	1.1
Complete gear collapsed	0	0	1	0	1	1.1
Hard landing	1	1	0	1	3	3.4
In flight collision with object	2	1	3	6	12	13.8
In flight collision with terrain	2	1	2	2	7	8.0
In flight encounter with weather	0	2	1	3	6	6.9
Loss of control - in flight	1	2	2	1	6	6.9
Loss of control - on ground	2	0	0	0	2	2.3
Midair collision	0	0	0	1	1	1.1
On ground collision with terrain	0	1	0	0	1	1.1
On ground encounter with weather	0	1	0	0	1	1.1
Loss of power	4	0	1	0	5	5.7
Loss of power(total) - mech failure/malfunction	3	1	3	1	8	9.2
Loss of power(partial) - mech failure/malfunction	4	2	1	1	8	9.2
Loss of power(total) - non-mechanical	5	0	0	1	6	6.9
Loss of power(partial) - non-mechanical	3	1	1	0	5	5.7
Propeller/rotor contact	1	0	0	1	2	2.3
Roll over	0	0	1	1	2	2.3
Miscellaneous/other	0	0	1	1	2	2.3
Aircraft						
Number -	31	15	17	24	87	
Percent -	35.6	17.2	19.5	27.6		

Table 95 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
 ROTORCRAFT, - TURBINE POWERED
 1985

Phase of operation	Aircraft damage				Aircraft	
	None	Minor	Subs	Dest	No.	Percent
Standing - pre-flight	0	0	0	1	1	1.1
Standing - engine(s) operating	0	1	0	0	1	1.1
Standing - idling rotors	0	0	2	0	2	2.3
Takeoff	0	0	3	1	4	4.6
Takeoff - ground run	0	0	1	0	1	1.1
Takeoff - initial climb	0	1	1	4	6	6.9
Climb	0	0	1	1	2	2.3
Climb - to cruise	0	0	1	1	2	2.3
Cruise	0	0	5	3	8	9.2
Cruise - normal	0	0	11	4	15	17.2
Descent - uncontrolled	0	0	0	1	1	1.1
Approach	0	0	2	1	3	3.4
Approach - VFR pattern - downwind	0	0	0	1	1	1.1
Approach - VFR pattern - base turn	0	0	0	1	1	1.1
Approach - VFR pattern - final approach	0	0	1	0	1	1.1
Landing	0	0	2	0	2	2.3
Landing - flare/touchdown	1	0	6	4	11	12.6
Landing - roll	0	0	1	0	1	1.1
Maneuvering	0	0	4	5	9	10.3
Maneuvering - aerial application	0	0	3	0	3	3.4
Maneuvering - turn to reverse direction	0	0	1	1	2	2.3
Hover	1	0	4	4	9	10.3
Unknown	0	0	0	1	1	1.1
Aircraft						
Number -	2	2	49	34	87	
Percent -	2.3	2.3	56.3	39.1		

Table 96 - MOST PREVALENT DETAILED ACCIDENT CAUSES
 ROTORCRAFT - TURBINE POWERED
 1985

Detailed Cause -----	Number of Aircraft -----	Percent of Aircraft -----
Preflight planning/preparation - Inadequate - Pilot in command	5	5.8
Visual lookout - Inadequate - Pilot in command	5	5.8
Fluid,fuel - Exhaustion	3	3.4
Fluid,fuel - Starvation	3	3.4
Aircraft performance - Exceeded	3	3.4
Fuel supply - Inadequate - Pilot in command	3	3.4
In-flight planning/decision - Improper - Pilot in command	3	3.4
VFR flight into IMC - Continued - Pilot in command	3	3.4
Maintenance,installation - Improper - Company maintenance psnl	3	3.4
Clearance - Not maintained - Pilot in command	3	3.4
Directional control - Not maintained - Pilot in command	3	3.4
Total Number of Aircraft:	87	

Table 97 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
 ROTORCRAFT - TURBINE POWERED
 1975 - 1985

Year	Accidents	Fatal Accidents	Fatalities	
			Total	Aboard Aircraft In This Category
1975	47	6	14	12
1976	39	8	14	14
1977	56	8	11	8
1978	60	11	16	15
1979	80	13	26	26
1980	80	18	35	33
1981	79	9	23	23
1982	98	21	42	38
1983	95	17	33	31
1984	96	16	32	31
1985	87	24	36	34

Accident Rate per 100,000
 Aircraft Hours Flown

Year	Hours Flown	Total	Fatal
1975	351,000	13.39	1.71
1976	423,000	9.22	1.89
1977	599,000	9.35	1.34
1978	631,000	9.51	1.74
1979	663,000	12.07	1.96
1980	1,172,000	6.83	1.54
1981	1,424,000	5.55	0.63
1982	1,061,000	9.24	1.98
1983	1,143,000	8.31	1.49
1984	1,021,000	9.40	1.57
1985	1,149,000	7.57	2.09

Table 98 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
 ROTORCRAFT - TURBINE POWERED
 1985 AND 1980 - 1984

Type of Occurrence	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Loss of power	32	36.8	31.0	34.5
Collision with object/terrain	20	23.0	18.2	20.3
Airframe/component/system fail/malf	7	8.0	13.2	14.7
Loss of control - in flight	6	6.9	10.6	11.8
Hard landing	3	3.4	4.4	4.9
Encounter with weather/turbulence	7	8.0	3.4	3.8
Roll over	2	2.3	3.4	3.8
Miscellaneous	2	2.3	1.8	2.0
Prop/rotor contact	2	2.3	1.0	1.1
(All other types)	6	6.9	2.8	3.1
Total	87	100.0	89.8	100.0

Table 99 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
 ROTORCRAFT - TURBINE POWERED
 1985 AND 1980 - 1984

Phase of Operation	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Cruise	23	26.4	27.0	30.1
Maneuvering	23	26.4	24.0	26.7
Takeoff	11	12.6	12.8	14.3
Landing	14	16.1	11.0	12.2
Approach	6	6.9	5.4	6.0
Standing	4	4.6	2.4	2.7
Descent	1	1.1	2.2	2.4
Climb	4	4.6	2.0	2.2
Taxi	0	.0	1.8	2.0
Other	1	1.1	1.2	1.3
Total	87	100.0	89.8	100.0

Table 100 - SUMMARY OF LOSSES
ALL GLIDERS
1983 - 1985

	1985	1984	1983
	----	----	----
Accidents			

Fatal	5	10	11
Involved Serious Injury	7	12	10
Involved Minor Injury	8	7	6
Involved No Injury	23	26	44
	----	----	----
Total	43	55	71
Fatalities			

Passenger	1	1	0
Crew	5	8	11
Other Persons	0	1	0
	----	----	----
Total	6	10	11
Aircraft Damaged*			

Destroyed	9	18	8
Substantial	34	36	62
Minor	0	3	1
None	0	0	1
	----	----	----
Total	43	57	72

* Number of General Aviation Gliders

Table 101 - PERSONS BY ROLE AND DEGREE OF INJURY
ALL GLIDERS
1985

Role of Person	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Pilot	5	7	7	24	43
Dual student	0	0	0	3	3
Passenger	1	0	3	5	9
Total aboard	6	7	10	32	55
Other aircraft*	0	0	0	1	1
Grand total	6	7	10	33	56
Percent	10.7	12.5	17.9	58.9	

* 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 102 - PERSONS ABOARD BY KIND OF FLYING AND DEGREE OF INJURY
ALL GLIDERS
1985

Kind of Flying	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Personal	5	6	9	20	40
Instructional	0	1	1	11	13
Other	1	0	0	1	2
Total	6	7	10	32	55
Percent	10.9	12.7	18.2	58.2	

Table 103 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
ALL GLIDERS
1985

Type of first occurrence	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Abrupt maneuver	0	1	0	0	1	2.3
Altitude deviation, uncontrolled	1	0	0	0	1	2.3
Airframe/component/system failure/malfunction	1	1	1	0	3	7.0
Dragged wing, rotor, pod, or float	3	0	1	0	4	9.3
Forced landing	3	1	1	0	5	11.6
Hard landing	2	0	0	0	2	4.7
In flight collision with object	2	2	0	0	4	9.3
In flight collision with terrain	1	1	0	2	4	9.3
In flight encounter with weather	2	0	1	0	3	7.0
Loss of control - in flight	1	0	3	3	7	16.3
Loss of control - on ground	1	0	0	0	1	2.3
On ground collision with object	1	0	0	0	1	2.3
On ground collision with terrain	1	0	0	0	1	2.3
Loss of power(partial) - mech failure/malfunction	1	0	0	0	1	2.3
Undershoot	2	2	0	0	4	9.3
Miscellaneous/other	1	0	0	0	1	2.3
Aircraft						
Number -	23	8	7	5	43	
Percent -	53.5	18.6	16.3	11.6		

Table 104 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
ALL GLIDERS
1985

Phase of operation	Aircraft damage		Aircraft	
	Subs	Dest	No.	Percent
Takeoff - ground run	2	0	2	4.7
Takeoff - initial climb	5	1	6	14.0
Climb	0	2	2	4.7
Climb - to cruise	1	0	1	2.3
Cruise	1	0	1	2.3
Descent	2	0	2	4.7
Descent - normal	2	0	2	4.7
Descent - uncontrolled	1	0	1	2.3
Approach	1	1	2	4.7
Approach - VFR pattern - base to final	1	0	1	2.3
Approach - VFR pattern - final approach	5	2	7	16.3
Approach - go-around (VFR)	1	1	2	4.7
Landing	3	0	3	7.0
Landing - flare/touchdown	5	0	5	11.6
Landing - roll	2	0	2	4.7
Maneuvering	1	0	1	2.3
Maneuvering - turn to landing area (emergency)	1	1	2	4.7
Unknown	0	1	1	2.3
Aircraft				
Number -	34	9	43	
Percent -	79.1	20.9		

Table 105 - AIRCRAFT BY CONDITION OF LIGHT AND TYPE OF WEATHER
ALL GLIDERS
1985

Condition of light	Type of Weather	Aircraft	
	VMC	No.	Percent
Daylight	43	43	100.0
Aircraft			
Number -	43	43	
Percent -	100.0		

Table 106 - AIRCRAFT BY PROXIMITY TO AIRPORT AND FLIGHT PLAN
ALL GLIDERS
1985

Proximity to Airport -----	Type of Flight Plan -----	Aircraft -----	
	None -----	No.	Percent -----
On airport	15	15	34.9
On airstrip	1	1	2.3
Within 5 SM	12	12	27.9
5 SM Or greater	4	4	9.3
Not Reported	11	11	25.6
Aircraft			
Number -	43	43	
Percent -	100.0		

Table 107 - MOST PREVALENT DETAILED ACCIDENT CAUSES
ALL GLIDERS
1985

Detailed Cause -----	Number of Aircraft -----	Percent of Aircraft -----
Airspeed - Not maintained - Pilot in command	5	11.6
Weather condition - Downdraft	3	7.0
Directional control - Not maintained - Pilot in command	3	7.0
Compensation for wind conditions - Inadequate - Pilot in command	2	4.6
Unsuitable terrain - Selected - Pilot in command	2	4.6
Planned approach - Improper - Pilot in command	2	4.6
Altitude - Misjudged - Pilot in command	2	4.6
Distance - Misjudged - Pilot in command	2	4.6
Clearance - Misjudged - Pilot in command	2	4.6
Flare - Improper - Pilot in command	2	4.6
Ground loop/swerve - Inadvertent - Pilot in command	2	4.6
Ground loop/swerve - Uncontrolled - Pilot in command	2	4.6
Directional control - Not possible - Pilot in command	2	4.6
Stall/spin - Inadvertent - Pilot in command	2	4.6
Undetermined	2	4.6
Total Number of Aircraft:	43	

Table 108 - ACCIDENTS, FATAL ACCIDENTS AND FATALITIES
ALL GLIDERS
1975 - 1985

Year	Accidents*	Fatal Accidents*	Fatalities	
			Total	Aboard Aircraft In This Category
1975	82	7	11	9
1976	64	8	9	8
1977	78	7	8	8
1978	66	10	14	10
1979	55	3	3	3
1980	62	7	7	7
1981	59	12	13	13
1982	51	6	6	5
1983	71	11	11	11
1984	55	10	10	9
1985	43	5	6	6

* The yearly accident counts include suicide and sabotage accidents as follows :

Total - 1975 (1) Fatal - 1975 (1)

Table 109 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
ALL GLIDERS
1985 AND 1980 - 1984

Type of Occurrence	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Collision with object/terrain	10	23.3	17.8	29.3
Loss of control - in flight	7	16.3	13.2	21.7
Undershoot	4	9.3	6.8	11.2
Miscellaneous	6	14.0	5.4	8.9
Hard landing	2	4.7	3.4	5.6
Loss of control - on ground	1	2.3	3.4	5.6
Airframe/component/system fail/malf	3	7.0	2.8	4.6
Encounter with weather/turbulence	3	7.0	2.8	4.6
Midair collision	0	.0	2.6	4.3
Loss of power	1	2.3	1.0	1.6
Dragged wing, rotor, pod, float	4	9.3	.8	1.3
(All other types)	2	4.7	.8	1.3
Total	43	100.0	60.8	100.0

Table 110 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
ALL GLIDERS
1985 AND 1980 - 1984

Phase of Operation	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Landing	10	23.3	18.2	29.9
Approach	12	27.9	15.4	25.3
Takeoff	8	18.6	11.0	18.1
Maneuvering	3	7.0	7.6	12.5
Cruise	1	2.3	5.4	8.9
Descent	5	11.6	1.6	2.6
Climb	3	7.0	1.0	1.6
Other	1	2.3	.4	.7
Taxi	0	.0	.2	.3
Total	43	100.0	60.8	100.0

Table 111 - BROAD CAUSE/FACTOR ASSIGNMENTS IN ALL ACCIDENTS
ALL GLIDERS
1985 AND 1980 - 1984

Broad Cause/Factor	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Pilot	38	88.4	55.4	91.1
Weather	12	27.9	21.8	35.9
Terrain	9	20.9	13.6	22.4
Miscellaneous	12	27.9	11.0	18.1
Personnel	1	2.3	5.2	8.6
Airframe	5	11.6	4.0	6.6
Instruments/Equipment/Accessories	1	2.3	3.0	4.9
Undetermined	2	4.7	2.2	3.6
Airport/Airways/Facilities	1	2.3	1.6	2.6
Powerplant	1	2.3	.4	.7
Systems	0	.0	.4	.7
Number of Aircraft	43		60.8	

Table 112 - SUMMARY OF LOSSES
PERSONAL FLYING
1983 - 1985

	1985	1984	1983
	----	----	----
Accidents			

Fatal	326	365	398
Involved Serious Injury	199	247	205
Involved Minor Injury	262	280	253
Involved No Injury	955	1014	1028
	----	----	----
Total	1742	1906	1884
Fatalities			

Passenger	312	351	382
Crew	319	356	390
Other Persons	5	7	5
	----	----	----
Total	636	714	777
Aircraft Damaged*			

Destroyed	486	577	552
Substantial	1242	1301	1308
Minor	12	17	9
None	12	24	22
	----	----	----
Total	1752	1919	1891

* Number of General Aviation Aircraft in Personal Operations

Table 113 - PERSONS BY ROLE AND DEGREE OF INJURY
PERSONAL FLYING
1985

Role of Person	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Pilot	309	170	252	1014	1745
Copilot	8	3	5	14	30
Dual student	0	1	0	7	8
Check pilot	0	0	0	2	2
Other crew	2	2	6	17	27
Passenger	312	136	246	982	1676
Total aboard	631	312	509	2036	3488
Other aircraft*	2	3	3	83	91
Other ground	3	7	8	13	31
Grand total	636	322	520	2132	3610
Percent	17.6	8.9	14.4	59.1	

* 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 114 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
PERSONAL FLYING
1985

Type of first occurrence	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Abrupt maneuver	5	2	1	5	13	0.7
Altitude deviation, uncontrolled	3	1	0	0	4	0.2
Airframe/component/system failure/malfunction	46	11	4	10	71	4.1
Ditching	0	0	0	1	1	0.1
Dragged wing, rotor, pod, or float	8	1	2	1	12	0.7
Fire/explosion	1	1	0	2	4	0.2
Fire	12	2	3	2	19	1.1
Explosion	1	0	0	1	2	0.1
Forced landing	4	1	2	2	9	0.5
Gear collapsed	6	1	0	0	7	0.4
Main gear collapsed	9	3	0	0	12	0.7
Nose gear collapsed	10	1	0	0	11	0.6
Complete gear collapsed	8	0	0	0	8	0.5
Gear not extended	5	0	0	0	5	0.3
Hard landing	55	9	6	1	71	4.1
In flight collision with object	40	24	23	35	122	7.0
In flight collision with terrain	49	24	23	46	142	8.1
In flight encounter with weather	27	6	16	75	124	7.1
Loss of control - in flight	75	34	42	86	237	13.5
Loss of control - on ground	146	16	1	1	164	9.4
Midair collision	10	0	0	8	18	1.0
Near collision between aircraft	0	0	1	0	1	0.1
Nose over	29	3	0	0	32	1.8
On ground collision with object	50	9	8	0	67	3.8
On ground collision with terrain	47	5	1	0	53	3.0
On ground encounter with weather	8	1	1	1	11	0.6
Overrun	42	11	0	2	55	3.1
Loss of power	51	12	10	8	81	4.6
Loss of power(total) - mech failure/malfunction	39	15	9	7	70	4.0
Loss of power(partial) - mech failure/malfunction	18	7	3	2	30	1.7
Loss of power(total) - non-mech	110	42	32	15	199	11.4
Loss of power(partial) - non-mech	14	10	4	2	30	1.7
Propeller/rotor contact	1	1	3	0	5	0.3
Roll over	2	1	0	1	4	0.2
Undershoot	20	6	0	1	27	1.5
Undetermined	0	0	0	1	1	0.1
Vortex turbulence encountered	1	1	1	0	3	0.2
Missing aircraft	0	0	0	9	9	0.5
Miscellaneous/other	10	2	3	3	18	1.0
Aircraft						
Number -	962	263	199	328	1752	
Percent -	54.9	15.0	11.4	18.7		

Table 115 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
PERSONAL FLYING
1985

Phase of operation	Aircraft damage				Aircraft	
	None	Minor	Subs	Dest	No.	Percent
Standing	1	0	1	1	3	0.2
Standing - pre-flight	0	0	1	0	1	0.1
Standing - starting engine(s)	0	0	2	1	3	0.2
Standing - engine(s) operating	3	0	1	1	5	0.3
Standing - idling rotors	0	0	1	0	1	0.1
Taxi	0	0	7	0	7	0.4
Taxi - to takeoff	0	0	14	0	14	0.8
Taxi - from landing	0	0	20	0	20	1.1
Taxi - aerial	0	1	0	0	1	0.1
Takeoff	0	1	17	3	21	1.2
Takeoff - ground run	0	2	84	5	91	5.2
Takeoff - initial climb	1	0	157	70	228	13.0
Climb	0	1	10	10	21	1.2
Climb - to cruise	0	0	20	16	36	2.1
Cruise	0	0	58	33	91	5.2
Cruise - normal	0	0	118	72	190	10.8
Descent	0	0	6	10	16	0.9
Descent - normal	1	0	32	10	43	2.5
Descent - emergency	0	0	8	2	10	0.6
Descent - uncontrolled	0	0	20	28	48	2.7
Approach	0	0	23	12	35	2.0
Approach - VFR pattern - downwind	0	0	11	3	14	0.8
Approach - VFR pattern - base turn	0	0	6	3	9	0.5
Approach - VFR pattern - base to final	1	0	12	4	17	1.0
Approach - VFR pattern - final approach	1	1	76	15	93	5.3
Approach - go-around (VFR)	0	1	23	15	39	2.2
Approach - IAF to FAF/outer marker (IFR)	0	0	1	2	3	0.2
Approach - FAF/outer marker to threshold (IFR)	0	0	1	6	7	0.4
Approach - circling(IFR)	0	0	1	0	1	0.1
Approach - missed approach (IFR)	0	0	0	1	1	0.1
Landing	1	1	36	13	51	2.9
Landing - flare/touchdown	2	2	167	13	184	10.5

(Con't)

Table 115 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE (Continued)
PERSONAL FLYING
1985

Phase of operation	Aircraft damage				Aircraft	
	None	Minor	Subs	Dest	No.	Percent
Landing - roll	0	2	239	10	251	14.3
Maneuvering	1	0	49	94	144	8.2
Maneuvering - aerial application	0	0	1	0	1	0.1
Maneuvering - turn to reverse direction	0	0	9	7	16	0.9
Maneuvering - turn to landing area (emergency)	0	0	3	1	4	0.2
Hover	0	0	3	0	3	0.2
Other	0	0	1	4	5	0.3
Unknown	0	0	3	21	24	1.4
Aircraft						
Number -	12	12	1242	486	1752	
Percent -	0.7	0.7	70.9	27.7		

Table 116 - AIRCRAFT BY CONDITION OF LIGHT AND TYPE OF WEATHER
PERSONAL FLYING
1985

Condition of light	Type of weather			Aircraft	
	VMC	IMC	Not reptd	No.	Percent
Dawn	12	1	0	13	0.7
Daylight	1377	89	12	1478	84.4
Night (dark)	109	29	6	144	8.2
Night (bright)	28	0	1	29	1.7
Dusk	74	10	1	85	4.9
Not reported	0	0	3	3	0.2
Aircraft					
Number -	1600	129	23	1752	
Percent -	91.3	7.4	1.3		

Table 117 - AIRCRAFT BY PROXIMITY TO AIRPORT AND FLIGHT PLAN
PERSONAL FLYING
1985

Proximity to Airport	Type of Flight Plan					Aircraft	
	VFR	IFR	VFR/IFR	None	NRept	No.	Percent
On airport	62	26	2	547	4	641	36.6
On airstrip	5	1	1	111	1	119	6.8
Within 5 SM	14	17	1	166	1	199	11.4
5 SM Or greater	12	11	1	88	0	112	6.4
Not Reported	58	30	1	589	3	681	38.9
Aircraft							
Number -	151	85	6	1501	9	1752	
Percent -	8.6	4.9	0.3	85.7	0.5		

Table 118 - MOST PREVALENT DETAILED ACCIDENT CAUSES
PERSONAL FLYING
1985

Detailed Cause	Number of Aircraft	Percent of Aircraft
Directional control - Not maintained - Pilot in command	194	11.1
Judgement - Poor - Pilot in command	110	6.3
Undetermined	108	6.2
Airspeed - Not maintained - Pilot in command	102	5.8
Preflight planning/preparation - Inadequate - Pilot in command	75	4.3
In-flight planning/decision - Improper - Pilot in command	70	4.0
Stall - Inadvertent - Pilot in command	61	3.5
In-flight planning/decision - Poor - Pilot in command	60	3.4
Unsuitable terrain - Selected - Pilot in command	59	3.4
Compensation for wind conditions - Inadequate - Pilot in command	57	3.3
Total Number of Aircraft:	1752	

Table 119 - ACCIDENTS, FATAL ACCIDENTS AND FATALITIES
PERSONAL FLYING
1975 - 1985

Year	Accidents*	Fatal Accidents*	Fatalities	
			Total	Aboard Aircraft In This Category
1975	2228	414	875	861
1976	2334	428	844	829
1977	2280	437	889	874
1978	2376	460	957	946
1979	2206	414	820	807
1980	2040	389	808	799
1981	1958	383	749	738
1982	1906	398	826	809
1983	1884	398	777	772
1984	1906	365	714	707
1985	1742	326	636	631

* The yearly accident counts include suicide and sabotage accidents as follows :

Total - 1975 (2), 1976 (1), 1978 (2), 1980 (1), 1984 (3), 1985 (2)

Fatal - 1975 (2), 1978 (2), 1980 (1), 1984 (2), 1985 (1)

Table 120 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
PERSONAL FLYING
1985 AND 1980 - 1984

Type of Occurrence	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Loss of power	410	23.4	484.8	24.9
Collision with object/terrain	389	22.2	412.4	21.2
Loss of control - in flight	237	13.5	247.6	12.7
Loss of control - on ground	164	9.4	212.0	10.9
Miscellaneous	83	4.7	113.0	5.8
Hard landing	71	4.1	108.6	5.6
Encounter with weather/turbulence	138	7.9	100.2	5.1
Airframe/component/system fail/malf	71	4.1	71.4	3.7
Undershoot	27	1.5	54.2	2.8
Gear collapsed/retracted	38	2.2	43.0	2.2
Nose over/down	32	1.8	38.6	2.0
Midair collision	18	1.0	22.0	1.1
(All other types)	74	4.2	42.0	2.2
Total	1752	100.0	1949.8	100.0

Table 121 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
PERSONAL FLYING
1985 AND 1980 - 1984

Phase of Operation	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Landing	486	27.7	554.4	28.4
Takeoff	340	19.4	405.6	20.8
Cruise	281	16.0	326.2	16.7
Approach	219	12.5	263.8	13.5
Maneuvering	168	9.6	182.4	9.4
Descent	117	6.7	69.4	3.6
Taxi	42	2.4	55.0	2.8
Climb	57	3.3	51.8	2.7
Other	29	1.7	26.2	1.3
Standing	13	.7	14.4	.7
Not reported	0	.0	.6	.0
Total	1752	100.0	1949.8	100.0

Table 122 - BROAD CAUSE/FACTOR ASSIGNMENTS IN ALL ACCIDENTS
PERSONAL FLYING
1985 AND 1980 - 1984

Broad Cause/Factor	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Pilot	1508	86.1	1648.0	84.5
Weather	437	24.9	589.8	30.2
Terrain	456	26.0	494.8	25.4
Miscellaneous	397	22.7	386.6	19.8
Powerplant	349	19.9	359.4	18.4
Personnel	136	7.8	154.8	7.9
Landing Gear	113	6.4	127.4	6.5
Airport/Airways/Facilities	57	3.3	122.4	6.3
Undetermined	112	6.4	99.2	5.1
Airframe	64	3.7	60.0	3.1
Systems	52	3.0	32.6	1.7
Instruments/Equipment/Accessories	15	.9	16.2	.8
Rotorcraft	.6	.3	7.2	.4
Number of Aircraft	1752		1949.8	

Table 123 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
PERSONAL AND BUSINESS FLYING COMBINED
1975 - 1985

Year	Accidents	Fatal Accidents	Fatalities	
			Total	Aboard Aircraft In This Category
1975	2545	478	995	981
1976	2629	490	950	933
1977	2579	487	973	963
1978	2656	522	1066	1055
1979	2461	470	932	917
1980	2285	450	924	915
1981	2220	456	892	883
1982	2194	471	979	965
1983	2157	450	891	886
1984	2153	440	867	862
1985	2001	389	754	745

Accident Rate per 100,000 *
Aircraft Hours Flown

Year	Hours Flown	Total	Fatal
1975	15,832,000	16.06	3.01
1976	16,850,000	15.58	2.90
1977	16,727,000	15.42	2.91
1978	19,322,000	13.74	2.69
1979	20,638,000	11.92	2.28
1980	19,374,000	11.79	2.32
1981	18,323,000	12.12	2.49
1982	16,584,000	13.23	2.84
1983	15,676,000	13.76	2.87
1984	16,537,000	13.00	2.65
1985	16,302,000	12.26	2.38

* Suicide and sabotage accidents excluded from rates as follows :

Total - 1975 (2), 1976 (3), 1978 (2), 1980 (1), 1984 (3), 1985 (2)

Fatal - 1975 (2), 1976 (1), 1978 (2), 1980 (1), 1984 (2), 1985 (1)

Table 124 - SUMMARY OF LOSSES
BUSINESS FLYING
1983 - 1985

	1985	1984	1983
	----	----	----
Accidents			

Fatal	63	76	52
Involved Serious Injury	28	23	28
Involved Minor Injury	38	30	38
Involved No Injury	130	120	158
	----	----	----
Total	259	249	276
 Fatalities			

Passenger	55	82	55
Crew	59	73	59
Other Persons	4	0	0
	----	----	----
Total	118	155	114
 Aircraft Damaged*			

Destroyed	85	99	82
Substantial	166	149	196
Minor	5	2	1
None	4	1	1
	----	----	----
Total	260	251	280

* Number of General Aviation Aircraft in Business Operations

Table 125 - PERSONS BY ROLE AND DEGREE OF INJURY
BUSINESS FLYING
1985

Role of Person	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Pilot	52	32	36	140	260
Copilot	5	1	5	9	20
Flight engineer	0	0	1	0	1
Other crew	2	0	0	1	3
Passenger	55	20	53	166	294
Total aboard	114	53	95	316	578
Other aircraft*	3	0	1	4	8
Other ground	1	1	1	5	8
Grand total	118	54	97	325	594
Percent	19.9	9.1	16.3	54.7	

* 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 126 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
BUSINESS FLYING
1985

Type of first occurrence	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Abrupt maneuver	0	0	1	0	1	0.4
Altitude deviation, uncontrolled	1	0	0	0	1	0.4
Airframe/component/system failure/malfunction	7	1	0	2	10	3.8
Dragged wing, rotor, pod, or float	1	1	0	0	2	0.8
Fire	4	1	0	0	5	1.9
Forced landing	1	0	0	0	1	0.4
Gear collapsed	5	0	0	0	5	1.9
Main gear collapsed	2	0	0	0	2	0.8
Nose gear collapsed	4	0	0	0	4	1.5
Complete gear collapsed	1	0	1	0	2	0.8
Gear not extended	2	0	0	0	2	0.8
Hard landing	6	1	0	0	7	2.7
In flight collision with object	5	2	2	6	15	5.8
In flight collision with terrain	9	2	4	7	22	8.5
In flight encounter with weather	2	2	3	22	29	11.2
Loss of control - in flight	14	1	4	8	27	10.4
Loss of control - on ground	13	4	1	0	18	6.9
Midair collision	1	0	0	5	6	2.3
Nose down	1	0	0	0	1	0.4
Nose over	1	1	1	0	3	1.2
On ground collision with object	3	2	0	1	6	2.3
On ground collision with terrain	3	0	1	0	4	1.5
On ground encounter with weather	1	0	0	1	2	0.8
Overrun	7	4	1	0	12	4.6
Loss of power	5	3	0	2	10	3.8
Loss of power(total) - mech failure/malfunction	5	4	1	0	10	3.8
Loss of power(partial) - mech failure/malfunction	4	1	0	0	5	1.9
Loss of power(total) - non-mechanical	14	6	5	2	27	10.4
Loss of power(partial) - non-mechanical	2	1	1	1	5	1.9
Propeller blast or jet exhaust/suction	1	0	0	0	1	0.4
Propeller/rotor contact	0	0	2	2	4	1.5
Roll over	0	0	0	1	1	0.4
Undershoot	3	1	0	1	5	1.9
Missing aircraft	0	0	0	2	2	0.8
Miscellaneous/other	2	0	0	1	3	1.2
Aircraft						
Number -	130	38	28	64	260	
Percent -	50.0	14.6	10.8	24.6		

Table 127 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
BUSINESS FLYING
1985

Phase of operation	Aircraft damage				Aircraft	
	None	Minor	Subs	Dest	No.	Percent
Standing - engine(s) operating	1	2	2	0	5	1.9
Taxi	0	0	1	0	1	0.4
Taxi - to takeoff	0	0	2	1	3	1.2
Taxi - from landing	0	1	3	1	5	1.9
Takeoff	0	0	4	2	6	2.3
Takeoff - ground run	0	0	4	3	7	2.7
Takeoff - initial climb	0	0	15	8	23	8.8
Climb	0	0	1	0	1	0.4
Climb - to cruise	0	0	3	4	7	2.7
Cruise	0	0	4	7	11	4.2
Cruise - normal	0	0	19	13	32	12.3
Descent	0	0	0	2	2	0.8
Descent - normal	0	0	5	3	8	3.1
Descent - emergency	0	0	1	0	1	0.4
Descent - uncontrolled	1	0	1	0	2	0.8
Approach	0	0	3	3	6	2.3
Approach - VFR pattern - downwind	0	0	0	2	2	0.8
Approach - VFR pattern - base turn	0	0	1	1	2	0.8
Approach - VFR pattern - base to final	0	0	0	1	1	0.4
Approach - VFR pattern - final approach	0	0	7	1	8	3.1
Approach - go-around (VFR)	0	0	4	2	6	2.3
Approach - IAF to FAF/outer marker (IFR)	0	0	1	1	2	0.8
Approach - FAF/outer marker to threshold (IFR)	0	0	2	4	6	2.3
Approach - circling(IFR)	0	0	0	1	1	0.4
Approach - missed approach (IFR)	0	0	1	2	3	1.2
Landing	0	1	8	1	10	3.8
Landing - flare/touchdown	1	1	23	4	29	11.2
Landing - roll	0	0	36	1	37	14.2
Maneuvering	0	0	12	9	21	8.1
Maneuvering - turn to reverse direction	0	0	1	2	3	1.2
Hover	0	0	2	1	3	1.2
Other	0	0	0	2	2	0.8
Unknown	1	0	0	3	4	1.5
Aircraft						
Number -	4	5	166	85	260	
Percent -	1.5	1.9	63.8	32.7		

Table 128 - AIRCRAFT BY CONDITION OF LIGHT AND TYPE OF WEATHER
BUSINESS FLYING
1985

Condition of light	Type of weather			Aircraft	
	VMC	IMC	Not reptd	No.	Percent
Dawn	6	1	0	7	2.7
Daylight	179	26	2	207	79.6
Night (dark)	19	14	0	33	12.7
Night (bright)	6	0	0	6	2.3
Dusk	5	2	0	7	2.7
Aircraft					
Number -	215	43	2	260	
Percent -	82.7	16.5	0.8		

Table 129 - AIRCRAFT BY PROXIMITY TO AIRPORT AND FLIGHT PLAN
BUSINESS FLYING
1985

Proximity to Airport	Type of Flight Plan					Aircraft	
	VFR	IFR	VFR/IFR	None	NRept	No.	Percent
On airport	7	22	0	57	0	86	33.1
On airstrip	1	0	0	16	0	17	6.5
Within 5 SM	3	9	1	16	1	30	11.5
5 SM Or greater	1	12	0	12	0	25	9.6
Not Reported	13	10	0	79	0	102	39.2
Aircraft							
Number -	25	53	1	180	1	260	
Percent -	9.6	20.4	0.4	69.2	0.4		

Table 130 - MOST PREVALENT DETAILED ACCIDENT CAUSES
BUSINESS FLYING
1985

Detailed Cause -----	Number of Aircraft -----	Percent of Aircraft -----
Directional control - Not maintained - Pilot in command	18	6.9
Judgement - Poor - Pilot in command	17	6.5
Preflight planning/preparation - Inadequate - Pilot in command	14	5.4
In-flight planning/decision - Improper - Pilot in command	14	5.4
Airspeed - Not maintained - Pilot in command	13	5.0
Undetermined	13	5.0
Unsuitable terrain - Selected - Pilot in command	10	3.8
Proper altitude - Not maintained - Pilot in command	8	3.1
In-flight planning/decision - Inadequate - Pilot in command	7	2.7
Visual lookout - Inadequate - Pilot in command	7	2.7
Airplane handling - Not maintained - Pilot in command	7	2.7
Total Number of Aircraft:	260	

Table 131 - ACCIDENTS, FATAL ACCIDENTS AND FATALITIES
BUSINESS FLYING
1975 - 1985

Year ----	Accidents* -----	Fatal Accidents* -----	Fatalities -----	
			Total -----	Aboard Aircraft In This Category -----
1975	318	64	120	120
1976	298	62	106	104
1977	302	53	95	89
1978	281	62	109	109
1979	255	56	112	110
1980	246	62	126	116
1981	264	74	145	145
1982	292	74	157	156
1983	276	52	114	114
1984	249	76	155	155
1985	259	63	118	114

* The yearly accident counts include suicide and sabotage accidents as follows :
Total - 1976 (2) Fatal - 1976 (1)

Table 132 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
BUSINESS FLYING
1985 AND 1980 - 1984

Type of Occurrence	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Loss of power	57	21.9	66.6	24.9
Collision with object/terrain	49	18.8	61.6	23.1
Loss of control - in flight	27	10.4	24.2	9.1
Encounter with weather/turbulence	31	11.9	22.8	8.5
Loss of control - on ground	18	6.9	20.4	7.6
Miscellaneous	16	6.2	15.0	5.6
Airframe/component/system fail/malf	10	3.8	13.4	5.0
Hard landing	7	2.7	10.0	3.7
Gear collapsed/retracted	13	5.0	9.6	3.6
Nose over/down	4	1.5	6.0	2.2
Undershoot	5	1.9	5.8	2.2
Midair collision	6	2.3	3.6	1.3
Fire/explosion	5	1.9	3.0	1.1
(All other types)	12	4.6	5.2	1.9
Total	260	100.0	267.2	100.0

Table 133 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
BUSINESS FLYING
1985 AND 1980 - 1984

Phase of Operation	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Landing	76	29.2	68.6	25.7
Cruise	43	16.5	57.4	21.5
Takeoff	36	13.8	47.6	17.8
Approach	37	14.2	38.8	14.5
Maneuvering	27	10.4	14.0	5.2
Descent	13	5.0	13.6	5.1
Taxi	9	3.5	12.2	4.6
Climb	8	3.1	8.8	3.3
Standing	5	1.9	3.2	1.2
Other	6	2.3	3.0	1.1
Total	260	100.0	267.2	100.0

Table 134 - BROAD CAUSE/FACTOR ASSIGNMENTS IN ALL ACCIDENTS
BUSINESS FLYING
1985 AND 1980 - 1984

Broad Cause/Factor -----	1985 -----		1980 - 1984 -----	
	No.	Percent	Mean	Percent
Pilot	220	84.6	215.0	80.5
Weather	79	30.4	94.0	35.2
Terrain	56	21.5	66.0	24.7
Miscellaneous	53	20.4	59.8	22.4
Powerplant	55	21.2	53.6	20.1
Personnel	37	14.2	28.0	10.5
Landing Gear	18	6.9	20.2	7.6
Airport/Airways/Facilities	17	6.5	19.2	7.2
Undetermined	14	5.4	16.2	6.1
Airframe	8	3.1	11.4	4.3
Systems	6	2.3	8.4	3.1
Rotorcraft	4	1.5	4.4	1.6
Instruments/Equipment/Accessories	2	.8	2.2	.8
Number of Aircraft	260		267.2	

Table 135 - SUMMARY OF LOSSES
CORPORATE/EXECUTIVE FLYING
1983 - 1985

	1985	1984	1983
	----	----	----
Accidents			

Fatal	13	4	6
Involved Serious Injury	1	5	4
Involved Minor Injury	3	3	4
Involved No Injury	20	13	39
	----	----	----
Total	37	25	39
Fatalities			

Passenger	20	4	14
Crew	12	4	9
Other Persons	5	0	0
	----	----	----
Total	37	8	23
Aircraft Damaged*			

Destroyed	15	8	12
Substantial	22	17	27
	----	----	----
Total	37	25	39

* Number of General Aviation Aircraft in Corporate/Executive Operations

Table 136 - PERSONS BY ROLE AND DEGREE OF INJURY
CORPORATE/EXECUTIVE FLYING
1985

Role of Person	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Pilot	10	3	4	21	38
Copilot	2	1	3	5	11
Other crew	0	0	0	1	1
Passenger	20	1	7	29	57
Total aboard	32	5	14	56	107
Other aircraft*	4	1	0	0	5
Other ground	1	0	0	1	2
Grand total	37	6	14	57	114
Percent	32.5	5.3	12.3	50.0	

* 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 137 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
CORPORATE/EXECUTIVE FLYING
1985

Type of first occurrence	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Airframe/component/system failure/malfunction	1	0	0	0	1	2.7
Decompression	0	0	0	1	1	2.7
Fire	0	0	0	1	1	2.7
Main gear collapsed	2	1	0	0	3	8.1
In flight collision with object	1	0	0	0	1	2.7
In flight collision with terrain	1	0	0	4	5	13.5
In flight encounter with weather	2	0	0	1	3	8.1
Loss of control - in flight	1	0	0	1	2	5.4
Loss of control - on ground	2	0	0	0	2	5.4
Midair collision	0	0	0	2	2	5.4
On ground collision with object	1	0	0	0	1	2.7
On ground collision with terrain	3	1	0	0	4	10.8
Loss of power	1	0	0	0	1	2.7
Loss of power(total) - mech failure/malfunction	0	0	0	2	2	5.4
Loss of power(partial) - mech failure/malfunction	2	0	0	1	3	8.1
Loss of power(total) - non-mechanical	1	0	0	0	1	2.7
Loss of power(partial) - non-mechanical	1	0	0	0	1	2.7
Undershoot	1	0	0	0	1	2.7
Vortex turbulence encountered	0	1	0	0	1	2.7
Miscellaneous/other	0	0	1	0	1	2.7
Aircraft						
Number -	20	3	1	13	37	
Percent -	54.1	8.1	2.7	35.1		

