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NATIONAL TRANSPORTATION SAFETY BOARD

WASHINGTON, D.C. 20594

ANNUAL REVIEW OF AIRCRAFT ACCIDENT DATA

U.S. GENERAL AVIATION CALENDAR YEAR 1982

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16. Abstract

This report presents a statistical compilation and review of general aviation accidents which occurred in 1982 in the United States, its territories and possessions, and in international waters. The accidents reported are all those involving U.S. registered aircraft not conducting air carrier revenue operations under 14 CFR 121, 14 CFR 125, 14 CFR 127, or 14 CFR 135.

The report is divided into sections, each of which (except for the "All Operations" section) presents a review of a subset of all general aviation accidents. Each subset represents aircraft of similar types or aircraft being operated for particular purposes. Several tables present accident parameters for 1982 only, and each section includes tabulations which present comparative statistics for 1982 and for the five-year period 1977-1981.

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INTRODUCTION

This report presents a statistical compilation and review of general aviation accidents which occurred in 1982. 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 1982 and for each of the two preceding years. Several tables then present accident parameters for 1982 only. Concluding each section are tabulations which present comparative statistics for 1982 and for the five-year period 1977-1981.

> It should be noted that, beginning in 1982, the Safety Board changed its method of classifying accidents. Although the collection of data remained essentially the same, the method of analysis of these data was revised to allow a more in depth description of the circumstances of an accident. For instance, the Board no longer uses accident types (first type and second type). Instead, the accident sequence of events is described by up to five occurrences. Further explanation of the terms used in this report is provided in Appendix A.

In 1982, a total of 3,270 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 39 cases in which two general aviation aircraft collided, the number of accidents in 1982 was 3,231.

The total number of accidents in 1982 decreased 7.7 percent from 1981. The number of fatal accidents decreased by 9.9 percent from the 1981 total. There also was a decrease of 7.8 percent in the number of fatalities in 1982. In spite of the decreases in the numbers, the total and fatal accident rates were slightly greater in 1982 than in the three 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 (27.54 accidents per 100,000 hours flown). This rate was 2.7 times the rate for all aircraft. Reciprocating engine powered rotorcraft also had the highest fatal accident rate (3.51 fatal accidents per 100,000 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. Although the total accident rate for personal/business was essentially the same as for aerial application, the fatal accident rate for the personal/business combination was almost 3.5 times greater than for aerial application. The total and fatal accident rates are depicted graphically in figures 1, 2, and 3.

As was mentioned earlier, 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 describe more precisely the sequence of events in an accident. Table 6 presents a list of the occurrences which are being used. Up to five 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.

The most frequently cited first occurrence for all operations is loss of control on the ground. This differs from past years in which the first accident type, engine failure or malfunction, was cited three to four times as often. As can be seen in the new system, the single accident type of engine failure or malfunction has been expanded to five different occurrences. The total of these five occurrences is about 2.5 times that of the next most frequently cited occurrence. This is consistent with the results obtained under the old system when attempting to describe the first significant circumstance leading to an accident.

To facilitate comparison of 1982 occurrences to accident types under the old 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
1980 - 1982

	1982	1981	1980
Accidents			
Fatal	589	654	618
Involved Serious Injury	338	349	398
Involved Minor Injury	420	551	514
Involved No Injury	1884	1946	2060
Total	3231	3500	3590
Fatalities			
Passenger	550	571	590
Crew	616	690	640
Other Persons	16	21	9
Total	1182	1282	1239
Aircraft Damaged*			
Destroyed	977	1121	1014
Substantial	2246	2389	2575
Minor	21	14	12
None	20	7	20
Unknown	6	1	0
Total	3270	3532	3621

* Number of General Aviation Aircraft

Table 2 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
BY TYPE OF AIRCRAFT AND BY KIND OF FLYING
ALL OPERATIONS
1982

Type of Aircraft	Accidents	Fatal Accidents	Fatalities Aboard	Accident Rate Per 100,000 Aircraft Hours Flown: Total	Accident Rate Per 100,000 Aircraft Hours Flown: Fatal
Fixed Wing	2883	537	1089	9.59	1.79
Single Recip. Engine	2546	453	841	10.99	1.96
Multiple Recip. Engine	296	78	208	7.35	1.94
Turboprop	38	9	33	2.51	0.59
Turbojet	10	2	7	0.74	0.15
Rotorcraft	255	41	62	15.66	2.52
Recip. Engine(s)	157	20	24	27.54	3.51
Turbine Powered	98	21	38	9.24	1.98
Gliders	51	6	5	N/A	N/A
Kind of Flying					
Personal	1905	397	808	13.23*	2.84*
Business	292	74	156		
Corporate/Executive	39	6	20	0.78	0.12
Aerial Application	272	17	15	13.22	0.83
Instructional	411	22	36	8.32	0.45
All Aircraft	3231	589	1166	10.07	1.84

* 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. For reasons which are inexplicable except if assumptions traditionally used to separate arbitrarily the two categories are flawed, the rate of aircraft accidents for personal flying is seven times greater than that of business flying. This major - and the Board believes, inaccurate - disparity in rates can only be resolved, if valid and objective exposure data were to be developed. The NTSB has concluded that the two categories should be kept combined until sound exposure data are available that could justify their separation. At that time, two separate categories may well be established to facilitate safety analyses.

