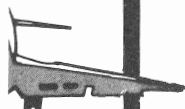


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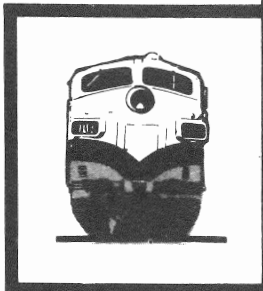
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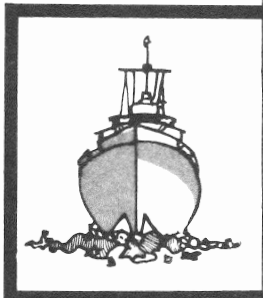
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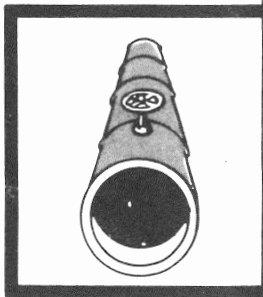
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ANNUAL REVIEW OF AIRCRAFT ACCIDENT DATA



U.S. GENERAL AVIATION
CALENDAR YEAR 1984



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INTRODUCTION

This report presents a statistical compilation and review of general aviation accidents which occurred in 1984. 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 1984 and for each of the two preceding years. Several tables then present accident parameters for 1984 only. Concluding each section are tabulations which present comparative statistics for 1984 and for the five-year period 1979-1983.

In 1984, a total of 3,047 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 37 cases in which two general aviation aircraft collided, the number of accidents in 1984 was 3,010.

The total number of accidents in 1984 decreased 2.1 percent from 1983. The number of fatal accidents decreased by 2.2 percent from the 1983 total. There also was a decrease of 2.3 percent in the number of fatalities in 1984. The 1984 total and fatal accident rates decreased 2.8 percent and 4.4 percent respectively 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 (22.15 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 (3.81 fatal accidents per 100,000 hours flown), almost double that for all aircraft.

For categories under kind of flying, the highest rates (total and fatal) were recorded for the personal/business combination. The total accident rate for personal/business was slightly more than for aerial application and the fatal accident rate for the personal/business combination was almost 2.7 times greater than for aerial application. In the ten year period beginning 1975 and ending 1984 the total and fatal accident rates for aerial application decreased 47.4 percent and 45.3 percent respectively. The total and fatal accident rates are depicted graphically in figures 1, 2, and 3.

The Corporate/Executive segment of General Aviation has achieved substantial reductions in its total and fatal accident rates in recent years. Accident rates per 100,000 hours flown are listed below for Corporate/Executive operations and for Part 121 and Scheduled Part 135 operations.

Category	1982		1983		1984	
	Total	Fatal	Total	Fatal	Total	Fatal
Corporate/Executive	0.78	0.12	0.74	0.11	0.52	0.08
Scheduled Part 135	2.00	0.38	1.19	0.13	1.26	0.40
All Part 121	0.28	0.06	0.35	0.06	0.21	0.01

For each year, both the total and fatal accident rates for Corporate/Executive operations lie between the corresponding rates for Part 121 and Scheduled Part 135 operations.

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 1984 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
1982 - 1984

	1984	1983	1982
-----	-----	-----	-----
Accidents			

Fatal	543	555	591
Involved Serious Injury	348	319	338
Involved Minor Injury	443	431	420
Involved No Injury	1676	1770	1884
-----	-----	-----	-----
Total	3010	3075	3233
Fatalities			

Passenger	469	484	553
Crew	549	573	618
Other Persons	21	7	16
-----	-----	-----	-----
Total	1039	1064	1187
Aircraft Damaged*			

Destroyed	894	860	978
Substantial	2085	2205	2247
Minor	26	12	21
None	42	30	20
Unknown	0	0	6
-----	-----	-----	-----
Total	3047	3107	3272

* Number of General Aviation Aircraft

Table 2 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
BY TYPE OF AIRCRAFT AND BY KIND OF FLYING
ALL OPERATIONS
1984

Type of Aircraft	Accidents	Fatal Accidents	Fatalities Aboard	Accident Rate Per 100,000 Aircraft Hours Flown	
				Total	Fatal
Fixed Wing	2695	496	950	9.11	1.67
Single Recip. Engine	2381	405	748	10.47	1.77
Multiple Recip. Engine	257	74	164	6.67	1.92
Turboprop	46	12	23	2.72	0.71
Turbojet	14	5	15	1.07	0.38
Rotorcraft	224	38	59	14.01	2.38
Recip. Engine(s)	128	22	28	22.15	3.81
Turbine Powered	96	16	31	9.40	1.57
Gliders	55	10	9	N/A	N/A
Kind of Flying					
Personal	1906	365	707	13.00*	2.65*
Business	249	76	155		
Corporate/Executive	25	4	8	0.52	0.08
Aerial Application	245	20	20	12.12	0.99
Instructional	353	25	37	6.20	0.44
All Aircraft	3010	543	1018	9.54	1.72

* 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

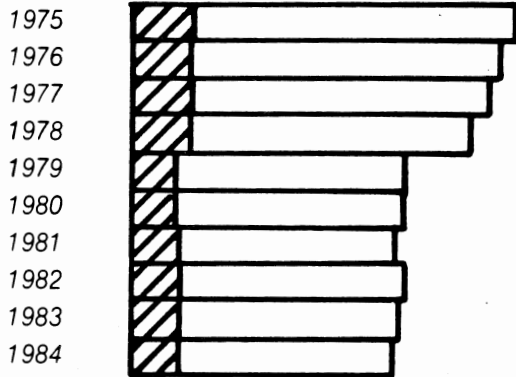
Accident Rate per 100,000 Hours Flown — Legend:

 FATAL

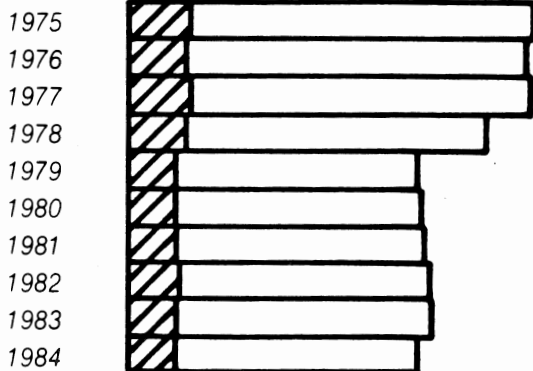
 TOTAL

0 5 10 15 20 25 30 35 40

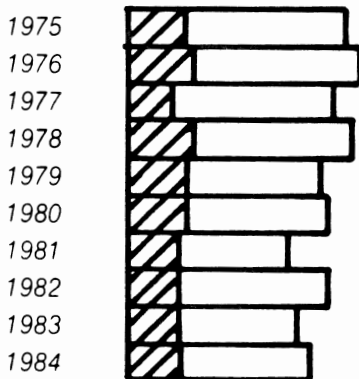
All



Single Reciprocating Engine





Multiple Reciprocating Engines



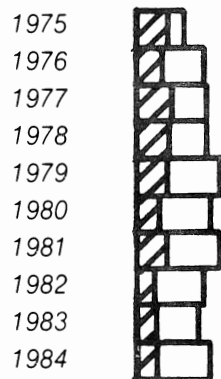
0 5 10 15 20 25 30 35 40

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

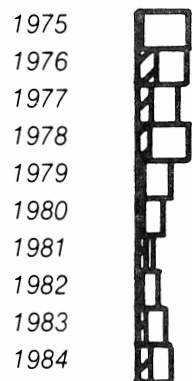
ACCIDENT RATE (per 100,000 hours flown) — Legend:  FATAL  TOTAL

0 5 10 15 20 25 30 35 40

Turboprop





Turbojet



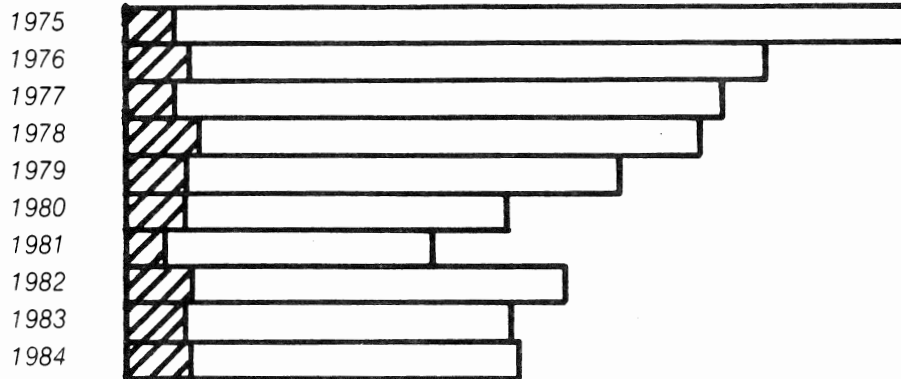
0 5 10 15 20 25 30 35 40

FIG-2 Rotorcraft Accident Rates by Type of Power

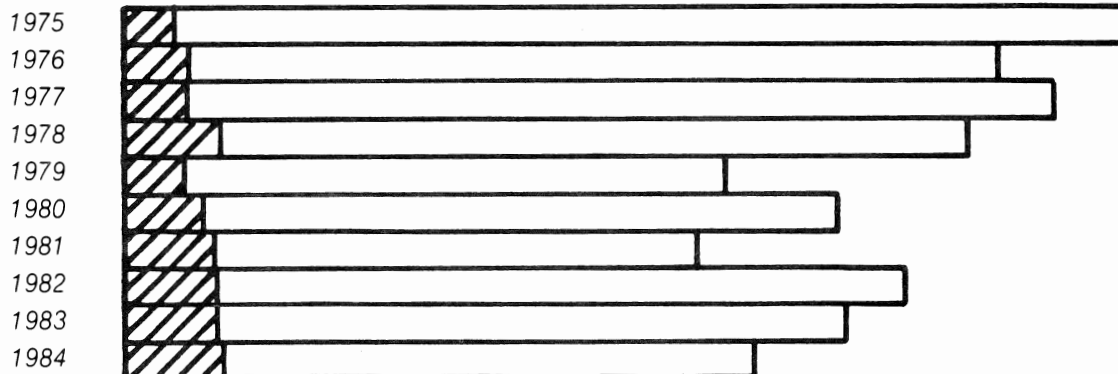
Accident Rate per 100,000 Hours Flown — Legend:  FATAL  TOTAL

0 5 10 15 20 25 30 35 40

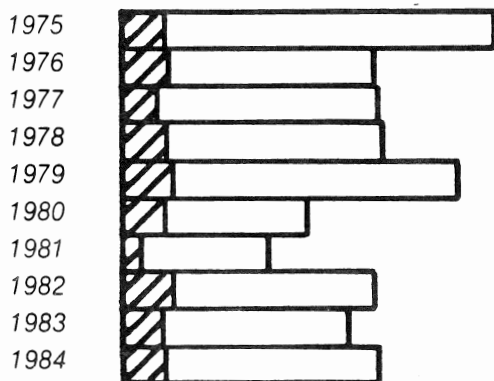
ALL



Reciprocating Engine(s)



Turbine Power



0 5 10 15 20 25 30 35 40

FIG-3 Accident Rates by Kind of Flying

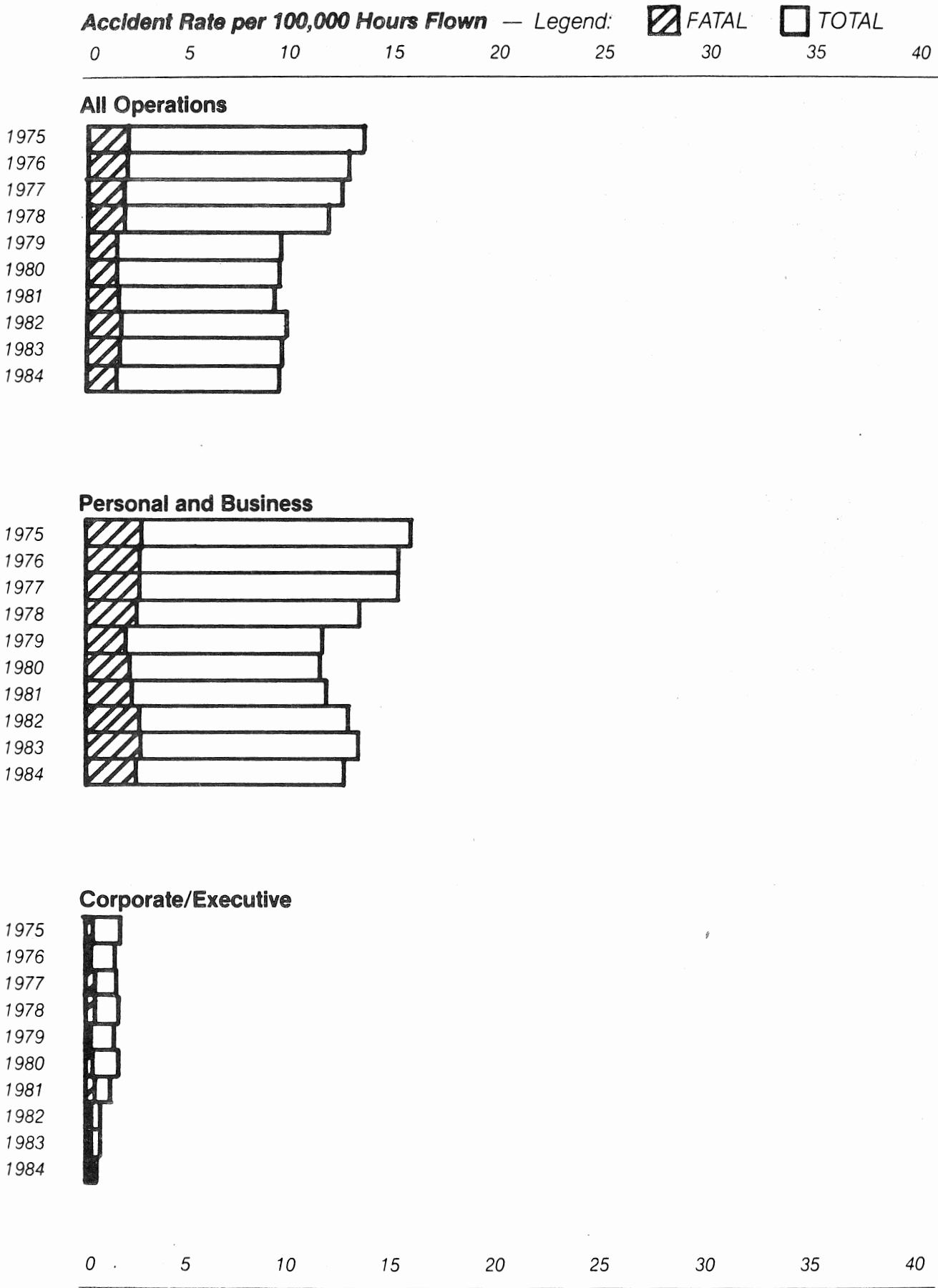


FIG-3 Accident Rates by Kind of Flying — Continued

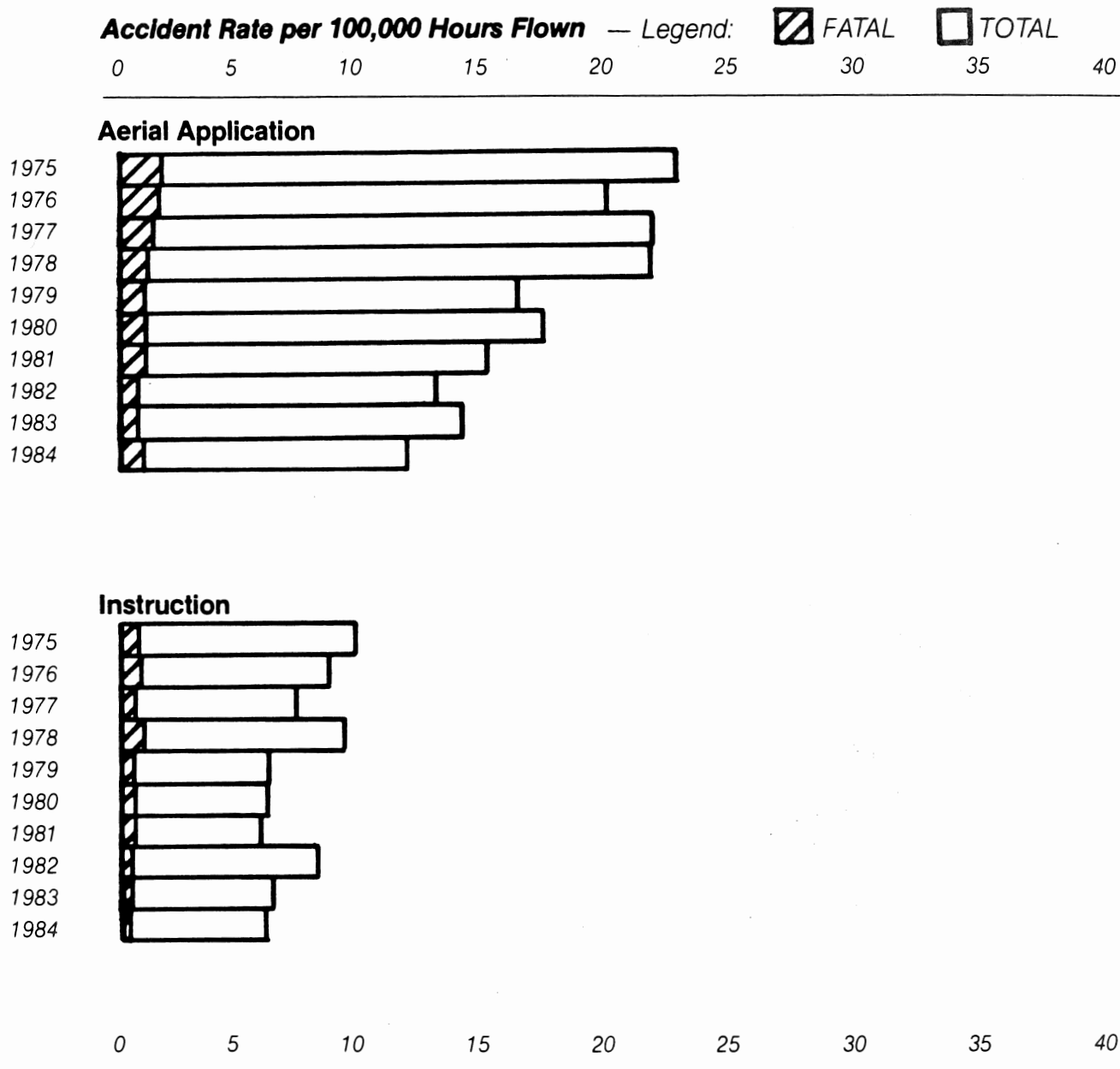


Table 3 - PERSONS BY ROLE AND DEGREE OF INJURY
ALL OPERATIONS
1984

Role of Person	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Pilot	504	313	436	1785	3038
Copilot	27	4	12	40	83
Dual student	11	6	15	96	128
Check pilot	1	1	0	7	9
Flight engineer	0	0	0	1	1
Other crew	6	6	3	18	33
Passenger	469	241	335	1366	2411
Total aboard	1018	571	801	3313	5703
Other aircraft*	16	3	6	15	40
Other ground	5	9	6	11	31
Grand total	1039	583	813	3339	5774
Percent	18.0	10.1	14.1	57.8	

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

Table 4 - PERSONS ABOARD BY KIND OF FLYING AND DEGREE OF INJURY
ALL OPERATIONS
1984

Kind of Flying	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Personal	707	412	539	2155	3813
Business	155	49	62	310	576
Corporate/Executive	8	6	19	42	75
Aerial application	20	22	43	171	256
Instructional	37	32	70	415	554
Other	91	50	68	220	429
Total	1018	571	801	3313	5703
Percent	17.9	10.0	14.0	58.1	

Table 5 - AIRCRAFT BY DAMAGE AND DEGREE OF INJURY
ALL OPERATIONS
1984

Aircraft damage	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
None	10	1	25	6	42	1.4
Minor	15	2	6	3	26	0.9
Substantial	1545	342	158	40	2085	68.4
Destroyed	126	102	159	507	894	29.3
Aircraft						
Number -	1696	447	348	556	3047	
Percent -	55.7	14.7	11.4	18.2		

Table 6 - AIRCRAFT BY FIRST THRU FIFTH OCCURRENCES
ALL OPERATIONS
1984

Occurrence	Occurrence					Occurrences 1 - 5	
	One	Two	Three	Four	Five	No.	Percent of Accident Involved Aircraft
Abrupt Maneuver	13	3	0	0	0	16	0.53
Altitude Deviation, Uncontrolled	13	7	1	0	0	21	0.69
Cargo Shift	1	0	0	0	0	1	0.03
Airframe/Component/System Failure/Malfunction	150	24	20	0	0	192	6.30
Decompression	0	0	0	0	0	0	0.00
Ditching	2	6	25	0	0	33	1.08
Dragged Wing, Rotor, Pod or Float	17	17	3	0	0	37	1.21
Fire/Explosion	1	3	0	3	0	7	0.23
Fire	13	7	22	13	4	59	1.94
Explosion	0	0	1	1	0	2	0.07
Forced Landing	7	698	31	3	1	739	24.25
Gear Collapsed	8	20	20	9	0	57	1.87
Main Gear Collapsed	23	69	35	6	0	133	4.36
Nose Gear Collapsed	12	56	44	10	0	122	4.00
Tail Gear Collapsed	0	0	0	0	0	0	0.00
Complete Gear Collapsed	16	17	17	4	1	55	1.81
Other Gear Collapsed	1	0	4	2	1	8	0.26
Hard Landing	191	29	45	6	0	269	8.83
Hazardous Materials Leak/Spill (Fumes/Smoke)	1	1	0	0	0	2	0.07
In Flight Col. w/ Object	235	140	123	9	0	501	16.44
In Flight Col. w/ Terrain	193	537	375	95	10	1205	39.55
In Flight Enc. w/ Weather	212	1	0	0	0	213	6.99
Loss of Control-In Flight	383	190	36	2	0	609	19.99
Loss of Control-On Ground	319	68	13	2	0	400	13.13
Midair Collision	49	0	0	0	0	49	1.61
Near Col. Between Aircraft	1	0	0	0	0	1	0.03
Nose Down	0	10	6	5	2	23	0.75
Nose Over	43	140	181	53	4	421	13.82
On Ground Col. w/ Object	89	106	88	19	1	301	9.88
On Ground Col. w/ Terrain	41	167	82	7	3	299	9.81
On Ground Enc. w/ Weather	6	0	1	0	0	7	0.23
Overrun	115	13	11	1	0	140	4.59
Loss of Power	150	6	0	0	0	156	5.12
Loss of Power (Total) Mech. Failure/Malfunction	112	8	1	0	0	121	3.97
Loss of Power (Partial) Mech. Failure/Malfunction	71	2	0	0	0	73	2.40

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	354	18	1	1	0	374	12.27
Loss of Power (Partial)							
Non-Mechanical	67	2	0	0	0	69	2.26
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	0	0	15	0.49
Roll Over	10	20	19	11	1	60	1.97
Undershoot	55	6	4	0	0	65	2.13
Undetermined	6	0	0	0	0	6	0.20
Vortex Turbulence Enc.	8	1	0	0	0	9	0.30
Missing Aircraft	12	0	0	0	0	12	0.39
Miscellaneous/Other	32	4	1	0	0	36	1.18
Not reported	1	648	1837	2785	3019	3019	99.08
Number of Aircraft						3047	

Table 7 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
ALL OPERATIONS
1984

Type of first occurrence	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Abrupt maneuver	7	0	1	5	13	0.4
Altitude deviation, uncontrolled	6	3	3	1	13	0.4
Cargo shift	1	0	0	0	1	0.0
Airframe/component/system failure/malfunction	89	17	16	28	150	4.9
Ditching	1	1	0	0	2	0.1
Dragged wing, rotor, pod, or float	7	3	2	5	17	0.6
Fire/explosion	0	0	1	0	1	0.0
Fire	7	4	2	0	13	0.4
Forced landing	5	2	0	0	7	0.2
Gear collapsed	7	1	0	0	8	0.3
Main gear collapsed	23	0	0	0	23	0.8
Nose gear collapsed	10	2	0	0	12	0.4
Complete gear collapsed	16	0	0	0	16	0.5
Other gear collapsed	1	0	0	0	1	0.0
Hard landing	158	20	10	3	191	6.3
Hazardous materials leak/spill (fumes/smoke)	1	0	0	0	1	0.0
In flight collision with object	84	44	40	67	235	7.7
In flight collision with terrain	81	25	23	64	193	6.3
In flight encounter with weather	43	18	26	125	212	7.0
Loss of control - in flight	132	54	65	132	383	12.6
Loss of control - on ground	282	24	9	4	319	10.5
Midair collision	20	2	0	27	49	1.6
Near collision between aircraft	0	0	1	0	1	0.0
Nose over	38	5	0	0	43	1.4
On ground collision with object	66	17	3	3	89	2.9
On ground collision with terrain	39	1	1	0	41	1.3
On ground encounter with weather	4	2	0	0	6	0.2
Overrun	90	14	9	2	115	3.8
Loss of power	69	38	30	13	150	4.9
Loss of power(total) - mech failure/malfunction	59	23	16	14	112	3.7
Loss of power(partial) - mech failure/malfunction	47	15	5	4	71	2.3
Loss of power(total) - non-mechanical	202	80	46	26	354	11.6
Loss of power(partial) - non-mechanical	35	14	10	8	67	2.2
Propeller blast or jet exhaust/suction	1	1	0	0	2	0.1
Propeller/rotor contact	0	1	9	2	12	0.4
Roll over	8	1	1	0	10	0.3
Undershoot	42	9	2	2	55	1.8
Undetermined	1	0	0	5	6	0.2

Table 7 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY (CONTINUED)
ALL OPERATIONS
1984

Type of first occurrence	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Vortex turbulence encountered	3	3	2	0	8	0.3
Missing aircraft	0	0	0	12	12	0.4
Miscellaneous/other	11	3	15	3	32	1.1
Not reported	0	0	0	1	1	0.0
Aircraft						
Number -	1696	447	348	556	3047	
Percent -	55.7	14.7	11.4	18.2		

Table 8 - AIRCRAFT BY FIRST OCCURRENCE AND DAMAGE
ALL OPERATIONS
1984

Type of first occurrence	Aircraft damage				Aircraft	
	None	Minor	Subs	Dest	No.	Percent
Abrupt maneuver	0	0	6	7	13	0.4
Altitude deviation, uncontrolled	0	1	10	2	13	0.4
Cargo shift	0	0	1	0	1	0.0
Airframe/component/system failure/malfunction	1	0	103	46	150	4.9
Ditching	0	0	1	1	2	0.1
Dragged wing, rotor, pod, or float	0	1	9	7	17	0.6
Fire/explosion	0	0	0	1	1	0.0
Fire	0	0	5	8	13	0.4
Forced landing	0	0	4	3	7	0.2
Gear collapsed	0	0	7	1	8	0.3
Main gear collapsed	0	0	23	0	23	0.8
Nose gear collapsed	0	0	12	0	12	0.4
Complete gear collapsed	1	0	15	0	16	0.5
Other gear collapsed	0	0	1	0	1	0.0
Hard landing	7	1	169	14	191	6.3
Hazardous materials leak/spill (fumes/smoke)	0	0	0	1	1	0.0
In flight collision with object	1	3	121	110	235	7.7
In flight collision with terrain	2	0	101	90	193	6.3
In flight encounter with weather	1	0	60	151	212	7.0
Loss of control - in flight	2	0	196	185	383	12.6
Loss of control - on ground	1	2	305	11	319	10.5
Midair collision	1	8	17	23	49	1.6
Near collision between aircraft	1	0	0	0	1	0.0
Nose over	0	0	42	1	43	1.4
On ground collision with object	0	5	77	7	89	2.9
On ground collision with terrain	0	0	36	5	41	1.3
On ground encounter with weather	0	0	6	0	6	0.2
Overrun	0	0	106	9	115	3.8
Loss of power	1	1	101	47	150	4.9
Loss of power(total) - mech failure/malfunction	0	0	76	36	112	3.7
Loss of power(partial) - mech failure/malfunction	0	0	61	10	71	2.3
Loss of power(total) - non-mechanical	3	0	277	74	354	11.6
Loss of power(partial) - non-mechanical	0	0	52	15	67	2.2

Table 8 - AIRCRAFT BY FIRST OCCURRENCE AND DAMAGE (CONTINUED)
ALL OPERATIONS
1984

Type of first occurrence	Aircraft damage				Aircraft	
	None	Minor	Subs	Dest	No.	Percent
Propeller blast or jet exhaust/suction	0	0	2	0	2	0.1
Propeller/rotor contact	6	1	4	1	12	0.4
Roll over	0	0	10	0	10	0.3
Undershoot	0	1	50	4	55	1.8
Undetermined	0	0	1	5	6	0.2
Vortex turbulence encountered	0	1	5	2	8	0.3
Missing aircraft	1	0	0	11	12	0.4
Miscellaneous/other	13	1	13	5	32	1.1
Not reported	0	0	0	1	1	0.0
Aircraft						
Number -	42	26	2085	894	3047	
Percent -	1.4	0.9	68.4	29.3		

Table 9 - AIRCRAFT BY FIRST OCCURRENCE AND BROAD PHASE OF OPERATION
ALL OPERATIONS
1984

Type of first occurrence	Phase of operation												Aircraft	
	Stndg	Taxi	Tkoff	Climb	Cruis	Dscnt	Aprch	Landg	Manvr	Other	Unk	Nrept	No.	Percent
Abrupt maneuver	0	1	1	0	2	1	3	3	2	0	0	0	13	0.4
Altitude deviation, uncontrolled	0	0	2	1	3	1	4	0	2	0	0	0	13	0.4
Cargo shift	0	0	0	0	1	0	0	0	0	0	0	0	1	0.0
Airframe/component/system failure/malfunction	0	3	34	9	45	2	15	12	22	5	3	0	150	4.9
Ditching	0	0	0	0	0	0	0	2	0	0	0	0	2	0.1
Dragged wing, rotor, pod, or float	0	1	5	0	0	0	1	9	1	0	0	0	17	0.6
Fire/explosion	0	0	0	1	0	0	0	0	0	0	0	0	1	0.0
Fire	2	0	3	2	3	1	0	0	2	0	0	0	13	0.4
Forced landing	0	0	0	1	0	3	0	2	1	0	0	0	7	0.2
Gear collapsed	0	0	1	0	0	0	0	7	0	0	0	0	8	0.3
Main gear collapsed	0	5	0	0	0	0	0	18	0	0	0	0	23	0.8
Nose gear collapsed	0	1	2	0	0	0	0	9	0	0	0	0	12	0.4
Complete gear collapsed	0	0	0	0	0	0	0	16	0	0	0	0	16	0.5
Other gear collapsed	0	0	0	0	0	0	0	1	0	0	0	0	1	0.0
Hard landing	0	0	0	0	0	0	0	191	0	0	0	0	191	6.3
Hazardous materials leak/spill (fumes/smoke)	0	0	0	0	0	0	0	1	0	0	0	0	1	0.0
In flight collision with object	0	2	55	1	18	5	59	16	78	1	0	0	235	7.7
In flight collision with terrain	0	1	21	3	4	14	29	35	76	10	0	0	193	6.3
In flight encounter with weather	0	1	20	15	138	5	21	2	9	1	0	0	212	7.0
Loss of control - in flight	1	0	119	5	17	7	65	51	110	7	1	0	383	12.6
Loss of control - on ground	4	12	91	0	0	0	0	212	0	0	0	0	319	10.5
Midair collision	0	0	3	6	4	2	12	2	18	0	2	0	49	1.6
Near collision between aircraft	0	0	0	0	1	0	0	0	0	0	0	0	1	0.0
Nose over	0	4	3	0	0	0	0	36	0	0	0	0	43	1.4
On ground collision with object	6	42	17	0	0	0	0	23	0	0	1	0	89	2.9
On ground collision with terrain	0	5	13	0	1	0	1	21	0	0	0	0	41	1.3
On ground encounter with weather	0	4	0	0	0	0	0	2	0	0	0	0	6	0.2
Overrun	0	0	25	0	0	0	0	90	0	0	0	0	115	3.8

Table 9 - AIRCRAFT BY FIRST OCCURRENCE AND BROAD PHASE OF OPERATION (CONTINUED)
ALL OPERATIONS
1984

Type of first occurrence	Phase of operation												Aircraft	
	Stndg	Taxi	Tkoff	Climb	Cruis	Dscnt	Aprch	Landg	Manvr	Other	Unk	Nrept	No.	Percent
Loss of power	0	0	54	7	38	2	24	0	24	1	0	0	150	4.9
Loss of power(total) - mech failure/malfunction	0	0	20	8	49	1	9	0	24	0	1	0	112	3.7
Loss of power(partial) - mech failure/malfunction	0	0	26	2	21	2	6	1	13	0	0	0	71	2.3
Loss of power(total) - non-mechanical	0	0	68	9	146	13	75	1	40	2	0	0	354	11.6
Loss of power(partial) - non-mechanical	0	0	29	5	15	3	10	0	5	0	0	0	67	2.2
Propeller blast or jet exhaust/suction	0	1	0	0	0	0	0	1	0	0	0	0	2	0.1
Propeller/rotor contact	8	0	2	1	0	0	0	1	0	0	0	0	12	0.4
Roll over	1	1	5	0	0	0	0	3	0	0	0	0	10	0.3
Undershoot	0	0	0	0	0	0	36	19	0	0	0	0	55	1.8
Undetermined	0	0	0	2	0	0	0	0	1	3	0	0	6	0.2
Vortex turbulence encountered	0	0	1	0	1	0	5	0	1	0	0	0	8	0.3
Missing aircraft	0	0	0	0	0	0	0	0	0	12	0	0	12	0.4
Miscellaneous/other	7	1	5	0	4	0	0	12	3	0	0	0	32	1.1
Not reported	0	0	0	0	0	0	0	0	0	0	0	1	1	0.0
Aircraft														
Number -	29	85	625	78	511	62	375	799	432	42	8	1	3047	
Percent -	1.0	2.8	20.5	2.6	16.8	2.0	12.3	26.2	14.2	1.4	0.3	0.0		

Table 10 - AIRCRAFT BY PHASE OF OPERATION AND DEGREE OF INJURY
ALL OPERATIONS
1984

Phase of operation	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Standing	1	1	1	1	4	0.1
Standing - pre-flight	1	0	1	0	2	0.1
Standing - starting engine(s)	7	3	2	0	12	0.4
Standing - engine(s) operating	3	1	4	1	9	0.3
Standing - idling rotors	1	0	1	0	2	0.1
Taxi	6	5	0	0	11	0.4
Taxi - to takeoff	30	6	0	2	38	1.2
Taxi - from landing	29	2	1	0	32	1.1
Taxi - aerial	3	1	0	0	4	0.1
Takeoff	33	7	8	5	53	1.7
Takeoff - ground run	122	24	8	5	159	5.2
Takeoff - initial climb	196	82	68	67	413	13.6
Climb	6	7	7	9	29	1.0
Climb - to cruise	18	5	5	21	49	1.6
Cruise	51	17	22	47	137	4.5
Cruise - normal	172	63	44	93	372	12.2
Cruise - holding(IFR)	0	1	0	1	2	0.1
Descent	3	2	1	9	15	0.5
Descent - normal	17	4	3	8	32	1.1
Descent - emergency	3	2	0	3	8	0.3
Descent - uncontrolled	0	0	1	6	7	0.2
Approach	23	13	9	13	58	1.9
Approach - VFR pattern - downwind	14	4	6	7	31	1.0
Approach - VFR pattern - base turn	4	1	4	3	12	0.4
Approach - VFR pattern - base to final	8	6	5	4	23	0.8
Approach - VFR pattern - final approach	77	27	19	17	140	4.6
Approach - go-around (VFR)	28	15	11	5	59	1.9
Approach - IAF to FAF/outer marker (IFR)	3	1	1	7	12	0.4
Approach - FAF/outer marker to threshold (IFR)	7	5	3	14	29	1.0
Approach - circling(IFR)	1	1	1	3	6	0.2
Approach - missed approach (IFR)	1	1	0	3	5	0.2
Landing	50	14	7	0	71	2.3
Landing - flare/touchdown	297	36	25	11	369	12.1
Landing - roll	319	25	10	5	359	11.8
Maneuvering	56	25	42	115	238	7.8
Maneuvering - aerial application	72	33	14	20	139	4.6
Maneuvering - turn to reverse direction	6	1	7	10	24	0.8
Maneuvering - turn to landing area (emergency)	3	0	0	1	4	0.1
Hover	15	5	5	2	27	0.9

Table 10 - AIRCRAFT BY PHASE OF OPERATION AND DEGREE OF INJURY (CONTINUED)
ALL OPERATIONS
1984

Phase of operation	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Other	6	1	0	1	8	0.3
Unknown	4	0	2	36	42	1.4
Not reported	0	0	0	1	1	0.0
Aircraft						
Number -	1696	447	348	556	3047	
Percent -	55.7	14.7	11.4	18.2		

Table 11 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
ALL OPERATIONS
1984

Phase of operation	Aircraft damage				Aircraft	
	None	Minor	Subs	Dest	No.	Percent
Standing	1	1	1	1	4	0.1
Standing - pre-flight	0	0	2	0	2	0.1
Standing - starting engine(s)	2	0	8	2	12	0.4
Standing - engine(s) operating	4	1	3	1	9	0.3
Standing - idling rotors	0	0	2	0	2	0.1
Taxi	0	1	9	1	11	0.4
Taxi - to takeoff	0	3	33	2	38	1.2
Taxi - from landing	1	1	30	0	32	1.1
Taxi - aerial	0	0	4	0	4	0.1
Takeoff	0	0	41	12	53	1.7
Takeoff - ground run	1	0	141	17	159	5.2
Takeoff - initial climb	2	1	274	136	413	13.6
Climb	0	0	11	18	29	1.0
Climb - to cruise	0	1	22	26	49	1.6
Cruise	0	0	66	71	137	4.5
Cruise - normal	3	1	226	142	372	12.2
Cruise - holding(IFR)	0	0	0	2	2	0.1
Descent	0	0	6	9	15	0.5
Descent - normal	0	0	21	11	32	1.1
Descent - emergency	0	0	5	3	8	0.3
Descent - uncontrolled	0	1	1	5	7	0.2
Approach	1	0	42	15	58	1.9
Approach - VFR pattern - downwind	0	1	20	10	31	1.0
Approach - VFR pattern - base turn	0	0	6	6	12	0.4
Approach - VFR pattern - base to final	1	0	12	10	23	0.8
Approach - VFR pattern - final approach	1	3	97	39	140	4.6
Approach - go-around (VFR)	1	0	42	16	59	1.9
Approach - IAF to FAF/outer marker (IFR)	0	0	4	8	12	0.4
Approach - FAF/outer marker to threshold (IFR)	0	0	12	17	29	1.0
Approach - circling(IFR)	0	0	2	4	6	0.2
Approach - missed approach (IFR)	0	0	2	3	5	0.2
Landing	2	0	61	8	71	2.3
Landing - flare/touchdown	13	2	316	38	369	12.1
Landing - roll	3	3	339	14	359	11.8
Maneuvering	1	5	94	138	238	7.8

Table 11 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE (CONTINUED)
ALL OPERATIONS
1984

Phase of operation	Aircraft damage				Aircraft	
	None	Minor	Subs	Dest	No.	Percent
Maneuvering - aerial application	1	0	87	51	139	4.6
Maneuvering - turn to reverse direction	1	0	9	14	24	0.8
Maneuvering - turn to landing area (emergency)	0	0	3	1	4	0.1
Hover	1	0	22	4	27	0.9
Other	0	1	6	1	8	0.3
Unknown	2	0	3	37	42	1.4
Not reported	0	0	0	1	1	0.0
Aircraft						
Number -	42	26	2085	894	3047	
Percent -	1.4	0.9	68.4	29.3		

Table 12 - AIRCRAFT BY CONDITION OF LIGHT AND TYPE OF WEATHER
ALL OPERATIONS
1984

Condition of light	Type of weather			Aircraft	
	VMC	IMC	Not reptd	No.	Percent
Dawn	43	7	0	50	1.6
Daylight	2372	131	19	2522	82.8
Night (dark)	158	104	14	276	9.1
Night (bright)	45	6	1	52	1.7
Dusk	104	12	2	118	3.9
Not reported	15	1	13	29	1.0
Aircraft					
Number -	2737	261	49	3047	
Percent -	89.8	8.6	1.6		

Table 13 - AIRCRAFT BY STATE AND MONTH
ALL OPERATIONS
1984

State	Month												Aircraft	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	No.	Percent
Alabama	1	3	2	1	8	3	3	3	1	4	2	8	39	1.3
Alaska	4	4	9	11	22	26	19	27	40	11	11	3	187	6.1
Arizona	5	8	8	9	7	3	11	8	10	3	3	5	80	2.6
Arkansas	1	8	6	8	9	11	15	11	5	4	2	8	88	2.9
California	27	30	24	30	39	40	31	34	29	33	13	35	365	12.0
Colorado	5	5	4	3	10	11	10	9	7	4	1	7	76	2.5
Connecticut	1	0	2	5	2	1	4	5	5	1	4	2	32	1.1
Delaware	0	0	0	0	1	1	2	1	2	0	1	0	8	0.3
District of Columbia	0	0	0	0	0	0	0	0	0	1	0	0	1	0.0
Florida	6	19	26	24	11	20	11	16	14	14	22	15	198	6.5
Georgia	2	5	8	3	6	6	7	12	6	7	4	2	68	2.2
Hawaii	2	1	0	1	2	0	0	1	1	0	0	0	8	0.3
Idaho	2	2	4	3	4	0	5	6	5	2	2	1	36	1.2
Illinois	8	4	3	2	9	9	7	7	8	7	7	5	76	2.5
Indiana	2	5	2	4	4	4	6	7	7	3	5	2	51	1.7
Iowa	3	2	1	2	5	2	5	4	8	0	4	1	37	1.2
Kansas	1	9	5	1	2	8	5	9	0	4	2	1	47	1.5
Kentucky	0	0	3	0	0	2	1	1	4	1	1	4	17	0.6
Louisiana	4	4	5	6	10	6	5	9	2	5	5	4	65	2.1
Maine	2	0	2	2	1	1	4	2	2	1	0	1	18	0.6
Maryland	1	2	0	5	3	2	0	3	5	2	1	2	26	0.9
Massachusetts	3	2	10	3	9	4	6	3	5	1	2	2	50	1.6
Michigan	5	5	6	4	7	8	12	8	4	10	4	4	77	2.5
Minnesota	6	1	0	1	6	14	5	5	3	3	4	0	48	1.6
Mississippi	0	2	3	2	1	5	5	3	3	3	1	0	28	0.9
Missouri	6	5	2	2	5	10	14	6	7	2	8	2	69	2.3
Montana	2	3	1	1	2	4	3	4	5	2	0	4	31	1.0
Nebraska	1	1	5	2	5	6	8	3	0	2	1	1	35	1.1
Nevada	1	2	1	2	3	6	4	4	5	2	1	2	33	1.1

Table 13 - AIRCRAFT BY STATE AND MONTH (CONTINUED)
ALL OPERATIONS
1984

State	Month												Aircraft	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	No.	Percent
New Hampshire	1	1	0	1	1	2	2	3	2	0	1	0	14	0.5
New Jersey	2	1	3	4	4	7	5	10	2	0	3	2	43	1.4
New Mexico	2	7	3	6	3	8	5	5	3	7	1	1	51	1.7
New York	4	4	6	3	8	7	5	9	6	5	4	0	61	2.0
North Carolina	2	2	10	4	7	0	2	7	2	4	4	6	50	1.6
North Dakota	1	1	1	2	1	3	5	5	3	2	2	1	27	0.9
Ohio	1	6	6	6	8	12	8	14	6	5	4	4	80	2.6
Oklahoma	2	6	5	8	11	6	3	6	4	4	5	3	63	2.1
Oregon	5	5	4	5	6	6	11	8	6	5	3	1	65	2.1
Pennsylvania	2	6	6	9	10	10	10	5	7	7	4	1	77	2.5
Puerto Rico	1	0	3	1	1	0	1	1	1	0	0	0	9	0.3
Rhode Island	0	0	0	1	1	0	0	2	2	1	1	0	8	0.3
South Carolina	1	3	2	4	1	4	4	5	4	1	3	1	33	1.1
South Dakota	3	0	0	2	2	5	5	1	1	1	1	0	21	0.7
Tennessee	1	2	2	2	2	3	2	6	3	2	2	2	29	1.0
Texas	7	16	18	14	24	19	26	26	26	20	19	18	233	7.6
Utah	3	2	3	3	2	5	6	5	6	2	3	3	43	1.4
Vermont	0	0	1	0	1	3	0	1	0	0	1	2	9	0.3
Virginia	3	6	4	5	6	4	0	4	3	4	5	3	47	1.5
Virgin Islands	0	0	0	0	0	0	1	0	0	1	1	0	3	0.1
Washington	6	5	3	12	7	13	13	6	5	2	1	8	81	2.7
West Virginia	2	2	0	0	1	1	2	3	1	1	1	2	16	0.5
Wisconsin	3	1	2	6	6	7	7	11	4	5	3	2	57	1.9
Wyoming	0	2	3	2	2	4	2	3	1	4	0	1	24	0.8
Gulf of Mexico	0	0	0	0	0	0	0	0	1	0	0	0	1	0.0
Pacific Ocean	0	0	0	0	0	0	0	1	0	0	0	0	1	0.0
Atlantic Ocean	0	0	0	0	1	0	0	1	0	0	0	1	3	0.1
Unknown	0	0	1	0	0	0	0	1	1	0	0	1	4	0.1
Aircraft														
Number -	153	210	228	237	309	342	333	360	293	215	183	184	3047	
Percent -	5.0	6.9	7.5	7.8	10.1	11.2	10.9	11.8	9.6	7.1	6.0	6.0		

Table 14 - AIRCRAFT BY PROXIMITY TO AIRPORT AND FLIGHT PLAN
ALL OPERATIONS
1984

Proximity to Airport -----	Type of Flight Plan -----					Aircraft -----	
	VFR	IFR	VFR/IFR	None	NRept	No.	Percent
On Airport	102	74	3	904	7	1090	35.8
On Airstrip	12	3	0	163	1	179	5.9
Within 5 SM	21	56	0	253	2	332	10.9
5 SM Or Greater	17	26	0	115	0	158	5.2
Not reported	106	67	2	1109	4	1288	42.3
Aircraft							
Number -	258	226	5	2544	14	3047	
Percent -	8.5	7.4	0.2	83.5	0.5		

Table 15 - AIRCRAFT BY ELT OPERATION AND ELT AID IN LOCATION
ALL OPERATIONS
1984

ELT aided location -----	ELT operated -----			Aircraft -----	
	Yes	No	Not reptd	No.	Percent
Yes	128	0	6	143	4.7
No	580	1368	218	2157	70.8
Not reported	64	230	453	747	24.5
Aircraft					
Number -	772	1598	677	3047	
Percent -	25.3	52.4	22.2		

Table 16 - AIRCRAFT BY FIRE AND DAMAGE
ALL OPERATIONS
1984

Aircraft fire	Aircraft damage				Aircraft	
	None	Minor	Subs	Dest	No.	Percent
None	39	25	2032	622	2718	89.2
In-flight	0	1	8	10	19	0.6
On ground	2	0	39	236	277	9.1
In-flight and on ground	0	0	1	8	9	0.3
Not reported	1	0	5	18	24	0.8
Aircraft						
Number -	42	26	2085	894	3047	
Percent -	1.4	0.9	68.4	29.3		

Table 17 - AIRCRAFT BY FIRE AND DEGREE OF INJURY
ALL OPERATIONS
1984

Aircraft fire	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
None	1625	418	300	375	2718	89.2
In-flight	9	3	6	1	19	0.6
On ground	54	24	40	159	277	9.1
In-flight and on ground	4	2	1	2	9	0.3
Not reported	4	0	1	19	24	0.8
Aircraft						
Number -	1696	447	348	556	3047	
Percent -	55.7	14.7	11.4	18.2		

Table 18 - PILOTS BY TOTAL TIME AND TIME IN TYPE
ALL OPERATIONS
1984

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	205	0	0	0	0	0	0	8	213	7.0
50 - 99	103	90	0	0	0	0	0	7	200	6.6
100 - 499	243	133	303	0	0	0	0	44	723	23.7
500 - 999	82	54	139	67	0	0	0	30	372	12.2
1000 - 4999	141	81	255	111	171	0	0	93	852	28.0
5000 - 9999	37	20	58	36	92	19	0	33	295	9.7
10000 or more	23	4	49	16	46	10	10	25	183	6.0
Not reported	7	5	7	1	4	1	0	184	209	6.9
Pilots										
Number -	841	387	811	231	313	30	10	424	3047	
Percent -	27.6	12.7	26.6	7.6	10.3	1.0	0.3	13.9		

Table 19 - PILOTS BY AGE AND ACCIDENT DEGREE OF INJURY
ALL OPERATIONS
1984

Pilot age	Degree of injury				Pilots	
	None	Minor	Ser	Fatal	No.	Percent
15 - 19	28	7	1	4	40	1.3
20 - 24	101	30	17	32	180	5.9
25 - 29	186	51	29	48	314	10.3
30 - 34	231	52	36	54	373	12.2
35 - 39	294	73	46	74	487	16.0
40 - 44	237	56	58	67	418	13.7
45 - 49	140	33	42	82	297	9.7
50 - 54	144	43	42	73	302	9.9
55 - 59	124	49	32	58	263	8.6
60 - 64	98	20	21	36	175	5.7
65 - 69	29	9	11	12	61	2.0
70 or older	20	8	2	10	40	1.3
Not reported	64	16	11	6	97	3.2