Table 138 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
CORPORATE/EXECUTIVE FLYING
1985

Phase of operation	Aircraft damage		Aircraft	
	Subs	Dest	No.	Percent
Taxi - to takeoff	1	0	1	2.7
Takeoff	1	0	1	2.7
Takeoff - ground run	2	0	2	5.4
Takeoff - initial climb	1	3	4	10.8
Climb	0	1	1	2.7
Climb - to cruise	0	1	1	2.7
Cruise	1	2	3	8.1
Cruise - normal	4	0	4	10.8
Descent - uncontrolled	0	1	1	2.7
Approach	0	1	1	2.7
Approach - VFR pattern - downwind	0	1	1	2.7
Approach - VFR pattern - final approach	2	0	2	5.4
Approach - IAF to FAF/outer marker (IFR)	1	0	1	2.7
Approach - FAF/outer marker to threshold (IFR)	0	2	2	5.4
Approach - circling(IFR)	0	1	1	2.7
Landing	0	1	1	2.7
Landing - flare/touchdown	3	1	4	10.8
Landing - roll	5	0	5	13.5
Hover	1	0	1	2.7
Aircraft				
Number -	22	15	37	
Percent -	59.5	40.5		

Table 139 - AIRCRAFT BY CONDITION OF LIGHT AND TYPE OF WEATHER
CORPORATE/EXECUTIVE FLYING
1985

Condition of light	Type of weather		Aircraft	
	VMC	IMC	No.	Percent
Daylight	22	5	27	73.0
Night (dark)	2	8	10	27.0
Aircraft				
Number -	24	13	37	
Percent -	64.9	35.1		

Table 140 - AIRCRAFT BY PROXIMITY TO AIRPORT AND FLIGHT PLAN
CORPORATE / EXECUTIVE FLYING
1985

Proximity to Airport	Type of Flight Plan				Aircraft	
	VFR	IFR	VFR/IFR	None	No.	Percent
On airport	0	13	0	6	19	51.4
On airstrip	0	1	0	1	2	5.4
Within 5 SM	0	4	0	1	5	13.5
5 SM Or greater	0	2	0	1	3	8.1
Not Reported	1	3	1	3	8	21.6
Aircraft						
Number -	1	23	1	12	37	
Percent -	2.7	62.2	2.7	32.4		

Table 141 - MOST PREVALENT DETAILED ACCIDENT CAUSES
CORPORATE/EXECUTIVE FLYING
1985

Detailed Cause -----	Number of Aircraft -----	Percent of Aircraft -----
Directional control - Not maintained - Pilot in command	3	8.1
Undetermined	3	8.1
Landing gear, main gear attachment - Fatigue	2	5.4
Fluid, fuel - Starvation	2	5.4
In-flight planning/decision - Improper - Pilot in command	2	5.4
IFR procedure - Improper - Pilot in command	2	5.4
Airspeed - Excessive - Pilot in command	2	5.4
Flare - Misjudged - Pilot in command	2	5.4
Stall - Inadvertent - Pilot in command	2	5.4
Wheels up landing - Inadvertent - Pilot in command	2	5.4
Total Number of Aircraft:	37	

Table 142 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
CORPORATE/EXECUTIVE FLYING
1975 - 1985

Year	Accidents	Fatal Accidents	Fatalities	
			Total	Aboard Aircraft In This Category
1975	63	17	44	44
1976	56	14	42	38
1977	59	18	51	49
1978	88	24	70	67
1979	78	15	57	51
1980	96	21	66	63
1981	84	30	99	99
1982	39	6	21	20
1983	39	6	23	23
1984	25	4	8	8
1985	37	13	37	32

Accident Rate per 100,000
Aircraft Hours Flown

Year	Hours Flown	Total	Fatal
1975	3,262,000	1.93	0.52
1976	3,396,000	1.65	0.41
1977	3,501,000	1.69	0.51
1978	4,898,000	1.80	0.49
1979	5,022,000	1.55	0.30
1980	5,351,000	1.79	0.39
1981	6,209,000	1.35	0.48
1982	4,998,000	0.78	0.12
1983	5,253,000	0.74	0.11
1984	4,788,000	0.52	0.08
1985	4,189,000	0.88	0.31

Table 143 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
CORPORATE/EXECUTIVE FLYING
1985 AND 1980 - 1984

Type of Occurrence	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Collision with object/terrain	11	29.7	16.2	28.6
Loss of power	8	21.6	11.6	20.5
Loss of control - on ground	2	5.4	5.0	8.8
Loss of control - in flight	2	5.4	4.6	8.1
Airframe/component/system fail/malf	1	2.7	4.0	7.1
Gear collapsed/retracted	3	8.1	3.6	6.4
Encounter with weather/turbulence	4	10.8	2.4	4.2
Hard landing	0	.0	2.4	4.2
Miscellaneous	2	5.4	2.2	3.9
Undershoot	1	2.7	1.8	3.2
Fire/explosion	1	2.7	.8	1.4
Prop/rotor contact	0	.0	.8	1.4
Midair collision	2	5.4	.6	1.1
(All other types)	0	.0	.6	1.1
Total	37	100.0	56.6	100.0

Table 144 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
CORPORATE/EXECUTIVE FLYING
1985 AND 1980 - 1984

Phase of Operation	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Landing	10	27.0	15.6	27.6
Approach	8	21.6	10.6	18.7
Takeoff	7	18.9	9.8	17.3
Cruise	7	18.9	9.6	17.0
Descent	1	2.7	4.0	7.1
Climb	2	5.4	2.2	3.9
Standing	0	.0	1.6	2.8
Taxi	1	2.7	1.6	2.8
Maneuvering	1	2.7	1.4	2.5
Other	0	.0	.2	.4
Total	37	100.0	56.6	100.0

Table 145 - BROAD CAUSE/FACTOR ASSIGNMENTS IN ALL ACCIDENTS
CORPORATE/EXECUTIVE FLYING
1985 AND 1980 - 1984

Broad Cause/Factor	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Pilot	29	78.4	38.2	67.5
Weather	7	18.9	20.4	36.0
Terrain	11	29.7	12.0	21.2
Powerplant	9	24.3	11.0	19.4
Personnel	9	24.3	10.4	18.4
Landing Gear	4	10.8	8.4	14.8
Miscellaneous	8	21.6	7.4	13.1
Airport/Airways/Facilities	3	8.1	5.4	9.5
Systems	2	5.4	3.8	6.7
Undetermined	3	8.1	2.8	4.9
Airframe	3	8.1	2.4	4.2
Rotorcraft	1	2.7	1.2	2.1
Instruments/Equipment/Accessories	0	.0	.6	1.1
Number of Aircraft	37		56.6	

Table 146 - SUMMARY OF LOSSES
AERIAL APPLICATION FLYING
1983 - 1985

	1985	1984	1983
	----	----	----
Accidents			

Fatal	9	20	15
Involved Serious Injury	18	21	25
Involved Minor Injury	20	42	44
Involved No Injury	120	162	170
	----	----	----
Total	167	245	254
 Fatalities			

Crew	9	20	15
Other Persons	0	1	0
	----	----	----
Total	9	21	15
 Aircraft Damaged*			

Destroyed	51	75	70
Substantial	115	173	182
Minor	1	0	1
None	0	1	1
	----	----	----
Total	167	249	254

* Number of General Aviation Aircraft in Aerial Application Operations

Table 147 - PERSONS BY ROLE AND DEGREE OF INJURY
AERIAL APPLICATION FLYING
1985

Role of Person	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Pilot	9	16	20	120	165
Other crew	0	0	0	2	2
Passenger	0	0	2	5	7
Total aboard	9	16	22	127	174
Other ground	0	2	1	2	5
Grand total	9	18	23	129	179
Percent	5.0	10.1	12.8	72.1	

Table 148 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
AERIAL APPLICATION FLYING
1985

Type of first occurrence	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Airframe/component/system failure/malfunction	4	0	1	0	5	3.0
Dragged wing, rotor, pod, or float	1	0	0	0	1	0.6
Fire/explosion	0	0	0	1	1	0.6
Fire	1	0	0	1	2	1.2
Forced landing	1	2	0	0	3	1.8
Main gear collapsed	2	0	0	0	2	1.2
Hazardous materials leak/spill (fumes/smoke)	1	0	0	0	1	0.6
In flight collision with object	17	4	6	3	30	18.0
In flight collision with terrain	7	2	2	1	12	7.2
In flight encounter with weather	1	0	2	1	4	2.4
Loss of control - in flight	20	5	0	1	26	15.6
Loss of control - on ground	5	0	1	0	6	3.6
Nose over	5	0	0	0	5	3.0
On ground collision with object	0	1	1	0	2	1.2
On ground collision with terrain	2	0	0	0	2	1.2
On ground encounter with weather	1	0	0	0	1	0.6
Overrun	1	0	0	0	1	0.6
Loss of power	15	2	1	0	18	10.8
Loss of power(total) - mech failure/malfunction	17	2	2	0	21	12.6
Loss of power(partial) - mech failure/malfunction	5	0	0	0	5	3.0
Loss of power(total) - non-mechanical	11	2	1	0	14	8.4
Loss of power(partial) - non-mechanical	1	0	0	0	1	0.6
Roll over	1	0	1	1	3	1.8
Vortex turbulence encountered	1	0	0	0	1	0.6
Aircraft						
Number -	120	20	18	9	167	
Percent -	71.9	12.0	10.8	5.4		

Table 149 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
AERIAL APPLICATION FLYING
1985

Phase of operation	Aircraft damage			Aircraft	
	Minor	Subs	Dest	No.	Percent
Standing - idling rotors	0	1	0	1	0.6
Takeoff	0	2	0	2	1.2
Takeoff - ground run	0	1	0	1	0.6
Takeoff - initial climb	0	15	11	26	15.6
Climb	0	2	0	2	1.2
Climb - to cruise	0	0	1	1	0.6
Cruise	0	5	2	7	4.2
Cruise - normal	0	5	2	7	4.2
Descent - emergency	0	2	0	2	1.2
Descent - uncontrolled	0	2	3	5	3.0
Landing	0	1	2	3	1.8
Landing - flare/touchdown	0	9	1	10	6.0
Landing - roll	0	8	2	10	6.0
Maneuvering	0	7	1	8	4.8
Maneuvering - aerial application	1	51	22	74	44.3
Maneuvering - turn to reverse direction	0	3	3	6	3.6
Hover	0	1	1	2	1.2
Aircraft					
Number -	1	115	51	167	
Percent -	0.6	68.9	30.5		

Table 150 - AIRCRAFT BY CONDITION OF LIGHT AND TYPE OF WEATHER
AERIAL APPLICATION FLYING
1985

Condition of light	Type of weather		Aircraft	
	VMC	IMC	No.	Percent
Dawn	5	0	5	3.0
Daylight	153	1	154	92.2
Night (dark)	3	1	4	2.4
Night (bright)	1	0	1	0.6
Dusk	3	0	3	1.8
Aircraft				
Number -	165	2	167	
Percent -	98.8	1.2		

Table 151 - AIRCRAFT BY PROXIMITY TO AIRPORT AND FLIGHT PLAN
AERIAL APPLICATION FLYING
1985

Proximity to Airport -----	Type of Flight Plan			Aircraft	
	VFR	None	NRept	No.	Percent
On airport	0	9	0	9	5.4
On airstrip	0	13	0	13	7.8
Within 5 SM	0	13	0	13	7.8
5 SM Or greater	0	11	0	11	6.6
Not Reported	1	119	1	121	72.5
Aircraft					
Number -	1	165	1	167	
Percent -	0.6	98.8	0.6		

Table 152 - MOST PREVALENT DETAILED ACCIDENT CAUSES
AERIAL APPLICATION FLYING
1985

Detailed Cause -----	Number of Aircraft -----	Percent of Aircraft -----
Undetermined	18	10.8
Clearance - Not maintained - Pilot in command	11	6.6
Visual lookout - Inadequate - Pilot in command	10	6.0
Directional control - Not maintained - Pilot in command	8	4.8
Fuel supply - Inadequate - Pilot in command	7	4.2
Aircraft preflight - Inadequate - Pilot in command	7	4.2
Airspeed - Not maintained - Pilot in command	7	4.2
Preflight planning/preparation - Inadequate - Pilot in command	6	3.6
In-flight planning/decision - Improper - Pilot in command	6	3.6
Clearance - Misjudged - Pilot in command	6	3.6
Stall - Inadvertent - Pilot in command	6	3.6
Total Number of Aircraft:	167	

Table 153 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
AERIAL APPLICATION FLYING
1975 - 1985

Year	Accidents	Fatal Accidents	Total	Fatalities
				Aboard Aircraft In This Category
1975	432	34	35	35
1976	434	40	44	42
1977	455	31	35	34
1978	457	28	28	27
1979	395	27	27	25
1980	363	25	32	28
1981	378	30	36	34
1982	272	17	18	15
1983	254	15	15	15
1984	245	20	21	20
1985	167	9	9	9

Accident Rate per 100,000 *
Aircraft Hours Flown

Year	Hours Flown	Total	Fatal
1975	1,876,000	23.03	1.81
1976	2,136,000	20.27	1.87
1977	2,072,000	21.96	1.50
1978	2,082,000	21.95	1.34
1979	2,393,000	16.51	1.13
1980	2,063,000	17.60	1.21
1981	2,466,000	15.33	1.22
1982	2,058,000	13.22	0.83
1983	1,774,000	14.32	0.85
1984	2,022,000	12.12	0.99
1985	2,181,000	7.66	0.41

* Suicide and sabotage accidents excluded from rates as follows :
Total - 1976 (1)
Fatal - None

Table 154 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
AERIAL APPLICATION FLYING
1985 AND 1980 - 1984

Type of Occurrence	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Loss of power	59	35.3	101.2	33.3
Collision with object/terrain	46	27.5	99.2	32.6
Loss of control - in flight	26	15.6	42.0	13.8
Loss of control - on ground	6	3.6	19.8	6.5
Airframe/component/system fail/malf	5	3.0	18.0	5.9
Nose over/down	5	3.0	5.6	1.8
Miscellaneous	5	3.0	3.8	1.3
Midair collision	0	.0	3.2	1.1
(All other types)	15	9.0	11.2	3.7
Total	167	100.0	304.0	100.0

Table 155 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
AERIAL APPLICATION FLYING
1985 AND 1980 - 1984

Phase of Operation	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Maneuvering	90	53.9	158.0	52.0
Takeoff	29	17.4	75.4	24.8
Cruise	14	8.4	30.2	9.9
Landing	23	13.8	26.4	8.7
Approach	0	.0	6.8	2.2
Climb	3	1.8	2.8	.9
Taxi	0	.0	2.2	.7
Descent	7	4.2	1.0	.3
Other	0	.0	.8	.3
Standing	1	.6	.2	.1
Not reported	0	.0	.2	.1
Total	167	100.0	304.0	100.0

Table 156 - BROAD CAUSE/FACTOR ASSIGNMENTS IN ALL ACCIDENTS
AERIAL APPLICATION FLYING
1985 AND 1980 - 1984

Broad Cause/Factor	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Pilot	116	69.5	212.4	69.9
Terrain	50	29.9	103.4	34.0
Powerplant	52	31.1	82.2	27.0
Miscellaneous	43	25.7	53.6	17.6
Weather	29	17.4	41.2	13.6
Personnel	10	6.0	25.0	8.2
Undetermined	17	10.2	14.6	4.8
Landing Gear	5	3.0	14.4	4.7
Airport/Airways/Facilities	6	3.6	12.6	4.1
Rotorcraft	2	1.2	9.4	3.1
Airframe	3	1.8	7.4	2.4
Systems	1	.6	3.4	1.1
Instruments/Equipment/Accessories	1	.6	3.0	1.0
Number of Aircraft	167		304.0	

Table 157 - SUMMARY OF LOSSES
INSTRUCTIONAL FLYING
1983 - 1985

	1985	1984	1983
	----	----	----
Accidents			

Fatal	27	25	26
Involved Serious Injury	33	19	23
Involved Minor Injury	38	48	45
Involved No Injury	216	261	285
	----	----	----
Total	314	353	379
Fatalities			

Passenger	4	1	0
Crew	36	36	40
Other Persons	12	17	1
	----	----	----
Total	52	54	41
Aircraft Damaged*			

Destroyed	56	49	48
Substantial	259	298	333
Minor	2	2	1
None	1	5	1
	----	----	----
Total	318	354	383

* Number of General Aviation Aircraft in Instructional Operations

Table 158 - PERSONS BY ROLE AND DEGREE OF INJURY
INSTRUCTIONAL FLYING
1985

Role of Person	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Pilot	20	33	41	225	319
Copilot	4	2	1	7	14
Dual student	9	8	20	79	116
Check pilot	2	0	0	7	9
Other crew	1	0	2	0	3
Passenger	4	5	1	17	27
Total aboard	40	48	65	335	488
Other aircraft*	12	0	4	9	25
Other ground	0	0	0	4	4
Grand total	52	48	69	348	517
Percent	10.1	9.3	13.3	67.3	

* 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 159 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
INSTRUCTIONAL FLYING
1985

Type of first occurrence	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Abrupt maneuver	1	1	0	1	3	0.9
Altitude deviation, uncontrolled	2	0	1	0	3	0.9
Airframe/component/system failure/malfunction	4	0	1	1	6	1.9
Dragged wing, rotor, pod, or float	3	0	0	0	3	0.9
Fire	4	1	0	0	5	1.6
Forced landing	4	0	0	0	4	1.3
Gear collapsed	3	0	0	0	3	0.9
Main gear collapsed	2	0	0	0	2	0.6
Nose gear collapsed	7	0	0	0	7	2.2
Hard landing	28	3	4	0	35	11.0
In flight collision with object	5	0	8	2	15	4.7
In flight collision with terrain	6	1	1	3	11	3.5
In flight encounter with weather	1	1	1	2	5	1.6
Loss of control - in flight	28	6	7	8	49	15.4
Loss of control - on ground	52	4	0	0	56	17.6
Midair collision	4	0	0	7	11	3.5
Nose over	7	0	0	0	7	2.2
On ground collision with object	4	0	0	0	4	1.3
On ground collision with terrain	8	2	0	0	10	3.1
Overrun	4	1	0	0	5	1.6
Loss of power	7	2	1	2	12	3.8
Loss of power(total) - mech failure/malfunction	5	1	2	0	8	2.5
Loss of power(partial) - mech failure/malfunction	5	1	1	0	7	2.2
Loss of power(total) - non-mechanical	13	10	4	1	28	8.8
Loss of power(partial) - non-mechanical	2	0	2	0	4	1.3
Propeller/rotor contact	1	0	0	0	1	0.3
Roll over	1	0	1	0	2	0.6
Undershoot	4	3	0	0	7	2.2
Vortex turbulence encountered	0	0	0	1	1	0.3
Miscellaneous/other	3	1	0	0	4	1.3
Aircraft						
Number -	218	38	34	28	318	
Percent -	68.6	11.9	10.7	8.8		

Table 160 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
INSTRUCTIONAL FLYING
1985

Phase of operation	Aircraft damage				Aircraft	
	None	Minor	Subs	Dest	No.	Percent
Standing - starting engine(s)	0	0	3	1	4	1.3
Taxi - to takeoff	0	0	2	0	2	0.6
Taxi - from landing	0	0	1	0	1	0.3
Takeoff	0	0	6	1	7	2.2
Takeoff - ground run	0	0	15	2	17	5.3
Takeoff - initial climb	0	0	26	13	39	12.3
Climb	0	0	2	1	3	0.9
Climb - to cruise	0	0	1	0	1	0.3
Cruise	0	0	4	2	6	1.9
Cruise - normal	0	0	17	1	18	5.7
Descent	0	0	1	1	2	0.6
Descent - normal	0	0	1	0	1	0.3
Descent - uncontrolled	0	0	1	1	2	0.6
Approach	0	0	5	0	5	1.6
Approach - VFR pattern - downwind	0	0	1	1	2	0.6
Approach - VFR pattern - base turn	0	0	0	2	2	0.6
Approach - VFR pattern - base to final	0	0	2	0	2	0.6
Approach - VFR pattern - final approach	0	0	13	4	17	5.3
Approach - go-around (VFR)	0	0	10	7	17	5.3
Approach - FAF/outer marker to threshold (IFR)	0	0	0	1	1	0.3
Landing	0	0	8	0	8	2.5
Landing - flare/touchdown	1	1	61	6	69	21.7
Landing - roll	0	0	56	1	57	17.9
Maneuvering	0	0	11	7	18	5.7
Maneuvering - aerial application	0	0	1	2	3	0.9
Maneuvering - turn to reverse direction	0	0	1	0	1	0.3
Maneuvering - turn to landing area (emergency)	0	0	1	0	1	0.3
Hover	0	1	8	1	10	3.1
Unknown	0	0	1	1	2	0.6
Aircraft						
Number -	1	2	259	56	318	
Percent -	0.3	0.6	81.4	17.6		

Table 161 - AIRCRAFT BY CONDITION OF LIGHT AND TYPE OF WEATHER
INSTRUCTIONAL FLYING
1985

Condition of light	Type of weather			Aircraft	
	VMC	IMC	Not reptd	No.	Percent
Dawn	3	1	0	4	1.3
Daylight	285	4	1	290	91.2
Night (dark)	9	1	0	10	3.1
Night (bright)	7	1	0	8	2.5
Dusk	5	0	1	6	1.9
Aircraft					
Number -	309	7	2	318	
Percent -	97.2	2.2	0.6		

Table 162 - AIRCRAFT BY PROXIMITY TO AIRPORT AND FLIGHT PLAN
INSTRUCTIONAL FLYING
1985

Proximity to Airport	Type of Flight Plan					Aircraft	
	VFR	IFR	VFR/IFR	None	NRept	No.	Percent
On airport	20	4	1	180	1	206	64.8
On airstrip	2	0	0	5	0	7	2.2
Within 5 SM	8	1	0	19	0	28	8.8
5 SM Or greater	1	0	0	6	0	7	2.2
Not Reported	9	3	0	58	0	70	22.0
Aircraft							
Number -	40	8	1	268	1	318	
Percent -	12.6	2.5	0.3	84.3	0.3		

Table 163 - MOST PREVALENT DETAILED ACCIDENT CAUSES
INSTRUCTIONAL FLYING
1985

Detailed Cause -----	Number of Aircraft -----	Percent of Aircraft -----
Directional control - Not maintained - Pilot in command	52	16.3
Supervision - Inadequate - Pilot in command(CFI)	28	8.8
Flare - Improper - Pilot in command	20	6.3
Airspeed - Not maintained - Pilot in command	15	4.7
Undetermined	14	4.4
Recovery from bounced landing - Improper - Pilot in command	12	3.8
Compensation for wind conditions - Inadequate - Pilot in command	11	3.5
In-flight planning/decision - Improper - Pilot in command	10	3.1
Remedial action - Delayed - Pilot in command(CFI)	10	3.1
Fluid, fuel - Exhaustion	8	2.5
Directional control - Not maintained - Dual student	8	2.5
Total Number of Aircraft:	318	

Table 164 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
INSTRUCTIONAL FLYING
1975 - 1985

Year	Accidents	Fatal Accidents	Fatalities	
			Total	Aboard Aircraft In This Category
1975	587	43	77	60
1976	541	55	97	87
1977	572	48	68	64
1978	604	62	243	92
1979	516	39	59	51
1980	461	41	73	70
1981	428	40	70	63
1982	411	22	38	36
1983	379	26	41	40
1984	353	25	54	37
1985	314	27	52	40

Year	Hours Flown	Accident Rate per 100,000 * Aircraft Hours Flown	
		Total	Fatal
1975	5,882,000	9.98	0.73
1976	6,102,000	8.87	0.90
1977	7,646,000	7.48	0.63
1978	6,322,000	9.55	0.98
1979	8,144,000	6.34	0.48
1980	7,315,000	6.30	0.56
1981	7,104,000	6.02	0.56
1982	4,939,000	8.30	0.45
1983	5,820,000	6.51	0.45
1984	5,694,000	6.20	0.44
1985	5,322,000	5.90	0.51

* Suicide and sabotage accidents excluded from rates as follows :
Total - 1982 (1)
Fatal - None

Table 165 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
INSTRUCTIONAL FLYING
1985 AND 1980 - 1984

Type of Occurrence	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Loss of control - on ground	56	17.6	80.4	19.6
Loss of power	59	18.6	79.2	19.3
Hard landing	35	11.0	71.6	17.5
Collision with object/terrain	40	12.6	58.8	14.4
Loss of control - in flight	49	15.4	40.0	9.8
Miscellaneous	13	4.1	17.2	4.2
Undershoot	7	2.2	16.8	4.1
Midair collision	11	3.5	9.0	2.2
Nose over/down	7	2.2	8.8	2.1
Gear collapsed/retracted	12	3.8	7.4	1.8
Airframe/component/system fail/malf	6	1.9	6.4	1.6
Encounter with weather/turbulence	6	1.9	6.0	1.5
(All other types)	17	5.3	8.0	2.0
Total	318	100.0	409.6	100.0

Table 166 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
INSTRUCTIONAL FLYING
1985 AND 1980 - 1984

Phase of Operation	1985		1980 - 1984	
	No.	Percent	Mean	Percent
Landing	134	42.1	178.4	43.6
Takeoff	63	19.8	75.8	18.5
Approach	46	14.5	61.8	15.1
Cruise	24	7.5	33.0	8.1
Maneuvering	33	10.4	29.6	7.2
Taxi	3	.9	14.2	3.5
Descent	5	1.6	8.0	2.0
Climb	4	1.3	4.4	1.1
Standing	4	1.3	2.8	.7
Other	2	.6	1.6	.4
Total	318	100.0	409.6	100.0

Table 167 - BROAD CAUSE/FACTOR ASSIGNMENTS IN ALL ACCIDENTS
INSTRUCTIONAL FLYING
1985 AND 1980 - 1984

Broad Cause/Factor -----	1985 -----		1980 - 1984 -----	
	No. ---	Percent -----	Mean ----	Percent -----
Pilot	286	89.9	357.6	87.3
Terrain	77	24.2	91.0	22.2
Weather	59	18.6	89.0	21.7
Miscellaneous	60	18.9	54.6	13.3
Powerplant	48	15.1	48.8	11.9
Personnel	39	12.3	41.6	10.2
Landing Gear	20	6.3	30.0	7.3
Airport/Airways/Facilities	7	2.2	27.6	6.7
Undetermined	14	4.4	15.0	3.7
Systems	3	.9	4.0	1.0
Airframe	5	1.6	3.2	.8
Rotorcraft	2	.6	2.4	.6
Instruments/Equipment/Accessories	4	1.3	1.6	.4
Number of Aircraft	318		409.6	

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APPENDIX A -- EXPLANATORY NOTES

AIRCRAFT ACCIDENT: The accidents included in this report 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 Board's definition of substantial damage as stated in 49 CFR 830.2 is:

- (1) Except as provided in subparagraph (2) of this paragraph, substantial damage means damage or structural failure which adversely affects the structural strength, performance, or flight characteristics of the aircraft, and which would normally require major repair or replacement of the affected component.
- (2) Engine failure, damage limited to an engine, bent fairings or cowlings, dented skin, small punctured holes in the skin of 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".

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 two or more causes exist in 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.

KIND OF FLYING: The purpose for which the aircraft was being operated at the time of the accident. In this report, accident statistics are presented for five kinds of flying which are defined as follows:

Personal - Flying by individuals in their own or rented aircraft for pleasure, or personal transportation not in furtherance of their occupation or company business. This category includes practice flying (for the purpose of increasing or maintaining proficiency) not performed under supervision of an accredited instructor, and not part of an approved flight training program.

Business - The use of aircraft by pilots (not receiving direct salary or compensation for piloting) in connection with their occupation or in the furtherance of a private business.

Corporate/Executive - The use of aircraft owned or leased, and operated by a corporate or business firm for the transportation of personnel or cargo in furtherance of the corporation's or firm's business, and which are flown by professional pilots receiving a direct salary or compensation for piloting.

Aerial Application - The operation of aircraft for the purpose of dispensing any substance for plant nourishment, soil treatment, propagation of plant life, pest control, or fire control, including flying to and from the application site.

Instructional - Flying accomplished in supervised training under the direction of an accredited instructor.

PHASE OF OPERATION: The phase of the flight or operation is the particular phase of flight in which the first occurrence or circumstance occurred. In the event that there was more than one occurrence in one operational phase, the same phase is recorded for each of those occurrences.

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. (49 CFR 830.2)

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 better than the formerly-used "Accident Types". It had long been recognized that several of the pre-1982 Accident Types (e.g., ground loop/swerve) were events which do not necessarily produce either injury or damage. Therefore, with the publication of the 1982 review, the nomenclature was changed to Occurrences (which does not imply injury or damage). Some Accident Types were retained as Occurrences, others were eliminated or combined with others to become one or more Occurrences. In some cases several Occurrences replace a single Accident Type.

To describe an accident, up to seven Occurrences may be used, as compared to only two Accident Types in the pre-1982 data base. The Occurrences are only the highest level classification mechanism 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 in 1982, 1983 (and in the future) to describe the probable cause of, and related factors in an accident. Appendix B contains a cause/factor table for all general aviation accidents in 1983. Each line of that table depicts either a specific Finding or an aggregation of Findings (those for which frequencies are enclosed in parentheses). The example below is taken from a 1982 general aviation accident record and illustrates the relationship between Occurrences and Findings. Both Findings 1 and 2 were cited as the probable cause of the accident.

Occurrence	IN FLIGHT COLLISION WITH TERRAIN
Phase of Operation	LANDING - FLARE/TOUCHDOWN

Finding(s)

1. WHEELS UP LANDING - INADVERTENT - PILOT IN COMMAND
2. IMPROPER USE OF PROCEDURE, DIVERTED ATTENTION - PILOT IN COMMAND

Pre-1982 editions of this annual review of general aviation accident data included tables comparing accidents in the current year with mean numbers of accidents in the preceding five-year period on an Accident Type basis. To perpetuate this practice to the extent feasible, Occurrences and Accident Types have (since 1982) each been grouped as necessary in order to produce comparable (if not equivalent) "Historical Comparison Categories". All tables in this report which are entitled "Most Prevalent Occurrences ..." employ this categorization of Occurrences and Accident Types. The categories are defined in the three-page table at the end of Appendix A.

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 classifications VMC/IMC as carried under Type of Weather Conditions.

HISTORICAL COMPARISON CATEGORY	PRE-1982 ACCIDENT TYPES	1982 AND LATER OCCURRENCES
Abrupt maneuver	Evasive maneuver	Abrupt maneuver
Altitude deviation, uncontrolled	Uncontrolled alt deviation	Altitude deviation, uncontrolled
Airframe/component/system fail/malf	Airframe failure - in flight - on ground Propeller/rotor failure - propeller - tail rotor - main rotor	Airframe/component/system failure/malf
Collision with object/terrain	Wheels-up landing Wheels-down landing in water Collision with ground/water-controlled Bird strike Collision between aircraft-one airborne - both on ground Collided with: wires/poles; trees; residence/s; building/s; fence; fenceposts; electronic towers; runway or approach lights; airport hazard; animals; crop; flagman; loader; ditches; snowbank; parked aircraft (unattended); automobile; dirt bank; other	In flight collision with object In flight collision with terrain On ground collision with object On ground collision with terrain Gear not extended
Ditching	Ditching	Ditching
Dragged wing, rotor, pod, float	Dragged wingtip, pod, or float	Dragged wing, rotor, pod or float
Encounter with weather/turbulence	Turbulence Hail damage to aircraft Lightning strike	In flight encounter with weather On ground encounter with weather Vortex turbulence encountered

HISTORICAL COMPARISON CATEGORY	PRE-1982 ACCIDENT TYPES	1982 AND LATER OCCURRENCES
Engine tearaway	Engine tearaway	Engine tearaway
Fire/Explosion	Fire or explosion - in flight - on ground	Fire/explosion Fire Explosion
Gear collapsed/retracted	Gear collapsed Gear retracted	Gear collapsed Main gear collapsed Nose gear collapsed Tail gear collapsed Complete gear collapsed Other gear collapsed
Hard landing	Hard landing	Hard landing
Loss of control - in flight	Collision with ground/water- uncontrolled Stall - Spin - Spiral - Mush	Loss of control - in flight
Loss of control - on ground	Ground-water loop-swerve	Loss of control - on ground
Loss of power	Engine failure or malfunction	Loss of power Loss of power (total) - mech failure/malfunction Loss of power (partial) - mech failure/malfunction Loss of power (total) - non-mech Loss of power (partial) - non-mech
Midair collision	Collision between aircraft- both in flight	Midair collision

HISTORICAL COMPARISON CATEGORY	PRE-1982 ACCIDENT TYPES	1982 AND LATER OCCURRENCES
Miscellaneous	Miscellaneous/Other Overshoot	Cargo shift Decompression Forced landing Harzardous materials leak/spill (fumes/smoke) Near collision between aircraft Overrun Miscellaneous/other
Missing aircraft	Missing Acft not recovered	Missing aircraft
Nose over/down	Nose over/down	Nose down Nose over
Prop blast or jet exhaust/suction	Jet intake/exh acdnt to pers Propeller/jet/rotor blast	Propeller blast or jet exhaust/suction
Prop/rotor contact	Prop rotor acdnt to person	Propeller/rotor contact
Roll over	Roll over	Roll over
Undershoot	Undershoot	Undershoot
Undetermined	Undetermined	Undetermined

APPENDIX B
CAUSE/FACTOR TABLE
ALL OPERATIONS

CAUSE/FACTOR TABLE
ALL OPERATIONS
1985

	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE	(1318)	(1021)	(2339)	(6360)	(4246)	(10607)
AIRCRAFT	(119)	(87)	(206)	(970)	(499)	(1469)
STRUCTURE	(42)	(22)	(64)	(202)	(165)	(367)
FUSELAGE	(8)	(4)	(12)	(11)	(7)	(18)
FUSELAGE	(2)	(1)	(3)	(3)	(2)	(5)
DECOMPRESSION	1	0	1	1	0	1
FAILURE, PARTIAL	0	0	0	1	0	1
ICE	0	0	0	0	1	1
SEPARATION	1	0	1	1	0	1
FOG	0	1	1	0	1	1
FUSELAGE, CREW COMPARTMENT	(0)	(2)	(2)	(0)	(3)	(3)
SMOKE	0	2	2	0	3	3
FUSELAGE, CARGO COMPARTMENT	(1)	(0)	(1)	(3)	(0)	(3)
BENT	0	0	0	1	0	1
DISINTEGRATED	1	0	1	1	0	1
FIRE	0	0	0	1	0	1
FUSELAGE, CABIN	(1)	(1)	(2)	(1)	(1)	(2)
FIRE	1	0	1	1	0	1
SMOKE	0	1	1	0	1	1
FUSELAGE, SKIN	(1)	(0)	(1)	(1)	(0)	(1)
SEPARATION	1	0	1	1	0	1
FUSELAGE, STRINGER	(2)	(0)	(2)	(2)	(0)	(2)
FATIGUE	1	0	1	1	0	1
PREVIOUS DAMAGE	1	0	1	1	0	1
FUSELAGE, FAIRING	(1)	(0)	(1)	(1)	(0)	(1)
DISTORTED	1	0	1	1	0	1
FUSELAGE, SEAT	(0)	(0)	(0)	(0)	(1)	(1)
NOT ENGAGED	0	0	0	0	1	1
WING	(10)	(5)	(15)	(14)	(9)	(23)
WING	(5)	(4)	(9)	(7)	(5)	(12)
FAILURE, PARTIAL	0	1	1	0	1	1
FAILURE, TOTAL	2	0	2	2	0	2
ICE	1	2	3	3	3	6
OVERLOAD	1	0	1	1	0	1
SEPARATION	1	1	2	1	1	2
WING, SPAR	(4)	(0)	(4)	(5)	(2)	(7)
BUCKLED	0	0	0	0	1	1
FAILURE, PARTIAL	1	0	1	1	0	1
FAILURE, TOTAL	1	0	1	1	1	2
OVERLOAD	1	0	1	2	0	2
SEPARATION	1	0	1	1	0	1
WING, WING RIB	(1)	(0)	(1)	(1)	(0)	(1)
SEPARATION	1	0	1	1	0	1
WING, WING ATTACHMENT FITTING	(0)	(1)	(1)	(0)	(1)	(1)
OVERLOAD	0	1	1	0	1	1
WING, BRACING WIRE	(0)	(0)	(0)	(0)	(1)	(1)
SEPARATION	0	0	0	0	1	1
WING, SKIN	(0)	(0)	(0)	(1)	(0)	(1)
BENT	0	0	0	1	0	1
NACELLE/PYLON	(0)	(0)	(0)	(0)	(1)	(1)
NACELLE/PYLON, SKIN	(0)	(0)	(0)	(0)	(1)	(1)
OPEN	0	0	0	0	1	1
FLIGHT CONTROL SURFACES/ATTACHMENTS	(9)	(3)	(12)	(19)	(6)	(25)
FLIGHT CONTROL SURFACES/ATTACHMENTS	(2)	(0)	(2)	(5)	(2)	(7)
FAILURE, PARTIAL	0	0	0	1	0	1
FLUTTER	0	0	0	1	1	2
LOCKED	1	0	1	1	0	1
OVERLOAD	0	0	0	0	1	1
SEPARATION	1	0	1	1	0	1
UNDETERMINED	0	0	0	1	0	1
FLIGHT CONTROL, ELEVATOR	(2)	(1)	(3)	(6)	(1)	(7)

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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT (Continued)						
STRUCTURE (Continued)						
FLIGHT CONTROL SURFACES/ATTACHMENTS (Continued)						
FLIGHT CONTROL,ELEVATOR (Continued)						
DISCONNECTED	0	0	0	1	0	1
FAILURE,TOTAL	1	0	1	1	0	1
INADEQUATE	0	0	0	1	0	1
JAMMED	0	0	0	1	0	1
MOVEMENT RESTRICTED	0	0	0	1	0	1
SEPARATION	1	1	2	1	1	2
FLIGHT CONTROL,ELEVATOR SURFACE	(0)	(0)	(0)	(0)	(1)	(1)
ENGAGED	0	0	0	0	1	1
FLIGHT CONTROL,ELEVATOR TAB SURFACE	(1)	(0)	(1)	(1)	(0)	(1)
JAMMED	1	0	1	1	0	1
FLIGHT CONTROL,ELEVATOR ATTACHMENT	(0)	(0)	(0)	(1)	(0)	(1)
DISCONNECTED	0	0	0	1	0	1
FLIGHT CONTROL,STABILATOR	(3)	(0)	(3)	(3)	(0)	(3)
FAILURE,TOTAL	2	0	2	2	0	2
FLUTTER	1	0	1	1	0	1
FLIGHT CONTROL,STABILATOR ATTACHMENT	(1)	(0)	(1)	(1)	(0)	(1)
DISCONNECTED	1	0	1	1	0	1
FLIGHT CONTROL,AILERON	(0)	(0)	(0)	(1)	(0)	(1)
FAILURE,PARTIAL	0	0	0	1	0	1
FLIGHT CONTROL,RUDDER	(0)	(2)	(2)	(0)	(2)	(2)
LOSS,TOTAL	0	1	1	0	1	1
SEPARATION	0	1	1	0	1	1
FLIGHT CONTROL,FLAP	(0)	(0)	(0)	(1)	(0)	(1)
INADEQUATE	0	0	0	1	0	1
LANDING GEAR	(2)	(2)	(4)	(116)	(104)	(220)
LANDING GEAR	(0)	(0)	(0)	(6)	(2)	(8)
DISABLED	0	0	0	1	0	1
FAILURE,TOTAL	0	0	0	0	1	1
INOPERATIVE	0	0	0	1	0	1
OVERLOAD	0	0	0	0	1	1
UNDETERMINED	0	0	0	4	0	4
LANDING GEAR,MAIN GEAR	(0)	(2)	(2)	(11)	(26)	(37)
DISABLED	0	0	0	0	1	1
FAILURE,TOTAL	0	1	1	1	5	6
FATIGUE	0	0	0	1	0	1
ICE	0	0	0	1	0	1
LOCKED	0	0	0	1	0	1
OVERLOAD	0	1	1	3	19	22
SEPARATION	0	0	0	0	1	1
UNDETERMINED	0	0	0	3	0	3
UNLOCKED	0	0	0	1	0	1
LANDING GEAR,MAIN GEAR SHOCK ABSORBING STRUT	(0)	(0)	(0)	(3)	(0)	(3)
FAILURE,PARTIAL	0	0	0	1	0	1
FAILURE,TOTAL	0	0	0	1	0	1
FATIGUE	0	0	0	1	0	1
LANDING GEAR,MAIN GEAR STRUT	(0)	(0)	(0)	(8)	(4)	(12)
CORRODED	0	0	0	1	0	1
FAILURE,PARTIAL	0	0	0	1	0	1
FAILURE,TOTAL	0	0	0	3	1	4
FATIGUE	0	0	0	2	0	2
OVERLOAD	0	0	0	1	1	2
SEPARATION	0	0	0	0	2	2
LANDING GEAR,MAIN GEAR ATTACHMENT	(0)	(0)	(0)	(8)	(2)	(10)
BUCKLED	0	0	0	0	1	1
DISCONNECTED	0	0	0	1	0	1
FAILURE,PARTIAL	0	0	0	1	0	1