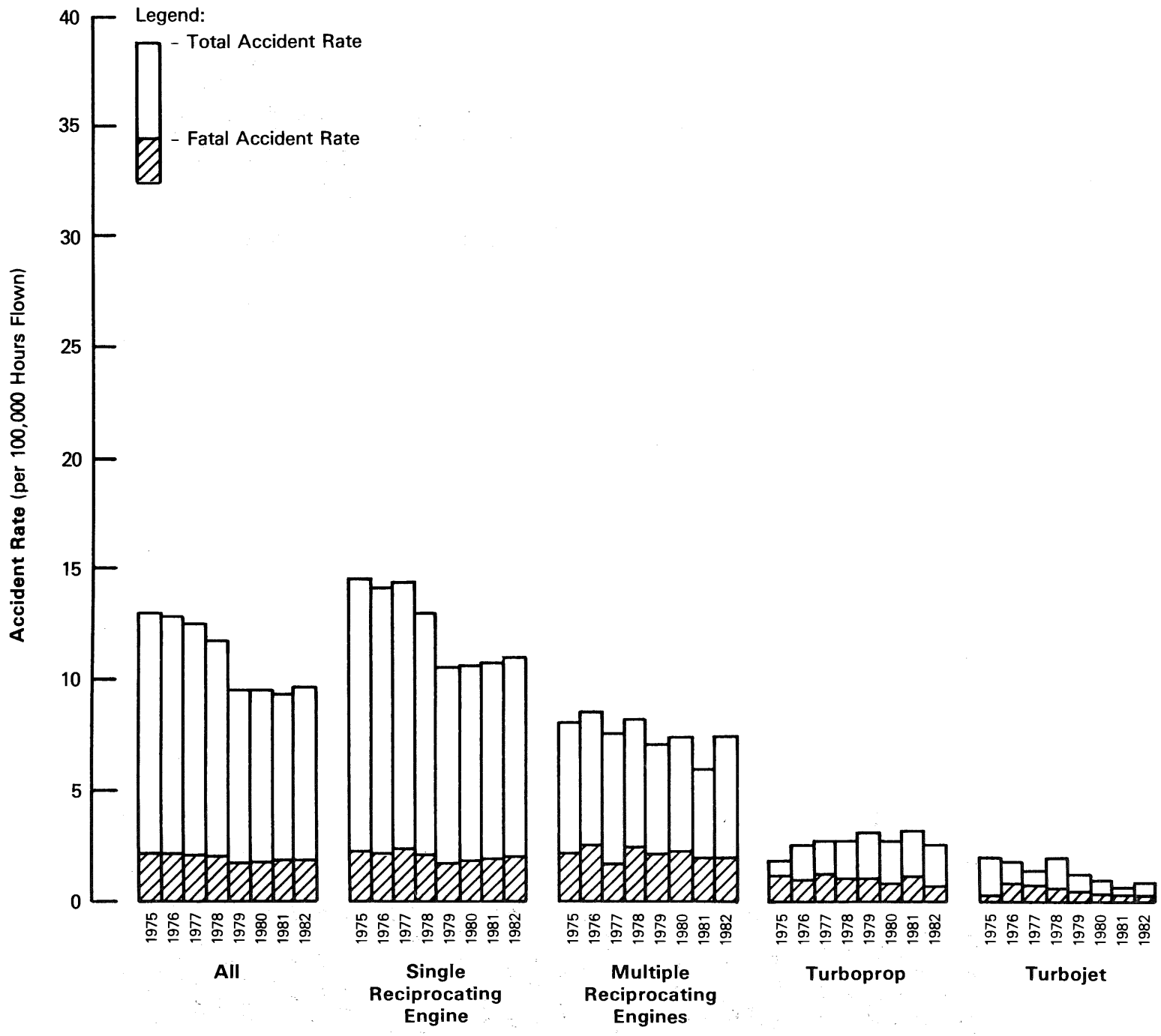

Figure 1 — Airplane Accident Rates by Type of Power

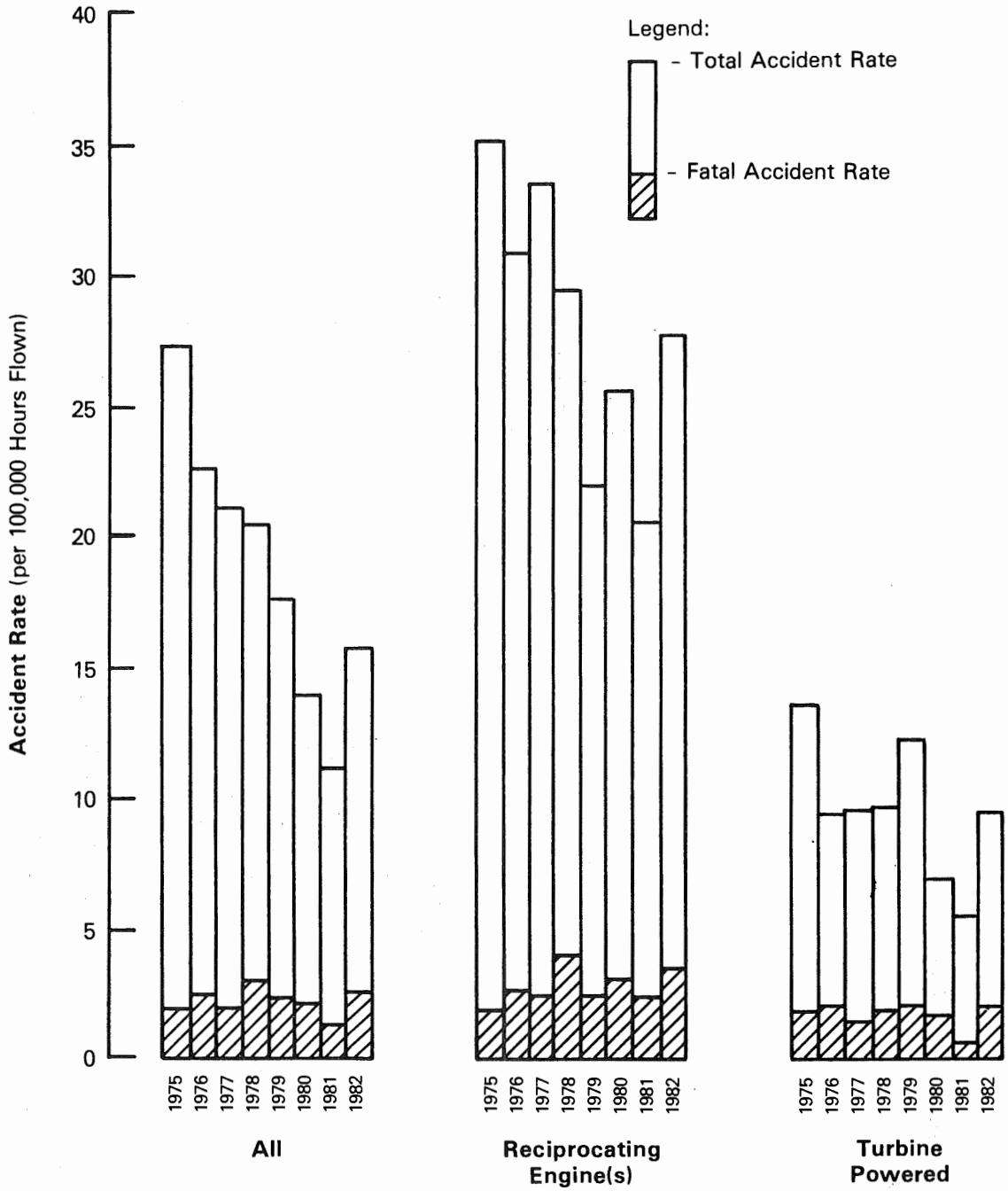

Figure 2 — Rotorcraft Accident Rates by Type of Power

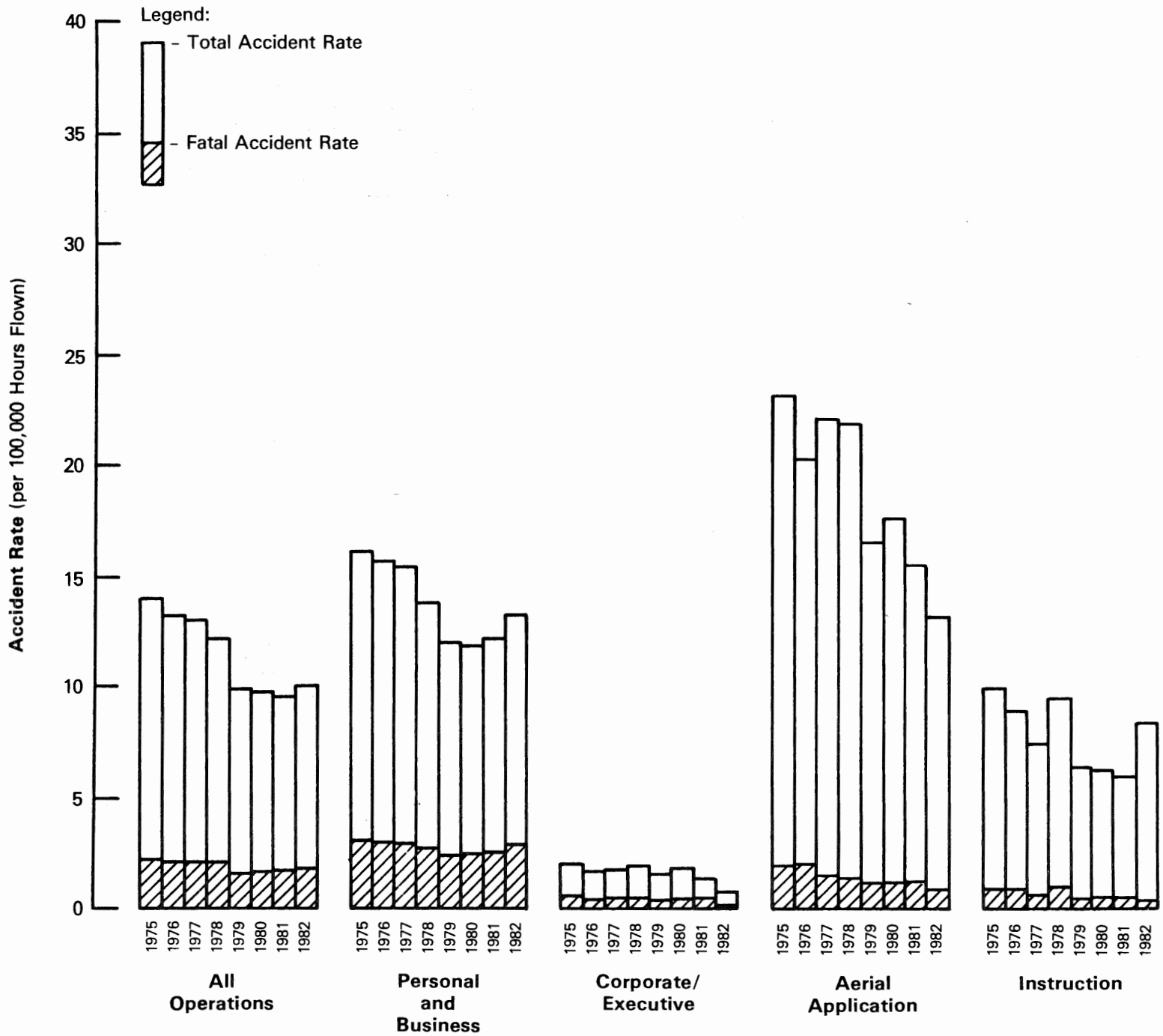

Figure 3 — Accident Rates by Kind of Flying

Table 3 - PERSONS BY ROLE AND DEGREE OF INJURY
ALL OPERATIONS
1982

Role of Person	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Pilot	557	297	379	2018	3251
Copilot	35	9	7	48	99
Dual student	11	9	13	100	133
Instructor	2	2	7	17	28
Flight engineer	0	0	0	2	2
Loadmaster	0	0	0	2	2
Other cockpit crew	5	3	3	12	23
Cabin crew	6	0	2	14	22
Passenger	550	288	332	1478	2648
Total aboard	1166	608	743	3691	6208
Other aircraft*	4	0	1	6	11
Other ground	12	12	18	9	51
Grand total	1182	620	762	3706	6270
Percent	18.9	9.9	12.2	59.1	

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

Table 4 - PERSONS ABOARD BY KIND OF FLYING AND DEGREE OF INJURY
ALL OPERATIONS
1982

Kind of Flying	Degree of Injury: Fatal	Serious	Minor	None	Total
Personal	809	394	488	2304	3995
Business	156	45	69	325	595
Corporate/Executive	20	8	10	88	126
Aerial application	15	35	33	195	278
Instructional	36	44	68	466	614
Other	130	82	75	313	600
Total	1166	608	743	3691	6208
Percent	18.8	9.8	12.0	59.5	

Table 5 - AIRCRAFT BY DAMAGE AND DEGREE OF INJURY
ALL OPERATIONS
1982

Aircraft damage	Degree of injury: Fatal	Serious	Minor	None	Aircraft: No.	Percent
Destroyed	521	163	109	184	977	29.9
Substantial	76	155	312	1703	2246	68.7
Minor	2	6	3	10	21	0.6
None	3	16	0	1	20	0.6
Not reported	3	0	0	3	6	0.2
Aircraft						
Number -	605	340	424	1901	3270	
Percent -	18.5	10.4	13.0	58.1		