Pilots

Number -	1696	447	348	556	3047
Percent -	55.7	14.7	11.4	18.2	

Table 20 - MOST PREVALENT DETAILED ACCIDENT CAUSES
ALL OPERATIONS
1984

Detailed Cause	Number of Aircraft	Percent of Aircraft
Directional control - Not maintained - Pilot in command	330	10.8
Undetermined	207	6.8
Judgement - Poor - Pilot in command	144	4.7
In-flight planning/decision - Improper - Pilot in command	128	4.2
Preflight planning/preparation - Inadequate - Pilot in command	127	4.2
Fluid, fuel - Exhaustion	110	3.6
Airspeed - Not maintained - Pilot in command	109	3.6
Unsuitable terrain - Selected - Pilot in command	97	3.2
Clearance - Not maintained - Pilot in command	96	3.2
Flare - Improper - Pilot in command	92	3.0
Aircraft preflight - Inadequate - Pilot in command	92	3.0
Total Number of Aircraft:	3047	

Table 21 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
ALL OPERATIONS
1975 - 1984

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

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

* 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)

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

Table 22 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
ALL OPERATIONS
1984 AND 1979 - 1983

Type of Occurrence	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Loss of power	754	24.7	886.2	25.5
Collision with object/terrain	558	18.3	810.6	23.3
Loss of control - in flight	383	12.6	427.0	12.3
Loss of control - on ground	319	10.5	370.6	10.7
Hard landing	191	6.3	213.8	6.1
Miscellaneous	157	5.2	162.8	4.7
Airframe/component/system fail/malf	150	4.9	131.6	3.8
Encounter with weather/turbulence	226	7.4	100.0	2.9
Undershoot	55	1.8	96.4	2.8
Nose over/down	43	1.4	82.0	2.4
Gear collapsed/retracted	60	2.0	72.2	2.1
Midair collision	49	1.6	43.8	1.3
(All other types)	102	3.3	79.6	2.3
Total	3047	100.0	3476.6	100.0

Table 23 - MOST PREVALENT FIRST OCCURRENCES IN FATAL ACCIDENTS
ALL OPERATIONS
1984 AND 1979 - 1983

Type of Occurrence	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Collision with object/terrain	134	24.1	201.2	32.4
Loss of control - in flight	132	23.7	183.8	29.6
Loss of power	65	11.7	73.8	11.9
Encounter with weather/turbulence	125	22.5	57.2	9.2
Airframe/component/system fail/malf	28	5.0	39.2	6.3
Midair collision	27	4.9	25.0	4.0
Missing aircraft	12	2.2	9.8	1.6
Undershoot	2	.4	6.6	1.1
(All other types)	31	5.6	25.0	4.0
Total	556	100.0	621.6	100.0

Table 24 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
ALL OPERATIONS
1984 AND 1979 - 1983

Phase of Operation	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Landing	799	26.2	949.6	27.3
Takeoff	625	20.5	706.6	20.3
Cruise	511	16.8	542.8	15.6
Maneuvering	432	14.2	454.8	13.1
Approach	375	12.3	444.4	12.8
Descent	62	2.0	127.6	3.7
Taxi	85	2.8	101.4	2.9
Climb	78	2.6	83.0	2.4
Other	50	1.6	39.0	1.1
Standing	29	1.0	26.4	.8
Not reported	1	.0	1.0	.0
Total	3047	100.0	3476.6	100.0

Table 25 - MOST PREVALENT FIRST PHASES OF OPERATION IN FATAL ACCIDENTS
ALL OPERATIONS
1984 AND 1979 - 1983

Phase of Operation	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Maneuvering	148	26.6	159.0	25.6
Cruise	141	25.4	145.8	23.5
Approach	76	13.7	96.0	15.4
Takeoff	77	13.8	85.0	13.7
Descent	26	4.7	65.0	10.5
Other	37	6.7	27.2	4.4
Climb	30	5.4	23.8	3.8
Landing	16	2.9	15.0	2.4
Standing	2	.4	3.8	.6
Taxi	2	.4	.8	.1
Not reported	1	.2	.2	.0
Total	556	100.0	621.6	100.0

Table 26 - BROAD CAUSE/FACTOR ASSIGNMENTS IN ALL ACCIDENTS
ALL OPERATIONS
1984 AND 1979 - 1983

Broad Cause/Factor	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Pilot	2637	86.5	2795.8	80.4
Weather	821	26.9	897.6	25.8
Terrain	759	24.9	869.2	25.0
Powerplant	625	20.5	622.8	17.9
Miscellaneous	725	23.8	510.8	14.7
Personnel	300	9.8	321.6	9.3
Airport/Airways/Facilities	160	5.3	224.2	6.4
Landing Gear	183	6.0	208.8	6.0
Undetermined	212	7.0	154.8	4.5
Airframe	105	3.4	84.0	2.4
Systems	58	1.9	59.8	1.7
Rotorcraft	26	.9	40.6	1.2
Instruments/Equipment/Accessories	29	1.0	23.4	.7
Number of Aircraft	3047		3476.6	

Table 27 - BROAD CAUSE/FACTOR ASSIGNMENTS IN FATAL ACCIDENTS
ALL OPERATIONS
1984 AND 1979 - 1983

Broad Cause/Factor	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Pilot	500	89.9	538.6	86.6
Weather	226	40.6	250.8	40.3
Miscellaneous	187	33.6	103.2	16.6
Terrain	99	17.8	95.0	15.3
Personnel	62	11.2	72.2	11.6
Powerplant	58	10.4	55.6	8.9
Undetermined	51	9.2	54.4	8.8
Airframe	43	7.7	34.6	5.6
Airport/Airways/Facilities	7	1.3	9.0	1.4
Systems	14	2.5	8.8	1.4
Rotorcraft	6	1.1	8.4	1.4
Instruments/Equipment/Accessories	6	1.1	7.2	1.2
Landing Gear	2	.4	1.0	.2
Number of Aircraft	556		621.6	

Table 28 - SUMMARY OF LOSSES
ALL FIXED WING AIRCRAFT
1982 - 1984

	1984	1983	1982
	----	----	----
Accidents			

Fatal	496	503	539
Involved Serious Injury	283	251	277
Involved Minor Injury	385	389	370
Involved No Injury	1531	1578	1669
	----	----	----
Total	2695	2729	2885
 Fatalities			

Passenger	443	467	530
Crew	507	518	564
Other Persons	19	5	11
	----	----	----
Total	969	990	1105
 Aircraft Damaged*			

Destroyed	803	778	874
Substantial	1883	1955	2014
Minor	19	11	15
None	23	14	11
Unknown	0	0	6
	----	----	----
Total	2728	2758	2920

* Number of Fixed Wing, General Aviation Aircraft

Table 29 - PERSONS BY ROLE AND DEGREE OF INJURY
ALL FIXED WING AIRCRAFT
1984

Role of Person	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Pilot	467	260	379	1611	2717
Copilot	25	2	7	38	72
Dual student	10	5	13	84	112
Check pilot	1	1	0	7	9
Flight engineer	0	0	0	1	1
Other crew	4	5	2	13	24
Passenger	443	208	290	1263	2204
Total aboard	950	481	691	3017	5139
Other aircraft*	15	2	7	16	40
Other ground	4	6	5	10	25
Grand total	969	489	703	3043	5204
Percent	18.6	9.4	13.5	58.5	

* 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 30 - PERSONS ABOARD BY KIND OF FLYING AND DEGREE OF INJURY
ALL FIXED WING AIRCRAFT
1984

Kind of Flying	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Personal	673	376	522	2028	3599
Business	148	35	33	288	504
Corporate/Executive	5	4	13	35	57
Aerial application	20	16	30	146	212
Instructional	35	22	56	380	493
Other	69	28	37	140	274
Total	950	481	691	3017	5139
Percent	18.5	9.4	13.4	58.7	

Table 31 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
ALL FIXED WING AIRCRAFT
1984

Type of first occurrence	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Abrupt maneuver	6	0	1	4	11	0.4
Altitude deviation, uncontrolled	4	3	1	1	9	0.3
Cargo shift	1	0	0	0	1	0.0
Airframe/component/system failure/malfunction	79	10	14	20	123	4.5
Ditching	1	1	0	0	2	0.1
Dragged wing, rotor, pod, or float	7	1	1	5	14	0.5
Fire/explosion	0	0	1	0	1	0.0
Fire	7	4	1	0	12	0.4
Forced landing	2	2	0	0	4	0.1
Gear collapsed	7	1	0	0	8	0.3
Main gear collapsed	23	0	0	0	23	0.8
Nose gear collapsed	10	2	0	0	12	0.4
Complete gear collapsed	16	0	0	0	16	0.6
Other gear collapsed	1	0	0	0	1	0.0
Hard landing	151	17	3	3	174	6.4
Hazardous materials leak/spill (fumes/smoke)	1	0	0	0	1	0.0
In flight collision with object	70	36	31	58	195	7.1
In flight collision with terrain	72	18	19	60	169	6.2
In flight encounter with weather	30	13	24	122	189	6.9
Loss of control - in flight	110	44	53	122	329	12.1
Loss of control - on ground	278	23	8	4	313	11.5
Midair collision	18	2	0	24	44	1.6
Near collision between aircraft	0	0	1	0	1	0.0
Nose over	38	5	0	0	43	1.6
On ground collision with object	64	16	3	2	85	3.1
On ground collision with terrain	35	0	1	0	36	1.3
On ground encounter with weather	4	2	0	0	6	0.2
Overrun	90	14	8	2	114	4.2
Loss of power	62	36	28	11	137	5.0
Loss of power(total) - mech failure/malfunction	51	21	15	11	98	3.6
Loss of power(partial) - mech failure/malfunction	45	13	3	4	65	2.4
Loss of power(total) - non-mechanical	185	77	42	24	328	12.0
Loss of power(partial) - non-mechanical	31	14	10	8	63	2.3
Propeller blast or jet exhaust/suction	1	1	0	0	2	0.1
Propeller/rotor contact	0	1	7	1	9	0.3
Roll over	1	0	0	0	1	0.0

Table 31 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY (CONTINUED)
ALL FIXED WING AIRCRAFT
1984

Type of first occurrence	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Undershoot	40	8	1	2	51	1.9
Undetermined	0	0	0	5	5	0.2
Vortex turbulence encountered	3	2	2	0	7	0.3
Missing aircraft	0	0	0	12	12	0.4
Miscellaneous/other	5	2	5	1	13	0.5
Not reported	0	0	0	1	1	0.0
Aircraft						
Number -	1549	389	283	507	2728	
Percent -	56.8	14.3	10.4	18.6		

Table 32 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
ALL FIXED WING AIRCRAFT
1984

Phase of operation	Aircraft damage				Aircraft	
	None	Minor	Subs	Dest	No.	Percent
Standing	0	1	1	1	3	0.1
Standing - pre-flight	0	0	2	0	2	0.1
Standing - starting engine(s)	2	0	7	2	11	0.4
Standing - engine(s) operating	4	0	2	1	7	0.3
Taxi	0	1	9	1	11	0.4
Taxi - to takeoff	0	3	33	1	37	1.4
Taxi - from landing	1	1	30	0	32	1.2
Takeoff	0	0	32	11	43	1.6
Takeoff - ground run	1	0	137	17	155	5.7
Takeoff - initial climb	2	1	252	128	383	14.0
Climb	0	0	9	16	25	0.9
Climb - to cruise	0	1	21	26	48	1.8
Cruise	0	0	56	65	121	4.4
Cruise - normal	2	1	201	130	334	12.2
Cruise - holding(IFR)	0	0	0	2	2	0.1
Descent	0	0	4	8	12	0.4
Descent - normal	0	0	20	9	29	1.1
Descent - emergency	0	0	3	3	6	0.2
Descent - uncontrolled	0	0	1	4	5	0.2
Approach	0	0	37	12	49	1.8
Approach - VFR pattern - downwind	0	1	19	9	29	1.1
Approach - VFR pattern - base turn	0	0	5	5	10	0.4
Approach - VFR pattern - base to final	1	0	11	9	21	0.8
Approach - VFR pattern - final approach	1	2	88	29	120	4.4
Approach - go-around (VFR)	1	0	42	16	59	2.2
Approach - IAF to FAF/outer marker (IFR)	0	0	4	8	12	0.4
Approach - FAF/outer marker to threshold (IFR)	0	0	12	17	29	1.1
Approach - circling (IFR)	0	0	2	4	6	0.2
Approach - missed approach (IFR)	0	0	2	3	5	0.2
Landing	0	0	49	6	55	2.0
Landing - flare/touchdown	3	0	292	31	326	12.0
Landing - roll	1	3	337	14	355	13.0

Table 32 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE (CONTINUED)
ALL FIXED WING AIRCRAFT
1984

Phase of operation	Aircraft damage				Aircraft	
	None	Minor	Subs	Dest	No.	Percent
Maneuvering	0	3	77	120	200	7.3
Maneuvering - aerial application	1	0	66	43	110	4.0
Maneuvering - turn to reverse direction	1	0	7	13	21	0.8
Maneuvering - turn to landing area (emergency)	0	0	3	0	3	0.1
Hover	0	0	1	0	1	0.0
Other	0	1	6	1	8	0.3
Unknown	2	0	3	37	42	1.5
Not reported	0	0	0	1	1	0.0
Aircraft						
Number -	23	19	1883	803	2728	
Percent -	0.8	0.7	69.0	29.4		

Table 33 - AIRCRAFT BY CONDITION OF LIGHT AND TYPE OF WEATHER
ALL FIXED WING AIRCRAFT
1984

Condition of light	Type of weather			Aircraft	
	VMC	IMC	Not reptd	No.	Percent
Dawn	34	7	0	41	1.5
Daylight	2099	121	18	2238	82.0
Night (dark)	153	102	13	268	9.8
Night (bright)	41	6	1	48	1.8
Dusk	92	10	2	104	3.8
Not reported	15	1	13	29	1.1
Aircraft					
Number -	2434	247	47	2728	
Percent -	89.2	9.1	1.7		

Table 34 - AIRCRAFT BY PROXIMITY TO AIRPORT AND FLIGHT PLAN
ALL FIXED WING AIRCRAFT
1984

Proximity to Airport	Type of Flight Plan					Aircraft	
	VFR	IFR	VFR/IFR	None	NRept	No.	Percent
On Airport	101	74	3	855	7	1040	38.1
On Airstrip	12	3	0	150	1	166	6.1
Within 5 SM	21	56	0	226	2	305	11.2
5 SM Or Greater	15	26	0	97	0	138	5.1
Not reported	95	66	2	912	4	1079	39.6
Aircraft							
Number -	244	225	5	2240	14	2728	
Percent -	8.9	8.2	0.2	82.1	0.5		

Table 35 - MOST PREVALENT DETAILED ACCIDENT CAUSES
ALL FIXED WING AIRCRAFT
1984

Detailed Cause -----	Number of Aircraft -----	Percent of Aircraft -----
Directional control - Not maintained - Pilot in command	315	11.5
Undetermined	186	6.8
Judgement - Poor - Pilot in command	137	5.0
Preflight planning/preparation - Inadequate - Pilot in command	121	4.4
In-flight planning/decision - Improper - Pilot in command	111	4.1
Airspeed - Not maintained - Pilot in command	105	3.8
Fluid, fuel - Exhaustion	98	3.6
Flare - Improper - Pilot in command	90	3.3
Aircraft preflight - Inadequate - Pilot in command	87	3.2
Stall - Inadvertent - Pilot in command	86	3.2
Total Number of Aircraft:	2728	

Table 36 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
ALL FIXED WING AIRCRAFT
1975 - 1984

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

Accident Rate per 100,000 *
Aircraft Hours Flown

Year	Hours Flown	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

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

Table 37 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
ALL FIXED WING AIRCRAFT
1984 AND 1979 - 1983

Type of Occurrence	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Loss of power	691	25.3	804.4	25.7
Collision with object/terrain	485	17.8	714.4	22.8
Loss of control - in flight	329	12.1	389.0	12.4
Loss of control - on ground	313	11.5	364.6	11.7
Hard landing	174	6.4	182.2	5.8
Miscellaneous	134	4.9	151.2	4.8
Encounter with weather/turbulence	202	7.4	93.8	3.0
Airframe/component/system fail/malf	123	4.5	88.4	2.8
Undershoot	51	1.9	88.0	2.8
Nose over/down	43	1.6	80.6	2.6
Gear collapsed/retracted	60	2.2	71.6	2.3
Midair collision	44	1.6	40.4	1.3
(All other types)	79	2.9	59.6	1.9
Total	2728	100.0	3128.2	100.0

Table 38 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
ALL FIXED WING AIRCRAFT
1984 AND 1979 - 1983

Phase of Operation	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Landing	736	27.0	873.4	27.9
Takeoff	581	21.3	648.4	20.7
Cruise	457	16.8	478.6	15.3
Approach	340	12.5	407.8	13.0
Maneuvering	335	12.3	370.8	11.9
Descent	52	1.9	118.8	3.8
Taxi	80	2.9	93.4	3.0
Climb	73	2.7	77.8	2.5
Other	50	1.8	35.8	1.1
Standing	23	.8	22.4	.7
Not reported	1	.0	1.0	.0
Total	2728	100.0	3128.2	100.0

Table 39 - BROAD CAUSE/FACTOR ASSIGNMENTS IN ALL ACCIDENTS
ALL FIXED WING AIRCRAFT
1984 AND 1979 - 1983

Broad Cause/Factor	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Pilot	2369	86.8	2547.0	81.4
Weather	749	27.5	823.6	26.3
Terrain	697	25.5	787.2	25.2
Powerplant	573	21.0	561.8	18.0
Miscellaneous	652	23.9	459.2	14.7
Personnel	254	9.3	280.8	9.0
Airport/Airways/Facilities	158	5.8	220.8	7.1
Landing Gear	177	6.5	206.0	6.6
Undetermined	191	7.0	131.4	4.2
Airframe	98	3.6	76.2	2.4
Systems	57	2.1	52.8	1.7
Instruments/Equipment/Accessories	21	.8	18.8	.6
Rotorcraft	0	.0	.4	.0
Number of Aircraft	2728		3128.2	

Table 40 - SUMMARY OF LOSSES
FIXED WING AIRCRAFT - SINGLE RECIPROCATING ENGINE
1982 - 1984

	1984	1983	1982
	----	----	----
Accidents			

Fatal	405	419	455
Involved Serious Injury	251	234	254
Involved Minor Injury	358	359	346
Involved No Injury	1367	1427	1492
	----	----	----
Total	2381	2439	2547
 Fatalities			

Passenger	341	349	390
Crew	407	422	456
Other Persons	17	8	16
	----	----	----
Total	765	779	862
 Aircraft Damaged*			

Destroyed	680	656	748
Substantial	1695	1783	1800
Minor	13	9	13
None	20	12	8
Unknown	0	0	4
	----	----	----
Total	2408	2460	2573

* 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
 1984

Kind of Flying	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Personal	573	342	478	1835	3228
Business	82	26	20	132	260
Corporate/Executive	1	0	1	3	5
Aerial application	19	16	30	141	206
Instructional	34	18	51	351	454
Other	39	16	30	90	175
Total	748	418	610	2552	4328
Percent	17.3	9.7	14.1	59.0	

Table 42 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
FIXED WING AIRCRAFT - SINGLE RECIPROCATING ENGINE
1984

Type of first occurrence	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Abrupt maneuver	4	0	1	4	9	0.4
Altitude deviation, uncontrolled	4	3	1	1	9	0.4
Cargo shift	1	0	0	0	1	0.0
Airframe/component/system failure/malfunction	66	8	12	16	102	4.2
Ditching	0	1	0	0	1	0.0
Dragged wing, rotor, pod, or float	7	1	1	5	14	0.6
Fire/explosion	0	0	1	0	1	0.0
Fire	5	4	1	0	10	0.4
Forced landing	2	2	0	0	4	0.2
Gear collapsed	2	0	0	0	2	0.1
Main gear collapsed	11	0	0	0	11	0.5
Nose gear collapsed	7	2	0	0	9	0.4
Complete gear collapsed	9	0	0	0	9	0.4
Hard landing	136	17	2	2	157	6.5
In flight collision with object	59	35	30	43	167	6.9
In flight collision with terrain	66	17	17	40	140	5.8
In flight encounter with weather	26	12	21	106	165	6.9
Loss of control - in flight	101	42	53	109	305	12.7
Loss of control - on ground	265	23	8	4	300	12.5
Midair collision	12	2	0	24	38	1.6
Near collision between aircraft	0	0	1	0	1	0.0
Nose over	38	5	0	0	43	1.8
On ground collision with object	59	14	3	0	76	3.2
On ground collision with terrain	31	0	1	0	32	1.3
On ground encounter with weather	4	2	0	0	6	0.2
Overrun	73	14	4	1	92	3.8
Loss of power	53	32	26	7	118	4.9
Loss of power(total) - mech failure/malfunction	51	19	14	9	93	3.9
Loss of power(partial) - mech failure/malfunction	41	13	2	3	59	2.5
Loss of power(total) - non-mechanical	174	69	33	18	294	12.2
Loss of power(partial) - non-mechanical	25	12	6	3	46	1.9
Propeller blast or jet exhaust/suction	1	1	0	0	2	0.1
Propeller/rotor contact	0	1	6	1	8	0.3
Roll over	1	0	0	0	1	0.0
Undershoot	37	7	1	2	47	2.0
Undetermined	0	0	0	5	5	0.2
Vortex turbulence encountered	3	2	1	0	6	0.2

Table 42 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY (CONTINUED)
 FIXED WING AIRCRAFT - SINGLE RECIPROCATING ENGINE
 1984

Type of first occurrence	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Missing aircraft	0	0	0	11	11	0.5
Miscellaneous/other	5	2	5	1	13	0.5
Not reported	0	0	0	1	1	0.0
Aircraft						
Number -	1379	362	251	416	2408	
Percent -	57.3	15.0	10.4	17.3		

Table 43 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
FIXED WING AIRCRAFT - SINGLE RECIPROCATING ENGINE
1984

Phase of operation	Aircraft damage				Aircraft	
	None	Minor	Subs	Dest	No.	Percent
Standing	0	1	1	1	3	0.1
Standing - pre-flight	0	0	2	0	2	0.1
Standing - starting engine(s)	2	0	5	2	9	0.4
Standing - engine(s) operating	4	0	2	1	7	0.3
Taxi	0	1	8	1	10	0.4
Taxi - to takeoff	0	2	27	1	30	1.2
Taxi - from landing	1	1	26	0	28	1.2
Takeoff	0	0	28	7	35	1.5
Takeoff - ground run	1	0	125	13	139	5.8
Takeoff - initial climb	2	1	231	104	338	14.0
Climb	0	0	8	15	23	1.0
Climb - to cruise	0	0	17	21	38	1.6
Cruise	0	0	51	58	109	4.5
Cruise - normal	2	0	179	113	294	12.2
Descent	0	0	4	6	10	0.4
Descent - normal	0	0	18	8	26	1.1
Descent - emergency	0	0	3	3	6	0.2
Descent - uncontrolled	0	0	1	3	4	0.2
Approach	0	0	33	5	38	1.6
Approach - VFR pattern - downwind	0	0	17	8	25	1.0
Approach - VFR pattern - base turn	0	0	3	4	7	0.3
Approach - VFR pattern - base to final	1	0	11	9	21	0.9
Approach - VFR pattern - final approach	1	2	82	22	107	4.4
Approach - go-around (VFR)	1	0	42	16	59	2.5
Approach - IAF to FAF/outer marker (IFR)	0	0	2	8	10	0.4
Approach - FAF/outer marker to threshold (IFR)	0	0	5	6	11	0.5
Approach - circling(IFR)	0	0	1	3	4	0.2
Approach - missed approach (IFR)	0	0	1	2	3	0.1
Landing	0	0	40	6	46	1.9
Landing - flare/touchdown	1	0	263	26	290	12.0
Landing - roll	1	1	301	11	314	13.0
Maneuvering	0	3	73	109	185	7.7
Maneuvering - aerial application	1	0	65	42	108	4.5

Table 43 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE (CONTINUED)
 FIXED WING AIRCRAFT - SINGLE RECIPROCATING ENGINE
 1984

Phase of operation	Aircraft damage				Aircraft	
	None	Minor	Subs	Dest	No.	Percent
Maneuvering - turn to reverse direction	1	0	7	12	20	0.8
Maneuvering - turn to landing area (emergency)	0	0	3	0	3	0.1
Hover	0	0	1	0	1	0.0
Other	0	1	6	1	8	0.3
Unknown	1	0	3	32	36	1.5
Not reported	0	0	0	1	1	0.0
Aircraft						
Number -	20	13	1695	680	2408	
Percent -	0.8	0.5	70.4	28.2		

Table 44 - MOST PREVALENT DETAILED ACCIDENT CAUSES
FIXED WING AIRCRAFT - SINGLE RECIPROCATING ENGINE
1984

Detailed Cause -----	Number of Aircraft -----	Percent of Aircraft -----
Directional control - Not maintained - Pilot in command	297	12.3
Undetermined	155	6.4
Judgement - Poor - Pilot in command	126	5.2
Preflight planning/preparation - Inadequate - Pilot in command	108	4.5
Airspeed - Not maintained - Pilot in command	98	4.1
In-flight planning/decision - Improper - Pilot in command	91	3.8
Flare - Improper - Pilot in command	85	3.5
Fluid, fuel - Exhaustion	85	3.5
Stall - Inadvertent - Pilot in command	83	3.4
Recovery from bounced landing - Improper - Pilot in command	82	3.4
Total Number of Aircraft:	2408	

Table 45 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
FIXED WING AIRCRAFT - SINGLE RECIPROCATING ENGINE
1975 - 1984

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	2821	497	919	907
1982	2547	455	862	846
1983	2439	419	779	771
1984	2381	405	765	748

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	10.71	1.89
1982	23,165,000	10.99	1.96
1983	22,152,000	11.01	1.89
1984	22,710,000	10.47	1.77

* 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 (3)

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

Table 46 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
FIXED WING AIRCRAFT - SINGLE RECIPROCATING ENGINE
1984 AND 1979 - 1983

Type of Occurrence	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Loss of power	610	25.3	718.8	25.9
Collision with object/terrain	415	17.2	625.2	22.6
Loss of control - in flight	305	12.7	350.2	12.6
Loss of control - on ground	300	12.5	340.4	12.3
Hard landing	157	6.5	166.6	6.0
Miscellaneous	111	4.6	137.6	5.0
Encounter with weather/turbulence	177	7.4	82.0	3.0
Nose over/down	43	1.8	79.4	2.9
Undershoot	47	2.0	78.8	2.8
Airframe/component/system fail/malf	102	4.2	73.0	2.6
Gear collapsed/retracted	31	1.3	41.8	1.5
Midair collision	38	1.6	32.8	1.2
(All other types)	72	3.0	43.4	1.6
Total	2408	100.0	2770.0	100.0

Table 47 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
FIXED WING AIRCRAFT - SINGLE RECIPROCATING ENGINE
1984 AND 1979 - 1983

Phase of Operation	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Landing	650	27.0	769.2	27.8
Takeoff	512	21.3	582.0	21.0
Cruise	403	16.7	431.2	15.6
Maneuvering	317	13.2	353.2	12.8
Approach	285	11.8	344.0	12.4
Descent	46	1.9	98.2	3.5
Taxi	68	2.8	82.8	3.0
Climb	61	2.5	63.0	2.3
Other	44	1.8	27.4	1.0
Standing	21	.9	18.2	.7
Not reported	1	.0	.8	.0
Total	2408	100.0	2770.0	100.0

Table 48 - SUMMARY OF LOSSES
FIXED WING AIRCRAFT - MULTIPLE RECIPROCATING ENGINES
1982 - 1984

	1984	1983	1982
	----	----	----
Accidents			

Fatal	74	74	78
Involved Serious Injury	28	22	19
Involved Minor Injury	22	22	20
Involved No Injury	133	125	180
	----	----	----
Total	257	243	297
 Fatalities			

Passenger	86	108	114
Crew	78	80	94
Other Persons	2	5	4
	----	----	----
Total	166	193	212
 Aircraft Damaged*			

Destroyed	102	104	112
Substantial	148	139	181
Minor	5	2	1
None	3	0	2
Unknown	0	0	2
	----	----	----
Total	258	245	298

* 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
1984

Kind of Flying	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Personal	92	31	37	174	334
Business	47	5	9	105	166
Corporate/Executive	4	4	11	21	40
Aerial application	0	0	0	1	1
Instructional	1	4	5	21	31
Other	20	8	5	26	59
Total	164	52	67	348	631
Percent	26.0	8.2	10.6	55.2	

Table 50 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
FIXED WING AIRCRAFT - MULTIPLE RECIPROCATING ENGINES
1984

Type of first occurrence	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Abrupt maneuver	1	0	0	0	1	0.4
Airframe/component/system failure/malfunction	10	2	1	4	17	6.6
Ditching	1	0	0	0	1	0.4
Fire	2	0	0	0	2	0.8
Gear collapsed	5	1	0	0	6	2.3
Main gear collapsed	11	0	0	0	11	4.3
Nose gear collapsed	2	0	0	0	2	0.8
Complete gear collapsed	5	0	0	0	5	1.9
Other gear collapsed	1	0	0	0	1	0.4
Hard landing	12	0	1	1	14	5.4
Hazardous materials leak/spill (fumes/smoke)	1	0	0	0	1	0.4
In flight collision with object	9	1	1	12	23	8.9
In flight collision with terrain	5	0	2	16	23	8.9
In flight encounter with weather	4	1	3	14	22	8.5
Loss of control - in flight	9	1	0	7	17	6.6
Loss of control - on ground	6	0	0	0	6	2.3
Midair collision	2	0	0	0	2	0.8
On ground collision with object	4	2	0	1	7	2.7
On ground collision with terrain	4	0	0	0	4	1.6
Overrun	11	0	4	0	15	5.8
Loss of power	9	4	2	4	19	7.4
Loss of power(total) - mech failure/malfunction	0	1	0	2	3	1.2
Loss of power(partial) - mech failure/malfunction	3	0	1	1	5	1.9
Loss of power(total) - non-mechanical	8	8	9	6	31	12.0
Loss of power(partial) - non-mechanical	6	1	4	5	16	6.2
Undershoot	3	0	0	0	3	1.2
Missing aircraft	0	0	0	1	1	0.4
Aircraft						
Number -	134	22	28	74	258	
Percent -	51.9	8.5	10.9	28.7		

Table 51 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
FIXED WING AIRCRAFT - MULTIPLE RECIPROCATING ENGINES
1984

Phase of operation	Aircraft damage				Aircraft	
	None	Minor	Subs	Dest	No.	Percent
Standing - starting engine(s)	0	0	2	0	2	0.8
Taxi	0	0	1	0	1	0.4
Taxi - to takeoff	0	1	6	0	7	2.7
Taxi - from landing	0	0	3	0	3	1.2
Takeoff	0	0	3	3	6	2.3
Takeoff - ground run	0	0	9	3	12	4.7
Takeoff - initial climb	0	0	19	20	39	15.1
Climb	0	0	0	1	1	0.4
Climb - to cruise	0	1	1	5	7	2.7
Cruise	0	0	5	5	10	3.9
Cruise - normal	0	0	16	17	33	12.8
Cruise - holding(IFR)	0	0	0	2	2	0.8
Descent	0	0	0	1	1	0.4
Descent - normal	0	0	2	1	3	1.2
Descent - uncontrolled	0	0	0	1	1	0.4
Approach	0	0	4	7	11	4.3
Approach - VFR pattern - downwind	0	1	2	1	4	1.6
Approach - VFR pattern - base turn	0	0	2	1	3	1.2
Approach - VFR pattern - final approach	0	0	5	5	10	3.9
Approach - IAF to FAF/outer marker (IFR)	0	0	2	0	2	0.8
Approach - FAF/outer marker to threshold (IFR)	0	0	7	8	15	5.8
Approach - circling(IFR)	0	0	1	1	2	0.8
Approach - missed approach (IFR)	0	0	1	1	2	0.8
Landing	0	0	6	0	6	2.3
Landing - flare/touchdown	2	0	21	4	27	10.5
Landing - roll	0	2	27	2	31	12.0
Maneuvering	0	0	3	8	11	4.3
Unknown	1	0	0	5	6	2.3
Aircraft						
Number -	3	5	148	102	258	
Percent -	1.2	1.9	57.4	39.5		

Table 52 - MOST PREVALENT DETAILED ACCIDENT CAUSES
FIXED WING AIRCRAFT - MULTIPLE RECIPROCATING ENGINES
1984

Detailed Cause -----	Number of Aircraft -----	Percent of Aircraft -----
Undetermined	27	10.5
In-flight planning/decision - Improper - Pilot in command	19	7.4
Directional control - Not maintained - Pilot in command	12	4.6
Fluid,fuel - Exhaustion	12	4.6
Fluid,fuel - Starvation	12	4.6
IFR procedure - Improper - Pilot in command	12	4.6
Aircraft preflight - Inadequate - Pilot in command	11	4.3
Proper altitude - Not maintained - Pilot in command	10	3.9
Preflight planning/preparation - Inadequate - Pilot in command	10	3.9
Fuel supply - Inadequate - Pilot in command	10	3.9
Total Number of Aircraft:	258	

Table 53 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
FIXED WING AIRCRAFT - MULTIPLE RECIPROCATING ENGINE
1975 - 1984

Year	Accidents	Fatal Accidents	Total	Fatalities
				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

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

* Suicide and sabotage accidents excluded from rates as follows :
Total - 1976 (2), 1982 (1)
Fatal - None

Table 54 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
FIXED WING AIRCRAFT - MULTIPLE RECIPROCATING ENGINES
1984 AND 1979 - 1983

Type of Occurrence	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Loss of power	74	28.7	78.6	25.8
Collision with object/terrain	57	22.1	75.8	24.9
Loss of control - in flight	17	6.6	31.6	10.4
Gear collapsed/retracted	25	9.7	27.2	8.9
Loss of control - on ground	6	2.3	17.8	5.8
Hard landing	14	5.4	12.4	4.1
Airframe/component/system fail/malf	17	6.6	11.6	3.8
Miscellaneous	16	6.2	10.8	3.5
Encounter with weather/turbulence	22	8.5	10.0	3.3
Undershoot	3	1.2	7.6	2.5
Fire/explosion	2	.8	7.4	2.4
Midair collision	2	.8	6.0	2.0
(All other types)	3	1.2	8.2	2.7
Total	258	100.0	305.0	100.0

Table 55 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
FIXED WING AIRCRAFT - MULTIPLE RECIPROCATING ENGINES
1984 AND 1979 - 1983

Phase of Operation	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Landing	64	24.8	87.0	28.5
Takeoff	57	22.1	58.4	19.1
Approach	49	19.0	55.4	18.2
Cruise	45	17.4	41.8	13.7
Descent	5	1.9	16.8	5.5
Climb	8	3.1	13.2	4.3
Maneuvering	11	4.3	11.8	3.9
Taxi	11	4.3	9.6	3.1
Other	6	2.3	8.0	2.6
Standing	2	.8	2.8	.9
Not reported	0	.0	.2	.1
Total	258	100.0	305.0	100.0

Table 56 - SUMMARY OF LOSSES
FIXED WING AIRCRAFT - TURBOPROP
1982 - 1984

	1984	1983	1982
	----	----	----
Accidents			

Fatal	12	10	9
Involved Serious Injury	3	1	2
Involved Minor Injury	5	3	4
Involved No Injury	26	19	23
	----	----	----
Total	46	33	38
 Fatalities			

Passenger	9	8	22
Crew	14	11	11
Other Persons	0	1	4
	----	----	----
Total	23	20	37
 Aircraft Damaged*			

Destroyed	15	10	12
Substantial	33	21	26
None	0	2	0
	----	----	----
Total	48	33	38

* Number of Turboprop General Aviation Airplanes

Table 57 - PERSONS ABOARD BY KIND OF FLYING AND DEGREE OF INJURY
FIXED WING AIRCRAFT - TURBOPROP
1984

Kind of Flying	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Personal	8	3	7	18	36
Business	8	3	3	44	58
Corporate/Executive	0	0	1	6	7
Aerial application	1	0	0	4	5
Instructional	0	0	0	5	5
Other	6	1	2	8	17
Total	23	7	13	85	128
Percent	18.0	5.5	10.2	66.4	

Table 58 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
FIXED WING AIRCRAFT - TURBOPROP
1984

Type of first occurrence	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Abrupt maneuver	1	0	0	0	1	2.1
Airframe/component/system failure/malfunction	2	0	1	0	3	6.3
Main gear collapsed	1	0	0	0	1	2.1
Nose gear collapsed	1	0	0	0	1	2.1
Complete gear collapsed	2	0	0	0	2	4.2
Hard landing	1	0	0	0	1	2.1
In flight collision with object	1	0	0	3	4	8.3
In flight collision with terrain	0	1	0	3	4	8.3
In flight encounter with weather	0	0	0	2	2	4.2
Loss of control - in flight	0	1	0	4	5	10.4
Loss of control - on ground	5	0	0	0	5	10.4
Midair collision	4	0	0	0	4	8.3
On ground collision with object	1	0	0	0	1	2.1
Overrun	5	0	0	0	5	10.4
Loss of power(total) - mech failure/malfunction	0	1	1	0	2	4.2
Loss of power(partial) - mech failure/malfunction	1	0	0	0	1	2.1
Loss of power(total) - non-mechanical	3	0	0	0	3	6.3
Loss of power(partial) - non-mechanical	0	1	0	0	1	2.1
Propeller/rotor contact	0	0	1	0	1	2.1
Undershoot	0	1	0	0	1	2.1
Aircraft						
Number -	28	5	3	12	48	
Percent -	58.3	10.4	6.3	25.0		

Table 59 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
FIXED WING AIRCRAFT - TURBOPROP
1984

Phase of operation	Aircraft damage		Aircraft	
	Subs	Dest	No.	Percent
Takeoff	1	1	2	4.2
Takeoff - ground run	3	0	3	6.3
Takeoff - initial climb	2	2	4	8.3
Climb	1	0	1	2.1
Climb - to cruise	2	0	2	4.2
Cruise	0	2	2	4.2
Cruise - normal	6	0	6	12.5
Descent	0	1	1	2.1
Approach - VFR pattern - final approach	1	1	2	4.2
Approach - FAF/outer marker to threshold (IFR)	0	3	3	6.3
Landing	3	0	3	6.3
Landing - flare/touchdown	5	0	5	10.4
Landing - roll	7	0	7	14.6
Maneuvering	1	3	4	8.3
Maneuvering - aerial application	1	1	2	4.2
Maneuvering - turn to reverse direction	0	1	1	2.1
Aircraft				
Number -	33	15	48	
Percent -	68.8	31.3		

Table 60 - MOST PREVALENT DETAILED ACCIDENT CAUSES
FIXED WING AIRCRAFT - TURBOPROP
1984

Detailed Cause -----	Number of Aircraft -----	Percent of Aircraft -----
Directional control - Not maintained - Pilot in command	4	8.3
Visual lookout - Inadequate - Pilot of other aircraft	4	8.3
Visual lookout - Inadequate - Pilot in command	4	8.3
Preflight planning/preparation - Inadequate - Pilot in command	3	6.3
Proper glidepath - Not maintained - Pilot in command	3	6.3
Ground loop/swerve - Not corrected - Pilot in command	2	4.2
Stall/spin - Inadvertent - Pilot in command	2	4.2
Proper climb rate - Not possible - Pilot in command	2	4.2
Proper altitude - Not maintained - Pilot in command	2	4.2
Maintenance, inspection of aircraft - Inadequate - Other maintenance psnl	2	4.2
Judgement - Poor - Pilot in command	2	4.2
Undetermined	2	4.2
Terrain condition - Rough/uneven	2	4.2
Fluid, fuel - Contamination	2	4.2
Total Number of Aircraft:	48	

Table 61 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
FIXED WING AIRCRAFT - TURBOPROP
1975 - 1984

Year	Accidents	Fatal Accidents	Total	Fatalities
				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

Accident Rate per 100,000
Aircraft Hours Flown

Year	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

Table 62 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
FIXED WING AIRCRAFT - TURBOPROP
1984 AND 1979 - 1983

Type of Occurrence	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Collision with object/terrain	9	18.8	10.6	26.1
Loss of power	7	14.6	6.6	16.3
Loss of control - on ground	5	10.4	5.2	12.8
Loss of control - in flight	5	10.4	4.6	11.3
Airframe/component/system fail/malf	3	6.3	3.0	7.4
Gear collapsed/retracted	4	8.3	2.6	6.4
Hard landing	1	2.1	2.4	5.9
Encounter with weather/turbulence	2	4.2	1.2	3.0
Miscellaneous	5	10.4	1.2	3.0
Midair collision	4	8.3	1.0	2.5
Prop/rotor contact	1	2.1	1.0	2.5
Undershoot	1	2.1	.8	2.0
(All other types)	1	2.1	.4	1.0
Total	48	100.0	40.6	100.0

Table 63 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
FIXED WING AIRCRAFT - TURBOPROP
1984 AND 1979 - 1983

Phase of Operation	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Landing	15	31.3	13.4	33.0
Takeoff	9	18.8	6.0	14.8
Approach	5	10.4	5.2	12.8
Cruise	8	16.7	4.8	11.8
Maneuvering	7	14.6	4.6	11.3
Descent	1	2.1	3.0	7.4
Standing	0	.0	1.2	3.0
Climb	3	6.3	1.2	3.0
Taxi	0	.0	.8	2.0
Other	0	.0	.4	1.0
Total	48	100.0	40.6	100.0

Table 64 - SUMMARY OF LOSSES
FIXED WING AIRCRAFT - TURBOJET
1982 - 1984

	1984	1983	1982
	----	----	----
Accidents			

Fatal	5	4	2
Involved Serious Injury	1	2	1
Involved Minor Injury	0	2	0
Involved No Injury	8	6	7
	----	----	----
Total	14	14	10
 Fatalities			

Passenger	7	2	4
Crew	8	4	3
Other Persons	0	9	0
	----	----	----
Total	15	15	7
 Aircraft Damaged*			

Destroyed	6	6	2
Substantial	7	9	7
Minor	1	0	1
None	0	0	1
	----	----	----
Total	14	15	11

* Number of Turbojet General Aviation Airplanes

Table 65 - PERSONS ABOARD BY KIND OF FLYING AND DEGREE OF INJURY
FIXED WING AIRCRAFT - TURBOJET
1984

Kind of Flying	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Personal	0	0	0	1	1
Business	11	1	1	7	20
Corporate/Executive	0	0	0	5	5
Instructional	0	0	0	3	3
Other	4	3	0	16	23
Total	15	4	1	32	52
Percent	28.8	7.7	1.9	61.5	

Table 66 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
FIXED WING AIRCRAFT - TURBOJET
1984

Type of first occurrence	Degree of injury			Aircraft	
	None	Ser	Fatal	No.	Percent
Airframe/component/system failure/malfunction	1	0	0	1	7.1
Hard landing	2	0	0	2	14.3
In flight collision with object	1	0	0	1	7.1
In flight collision with terrain	1	0	1	2	14.3
Loss of control - in flight	0	0	2	2	14.3
Loss of control - on ground	2	0	0	2	14.3
On ground collision with object	0	0	1	1	7.1
Overrun	1	0	1	2	14.3
Vortex turbulence encountered	0	1	0	1	7.1
Aircraft					
Number -	8	1	5	14	
Percent -	57.1	7.1	35.7		

Table 67 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
FIXED WING AIRCRAFT - TURBOJET
1984

Phase of operation	Aircraft damage			Aircraft	
	Minor	Subs	Dest	No.	Percent
Taxi - from landing	0	1	0	1	7.1
Takeoff - ground run	0	0	1	1	7.1
Takeoff - initial climb	0	0	2	2	14.3
Climb - to cruise	0	1	0	1	7.1
Cruise - normal	1	0	0	1	7.1
Approach - VFR pattern - final approach	0	0	1	1	7.1
Landing - flare/touchdown	0	3	1	4	28.6
Landing - roll	0	2	1	3	21.4
Aircraft					
Number -	1	7	6	14	
Percent -	7.1	50.0	42.9		

Table 68 - MOST PREVALENT DETAILED ACCIDENT CAUSES
FIXED WING AIRCRAFT - TURBOJET
1984

Detailed Cause -----	Number of Aircraft -----	Percent of Aircraft -----
Undetermined	2	14.3
Directional control - Not maintained - Pilot in command	2	14.3
Flight and navigation instruments - Improper use of - Pilot in command	1	7.1
Wrong runway - Selected - Pilot in command	1	7.1
Unsuitable terrain - Selected - Pilot in command	1	7.1
Procedures/directives - Not followed - Pilot in command	1	7.1
Airspeed - Not maintained - Pilot in command	1	7.1
Altitude - Not attained - Pilot in command	1	7.1
Proper altitude - Not maintained - Pilot in command	1	7.1
Proper descent rate - Not maintained - Pilot in command	1	7.1
Proper glidepath - Not attained - Pilot in command	1	7.1
Flare - Misjudged - Pilot in command	1	7.1
Gear extension - Not performed - Pilot in command	1	7.1
Emergency procedure - Delayed - Pilot in command	1	7.1
Rotation - Excessive - Pilot in command	1	7.1
Wheels up landing - Inadvertent - Pilot in command	1	7.1
Visual separation - Inadequate - Pilot in command	1	7.1
Supervision - Inadequate - Pilot in command	1	7.1
Supervision - Inadequate - Check pilot	1	7.1
Landing gear, anti-skid brake system - Failure, total	1	7.1
Inattentive - Pilot in command	1	7.1
Total Number of Aircraft:	14	

Table 69 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
FIXED WING AIRCRAFT - TURBOJET
1975 - 1984

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

Accident Rate per 100,000
Aircraft Hours Flown

Year	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

Table 70 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
FIXED WING AIRCRAFT - TURBOJET
1984 AND 1979 - 1983

Type of Occurrence	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Collision with object/terrain	4	28.6	2.6	22.4
Loss of control - in flight	2	14.3	2.2	19.0
Miscellaneous	2	14.3	1.6	13.8
Loss of control - on ground	2	14.3	1.0	8.6
Airframe/component/system fail/malf	1	7.1	.8	6.9
Hard landing	2	14.3	.8	6.9
Undershoot	0	.0	.8	6.9
Encounter with weather/turbulence	1	7.1	.6	5.2
Midair collision	0	.0	.6	5.2
Dragged wing, rotor, pod, float	0	.0	.2	1.7
Fire/explosion	0	.0	.2	1.7
Loss of power	0	.0	.2	1.7
Total	14	100.0	11.6	100.0

Table 71 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
FIXED WING AIRCRAFT - TURBOJET
1984 AND 1979 - 1983

Phase of Operation	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Landing	7	50.0	3.6	31.0
Approach	1	7.1	2.8	24.1
Takeoff	3	21.4	1.8	15.5
Maneuvering	0	.0	1.0	8.6
Cruise	1	7.1	.8	6.9
Descent	0	.0	.8	6.9
Climb	1	7.1	.4	3.4
Standing	0	.0	.2	1.7
Taxi	1	7.1	.2	1.7
Total	14	100.0	11.6	100.0

Table 72 - SUMMARY OF LOSSES
ALL ROTORCRAFT
1982 - 1984

	1984	1983	1982
	----	----	----
Accidents			

Fatal	38	37	41
Involved Serious Injury	30	30	32
Involved Minor Injury	47	33	42
Involved No Injury	109	138	140
	----	----	----
Total	224	238	255
 Fatalities			

Passenger	25	16	16
Crew	34	40	46
Other Persons	2	2	4
	----	----	----
Total	61	58	66
 Aircraft Damaged*			

Destroyed	70	69	78
Substantial	150	167	175
Minor	1	0	2
None	3	2	1
	----	----	----
Total	224	238	256

* Number of General Aviation Rotorcraft

Table 73 - PERSONS BY ROLE AND DEGREE OF INJURY
ALL ROTORCRAFT
1984

Role of Person	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Pilot	29	30	45	120	224
Copilot	2	1	5	0	8
Dual student	1	1	2	9	13
Other crew	2	1	1	5	9
Passenger	25	14	32	60	131
Total aboard	59	47	85	194	385
Other aircraft*	1	2	0	2	5
Other ground	1	2	1	1	5
Grand total	61	51	86	197	395
Percent	15.4	12.9	21.8	49.9	

* 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 74 - PERSONS ABOARD BY KIND OF FLYING AND DEGREE OF INJURY
ALL ROTORCRAFT
1984

Kind of Flying	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Personal	26	14	6	52	98
Business	7	14	29	22	72
Corporate/Executive	3	2	6	7	18
Aerial application	0	6	13	25	44
Instructional	2	3	10	26	41
Other	21	8	21	52	112
Total	59	47	85	194	385
Percent	15.3	12.2	22.1	50.4	

Table 75 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
ALL ROTORCRAFT
1984

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	0	1	0.4
Airframe/component/system failure/malfunction	9	7	2	7	25	11.2
Fire	0	0	1	0	1	0.4
Forced landing	1	0	0	0	1	0.4
Hard landing	6	3	0	0	9	4.0
In flight collision with object	11	7	6	7	31	13.8
In flight collision with terrain	8	6	3	4	21	9.4
In flight encounter with weather	6	2	1	3	12	5.4
Loss of control - in flight	17	10	5	6	38	17.0
Loss of control - on ground	2	1	1	0	4	1.8
On ground collision with object	0	0	0	1	1	0.4
On ground collision with terrain	1	1	0	0	2	0.9
Loss of power	7	1	1	2	11	4.9
Loss of power(total) - mech failure/malfunction	6	2	1	3	12	5.4
Loss of power(partial) - mech failure/malfunction	2	2	2	0	6	2.7
Loss of power(total) - non-mechanical	16	3	4	2	25	11.2
Loss of power(partial) - non-mechanical	4	0	0	0	4	1.8
Propeller/rotor contact	0	0	2	1	3	1.3
Roll over	7	1	1	0	9	4.0
Undetermined	1	0	0	0	1	0.4
Vortex turbulence encountered	0	1	0	0	1	0.4
Miscellaneous/other	3	0	0	2	5	2.2
Aircraft						
Number -	109	47	30	38	224	
Percent -	48.7	21.0	13.4	17.0		

Table 76 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
ALL ROTORCRAFT
1984