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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT (Continued)						
STRUCTURE (Continued)						
LANDING GEAR (Continued)						
LANDING GEAR, MAIN GEAR ATTACHMENT (Continued)						
FAILURE, TOTAL	0	0	0	3	0	3
FATIGUE	0	0	0	1	0	1
OVERLOAD	0	0	0	1	1	2
SEPARATION	0	0	0	1	0	1
LANDING GEAR, NOSE GEAR	(2)	(0)	(2)	(11)	(26)	(37)
BUCKLED	0	0	0	0	1	1
FAILURE, TOTAL	0	0	0	0	1	1
FLUTTER	0	0	0	0	1	1
JAMMED	0	0	0	1	0	1
MOVEMENT RESTRICTED	0	0	0	1	0	1
OVERLOAD	1	0	1	5	22	27
SEPARATION	1	0	1	1	0	1
UNDETERMINED	0	0	0	3	0	3
UNLOCKED	0	0	0	0	1	1
LANDING GEAR, NOSE GEAR ASSEMBLY	(0)	(0)	(0)	(5)	(16)	(21)
FAILURE, PARTIAL	0	0	0	1	1	2
FAILURE, TOTAL	0	0	0	1	4	5
FATIGUE	0	0	0	0	1	1
IMPROPER	0	0	0	1	0	1
LOOSE	0	0	0	1	0	1
OVERLOAD	0	0	0	1	9	10
SEPARATION	0	0	0	0	1	1
LANDING GEAR, EMERGENCY EXTENSION ASSEMBLY	(0)	(0)	(0)	(2)	(0)	(2)
ENGAGED	0	0	0	1	0	1
JAMMED	0	0	0	1	0	1
LANDING GEAR, TAILWHEEL	(0)	(0)	(0)	(0)	(1)	(1)
UNLOCKED	0	0	0	0	1	1
LANDING GEAR, TAILWHEEL ASSEMBLY	(0)	(0)	(0)	(9)	(0)	(9)
ASYMMETRICAL	0	0	0	1	0	1
FAILURE, PARTIAL	0	0	0	1	0	1
JAMMED	0	0	0	1	0	1
LOOSE	0	0	0	1	0	1
NOT ENGAGED	0	0	0	1	0	1
PREVIOUS DAMAGE	0	0	0	1	0	1
SEPARATION	0	0	0	1	0	1
VIBRATION	0	0	0	2	0	2
LANDING GEAR, WHEEL	(0)	(0)	(0)	(2)	(0)	(2)
FAILURE, PARTIAL	0	0	0	1	0	1
SEPARATION	0	0	0	1	0	1
LANDING GEAR, TIRE	(0)	(0)	(0)	(3)	(5)	(8)
BURST	0	0	0	0	1	1
FAILURE, TOTAL	0	0	0	1	1	2
IMPROPER	0	0	0	1	0	1
INCORRECT	0	0	0	1	0	1
OVERLOAD	0	0	0	0	1	1
PRESSURE TOO LOW	0	0	0	0	2	2
LANDING GEAR, AXLE	(0)	(0)	(0)	(5)	(0)	(5)
FAILURE, TOTAL	0	0	0	3	0	3
FATIGUE	0	0	0	1	0	1
OUTPUT LOW	0	0	0	1	0	1
LANDING GEAR, SKI ASSEMBLY	(0)	(0)	(0)	(1)	(2)	(3)
DISCONNECTED	0	0	0	1	0	1
LACK OF	0	0	0	0	1	1
SEPARATION	0	0	0	0	1	1
LANDING GEAR, FLOAT ASSEMBLY	(0)	(0)	(0)	(3)	(0)	(3)
DISCONNECTED	0	0	0	1	0	1
FAILURE, PARTIAL	0	0	0	1	0	1
SEPARATION	0	0	0	1	0	1
LANDING GEAR, GEAR WARNING SYSTEM	(0)	(0)	(0)	(2)	(7)	(9)

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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT (Continued)						
STRUCTURE (Continued)						
LANDING GEAR (Continued)						
LANDING GEAR, GEAR WARNING SYSTEM (Continued)						
DISABLED	0	0	0	0	2	2
FALSE INDICATION	0	0	0	1	1	2
INOPERATIVE	0	0	0	0	4	4
NOT SWITCHED	0	0	0	1	0	1
LANDING GEAR, GEAR INDICATING SYSTEM	(0)	(0)	(0)	(2)	(1)	(3)
DISABLED	0	0	0	0	1	1
UNDETERMINED	0	0	0	2	0	2
LANDING GEAR, SKID ASSEMBLY	(0)	(0)	(0)	(2)	(4)	(6)
FAILURE, PARTIAL	0	0	0	0	1	1
FAILURE, TOTAL	0	0	0	0	1	1
OVERLOAD	0	0	0	1	2	3
SEPARATION	0	0	0	1	0	1
LANDING GEAR, NORMAL BRAKE SYSTEM	(0)	(0)	(0)	(15)	(6)	(21)
DISABLED	0	0	0	0	1	1
FAILURE, PARTIAL	0	0	0	5	1	6
FAILURE, TOTAL	0	0	0	1	0	1
IMPROPER	0	0	0	1	0	1
LOCKED	0	0	0	2	0	2
NO PRESSURE	0	0	0	1	0	1
PRESSURE EXCESSIVE	0	0	0	1	0	1
PRESSURE TOO LOW	0	0	0	0	1	1
UNDETERMINED	0	0	0	1	0	1
WORN	0	0	0	3	3	6
LANDING GEAR, ANTI-SKID BRAKE SYSTEM	(0)	(0)	(0)	(1)	(0)	(1)
FAILURE, PARTIAL	0	0	0	1	0	1
LANDING GEAR, EMERGENCY BRAKE SYSTEM	(0)	(0)	(0)	(1)	(0)	(1)
FAILURE, TOTAL	0	0	0	1	0	1
LANDING GEAR, GEAR LOCKING MECHANISM	(0)	(0)	(0)	(5)	(1)	(6)
FAILURE, PARTIAL	0	0	0	1	0	1
FAILURE, TOTAL	0	0	0	1	0	1
FLUCTUATING	0	0	0	0	1	1
INOPERATIVE	0	0	0	1	0	1
UNDETERMINED	0	0	0	2	0	2
LANDING GEAR, NOSEWHEEL STEERING	(0)	(0)	(0)	(1)	(0)	(1)
UNDETERMINED	0	0	0	1	0	1
LANDING GEAR, NORMAL RETRACTION/EXTENSION ASSEMBLY	(0)	(0)	(0)	(10)	(1)	(11)
DISCONNECTED	0	0	0	1	0	1
FAILURE, TOTAL	0	0	0	2	0	2
IMPROPER	0	0	0	1	0	1
INOPERATIVE	0	0	0	1	1	2
JAMMED	0	0	0	2	0	2
OVERLOAD	0	0	0	1	0	1
UNDETERMINED	0	0	0	2	0	2
DOOR	(0)	(2)	(2)	(2)	(7)	(9)
DOOR	(0)	(1)	(1)	(0)	(1)	(1)
OPEN	0	1	1	0	1	1
DOOR, EXTERIOR CREW	(0)	(0)	(0)	(0)	(3)	(3)
OPEN	0	0	0	0	3	3
DOOR, PASSENGER	(0)	(0)	(0)	(0)	(2)	(2)
OPEN	0	0	0	0	2	2
DOOR, CARGO	(0)	(1)	(1)	(2)	(1)	(3)
NOT ENGAGED	0	0	0	1	0	1
OPEN	0	0	0	1	0	1
UNLOCKED	0	1	1	0	1	1
WINDOW	(1)	(2)	(3)	(1)	(16)	(17)
WINDOW, FLIGHT COMPARTMENT WINDOW/WINDSHIELD	(1)	(1)	(2)	(1)	(13)	(14)
BLOCKED (PARTIAL)	0	0	0	0	1	1

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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT (Continued)						
STRUCTURE (Continued)						
WINDOW (Continued)						
WINDOW, FLIGHT COMPARTMENT WINDOW/WINDSHIELD	(1)	(1)	(Continued)			
DIRTY(FOGGY)	0	1	1	0	4	4
DISINTEGRATED	1	0	1	1	0	1
ICE	0	0	0	0	4	4
OPEN	0	0	0	0	1	1
OTHER	0	0	0	0	1	1
SMOKE	0	0	0	0	1	1
UNLOCKED	0	0	0	0	1	1
WINDOW, CABIN	(0)	(0)	(0)	(0)	(1)	(1)
FOREIGN OBJECT	0	0	0	0	1	1
WINDOW, INSPECTION/OBSERVATION	(0)	(1)	(1)	(0)	(2)	(2)
BLOCKED(PARTIAL)	0	1	1	0	1	1
LACK OF	0	0	0	0	1	1
FLIGHT CONTROL SYSTEM	(2)	(0)	(2)	(17)	(4)	(21)
FLIGHT CONTROL SYSTEM	(0)	(0)	(0)	(0)	(1)	(1)
INOPERATIVE	0	0	0	0	1	1
FLT CONTROL SYST,AILERON CONTROL	(0)	(0)	(0)	(4)	(0)	(4)
BINDING(MECHANICAL)	0	0	0	1	0	1
DISCONNECTED	0	0	0	1	0	1
FAILURE,PARTIAL	0	0	0	1	0	1
IMPROPER	0	0	0	1	0	1
FLT CONTROL SYST,ELEVATOR CONTROL	(2)	(0)	(2)	(7)	(0)	(7)
FAILURE,PARTIAL	0	0	0	1	0	1
FROZEN	0	0	0	1	0	1
INADEQUATE	1	0	1	1	0	1
JAMMED	0	0	0	2	0	2
LOSS,TOTAL	1	0	1	1	0	1
MOVEMENT RESTRICTED	0	0	0	1	0	1
FLT CONTROL SYST,ELEVATOR TAB CONTROL(TRIM)	(0)	(0)	(0)	(0)	(1)	(1)
IMPROPER	0	0	0	0	1	1
FLT CONTROL SYST,RUDDER CONTROL	(0)	(0)	(0)	(1)	(0)	(1)
INOPERATIVE	0	0	0	1	0	1
FLT CONTROL SYST,STABILATOR CONTROL	(0)	(0)	(0)	(0)	(1)	(1)
LOCKED	0	0	0	0	1	1
FLT CONTROL SYST,WING FLAP CONTROL	(0)	(0)	(0)	(2)	(0)	(2)
IMPROPER	0	0	0	1	0	1
OTHER	0	0	0	1	0	1
FLT CONTROL SYST,ELEVATOR TRIM INDICATOR	(0)	(0)	(0)	(1)	(0)	(1)
FALSE INDICATION	0	0	0	1	0	1
FLT CONTROL SYST,WING SPOILER SYSTEM	(0)	(0)	(0)	(1)	(1)	(2)
BINDING(MECHANICAL)	0	0	0	0	1	1
INCORRECT	0	0	0	1	0	1
FLT CONTROL SYST,WING SLAT SYSTEM	(0)	(0)	(0)	(1)	(0)	(1)
DEPLOYED INADVERTENTLY	0	0	0	1	0	1
STABILIZER	(1)	(2)	(3)	(2)	(2)	(4)
STABILIZER	(1)	(0)	(1)	(1)	(0)	(1)
SEPARATION	1	0	1	1	0	1
HORIZONTAL STABILIZER SURFACE	(0)	(1)	(1)	(0)	(1)	(1)
SEPARATION	0	1	1	0	1	1
HORIZONTAL STABILIZER ATTACHMENT	(0)	(1)	(1)	(1)	(1)	(2)
FAILURE,TOTAL	0	1	1	0	1	1
FATIGUE	0	0	0	1	0	1
ROTORCRAFT FLIGHT CONTROL	(2)	(0)	(2)	(6)	(0)	(6)
ROTORCRAFT FLIGHT CONTROL,CYCLIC CONTROL	(0)	(0)	(0)	(1)	(0)	(1)
JAMMED	0	0	0	1	0	1
ROTORCRAFT FLIGHT CONTROL,CYCLIC BELLCRANK	(0)	(0)	(0)	(1)	(0)	(1)

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	FATAL ACCIDENTS		ALL ACCIDENTS	
	CAUSE	FACTOR	TOTAL	TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)				
AIRCRAFT (Continued)				
STRUCTURE (Continued)				
ROTORCRAFT FLIGHT CONTROL (Continued)				
ROTORCRAFT FLIGHT CONTROL,CYCLIC BELLCRANK FAILURE,TOTAL	(0) 0	(0) 0	(Continued) 0	1 0
ROTORCRAFT FLIGHT CONTROL,TAIL ROTOR CONTROL FATIGUE	(0) 0	(0) 0	(0) 0	(1) 0
ROTORCRAFT FLIGHT CONTROL,ROTATING SCISSORS DISCONNECTED	(0) 0	(0) 0	(0) 0	(1) 0
ROTORCRAFT FLIGHT CONTROL,SWASHPLATE ASSEMBLY DISCONNECTED	(2) 1	(0) 0	(2) 1	(2) 0
FATIGUE	1	0	1	1
ROTOR DRIVE SYSTEM	(3)	(1)	(4)	(9)
ROTOR DRIVE SYSTEM,ENGINE TO TRANSMISSION DRIVE FAILURE,TOTAL	(3) 2	(0) 0	(3) 2	(0) 0
WORN	1	0	1	1
ROTOR DRIVE SYSTEM,MAIN ROTOR MAST(DRIVE SHAFT) FATIGUE	(0) 0	(0) 0	(0) 0	(1) 0
ROTOR DRIVE SYSTEM,FREEWHEELING UNIT(OTHER) UNDETERMINED	(0) 0	(0) 0	(0) 0	(1) 0
ROTOR DRIVE SYSTEM,CLUTCH ASSEMBLY FAILURE,TOTAL	(0) 0	(0) 0	(0) 0	(2) 1
UNDETERMINED	0	0	0	1
ROTOR DRIVE SYSTEM,MAIN GEAR BOX/TRANSMISSION SEPARATION	(0) 0	(0) 0	(0) 0	(1) 1
ROTOR DRIVE SYSTEM,TAIL ROTOR GEAR BOX(90 DEG) SEPARATION	(0) 0	(1) 1	(1) 1	(1) 1
ROTOR DRIVE SYSTEM,TAIL ROTOR DRIVE SHAFT BENT	(0) 0	(0) 0	(0) 0	(1) 1
ROTOR DRIVE SYSTEM,TAIL ROTOR DRIVE SHAFT BEARING FAILURE,TOTAL	(0) 0	(0) 0	(0) 0	(1) 0
ROTOR DRIVE SYSTEM,MAIN ROTOR DRIVE BELT UNDETERMINED	(0) 0	(0) 0	(0) 0	(1) 1
ROTOR SYSTEM	(4)	(1)	(5)	(5)
ROTOR SYSTEM DETERIORATED	(0) 0	(0) 0	(0) 0	(1) 1
ROTOR SYSTEM,MAIN ROTOR BLADE DISABLED	(2) 0	(0) 0	(2) 0	(1) 1
MOVEMENT RESTRICTED	1	0	1	0
SEPARATION	1	0	1	0
ROTOR SYSTEM,TAIL ROTOR BLADE SEPARATION	(0) 0	(1) 1	(1) 1	(2) 2
ROTOR SYSTEM,MAIN ROTOR HUB SEPARATION	(1) 1	(0) 0	(1) 1	(0) 0
ROTOR SYSTEM,MAIN ROTOR HUB DAMPER UNDERTORQUED	(0) 0	(0) 0	(0) 0	(1) 0
ROTOR SYSTEM,TAIL ROTOR HUB FATIGUE	(1) 1	(0) 0	(1) 1	(0) 0
SYSTEMS	(7)	(15)	(22)	(60)
ELECTRICAL SYSTEM	(0)	(3)	(3)	(28)
ELECTRICAL SYSTEM FAILURE,PARTIAL	(0) 0	(0) 0	(0) 0	(3) 0
FAILURE,TOTAL	0	0	0	1
OVERLOAD	0	0	0	1
SHORTED	0	0	0	2
UNDETERMINED	0	0	0	5
ELECTRICAL SYSTEM,BATTERY	(0)	(0)	(0)	(2)

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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT (Continued)						
SYSTEMS (Continued)						
ELECTRICAL SYSTEM (Continued)						
ELECTRICAL SYSTEM, BATTERY (Continued)						
DISABLED	0	0	0	1	0	1
EXHAUSTION	0	0	0	1	2	3
FAILURE, PARTIAL	0	0	0	0	1	1
OUTPUT LOW	0	0	0	0	1	1
ELECTRICAL SYSTEM, GENERATOR	(0)	(1)	(1)	(0)	(1)	(1)
FAILURE, PARTIAL	0	1	1	0	1	1
ELECTRICAL SYSTEM, ALTERNATOR	(0)	(0)	(0)	(7)	(3)	(10)
FAILURE, PARTIAL	0	0	0	0	1	1
FAILURE, TOTAL	0	0	0	5	0	5
FIRE	0	0	0	1	0	1
INOPERATIVE	0	0	0	0	2	2
SHORTED	0	0	0	1	0	1
ELECTRICAL SYSTEM, ELECTRIC RELAY	(0)	(1)	(1)	(0)	(2)	(2)
CORRODED	0	0	0	0	1	1
LOOSE	0	1	1	0	1	1
ELECTRICAL SYSTEM, ELECTRIC WIRING	(0)	(0)	(0)	(6)	(3)	(9)
ARCING	0	0	0	1	0	1
BURNED	0	0	0	3	2	5
CHAFED	0	0	0	1	0	1
LOOSE	0	0	0	1	0	1
SHORTED	0	0	0	0	1	1
ELECTRICAL SYSTEM, ELECTRIC MOTOR	(0)	(0)	(0)	(1)	(0)	(1)
ENGAGED	0	0	0	1	0	1
ELECTRICAL SYSTEM, ELECTRIC SWITCH	(0)	(0)	(0)	(1)	(0)	(1)
JAMMED	0	0	0	1	0	1
ELECTRICAL SYSTEM, CIRCUIT BREAKER	(0)	(1)	(1)	(2)	(5)	(7)
DISABLED	0	0	0	0	1	1
IMPROPER	0	0	0	1	0	1
NOT ENGAGED	0	1	1	0	1	1
POPPED/TRIPPED	0	0	0	1	3	4
HYDRAULIC SYSTEM	(1)	(1)	(2)	(15)	(2)	(17)
HYDRAULIC SYSTEM	(1)	(0)	(1)	(3)	(0)	(3)
FAILURE, TOTAL	0	0	0	1	0	1
LEAK	0	0	0	1	0	1
PRESSURE TOO LOW	1	0	1	1	0	1
HYDRAULIC SYSTEM, PUMP	(0)	(0)	(0)	(1)	(0)	(1)
PRESSURE TOO LOW	0	0	0	1	0	1
HYDRAULIC SYSTEM, RESERVOIR	(0)	(1)	(1)	(0)	(2)	(2)
LOW LEVEL	0	1	1	0	2	2
HYDRAULIC SYSTEM, LINE	(0)	(0)	(0)	(8)	(0)	(8)
CHAFED	0	0	0	2	0	2
CRACKED	0	0	0	1	0	1
FAILURE, PARTIAL	0	0	0	1	0	1
FAILURE, TOTAL	0	0	0	2	0	2
FATIGUE	0	0	0	1	0	1
INCORRECT	0	0	0	1	0	1
HYDRAULIC SYSTEM, FITTING	(0)	(0)	(0)	(1)	(0)	(1)
FAILURE, TOTAL	0	0	0	1	0	1
HYDRAULIC SYSTEM, RELIEF VALVE	(0)	(0)	(0)	(1)	(0)	(1)
CONTAMINATION	0	0	0	1	0	1
HYDRAULIC SYSTEM, BYPASS VALVE	(0)	(0)	(0)	(1)	(0)	(1)
INOPERATIVE	0	0	0	1	0	1
FLIGHT/NAV INSTRUMENTS	(2)	(2)	(4)	(3)	(6)	(9)
FLIGHT/NAV INSTRUMENTS	(0)	(0)	(0)	(0)	(1)	(1)
FAILURE, TOTAL	0	0	0	0	1	1
FLIGHT/NAV INSTRUMENTS, ALTIMETER	(0)	(0)	(0)	(0)	(1)	(1)

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	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
SYSTEMS (Continued)						
FLIGHT/NAV INSTRUMENTS (Continued)						
FLIGHT/NAV INSTRUMENTS,ALTIMETER (Continued)						
FALSE INDICATION	0	0	0	0	1	1
FLIGHT/NAV INSTRUMENTS,AIRSPED INDICATOR	(0)	(0)	(0)	(1)	(0)	(1)
FALSE INDICATION	0	0	0	1	0	1
FLIGHT/NAV INSTRUMENTS,ATTITUDE GYRO	(1)	(0)	(1)	(1)	(0)	(1)
INOPERATIVE	1	0	1	1	0	1
FLIGHT/NAV INSTRUMENTS,ATTITUDE INDICATOR	(0)	(1)	(1)	(0)	(2)	(2)
INOPERATIVE	0	1	1	0	2	2
FLIGHT/NAV INSTRUMENTS,DIRECTIONAL GYRO	(1)	(0)	(1)	(1)	(1)	(2)
FAILURE,TOTAL	1	0	1	1	1	2
FLIGHT/NAV INSTRUMENTS,HEADING INDICATOR	(0)	(1)	(1)	(0)	(1)	(1)
INOPERATIVE	0	1	1	0	1	1
ANTI-ICE/DE-ICE SYSTEM	(0)	(2)	(2)	(2)	(2)	(4)
ANTI-ICE/DE-ICE SYSTEM,WINDSHIELD	(0)	(1)	(1)	(1)	(1)	(2)
EXCEEDED	0	1	1	0	1	1
INOPERATIVE	0	0	0	1	0	1
ANTI-ICE/DE-ICE SYSTEM,PROPELLER	(0)	(1)	(1)	(0)	(1)	(1)
UNMARKED	0	1	1	0	1	1
ANTI-ICE/DE-ICE SYSTEM,CARBURETOR DE-ICE	(0)	(0)	(0)	(1)	(0)	(1)
NOT ENGAGED	0	0	0	1	0	1
FIRE EXTINGUISHER	(0)	(0)	(0)	(0)	(1)	(1)
FIRE EXTINGUISHER	(0)	(0)	(0)	(0)	(1)	(1)
LACK OF	0	0	0	0	1	1
COMM/NAV EQUIPMENT	(2)	(3)	(5)	(5)	(4)	(9)
COMM/NAV EQUIPMENT	(2)	(2)	(4)	(3)	(3)	(6)
DISABLED	0	0	0	0	1	1
ERRATIC	0	2	2	0	2	2
EXPLODED	0	0	0	1	0	1
IMPROPER	1	0	1	1	0	1
LACK OF	1	0	1	1	0	1
COMM/NAV EQUIPMENT,TRANSMITTER	(0)	(0)	(0)	(1)	(0)	(1)
INOPERATIVE	0	0	0	1	0	1
COMM/NAV EQUIPMENT,RECEIVER	(0)	(0)	(0)	(1)	(0)	(1)
INOPERATIVE	0	0	0	1	0	1
COMM/NAV EQUIPMENT,DISTANCE MEASURING EQPT(DME)	(0)	(1)	(1)	(0)	(1)	(1)
INOPERATIVE	0	1	1	0	1	1
AUTOPILOT/FLIGHT DIRECTOR	(0)	(1)	(1)	(3)	(1)	(4)
AUTOPILOT/FLIGHT DIRECTOR	(0)	(1)	(1)	(3)	(1)	(4)
ENGAGED	0	0	0	1	0	1
OTHER	0	0	0	1	0	1
UNDETERMINED	0	1	1	1	1	2
MISC ROTORCRAFT	(0)	(1)	(1)	(0)	(4)	(4)
MISC ROTORCRAFT,TAIL BOOM	(0)	(1)	(1)	(0)	(3)	(3)
PENETRATED	0	1	1	0	2	2
SEPARATION	0	0	0	0	1	1
MISC ROTORCRAFT,TAIL CONE	(0)	(0)	(0)	(0)	(1)	(1)
DISTORTED	0	0	0	0	1	1
OTHER SYSTEM	(2)	(2)	(4)	(4)	(9)	(13)
PITOT/STATIC SYSTEM	(0)	(0)	(0)	(0)	(1)	(1)
ICE	0	0	0	0	1	1
VACUUM SYSTEM	(1)	(1)	(2)	(2)	(1)	(3)
FAILURE,TOTAL	1	0	1	1	0	1
INOPERATIVE	0	1	1	1	1	2
PNEUMATIC SYSTEM	(0)	(0)	(0)	(1)	(0)	(1)

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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT (Continued)						
SYSTEMS (Continued)						
OTHER SYSTEM (Continued)						
PNEUMATIC SYSTEM (Continued)						
LEAK	0	0	0	1	0	1
WARNING SYSTEM(OTHER)	(0)	(1)	(1)	(0)	(4)	(4)
DISABLED	0	1	1	0	1	1
INCORRECT	0	0	0	0	1	1
INOPERATIVE	0	0	0	0	1	1
LACK OF	0	0	0	0	1	1
SAFETY SYSTEM(OTHER)	(1)	(0)	(1)	(1)	(3)	(4)
FAILURE, TOTAL	0	0	0	0	1	1
NOT ENGAGED	1	0	1	1	0	1
PREVIOUS DAMAGE	0	0	0	0	1	1
WORN	0	0	0	0	1	1
POWERPLANT	(44)	(33)	(77)	(464)	(153)	(617)
ENGINE ASSEMBLY	(11)	(4)	(15)	(170)	(22)	(192)
ENGINE ASSEMBLY	(3)	(2)	(5)	(29)	(11)	(40)
DISABLED	0	0	0	1	0	1
ERRATIC	0	1	1	0	1	1
FAILURE, PARTIAL	0	0	0	0	2	2
FAILURE, TOTAL	0	0	0	8	1	9
FATIGUE	0	0	0	1	0	1
FIRE	0	0	0	1	1	2
FOREIGN OBJECT	0	0	0	1	0	1
INOPERATIVE	0	0	0	1	0	1
OVERTEMPERATURE	1	0	1	1	0	1
SEPARATION	0	0	0	1	0	1
UNDETERMINED	2	1	3	14	4	18
VIBRATION	0	0	0	0	2	2
ENGINE ASSEMBLY, BEARING	(1)	(0)	(1)	(10)	(0)	(10)
BINDING(MECHANICAL)	0	0	0	1	0	1
BLOCKED(PARTIAL)	1	0	1	1	0	1
FAILURE, TOTAL	0	0	0	5	0	5
OVERTEMPERATURE	0	0	0	1	0	1
WORN	0	0	0	2	0	2
ENGINE ASSEMBLY, CAMSHAFT	(0)	(0)	(0)	(1)	(0)	(1)
FATIGUE	0	0	0	1	0	1
ENGINE ASSEMBLY, CRANKCASE	(1)	(0)	(1)	(6)	(2)	(8)
BLOCKED(TOTAL)	0	0	0	1	0	1
CRACKED	0	0	0	2	1	3
OVERLOAD	1	0	1	1	0	1
PENETRATED	0	0	0	2	1	3
ENGINE ASSEMBLY, CRANKSHAFT	(1)	(0)	(1)	(13)	(0)	(13)
BENT	0	0	0	1	0	1
FAILURE, TOTAL	0	0	0	5	0	5
FATIGUE	1	0	1	5	0	5
LOOSE	0	0	0	1	0	1
UNDETERMINED	0	0	0	1	0	1
ENGINE ASSEMBLY, CONNECTING ROD	(0)	(0)	(0)	(29)	(2)	(31)
BINDING(MECHANICAL)	0	0	0	1	0	1
DISCONNECTED	0	0	0	1	0	1
FAILURE, TOTAL	0	0	0	22	0	22
FATIGUE	0	0	0	2	0	2
OVERLOAD	0	0	0	0	1	1
SEPARATION	0	0	0	1	1	2
UNDETERMINED	0	0	0	1	0	1
WORN	0	0	0	1	0	1
ENGINE ASSEMBLY, CYLINDER	(1)	(0)	(1)	(26)	(2)	(28)
BURNED	0	0	0	1	0	1
CRACKED	1	0	1	5	1	6
DISCONNECTED	0	0	0	1	0	1
DISTORTED	0	0	0	1	0	1
FAILURE, PARTIAL	0	0	0	3	0	3
FAILURE, TOTAL	0	0	0	6	0	6

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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT (Continued)						
POWERPLANT (Continued)						
ENGINE ASSEMBLY (Continued)						
ENGINE ASSEMBLY, CYLINDER (Continued)						
LEAK	0	0	0	1	0	1
LOOSE	0	0	0	2	0	2
LOW COMPRESSION	0	0	0	1	1	2
OVERTEMPERATURE	0	0	0	2	0	2
PENETRATED	0	0	0	1	0	1
SEPARATION	0	0	0	1	0	1
UNDERTORQUED	0	0	0	1	0	1
ENGINE ASSEMBLY, PISTON	(1)	(0)	(1)	(13)	(0)	(13)
BINDING(MECHANICAL)	0	0	0	1	0	1
BURNED	0	0	0	1	0	1
DISINTEGRATED	1	0	1	2	0	2
FAILURE, PARTIAL	0	0	0	2	0	2
FAILURE, TOTAL	0	0	0	2	0	2
MOVEMENT RESTRICTED	0	0	0	1	0	1
OVERTEMPERATURE	0	0	0	3	0	3
WORN	0	0	0	1	0	1
ENGINE ASSEMBLY, PUSH ROD	(0)	(0)	(0)	(3)	(0)	(3)
DISABLED	0	0	0	1	0	1
FAILURE, TOTAL	0	0	0	1	0	1
SEPARATION	0	0	0	1	0	1
ENGINE ASSEMBLY, RING	(1)	(1)	(2)	(3)	(1)	(4)
CRACKED	0	0	0	1	0	1
FAILURE, TOTAL	1	0	1	1	0	1
INCORRECT	0	1	1	0	1	1
OTHER	0	0	0	1	0	1
ENGINE ASSEMBLY, VALVE	(1)	(0)	(1)	(18)	(1)	(19)
BINDING(MECHANICAL)	0	0	0	3	0	3
DISABLED	0	0	0	1	0	1
FAILURE, PARTIAL	0	0	0	1	0	1
FAILURE, TOTAL	1	0	1	8	1	9
JAMMED	0	0	0	2	0	2
MOVEMENT RESTRICTED	0	0	0	1	0	1
UNDETERMINED	0	0	0	1	0	1
WORN	0	0	0	1	0	1
ENGINE ASSEMBLY, BLOWER/IMPELLER	(0)	(0)	(0)	(3)	(0)	(3)
BINDING(MECHANICAL)	0	0	0	1	0	1
FAILURE, PARTIAL	0	0	0	1	0	1
FAILURE, TOTAL	0	0	0	1	0	1
ENGINE ASSEMBLY, MOUNT	(1)	(0)	(1)	(5)	(0)	(5)
BURNED	0	0	0	1	0	1
CRACKED	0	0	0	1	0	1
FAILURE, TOTAL	1	0	1	2	0	2
UNDETERMINED	0	0	0	1	0	1
ENGINE ASSEMBLY, OTHER	(0)	(1)	(1)	(11)	(3)	(14)
DISCONNECTED	0	0	0	1	0	1
ERRATIC	0	1	1	0	1	1
FAILURE, TOTAL	0	0	0	3	0	3
FIRE	0	0	0	1	0	1
INOPERATIVE	0	0	0	0	1	1
LOOSE	0	0	0	1	0	1
LOW COMPRESSION	0	0	0	2	0	2
OVERTEMPERATURE	0	0	0	0	1	1
SEPARATION	0	0	0	1	0	1
UNDERTORQUED	0	0	0	1	0	1
WORN	0	0	0	1	0	1
COMPRESSOR ASSEMBLY	(9)	(0)	(9)	(13)	(0)	(13)
COMPRESSOR ASSEMBLY	(2)	(0)	(2)	(3)	(0)	(3)
FAILURE, TOTAL	1	0	1	1	0	1
IMPROPER	0	0	0	1	0	1

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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT (Continued)						
POWERPLANT (Continued)						
COMPRESSOR ASSEMBLY (Continued)						
COMPRESSOR ASSEMBLY (Continued)						
UNDERTORQUED	1	0	1	1	0	1
COMPRESSOR ASSEMBLY, ROTOR DISC	(1)	(0)	(1)	(1)	(0)	(1)
UNLOCKED	1	0	1	1	0	1
COMPRESSOR ASSEMBLY, BLADE	(2)	(0)	(2)	(2)	(0)	(2)
FAILURE, TOTAL	1	0	1	1	0	1
FATIGUE	1	0	1	1	0	1
COMPRESSOR ASSEMBLY, IMPELLER	(1)	(0)	(1)	(4)	(0)	(4)
DISCONNECTED	1	0	1	1	0	1
FAILURE, TOTAL	0	0	0	2	0	2
FATIGUE	0	0	0	1	0	1
COMPRESSOR ASSEMBLY, FORWARD FAN	(3)	(0)	(3)	(3)	(0)	(3)
FAILURE, TOTAL	1	0	1	1	0	1
FATIGUE	1	0	1	1	0	1
SEPARATION	1	0	1	1	0	1
TURBINE ASSEMBLY	(0)	(1)	(1)	(1)	(3)	(4)
TURBINE ASSEMBLY, TURBINE WHEEL	(0)	(1)	(1)	(1)	(1)	(2)
DISINTEGRATED	0	1	1	1	1	2
TURBINE ASSEMBLY, SHAFT	(0)	(0)	(0)	(0)	(1)	(1)
FAILURE, PARTIAL	0	0	0	0	1	1
TURBINE ASSEMBLY, SHAFT BEARING	(0)	(0)	(0)	(0)	(1)	(1)
BLOCKED (PARTIAL)	0	0	0	0	1	1
EXHAUST SYSTEM	(0)	(1)	(1)	(17)	(5)	(22)
EXHAUST SYSTEM	(0)	(0)	(0)	(3)	(1)	(4)
LEAK	0	0	0	3	0	3
OVERTEMPERATURE	0	0	0	0	1	1
EXHAUST SYSTEM, MANIFOLD	(0)	(0)	(0)	(1)	(1)	(2)
FAILURE, PARTIAL	0	0	0	0	1	1
FAILURE, TOTAL	0	0	0	1	0	1
EXHAUST SYSTEM, MUFFLER	(0)	(0)	(0)	(5)	(0)	(5)
DETERIORATED	0	0	0	1	0	1
DISCONNECTED	0	0	0	1	0	1
FAILURE, TOTAL	0	0	0	3	0	3
EXHAUST SYSTEM, CLAMP	(0)	(0)	(0)	(1)	(1)	(2)
FAILURE, TOTAL	0	0	0	1	1	2
EXHAUST SYSTEM, STACK	(0)	(0)	(0)	(2)	(0)	(2)
NOT ENGAGED	0	0	0	1	0	1
SEPARATION	0	0	0	1	0	1
EXHAUST SYSTEM, END PLATE	(0)	(1)	(1)	(0)	(1)	(1)
SEPARATION	0	1	1	0	1	1
EXHAUST SYSTEM, EXTERNAL SUPERCHARGER	(0)	(0)	(0)	(4)	(0)	(4)
BINDING (MECHANICAL)	0	0	0	1	0	1
CHAFED	0	0	0	1	0	1
FAILURE, TOTAL	0	0	0	2	0	2
EXHAUST SYSTEM, TURBOCHARGER	(0)	(0)	(0)	(1)	(1)	(2)
FAILURE, TOTAL	0	0	0	1	0	1
LEAK	0	0	0	0	1	1
PROPELLER SYSTEM/ACCESSORIES	(0)	(2)	(2)	(13)	(4)	(17)
PROPELLER SYSTEM/ACCESSORIES	(0)	(0)	(0)	(4)	(0)	(4)
IMPROPER	0	0	0	1	0	1
OVERSPEED	0	0	0	1	0	1
VIBRATION	0	0	0	2	0	2
PROPELLER SYSTEM/ACCESSORIES, BLADE	(0)	(1)	(1)	(4)	(2)	(6)
CORRODED	0	0	0	0	1	1
DISINTEGRATED	0	1	1	0	1	1
FATIGUE	0	0	0	2	0	2
SEPARATION	0	0	0	2	0	2

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	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
POWERPLANT (Continued)						
PROPELLER SYSTEM/ACCESSORIES (Continued)						
PROPELLER SYSTEM/ACCESSORIES,HUB SEPARATION	(0)	(0)	(0)	(1)	(0)	(1)
	0	0	0	1	0	1
PROPELLER SYSTEM/ACCESSORIES,ELECTRIC PITCH CTL INOPERATIVE	(0)	(0)	(0)	(0)	(1)	(1)
	0	0	0	0	1	1
PROPELLER SYSTEM/ACCESSORIES,COUNTERWEIGHT FAILURE,TOTAL	(0)	(1)	(1)	(1)	(1)	(2)
	0	1	1	1	1	2
PROPELLER SYSTEM/ACCESSORIES,FEATHERING SYSTEM FAILURE,TOTAL	(0)	(0)	(0)	(1)	(0)	(1)
	0	0	0	1	0	1
PROPELLER SYSTEM/ACCESSORIES,PITCH CHANGE MECH FAILURE,PARTIAL	(0)	(0)	(0)	(1)	(0)	(1)
	0	0	0	1	0	1
PROPELLER SYSTEM/ACCESSORIES,REVERSING SYSTEM ENGAGED	(0)	(0)	(0)	(1)	(0)	(1)
	0	0	0	1	0	1
ACCESSORY DRIVE ASSY	(0)	(0)	(0)	(6)	(1)	(7)
ACCESSORY DRIVE ASSY	(0)	(0)	(0)	(1)	(1)	(2)
FAILURE,TOTAL	0	0	0	0	1	1
FIRE	0	0	0	1	0	1
ACCESSORY DRIVE ASSY,DRIVE GEAR	(0)	(0)	(0)	(5)	(0)	(5)
FAILURE,PARTIAL	0	0	0	1	0	1
FAILURE,TOTAL	0	0	0	2	0	2
FATIGUE	0	0	0	1	0	1
OVERLOAD	0	0	0	1	0	1
IGNITION SYSTEM	(8)	(7)	(15)	(32)	(12)	(44)
IGNITION SYSTEM	(0)	(0)	(0)	(1)	(0)	(1)
IMPROPER	0	0	0	1	0	1
IGNITION SYSTEM,MAGNETO	(3)	(2)	(5)	(18)	(3)	(21)
ARCING	0	0	0	1	0	1
CLEARANCE	0	0	0	1	0	1
CRACKED	1	0	1	1	0	1
DISCONNECTED	0	0	0	1	0	1
FAILURE,TOTAL	0	0	0	3	0	3
FOREIGN OBJECT DAMAGE	0	0	0	1	0	1
IMPROPER	1	1	2	1	1	2
INCORRECT	0	1	1	0	1	1
INOPERATIVE	0	0	0	3	0	3
JAMMED	0	0	0	1	0	1
SHORTED	0	0	0	2	1	3
WATER	0	0	0	1	0	1
WORN	1	0	1	2	0	2
IGNITION SYSTEM,DISTRIBUTOR	(1)	(1)	(2)	(1)	(1)	(2)
ARCING	1	0	1	1	0	1
UNDETERMINED	0	1	1	0	1	1
IGNITION SYSTEM,SPARK PLUG	(2)	(2)	(4)	(8)	(6)	(14)
ARCING	1	0	1	1	0	1
BENT	0	0	0	0	1	1
CONTAMINATION	0	0	0	1	2	3
DISCONNECTED	0	0	0	1	0	1
IMPROPER	0	0	0	1	0	1
INOPERATIVE	1	0	1	2	0	2
LEADED PLUGS	0	0	0	2	0	2
OUTPUT LOW	0	1	1	0	1	1
PRESSURE TOO LOW	0	1	1	0	1	1
WORN	0	0	0	0	1	1
IGNITION SYSTEM,IGNITION COIL	(0)	(1)	(1)	(1)	(1)	(2)
INCORRECT	0	1	1	0	1	1
INADEQUATE	0	0	0	1	0	1
IGNITION SYSTEM,HIGH TENSION WIRING	(1)	(0)	(1)	(1)	(0)	(1)
DISCONNECTED	1	0	1	1	0	1