Table 6 - AIRCRAFT BY FIRST THRU FIFTH OCCURRENCES
ALL OPERATIONS
1982

Occurrence	Occurrence					Occurrences 1 - 5	
	One	Two	Three	Four	Five	No.	Percent of Accident Involved Aircraft
Abrupt Maneuver	4	3	2	0	0	9	0.28
Altitude Deviation, Uncontrolled	0	0	1	0	0	1	0.03
Cargo Shift	0	0	0	0	0	0	0.00
Airframe/Component/System Failure/Malfunction	127	18	17	1	1	164	5.02
Decompression	0	0	0	0	0	0	0.00
Ditching	1	25	22	0	0	48	1.47
Dragged Wing, Rotor, Pod or Float	3	9	7	1	0	20	0.61
Fire/Explosion	3	2	1	0	0	6	0.18
Fire	18	13	2	2	0	34	1.04
Explosion	2	1	1	0	0	4	0.12
Forced Landing	10	770	41	5	0	825	25.23
Gear Collapsed	8	27	24	10	0	68	2.08
Main Gear Collapsed	40	68	38	13	2	161	4.92
Nose Gear Collapsed	16	73	55	19	3	166	5.08
Tail Gear Collapsed	0	1	1	0	0	2	0.06
Complete Gear Collapsed	14	10	28	9	0	61	1.87
Other Gear Collapsed	1	3	3	5	1	13	0.40
Hard Landing	185	53	69	6	1	312	9.54
Hazardous Materials Leak/Spill (Fumes/Smoke)	0	0	0	0	0	0	0.00
In Flight Col. w/ Object	287	133	175	17	2	609	18.62
In Flight Col. w/ Terrain	266	457	308	72	8	1099	33.61
In Flight Enc. w/ Weather	218	2	1	0	0	221	6.76
Loss of Control-In Flight	311	152	34	2	0	498	15.23
Loss of Control-On Ground	348	74	19	2	0	442	13.52
Midair Collision	53	0	0	0	0	53	1.62
Near Col. Between Aircraft	4	1	0	0	0	5	0.15
Nose Down	3	9	13	4	0	29	0.89
Nose Over	59	127	176	63	10	434	13.27
On Ground Col. w/ Object	105	118	86	23	2	332	10.15
On Ground Col. w/ Terrain	57	175	87	11	2	331	10.12
On Ground Enc. w/ Weather	7	0	0	0	0	7	0.21
Overrun	119	18	8	1	0	146	4.47
Loss of Power	252	10	1	0	0	262	8.01
Loss of Power (Total) Mech. Failure/Malfunction	153	2	2	0	0	157	4.80
Loss of Power (Partial) Mech. Failure/Malfunction	80	1	0	0	0	81	2.48

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	332	18	1	0	0	351	10.73
Loss of Power (Partial) Non-Mechanical	30	2	0	0	0	32	0.98
Engine Tearaway	0	1	0	0	0	1	0.03
Propeller Blast or Jet Exhaust/Suction	1	0	0	0	0	1	0.03
Propeller/Rotor Contact	7	0	0	1	0	8	0.25
Roll Over	10	18	19	6	2	55	1.68
Undershoot	97	9	3	1	0	109	3.33
Undetermined	4	0	0	0	0	4	0.12
Vortex Turbulence Enc.	5	0	1	0	0	6	0.18
Missing Aircraft	6	0	0	0	0	6	0.18
Miscellaneous/Other	24	3	3	0	0	30	0.92
Number of Aircraft	3270	2406	1249	274	34		

Table 7 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
ALL OPERATIONS
1982

Type of first occurrence	Degree of injury: Fatal	Serious	Minor	None	Aircraft: No.	Percent
Abrupt maneuver	0	1	1	2	4	0.1
Airframe/component/system failure/malfunction	23	10	22	72	127	3.9
Ditching	0	0	0	1	1	0.0
Dragged wing, rotor, pod, or float	0	0	0	3	3	0.1
Fire/explosion	0	1	0	2	3	0.1
Fire	5	1	2	10	18	0.6
Explosion	0	0	0	2	2	0.1
Forced landing	1	2	1	6	10	0.3
Gear collapsed	1	0	0	7	8	0.2
Main gear collapsed	0	0	1	39	40	1.2
Nose gear collapsed	0	0	1	15	16	0.5
Complete gear collapsed	0	0	1	13	14	0.4
Other gear collapsed	0	0	0	1	1	0.0
Hard landing	3	12	12	158	185	5.7
In flight collision with object	77	48	37	125	287	8.8
In flight collision with terrain	97	29	16	124	266	8.1
In flight encounter with weather	133	20	17	48	218	6.7
Loss of control - in flight	123	49	44	95	311	9.5
Loss of control - on ground	4	8	42	294	348	10.6
Midair collision	33	6	2	12	53	1.6
Near collision between aircraft	2	0	0	2	4	0.1
Nose down	0	0	0	3	3	0.1
Nose over	1	1	3	54	59	1.8
On ground collision with object	2	2	10	91	105	3.2
On ground collision with terrain	1	3	2	51	57	1.7
On ground encounter with weather	0	2	1	4	7	0.2
Overrun	1	11	16	91	119	3.6
Loss of power	22	34	55	141	252	7.7
Loss of power(total) - mech failure/malfunction	12	26	23	92	153	4.7
Loss of power(partial) - mech failure/malfunction	6	9	19	46	80	2.4
Loss of power(total) - non-mechanical	34	45	71	182	332	10.2
Loss of power(partial) - non-mechanical	2	4	5	19	30	0.9
Propeller blast or jet exhaust/suction	0	0	0	1	1	0.0
Propeller/rotor contact	2	5	0	0	7	0.2
Roll over	0	1	3	6	10	0.3
Undershoot	8	4	14	71	97	3.0
Undetermined	4	0	0	0	4	0.1
Vortex turbulence encountered	0	2	0	3	5	0.2

Table 7 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY (Continued)
ALL OPERATIONS
1982

Type of first occurrence	Degree of injury				Aircraft	
	Fatal	Serious	Minor	None	No.	Percent
Missing aircraft	6	0	0	0	6	0.2
Miscellaneous/other	2	4	3	15	24	0.7
Aircraft						
Number -	605	340	424	1901	3270	
Percent -	18.5	10.4	13.0	58.1		

Table 8 - AIRCRAFT BY FIRST OCCURRENCE AND DAMAGE
ALL OPERATIONS
1982

Type of first occurrence	Aircraft damage					Aircraft	
	Destr	Subst	Minor	None	Nrept	No.	Percent
Abrupt maneuver	2	2	0	0	0	4	0.1
Airframe/component/system failure/malfunction	46	81	0	0	0	127	3.9
Ditching	0	1	0	0	0	1	0.0
Dragged wing, rotor, pod, or float	0	3	0	0	0	3	0.1
Fire/explosion	2	1	0	0	0	3	0.1
Fire	11	7	0	0	0	18	0.6
Explosion	0	2	0	0	0	2	0.1
Forced landing	5	5	0	0	0	10	0.3
Gear collapsed	1	7	0	0	0	8	0.2
Main gear collapsed	1	39	0	0	0	40	1.2
Nose gear collapsed	1	15	0	0	0	16	0.5
Complete gear collapsed	0	14	0	0	0	14	0.4
Other gear collapsed	0	1	0	0	0	1	0.0
Hard landing	12	168	1	4	0	185	5.7
In flight collision with object	130	153	2	2	0	287	8.8
In flight collision with terrain	129	137	0	0	0	266	8.1
In flight encounter with weather	142	75	1	0	0	218	6.7
Loss of control - in flight	163	147	0	0	1	311	9.5
Loss of control - on ground	35	311	0	2	0	348	10.6
Midair collision	27	21	4	1	0	53	1.6
Near collision between aircraft	2	2	0	0	0	4	0.1
Nose down	0	3	0	0	0	3	0.1
Nose over	4	55	0	0	0	59	1.8
On ground collision with object	12	83	9	1	0	105	3.2
On ground collision with terrain	5	52	0	0	0	57	1.7
On ground encounter with weather	1	5	1	0	0	7	0.2
Overrun	8	110	1	0	0	119	3.6
Loss of power	90	161	0	0	1	252	7.7
Loss of power(total) - mech failure/malfunction	37	115	0	0	1	153	4.7