Phase of operation	Aircraft damage				Aircraft	
	None	Minor	Subs	Dest	No.	Percent
Standing - starting engine(s)	0	0	1	0	1	0.4
Standing - engine(s) operating	0	1	1	0	2	0.9
Standing - idling rotors	0	0	2	0	2	0.9
Taxi - to takeoff	0	0	0	1	1	0.4
Taxi - aerial	0	0	4	0	4	1.8
Takeoff	0	0	8	1	9	4.0
Takeoff - ground run	0	0	1	0	1	0.4
Takeoff - initial climb	0	0	16	5	21	9.4
Climb	0	0	2	2	4	1.8
Climb - to cruise	0	0	1	0	1	0.4
Cruise	0	0	8	4	12	5.4
Cruise - normal	1	0	21	10	32	14.3
Descent	0	0	1	1	2	0.9
Descent - normal	0	0	0	1	1	0.4
Descent - uncontrolled	0	0	0	1	1	0.4
Approach	0	0	3	2	5	2.2
Approach - VFR pattern - downwind	0	0	0	1	1	0.4
Approach - VFR pattern - base to final	0	0	1	0	1	0.4
Approach - VFR pattern - final approach	0	0	3	7	10	4.5
Landing	0	0	5	0	5	2.2
Landing - flare/touchdown	0	0	16	6	22	9.8
Landing - roll	0	0	1	0	1	0.4
Maneuvering	1	0	11	15	27	12.1
Maneuvering - aerial application	0	0	21	8	29	12.9
Maneuvering - turn to reverse direction	0	0	2	0	2	0.9
Maneuvering - turn to landing area (emergency)	0	0	0	1	1	0.4
Hover	1	0	21	4	26	11.6
Aircraft						
Number -	3	1	150	70	224	
Percent -	1.3	0.4	67.0	31.3		

Table 77 - AIRCRAFT BY CONDITION OF LIGHT AND TYPE OF WEATHER
ALL ROTORCRAFT
1984

Condition of light	Type of weather			Aircraft	
	VMC	IMC	Not reptd	No.	Percent
Dawn	6	0	0	6	2.7
Daylight	187	9	1	197	87.9
Night (dark)	5	2	1	8	3.6
Night (bright)	4	0	0	4	1.8
Dusk	7	2	0	9	4.0
Aircraft					
Number -	209	13	2	224	
Percent -	93.3	5.8	0.9		

Table 78 - AIRCRAFT BY PROXIMITY TO AIRPORT AND FLIGHT PLAN
ALL ROTORCRAFT
1984

Proximity to Airport	Type of Flight Plan			Aircraft	
	VFR	IFR	None	No.	Percent
On Airport	1	0	35	36	16.1
On Airstrip	0	0	4	4	1.8
Within 5 SM	0	0	10	10	4.5
5 SM Or Greater	2	0	11	13	5.8
Not reported	11	1	149	161	71.9
Aircraft					
Number -	14	1	209	224	
Percent -	6.3	0.4	93.3		

Table 79 - MOST PREVALENT DETAILED ACCIDENT CAUSES
ALL ROTORCRAFT
1984

Detailed Cause -----	Number of Aircraft -----	Percent of Aircraft -----
Undetermined	17	7.6
Clearance - Not maintained - Pilot in command	14	6.3
Fluid, fuel - Exhaustion	12	5.4
Rotor rpm - Not maintained - Pilot in command	12	5.4
Clearance - Misjudged - Pilot in command	11	4.9
Proper altitude - Not maintained - Pilot in command	10	4.5
Directional control - Not maintained - Pilot in command	10	4.5
In-flight planning/decision - Improper - Pilot in command	9	4.0
Visual lookout - Inadequate - Pilot in command	8	3.6
Unsuitable terrain - Selected - Pilot in command	8	3.6
Planning-decision - Improper - Pilot in command	8	3.6
Airplane handling - Not maintained - Pilot in command	8	3.6
Total Number of Aircraft:	224	

Table 80 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
ALL ROTORCRAFT
1975 - 1984

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	260	40	60	57
1981	256	30	55	52
1982	255	41	66	62
1983	238	37	58	56
1984	224	38	61	59

Year	Hours Flown	Accident Rate per 100,000 *	
		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	13.75	2.12
1981	2,303,000	11.12	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

* 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
1984 AND 1979 - 1983

Type of Occurrence	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Loss of power	58	25.9	79.8	31.3
Collision with object/terrain	55	24.6	61.6	24.2
Airframe/component/system fail/malf	25	11.2	39.4	15.5
Loss of control - in flight	38	17.0	23.8	9.3
Hard landing	9	4.0	20.4	8.0
Roll over	9	4.0	13.2	5.2
Encounter with weather/turbulence	13	5.8	4.0	1.6
Miscellaneous	6	2.7	4.0	1.6
(All other types)	11	4.9	8.8	3.5
Total	224	100.0	255.0	100.0

Table 82 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
ALL ROTORCRAFT
1984 AND 1979 - 1983

Phase of Operation	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Maneuvering	85	37.9	77.2	30.3
Cruise	44	19.6	57.8	22.7
Takeoff	31	13.8	43.6	17.1
Landing	28	12.5	40.2	15.8
Approach	17	7.6	13.0	5.1
Taxi	5	2.2	7.4	2.9
Descent	4	1.8	6.6	2.6
Standing	5	2.2	3.6	1.4
Climb	5	2.2	3.4	1.3
Other	0	.0	2.2	.9
Total	224	100.0	255.0	100.0

Table 83 - BROAD CAUSE/FACTOR ASSIGNMENTS IN ALL ACCIDENTS
ALL ROTORCRAFT
1984 AND 1979 - 1983

Broad Cause/Factor -----	1984 -----		1979 - 1983 -----	
	No.	Percent	Mean	Percent
Pilot	181	80.8	168.0	65.9
Terrain	45	20.1	60.8	23.8
Powerplant	49	21.9	59.2	23.2
Rotorcraft	26	11.6	40.2	15.8
Weather	32	14.3	40.2	15.8
Miscellaneous	47	21.0	35.6	14.0
Personnel	34	15.2	29.8	11.7
Undetermined	17	7.6	20.8	8.2
Systems	1	.4	4.2	1.6
Landing Gear	6	2.7	2.8	1.1
Airframe	5	2.2	2.2	.9
Instruments/Equipment/Accessories	4	1.8	2.0	.8
Airport/Airways/Facilities	1	.4	1.4	.5
Number of Aircraft	224		255.0	

Table 84 - SUMMARY OF LOSSES
 ROTORCRAFT - RECIPROCATING ENGINE(S)
 1982 - 1984

	1984	1983	1982
	----	----	----
Accidents			

Fatal	22	20	20
Involved Serious Injury	17	16	14
Involved Minor Injury	25	21	27
Involved No Injury	64	86	96
	----	----	----
Total	128	143	157
 Fatalities			

Passenger	8	2	3
Crew	20	23	21
Other Persons	1	0	0
	----	----	----
Total	29	25	24
 Aircraft Damaged*			

Destroyed	44	37	40
Substantial	81	106	117
Minor	1	0	0
None	2	0	0
	----	----	----
Total	128	143	157

* Number of Reciprocating Engine, General Aviation Rotorcraft

Table 85 - PERSONS ABOARD BY KIND OF FLYING AND DEGREE OF INJURY
 ROTORCRAFT - RECIPROCATING ENGINE(S)
 1984

Kind of Flying	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Personal	17	10	5	33	65
Business	1	2	12	9	24
Aerial application	0	2	8	20	30
Instructional	2	3	8	23	36
Other	8	5	7	21	41
Total	28	22	40	106	196
Percent	14.3	11.2	20.4	54.1	

Table 86 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
 ROTORCRAFT -. RECIPROCATING ENGINE(S)
 1984

Type of first occurrence	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Abrupt maneuver	1	0	0	0	1	0.8
Altitude deviation,uncontrolled	1	0	0	0	1	0.8
Airframe/component/system failure/malfunction	4	4	1	4	13	10.2
Fire	0	0	1	0	1	0.8
Forced landing	1	0	0	0	1	0.8
Hard landing	3	2	0	0	5	3.9
In flight collision with object	7	6	2	2	17	13.3
In flight collision with terrain	5	3	1	4	13	10.2
In flight encounter with weather	2	1	1	1	5	3.9
Loss of control - in flight	13	3	4	5	25	19.5
Loss of control - on ground	1	1	0	0	2	1.6
On ground collision with terrain	1	0	0	0	1	0.8
Loss of power	3	1	1	0	5	3.9
Loss of power(total) - mech failure/malfunction	3	1	0	2	6	4.7
Loss of power(partial) - mech failure/malfunction	0	1	0	0	1	0.8
Loss of power(total) - non-mechanical	10	2	3	1	16	12.5
Loss of power(partial) - non-mechanical	3	0	0	0	3	2.3
Propeller/rotor contact	0	0	2	1	3	2.3
Roll over	4	0	1	0	5	3.9
Miscellaneous/other	2	0	0	2	4	3.1
Aircraft						
Number -	64	25	17	22	128	
Percent -	50.0	19.5	13.3	17.2		

Table 87 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
 ROTORCRAFT - RECIPROCATING ENGINE(S)
 1984

Phase of operation	Aircraft damage				Aircraft	
	None	Minor	Subs	Dest	No.	Percent
Standing - engine(s) operating	0	1	0	0	1	0.8
Standing - idling rotors	0	0	1	0	1	0.8
Taxi - aerial	0	0	4	0	4	3.1
Takeoff	0	0	4	0	4	3.1
Takeoff - ground run	0	0	1	0	1	0.8
Takeoff - initial climb	0	0	10	4	14	10.9
Climb	0	0	1	0	1	0.8
Cruise	0	0	2	3	5	3.9
Cruise - normal	1	0	9	4	14	10.9
Descent	0	0	1	1	2	1.6
Descent - normal	0	0	0	1	1	0.8
Descent - uncontrolled	0	0	0	1	1	0.8
Approach	0	0	1	2	3	2.3
Approach - VFR pattern - downwind	0	0	0	1	1	0.8
Approach - VFR pattern - base to final	0	0	1	0	1	0.8
Approach - VFR pattern - final approach	0	0	2	6	8	6.3
Landing	0	0	4	0	4	3.1
Landing - flare/touchdown	0	0	8	5	13	10.2
Landing - roll	0	0	1	0	1	0.8
Maneuvering	0	0	3	9	12	9.4
Maneuvering - aerial application	0	0	14	4	18	14.1
Maneuvering - turn to reverse direction	0	0	1	0	1	0.8
Maneuvering - turn to landing area (emergency)	0	0	0	1	1	0.8
Hover	1	0	13	2	16	12.5
Aircraft						
Number -	2	1	81	44	128	
Percent -	1.6	0.8	63.3	34.4		

Table 88 - MOST PREVALENT DETAILED ACCIDENT CAUSES
 ROTORCRAFT - RECIPROCATING ENGINE(S)
 1984

Detailed Cause -----	Number of Aircraft -----	Percent of Aircraft -----
Rotor rpm - Not maintained - Pilot in command	9	7.0
Clearance - Not maintained - Pilot in command	9	7.0
Fluid,fuel - Exhaustion	8	6.3
Undetermined	7	5.5
In-flight planning/decision - Improper - Pilot in command	7	5.5
Clearance - Misjudged - Pilot in command	6	4.7
Proper altitude - Not maintained - Pilot in command	6	4.7
Visual lookout - Inadequate - Pilot in command	6	4.7
Planning-decision - Improper - Pilot in command	5	3.9
Airplane handling - Not maintained - Pilot in command	4	3.1
Directional control - Not maintained - Pilot in command	4	3.1
Judgement - Poor - Pilot in command	4	3.1
Total Number of Aircraft:	128	

Table 89 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
 ROTORCRAFT - RECIPROCATING ENGINE(S)
 1975 - 1984

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	180	22	25	24
1981	178	21	32	29
1982	157	20	24	24
1983	143	20	25	25
1984	128	22	29	28

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	25.03	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

* 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)
 1984 AND 1979 - 1983

Type of Occurrence	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Loss of power	31	24.2	49.8	29.5
Collision with object/terrain	31	24.2	43.6	25.9
Airframe/component/system fail/malf	13	10.2	26.6	15.8
Hard landing	5	3.9	15.0	8.9
Loss of control - in flight	25	19.5	14.8	8.8
Roll over	5	3.9	9.8	5.8
Encounter with weather/turbulence	5	3.9	2.0	1.2
(All other types)	13	10.2	7.0	4.2
Total	128	100.0	168.6	100.0

Table 91 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
 ROTORCRAFT - RECIPROCATING ENGINE(S)
 1984 AND 1979 - 1983

Phase of Operation	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Maneuvering	48	37.5	56.8	33.7
Cruise	19	14.8	31.2	18.5
Takeoff	19	14.8	31.0	18.4
Landing	18	14.1	28.6	17.0
Approach	13	10.2	8.0	4.7
Taxi	4	3.1	4.8	2.8
Descent	4	3.1	3.6	2.1
Climb	1	.8	2.0	1.2
Standing	2	1.6	1.6	.9
Other	0	.0	1.0	.6
Total	128	100.0	168.6	100.0

Table 92 - SUMMARY OF LOSSES
 ROTORCRAFT - TURBINE POWERED
 1982 - 1984

	1984	1983	1982
-----	-----	-----	-----
Accidents			

Fatal	16	17	21
Involved Serious Injury	13	14	18
Involved Minor Injury	22	12	15
Involved No Injury	45	52	44
-----	-----	-----	-----
Total	96	95	98
Fatalities			

Passenger	17	14	13
Crew	14	17	25
Other Persons	1	2	4
-----	-----	-----	-----
Total	32	33	42
Aircraft Damaged*			

Destroyed	26	32	38
Substantial	69	61	58
Minor	0	0	2
None	1	2	1
-----	-----	-----	-----
Total	96	95	99

* Number of Turbine Powered, General Aviation Rotorcraft

Table 93 - PERSONS ABOARD BY KIND OF FLYING AND DEGREE OF INJURY
 ROTORCRAFT - TURBINE POWERED
 1984

Kind of Flying	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Personal	9	4	1	19	33
Business	6	12	17	13	48
Corporate/Executive	3	2	6	7	18
Aerial application	0	4	5	5	14
Instructional	0	0	2	3	5
Other	13	3	14	41	71
Total	31	25	45	88	189
Percent	16.4	13.2	23.8	46.6	

Table 94 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
 ROTORCRAFT - TURBINE POWERED
 1984

Type of first occurrence	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Airframe/component/system failure/malfunction	5	3	1	3	12	12.5
Hard landing	3	1	0	0	4	4.2
In flight collision with object	4	1	4	5	14	14.6
In flight collision with terrain	3	3	2	0	8	8.3
In flight encounter with weather	4	1	0	2	7	7.3
Loss of control - in flight	4	7	1	1	13	13.5
Loss of control - on ground	1	0	1	0	2	2.1
On ground collision with object	0	0	0	1	1	1.0
On ground collision with terrain	0	1	0	0	1	1.0
Loss of power	4	0	0	2	6	6.3
Loss of power(total) - mech failure/malfunction	3	1	1	1	6	6.3
Loss of power(partial) - mech failure/malfunction	2	1	2	0	5	5.2
Loss of power(total) - non-mechanical	6	1	1	1	9	9.4
Loss of power(partial) - non-mechanical	1	0	0	0	1	1.0
Roll over	3	1	0	0	4	4.2
Undetermined	1	0	0	0	1	1.0
Vortex turbulence encountered	0	1	0	0	1	1.0
Miscellaneous/other	1	0	0	0	1	1.0
Aircraft						
Number -	45	22	13	16	96	
Percent -	46.9	22.9	13.5	16.7		

Table 95 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
 ROTORCRAFT - TURBINE POWERED
 1984

Phase of operation	Aircraft damage			Aircraft	
	None	Subs	Dest	No.	Percent
Standing - starting engine(s)	0	1	0	1	1.0
Standing - engine(s) operating	0	1	0	1	1.0
Standing - idling rotors	0	1	0	1	1.0
Taxi - to takeoff	0	0	1	1	1.0
Takeoff	0	4	1	5	5.2
Takeoff - initial climb	0	6	1	7	7.3
Climb	0	1	2	3	3.1
Climb - to cruise .	0	1	0	1	1.0
Cruise	0	6	1	7	7.3
Cruise - normal	0	12	6	18	18.8
Approach	0	2	0	2	2.1
Approach - VFR pattern - final approach	0	1	1	2	2.1
Landing	0	1	0	1	1.0
Landing - flare/touchdown	0	8	1	9	9.4
Maneuvering	1	8	6	15	15.6
Maneuvering - aerial application	0	7	4	11	11.5
Maneuvering - turn to reverse direction	0	1	0	1	1.0
Hover	0	8	2	10	10.4
Aircraft					
Number -	1	69	26	96	
Percent -	1.0	71.9	27.1		

Table 96 - MOST PREVALENT DETAILED ACCIDENT CAUSES
 ROTORCRAFT - TURBINE POWERED
 1984

Detailed Cause -----	Number of Aircraft -----	Percent of Aircraft -----
Undetermined	10	10.4
Directional control - Not maintained - Pilot in command	6	6.3
Clearance - Not maintained - Pilot in command	5	5.2
Clearance - Misjudged - Pilot in command	5	5.2
Unsuitable terrain - Selected - Pilot in command	5	5.2
Airplane handling - Not maintained - Pilot in command	4	4.2
Proper altitude - Not maintained - Pilot in command	4	4.2
Rotorcraft flight controls - Improper use of - Pilot in command	4	4.2
Fluid, fuel - Exhaustion	4	4.2
Rotor rpm - Not maintained - Pilot in command	3	3.1
Planning-decision - Improper - Pilot in command	3	3.1
Preflight planning/preparation - Inadequate - Pilot in command	3	3.1
Aircraft preflight - Inadequate - Pilot in command	3	3.1
Judgement - Poor - Pilot in command	3	3.1
Procedures/directives - Not followed - Pilot in command	3	3.1
Altitude - Misjudged - Pilot in command	3	3.1
Total Number of Aircraft:	96	

Table 97 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
 ROTORCRAFT - TURBINE POWERED
 1975 - 1984

Year	Accidents	Fatal Accidents	Total	Fatalities
				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	78	9	23	23
1982	98	21	42	38
1983	95	17	33	31
1984	96	16	32	31

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	5.48	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

Table 98 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
 ROTORCRAFT - TURBINE POWERED
 1984 AND 1979 - 1983

Type of Occurrence	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Loss of power	27	28.1	30.0	34.7
Collision with object/terrain	24	25.0	18.0	20.8
Airframe/component/system fail/malf	12	12.5	12.8	14.8
Loss of control - in flight	13	13.5	9.0	10.4
Hard landing	4	4.2	5.4	6.3
Roll over	4	4.2	3.4	3.9
Miscellaneous	1	1.0	2.4	2.8
Encounter with weather/turbulence	8	8.3	2.0	2.3
Prop/rotor contact	0	.0	1.0	1.2
(All other types)	3	3.1	2.4	2.8
Total	96	100.0	86.4	100.0

Table 99 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
 ROTORCRAFT - TURBINE POWERED
 1984 AND 1979 - 1983

Phase of Operation	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Cruise	25	26.0	26.6	30.8
Maneuvering	37	38.5	20.4	23.6
Takeoff	12	12.5	12.6	14.6
Landing	10	10.4	11.6	13.4
Approach	4	4.2	5.0	5.8
Descent	0	.0	3.0	3.5
Taxi	1	1.0	2.6	3.0
Standing	3	3.1	2.0	2.3
Climb	4	4.2	1.4	1.6
Other	0	.0	1.2	1.4
Total	96	100.0	86.4	100.0

Table 100 - SUMMARY OF LOSSES
ALL GLIDERS
1982 - 1984

	1984	1983	1982
	----	----	----
Accidents			

Fatal	10	11	6
Involved Serious Injury	12	10	12
Involved Minor Injury	7	6	4
Involved No Injury	26	44	29
	----	----	----
Total	55	71	51
Fatalities			

Passenger	1	0	1
Crew	8	11	4
Other Persons	1	0	1
	----	----	----
Total	10	11	6
Aircraft Damaged*			

Destroyed	18	8	13
Substantial	36	62	39
Minor	3	1	1
None	0	1	0
	----	----	----
Total	57	72	53

* Number of General Aviation Gliders

Table 101 - PERSONS BY ROLE AND DEGREE OF INJURY
ALL GLIDERS
1984

Role of Person	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Pilot	8	13	8	28	57
Copilot	0	1	0	0	1
Dual student	0	0	0	3	3
Passenger	1	1	2	4	8
Total aboard	9	15	10	35	69
Other aircraft*	1	0	0	0	1
Grand total	10	15	10	35	70
Percent	14.3	21.4	14.3	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 102 - PERSONS ABOARD BY KIND OF FLYING AND DEGREE OF INJURY
ALL GLIDERS
1984

Kind of Flying	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Personal	8	9	6	24	47
Instructional	0	5	4	9	18
Other	1	1	0	2	4
Total	9	15	10	35	69
Percent	13.0	21.7	14.5	50.7	

Table 103 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
ALL GLIDERS
1984

Type of first occurrence	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Abrupt maneuver	0	0	0	1	1	1.8
Altitude deviation, uncontrolled	0	0	1	0	1	1.8
Airframe/component/system failure/malfunction	1	0	0	1	2	3.5
Dragged wing, rotor, pod, or float	0	2	1	0	3	5.3
Forced landing	2	0	0	0	2	3.5
In flight collision with object	1	0	0	2	3	5.3
In flight collision with terrain	1	1	1	0	3	5.3
In flight encounter with weather	6	2	0	0	8	14.0
Loss of control - in flight	3	0	6	4	13	22.8
Loss of control - on ground	1	0	0	0	1	1.8
Midair collision	2	0	0	3	5	8.8
On ground collision with object	2	0	0	0	2	3.5
On ground collision with terrain	3	0	0	0	3	5.3
Overrun	0	0	1	0	1	1.8
Loss of power	0	0	1	0	1	1.8
Loss of power(total) - mech failure/malfunction	1	0	0	0	1	1.8
Undershoot	2	1	1	0	4	7.0
Miscellaneous/other	2	1	0	0	3	5.3
Aircraft						
Number -	27	7	12	11	57	
Percent -	47.4	12.3	21.1	19.3		

Table 104 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
ALL GLIDERS
1984

Phase of operation	Aircraft damage			Aircraft	
	Minor	Subs	Dest	No.	Percent
Takeoff - ground run	0	3	0	3	5.3
Takeoff - initial climb	0	4	3	7	12.3
Cruise	0	1	2	3	5.3
Cruise - normal	0	3	2	5	8.8
Descent	0	1	0	1	1.8
Descent - normal	0	0	1	1	1.8
Descent - emergency	0	2	0	2	3.5
Approach	0	1	1	2	3.5
Approach - VFR pattern - base turn	0	1	1	2	3.5
Approach - VFR pattern - base to final	0	0	1	1	1.8
Approach - VFR pattern - final approach	0	4	2	6	10.5
Landing	0	5	0	5	8.8
Landing - flare/touchdown	1	5	1	7	12.3
Maneuvering	2	6	3	11	19.3
Maneuvering - turn to reverse direction	0	0	1	1	1.8
Aircraft					
Number -	3	36	18	57	
Percent -	5.3	63.2	31.6		

Table 105 - AIRCRAFT BY CONDITION OF LIGHT AND TYPE OF WEATHER
ALL GLIDERS
1984

Condition of light	Type of Weather	Aircraft	
	VMC	No.	Percent
Dawn	1	1	1.8
Daylight	56	56	98.2
Aircraft			
Number -	57	57	
Percent -	100.0		

Table 106 - AIRCRAFT BY PROXIMITY TO AIRPORT AND FLIGHT PLAN
ALL GLIDERS
1984

Proximity to Airport -----	Type of Flight Plan -----	Aircraft -----	
	None ----	No.	Percent
On Airport	13	13	22.8
On Airstrip	7	7	12.3
Within 5 SM	14	14	24.6
5 SM Or Greater	3	3	5.3
Not reported	20	20	35.1
Aircraft			
Number -	57	57	
Percent -	100.0		

Table 107 - MOST PREVALENT DETAILED ACCIDENT CAUSES
ALL GLIDERS
1984

Detailed Cause -----	Number of Aircraft -----	Percent of Aircraft -----
In-flight planning/decision - Improper - Pilot in command	6	10.5
Airspeed(Vs) - Not maintained - Pilot in command	6	10.5
Clearance - Not maintained - Pilot in command	5	8.8
Directional control - Not maintained - Pilot in command	5	8.8
Stall - Inadvertent - Pilot in command	5	8.8
Visual lookout - Inadequate - Pilot of other aircraft	4	7.0
Visual lookout - Inadequate - Pilot in command	4	7.0
Unsuitable terrain - Selected - Pilot in command	4	7.0
Airspeed - Not maintained - Pilot in command	3	5.3
Altitude - Not maintained - Pilot in command	3	5.3
Stall - Not corrected - Pilot in command	3	5.3
Planning-decision - Improper - Pilot in command	3	5.3
Clearance - Misjudged - Pilot in command	3	5.3
Flight controls - Improper use of - Pilot in command	3	5.3
Total Number of Aircraft:	57	

Table 108 - ACCIDENTS, FATAL ACCIDENTS AND FATALITIES
ALL GLIDERS
1975 - 1984

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

* 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
1984 AND 1979 - 1983

Type of Occurrence	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Collision with object/terrain	11	19.3	19.6	32.5
Loss of control - in flight	13	22.8	13.0	21.5
Undershoot	4	7.0	8.0	13.2
Miscellaneous	6	10.5	5.4	8.9
Hard landing	0	.0	4.0	6.6
Loss of control - on ground	1	1.8	3.8	6.3
Airframe/component/system fail/malf	2	3.5	2.4	4.0
Midair collision	5	8.8	1.6	2.6
Encounter with weather/turbulence	8	14.0	1.2	2.0
(All other types)	7	12.3	1.4	2.3
Total	57	100.0	60.4	100.0

**Table 110 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
ALL GLIDERS
1984 AND 1979 - 1983**

Phase of Operation	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Landing	12	21.1	19.6	32.5
Approach	11	19.3	17.6	29.1
Takeoff	10	17.5	10.8	17.9
Maneuvering	12	21.1	5.4	8.9
Cruise	8	14.0	4.0	6.6
Descent	4	7.0	1.2	2.0
Climb	0	.0	1.0	1.7
Other	0	.0	.6	1.0
Taxi	0	.0	.2	.3
Total	57	100.0	60.4	100.0

**Table 111 - BROAD CAUSE/FACTOR ASSIGNMENTS IN ALL ACCIDENTS
ALL GLIDERS
1984 AND 1979 - 1983**

Broad Cause/Factor	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Pilot	54	94.7	54.0	89.4
Weather	23	40.4	19.4	32.1
Terrain	11	19.3	13.8	22.8
Miscellaneous	13	22.8	9.0	14.9
Personnel	4	7.0	5.0	8.3
Airframe	0	.0	4.0	6.6
Instruments/Equipment/Accessories	4	7.0	2.6	4.3
Undetermined	2	3.5	2.2	3.6
Airport/Airways/Facilities	1	1.8	2.0	3.3
Systems	0	.0	.6	1.0
Powerplant	1	1.8	.2	.3
Number of Aircraft	57		60.4	

Table 112 - SUMMARY OF LOSSES
PERSONAL FLYING
1982 - 1984

	1984	1983	1982
-----	-----	-----	-----
Accidents			

Fatal	365	398	398
Involved Serious Injury	247	205	211
Involved Minor Injury	280	253	261
Involved No Injury	1014	1028	1036
-----	-----	-----	-----
Total	1906	1884	1906
Fatalities			

Passenger	351	382	408
Crew	356	390	401
Other Persons	7	5	17
-----	-----	-----	-----
Total	714	777	826
Aircraft Damaged*			

Destroyed	577	552	591
Substantial	1301	1308	1299
Minor	17	9	13
None	24	22	14
Unknown	0	0	4
-----	-----	-----	-----
Total	1919	1891	1921

* Number of General Aviation Aircraft in Personal Operations

Table 113 - PERSONS BY ROLE AND DEGREE OF INJURY
PERSONAL FLYING
1984

Role of Person	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Pilot	340	219	272	1077	1908
Copilot	12	1	4	16	33
Dual student	1	0	2	2	5
Other crew	3	2	0	6	11
Passenger	351	190	261	1054	1856
Total aboard	707	412	539	2155	3813
Other aircraft*	5	1	7	21	34
Other ground	2	7	5	5	19
Grand total	714	420	551	2181	3866
Percent	18.5	10.9	14.3	56.4	

* 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 114 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
PERSONAL FLYING
1984

Type of first occurrence	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Abrupt maneuver	4	0	1	3	8	0.4
Altitude deviation, uncontrolled	5	1	2	1	9	0.5
Cargo shift	1	0	0	0	1	0.1
Airframe/component/system failure/malfunction	54	10	9	17	90	4.7
Dragged wing, rotor, pod, or float	5	2	1	3	11	0.6
Fire/explosion	0	0	1	0	1	0.1
Fire	2	2	0	0	4	0.2
Forced landing	2	1	0	0	3	0.2
Gear collapsed	5	1	0	0	6	0.3
Main gear collapsed	16	0	0	0	16	0.8
Nose gear collapsed	7	1	0	0	8	0.4
Complete gear collapsed	11	0	0	0	11	0.6
Other gear collapsed	1	0	0	0	1	0.1
Hard landing	96	10	6	2	114	5.9
Hazardous materials leak/spill (fumes/smoke)	1	0	0	0	1	0.1
In flight collision with object	43	23	25	27	118	6.1
In flight collision with terrain	41	15	16	41	113	5.9
In flight encounter with weather	27	11	22	95	155	8.1
Loss of control - in flight	76	33	49	104	262	13.7
Loss of control - on ground	176	16	6	3	201	10.5
Midair collision	9	0	0	15	24	1.3
Near collision between aircraft	0	0	1	0	1	0.1
Nose over	25	2	0	0	27	1.4
On ground collision with object	41	11	3	1	56	2.9
On ground collision with terrain	24	0	0	0	24	1.3
On ground encounter with weather	4	1	0	0	5	0.3
Overrun	62	11	7	0	80	4.2
Loss of power	44	26	24	5	99	5.2
Loss of power(total) - mech failure/malfunction	30	14	12	7	63	3.3
Loss of power(partial) - mech failure/malfunction	19	7	1	3	30	1.6
Loss of power(total) - non-mechanical	127	55	33	20	235	12.2
Loss of power(partial) - non-mechanical	24	14	8	6	52	2.7
Propeller blast or jet exhaust/suction	1	1	0	0	2	0.1
Propeller/rotor contact	0	1	8	1	10	0.5
Roll over	3	0	1	0	4	0.2
Undershoot	23	8	1	2	34	1.8

Table 114 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY (CONTINUED)

PERSONAL FLYING

1984

Type of first occurrence	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Undetermined	1	0	0	5	6	0.3
Vortex turbulence encountered	2	1	0	0	3	0.2
Missing aircraft	0	0	0	8	8	0.4
Miscellaneous/other	9	2	10	1	22	1.1
Not reported	0	0	0	1	1	0.1
Aircraft						
Number -	1021	280	247	371	1919	
Percent -	53.2	14.6	12.9	19.3		

Table 115 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
PERSONAL FLYING
1984

Phase of operation	Aircraft damage				Aircraft	
	None	Minor	Subs	Dest	No.	Percent
Standing	1	1	0	1	3	0.2
Standing - pre-flight	0	0	1	0	1	0.1
Standing - starting engine(s)	2	0	6	2	10	0.5
Standing - engine(s) operating	4	1	2	1	8	0.4
Taxi	0	1	5	1	7	0.4
Taxi - to takeoff	0	2	20	0	22	1.1
Taxi - from landing	0	1	19	0	20	1.0
Takeoff	0	0	21	7	28	1.5
Takeoff - ground run	0	0	85	6	91	4.7
Takeoff - initial climb	0	1	188	96	285	14.9
Climb	0	0	9	12	21	1.1
Climb - to cruise	0	0	14	23	37	1.9
Cruise	0	0	44	47	91	4.7
Cruise - normal	2	0	164	102	268	14.0
Cruise - holding(IFR)	0	0	0	1	1	0.1
Descent	0	0	4	7	11	0.6
Descent - normal	0	0	15	6	21	1.1
Descent - emergency	0	0	4	3	7	0.4
Descent - uncontrolled	0	1	1	4	6	0.3
Approach	0	0	31	9	40	2.1
Approach - VFR pattern - downwind	0	1	14	8	23	1.2
Approach - VFR pattern - base turn	0	0	4	6	10	0.5
Approach - VFR pattern - base to final	1	0	4	6	11	0.6
Approach - VFR pattern - final approach	1	2	72	27	102	5.3
Approach - go-around (VFR)	1	0	24	13	38	2.0
Approach - IAF to FAF/outer marker (IFR)	0	0	2	6	8	0.4
Approach - FAF/outer marker to threshold (IFR)	0	0	7	7	14	0.7
Approach - circling(IFR)	0	0	0	2	2	0.1
Approach - missed approach (IFR)	0	0	2	2	4	0.2
Landing	1	0	35	6	42	2.2
Landing - flare/touchdown	9	0	192	26	227	11.8
Landing - roll	1	1	234	11	247	12.9
Maneuvering	0	4	61	92	157	8.2

Table 115 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE (CONTINUED)
PERSONAL FLYING
1984

Phase of operation	Aircraft damage				Aircraft	
	None	Minor	Subs	Dest	No.	Percent
Maneuvering - aerial application	0	0	1	0	1	0.1
Maneuvering - turn to reverse direction	0	0	6	9	15	0.8
Hover	0	0	5	1	6	0.3
Other	0	1	4	0	5	0.3
Unknown	1	0	1	26	28	1.5
Not reported	0	0	0	1	1	0.1
Aircraft						
Number -	24	17	1301	577	1919	
Percent -	1.3	0.9	67.8	30.1		

Table 116 - AIRCRAFT BY CONDITION OF LIGHT AND TYPE OF WEATHER
PERSONAL FLYING
1984

Condition of light	Type of weather			Aircraft	
	VMC	IMC	Not reptd	No.	Percent
Dawn	22	4	0	26	1.4
Daylight	1464	83	14	1561	81.3
Night (dark)	110	69	9	188	9.8
Night (bright)	32	3	1	36	1.9
Dusk	80	9	0	89	4.6
Not reported	11	1	7	19	1.0
Aircraft					
Number -	1719	169	31	1919	
Percent -	89.6	8.8	1.6		

Table 117 - AIRCRAFT BY PROXIMITY TO AIRPORT AND FLIGHT PLAN
PERSONAL FLYING
1984

Proximity to Airport	Type of Flight Plan					Aircraft	
	VFR	IFR	VFR/IFR	None	NRept	No.	Percent
On Airport	60	36	1	598	2	697	36.3
On Airstrip	9	1	0	111	1	122	6.4
Within 5 SM	16	32	0	172	1	221	11.5
5 SM Or Greater	11	18	0	74	0	103	5.4
Not reported	67	39	1	667	2	776	40.4
Aircraft							
Number -	163	126	2	1622	6	1919	
Percent -	8.5	6.6	0.1	84.5	0.3		

Table 118 - MOST PREVALENT DETAILED ACCIDENT CAUSES
PERSONAL FLYING
1984

Detailed Cause	Number of Aircraft	Percent of Aircraft
Directional control - Not maintained - Pilot in command	212	11.0
Undetermined	129	6.7
Judgement - Poor - Pilot in command	115	6.0
Preflight planning/preparation - Inadequate - Pilot in command	92	4.8
In-flight planning/decision - Improper - Pilot in command	90	4.7
Fluid, fuel - Exhaustion	76	4.0
Airspeed - Not maintained - Pilot in command	76	4.0
Unsuitable terrain - Selected - Pilot in command	71	3.7
Aircraft preflight - Inadequate - Pilot in command	68	3.5
Stall - Inadvertent - Pilot in command	62	3.2
Total Number of Aircraft:	1919	

Table 119 - ACCIDENTS, FATAL ACCIDENTS AND FATALITIES
PERSONAL FLYING
1975 - 1984

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

* The yearly accident counts include suicide and sabotage accidents as follows :
Total - 1975 (2), 1976 (1), 1978 (2), 1980 (1), 1984 (3)
Fatal - 1975 (2), 1978 (2), 1980 (1), 1984 (2)

Table 120 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
PERSONAL FLYING
1984 AND 1979 - 1983

Type of Occurrence	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Loss of power	479	25.0	495.2	24.6
Collision with object/terrain	311	16.2	460.8	22.9
Loss of control - in flight	262	13.7	257.6	12.8
Loss of control - on ground	201	10.5	218.8	10.9
Hard landing	114	5.9	114.0	5.7
Miscellaneous	108	5.6	112.4	5.6
Encounter with weather/turbulence	163	8.5	69.4	3.5
Airframe/component/system fail/malf	90	4.7	64.6	3.2
Undershoot	34	1.8	63.4	3.2
Nose over/down	27	1.4	49.2	2.4
Gear collapsed/retracted	42	2.2	42.4	2.1
Midaïr collision	24	1.3	21.2	1.1
(All other types)	64	3.3	40.2	2.0
Total	1919	100.0	2009.2	100.0

Table 121 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
PERSONAL FLYING
1984 AND 1979 - 1983

Phase of Operation	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Landing	516	26.9	577.4	28.7
Takeoff	404	21.1	412.8	20.5
Cruise	360	18.8	331.4	16.5
Approach	252	13.1	276.6	13.8
Maneuvering	179	9.3	176.6	8.8
Descent	45	2.3	84.2	4.2
Taxi	49	2.6	60.2	3.0
Climb	58	3.0	52.6	2.6
Other	33	1.7	22.8	1.1
Standing	22	1.1	14.2	.7
Not reported	1	.1	.4	.0
Total	1919	100.0	2009.2	100.0

Table 122 - BROAD CAUSE/FACTOR ASSIGNMENTS IN ALL ACCIDENTS
PERSONAL FLYING
1984 AND 1979 - 1983

Broad Cause/Factor	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Pilot	1690	88.1	1675.8	83.4
Weather	565	29.4	585.8	29.2
Terrain	460	24.0	504.0	25.1
Powerplant	389	20.3	341.2	17.0
Miscellaneous	470	24.5	309.6	15.4
Personnel	156	8.1	158.8	7.9
Airport/Airways/Facilities	99	5.2	137.2	6.8
Landing Gear	122	6.4	116.0	5.8
Undetermined	133	6.9	82.8	4.1
Airframe	74	3.9	52.0	2.6
Systems	35	1.8	33.2	1.7
Instruments/Equipment/Accessories	20	1.0	14.2	.7
Rotorcraft	10	.5	6.2	.3
Number of Aircraft	1919		2009.2	

Table 123 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
PERSONAL AND BUSINESS FLYING COMBINED
1975 - 1984

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

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

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

Table 124 - SUMMARY OF LOSSES
BUSINESS FLYING
1982 - 1984

	1984	1983	1982
	----	----	----
Accidents			

Fatal	76	52	74
Involved Serious Injury	23	28	25
Involved Minor Injury	30	38	32
Involved No Injury	120	158	161
	----	----	----
Total	249	276	292
Fatalities			

Passenger	82	55	79
Crew	73	59	77
Other Persons	0	0	1
	----	----	----
Total	155	114	157
Aircraft Damaged*			

Destroyed	99	82	101
Substantial	149	196	188
Minor	2	1	1
None	1	1	1
Unknown	0	0	1
	----	----	----
Total	251	280	292

* Number of General Aviation Aircraft in Business Operations

Table 125 - PERSONS BY ROLE AND DEGREE OF INJURY
BUSINESS FLYING
1984

Role of Person	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Pilot	66	26	28	130	250
Copilot	7	1	2	5	15
Other crew	0	0	0	1	1
Passenger	82	22	32	174	310
Total aboard	155	49	62	310	576
Other aircraft*	0	0	0	6	6
Other ground	0	1	1	1	3
Grand total	155	50	63	317	585
Percent	26.5	8.5	10.8	54.2	

* 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
1984

Type of first occurrence	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Abrupt maneuver	0	0	0	1	1	0.4
Altitude deviation, uncontrolled	0	1	0	0	1	0.4
Airframe/component/system failure/malfunction	5	1	1	3	10	4.0
Dragged wing, rotor, pod, or float	0	0	0	2	2	0.8
Fire	1	0	0	0	1	0.4
Gear collapsed	2	0	0	0	2	0.8
Main gear collapsed	3	0	0	0	3	1.2
Nose gear collapsed	1	1	0	0	2	0.8
Complete gear collapsed	3	0	0	0	3	1.2
Hard landing	10	1	0	0	11	4.4
In flight collision with object	7	3	1	11	22	8.8
In flight collision with terrain	5	2	3	13	23	9.2
In flight encounter with weather	7	2	3	22	34	13.5
Loss of control - in flight	7	4	3	7	21	8.4
Loss of control - on ground	18	0	1	1	20	8.0
Midair collision	1	0	0	1	2	0.8
Nose over	4	0	0	0	4	1.6
On ground collision with object	7	2	0	1	10	4.0
On ground collision with terrain	2	0	0	0	2	0.8
Overrun	9	2	0	1	12	4.8
Loss of power	2	3	2	3	10	4.0
Loss of power(total) - mech failure/malfunction	3	1	3	3	10	4.0
Loss of power(partial) - mech failure/malfunction	3	1	2	0	6	2.4
Loss of power(total) - non-mechanical	15	6	2	3	26	10.4
Loss of power(partial) - non-mechanical	1	0	0	1	2	0.8
Propeller/rotor contact	0	0	1	0	1	0.4
Roll over	2	1	0	0	3	1.2
Undershoot	2	0	0	0	2	0.8
Vortex turbulence encountered	0	0	1	0	1	0.4
Missing aircraft	0	0	0	3	3	1.2
Miscellaneous/other	1	0	0	0	1	0.4
Aircraft						
Number -	121	31	23	76	251	
Percent -	48.2	12.4	9.2	30.3		

Table 127 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
BUSINESS FLYING
1984

Phase of operation	Aircraft damage				Aircraft	
	None	Minor	Subs	Dest	No.	Percent
Standing - pre-flight	0	0	1	0	1	0.4
Standing - idling rotors	0	0	1	0	1	0.4
Taxi	0	0	2	0	2	0.8
Taxi - to takeoff	0	0	2	1	3	1.2
Taxi - from landing	0	0	2	0	2	0.8
Taxi - aerial	0	0	1	0	1	0.4
Takeoff	0	0	6	1	7	2.8
Takeoff - ground run	0	0	10	5	15	6.0
Takeoff - initial climb	0	0	16	12	28	11.2
Climb	0	0	1	3	4	1.6
Climb - to cruise	0	0	2	1	3	1.2
Cruise	0	0	5	8	13	5.2
Cruise - normal	0	0	17	22	39	15.5
Descent	0	0	0	1	1	0.4
Descent - normal	0	0	0	2	2	0.8
Descent - uncontrolled	0	0	0	1	1	0.4
Approach	0	0	3	3	6	2.4
Approach - VFR pattern - downwind	0	0	2	0	2	0.8
Approach - VFR pattern - base turn	0	0	1	0	1	0.4
Approach - VFR pattern - base to final	0	0	2	0	2	0.8
Approach - VFR pattern - final approach	0	0	5	6	11	4.4
Approach - go-around (VFR)	0	0	2	1	3	1.2
Approach - IAF to FAF/outer marker (IFR)	0	0	1	2	3	1.2
Approach - FAF/outer marker to threshold (IFR)	0	0	3	7	10	4.0
Approach - circling(IFR)	0	0	1	1	2	0.8
Landing	0	0	5	0	5	2.0
Landing - flare/touchdown	0	0	21	4	25	10.0
Landing - roll	0	2	28	1	31	12.4
Maneuvering	0	0	2	11	13	5.2
Maneuvering - aerial application	0	0	0	1	1	0.4
Maneuvering - turn to reverse direction	0	0	1	1	2	0.8

Table 127 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE (CONTINUED)
 BUSINESS FLYING
 1984

Phase of operation	Aircraft damage				Aircraft	
	None	Minor	Subs	Dest	No.	Percent
Maneuvering - turn to landing area (emergency)	0	0	1	0	1	0.4
Hover	0	0	4	0	4	1.6
Other	0	0	1	0	1	0.4
Unknown	1	0	0	4	5	2.0
Aircraft						
Number -	1	2	149	99	251	
Percent -	0.4	0.8	59.4	39.4		

Table 128 - AIRCRAFT BY CONDITION OF LIGHT AND TYPE OF WEATHER
BUSINESS FLYING
1984

Condition of light	Type of weather			Aircraft	
	VMC	IMC	Not reptd	No.	Percent
Dawn	5	3	0	8	3.2
Daylight	156	33	1	190	75.7
Night (dark)	16	22	3	41	16.3
Night (bright)	5	1	0	6	2.4
Dusk	3	1	1	5	2.0
Not reported	0	0	1	1	0.4
Aircraft					
Number -	185	60	6	251	
Percent -	73.7	23.9	2.4		

Table 129 - AIRCRAFT BY PROXIMITY TO AIRPORT AND FLIGHT PLAN
BUSINESS FLYING
1984

Proximity to Airport	Type of Flight Plan					Aircraft	
	VFR	IFR	VFR/IFR	None	NRept	No.	Percent
On Airport	11	23	2	47	2	85	33.9
On Airstrip	1	1	0	11	0	13	5.2
Within 5 SM	0	18	0	13	0	31	12.4
5 SM Or Greater	3	7	0	7	0	17	6.8
Not reported	13	15	1	76	0	105	41.8
Aircraft							
Number -	28	64	3	154	2	251	
Percent -	11.2	25.5	1.2	61.4	0.8		

Table 130 - MOST PREVALENT DETAILED ACCIDENT CAUSES
BUSINESS FLYING
1984

Detailed Cause -----	Number of Aircraft -----	Percent of Aircraft -----
Undetermined	20	8.0
Directional control - Not maintained - Pilot in command	18	7.2
Airspeed - Not maintained - Pilot in command	13	5.2
Proper altitude - Not maintained - Pilot in command	13	5.2
In-flight planning/decision - Improper - Pilot in command	12	4.8
Unsuitable terrain - Selected - Pilot in command	12	4.8
Preflight planning/preparation - Inadequate - Pilot in command	10	4.0
Judgement - Poor - Pilot in command	9	3.6
Clearance - Not maintained - Pilot in command	8	3.2
Fuel supply - Inadequate - Pilot in command	8	3.2
Fluid, fuel - Exhaustion	8	3.2
Total Number of Aircraft:	251	

Table 131 - ACCIDENTS, FATAL ACCIDENTS AND FATALITIES
BUSINESS FLYING
1975 - 1984

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

* 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
1984 AND 1979 - 1983

Type of Occurrence	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Loss of power	54	21.5	68.2	25.4
Collision with object/terrain	57	22.7	65.2	24.3
Loss of control - in flight	21	8.4	25.0	9.3
Loss of control - on ground	20	8.0	21.2	7.9
Encounter with weather/turbulence	35	13.9	16.2	6.0
Miscellaneous	13	5.2	16.0	6.0
Airframe/component/system fail/malf	10	4.0	12.8	4.8
Gear collapsed/retracted	10	4.0	10.2	3.8
Hard landing	11	4.4	9.0	3.4
Undershoot	2	.8	6.8	2.5
Nose over/down	4	1.6	6.0	2.2
Midair collision	2	.8	3.8	1.4
Fire/explosion	1	.4	3.4	1.3
(All other types)	11	4.4	4.4	1.6
Total	251	100.0	268.2	100.0

Table 133 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
BUSINESS FLYING
1984 AND 1979 - 1983

Phase of Operation	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Landing	61	24.3	72.8	27.1
Cruise	52	20.7	57.2	21.3
Takeoff	50	19.9	45.8	17.1
Approach	40	15.9	37.0	13.8
Descent	4	1.6	17.2	6.4
Taxi	8	3.2	13.0	4.8
Maneuvering	21	8.4	11.0	4.1
Climb	7	2.8	9.0	3.4
Standing	2	.8	3.2	1.2
Other	6	2.4	2.0	.7
Total	251	100.0	268.2	100.0

Table 134 - BROAD CAUSE/FACTOR ASSIGNMENTS IN ALL ACCIDENTS
 BUSINESS FLYING
 1984 AND 1979 - 1983

Broad Cause/Factor	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Pilot	216	86.1	211.2	78.7
Weather	85	33.9	91.8	34.2
Terrain	62	24.7	64.0	23.9
Powerplant	49	19.5	51.2	19.1
Miscellaneous	76	30.3	47.0	17.5
Personnel	23	9.2	28.8	10.7
Landing Gear	14	5.6	20.8	7.8
Airport/Airways/Facilities	25	10.0	19.6	7.3
Undetermined	21	8.4	13.0	4.8
Airframe	9	3.6	10.0	3.7
Systems	9	3.6	8.0	3.0
Rotorcraft	2	.8	4.6	1.7
Instruments/Equipment/Accessories	3	1.2	1.8	.7
Number of Aircraft	251		268.2	

Table 135 - SUMMARY OF LOSSES
CORPORATE/EXECUTIVE FLYING
1982 - 1984

	1984	1983	1982
	----	----	----
Accidents			

Fatal	4	6	6
Involved Serious Injury	5	4	3
Involved Minor Injury	3	4	4
Involved No Injury	13	25	26
	----	----	----
Total	25	39	39
 Fatalities			

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

Destroyed	8	12	8
Substantial	17	27	30
None	0	0	1
	----	----	----
Total	25	39	39

* Number of General Aviation Aircraft in Corporate/Executive Operations

Table 136 - PERSONS BY ROLE AND DEGREE OF INJURY
CORPORATE/EXECUTIVE FLYING
1984

Role of Person	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Pilot	4	4	4	12	24
Copilot	0	0	1	1	2
Other crew	0	0	0	1	1
Passenger	4	2	14	28	48
Total aboard	8	6	19	42	75
Grand total	8	6	19	42	75
Percent	10.7	8.0	25.3	56.0	

Table 137 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
CORPORATE/EXECUTIVE FLYING
1984