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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)

AIRCRAFT (Continued)

POWERPLANT (Continued)

IGNITION SYSTEM (Continued)

IGNITION SYSTEM,IGNITION HARNESS

CRACKED

INCORRECT

IGNITION SYSTEM,IGNITION SWITCH

INOPERATIVE

ENGINE ACCESSORIES

ENGINE ACCESSORIES,VACUUM PUMP

JAMMED

SEPARATION

ENGINE ACCESSORIES,ENGINE STARTER

ENGAGED

BLEED AIR SYSTEM

BLEED AIR SYSTEM

FAILURE,TOTAL

IMPROPER

BLEED AIR SYSTEM,VALVE

UNDETERMINED

BLEED AIR SYSTEM,ACTUATOR

LOSS,PARTIAL

FUEL SYSTEM

FUEL SYSTEM

BLOCKED(PARTIAL)

BLOCKED(TOTAL)

CONTAMINATION

DISABLED

EXHAUSTION

FAILURE,TOTAL

FOREIGN OBJECT

FROZEN

ICE

IMPROPER

INCORRECT

INADEQUATE

LEAK

STARVATION

UNDETERMINED

WATER

SIPHONING

FUEL SYSTEM,TANK

BUCKLED

CONTAMINATION

DETERIORATED

DISTORTED

FAILURE,PARTIAL

IMPROPER

INCORRECT

WATER

FUEL SYSTEM,LINE

BLOCKED(TOTAL)

BURST

CONTAMINATION

DETERIORATED

DISCONNECTED

FAILURE,TOTAL

FOREIGN OBJECT DAMAGE

LEAK

LOOSE

LOW LEVEL

UNDERTORQUED

FATAL ACCIDENTS
CAUSE FACTOR TOTAL

ALL ACCIDENTS
CAUSE FACTOR TOTAL

(1)	(1)	(2)	(1)	(1)	(2)
0	1	1	0	1	1
1	0	1	1	0	1
(0)	(0)	(0)	(1)	(0)	(1)
0	0	0	1	0	1
(0)	(0)	(0)	(1)	(2)	(3)
(0)	(0)	(0)	(0)	(2)	(2)
0	0	0	0	1	1
0	0	0	0	1	1
(0)	(0)	(0)	(1)	(0)	(1)
0	0	0	1	0	1
(0)	(0)	(0)	(3)	(1)	(4)
(0)	(0)	(0)	(1)	(1)	(2)
0	0	0	1	0	1
0	0	0	0	1	1
(0)	(0)	(0)	(1)	(0)	(1)
0	0	0	1	0	1
(0)	(0)	(0)	(1)	(0)	(1)
0	0	0	1	0	1
(8)	(12)	(20)	(136)	(59)	(195)
(1)	(1)	(2)	(28)	(14)	(42)
0	0	0	0	1	1
0	0	0	3	0	3
0	1	1	3	3	6
0	0	0	1	0	1
0	0	0	1	2	3
0	0	0	1	0	1
0	0	0	0	1	1
0	0	0	0	1	1
1	0	1	1	1	2
0	0	0	1	0	1
0	0	0	0	1	1
0	0	0	3	0	3
0	0	0	3	0	3
0	0	0	1	0	1
0	0	0	6	1	7
0	0	0	6	0	6
0	0	0	1	0	1
(0)	(0)	(0)	(9)	(2)	(11)
0	0	0	1	0	1
0	0	0	1	0	1
0	0	0	2	0	2
0	0	0	1	0	1
0	0	0	0	1	1
0	0	0	1	1	2
0	0	0	1	0	1
0	0	0	2	0	2
(0)	(0)	(0)	(12)	(3)	(15)
0	0	0	3	0	3
0	0	0	1	0	1
0	0	0	1	0	1
0	0	0	1	0	1
0	0	0	1	0	1
0	0	0	1	0	1
0	0	0	0	1	1
0	0	0	0	1	1
0	0	0	1	1	2
0	0	0	1	0	1
0	0	0	0	1	1
0	0	0	1	0	1

CAUSE/FACTOR TABLE
ALL OPERATIONS
1985

AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT (Continued)						
POWERPLANT (Continued)						
FUEL SYSTEM (Continued)						
FUEL SYSTEM,LINE (Continued)						
WATER	0	0	0	1	0	1
FUEL SYSTEM,LINE FITTING	(3)	(0)	(3)	(8)	(3)	(11)
BOGUS PART	0	0	0	1	0	1
CORRODED	0	0	0	1	0	1
CRACKED	0	0	0	0	1	1
DETERIORATED	0	0	0	1	0	1
FAILURE,TOTAL	2	0	2	2	1	3
LEAK	0	0	0	1	1	2
LOOSE	1	0	1	1	0	1
OVERTORQUE	0	0	0	1	0	1
FUEL SYSTEM,SELECTOR VALVE	(0)	(3)	(3)	(6)	(6)	(12)
BLOCKED(PARTIAL)	0	0	0	1	0	1
DIRTY(FOGGY)	0	0	0	1	0	1
FAILURE,PARTIAL	0	0	0	1	0	1
IMPROPER	0	2	2	0	2	2
LEAK	0	0	0	1	0	1
LOOSE	0	0	0	0	1	1
MOVEMENT RESTRICTED	0	0	0	1	0	1
NOT SWITCHED	0	1	1	1	1	2
OTHER	0	0	0	0	1	1
SWITCHED OFF	0	0	0	0	1	1
FUEL SYSTEM,FILTER	(0)	(1)	(1)	(7)	(1)	(8)
BLOCKED(PARTIAL)	0	0	0	1	0	1
BLOCKED(TOTAL)	0	0	0	1	0	1
CONTAMINATION	0	1	1	2	1	3
DETERIORATED	0	0	0	1	0	1
LEAK	0	0	0	1	0	1
WATER	0	0	0	1	0	1
FUEL SYSTEM,STRAINER	(0)	(0)	(0)	(2)	(1)	(3)
BLOCKED(PARTIAL)	0	0	0	1	0	1
ICE	0	0	0	0	1	1
LOOSE	0	0	0	1	0	1
FUEL SYSTEM,SCREEN	(1)	(0)	(1)	(3)	(0)	(3)
BLOCKED(PARTIAL)	0	0	0	1	0	1
BLOCKED(TOTAL)	1	0	1	1	0	1
DIRTY(FOGGY)	0	0	0	1	0	1
FUEL SYSTEM,PRIMER SYSTEM	(0)	(0)	(0)	(0)	(1)	(1)
UNLOCKED	0	0	0	0	1	1
FUEL SYSTEM,CARBURETOR	(1)	(3)	(4)	(34)	(13)	(47)
BLOCKED(PARTIAL)	0	0	0	2	0	2
BLOCKED(TOTAL)	0	0	0	1	0	1
CONTAMINATION	0	1	1	0	1	1
CRACKED	0	0	0	1	0	1
FAILURE,PARTIAL	0	0	0	2	0	2
FAILURE,TOTAL	0	0	0	1	0	1
FIRE	0	0	0	0	1	1
FOREIGN OBJECT	0	0	0	1	0	1
ICE	1	0	1	11	6	17
IMPROPER	0	0	0	3	0	3
INCORRECT	0	0	0	2	0	2
INOPERATIVE	0	0	0	1	0	1
LEAK	0	1	1	0	1	1
OPEN	0	0	0	1	0	1
OTHER	0	1	1	0	2	2
PRESSURE TOO LOW	0	0	0	0	1	1
STARVATION	0	0	0	3	1	4
STRIPPED THREAD	0	0	0	1	0	1
UNDETERMINED	0	0	0	1	0	1
WORN	0	0	0	3	0	3

CAUSE/FACTOR TABLE
ALL OPERATIONS
1985

	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
POWERPLANT (Continued)						
FUEL SYSTEM (Continued)						
FUEL SYSTEM,PUMP	(1)	(4)	(5)	(6)	(5)	(11)
CONTAMINATION	0	0	0	1	0	1
FAILURE,PARTIAL	0	0	0	0	1	1
FAILURE,TOTAL	1	2	3	1	2	3
IMPROPER	0	0	0	1	0	1
INOPERATIVE	0	0	0	2	0	2
LEAK	0	0	0	1	0	1
WORN	0	1	1	0	1	1
SIPHONING	0	1	1	0	1	1
FUEL SYSTEM,INJECTOR	(0)	(0)	(0)	(1)	(0)	(1)
IMPROPER	0	0	0	1	0	1
FUEL SYSTEM,VENT	(0)	(0)	(0)	(6)	(1)	(7)
BLOCKED(TOTAL)	0	0	0	4	0	4
FOREIGN OBJECT	0	0	0	1	0	1
IMPROPER	0	0	0	0	1	1
INADEQUATE	0	0	0	1	0	1
FUEL SYSTEM,DRAIN	(1)	(0)	(1)	(2)	(1)	(3)
FROZEN	0	0	0	0	1	1
INADEQUATE	0	0	0	1	0	1
NOT DUMPED	1	0	1	1	0	1
FUEL SYSTEM,CAP	(0)	(0)	(0)	(5)	(4)	(9)
BLOCKED(TOTAL)	0	0	0	1	0	1
IMPROPER	0	0	0	1	0	1
LACK OF	0	0	0	0	1	1
LEAK	0	0	0	1	2	3
LOOSE	0	0	0	1	1	2
WORN	0	0	0	1	0	1
FUEL SYSTEM,NOZZLE	(0)	(0)	(0)	(2)	(0)	(2)
BLOCKED(PARTIAL)	0	0	0	1	0	1
FOREIGN OBJECT	0	0	0	1	0	1
FUEL SYSTEM,FUEL CONTROL	(0)	(0)	(0)	(4)	(4)	(8)
CONTAMINATION	0	0	0	0	1	1
DISABLED	0	0	0	0	1	1
IMPROPER	0	0	0	1	0	1
INCORRECT	0	0	0	1	0	1
LEAK	0	0	0	1	0	1
OVERSPEED	0	0	0	0	1	1
PRESSURE EXCESSIVE	0	0	0	0	1	1
UNDETERMINED	0	0	0	1	0	1
FUEL SYSTEM,FUEL SHUTOFF	(0)	(0)	(0)	(1)	(0)	(1)
SWITCHED OFF	0	0	0	1	0	1
LUBRICATING SYSTEM	(2)	(0)	(2)	(28)	(5)	(33)
LUBRICATING SYSTEM	(2)	(0)	(2)	(10)	(0)	(10)
BLOCKED(PARTIAL)	1	0	1	1	0	1
BLOCKED(TOTAL)	0	0	0	1	0	1
FAILURE,PARTIAL	1	0	1	2	0	2
FAILURE,TOTAL	0	0	0	2	0	2
LEAK	0	0	0	1	0	1
OPEN	0	0	0	1	0	1
OTHER	0	0	0	1	0	1
UNDETERMINED	0	0	0	1	0	1
LUBRICATING SYSTEM,OIL LINE	(0)	(0)	(0)	(11)	(1)	(12)
BURNED	0	0	0	1	0	1
BURST	0	0	0	2	0	2
CORRODED	0	0	0	2	0	2
CRACKED	0	0	0	2	0	2
DISCONNECTED	0	0	0	1	1	2
FAILURE,TOTAL	0	0	0	1	0	1
OVERLOAD	0	0	0	1	0	1

CAUSE/FACTOR TABLE
ALL OPERATIONS
1985

	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
POWERPLANT (Continued)						
LUBRICATING SYSTEM (Continued)						
LUBRICATING SYSTEM,OIL LINE (Continued)						
OVERTORQUE	0	0	0	1	0	1
LUBRICATING SYSTEM,OIL HOSE	(0)	(0)	(0)	(3)	(1)	(4)
CRACKED	0	0	0	1	1	2
FAILURE,PARTIAL	0	0	0	1	0	1
FAILURE,TOTAL	0	0	0	1	0	1
LUBRICATING SYSTEM,OIL PRESSURE PUMP	(0)	(0)	(0)	(2)	(0)	(2)
FOREIGN OBJECT	0	0	0	1	0	1
JAMMED	0	0	0	1	0	1
LUBRICATING SYSTEM,OIL SEAL	(0)	(0)	(0)	(1)	(1)	(2)
LEAK	0	0	0	0	1	1
UNDERTORQUED	0	0	0	1	0	1
LUBRICATING SYSTEM,OIL GASKET	(0)	(0)	(0)	(1)	(1)	(2)
IMPROPER	0	0	0	0	1	1
UNDERTORQUED	0	0	0	1	0	1
LUBRICATING SYSTEM,OIL TUBING	(0)	(0)	(0)	(0)	(1)	(1)
BLOCKED(PARTIAL)	0	0	0	0	1	1
ENGINE INSTRUMENTS	(0)	(4)	(4)	(3)	(28)	(31)
ENGINE INSTRUMENTS,FUEL QUANTITY GAGE	(0)	(4)	(4)	(2)	(26)	(28)
BINDING(MECHANICAL)	0	0	0	0	1	1
CONTAMINATION	0	1	1	0	1	1
FALSE INDICATION	0	1	1	1	15	16
INCORRECT	0	0	0	0	1	1
INOPERATIVE	0	1	1	1	7	8
NOT SWITCHED	0	1	1	0	1	1
ENGINE INSTRUMENTS,FUEL FLOW GAGE	(0)	(0)	(0)	(0)	(1)	(1)
FALSE INDICATION	0	0	0	0	1	1
ENGINE INSTRUMENTS,OIL PRESSURE GAGE	(0)	(0)	(0)	(1)	(1)	(2)
NO PRESSURE	0	0	0	0	1	1
PRESSURE TOO LOW	0	0	0	1	0	1
COOLING SYSTEM	(0)	(0)	(0)	(0)	(1)	(1)
COOLING SYSTEM,COWLING	(0)	(0)	(0)	(0)	(1)	(1)
UNLOCKED	0	0	0	0	1	1
TURBOSHAFT ENGINE	(0)	(1)	(1)	(6)	(1)	(7)
TURBOSHAFT ENGINE	(0)	(0)	(0)	(1)	(0)	(1)
FOREIGN OBJECT DAMAGE	0	0	0	1	0	1
TURBOSHAFT ENGINE,GAS GENERATOR	(0)	(0)	(0)	(1)	(0)	(1)
DIRTY(FOGGY)	0	0	0	1	0	1
TURBOSHAFT ENGINE,GAS GENERATOR TURBINE	(0)	(1)	(1)	(0)	(1)	(1)
FAILURE,TOTAL	0	1	1	0	1	1
TURBOSHAFT ENGINE,GAS GENERATOR TURBINE SHAFT	(0)	(0)	(0)	(2)	(0)	(2)
DISCONNECTED	0	0	0	1	0	1
FATIGUE	0	0	0	1	0	1
TURBOSHAFT ENGINE,FREE (POWER) TURBINE	(0)	(0)	(0)	(1)	(0)	(1)
BURST	0	0	0	1	0	1
TURBOSHAFT ENGINE,FREE TURBINE GOVERNOR	(0)	(0)	(0)	(1)	(0)	(1)
INCORRECT	0	0	0	1	0	1
THROTTLE/POWER LEVER	(1)	(0)	(1)	(11)	(4)	(15)
THROTTLE/POWER LEVER	(0)	(0)	(0)	(3)	(4)	(7)
BINDING(MECHANICAL)	0	0	0	0	1	1
INOPERATIVE	0	0	0	1	0	1
JAMMED	0	0	0	0	1	1
MOVEMENT RESTRICTED	0	0	0	0	2	2
UNDETERMINED	0	0	0	2	0	2
THROTTLE/POWER LEVER,PUSH/PULL ROD	(0)	(0)	(0)	(1)	(0)	(1)
WORN	0	0	0	1	0	1

CAUSE/FACTOR TABLE
ALL OPERATIONS
1985

	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
POWERPLANT (Continued)						
THROTTLE/POWER LEVER (Continued)						
THROTTLE/POWER LEVER,BELLCRANK DISCONNECTED	(0)	(0)	(0)	(1)	(0)	(1)
	0	0	0	1	0	1
THROTTLE/POWER LEVER,CABLE FAILURE,PARTIAL LOOSE	(0)	(0)	(0)	(2)	(0)	(2)
	0	0	0	1	0	1
THROTTLE/POWER LEVER,LINKAGE DISCONNECTED SEPARATION	(1)	(0)	(1)	(3)	(0)	(3)
	1	0	1	2	0	2
	0	0	0	1	0	1
THROTTLE/POWER LEVER,TORQUE BOX DETERIORATED	(0)	(0)	(0)	(1)	(0)	(1)
	0	0	0	1	0	1
MIXTURE CONTROL	(1)	(0)	(1)	(2)	(1)	(3)
MIXTURE CONTROL IMPROPER	(1)	(0)	(1)	(1)	(0)	(1)
	1	0	1	1	0	1
MIXTURE CONTROL,CABLE DISCONNECTED	(0)	(0)	(0)	(0)	(1)	(1)
	0	0	0	0	1	1
MIXTURE CONTROL,LINKAGE SEPARATION	(0)	(0)	(0)	(1)	(0)	(1)
	0	0	0	1	0	1
CARBURETOR HEAT CONTROL	(0)	(0)	(0)	(4)	(1)	(5)
CARBURETOR HEAT CONTROL FAILURE,TOTAL	(0)	(0)	(0)	(2)	(0)	(2)
	0	0	0	1	0	1
	0	0	0	1	0	1
CARBURETOR HEAT CONTROL,CABLE FAILURE,PARTIAL	(0)	(0)	(0)	(1)	(0)	(1)
	0	0	0	1	0	1
CARBURETOR HEAT CONTROL,LINKAGE IMPROPER SEPARATION	(0)	(0)	(0)	(1)	(1)	(2)
	0	0	0	0	1	1
	0	0	0	1	0	1
COWL FLAPS CONTROL	(0)	(0)	(0)	(0)	(1)	(1)
COWL FLAPS CONTROL IMPROPER	(0)	(0)	(0)	(0)	(1)	(1)
	0	0	0	0	1	1
INDUCTION AIR CONTROL	(1)	(0)	(1)	(11)	(1)	(12)
INDUCTION AIR CONTROL BLOCKED(PARTIAL)	(0)	(0)	(0)	(7)	(0)	(7)
	0	0	0	3	0	3
DETERIORATED	0	0	0	1	0	1
DIRTY(FOGGY)	0	0	0	1	0	1
ICE	0	0	0	1	0	1
INOPERATIVE	0	0	0	1	0	1
INDUCTION AIR CONTROL,CABLE LOOSE	(1)	(0)	(1)	(1)	(0)	(1)
	1	0	1	1	0	1
INDUCTION AIR CONTROL,LINKAGE DETERIORATED DISTORTED FAILURE,PARTIAL	(0)	(0)	(0)	(2)	(1)	(3)
	0	0	0	1	0	1
	0	0	0	1	0	1
	0	0	0	0	1	1
INDUCTION AIR CONTROL,TORQUE BOX SEPARATION	(0)	(0)	(0)	(1)	(0)	(1)
	0	0	0	1	0	1
PROPELLER GOVERNOR CONTROL	(0)	(0)	(0)	(1)	(0)	(1)
PROPELLER GOVERNOR CONTROL FAILURE,TOTAL	(0)	(0)	(0)	(1)	(0)	(1)
	0	0	0	1	0	1
MISCELLANEOUS	(3)	(1)	(4)	(6)	(1)	(7)
MISCELLANEOUS FATIGUE	(3)	(1)	(4)	(6)	(1)	(7)
	0	0	0	1	0	1
LOSS,TOTAL	1	0	1	1	0	1
UNDETERMINED	2	1	3	4	1	5
MISCELLANEOUS	(26)	(17)	(43)	(244)	(131)	(375)
FLUID	(17)	(14)	(31)	(183)	(111)	(294)
FLUID LEAK	(0)	(2)	(2)	(0)	(2)	(2)
	0	1	1	0	1	1

CAUSE/FACTOR TABLE
ALL OPERATIONS
1985

AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT (Continued)						
MISCELLANEOUS (Continued)						
FLUID (Continued)						
FLUID (Continued)						
STARVATION	0	1	1	0	1	1
FLUID, FUEL	(14)	(10)	(24)	(155)	(96)	(251)
CONTAMINATION	2	1	3	14	2	16
DUMPED	0	0	0	1	0	1
EXHAUSTION	8	5	13	71	48	119
ICE	0	0	0	1	0	1
IMPROPER	0	1	1	1	1	2
INADEQUATE	0	0	0	1	1	2
LACK OF	0	0	0	1	1	2
LEAK	1	0	1	3	0	3
LOW LEVEL	0	0	0	1	7	8
MOVEMENT RESTRICTED	0	0	0	0	1	1
OTHER	0	0	0	1	1	2
STARVATION	1	2	3	42	25	67
UNDETERMINED	0	0	0	1	0	1
WATER	2	1	3	17	7	24
SIPHONING	0	0	0	0	2	2
FLUID, OIL	(3)	(1)	(4)	(23)	(8)	(31)
BLOCKED(TOTAL)	0	0	0	1	0	1
CONTAMINATION	0	0	0	1	0	1
DEPLOYED INADVERTENTLY	0	0	0	0	1	1
EXHAUSTION	0	0	0	4	1	5
FIRE	0	0	0	0	1	1
INADEQUATE	1	0	1	1	0	1
LEAK	0	0	0	3	3	6
LOSS, PARTIAL	0	0	0	3	0	3
LOSS, TOTAL	0	0	0	2	1	3
STARVATION	0	0	0	6	0	6
UNDETERMINED	1	0	1	1	0	1
SIPHONING	1	1	2	1	1	2
FLUID, HYDRAULIC	(0)	(1)	(1)	(5)	(2)	(7)
DUMPED	0	0	0	1	0	1
INADEQUATE	0	1	1	0	1	1
LEAK	0	0	0	1	1	2
LOSS, TOTAL	0	0	0	3	0	3
FLUID, WATER	(0)	(0)	(0)	(0)	(1)	(1)
FUEL	0	0	0	0	1	1
FLUID, FUEL GRADE	(0)	(0)	(0)	(0)	(2)	(2)
IMPROPER	0	0	0	0	2	2
MISC EQPT/FURNISHINGS	(2)	(0)	(2)	(5)	(2)	(7)
MISC EQPT/FURNISHINGS	(2)	(0)	(2)	(3)	(1)	(4)
DEPLOYED INADVERTENTLY	0	0	0	1	0	1
IMPROPER	1	0	1	1	0	1
INADEQUATE	0	0	0	0	1	1
LOOSE	1	0	1	1	0	1
MISC EQPT/FURNISHINGS, SEAT BELT	(0)	(0)	(0)	(1)	(0)	(1)
LACK OF	0	0	0	1	0	1
MISC EQPT/FURNISHINGS, SHOULDER HARNESS	(0)	(0)	(0)	(1)	(1)	(2)
LACK OF	0	0	0	1	1	2
LIGHTS	(0)	(0)	(0)	(1)	(5)	(6)
INSTRUMENT LIGHTS	(0)	(0)	(0)	(1)	(3)	(4)
DISABLED	0	0	0	0	1	1
FAILURE, TOTAL	0	0	0	1	0	1
INOPERATIVE	0	0	0	0	1	1
NOT ENGAGED	0	0	0	0	1	1
LANDING LIGHT	(0)	(0)	(0)	(0)	(2)	(2)
DISABLED	0	0	0	0	1	1
INOPERATIVE	0	0	0	0	1	1
AIRCRAFT PERFORMANCE	(3)	(2)	(5)	(43)	(10)	(53)

CAUSE/FACTOR TABLE
ALL OPERATIONS
1985

AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT (Continued)						
MISCELLANEOUS (Continued)						
AIRCRAFT PERFORMANCE (Continued)						
AIRCRAFT PERFORMANCE	(1)	(0)	(1)	(8)	(1)	(9)
DETERIORATED	0	0	0	2	1	3
EXCEEDED	1	0	1	6	0	6
AIRCRAFT PERFORMANCE, TAKEOFF CAPABILITY	(0)	(2)	(2)	(7)	(2)	(9)
DETERIORATED	0	2	2	2	2	4
DISABLED	0	0	0	2	0	2
EXCEEDED	0	0	0	3	0	3
AIRCRAFT PERFORMANCE, LANDING CAPABILITY	(0)	(0)	(0)	(1)	(2)	(3)
DETERIORATED	0	0	0	0	1	1
EXCEEDED	0	0	0	1	1	2
AIRCRAFT PERFORMANCE, CLIMB CAPABILITY	(1)	(0)	(1)	(24)	(4)	(28)
DETERIORATED	0	0	0	2	0	2
DISABLED	0	0	0	1	0	1
EXCEEDED	1	0	1	20	3	23
INADEQUATE	0	0	0	0	1	1
LOSS, TOTAL	0	0	0	1	0	1
AIRCRAFT PERFORMANCE, TURN CAPABILITY	(1)	(0)	(1)	(1)	(0)	(1)
EXCEEDED	1	0	1	1	0	1
AIRCRAFT PERFORMANCE, TWO OR MORE ENGINES	(0)	(0)	(0)	(1)	(0)	(1)
UNDETERMINED	0	0	0	1	0	1
AIRCRAFT PERFORMANCE, HYDROPLANING CONDITION	(0)	(0)	(0)	(1)	(1)	(2)
WATER	0	0	0	1	1	2
AERIAL APPLICATION EQUIPMENT	(0)	(0)	(0)	(1)	(0)	(1)
SPRAY/DUSTING EQUIPMENT	(0)	(0)	(0)	(1)	(0)	(1)
UNDETERMINED	0	0	0	1	0	1
TOWING/ADVERTISING EQUIPMENT	(3)	(1)	(4)	(5)	(1)	(6)
TOWING/ADVERTISING EQUIPMENT	(1)	(0)	(1)	(1)	(0)	(1)
OTHER	1	0	1	1	0	1
PICK-UP EQUIPMENT	(1)	(1)	(2)	(2)	(1)	(3)
FAILURE, TOTAL	1	0	1	1	0	1
INCORRECT	0	1	1	0	1	1
OTHER	0	0	0	1	0	1
GLIDER LAUNCH/TOW EQUIPMENT	(1)	(0)	(1)	(2)	(0)	(2)
ERRATIC	1	0	1	1	0	1
FAILURE, PARTIAL	0	0	0	1	0	1
BALLOON EQUIPMENT	(1)	(0)	(1)	(6)	(2)	(8)
BALLOON EQUIPMENT, ENVELOPE	(0)	(0)	(0)	(3)	(0)	(3)
BURNED	0	0	0	1	0	1
FAILURE, PARTIAL	0	0	0	1	0	1
IMPROPER	0	0	0	1	0	1
BALLOON EQUIPMENT, BASKET	(0)	(0)	(0)	(1)	(1)	(2)
INADEQUATE	0	0	0	1	0	1
PENETRATED	0	0	0	0	1	1
BALLOON EQUIPMENT, HEATER SYSTEM	(1)	(0)	(1)	(2)	(1)	(3)
BOGUS PART	0	0	0	1	0	1
EXPLODED	1	0	1	1	0	1
ICE	0	0	0	0	1	1
AIRCRAFT ENVIRONMENT	(3)	(123)	(126)	(76)	(972)	(1048)
ATC SYSTEMS	(0)	(1)	(1)	(1)	(2)	(3)
RADAR	(0)	(1)	(1)	(0)	(1)	(1)
RADAR, MSAW	(0)	(1)	(1)	(0)	(1)	(1)
NOT OPERATING	0	1	1	0	1	1
APPROACH AIDS	(0)	(0)	(0)	(1)	(1)	(2)
APPROACH AIDS	(0)	(0)	(0)	(1)	(1)	(2)
SOFT	0	0	0	1	0	1
WET	0	0	0	0	1	1
AIRPORT	(0)	(6)	(6)	(9)	(103)	(112)

CAUSE/FACTOR TABLE
ALL OPERATIONS
1985

AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)	FATAL ACCIDENTS		ALL ACCIDENTS	
	CAUSE FACTOR	TOTAL	CAUSE FACTOR	TOTAL
AIRCRAFT ENVIRONMENT (Continued)				
AIRPORT (Continued)				
AIRPORT FACILITIES	(0)	(6)	(9)	(103)
AIRPORT FACILITIES	(0)	(0)	(0)	(3)
FAILURE, PARTIAL	0	0	0	1
LOOSE GRAVEL/SANDY	0	0	0	1
NONE SUITABLE	0	0	0	1
AIRPORT FACILITIES, RUNWAY/LANDING AREA CONDITION	(0)	(3)	(6)	(79)
FOREIGN SUBSTANCE COVERED	0	0	1	3
INADEQUATE	0	0	3	6
UNAPPROVED	0	0	0	1
UNAVAILABLE	0	0	0	1
TERRAIN/RUNWAY CONDITION	0	0	0	2
DISPLACED THRESHOLD	0	1	0	2
DITCH	0	0	0	1
DOWNHILL	0	1	0	3
GROUND	0	0	0	1
HIGH VEGETATION	0	0	0	2
HIDDEN OBSTRUCTION(S)	0	0	0	2
ICY	0	0	0	6
LOOSE GRAVEL/SANDY	0	0	0	5
NONE SUITABLE	0	0	0	4
RISING	0	0	0	1
ROUGH/UNEVEN	0	0	0	8
SLUSH COVERED	0	1	0	2
SNOW COVERED	0	0	1	12
SOFT	0	0	1	7
UPHILL	0	0	0	1
WATER, ROUGH	0	0	0	1
WET	0	0	0	8
AIRPORT FACILITIES, VISUAL APCH SLOPE IND(VASI)	(0)	(1)	(0)	(1)
UNAVAILABLE	0	1	0	1
AIRPORT FACILITIES, RUNWAY END IDENT LIGHTS(REIL)	(0)	(1)	(0)	(2)
INOPERATIVE	0	0	0	1
NOT OPERATING	0	1	0	1
AIRPORT FACILITIES, RUNWAY EDGE LIGHTS	(0)	(1)	(2)	(7)
FAILURE, PARTIAL	0	0	0	1
INADEQUATE	0	0	1	0
INOPERATIVE	0	0	0	1
UNAVAILABLE	0	0	1	2
NOT OPERATING	0	1	0	2
AIRPORT FACILITY	0	0	0	1
AIRPORT FACILITIES, ROTATING BEACON	(0)	(0)	(0)	(1)
INOPERATIVE	0	0	0	1
AIRPORT FACILITIES, WIND DIRECTION INDICATOR	(0)	(0)	(0)	(1)
INADEQUATE	0	0	0	1
AIRPORT FACILITIES, TAXIWAY CONDITION	(0)	(0)	(0)	(4)
CONGESTED	0	0	0	3
SNOW COVERED	0	0	0	1
AIRPORT FACILITIES, TAXIWAY LIGHTING	(0)	(0)	(0)	(1)
INADEQUATE	0	0	0	1
AIRPORT FACILITIES, TAXIWAY MARKING	(0)	(0)	(0)	(1)
INADEQUATE	0	0	0	1
AIRPORT FACILITIES, OBSTRUCTION MARKING	(0)	(0)	(1)	(3)
INADEQUATE	0	0	1	1
UNAVAILABLE	0	0	0	2
MISCELLANEOUS	(0)	(0)	(0)	(2)
AIRCRAFT MANUALS	(0)	(0)	(0)	(0)
AIRCRAFT MANUALS	(0)	(0)	(0)	(2)
AIRCRAFT MANUALS, PERFORMANCE INFORMATION	(0)	(0)	(0)	(2)
INADEQUATE	0	0	0	2

CAUSE/FACTOR TABLE
ALL OPERATIONS
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	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
AIRCRAFT ENVIRONMENT (Continued)						
TERRAIN/RUNWAY						
UNAPPROVED	(3)	(116)	(119)	(66)	(865)	(931)
TERRAIN/RUNWAY CONDITION	0	0	0	0	1	1
CROP	0	0	0	0	1	1
DIRT BANK	0	0	0	0	33	33
DISPLACED THRESHOLD	0	5	5	6	50	56
	0	0	0	0	1	1
DITCH	0	3	3	9	60	69
DOWNHILL	0	2	2	2	16	18
GROUND	0	11	11	0	30	30
HIGH TERRAIN	0	5	5	1	16	17
HIGH VEGETATION	1	5	6	1	49	50
HIGH OBSTRUCTION(S)	0	7	7	0	33	33
HIDDEN OBSTRUCTION(S)	0	1	1	1	7	8
ICY	0	1	1	0	9	9
LOOSE GRAVEL/SANDY	0	0	0	0	12	12
NONE SUITABLE	0	5	5	9	73	82
MOUNTAINOUS/HILLY	1	37	38	1	64	65
OPEN FIELD	0	7	7	1	17	18
RISING	0	11	11	0	36	36
ROUGH/UNEVEN	0	1	1	12	107	119
RUNWAY	0	1	1	0	11	11
SAND BAR	0	0	0	0	2	2
SLUSH COVERED	0	0	0	1	1	2
SNOWBANK	0	0	0	1	24	25
SNOW COVERED	0	4	4	4	34	38
SOFT	0	0	0	12	103	115
UPHILL	0	1	1	0	12	12
WATER, GLASSY	1	2	3	1	8	9
WATER, ROUGH	0	4	4	0	20	20
WEAK ICE	0	0	0	0	1	1
WET	0	0	0	4	27	31
TREE(S)	0	3	3	0	7	7
ENVIRONMENTAL CONDITIONS						
WEATHER CONDITION						
BELOW APPROACH MINIMUMS	(24)	(475)	(499)	(108)	(1625)	(1734)
CARBURETOR ICING CONDITIONS	(19)	(317)	(336)	(64)	(993)	(1057)
CROSSWIND	1	7	8	1	8	9
CLOUDS	0	3	3	2	33	35
DOWNDRAFT	0	2	2	4	147	151
	0	32	32	1	48	49
	0	7	7	5	34	39
FOG	3	51	54	4	70	74
GUSTS	0	4	4	7	98	105
HAIL	0	0	0	0	1	1
HAZE	0	6	6	0	8	8
HIGH WIND	0	4	4	3	43	46
HIGH DENSITY ALTITUDE	0	6	6	1	61	62
ICING CONDITIONS	2	13	15	2	23	25
LOW CEILING	3	70	73	6	90	96
LIGHTNING	0	1	1	0	1	1
MOUNTAIN WAVE	1	0	1	1	3	4
OBSCURATION	0	22	22	1	26	27
RAIN	2	31	33	3	53	56
SNOW	0	14	14	1	23	24
TAILWIND	0	3	3	6	57	63
TEMPERATURE EXTREMES	0	1	1	0	12	12
TURBULENCE	1	6	7	3	30	33
TURBULENCE IN CLOUDS	1	3	4	1	4	5
TURBULENCE(THUNDERSTORMS)	3	7	10	3	8	11
THUNDERSTORM	2	9	11	2	12	14
WHITEOUT	0	3	3	0	7	7
WINDSHEAR	0	1	1	2	13	15
UNFAVORABLE WIND	0	8	8	5	74	79
DUSK	0	0	0	0	1	1
NIGHT	0	2	2	0	3	3

CAUSE/FACTOR TABLE
ALL OPERATIONS
1985

			FATAL ACCIDENTS			ALL ACCIDENTS		
			CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)								
ENVIRONMENTAL CONDITIONS (Continued)								
WEATHER CONDITION (Continued)								
	DARK NIGHT		0	1	1	0	1	1
	SUNGLARE		0	0	0	0	1	1
LIGHT CONDITION								
	DAWN	(3)	(67)	(70)	(4)	(185)	(189)	
	DAYLIGHT	0	0	0	0	1	1	
	DUSK	0	2	2	0	5	5	
	NIGHT	1	3	4	1	26	27	
	DARK NIGHT	0	7	7	0	27	27	
		2	50	52	2	108	110	
	SUNGLARE	0	4	4	1	17	18	
	AIRCRAFT PARKED	0	1	1	0	1	1	
OBJECT								
	LOW CEILING	(2)	(91)	(93)	(40)	(447)	(488)	
	CROP	0	0	0	0	1	1	
	DITCH	0	0	0	0	1	1	
	SOFT	0	0	0	0	1	1	
	OBJECT	0	2	2	0	5	5	
	AIRCRAFT MOVING ON GROUND	0	0	0	4	9	13	
	AIRCRAFT PARKED	0	0	0	0	13	13	
	AIRPORT FACILITY	0	0	0	0	5	5	
	ANIMAL(S)	0	2	2	7	2	9	
	APPROACH LIGHT/NAVAID	0	0	0	0	2	2	
	BIRD(S)	0	0	0	6	1	7	
	BUILDING(NONRESIDENTIAL)	0	3	3	0	5	5	
	ELECT TOWER	0	0	0	0	1	1	
	FENCE	0	4	4	8	62	71	
	GUY WIRE	0	2	2	0	4	4	
	OTHER PERSON	0	0	0	1	1	2	
	RESIDENCE	0	3	3	0	5	5	
	RUNWAY LIGHT	0	1	1	0	13	13	
	SUBMERGED OBJECT	0	0	0	1	0	1	
	TREE(S)	1	43	44	6	203	209	
	UTILITY POLE(MARKED)	0	0	0	0	5	5	
	UTILITY POLE	0	4	4	2	20	22	
	VEHICLE	0	3	3	1	13	14	
	WIRE, STATIC	1	2	3	1	7	8	
	WIRE, TRANSMISSION(MARKED)	0	1	1	0	3	3	
	WIRE, TRANSMISSION	0	21	21	2	65	67	
HUMAN PERFORMANCE								
	AIRCRAFT	(1172)	(336)	(1508)	(5206)	(1150)	(6356)	
	LANDING GEAR	(42)	(19)	(61)	(422)	(69)	(491)	
	LANDING GEAR	(5)	(3)	(8)	(83)	(12)	(95)	
	MISJUDGED	(1)	(0)	(1)	(1)	(1)	(2)	
	PILOT IN COMMAND	(1)	(0)	(1)	(1)	(1)	(2)	
		1	0	1	1	1	2	
	GEAR RETRACTION	(1)	(1)	(2)	(15)	(3)	(18)	
	INADVERTENT	(0)	(0)	(0)	(6)	(0)	(6)	
	PILOT IN COMMAND	0	0	0	5	0	5	
	COPILOT	0	0	0	1	0	1	
	INADVERTENT USE	(0)	(0)	(0)	(1)	(0)	(1)	
	PILOT IN COMMAND	0	0	0	1	0	1	
	NOT ATTAINED	(0)	(0)	(0)	(1)	(0)	(1)	
	PILOT IN COMMAND	0	0	0	1	0	1	
	NCT MAINTAINED	(0)	(0)	(0)	(1)	(0)	(1)	
	PILOT IN COMMAND	0	0	0	1	0	1	
	NOT PERFORMED	(1)	(1)	(2)	(1)	(1)	(2)	
	PILOT IN COMMAND	1	1	2	1	1	2	
	NOT OBTAINED	(0)	(0)	(0)	(0)	(1)	(1)	
	PILOT IN COMMAND	0	0	0	0	1	1	
	NOT POSSIBLE	(0)	(0)	(0)	(1)	(0)	(1)	
	PILOT IN COMMAND	0	0	0	1	0	1	