Table 8 - AIRCRAFT BY FIRST OCCURRENCE AND DAMAGE (Continued)
ALL OPERATIONS
1982

Type of first occurrence	Aircraft damage					Aircraft	
	Destr	Subst	Minor	None	Nrept	No.	Percent
Loss of power(partial) - mech failure/malfunction	17	63	0	0	0	80	2.4
Loss of power(total) - non-mechanical	64	268	0	0	0	332	10.2
Loss of power(partial) - non-mechanical	4	26	0	0	0	30	0.9
Propeller blast or jet exhaust/suction	0	1	0	0	0	1	0.0
Propeller/rotor contact	0	0	1	6	0	7	0.2
Roll over	3	7	0	0	0	10	0.3
Undershoot	13	84	0	0	0	97	3.0
Undetermined	3	1	0	0	0	4	0.1
Vortex turbulence encountered	1	3	0	1	0	5	0.2
Missing aircraft	2	1	0	0	3	6	0.2
Miscellaneous/other	4	16	1	3	0	24	0.7
Aircraft							
Number -	977	2246	21	20	6	3270	
Percent -	29.9	68.7	0.6	0.6	0.2		

Table 9 - AIRCRAFT BY FIRST OCCURRENCE AND BROAD PHASE OF OPERATION
ALL OPERATIONS
1982

Type of first occurrence	Phase of operation										Aircraft	
	Stndg	Taxi	Tkoff	Climb	Cruis	Dscnt	Aprch	Landg	Manvr	Other	No.	Percent
Abrupt maneuver	0	0	0	0	1	0	0	1	2	0	4	0.1
Airframe/component/system failure/malfunction	1	4	20	4	35	4	11	19	22	7	127	3.9
Ditching	0	0	0	0	0	0	0	1	0	0	1	0.0
Dragged wing, rotor, pod, or float	0	1	1	0	0	0	0	1	0	0	3	0.1
Fire/explosion	0	0	0	0	1	2	0	0	0	0	3	0.1
Fire	3	0	4	3	4	0	2	1	1	0	18	0.6
Explosion	0	1	0	0	0	0	0	0	1	0	2	0.1
Forced landing	0	0	1	0	3	0	0	5	1	0	10	0.3
Gear collapsed	0	0	0	0	0	0	0	8	0	0	8	0.2
Main gear collapsed	0	9	3	0	0	0	0	28	0	0	40	1.2
Nose gear collapsed	0	1	2	0	0	0	0	13	0	0	16	0.5
Complete gear collapsed	0	1	1	0	0	0	0	12	0	0	14	0.4
Other gear collapsed	0	0	0	0	0	0	0	1	0	0	1	0.0
Hard landing	0	0	0	0	0	0	2	183	0	0	185	5.7
In flight collision with object	0	1	74	6	14	2	47	32	109	2	287	8.8
In flight collision with terrain	0	1	42	8	30	7	28	66	72	12	266	8.1
In flight encounter with weather	0	0	15	9	147	11	23	2	7	4	218	6.7
Loss of control - in flight	0	4	92	8	16	3	52	39	91	6	311	9.5
Loss of control - on ground	0	6	87	0	0	0	1	254	0	0	348	10.6
Midair collision	0	0	1	4	15	1	20	2	5	5	53	1.6
Near collision between aircraft	0	0	2	0	0	0	1	1	0	0	4	0.1
Nose down	0	2	0	0	0	0	0	1	0	0	3	0.1
Nose over	1	15	5	0	0	0	0	36	0	2	59	1.8
On ground collision with object	8	49	23	0	0	0	1	24	0	0	105	3.2
On ground collision with terrain	0	6	18	0	0	0	0	31	1	1	57	1.7
On ground encounter with weather	1	5	0	0	0	0	0	1	0	0	7	0.2
Overrun	0	0	28	0	0	0	0	91	0	0	119	3.6
Loss of power	0	0	107	13	60	12	26	6	24	4	252	7.7
Loss of power(total) - mech failure/malfunction	0	0	34	10	73	5	10	1	18	2	153	4.7

Table 9 - AIRCRAFT BY FIRST OCCURRENCE AND BROAD PHASE OF OPERATION (Continued)
ALL OPERATIONS
1982

Type of first occurrence	Phase of operation										Aircraft	
	Stndg	Taxi	Tkoff	Climb	Cruis	Dscnt	Aprch	Landg	Manvr	Other	No.	Percent
Loss of power(partial) - mech failure/malfunction	0	0	28	5	33	0	5	1	8	0	80	2.4
Loss of power(total) - non-mechanical	0	0	66	8	115	33	72	3	29	6	332	10.2
Loss of power(partial) - non-mechanical	0	0	17	1	4	1	4	0	3	0	30	0.9
Propeller blast or jet exhaust/suction	0	1	0	0	0	0	0	0	0	0	1	0.0
Propeller/rotor contact	7	0	0	0	0	0	0	0	0	0	7	0.2
Roll over	0	2	1	0	0	0	0	4	3	0	10	0.3
Undershoot	0	0	0	0	0	0	86	11	0	0	97	3.0
Undetermined	0	0	0	0	0	0	0	0	0	4	4	0.1
Vortex turbulence encountered	0	0	0	0	1	0	0	0	4	0	5	0.2
Missing aircraft	0	0	0	0	1	0	0	0	0	5	6	0.2
Miscellaneous/other	3	0	10	0	3	1	3	2	1	1	24	0.7
Aircraft												
Number -	24	109	682	79	556	82	394	881	402	61	3270	
Percent -	0.7	3.3	20.9	2.4	17.0	2.5	12.0	26.9	12.3	1.9		