Type of first occurrence	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Airframe/component/system failure/malfunction	3	0	0	0	3	12.0
Fire	0	1	0	0	1	4.0
Main gear collapsed	1	0	0	0	1	4.0
Complete gear collapsed	1	0	0	0	1	4.0
Hard landing	1	0	0	0	1	4.0
In flight collision with object	2	0	2	1	5	20.0
In flight encounter with weather	0	1	0	3	4	16.0
Loss of control - in flight	1	0	0	0	1	4.0
Loss of control - on ground	1	0	0	0	1	4.0
Overrun	3	0	1	0	4	16.0
Loss of power(total) - non-mechanical	0	0	2	0	2	8.0
Undershoot	0	1	0	0	1	4.0
Aircraft						
Number -	13	3	5	4	25	
Percent -	52.0	12.0	20.0	16.0		

Table 138 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
CORPORATE/EXECUTIVE FLYING
1984

Phase of operation	Aircraft damage		Aircraft	
	Subs	Dest	No.	Percent
Taxi - from landing	1	0	1	4.0
Takeoff - ground run	1	0	1	4.0
Takeoff - initial climb	0	2	2	8.0
Climb - to cruise	2	0	2	8.0
Cruise - normal	1	5	6	24.0
Descent - normal	1	0	1	4.0
Approach - VFR pattern - final approach	1	0	1	4.0
Approach - IAF to FAF/outer marker (IFR)	1	0	1	4.0
Approach - FAF/outer marker to threshold (IFR)	1	1	2	8.0
Landing - flare/touchdown	3	0	3	12.0
Landing - roll	4	0	4	16.0
Maneuvering	1	0	1	4.0
Aircraft				
Number -	17	8	25	
Percent -	68.0	32.0		

Table 139 - AIRCRAFT BY CONDITION OF LIGHT AND TYPE OF WEATHER
CORPORATE/EXECUTIVE FLYING
1984

Condition of light	Type of weather		Aircraft	
	VMC	IMC	No.	Percent
Daylight	11	4	15	60.0
Night (dark)	4	2	6	24.0
Night (bright)	1	2	3	12.0
Dusk	0	1	1	4.0
Aircraft				
Number -	16	9	25	
Percent -	64.0	36.0		

Table 140 - AIRCRAFT BY PROXIMITY TO AIRPORT AND FLIGHT PLAN
CORPORATE/EXECUTIVE FLYING
1984

Proximity to Airport	Type of Flight Plan				Aircraft	
	VFR	IFR	None	NRept	No.	Percent
On Airport	3	5	4	0	12	48.0
Within 5 SM	0	2	0	1	3	12.0
5 SM Or Greater	0	1	1	0	2	8.0
Not reported	0	4	4	0	8	32.0
Aircraft						
Number -	3	12	9	1	25	
Percent -	12.0	48.0	36.0	4.0		

Table 141 - MOST PREVALENT DETAILED ACCIDENT CAUSES
CORPORATE/EXECUTIVE FLYING
1984

Detailed Cause	Number of Aircraft	Percent of Aircraft
In-flight planning/decision - Improper - Pilot in command	4	16.0
Preflight planning/preparation - Inadequate - Pilot in command	3	12.0
Wrong runway - Selected - Pilot in command	3	12.0
Minimum descent altitude - Below - Pilot in command	2	8.0
Proper altitude - Not maintained - Pilot in command	2	8.0
Airspeed - Misjudged - Pilot in command	2	8.0
Go-around - Not performed - Pilot in command	2	8.0
IFR procedure - Improper - Pilot in command	2	8.0
Missed approach - Delayed - Pilot in command	2	8.0
Fluid,fuel - Starvation	2	8.0
Total Number of Aircraft:	25	

Table 142 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
CORPORATE/EXECUTIVE FLYING
1975 - 1984

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

Year	Hours Flown	Accident Rate per 100,000 Aircraft 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

Table 143 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
CORPORATE/EXECUTIVE FLYING
1984 AND 1979 - 1983

Type of Occurrence	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Collision with object/terrain	5	20.0	20.6	30.7
Loss of power	2	8.0	14.0	20.8
Loss of control - on ground	1	4.0	6.0	8.9
Loss of control - in flight	1	4.0	5.4	8.0
Airframe/component/system fail/malf	3	12.0	4.8	7.1
Gear collapsed/retracted	2	8.0	3.2	4.8
Hard landing	1	4.0	2.8	4.2
Miscellaneous	4	16.0	2.4	3.6
Undershoot	1	4.0	2.2	3.3
Encounter with weather/turbulence	4	16.0	1.6	2.4
Midair collision	0	.0	1.2	1.8
Fire/explosion	1	4.0	1.0	1.5
Prop/rotor contact	0	.0	.8	1.2
Roll over	0	.0	.8	1.2
(All other types)	0	.0	.4	.6
Total	25	100.0	67.2	100.0

Table 144 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
CORPORATE/EXECUTIVE FLYING
1984 AND 1979 - 1983

Phase of Operation	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Landing	7	28.0	18.6	27.7
Approach	4	16.0	12.8	19.0
Takeoff	3	12.0	12.0	17.9
Cruise	6	24.0	11.4	17.0
Descent	1	4.0	3.8	5.7
Climb	2	8.0	3.0	4.5
Taxi	1	4.0	2.0	3.0
Standing	0	.0	1.6	2.4
Maneuvering	1	4.0	1.6	2.4
Other	0	.0	.4	.6
Total	25	100.0	67.2	100.0

Table 145 - BROAD CAUSE/FACTOR ASSIGNMENTS IN ALL ACCIDENTS
CORPORATE/EXECUTIVE FLYING
1984 AND 1979 - 1983

Broad Cause/Factor	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Pilot	22	88.0	45.2	67.3
Weather	12	48.0	22.2	33.0
Powerplant	5	20.0	12.2	18.2
Terrain	6	24.0	12.2	18.2
Personnel	4	16.0	11.0	16.4
Landing Gear	4	16.0	8.4	12.5
Airport/Airways/Facilities	3	12.0	7.6	11.3
Miscellaneous	9	36.0	5.8	8.6
Systems	3	12.0	3.4	5.1
Undetermined	0	.0	3.4	5.1
Airframe	2	8.0	2.0	3.0
Rotorcraft	0	.0	2.0	3.0
Instruments/Equipment/Accessories	0	.0	.6	.9
Number of Aircraft	25		67.2	

Table 146 - SUMMARY OF LOSSES
AERIAL APPLICATION FLYING
1982 - 1984

	1984	1983	1982
	----	----	----
Accidents			

Fatal	20	15	17
Involved Serious Injury	21	25	35
Involved Minor Injury	42	44	31
Involved No Injury	162	170	189
	----	----	----
Total	245	254	272
Fatalities			

Passenger	0	0	0
Crew	20	15	15
Other Persons	1	0	3
	----	----	----
Total	21	15	18
Aircraft Damaged*			

Destroyed	75	70	87
Substantial	173	182	183
Minor	0	1	2
None	1	1	1
	----	----	----
Total	249	254	273

* Number of General Aviation Aircraft in Aerial Application Operations

Table 147 - PERSONS BY ROLE AND DEGREE OF INJURY
AERIAL APPLICATION FLYING
1984

Role of Person	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Pilot	20	20	42	167	249
Other crew	0	1	0	1	2
Passenger	0	1	1	3	5
Total aboard	20	22	43	171	256
Other aircraft*	0	1	0	0	1
Other ground	1	0	0	0	1
Grand total	21	23	43	171	258
Percent	8.1	8.9	16.7	66.3	

* 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 148 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
AERIAL APPLICATION FLYING
1984

Type of first occurrence	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Altitude deviation,uncontrolled	0	0	1	0	1	0.4
Airframe/component/system failure/malfunction	16	3	1	0	20	8.0
Dragged wing, rotor, pod, or float	2	0	0	0	2	0.8
Fire	1	1	1	0	3	1.2
Hard landing	3	0	0	0	3	1.2
In flight collision with object	19	12	6	11	48	19.3
In flight collision with terrain	18	5	1	3	27	10.8
In flight encounter with weather	2	1	0	0	3	1.2
Loss of control - in flight	15	2	7	3	27	10.8
Loss of control - on ground	10	1	0	0	11	4.4
Midair collision	2	2	0	4	8	3.2
Nose over	4	1	0	0	5	2.0
On ground collision with object	1	0	0	0	1	0.4
On ground collision with terrain	5	0	1	0	6	2.4
Overrun	4	0	0	0	4	1.6
Loss of power	4	4	1	0	9	3.6
Loss of power(total) - mech failure/malfunction	20	6	1	1	28	11.2
Loss of power(partial) - mech failure/malfunction	15	1	0	0	16	6.4
Loss of power(total) - non-mechanical	16	3	1	0	20	8.0
Loss of power(partial) - non-mechanical	4	0	0	0	4	1.6
Undershoot	2	0	0	0	2	0.8
Vortex turbulence encountered	0	1	0	0	1	0.4
Aircraft						
Number -	163	43	21	22	249	
Percent -	65.5	17.3	8.4	8.8		

Table 149 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
AERIAL APPLICATION FLYING
1984

Phase of operation	Aircraft damage			Aircraft	
	None	Subs	Dest	No.	Percent
Taxi - to takeoff	0	1	0	1	0.4
Takeoff	0	5	0	5	2.0
Takeoff - ground run	0	11	4	15	6.0
Takeoff - initial climb	0	27	8	35	14.1
Climb - to cruise	0	2	1	3	1.2
Cruise	0	6	4	10	4.0
Cruise - normal	0	3	2	5	2.0
Descent - normal	0	0	1	1	0.4
Descent - emergency	0	1	0	1	0.4
Approach	0	1	0	1	0.4
Approach - VFR pattern - downwind	0	1	0	1	0.4
Approach - VFR pattern - base to final	0	2	0	2	0.8
Approach - VFR pattern - final approach	0	2	1	3	1.2
Landing	0	2	0	2	0.8
Landing - flare/touchdown	0	3	0	3	1.2
Landing - roll	0	12	1	13	5.2
Maneuvering	0	5	3	8	3.2
Maneuvering - aerial application	1	85	48	134	53.8
Maneuvering - turn to reverse direction	0	1	1	2	0.8
Maneuvering - turn to landing area (emergency)	0	1	0	1	0.4
Unknown	0	2	1	3	1.2
Aircraft					
Number -	1	173	75	249	
Percent -	0.4	69.5	30.1		

Table 150 - AIRCRAFT BY CONDITION OF LIGHT AND TYPE OF WEATHER
AERIAL APPLICATION FLYING
1984

Condition of light	Type of weather			Aircraft	
	VMC	IMC	Not reptd	No.	Percent
Dawn	7	0	0	7	2.8
Daylight	231	1	0	232	93.2
Night (dark)	3	0	0	3	1.2
Night (bright)	1	0	0	1	0.4
Dusk	3	0	1	4	1.6
Not reported	2	0	0	2	0.8
Aircraft					
Number -	247	1	1	249	
Percent -	99.2	0.4	0.4		

Table 151 - AIRCRAFT BY PROXIMITY TO AIRPORT AND FLIGHT PLAN
AERIAL APPLICATION FLYING
1984

Proximity to Airport	Type of Flight Plan			Aircraft	
	VFR	None	NRept	No.	Percent
On Airport	0	21	0	21	8.4
On Airstrip	1	21	0	22	8.8
Within 5 SM	0	17	0	17	6.8
5 SM Or Greater	0	12	0	12	4.8
Not reported	0	176	1	177	71.1
Aircraft					
Number -	1	247	1	249	
Percent -	0.4	99.2	0.4		

Table 152 - MOST PREVALENT DETAILED ACCIDENT CAUSES
AERIAL APPLICATION FLYING
1984

Detailed Cause -----	Number of Aircraft -----	Percent of Aircraft -----
Clearance - Not maintained - Pilot in command	26	10.4
Clearance - Misjudged - Pilot in command	23	9.2
Visual lookout - Inadequate - Pilot in command	18	7.2
Undetermined	15	6.0
Directional control - Not maintained - Pilot in command	13	5.2
Fluid, fuel - Exhaustion	9	3.6
Preflight planning/preparation - Inadequate - Pilot in command	9	3.6
Aircraft preflight - Inadequate - Pilot in command	8	3.2
In-flight planning/decision - Improper - Pilot in command	8	3.2
Airspeed(Vs) - Not maintained - Pilot in command	8	3.2
Total Number of Aircraft:	249	

Table 153 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
AERIAL APPLICATION FLYING
1975 - 1984

Year	Accidents	Fatal Accidents	Fatalities	
			Total	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

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

* 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
1984 AND 1979 - 1983

Type of Occurrence	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Collision with object/terrain	82	32.9	114.6	34.4
Loss of power	77	30.9	107.6	32.3
Loss of control - in flight	27	10.8	48.6	14.6
Loss of control - on ground	11	4.4	22.4	6.7
Airframe/component/system fail/malf	20	8.0	17.6	5.3
Nose over/down	5	2.0	5.8	1.7
Miscellaneous	4	1.6	3.4	1.0
(All other types)	23	9.2	13.2	4.0
Total	249	100.0	333.2	100.0

Table 155 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
AERIAL APPLICATION FLYING
1984 AND 1979 - 1983

Phase of Operation	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Maneuvering	145	58.2	171.6	51.5
Takeoff	55	22.1	79.8	23.9
Cruise	15	6.0	37.0	11.1
Landing	18	7.2	31.4	9.4
Approach	7	2.8	6.8	2.0
Climb	3	1.2	3.0	.9
Taxi	1	.4	2.2	.7
Descent	2	.8	.8	.2
Standing	0	.0	.2	.1
Other	3	1.2	.2	.1
Not reported	0	.0	.2	.1
Total	249	100.0	333.2	100.0

Table 156 - BROAD CAUSE/FACTOR ASSIGNMENTS IN ALL ACCIDENTS
AERIAL APPLICATION FLYING
1984 AND 1979 - 1983

Broad Cause/Factor -----	1984 -----		1979 - 1983 -----	
	No. ---	Percent -----	Mean ----	Percent -----
Pilot	191	76.7	231.4	69.4
Terrain	81	32.5	111.2	33.4
Powerplant	74	29.7	83.4	25.0
Miscellaneous	53	21.3	46.4	13.9
Weather	33	13.3	42.6	12.8
Personnel	25	10.0	25.4	7.6
Landing Gear	9	3.6	15.2	4.6
Airport/Airways/Facilities	5	2.0	15.2	4.6
Undetermined	15	6.0	13.0	3.9
Rotorcraft	3	1.2	11.8	3.5
Airframe	9	3.6	5.8	1.7
Systems	2	.8	3.4	1.0
Instruments/Equipment/Accessories	1	.4	3.0	.9
Number of Aircraft	249		333.2	

Table 157 - SUMMARY OF LOSSES
INSTRUCTIONAL FLYING
1982 - 1984

	1984	1983	1982
	----	----	----
Accidents			

Fatal	25	26	22
Involved Serious Injury	19	23	28
Involved Minor Injury	48	45	46
Involved No Injury	261	285	315
	----	----	----
Total	353	379	411
Fatalities			

Passenger	1	0	3
Crew	36	40	33
Other Persons	17	1	2
	----	----	----
Total	54	41	38
Aircraft Damaged*			

Destroyed	49	48	74
Substantial	298	333	339
Minor	2	1	0
None	5	1	1
Unknown	0	0	0
	----	----	----
Total	354	383	414

* Number of General Aviation Aircraft in Instructional Operations

Table 158 - PERSONS BY ROLE AND DEGREE OF INJURY
INSTRUCTIONAL FLYING
1984

Role of Person	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Pilot	24	17	47	270	358
Copilot	3	2	2	15	22
Dual student	8	6	12	93	119
Check pilot	1	0	0	6	7
Other crew	0	0	2	4	6
Passenger	1	7	7	27	42
Total aboard	37	32	70	415	554
Other aircraft*	17	1	3	11	32
Other ground	0	0	0	3	3
Grand total	54	33	73	429	589
Percent	9.2	5.6	12.4	72.8	

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

Table 159 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
INSTRUCTIONAL FLYING
1984

Type of first occurrence	Degree of injury				Aircraft	
	None	Minor	Ser	Fatal	No.	Percent
Abrupt maneuver	1	0	0	1	2	0.6
Airframe/component/system failure/malfunction	3	0	1	1	5	1.4
Dragged wing, rotor, pod, or float	0	1	1	0	2	0.6
Fire	1	0	1	0	2	0.6
Forced landing	2	1	0	0	3	0.8
Main gear collapsed	2	0	0	0	2	0.6
Nose gear collapsed	2	0	0	0	2	0.6
Complete gear collapsed	1	0	0	0	1	0.3
Hard landing	44	8	1	0	53	15.0
In flight collision with object	9	4	2	1	16	4.5
In flight collision with terrain	13	1	0	2	16	4.5
In flight encounter with weather	2	1	0	2	5	1.4
Loss of control - in flight	22	7	4	7	40	11.3
Loss of control - on ground	68	7	1	0	76	21.5
Midair collision	2	0	0	4	6	1.7
Nose over	3	0	0	0	3	0.8
On ground collision with object	14	2	0	0	16	4.5
On ground collision with terrain	6	1	0	0	7	2.0
Overrun	11	1	0	0	12	3.4
Loss of power	10	2	1	2	15	4.2
Loss of power(total) - mech failure/malfunction	3	1	0	1	5	1.4
Loss of power(partial) - mech failure/malfunction	6	2	0	0	8	2.3
Loss of power(total) - non-mechanical	22	8	3	3	36	10.2
Loss of power(partial) - non-mechanical	1	0	2	1	4	1.1
Roll over	1	0	0	0	1	0.3
Undershoot	12	0	1	0	13	3.7
Vortex turbulence encountered	1	0	0	0	1	0.3
Miscellaneous/other	0	1	1	0	2	0.6
Aircraft						
Number -	262	48	19	25	354	
Percent -	74.0	13.6	5.4	7.1		

Table 160 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
INSTRUCTIONAL FLYING
1984

Phase of operation	Aircraft damage				Aircraft	
	None	Minor	Subs	Dest	No.	Percent
Standing	0	0	1	0	1	0.3
Standing - starting engine(s)	0	0	1	0	1	0.3
Standing - engine(s) operating	0	0	1	0	1	0.3
Taxi	0	0	2	0	2	0.6
Taxi - to takeoff	0	0	5	0	5	1.4
Taxi - from landing	0	0	7	0	7	2.0
Taxi - aerial	0	0	3	0	3	0.8
Takeoff	0	0	3	1	4	1.1
Takeoff - ground run	1	0	29	1	31	8.8
Takeoff - initial climb	2	0	23	8	33	9.3
Climb	0	0	0	1	1	0.3
Climb - to cruise	0	0	1	1	2	0.6
Cruise	0	0	4	4	8	2.3
Cruise - normal	0	0	16	1	17	4.8
Descent	0	0	1	1	2	0.6
Descent - normal	0	0	4	1	5	1.4
Approach	0	0	3	2	5	1.4
Approach - VFR pattern - downwind	0	0	2	1	3	0.8
Approach - VFR pattern - base to final	0	0	0	1	1	0.3
Approach - VFR pattern - final approach	0	1	11	4	16	4.5
Approach - go-around (VFR)	0	0	15	2	17	4.8
Approach - circling(IFR)	0	0	1	0	1	0.3
Landing	0	0	16	1	17	4.8
Landing - flare/touchdown	2	1	81	4	88	24.9
Landing - roll	0	0	52	0	52	14.7
Maneuvering	0	0	10	11	21	5.9
Maneuvering - aerial application	0	0	1	2	3	0.8
Maneuvering - turn to reverse direction	0	0	0	1	1	0.3

Table 160 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE (CONTINUED)
INSTRUCTIONAL FLYING
1984

Phase of operation	Aircraft damage				Aircraft	
	None	Minor	Subs	Dest	No.	Percent
Maneuvering - turn to landing area (emergency)	0	0	0	1	1	0.3
Hover	0	0	5	0	5	1.4
Aircraft						
Number -	5	2	298	49	354	
Percent -	1.4	0.6	84.2	13.8		

Table 161 - AIRCRAFT BY CONDITION OF LIGHT AND TYPE OF WEATHER
INSTRUCTIONAL FLYING
1984

Condition of light	Type of weather			Aircraft	
	VMC	IMC	Not reptd	No.	Percent
Dawn	4	0	0	4	1.1
Daylight	316	4	1	321	90.7
Night (dark)	13	0	0	13	3.7
Night (bright)	1	0	0	1	0.3
Dusk	12	1	0	13	3.7
Not reported	1	0	1	2	0.6
Aircraft					
Number -	347	5	2	354	
Percent -	98.0	1.4	0.6		

Table 162 - AIRCRAFT BY PROXIMITY TO AIRPORT AND FLIGHT PLAN
INSTRUCTIONAL FLYING
1984

Proximity to Airport -----	Type of Flight Plan -----				Aircraft -----	
	VFR	IFR	None	NRept	No.	Percent
On Airport	24	3	186	3	216	61.0
On Airstrip	1	0	14	0	15	4.2
Within 5 SM	5	0	18	0	23	6.5
5 SM Or Greater	1	0	11	0	12	3.4
Not reported	12	0	75	1	88	24.9
Aircraft						
Number -	43	3	304	4	354	
Percent -	12.1	0.8	85.9	1.1		

Table 163 - MOST PREVALENT DETAILED ACCIDENT CAUSES
INSTRUCTIONAL FLYING
1984

Detailed Cause -----	Number of Aircraft -----	Percent of Aircraft -----
Directional control - Not maintained - Pilot in command	73	20.6
Flare - Improper - Pilot in command	27	7.6
Recovery from bounced landing - Improper - Pilot in command	24	6.8
Supervision - Inadequate - Pilot in command(CFI)	19	5.4
Undetermined	16	4.5
Remedial action - Delayed - Pilot in command(CFI)	15	4.2
Directional control - Not maintained - Dual student	12	3.4
Flight controls - Improper use of - Pilot in command	12	3.4
Ground loop/swerve - Not corrected - Pilot in command	11	3.1
Compensation for wind conditions - Improper - Pilot in command	11	3.1
Total Number of Aircraft:	354	

Table 164 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
INSTRUCTIONAL FLYING
1975 - 1984

				Fatalities

Year	Accidents	Fatal Accidents	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

Accident Rate per 100,000 *
Aircraft Hours Flown

Year	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

* 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
1984 AND 1979 - 1983

Type of Occurrence	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Loss of power	68	19.2	89.2	20.1
Loss of control - on ground	76	21.5	82.2	18.6
Hard landing	53	15.0	76.2	17.2
Collision with object/terrain	55	15.5	67.8	15.3
Loss of control - in flight	40	11.3	40.4	9.1
Undershoot	13	3.7	18.0	4.1
Miscellaneous	17	4.8	17.6	4.0
Nose over/down	3	.8	13.0	2.9
Midair collision	6	1.7	10.4	2.3
Gear collapsed/retracted	5	1.4	7.4	1.7
Airframe/component/system fail/malf	5	1.4	7.2	1.6
Encounter with weather/turbulence	6	1.7	4.8	1.1
(All other types)	7	2.0	8.6	1.9
Total	354	100.0	442.8	100.0

Table 166 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
INSTRUCTIONAL FLYING
1984 AND 1979 - 1983

Phase of Operation	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Landing	157	44.4	186.8	42.2
Takeoff	68	19.2	83.6	18.9
Approach	43	12.1	74.2	16.8
Cruise	25	7.1	35.4	8.0
Maneuvering	31	8.8	29.8	6.7
Taxi	17	4.8	13.6	3.1
Descent	7	2.0	8.4	1.9
Climb	3	.8	5.2	1.2
Standing	3	.8	3.8	.9
Other	0	.0	2.0	.5
Total	354	100.0	442.8	100.0

Table 167 - BROAD CAUSE/FACTOR ASSIGNMENTS IN ALL ACCIDENTS
INSTRUCTIONAL FLYING
1984 AND 1979 - 1983

Broad Cause/Factor	1984		1979 - 1983	
	No.	Percent	Mean	Percent
Pilot	321	90.7	383.8	86.7
Terrain	91	25.7	90.2	20.4
Weather	77	21.8	88.6	20.0
Powerplant	40	11.3	53.0	12.0
Miscellaneous	61	17.2	44.4	10.0
Personnel	39	11.0	43.2	9.8
Airport/Airways/Facilities	22	6.2	31.4	7.1
Landing Gear	20	5.6	28.8	6.5
Undetermined	16	4.5	12.6	2.8
Systems	1	.3	5.0	1.1
Airframe	3	.8	3.2	.7
Rotorcraft	1	.3	3.0	.7
Instruments/Equipment/Accessories	1	.3	1.4	.3
Number of Aircraft	354		442.8	

BY THE NATIONAL TRANSPORTATION SAFETY BOARD

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Chairman

/s/ PATRICIA A. GOLDMAN
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/s/ JOSEPH NALL
Member

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
1984

	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE	(1288)	(1231)	(2519)	(6554)	(5162)	(11717)
AIRCRAFT	(114)	(75)	(189)	(932)	(563)	(1495)
STRUCTURE	(47)	(26)	(73)	(192)	(230)	(422)
FUSELAGE	(1)	(2)	(3)	(4)	(13)	(17)
FUSELAGE	(1)	(2)	(3)	(2)	(6)	(8)
BURNED	0	0	0	0	1	1
FIRE	0	1	1	0	2	2
ICE	0	0	0	0	1	1
OVERLOAD	1	0	1	1	0	1
SEPARATION	0	1	1	0	1	1
VIBRATION	0	0	0	1	1	2
FUSELAGE, CABIN	(0)	(0)	(0)	(0)	(1)	(1)
OVERLOAD	0	0	0	0	1	1
FUSELAGE, BULKHEAD	(0)	(0)	(0)	(0)	(2)	(2)
BUCKLED	0	0	0	0	1	1
OVERLOAD	0	0	0	0	1	1
FUSELAGE, FLOOR	(0)	(0)	(0)	(0)	(1)	(1)
BUCKLED	0	0	0	0	1	1
FUSELAGE, SKIN	(0)	(0)	(0)	(0)	(1)	(1)
INCORRECT	0	0	0	0	1	1
FUSELAGE, SEAT	(0)	(0)	(0)	(2)	(1)	(3)
DISCONNECTED	0	0	0	1	0	1
UNLOCKED	0	0	0	1	1	2
FUSELAGE, INSTRUMENT/ELECTRICAL PANEL	(0)	(0)	(0)	(0)	(1)	(1)
DISTORTED	0	0	0	0	1	1
WING	(20)	(12)	(32)	(23)	(25)	(48)
WING	(14)	(8)	(22)	(16)	(16)	(32)
ASYMMETRICAL	0	0	0	1	0	1
BENT	0	0	0	0	2	2
CONTAMINATION	1	0	1	1	0	1
DETERIORATED	1	0	1	1	0	1
FAILURE, TOTAL	3	0	3	3	1	4
FIRE	0	0	0	0	1	1
ICE	5	2	7	6	6	12
OVERLOAD	1	1	2	1	1	2
SEPARATION	3	4	7	3	4	7
DARK NIGHT	0	1	1	0	1	1
WING, SPAR	(3)	(3)	(6)	(3)	(4)	(7)
BUCKLED	0	0	0	0	1	1
DETERIORATED	1	0	1	1	0	1
FAILURE, TOTAL	1	1	2	1	1	2
OVERLOAD	1	1	2	1	1	2
SEPARATION	0	1	1	0	1	1
WING, BRACING STRUT	(2)	(1)	(3)	(2)	(1)	(3)
CORRODED	1	0	1	1	0	1
FAILURE, TOTAL	1	1	2	1	1	2
WING, SKIN	(1)	(0)	(1)	(2)	(3)	(5)
FAILURE, TOTAL	0	0	0	1	0	1
IMPROPER	0	0	0	0	1	1
INCORRECT	0	0	0	0	1	1
LOOSE	0	0	0	0	1	1
SEPARATION	1	0	1	1	0	1
WING, FAIRING	(0)	(0)	(0)	(0)	(1)	(1)
LOSS, PARTIAL	0	0	0	0	1	1
NACELLE/PYLON	(0)	(0)	(0)	(0)	(2)	(2)
NACELLE/PYLON, SKIN	(0)	(0)	(0)	(0)	(2)	(2)
LOOSE	0	0	0	0	1	1
VIBRATION	0	0	0	0	1	1
FLIGHT CONTROL SURFACES/ATTACHMENTS	(10)	(6)	(16)	(16)	(12)	(28)
FLIGHT CONTROL SURFACES/ATTACHMENTS	(1)	(1)	(2)	(3)	(3)	(6)
FAILURE, PARTIAL	0	0	0	1	0	1
ICE	0	0	0	0	2	2

CAUSE/FACTOR TABLE
ALL OPERATIONS
1984

	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
STRUCTURE (Continued)						
FLIGHT CONTROL SURFACES/ATTACHMENTS (Continued)						
FLIGHT CONTROL SURFACES/ATTACHMENTS (Continued)						
MOVEMENT RESTRICTED	1	0	1	1	0	1
SEPARATION	0	1	1	0	1	1
UNDETERMINED	0	0	0	1	0	1
FLIGHT CONTROL,ELEVATOR	(2)	(0)	(2)	(4)	(0)	(4)
DISCONNECTED	1	0	1	1	0	1
LOCKED	1	0	1	1	0	1
MOVEMENT RESTRICTED	0	0	0	2	0	2
FLIGHT CONTROL,ELEVATOR TAB SURFACE	(1)	(0)	(1)	(2)	(0)	(2)
DEPLOYED INADVERTENTLY	1	0	1	1	0	1
IMPROPER	0	0	0	1	0	1
FLIGHT CONTROL,STABILATOR	(0)	(4)	(4)	(0)	(4)	(4)
FAILURE,TOTAL	0	1	1	0	1	1
OVERLOAD	0	1	1	0	1	1
SEPARATION	0	2	2	0	2	2
FLIGHT CONTROL,AILERON	(2)	(0)	(2)	(3)	(0)	(3)
FAILURE,TOTAL	1	0	1	1	0	1
MOVEMENT RESTRICTED	0	0	0	1	0	1
OVERLOAD	1	0	1	1	0	1
FLIGHT CONTROL,AILERON ATTACHMENT	(2)	(0)	(2)	(2)	(0)	(2)
FAILURE,TOTAL	1	0	1	1	0	1
IMPROPER	1	0	1	1	0	1
FLIGHT CONTROL,RUDDER	(0)	(1)	(1)	(0)	(2)	(2)
FAILURE,PARTIAL	0	0	0	0	1	1
SEPARATION	0	1	1	0	1	1
FLIGHT CONTROL,RUDDERVATOR	(1)	(0)	(1)	(1)	(0)	(1)
OVERLOAD	1	0	1	1	0	1
FLIGHT CONTROL,FLAP SURFACE	(0)	(0)	(0)	(0)	(1)	(1)
ASYMMETRICAL	0	0	0	0	1	1
FLIGHT CONTROL,FLAP ATTACHMENT	(0)	(0)	(0)	(0)	(2)	(2)
OVERLOAD	0	0	0	0	1	1
PREVIOUS DAMAGE	0	0	0	0	1	1
FLIGHT CONTROL,GUST LOCK	(1)	(0)	(1)	(1)	(0)	(1)
NOT REMOVED	1	0	1	1	0	1
LANDING GEAR	(1)	(1)	(2)	(93)	(147)	(240)
LANDING GEAR	(0)	(0)	(0)	(2)	(6)	(8)
DEPLOYED INADVERTENTLY	0	0	0	0	1	1
IMPROPER	0	0	0	0	1	1
OVERLOAD	0	0	0	1	3	4
UNDETERMINED	0	0	0	1	0	1
VIBRATION	0	0	0	0	1	1
LANDING GEAR,MAIN GEAR	(0)	(0)	(0)	(12)	(24)	(36)
FAILURE,PARTIAL	0	0	0	2	0	2
FAILURE,TOTAL	0	0	0	2	3	5
FATIGUE	0	0	0	1	0	1
JAMMED	0	0	0	1	0	1
OVERLOAD	0	0	0	1	17	18
PREVIOUS DAMAGE	0	0	0	1	1	2
SEPARATION	0	0	0	1	3	4
STRIPPED THREAD	0	0	0	1	0	1
UNDETERMINED	0	0	0	2	0	2
LANDING GEAR,MAIN GEAR SHOCK ABSORBING STRUT	(0)	(0)	(0)	(2)	(1)	(3)
DISCONNECTED	0	0	0	1	0	1
OVERLOAD	0	0	0	1	1	2
LANDING GEAR,MAIN GEAR STRUT	(0)	(0)	(0)	(2)	(3)	(5)
FAILURE,TOTAL	0	0	0	1	1	2
FATIGUE	0	0	0	1	0	1
OVERLOAD	0	0	0	0	1	1
PRESSURE TOO LOW	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)						
STRUCTURE (Continued)						
LANDING GEAR (Continued)						
LANDING GEAR,MAIN GEAR ATTACHMENT	(0)	(0)	(0)	(9)	(27)	(36)
CORRODED	0	0	0	0	1	1
FAILURE,TOTAL	0	0	0	2	0	2
FATIGUE	0	0	0	2	0	2
OVERLOAD	0	0	0	3	21	24
PREVIOUS DAMAGE	0	0	0	0	1	1
SEPARATION	0	0	0	2	4	6
LANDING GEAR,NOSE GEAR	(0)	(0)	(0)	(3)	(35)	(38)
BUCKLED	0	0	0	0	1	1
FAILURE,TOTAL	0	0	0	1	2	3
FATIGUE	0	0	0	1	0	1
IMPROPER	0	0	0	1	0	1
OVERLOAD	0	0	0	0	29	29
SEPARATION	0	0	0	0	3	3
LANDING GEAR,NOSE GEAR ASSEMBLY	(0)	(0)	(0)	(9)	(12)	(21)
BINDING(MECHANICAL)	0	0	0	1	0	1
DISTORTED	0	0	0	0	1	1
FAILURE,PARTIAL	0	0	0	1	0	1
FAILURE,TOTAL	0	0	0	1	2	3
INOPERATIVE	0	0	0	1	0	1
JAMMED	0	0	0	2	0	2
OVERLOAD	0	0	0	2	9	11
PREVIOUS DAMAGE	0	0	0	1	0	1
LANDING GEAR,EMERGENCY EXTENSION ASSEMBLY	(0)	(0)	(0)	(2)	(1)	(3)
NOT ENGAGED	0	0	0	1	1	2
UNDETERMINED	0	0	0	1	0	1
LANDING GEAR,TAILWHEEL	(0)	(0)	(0)	(0)	(1)	(1)
VIBRATION	0	0	0	0	1	1
LANDING GEAR,TAILWHEEL ASSEMBLY	(0)	(0)	(0)	(1)	(1)	(2)
INCORRECT	0	0	0	1	0	1
MOVEMENT RESTRICTED	0	0	0	0	1	1
LANDING GEAR,WHEEL	(0)	(0)	(0)	(1)	(0)	(1)
SEPARATION	0	0	0	1	0	1
LANDING GEAR,TIRE	(0)	(1)	(1)	(3)	(10)	(13)
BINDING(MECHANICAL)	0	1	1	0	1	1
BURST	0	0	0	0	2	2
FAILURE,TOTAL	0	0	0	3	4	7
OVERLOAD	0	0	0	0	1	1
PRESSURE TOO LOW	0	0	0	0	2	2
LANDING GEAR,AXLE	(0)	(0)	(0)	(0)	(1)	(1)
OTHER	0	0	0	0	1	1
LANDING GEAR,SKI ASSEMBLY	(0)	(0)	(0)	(3)	(2)	(5)
CRACKED	0	0	0	1	0	1
FAILURE,PARTIAL	0	0	0	1	1	2
FAILURE,TOTAL	0	0	0	1	0	1
IMPROPER	0	0	0	0	1	1
LANDING GEAR,FLOAT ASSEMBLY	(1)	(0)	(1)	(1)	(3)	(4)
BUCKLED	0	0	0	0	1	1
LEAK	1	0	1	1	1	2
PREVIOUS DAMAGE	0	0	0	0	1	1
LANDING GEAR,GEAR WARNING SYSTEM	(0)	(0)	(0)	(1)	(1)	(2)
FAILURE,TOTAL	0	0	0	1	1	2
LANDING GEAR,GEAR INDICATING SYSTEM	(0)	(0)	(0)	(1)	(3)	(4)
FAILURE,TOTAL	0	0	0	1	0	1
FALSE INDICATION	0	0	0	0	2	2
UNDETERMINED	0	0	0	0	1	1
LANDING GEAR,SKID ASSEMBLY	(0)	(0)	(0)	(0)	(4)	(4)

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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,SKID ASSEMBLY (Continued)						
CONTAMINATION	0	0	0	0	1	1
MOVEMENT RESTRICTED	0	0	0	0	2	2
OVERLOAD	0	0	0	0	1	1
LANDING GEAR,NORMAL BRAKE SYSTEM	(0)	(0)	(0)	(21)	(7)	(28)
BINDING(MECHANICAL)	0	0	0	2	0	2
BURST	0	0	0	1	0	1
CRACKED	0	0	0	0	1	1
FAILURE,PARTIAL	0	0	0	1	0	1
FAILURE,TOTAL	0	0	0	1	0	1
FROZEN	0	0	0	1	0	1
IMPROPER	0	0	0	1	0	1
INOPERATIVE	0	0	0	2	1	3
LACK OF	0	0	0	1	0	1
LEAK	0	0	0	1	0	1
LOCKED	0	0	0	1	0	1
OTHER	0	0	0	0	1	1
OVERLOAD	0	0	0	0	1	1
PREVIOUS DAMAGE	0	0	0	1	0	1
UNDETERMINED	0	0	0	3	1	4
WORN	0	0	0	5	2	7
LANDING GEAR,ANTI-SKID BRAKE SYSTEM	(0)	(0)	(0)	(1)	(1)	(2)
FAILURE,TOTAL	0	0	0	1	0	1
INOPERATIVE	0	0	0	0	1	1
LANDING GEAR,GEAR LOCKING MECHANISM	(0)	(0)	(0)	(7)	(0)	(7)
FAILURE,TOTAL	0	0	0	1	0	1
FOREIGN OBJECT	0	0	0	1	0	1
FROZEN	0	0	0	1	0	1
INADEQUATE	0	0	0	1	0	1
MOVEMENT RESTRICTED	0	0	0	1	0	1
NOT ENGAGED	0	0	0	1	0	1
OVERLOAD	0	0	0	1	0	1
LANDING GEAR,GEAR LEVER	(0)	(0)	(0)	(0)	(1)	(1)
UNLOCKED	0	0	0	0	1	1
LANDING GEAR,NOSEWHEEL STEERING	(0)	(0)	(0)	(1)	(0)	(1)
FAILURE,PARTIAL	0	0	0	1	0	1
LANDING GEAR,NORMAL RETRACTION/EXTENSION ASSEMBLY	(0)	(0)	(0)	(11)	(3)	(14)
BINDING(MECHANICAL)	0	0	0	2	0	2
BURNED	0	0	0	0	1	1
CRACKED	0	0	0	1	0	1
FAILURE,PARTIAL	0	0	0	2	0	2
FAILURE,TOTAL	0	0	0	1	1	2
INOPERATIVE	0	0	0	1	0	1
JAMMED	0	0	0	1	0	1
OVERTORQUE	0	0	0	1	0	1
UNDETERMINED	0	0	0	1	0	1
UNLOCKED	0	0	0	0	1	1
WORN	0	0	0	1	0	1
DOOR	(2)	(2)	(4)	(3)	(10)	(13)
DOOR	(0)	(0)	(0)	(0)	(1)	(1)
OPEN	0	0	0	0	1	1
DOOR,EXTERIOR CREW	(0)	(2)	(2)	(0)	(3)	(3)
OPEN	0	2	2	0	2	2
UNLOCKED	0	0	0	0	1	1
DOOR,PASSENGER	(0)	(0)	(0)	(0)	(4)	(4)
OPEN	0	0	0	0	1	1
UNLOCKED	0	0	0	0	3	3
DOOR,CARGO	(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)						
DOOR (Continued)						
DOOR,CARGO (Continued)						
OPEN	0	0	0	0	1	1
DOOR,LANDING GEAR	(2)	(0)	(2)	(3)	(0)	(3)
FAILURE,PARTIAL	0	0	0	1	0	1
OVERLOAD	1	0	1	1	0	1
SEPARATION	1	0	1	1	0	1
DOOR,INSPECTION	(0)	(0)	(0)	(0)	(1)	(1)
OPEN	0	0	0	0	1	1
WINDOW	(0)	(3)	(3)	(2)	(9)	(11)
WINDOW,FLIGHT COMPARTMENT WINDOW/WINDSHIELD	(0)	(3)	(3)	(2)	(9)	(11)
BLOCKED(PARTIAL)	0	0	0	1	0	1
CONTAMINATION	0	0	0	0	1	1
DIRTY(FOGGY)	0	2	2	0	6	6
OPEN	0	0	0	0	1	1
UNLOCKED	0	1	1	1	1	2
FLIGHT CONTROL SYSTEM	(2)	(0)	(2)	(12)	(6)	(18)
FLIGHT CONTROL SYSTEM	(1)	(0)	(1)	(2)	(0)	(2)
FAILURE,TOTAL	0	0	0	1	0	1
JAMMED	1	0	1	1	0	1
FLT CONTROL SYST,AILERON CONTROL	(0)	(0)	(0)	(4)	(2)	(6)
FAILURE,PARTIAL	0	0	0	1	0	1
INCORRECT	0	0	0	1	0	1
INOPERATIVE	0	0	0	1	0	1
JAMMED	0	0	0	1	0	1
MOVEMENT RESTRICTED	0	0	0	0	2	2
FLT CONTROL SYST,ELEVATOR CONTROL	(1)	(0)	(1)	(3)	(2)	(5)
BINDING(MECHANICAL)	0	0	0	0	1	1
FAILURE,TOTAL	1	0	1	2	0	2
INOPERATIVE	0	0	0	1	0	1
MOVEMENT RESTRICTED	0	0	0	0	1	1
FLT CONTROL SYST,RUDDER CONTROL	(0)	(0)	(0)	(2)	(0)	(2)
IMPROPER	0	0	0	1	0	1
JAMMED	0	0	0	1	0	1
FLT CONTROL SYST,STABILATOR TRIM	(0)	(0)	(0)	(0)	(1)	(1)
DISCONNECTED	0	0	0	0	1	1
FLT CONTROL SYST,WING FLAP CONTROL	(0)	(0)	(0)	(1)	(1)	(2)
FAILURE,PARTIAL	0	0	0	1	0	1
FALSE INDICATION	0	0	0	0	1	1
STABILIZER	(2)	(0)	(2)	(2)	(1)	(3)
HORIZONTAL STABILIZER SURFACE	(0)	(0)	(0)	(0)	(1)	(1)
BENT	0	0	0	0	1	1
HORIZONTAL STABILIZER ATTACHMENT	(1)	(0)	(1)	(1)	(0)	(1)
OVERLOAD	1	0	1	1	0	1
VERTICAL STABILIZER ATTACHMENT	(1)	(0)	(1)	(1)	(0)	(1)
OVERLOAD	1	0	1	1	0	1
ROTORCRAFT FLIGHT CONTROL	(1)	(0)	(1)	(7)	(3)	(10)
ROTORCRAFT FLIGHT CONTROL,CYCLIC CONTROL	(1)	(0)	(1)	(1)	(0)	(1)
DISCONNECTED	1	0	1	1	0	1
ROTORCRAFT FLIGHT CONTROL,COLLECTIVE CONTROL	(0)	(0)	(0)	(0)	(2)	(2)
UNDETERMINED	0	0	0	0	1	1
UNLOCKED	0	0	0	0	1	1
ROTORCRAFT FLIGHT CONTROL,COLLECTIVE CONTROL ROD	(0)	(0)	(0)	(1)	(0)	(1)
DISCONNECTED	0	0	0	1	0	1
ROTORCRAFT FLIGHT CONTROL,TAIL ROTOR PEDAL	(0)	(0)	(0)	(1)	(1)	(2)
VIBRATION	0	0	0	1	1	2
ROTORCRAFT FLIGHT CONTROL,TAIL ROTOR CONTROL	(0)	(0)	(0)	(3)	(0)	(3)
LOSS,TOTAL	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)						
AIRCRAFT (Continued)						
STRUCTURE (Continued)						
ROTORCRAFT FLIGHT CONTROL (Continued)						
ROTORCRAFT FLIGHT CONTROL, TAIL ROTOR CABLE FAILURE, TOTAL	(0)	(0)	(0)	(1)	(0)	(1)
	0	0	0	1	0	1
ROTOR DRIVE SYSTEM	(2)	(0)	(2)	(10)	(0)	(10)
ROTOR DRIVE SYSTEM	(0)	(0)	(0)	(1)	(0)	(1)
UNDETERMINED	0	0	0	1	0	1
ROTOR DRIVE SYSTEM, ENGINE TO TRANSMISSION DRIVE FAILURE, TOTAL	(0)	(0)	(0)	(2)	(0)	(2)
SEPARATION	0	0	0	1	0	1
	0	0	0	1	0	1
ROTOR DRIVE SYSTEM, MAIN ROTOR MAST (DRIVE SHAFT) BINDING (MECHANICAL)	(1)	(0)	(1)	(1)	(0)	(1)
	1	0	1	1	0	1
ROTOR DRIVE SYSTEM, CLUTCH ASSEMBLY UNDETERMINED	(1)	(0)	(1)	(1)	(0)	(1)
	1	0	1	1	0	1
ROTOR DRIVE SYSTEM, INTERMEDIATE GEAR BOX (42 DEG) FATIGUE	(0)	(0)	(0)	(1)	(0)	(1)
	0	0	0	1	0	1
ROTOR DRIVE SYSTEM, TAIL ROTOR GEAR BOX (90 DEG) OVERLOAD	(0)	(0)	(0)	(2)	(0)	(2)
SEPARATION	0	0	0	1	0	1
	0	0	0	1	0	1
ROTOR DRIVE SYSTEM, TAIL ROTOR DRIVE SHAFT SEPARATION	(0)	(0)	(0)	(1)	(0)	(1)
	0	0	0	1	0	1
ROTOR DRIVE SYSTEM, MAIN ROTOR DRIVING PULLEY STRIPPED THREAD	(0)	(0)	(0)	(1)	(0)	(1)
	0	0	0	1	0	1
ROTOR SYSTEM	(6)	(0)	(6)	(20)	(2)	(22)
ROTOR SYSTEM	(0)	(0)	(0)	(1)	(0)	(1)
PENETRATED	0	0	0	1	0	1
ROTOR SYSTEM, MAIN ROTOR BLADE	(2)	(0)	(2)	(10)	(1)	(11)
CORRODED	0	0	0	1	0	1
CRACKED	0	0	0	1	0	1
FAILURE, PARTIAL	0	0	0	1	0	1
FATIGUE	0	0	0	2	0	2
FOREIGN OBJECT	0	0	0	1	0	1
MOVEMENT RESTRICTED	1	0	1	1	1	2
OVERLOAD	1	0	1	1	0	1
SEPARATION	0	0	0	1	0	1
VIBRATION	0	0	0	1	0	1
ROTOR SYSTEM, MAIN ROTOR BLADE SPAR	(0)	(0)	(0)	(2)	(0)	(2)
CORRODED	0	0	0	1	0	1
FAILURE, TOTAL	0	0	0	1	0	1
ROTOR SYSTEM, TAIL ROTOR BLADE	(1)	(0)	(1)	(1)	(1)	(2)
FAILURE, TOTAL	1	0	1	1	0	1
LOSS, PARTIAL	0	0	0	0	1	1
ROTOR SYSTEM, TAIL ROTOR BLADE ABRASION STRIP	(0)	(0)	(0)	(2)	(0)	(2)
FAILURE, TOTAL	0	0	0	1	0	1
SEPARATION	0	0	0	1	0	1
ROTOR SYSTEM, TAIL ROTOR HUB	(1)	(0)	(1)	(1)	(0)	(1)
SEPARATION	1	0	1	1	0	1
ROTOR SYSTEM, TAIL ROTOR HUB COUNTERWEIGHT	(1)	(0)	(1)	(1)	(0)	(1)
SEPARATION	1	0	1	1	0	1
ROTOR SYSTEM, TAIL ROTOR HUB PITCH LINK	(1)	(0)	(1)	(2)	(0)	(2)
FAILURE, TOTAL	0	0	0	1	0	1
OVERLOAD	1	0	1	1	0	1
SYSTEMS	(5)	(15)	(20)	(23)	(54)	(77)
ELECTRICAL SYSTEM	(2)	(1)	(3)	(10)	(24)	(34)
ELECTRICAL SYSTEM	(0)	(1)	(1)	(2)	(5)	(7)
FAILURE, TOTAL	0	0	0	0	1	1
FIRE	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)						
ELECTRICAL SYSTEM (Continued)						
ELECTRICAL SYSTEM (Continued)						
INOPERATIVE	0	0	0	0	2	2
LOSS, PARTIAL	0	0	0	0	1	1
UNDETERMINED	0	1	1	1	1	2
ELECTRICAL SYSTEM, BATTERY	(1)	(0)	(1)	(1)	(6)	(7)
DISABLED	0	0	0	0	1	1
EXHAUSTION	0	0	0	0	1	1
EXPLODED	1	0	1	1	0	1
FAILURE, TOTAL	0	0	0	0	1	1
OUTPUT LOW	0	0	0	0	3	3
ELECTRICAL SYSTEM, VOLTMETER	(1)	(0)	(1)	(1)	(0)	(1)
IMPROPER	1	0	1	1	0	1
ELECTRICAL SYSTEM, GENERATOR	(0)	(0)	(0)	(0)	(2)	(2)
DISABLED	0	0	0	0	1	1
FAILURE, TOTAL	0	0	0	0	1	1
ELECTRICAL SYSTEM, ALTERNATOR	(0)	(0)	(0)	(3)	(4)	(7)
FAILURE, TOTAL	0	0	0	1	3	4
IMPROPER	0	0	0	0	1	1
LOOSE	0	0	0	1	0	1
UNDETERMINED	0	0	0	1	0	1
ELECTRICAL SYSTEM, ELECTRIC WIRING	(0)	(0)	(0)	(2)	(4)	(6)
DETERIORATED	0	0	0	0	1	1
DISCONNECTED	0	0	0	1	2	3
FAILURE, TOTAL	0	0	0	0	1	1
SEPARATION	0	0	0	1	0	1
ELECTRICAL SYSTEM, ELECTRIC SWITCH	(0)	(0)	(0)	(1)	(0)	(1)
BURST	0	0	0	1	0	1
ELECTRICAL SYSTEM, FUSE	(0)	(0)	(0)	(0)	(1)	(1)
LACK OF	0	0	0	0	1	1
ELECTRICAL SYSTEM, CIRCUIT BREAKER	(0)	(0)	(0)	(0)	(2)	(2)
POPPED/TRIPPED	0	0	0	0	2	2
HYDRAULIC SYSTEM	(0)	(1)	(1)	(6)	(2)	(8)
HYDRAULIC SYSTEM	(0)	(0)	(0)	(3)	(0)	(3)
CONTAMINATION	0	0	0	1	0	1
FAILURE, TOTAL	0	0	0	1	0	1
OTHER	0	0	0	1	0	1
HYDRAULIC SYSTEM, LINE	(0)	(1)	(1)	(0)	(1)	(1)
BURST	0	1	1	0	1	1
HYDRAULIC SYSTEM, FITTING	(0)	(0)	(0)	(1)	(0)	(1)
FAILURE, PARTIAL	0	0	0	1	0	1
HYDRAULIC SYSTEM, SEAL	(0)	(0)	(0)	(1)	(1)	(2)
LEAK	0	0	0	1	1	2
HYDRAULIC SYSTEM, RELIEF VALVE	(0)	(0)	(0)	(1)	(0)	(1)
FAILURE, TOTAL	0	0	0	1	0	1
FLIGHT/NAV INSTRUMENTS	(0)	(3)	(3)	(1)	(7)	(8)
FLIGHT/NAV INSTRUMENTS, AIRSPEED INDICATOR	(0)	(0)	(0)	(1)	(4)	(5)
FOREIGN OBJECT DAMAGE	0	0	0	1	0	1
INOPERATIVE	0	0	0	0	4	4
FLIGHT/NAV INSTRUMENTS, TURN AND BANK	(0)	(1)	(1)	(0)	(1)	(1)
INOPERATIVE	0	1	1	0	1	1
FLIGHT/NAV INSTRUMENTS, ATTITUDE INDICATOR	(0)	(1)	(1)	(0)	(1)	(1)
INOPERATIVE	0	1	1	0	1	1
FLIGHT/NAV INSTRUMENTS, DIRECTIONAL GYRO	(0)	(1)	(1)	(0)	(1)	(1)
INOPERATIVE	0	1	1	0	1	1
ANTI-ICE/DE-ICE SYSTEM	(0)	(1)	(1)	(0)	(2)	(2)
ANTI-ICE/DE-ICE SYSTEM, WING	(0)	(1)	(1)	(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)						
ANTI-ICE/DE-ICE SYSTEM (Continued)						
ANTI-ICE/DE-ICE SYSTEM, WING (Continued)						
LACK OF	0	1	1	0	1	1
ANTI-ICE/DE-ICE SYSTEM, WINDSHIELD	(0)	(0)	(0)	(0)	(1)	(1)
INOPERATIVE	0	0	0	0	1	1
COMM/NAV EQUIPMENT	(0)	(2)	(2)	(0)	(7)	(7)
COMM/NAV EQUIPMENT	(0)	(1)	(1)	(0)	(3)	(3)
ERRATIC	0	1	1	0	1	1
OTHER	0	0	0	0	1	1
UNDETERMINED	0	0	0	0	1	1
COMM/NAV EQUIPMENT, TRANSMITTER	(0)	(0)	(0)	(0)	(1)	(1)
INOPERATIVE	0	0	0	0	1	1
COMM/NAV EQUIPMENT, RECEIVER	(0)	(0)	(0)	(0)	(1)	(1)
INOPERATIVE	0	0	0	0	1	1
COMM/NAV EQUIPMENT, ILS RECEIVER	(0)	(1)	(1)	(0)	(1)	(1)
INOPERATIVE	0	1	1	0	1	1
COMM/NAV EQUIPMENT, COMPASS RECEIVER	(0)	(0)	(0)	(0)	(1)	(1)
INOPERATIVE	0	0	0	0	1	1
AUTOPILOT/FLIGHT DIRECTOR	(2)	(1)	(3)	(2)	(1)	(3)
AUTOPILOT/FLIGHT DIRECTOR	(1)	(0)	(1)	(1)	(0)	(1)
ENGAGED	1	0	1	1	0	1
AUTOPILOT/FLIGHT DIRECTOR, TRANSMITTER (AUTOPILOT)	(1)	(1)	(2)	(1)	(1)	(2)
FLUCTUATING	0	1	1	0	1	1
IMPROPER	1	0	1	1	0	1
AIR COND/HEATING/PRESSURIZATION	(0)	(1)	(1)	(0)	(2)	(2)
AIR COND/HEATING/PRESSURIZATION	(0)	(1)	(1)	(0)	(1)	(1)
FIRE	0	1	1	0	1	1
AIR COND/HEATING/PRESSURIZATION, CABIN TEMP CONTROL	(0)	(0)	(0)	(0)	(1)	(1)
INOPERATIVE	0	0	0	0	1	1
OTHER SYSTEM	(1)	(5)	(6)	(4)	(9)	(13)
OTHER SYSTEM	(0)	(0)	(0)	(1)	(0)	(1)
ICE	0	0	0	1	0	1
PITOT/STATIC SYSTEM	(0)	(1)	(1)	(0)	(4)	(4)
BLOCKED (TOTAL)	0	0	0	0	2	2
CRACKED	0	1	1	0	1	1
ICE	0	0	0	0	1	1
VACUUM SYSTEM	(1)	(2)	(3)	(1)	(2)	(3)
FAILURE, PARTIAL	1	0	1	1	0	1
INOPERATIVE	0	1	1	0	1	1
UNDETERMINED	0	1	1	0	1	1
PNEUMATIC SYSTEM	(0)	(0)	(0)	(1)	(0)	(1)
NO PRESSURE	0	0	0	1	0	1
SAFETY SYSTEM (OTHER)	(0)	(2)	(2)	(1)	(3)	(4)
FAILURE, TOTAL	0	1	1	1	1	2
JAMMED	0	0	0	0	1	1
OVERLOAD	0	1	1	0	1	1
POWERPLANT	(34)	(16)	(50)	(432)	(135)	(567)
ENGINE ASSEMBLY	(17)	(4)	(21)	(141)	(17)	(158)
ENGINE ASSEMBLY	(3)	(1)	(4)	(28)	(6)	(34)
FAILURE, PARTIAL	0	0	0	1	0	1
FAILURE, TOTAL	0	0	0	0	1	1
FIRE	0	0	0	1	1	2
ICE	1	0	1	1	0	1
OTHER	0	0	0	1	0	1
SEPARATION	0	1	1	0	1	1
UNDETERMINED	2	0	2	24	2	26
VIBRATION	0	0	0	0	1	1
ENGINE ASSEMBLY, BEARING	(2)	(0)	(2)	(6)	(1)	(7)