CAUSE/FACTOR TABLE
ALL OPERATIONS
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	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
LANDING GEAR (Continued)						
GEAR RETRACTION (Continued)						
PREMATURE	(0)	(0)	(0)	(3)	(1)	(4)
PILOT IN COMMAND	0	0	0	2	1	3
DUAL STUDENT	0	0	0	1	0	1
SELECTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
GEAR EXTENSION	(1)	(2)	(3)	(30)	(5)	(35)
DELAYED	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	3	0	3
IMPROPER	(0)	(1)	(1)	(1)	(1)	(2)
PILOT IN COMMAND	0	1	1	0	1	1
COPILOT	0	0	0	1	0	1
INADVERTENT	(0)	(1)	(1)	(0)	(1)	(1)
NO PERSON SPECIFIED	0	1	1	0	1	1
MISJUDGED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
MISREAD	(0)	(0)	(0)	(1)	(0)	(1)
CHECK PILOT	0	0	0	1	0	1
NOT ATTAINED	(0)	(0)	(0)	(3)	(1)	(4)
PILOT IN COMMAND	0	0	0	3	1	4
NOT PERFORMED	(0)	(0)	(0)	(15)	(0)	(15)
PILOT IN COMMAND	0	0	0	14	0	14
COPILOT	0	0	0	1	0	1
NOT OBTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT POSSIBLE	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	3	0	3
NOT SELECTED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
PREMATURE	(1)	(0)	(1)	(1)	(1)	(2)
PILOT IN COMMAND	1	0	1	1	1	2
GEAR DOWN AND LOCKED	(0)	(0)	(0)	(4)	(1)	(5)
MISREAD	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT ATTAINED	(0)	(0)	(0)	(4)	(0)	(4)
PILOT IN COMMAND	0	0	0	3	0	3
DUAL STUDENT	0	0	0	1	0	1
BRAKES(NORMAL)	(1)	(0)	(1)	(28)	(2)	(30)
DELAYED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
EXCESSIVE	(0)	(0)	(0)	(5)	(0)	(5)
PILOT IN COMMAND	0	0	0	5	0	5
IMPROPER USE OF	(1)	(0)	(1)	(17)	(1)	(18)
PILOT IN COMMAND	1	0	1	16	1	17
DUAL STUDENT	0	0	0	1	0	1
INADEQUATE	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
NOT MAINTAINED	(0)	(0)	(0)	(1)	(0)	(1)
OTHER MAINTENANCE PSNL	0	0	0	1	0	1
NOT POSSIBLE	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	0	1
OTHER MAINTENANCE PSNL	0	0	0	0	1	1
NOT USED	(0)	(0)	(0)	(1)	(0)	(1)

CAUSE/FACTOR TABLE
ALL OPERATIONS
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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
LANDING GEAR (Continued)						
BRAKES(NORMAL) (Continued)						
PILOT IN COMMAND	0	0	0	1	0	1
BRAKES(EMERGENCY)	(1)	(0)	(1)	(2)	(0)	(2)
IMPROPER USE OF	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT USED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
PARKING BRAKES	(0)	(0)	(0)	(3)	(0)	(3)
IMPROPER USE OF	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INADVERTENT USE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT USED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
FLIGHT CONTROLS	(13)	(6)	(19)	(84)	(18)	(102)
FLIGHT CONTROLS	(6)	(0)	(6)	(31)	(0)	(31)
IMPROPER	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
IMPROPER USE OF	(6)	(0)	(6)	(30)	(0)	(30)
PILOT IN COMMAND	6	0	6	30	0	30
ELEVATOR	(3)	(0)	(3)	(6)	(2)	(8)
EXCESSIVE	(0)	(0)	(0)	(1)	(0)	(1)
DUAL STUDENT	0	0	0	1	0	1
IMPROPER USE OF	(3)	(0)	(3)	(4)	(2)	(6)
PILOT IN COMMAND	3	0	3	4	2	6
UNCONTROLLED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
ELEVATOR TRIM	(1)	(2)	(3)	(2)	(2)	(4)
IMPROPER	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
IMPROPER USE OF	(0)	(2)	(2)	(1)	(2)	(3)
PILOT IN COMMAND	0	2	2	1	2	3
AILERON	(0)	(0)	(0)	(2)	(0)	(2)
INADEQUATE	(0)	(0)	(0)	(1)	(0)	(1)
PASSENGER	0	0	0	1	0	1
UNCONTROLLED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
RUDDER	(0)	(0)	(0)	(14)	(1)	(15)
IMPROPER USE OF	(0)	(0)	(0)	(11)	(1)	(12)
PILOT IN COMMAND	0	0	0	11	1	12
INADEQUATE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT MAINTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT USED	(0)	(0)	(0)	(1)	(0)	(1)
OTHER CREW MEMBER	0	0	0	1	0	1
STABILATOR TRIM	(1)	(0)	(1)	(1)	(0)	(1)
IMPROPER	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
RAISING OF FLAPS	(1)	(1)	(2)	(15)	(4)	(19)
DELAYED	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
EXCESSIVE	(0)	(0)	(0)	(1)	(0)	(1)

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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued) HUMAN PERFORMANCE (Continued) AIRCRAFT (Continued) FLIGHT CONTROLS (Continued) RAISING OF FLAPS (Continued) PILOT IN COMMAND	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
	0	0	0	1	0	1
IMPROPER PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(2) 2	(0) 0	(2) 2
IMPROPER USE OF PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(1) 1	(0) 0	(1) 1
INATTENTIVE PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
NOT ATTAINED PILOT IN COMMAND PILOT IN COMMAND(CFI)	(0) 0 0	(0) 0 0	(0) 0 0	(2) 1 1	(0) 0 0	(2) 1 1
NOT PERFORMED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(3) 3	(1) 1	(4) 4
NOT SELECTED PILOT IN COMMAND(CFI)	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
PREMATURE PILOT IN COMMAND DUAL STUDENT	(0) 0 0	(1) 1 0	(1) 1 0	(3) 2 1	(2) 2 0	(5) 4 1
LOWERING OF FLAPS EXCESSIVE PILOT IN COMMAND	(1) (1) 1	(3) (0) 0	(4) (1) 1	(7) (2) 2	(9) (0) 0	(16) (2) 2
IMPROPER PILOT IN COMMAND DUAL STUDENT PILOT IN COMMAND(CFI)	(0) 0 0 0	(0) 0 0 0	(0) 0 0 0	(2) 0 1 1	(1) 1 0 0	(3) 1 1 1
INADVERTENT PILOT IN COMMAND NO PERSON SPECIFIED	(0) 0 0	(1) 0 1	(1) 0 1	(1) 1 0	(1) 0 1	(2) 1 1
NOT PERFORMED PILOT IN COMMAND	(0) 0	(1) 1	(1) 1	(1) 1	(3) 3	(4) 4
NOT SELECTED PILOT IN COMMAND	(0) 0	(1) 1	(1) 1	(1) 1	(1) 1	(2) 2
NOT USED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(0) 0	(1) 1	(1) 1
PREMATURE PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(0) 0	(2) 2	(2) 2
SPOILER RETRACTION NOT PERFORMED PILOT IN COMMAND	(0) (0) 0	(0) (0) 0	(0) (0) 0	(2) (2) 2	(0) (0) 0	(2) (2) 2
SPOILER EXTENSION INADVERTENT PILOT IN COMMAND	(0) (0) 0	(0) (0) 0	(0) (0) 0	(2) (1) 1	(0) (0) 0	(2) (1) 1
NOT PERFORMED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
REMOVAL OF CONTROL/GUST LOCK(S) NOT PERFORMED PILOT IN COMMAND	(0) (0) 0	(0) (0) 0	(0) (0) 0	(1) (1) 1	(0) (0) 0	(1) (1) 1
TRIM SETTING NOT IDENTIFIED PILOT IN COMMAND	(0) (0) 0	(0) (0) 0	(0) (0) 0	(1) (1) 1	(0) (0) 0	(1) (1) 1
FUEL SYSTEM FUEL SYSTEM DISREGARDED	(12) (1) (0)	(1) (0) (0)	(13) (1) (0)	(160) (1) (1)	(12) (1) (0)	(172) (12) (1)

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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
FUEL SYSTEM (Continued)						
FUEL SYSTEM (Continued)						
PILOT IN COMMAND	0	0	0	1	0	1
IMPROPER USE OF	(1)	(0)	(1)	(8)	(1)	(9)
PILOT IN COMMAND	1	0	1	7	1	8
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
NOT UNDERSTOOD	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
FUEL TANK SELECTOR POSITION	(4)	(1)	(5)	(41)	(5)	(46)
IMPROPER	(4)	(0)	(4)	(31)	(2)	(33)
PILOT IN COMMAND	4	0	4	30	2	32
DUAL STUDENT	0	0	0	1	0	1
IMPROPER USE OF	(0)	(1)	(1)	(5)	(2)	(7)
PILOT IN COMMAND	0	0	0	4	1	5
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
PASSENGER	0	1	1	0	1	1
INADVERTENT	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT CORRECTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT FOLLOWED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
NOT PERFORMED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT USED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
FUEL BOOST PUMP SELECTOR POSITION	(1)	(0)	(1)	(4)	(0)	(4)
IMPROPER	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
INADVERTENT USE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT PERFORMED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
NOT SELECTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
FUEL SUPPLY	(6)	(0)	(6)	(104)	(6)	(110)
DISREGARDED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
EXCEEDED	(1)	(0)	(1)	(3)	(0)	(3)
PILOT IN COMMAND	1	0	1	3	0	3
IMPROPER	(0)	(0)	(0)	(3)	(1)	(4)
PILOT IN COMMAND	0	0	0	3	1	4
INATTENTIVE	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
INADEQUATE	(4)	(0)	(4)	(75)	(2)	(77)
PILOT IN COMMAND	4	0	4	72	1	73
NO PERSON SPECIFIED	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	0	0	0	2	0	2
COMPANY/OPERATOR MGMT	0	0	0	0	1	1
MISJUDGED	(0)	(0)	(0)	(12)	(0)	(12)
PILOT IN COMMAND	0	0	0	11	0	11
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
NOT IDENTIFIED	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
NOT MAINTAINED	(1)	(0)	(1)	(4)	(0)	(4)

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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
FUEL SYSTEM (Continued)						
FUEL SUPPLY (Continued)						
PILOT IN COMMAND	1	0	1	4	0	4
NOT PERFORMED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
REDUCED	(0)	(0)	(0)	(2)	(1)	(3)
PILOT IN COMMAND	0	0	0	1	1	2
COMPANY MAINTENANCE PSNL	0	0	0	1	0	1
POWERPLANT CONTROLS	(7)	(1)	(8)	(75)	(13)	(88)
POWERPLANT CONTROLS	(1)	(0)	(1)	(7)	(0)	(7)
IMPROPER	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
IMPROPER USE OF	(1)	(0)	(1)	(6)	(0)	(6)
PILOT IN COMMAND	1	0	1	5	0	5
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
THROTTLE/POWER CONTROL	(2)	(1)	(3)	(14)	(5)	(19)
DELAYED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
EXCESSIVE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
IMPROPER	(0)	(0)	(0)	(1)	(0)	(1)
NO PERSON SPECIFIED	0	0	0	1	0	1
IMPROPER USE OF	(1)	(1)	(2)	(9)	(4)	(13)
PILOT IN COMMAND	1	1	2	8	4	12
DUAL STUDENT	0	0	0	1	0	1
INADEQUATE	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
INADVERTENT USE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
REDUCED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
MIXTURE	(0)	(0)	(0)	(6)	(2)	(8)
IMPROPER USE OF	(0)	(0)	(0)	(5)	(0)	(5)
PILOT IN COMMAND	0	0	0	5	0	5
INADEQUATE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT USED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PREMATURE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
CARBURETOR HEAT	(1)	(0)	(1)	(35)	(1)	(36)
CONTINUED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
IMPROPER USE OF	(0)	(0)	(0)	(22)	(1)	(23)
PILOT IN COMMAND	0	0	0	22	1	23
INADEQUATE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INITIATED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT UNDERSTOOD	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT SELECTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1

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	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
POWERPLANT CONTROLS (Continued)						
CARBURETOR HEAT (Continued)						
NOT USED	(1)	(0)	(1)	(8)	(0)	(8)
PILOT IN COMMAND	1	0	1	8	0	8
REVERSERS	(0)	(0)	(0)	(1)	(0)	(1)
NOT USED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PROPELLER FEATHERING	(2)	(0)	(2)	(6)	(4)	(10)
ATTEMPTED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
IMPROPER	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INTENTIONAL	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	1	1
NO PERSON SPECIFIED	0	0	0	0	1	1
NOT ATTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT IDENTIFIED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
NOT PERFORMED	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
NOT USED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
PERFORMED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
ADEQUATE ROTOR RPM	(0)	(0)	(0)	(5)	(1)	(6)
DELAYED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT MAINTAINED	(0)	(0)	(0)	(4)	(0)	(4)
PILOT IN COMMAND	0	0	0	3	0	3
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
NOT OBTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
WRONG PROPELLER FEATHERED	(1)	(0)	(1)	(1)	(0)	(1)
INADVERTENT	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
ANTI-ICE/DE-ICE SYSTEM	(0)	(0)	(0)	(1)	(1)	(2)
ANTI-ICE/DE-ICE SYSTEM	(0)	(0)	(0)	(1)	(1)	(2)
NOT USED	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
COMMUNICATIONS EQUIPMENT	(0)	(0)	(0)	(0)	(1)	(1)
COMMUNICATIONS EQUIPMENT	(0)	(0)	(0)	(0)	(1)	(1)
IMPROPER USE OF	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
AUTOPILOT	(0)	(1)	(1)	(0)	(1)	(1)
AUTOPILOT	(0)	(1)	(1)	(0)	(1)	(1)
ATTEMPTED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
FLIGHT AND NAVIGATION INSTRUMENTS	(2)	(0)	(2)	(5)	(4)	(9)
FLIGHT AND NAVIGATION INSTRUMENTS	(1)	(0)	(1)	(2)	(0)	(2)
IMPROPER USE OF	(1)	(0)	(1)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	2	0	2
RADAR ALTIMETER	(0)	(0)	(0)	(1)	(0)	(1)
NOT USED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NAVIGATION RECEIVER	(1)	(0)	(1)	(1)	(0)	(1)

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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
FLIGHT AND NAVIGATION INSTRUMENTS (Continued)						
NAVIGATION RECEIVER (Continued)						
NOT SELECTED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
HEADING INDICATOR	(0)	(0)	(0)	(0)	(2)	(2)
IMPROPER USE OF	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	2	2
ENGINE INSTRUMENT	(0)	(0)	(0)	(1)	(2)	(3)
IMPROPER USE OF	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
INACCURATE	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	0	1
MANUFACTURER	0	0	0	0	1	1
ROTORCRAFT FLIGHT CONTROLS	(3)	(0)	(3)	(11)	(0)	(11)
ROTORCRAFT FLIGHT CONTROLS	(0)	(0)	(0)	(3)	(0)	(3)
IMPROPER USE OF	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	2	0	2
DUAL STUDENT	0	0	0	1	0	1
CYCLIC	(1)	(0)	(1)	(4)	(0)	(4)
EXCESSIVE	(1)	(0)	(1)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	2	0	2
IMPROPER USE OF	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	1	0	1
DUAL STUDENT	0	0	0	1	0	1
COLLECTIVE	(1)	(0)	(1)	(2)	(0)	(2)
EXCESSIVE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
IMPROPER USE OF	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
TAIL ROTOR	(1)	(0)	(1)	(2)	(0)	(2)
IMPROPER	(1)	(0)	(1)	(1)	(0)	(1)
MANUFACTURER	1	0	1	1	0	1
IMPROPER USE OF	(0)	(0)	(0)	(1)	(0)	(1)
DUAL STUDENT	0	0	0	1	0	1
MISCELLANEOUS EQUIPMENT	(0)	(7)	(7)	(3)	(7)	(10)
MISCELLANEOUS EQUIPMENT	(0)	(1)	(1)	(1)	(1)	(2)
NOT USED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
PREMATURE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT OF OTHER AIRCRAFT	0	0	0	1	0	1
GROUND PROXIMITY WARNING SYSTEM	(0)	(0)	(0)	(1)	(0)	(1)
NOT USED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
SEAT BELT	(0)	(3)	(3)	(0)	(3)	(3)
NOT USED	(0)	(3)	(3)	(0)	(3)	(3)
PILOT IN COMMAND	0	1	1	0	1	1
PASSENGER	0	1	1	0	1	1
UNQUALIFIED PERSON	0	1	1	0	1	1
LANDING LIGHTS	(0)	(2)	(2)	(0)	(2)	(2)
IMPROPER USE OF	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
NOT USED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
OXYGEN SYSTEM	(0)	(1)	(1)	(1)	(1)	(2)
IMPROPER USE OF	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT USED	(0)	(1)	(1)	(0)	(1)	(1)

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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued) HUMAN PERFORMANCE (Continued) AIRCRAFT (Continued) MISCELLANEOUS EQUIPMENT (Continued) OXYGEN SYSTEM (Continued) NO PERSON SPECIFIED	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
	0	1	1	0	1	1
OPERATIONS	(1130)	(317)	(1447)	(4784)	(1081)	(5865)
PLANNING-DECISION	(464)	(179)	(643)	(1868)	(534)	(2402)
PLANNING-DECISION	(13)	(6)	(19)	(57)	(11)	(68)
DISREGARDED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
IMPROPER	(5)	(4)	(9)	(32)	(7)	(39)
PILOT IN COMMAND	5	4	9	29	7	36
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
PILOT OF OTHER AIRCRAFT	0	0	0	2	0	2
INACCURATE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INADEQUATE	(1)	(0)	(1)	(9)	(0)	(9)
PILOT IN COMMAND	1	0	1	9	0	9
NOT MAINTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT UNDERSTOOD	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PERFORMED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
POOR	(5)	(2)	(7)	(11)	(4)	(15)
PILOT IN COMMAND	5	2	7	11	3	14
PILOT IN COMMAND(CFI)	0	0	0	0	1	1
PREFLIGHT PLANNING/PREPARATION	(30)	(26)	(56)	(181)	(63)	(244)
DISREGARDED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
IMPROPER	(4)	(6)	(10)	(25)	(10)	(35)
PILOT IN COMMAND	4	6	10	24	9	33
NO PERSON SPECIFIED	0	0	0	0	1	1
DUAL STUDENT	0	0	0	1	0	1
INACCURATE	(0)	(0)	(0)	(4)	(0)	(4)
PILOT IN COMMAND	0	0	0	3	0	3
ATC PERSONNEL(FSS)	0	0	0	1	0	1
INTENTIONAL	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
INADEQUATE	(18)	(16)	(34)	(111)	(38)	(149)
PILOT IN COMMAND	17	15	32	107	35	142
NO PERSON SPECIFIED	0	0	0	0	1	1
PILOT IN COMMAND(CFI)	1	0	1	2	0	2
FLIGHT INSTRUCTOR(ON GROUND)	0	1	1	2	1	3
PILOT OF OTHER AIRCRAFT	0	0	0	0	1	1
NOT FOLLOWED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT PERFORMED	(0)	(3)	(3)	(1)	(4)	(5)
PILOT IN COMMAND	0	3	3	1	4	5
NOT UNDERSTOOD	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PERFORMED	(1)	(0)	(1)	(1)	(1)	(2)
PILOT IN COMMAND	1	0	1	1	1	2
POOR	(6)	(1)	(7)	(36)	(9)	(45)
PILOT IN COMMAND	6	1	7	36	9	45
AIRCRAFT PREFLIGHT	(12)	(4)	(16)	(95)	(23)	(118)
CONFLICTING	(0)	(0)	(0)	(1)	(0)	(1)

CAUSE/FACTOR TABLE
ALL OPERATIONS
1985

AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)
HUMAN PERFORMANCE (Continued)
OPERATIONS (Continued)
PLANNING-DECISION (Continued)
AIRCRAFT PREFLIGHT (Continued)
PILOT IN COMMAND

	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
	0	0	0	1	0	1
IMPROPER PILOT IN COMMAND	(2) 2	(1) 1	(3) 3	(10) 10	(2) 2	(12) 12
IMPROPER USE OF PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
INACCURATE PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
INATTENTIVE PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(4) 4	(1) 1	(5) 5
INADEQUATE PILOT IN COMMAND	(10) 8	(1) 1	(11) 9	(72) 68	(14) 13	(86) 81
NO PERSON SPECIFIED	0	0	0	1	0	1
DUAL STUDENT	1	0	1	2	0	2
PILOT IN COMMAND(CFI)	1	0	1	1	0	1
UNQUALIFIED PERSON	0	0	0	0	1	1
MISJUDGED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
NOT PERFORMED PILOT IN COMMAND	(0) 0	(1) 1	(1) 1	(2) 2	(2) 2	(4) 4
POOR PILOT IN COMMAND	(0) 0	(1) 1	(1) 1	(3) 3	(4) 3	(7) 6
COMPANY MAINTENANCE PSNL	0	0	0	0	1	1
AIRCRAFT SERVICE	(1)	(0)	(1)	(12)	(2)	(14)
IMPROPER PILOT IN COMMAND	(1) 0	(0) 0	(1) 0	(8) 5	(1) 1	(9) 6
COPILOT	1	0	1	1	0	1
OTHER MAINTENANCE PSNL	0	0	0	1	0	1
GROUND PERSONNEL	0	0	0	1	0	1
INATTENTIVE PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
MISJUDGED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 0	(1) 1	(2) 1
FBO PERSONNEL	0	0	0	1	0	1
NOT PERFORMED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
POOR AIRPORT PERSONNEL	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
ICE/FROST REMOVAL FROM AIRCRAFT	(0)	(1)	(1)	(6)	(2)	(8)
IMPROPER PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
INADEQUATE PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
NOT PERFORMED PILOT IN COMMAND	(0) 0	(1) 1	(1) 1	(4) 4	(2) 2	(6) 6
AIRCRAFT UNATTENDED/ENGINE(S) RUNNING	(1)	(0)	(1)	(9)	(0)	(9)
INADVERTENT PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(5) 5	(0) 0	(5) 5
INTENTIONAL PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(3) 3	(0) 0	(3) 3
PERFORMED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
AIRCRAFT WEIGHT AND BALANCE EXCEEDED	(3) (1)	(4) (4)	(7) (5)	(14) (5)	(8) (8)	(22) (13)

CAUSE/FACTOR TABLE
ALL OPERATIONS
1985

	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
PLANNING-DECISION (Continued)						
AIRCRAFT WEIGHT AND BALANCE (Continued)						
PILOT IN COMMAND	1	4	5	4	8	12
GROUND PERSONNEL	0	0	0	1	0	1
EXCESSIVE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
IMPROPER	(1)	(0)	(1)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	2	0	2
MISJUDGED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT CORRECTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT MAINTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT PERFORMED	(1)	(0)	(1)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	2	0	2
NOT USED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
OPERATION WITH KNOWN DEFICIENCIES IN EQUIPMENT	(8)	(4)	(12)	(28)	(14)	(42)
NO MODIFIER SPECIFIED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
ATTEMPTED	(0)	(0)	(0)	(2)	(1)	(3)
PILOT IN COMMAND	0	0	0	1	1	2
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
CONTINUED	(0)	(2)	(2)	(4)	(3)	(7)
PILOT IN COMMAND	0	2	2	3	3	6
COMPANY/OPERATOR MGMT	0	0	0	1	0	1
DISREGARDED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
EXCEEDED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
IMPROPER	(4)	(0)	(4)	(6)	(0)	(6)
PILOT IN COMMAND	3	0	3	5	0	5
PILOT IN COMMAND(CFI)	1	0	1	1	0	1
INTENTIONAL	(1)	(1)	(2)	(7)	(5)	(12)
PILOT IN COMMAND	1	1	2	7	5	12
INITIATED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PERFORMED	(3)	(1)	(4)	(5)	(4)	(9)
PILOT IN COMMAND	2	1	3	4	4	8
COMPANY/OPERATOR MGMT	1	0	1	1	0	1
SELECTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
TIE DOWN/SECURITY OF CARGO	(0)	(0)	(0)	(1)	(0)	(1)
INADEQUATE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PROPER ASSISTANCE	(3)	(1)	(4)	(5)	(3)	(8)
ATTEMPTED	(1)	(1)	(2)	(1)	(1)	(2)
PASSENGER	1	0	1	1	0	1
PILOT OF OTHER AIRCRAFT	0	1	1	0	1	1
MISJUDGED	(1)	(0)	(1)	(1)	(0)	(1)
GROUND PERSONNEL	1	0	1	1	0	1
NOT OBTAINED	(1)	(0)	(1)	(1)	(2)	(3)
PILOT IN COMMAND	1	0	1	1	2	3

CAUSE/FACTOR TABLE
ALL OPERATIONS
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	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
PLANNING-DECISION (Continued)						
PROPER ASSISTANCE (Continued)						
NOT USED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
IN-FLIGHT PLANNING/DECISION	(72)	(39)	(111)	(252)	(91)	(343)
DELAYED	(2)	(1)	(3)	(4)	(2)	(6)
PILOT IN COMMAND	2	1	3	4	2	6
IMPROPER	(37)	(23)	(60)	(114)	(45)	(159)
PILOT IN COMMAND	36	22	58	109	44	153
PILOT IN COMMAND(CFI)	1	0	1	4	0	4
CHECK PILOT	0	0	0	1	0	1
PILOT OF OTHER AIRCRAFT	0	1	1	0	1	1
INACCURATE	(2)	(0)	(2)	(4)	(0)	(4)
PILOT IN COMMAND	2	0	2	4	0	4
INATTENTIVE	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND(CFI)	1	0	1	1	0	1
INADVERTENT	(0)	(1)	(1)	(1)	(1)	(2)
PILOT IN COMMAND	0	1	1	1	1	2
INADEQUATE	(4)	(4)	(8)	(34)	(12)	(46)
PILOT IN COMMAND	4	4	8	34	11	45
DUAL STUDENT	0	0	0	0	1	1
MISJUDGED	(2)	(0)	(2)	(8)	(3)	(11)
PILOT IN COMMAND	2	0	2	8	3	11
NOT CORRECTED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
NOT PERFORMED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT OBTAINED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
NOT POSSIBLE	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
PERFORMED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
POOR	(22)	(9)	(31)	(82)	(27)	(109)
PILOT IN COMMAND	20	9	29	76	26	102
DUAL STUDENT	0	0	0	1	1	2
PILOT IN COMMAND(CFI)	0	0	0	2	0	2
PILOT OF OTHER AIRCRAFT	2	0	2	3	0	3
WIND INFORMATION	(0)	(2)	(2)	(27)	(8)	(35)
DISREGARDED	(0)	(0)	(0)	(3)	(1)	(4)
PILOT IN COMMAND	0	0	0	3	1	4
INACCURATE	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	0	1
NWS PERSONNEL	0	0	0	0	1	1
INADEQUATE	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	3	0	3
MISJUDGED	(0)	(1)	(1)	(8)	(1)	(9)
PILOT IN COMMAND	0	1	1	8	1	9
MISREAD	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT ATTAINED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
NOT FOLLOWED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1

CAUSE/FACTOR TABLE
ALL OPERATIONS
1985

	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
PLANNING-DECISION (Continued)						
WIND INFORMATION (Continued)						
NOT IDENTIFIED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
NOT OBTAINED	(0)	(1)	(1)	(2)	(2)	(4)
PILOT IN COMMAND	0	1	1	2	2	4
NOT UNDERSTOOD	(0)	(0)	(0)	(4)	(0)	(4)
PILOT IN COMMAND	0	0	0	4	0	4
NOT RECEIVED	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	2	2
NOT USED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
FUEL CONSUMPTION CALCULATIONS	(6)	(0)	(6)	(52)	(14)	(66)
DISREGARDED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
IMPROPER	(0)	(0)	(0)	(5)	(6)	(11)
PILOT IN COMMAND	0	0	0	4	5	9
FLIGHT INSTRUCTOR(ON GROUND)	0	0	0	1	1	2
INACCURATE	(2)	(0)	(2)	(25)	(2)	(27)
PILOT IN COMMAND	2	0	2	25	2	27
INADEQUATE	(1)	(0)	(1)	(4)	(1)	(5)
PILOT IN COMMAND	1	0	1	4	1	5
MISJUDGED	(0)	(0)	(0)	(9)	(1)	(10)
PILOT IN COMMAND	0	0	0	9	1	10
NOT FOLLOWED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT PERFORMED	(2)	(0)	(2)	(4)	(1)	(5)
PILOT IN COMMAND	2	0	2	4	1	5
NOT UNDERSTOOD	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
NOT POSSIBLE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
POOR	(1)	(0)	(1)	(2)	(1)	(3)
PILOT IN COMMAND	1	0	1	2	1	3
NOTAMS	(1)	(0)	(1)	(1)	(0)	(1)
NOT OBTAINED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
BECAME LOST/DISORIENTED	(13)	(7)	(20)	(30)	(24)	(54)
NO MODIFIER SPECIFIED	(1)	(1)	(2)	(3)	(3)	(6)
PILOT IN COMMAND	0	1	1	2	2	4
NO PERSON SPECIFIED	0	0	0	0	1	1
PILOT IN COMMAND(CFI)	1	0	1	1	0	1
DISREGARDED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
IMPROPER	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
INADVERTENT	(8)	(6)	(14)	(20)	(20)	(40)
PILOT IN COMMAND	8	6	14	20	20	40
NOT CORRECTED	(2)	(0)	(2)	(3)	(0)	(3)
PILOT IN COMMAND	2	0	2	3	0	3
NOT SELECTED	(2)	(0)	(2)	(2)	(0)	(2)
PILOT IN COMMAND	2	0	2	2	0	2
VFR FLIGHT INTO IMC	(60)	(9)	(69)	(80)	(13)	(93)

CAUSE/FACTOR TABLE
ALL OPERATIONS
1985

AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued) HUMAN PERFORMANCE (Continued) OPERATIONS (Continued) PLANNING-DECISION (Continued) VFR FLIGHT INTO IMC (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
ATTEMPTED PILOT IN COMMAND	(9) 9	(0) 0	(9) 9	(13) 13	(0) 0	(13) 13
CONTINUED PILOT IN COMMAND	(23) 23	(4) 4	(27) 27	(30) 30	(4) 4	(34) 34
DISREGARDED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
IMPROPER PILOT IN COMMAND	(2) 2	(0) 0	(2) 2	(2) 2	(0) 0	(2) 2
INADVERTENT PILOT IN COMMAND	(14) 14	(2) 2	(16) 16	(17) 17	(6) 6	(23) 23
INTENTIONAL PILOT IN COMMAND	(2) 2	(1) 1	(3) 3	(4) 4	(1) 1	(5) 5
INADEQUATE PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(2) 2	(0) 0	(2) 2
INITIATED PILOT IN COMMAND	(3) 3	(0) 0	(3) 3	(3) 3	(0) 0	(3) 3
MISJUDGED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
PERFORMED PILOT IN COMMAND	(6) 6	(2) 2	(8) 8	(7) 7	(2) 2	(9) 9
VFR PROCEDURES	(2) (2)	(2) (0)	(4) (2)	(5) (4)	(2) (0)	(7) (4)
IMPROPER PILOT IN COMMAND	2	0	2	3	0	3
PILOT IN COMMAND(CF1)	0	0	0	1	0	1
INADVERTENT PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
NOT FOLLOWED PILOT IN COMMAND	(0) 0	(1) 1	(1) 1	(0) 0	(1) 1	(1) 1
NOT PERFORMED PILOT IN COMMAND	(0) 0	(1) 1	(1) 1	(0) 0	(1) 1	(1) 1
FLIGHT MANUALS	(1) (0)	(2) (0)	(3) (0)	(4) (0)	(5) (1)	(9) (1)
DISREGARDED PILOT IN COMMAND	0	0	0	0	1	1
MISREAD PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
NOT FOLLOWED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(2) 2	(3) 3
NOT MAINTAINED PILOT IN COMMAND	(0) 0	(1) 1	(1) 1	(0) 0	(1) 1	(1) 1
NOT UNDERSTOOD PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
NOT USED PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(1) 1	(0) 0	(1) 1
POOR MANUFACTURER	(0) 0	(1) 1	(1) 1	(0) 0	(1) 1	(1) 1
PERFORMANCE DATA	(2) (1)	(3) (1)	(5) (2)	(31) (7)	(12) (2)	(43) (9)
DISREGARDED PILOT IN COMMAND	1	1	2	7	2	9
EXCEEDED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1

CAUSE/FACTOR TABLE
ALL OPERATIONS
1985

	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
PLANNING-DECISION (Continued)						
PERFORMANCE DATA (Continued)						
IMPROPER USE OF PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(0) 0	(1) 1	(1) 1
INACCURATE PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
MISJUDGED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
NOT FOLLOWED PILOT IN COMMAND	(0) 0	(1) 1	(1) 1	(5) 5	(2) 2	(7) 7
NOT IDENTIFIED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(3) 3	(0) 0	(3) 3
NOT OBTAINED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(0) 0	(2) 2	(2) 2
NOT UNDERSTOOD PILOT IN COMMAND	(0) 0	(1) 1	(1) 1	(6) 6	(3) 3	(9) 9
NOT USED PILOT IN COMMAND	(1) 0	(0) 0	(1) 0	(6) 5	(2) 2	(8) 7
PILOT IN COMMAND(CFI)	1	0	1	1	0	1
SELECTED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
REFUELING	(3) (0)	(4) (0)	(7) (0)	(51) (2)	(6) (1)	(57) (3)
DISREGARDED PILOT IN COMMAND	0	0	0	2	1	3
IMPROPER PILOT IN COMMAND	(0) 0	(1) 1	(1) 1	(4) 1	(1) 1	(5) 2
OTHER MAINTENANCE PSNL	0	0	0	1	0	1
FBO PERSONNEL	0	0	0	1	0	1
AIRPORT PERSONNEL	0	0	0	1	0	1
INATTENTIVE NO PERSON SPECIFIED	(0) 0	(0) 0	(0) 0	(2) 1	(0) 0	(2) 1
FBO PERSONNEL	0	0	0	1	0	1
INADEQUATE PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(2) 2	(0) 0	(2) 2
MISJUDGED PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(2) 2	(0) 0	(2) 2
NOT ATTAINED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
NOT CORRECTED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
NOT MAINTAINED PILOT IN COMMAND	(0) 0	(1) 1	(1) 1	(0) 0	(1) 1	(1) 1
NOT PERFORMED PILOT IN COMMAND	(2) 2	(2) 2	(4) 4	(34) 34	(3) 2	(37) 36
FLIGHT INSTRUCTOR(ON GROUND)	0	0	0	0	1	1
NOT OBTAINED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
NOT POSSIBLE PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
REDUCED FBO PERSONNEL	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
VISUAL LOOKOUT ATTEMPTED	(54) (0)	(8) (0)	(62) (0)	(168) (2)	(22) (1)	(190) (3)

CAUSE/FACTOR TABLE
ALL OPERATIONS
1985

AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)

HUMAN PERFORMANCE (Continued)

OPERATIONS (Continued)

PLANNING-DECISION (Continued)

VISUAL LOOKOUT (Continued)

PILOT IN COMMAND

CONFLICTING

PILOT IN COMMAND(CFI)

DISREGARDED

PILOT IN COMMAND

IMPROPER

PILOT IN COMMAND

INATTENTIVE

PILOT IN COMMAND

DUAL STUDENT

PILOT IN COMMAND(CFI)

PILOT OF OTHER AIRCRAFT

DRIVER OF VEHICLE

INADVERTENT

PILOT IN COMMAND

INADEQUATE

PILOT IN COMMAND

DUAL STUDENT

PILOT IN COMMAND(CFI)

AIRPORT PERSONNEL

PASSENGER

PILOT OF OTHER AIRCRAFT

DRIVER OF VEHICLE

OTHER PERSON

UNQUALIFIED PERSON

MISJUDGED

PILOT IN COMMAND

COPILOT

NOT ATTAINED

PILOT IN COMMAND

NOT MAINTAINED

PILOT IN COMMAND

COPILOT

DUAL STUDENT

PILOT OF OTHER AIRCRAFT

OTHER PERSON

NOT PERFORMED

PILOT IN COMMAND

PILOT IN COMMAND(CFI)

NOT UNDERSTOOD

PILOT IN COMMAND

NOT POSSIBLE

PILOT IN COMMAND

NOT RECEIVED

PILOT IN COMMAND

POOR

PILOT IN COMMAND

REDUCED

PILOT IN COMMAND

WEATHER EVALUATION

DISREGARDED

PILOT IN COMMAND

IMPROPER

PILOT IN COMMAND

INACCURATE

FATAL ACCIDENTS
CAUSE FACTOR TOTAL

ALL ACCIDENTS
CAUSE FACTOR TOTAL

0	0	0	2	1	3
(0)	(0)	(0)	(1)	(0)	(1)
0	0	0	1	0	1
(1)	(0)	(1)	(1)	(0)	(1)
1	0	1	1	0	1
(0)	(0)	(0)	(3)	(0)	(3)
0	0	0	3	0	3
(2)	(0)	(2)	(9)	(0)	(9)
1	0	1	4	0	4
0	0	0	1	0	1
1	0	1	2	0	2
0	0	0	1	0	1
0	0	0	1	0	1
(0)	(0)	(0)	(0)	(1)	(1)
0	0	0	0	1	1
(34)	(0)	(34)	(96)	(8)	(104)
26	0	26	68	6	74
0	0	0	1	0	1
0	0	0	3	0	3
0	0	0	1	0	1
1	0	1	2	0	2
5	0	5	16	1	17
1	0	1	2	1	3
1	0	1	2	0	2
0	0	0	1	0	1
(0)	(0)	(0)	(1)	(1)	(2)
0	0	0	1	0	1
0	0	0	0	1	1
(0)	(0)	(0)	(1)	(0)	(1)
0	0	0	1	0	1
(9)	(4)	(13)	(35)	(5)	(40)
6	4	10	22	4	26
0	0	0	1	0	1
0	0	0	0	1	1
3	0	3	9	0	9
0	0	0	3	0	3
(1)	(0)	(1)	(1)	(1)	(2)
1	0	1	1	0	1
0	0	0	0	1	1
(0)	(0)	(0)	(1)	(0)	(1)
0	0	0	1	0	1
(2)	(1)	(3)	(3)	(1)	(4)
2	1	3	3	1	4
(0)	(1)	(1)	(0)	(1)	(1)
0	1	1	0	1	1
(2)	(1)	(3)	(4)	(1)	(5)
2	1	3	4	1	5
(3)	(1)	(4)	(10)	(2)	(12)
3	1	4	10	2	12
(21)	(9)	(30)	(65)	(20)	(85)
(3)	(0)	(3)	(7)	(0)	(7)
3	0	3	7	0	7
(5)	(2)	(7)	(8)	(2)	(10)
5	2	7	8	2	10
(2)	(1)	(3)	(6)	(1)	(7)

CAUSE/FACTOR TABLE
ALL OPERATIONS
1985

AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued) HUMAN PERFORMANCE (Continued) OPERATIONS (Continued) PLANNING-DECISION (Continued) WEATHER EVALUATION (Continued) PILOT IN COMMAND	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
	2	1	3	6	1	7
INATTENTIVE PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
INADEQUATE PILOT IN COMMAND	(3) 2	(2) 2	(5) 4	(15) 14	(5) 5	(20) 19
PILOT IN COMMAND(CFI)	1	0	1	1	0	1
MISJUDGED PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(9) 9	(0) 0	(9) 9
NOT ATTAINED PILOT IN COMMAND	(2) 2	(0) 0	(2) 2	(3) 3	(0) 0	(3) 3
NOT FOLLOWED PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(2) 2	(0) 0	(2) 2
NOT PERFORMED PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(2) 2	(1) 1	(3) 3
NOT UNDERSTOOD PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(2) 2	(3) 3
NOT POSSIBLE ATC PERSONNEL(FSS)	(0) 0	(0) 0	(0) 0	(0) 0	(1) 1	(1) 1
NOT USED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
POOR PILOT IN COMMAND	(3) 3	(4) 4	(7) 7	(10) 10	(8) 8	(18) 18
FLIGHT INTO KNOWN ADVERSE WEATHER ATTEMPTED	(37) (7)	(16) (0)	(53) (7)	(49) (9)	(17) (1)	(66) (10)
PILOT IN COMMAND	7	0	7	9	0	9
NO PERSON SPECIFIED	0	0	0	0	1	1
CONTINUED PILOT IN COMMAND	(9) 8	(2) 2	(11) 10	(15) 14	(2) 2	(17) 16
PILOT IN COMMAND(CFI)	1	0	1	1	0	1
IMPROPER PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(1) 1	(0) 0	(1) 1
INADVERTENT PILOT IN COMMAND	(0) 0	(1) 1	(1) 1	(0) 0	(1) 1	(1) 1
INTENTIONAL PILOT IN COMMAND	(7) 7	(2) 2	(9) 9	(8) 8	(2) 2	(10) 10
INITIATED PILOT IN COMMAND	(11) 11	(9) 9	(20) 20	(13) 13	(9) 9	(22) 22
PERFORMED PILOT IN COMMAND	(2) 2	(2) 2	(4) 4	(3) 3	(2) 2	(5) 5
IFR PROCEDURE ATTEMPTED	(26) (1)	(5) (0)	(31) (1)	(32) (1)	(5) (0)	(37) (1)
PILOT IN COMMAND	1	0	1	1	0	1
DISREGARDED PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(1) 1	(0) 0	(1) 1
IMPROPER PILOT IN COMMAND	(15) 15	(1) 1	(16) 16	(17) 17	(1) 1	(18) 18
INADEQUATE PILOT IN COMMAND	(2) 2	(0) 0	(2) 2	(3) 3	(0) 0	(3) 3
NOT FOLLOWED PILOT IN COMMAND	(4) 4	(3) 3	(7) 7	(5) 5	(3) 3	(8) 8