Table 10 - AIRCRAFT BY PHASE OF OPERATION AND DEGREE OF INJURY
ALL OPERATIONS
1982

Phase of operation	Degree of injury: Fatal	Serious	Minor	None	Aircraft: No.	Percent
Standing	1	2	1	3	7	0.2
Standing - starting engine(s)	0	2	1	2	5	0.2
Standing - engine(s) operating	1	2	1	5	9	0.3
Standing - idling rotors	0	2	1	0	3	0.1
Taxi	0	0	2	16	18	0.6
Taxi - to takeoff	0	2	0	32	34	1.0
Taxi - from landing	1	0	3	47	51	1.6
Taxi - aerial	0	1	0	5	6	0.2
Takeoff	9	7	9	57	82	2.5
Takeoff - ground run	2	3	16	122	143	4.4
Takeoff - initial climb	83	76	68	230	457	14.0
Climb	3	5	9	8	25	0.8
Climb - to cruise	20	5	11	18	54	1.7
Cruise	37	9	13	35	94	2.9
Cruise - normal	143	45	70	203	461	14.1
Cruise - holding(IFR)	1	0	0	0	1	0.0
Descent	4	4	1	7	16	0.5
Descent - normal	8	12	13	29	62	1.9
Descent - emergency	1	0	0	0	1	0.0
Descent - uncontrolled	3	0	0	0	3	0.1
Approach	18	11	8	21	58	1.8
Approach - VFR pattern - downwind	7	5	8	2	22	0.7
Approach - VFR pattern - base turn	3	2	1	4	10	0.3
Approach - VFR pattern - base to final	10	1	5	5	21	0.6
Approach - VFR pattern - final approach	21	20	39	123	203	6.2
Approach - go-around (VFR)	5	7	9	22	43	1.3
Approach - IAF to FAF/outer marker (IFR)	4	1	0	1	6	0.2
Approach - FAF/outer marker to threshold (IFR)	8	2	0	6	16	0.5
Approach - circling(IFR)	3	0	1	2	6	0.2
Approach - missed approach (IFR)	6	0	0	3	9	0.3
Landing	3	12	14	39	68	2.1
Landing - flare/touchdown	8	29	39	331	407	12.4
Landing - roll	3	9	38	356	406	12.4
Maneuvering	122	32	14	56	224	6.9
Maneuvering - aerial application	15	21	15	77	128	3.9
Maneuvering - turn to reverse direction	6	7	4	6	23	0.7
Maneuvering - turn to landing area (emergency)	2	1	1	1	5	0.2
Hover	1	2	6	13	22	0.7

Table 10 - AIRCRAFT BY PHASE OF OPERATION AND DEGREE OF INJURY (Continued)
ALL OPERATIONS
1982

Phase of operation	Degree of injury: Fatal	Ser-ious	Minor	None	Aircraft: No.	Percent
Other	6	0	1	4	11	0.3
Unknown	37	1	2	10	50	1.5
Aircraft						
Number -	605	340	424	1901	3270	
Percent -	18.5	10.4	13.0	58.1		

Table 11 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
ALL OPERATIONS
1982

Phase of operation	Aircraft damage					Aircraft	
	Destr	Subst	Minor	None	Nrept	No.	Percent
Standing	1	3	2	1	0	7	0.2
Standing - starting engine(s)	1	1	1	2	0	5	0.2
Standing - engine(s) operating	1	4	1	3	0	9	0.3
Standing - idling rotors	0	1	1	1	0	3	0.1
Taxi	2	15	1	0	0	18	0.6
Taxi - to takeoff	2	28	3	1	0	34	1.0
Taxi - from landing	2	48	1	0	0	51	1.6
Taxi - aerial	2	4	0	0	0	6	0.2
Takeoff	16	65	1	0	0	82	2.5
Takeoff - ground run	25	117	1	0	0	143	4.4
Takeoff - initial climb	168	287	0	1	1	457	14.0
Climb	11	14	0	0	0	25	0.8
Climb - to cruise	25	29	0	0	0	54	1.7
Cruise	49	45	0	0	0	94	2.9
Cruise - normal	191	265	2	1	2	461	14.1
Cruise - holding(IFR)	1	0	0	0	0	1	0.0
Descent	6	10	0	0	0	16	0.5
Descent - normal	19	42	0	0	1	62	1.9
Descent - emergency	0	1	0	0	0	1	0.0
Descent - uncontrolled	3	0	0	0	0	3	0.1
Approach	27	31	0	0	0	58	1.8
Approach - VFR pattern - downwind	8	14	0	0	0	22	0.7
Approach - VFR pattern - base turn	5	5	0	0	0	10	0.3
Approach - VFR pattern - base to final	8	13	0	0	0	21	0.6
Approach - VFR pattern - final approach	37	162	3	1	0	203	6.2
Approach - go-around (VFR)	11	31	0	1	0	43	1.3
Approach - IAF to FAF/outer marker (IFR)	5	1	0	0	0	6	0.2

Table 11 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE (Continued)
ALL OPERATIONS
1982

Phase of operation	Aircraft damage					Aircraft	
	Destr	Subst	Minor	None	Nrept	No.	Percent
Approach - FAF/outer marker to threshold (IFR)	8	8	0	0	0	16	0.5
Approach - circling(IFR)	3	3	0	0	0	6	0.2
Approach - missed approach (IFR)	6	3	0	0	0	9	0.3
Landing	13	54	0	1	0	68	2.1
Landing - flare/touchdown	42	357	2	6	0	407	12.4
Landing - roll	25	380	1	0	0	406	12.4
Maneuvering	145	78	1	0	0	224	6.9
Maneuvering - aerial application	56	71	0	1	0	128	3.9
Maneuvering - turn to reverse direction	11	12	0	0	0	23	0.7
Maneuvering - turn to landing area (emergency)	2	3	0	0	0	5	0.2
Hover	3	19	0	0	0	22	0.7
Other	7	4	0	0	0	11	0.3
Unknown	30	18	0	0	2	50	1.5
Aircraft							
Number -	977	2246	21	20	6	3270	
Percent -	29.9	68.7	0.6	0.6	0.2		

Table 12 - AIRCRAFT BY CONDITION OF LIGHT AND TYPE OF WEATHER
ALL OPERATIONS
1982

Condition of light	Type of Weather			Aircraft	
	VMC	IMC	Nrept	No.	Percent
Dawn	24	4	0	28	0.9
Daylight	2550	145	26	2721	83.2
Night (dark)	192	95	14	301	9.2
Night (bright)	42	2	1	45	1.4
Dusk	126	24	5	155	4.7
Not reported	8	1	11	20	0.6
Aircraft					
Number -	2942	271	57	3270	
Percent -	90.0	8.3	1.7		