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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, BEARING (Continued)						
FAILURE, TOTAL	2	0	2	5	1	6
LOOSE	0	0	0	1	0	1
ENGINE ASSEMBLY, CAMSHAFT	(0)	(0)	(0)	(2)	(0)	(2)
FAILURE, PARTIAL	0	0	0	1	0	1
FAILURE, TOTAL	0	0	0	1	0	1
ENGINE ASSEMBLY, CRANKCASE	(0)	(0)	(0)	(3)	(1)	(4)
FAILURE, PARTIAL	0	0	0	1	1	2
FAILURE, TOTAL	0	0	0	1	0	1
UNDERTORQUED	0	0	0	1	0	1
ENGINE ASSEMBLY, CRANKSHAFT	(0)	(0)	(0)	(10)	(2)	(12)
CRACKED	0	0	0	1	0	1
FAILURE, TOTAL	0	0	0	5	1	6
FATIGUE	0	0	0	2	1	3
INOPERATIVE	0	0	0	1	0	1
SEPARATION	0	0	0	1	0	1
ENGINE ASSEMBLY, MASTER ROD	(0)	(0)	(0)	(4)	(0)	(4)
FAILURE, TOTAL	0	0	0	4	0	4
ENGINE ASSEMBLY, CONNECTING ROD	(4)	(2)	(6)	(20)	(3)	(23)
BURNED	0	1	1	0	1	1
DISCONNECTED	1	0	1	2	0	2
FAILURE, TOTAL	2	0	2	13	0	13
FALSE INDICATION	0	0	0	1	0	1
FATIGUE	1	0	1	1	0	1
OVERLOAD	0	0	0	1	0	1
OVERTEMPERATURE	0	0	0	2	1	3
PREVIOUS DAMAGE	0	1	1	0	1	1
ENGINE ASSEMBLY, CYLINDER	(6)	(0)	(6)	(32)	(3)	(35)
BURNED	0	0	0	0	1	1
CRACKED	0	0	0	4	0	4
FAILURE, PARTIAL	1	0	1	2	0	2
FAILURE, TOTAL	2	0	2	8	0	8
FATIGUE	3	0	3	7	0	7
LOW COMPRESSION	0	0	0	2	1	3
OVERTEMPERATURE	0	0	0	4	0	4
PRESSURE EXCESSIVE	0	0	0	1	0	1
SEPARATION	0	0	0	4	1	5
ENGINE ASSEMBLY, PISTON	(1)	(1)	(2)	(7)	(1)	(8)
BINDING (MECHANICAL)	0	0	0	1	0	1
BURNED	0	1	1	0	1	1
DISINTEGRATED	0	0	0	1	0	1
FAILURE, TOTAL	0	0	0	1	0	1
OVERTEMPERATURE	1	0	1	2	0	2
PENETRATED	0	0	0	1	0	1
WORN	0	0	0	1	0	1
ENGINE ASSEMBLY, PUSH ROD	(0)	(0)	(0)	(3)	(0)	(3)
BENT	0	0	0	1	0	1
BRITTLE FRACTURE	0	0	0	1	0	1
FAILURE, TOTAL	0	0	0	1	0	1
ENGINE ASSEMBLY, RING	(0)	(0)	(0)	(1)	(0)	(1)
IMPROPER	0	0	0	1	0	1
ENGINE ASSEMBLY, VALVE	(1)	(0)	(1)	(13)	(0)	(13)
FAILURE, TOTAL	0	0	0	2	0	2
FATIGUE	0	0	0	1	0	1
INOPERATIVE	0	0	0	1	0	1
JAMMED	0	0	0	1	0	1
LEAK	0	0	0	1	0	1
LOCKED	0	0	0	2	0	2
MOVEMENT RESTRICTED	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)						
ENGINE ASSEMBLY (Continued)						
ENGINE ASSEMBLY, VALVE (Continued)						
OVERTEMPERATURE	1	0	1	1	0	1
PENETRATED	0	0	0	1	0	1
SEPARATION	0	0	0	2	0	2
ENGINE ASSEMBLY, BLOWER/IMPELLER	(0)	(0)	(0)	(2)	(0)	(2)
FAILURE, PARTIAL	0	0	0	1	0	1
FAILURE, TOTAL	0	0	0	1	0	1
ENGINE ASSEMBLY, MOUNT	(0)	(0)	(0)	(2)	(0)	(2)
FAILURE, TOTAL	0	0	0	1	0	1
FATIGUE	0	0	0	1	0	1
ENGINE ASSEMBLY, OTHER	(0)	(0)	(0)	(8)	(0)	(8)
BLOCKED (TOTAL)	0	0	0	1	0	1
FAILURE, TOTAL	0	0	0	4	0	4
FATIGUE	0	0	0	1	0	1
JAMMED	0	0	0	1	0	1
WORN	0	0	0	1	0	1
COMPRESSOR ASSEMBLY	(0)	(2)	(2)	(6)	(2)	(8)
COMPRESSOR ASSEMBLY	(0)	(2)	(2)	(0)	(2)	(2)
BLOCKED (TOTAL)	0	1	1	0	1	1
FOREIGN OBJECT	0	1	1	0	1	1
COMPRESSOR ASSEMBLY, STATOR VANE RETAINER	(0)	(0)	(0)	(1)	(0)	(1)
FAILURE, PARTIAL	0	0	0	1	0	1
COMPRESSOR ASSEMBLY, ROTOR DISC	(0)	(0)	(0)	(1)	(0)	(1)
SEPARATION	0	0	0	1	0	1
COMPRESSOR ASSEMBLY, BLADE	(0)	(0)	(0)	(2)	(0)	(2)
CORRODED	0	0	0	1	0	1
FAILURE, TOTAL	0	0	0	1	0	1
COMPRESSOR ASSEMBLY, BLADE RETENTION	(0)	(0)	(0)	(2)	(0)	(2)
FAILURE, PARTIAL	0	0	0	1	0	1
IMPROPER	0	0	0	1	0	1
COMBUSTION ASSEMBLY	(0)	(0)	(0)	(1)	(0)	(1)
COMBUSTION ASSEMBLY, OUTER CASING	(0)	(0)	(0)	(1)	(0)	(1)
FAILURE, TOTAL	0	0	0	1	0	1
TURBINE ASSEMBLY	(1)	(0)	(1)	(4)	(0)	(4)
TURBINE ASSEMBLY	(0)	(0)	(0)	(1)	(0)	(1)
DISABLED	0	0	0	1	0	1
TURBINE ASSEMBLY, TURBINE WHEEL	(1)	(0)	(1)	(1)	(0)	(1)
FATIGUE	1	0	1	1	0	1
TURBINE ASSEMBLY, TURBINE BLADE	(0)	(0)	(0)	(2)	(0)	(2)
FAILURE, TOTAL	0	0	0	1	0	1
FATIGUE	0	0	0	1	0	1
EXHAUST SYSTEM	(1)	(0)	(1)	(20)	(0)	(20)
EXHAUST SYSTEM	(1)	(0)	(1)	(6)	(0)	(6)
BLOCKED (PARTIAL)	0	0	0	1	0	1
FAILURE, PARTIAL	0	0	0	1	0	1
FATIGUE	0	0	0	1	0	1
FIRE	0	0	0	1	0	1
LEAK	1	0	1	1	0	1
OTHER	0	0	0	1	0	1
EXHAUST SYSTEM, MANIFOLD	(0)	(0)	(0)	(1)	(0)	(1)
CORRODED	0	0	0	1	0	1
EXHAUST SYSTEM, MUFFLER	(0)	(0)	(0)	(6)	(0)	(6)
BLOCKED (PARTIAL)	0	0	0	2	0	2
BURNED	0	0	0	1	0	1
FAILURE, PARTIAL	0	0	0	3	0	3
EXHAUST SYSTEM, CLAMP	(0)	(0)	(0)	(1)	(0)	(1)
IMPROPER	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)						
AIRCRAFT (Continued)						
POWERPLANT (Continued)						
EXHAUST SYSTEM (Continued)						
EXHAUST SYSTEM,STACK LEAK	(0)	(0)	(0)	(1)	(0)	(1)
	0	0	0	1	0	1
EXHAUST SYSTEM,BAFFLE LOOSE	(0)	(0)	(0)	(2)	(0)	(2)
	0	0	0	2	0	2
EXHAUST SYSTEM,TURBOCHARGER BINDING(MECHANICAL) DISCONNECTED FAILURE,PARTIAL	(0)	(0)	(0)	(3)	(0)	(3)
	0	0	0	1	0	1
	0	0	0	1	0	1
	0	0	0	1	0	1
PROPELLER SYSTEM/ACCESSORIES	(2)	(2)	(4)	(32)	(11)	(43)
PROPELLER SYSTEM/ACCESSORIES	(0)	(0)	(0)	(5)	(3)	(8)
DISCONNECTED	0	0	0	1	0	1
FATIGUE	0	0	0	1	0	1
IMPROPER	0	0	0	1	1	2
PREVIOUS DAMAGE	0	0	0	0	1	1
SEPARATION	0	0	0	2	0	2
VIBRATION	0	0	0	0	1	1
PROPELLER SYSTEM/ACCESSORIES,BLADE	(1)	(2)	(3)	(18)	(4)	(22)
CORRODED	0	0	0	1	0	1
DISTORTED	0	1	1	0	1	1
FAILURE,TOTAL	0	0	0	4	1	5
FATIGUE	0	0	0	5	0	5
IMPROPER	0	0	0	1	0	1
LOSS,PARTIAL	1	0	1	2	0	2
PREVIOUS DAMAGE	0	0	0	0	1	1
SEPARATION	0	1	1	4	1	5
UNDETERMINED	0	0	0	1	0	1
PROPELLER SYSTEM/ACCESSORIES,HUB	(1)	(0)	(1)	(7)	(1)	(8)
FAILURE,TOTAL	0	0	0	1	0	1
FATIGUE	0	0	0	3	0	3
SEPARATION	1	0	1	2	1	3
UNDERTORQUED	0	0	0	1	0	1
PROPELLER SYSTEM/ACCESSORIES,SPINNER	(0)	(0)	(0)	(1)	(0)	(1)
DISINTEGRATED	0	0	0	1	0	1
PROPELLER SYSTEM/ACCESSORIES,GOVERNOR	(0)	(0)	(0)	(0)	(2)	(2)
DETERIORATED	0	0	0	0	1	1
PRESSURE TOO LOW	0	0	0	0	1	1
PROPELLER SYSTEM/ACCESSORIES,PITCH CHANGE MECH	(0)	(0)	(0)	(1)	(0)	(1)
FAILURE,TOTAL	0	0	0	1	0	1
PROPELLER SYSTEM/ACCESSORIES,REVERSING SYSTEM	(0)	(0)	(0)	(0)	(1)	(1)
FAILURE,PARTIAL	0	0	0	0	1	1
ACCESSORY DRIVE ASSY	(0)	(0)	(0)	(1)	(0)	(1)
ACCESSORY DRIVE ASSY	(0)	(0)	(0)	(1)	(0)	(1)
FATIGUE	0	0	0	1	0	1
IGNITION SYSTEM	(2)	(1)	(3)	(31)	(13)	(44)
IGNITION SYSTEM	(0)	(0)	(0)	(3)	(0)	(3)
DISABLED	0	0	0	1	0	1
DISCONNECTED	0	0	0	1	0	1
FAILURE,TOTAL	0	0	0	1	0	1
IGNITION SYSTEM,MAGNETO	(1)	(0)	(1)	(18)	(4)	(22)
BINDING(MECHANICAL)	0	0	0	1	0	1
DETERIORATED	0	0	0	1	0	1
FAILURE,PARTIAL	0	0	0	5	1	6
FAILURE,TOTAL	0	0	0	1	0	1
INCORRECT	0	0	0	1	0	1
INOPERATIVE	0	0	0	1	0	1
JAMMED	0	0	0	1	0	1
LOOSE	1	0	1	1	0	1
OUTPUT LOW	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
AIRCRAFT (Continued)						
POWERPLANT (Continued)						
IGNITION SYSTEM (Continued)						
IGNITION SYSTEM,MAGNETO (Continued)						
SHORTED	0	0	0	1	0	1
SWITCHED OFF	0	0	0	0	1	1
UNDETERMINED	0	0	0	2	0	2
WORN	0	0	0	2	1	3
IGNITION SYSTEM,SPARK PLUG	(0)	(1)	(1)	(7)	(7)	(14)
CLEARANCE	0	0	0	1	0	1
CONTAMINATION	0	0	0	2	0	2
CORRODED	0	0	0	0	1	1
CRACKED	0	0	0	0	1	1
DIRTY(FOGGY)	0	0	0	0	3	3
LEADED PLUGS	0	1	1	1	2	3
LOSS,TOTAL	0	0	0	1	0	1
OTHER	0	0	0	1	0	1
WORN	0	0	0	1	0	1
IGNITION SYSTEM,IGNITION COIL	(0)	(0)	(0)	(1)	(0)	(1)
CRACKED	0	0	0	1	0	1
IGNITION SYSTEM,IGNITION SWITCH	(1)	(0)	(1)	(1)	(0)	(1)
SWITCHED OFF	1	0	1	1	0	1
IGNITION SYSTEM,IGNITION LEAD	(0)	(0)	(0)	(1)	(2)	(3)
BURNED	0	0	0	1	1	2
LOOSE	0	0	0	0	1	1
ENGINE ACCESSORIES	(0)	(1)	(1)	(4)	(2)	(6)
ENGINE ACCESSORIES,VACUUM PUMP	(0)	(1)	(1)	(1)	(1)	(2)
FAILURE,TOTAL	0	1	1	1	1	2
ENGINE ACCESSORIES,ENGINE STARTER	(0)	(0)	(0)	(3)	(1)	(4)
ENGAGED	0	0	0	1	0	1
FAILURE,PARTIAL	0	0	0	1	0	1
FATIGUE	0	0	0	1	0	1
LACK OF	0	0	0	0	1	1
BLEED AIR SYSTEM	(0)	(0)	(0)	(1)	(0)	(1)
BLEED AIR SYSTEM,VALVE	(0)	(0)	(0)	(1)	(0)	(1)
FAILURE,PARTIAL	0	0	0	1	0	1
FUEL SYSTEM	(6)	(5)	(11)	(132)	(37)	(169)
FUEL SYSTEM	(0)	(1)	(1)	(12)	(4)	(16)
BLOCKED(PARTIAL)	0	0	0	1	0	1
BLOCKED(TOTAL)	0	0	0	1	0	1
CONTAMINATION	0	0	0	3	1	4
FAILURE,PARTIAL	0	0	0	1	0	1
ICE	0	1	1	0	1	1
INADEQUATE	0	0	0	1	0	1
LEAK	0	0	0	1	0	1
LOW LEVEL	0	0	0	0	1	1
UNDETERMINED	0	0	0	2	0	2
WATER	0	0	0	2	1	3
FUEL SYSTEM,TANK	(0)	(0)	(0)	(11)	(1)	(12)
BLOCKED(PARTIAL)	0	0	0	1	0	1
BUCKLED	0	0	0	1	0	1
CONTAMINATION	0	0	0	1	0	1
DISCONNECTED	0	0	0	1	0	1
DISTORTED	0	0	0	1	1	2
EXHAUSTION	0	0	0	1	0	1
INADEQUATE	0	0	0	1	0	1
LEAK	0	0	0	1	0	1
WATER	0	0	0	3	0	3
FUEL SYSTEM,LINE	(0)	(0)	(0)	(8)	(1)	(9)
BURNED	0	0	0	1	0	1
CORRODED	0	0	0	1	0	1
DETERIORATED	0	0	0	1	0	1
FAILURE,PARTIAL	0	0	0	1	0	1
FLUTTER	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)						
FUEL SYSTEM (Continued)						
FUEL SYSTEM, LINE (Continued)						
FROZEN	0	0	0	0	1	1
LEAK	0	0	0	1	0	1
WATER	0	0	0	1	0	1
WORN	0	0	0	1	0	1
FUEL SYSTEM, LINE FITTING	(0)	(0)	(0)	(8)	(1)	(9)
LEAK	0	0	0	3	1	4
LOOSE	0	0	0	4	0	4
SEPARATION	0	0	0	1	0	1
FUEL SYSTEM, SELECTOR VALVE	(0)	(1)	(1)	(3)	(1)	(4)
INCORRECT	0	0	0	1	0	1
NOT SWITCHED	0	0	0	2	0	2
OTHER	0	1	1	0	1	1
FUEL SYSTEM, FILTER	(0)	(0)	(0)	(3)	(2)	(5)
BOGUS PART	0	0	0	1	0	1
CONTAMINATION	0	0	0	1	0	1
DIRTY (FOGGY)	0	0	0	1	0	1
WATER	0	0	0	0	2	2
FUEL SYSTEM, STRAINER	(0)	(0)	(0)	(2)	(1)	(3)
LEAK	0	0	0	1	0	1
NOT ENGAGED	0	0	0	1	0	1
OPEN	0	0	0	0	1	1
FUEL SYSTEM, SCREEN	(0)	(0)	(0)	(1)	(0)	(1)
BLOCKED (TOTAL)	0	0	0	1	0	1
FUEL SYSTEM, PRIMER SYSTEM	(0)	(0)	(0)	(4)	(0)	(4)
DISCONNECTED	0	0	0	1	0	1
LEAK	0	0	0	1	0	1
OPEN	0	0	0	1	0	1
UNLOCKED	0	0	0	1	0	1
FUEL SYSTEM, CARBURETOR	(0)	(2)	(2)	(36)	(15)	(51)
BLOCKED (PARTIAL)	0	0	0	1	0	1
BLOCKED (TOTAL)	0	0	0	2	0	2
CONTAMINATION	0	0	0	1	0	1
DISABLED	0	0	0	1	0	1
FAILURE, PARTIAL	0	0	0	3	0	3
FOREIGN OBJECT	0	0	0	1	0	1
ICE	0	1	1	21	11	32
INCORRECT	0	1	1	0	1	1
LEAK	0	0	0	1	2	3
LOOSE	0	0	0	1	0	1
LOSS, TOTAL	0	0	0	0	1	1
PREVIOUS DAMAGE	0	0	0	1	0	1
UNDETERMINED	0	0	0	2	0	2
WATER	0	0	0	1	0	1
FUEL SYSTEM, PUMP	(1)	(0)	(1)	(14)	(4)	(18)
CORRODED	0	0	0	0	1	1
DETERIORATED	0	0	0	0	1	1
ERRATIC	0	0	0	0	1	1
FAILURE, PARTIAL	0	0	0	2	1	3
FAILURE, TOTAL	1	0	1	5	0	5
IMPROPER	0	0	0	1	0	1
INADEQUATE	0	0	0	1	0	1
INOPERATIVE	0	0	0	1	0	1
OTHER	0	0	0	1	0	1
PRESSURE TOO LOW	0	0	0	1	0	1
UNDETERMINED	0	0	0	2	0	2
FUEL SYSTEM, INJECTOR	(3)	(0)	(3)	(6)	(0)	(6)
BLOCKED (PARTIAL)	0	0	0	1	0	1
CONTAMINATION	1	0	1	1	0	1
DISCONNECTED	0	0	0	1	0	1
FATIGUE	1	0	1	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	
AIRCRAFT (Continued)						
POWERPLANT (Continued)						
FUEL SYSTEM (Continued)						
FUEL SYSTEM, INJECTOR (Continued)						
FOREIGN OBJECT	0	0	0	1	0	1
IMPROPER	1	0	1	1	0	1
FUEL SYSTEM, VENT	(0)	(0)	(0)	(5)	(1)	(6)
BLOCKED(PARTIAL)	0	0	0	1	0	1
BLOCKED(TOTAL)	0	0	0	2	1	3
INADEQUATE	0	0	0	1	0	1
PREVIOUS DAMAGE	0	0	0	1	0	1
FUEL SYSTEM, DRAIN	(0)	(0)	(0)	(3)	(0)	(3)
LACK OF	0	0	0	1	0	1
LEAK	0	0	0	1	0	1
SEPARATION	0	0	0	1	0	1
FUEL SYSTEM, CAP	(0)	(0)	(0)	(3)	(4)	(7)
IMPROPER	0	0	0	1	0	1
LEAK	0	0	0	1	0	1
LOOSE	0	0	0	1	2	3
WORN	0	0	0	0	1	1
SIPHONING	0	0	0	0	1	1
FUEL SYSTEM, DUMP VALVE	(0)	(0)	(0)	(1)	(0)	(1)
BLOCKED(PARTIAL)	0	0	0	1	0	1
FUEL SYSTEM, RAM AIR	(1)	(0)	(1)	(4)	(0)	(4)
BLOCKED(PARTIAL)	0	0	0	2	0	2
BLOCKED(TOTAL)	1	0	1	1	0	1
DETERIORATED	0	0	0	1	0	1
FUEL SYSTEM, NOZZLE	(0)	(0)	(0)	(3)	(0)	(3)
BLOCKED(TOTAL)	0	0	0	2	0	2
CONTAMINATION	0	0	0	1	0	1
FUEL SYSTEM, FUEL CONTROL	(1)	(1)	(2)	(5)	(1)	(6)
CONTAMINATION	0	1	1	1	1	2
FAILURE, PARTIAL	0	0	0	1	0	1
FAILURE, TOTAL	0	0	0	1	0	1
FATIGUE	0	0	0	1	0	1
LOOSE	1	0	1	1	0	1
FUEL SYSTEM, FUEL SHUTOFF	(0)	(0)	(0)	(0)	(1)	(1)
LEAK	0	0	0	0	1	1
LUBRICATING SYSTEM	(1)	(0)	(1)	(21)	(7)	(28)
LUBRICATING SYSTEM	(1)	(0)	(1)	(9)	(3)	(12)
CONTAMINATION	1	0	1	1	0	1
LEAK	0	0	0	2	1	3
LOOSE	0	0	0	2	0	2
OVERTEMPERATURE	0	0	0	0	1	1
PRESSURE TOO LOW	0	0	0	0	1	1
UNDETERMINED	0	0	0	3	0	3
WORN	0	0	0	1	0	1
LUBRICATING SYSTEM, OIL TANK	(0)	(0)	(0)	(2)	(1)	(3)
DUMPED	0	0	0	1	0	1
IMPROPER	0	0	0	1	0	1
OPEN	0	0	0	0	1	1
LUBRICATING SYSTEM, OIL LINE	(0)	(0)	(0)	(4)	(1)	(5)
BURST	0	0	0	1	0	1
ICE	0	0	0	1	0	1
LIFE EXPIRED	0	0	0	1	0	1
LOOSE	0	0	0	0	1	1
WORN	0	0	0	1	0	1
LUBRICATING SYSTEM, OIL HOSE	(0)	(0)	(0)	(2)	(0)	(2)
FAILURE, TOTAL	0	0	0	1	0	1
OVERTEMPERATURE	0	0	0	1	0	1
LUBRICATING SYSTEM, OIL MAGNETIC PLUG	(0)	(0)	(0)	(1)	(0)	(1)
NOT ENGAGED	0	0	0	1	0	1
LUBRICATING SYSTEM, OIL SEAL	(0)	(0)	(0)	(3)	(0)	(3)

CAUSE/FACTOR TABLE
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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT (Continued)						
POWERPLANT (Continued)						
LUBRICATING SYSTEM (Continued)						
LUBRICATING SYSTEM,OIL SEAL (Continued)						
FAILURE,TOTAL	0	0	0	1	0	1
LEAK	0	0	0	1	0	1
OTHER	0	0	0	1	0	1
LUBRICATING SYSTEM,OIL REGULATOR	(0)	(0)	(0)	(0)	(1)	(1)
PRESSURE TOO LOW	0	0	0	0	1	1
LUBRICATING SYSTEM,OIL TUBING	(0)	(0)	(0)	(0)	(1)	(1)
PRESSURE EXCESSIVE	0	0	0	0	1	1
ENGINE INSTRUMENTS	(0)	(0)	(0)	(3)	(34)	(37)
ENGINE INSTRUMENTS,TACHOMETER	(0)	(0)	(0)	(0)	(1)	(1)
INOPERATIVE	0	0	0	0	1	1
ENGINE INSTRUMENTS,FUEL PRESSURE GAGE	(0)	(0)	(0)	(2)	(0)	(2)
ERRATIC	0	0	0	1	0	1
PRESSURE EXCESSIVE	0	0	0	1	0	1
ENGINE INSTRUMENTS,FUEL QUANTITY GAGE	(0)	(0)	(0)	(0)	(27)	(27)
DISABLED	0	0	0	0	1	1
FALSE INDICATION	0	0	0	0	23	23
INOPERATIVE	0	0	0	0	3	3
ENGINE INSTRUMENTS,FUEL FLOW GAGE	(0)	(0)	(0)	(1)	(0)	(1)
FAILURE,PARTIAL	0	0	0	1	0	1
ENGINE INSTRUMENTS,OIL PRESSURE GAGE	(0)	(0)	(0)	(0)	(2)	(2)
INCORRECT	0	0	0	0	1	1
PRESSURE TOO LOW	0	0	0	0	1	1
ENGINE INSTRUMENTS,OIL TEMPERATURE GAGE	(0)	(0)	(0)	(0)	(4)	(4)
OVERTEMPERATURE	0	0	0	0	4	4
COOLING SYSTEM	(1)	(0)	(1)	(2)	(2)	(4)
COOLING SYSTEM	(1)	(0)	(1)	(1)	(0)	(1)
BLOCKED(TOTAL)	1	0	1	1	0	1
COOLING SYSTEM,COWLING	(0)	(0)	(0)	(1)	(2)	(3)
IMPROPER	0	0	0	1	0	1
LOOSE	0	0	0	0	1	1
UNLOCKED	0	0	0	0	1	1
THRUST REVERSER	(0)	(0)	(0)	(0)	(1)	(1)
THRUST REVERSER	(0)	(0)	(0)	(0)	(1)	(1)
NOT ENGAGED	0	0	0	0	1	1
TURBOSHAFT ENGINE	(0)	(0)	(0)	(2)	(0)	(2)
TURBOSHAFT ENGINE,GAS GENERATOR TURBINE SHAFT	(0)	(0)	(0)	(2)	(0)	(2)
FATIGUE	0	0	0	1	0	1
WORN	0	0	0	1	0	1
THROTTLE/POWER LEVER	(1)	(0)	(1)	(15)	(3)	(18)
THROTTLE/POWER LEVER	(0)	(0)	(0)	(1)	(0)	(1)
FAILURE,TOTAL	0	0	0	1	0	1
THROTTLE/POWER LEVER,PUSH/PULL ROD	(0)	(0)	(0)	(0)	(2)	(2)
LOOSE	0	0	0	0	1	1
MOVEMENT RESTRICTED	0	0	0	0	1	1
THROTTLE/POWER LEVER,BELLCRANK	(0)	(0)	(0)	(3)	(0)	(3)
FAILURE,PARTIAL	0	0	0	1	0	1
FAILURE,TOTAL	0	0	0	1	0	1
WORN	0	0	0	1	0	1
THROTTLE/POWER LEVER,CABLE	(0)	(0)	(0)	(6)	(1)	(7)
BENT	0	0	0	1	0	1
BINDING(MECHANICAL)	0	0	0	0	1	1
FAILURE,TOTAL	0	0	0	2	0	2
JAMMED	0	0	0	1	0	1
LOOSE	0	0	0	2	0	2
THROTTLE/POWER LEVER,LINKAGE	(1)	(0)	(1)	(4)	(0)	(4)

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	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, LINKAGE (Continued)						
DISCONNECTED	0	0	0	2	0	2
FAILURE, TOTAL	0	0	0	1	0	1
UNDETERMINED	1	0	1	1	0	1
THROTTLE/POWER LEVER, TORQUE BOX	(0)	(0)	(0)	(1)	(0)	(1)
DISCONNECTED	0	0	0	1	0	1
MIXTURE CONTROL	(1)	(0)	(1)	(4)	(0)	(4)
MIXTURE CONTROL	(1)	(0)	(1)	(2)	(0)	(2)
INCORRECT	1	0	1	1	0	1
LOOSE	0	0	0	1	0	1
MIXTURE CONTROL, CABLE	(0)	(0)	(0)	(2)	(0)	(2)
FAILURE, TOTAL	0	0	0	1	0	1
SEPARATION	0	0	0	1	0	1
CARBURETOR HEAT CONTROL	(0)	(1)	(1)	(5)	(1)	(6)
CARBURETOR HEAT CONTROL	(0)	(1)	(1)	(3)	(1)	(4)
DISCONNECTED	0	0	0	1	0	1
FAILURE, PARTIAL	0	0	0	1	0	1
LACK OF	0	0	0	1	0	1
NOT SWITCHED	0	1	1	0	1	1
CARBURETOR HEAT CONTROL, PUSH/PULL ROD	(0)	(0)	(0)	(1)	(0)	(1)
FAILURE, TOTAL	0	0	0	1	0	1
CARBURETOR HEAT CONTROL, LINKAGE	(0)	(0)	(0)	(1)	(0)	(1)
DISCONNECTED	0	0	0	1	0	1
INDUCTION AIR CONTROL	(0)	(0)	(0)	(4)	(1)	(5)
INDUCTION AIR CONTROL	(0)	(0)	(0)	(4)	(1)	(5)
BUCKLED	0	0	0	1	0	1
DETERIORATED	0	0	0	1	0	1
FAILURE, TOTAL	0	0	0	1	0	1
ICE	0	0	0	0	1	1
WORN	0	0	0	1	0	1
MISCELLANEOUS	(1)	(0)	(1)	(3)	(4)	(7)
MISCELLANEOUS	(1)	(0)	(1)	(3)	(4)	(7)
BLOCKED (PARTIAL)	0	0	0	0	1	1
MOVEMENT RESTRICTED	0	0	0	0	1	1
OVERTEMPERATURE	1	0	1	1	0	1
SEPARATION	0	0	0	0	1	1
UNDETERMINED	0	0	0	2	0	2
VIBRATION	0	0	0	0	1	1
MISCELLANEOUS	(28)	(18)	(46)	(285)	(144)	(429)
FLUID	(24)	(8)	(32)	(255)	(102)	(357)
FLUID	(0)	(0)	(0)	(3)	(2)	(5)
CONTAMINATION	0	0	0	0	1	1
EXHAUSTION	0	0	0	1	0	1
STARVATION	0	0	0	2	0	2
WATER	0	0	0	0	1	1
FLUID, FUEL	(19)	(5)	(24)	(217)	(82)	(299)
CONTAMINATION	1	0	1	14	5	19
EXHAUSTION	9	3	12	110	38	148
FAILURE, TOTAL	0	0	0	0	1	1
FIRE	1	0	1	2	0	2
IMPROPER	1	0	1	1	1	2
INADEQUATE	0	0	0	1	1	2
LACK OF	0	0	0	1	0	1
LEAK	0	0	0	1	0	1
LOW LEVEL	2	0	2	2	8	10
OTHER	0	0	0	1	0	1
PRESSURE TOO LOW	0	0	0	1	0	1
STARVATION	5	1	6	61	14	75
UNDETERMINED	0	0	0	2	1	3
WATER	0	1	1	18	12	30
SIPHONING	0	0	0	2	1	3

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	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE FACTOR	TOTAL		CAUSE FACTOR	TOTAL	
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
MISCELLANEOUS (Continued)						
FLUID (Continued)						
FLUID,OIL	(4)	(2)	(6)	(28)	(9)	(37)
BURNED	0	0	0	0	1	1
CONTAMINATION	0	0	0	1	0	1
DUMPED	0	0	0	0	2	2
EXHAUSTION	0	0	0	7	0	7
INADEQUATE	0	0	0	1	0	1
LEAK	0	0	0	5	0	5
LOSS,PARTIAL	0	0	0	0	1	1
LOSS,TOTAL	0	0	0	1	0	1
LOW LEVEL	0	0	0	0	1	1
MOVEMENT RESTRICTED	1	0	1	1	0	1
OVERTEMPERATURE	0	0	0	1	0	1
SMOKE	0	1	1	0	1	1
STARVATION	3	0	3	11	1	12
TOO COLD	0	1	1	0	1	1
SIPHONING	0	0	0	0	1	1
FLUID,HYDRAULIC	(0)	(0)	(0)	(4)	(2)	(6)
EXHAUSTION	0	0	0	1	0	1
LACK OF	0	0	0	0	2	2
LEAK	0	0	0	2	0	2
LOW LEVEL	0	0	0	1	0	1
FLUID,ANTI-ICE ADDITIVE	(0)	(0)	(0)	(0)	(1)	(1)
IMPROPER	0	0	0	0	1	1
FLUID,SYNTHETIC OIL	(0)	(0)	(0)	(0)	(1)	(1)
STARVATION	0	0	0	0	1	1
FLUID,FUEL GRADE	(1)	(1)	(2)	(2)	(4)	(6)
IMPROPER	0	0	0	0	3	3
INCORRECT	1	1	2	2	1	3
FLUID,OIL GRADE	(0)	(0)	(0)	(1)	(1)	(2)
IMPROPER	0	0	0	1	1	2
MISC EQPT/FURNISHINGS	(0)	(1)	(1)	(3)	(4)	(7)
MISC EQPT/FURNISHINGS	(0)	(0)	(0)	(2)	(0)	(2)
FAILURE,PARTIAL	0	0	0	2	0	2
MISC EQPT/FURNISHINGS,CARGO RESTRAINTS	(0)	(0)	(0)	(1)	(0)	(1)
LOOSE	0	0	0	1	0	1
MISC EQPT/FURNISHINGS,SEAT BELT	(0)	(0)	(0)	(0)	(2)	(2)
BINDING(MECHANICAL)	0	0	0	0	1	1
LOOSE	0	0	0	0	1	1
MISC EQPT/FURNISHINGS,SHOULDER HARNESS	(0)	(1)	(1)	(0)	(2)	(2)
NOT ENGAGED	0	1	1	0	2	2
LIGHTS	(0)	(1)	(1)	(1)	(2)	(3)
LANDING LIGHT	(0)	(1)	(1)	(1)	(2)	(3)
FAILURE,TOTAL	0	1	1	0	1	1
INOPERATIVE	0	0	0	0	1	1
SEPARATION	0	0	0	1	0	1
AIRCRAFT PERFORMANCE	(3)	(7)	(10)	(20)	(32)	(52)
AIRCRAFT PERFORMANCE	(1)	(1)	(2)	(2)	(3)	(5)
DETERIORATED	0	1	1	1	3	4
EXCEEDED	1	0	1	1	0	1
AIRCRAFT PERFORMANCE,TAKEOFF CAPABILITY	(0)	(1)	(1)	(5)	(6)	(11)
EXCEEDED	0	0	0	4	3	7
INADEQUATE	0	1	1	1	1	2
UNDETERMINED	0	0	0	0	2	2
AIRCRAFT PERFORMANCE,LANDING CAPABILITY	(1)	(0)	(1)	(2)	(5)	(7)
DETERIORATED	0	0	0	0	2	2
EXCEEDED	1	0	1	2	1	3
IMPROPER	0	0	0	0	1	1
INADEQUATE	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)						
MISCELLANEOUS (Continued)						
AIRCRAFT PERFORMANCE (Continued)						
AIRCRAFT PERFORMANCE, CLIMB CAPABILITY						
	(1)	(4)	(5)	(7)	(12)	(19)
DETERIORATED	0	0	0	3	1	4
DISABLED	0	1	1	0	1	1
EXCEEDED	1	3	4	3	8	11
FLUCTUATING	0	0	0	0	1	1
INADEQUATE	0	0	0	1	1	2
AIRCRAFT PERFORMANCE, TURN CAPABILITY						
	(0)	(0)	(0)	(1)	(1)	(2)
ERRATIC	0	0	0	0	1	1
EXCEEDED	0	0	0	1	0	1
AIRCRAFT PERFORMANCE, ROLLING MANEUVERS						
	(0)	(0)	(0)	(1)	(2)	(3)
DETERIORATED	0	0	0	0	1	1
ERRATIC	0	0	0	1	0	1
LOSS, PARTIAL	0	0	0	0	1	1
AIRCRAFT PERFORMANCE, TWO OR MORE ENGINES						
	(0)	(1)	(1)	(2)	(1)	(3)
FAILURE, PARTIAL	0	0	0	1	0	1
INOPERATIVE	0	1	1	1	1	2
AIRCRAFT PERFORMANCE, HYDROPLANING CONDITION						
	(0)	(0)	(0)	(0)	(2)	(2)
WATER	0	0	0	0	2	2
AERIAL APPLICATION EQUIPMENT						
	(0)	(0)	(0)	(1)	(0)	(1)
AERIAL APPLICATION EQUIPMENT	(0)	(0)	(0)	(1)	(0)	(1)
FIRE	0	0	0	1	0	1
TOWING/ADVERTISING EQUIPMENT						
	(1)	(1)	(2)	(4)	(3)	(7)
PICK-UP EQUIPMENT	(0)	(0)	(0)	(2)	(1)	(3)
NOT REMOVED	0	0	0	0	1	1
SEPARATION	0	0	0	1	0	1
UNDETERMINED	0	0	0	1	0	1
GLIDER LAUNCH/TOW EQUIPMENT						
	(1)	(1)	(2)	(2)	(2)	(4)
DISCONNECTED	0	1	1	0	1	1
FAILURE, TOTAL	1	0	1	2	0	2
SEPARATION	0	0	0	0	1	1
BALLOON EQUIPMENT						
	(0)	(0)	(0)	(1)	(1)	(2)
BALLOON EQUIPMENT, ENVELOPE	(0)	(0)	(0)	(1)	(1)	(2)
NOT DUMPED	0	0	0	1	1	2
AIRCRAFT ENVIRONMENT						
	(0)	(147)	(147)	(28)	(1177)	(1205)
ATC SYSTEMS	(0)	(3)	(3)	(0)	(3)	(3)
RADAR	(0)	(1)	(1)	(0)	(1)	(1)
RADAR, APPROACH/DEPARTURE	(0)	(1)	(1)	(0)	(1)	(1)
UNAVAILABLE	0	1	1	0	1	1
APPROACH AIDS						
	(0)	(1)	(1)	(0)	(1)	(1)
APPROACH AIDS, ILS LOCALIZER	(0)	(1)	(1)	(0)	(1)	(1)
NOT OPERATING	0	1	1	0	1	1
CONTROL TOWER						
	(0)	(1)	(1)	(0)	(1)	(1)
CONTROL TOWER	(0)	(1)	(1)	(0)	(1)	(1)
NOT OPERATING	0	1	1	0	1	1
AIRPORT						
	(0)	(7)	(7)	(8)	(195)	(203)
AIRPORT FACILITIES	(0)	(6)	(6)	(8)	(194)	(202)
AIRPORT FACILITIES	(0)	(0)	(0)	(0)	(7)	(7)
INADEQUATE	0	0	0	0	1	1
HIDDEN OBSTRUCTION(S)	0	0	0	0	1	1
NONE SUITABLE	0	0	0	0	1	1
MOUNTAINOUS/HILLY	0	0	0	0	1	1
ROUGH/UNEVEN	0	0	0	0	1	1
UPHILL	0	0	0	0	1	1
WATER, GLASSY	0	0	0	0	1	1
AIRPORT FACILITIES, RUNWAY/LANDING AREA CONDITION						
	(0)	(4)	(4)	(4)	(156)	(160)
EXHAUSTION	0	1	1	0	1	1
WATER	0	0	0	0	1	1
CONGESTED	0	0	0	1	2	3
FOREIGN SUBSTANCE COVERED	0	0	0	0	1	1

CAUSE/FACTOR TABLE
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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)	FATAL ACCIDENTS		ALL ACCIDENTS	
	CAUSE FACTOR	TOTAL	CAUSE FACTOR	TOTAL
AIRCRAFT ENVIRONMENT (Continued)				
AIRPORT (Continued)				
AIRPORT FACILITIES (Continued)				
AIRPORT FACILITIES, RUNWAY/LANDING AREA CONDITION	(0)	(4)	(Continued)	
INADEQUATE	0	0	0	14
NOT OPERATING	0	1	1	2
DIRT BANK	0	0	0	6
DISPLACED THRESHOLD	0	0	0	1
DITCH	0	0	0	6
DOWNHILL	0	0	0	3
GROUND	0	0	0	1
HIGH VEGETATION	0	0	0	6
HIGH OBSTRUCTION(S)	0	0	0	4
HIDDEN OBSTRUCTION(S)	0	0	0	1
ICY	0	0	0	12
LOOSE GRAVEL/SANDY	0	0	0	1
LOOSE OBJECTS	0	0	0	1
NONE SUITABLE	0	0	0	2
ROUGH/UNEVEN	0	1	1	14
RUNWAY	0	0	0	1
SAND BAR	0	0	0	1
SLUSH COVERED	0	0	0	4
SNOWBANK	0	0	0	7
SNOW COVERED	0	0	0	27
SOFT	0	0	0	14
UPHILL	0	1	1	5
WET	0	0	0	19
AIRPORT FACILITIES, INSTRUMENT APPROACH LIGHTS	(0)	(0)	(0)	(1)
ROUGH/UNEVEN	0	0	0	1
AIRPORT FACILITIES, VISUAL APCH SLOPE IND(VASI)	(0)	(0)	(0)	(1)
INOPERATIVE	0	0	0	1
AIRPORT FACILITIES, RUNWAY END IDENT LIGHTS(REIL)	(0)	(0)	(0)	(1)
UNAVAILABLE	0	0	0	1
AIRPORT FACILITIES, RUNWAY EDGE LIGHTS	(0)	(1)	(1)	(12)
INOPERATIVE	0	0	0	1
INOPERATIVE	0	0	0	2
UNAVAILABLE	0	1	1	5
NOT OPERATING	0	0	0	4
AIRPORT FACILITIES, RUNWAY MARKING	(0)	(0)	(0)	(4)
INADEQUATE	0	0	0	4
AIRPORT FACILITIES, RAMP FACILITIES	(0)	(0)	(0)	(1)
CONGESTED	0	0	0	1
AIRPORT FACILITIES, WIND DIRECTION INDICATOR	(0)	(0)	(0)	(4)
INADEQUATE	0	0	0	1
INACCURATE	0	0	0	1
UNAVAILABLE	0	0	0	1
NOT OPERATING	0	0	0	1
AIRPORT FACILITIES, TAXIWAY CONDITION	(0)	(0)	(0)	(1)
CONGESTED	0	0	0	2
INADEQUATE	0	0	0	1
AIRPORT FACILITIES, TAXIWAY LIGHTING	(0)	(0)	(0)	(2)
INOPERATIVE	0	0	0	1
UNAVAILABLE	0	0	0	1
AIRPORT FACILITIES, OBSTRUCTION MARKING	(0)	(1)	(1)	(2)
INADEQUATE	0	0	0	1
INACCURATE	0	0	0	0
NOT OPERATING	0	1	1	1
AIRPORT FIRE/RESCUE SERVICE	(0)	(0)	(0)	(0)
AIRPORT FIRE/RESCUE SERVICE	(0)	(1)	(1)	(1)
AIRPORT FIRE/RESCUE SERVICE	(0)	(1)	(1)	(1)
INADEQUATE	0	1	1	1
MISCELLANEOUS	(0)	(0)	(0)	(2)