CAUSE/FACTOR TABLE
ALL OPERATIONS
1985

	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
PLANNING-DECISION (Continued)						
IFR PROCEDURE (Continued)						
NOT UNDERSTOOD	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
NOT USED	(2)	(0)	(2)	(2)	(0)	(2)
PILOT IN COMMAND	2	0	2	2	0	2
POOR	(0)	(1)	(1)	(1)	(1)	(2)
PILOT IN COMMAND	0	1	1	1	1	2
SIMULATED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
FLIGHT TO ALTERNATE DESTINATION	(5)	(1)	(6)	(10)	(7)	(17)
ATTEMPTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
DELAYED	(1)	(1)	(2)	(4)	(3)	(7)
PILOT IN COMMAND	1	1	2	4	2	6
NO PERSON SPECIFIED	0	0	0	0	1	1
INITIATED	(1)	(0)	(1)	(1)	(1)	(2)
PILOT IN COMMAND	1	0	1	1	1	2
NOT PERFORMED	(2)	(0)	(2)	(3)	(2)	(5)
PILOT IN COMMAND	1	0	1	2	2	4
PILOT IN COMMAND(CF1)	1	0	1	1	0	1
PERFORMED	(1)	(0)	(1)	(1)	(1)	(2)
PILOT IN COMMAND	1	0	1	1	1	2
COMPENSATION FOR WIND CONDITIONS	(2)	(1)	(3)	(156)	(22)	(178)
ATTEMPTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
DELAYED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
DISREGARDED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
EXCESSIVE	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	3	0	3
IMPROPER	(1)	(0)	(1)	(34)	(3)	(37)
PILOT IN COMMAND	1	0	1	33	3	36
DUAL STUDENT	0	0	0	1	0	1
INACCURATE	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
INADEQUATE	(1)	(1)	(2)	(84)	(10)	(94)
PILOT IN COMMAND	1	1	2	80	10	90
DUAL STUDENT	0	0	0	3	0	3
PILOT IN COMMAND(CF1)	0	0	0	1	0	1
MISJUDGED	(0)	(0)	(0)	(4)	(1)	(5)
PILOT IN COMMAND	0	0	0	4	1	5
NOT ATTAINED	(0)	(0)	(0)	(5)	(0)	(5)
PILOT IN COMMAND	0	0	0	5	0	5
NOT CORRECTED	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
NOT FOLLOWED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT IDENTIFIED	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	2	2
NOT MAINTAINED	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	3	0	3

CAUSE/FACTOR TABLE
ALL OPERATIONS
1985

	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
PLANNING-DECISION (Continued)						
COMPENSATION FOR WIND CONDITIONS (Continued)						
NOT PERFORMED	(0)	(0)	(0)	(4)	(1)	(5)
PILOT IN COMMAND	0	0	0	3	0	3
NO PERSON SPECIFIED	0	0	0	0	1	1
OTHER CREW MEMBER	0	0	0	1	0	1
NOT UNDERSTOOD	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT POSSIBLE	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	1	0	1
PASSENGER	0	0	0	1	0	1
NOT USED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
PERFORMED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
POOR	(0)	(0)	(0)	(6)	(1)	(7)
PILOT IN COMMAND	0	0	0	6	1	7
PREMATURE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
LANDED AT WRONG AIRPORT	(0)	(1)	(1)	(6)	(3)	(9)
ATTEMPTED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
INADVERTENT	(0)	(1)	(1)	(4)	(2)	(6)
PILOT IN COMMAND	0	1	1	4	2	6
INTENTIONAL	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PERFORMED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
WRONG RUNWAY	(1)	(1)	(2)	(18)	(13)	(31)
NO MODIFIER SPECIFIED	(0)	(0)	(0)	(0)	(1)	(1)
NO PERSON SPECIFIED	0	0	0	0	1	1
INADVERTENT USE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
SELECTED	(1)	(1)	(2)	(17)	(12)	(29)
PILOT IN COMMAND	1	1	2	17	11	28
NO PERSON SPECIFIED	0	0	0	0	1	1
UNSUITABLE TERRAIN	(3)	(0)	(3)	(87)	(22)	(109)
INADVERTENT	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
INADEQUATE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INADVERTENT USE	(0)	(0)	(0)	(1)	(2)	(3)
PILOT IN COMMAND	0	0	0	1	2	3
MISREAD	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT IDENTIFIED	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	3	0	3
NOT OBTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT UNDERSTOOD	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
SELECTED	(3)	(0)	(3)	(77)	(20)	(97)

CAUSE/FACTOR TABLE
ALL OPERATIONS
1985

AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)

HUMAN PERFORMANCE (Continued)

OPERATIONS (Continued)

PLANNING-DECISION (Continued)

UNSUITABLE TERRAIN (Continued)

PILOT IN COMMAND

PILOT IN COMMAND(CFI)

CHECKLIST

DISREGARDED

PILOT IN COMMAND

IMPROPER

PILOT IN COMMAND

IMPROPER USE OF

PILOT IN COMMAND

INACCURATE

PILOT IN COMMAND

INADEQUATE

PILOT IN COMMAND

NOT FOLLOWED

PILOT IN COMMAND

COPILOT

NOT MAINTAINED

PILOT IN COMMAND

NOT PERFORMED

PILOT IN COMMAND

NOT USED

PILOT IN COMMAND

NO PERSON SPECIFIED

JUDGEMENT

CONFLICTING

PILOT IN COMMAND

IMPROPER

PILOT IN COMMAND

INACCURATE

PILOT IN COMMAND

PILOT IN COMMAND(CFI)

INADEQUATE

PILOT IN COMMAND

NOT ISSUED

PILOT IN COMMAND

NOT USED

PILOT IN COMMAND

POOR

PILOT IN COMMAND

PILOT IN COMMAND(CFI)

FLIGHT INSTRUCTOR(ON GROUND)

OTHER CREW MEMBER

PILOT OF OTHER AIRCRAFT

UNQUALIFIED PERSON

REDUCED

PILOT IN COMMAND

SELECTED

PILOT IN COMMAND

PROCEDURES/DIRECTIVES

ATTEMPTED

PILOT IN COMMAND

DISREGARDED

FATAL ACCIDENTS
CAUSE FACTOR TOTAL

ALL ACCIDENTS
CAUSE FACTOR TOTAL

3	0	3	76	17	93
0	0	0	1	3	4
(2)	(1)	(3)	(24)	(10)	(34)
(0)	(0)	(0)	(1)	(0)	(1)
0	0	0	1	0	1
(0)	(0)	(0)	(1)	(0)	(1)
0	0	0	1	0	1
(0)	(0)	(0)	(3)	(0)	(3)
0	0	0	3	0	3
(0)	(0)	(0)	(1)	(0)	(1)
0	0	0	1	0	1
(0)	(0)	(0)	(2)	(0)	(2)
0	0	0	2	0	2
(2)	(0)	(2)	(10)	(4)	(14)
2	0	2	10	3	13
0	0	0	0	1	1
(0)	(0)	(0)	(0)	(1)	(1)
0	0	0	0	1	1
(0)	(0)	(0)	(2)	(0)	(2)
0	0	0	2	0	2
(0)	(1)	(1)	(4)	(5)	(9)
0	0	0	4	4	8
0	1	1	0	1	1
(66)	(12)	(78)	(177)	(55)	(232)
(0)	(0)	(0)	(1)	(0)	(1)
0	0	0	1	0	1
(1)	(0)	(1)	(3)	(2)	(5)
1	0	1	3	2	5
(0)	(0)	(0)	(4)	(0)	(4)
0	0	0	3	0	3
0	0	0	1	0	1
(0)	(0)	(0)	(2)	(1)	(3)
0	0	0	2	1	3
(0)	(0)	(0)	(1)	(0)	(1)
0	0	0	1	0	1
(1)	(0)	(1)	(1)	(0)	(1)
1	0	1	1	0	1
(64)	(12)	(76)	(164)	(51)	(215)
60	12	72	150	50	200
0	0	0	6	1	7
1	0	1	3	0	3
1	0	1	1	0	1
1	0	1	3	0	3
1	0	1	1	0	1
(0)	(0)	(0)	(0)	(1)	(1)
0	0	0	0	1	1
(0)	(0)	(0)	(1)	(0)	(1)
0	0	0	1	0	1
(12)	(8)	(20)	(67)	(16)	(83)
(1)	(0)	(1)	(1)	(0)	(1)
1	0	1	1	0	1
(1)	(1)	(2)	(2)	(1)	(3)

CAUSE/FACTOR TABLE
ALL OPERATIONS
1985

AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued) HUMAN PERFORMANCE (Continued) OPERATIONS (Continued) PLANNING-DECISION (Continued) PROCEDURES/DIRECTIVES (Continued) PILOT IN COMMAND	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
	1	1	2	2	1	3
IMPROPER	(2)	(1)	(3)	(9)	(2)	(11)
PILOT IN COMMAND	2	1	3	9	1	10
FLIGHT INSTRUCTOR(ON GROUND)	0	0	0	0	1	1
IMPROPER USE OF	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INACCURATE	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
INADEQUATE	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
MISJUDGED	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	2	2
NOT FOLLOWED	(7)	(6)	(13)	(45)	(10)	(55)
PILOT IN COMMAND	7	4	11	42	8	50
ATC PERSONNEL(DEP/APCH)	0	1	1	0	1	1
GROUND PERSONNEL	0	0	0	1	0	1
PILOT OF OTHER AIRCRAFT	0	0	0	2	0	2
OTHER PERSON	0	1	1	0	1	1
NOT PERFORMED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT UNDERSTOOD	(0)	(0)	(0)	(4)	(1)	(5)
PILOT IN COMMAND	0	0	0	4	1	5
POOR	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
ALL AVAILABLE RUNWAY	(0)	(0)	(0)	(11)	(6)	(17)
INADEQUATE	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
NOT USED	(0)	(0)	(0)	(9)	(6)	(15)
PILOT IN COMMAND	0	0	0	9	6	15
PLANNED APPROACH	(4)	(2)	(6)	(57)	(15)	(72)
CONFLICTING	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
IMPROPER	(1)	(1)	(2)	(16)	(5)	(21)
PILOT IN COMMAND	1	1	2	15	5	20
DUAL STUDENT	0	0	0	1	0	1
INACCURATE	(0)	(0)	(0)	(5)	(0)	(5)
PILOT IN COMMAND	0	0	0	5	0	5
INADVERTENT	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INADEQUATE	(0)	(0)	(0)	(2)	(4)	(6)
PILOT IN COMMAND	0	0	0	2	3	5
NO PERSON SPECIFIED	0	0	0	0	1	1
MISJUDGED	(0)	(0)	(0)	(10)	(1)	(11)
PILOT IN COMMAND	0	0	0	10	1	11
NOT ATTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT CORRECTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT FOLLOWED	(1)	(0)	(1)	(4)	(0)	(4)
PILOT IN COMMAND	1	0	1	4	0	4
NOT UNDERSTOOD	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1

CAUSE/FACTOR TABLE
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	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
PLANNING-DECISION (Continued)						
PLANNED APPROACH (Continued)						
PERFORMED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
POOR	(2)	(1)	(3)	(15)	(4)	(19)
PILOT IN COMMAND	2	1	3	14	4	18
PILOT OF OTHER AIRCRAFT	0	0	0	1	0	1
MAINTENANCE	(26)	(11)	(37)	(150)	(55)	(205)
MAINTENANCE	(2)	(1)	(3)	(19)	(4)	(23)
DELAYED	(0)	(0)	(0)	(1)	(0)	(1)
COMPANY/OPERATOR MGMT	0	0	0	1	0	1
IMPROPER	(1)	(0)	(1)	(11)	(2)	(13)
PILOT IN COMMAND	0	0	0	1	1	2
NO PERSON SPECIFIED	0	0	0	1	0	1
COMPANY MAINTENANCE PSNL	0	0	0	1	0	1
OTHER MAINTENANCE PSNL	1	0	1	6	1	7
FBO PERSONNEL	0	0	0	1	0	1
MANUFACTURER	0	0	0	1	0	1
INADEQUATE	(1)	(1)	(2)	(6)	(1)	(7)
NO PERSON SPECIFIED	0	0	0	2	0	2
COMPANY MAINTENANCE PSNL	0	0	0	1	0	1
OTHER MAINTENANCE PSNL	0	0	0	2	0	2
COMPANY/OPERATOR MGMT	1	1	2	1	1	2
NOT PERFORMED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
POOR	(0)	(0)	(0)	(0)	(1)	(1)
OTHER PERSON	0	0	0	0	1	1
MAINTENANCE, SERVICE OF AIRCRAFT	(6)	(2)	(8)	(14)	(5)	(19)
IMPROPER	(2)	(0)	(2)	(6)	(0)	(6)
PILOT IN COMMAND	1	0	1	2	0	2
COMPANY MAINTENANCE PSNL	0	0	0	1	0	1
OTHER MAINTENANCE PSNL	0	0	0	1	0	1
COMPANY/OPERATOR MGMT	1	0	1	1	0	1
GROUND PERSONNEL	0	0	0	1	0	1
INATTENTIVE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INADEQUATE	(3)	(0)	(3)	(6)	(3)	(9)
PILOT IN COMMAND	1	0	1	2	0	2
NO PERSON SPECIFIED	2	0	2	2	0	2
COMPANY MAINTENANCE PSNL	0	0	0	2	1	3
COMPANY/OPERATOR MGMT	0	0	0	0	1	1
OTHER PERSON	0	0	0	0	1	1
NOT MAINTAINED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
NOT PERFORMED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
POOR	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
MAINTENANCE, INSPECTION OF AIRCRAFT	(7)	(2)	(9)	(32)	(22)	(54)
IMPROPER	(2)	(0)	(2)	(4)	(2)	(6)
PILOT IN COMMAND	1	0	1	2	0	2
NO PERSON SPECIFIED	0	0	0	1	0	1
COPILOT	1	0	1	1	0	1
OTHER MAINTENANCE PSNL	0	0	0	0	2	2
INACCURATE	(0)	(0)	(0)	(0)	(1)	(1)
OTHER MAINTENANCE PSNL	0	0	0	0	1	1
INADEQUATE	(3)	(1)	(4)	(21)	(16)	(37)
PILOT IN COMMAND	0	0	0	2	0	2

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	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
MAINTENANCE (Continued)						
MAINTENANCE, INSPECTION OF AIRCRAFT (Continued)						
NO PERSON SPECIFIED	0	1	1	2	4	6
COMPANY MAINTENANCE PSNL	1	0	1	5	2	7
OTHER MAINTENANCE PSNL	2	0	2	12	8	20
FBO PERSONNEL	0	0	0	0	1	1
OTHER PERSON	0	0	0	0	1	1
NOT PERFORMED	(2)	(0)	(2)	(4)	(0)	(4)
PILOT IN COMMAND	0	0	0	1	0	1
COMPANY MAINTENANCE PSNL	0	0	0	1	0	1
OTHER MAINTENANCE PSNL	2	0	2	2	0	2
NOT OBTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
POOR	(0)	(1)	(1)	(2)	(3)	(5)
PILOT IN COMMAND	0	1	1	1	1	2
COMPANY MAINTENANCE PSNL	0	0	0	1	1	2
OTHER MAINTENANCE PSNL	0	0	0	0	1	1
MAINTENANCE, COMPLIANCE WITH AD	(0)	(2)	(2)	(3)	(3)	(6)
IMPROPER	(0)	(0)	(0)	(1)	(0)	(1)
OTHER MAINTENANCE PSNL	0	0	0	1	0	1
NOT MAINTAINED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
NOT PERFORMED	(0)	(1)	(1)	(1)	(2)	(3)
COMPANY MAINTENANCE PSNL	0	1	1	0	1	1
OTHER MAINTENANCE PSNL	0	0	0	1	1	2
POOR	(0)	(0)	(0)	(1)	(0)	(1)
OTHER MAINTENANCE PSNL	0	0	0	1	0	1
MAINTENANCE, ANNUAL INSPECTION	(2)	(1)	(3)	(6)	(4)	(10)
IMPROPER	(0)	(0)	(0)	(2)	(0)	(2)
OTHER MAINTENANCE PSNL	0	0	0	2	0	2
INADEQUATE	(1)	(0)	(1)	(2)	(1)	(3)
COMPANY MAINTENANCE PSNL	0	0	0	1	0	1
OTHER MAINTENANCE PSNL	1	0	1	1	1	2
NOT FOLLOWED	(1)	(1)	(2)	(1)	(1)	(2)
PILOT IN COMMAND	1	1	2	1	1	2
NOT PERFORMED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
POOR	(0)	(0)	(0)	(0)	(2)	(2)
OTHER MAINTENANCE PSNL	0	0	0	0	2	2
MAINTENANCE, 100 HOUR INSPECTION	(1)	(0)	(1)	(1)	(2)	(3)
INACCURATE	(1)	(0)	(1)	(1)	(0)	(1)
OTHER MAINTENANCE PSNL	1	0	1	1	0	1
NOT CORRECTED	(0)	(0)	(0)	(0)	(1)	(1)
FBO PERSONNEL	0	0	0	0	1	1
POOR	(0)	(0)	(0)	(0)	(1)	(1)
COMPANY MAINTENANCE PSNL	0	0	0	0	1	1
MAINTENANCE, AAIP/PROGRESSIVE PROGRAM	(0)	(0)	(0)	(1)	(0)	(1)
INADEQUATE	(0)	(0)	(0)	(1)	(0)	(1)
COMPANY MAINTENANCE PSNL	0	0	0	1	0	1
MAINTENANCE, ADJUSTMENT	(0)	(0)	(0)	(9)	(0)	(9)
IMPROPER	(0)	(0)	(0)	(7)	(0)	(7)
PILOT IN COMMAND	0	0	0	1	0	1
NO PERSON SPECIFIED	0	0	0	1	0	1
COMPANY MAINTENANCE PSNL	0	0	0	1	0	1
OTHER MAINTENANCE PSNL	0	0	0	4	0	4
INADEQUATE	(0)	(0)	(0)	(2)	(0)	(2)

CAUSE/FACTOR TABLE
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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued) HUMAN PERFORMANCE (Continued) OPERATIONS (Continued) MAINTENANCE (Continued) MAINTENANCE, ADJUSTMENT (Continued) PILOT IN COMMAND	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
	0	0	0	2	0	2
MAINTENANCE, ALIGNMENT	(0)	(0)	(0)	(3)	(0)	(3)
IMPROPER	(0)	(0)	(0)	(3)	(0)	(3)
OTHER MAINTENANCE PSNL	0	0	0	2	0	2
MANUFACTURER	0	0	0	1	0	1
MAINTENANCE, CALIBRATION	(0)	(0)	(0)	(3)	(0)	(3)
IMPROPER	(0)	(0)	(0)	(1)	(0)	(1)
COMPANY MAINTENANCE PSNL	0	0	0	1	0	1
INACCURATE	(0)	(0)	(0)	(1)	(0)	(1)
OTHER MAINTENANCE PSNL	0	0	0	1	0	1
NOT OBTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
MAINTENANCE, INSTALLATION	(3)	(1)	(4)	(29)	(4)	(33)
IMPROPER	(2)	(1)	(3)	(24)	(4)	(28)
PILOT IN COMMAND	1	0	1	5	1	6
COMPANY MAINTENANCE PSNL	0	0	0	7	0	7
OTHER MAINTENANCE PSNL	1	1	2	11	3	14
MANUFACTURER	0	0	0	1	0	1
INADEQUATE	(1)	(0)	(1)	(1)	(0)	(1)
OTHER MAINTENANCE PSNL	1	0	1	1	0	1
NOT CORRECTED	(0)	(0)	(0)	(1)	(0)	(1)
OTHER MAINTENANCE PSNL	0	0	0	1	0	1
NOT PERFORMED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	1	0	1
OTHER MAINTENANCE PSNL	0	0	0	1	0	1
SELECTED	(0)	(0)	(0)	(1)	(0)	(1)
OTHER MAINTENANCE PSNL	0	0	0	1	0	1
MAINTENANCE, LUBRICATION	(0)	(0)	(0)	(1)	(0)	(1)
EXCEEDED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
MAINTENANCE, MODIFICATION	(1)	(0)	(1)	(3)	(0)	(3)
IMPROPER	(1)	(0)	(1)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	2	0	2
OTHER MAINTENANCE PSNL	1	0	1	1	0	1
MAINTENANCE, REPLACEMENT	(1)	(1)	(2)	(8)	(6)	(14)
DELAYED	(0)	(0)	(0)	(0)	(1)	(1)
COMPANY MAINTENANCE PSNL	0	0	0	0	1	1
IMPROPER	(0)	(0)	(0)	(4)	(2)	(6)
COMPANY MAINTENANCE PSNL	0	0	0	1	0	1
OTHER MAINTENANCE PSNL	0	0	0	2	2	4
PRODUCTION/DESIGN PSNL	0	0	0	1	0	1
NOT IDENTIFIED	(1)	(0)	(1)	(1)	(0)	(1)
MANUFACTURER	1	0	1	1	0	1
NOT PERFORMED	(0)	(0)	(0)	(3)	(2)	(5)
PILOT IN COMMAND	0	0	0	1	1	2
OTHER MAINTENANCE PSNL	0	0	0	1	1	2
OTHER PERSON	0	0	0	1	0	1
NOT OBTAINED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
MAINTENANCE, MAJOR REPAIR	(1)	(0)	(1)	(10)	(0)	(10)
DELAYED	(0)	(0)	(0)	(1)	(0)	(1)
OTHER MAINTENANCE PSNL	0	0	0	1	0	1
IMPROPER	(1)	(0)	(1)	(7)	(0)	(7)
COMPANY MAINTENANCE PSNL	0	0	0	1	0	1
OTHER MAINTENANCE PSNL	1	0	1	5	0	5

CAUSE/FACTOR TABLE
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	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
MAINTENANCE (Continued)						
MAINTENANCE, MAJOR REPAIR (Continued)						
FBO PERSONNEL	0	0	0	1	0	1
INATTENTIVE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT PERFORMED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
MAINTENANCE, SERVICE BULLETINS	(0)	(0)	(0)	(1)	(2)	(3)
NOT FOLLOWED	(0)	(0)	(0)	(0)	(1)	(1)
OTHER MAINTENANCE PSNL	0	0	0	0	1	1
NOT PERFORMED	(0)	(0)	(0)	(1)	(1)	(2)
COMPANY MAINTENANCE PSNL	0	0	0	0	1	1
OTHER MAINTENANCE PSNL	0	0	0	1	0	1
MAINTENANCE, OVERHAUL	(2)	(1)	(3)	(7)	(3)	(10)
IMPROPER	(2)	(1)	(3)	(6)	(2)	(8)
NO PERSON SPECIFIED	0	1	1	1	1	2
OTHER MAINTENANCE PSNL	2	0	2	5	1	6
INADEQUATE	(0)	(0)	(0)	(1)	(1)	(2)
COMPANY MAINTENANCE PSNL	0	0	0	0	1	1
OTHER MAINTENANCE PSNL	0	0	0	1	0	1
AIRPORT	(0)	(0)	(0)	(5)	(4)	(9)
RUNWAY MAINTENANCE	(0)	(0)	(0)	(3)	(0)	(3)
INADEQUATE	(0)	(0)	(0)	(1)	(0)	(1)
AIRPORT PERSONNEL	0	0	0	1	0	1
NOT IDENTIFIED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
UNCONTROLLED	(0)	(0)	(0)	(1)	(0)	(1)
AIRPORT PERSONNEL	0	0	0	1	0	1
AIRPORT SNOW REMOVAL	(0)	(0)	(0)	(1)	(1)	(2)
NOT PERFORMED	(0)	(0)	(0)	(0)	(1)	(1)
AIRPORT PERSONNEL	0	0	0	0	1	1
POOR	(0)	(0)	(0)	(1)	(0)	(1)
FBO PERSONNEL	0	0	0	1	0	1
OTHER AIRPORT/RUNWAY MAINTENANCE	(0)	(0)	(0)	(1)	(1)	(2)
IMPROPER USE OF	(0)	(0)	(0)	(0)	(1)	(1)
AIRPORT PERSONNEL	0	0	0	0	1	1
INADEQUATE	(0)	(0)	(0)	(1)	(0)	(1)
AIRPORT PERSONNEL	0	0	0	1	0	1
AIRPORT OPERATIONS	(0)	(0)	(0)	(0)	(2)	(2)
INADEQUATE	(0)	(0)	(0)	(0)	(2)	(2)
AIRPORT PERSONNEL	0	0	0	0	2	2
DISPATCH	(0)	(0)	(0)	(2)	(1)	(3)
DISPATCH PROCEDURES	(0)	(0)	(0)	(1)	(1)	(2)
DELAYED	(0)	(0)	(0)	(0)	(1)	(1)
ATC PERSONNEL (DEP/APCH)	0	0	0	0	1	1
POOR	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
FLT WITH INADQ T ENROUTE/DESTN FACILITIES	(0)	(0)	(0)	(1)	(0)	(1)
PERFORMED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
METEOROLOGICAL SERVICE	(21)	(22)	(43)	(27)	(25)	(52)
METEOROLOGICAL SERVICE	(0)	(4)	(4)	(0)	(4)	(4)
INADEQUATE	(0)	(2)	(2)	(0)	(2)	(2)
NWS PERSONNEL	0	1	1	0	1	1
OTHER GOVERNMENT PERSONNEL	0	1	1	0	1	1
NOT USED	(0)	(2)	(2)	(0)	(2)	(2)

CAUSE/FACTOR TABLE
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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued) HUMAN PERFORMANCE (Continued) OPERATIONS (Continued) METEOROLOGICAL SERVICE (Continued) METEOROLOGICAL SERVICE (Continued) PILOT IN COMMAND	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
	0	2	2	0	2	2
WEATHER FORECAST	(3)	(2)	(5)	(4)	(2)	(6)
INACCURATE	(2)	(2)	(4)	(3)	(2)	(5)
ATC PERSONNEL(FSS)	1	0	1	1	0	1
NWS PERSONNEL	1	2	3	2	2	4
INADEQUATE	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
WEATHER OBSERVATION	(0)	(0)	(0)	(0)	(1)	(1)
DISREGARDED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
HAZARDOUS WEATHER ADVISORY	(3)	(3)	(6)	(4)	(3)	(7)
DISREGARDED	(2)	(1)	(3)	(2)	(1)	(3)
PILOT IN COMMAND	2	1	3	2	1	3
NOT ISSUED	(0)	(2)	(2)	(0)	(2)	(2)
ATC PERSONNEL(FSS)	0	2	2	0	2	2
NOT UNDERSTOOD	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
NOT POSSIBLE	(0)	(0)	(0)	(1)	(0)	(1)
NWS PERSONNEL	0	0	0	1	0	1
PREFLIGHT BRIEFING SERVICE	(13)	(9)	(22)	(16)	(10)	(26)
DISREGARDED	(7)	(2)	(9)	(8)	(2)	(10)
PILOT IN COMMAND	7	2	9	8	2	10
NOT ATTAINED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT CORRECTED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
NOT FOLLOWED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
NOT OBTAINED	(0)	(3)	(3)	(1)	(3)	(4)
PILOT IN COMMAND	0	3	3	1	3	4
NOT USED	(3)	(4)	(7)	(4)	(4)	(8)
PILOT IN COMMAND	3	4	7	4	4	8
POOR	(1)	(0)	(1)	(1)	(0)	(1)
ATC PERSONNEL(FSS)	1	0	1	1	0	1
IN FLIGHT BRIEFING SERVICE	(1)	(0)	(1)	(1)	(0)	(1)
NOT USED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
IN FLIGHT WEATHER ADVISORIES	(1)	(4)	(5)	(2)	(4)	(6)
NOT ISSUED	(0)	(1)	(1)	(0)	(1)	(1)
ATC PERSONNEL(ARTCC)	0	1	1	0	1	1
NOT OBTAINED	(1)	(2)	(3)	(2)	(2)	(4)
PILOT IN COMMAND	1	2	3	2	2	4
NOT USED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
WEATHER SERVICE	(0)	(0)	(0)	(0)	(1)	(1)
INADEQUATE	(0)	(0)	(0)	(0)	(1)	(1)
FAA(OTHER/ORGANIZATION)	0	0	0	0	1	1
AIRCRAFT HANDLING	(590)	(87)	(677)	(2621)	(416)	(3037)
AIRCRAFT HANDLING	(55)	(1)	(56)	(143)	(5)	(148)
ABOVE	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
NO MODIFIER SPECIFIED	(2)	(0)	(2)	(2)	(0)	(2)

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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued) HUMAN PERFORMANCE (Continued) OPERATIONS (Continued) AIRCRAFT HANDLING (Continued) AIRCRAFT HANDLING (Continued) NO PERSON SPECIFIED	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
	2	0	2	2	0	2
ATTEMPTED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
DELAYED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
IMPROPER PILOT IN COMMAND	(13) 12	(1) 1	(14) 13	(47) 42	(1) 1	(48) 43
DUAL STUDENT	1	0	1	3	0	3
PILOT IN COMMAND(CFI)	0	0	0	2	0	2
INATTENTIVE PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
INADEQUATE PILOT IN COMMAND	(2) 2	(0) 0	(2) 2	(6) 6	(1) 1	(7) 7
MISJUDGED PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(3) 2	(0) 0	(3) 2
PASSENGER	0	0	0	1	0	1
NOT MAINTAINED PILOT IN COMMAND	(31) 28	(0) 0	(31) 28	(67) 59	(1) 1	(68) 60
NO PERSON SPECIFIED	1	0	1	1	0	1
DUAL STUDENT	0	0	0	3	0	3
PILOT IN COMMAND(CFI)	1	0	1	3	0	3
PASSENGER	1	0	1	1	0	1
NOT OBTAINED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
NOT POSSIBLE PILOT IN COMMAND	(3) 3	(0) 0	(3) 3	(3) 3	(0) 0	(3) 3
POOR PILOT IN COMMAND	(2) 2	(0) 0	(2) 2	(10) 8	(2) 2	(12) 10
DUAL STUDENT	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
AEROBATICS ATTEMPTED PILOT IN COMMAND	(16) (2) 2	(6) (0) 0	(22) (2) 2	(18) (3) 3	(7) (1) 1	(25) (4) 4
IMPROPER PILOT IN COMMAND	(2) 2	(0) 0	(2) 2	(2) 2	(0) 0	(2) 2
INACCURATE PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(1) 1	(0) 0	(1) 1
INTENTIONAL PILOT IN COMMAND	(2) 2	(2) 2	(4) 4	(2) 2	(2) 2	(4) 4
MISJUDGED PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(1) 1	(0) 0	(1) 1
PERFORMED PILOT IN COMMAND	(8) 8	(4) 4	(12) 12	(9) 9	(4) 4	(13) 13
ABORT ATTEMPTED PILOT IN COMMAND	(0) (0) 0	(1) (0) 0	(1) (0) 0	(9) (1) 1	(4) (0) 0	(13) (1) 1
DELAYED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(4) 4	(0) 0	(4) 4
INTENTIONAL PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(0) 0	(2) 2	(2) 2
INITIATED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
NOT PERFORMED	(0)	(1)	(1)	(3)	(2)	(5)

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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued) HUMAN PERFORMANCE (Continued) OPERATIONS (Continued) AIRCRAFT HANDLING (Continued) ABORT (Continued) PILOT IN COMMAND	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
	0	1	1	3	2	5
ABORT ABOVE V1	(0)	(0)	(0)	(2)	(1)	(3)
ATTEMPTED	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
DELAYED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
ABORTED LANDING	(1)	(0)	(1)	(14)	(3)	(17)
ATTEMPTED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
DELAYED	(1)	(0)	(1)	(6)	(0)	(6)
PILOT IN COMMAND	1	0	1	6	0	6
EXCEEDED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
IMPROPER	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT PERFORMED	(0)	(0)	(0)	(3)	(1)	(4)
PILOT IN COMMAND	0	0	0	3	1	4
PERFORMED	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	2	2
SELECTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
ABORTED TAKEOFF	(1)	(1)	(2)	(30)	(12)	(42)
ABOVE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
ATTEMPTED	(0)	(0)	(0)	(1)	(2)	(3)
PILOT IN COMMAND	0	0	0	1	1	2
OTHER PERSON	0	0	0	0	1	1
DELAYED	(0)	(0)	(0)	(8)	(1)	(9)
PILOT IN COMMAND	0	0	0	8	1	9
DISREGARDED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
EXCEEDED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
IMPROPER	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
MISJUDGED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT PERFORMED	(1)	(0)	(1)	(11)	(4)	(15)
PILOT IN COMMAND	1	0	1	11	4	15
NOT SELECTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PERFORMED	(0)	(0)	(0)	(3)	(2)	(5)
PILOT IN COMMAND	0	0	0	3	2	5
UNCONTROLLED	(0)	(0)	(0)	(2)	(1)	(3)
PILOT IN COMMAND	0	0	0	2	1	3
AIRSPEED	(69)	(4)	(73)	(266)	(29)	(295)
EXCESSIVE	(2)	(3)	(5)	(33)	(11)	(44)
PILOT IN COMMAND	2	3	5	33	11	44
IMPROPER	(2)	(0)	(2)	(7)	(4)	(11)
PILOT IN COMMAND	2	0	2	5	4	9

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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
AIRCRAFT HANDLING (Continued)						
AIRSPEED (Continued)						
DUAL STUDENT	0	0	0	2	0	2
IMPROPER USE OF PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
INADEQUATE PILOT IN COMMAND	(3) 3	(0) 0	(3) 3	(24) 24	(2) 1	(26) 25
NO PERSON SPECIFIED	0	0	0	0	1	1
MISJUDGED PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(15) 15	(5) 3	(20) 18
COPILOT	0	0	0	0	1	1
DUAL STUDENT	0	0	0	0	1	1
NOT ATTAINED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(12) 11	(0) 0	(12) 11
DUAL STUDENT	0	0	0	1	0	1
NOT MAINTAINED PILOT IN COMMAND	(55) 53	(0) 0	(55) 53	(157) 149	(5) 3	(162) 152
NO PERSON SPECIFIED	2	0	2	2	1	3
COPILOT	0	0	0	0	1	1
DUAL STUDENT	0	0	0	4	0	4
PILOT IN COMMAND(CFI)	0	0	0	2	0	2
NOT OBTAINED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(7) 7	(0) 0	(7) 7
NOT POSSIBLE PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
REDUCED PILOT IN COMMAND	(0) 0	(1) 1	(1) 1	(0) 0	(1) 1	(1) 1
UNCONTROLLED PILOT IN COMMAND	(6) 6	(0) 0	(6) 6	(9) 9	(1) 1	(10) 10
AIRSPEED(VLOF)	(1) (0)	(0) (0)	(1) (0)	(10) (1)	(2) (0)	(12) (1)
IMPROPER PILOT IN COMMAND	0	0	0	1	0	1
INATTENTIVE PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
INADEQUATE PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(2) 2	(1) 1	(3) 3
NOT ATTAINED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(4) 4	(1) 1	(5) 5
NOT OBTAINED PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(2) 2	(0) 0	(2) 2
AIRSPEED(VMCG)	(0) (0)	(0) (0)	(0) (0)	(2) (1)	(0) (0)	(2) (1)
NOT ATTAINED PILOT IN COMMAND	0	0	0	1	0	1
NOT MAINTAINED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
AIRSPEED(VMC)	(6) (1)	(0) (0)	(6) (1)	(11) (1)	(1) (0)	(12) (1)
NOT IDENTIFIED PILOT IN COMMAND	1	0	1	1	0	1
NOT MAINTAINED PILOT IN COMMAND	(5) 5	(0) 0	(5) 5	(10) 10	(0) 0	(10) 10
NOT OBTAINED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(0) 0	(1) 1	(1) 1
AIRSPEED(VS)	(9) (0)	(0) 0	(9) 0	(19) 0	(2) 1	(21) 1
ATTEMPTED PILOT IN COMMAND	0	0	0	0	1	1

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	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
AIRCRAFT HANDLING (Continued)						
AIRSPEED(VS) (Continued)						
BELOW	(3)	(0)	(3)	(4)	(0)	(4)
PILOT IN COMMAND	3	0	3	4	0	4
DISREGARDED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
EXCEEDED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT MAINTAINED	(5)	(0)	(5)	(13)	(1)	(14)
PILOT IN COMMAND	5	0	5	13	1	14
AIRSPEED(VSO)	(0)	(0)	(0)	(2)	(0)	(2)
EXCESSIVE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
IMPROPER USE OF	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
AIRSPEED(VLO)	(0)	(0)	(0)	(1)	(0)	(1)
NOT ATTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
AIRSPEED(VA)	(0)	(1)	(1)	(0)	(1)	(1)
EXCEEDED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
AIRSPEED(VMO)	(2)	(0)	(2)	(5)	(0)	(5)
EXCEEDED	(1)	(0)	(1)	(4)	(0)	(4)
PILOT IN COMMAND	1	0	1	4	0	4
SELECTED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
AIRSPEED(VREF)	(0)	(0)	(0)	(1)	(4)	(5)
EXCESSIVE	(0)	(0)	(0)	(1)	(3)	(4)
PILOT IN COMMAND	0	0	0	1	3	4
INADEQUATE	(0)	(0)	(0)	(0)	(1)	(1)
NO PERSON SPECIFIED	0	0	0	0	1	1
ALTITUDE	(37)	(9)	(46)	(106)	(22)	(128)
BELOW	(1)	(0)	(1)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	2	0	2
DISREGARDED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
EXCESSIVE	(0)	(0)	(0)	(2)	(2)	(4)
PILOT IN COMMAND	0	0	0	2	2	4
IMPROPER	(6)	(0)	(6)	(13)	(0)	(13)
PILOT IN COMMAND	6	0	6	13	0	13
INADEQUATE	(10)	(9)	(19)	(25)	(17)	(42)
PILOT IN COMMAND	10	9	19	22	16	38
NO PERSON SPECIFIED	0	0	0	0	1	1
PILOT IN COMMAND(CFI)	0	0	0	2	0	2
PASSENGER	0	0	0	1	0	1
MISJUDGED	(5)	(0)	(5)	(28)	(2)	(30)
PILOT IN COMMAND	5	0	5	26	1	27
DUAL STUDENT	0	0	0	1	1	2
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
NOT ATTAINED	(1)	(0)	(1)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	2	0	2
NOT MAINTAINED	(7)	(0)	(7)	(22)	(0)	(22)
PILOT IN COMMAND	7	0	7	22	0	22
UNCONTROLLED	(7)	(0)	(7)	(11)	(1)	(12)

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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued) HUMAN PERFORMANCE (Continued) OPERATIONS (Continued) AIRCRAFT HANDLING (Continued) ALTITUDE (Continued) PILOT IN COMMAND	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
	7	0	7	11	1	12
PROPER ALTITUDE	(53)	(4)	(57)	(93)	(11)	(104)
BELOW	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
DISREGARDED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
EXCEEDED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
IMPROPER	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
INADEQUATE	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
MISJUDGED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
NOT ATTAINED	(3)	(1)	(4)	(4)	(1)	(5)
PILOT IN COMMAND	3	1	4	4	1	5
NOT MAINTAINED	(43)	(3)	(46)	(75)	(8)	(83)
PILOT IN COMMAND	39	3	42	70	8	78
NO PERSON SPECIFIED	2	0	2	2	0	2
COPILOT	1	0	1	1	0	1
DUAL STUDENT	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	1	0	1	1	0	1
NOT OBTAINED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
NOT UNDERSTOOD	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
NOT POSSIBLE	(0)	(0)	(0)	(4)	(1)	(5)
PILOT IN COMMAND	0	0	0	4	1	5
NOT SELECTED	(2)	(0)	(2)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	1	0	1
PILOT OF OTHER AIRCRAFT	1	0	1	1	0	1
AUTOROTATION	(0)	(3)	(3)	(11)	(6)	(17)
ATTEMPTED	(0)	(1)	(1)	(2)	(2)	(4)
PILOT IN COMMAND	0	1	1	1	2	3
DUAL STUDENT	0	0	0	1	0	1
IMPROPER	(0)	(0)	(0)	(1)	(0)	(1)
DUAL STUDENT	0	0	0	1	0	1
INTENTIONAL	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND(CFI)	0	0	0	0	1	1
INITIATED	(0)	(0)	(0)	(1)	(0)	(1)
DUAL STUDENT	0	0	0	1	0	1
MISJUDGED	(0)	(1)	(1)	(3)	(1)	(4)
PILOT IN COMMAND	0	1	1	2	1	3
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
NOT PERFORMED	(0)	(0)	(0)	(1)	(0)	(1)
UNQUALIFIED PERSON	0	0	0	1	0	1
PERFORMED	(0)	(1)	(1)	(2)	(2)	(4)
PILOT IN COMMAND	0	1	1	2	2	4
SIMULATED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
BUZZING	(9)	(5)	(14)	(14)	(8)	(22)
ATTEMPTED	(2)	(0)	(2)	(2)	(0)	(2)