Table 13 - AIRCRAFT BY STATE AND MONTH
ALL OPERATIONS
1982

State	Month												Aircraft	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	No.	Percent
Alabama	5	2	2	3	3	6	6	9	6	1	4	5	52	1.6
Alaska	5	2	7	8	15	16	15	27	28	9	9	8	149	4.6
Arizona	7	8	13	11	14	5	11	15	8	8	6	13	119	3.6
Arkansas	3	3	6	4	12	11	10	9	0	3	2	4	67	2.0
California	28	30	29	34	42	38	36	35	35	30	19	23	379	11.6
Colorado	4	2	7	7	3	8	13	20	12	4	11	3	94	2.9
Connecticut	1	1	1	2	3	1	3	3	1	1	3	0	20	0.6
Delaware	0	0	0	0	0	1	0	1	0	0	0	0	2	0.1
Florida	13	20	22	20	13	13	15	12	12	15	15	7	177	5.4
Georgia	4	2	7	7	6	7	8	6	9	5	5	6	72	2.2
Hawaii	1	1	0	0	1	0	1	1	1	1	1	1	9	0.3
Idaho	3	1	3	2	2	6	5	5	6	4	3	1	41	1.3
Illinois	4	10	4	3	15	4	17	10	7	9	3	4	90	2.8
Indiana	1	10	6	4	8	4	7	1	1	6	3	1	52	1.6
Iowa	1	5	1	6	4	5	9	8	5	2	3	2	51	1.6
Kansas	4	1	4	0	4	7	9	4	6	9	5	4	57	1.7
Kentucky	1	2	4	4	5	2	6	4	4	2	1	2	37	1.1
Louisiana	4	5	3	4	9	11	6	11	4	5	2	4	68	2.1
Maine	0	1	1	0	2	4	3	3	2	1	0	0	17	0.5
Maryland	1	2	5	2	4	4	2	0	1	1	3	2	27	0.8
Massachusetts	1	2	6	0	3	3	8	5	3	1	2	2	36	1.1
Michigan	4	6	3	7	11	7	11	9	9	5	4	4	80	2.4
Minnesota	2	5	6	3	7	9	11	7	5	2	3	0	60	1.8
Mississippi	4	1	3	2	4	6	3	6	2	3	0	2	36	1.1
Missouri	6	9	3	6	8	5	8	7	6	4	8	6	76	2.3
Montana	4	1	4	5	4	10	4	2	6	6	2	2	50	1.5
Nebraska	0	1	2	4	9	4	6	5	1	0	3	3	38	1.2
Nevada	2	3	3	4	4	1	7	2	5	1	3	1	36	1.1
New Hampshire	1	0	3	2	1	0	4	4	1	1	1	0	18	0.6
New Jersey	3	2	2	4	5	7	3	9	6	0	3	2	46	1.4

Table 13 - AIRCRAFT BY STATE AND MONTH (Continued)
ALL OPERATIONS
1982

State	Month												Aircraft	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	No.	Percent
New Mexico	5	7	4	7	7	3	7	9	7	10	1	3	70	2.1
New York	3	2	7	8	10	11	8	10	4	7	2	3	75	2.3
North Carolina	3	2	5	5	6	3	7	8	3	3	5	4	54	1.7
North Dakota	0	1	3	2	4	3	7	5	0	0	1	0	26	0.8
Ohio	3	8	4	11	10	7	5	10	4	6	2	4	74	2.3
Oklahoma	4	3	5	2	7	7	8	8	7	4	4	2	61	1.9
Oregon	3	6	8	6	12	5	16	5	7	6	4	4	82	2.5
Pennsylvania	3	5	8	14	11	7	14	8	7	6	8	1	92	2.8
Puerto Rico	0	1	2	0	0	1	0	0	0	0	0	1	5	0.2
Rhode Island	0	1	2	0	0	2	0	0	0	0	0	0	5	0.2
South Carolina	3	2	3	3	4	2	5	6	2	5	4	8	47	1.4
South Dakota	0	1	0	1	3	1	0	4	1	3	2	0	16	0.5
Tennessee	0	2	3	1	3	3	3	2	2	2	1	1	23	0.7
Texas	13	16	21	33	29	39	36	27	33	15	14	11	287	8.8
Utah	5	4	2	2	6	4	4	1	5	2	4	1	40	1.2
Vermont	1	0	0	1	0	2	3	1	1	0	1	0	10	0.3
Virginia	2	1	0	3	8	3	2	2	4	2	5	3	35	1.1
Virgin Islands	1	0	0	0	0	0	0	0	0	1	0	0	2	0.1
Washington	4	4	5	11	9	10	14	11	9	4	5	4	90	2.8
West Virginia	0	0	1	2	3	1	2	1	2	0	1	1	14	0.4
Wisconsin	1	2	4	4	4	5	12	8	5	2	4	2	53	1.6
Wyoming	5	0	3	6	3	3	3	5	3	3	1	3	38	1.2
Gulf of Mexico	0	1	1	1	0	1	0	0	1	0	1	0	6	0.2
Bahamas	0	0	0	0	0	0	0	0	0	1	0	0	1	0.0
Atlantic Ocean	0	1	0	0	0	0	0	1	1	0	2	0	5	0.2
Unknown	0	0	0	0	0	0	1	0	1	0	1	0	3	0.1
Aircraft														
Number -	176	208	251	281	360	328	404	372	301	221	200	168	3270	
Percent -	5.4	6.4	7.7	8.6	11.0	10.0	12.4	11.4	9.2	6.8	6.1	5.1		

Table 14 - AIRCRAFT BY PROXIMITY TO AIRPORT AND FLIGHT PLAN
ALL OPERATIONS
1982

Proximity to Airport	Type of Flight Plan					Aircraft	
	VFR	IFR	VFR/IFR	None	Other	No.	Percent
On Airport	128	106	2	1065	13	1314	40.2
On Airstrip	5	1	0	149	3	158	4.8
Within 5 NM	48	49	0	600	5	702	21.5
5 NM or Greater	104	54	1	865	7	1031	31.5
Other	7	4	0	53	1	65	2.0
Number of Aircraft	292	214	3	2732	29	3270	
Percent	8.9	6.5	0.1	83.6	0.9		

Table 15 - AIRCRAFT BY ELT LOCATION AND TYPE OF FAILURE
ALL OPERATIONS
1982

Type of ELT failure	ELT location: Cockpit	Cabin	Empennage	Survival Kit	Nrept	Aircraft: No.	Percent
No failure	46	73	518	1	1238	1876	57.4
Insufficient g's	41	67	541	0	239	888	27.2
Improper installation	1	0	1	0	0	2	0.1
Battery dead	1	2	19	0	1	23	0.7
Battery corroded	0	0	4	0	0	4	0.1
Battery installed incorrectly	1	0	4	0	0	5	0.2
Incorrect battery	1	0	0	0	1	2	0.1
Fire damage	0	3	43	0	12	58	1.8
Impact damage	3	15	77	0	18	113	3.5
Antenna broken/disconnected	0	3	23	0	6	32	1.0
Water submersion	1	2	16	0	5	24	0.7
Unit not armed	3	13	28	0	29	73	2.2
Shielded by wreckage	0	0	1	0	2	3	0.1
Shielded by terrain	0	0	1	0	0	1	0.0
Internal failure	0	1	6	0	3	10	0.3
Tested satisfactorily after accident	0	3	6	0	0	9	0.3
Packing device still installed	2	0	1	0	0	3	0.1
Remote switch off - ELT not armed	2	1	23	0	17	43	1.3
Remote switch off - ELT armed	0	0	1	0	0	1	0.0
Remote switch on - ELT not armed	0	0	1	0	1	2	0.1
Other	1	5	45	0	47	98	3.0
Aircraft							
Number -	103	188	1359	1	1619	3270	
Percent -	3.1	5.7	41.6	0.0	49.5		