CAUSE/FACTOR TABLE
ALL OPERATIONS
1984

	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE FACTOR	TOTAL		CAUSE FACTOR	TOTAL	
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
AIRCRAFT ENVIRONMENT (Continued)						
MISCELLANEOUS (Continued)						
CHARTS	(0)	(0)	(0)	(0)	(0)	(0)
CHARTS	(0)	(0)	(0)	(2)	(1)	(3)
CHARTS	(0)	(0)	(0)	(2)	(1)	(3)
INCORRECT	0	0	0	0	1	1
HIGH DENSITY ALTITUDE	0	0	0	1	0	1
TAILWIND	0	0	0	1	0	1
TERRAIN/RUNWAY	(0)	(137)	(137)	(18)	(978)	(996)
TURBULENCE	0	0	0	0	1	1
TERRAIN/RUNWAY CONDITION	0	0	0	0	1	1
CROP	0	1	1	1	36	37
DIRT BANK	0	1	1	0	44	44
DITCH	0	0	0	0	99	99
DOWNHILL	0	3	3	0	14	14
GROUND	0	2	2	0	6	6
HIGH TERRAIN	0	18	18	0	37	37
HIGH VEGETATION	0	3	3	1	66	67
HIGH OBSTRUCTION(S)	0	1	1	0	39	39
HIDDEN OBSTRUCTION(S)	0	0	0	0	8	8
ICY	0	1	1	0	9	9
LOOSE GRAVEL/SANDY	0	0	0	0	5	5
LOOSE OBJECTS	0	0	0	0	1	1
NONE SUITABLE	0	3	3	3	28	31
MOUNTAINOUS/HILLY	0	55	55	0	98	98
OPEN FIELD	0	2	2	0	13	13
RISING	0	24	24	1	43	44
ROUGH/UNEVEN	0	9	9	5	113	118
RUNWAY	0	0	0	1	2	3
SAND BAR	0	0	0	0	2	2
SLUSH COVERED	0	1	1	0	7	7
SNOWBANK	0	0	0	1	44	45
SNOW COVERED	0	6	6	0	31	31
SOFT	0	0	0	3	138	141
UPHILL	0	1	1	1	10	11
WATER, GLASSY	0	3	3	0	16	16
WATER, ROUGH	0	3	3	0	12	12
WET	0	0	0	1	52	53
FENCE	0	0	0	0	1	1
TREE(S)	0	0	0	0	2	2
ENVIRONMENTAL CONDITIONS	(14)	(707)	(721)	(63)	(2189)	(2253)
WEATHER CONDITION	(11)	(485)	(496)	(43)	(1383)	(1427)
BRITTLE FRACTURE	0	1	1	0	1	1
WORN	0	0	0	0	1	1
WEATHER CONDITION	0	0	0	0	1	1
BELOW APPROACH MINIMUMS	1	11	12	1	20	21
CARBURETOR ICING CONDITIONS	1	3	4	3	49	52
CROSSWIND	0	6	6	0	172	172
CLOUDS	1	35	36	1	52	53
DOWNDRAFT	0	6	6	8	45	53
FOG	0	83	83	0	130	130
GUSTS	1	11	12	3	159	163
HAZE	0	5	5	0	13	13
HIGH WIND	0	11	11	0	48	48
HURRICANE	0	1	1	0	1	1
HIGH DENSITY ALTITUDE	0	18	18	3	76	79
ICING CONDITIONS	4	13	17	6	25	31
LOW CEILING	1	114	115	1	161	162
LIGHTNING	0	1	1	0	4	4
MOUNTAIN WAVE	0	2	2	1	6	7
OBSCURATION	0	28	28	0	39	39
RAIN	0	45	45	0	59	59
SNOW	0	22	22	0	36	36
TAILWIND	0	6	6	2	88	90

CAUSE/FACTOR TABLE
ALL OPERATIONS
1984

			FATAL ACCIDENTS		ALL ACCIDENTS	
			CAUSE FACTOR	TOTAL	CAUSE FACTOR	TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
ENVIRONMENTAL CONDITIONS (Continued)						
WEATHER CONDITION (Continued)						
	TEMPERATURE EXTREMES		0	5	0	10
	TURBULENCE		0	14	3	36
	TURBULENCE, CLEAR AIR		0	0	0	1
	TURBULENCE IN CLOUDS		0	7	0	7
	TURBULENCE (THUNDERSTORMS)		1	5	1	10
	THUNDERSTORM		0	15	0	23
	WHITEOUT		0	2	0	8
	WINDSHEAR		0	3	5	14
	UNFAVORABLE WIND		1	10	5	85
	DARK NIGHT		0	1	0	1
	SUNGLARE		0	1	0	1
	DIRT BANK		0	0	0	1
LIGHT CONDITION						
	DAWN	(0)	(115)	(115)	(1)	(242)
	DUSK	0	1	1	0	1
	NIGHT	0	5	5	0	26
	DARK NIGHT	0	13	13	1	53
	SUNGLARE	0	88	88	0	144
	DITCH	0	8	8	0	17
OBJECT						
	CROSSWIND	(3)	(107)	(110)	(19)	(564)
	DOWNDRAFT	0	0	0	0	1
	GUSTS	0	1	1	0	2
	TAILWIND	0	0	0	0	3
	TURBULENCE	0	0	0	0	2
	DIRT BANK	0	1	1	0	1
	DITCH	0	0	0	0	1
	HIGH OBSTRUCTION(S)	0	0	0	0	1
	OPEN FIELD	0	1	1	0	3
	OBJECT	0	0	0	0	2
	AIRCRAFT MOVING ON GROUND	0	0	0	0	17
	AIRCRAFT PARKED	0	0	0	0	19
	AIRPORT FACILITY	0	0	0	1	13
	ANIMAL(S)	0	0	0	3	8
	APPROACH LIGHT/NAVAID	0	0	0	0	6
	BIRD(S)	1	1	2	3	4
	BUILDING (NONRESIDENTIAL)	0	4	4	0	13
	ELECT TOWER (MARKED)	0	1	1	0	1
	ELECT TOWER	0	0	0	0	1
	FENCE	0	0	0	0	73
	GUY WIRE	0	4	4	0	8
	OTHER PERSON	0	0	0	0	2
	RESIDENCE	0	2	2	0	5
	RUNWAY LIGHT	0	0	0	0	6
	SUBMERGED OBJECT	0	0	0	1	1
	TREE(S)	0	49	49	7	212
	UTILITY POLE (MARKED)	0	0	0	0	3
	UTILITY POLE	0	7	7	0	17
	VEHICLE	0	5	5	0	27
	WIRE, STATIC (MARKED)	0	1	1	0	2
	WIRE, STATIC	1	8	9	2	29
	WIRE, TRANSMISSION (MARKED)	0	2	2	0	4
	WIRE, TRANSMISSION	1	19	20	2	77
HUMAN PERFORMANCE						
	AIRCRAFT	(1160)	(302)	(1462)	(5531)	(1233)
	LANDING GEAR	(43)	(18)	(61)	(531)	(99)
	GEAR RETRACTION	(1)	(2)	(3)	(93)	(18)
	DELAYED	(1)	(1)	(2)	(13)	(4)
	PILOT IN COMMAND	(0)	(0)	(0)	(0)	(1)
	INADVERTENT	0	0	0	0	1
	PILOT IN COMMAND	(0)	(0)	(0)	(8)	(0)
	NOT IDENTIFIED	0	0	0	8	0
		(0)	(0)	(0)	(1)	(0)

CAUSE/FACTOR TABLE
ALL OPERATIONS
1984

AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued) HUMAN PERFORMANCE (Continued) AIRCRAFT (Continued) LANDING GEAR (Continued) GEAR RETRACTION (Continued) PILOT IN COMMAND	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
	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)	(1)	(2)	(2)	(1)	(3)
PILOT IN COMMAND	1	1	2	2	1	3
PREMATURE	(0)	(0)	(0)	(1)	(2)	(3)
PILOT IN COMMAND	0	0	0	1	1	2
DUAL STUDENT	0	0	0	0	1	1
GEAR EXTENSION	(0)	(0)	(0)	(27)	(5)	(32)
DELAYED	(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 ATTAINED	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
NOT IDENTIFIED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT PERFORMED	(0)	(0)	(0)	(15)	(0)	(15)
PILOT IN COMMAND	0	0	0	15	0	15
NOT POSSIBLE	(0)	(0)	(0)	(4)	(1)	(5)
PILOT IN COMMAND	0	0	0	3	1	4
NO PERSON SPECIFIED	0	0	0	1	0	1
PREMATURE	(0)	(0)	(0)	(1)	(2)	(3)
PILOT IN COMMAND	0	0	0	1	2	3
GEAR DOWN AND LOCKED	(0)	(1)	(1)	(8)	(2)	(10)
INACCURATE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
MISJUDGED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
NOT ATTAINED	(0)	(0)	(0)	(5)	(0)	(5)
PILOT IN COMMAND	0	0	0	5	0	5
NOT IDENTIFIED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT PERFORMED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT OBTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
BRAKES(NORMAL)	(0)	(0)	(0)	(42)	(7)	(49)
DELAYED	(0)	(0)	(0)	(3)	(1)	(4)
PILOT IN COMMAND	0	0	0	3	1	4
EXCESSIVE	(0)	(0)	(0)	(11)	(3)	(14)
PILOT IN COMMAND	0	0	0	8	2	10
COPILOT	0	0	0	2	0	2
DUAL STUDENT	0	0	0	1	1	2
IMPROPER	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
IMPROPER USE OF	(0)	(0)	(0)	(25)	(1)	(26)
PILOT IN COMMAND	0	0	0	23	1	24
DUAL STUDENT	0	0	0	2	0	2
INADVERTENT USE	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	1	1

CAUSE/FACTOR TABLE
ALL OPERATIONS
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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)
HUMAN PERFORMANCE (Continued)
AIRCRAFT (Continued)
LANDING GEAR (Continued)
BRAKES(NORMAL) (Continued)
PASSENGER

FATAL ACCIDENTS
CAUSE FACTOR TOTAL ALL ACCIDENTS
CAUSE FACTOR TOTAL

	0	0	0	0	1	1
MISJUDGED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT USED	(0)	(0)	(0)	(1)	(0)	(1)
PASSENGER	0	0	0	1	0	1
PARKING BRAKES	(0)	(0)	(0)	(1)	(0)	(1)
NOT USED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOSEWHEEL STEERING	(0)	(0)	(0)	(2)	(0)	(2)
IMPROPER USE OF	(0)	(0)	(0)	(1)	(0)	(1)
DUAL STUDENT	0	0	0	1	0	1
NOT POSSIBLE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
FLIGHT CONTROLS	(14)	(2)	(16)	(119)	(29)	(148)
FLIGHT CONTROLS	(10)	(0)	(10)	(66)	(4)	(70)
IMPROPER USE OF	(10)	(0)	(10)	(66)	(4)	(70)
PILOT IN COMMAND	10	0	10	63	3	66
NO PERSON SPECIFIED	0	0	0	1	0	1
COPILLOT	0	0	0	0	1	1
DUAL STUDENT	0	0	0	2	0	2
ELEVATOR	(1)	(0)	(1)	(5)	(3)	(8)
EXCESSIVE	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	2	2
IMPROPER USE OF	(1)	(0)	(1)	(4)	(0)	(4)
PILOT IN COMMAND	1	0	1	3	0	3
COPILLOT	0	0	0	1	0	1
INADEQUATE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
INADVERTENT USE	(0)	(0)	(0)	(1)	(0)	(1)
PASSENGER	0	0	0	1	0	1
ELEVATOR TRIM	(1)	(0)	(1)	(2)	(1)	(3)
EXCESSIVE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
IMPROPER USE OF	(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
AILERON	(0)	(0)	(0)	(1)	(0)	(1)
IMPROPER USE OF	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
RUDDER	(0)	(0)	(0)	(11)	(3)	(14)
EXCESSIVE	(0)	(0)	(0)	(1)	(0)	(1)
DUAL STUDENT	0	0	0	1	0	1
IMPROPER USE OF	(0)	(0)	(0)	(8)	(1)	(9)
PILOT IN COMMAND	0	0	0	5	1	6
DUAL STUDENT	0	0	0	2	0	2
UNQUALIFIED PERSON	0	0	0	1	0	1
INADEQUATE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
INITIATED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT USED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
REDUCED	(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)						
FLIGHT CONTROLS (Continued)						
RUDDER (Continued)						
PILOT IN COMMAND	0	0	0	1	0	1
STABILATOR TRIM	(0)	(0)	(0)	(0)	(1)	(1)
NOT CORRECTED	(0)	(0)	(0)	(0)	(1)	(1)
COMPANY MAINTENANCE PSNL	0	0	0	0	1	1
RAISING OF FLAPS	(2)	(2)	(4)	(19)	(10)	(29)
DELAYED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
IMPROPER	(0)	(1)	(1)	(8)	(2)	(10)
PILOT IN COMMAND	0	1	1	6	2	8
DUAL STUDENT	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
IMPROPER USE OF	(0)	(0)	(0)	(0)	(1)	(1)
DUAL STUDENT	0	0	0	0	1	1
INADVERTENT	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT PERFORMED	(1)	(1)	(2)	(6)	(5)	(11)
PILOT IN COMMAND	1	1	2	6	4	10
DUAL STUDENT	0	0	0	0	1	1
NOT SELECTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PREMATURE	(1)	(0)	(1)	(3)	(1)	(4)
PILOT IN COMMAND	1	0	1	2	1	3
COPILOT	0	0	0	1	0	1
LOWERING OF FLAPS	(0)	(0)	(0)	(10)	(6)	(16)
DELAYED	(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	1	2	3
COPILOT	0	0	0	1	0	1
IMPROPER	(0)	(0)	(0)	(3)	(2)	(5)
PILOT IN COMMAND	0	0	0	3	2	5
INADVERTENT	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INADEQUATE	(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 PERFORMED	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
PREMATURE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
SPOILER EXTENSION	(0)	(0)	(0)	(2)	(0)	(2)
NOT PERFORMED	(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
REMOVAL OF CONTROL/GUST LOCK(S)	(0)	(0)	(0)	(2)	(0)	(2)
NOT PERFORMED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
TRIM SETTING	(0)	(0)	(0)	(1)	(1)	(2)
IMPROPER	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	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)						
AIRCRAFT (Continued)						
FLIGHT CONTROLS (Continued)						
TRIM SETTING (Continued)						
NOT CORRECTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
FUEL SYSTEM	(14)	(1)	(15)	(167)	(10)	(177)
FUEL SYSTEM	(3)	(0)	(3)	(13)	(0)	(13)
IMPROPER USE OF	(3)	(0)	(3)	(11)	(0)	(11)
PILOT IN COMMAND	3	0	3	11	0	11
INADEQUATE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT MAINTAINED	(0)	(0)	(0)	(1)	(0)	(1)
COMPANY MAINTENANCE PSNL	0	0	0	1	0	1
FUEL TANK SELECTOR POSITION	(1)	(0)	(1)	(36)	(3)	(39)
DELAYED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
IMPROPER	(1)	(0)	(1)	(28)	(1)	(29)
PILOT IN COMMAND	1	0	1	25	0	25
NO PERSON SPECIFIED	0	0	0	0	1	1
DUAL STUDENT	0	0	0	2	0	2
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
IMPROPER USE OF	(0)	(0)	(0)	(3)	(1)	(4)
PILOT IN COMMAND	0	0	0	3	1	4
INADEQUATE	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
NOT IDENTIFIED	(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
SELECTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
FUEL BOOST PUMP SELECTOR POSITION	(1)	(0)	(1)	(3)	(0)	(3)
IMPROPER	(1)	(0)	(1)	(3)	(0)	(3)
PILOT IN COMMAND	1	0	1	3	0	3
FUEL DUMPED	(0)	(0)	(0)	(1)	(0)	(1)
INADVERTENT	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
FUEL SUPPLY	(9)	(1)	(10)	(114)	(7)	(121)
NO MODIFIER SPECIFIED	(0)	(0)	(0)	(1)	(0)	(1)
NO PERSON SPECIFIED	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
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
INATTENTIVE	(0)	(0)	(0)	(4)	(1)	(5)
PILOT IN COMMAND	0	0	0	4	1	5
INADEQUATE	(8)	(1)	(9)	(76)	(3)	(79)
PILOT IN COMMAND	8	1	9	73	3	76
NO PERSON SPECIFIED	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
UNQUALIFIED PERSON	0	0	0	1	0	1
INADVERTENT DEACTIVATION	(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
HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
FUEL SYSTEM (Continued)						
FUEL SUPPLY (Continued)						
PILOT IN COMMAND	0	0	0	1	0	1
MISJUDGED	(1)	(0)	(1)	(23)	(2)	(25)
PILOT IN COMMAND	1	0	1	23	2	25
NOT IDENTIFIED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
NOT MAINTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT UNDERSTOOD	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
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
POWERPLANT CONTROLS	(9)	(5)	(14)	(118)	(26)	(144)
POWERPLANT CONTROLS	(1)	(0)	(1)	(4)	(1)	(5)
IMPROPER USE OF	(1)	(0)	(1)	(4)	(0)	(4)
PILOT IN COMMAND	1	0	1	4	0	4
NOT USED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
THROTTLE/POWER CONTROL	(1)	(2)	(3)	(42)	(9)	(51)
DELAYED	(0)	(0)	(0)	(2)	(2)	(4)
PILOT IN COMMAND	0	0	0	2	2	4
EXCESSIVE	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
IMPROPER	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
IMPROPER USE OF	(0)	(0)	(0)	(34)	(1)	(35)
PILOT IN COMMAND	0	0	0	27	1	28
DUAL STUDENT	0	0	0	3	0	3
PILOT IN COMMAND(CFI)	0	0	0	3	0	3
UNQUALIFIED PERSON	0	0	0	1	0	1
INADEQUATE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
INADVERTENT DEACTIVATION	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT CORRECTED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
NOT MAINTAINED	(0)	(0)	(0)	(1)	(0)	(1)
OTHER MAINTENANCE PSNL	0	0	0	1	0	1
NOT PERFORMED	(0)	(0)	(0)	(0)	(1)	(1)
DUAL STUDENT	0	0	0	0	1	1
NOT POSSIBLE	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
NOT USED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
REDUCED	(1)	(0)	(1)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	2	0	2
PROPELLER	(0)	(0)	(0)	(1)	(1)	(2)
IMPROPER USE OF	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
MIXTURE	(0)	(0)	(0)	(8)	(3)	(11)

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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued) HUMAN PERFORMANCE (Continued) AIRCRAFT (Continued) POWERPLANT CONTROLS (Continued) MIXTURE (Continued) ATTEMPTED PILOT IN COMMAND	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
	(0)	(0)	(0)	(0)	(1)	(1)
	0	0	0	0	1	1
DELATED PILOT IN COMMAND	(0)	(0)	(0)	(1)	(0)	(1)
	0	0	0	1	0	1
IMPROPER USE OF PILOT IN COMMAND	(0)	(0)	(0)	(5)	(2)	(7)
	0	0	0	3	2	5
PILOT IN COMMAND(CFI)	(0)	(0)	(0)	2	0	2
INADVERTENT USE PILOT IN COMMAND	(0)	(0)	(0)	(1)	(0)	(1)
	0	0	0	1	0	1
NOT CORRECTED PILOT IN COMMAND	(0)	(0)	(0)	(1)	(0)	(1)
	0	0	0	1	0	1
CARBURETOR HEAT IMPROPER USE OF PILOT IN COMMAND	(3)	(0)	(3)	(53)	(5)	(58)
	(2)	(0)	(2)	(32)	(2)	(34)
PILOT IN COMMAND	2	0	2	31	2	33
PILOT IN COMMAND(CFI)	(0)	(0)	(0)	1	0	1
INADVERTENT USE PILOT IN COMMAND	(0)	(0)	(0)	(0)	(1)	(1)
	0	0	0	0	1	1
NOT ATTAINED PILOT IN COMMAND	(0)	(0)	(0)	(1)	(0)	(1)
	0	0	0	1	0	1
NOT IDENTIFIED PILOT IN COMMAND	(0)	(0)	(0)	(0)	(1)	(1)
	0	0	0	0	1	1
NOT SELECTED PILOT IN COMMAND	(0)	(0)	(0)	(2)	(0)	(2)
	0	0	0	2	0	2
NOT USED PILOT IN COMMAND	(1)	(0)	(1)	(18)	(0)	(18)
	0	0	0	16	0	16
DUAL STUDENT	(0)	(0)	(0)	1	0	1
PILOT IN COMMAND(CFI)	1	0	1	1	0	1
SELECTED PILOT IN COMMAND	(0)	(0)	(0)	(0)	(1)	(1)
	0	0	0	0	1	1
PROPELLER FEATHERING MISJUDGED	(3)	(3)	(6)	(6)	(7)	(13)
	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT ATTAINED PILOT IN COMMAND	(0)	(0)	(0)	(1)	(0)	(1)
	0	0	0	1	0	1
NOT PERFORMED PILOT IN COMMAND	(3)	(2)	(5)	(4)	(4)	(8)
	3	2	5	3	4	7
PILOT IN COMMAND(CFI)	(0)	(0)	(0)	1	0	1
PERFORMED PILOT IN COMMAND	(0)	(1)	(1)	(0)	(2)	(2)
	0	1	1	0	2	2
SELECTED PILOT IN COMMAND	(0)	(0)	(0)	(1)	(0)	(1)
	0	0	0	1	0	1
ADEQUATE ROTOR RPM NOT MAINTAINED	(1)	(0)	(1)	(3)	(0)	(3)
	(1)	(0)	(1)	(3)	(0)	(3)
PILOT IN COMMAND	1	0	1	3	0	3
WRONG ENGINE SHUTDOWN PERFORMED	(0)	(0)	(0)	(1)	(0)	(1)
	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
ANTI-ICE/DE-ICE SYSTEM ANTI-ICE/DE-ICE SYSTEM DELAYED	(0)	(0)	(0)	(4)	(1)	(5)
	(0)	(0)	(0)	(4)	(1)	(5)
PILOT IN COMMAND	(0)	(0)	(0)	(1)	(1)	(2)
	0	0	0	1	1	2
IMPROPER USE OF	(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)						
ANTI-ICE/DE-ICE SYSTEM (Continued)						
ANTI-ICE/DE-ICE SYSTEM (Continued)						
PILOT IN COMMAND	0	0	0	1	0	1
NOT USED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
COMMUNICATIONS EQUIPMENT	(0)	(2)	(2)	(0)	(2)	(2)
COMMUNICATIONS EQUIPMENT	(0)	(2)	(2)	(0)	(2)	(2)
NOT ATTAINED	(0)	(2)	(2)	(0)	(2)	(2)
NO PERSON SPECIFIED	0	2	2	0	2	2
AUTOPILOT	(1)	(0)	(1)	(2)	(0)	(2)
AUTOPILOT	(1)	(0)	(1)	(2)	(0)	(2)
INADVERTENT USE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT CORRECTED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
EMERGENCY EQUIPMENT	(0)	(1)	(1)	(0)	(1)	(1)
EMERGENCY EQUIPMENT	(0)	(1)	(1)	(0)	(1)	(1)
INADEQUATE	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
FLIGHT AND NAVIGATION INSTRUMENTS	(1)	(4)	(5)	(2)	(9)	(11)
FLIGHT AND NAVIGATION INSTRUMENTS	(0)	(0)	(0)	(1)	(2)	(3)
IMPROPER USE OF	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
INATTENTIVE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
ALTIMETER SETTING	(0)	(2)	(2)	(0)	(3)	(3)
IMPROPER	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
INACCURATE	(0)	(1)	(1)	(0)	(2)	(2)
PILOT IN COMMAND	0	1	1	0	2	2
NAVIGATION RECEIVER	(1)	(1)	(2)	(1)	(1)	(2)
NOT IDENTIFIED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
NOT SELECTED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
ALTIMETER	(0)	(0)	(0)	(0)	(1)	(1)
MISREAD	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
HEADING INDICATOR	(0)	(1)	(1)	(0)	(1)	(1)
NOT UNDERSTOOD	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
ENGINE INSTRUMENT	(0)	(0)	(0)	(0)	(1)	(1)
MISREAD	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
ROTORCRAFT FLIGHT CONTROLS	(3)	(0)	(3)	(24)	(0)	(24)
ROTORCRAFT FLIGHT CONTROLS	(1)	(0)	(1)	(8)	(0)	(8)
IMPROPER USE OF	(0)	(0)	(0)	(7)	(0)	(7)
PILOT IN COMMAND	0	0	0	7	0	7
MISJUDGED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
CYCLIC	(1)	(0)	(1)	(7)	(0)	(7)
DELAYED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
EXCESSIVE	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	1	0	1
DUAL STUDENT	0	0	0	1	0	1
IMPROPER USE OF	(0)	(0)	(0)	(4)	(0)	(4)

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	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
ROTORCRAFT FLIGHT CONTROLS (Continued)						
CYCLIC (Continued)						
PILOT IN COMMAND	0	0	0	1	0	1
DUAL STUDENT	0	0	0	3	0	3
COLLECTIVE	(1)	(0)	(1)	(7)	(0)	(7)
DELAYED	(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
IMPROPER USE OF	(1)	(0)	(1)	(5)	(0)	(5)
PILOT IN COMMAND	1	0	1	4	0	4
COPILLOT	0	0	0	1	0	1
TAIL ROTOR	(0)	(0)	(0)	(2)	(0)	(2)
IMPROPER USE OF	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	1	0	1
COPILLOT	0	0	0	1	0	1
MISCELLANEOUS EQUIPMENT	(0)	(1)	(1)	(2)	(3)	(5)
MISCELLANEOUS EQUIPMENT	(0)	(0)	(0)	(1)	(0)	(1)
NOT CORRECTED	(0)	(0)	(0)	(1)	(0)	(1)
OTHER MAINTENANCE PSNL	0	0	0	1	0	1
SEAT BELT	(0)	(1)	(1)	(1)	(2)	(3)
INADEQUATE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT USED	(0)	(1)	(1)	(0)	(1)	(1)
PASSENGER	0	1	1	0	1	1
UNCONTROLLED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
LANDING LIGHTS	(0)	(0)	(0)	(0)	(1)	(1)
NOT USED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND(CFI)	0	0	0	0	1	1
OPERATIONS	(1117)	(284)	(1401)	(5000)	(1134)	(6134)
PLANNING-DECISION	(447)	(152)	(599)	(1932)	(451)	(2383)
PLANNING-DECISION	(12)	(4)	(16)	(95)	(11)	(106)
IMPROPER	(8)	(3)	(11)	(84)	(10)	(94)
PILOT IN COMMAND	7	3	10	78	10	88
PILOT IN COMMAND(CFI)	0	0	0	3	0	3
PASSENGER	1	0	1	1	0	1
PILOT OF OTHER AIRCRAFT	0	0	0	2	0	2
INADEQUATE	(0)	(1)	(1)	(5)	(1)	(6)
PILOT IN COMMAND	0	1	1	4	1	5
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
MISJUDGED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
POOR	(4)	(0)	(4)	(5)	(0)	(5)
PILOT IN COMMAND	4	0	4	4	0	4
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
PREFLIGHT PLANNING/PREPARATION	(34)	(25)	(59)	(190)	(61)	(251)
DISREGARDED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
IMPROPER	(5)	(4)	(9)	(22)	(10)	(32)
PILOT IN COMMAND	5	4	9	22	10	32
INACCURATE	(0)	(1)	(1)	(0)	(1)	(1)
NWS PERSONNEL	0	1	1	0	1	1
INADEQUATE	(22)	(16)	(38)	(131)	(43)	(174)
PILOT IN COMMAND	22	16	38	127	40	167
PILOT IN COMMAND(CFI)	0	0	0	2	1	3
CHECK PILOT	0	0	0	0	2	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)						
PLANNING-DECISION (Continued)						
PREFLIGHT PLANNING/PREPARATION (Continued)						
PILOT OF OTHER AIRCRAFT	0	0	0	2	0	2
NOT PERFORMED	(2)	(0)	(2)	(6)	(0)	(6)
PILOT IN COMMAND	2	0	2	6	0	6
POOR	(5)	(4)	(9)	(30)	(7)	(37)
PILOT IN COMMAND	5	4	9	29	7	36
FLIGHT INSTRUCTOR(ON GROUND)	0	0	0	1	0	1
AIRCRAFT PREFLIGHT	(13)	(4)	(17)	(126)	(19)	(145)
IMPROPER	(2)	(0)	(2)	(24)	(2)	(26)
PILOT IN COMMAND	2	0	2	24	2	26
INADEQUATE	(10)	(3)	(13)	(94)	(11)	(105)
PILOT IN COMMAND	10	3	13	92	11	103
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
UNQUALIFIED PERSON	0	0	0	1	0	1
NOT PERFORMED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
NOT UNDERSTOOD	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT POSSIBLE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
POOR	(1)	(1)	(2)	(5)	(5)	(10)
PILOT IN COMMAND	1	1	2	5	5	10
AIRCRAFT SERVICE	(1)	(0)	(1)	(14)	(2)	(16)
IMPROPER	(0)	(0)	(0)	(8)	(0)	(8)
PILOT IN COMMAND	0	0	0	6	0	6
OTHER PERSON	0	0	0	2	0	2
INADEQUATE	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
NOT IDENTIFIED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT PERFORMED	(1)	(0)	(1)	(3)	(1)	(4)
PILOT IN COMMAND	1	0	1	3	0	3
FBO PERSONNEL	0	0	0	0	1	1
NOT OBTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
ICE/FROST REMOVAL FROM AIRCRAFT	(1)	(0)	(1)	(6)	(1)	(7)
EXCESSIVE	(0)	(0)	(0)	(1)	(0)	(1)
DUAL STUDENT	0	0	0	1	0	1
INADEQUATE	(1)	(0)	(1)	(5)	(1)	(6)
PILOT IN COMMAND	1	0	1	5	1	6
AIRCRAFT UNATTENDED/ENGINE(S) RUNNING	(0)	(0)	(0)	(4)	(0)	(4)
INADVERTENT	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INTENTIONAL	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
PERFORMED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
AIRCRAFT WEIGHT AND BALANCE	(4)	(9)	(13)	(20)	(22)	(42)
CONFLICTING	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
DISREGARDED	(0)	(1)	(1)	(3)	(2)	(5)
PILOT IN COMMAND	0	1	1	3	2	5
EXCEEDED	(3)	(5)	(8)	(9)	(15)	(24)

CAUSE/FACTOR TABLE
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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued) HUMAN PERFORMANCE (Continued) OPERATIONS (Continued) PLANNING-DECISION (Continued) AIRCRAFT WEIGHT AND BALANCE (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
PILOT IN COMMAND	3	4	7	9	14	23
NO PERSON SPECIFIED	0	1	1	0	1	1
EXCESSIVE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
IMPROPER	(1)	(2)	(3)	(6)	(2)	(8)
PILOT IN COMMAND	1	2	3	6	2	8
INACCURATE	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
NOT IDENTIFIED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT PERFORMED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
OPERATION WITH KNOWN DEFICIENCIES IN EQUIPMENT	(1)	(3)	(4)	(19)	(13)	(32)
ATTEMPTED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
CONTINUED	(0)	(1)	(1)	(3)	(1)	(4)
PILOT IN COMMAND	0	1	1	3	1	4
IMPROPER	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INTENTIONAL	(0)	(0)	(0)	(5)	(5)	(10)
PILOT IN COMMAND	0	0	0	5	5	10
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
PERFORMED	(1)	(2)	(3)	(6)	(7)	(13)
PILOT IN COMMAND	1	2	3	6	7	13
TIE DOWN/SECURITY OF CARGO	(0)	(1)	(1)	(2)	(2)	(4)
INADEQUATE	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
NOT PERFORMED	(0)	(1)	(1)	(1)	(1)	(2)
PILOT IN COMMAND	0	1	1	1	1	2
PROPER ASSISTANCE	(0)	(1)	(1)	(13)	(2)	(15)
MISJUDGED	(0)	(0)	(0)	(1)	(0)	(1)
FBO PERSONNEL	0	0	0	1	0	1
NOT ATTAINED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
NOT OBTAINED	(0)	(1)	(1)	(9)	(2)	(11)
PILOT IN COMMAND	0	1	1	9	2	11
NOT USED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
IN-FLIGHT PLANNING/DECISION	(58)	(17)	(75)	(201)	(32)	(233)
DELAYED	(1)	(2)	(3)	(3)	(3)	(6)
PILOT IN COMMAND	1	2	3	3	3	6
EXCEEDED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
IMPROPER	(44)	(10)	(54)	(129)	(15)	(144)
PILOT IN COMMAND	44	10	54	128	15	143
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
INACCURATE	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	3	0	3

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)						
IN-FLIGHT PLANNING/DECISION (Continued)						
INADEQUATE	(1)	(2)	(3)	(26)	(6)	(32)
PILOT IN COMMAND	1	2	3	23	6	29
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
PILOT OF OTHER AIRCRAFT	0	0	0	2	0	2
MISJUDGED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT MAINTAINED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
POOR	(11)	(3)	(14)	(37)	(7)	(44)
PILOT IN COMMAND	10	3	13	34	7	41
PILOT IN COMMAND(CFI)	1	0	1	3	0	3
PREMATURE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
WIND INFORMATION	(0)	(0)	(0)	(14)	(8)	(22)
CONFLICTING	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
DISREGARDED	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	3	0	3
INACCURATE	(0)	(0)	(0)	(0)	(1)	(1)
UNQUALIFIED PERSON	0	0	0	0	1	1
INATTENTIVE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
MISJUDGED	(0)	(0)	(0)	(5)	(2)	(7)
PILOT IN COMMAND	0	0	0	5	2	7
MISREAD	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT OBTAINED	(0)	(0)	(0)	(2)	(3)	(5)
PILOT IN COMMAND	0	0	0	2	2	4
PILOT IN COMMAND(CFI)	0	0	0	0	1	1
NOT UNDERSTOOD	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT RECEIVED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT USED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
FUEL CONSUMPTION CALCULATIONS	(5)	(0)	(5)	(55)	(7)	(62)
DISREGARDED	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
IMPROPER	(1)	(0)	(1)	(8)	(0)	(8)
PILOT IN COMMAND	1	0	1	8	0	8
INACCURATE	(1)	(0)	(1)	(19)	(2)	(21)
PILOT IN COMMAND	1	0	1	18	2	20
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	(1)	(0)	(1)	(12)	(0)	(12)
PILOT IN COMMAND	1	0	1	12	0	12
MISJUDGED	(2)	(0)	(2)	(8)	(3)	(11)
PILOT IN COMMAND	2	0	2	8	3	11
NOT FOLLOWED	(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)						
OPERATIONS (Continued)						
PLANNING-DECISION (Continued)						
FUEL CONSUMPTION CALCULATIONS (Continued)						
NOT PERFORMED	(0)	(0)	(0)	(5)	(1)	(6)
PILOT IN COMMAND	0	0	0	5	1	6
NOTAMS	(1)	(2)	(3)	(3)	(2)	(5)
DISREGARDED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
ISSUED	(0)	(1)	(1)	(0)	(1)	(1)
AIRPORT PERSONNEL	0	1	1	0	1	1
NOT OBTAINED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
NOT USED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
BECAME LOST/DISORIENTED	(10)	(2)	(12)	(18)	(16)	(34)
NO MODIFIER SPECIFIED	(0)	(0)	(0)	(2)	(1)	(3)
PILOT IN COMMAND	0	0	0	2	1	3
CONTINUED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
INADVERTENT	(9)	(2)	(11)	(15)	(15)	(30)
PILOT IN COMMAND	9	2	11	15	15	30
VFR FLIGHT INTO IMC	(66)	(8)	(74)	(88)	(8)	(96)
ATTEMPTED	(8)	(0)	(8)	(12)	(0)	(12)
PILOT IN COMMAND	8	0	8	12	0	12
CONTINUED	(32)	(4)	(36)	(43)	(4)	(47)
PILOT IN COMMAND	32	4	36	43	4	47
INADVERTENT	(10)	(0)	(10)	(14)	(0)	(14)
PILOT IN COMMAND	10	0	10	14	0	14
INTENTIONAL	(2)	(1)	(3)	(5)	(1)	(6)
PILOT IN COMMAND	2	1	3	5	1	6
INITIATED	(7)	(3)	(10)	(7)	(3)	(10)
PILOT IN COMMAND	7	3	10	7	3	10
PERFORMED	(7)	(0)	(7)	(7)	(0)	(7)
PILOT IN COMMAND	7	0	7	7	0	7
VFR PROCEDURES	(2)	(0)	(2)	(3)	(2)	(5)
NOT FOLLOWED	(1)	(0)	(1)	(2)	(1)	(3)
PILOT IN COMMAND	1	0	1	1	1	2
PILOT OF OTHER AIRCRAFT	0	0	0	1	0	1
POOR	(1)	(0)	(1)	(1)	(1)	(2)
PILOT IN COMMAND	1	0	1	1	1	2
FLIGHT MANUALS	(1)	(0)	(1)	(2)	(1)	(3)
NOT FOLLOWED	(1)	(0)	(1)	(1)	(1)	(2)
PILOT IN COMMAND	1	0	1	1	1	2
NOT USED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PERFORMANCE DATA	(6)	(0)	(6)	(37)	(9)	(46)
DISREGARDED	(1)	(0)	(1)	(8)	(1)	(9)
PILOT IN COMMAND	1	0	1	8	1	9
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
INADEQUATE	(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)						
OPERATIONS (Continued)						
PLANNING-DECISION (Continued)						
PERFORMANCE DATA (Continued)						
MISJUDGED	(2)	(0)	(2)	(4)	(1)	(5)
PILOT IN COMMAND	2	0	2	4	1	5
NOT ATTAINED	(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)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
NOT OBTAINED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT UNDERSTOOD	(3)	(0)	(3)	(14)	(5)	(19)
PILOT IN COMMAND	3	0	3	14	5	19
NOT USED	(0)	(0)	(0)	(4)	(0)	(4)
PILOT IN COMMAND	0	0	0	4	0	4
SELECTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
REFUELING	(5)	(1)	(6)	(46)	(4)	(50)
DELAYED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
DISREGARDED	(0)	(0)	(0)	(3)	(1)	(4)
PILOT IN COMMAND	0	0	0	3	1	4
IMPROPER	(2)	(0)	(2)	(3)	(0)	(3)
PILOT IN COMMAND	1	0	1	1	0	1
NO PERSON SPECIFIED	0	0	0	1	0	1
FBO PERSONNEL	1	0	1	1	0	1
INATTENTIVE	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
INADEQUATE	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
NOT ATTAINED	(1)	(0)	(1)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	2	0	2
NOT PERFORMED	(1)	(0)	(1)	(35)	(2)	(37)
PILOT IN COMMAND	1	0	1	34	1	35
FBO PERSONNEL	0	0	0	0	1	1
UNQUALIFIED PERSON	0	0	0	1	0	1
VISUAL LOOKOUT	(59)	(10)	(69)	(193)	(27)	(220)
CONFLICTING	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
IMPROPER	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
INACCURATE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INATTENTIVE	(0)	(0)	(0)	(2)	(2)	(4)
PILOT IN COMMAND	0	0	0	0	2	2
GROUND PERSONNEL	0	0	0	1	0	1
OTHER PERSON	0	0	0	1	0	1
INADEQUATE	(45)	(4)	(49)	(136)	(10)	(146)
PILOT IN COMMAND	26	3	29	88	6	94
DUAL STUDENT	1	0	1	2	1	3
PILOT IN COMMAND(CFI)	1	0	1	3	1	4
PILOT OF OTHER AIRCRAFT	17	1	18	41	2	43
DRIVER OF VEHICLE	0	0	0	2	0	2
MISJUDGED	(0)	(0)	(0)	(2)	(0)	(2)

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)						
PLANNING-DECISION (Continued)						
VISUAL LOOKOUT (Continued)						
PILOT IN COMMAND	0	0	0	2	0	2
NOT MAINTAINED	(8)	(0)	(8)	(33)	(2)	(35)
PILOT IN COMMAND	6	0	6	26	1	27
DUAL STUDENT	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	1	0	1	2	0	2
PILOT OF OTHER AIRCRAFT	0	0	0	3	0	3
DRIVER OF VEHICLE	0	0	0	0	1	1
OTHER PERSON	1	0	1	1	0	1
NOT PERFORMED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT POSSIBLE	(4)	(1)	(5)	(9)	(4)	(13)
PILOT IN COMMAND	4	1	5	9	4	13
POOR	(1)	(0)	(1)	(1)	(1)	(2)
PILOT IN COMMAND	1	0	1	1	1	2
REDUCED	(1)	(4)	(5)	(7)	(7)	(14)
PILOT IN COMMAND	1	2	3	7	5	12
PILOT OF OTHER AIRCRAFT	0	2	2	0	2	2
WEATHER EVALUATION	(8)	(5)	(13)	(39)	(12)	(51)
CONFLICTING	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
DISREGARDED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
IMPROPER	(0)	(1)	(1)	(10)	(3)	(13)
PILOT IN COMMAND	0	1	1	10	3	13
INACCURATE	(2)	(0)	(2)	(12)	(0)	(12)
PILOT IN COMMAND	2	0	2	11	0	11
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
INADEQUATE	(1)	(2)	(3)	(4)	(3)	(7)
PILOT IN COMMAND	1	2	3	4	3	7
MISJUDGED	(1)	(2)	(3)	(2)	(2)	(4)
PILOT IN COMMAND	1	2	3	1	2	3
FLIGHT INSTRUCTOR(ON GROUND)	0	0	0	1	0	1
NOT ATTAINED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
POOR	(3)	(0)	(3)	(9)	(3)	(12)
PILOT IN COMMAND	3	0	3	9	3	12
FLIGHT INTO KNOWN ADVERSE WEATHER	(54)	(20)	(74)	(83)	(26)	(109)
ATTEMPTED	(10)	(0)	(10)	(14)	(0)	(14)
PILOT IN COMMAND	10	0	10	14	0	14
CONTINUED	(13)	(3)	(16)	(18)	(5)	(23)
PILOT IN COMMAND	13	2	15	18	4	22
PILOT IN COMMAND(CFI)	0	1	1	0	1	1
INADVERTENT	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
INTENTIONAL	(8)	(0)	(8)	(12)	(1)	(13)
PILOT IN COMMAND	8	0	8	12	1	13
INADEQUATE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INITIATED	(14)	(15)	(29)	(23)	(17)	(40)
PILOT IN COMMAND	14	15	29	23	17	40
PERFORMED	(9)	(2)	(11)	(13)	(3)	(16)

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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued) HUMAN PERFORMANCE (Continued) OPERATIONS (Continued) PLANNING-DECISION (Continued) FLIGHT INTO KNOWN ADVERSE WEATHER (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
PILOT IN COMMAND	9	2	11	13	3	16
IFR PROCEDURE	(32)	(2)	(34)	(42)	(3)	(45)
CONTINUED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
IMPROPER	(15)	(0)	(15)	(22)	(0)	(22)
PILOT IN COMMAND	15	0	15	22	0	22
INADVERTENT	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
NOT CORRECTED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
NOT FOLLOWED	(15)	(1)	(16)	(16)	(1)	(17)
PILOT IN COMMAND	15	1	16	16	1	17
NOT UNDERSTOOD	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT SELECTED	(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
FLIGHT TO ALTERNATE DESTINATION	(2)	(4)	(6)	(5)	(11)	(16)
DELAYED	(2)	(0)	(2)	(4)	(2)	(6)
PILOT IN COMMAND	2	0	2	4	2	6
DISREGARDED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
IMPROPER	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
NOT PERFORMED	(0)	(2)	(2)	(1)	(5)	(6)
PILOT IN COMMAND	0	2	2	1	5	6
NOT SELECTED	(0)	(1)	(1)	(0)	(2)	(2)
PILOT IN COMMAND	0	1	1	0	2	2
COMPENSATION FOR WIND CONDITIONS	(1)	(3)	(4)	(157)	(16)	(173)
ATTEMPTED	(0)	(0)	(0)	(1)	(0)	(1)
DUAL STUDENT	0	0	0	1	0	1
DELAYED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	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
EXCESSIVE	(0)	(0)	(0)	(1)	(2)	(3)
PILOT IN COMMAND	0	0	0	1	2	3
IMPROPER	(0)	(1)	(1)	(56)	(3)	(59)
PILOT IN COMMAND	0	1	1	54	3	57
DUAL STUDENT	0	0	0	2	0	2
INACCURATE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INADEQUATE	(0)	(0)	(0)	(77)	(5)	(82)
PILOT IN COMMAND	0	0	0	76	5	81
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
MISJUDGED	(0)	(0)	(0)	(2)	(1)	(3)
PILOT IN COMMAND	0	0	0	2	1	3
NOT ATTAINED	(1)	(0)	(1)	(2)	(0)	(2)

CAUSE/FACTOR TABLE
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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued) HUMAN PERFORMANCE (Continued) OPERATIONS (Continued) PLANNING-DECISION (Continued) COMPENSATION FOR WIND CONDITIONS (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE FACTOR	TOTAL		CAUSE FACTOR	TOTAL	
PILOT IN COMMAND	1	0	1	2	0	2
NOT IDENTIFIED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT PERFORMED	(0)	(1)	(1)	(7)	(2)	(9)
PILOT IN COMMAND	0	1	1	7	2	9
NOT UNDERSTOOD	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT POSSIBLE	(0)	(1)	(1)	(3)	(3)	(6)
PILOT IN COMMAND	0	1	1	2	3	5
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
POOR	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	1	0	1
DUAL STUDENT	0	0	0	1	0	1
LANDED AT WRONG AIRPORT	(0)	(0)	(0)	(1)	(3)	(4)
NO MODIFIER SPECIFIED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
ATTEMPTED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
INADVERTENT	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
WRONG RUNWAY	(2)	(3)	(5)	(41)	(27)	(68)
NOT CORRECTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
SELECTED	(2)	(3)	(5)	(40)	(27)	(67)
PILOT IN COMMAND	2	3	5	40	22	62
DUAL STUDENT	0	0	0	0	1	1
PILOT IN COMMAND(CFI)	0	0	0	0	3	3
FBO PERSONNEL	0	0	0	0	1	1
UNSUITABLE TERRAIN	(0)	(0)	(0)	(106)	(14)	(120)
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
IMPROPER USE OF	(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
MISREAD	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT IDENTIFIED	(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
SELECTED	(0)	(0)	(0)	(100)	(13)	(113)
PILOT IN COMMAND	0	0	0	97	13	110
PILOT IN COMMAND(CFI)	0	0	0	3	0	3
CHECKLIST	(1)	(1)	(2)	(23)	(14)	(37)
IMPROPER	(1)	(0)	(1)	(3)	(0)	(3)
PILOT IN COMMAND	1	0	1	2	0	2
DUAL STUDENT	0	0	0	1	0	1
INATTENTIVE	(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)						
OPERATIONS (Continued)						
PLANNING-DECISION (Continued)						
CHECKLIST (Continued)						
INADEQUATE	(0)	(1)	(1)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	0	1
MANUFACTURER	0	1	1	0	1	1
NOT FOLLOWED	(0)	(0)	(0)	(12)	(10)	(22)
PILOT IN COMMAND	0	0	0	12	7	19
NO PERSON SPECIFIED	0	0	0	0	1	1
DUAL STUDENT	0	0	0	0	1	1
PILOT IN COMMAND(CFI)	0	0	0	0	1	1
NOT PERFORMED	(0)	(0)	(0)	(2)	(1)	(3)
PILOT IN COMMAND	0	0	0	2	1	3
NOT USED	(0)	(0)	(0)	(3)	(2)	(5)
PILOT IN COMMAND	0	0	0	3	2	5
POOR	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
JUDGEMENT	(53)	(14)	(67)	(165)	(34)	(199)
DISREGARDED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
IMPROPER	(0)	(1)	(1)	(2)	(1)	(3)
PILOT IN COMMAND	0	1	1	2	1	3
INACCURATE	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	3	0	3
NOT UNDERSTOOD	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT POSSIBLE	(1)	(0)	(1)	(1)	(1)	(2)
PILOT IN COMMAND	1	0	1	1	1	2
POOR	(52)	(12)	(64)	(159)	(30)	(189)
PILOT IN COMMAND	47	9	56	144	21	165
COPILOT	0	0	0	0	1	1
PILOT IN COMMAND(CFI)	1	0	1	3	2	5
FLIGHT INSTRUCTOR(ON GROUND)	0	0	0	2	1	3
GROUND PERSONNEL	1	0	1	1	0	1
PASSENGER	2	0	2	5	0	5
PILOT OF OTHER AIRCRAFT	0	2	2	0	4	4
DRIVER OF VEHICLE	1	0	1	2	0	2
UNQUALIFIED PERSON	0	1	1	2	1	3
PROCEDURES/DIRECTIVES	(13)	(10)	(23)	(74)	(17)	(91)
DISREGARDED	(1)	(0)	(1)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	2	0	2
IMPROPER	(4)	(1)	(5)	(14)	(1)	(15)
PILOT IN COMMAND	3	1	4	10	1	11
PILOT IN COMMAND(CFI)	0	0	0	2	0	2
COMPANY/OPERATOR MGMT	0	0	0	1	0	1
PASSENGER	1	0	1	1	0	1
INADEQUATE	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	1	0	1
GROUND PERSONNEL	0	0	0	1	0	1
NOT FOLLOWED	(8)	(8)	(16)	(51)	(15)	(66)
PILOT IN COMMAND	7	5	12	44	10	54
NO PERSON SPECIFIED	0	1	1	0	1	1
DUAL STUDENT	1	0	1	1	1	2
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
COMPANY MAINTENANCE PSNL	0	0	0	1	0	1
ATC PERSONNEL(ARTCC)	0	1	1	0	1	1
AIRPORT PERSONNEL	0	0	0	1	0	1
PASSENGER	0	0	0	3	0	3
PILOT OF OTHER AIRCRAFT	0	1	1	0	2	2