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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued) HUMAN PERFORMANCE (Continued) OPERATIONS (Continued) AIRCRAFT HANDLING (Continued) BUZZING (Continued) PILOT IN COMMAND	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
	2	0	2	2	0	2
CONTINUED PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(1) 1	(0) 0	(1) 1
INTENTIONAL PILOT IN COMMAND	(2) 2	(2) 2	(4) 4	(4) 4	(3) 3	(7) 7
PERFORMED PILOT IN COMMAND	(4) 4	(3) 3	(7) 7	(7) 7	(5) 5	(12) 12
DECISION HEIGHT BELOW PILOT IN COMMAND	(5) (2) 2	(0) (0) 0	(5) (2) 2	(6) (3) 3	(0) (0) 0	(6) (3) 3
EXCEEDED PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(1) 1	(0) 0	(1) 1
NOT IDENTIFIED PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(1) 1	(0) 0	(1) 1
NOT MAINTAINED PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(1) 1	(0) 0	(1) 1
DISTANCE INADEQUATE PILOT IN COMMAND	(2) (0) 0	(2) (0) 0	(4) (0) 0	(38) (2) 2	(5) (0) 0	(43) (2) 2
MISJUDGED PILOT IN COMMAND DUAL STUDENT	(2) 2 0	(2) 2 0	(4) 4 0	(33) 32 1	(5) 5 0	(38) 37 1
NOT CORRECTED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(2) 2	(0) 0	(2) 2
NOT MAINTAINED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
DESCENT CONTINUED PILOT IN COMMAND	(12) (0) 0	(2) (0) 0	(14) (0) 0	(32) (1) 1	(6) (0) 0	(38) (1) 1
EXCESSIVE PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(3) 3	(4) 4	(7) 7
IMPROPER PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(2) 2	(0) 0	(2) 2
INADVERTENT PILOT IN COMMAND	(3) 3	(1) 1	(4) 4	(5) 5	(1) 1	(6) 6
MISJUDGED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
NOT ATTAINED PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(1) 1	(0) 0	(1) 1
NOT CORRECTED PILOT IN COMMAND	(3) 3	(0) 0	(3) 3	(8) 8	(0) 0	(8) 8
NOT FOLLOWED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
PREMATURE PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(2) 2	(0) 0	(2) 2
UNCONTROLLED PILOT IN COMMAND UNQUALIFIED PERSON	(3) 3 0	(1) 0 1	(4) 3 1	(8) 8 0	(1) 0 1	(9) 8 1
PROPER DESCENT RATE EXCEEDED PILOT IN COMMAND	(3) (1) 1	(0) (0) 0	(3) (1) 1	(30) (7) 6	(5) (1) 1	(35) (8) 7

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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued) HUMAN PERFORMANCE (Continued) OPERATIONS (Continued) AIRCRAFT HANDLING (Continued) PROPER DESCENT RATE (Continued) NO PERSON SPECIFIED	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
	0	0	0	1	0	1
EXCESSIVE PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
IMPROPER PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(2) 2	(0) 0	(2) 2
MISJUDGED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
NOT ATTAINED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(1) 1	(2) 2
NOT MAINTAINED PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(13) 13	(3) 3	(16) 16
NOT PERFORMED DUAL STUDENT	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
NOT POSSIBLE PILOT IN COMMAND NO PERSON SPECIFIED	(1) 0 1	(0) 0 0	(1) 0 1	(2) 1 1	(0) 0 0	(2) 1 1
UNCONTROLLED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(2) 2	(0) 0	(2) 2
CLEARANCE ATTEMPTED PILOT IN COMMAND	(50) (0) 0	(1) (0) 0	(51) (0) 0	(180) (0) 0	(9) (1) 1	(189) (1) 1
IMPROPER PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(2) 2	(0) 0	(2) 2
INACCURATE PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(1) 1	(0) 0	(1) 1
INADEQUATE PILOT IN COMMAND NO PERSON SPECIFIED DRIVER OF VEHICLE	(7) 7 0 0	(0) 0 0 0	(7) 7 0 0	(23) 22 1 0	(5) 4 0 1	(28) 26 1 1
MISJUDGED PILOT IN COMMAND PASSENGER PILOT OF OTHER AIRCRAFT	(12) 11 0 1	(1) 1 0 0	(13) 12 0 1	(38) 36 1 1	(1) 1 0 0	(39) 37 1 1
NOT ATTAINED PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(8) 8	(0) 0	(8) 8
NOT IDENTIFIED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
NOT MAINTAINED PILOT IN COMMAND COPILOT DUAL STUDENT PILOT IN COMMAND(CFI) PILOT OF OTHER AIRCRAFT	(26) 24 0 0 0 1	(0) 0 0 0 0 0	(26) 24 0 0 0 1	(95) 83 1 3 1 5	(1) 1 0 0 0 0	(96) 84 1 3 1 5
OTHER PERSON	1	0	1	2	0	2
NOT OBTAINED PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(10) 10	(1) 1	(11) 11
NOT POSSIBLE PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(2) 2	(0) 0	(2) 2
CLIMB DELAYED PILOT IN COMMAND	(2) (0) 0	(0) (0) 0	(2) (0) 0	(7) (0) 0	(5) (1) 1	(12) (1) 1
EXCESSIVE	(1)	(0)	(1)	(1)	(0)	(1)

CAUSE/FACTOR TABLE
ALL OPERATIONS
1985

AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)
HUMAN PERFORMANCE (Continued)
OPERATIONS (Continued)
AIRCRAFT HANDLING (Continued)
CLIMB (Continued)

	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
PILOT IN COMMAND	1	0	1	1	0	1
IMPROPER PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
MISJUDGED PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(1) 1	(1) 1	(2) 2
NOT ATTAINED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
NOT POSSIBLE PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(2) 2	(3) 3	(5) 5
UNCONTROLLED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
PROPER CLIMB RATE EXCEEDED PILOT IN COMMAND	(4) (0) 0	(0) (0) 0	(4) (0) 0	(31) (1) 1	(1) (0) 0	(32) (1) 1
NOT ATTAINED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(9) 9	(0) 0	(9) 9
NOT MAINTAINED PILOT IN COMMAND COPILOT	(2) 2 0	(0) 0 0	(2) 2 0	(8) 7 1	(0) 0 0	(8) 7 1
NOT OBTAINED PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(6) 6	(0) 0	(6) 6
NOT POSSIBLE PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(7) 7	(1) 1	(8) 8
MINIMUM DESCENT ALTITUDE BELOW PILOT IN COMMAND	(10) (3) 3	(0) (0) 0	(10) (3) 3	(12) (3) 3	(0) (0) 0	(12) (3) 3
DISREGARDED PILOT IN COMMAND	(3) 3	(0) 0	(3) 3	(3) 3	(0) 0	(3) 3
EXCEEDED PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(2) 2	(0) 0	(2) 2
NOT MAINTAINED PILOT IN COMMAND	(2) 2	(0) 0	(2) 2	(3) 3	(0) 0	(3) 3
NOT USED PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(1) 1	(0) 0	(1) 1
PROPER ALIGNMENT DELAYED PILOT IN COMMAND	(3) (0) 0	(2) (0) 0	(5) (0) 0	(57) (0) 0	(17) (1) 1	(74) (1) 1
DISREGARDED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
INACCURATE PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
MISJUDGED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(2) 2	(0) 0	(2) 2
NOT ATTAINED PILOT IN COMMAND COPILOT	(0) 0 0	(2) 1 1	(2) 1 1	(10) 10 0	(5) 4 1	(15) 14 1
NOT FOLLOWED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
NOT IDENTIFIED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
NOT MAINTAINED	(1)	(0)	(1)	(36)	(11)	(47)

CAUSE/FACTOR TABLE
ALL OPERATIONS
1985

AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
AIRCRAFT HANDLING (Continued)						
PROPER ALIGNMENT (Continued)						
PILOT IN COMMAND	1	0	1	34	11	45
DUAL STUDENT	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
NOT PERFORMED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT OBTAINED	(1)	(0)	(1)	(3)	(0)	(3)
PILOT IN COMMAND	1	0	1	3	0	3
POOR	(1)	(0)	(1)	(1)	(0)	(1)
PASSENGER	1	0	1	1	0	1
PROPER TOUCHDOWN POINT	(3)	(3)	(6)	(53)	(15)	(68)
DELAYED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
EXCEEDED	(0)	(0)	(0)	(13)	(3)	(16)
PILOT IN COMMAND	0	0	0	13	3	16
EXCESSIVE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
IMPROPER	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INACCURATE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INATTENTIVE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INADVERTENT	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
MISJUDGED	(0)	(0)	(0)	(5)	(1)	(6)
PILOT IN COMMAND	0	0	0	5	1	6
NOT ATTAINED	(3)	(2)	(5)	(24)	(7)	(31)
PILOT IN COMMAND	3	1	4	23	6	29
NO PERSON SPECIFIED	0	1	1	0	1	1
DUAL STUDENT	0	0	0	1	0	1
NOT IDENTIFIED	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
NOT OBTAINED	(0)	(1)	(1)	(2)	(3)	(5)
PILOT IN COMMAND	0	1	1	2	3	5
NOT POSSIBLE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT USED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PROPER GLIDEPATH	(4)	(1)	(5)	(26)	(6)	(32)
IMPROPER	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
MISJUDGED	(0)	(0)	(0)	(4)	(0)	(4)
PILOT IN COMMAND	0	0	0	4	0	4
NOT ATTAINED	(0)	(0)	(0)	(5)	(0)	(5)
PILOT IN COMMAND	0	0	0	5	0	5
NOT FOLLOWED	(1)	(1)	(2)	(2)	(2)	(4)
PILOT IN COMMAND	1	1	2	2	1	3
DUAL STUDENT	0	0	0	0	1	1
NOT MAINTAINED	(3)	(0)	(3)	(14)	(2)	(16)
PILOT IN COMMAND	3	0	3	13	1	14
NO PERSON SPECIFIED	0	0	0	0	1	1

CAUSE/FACTOR TABLE
ALL OPERATIONS
1985

AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)

HUMAN PERFORMANCE (Continued)

OPERATIONS (Continued)

AIRCRAFT HANDLING (Continued)

PROPER GLIDEPATH (Continued)

DUAL STUDENT

NOT OBTAINED
PILOT IN COMMAND

NOT POSSIBLE
PILOT IN COMMAND

LIFT-OFF
DELAYED
PILOT IN COMMAND

IMPROPER
PILOT IN COMMAND
DUAL STUDENT

NOT ATTAINED
PILOT IN COMMAND

NOT MAINTAINED
PILOT IN COMMAND

PERFORMED
PILOT IN COMMAND

POOR
PILOT IN COMMAND

PREMATURE
PILOT IN COMMAND
DUAL STUDENT

LEVEL OFF
EXCESSIVE
PILOT IN COMMAND

IMPROPER
PILOT IN COMMAND
DUAL STUDENT

MISJUDGED
PILOT IN COMMAND

NOT ATTAINED
PILOT IN COMMAND

NOT CORRECTED
PILOT IN COMMAND(CFI)

NOT MAINTAINED
PILOT IN COMMAND

NOT PERFORMED
PILOT IN COMMAND

NOT POSSIBLE
PILOT IN COMMAND

PREMATURE
PILOT IN COMMAND

FLARE
DELAYED
PILOT IN COMMAND

EXCESSIVE
PILOT IN COMMAND

IMPROPER
PILOT IN COMMAND
NO PERSON SPECIFIED
DUAL STUDENT
PILOT IN COMMAND(CFI)

FATAL ACCIDENTS
CAUSE FACTOR TOTAL

ALL ACCIDENTS
CAUSE FACTOR TOTAL

0	0	0	1	0	1
(0)	(0)	(0)	(1)	(0)	(1)
0	0	0	1	0	1
(0)	(0)	(0)	(0)	(1)	(1)
0	0	0	0	1	1
(1)	(0)	(1)	(30)	(6)	(36)
(0)	(0)	(0)	(2)	(1)	(3)
0	0	0	2	1	3
(1)	(0)	(1)	(4)	(0)	(4)
1	0	1	3	0	3
0	0	0	1	0	1
(0)	(0)	(0)	(1)	(0)	(1)
0	0	0	1	0	1
(0)	(0)	(0)	(3)	(0)	(3)
0	0	0	3	0	3
(0)	(0)	(0)	(1)	(0)	(1)
0	0	0	1	0	1
(0)	(0)	(0)	(1)	(0)	(1)
0	0	0	1	0	1
(0)	(0)	(0)	(18)	(5)	(23)
0	0	0	17	5	22
0	0	0	1	0	1
(3)	(1)	(4)	(16)	(3)	(19)
(0)	(0)	(0)	(1)	(0)	(1)
0	0	0	1	0	1
(1)	(0)	(1)	(4)	(0)	(4)
1	0	1	3	0	3
0	0	0	1	0	1
(0)	(0)	(0)	(2)	(1)	(3)
0	0	0	2	1	3
(0)	(1)	(1)	(1)	(1)	(2)
0	1	1	1	1	2
(0)	(0)	(0)	(1)	(0)	(1)
0	0	0	1	0	1
(0)	(0)	(0)	(0)	(1)	(1)
0	0	0	0	1	1
(1)	(0)	(1)	(4)	(0)	(4)
1	0	1	4	0	4
(1)	(0)	(1)	(2)	(0)	(2)
1	0	1	2	0	2
(0)	(0)	(0)	(1)	(0)	(1)
0	0	0	1	0	1
(2)	(3)	(5)	(128)	(16)	(144)
(0)	(0)	(0)	(5)	(0)	(5)
0	0	0	5	0	5
(0)	(0)	(0)	(2)	(0)	(2)
0	0	0	2	0	2
(0)	(1)	(1)	(74)	(3)	(77)
0	1	1	69	2	71
0	0	0	1	0	1
0	0	0	1	1	2
0	0	0	3	0	3

CAUSE/FACTOR TABLE
ALL OPERATIONS
1985

	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
AIRCRAFT HANDLING (Continued)						
FLARE (Continued)						
INACCURATE	(1)	(0)	(1)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	2	0	2
PASSENGER	1	0	1	1	0	1
INADEQUATE	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
MISJUDGED	(1)	(0)	(1)	(30)	(5)	(35)
PILOT IN COMMAND	1	0	1	29	5	34
DUAL STUDENT	0	0	0	1	0	1
NOT ATTAINED	(0)	(0)	(0)	(5)	(0)	(5)
PILOT IN COMMAND	0	0	0	5	0	5
NOT CORRECTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT MAINTAINED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT PERFORMED	(0)	(0)	(0)	(2)	(1)	(3)
PILOT IN COMMAND	0	0	0	2	1	3
NOT POSSIBLE	(0)	(1)	(1)	(0)	(2)	(2)
PILOT IN COMMAND	0	1	1	0	2	2
PREMATURE	(0)	(0)	(0)	(3)	(3)	(6)
PILOT IN COMMAND	0	0	0	3	2	5
DUAL STUDENT	0	0	0	0	1	1
REDUCED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
UNCONTROLLED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
GO-AROUND	(10)	(0)	(10)	(78)	(28)	(106)
ATTEMPTED	(2)	(0)	(2)	(7)	(7)	(14)
PILOT IN COMMAND	2	0	2	7	6	13
PILOT IN COMMAND(CFI)	0	0	0	0	1	1
DELAYED	(6)	(0)	(6)	(30)	(2)	(32)
PILOT IN COMMAND	6	0	6	29	2	31
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
IMPROPER	(0)	(0)	(0)	(7)	(1)	(8)
PILOT IN COMMAND	0	0	0	5	0	5
DUAL STUDENT	0	0	0	1	1	2
OTHER CREW MEMBER	0	0	0	1	0	1
INITIATED	(1)	(0)	(1)	(2)	(3)	(5)
PILOT IN COMMAND	1	0	1	2	3	5
MISJUDGED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
NOT PERFORMED	(0)	(0)	(0)	(28)	(12)	(40)
PILOT IN COMMAND	0	0	0	26	12	38
NO PERSON SPECIFIED	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
NOT POSSIBLE	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
PERFORMED	(0)	(0)	(0)	(1)	(2)	(3)
PILOT IN COMMAND	0	0	0	1	2	3
REDUCED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
GROUND LOOP/SWERVE	(0)	(0)	(0)	(124)	(13)	(137)
ATTEMPTED	(0)	(0)	(0)	(0)	(1)	(1)

CAUSE/FACTOR TABLE
ALL OPERATIONS
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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued) HUMAN PERFORMANCE (Continued) OPERATIONS (Continued) AIRCRAFT HANDLING (Continued) GROUND LOOP/SWERVE (Continued) PILOT IN COMMAND	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
	0	0	0	0	1	1
INADVERTENT	(0)	(0)	(0)	(25)	(6)	(31)
PILOT IN COMMAND	0	0	0	24	6	30
PILOT OF OTHER AIRCRAFT	0	0	0	1	0	1
INTENTIONAL	(0)	(0)	(0)	(7)	(0)	(7)
PILOT IN COMMAND	0	0	0	7	0	7
INITIATED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
MISJUDGED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT CORRECTED	(0)	(0)	(0)	(37)	(0)	(37)
PILOT IN COMMAND	0	0	0	35	0	35
COPILOT	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
NOT MAINTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PERFORMED	(0)	(0)	(0)	(4)	(1)	(5)
PILOT IN COMMAND	0	0	0	4	1	5
POOR	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
UNCONTROLLED	(0)	(0)	(0)	(48)	(4)	(52)
PILOT IN COMMAND	0	0	0	45	4	49
DUAL STUDENT	0	0	0	2	0	2
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
DESIGN STRESS LIMITS OF AIRCRAFT	(17)	(1)	(18)	(32)	(6)	(38)
EXCEEDED	(17)	(1)	(18)	(30)	(5)	(35)
PILOT IN COMMAND	13	1	14	26	4	30
NO PERSON SPECIFIED	4	0	4	4	1	5
INADEQUATE	(0)	(0)	(0)	(1)	(0)	(1)
PRODUCTION/DESIGN PSNL	0	0	0	1	0	1
INITIATED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
UNCONTROLLED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
DIRECTIONAL CONTROL	(7)	(0)	(7)	(340)	(29)	(369)
DELAYED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INTENTIONAL	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INADEQUATE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT ATTAINED	(0)	(0)	(0)	(5)	(0)	(5)
PILOT IN COMMAND	0	0	0	5	0	5
NOT CORRECTED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND(CFI)	1	0	1	1	0	1
NOT FOLLOWED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT MAINTAINED	(4)	(0)	(4)	(305)	(22)	(327)
PILOT IN COMMAND	3	0	3	287	21	308
NO PERSON SPECIFIED	0	0	0	1	0	1
COPILOT	0	0	0	1	0	1
DUAL STUDENT	0	0	0	9	1	10
PILOT IN COMMAND(CFI)	0	0	0	3	0	3

CAUSE/FACTOR TABLE
ALL OPERATIONS
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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued) HUMAN PERFORMANCE (Continued) OPERATIONS (Continued) AIRCRAFT HANDLING (Continued) DIRECTIONAL CONTROL (Continued) PILOT OF OTHER AIRCRAFT	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
	1	0	1	4	0	4
NOT PERFORMED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
NOT OBTAINED	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	3	0	3
NOT POSSIBLE	(1)	(0)	(1)	(17)	(6)	(23)
PILOT IN COMMAND	1	0	1	17	6	23
POOR	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	3	0	3
REDUCED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
UNCONTROLLED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
LOAD JETTISON	(1)	(0)	(1)	(5)	(4)	(9)
DELAYED	(1)	(0)	(1)	(3)	(2)	(5)
PILOT IN COMMAND	1	0	1	3	2	5
NOT MAINTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT PERFORMED	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	2	2
PERFORMED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
LOW PASS	(11)	(6)	(17)	(20)	(7)	(27)
ATTEMPTED	(1)	(0)	(1)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	2	0	2
INTENTIONAL	(0)	(2)	(2)	(0)	(3)	(3)
PILOT IN COMMAND	0	2	2	0	3	3
NOT PERFORMED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PERFORMED	(10)	(4)	(14)	(17)	(4)	(21)
PILOT IN COMMAND	10	4	14	17	4	21
REMEDIAL ACTION	(30)	(10)	(40)	(119)	(30)	(149)
ATTEMPTED	(1)	(2)	(3)	(7)	(5)	(12)
PILOT IN COMMAND	1	1	2	5	4	9
PILOT IN COMMAND(CFI)	0	0	0	2	0	2
PASSENGER	0	1	1	0	1	1
DELAYED	(5)	(0)	(5)	(29)	(4)	(33)
PILOT IN COMMAND	4	0	4	16	1	17
DUAL STUDENT	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	1	0	1	10	2	12
FLIGHT INSTRUCTOR(ON GROUND)	0	0	0	1	1	2
PILOT OF OTHER AIRCRAFT	0	0	0	1	0	1
EXCESSIVE	(1)	(0)	(1)	(5)	(1)	(6)
PILOT IN COMMAND	1	0	1	4	1	5
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
IMPROPER	(1)	(0)	(1)	(12)	(3)	(15)
PILOT IN COMMAND	1	0	1	8	3	11
COPILOT	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	0	0	0	3	0	3
INADEQUATE	(1)	(2)	(3)	(10)	(5)	(15)
PILOT IN COMMAND	0	2	2	8	4	12
PILOT IN COMMAND(CFI)	0	0	0	1	1	2
OTHER CREW MEMBER	1	0	1	1	0	1
INITIATED	(1)	(0)	(1)	(2)	(0)	(2)

CAUSE/FACTOR TABLE
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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued) HUMAN PERFORMANCE (Continued) OPERATIONS (Continued) AIRCRAFT HANDLING (Continued) REMEDIAL ACTION (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
PILOT IN COMMAND	0	0	0	1	0	1
PASSENGER	1	0	1	1	0	1
MISJUDGED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
NOT ATTAINED	(2)	(0)	(2)	(10)	(0)	(10)
PILOT IN COMMAND	2	0	2	9	0	9
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
NOT FOLLOWED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
NOT IDENTIFIED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT PERFORMED	(10)	(2)	(12)	(24)	(4)	(28)
PILOT IN COMMAND	6	2	8	18	3	21
NO PERSON SPECIFIED	1	0	1	1	0	1
DUAL STUDENT	1	0	1	1	0	1
PILOT IN COMMAND(CFI)	2	0	2	4	0	4
UNQUALIFIED PERSON	0	0	0	0	1	1
NOT UNDERSTOOD	(1)	(0)	(1)	(3)	(0)	(3)
PILOT IN COMMAND	1	0	1	3	0	3
NOT POSSIBLE	(3)	(4)	(7)	(9)	(7)	(16)
PILOT IN COMMAND	3	4	7	9	7	16
NOT USED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PERFORMED	(1)	(0)	(1)	(1)	(1)	(2)
PILOT IN COMMAND	1	0	1	1	1	2
REDUCED	(1)	(0)	(1)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	2	0	2
UNCONTROLLED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
MANEUVER	(20)	(5)	(25)	(37)	(6)	(43)
ATTEMPTED	(1)	(0)	(1)	(1)	(0)	(1)
PASSENGER	1	0	1	1	0	1
EXCESSIVE	(14)	(2)	(16)	(21)	(3)	(24)
PILOT IN COMMAND	13	2	15	20	3	23
PILOT OF OTHER AIRCRAFT	1	0	1	1	0	1
IMPROPER	(3)	(1)	(4)	(6)	(1)	(7)
PILOT IN COMMAND	3	1	4	6	1	7
INTENTIONAL	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INITIATED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
MISJUDGED	(1)	(0)	(1)	(3)	(0)	(3)
PILOT IN COMMAND	1	0	1	3	0	3
NOT MAINTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PERFORMED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
POOR	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PREMATURE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1

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	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
AIRCRAFT HANDLING (Continued)						
MANEUVER (Continued)						
UNCONTROLLED	(1)	(0)	(1)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	2	0	2
MISSED APPROACH	(5)	(0)	(5)	(8)	(0)	(8)
NOT PERFORMED	(5)	(0)	(5)	(8)	(0)	(8)
PILOT IN COMMAND	5	0	5	8	0	8
EMERGENCY PROCEDURE	(12)	(6)	(18)	(46)	(20)	(66)
ATTEMPTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
CONTINUED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
DELAYED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
IMPROPER	(5)	(0)	(5)	(19)	(3)	(22)
PILOT IN COMMAND	5	0	5	13	3	16
DUAL STUDENT	0	0	0	2	0	2
PILOT IN COMMAND(CFI)	0	0	0	4	0	4
INADEQUATE	(1)	(0)	(1)	(4)	(1)	(5)
PILOT IN COMMAND	1	0	1	4	1	5
INITIATED	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	2	2
MISJUDGED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
NOT FOLLOWED	(2)	(2)	(4)	(8)	(3)	(11)
PILOT IN COMMAND	2	2	4	8	3	11
NOT MAINTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT PERFORMED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT POSSIBLE	(0)	(2)	(2)	(0)	(3)	(3)
PILOT IN COMMAND	0	2	2	0	3	3
NOT USED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
PERFORMED	(0)	(1)	(1)	(3)	(2)	(5)
PILOT IN COMMAND	0	1	1	3	2	5
POOR	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
SELECTED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND(CFI)	1	0	1	1	0	1
SIMULATED	(1)	(0)	(1)	(5)	(4)	(9)
PILOT IN COMMAND	0	0	0	1	1	2
PILOT IN COMMAND(CFI)	1	0	1	4	3	7
PRECAUTIONARY LANDING	(1)	(1)	(2)	(10)	(19)	(29)
ATTEMPTED	(0)	(0)	(0)	(1)	(4)	(5)
PILOT IN COMMAND	0	0	0	1	4	5
DELAYED	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	3	0	3
INITIATED	(0)	(1)	(1)	(0)	(3)	(3)
PILOT IN COMMAND	0	1	1	0	3	3
NOT PERFORMED	(1)	(0)	(1)	(3)	(0)	(3)
PILOT IN COMMAND	1	0	1	3	0	3
PERFORMED	(0)	(0)	(0)	(3)	(11)	(14)

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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)
HUMAN PERFORMANCE (Continued)
OPERATIONS (Continued)
AIRCRAFT HANDLING (Continued)
PRECAUTIONARY LANDING (Continued)
PILOT IN COMMAND

FATAL ACCIDENTS
CAUSE FACTOR TOTAL
ALL ACCIDENTS
CAUSE FACTOR TOTAL

	0	0	0	3	11	14
SIMULATED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(0) 0	(1) 1	(1) 1
PULL-UP ATTEMPTED PILOT IN COMMAND	(11) (1) 1	(2) (0) 0	(13) (1) 1	(19) (1) 1	(5) (1) 1	(24) (2) 2
DELAYED PILOT IN COMMAND	(2) 2	(0) 0	(2) 2	(3) 3	(0) 0	(3) 3
EXCESSIVE PILOT IN COMMAND	(5) 5	(1) 1	(6) 6	(11) 11	(2) 2	(13) 13
INITIATED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(0) 0	(1) 1	(1) 1
NOT PERFORMED PILOT IN COMMAND	(1) 1	(1) 1	(2) 2	(1) 1	(1) 1	(2) 2
PERFORMED PILOT IN COMMAND	(2) 2	(0) 0	(2) 2	(2) 2	(0) 0	(2) 2
POOR PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
ROTATION EXCESSIVE PILOT IN COMMAND	(0) (0) 0	(0) (0) 0	(0) (0) 0	(7) (2) 2	(2) (0) 0	(9) (2) 2
IMPROPER PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(0) 0	(1) 1	(1) 1
NOT MAINTAINED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
NOT POSSIBLE PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
PREMATURE PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(3) 3	(1) 1	(4) 4
STARTING PROCEDURE IMPROPER PILOT IN COMMAND	(1) (1) 1	(0) (0) 0	(1) (1) 1	(9) (5) 5	(0) (0) 0	(9) (5) 5
NOT FOLLOWED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
NOT MAINTAINED PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1	(0) 0	(1) 1
POOR PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(2) 2	(0) 0	(2) 2
SPIRAL INADVERTENT PILOT IN COMMAND	(8) (5) 5	(1) (1) 1	(9) (6) 6	(8) (5) 5	(1) (1) 1	(9) (6) 6
NOT CORRECTED PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(1) 1	(0) 0	(1) 1
UNCONTROLLED PILOT IN COMMAND	(2) 2	(0) 0	(2) 2	(2) 2	(0) 0	(2) 2
STALL IMPROPER PILOT IN COMMAND	(49) (1) 1	(2) (0) 0	(51) (1) 1	(128) (1) 1	(13) (0) 0	(141) (1) 1
INADVERTENT PILOT IN COMMAND	(37) 37	(2) 1	(39) 38	(85) 82	(10) 8	(95) 90

CAUSE/FACTOR TABLE
ALL OPERATIONS
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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
AIRCRAFT HANDLING (Continued)						
STALL (Continued)						
NO PERSON SPECIFIED	0	0	0	2	0	2
COPILOT	0	0	0	0	1	1
PASSENGER	0	0	0	1	0	1
UNQUALIFIED PERSON	0	1	1	0	1	1
INTENTIONAL	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	3	0	3
INITIATED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT CORRECTED	(3)	(0)	(3)	(12)	(0)	(12)
PILOT IN COMMAND	3	0	3	11	0	11
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
NOT IDENTIFIED	(0)	(0)	(0)	(4)	(0)	(4)
PILOT IN COMMAND	0	0	0	4	0	4
PERFORMED	(1)	(0)	(1)	(4)	(1)	(5)
PILOT IN COMMAND	1	0	1	3	1	4
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
PREMATURE	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
UNCONTROLLED	(7)	(0)	(7)	(16)	(2)	(18)
PILOT IN COMMAND	7	0	7	15	1	16
NO PERSON SPECIFIED	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	0	0	0	0	1	1
STALL/SPIN	(33)	(3)	(36)	(49)	(4)	(53)
INADVERTENT	(21)	(2)	(23)	(32)	(3)	(35)
PILOT IN COMMAND	21	2	23	32	3	35
INTENTIONAL	(2)	(1)	(3)	(2)	(1)	(3)
PILOT IN COMMAND	2	1	3	2	1	3
NOT CORRECTED	(2)	(0)	(2)	(3)	(0)	(3)
PILOT IN COMMAND	2	0	2	3	0	3
PERFORMED	(2)	(0)	(2)	(2)	(0)	(2)
PILOT IN COMMAND	2	0	2	2	0	2
UNCONTROLLED	(6)	(0)	(6)	(10)	(0)	(10)
PILOT IN COMMAND	6	0	6	10	0	10
STALL/MUSH	(5)	(0)	(5)	(66)	(5)	(71)
CONTINUED	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	3	0	3
INADVERTENT	(4)	(0)	(4)	(34)	(3)	(37)
PILOT IN COMMAND	4	0	4	32	1	33
NO PERSON SPECIFIED	0	0	0	0	1	1
DUAL STUDENT	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	0	0	0	1	1	2
INTENTIONAL	(0)	(0)	(0)	(2)	(1)	(3)
PILOT IN COMMAND	0	0	0	2	1	3
INITIATED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
NOT CORRECTED	(0)	(0)	(0)	(11)	(0)	(11)
PILOT IN COMMAND	0	0	0	10	0	10
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
NOT IDENTIFIED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT MAINTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PERFORMED	(0)	(0)	(0)	(1)	(1)	(2)

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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
AIRCRAFT HANDLING (Continued)						
STALL/MUSH (Continued)						
PILOT IN COMMAND	0	0	0	1	1	2
UNCONTROLLED	(1)	(0)	(1)	(11)	(0)	(11)
PILOT IN COMMAND	1	0	1	9	0	9
NO PERSON SPECIFIED	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
WHEELS DOWN LANDING IN WATER	(0)	(0)	(0)	(2)	(1)	(3)
IMPROPER	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INADVERTENT	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PERFORMED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
WHEELS UP LANDING	(0)	(0)	(0)	(22)	(2)	(24)
IMPROPER	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INADVERTENT	(0)	(0)	(0)	(10)	(0)	(10)
PILOT IN COMMAND	0	0	0	10	0	10
INTENTIONAL	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
INITIATED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT CORRECTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PERFORMED	(0)	(0)	(0)	(9)	(0)	(9)
PILOT IN COMMAND	0	0	0	9	0	9
POWER ON LANDING	(0)	(0)	(0)	(1)	(0)	(1)
PERFORMED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
ROTOR RPM	(4)	(0)	(4)	(11)	(0)	(11)
INATTENTIVE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT ATTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT MAINTAINED	(3)	(0)	(3)	(8)	(0)	(8)
PILOT IN COMMAND	2	0	2	4	0	4
DUAL STUDENT	1	0	1	3	0	3
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
NOT POSSIBLE	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
RUN ON LANDING	(0)	(0)	(0)	(6)	(3)	(9)
ATTEMPTED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND(CFI)	0	0	0	0	1	1
EXCESSIVE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
IMPROPER	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
UNCONTROLLED	(0)	(0)	(0)	(4)	(1)	(5)
PILOT IN COMMAND	0	0	0	4	1	5
RUNNING TAKEOFF	(0)	(0)	(0)	(0)	(1)	(1)
ATTEMPTED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
RECOVERY FROM BOUNCED LANDING	(2)	(0)	(2)	(66)	(3)	(69)

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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued) HUMAN PERFORMANCE (Continued) OPERATIONS (Continued) AIRCRAFT HANDLING (Continued) RECOVERY FROM BOUNCED LANDING (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
ATTEMPTED	(1)	(0)	(1)	(2)	(1)	(3)
PILOT IN COMMAND	1	0	1	2	1	3
DELAYED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
IMPROPER	(0)	(0)	(0)	(39)	(1)	(40)
PILOT IN COMMAND	0	0	0	37	1	38
DUAL STUDENT	0	0	0	2	0	2
INADEQUATE	(0)	(0)	(0)	(7)	(0)	(7)
PILOT IN COMMAND	0	0	0	6	0	6
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
NOT ATTAINED	(1)	(0)	(1)	(5)	(0)	(5)
PILOT IN COMMAND	1	0	1	5	0	5
NOT CORRECTED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
NOT PERFORMED	(0)	(0)	(0)	(7)	(1)	(8)
PILOT IN COMMAND	0	0	0	7	1	8
POOR	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	3	0	3
TOUCH-AND-GO LANDING	(0)	(0)	(0)	(5)	(2)	(7)
ATTEMPTED	(0)	(0)	(0)	(1)	(2)	(3)
PILOT IN COMMAND	0	0	0	1	2	3
NOT PERFORMED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PERFORMED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
UNCONTROLLED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
COMMUNICATIONS/INFORMATION/ATC	(25)	(15)	(40)	(92)	(41)	(133)
COMMUNICATIONS/INFORMATION/ATC	(0)	(0)	(0)	(1)	(0)	(1)
NOT OBTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INTERPRETATION OF INSTRUCTIONS	(0)	(0)	(0)	(2)	(1)	(3)
IMPROPER	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INACCURATE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT UNDERSTOOD	(0)	(0)	(0)	(0)	(1)	(1)
COPILLOT	0	0	0	0	1	1
INSTRUCTIONS, WRITTEN/VERBAL	(1)	(0)	(1)	(3)	(2)	(5)
DISREGARDED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
IMPROPER	(1)	(0)	(1)	(1)	(0)	(1)
ATC PSNL(LCL/GND/CLNC)	1	0	1	1	0	1
NOT FOLLOWED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT UNDERSTOOD	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
POOR	(0)	(0)	(0)	(0)	(1)	(1)
ATC PSNL(LCL/GND/CLNC)	0	0	0	0	1	1
IDENTIFICATION OF AIRCRAFT ON RADAR	(0)	(0)	(0)	(0)	(1)	(1)
NOT ATTAINED	(0)	(0)	(0)	(0)	(1)	(1)

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	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
COMMUNICATIONS/INFORMATION/ATC (Continued)						
IDENTIFICATION OF AIRCRAFT ON RADAR (Continued)						
ATC PERSONNEL(ARTCC)	0	0	0	0	1	1
IDENTIFICATION OF AIRCRAFT VISUALLY	(0)	(0)	(0)	(0)	(1)	(1)
IMPROPER	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
FLIGHT ADVISORIES	(0)	(1)	(1)	(0)	(1)	(1)
NOT ISSUED	(0)	(1)	(1)	(0)	(1)	(1)
ATC PERSONNEL(DEP/APCH)	0	1	1	0	1	1
ARTCC SERVICE	(1)	(1)	(2)	(1)	(1)	(2)
DISREGARDED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND(CFI)	1	0	1	1	0	1
INADEQUATE	(0)	(1)	(1)	(0)	(1)	(1)
ATC PERSONNEL(ARTCC)	0	1	1	0	1	1
CONTROL TOWER SERVICE	(1)	(0)	(1)	(2)	(0)	(2)
INADEQUATE	(1)	(0)	(1)	(2)	(0)	(2)
ATC PSNL(LCL/GND/CLNC)	1	0	1	2	0	2
INFORMATION	(0)	(0)	(0)	(1)	(0)	(1)
NOT IDENTIFIED	(0)	(0)	(0)	(1)	(0)	(1)
AIRPORT PERSONNEL	0	0	0	1	0	1
MONITORING	(0)	(1)	(1)	(0)	(1)	(1)
INADEQUATE	(0)	(1)	(1)	(0)	(1)	(1)
ATC PERSONNEL(DEP/APCH)	0	1	1	0	1	1
RADIO COMMUNICATIONS	(3)	(4)	(7)	(7)	(13)	(20)
DISREGARDED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INITIATED	(0)	(1)	(1)	(0)	(1)	(1)
PASSENGER	0	1	1	0	1	1
NOT ATTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT MAINTAINED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT OF OTHER AIRCRAFT	0	0	0	0	1	1
NOT POSSIBLE	(2)	(0)	(2)	(2)	(2)	(4)
PILOT IN COMMAND	2	0	2	2	1	3
PILOT OF OTHER AIRCRAFT	0	0	0	0	1	1
NOT RECEIVED	(0)	(1)	(1)	(1)	(1)	(2)
PILOT IN COMMAND	0	1	1	1	1	2
NOT USED	(1)	(0)	(1)	(2)	(6)	(8)
PILOT IN COMMAND	1	0	1	2	4	6
PILOT OF OTHER AIRCRAFT	0	0	0	0	2	2
PERFORMED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT OF OTHER AIRCRAFT	0	1	1	0	1	1
POOR	(0)	(1)	(1)	(0)	(1)	(1)
NO PERSON SPECIFIED	0	1	1	0	1	1
SAFETY ADVISORY	(0)	(1)	(1)	(3)	(1)	(4)
DISREGARDED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT ISSUED	(0)	(1)	(1)	(0)	(1)	(1)
ATC PERSONNEL(ARTCC)	0	1	1	0	1	1
NOT UNDERSTOOD	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	1	0	1
PILOT OF OTHER AIRCRAFT	0	0	0	1	0	1
RADAR ASSISTANCE TO VFR AIRCRAFT	(0)	(0)	(0)	(1)	(1)	(2)
NOT OBTAINED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1

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	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
COMMUNICATIONS/INFORMATION/ATC (Continued)						
RADAR ASSISTANCE TO VFR AIRCRAFT (Continued)						
NOT USED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
VISUAL SEPARATION	(6)	(1)	(7)	(10)	(2)	(12)
INADEQUATE	(2)	(0)	(2)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	1	0	1
PILOT OF OTHER AIRCRAFT	1	0	1	1	0	1
NOT ATTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT MAINTAINED	(4)	(1)	(5)	(7)	(2)	(9)
PILOT IN COMMAND	2	1	3	3	2	5
PILOT OF OTHER AIRCRAFT	2	0	2	4	0	4
IN FLIGHT WEATHER AVOIDANCE ASSISTANCE	(1)	(1)	(2)	(1)	(1)	(2)
NOT FOLLOWED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
NOT OBTAINED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
AIR/GROUND COMMUNICATIONS	(0)	(1)	(1)	(1)	(1)	(2)
IMPROPER	(0)	(1)	(1)	(0)	(1)	(1)
ATC PERSONNEL(ARTCC)	0	1	1	0	1	1
NOT USED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
ATC CLEARANCE	(2)	(0)	(2)	(2)	(0)	(2)
DISREGARDED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND(CFI)	1	0	1	1	0	1
NOT FOLLOWED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
CREW/GROUP COORDINATION	(1)	(1)	(2)	(4)	(1)	(5)
INADEQUATE	(1)	(0)	(1)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	1	0	1
GROUND PERSONNEL	1	0	1	1	0	1
NOT MAINTAINED	(0)	(0)	(0)	(2)	(0)	(2)
GROUND PERSONNEL	0	0	0	2	0	2
POOR	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
CREW/GROUP BRIEFING	(0)	(0)	(0)	(1)	(0)	(1)
NOT FOLLOWED	(0)	(0)	(0)	(1)	(0)	(1)
GROUND PERSONNEL	0	0	0	1	0	1
PASSENGER BRIEFING	(1)	(1)	(2)	(2)	(3)	(5)
INADEQUATE	(0)	(1)	(1)	(1)	(2)	(3)
PILOT IN COMMAND	0	1	1	1	1	2
FLIGHT ATTENDANT	0	0	0	0	1	1
NOT FOLLOWED	(1)	(0)	(1)	(1)	(0)	(1)
OTHER PERSON	1	0	1	1	0	1
NOT PERFORMED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
SUPERVISION	(8)	(1)	(9)	(42)	(8)	(50)
IMPROPER	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
INATTENTIVE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INADEQUATE	(5)	(1)	(6)	(36)	(8)	(44)
PILOT IN COMMAND	1	0	1	4	1	5
PILOT IN COMMAND(CFI)	3	0	3	28	2	30

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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued) HUMAN PERFORMANCE (Continued) OPERATIONS (Continued) COMMUNICATIONS/INFORMATION/ATC (Continued) SUPERVISION (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
FLIGHT INSTRUCTOR(ON GROUND)	0	0	0	0	3	3
CHECK PILOT	0	0	0	2	0	2
OTHER CREW MEMBER	1	0	1	1	0	1
FBO PERSONNEL	0	0	0	1	0	1
COMPANY/OPERATOR MGMT	0	1	1	0	2	2
NOT MAINTAINED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND(CFI)	1	0	1	1	0	1
NOT POSSIBLE	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
POOR	(1)	(0)	(1)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	2	0	2
UNSAFE/HAZARDOUS CONDITION	(0)	(0)	(0)	(3)	(0)	(3)
INATTENTIVE	(0)	(0)	(0)	(1)	(0)	(1)
PASSENGER	0	0	0	1	0	1
INTENTIONAL	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT CORRECTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
UNSAFE/HAZARDOUS CONDITION WARNING	(0)	(1)	(1)	(5)	(2)	(7)
DELAYED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT FOLLOWED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT IDENTIFIED	(0)	(1)	(1)	(2)	(1)	(3)
PILOT IN COMMAND	0	0	0	1	0	1
ATC PERSONNEL(ARTCC)	0	1	1	0	1	1
OTHER PERSON	0	0	0	1	0	1
NOT ISSUED	(0)	(0)	(0)	(2)	(0)	(2)
GROUND PERSONNEL	0	0	0	1	0	1
AIRPORT PERSONNEL	0	0	0	1	0	1
MISCELLANEOUS	(4)	(3)	(7)	(19)	(5)	(24)
MISCELLANEOUS	(0)	(0)	(0)	(1)	(0)	(1)
INTENTIONAL	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
EQUIPMENT, OTHER	(0)	(0)	(0)	(2)	(0)	(2)
CONFLICTING	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT ATTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
CONTROL INTERFERENCE	(1)	(1)	(2)	(9)	(1)	(10)
NO MODIFIER SPECIFIED	(0)	(0)	(0)	(1)	(0)	(1)
NO PERSON SPECIFIED	0	0	0	1	0	1
IMPROPER	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	1	0	1
DUAL STUDENT	0	0	0	1	0	1
INADVERTENT	(1)	(0)	(1)	(5)	(0)	(5)
PILOT IN COMMAND	0	0	0	2	0	2
DUAL STUDENT	0	0	0	1	0	1
PASSENGER	1	0	1	2	0	2
INTENTIONAL	(0)	(0)	(0)	(1)	(0)	(1)
OTHER CREW MEMBER	0	0	0	1	0	1
INITIATED	(0)	(1)	(1)	(0)	(1)	(1)
OTHER PERSON	0	1	1	0	1	1
RELINQUISHING OF CONTROL	(0)	(0)	(0)	(3)	(0)	(3)

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	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
MISCELLANEOUS (Continued)						
RELINQUISHING OF CONTROL (Continued)						
NOT PERFORMED	(0)	(0)	(0)	(3)	(0)	(3)
NO PERSON SPECIFIED	0	0	0	1	0	1
DUAL STUDENT	0	0	0	2	0	2
SUICIDE	(2)	(0)	(2)	(2)	(0)	(2)
INTENTIONAL	(2)	(0)	(2)	(2)	(0)	(2)
PILOT IN COMMAND	2	0	2	2	0	2
STOLEN AIRCRAFT/UNAUTHORIZED USE	(1)	(2)	(3)	(1)	(4)	(5)
INTENTIONAL	(1)	(2)	(3)	(1)	(2)	(3)
PILOT IN COMMAND	1	1	2	1	1	2
UNQUALIFIED PERSON	0	1	1	0	1	1
PERFORMED	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	2	2
SABOTAGE	(0)	(0)	(0)	(1)	(0)	(1)
INTENTIONAL	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
UNDETERMINED	1	0	1	3	0	3
UNDETERMINED	37	2	39	171	6	177
DIRECT UNDERLYING CAUSE FACTORS:	(186)	(211)	(397)	(471)	(638)	(1109)
IMPROPER USE OF PROCEDURE	(61)	(63)	(124)	(221)	(261)	(482)
IMPROPER USE OF PROCEDURE	(3)	(3)	(6)	(13)	(13)	(26)
PILOT IN COMMAND	3	3	6	13	13	26
PILOT IN COMMAND(CFI)	1	0	1	3	1	4
ATC PERSONNEL(ARTCC)	0	0	0	0	1	1
COMPANY/OPERATOR MGMT	1	0	1	1	0	1
PSYCHOLOGICAL CONDITION	(0)	(2)	(2)	(0)	(6)	(6)
PILOT IN COMMAND	0	2	2	0	6	6
PILOT IN COMMAND(CFI)	1	0	1	1	0	1
DIVERTED ATTENTION	(1)	(1)	(2)	(17)	(13)	(30)
PILOT IN COMMAND	1	1	2	17	13	30
COPILOT	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	1	0	1	1	1	2
COMPANY MAINTENANCE PSNL	0	0	0	1	0	1
GROUND PERSONNEL	0	1	1	0	1	1
INATTENTIVE	(0)	(1)	(1)	(2)	(5)	(7)
PILOT IN COMMAND	0	1	1	2	5	7
COPILOT	0	0	0	0	1	1
PILOT IN COMMAND(CFI)	1	0	1	1	0	1
ATC PERSONNEL(ARTCC)	0	1	1	0	1	1
PILOT OF OTHER AIRCRAFT	0	0	0	0	1	1
COMPLACENCY	(1)	(2)	(3)	(6)	(6)	(12)
PILOT IN COMMAND	1	2	3	6	6	12
PILOT IN COMMAND(CFI)	0	1	1	0	1	1
UNDER CONFIDENCE IN PERSONAL ABILITY	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	2	2
OVER CONFIDENCE IN PERSONAL ABILITY	(8)	(7)	(15)	(17)	(16)	(33)
PILOT IN COMMAND	8	7	15	17	16	33
PILOT IN COMMAND(CFI)	1	0	1	1	1	2
PILOT OF OTHER AIRCRAFT	1	0	1	1	0	1
OVER CONFIDENCE IN AIRCRAFT'S ABILITY	(1)	(1)	(2)	(1)	(4)	(5)
PILOT IN COMMAND	1	1	2	1	4	5
ANXIETY/APPREHENSION	(0)	(1)	(1)	(3)	(11)	(14)
PILOT IN COMMAND	0	1	1	3	11	14
PANIC	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	2	2
PRESSURE	(1)	(1)	(2)	(1)	(5)	(6)
PILOT IN COMMAND	1	1	2	1	5	6

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DIRECT UNDERLYING CAUSE FACTORS: (Continued)
IMPROPER USE OF PROCEDURE (Continued)

	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
SELF-INDUCED PRESSURE PILOT IN COMMAND	(3)	(2)	(5)	(5)	(10)	(15)
	3	2	5	5	10	15
PRESSURE INDUCED BY OTHERS PILOT IN COMMAND	(1)	(0)	(1)	(1)	(1)	(2)
	1	0	1	1	1	2
VISUAL/AURAL PERCEPTION PILOT IN COMMAND	(2)	(1)	(3)	(14)	(4)	(18)
	2	1	3	14	4	18
PILOT OF OTHER AIRCRAFT	(0)	(0)	(0)	(1)	(0)	(1)
	0	0	0	1	0	1
EXPECTANCY PILOT IN COMMAND	(0)	(0)	(0)	(0)	(3)	(3)
	0	0	0	0	3	3
PILOT IN COMMAND(CFI)	(0)	(0)	(0)	(0)	(1)	(1)
	0	0	0	0	1	1
EMOTIONAL REACTION PILOT IN COMMAND	(0)	(0)	(0)	(1)	(0)	(1)
	0	0	0	1	0	1
OSTENTATIOUS DISPLAY PILOT IN COMMAND	(2)	(3)	(5)	(4)	(4)	(8)
	2	3	5	4	4	8
PILOT OF OTHER AIRCRAFT	(1)	(0)	(1)	(1)	(0)	(1)
	1	0	1	1	0	1
HABIT INTERFERENCE PILOT IN COMMAND	(0)	(0)	(0)	(1)	(2)	(3)
	0	0	0	1	2	3
OTHER PSYCHOLOGICAL CONDITION PILOT IN COMMAND	(0)	(1)	(1)	(0)	(1)	(1)
	0	1	1	0	1	1
EXCESSIVE WORKLOAD (TASK OVERLOAD) PILOT IN COMMAND	(0)	(2)	(2)	(0)	(4)	(4)
	0	2	2	0	4	4
PHYSIOLOGICAL CONDITION PILOT IN COMMAND	(0)	(0)	(0)	(1)	(0)	(1)
	0	0	0	1	0	1
PHYSICAL IMPAIRMENT(ORGANIC PROBLEM) PILOT IN COMMAND	(0)	(0)	(0)	(0)	(1)	(1)
	0	0	0	0	1	1
PHYSICAL IMPAIRMENT(ALCOHOL) PILOT IN COMMAND	(1)	(1)	(2)	(1)	(3)	(4)
	1	1	2	1	3	4
INCAPACITATION PILOT IN COMMAND	(2)	(0)	(2)	(2)	(0)	(2)
	2	0	2	2	0	2
SPATIAL DISORIENTATION PILOT IN COMMAND	(9)	(2)	(11)	(10)	(2)	(12)
	9	2	11	10	2	12
VISUAL/AURAL DETECTION PILOT IN COMMAND	(0)	(0)	(0)	(1)	(1)	(2)
	0	0	0	1	1	2
PILOT IN COMMAND(CFI)	(1)	(0)	(1)	(1)	(0)	(1)
	1	0	1	1	0	1
FATIGUE PILOT IN COMMAND	(0)	(0)	(0)	(1)	(0)	(1)
	0	0	0	1	0	1
FATIGUE(CHRONIC) PILOT IN COMMAND	(1)	(0)	(1)	(1)	(0)	(1)
	1	0	1	1	0	1
FATIGUE(FLIGHT SCHEDULE) PILOT IN COMMAND	(0)	(0)	(0)	(0)	(1)	(1)
	0	0	0	0	1	1
FATIGUE(FLIGHT AND GROUND SCHEDULE) PILOT IN COMMAND	(0)	(0)	(0)	(1)	(0)	(1)
	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	(1)	(0)	(1)	(1)	(0)	(1)
	1	0	1	1	0	1
QUALIFICATION PILOT IN COMMAND	(0)	(1)	(1)	(4)	(9)	(13)
	0	1	1	4	9	13
FLIGHT INSTRUCTOR(ON GROUND)	(0)	(0)	(0)	(0)	(1)	(1)
	0	0	0	0	1	1
OTHER CREW MEMBER	(0)	(1)	(1)	(0)	(1)	(1)
	0	1	1	0	1	1
IMPROPER TRAINING PILOT IN COMMAND	(0)	(0)	(0)	(0)	(1)	(1)
	0	0	0	0	1	1
DUAL STUDENT	(0)	(0)	(0)	(1)	(0)	(1)
	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	(0)	(0)	(0)	(0)	(1)	(1)
	0	0	0	0	1	1
IMPROPER INITIAL TRAINING FLIGHT INSTRUCTOR(ON GROUND)	(0)	(0)	(0)	(0)	(1)	(1)
	0	0	0	0	1	1
IMPROPER TRANSITION/UPGRADE TRAINING	(0)	(0)	(0)	(0)	(1)	(1)
	0	0	0	0	1	1

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DIRECT UNDERLYING CAUSE FACTORS: (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE FACTOR	TOTAL		CAUSE FACTOR	TOTAL	
IMPROPER USE OF PROCEDURE (Continued)						
IMPROPER TRANSITION/UPGRADE TRAINING (Continued)						
PILOT IN COMMAND	0	0	0	0	1	1
INADEQUATE TRAINING	(0)	(1)	(1)	(1)	(6)	(7)
PILOT IN COMMAND	0	1	1	1	6	7
PILOT IN COMMAND(CFI)	0	0	0	1	1	2
FLIGHT INSTRUCTOR(ON GROUND)	0	0	0	0	1	1
INADEQUATE RECURRENT TRAINING	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INADEQUATE TRANSITION/UPGRADE TRAINING	(1)	(0)	(1)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	2	0	2
INADEQUATE TRAINING(EMERGENCY PROCEDURE(S))	(1)	(0)	(1)	(5)	(0)	(5)
PILOT IN COMMAND	1	0	1	5	0	5
FLIGHT INSTRUCTOR(ON GROUND)	0	0	0	0	1	1
FLIGHT ATTENDANT	0	0	0	0	1	1
EXPERIENCE	(0)	(1)	(1)	(4)	(4)	(8)
PILOT IN COMMAND	0	1	1	4	4	8
LACK OF FAMILIARITY WITH AIRCRAFT	(1)	(1)	(2)	(5)	(7)	(12)
PILOT IN COMMAND	1	1	2	5	7	12
DUAL STUDENT	1	0	1	1	0	1
LACK OF FAMILIARITY WITH GEOGRAPHIC AREA	(0)	(3)	(3)	(1)	(8)	(9)
PILOT IN COMMAND	0	3	3	1	8	9
LACK OF TOTAL EXPERIENCE	(2)	(4)	(6)	(16)	(31)	(47)
PILOT IN COMMAND	2	4	6	16	31	47
OTHER PERSONNEL	1	0	1	1	0	1
PILOT OF OTHER AIRCRAFT	0	0	0	0	2	2
TOTAL	(0)	(0)	(0)	(4)	(4)	(8)
PILOT IN COMMAND	0	0	0	4	4	8
LACK OF TOTAL EXPERIENCE IN KIND OF AIRCRAFT	(0)	(2)	(2)	(3)	(6)	(9)
PILOT IN COMMAND	0	2	2	3	6	9
LACK OF TOTAL EXPERIENCE IN TYPE OF AIRCRAFT	(1)	(0)	(1)	(15)	(11)	(26)
PILOT IN COMMAND	1	0	1	15	11	26
LACK OF TOTAL INSTRUMENT TIME	(1)	(4)	(5)	(1)	(5)	(6)
PILOT IN COMMAND	1	4	5	1	5	6
LACK OF TOTAL EXPERIENCE IN TYPE OPERATION	(1)	(0)	(1)	(19)	(5)	(24)
PILOT IN COMMAND	1	0	1	19	5	24
GROUND PERSONNEL	0	1	1	0	1	1
LACK OF RECENT EXPERIENCE	(0)	(4)	(4)	(1)	(5)	(6)
PILOT IN COMMAND	0	4	4	1	5	6
DUAL STUDENT	0	0	0	0	1	1
LACK OF RECENT TOTAL EXPERIENCE	(0)	(1)	(1)	(4)	(2)	(6)
PILOT IN COMMAND	0	1	1	4	2	6
DUAL STUDENT	1	0	1	1	0	1
LACK OF RECENT EXPERIENCE IN KIND OF AIRCRAFT	(0)	(0)	(0)	(2)	(1)	(3)
PILOT IN COMMAND	0	0	0	2	1	3
LACK OF RECENT EXPERIENCE IN TYPE OF AIRCRAFT	(0)	(2)	(2)	(1)	(5)	(6)
PILOT IN COMMAND	0	2	2	1	5	6
PILOT IN COMMAND(CFI)	1	0	1	1	0	1
LACK OF RECENT INSTRUMENT TIME	(2)	(2)	(4)	(2)	(2)	(4)
PILOT IN COMMAND	2	2	4	2	2	4
LACK OF RECENT EXPERIENCE IN TYPE OPERATION	(1)	(1)	(2)	(5)	(3)	(8)
PILOT IN COMMAND	1	1	2	5	3	8
INFORMATION UNCLEAR	(0)	(0)	(0)	(0)	(1)	(1)
COMPANY/OPERATOR MGMT	0	0	0	0	1	1
MANUFACTURER	0	0	0	0	1	1
INFORMATION UNCLEAR(PHRASEOLOGY)	(0)	(0)	(0)	(0)	(1)	(1)

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DIRECT UNDERLYING CAUSE FACTORS: (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
IMPROPER USE OF PROCEDURE (Continued)						
INFORMATION UNCLEAR(PHRASEOLOGY) (Continued)						
ATC PSNL(LCL/GND/CLNC)	0	0	0	0	1	1
IMPROPER USE OF EQUIPMENT/AIRCRAFT	(78)	(83)	(161)	(158)	(224)	(382)
IMPROPER USE OF EQUIPMENT/AIRCRAFT	(2)	(1)	(3)	(5)	(4)	(9)
PILOT IN COMMAND	2	1	3	5	4	9
COMPANY MAINTENANCE PSNL	0	0	0	1	0	1
PSYCHOLOGICAL CONDITION	(1)	(1)	(2)	(2)	(1)	(3)
PILOT IN COMMAND	1	1	2	2	1	3
DIVERTED ATTENTION	(5)	(2)	(7)	(17)	(4)	(21)
PILOT IN COMMAND	5	2	7	17	4	21
INATTENTIVE	(0)	(1)	(1)	(3)	(4)	(7)
PILOT IN COMMAND	0	1	1	3	4	7
AIRPORT PERSONNEL	0	0	0	1	0	1
MOTIVATION	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
COMPLACENCY	(1)	(0)	(1)	(2)	(3)	(5)
PILOT IN COMMAND	1	0	1	2	3	5
UNDER CONFIDENCE IN PERSONAL ABILITY	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
OVER CONFIDENCE IN PERSONAL ABILITY	(2)	(10)	(12)	(6)	(28)	(34)
PILOT IN COMMAND	2	10	12	6	28	34
PILOT IN COMMAND(CFI)	0	1	1	0	2	2
OVER CONFIDENCE IN AIRCRAFT'S ABILITY	(1)	(1)	(2)	(3)	(8)	(11)
PILOT IN COMMAND	1	1	2	3	8	11
ANXIETY/APPREHENSION	(1)	(1)	(2)	(2)	(6)	(8)
PILOT IN COMMAND	1	1	2	2	6	8
PANIC	(0)	(1)	(1)	(1)	(2)	(3)
PILOT IN COMMAND	0	1	1	1	2	3
DUAL STUDENT	0	0	0	1	0	1
PRESSURE	(2)	(0)	(2)	(2)	(1)	(3)
PILOT IN COMMAND	2	0	2	2	1	3
SELF-INDUCED PRESSURE	(1)	(2)	(3)	(1)	(4)	(5)
PILOT IN COMMAND	1	2	3	1	4	5
COMPANY-INDUCED PRESSURE	(0)	(0)	(0)	(0)	(1)	(1)
COMPANY/OPERATOR MGMT	0	0	0	0	1	1
PRESSURE INDUCED BY OTHERS	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
VISUAL/AURAL PERCEPTION	(2)	(7)	(9)	(7)	(13)	(20)
PILOT IN COMMAND	2	7	9	7	13	20
COPILOT	0	1	1	0	1	1
PILOT OF OTHER AIRCRAFT	0	0	0	0	2	2
MENTAL PERFORMANCE OVERLOAD	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INTERPERSONAL RELATIONS	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
EMOTIONAL REACTION	(2)	(0)	(2)	(2)	(1)	(3)
PILOT IN COMMAND	2	0	2	2	1	3
OSTENTATIOUS DISPLAY	(1)	(3)	(4)	(1)	(4)	(5)
PILOT IN COMMAND	1	3	4	1	4	5
HABIT INTERFERENCE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
PHYSIOLOGICAL CONDITION	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1

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	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
DIRECT UNDERLYING CAUSE FACTORS: (Continued)						
IMPROPER USE OF EQUIPMENT/AIRCRAFT (Continued)						
PHYSICAL IMPAIRMENT	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
PHYSICAL IMPAIRMENT(HEART ATTACK)	(3)	(0)	(3)	(3)	(0)	(3)
PILOT IN COMMAND	3	0	3	3	0	3
OTHER PERSONNEL	1	0	1	1	0	1
PHYSICAL IMPAIRMENT(OTHER CARDIOVASCULAR)	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
PHYSICAL IMPAIRMENT(HYPOGLYCEMIA/DIET)	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
PHYSICAL IMPAIRMENT(OTHER ORGANIC PROBLEM)	(1)	(1)	(2)	(1)	(1)	(2)
PILOT IN COMMAND	1	1	2	1	1	2
PHYSICAL IMPAIRMENT(ALCOHOL)	(4)	(1)	(5)	(6)	(1)	(7)
PILOT IN COMMAND	4	1	5	6	1	7
PHYSICAL IMPAIRMENT(DRUGS)	(1)	(3)	(4)	(1)	(3)	(4)
PILOT IN COMMAND	1	3	4	1	3	4
INCAPACITATION	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INCAPACITATION(ANOXIA/HYPOXIA)	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
INCAPACITATION(HEART ATTACK)	(3)	(0)	(3)	(3)	(0)	(3)
PILOT IN COMMAND	3	0	3	3	0	3
INCAPACITATION(OTHER CARDIOVASCULAR)	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
INCAPACITATION(LOSS OF CONSCIOUSNESS)	(3)	(0)	(3)	(3)	(0)	(3)
PILOT IN COMMAND	3	0	3	3	0	3
SPATIAL DISORIENTATION	(22)	(5)	(27)	(22)	(7)	(29)
PILOT IN COMMAND	22	5	27	22	7	29
FATIGUE	(0)	(1)	(1)	(0)	(3)	(3)
PILOT IN COMMAND	0	1	1	0	3	3
FATIGUE(CHRONIC)	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
FATIGUE(FLIGHT SCHEDULE)	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
FATIGUE(CIRCADIAN RHYTHM)	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
QUALIFICATION	(0)	(0)	(0)	(3)	(1)	(4)
PILOT IN COMMAND	0	0	0	3	1	4
FLIGHT INSTRUCTOR(ON GROUND)	0	0	0	0	1	1
INADEQUATE TRAINING	(0)	(1)	(1)	(2)	(2)	(4)
PILOT IN COMMAND	0	1	1	2	2	4
INADEQUATE INITIAL TRAINING	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
FLIGHT INSTRUCTOR(ON GROUND)	0	0	0	1	0	1
INADEQUATE TRANSITION/UPGRADE TRAINING	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
INADEQUATE TRAINING(EMERGENCY PROCEDURE(S))	(0)	(2)	(2)	(0)	(2)	(2)
PILOT IN COMMAND	0	2	2	0	2	2
EXPERIENCE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
LACK OF FAMILIARITY WITH AIRCRAFT	(1)	(3)	(4)	(4)	(9)	(13)
PILOT IN COMMAND	1	3	4	4	9	13
DUAL STUDENT	1	0	1	1	0	1

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DIRECT UNDERLYING CAUSE FACTORS: (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE FACTOR	TOTAL		CAUSE FACTOR	TOTAL	
IMPROPER USE OF EQUIPMENT/AIRCRAFT (Continued)						
LACK OF FAMILIARITY WITH AIRCRAFT (Continued)						
OTHER PERSONNEL	1	0	1	1	0	1
LACK OF FAMILIARITY WITH GEOGRAPHIC AREA	(1)	(2)	(3)	(2)	(3)	(5)
PILOT IN COMMAND	1	2	3	2	3	5
LACK OF TOTAL EXPERIENCE	(3)	(7)	(10)	(6)	(33)	(39)
PILOT IN COMMAND	3	7	10	6	33	39
DUAL STUDENT	0	0	0	0	1	1
PILOT OF OTHER AIRCRAFT	0	0	0	0	1	1
TOTAL	(1)	(0)	(1)	(3)	(7)	(10)
PILOT IN COMMAND	1	0	1	3	7	10
LACK OF TOTAL EXPERIENCE IN KIND OF AIRCRAFT	(0)	(3)	(3)	(3)	(6)	(9)
PILOT IN COMMAND	0	3	3	3	6	9
LACK OF TOTAL EXPERIENCE IN TYPE OF AIRCRAFT	(1)	(3)	(4)	(12)	(18)	(30)
PILOT IN COMMAND	1	3	4	12	18	30
LACK OF TOTAL INSTRUMENT TIME	(3)	(12)	(15)	(3)	(12)	(15)
PILOT IN COMMAND	3	12	15	3	12	15
LACK OF TOTAL EXPERIENCE IN TYPE OPERATION	(0)	(1)	(1)	(2)	(1)	(3)
PILOT IN COMMAND	0	1	1	2	1	3
LACK OF RECENT EXPERIENCE	(0)	(0)	(0)	(0)	(4)	(4)
PILOT IN COMMAND	0	0	0	0	4	4
LACK OF RECENT TOTAL EXPERIENCE	(1)	(0)	(1)	(2)	(1)	(3)
PILOT IN COMMAND	1	0	1	2	1	3
LACK OF RECENT EXPERIENCE IN KIND OF AIRCRAFT	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
LACK OF RECENT EXPERIENCE IN TYPE OF AIRCRAFT	(0)	(1)	(1)	(1)	(2)	(3)
PILOT IN COMMAND	0	1	1	1	2	3
DUAL STUDENT	0	1	1	0	1	1
LACK OF RECENT INSTRUMENT TIME	(1)	(3)	(4)	(1)	(3)	(4)
PILOT IN COMMAND	1	3	4	1	3	4
LACK OF RECENT EXPERIENCE IN TYPE OPERATION	(0)	(0)	(0)	(1)	(2)	(3)
PILOT IN COMMAND	0	0	0	1	2	3
INFORMATION INSUFFICIENT	(0)	(0)	(0)	(0)	(1)	(1)
MANUFACTURER	0	0	0	0	1	1
IMPROPER USE OF FACILITY	(3)	(4)	(7)	(5)	(10)	(15)
IMPROPER USE OF FACILITY	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
PSYCHOLOGICAL CONDITION	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
COMPLACENCY	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
OVER CONFIDENCE IN PERSONAL ABILITY	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
SELF-INDUCED PRESSURE	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
VISUAL/AURAL PERCEPTION	(2)	(0)	(2)	(3)	(0)	(3)
PILOT IN COMMAND	2	0	2	3	0	3
SPATIAL DISORIENTATION	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
INADEQUATE RECURRENT TRAINING	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
LACK OF FAMILIARITY WITH GEOGRAPHIC AREA	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
LACK OF TOTAL EXPERIENCE	(0)	(0)	(0)	(0)	(1)	(1)

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DIRECT UNDERLYING CAUSE FACTORS: (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE FACTOR	TOTAL		CAUSE FACTOR	TOTAL	
IMPROPER USE OF FACILITY (Continued)						
LACK OF TOTAL EXPERIENCE (Continued)						
PILOT IN COMMAND	0	0	0	0	1	1
LACK OF TOTAL EXPERIENCE IN TYPE OF AIRCRAFT	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
LACK OF RECENT INSTRUMENT TIME	(0)	(1)	(1)	(0)	(1)	(1)
IMPROPER DECISION	(41)	(56)	(97)	(75)	(124)	(199)
IMPROPER DECISION	(3)	(0)	(3)	(5)	(0)	(5)
PILOT IN COMMAND	3	0	3	5	0	5
DIVERTED ATTENTION	(0)	(0)	(0)	(2)	(1)	(3)
PILOT IN COMMAND	0	0	0	2	1	3
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
INATTENTIVE	(1)	(1)	(2)	(2)	(1)	(3)
PILOT IN COMMAND	1	1	2	2	1	3
COMPLACENCY	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	2	2
UNDER CONFIDENCE IN PERSONAL ABILITY	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
COPLOT	0	0	0	0	1	1
OVER CONFIDENCE IN PERSONAL ABILITY	(2)	(20)	(22)	(7)	(30)	(37)
PILOT IN COMMAND	2	20	22	7	30	37
OVER CONFIDENCE IN AIRCRAFT'S ABILITY	(2)	(1)	(3)	(2)	(9)	(11)
PILOT IN COMMAND	2	1	3	2	9	11
ANXIETY/APPREHENSION	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
PILOT OF OTHER AIRCRAFT	0	0	0	0	1	1
PANIC	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
PRESSURE	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	2	2
SELF-INDUCED PRESSURE	(4)	(7)	(11)	(4)	(9)	(13)
PILOT IN COMMAND	4	7	11	4	9	13
PILOT IN COMMAND(CFI)	1	0	1	1	0	1
COMPANY-INDUCED PRESSURE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
COMPANY/OPERATOR MGMT	0	1	1	0	1	1
PRESSURE INDUCED BY OTHERS	(0)	(2)	(2)	(0)	(2)	(2)
PILOT IN COMMAND	0	2	2	0	2	2
ATC PERSONNEL(FSS)	0	1	1	0	1	1
VISUAL/AURAL PERCEPTION	(2)	(3)	(5)	(7)	(5)	(12)
PILOT IN COMMAND	2	3	5	7	5	12
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
EXPECTANCY	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
EMOTIONAL REACTION	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
OSTENTATIOUS DISPLAY	(1)	(1)	(2)	(2)	(1)	(3)
PILOT IN COMMAND	1	1	2	2	1	3
HABIT INTERFERENCE	(0)	(0)	(0)	(1)	(0)	(1)
COPLOT	0	0	0	1	0	1
EXCESSIVE WORKLOAD (TASK OVERLOAD)	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
PHYSICAL IMPAIRMENT(HYPOGLYCEMIA/DIET)	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1

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ALL OPERATIONS
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	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
DIRECT UNDERLYING CAUSE FACTORS: (Continued)						
IMPROPER DECISION (Continued)						
PHYSICAL IMPAIRMENT(ALCOHOL)	(15)	(2)	(17)	(19)	(4)	(23)
PILOT IN COMMAND	15	2	17	19	4	23
OTHER CREW MEMBER	1	0	1	1	0	1
PHYSICAL IMPAIRMENT(DRUGS)	(1)	(2)	(3)	(1)	(2)	(3)
PILOT IN COMMAND	1	2	3	1	2	3
INCAPACITATION(LOSS OF CONSCIOUSNESS)	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
SPATIAL DISORIENTATION	(0)	(1)	(1)	(0)	(3)	(3)
PILOT IN COMMAND	0	1	1	0	3	3
VISUAL/AURAL DETECTION	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
FATIGUE	(0)	(1)	(1)	(0)	(2)	(2)
PILOT IN COMMAND	0	1	1	0	2	2
FATIGUE(FLIGHT SCHEDULE)	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
FATIGUE(GROUND SCHEDULE)	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
FATIGUE(FLIGHT AND GROUND SCHEDULE)	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND(CFI)	1	0	1	1	0	1
QUALIFICATION	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
FAA(ORGANIZATION)	0	0	0	0	1	1
IMPROPER TRAINING(EMERGENCY PROCEDURE(S))	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
INADEQUATE TRAINING	(0)	(0)	(0)	(1)	(2)	(3)
PILOT IN COMMAND	0	0	0	1	2	3
INADEQUATE TRANSITION/UPGRADE TRAINING	(1)	(0)	(1)	(1)	(1)	(2)
PILOT IN COMMAND	1	0	1	1	1	2
FLIGHT INSTRUCTOR(ON GROUND)	0	0	0	0	1	1
LACK OF FAMILIARITY WITH AIRCRAFT	(1)	(0)	(1)	(4)	(3)	(7)
PILOT IN COMMAND	1	0	1	4	3	7
LACK OF FAMILIARITY WITH GEOGRAPHIC AREA	(2)	(1)	(3)	(4)	(4)	(8)
PILOT IN COMMAND	2	1	3	4	4	8
LACK OF TOTAL EXPERIENCE	(1)	(1)	(2)	(1)	(7)	(8)
PILOT IN COMMAND	1	1	2	1	7	8
TOTAL	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	2	2
LACK OF TOTAL EXPERIENCE IN KIND OF AIRCRAFT	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
LACK OF TOTAL EXPERIENCE IN TYPE OF AIRCRAFT	(0)	(0)	(0)	(0)	(4)	(4)
PILOT IN COMMAND	0	0	0	0	4	4
LACK OF TOTAL INSTRUMENT TIME	(1)	(3)	(4)	(1)	(4)	(5)
PILOT IN COMMAND	1	3	4	1	4	5
LACK OF TOTAL EXPERIENCE IN TYPE OPERATION	(0)	(1)	(1)	(1)	(1)	(2)
PILOT IN COMMAND	0	1	1	1	1	2
LACK OF RECENT EXPERIENCE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
LACK OF RECENT EXPERIENCE IN TYPE OF AIRCRAFT	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
LACK OF RECENT INSTRUMENT TIME	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
LACK OF RECENT EXPERIENCE IN TYPE OPERATION	(0)	(1)	(1)	(0)	(1)	(1)

CAUSE/FACTOR TABLE
ALL OPERATIONS
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	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
DIRECT UNDERLYING CAUSE FACTORS: (Continued)						
IMPROPER DECISION (Continued)						
LACK OF RECENT EXPERIENCE IN TYPE OPERATION (Continued)						
PILOT IN COMMAND	0	1	1	0	1	1
INFORMATION INSUFFICIENT	(0)	(1)	(1)	(0)	(1)	(1)
ATC PERSONNEL(FSS)	0	1	1	0	1	1
INFORMATION UNCLEAR	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
FACILITY INADEQUATE	(0)	(2)	(2)	(0)	(4)	(4)
FACILITY, INADEQUATE DESIGN(STANDARD/REQUIREMENT)	(0)	(1)	(1)	(0)	(1)	(1)
OTHER MAINTENANCE PSNL	0	1	1	0	1	1
FAA(ORGANIZATION)	0	1	1	0	1	1
VISUAL RESTRICTION BY EQUIP/STRUCT	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
PILOT OF OTHER AIRCRAFT	0	0	0	0	1	1
PROCEDURE INADEQUATE	(0)	(0)	(0)	(0)	(2)	(2)
CONDITION(S)/STEP(S) INSUFFICIENTLY DEFINED	(0)	(0)	(0)	(0)	(1)	(1)
FLIGHT INSTRUCTOR(ON GROUND)	0	0	0	0	1	1
MANUFACTURER	0	0	0	0	1	1
AIRCRAFT/EQUIPMENT INADEQUATE	(0)	(2)	(2)	(9)	(12)	(21)
AIRCRAFT/EQUIPMENT, INADEQUATE DESIGN	(0)	(0)	(0)	(0)	(4)	(4)
MANUFACTURER	0	0	0	0	4	4
(STANDARD/REQUIREMENT)	(0)	(0)	(0)	(0)	(1)	(1)
MANUFACTURER	0	0	0	0	1	1
INSTRUMENT LOCATION	(0)	(0)	(0)	(0)	(1)	(1)
MANUFACTURER	0	0	0	0	1	1
CONTROL LOCATION	(0)	(0)	(0)	(0)	(1)	(1)
MANUFACTURER	0	0	0	0	1	1
COCKPIT/WORKPLACE SMOKE/FUMES	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
VISUAL RESTRICTION BY EQUIP/STRUCT	(0)	(1)	(1)	(3)	(2)	(5)
PILOT IN COMMAND	0	1	1	3	2	5
COPILOT	0	1	1	0	1	1
DUAL STUDENT	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
PRODUCTION/DESIGN PSNL	0	0	0	1	0	1
AIRFRAME	(0)	(0)	(0)	(1)	(0)	(1)
MANUFACTURER	0	0	0	1	0	1
AIRCRAFT COMPONENT	(0)	(0)	(0)	(2)	(1)	(3)
MANUFACTURER	0	0	0	2	1	3
MATERIAL INADEQUATE	(3)	(1)	(4)	(3)	(1)	(4)
MATERIAL INADEQUATE	(1)	(0)	(1)	(1)	(0)	(1)
MANUFACTURER	1	0	1	1	0	1
MATERIAL DEFECT	(1)	(0)	(1)	(1)	(0)	(1)
MANUFACTURER	1	0	1	1	0	1
PRODUCTION/DESIGN PSNL	0	1	1	0	1	1
MATERIAL DEFECT(INADEQUATE QUALITY CONTROL)	(1)	(0)	(1)	(1)	(0)	(1)
MANUFACTURER	1	0	1	1	0	1
INDIRECT UNDERLYING CAUSE FACTORS:						
INADEQUATE SURVEILLANCE OF OPERATION	(1)	(6)	(7)	(4)	(23)	(27)
INADEQUATE SURVEILLANCE OF OPERATION	(0)	(2)	(2)	(0)	(7)	(7)
COMPANY/OPERATOR MGMT	(0)	(1)	(1)	(0)	(3)	(3)
FAA(ORGANIZATION)	0	1	1	0	3	3
	0	1	1	0	2	2
INADEQUATE PROCEDURE	(0)	(0)	(0)	(0)	(1)	(1)
COMPANY/OPERATOR MGMT	0	0	0	0	1	1
OTHER INSTITUTION	0	0	0	0	1	1
INSUFFICIENT STANDARDS/REQUIREMENTS	(1)	(3)	(4)	(3)	(10)	(13)
INSUFFICIENT STANDARDS/REQUIREMENTS	(0)	(0)	(0)	(0)	(1)	(1)

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ALL OPERATIONS
1985

INDIRECT UNDERLYING CAUSE FACTORS: (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
INSUFFICIENT STANDARDS/REQUIREMENTS (Continued)						
INSUFFICIENT STANDARDS/REQUIREMENTS (Continued)						
COMPANY/OPERATOR MGMT	0	0	0	0	1	1
MANUFACTURER	0	1	1	0	1	1
AIRMAN	(0)	(0)	(0)	(0)	(1)	(1)
COMPANY/OPERATOR MGMT	0	0	0	0	1	1
FAA(ORGANIZATION)	1	0	1	1	2	3
AIRCRAFT	(0)	(0)	(0)	(0)	(1)	(1)
FAA(ORGANIZATION)	0	0	0	0	1	1
OPERATION/OPERATOR	(0)	(1)	(1)	(1)	(2)	(3)
COMPANY/OPERATOR MGMT	0	1	1	1	2	3
MANUFACTURER	(0)	(1)	(1)	(1)	(2)	(3)
MANUFACTURER	0	1	1	1	2	3
INADEQUATE CERTIFICATION/APPROVAL	(0)	(1)	(1)	(1)	(4)	(5)
AIRMAN	(0)	(0)	(0)	(1)	(0)	(1)
COMPANY/OPERATOR MGMT	0	0	0	1	0	1
FAA(ORGANIZATION)	0	1	1	0	3	3
OPERATION/OPERATOR	(0)	(0)	(0)	(0)	(1)	(1)
FAA(ORGANIZATION)	0	0	0	0	1	1
INADEQUATE SUBSTANTIATION PROCESS	(0)	(0)	(0)	(0)	(2)	(2)
INADEQUATE METHOD OF COMPLIANCE DTRMTN RCRDKPNG	(0)	(0)	(0)	(0)	(1)	(1)
FAA(ORGANIZATION)	0	0	0	0	1	1
INADEQUATE DOCUMENTATION	(0)	(0)	(0)	(0)	(1)	(1)
FAA(ORGANIZATION)	0	0	0	0	1	1

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