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)						
PROCEDURES/DIRECTIVES (Continued)						
NOT MAINTAINED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
NOT UNDERSTOOD	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	1	0	1
DUAL STUDENT	0	0	0	1	0	1
NOT USED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
POOR	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
ALL AVAILABLE RUNWAY	(0)	(0)	(0)	(12)	(3)	(15)
MISJUDGED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT USED	(0)	(0)	(0)	(11)	(3)	(14)
PILOT IN COMMAND	0	0	0	10	3	13
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
PLANNED APPROACH	(2)	(3)	(5)	(35)	(22)	(57)
IMPROPER	(1)	(1)	(2)	(17)	(8)	(25)
PILOT IN COMMAND	1	1	2	17	8	25
INACCURATE	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
INADEQUATE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
MISJUDGED	(0)	(1)	(1)	(6)	(5)	(11)
PILOT IN COMMAND	0	1	1	6	5	11
NOT FOLLOWED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT PERFORMED	(1)	(0)	(1)	(1)	(1)	(2)
PILOT IN COMMAND	1	0	1	1	1	2
NOT POSSIBLE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
POOR	(0)	(1)	(1)	(7)	(7)	(14)
PILOT IN COMMAND	0	1	1	7	7	14
MAINTENANCE	(20)	(10)	(30)	(144)	(46)	(190)
MAINTENANCE	(1)	(2)	(3)	(24)	(10)	(34)
IMPROPER	(0)	(1)	(1)	(11)	(7)	(18)
PILOT IN COMMAND	0	0	0	1	1	2
NO PERSON SPECIFIED	0	0	0	2	0	2
COMPANY MAINTENANCE PSNL	0	0	0	2	0	2
OTHER MAINTENANCE PSNL	0	0	0	5	4	9
COMPANY/OPERATOR MGMT	0	1	1	0	2	2
UNQUALIFIED PERSON	0	0	0	1	0	1
INADEQUATE	(0)	(0)	(0)	(11)	(1)	(12)
PILOT IN COMMAND	0	0	0	1	0	1
NO PERSON SPECIFIED	0	0	0	3	0	3
OTHER MAINTENANCE PSNL	0	0	0	7	0	7
AIRPORT PERSONNEL	0	0	0	0	1	1
PERFORMED	(0)	(1)	(1)	(0)	(1)	(1)
UNQUALIFIED PERSON	0	1	1	0	1	1
POOR	(1)	(0)	(1)	(2)	(1)	(3)
OTHER MAINTENANCE PSNL	1	0	1	1	1	2
PILOT OF OTHER AIRCRAFT	0	0	0	1	0	1
MAINTENANCE SERVICE OF AIRCRAFT	(0)	(0)	(0)	(11)	(6)	(17)
IMPROPER	(0)	(0)	(0)	(8)	(4)	(12)

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, SERVICE OF AIRCRAFT (Continued)						
PILOT IN COMMAND	0	0	0	5	0	5
NO PERSON SPECIFIED	0	0	0	0	1	1
OTHER MAINTENANCE PSNL	0	0	0	2	0	2
FBO PERSONNEL	0	0	0	1	0	1
COMPANY/OPERATOR MGMT	0	0	0	0	1	1
GROUND PERSONNEL	0	0	0	0	1	1
AIRPORT PERSONNEL	0	0	0	0	1	1
IMPROPER USE OF	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INADEQUATE	(0)	(0)	(0)	(2)	(1)	(3)
PILOT IN COMMAND	0	0	0	1	0	1
COMPANY MAINTENANCE PSNL	0	0	0	1	1	2
NOT PERFORMED	(0)	(0)	(0)	(0)	(1)	(1)
OTHER MAINTENANCE PSNL	0	0	0	0	1	1
MAINTENANCE, INSPECTION OF AIRCRAFT	(2)	(2)	(4)	(23)	(6)	(29)
IMPROPER	(0)	(0)	(0)	(1)	(0)	(1)
OTHER MAINTENANCE PSNL	0	0	0	1	0	1
INADEQUATE	(2)	(1)	(3)	(19)	(5)	(24)
PILOT IN COMMAND	1	0	1	3	0	3
NO PERSON SPECIFIED	0	0	0	0	1	1
COMPANY MAINTENANCE PSNL	0	0	0	4	0	4
OTHER MAINTENANCE PSNL	1	1	2	12	4	16
NOT ATTAINED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
NOT PERFORMED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
POOR	(0)	(0)	(0)	(1)	(0)	(1)
OTHER MAINTENANCE PSNL	0	0	0	1	0	1
MAINTENANCE, COMPLIANCE WITH AD	(4)	(1)	(5)	(9)	(3)	(12)
DELAYED	(0)	(0)	(0)	(1)	(0)	(1)
COMPANY/OPERATOR MGMT	0	0	0	1	0	1
IMPROPER	(0)	(1)	(1)	(0)	(1)	(1)
OTHER MAINTENANCE PSNL	0	1	1	0	1	1
INADEQUATE	(1)	(0)	(1)	(1)	(0)	(1)
OTHER MAINTENANCE PSNL	1	0	1	1	0	1
NOT FOLLOWED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
NOT PERFORMED	(3)	(0)	(3)	(5)	(2)	(7)
PILOT IN COMMAND	1	0	1	1	1	2
COMPANY MAINTENANCE PSNL	1	0	1	2	0	2
OTHER MAINTENANCE PSNL	1	0	1	1	1	2
COMPANY/OPERATOR MGMT	0	0	0	1	0	1
MAINTENANCE, ANNUAL INSPECTION	(3)	(2)	(5)	(12)	(6)	(18)
IMPROPER	(0)	(0)	(0)	(3)	(1)	(4)
PILOT IN COMMAND	0	0	0	1	0	1
COMPANY MAINTENANCE PSNL	0	0	0	1	0	1
OTHER MAINTENANCE PSNL	0	0	0	1	1	2
INADEQUATE	(2)	(2)	(4)	(6)	(2)	(8)
NO PERSON SPECIFIED	1	0	1	1	0	1
OTHER MAINTENANCE PSNL	1	2	3	5	2	7
NOT PERFORMED	(1)	(0)	(1)	(2)	(3)	(5)
PILOT IN COMMAND	1	0	1	2	3	5
POOR	(0)	(0)	(0)	(1)	(0)	(1)
OTHER MAINTENANCE PSNL	0	0	0	1	0	1
MAINTENANCE, 100 HOUR INSPECTION	(0)	(0)	(0)	(3)	(3)	(6)

CAUSE/FACTOR TABLE
ALL OPERATIONS
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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued) HUMAN PERFORMANCE (Continued) OPERATIONS (Continued) MAINTENANCE (Continued) MAINTENANCE, 100 HOUR INSPECTION (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
EXCEEDED	(0)	(0)	(0)	(1)	(1)	(2)
COMPANY/OPERATOR MGMT	0	0	0	1	1	2
IMPROPER	(0)	(0)	(0)	(0)	(1)	(1)
OTHER MAINTENANCE PSNL	0	0	0	0	1	1
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
NOT FOLLOWED	(0)	(0)	(0)	(1)	(0)	(1)
OTHER MAINTENANCE PSNL	0	0	0	1	0	1
MAINTENANCE, ADJUSTMENT	(1)	(1)	(2)	(6)	(3)	(9)
DELAYED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
IMPROPER	(1)	(1)	(2)	(4)	(2)	(6)
NO PERSON SPECIFIED	0	1	1	0	1	1
OTHER MAINTENANCE PSNL	1	0	1	4	1	5
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, ALIGNMENT	(0)	(0)	(0)	(3)	(0)	(3)
IMPROPER	(0)	(0)	(0)	(2)	(0)	(2)
OTHER MAINTENANCE PSNL	0	0	0	2	0	2
INADEQUATE	(0)	(0)	(0)	(1)	(0)	(1)
NO PERSON SPECIFIED	0	0	0	1	0	1
MAINTENANCE, CALIBRATION	(0)	(0)	(0)	(1)	(0)	(1)
INADEQUATE	(0)	(0)	(0)	(1)	(0)	(1)
COMPANY MAINTENANCE PSNL	0	0	0	1	0	1
MAINTENANCE, INSTALLATION	(3)	(1)	(4)	(27)	(1)	(28)
IMPROPER	(3)	(1)	(4)	(24)	(1)	(25)
PILOT IN COMMAND	0	1	1	0	1	1
NO PERSON SPECIFIED	0	0	0	1	0	1
COMPANY MAINTENANCE PSNL	1	0	1	2	0	2
OTHER MAINTENANCE PSNL	2	0	2	19	0	19
MANUFACTURER	0	0	0	1	0	1
PRODUCTION/DESIGN PSNL	0	0	0	1	0	1
INADEQUATE	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
NOT FOLLOWED	(0)	(0)	(0)	(1)	(0)	(1)
OTHER MAINTENANCE PSNL	0	0	0	1	0	1
MAINTENANCE, LUBRICATION	(0)	(0)	(0)	(1)	(0)	(1)
NOT PERFORMED	(0)	(0)	(0)	(1)	(0)	(1)
OTHER MAINTENANCE PSNL	0	0	0	1	0	1
MAINTENANCE, MODIFICATION	(2)	(0)	(2)	(5)	(0)	(5)
IMPROPER	(2)	(0)	(2)	(4)	(0)	(4)
PILOT IN COMMAND	2	0	2	4	0	4
NOT FOLLOWED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
MAINTENANCE, PRESSURIZING	(0)	(0)	(0)	(1)	(0)	(1)
INADEQUATE	(0)	(0)	(0)	(1)	(0)	(1)
COMPANY MAINTENANCE PSNL	0	0	0	1	0	1
MAINTENANCE, REPLACEMENT	(2)	(0)	(2)	(7)	(1)	(8)
IMPROPER	(1)	(0)	(1)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	1	0	1
COMPANY MAINTENANCE PSNL	0	0	0	1	0	1
OTHER MAINTENANCE PSNL	1	0	1	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)						
MAINTENANCE (Continued)						
MAINTENANCE, REPLACEMENT (Continued)						
INADEQUATE	(1)	(0)	(1)	(1)	(0)	(1)
OTHER MAINTENANCE PSNL	1	0	1	1	0	1
NOT PERFORMED	(0)	(0)	(0)	(3)	(1)	(4)
PILOT IN COMMAND	0	0	0	1	0	1
OTHER MAINTENANCE PSNL	0	0	0	2	1	3
MAINTENANCE, MAJOR REPAIR	(1)	(1)	(2)	(5)	(1)	(6)
IMPROPER	(1)	(0)	(1)	(3)	(0)	(3)
COMPANY MAINTENANCE PSNL	0	0	0	1	0	1
OTHER MAINTENANCE PSNL	1	0	1	2	0	2
INADEQUATE	(0)	(0)	(0)	(1)	(0)	(1)
OTHER MAINTENANCE PSNL	0	0	0	1	0	1
NOT PERFORMED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
POOR	(0)	(1)	(1)	(0)	(1)	(1)
OTHER MAINTENANCE PSNL	0	1	1	0	1	1
MAINTENANCE, RECORDKEEPING	(0)	(0)	(0)	(0)	(2)	(2)
IMPROPER	(0)	(0)	(0)	(0)	(1)	(1)
COMPANY MAINTENANCE PSNL	0	0	0	0	1	1
INADEQUATE	(0)	(0)	(0)	(0)	(1)	(1)
OTHER MAINTENANCE PSNL	0	0	0	0	1	1
MAINTENANCE, SERVICE BULLETINS	(0)	(0)	(0)	(2)	(3)	(5)
NOT FOLLOWED	(0)	(0)	(0)	(2)	(1)	(3)
OTHER MAINTENANCE PSNL	0	0	0	2	1	3
NOT PERFORMED	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	1	1
FBO PERSONNEL	0	0	0	0	1	1
MAINTENANCE, OVERHAUL	(1)	(0)	(1)	(4)	(1)	(5)
IMPROPER	(1)	(0)	(1)	(3)	(1)	(4)
OTHER MAINTENANCE PSNL	0	0	0	2	1	3
UNQUALIFIED PERSON	1	0	1	1	0	1
INADEQUATE	(0)	(0)	(0)	(1)	(0)	(1)
OTHER MAINTENANCE PSNL	0	0	0	1	0	1
AIRPORT	(1)	(0)	(1)	(6)	(6)	(12)
RUNWAY MAINTENANCE	(0)	(0)	(0)	(2)	(0)	(2)
INADEQUATE	(0)	(0)	(0)	(2)	(0)	(2)
AIRPORT PERSONNEL	0	0	0	2	0	2
AIRPORT SNOW REMOVAL	(1)	(0)	(1)	(2)	(2)	(4)
IMPROPER	(0)	(0)	(0)	(1)	(0)	(1)
AIRPORT PERSONNEL	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)	(0)	(2)	(2)
AIRPORT PERSONNEL	0	0	0	0	2	2
OTHER AIRPORT/RUNWAY MAINTENANCE	(0)	(0)	(0)	(1)	(1)	(2)
NOT MAINTAINED	(0)	(0)	(0)	(1)	(0)	(1)
AIRPORT PERSONNEL	0	0	0	1	0	1
NOT PERFORMED	(0)	(0)	(0)	(0)	(1)	(1)
AIRPORT PERSONNEL	0	0	0	0	1	1
AIRPORT OPERATIONS	(0)	(0)	(0)	(1)	(3)	(4)
IMPROPER	(0)	(0)	(0)	(1)	(1)	(2)
FBO PERSONNEL	0	0	0	0	1	1
AIRPORT PERSONNEL	0	0	0	1	0	1
INADEQUATE	(0)	(0)	(0)	(0)	(2)	(2)

CAUSE/FACTOR TABLE
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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued) HUMAN PERFORMANCE (Continued) OPERATIONS (Continued) AIRPORT (Continued) AIRPORT OPERATIONS (Continued) AIRPORT PERSONNEL	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
	0	0	0	0	2	2
DISPATCH	(0)	(0)	(0)	(1)	(2)	(3)
DISPATCH PROCEDURES	(0)	(0)	(0)	(0)	(1)	(1)
DISREGARDED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
FLT WITH INADQUT ENROUTE/DESTN FACILITIES	(0)	(0)	(0)	(1)	(1)	(2)
PERFORMED	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
METEOROLOGICAL SERVICE	(16)	(22)	(38)	(29)	(34)	(63)
WEATHER FORECAST	(2)	(2)	(4)	(7)	(3)	(10)
DISREGARDED	(2)	(2)	(4)	(7)	(2)	(9)
PILOT IN COMMAND	2	2	4	7	2	9
NOT POSSIBLE	(0)	(0)	(0)	(0)	(1)	(1)
NO PERSON SPECIFIED	0	0	0	0	1	1
WEATHER OBSERVATION	(2)	(2)	(4)	(4)	(2)	(6)
DISREGARDED	(1)	(0)	(1)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	2	0	2
INACCURATE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INITIATED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
NOT ISSUED	(0)	(1)	(1)	(0)	(1)	(1)
ATC PERSONNEL(ARTCC)	0	1	1	0	1	1
NOT POSSIBLE	(0)	(1)	(1)	(0)	(1)	(1)
NO PERSON SPECIFIED	0	1	1	0	1	1
HAZARDOUS WEATHER ADVISORY	(3)	(1)	(4)	(3)	(2)	(5)
DISREGARDED	(3)	(1)	(4)	(3)	(1)	(4)
PILOT IN COMMAND	3	1	4	3	1	4
NOT RECEIVED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
PREFLIGHT BRIEFING SERVICE	(7)	(13)	(20)	(12)	(19)	(31)
DISREGARDED	(5)	(3)	(8)	(7)	(3)	(10)
PILOT IN COMMAND	5	3	8	7	3	10
INADEQUATE	(0)	(1)	(1)	(0)	(1)	(1)
ATC PERSONNEL(FSS)	0	1	1	0	1	1
NOT OBTAINED	(0)	(3)	(3)	(0)	(7)	(7)
PILOT IN COMMAND	0	3	3	0	7	7
NOT USED	(2)	(6)	(8)	(5)	(7)	(12)
PILOT IN COMMAND	2	6	8	4	7	11
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
PERFORMED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
IN FLIGHT BRIEFING SERVICE	(2)	(2)	(4)	(3)	(3)	(6)
NOT USED	(2)	(2)	(4)	(3)	(2)	(5)
PILOT IN COMMAND	2	2	4	3	2	5
SELECTED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
IN FLIGHT WEATHER ADVISORIES	(0)	(2)	(2)	(0)	(5)	(5)
DISREGARDED	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	2	2
NOT OBTAINED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
NOT POSSIBLE	(0)	(1)	(1)	(0)	(1)	(1)

CAUSE/FACTOR TABLE
ALL OPERATIONS
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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)
HUMAN PERFORMANCE (Continued)
OPERATIONS (Continued)
METEOROLOGICAL SERVICE (Continued)
IN FLIGHT WEATHER ADVISORIES (Continued)
NO PERSON SPECIFIED

FATAL ACCIDENTS
CAUSE FACTOR TOTAL ALL ACCIDENTS
CAUSE FACTOR TOTAL

	0	1	1	0	1	1
NOT USED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
AIRCRAFT HANDLING	(605)	(71)	(676)	(2767)	(520)	(3287)
AIRCRAFT HANDLING	(63)	(2)	(65)	(105)	(7)	(112)
ATTEMPTED	(0)	(1)	(1)	(0)	(1)	(1)
PASSENGER	0	1	1	0	1	1
EXCESSIVE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
IMPROPER	(10)	(1)	(11)	(25)	(2)	(27)
PILOT IN COMMAND	9	1	10	23	2	25
OTHER PERSON	0	0	0	1	0	1
UNQUALIFIED PERSON	1	0	1	1	0	1
INADEQUATE	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	3	0	3
NOT MAINTAINED	(43)	(0)	(43)	(63)	(1)	(64)
PILOT IN COMMAND	43	0	43	62	1	63
DUAL STUDENT	0	0	0	1	0	1
NOT POSSIBLE	(2)	(0)	(2)	(3)	(2)	(5)
PILOT IN COMMAND	1	0	1	2	2	4
PASSENGER	1	0	1	1	0	1
POOR	(2)	(0)	(2)	(3)	(0)	(3)
PILOT IN COMMAND	2	0	2	3	0	3
REDUCED	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	0	1	1
NO PERSON SPECIFIED	0	0	0	1	0	1
UNCONTROLLED	(6)	(0)	(6)	(6)	(0)	(6)
PILOT IN COMMAND	6	0	6	6	0	6
AEROBATICS	(8)	(9)	(17)	(12)	(10)	(22)
ATTEMPTED	(2)	(1)	(3)	(3)	(1)	(4)
PILOT IN COMMAND	2	1	3	3	1	4
INTENTIONAL	(1)	(1)	(2)	(1)	(1)	(2)
PILOT IN COMMAND	1	1	2	1	1	2
INITIATED	(1)	(4)	(5)	(1)	(4)	(5)
PILOT IN COMMAND	1	4	5	1	4	5
PERFORMED	(4)	(3)	(7)	(7)	(4)	(11)
PILOT IN COMMAND	4	3	7	7	4	11
ABORT	(0)	(0)	(0)	(5)	(3)	(8)
ATTEMPTED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
DELAYED	(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 PERFORMED	(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
ABORTED LANDING	(1)	(0)	(1)	(20)	(12)	(32)
ATTEMPTED	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	2	2
DELAYED	(0)	(0)	(0)	(11)	(2)	(13)

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

FATAL ACCIDENTS
CAUSE FACTOR TOTAL ALL ACCIDENTS
CAUSE FACTOR TOTAL

	0	0	0	11	2	13
NOT PERFORMED	(1)	(0)	(1)	(7)	(5)	(12)
PILOT IN COMMAND	1	0	1	7	5	12
NOT OBTAINED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
PERFORMED	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	2	2
POOR	(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
ABORTED TAKEOFF	(3)	(2)	(5)	(43)	(16)	(59)
ATTEMPTED	(0)	(0)	(0)	(1)	(5)	(6)
PILOT IN COMMAND	0	0	0	1	5	6
DELAYED	(0)	(0)	(0)	(23)	(0)	(23)
PILOT IN COMMAND	0	0	0	22	0	22
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
INITIATED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT PERFORMED	(3)	(2)	(5)	(16)	(7)	(23)
PILOT IN COMMAND	3	2	5	15	7	22
COPILOT	0	0	0	1	0	1
NOT POSSIBLE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT SELECTED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT USED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
PERFORMED	(0)	(0)	(0)	(2)	(1)	(3)
PILOT IN COMMAND	0	0	0	2	1	3
AIRSPEED	(68)	(2)	(70)	(224)	(40)	(264)
ABOVE	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
BELOW	(0)	(0)	(0)	(1)	(0)	(1)
DUAL STUDENT	0	0	0	1	0	1
DISREGARDED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
EXCESSIVE	(3)	(0)	(3)	(30)	(20)	(50)
PILOT IN COMMAND	3	0	3	28	20	48
DUAL STUDENT	0	0	0	2	0	2
IMPROPER	(0)	(0)	(0)	(4)	(3)	(7)
PILOT IN COMMAND	0	0	0	4	3	7
INATTENTIVE	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
INADEQUATE	(9)	(0)	(9)	(30)	(0)	(30)
PILOT IN COMMAND	9	0	9	28	0	28
DUAL STUDENT	0	0	0	2	0	2
MISJUDGED	(0)	(1)	(1)	(23)	(8)	(31)
PILOT IN COMMAND	0	1	1	23	7	30
DUAL STUDENT	0	0	0	0	1	1
NOT ATTAINED	(1)	(0)	(1)	(11)	(0)	(11)

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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued) HUMAN PERFORMANCE (Continued) OPERATIONS (Continued) AIRCRAFT HANDLING (Continued) AIRSPEED (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE FACTOR	TOTAL		CAUSE FACTOR	TOTAL	
PILOT IN COMMAND	1	0	1	10	0	10
COPILOT	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	(50)	(1)	(51)	(112)	(5)	(117)
PILOT IN COMMAND	49	1	50	109	5	114
NO PERSON SPECIFIED	1	0	1	1	0	1
COPILOT	0	0	0	1	0	1
DUAL STUDENT	0	0	0	1	0	1
NOT OBTAINED	(2)	(0)	(2)	(7)	(0)	(7)
PILOT IN COMMAND	2	0	2	5	0	5
PILOT IN COMMAND(CFI)	0	0	0	2	0	2
NOT POSSIBLE	(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
UNCONTROLLED	(2)	(0)	(2)	(2)	(1)	(3)
PILOT IN COMMAND	2	0	2	2	1	3
AIRSPEED(VLOF)	(2)	(0)	(2)	(8)	(4)	(12)
NOT ATTAINED	(1)	(0)	(1)	(6)	(4)	(10)
PILOT IN COMMAND	1	0	1	6	3	9
NO PERSON SPECIFIED	0	0	0	0	1	1
NOT MAINTAINED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
NOT OBTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
AIRSPEED(VMC)	(6)	(0)	(6)	(9)	(0)	(9)
NOT ATTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT MAINTAINED	(6)	(0)	(6)	(8)	(0)	(8)
PILOT IN COMMAND	6	0	6	7	0	7
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
AIRSPEED(VYSE)	(1)	(1)	(2)	(1)	(1)	(2)
IMPROPER	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
NOT MAINTAINED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
AIRSPEED(VS)	(20)	(0)	(20)	(49)	(1)	(50)
EXCEEDED	(1)	(0)	(1)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	2	0	2
NOT MAINTAINED	(19)	(0)	(19)	(46)	(0)	(46)
PILOT IN COMMAND	17	0	17	42	0	42
NO PERSON SPECIFIED	1	0	1	1	0	1
DUAL STUDENT	1	0	1	2	0	2
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
REDUCED	(0)	(0)	(0)	(0)	(1)	(1)
NO PERSON SPECIFIED	0	0	0	0	1	1
AIRSPEED(VSO)	(4)	(0)	(4)	(13)	(0)	(13)
EXCEEDED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
NOT ATTAINED	(0)	(0)	(0)	(2)	(0)	(2)

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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued) HUMAN PERFORMANCE (Continued) OPERATIONS (Continued) AIRCRAFT HANDLING (Continued) AIRSPEED(VSO) (Continued) PILOT IN COMMAND	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
	0	0	0	2	0	2
NOT MAINTAINED	(4)	(0)	(4)	(9)	(0)	(9)
PILOT IN COMMAND	4	0	4	8	0	8
DUAL STUDENT	0	0	0	1	0	1
AIRSPEED(VA)	(1)	(0)	(1)	(1)	(0)	(1)
EXCEEDED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
ALTITUDE	(41)	(7)	(48)	(113)	(40)	(153)
EXCEEDED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
EXCESSIVE	(0)	(0)	(0)	(0)	(3)	(3)
PILOT IN COMMAND	0	0	0	0	3	3
IMPROPER	(2)	(1)	(3)	(5)	(2)	(7)
PILOT IN COMMAND	2	1	3	5	1	6
DUAL STUDENT	0	0	0	0	1	1
INADEQUATE	(18)	(6)	(24)	(31)	(28)	(59)
PILOT IN COMMAND	17	5	22	29	22	51
NO PERSON SPECIFIED	0	0	0	0	3	3
PILOT IN COMMAND(CFI)	1	1	2	2	3	5
MISJUDGED	(9)	(0)	(9)	(39)	(6)	(45)
PILOT IN COMMAND	9	0	9	38	6	44
DUAL STUDENT	0	0	0	1	0	1
NOT ATTAINED	(1)	(0)	(1)	(4)	(0)	(4)
PILOT IN COMMAND	1	0	1	3	0	3
COPILOT	0	0	0	1	0	1
NOT MAINTAINED	(9)	(0)	(9)	(31)	(1)	(32)
PILOT IN COMMAND	9	0	9	31	0	31
PILOT IN COMMAND(CFI)	0	0	0	0	1	1
UNCONTROLLED	(2)	(0)	(2)	(2)	(0)	(2)
PILOT IN COMMAND	2	0	2	2	0	2
PROPER ALTITUDE	(53)	(2)	(55)	(103)	(6)	(109)
MISJUDGED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
NOT ATTAINED	(2)	(0)	(2)	(3)	(0)	(3)
PILOT IN COMMAND	2	0	2	3	0	3
NOT MAINTAINED	(48)	(1)	(49)	(92)	(4)	(96)
PILOT IN COMMAND	47	1	48	87	4	91
NO PERSON SPECIFIED	1	0	1	1	0	1
DUAL STUDENT	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	0	0	0	2	0	2
PASSENGER	0	0	0	1	0	1
NOT OBTAINED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
NOT POSSIBLE	(1)	(0)	(1)	(4)	(0)	(4)
PILOT IN COMMAND	1	0	1	4	0	4
NOT SELECTED	(1)	(1)	(2)	(1)	(1)	(2)
PILOT IN COMMAND	1	1	2	1	1	2
SIMULATED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
AUTOROTATION	(6)	(1)	(7)	(11)	(9)	(20)
ATTEMPTED	(1)	(0)	(1)	(2)	(2)	(4)
PILOT IN COMMAND	1	0	1	1	2	3
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
DELAYED	(1)	(0)	(1)	(1)	(0)	(1)

CAUSE/FACTOR TABLE
ALL OPERATIONS
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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued) HUMAN PERFORMANCE (Continued) OPERATIONS (Continued) AIRCRAFT HANDLING (Continued) AUTOROTATION (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
PILOT IN COMMAND	1	0	1	1	0	1
IMPROPER	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	0	1	1
DUAL STUDENT	0	0	0	1	0	1
INADEQUATE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
MISJUDGED	(2)	(0)	(2)	(3)	(0)	(3)
PILOT IN COMMAND	2	0	2	3	0	3
NOT PERFORMED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
NOT POSSIBLE	(1)	(1)	(2)	(2)	(2)	(4)
PILOT IN COMMAND	1	1	2	2	2	4
PERFORMED	(0)	(0)	(0)	(0)	(4)	(4)
PILOT IN COMMAND	0	0	0	0	4	4
BUZZING	(6)	(4)	(10)	(10)	(7)	(17)
ATTEMPTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
IMPROPER	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
INTENTIONAL	(2)	(0)	(2)	(3)	(1)	(4)
PILOT IN COMMAND	2	0	2	3	1	4
INITIATED	(1)	(1)	(2)	(1)	(1)	(2)
PILOT IN COMMAND	1	1	2	1	1	2
PERFORMED	(2)	(3)	(5)	(4)	(5)	(9)
PILOT IN COMMAND	2	3	5	4	5	9
DECISION HEIGHT	(5)	(0)	(5)	(7)	(1)	(8)
BELOW	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
DELAYED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
DISREGARDED	(2)	(0)	(2)	(2)	(0)	(2)
PILOT IN COMMAND	2	0	2	2	0	2
INATTENTIVE	(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 IDENTIFIED	(1)	(0)	(1)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	2	0	2
DISTANCE	(2)	(2)	(4)	(67)	(12)	(79)
INADEQUATE	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	3	0	3
INITIATED	(0)	(1)	(1)	(0)	(1)	(1)
COPILOT	0	1	1	0	1	1
MISJUDGED	(2)	(1)	(3)	(64)	(11)	(75)
PILOT IN COMMAND	2	1	3	61	10	71
DUAL STUDENT	0	0	0	0	1	1
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
DRIVER OF VEHICLE	0	0	0	1	0	1
UNQUALIFIED PERSON	0	0	0	1	0	1
DESCENT	(13)	(1)	(14)	(28)	(3)	(31)
EXCESSIVE	(2)	(0)	(2)	(5)	(0)	(5)
PILOT IN COMMAND	2	0	2	5	0	5

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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)						
AIRCRAFT HANDLING (Continued)						
DESCENT (Continued)						
IMPROPER	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INADVERTENT	(2)	(0)	(2)	(3)	(0)	(3)
PILOT IN COMMAND	2	0	2	2	0	2
NO PERSON SPECIFIED	0	0	0	1	0	1
INTENTIONAL	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
INITIATED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
MISJUDGED	(0)	(0)	(0)	(2)	(1)	(3)
PILOT IN COMMAND	0	0	0	2	1	3
NOT CORRECTED	(1)	(0)	(1)	(3)	(0)	(3)
PILOT IN COMMAND	1	0	1	2	0	2
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
NOT MAINTAINED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
PREMATURE	(1)	(0)	(1)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	2	0	2
UNCONTROLLED	(6)	(0)	(6)	(11)	(0)	(11)
PILOT IN COMMAND	6	0	6	10	0	10
DUAL STUDENT	0	0	0	1	0	1
PROPER DESCENT RATE	(3)	(1)	(4)	(47)	(7)	(54)
EXCEEDED	(1)	(1)	(2)	(17)	(4)	(21)
PILOT IN COMMAND	1	1	2	16	4	20
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
EXCESSIVE	(0)	(0)	(0)	(4)	(0)	(4)
PILOT IN COMMAND	0	0	0	4	0	4
IMPROPER	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
MISJUDGED	(0)	(0)	(0)	(3)	(1)	(4)
PILOT IN COMMAND	0	0	0	3	1	4
NOT ATTAINED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
NOT CORRECTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
NOT FOLLOWED	(1)	(0)	(1)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	2	0	2
NOT MAINTAINED	(1)	(0)	(1)	(17)	(1)	(18)
PILOT IN COMMAND	1	0	1	16	0	16
COPILLOT	0	0	0	1	0	1
DUAL STUDENT	0	0	0	0	1	1
NOT PERFORMED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
CLEARANCE	(66)	(4)	(70)	(230)	(13)	(243)
ATTEMPTED	(1)	(1)	(2)	(1)	(3)	(4)
PILOT IN COMMAND	1	1	2	1	3	4
DISREGARDED	(0)	(0)	(0)	(1)	(0)	(1)
DRIVER OF VEHICLE	0	0	0	1	0	1
IMPROPER	(0)	(0)	(0)	(1)	(0)	(1)
DUAL STUDENT	0	0	0	1	0	1
INADEQUATE	(3)	(0)	(3)	(14)	(0)	(14)

CAUSE/FACTOR TABLE
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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)						
CLEARANCE (Continued)						
PILOT IN COMMAND	3	0	3	12	0	12
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
PILOT OF OTHER AIRCRAFT	0	0	0	1	0	1
MISJUDGED	(20)	(2)	(22)	(75)	(3)	(78)
PILOT IN COMMAND	19	2	21	71	3	74
COPILOT	1	0	1	1	0	1
DUAL STUDENT	0	0	0	1	0	1
PILOT OF OTHER AIRCRAFT	0	0	0	2	0	2
NOT ATTAINED	(2)	(1)	(3)	(10)	(2)	(12)
PILOT IN COMMAND	2	1	3	10	2	12
NOT MAINTAINED	(36)	(0)	(36)	(111)	(0)	(111)
PILOT IN COMMAND	31	0	31	96	0	96
DUAL STUDENT	0	0	0	2	0	2
PILOT IN COMMAND(CFI)	1	0	1	1	0	1
PILOT OF OTHER AIRCRAFT	4	0	4	12	0	12
NOT OBTAINED	(4)	(0)	(4)	(15)	(2)	(17)
PILOT IN COMMAND	4	0	4	14	2	16
PILOT OF OTHER AIRCRAFT	0	0	0	1	0	1
NOT POSSIBLE	(0)	(0)	(0)	(2)	(3)	(5)
PILOT IN COMMAND	0	0	0	2	3	5
CLIMB	(1)	(1)	(2)	(14)	(3)	(17)
EXCESSIVE	(0)	(1)	(1)	(1)	(2)	(3)
PILOT IN COMMAND	0	1	1	1	2	3
INADEQUATE	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	2	0	2
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
NOT ATTAINED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
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 PERFORMED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
NOT POSSIBLE	(0)	(0)	(0)	(3)	(1)	(4)
PILOT IN COMMAND	0	0	0	3	1	4
PROPER CLIMB RATE	(9)	(0)	(9)	(28)	(7)	(35)
EXCEEDED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT ATTAINED	(5)	(0)	(5)	(11)	(3)	(14)
PILOT IN COMMAND	5	0	5	9	3	12
DUAL STUDENT	0	0	0	2	0	2
NOT MAINTAINED	(1)	(0)	(1)	(7)	(1)	(8)
PILOT IN COMMAND	1	0	1	7	1	8
NOT OBTAINED	(0)	(0)	(0)	(2)	(1)	(3)
PILOT IN COMMAND	0	0	0	2	1	3
NOT POSSIBLE	(3)	(0)	(3)	(7)	(1)	(8)
PILOT IN COMMAND	3	0	3	7	1	8
NOT RECEIVED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
MINIMUM DESCENT ALTITUDE	(11)	(1)	(12)	(14)	(1)	(15)
BELOW	(4)	(0)	(4)	(5)	(0)	(5)
PILOT IN COMMAND	4	0	4	5	0	5
DISREGARDED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	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)						
OPERATIONS (Continued)						
AIRCRAFT HANDLING (Continued)						
MINIMUM DESCENT ALTITUDE (Continued)						
EXCEEDED	(1)	(0)	(1)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	2	0	2
NOT ATTAINED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
NOT MAINTAINED	(5)	(0)	(5)	(6)	(0)	(6)
PILOT IN COMMAND	5	0	5	6	0	6
PROPER ALIGNMENT	(2)	(1)	(3)	(51)	(6)	(57)
DELAYED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
MISJUDGED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
MISREAD	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT ATTAINED	(1)	(0)	(1)	(9)	(2)	(11)
PILOT IN COMMAND	1	0	1	9	1	10
PILOT IN COMMAND(CFI)	0	0	0	0	1	1
NOT IDENTIFIED	(0)	(0)	(0)	(1)	(0)	(1)
DUAL STUDENT	0	0	0	1	0	1
NOT MAINTAINED	(0)	(1)	(1)	(36)	(4)	(40)
PILOT IN COMMAND	0	1	1	31	4	35
DUAL STUDENT	0	0	0	4	0	4
PILOT OF OTHER AIRCRAFT	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	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PROPER TOUCHDOWN POINT	(0)	(0)	(0)	(56)	(16)	(72)
DISREGARDED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
EXCEEDED	(0)	(0)	(0)	(9)	(9)	(18)
PILOT IN COMMAND	0	0	0	9	8	17
NO PERSON SPECIFIED	0	0	0	0	1	1
IMPROPER	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
MISJUDGED	(0)	(0)	(0)	(8)	(0)	(8)
PILOT IN COMMAND	0	0	0	7	0	7
DUAL STUDENT	0	0	0	1	0	1
NOT ATTAINED	(0)	(0)	(0)	(33)	(6)	(39)
PILOT IN COMMAND	0	0	0	30	4	34
NO PERSON SPECIFIED	0	0	0	1	0	1
COPILOT	0	0	0	0	1	1
DUAL STUDENT	0	0	0	2	0	2
PILOT IN COMMAND(CFI)	0	0	0	0	1	1
NOT MAINTAINED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT OBTAINED	(0)	(0)	(0)	(4)	(0)	(4)
PILOT IN COMMAND	0	0	0	3	0	3
DUAL STUDENT	0	0	0	1	0	1
PROPER GLIDE PATH	(5)	(1)	(6)	(24)	(10)	(34)
EXCEEDED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
MISJUDGED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	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)						
AIRCRAFT HANDLING (Continued)						
PROPER GLIDEPATH (Continued)						
NOT ATTAINED	(2)	(0)	(2)	(2)	(2)	(4)
PILOT IN COMMAND	2	0	2	2	2	4
NOT FOLLOWED	(0)	(0)	(0)	(1)	(0)	(1)
DUAL STUDENT	0	0	0	1	0	1
NOT MAINTAINED	(1)	(1)	(2)	(18)	(6)	(24)
PILOT IN COMMAND	1	1	2	18	5	23
PILOT IN COMMAND(CFI)	0	0	0	0	1	1
NOT PERFORMED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
NOT POSSIBLE	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
LIFT-OFF	(1)	(0)	(1)	(27)	(8)	(35)
IMPROPER	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INADVERTENT	(0)	(0)	(0)	(1)	(3)	(4)
PILOT IN COMMAND	0	0	0	1	3	4
INTENTIONAL	(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	1	0	1
PILOT IN COMMAND(CFI)	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 POSSIBLE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
PREMATURE	(1)	(0)	(1)	(20)	(4)	(24)
PILOT IN COMMAND	1	0	1	20	4	24
LEVEL OFF	(4)	(0)	(4)	(23)	(2)	(25)
DELAYED	(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
IMPROPER	(1)	(0)	(1)	(12)	(2)	(14)
PILOT IN COMMAND	1	0	1	10	2	12
COPILLOT	0	0	0	1	0	1
DUAL STUDENT	0	0	0	1	0	1
MISJUDGED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT ATTAINED	(2)	(0)	(2)	(3)	(0)	(3)
PILOT IN COMMAND	1	0	1	2	0	2
PILOT IN COMMAND(CFI)	1	0	1	1	0	1
NOT PERFORMED	(1)	(0)	(1)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	2	0	2
PREMATURE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
FLARE	(4)	(3)	(7)	(169)	(24)	(193)
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
EXCESSIVE	(0)	(0)	(0)	(3)	(1)	(4)

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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued) HUMAN PERFORMANCE (Continued) OPERATIONS (Continued) AIRCRAFT HANDLING (Continued) FLARE (Continued) PILOT IN COMMAND	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
	0	0	0	3	1	4
IMPROPER	(3)	(3)	(6)	(94)	(16)	(110)
PILOT IN COMMAND	3	3	6	92	15	107
DUAL STUDENT	0	0	0	2	1	3
INACCURATE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
INADEQUATE	(1)	(0)	(1)	(7)	(0)	(7)
PILOT IN COMMAND	1	0	1	6	0	6
COPILOT	0	0	0	1	0	1
MISJUDGED	(0)	(0)	(0)	(50)	(5)	(55)
PILOT IN COMMAND	0	0	0	46	5	51
COPILOT	0	0	0	1	0	1
DUAL STUDENT	0	0	0	3	0	3
NOT ATTAINED	(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 UNDERSTOOD	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT POSSIBLE	(0)	(0)	(0)	(5)	(0)	(5)
PILOT IN COMMAND	0	0	0	5	0	5
PREMATURE	(0)	(0)	(0)	(4)	(1)	(5)
PILOT IN COMMAND	0	0	0	4	1	5
GO-AROUND	(4)	(2)	(6)	(80)	(31)	(111)
ATTEMPTED	(1)	(0)	(1)	(4)	(7)	(11)
PILOT IN COMMAND	1	0	1	4	6	10
DUAL STUDENT	0	0	0	0	1	1
CONFLICTING	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
DELAYED	(2)	(1)	(3)	(35)	(2)	(37)
PILOT IN COMMAND	2	1	3	32	2	34
PILOT IN COMMAND(CFI)	0	0	0	3	0	3
DISREGARDED	(0)	(0)	(0)	(2)	(3)	(5)
PILOT IN COMMAND	0	0	0	2	3	5
IMPROPER	(1)	(0)	(1)	(5)	(1)	(6)
PILOT IN COMMAND	1	0	1	5	1	6
INITIATED	(0)	(0)	(0)	(1)	(6)	(7)
PILOT IN COMMAND	0	0	0	1	5	6
PILOT IN COMMAND(CFI)	0	0	0	0	1	1
MISJUDGED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
NOT ATTAINED	(0)	(0)	(0)	(1)	(0)	(1)
NO PERSON SPECIFIED	0	0	0	1	0	1
NOT MAINTAINED	(0)	(0)	(0)	(1)	(0)	(1)
DUAL STUDENT	0	0	0	1	0	1
NOT PERFORMED	(0)	(0)	(0)	(29)	(9)	(38)
PILOT IN COMMAND	0	0	0	27	9	36
PILOT IN COMMAND(CFI)	0	0	0	2	0	2
NOT POSSIBLE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT SELECTED	(0)	(0)	(0)	(0)	(1)	(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)						
OPERATIONS (Continued)						
AIRCRAFT HANDLING (Continued)						
GO-AROUND (Continued)						
PILOT IN COMMAND	0	0	0	0	1	1
PERFORMED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
GROUND LOOP/SWERVE	(0)	(0)	(0)	(128)	(20)	(148)
INADVERTENT	(0)	(0)	(0)	(20)	(2)	(22)
PILOT IN COMMAND	0	0	0	16	2	18
COPILOT	0	0	0	1	0	1
DUAL STUDENT	0	0	0	3	0	3
INTENTIONAL	(0)	(0)	(0)	(4)	(3)	(7)
PILOT IN COMMAND	0	0	0	4	3	7
INITIATED	(0)	(0)	(0)	(1)	(0)	(1)
COPILOT	0	0	0	1	0	1
NOT CORRECTED	(0)	(0)	(0)	(68)	(6)	(74)
PILOT IN COMMAND	0	0	0	66	5	71
DUAL STUDENT	0	0	0	0	1	1
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
UNQUALIFIED PERSON	0	0	0	1	0	1
NOT IDENTIFIED	(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
UNCONTROLLED	(0)	(0)	(0)	(33)	(9)	(42)
PILOT IN COMMAND	0	0	0	31	9	40
DUAL STUDENT	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
DESIGN STRESS LIMITS OF AIRCRAFT	(27)	(1)	(28)	(30)	(2)	(32)
EXCEEDED	(26)	(1)	(27)	(29)	(2)	(31)
PILOT IN COMMAND	26	0	26	29	1	30
NO PERSON SPECIFIED	0	1	1	0	1	1
PERFORMED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
DIRECTIONAL CONTROL	(8)	(2)	(10)	(377)	(23)	(400)
IMPROPER	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INADEQUATE	(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 CORRECTED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	1	0	1
DUAL STUDENT	0	0	0	1	0	1
NOT MAINTAINED	(8)	(1)	(9)	(356)	(12)	(368)
PILOT IN COMMAND	8	1	9	330	10	340
NO PERSON SPECIFIED	0	0	0	1	0	1
COPILOT	0	0	0	5	1	6
DUAL STUDENT	0	0	0	13	1	14
PILOT IN COMMAND(CFI)	0	0	0	4	0	4
PILOT OF OTHER AIRCRAFT	0	0	0	2	0	2
UNQUALIFIED PERSON	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)	(1)	(1)	(15)	(10)	(25)
PILOT IN COMMAND	0	1	1	13	10	23
DUAL STUDENT	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	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)						
OPERATIONS (Continued)						
AIRCRAFT HANDLING (Continued)						
DIRECTIONAL CONTROL (Continued)						
POOR	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
LOAD JETTISON	(0)	(0)	(0)	(7)	(15)	(22)
ATTEMPTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
DELAYED	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
INADVERTENT	(0)	(0)	(0)	(1)	(0)	(1)
DUAL STUDENT	0	0	0	1	0	1
INADVERTENT DEACTIVATION	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INITIATED	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	2	2
NOT ATTAINED	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
NOT PERFORMED	(0)	(0)	(0)	(2)	(5)	(7)
PILOT IN COMMAND	0	0	0	2	5	7
NOT POSSIBLE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
PERFORMED	(0)	(0)	(0)	(0)	(5)	(5)
PILOT IN COMMAND	0	0	0	0	5	5
LOW PASS	(10)	(5)	(15)	(18)	(11)	(29)
ATTEMPTED	(1)	(1)	(2)	(1)	(1)	(2)
PILOT IN COMMAND	1	1	2	1	1	2
IMPROPER	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
INTENTIONAL	(1)	(0)	(1)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	2	0	2
NOT PERFORMED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PERFORMED	(7)	(4)	(11)	(13)	(10)	(23)
PILOT IN COMMAND	7	3	10	13	9	22
DUAL STUDENT	0	1	1	0	1	1
REMEDIAL ACTION	(16)	(2)	(18)	(92)	(40)	(132)
ATTEMPTED	(3)	(0)	(3)	(6)	(9)	(15)
PILOT IN COMMAND	3	0	3	6	8	14
DUAL STUDENT	0	0	0	0	1	1
DELAYED	(3)	(0)	(3)	(34)	(6)	(40)
PILOT IN COMMAND	1	0	1	17	2	19
DUAL STUDENT	0	0	0	0	1	1
PILOT IN COMMAND(CFI)	2	0	2	15	2	17
CHECK PILOT	0	0	0	0	1	1
PILOT OF OTHER AIRCRAFT	0	0	0	2	0	2
EXCESSIVE	(0)	(0)	(0)	(6)	(1)	(7)
PILOT IN COMMAND	0	0	0	5	1	6
DUAL STUDENT	0	0	0	1	0	1
IMPROPER	(1)	(0)	(1)	(6)	(1)	(7)
PILOT IN COMMAND	1	0	1	6	1	7
INADEQUATE	(2)	(0)	(2)	(13)	(0)	(13)
PILOT IN COMMAND	0	0	0	6	0	6
PILOT IN COMMAND(CFI)	1	0	1	6	0	6
CHECK PILOT	1	0	1	1	0	1
MISJUDGED	(0)	(0)	(0)	(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) PILOT IN COMMAND	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
PILOT IN COMMAND	0	0	0	2	0	2
NOT ATTAINED	(1)	(0)	(1)	(1)	(2)	(3)
PILOT IN COMMAND	1	0	1	1	1	2
PILOT IN COMMAND(CFI)	0	0	0	0	1	1
NOT IDENTIFIED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT PERFORMED	(4)	(1)	(5)	(15)	(5)	(20)
PILOT IN COMMAND	4	1	5	10	5	15
PILOT IN COMMAND(CFI)	0	0	0	5	0	5
NOT UNDERSTOOD	(1)	(0)	(1)	(2)	(1)	(3)
PILOT IN COMMAND	1	0	1	2	1	3
NOT POSSIBLE	(1)	(1)	(2)	(4)	(12)	(16)
PILOT IN COMMAND	1	1	2	3	10	13
PILOT IN COMMAND(CFI)	0	0	0	1	2	3
NOT USED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
PERFORMED	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	1	1
PILOT OF OTHER AIRCRAFT	0	0	0	0	1	1
POOR	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
MANEUVER	(11)	(1)	(12)	(23)	(13)	(36)
ATTEMPTED	(1)	(0)	(1)	(2)	(5)	(7)
PILOT IN COMMAND	0	0	0	1	3	4
DUAL STUDENT	1	0	1	1	0	1
PILOT OF OTHER AIRCRAFT	0	0	0	0	2	2
CONFLICTING	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
DELAYED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
EXCESSIVE	(1)	(0)	(1)	(8)	(0)	(8)
PILOT IN COMMAND	1	0	1	8	0	8
IMPROPER	(4)	(0)	(4)	(7)	(1)	(8)
PILOT IN COMMAND	4	0	4	7	1	8
INTENTIONAL	(1)	(0)	(1)	(1)	(1)	(2)
PILOT IN COMMAND	1	0	1	1	1	2
INADEQUATE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
INITIATED	(0)	(1)	(1)	(1)	(1)	(2)
PILOT IN COMMAND	0	1	1	1	1	2
MISJUDGED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
NOT CORRECTED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
PERFORMED	(1)	(0)	(1)	(1)	(3)	(4)
PILOT IN COMMAND	1	0	1	1	3	4
MISSED APPROACH	(7)	(2)	(9)	(9)	(2)	(11)
DELAYED	(1)	(0)	(1)	(3)	(0)	(3)
PILOT IN COMMAND	1	0	1	3	0	3
NOT FOLLOWED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	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)						
OPERATIONS (Continued)						
AIRCRAFT HANDLING (Continued)						
MISSED APPROACH (Continued)						
NOT PERFORMED	(5)	(2)	(7)	(5)	(2)	(7)
PILOT IN COMMAND	5	2	7	5	2	7
EMERGENCY PROCEDURE	(11)	(3)	(14)	(55)	(23)	(78)
ATTEMPTED	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
DELAYED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
DISREGARDED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
IMPROPER	(5)	(0)	(5)	(20)	(2)	(22)
PILOT IN COMMAND	5	0	5	18	2	20
COPILOT	0	0	0	1	0	1
DUAL STUDENT	0	0	0	1	0	1
IMPROPER USE OF	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND(CFI)	0	0	0	0	1	1
INTENTIONAL	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND(CFI)	0	0	0	0	1	1
INADEQUATE	(0)	(0)	(0)	(7)	(2)	(9)
PILOT IN COMMAND	0	0	0	6	2	8
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
INITIATED	(1)	(0)	(1)	(2)	(1)	(3)
PILOT IN COMMAND	1	0	1	1	1	2
DUAL STUDENT	0	0	0	1	0	1
NOT FOLLOWED	(1)	(1)	(2)	(7)	(3)	(10)
PILOT IN COMMAND	1	1	2	7	3	10
NOT PERFORMED	(1)	(0)	(1)	(2)	(2)	(4)
PILOT IN COMMAND	1	0	1	2	2	4
NOT UNDERSTOOD	(0)	(0)	(0)	(3)	(1)	(4)
PILOT IN COMMAND	0	0	0	2	1	3
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
NOT SELECTED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
NOT USED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
PERFORMED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
POOR	(2)	(0)	(2)	(3)	(0)	(3)
PILOT IN COMMAND	2	0	2	3	0	3
SIMULATED	(0)	(2)	(2)	(5)	(8)	(13)
PILOT IN COMMAND	0	0	0	1	0	1
DUAL STUDENT	0	0	0	0	1	1
PILOT IN COMMAND(CFI)	0	1	1	4	6	10
CHECK PILOT	0	1	1	0	1	1
PRECAUTIONARY LANDING	(0)	(1)	(1)	(19)	(23)	(42)
ATTEMPTED	(0)	(1)	(1)	(1)	(2)	(3)
PILOT IN COMMAND	0	1	1	1	2	3
DELAYED	(0)	(0)	(0)	(4)	(1)	(5)
PILOT IN COMMAND	0	0	0	4	1	5
INITIATED	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
PERFORMED	(0)	(0)	(0)	(8)	(18)	(26)
PILOT IN COMMAND	0	0	0	8	18	26

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)						
AIRCRAFT HANDLING (Continued)						
PRECAUTIONARY LANDING (Continued)						
PREMATURE	(0)	(0)	(0)	(2)	(1)	(3)
PILOT IN COMMAND	0	0	0	2	1	3
SIMULATED	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND(CFI)	0	0	0	3	0	3
PULL-UP	(11)	(1)	(12)	(32)	(4)	(36)
DELAYED	(1)	(1)	(2)	(5)	(1)	(6)
PILOT IN COMMAND	1	1	2	4	1	5
DUAL STUDENT	0	0	0	1	0	1
EXCESSIVE	(7)	(0)	(7)	(22)	(0)	(22)
PILOT IN COMMAND	7	0	7	20	0	20
DUAL STUDENT	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
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 PERFORMED	(1)	(0)	(1)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	2	0	2
NOT POSSIBLE	(1)	(0)	(1)	(1)	(1)	(2)
PILOT IN COMMAND	1	0	1	1	0	1
NO PERSON SPECIFIED	0	0	0	0	1	1
PERFORMED	(1)	(0)	(1)	(1)	(1)	(2)
PILOT IN COMMAND	1	0	1	1	1	2
ROTATION	(2)	(1)	(3)	(11)	(1)	(12)
DELAYED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
EXCESSIVE	(1)	(0)	(1)	(3)	(0)	(3)
PILOT IN COMMAND	1	0	1	3	0	3
IMPROPER	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT OBTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PREMATURE	(0)	(1)	(1)	(5)	(1)	(6)
PILOT IN COMMAND	0	1	1	4	1	5
COPILOT	0	0	0	1	0	1
STARTING PROCEDURE	(0)	(0)	(0)	(12)	(1)	(13)
ATTEMPTED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
IMPROPER	(0)	(0)	(0)	(9)	(0)	(9)
PILOT IN COMMAND	0	0	0	9	0	9
INADVERTENT	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
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
SPIRAL	(1)	(1)	(2)	(2)	(1)	(3)
INADVERTENT	(1)	(1)	(2)	(1)	(1)	(2)
PILOT IN COMMAND	1	1	2	1	1	2
UNCONTROLLED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
STALL	(49)	(0)	(49)	(130)	(6)	(136)

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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE FACTOR	TOTAL	CAUSE FACTOR	TOTAL	CAUSE FACTOR	TOTAL
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
AIRCRAFT HANDLING (Continued)						
STALL (Continued)						
INADVERTENT	(41)	(0)	(41)	(95)	(3)	(98)
PILOT IN COMMAND	40	0	40	91	3	94
NO PERSON SPECIFIED	1	0	1	1	0	1
COPILOT	0	0	0	1	0	1
DUAL STUDENT	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
INTENTIONAL	(0)	(0)	(0)	(2)	(1)	(3)
PILOT IN COMMAND	0	0	0	2	1	3
INADEQUATE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT CORRECTED	(5)	(0)	(5)	(18)	(0)	(18)
PILOT IN COMMAND	5	0	5	16	0	16
DUAL STUDENT	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
NOT IDENTIFIED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
PERFORMED	(0)	(0)	(0)	(1)	(2)	(3)
PILOT IN COMMAND	0	0	0	1	2	3
UNCONTROLLED	(3)	(0)	(3)	(12)	(0)	(12)
PILOT IN COMMAND	3	0	3	11	0	11
COPILOT	0	0	0	1	0	1
STALL/SPIN	(28)	(1)	(29)	(41)	(4)	(45)
INADVERTENT	(18)	(0)	(18)	(28)	(2)	(30)
PILOT IN COMMAND	18	0	18	27	2	29
DUAL STUDENT	0	0	0	1	0	1
INTENTIONAL	(0)	(1)	(1)	(0)	(2)	(2)
PILOT IN COMMAND	0	1	1	0	2	2
INITIATED	(2)	(0)	(2)	(2)	(0)	(2)
PILOT IN COMMAND	2	0	2	2	0	2
NOT CORRECTED	(4)	(0)	(4)	(4)	(0)	(4)
PILOT IN COMMAND	4	0	4	4	0	4
UNCONTROLLED	(4)	(0)	(4)	(7)	(0)	(7)
PILOT IN COMMAND	4	0	4	7	0	7
STALL/MUSH	(6)	(0)	(6)	(36)	(3)	(39)
IMPROPER	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
INADVERTENT	(5)	(0)	(5)	(18)	(1)	(19)
PILOT IN COMMAND	5	0	5	17	1	18
CHECK PILOT	0	0	0	1	0	1
INTENTIONAL	(0)	(0)	(0)	(2)	(1)	(3)
PILOT IN COMMAND	0	0	0	2	1	3
INADEQUATE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT CORRECTED	(0)	(0)	(0)	(9)	(0)	(9)
PILOT IN COMMAND	0	0	0	8	0	8
DUAL STUDENT	0	0	0	1	0	1
NOT IDENTIFIED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT UNDERSTOOD	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
UNCONTROLLED	(0)	(0)	(0)	(4)	(0)	(4)
PILOT IN COMMAND	0	0	0	4	0	4
WATER LOOP/SWERVE	(0)	(0)	(0)	(1)	(0)	(1)

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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued) HUMAN PERFORMANCE (Continued) OPERATIONS (Continued) AIRCRAFT HANDLING (Continued) WATER LOOP/SWERVE (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
INADVERTENT	(0)	(0)	(0)	(1)	(0)	(1)
DUAL STUDENT	0	0	0	1	0	1
WHEELS DOWN LANDING IN WATER	(0)	(0)	(0)	(1)	(0)	(1)
INADVERTENT	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
WHEELS UP LANDING	(1)	(0)	(1)	(22)	(4)	(26)
ATTEMPTED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
INADVERTENT	(0)	(0)	(0)	(10)	(0)	(10)
PILOT IN COMMAND	0	0	0	10	0	10
INTENTIONAL	(0)	(0)	(0)	(2)	(2)	(4)
PILOT IN COMMAND	0	0	0	2	2	4
NOT CORRECTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PERFORMED	(0)	(0)	(0)	(8)	(2)	(10)
PILOT IN COMMAND	0	0	0	7	2	9
DUAL STUDENT	0	0	0	1	0	1
POWER ON LANDING	(0)	(1)	(1)	(1)	(1)	(2)
ATTEMPTED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
NOT POSSIBLE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
ROTOR RPM	(4)	(0)	(4)	(16)	(2)	(18)
INATTENTIVE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INADEQUATE	(1)	(0)	(1)	(1)	(0)	(1)
NO PERSON SPECIFIED	1	0	1	1	0	1
NOT MAINTAINED	(3)	(0)	(3)	(14)	(1)	(15)
PILOT IN COMMAND	3	0	3	12	1	13
DUAL STUDENT	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
NOT POSSIBLE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
RUN ON LANDING	(0)	(0)	(0)	(2)	(0)	(2)
INADEQUATE	(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
VERTICAL TAKEOFF	(0)	(0)	(0)	(1)	(0)	(1)
IMPROPER	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
RECOVERY FROM BOUNCED LANDING	(0)	(2)	(2)	(102)	(14)	(116)
ATTEMPTED	(0)	(1)	(1)	(1)	(4)	(5)
PILOT IN COMMAND	0	1	1	1	4	5
IMPROPER	(0)	(1)	(1)	(91)	(9)	(100)
PILOT IN COMMAND	0	1	1	87	9	96
COPILOT	0	0	0	2	0	2
DUAL STUDENT	0	0	0	2	0	2
INADEQUATE	(0)	(0)	(0)	(5)	(1)	(6)
PILOT IN COMMAND	0	0	0	4	1	5
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
INITIATED	(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)						
RECOVERY FROM BOUNCED LANDING (Continued)						
NOT ATTAINED	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	3	0	3
POOR	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
TOUCH-AND-GO LANDING	(0)	(0)	(0)	(7)	(7)	(14)
ATTEMPTED	(0)	(0)	(0)	(0)	(3)	(3)
PILOT IN COMMAND	0	0	0	0	2	2
COPILOT	0	0	0	0	1	1
IMPROPER	(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
INITIATED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PERFORMED	(0)	(0)	(0)	(4)	(4)	(8)
PILOT IN COMMAND	0	0	0	4	4	8
COMMUNICATIONS/INFORMATION/ATC	(23)	(24)	(47)	(98)	(55)	(153)
INSTRUCTIONS, WRITTEN/VERBAL	(0)	(1)	(1)	(9)	(4)	(13)
DISREGARDED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
MISREAD	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT FOLLOWED	(0)	(1)	(1)	(8)	(3)	(11)
PILOT IN COMMAND	0	1	1	2	2	4
DUAL STUDENT	0	0	0	3	0	3
OTHER MAINTENANCE PSNL	0	0	0	0	1	1
PASSENGER	0	0	0	2	0	2
PILOT OF OTHER AIRCRAFT	0	0	0	1	0	1
IDENTIFICATION OF AIRCRAFT VISUALLY	(0)	(0)	(0)	(1)	(0)	(1)
DELAYED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
FLIGHT ADVISORIES	(1)	(0)	(1)	(1)	(0)	(1)
NOT FOLLOWED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
ARTCC SERVICE	(1)	(0)	(1)	(1)	(0)	(1)
DELAYED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT OF OTHER AIRCRAFT	1	0	1	1	0	1
CONTROL TOWER SERVICE	(0)	(0)	(0)	(0)	(1)	(1)
NOT MAINTAINED	(0)	(0)	(0)	(0)	(1)	(1)
FAA(OTHER/ORGANIZATION)	0	0	0	0	1	1
COMMUNICATIONS	(1)	(2)	(3)	(1)	(4)	(5)
INADEQUATE	(0)	(2)	(2)	(0)	(3)	(3)
PILOT IN COMMAND	0	1	1	0	2	2
PILOT OF OTHER AIRCRAFT	0	1	1	0	1	1
NOT UNDERSTOOD	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
NOT POSSIBLE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
INFORMATION	(0)	(0)	(0)	(1)	(0)	(1)
NOT OBTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
RADIO COMMUNICATIONS	(1)	(5)	(6)	(2)	(8)	(10)
IMPROPER	(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)						
RADIO COMMUNICATIONS (Continued)						
INADEQUATE	(1)	(2)	(3)	(1)	(3)	(4)
PILOT IN COMMAND	1	0	1	1	1	2
NO PERSON SPECIFIED	0	2	2	0	2	2
NOT MAINTAINED	(0)	(2)	(2)	(0)	(3)	(3)
PILOT IN COMMAND	0	2	2	0	3	3
NOT POSSIBLE	(0)	(1)	(1)	(0)	(1)	(1)
NO PERSON SPECIFIED	0	1	1	0	1	1
NOT USED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
FSS SERVICE	(0)	(0)	(0)	(0)	(1)	(1)
INADEQUATE	(0)	(0)	(0)	(0)	(1)	(1)
ATC PERSONNEL (FSS)	0	0	0	0	1	1
SAFETY ADVISORY	(0)	(2)	(2)	(1)	(2)	(3)
NOT FOLLOWED	(0)	(0)	(0)	(1)	(0)	(1)
PASSENGER	0	0	0	1	0	1
NOT ISSUED	(0)	(2)	(2)	(0)	(2)	(2)
ATC PERSONNEL (ARTCC)	0	2	2	0	2	2
RADAR ASSISTANCE TO VFR AIRCRAFT	(1)	(0)	(1)	(1)	(2)	(3)
INADEQUATE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT OBTAINED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT USED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
VISUAL SEPARATION	(10)	(1)	(11)	(13)	(1)	(14)
INADEQUATE	(0)	(1)	(1)	(3)	(1)	(4)
PILOT IN COMMAND	0	1	1	3	1	4
NOT ATTAINED	(4)	(0)	(4)	(4)	(0)	(4)
PILOT IN COMMAND	2	0	2	2	0	2
PILOT OF OTHER AIRCRAFT	2	0	2	2	0	2
NOT MAINTAINED	(6)	(0)	(6)	(6)	(0)	(6)
PILOT IN COMMAND	3	0	3	3	0	3
PILOT OF OTHER AIRCRAFT	3	0	3	3	0	3
IN FLIGHT WEATHER AVOIDANCE ASSISTANCE	(0)	(1)	(1)	(0)	(1)	(1)
NOT OBTAINED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
AIR/GROUND COMMUNICATIONS	(0)	(2)	(2)	(0)	(4)	(4)
INATTENTIVE	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
INADEQUATE	(0)	(1)	(1)	(0)	(1)	(1)
NO PERSON SPECIFIED	0	1	1	0	1	1
NOT RECEIVED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
POOR	(0)	(0)	(0)	(0)	(1)	(1)
AIRPORT PERSONNEL	0	0	0	0	1	1
ATC CLEARANCE	(0)	(1)	(1)	(0)	(2)	(2)
NOT FOLLOWED	(0)	(1)	(1)	(0)	(2)	(2)
PILOT IN COMMAND	0	1	1	0	1	1
DUAL STUDENT	0	0	0	0	1	1
CREW/GROUP COORDINATION	(2)	(6)	(8)	(5)	(8)	(13)
INADEQUATE	(1)	(3)	(4)	(3)	(4)	(7)
PILOT IN COMMAND	1	0	1	2	0	2
NO PERSON SPECIFIED	0	1	1	0	2	2

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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued) HUMAN PERFORMANCE (Continued) OPERATIONS (Continued) COMMUNICATIONS/INFORMATION/ATC (Continued) CREW/GROUP COORDINATION (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE	FACTOR	TOTAL	CAUSE	FACTOR	TOTAL
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
OTHER PERSON	0	2	2	0	2	2
NOT MAINTAINED	(0)	(2)	(2)	(0)	(3)	(3)
PILOT IN COMMAND	0	2	2	0	2	2
PILOT IN COMMAND(CFI)	0	0	0	0	1	1
POOR	(1)	(1)	(2)	(2)	(1)	(3)
PILOT IN COMMAND	0	1	1	1	1	2
OTHER CREW MEMBER	1	0	1	1	0	1
CREW/GROUP BRIEFING	(0)	(2)	(2)	(1)	(2)	(3)
NOT PERFORMED	(0)	(2)	(2)	(1)	(2)	(3)
PILOT IN COMMAND	0	2	2	1	2	3
PASSENGER BRIEFING	(0)	(0)	(0)	(5)	(3)	(8)
INADEQUATE	(0)	(0)	(0)	(3)	(1)	(4)
PILOT IN COMMAND	0	0	0	3	1	4
NOT PERFORMED	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
NOT UNDERSTOOD	(0)	(0)	(0)	(1)	(0)	(1)
PASSENGER	0	0	0	1	0	1
PERFORMED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
SUPERVISION	(6)	(0)	(6)	(46)	(9)	(55)
IMPROPER	(1)	(0)	(1)	(5)	(1)	(6)
PILOT IN COMMAND	0	0	0	2	0	2
PILOT IN COMMAND(CFI)	1	0	1	3	1	4
INADEQUATE	(4)	(0)	(4)	(38)	(8)	(46)
PILOT IN COMMAND	3	0	3	13	0	13
PILOT IN COMMAND(CFI)	1	0	1	21	5	26
FLIGHT INSTRUCTOR(ON GROUND)	0	0	0	2	2	4
CHECK PILOT	0	0	0	1	1	2
COMPANY/OPERATOR MGMT	0	0	0	1	0	1
NOT MAINTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
POOR	(1)	(0)	(1)	(2)	(0)	(2)
PILOT IN COMMAND(CFI)	1	0	1	2	0	2
UNSAFE/HAZARDOUS CONDITION	(0)	(1)	(1)	(6)	(1)	(7)
ATTEMPTED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
DISREGARDED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INATTENTIVE	(0)	(0)	(0)	(1)	(0)	(1)
GROUND PERSONNEL	0	0	0	1	0	1
NOT CORRECTED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	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
PERFORMED	(0)	(0)	(0)	(1)	(0)	(1)
DRIVER OF VEHICLE	0	0	0	1	0	1
UNSAFE/HAZARDOUS CONDITION WARNING	(0)	(0)	(0)	(4)	(2)	(6)
DISREGARDED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	1	0	1
AIRPORT PERSONNEL	0	0	0	1	0	1
NOT FOLLOWED	(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)						
COMMUNICATIONS/INFORMATION/ATC (Continued)						
UNSAFE/HAZARDOUS CONDITION WARNING (Continued)						
NOT ISSUED	(0)	(0)	(0)	(1)	(1)	(2)
AIRPORT PERSONNEL	0	0	0	1	1	2
NOT UNDERSTOOD	(0)	(0)	(0)	(0)	(1)	(1)
ATC PERSONNEL (DEP/APCH)	0	0	0	0	1	1
MISCELLANEOUS	(5)	(5)	(10)	(23)	(20)	(43)
MISCELLANEOUS	(0)	(0)	(0)	(4)	(0)	(4)
NO MODIFIER SPECIFIED	(0)	(0)	(0)	(2)	(0)	(2)
NO PERSON SPECIFIED	0	0	0	1	0	1
PASSENGER	0	0	0	1	0	1
INADVERTENT	(0)	(0)	(0)	(1)	(0)	(1)
PASSENGER	0	0	0	1	0	1
INADEQUATE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
EQUIPMENT, OTHER	(0)	(0)	(0)	(0)	(1)	(1)
INATTENTIVE	(0)	(0)	(0)	(0)	(1)	(1)
FBO PERSONNEL	0	0	0	0	1	1
CONTROL INTERFERENCE	(3)	(0)	(3)	(12)	(3)	(15)
NO MODIFIER SPECIFIED	(0)	(0)	(0)	(1)	(0)	(1)
OTHER PERSON	0	0	0	1	0	1
ATTEMPTED	(0)	(0)	(0)	(1)	(0)	(1)
PASSENGER	0	0	0	1	0	1
CONFLICTING	(0)	(0)	(0)	(1)	(0)	(1)
DUAL STUDENT	0	0	0	1	0	1
IMPROPER USE OF	(0)	(0)	(0)	(1)	(0)	(1)
COPILOT	0	0	0	1	0	1
INADVERTENT	(1)	(0)	(1)	(2)	(2)	(4)
DUAL STUDENT	0	0	0	0	1	1
PASSENGER	1	0	1	2	1	3
INTENTIONAL	(0)	(0)	(0)	(0)	(1)	(1)
PASSENGER	0	0	0	0	1	1
INITIATED	(0)	(0)	(0)	(1)	(0)	(1)
DUAL STUDENT	0	0	0	1	0	1
NOT CORRECTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PERFORMED	(2)	(0)	(2)	(4)	(0)	(4)
PILOT IN COMMAND	1	0	1	1	0	1
PASSENGER	1	0	1	3	0	3
RELINQUISHING OF CONTROL	(0)	(1)	(1)	(3)	(5)	(8)
DELAYED	(0)	(0)	(0)	(0)	(1)	(1)
DUAL STUDENT	0	0	0	0	1	1
IMPROPER	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	2	2
INTENTIONAL	(0)	(0)	(0)	(1)	(0)	(1)
DUAL STUDENT	0	0	0	1	0	1
NOT CORRECTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND (CFI)	0	0	0	1	0	1
NOT PERFORMED	(0)	(0)	(0)	(1)	(0)	(1)
DUAL STUDENT	0	0	0	1	0	1
NOT UNDERSTOOD	(0)	(0)	(0)	(0)	(1)	(1)
DUAL STUDENT	0	0	0	0	1	1
POOR	(0)	(1)	(1)	(0)	(1)	(1)

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AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued) HUMAN PERFORMANCE (Continued) OPERATIONS (Continued) MISCELLANEOUS (Continued) RELINQUISHING OF CONTROL (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE FACTOR	TOTAL		CAUSE FACTOR	TOTAL	
PILOT IN COMMAND	0	1	1	0	1	1
SUICIDE	(2)	(0)	(2)	(2)	(0)	(2)
PERFORMED	(2)	(0)	(2)	(2)	(0)	(2)
PILOT IN COMMAND	2	0	2	2	0	2
STOLEN AIRCRAFT/UNAUTHORIZED USE	(0)	(4)	(4)	(1)	(11)	(12)
NO MODIFIER SPECIFIED	(0)	(1)	(1)	(0)	(3)	(3)
PILOT IN COMMAND	0	0	0	0	1	1
NO PERSON SPECIFIED	0	0	0	0	1	1
UNQUALIFIED PERSON	0	1	1	0	1	1
ATTEMPTED	(0)	(0)	(0)	(0)	(1)	(1)
OTHER PERSON	0	0	0	0	1	1
IMPROPER	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
INTENTIONAL	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
PERFORMED	(0)	(2)	(2)	(1)	(5)	(6)
PILOT IN COMMAND	0	2	2	1	4	5
UNQUALIFIED PERSON	0	0	0	0	1	1
SABOTAGE	(0)	(0)	(0)	(1)	(0)	(1)
INTENTIONAL	(0)	(0)	(0)	(1)	(0)	(1)
OTHER PERSON	0	0	0	1	0	1
UNDETERMINED	2	0	2	3	0	3
UNDETERMINED	49	0	49	207	5	212
DIRECT UNDERLYING CAUSE FACTORS:	(162)	(271)	(433)	(415)	(728)	(1143)
IMPROPER USE OF PROCEDURE	(48)	(77)	(125)	(188)	(245)	(433)
IMPROPER USE OF PROCEDURE	(0)	(1)	(1)	(1)	(1)	(2)
PILOT IN COMMAND	0	1	1	1	1	2
PSYCHOLOGICAL CONDITION	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
PILOT IN COMMAND	1	0	1	1	1	2
DIVERTED ATTENTION	(2)	(1)	(3)	(17)	(15)	(32)
PILOT IN COMMAND	2	1	3	17	15	32
COPILOT	0	0	0	0	1	1
DUAL STUDENT	0	0	0	1	0	1
CHECK PILOT	0	1	1	0	1	1
AIRPORT PERSONNEL	0	0	0	1	0	1
INATTENTIVE	(1)	(0)	(1)	(5)	(3)	(8)
PILOT IN COMMAND	1	0	1	5	3	8
MOTIVATION	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
COMPLACENCY	(0)	(1)	(1)	(4)	(11)	(15)
PILOT IN COMMAND	0	1	1	4	11	15
OTHER MAINTENANCE PSNL	0	0	0	1	0	1
UNDER CONFIDENCE IN PERSONAL ABILITY	(1)	(0)	(1)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	2	0	2
OVER CONFIDENCE IN PERSONAL ABILITY	(9)	(12)	(21)	(14)	(19)	(33)
PILOT IN COMMAND	9	12	21	14	19	33
PILOT IN COMMAND(CFI)	0	0	0	0	1	1
OVER CONFIDENCE IN AIRCRAFT'S ABILITY	(0)	(2)	(2)	(1)	(4)	(5)
PILOT IN COMMAND	0	2	2	1	4	5
ANXIETY/APPREHENSION	(2)	(1)	(3)	(3)	(5)	(8)
PILOT IN COMMAND	2	1	3	3	5	8
OTHER PERSONNEL	0	1	1	0	1	1
PANIC	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1

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DIRECT UNDERLYING CAUSE FACTORS: (Continued) IMPROPER USE OF PROCEDURE (Continued) PANIC (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE FACTOR	TOTAL		CAUSE FACTOR	TOTAL	
DUAL STUDENT	0	0	0	1	0	1
PRESSURE	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
SELF-INDUCED PRESSURE	(3)	(3)	(6)	(4)	(9)	(13)
PILOT IN COMMAND	3	3	6	4	9	13
PILOT IN COMMAND(CFI)	0	0	0	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	0	0	0	1	1
PRESSURE INDUCED BY OTHERS	(0)	(1)	(1)	(2)	(5)	(7)
PILOT IN COMMAND	0	1	1	2	5	7
VISUAL/AURAL PERCEPTION	(2)	(2)	(4)	(11)	(12)	(23)
PILOT IN COMMAND	2	2	4	11	12	23
COPILOT	0	0	0	1	0	1
DUAL STUDENT	0	0	0	0	1	1
PILOT IN COMMAND(CFI)	0	0	0	0	1	1
MENTAL PERFORMANCE OVERLOAD	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
EXPECTANCY	(0)	(0)	(0)	(0)	(4)	(4)
PILOT IN COMMAND	0	0	0	0	4	4
EMOTIONAL REACTION	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
PILOT IN COMMAND(CFI)	0	1	1	0	1	1
OSTENTATIOUS DISPLAY	(1)	(0)	(1)	(2)	(2)	(4)
PILOT IN COMMAND	1	0	1	2	2	4
HABIT INTERFERENCE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
OTHER PSYCHOLOGICAL CONDITION	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
EXCESSIVE WORKLOAD (TASK OVERLOAD)	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
PHYSICAL IMPAIRMENT(HEART ATTACK)	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
PHYSICAL IMPAIRMENT(VISUAL DEFICIENCY)	(0)	(0)	(0)	(0)	(3)	(3)
PILOT IN COMMAND	0	0	0	0	3	3
PHYSICAL IMPAIRMENT(OTHER ORGANIC PROBLEM)	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
OTHER PERSONNEL	0	0	0	0	1	1
PHYSICAL IMPAIRMENT(ALCOHOL)	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
PHYSICAL IMPAIRMENT(DRUGS)	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
OTHER PERSONNEL	0	1	1	0	1	1
INCAPACITATION	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
INCAPACITATION(HEART ATTACK)	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
INCAPACITATION(LOSS OF CONSCIOUSNESS)	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PHYSICAL STRENGTH OVERLOAD	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
DUAL STUDENT	0	0	0	0	1	1
SPATIAL DISORIENTATION	(5)	(1)	(6)	(5)	(2)	(7)

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DIRECT UNDERLYING CAUSE FACTORS: (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE FACTOR	TOTAL		CAUSE FACTOR	TOTAL	
IMPROPER USE OF PROCEDURE (Continued)						
SPATIAL DISORIENTATION (Continued)						
PILOT IN COMMAND	5	1	6	5	2	7
VISUAL/AURAL DETECTION	(0)	(2)	(2)	(1)	(3)	(4)
PILOT IN COMMAND	0	2	2	1	3	4
FATIGUE	(0)	(1)	(1)	(1)	(3)	(4)
PILOT IN COMMAND	0	1	1	1	3	4
COPLOT	0	1	1	0	1	1
FATIGUE(LACK OF SLEEP)	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
QUALIFICATION	(0)	(3)	(3)	(0)	(3)	(3)
PILOT IN COMMAND	0	3	3	0	3	3
IMPROPER INITIAL TRAINING	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
IMPROPER TRANSITION/UPGRADE TRAINING	(0)	(0)	(0)	(0)	(1)	(1)
OTHER PERSONNEL	0	0	0	0	1	1
INADEQUATE TRAINING	(0)	(3)	(3)	(0)	(3)	(3)
PILOT IN COMMAND	0	3	3	0	3	3
COMPANY/OPERATOR MGMT	0	0	0	0	1	1
INADEQUATE INITIAL TRAINING	(1)	(1)	(2)	(1)	(1)	(2)
PILOT IN COMMAND	1	1	2	1	1	2
PILOT IN COMMAND(CFI)	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	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
EXPERIENCE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
LACK OF FAMILIARITY WITH AIRCRAFT	(0)	(1)	(1)	(7)	(8)	(15)
PILOT IN COMMAND	0	1	1	7	8	15
PILOT IN COMMAND(CFI)	1	0	1	1	1	2
LACK OF FAMILIARITY WITH GEOGRAPHIC AREA	(0)	(0)	(0)	(4)	(4)	(8)
PILOT IN COMMAND	0	0	0	4	4	8
LACK OF TOTAL EXPERIENCE	(2)	(1)	(3)	(18)	(17)	(35)
PILOT IN COMMAND	2	1	3	18	17	35
DUAL STUDENT	1	0	1	1	1	2
OTHER MAINTENANCE PSNL	0	1	1	0	1	1
TOTAL	(0)	(0)	(0)	(20)	(5)	(25)
PILOT IN COMMAND	0	0	0	20	5	25
PILOT OF OTHER AIRCRAFT	1	0	1	1	0	1
LACK OF TOTAL EXPERIENCE IN KIND OF AIRCRAFT	(0)	(1)	(1)	(5)	(5)	(10)
PILOT IN COMMAND	0	1	1	5	5	10
LACK OF TOTAL EXPERIENCE IN TYPE OF AIRCRAFT	(1)	(6)	(7)	(19)	(27)	(46)
PILOT IN COMMAND	1	6	7	19	27	46
COPLOT	0	0	0	2	0	2
DUAL STUDENT	0	0	0	0	1	1
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
LACK OF TOTAL INSTRUMENT TIME	(5)	(16)	(21)	(5)	(21)	(26)
PILOT IN COMMAND	5	16	21	5	21	26
LACK OF TOTAL EXPERIENCE IN TYPE OPERATION	(1)	(1)	(2)	(2)	(7)	(9)
PILOT IN COMMAND	1	1	2	2	7	9
COPLOT	0	1	1	0	1	1
LACK OF RECENT EXPERIENCE	(1)	(1)	(2)	(2)	(2)	(4)
PILOT IN COMMAND	1	1	2	2	2	4
LACK OF RECENT TOTAL EXPERIENCE	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	2	2

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DIRECT UNDERLYING CAUSE FACTORS: (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE FACTOR	TOTAL		CAUSE FACTOR	TOTAL	
IMPROPER USE OF PROCEDURE (Continued)						
LACK OF RECENT TOTAL EXPERIENCE (Continued)						
DUAL STUDENT	0	0	0	1	0	1
LACK OF RECENT EXPERIENCE IN TYPE OF AIRCRAFT	(0)	(1)	(1)	(1)	(3)	(4)
PILOT IN COMMAND	0	1	1	1	3	4
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
LACK OF RECENT INSTRUMENT TIME	(0)	(2)	(2)	(0)	(2)	(2)
PILOT IN COMMAND	0	2	2	0	2	2
LACK OF RECENT EXPERIENCE IN TYPE OPERATION	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
INFORMATION INSUFFICIENT	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
OTHER MAINTENANCE PSNL	1	0	1	1	0	1
MANUFACTURER	0	0	0	1	0	1
INFORMATION UNCLEAR	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
IMPROPER USE OF EQUIPMENT/AIRCRAFT	(83)	(104)	(187)	(146)	(302)	(448)
PSYCHOLOGICAL CONDITION	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
DIVERTED ATTENTION	(12)	(3)	(15)	(27)	(27)	(54)
PILOT IN COMMAND	12	3	15	27	27	54
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
CHECK PILOT	0	0	0	1	1	2
PILOT OF OTHER AIRCRAFT	2	0	2	2	0	2
INATTENTIVE	(0)	(1)	(1)	(2)	(4)	(6)
PILOT IN COMMAND	0	1	1	2	4	6
COMPLACENCY	(0)	(0)	(0)	(1)	(3)	(4)
PILOT IN COMMAND	0	0	0	1	3	4
PILOT IN COMMAND(CFI)	0	0	0	0	1	1
OVER CONFIDENCE IN PERSONAL ABILITY	(1)	(9)	(10)	(3)	(14)	(17)
PILOT IN COMMAND	1	9	10	3	14	17
OVER CONFIDENCE IN AIRCRAFT'S ABILITY	(1)	(7)	(8)	(2)	(12)	(14)
PILOT IN COMMAND	1	7	8	2	12	14
ANXIETY/APPREHENSION	(0)	(1)	(1)	(1)	(11)	(12)
PILOT IN COMMAND	0	1	1	1	11	12
DUAL STUDENT	0	0	0	0	1	1
PANIC	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
SELF-INDUCED PRESSURE	(3)	(2)	(5)	(3)	(5)	(8)
PILOT IN COMMAND	3	2	5	3	5	8
COMPANY-INDUCED PRESSURE	(0)	(0)	(0)	(0)	(1)	(1)
COMPANY/OPERATOR MGMT	0	0	0	0	1	1
VISUAL/AURAL PERCEPTION	(0)	(7)	(7)	(2)	(15)	(17)
PILOT IN COMMAND	0	7	7	2	15	17
EXPECTANCY	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
INTERPERSONAL RELATIONS	(1)	(0)	(1)	(1)	(2)	(3)
PILOT IN COMMAND	1	0	1	1	2	3
EMOTIONAL REACTION	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
OSTENTATIOUS DISPLAY	(1)	(1)	(2)	(2)	(2)	(4)
PILOT IN COMMAND	1	1	2	2	2	4
HABIT INTERFERENCE	(0)	(0)	(0)	(2)	(2)	(4)
PILOT IN COMMAND	0	0	0	2	2	4
PHYSICAL IMPAIRMENT	(2)	(0)	(2)	(2)	(0)	(2)

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DIRECT UNDERLYING CAUSE FACTORS: (Continued) IMPROPER USE OF EQUIPMENT/AIRCRAFT (Continued) PHYSICAL IMPAIRMENT (Continued) PILOT IN COMMAND	FATAL ACCIDENTS		ALL ACCIDENTS	
	CAUSE FACTOR	TOTAL	CAUSE FACTOR	TOTAL
	2	0	2	2
PHYSICAL IMPAIRMENT(CARBON MONOXIDE) PILOT IN COMMAND	(0) 0	(1) 1	(1) 1	(0) 0
PHYSICAL IMPAIRMENT(ALCOHOL) PILOT IN COMMAND	(5) 5	(2) 2	(7) 7	(9) 9
PHYSICAL IMPAIRMENT(DRUGS) PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(0) 0
INCAPACITATION(OTHER CARDIOVASCULAR) PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(0) 0
INCAPACITATION(CARBON MONOXIDE) PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(0) 0
INCAPACITATION(OTHER ORGANIC PROBLEM) PILOT IN COMMAND	(2) 2	(0) 0	(2) 2	(0) 0
INCAPACITATION(LOSS OF CONSCIOUSNESS) PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(2) 2
SPATIAL DISORIENTATION PILOT IN COMMAND	(32) 32	(7) 7	(39) 39	(33) 33
VISUAL/AURAL DETECTION PILOT IN COMMAND	(0) 0	(5) 5	(5) 5	(0) 0
FATIGUE PILOT IN COMMAND	(0) 0	(3) 3	(3) 3	(0) 0
FATIGUE(FLIGHT SCHEDULE) PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(1) 1
FATIGUE(GROUND SCHEDULE) FBO PERSONNEL	(0) 0	(0) 0	(0) 0	(1) 1
INADEQUATE TRAINING PILOT IN COMMAND	(0) 0	(1) 1	(1) 1	(0) 0
INADEQUATE INITIAL TRAINING PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(2) 2
INADEQUATE RECURRENT TRAINING PILOT IN COMMAND	(0) 0	(1) 1	(1) 1	(0) 0
INADEQUATE TRANSITION/UPGRADE TRAINING PILOT IN COMMAND	(1) 1	(0) 0	(1) 1	(4) 4
INADEQUATE TRAINING(EMERGENCY PROCEDURE(S)) PILOT IN COMMAND CHECK PILOT	(1) 1 0	(0) 0 0	(1) 1 0	(1) 1 1
EXPERIENCE PILOT IN COMMAND	(0) 0	(0) 0	(0) 0	(0) 0
LACK OF FAMILIARITY WITH AIRCRAFT PILOT IN COMMAND OTHER CREW MEMBER	(0) 0 0	(1) 1 1	(1) 1 1	(4) 6 1
LACK OF FAMILIARITY WITH GEOGRAPHIC AREA PILOT IN COMMAND	(0) 0	(1) 1	(1) 1	(8) 8
LACK OF TOTAL EXPERIENCE PILOT IN COMMAND DUAL STUDENT	(2) 2 0	(5) 5 0	(7) 7 0	(9) 9 1
TOTAL PILOT IN COMMAND	(1) 1	(3) 3	(4) 4	(6) 6
LACK OF TOTAL EXPERIENCE IN KIND OF AIRCRAFT PILOT IN COMMAND	(1) 1	(3) 3	(4) 4	(1) 1
LACK OF TOTAL EXPERIENCE IN TYPE OF AIRCRAFT	(2) 2	(4) 4	(6) 6	(4) 4

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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)						
LACK OF TOTAL EXPERIENCE IN TYPE OF AIRCRAFT (Continued)						
PILOT IN COMMAND	2	4	6	4	25	29
LACK OF TOTAL INSTRUMENT TIME	(4)	(19)	(23)	(4)	(21)	(25)
PILOT IN COMMAND	4	19	23	4	21	25
LACK OF TOTAL EXPERIENCE IN TYPE OPERATION	(0)	(5)	(5)	(0)	(10)	(10)
PILOT IN COMMAND	0	5	5	0	10	10
FBO PERSONNEL	0	0	0	0	1	1
LACK OF RECENT EXPERIENCE	(0)	(4)	(4)	(1)	(11)	(12)
PILOT IN COMMAND	0	4	4	1	11	12
COPILLOT	0	0	0	0	1	1
LACK OF RECENT TOTAL EXPERIENCE	(1)	(1)	(2)	(3)	(3)	(6)
PILOT IN COMMAND	1	1	2	3	3	6
LACK OF RECENT EXPERIENCE IN KIND OF AIRCRAFT	(0)	(1)	(1)	(1)	(2)	(3)
PILOT IN COMMAND	0	1	1	1	2	3
LACK OF RECENT EXPERIENCE IN TYPE OF AIRCRAFT	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
COPILLOT	0	0	0	0	1	1
LACK OF RECENT INSTRUMENT TIME	(1)	(1)	(2)	(1)	(1)	(2)
PILOT IN COMMAND	1	1	2	1	1	2
LACK OF RECENT EXPERIENCE IN TYPE OPERATION	(0)	(2)	(2)	(0)	(3)	(3)
PILOT IN COMMAND	0	2	2	0	3	3
IMPROPER USE OF FACILITY	(0)	(4)	(4)	(5)	(10)	(15)
IMPROPER USE OF FACILITY	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
INATTENTIVE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
COMPLACENCY	(0)	(0)	(0)	(1)	(0)	(1)
AIRPORT PERSONNEL	0	0	0	1	0	1
SELF-INDUCED PRESSURE	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
VISUAL/AURAL PERCEPTION	(0)	(1)	(1)	(1)	(2)	(3)
PILOT IN COMMAND	0	1	1	1	2	3
SPATIAL DISORIENTATION	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
INADEQUATE TRAINING	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
LACK OF FAMILIARITY WITH GEOGRAPHIC AREA	(0)	(1)	(1)	(1)	(2)	(3)
PILOT IN COMMAND	0	1	1	1	2	3
LACK OF TOTAL EXPERIENCE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
FBO PERSONNEL	0	0	0	0	1	1
IMPROPER DECISION	(31)	(85)	(116)	(57)	(164)	(221)
IMPROPER DECISION	(1)	(1)	(2)	(1)	(2)	(3)
PILOT IN COMMAND	1	1	2	1	2	3
PSYCHOLOGICAL CONDITION	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
DIVERTED ATTENTION	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	2	2
INATTENTIVE	(0)	(2)	(2)	(0)	(2)	(2)
PILOT IN COMMAND	0	2	2	0	2	2
MOTIVATION	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
COMPLACENCY	(0)	(1)	(1)	(1)	(3)	(4)

CAUSE/FACTOR TABLE
ALL OPERATIONS
1984

DIRECT UNDERLYING CAUSE FACTORS: (Continued)	FATAL ACCIDENTS			ALL ACCIDENTS		
	CAUSE FACTOR	TOTAL		CAUSE FACTOR	TOTAL	
IMPROPER DECISION (Continued)						
COMPLACENCY (Continued)						
PILOT IN COMMAND	0	1	1	1	3	4
UNDER CONFIDENCE IN PERSONAL ABILITY	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
OVER CONFIDENCE IN PERSONAL ABILITY	(3)	(23)	(26)	(6)	(36)	(42)
PILOT IN COMMAND	3	23	26	6	36	42
PILOT IN COMMAND(CFI)	0	1	1	0	1	1
PILOT OF OTHER AIRCRAFT	0	0	0	2	0	2
OVER CONFIDENCE IN AIRCRAFT'S ABILITY	(0)	(5)	(5)	(3)	(10)	(13)
PILOT IN COMMAND	0	5	5	3	10	13
ANXIETY/APPREHENSION	(0)	(0)	(0)	(0)	(3)	(3)
PILOT IN COMMAND	0	0	0	0	3	3
COPLOT	0	0	0	0	1	1
PANIC	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
PRESSURE	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
SELF-INDUCED PRESSURE	(0)	(8)	(8)	(1)	(18)	(19)
PILOT IN COMMAND	0	8	8	1	18	19
PILOT OF OTHER AIRCRAFT	0	2	2	0	2	2
PRESSURE INDUCED BY OTHERS	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
OTHER PERSONNEL	0	1	1	0	2	2
VISUAL/AURAL PERCEPTION	(1)	(3)	(4)	(2)	(5)	(7)
PILOT IN COMMAND	1	3	4	2	5	7
EMOTIONAL REACTION	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
OSTENTATIOUS DISPLAY	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
HABIT INTERFERENCE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
EXCESSIVE WORKLOAD (TASK OVERLOAD)	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
PHYSICAL IMPAIRMENT(HYPERTENSION)	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
PHYSICAL IMPAIRMENT(ALCOHOL)	(15)	(1)	(16)	(23)	(1)	(24)
PILOT IN COMMAND	15	1	16	23	1	24
SPATIAL DISORIENTATION	(2)	(2)	(4)	(2)	(2)	(4)
PILOT IN COMMAND	2	2	4	2	2	4
VISUAL/AURAL DETECTION	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
FATIGUE	(0)	(2)	(2)	(0)	(2)	(2)
PILOT IN COMMAND	0	2	2	0	2	2
FATIGUE(CHRONIC)	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
FATIGUE(LACK OF SLEEP)	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
FATIGUE(FLIGHT SCHEDULE)	(0)	(2)	(2)	(0)	(2)	(2)
PILOT IN COMMAND	0	2	2	0	2	2
CORRECTING LENSES NOT WORN	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
QUALIFICATION	(0)	(1)	(1)	(0)	(2)	(2)
PILOT IN COMMAND	0	1	1	0	2	2

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)						
INADEQUATE TRAINING	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
INADEQUATE INITIAL TRAINING	(1)	(1)	(2)	(1)	(2)	(3)
PILOT IN COMMAND	1	1	2	1	2	3
INADEQUATE RECURRENT TRAINING	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
INADEQUATE TRANSITION/UPGRADE TRAINING	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
INADEQUATE TRAINING(EMERGENCY PROCEDURE(S))	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
EXPERIENCE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
LACK OF FAMILIARITY WITH AIRCRAFT	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	0	1	1	0	1	1
LACK OF FAMILIARITY WITH GEOGRAPHIC AREA	(0)	(4)	(4)	(0)	(7)	(7)
PILOT IN COMMAND	0	4	4	0	7	7
LACK OF TOTAL EXPERIENCE	(0)	(4)	(4)	(2)	(13)	(15)
PILOT IN COMMAND	0	4	4	2	13	15
PILOT OF OTHER AIRCRAFT	0	0	0	0	1	1
TOTAL	(0)	(0)	(0)	(0)	(3)	(3)
PILOT IN COMMAND	0	0	0	0	3	3
LACK OF TOTAL EXPERIENCE IN KIND OF AIRCRAFT	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
LACK OF TOTAL EXPERIENCE IN TYPE OF AIRCRAFT	(0)	(1)	(1)	(1)	(4)	(5)
PILOT IN COMMAND	0	1	1	1	4	5
LACK OF TOTAL INSTRUMENT TIME	(4)	(7)	(11)	(4)	(8)	(12)
PILOT IN COMMAND	4	7	11	4	8	12
LACK OF TOTAL EXPERIENCE IN TYPE OPERATION	(0)	(1)	(1)	(0)	(5)	(5)
PILOT IN COMMAND	0	1	1	0	5	5
PILOT OF OTHER AIRCRAFT	0	0	0	0	2	2
LACK OF RECENT EXPERIENCE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
LACK OF RECENT TOTAL EXPERIENCE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
LACK OF RECENT INSTRUMENT TIME	(1)	(2)	(3)	(1)	(2)	(3)
PILOT IN COMMAND	1	2	3	1	2	3
LACK OF RECENT EXPERIENCE IN TYPE OPERATION	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
INFORMATION UNCLEAR(PHRASEOLOGY)	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
FACILITY INADEQUATE	(0)	(0)	(0)	(2)	(3)	(5)
FACILITY INADEQUATE	(0)	(0)	(0)	(1)	(0)	(1)
AIRPORT PERSONNEL	0	0	0	1	0	1
FACILITY, INADEQUATE DESIGN	(0)	(0)	(0)	(0)	(1)	(1)
AIRPORT PERSONNEL	0	0	0	0	1	1
VISUAL RESTRICTION BY EQUIP/STRUCT	(0)	(0)	(0)	(0)	(2)	(2)
AIRPORT PERSONNEL	0	0	0	0	2	2
FACILITY, INADEQUATE COMPLIANCE DETERMINATION	(0)	(0)	(0)	(1)	(0)	(1)
OTHER MAINTENANCE PSNL	0	0	0	1	0	1
PROCEDURE INADEQUATE	(0)	(1)	(1)	(1)	(2)	(3)
PROCEDURE INADEQUATE	(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)						
PROCEDURE INADEQUATE (Continued)						
PROCEDURE INADEQUATE (Continued)						
OTHER MAINTENANCE PSNL	0	1	1	0	1	1
CONDITION(S)/STEP(S) NOT LISTED	(0)	(0)	(0)	(0)	(1)	(1)
MANUFACTURER	0	0	0	0	1	1
CONDITION(S)/STEP(S) INSUFFICIENTLY DEFINED	(0)	(0)	(0)	(1)	(0)	(1)
MANUFACTURER	0	0	0	1	0	1
AIRCRAFT/EQUIPMENT INADEQUATE	(0)	(0)	(0)	(9)	(1)	(10)
AIRCRAFT/EQUIPMENT INADEQUATE	(0)	(0)	(0)	(1)	(0)	(1)
MANUFACTURER	0	0	0	1	0	1
AIRCRAFT/EQUIPMENT, INADEQUATE DESIGN	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
MANUFACTURER	0	0	0	2	0	2
(STANDARD/REQUIREMENT)	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
CONTROL LOCATION	(0)	(0)	(0)	(0)	(1)	(1)
MANUFACTURER	0	0	0	0	1	1
CONTROL SHAPE/SIZE	(0)	(0)	(0)	(1)	(0)	(1)
MANUFACTURER	0	0	0	1	0	1
AIRCRAFT MANUALS	(0)	(0)	(0)	(1)	(0)	(1)
MANUFACTURER	0	0	0	1	0	1
AIRFRAME	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
MANUFACTURER	0	0	0	1	0	1
MATERIAL INADEQUATE	(0)	(0)	(0)	(7)	(1)	(8)
MATERIAL INADEQUATE	(0)	(0)	(0)	(1)	(0)	(1)
PRODUCTION/DESIGN PSNL	0	0	0	1	0	1
MATERIAL DEFECT	(0)	(0)	(0)	(1)	(0)	(1)
MANUFACTURER	0	0	0	1	0	1
MATERIAL DEFECT (INADEQUATE QUALITY CONTROL)	(0)	(0)	(0)	(0)	(1)	(1)
OTHER MAINTENANCE PSNL	0	0	0	0	1	1
MANUFACTURER	0	0	0	3	0	3
PRODUCTION/DESIGN PSNL	0	0	0	1	0	1
MATERIAL INADEQUATE, IMPROPER	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INDIRECT UNDERLYING CAUSE FACTORS:	(1)	(1)	(2)	(1)	(7)	(8)
INADEQUATE SURVEILLANCE OF OPERATION	(0)	(0)	(0)	(0)	(1)	(1)
INADEQUATE SURVEILLANCE OF OPERATION	(0)	(0)	(0)	(0)	(1)	(1)
COMPANY/OPERATOR MGMT	0	0	0	0	1	1
INSUFFICIENT STANDARDS/REQUIREMENTS	(1)	(1)	(2)	(1)	(5)	(6)
AIRCRAFT	(0)	(0)	(0)	(0)	(1)	(1)
MANUFACTURER	0	0	0	0	1	1
OPERATION/OPERATOR	(0)	(1)	(1)	(0)	(3)	(3)
FAA (ORGANIZATION)	0	1	1	0	3	3
MANUFACTURER	(1)	(0)	(1)	(1)	(1)	(2)
MANUFACTURER	1	0	1	1	1	2
INADEQUATE CERTIFICATION/APPROVAL	(0)	(0)	(0)	(0)	(1)	(1)
AIRMAN	(0)	(0)	(0)	(0)	(1)	(1)
FAA (ORGANIZATION)	0	0	0	0	1	1

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