Table 16 - AIRCRAFT BY FIRE ON GROUND AND AIRCRAFT DAMAGE
ALL OPERATIONS
1982

	Aircraft damage					Aircraft	
Fire on ground	Destr	Subst	Minor	None	Nrept	No.	Percent
Yes	268	39	0	0	0	307	9.4
No	691	2185	21	20	3	2920	89.3
Not reported	18	22	0	0	3	43	1.3
Aircraft							
Number -	977	2246	21	20	6	3270	
Percent -	29.9	68.7	0.6	0.6	0.2		

Table 17 - AIRCRAFT BY FIRE ON GROUND AND DEGREE OF INJURY
ALL OPERATIONS
1982

	Degree of injury				Aircraft	
Fire on ground	Fatal	Serious	Minor	None	No.	Percent
Yes	169	47	27	64	307	9.4
No	423	289	394	1814	2920	89.3
Not reported	13	4	3	23	43	1.3
Aircraft						
Number -	605	340	424	1901	3270	
Percent -	18.5	10.4	13.0	58.1		

Table 18 - PILOTS BY TOTAL TIME AND TIME IN TYPE
ALL OPERATIONS
1982

Total time (hours)	Time in type (hours) 1-49	50-99	100-499	500-999	1000-4999	5000-9999	10000 or more	0 or not reptd	Pilots No.	Pilots Percent
1 - 49	192	0	0	0	0	0	0	8	200	6.1
50 - 99	129	90	0	0	0	0	0	15	234	7.2
100 - 499	304	168	324	0	0	0	0	54	850	26.0
500 - 999	98	41	163	67	0	0	0	45	414	12.7
1000 - 4999	156	94	299	166	151	0	0	69	935	28.6
5000 - 9999	35	16	76	37	95	10	0	24	293	9.0
10000 or more	16	9	49	23	61	13	3	11	185	5.7
Zero or not reported	5	1	7	2	1	0	1	142	159	4.9
Pilots										
Number -	935	419	918	295	308	23	4	368	3270	
Percent -	28.6	12.8	28.1	9.0	9.4	0.7	0.1	11.3		

Table 19 - PILOTS BY AGE AND ACCIDENT DEGREE OF INJURY
ALL OPERATIONS
1982

Pilot age	Degree of injury: Fatal	Serious	Minor	None	Pilots: No.	Percent
15 - 19	4	5	5	30	44	1.3
20 - 24	37	16	32	168	253	7.7
25 - 29	64	28	41	220	353	10.8
30 - 34	89	50	57	317	513	15.7
35 - 39	94	62	66	274	496	15.2
40 - 44	73	50	52	217	392	12.0
45 - 49	62	42	37	197	338	10.3
50 - 54	63	33	48	159	303	9.3
55 - 59	50	23	37	124	234	7.2
60 - 64	33	15	17	84	149	4.6
65 - 69	14	4	13	20	51	1.6
70 or older	9	5	3	17	34	1.0
Not reported	13	7	16	74	110	3.4
Pilots						
Number -	605	340	424	1901	3270	
Percent -	18.5	10.4	13.0	58.1		

Table 20 - MOST PREVALENT DETAILED ACCIDENT CAUSES
ALL OPERATIONS
1982

Detailed Cause	Number of Aircraft	Percent of Aircraft
Undetermined	261	8.0
Directional control - Not maintained - Pilot in command	233	7.1
Airspeed - Not maintained - Pilot in command	176	5.4
Fluid,fuel - Exhaustion	169	5.2
Distance - Misjudged - Pilot in command	168	5.1
Preflight planning/preparation - Inadequate - Pilot in command	139	4.3
Aircraft preflight - Inadequate - Pilot in command	131	4.0
Visual lookout - Inadequate - Pilot in command	129	3.9
Unsuitable terrain - Selected - Pilot in command	123	3.8
Altitude - Misjudged - Pilot in command	117	3.6
In-flight planning/decision - Improper - Pilot in command	117	3.6
Total Number of Aircraft:	3270	

Table 21 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
ALL OPERATIONS
1975 - 1982

Year	Accidents	Fatal Accidents	Fatalities: Total	Fatalities: Aboard General Aviation Aircraft
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	3231	589	1182	1166

Year	Hours Flown	Accident Rate per 100,000 Aircraft 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	10.07	1.84

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

Table 22 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
ALL OPERATIONS
1982 AND 1977 - 1981

Type of Occurrence*	1982 No.	1982 Percent	1977 - 1981 Mean	1977 - 1981 Percent
Loss of power	847	25.9	958.2	24.7
Collision with object/terrain	715	21.9	934.2	24.1
Loss of control - in flight	311	9.5	517.0	13.3
Loss of control - on ground	348	10.6	437.0	11.3
Hard landing	185	5.7	245.2	6.3
Miscellaneous	157	4.8	176.2	4.5
Airframe/component/system fail/malf	127	3.9	124.4	3.2
Nose over/down	62	1.9	121.4	3.1
Undershoot	97	3.0	121.0	3.1
Gear collapsed/retracted	79	2.4	88.6	2.3
Midair collision	53	1.6	55.6	1.4
(All other types)	289	8.8	101.4	2.6
Total	3270	100.0	3880.2	100.0

* Type of Occurrence is an accident classification mechanism created to enable comparisons between 1982 Occurrences and pre-1982 Accident Types in this table and in other tables entitled "Most Prevalent First Occurrences ...". For a full explanation of the rationale behind the development of the "historical comparison categories" listed under Type of Occurrence above, see the description of "Occurrences" in Appendix A, Explanatory Notes.

Table 23 - MOST PREVALENT FIRST OCCURRENCES IN FATAL ACCIDENTS
ALL OPERATIONS
1982 AND 1977 - 1981

	1982		1977 - 1981	
Type of Occurrence	No.	Percent	Mean	Percent
Loss of control - in flight	123	20.3	233.0	34.7
Collision with object/terrain	177	29.3	222.8	33.2
Loss of power	76	12.6	83.4	12.4
Airframe/component/system fail/malf	23	3.8	49.8	7.4
Midair collision	33	5.5	31.4	4.7
Missing aircraft	6	1.0	10.4	1.5
Undershoot	8	1.3	8.0	1.2
(All other types)	159	26.3	33.2	4.9
Total	605	100.0	672.0	100.0

Table 24 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
ALL OPERATIONS
1982 AND 1977 - 1981

	1982		1977 - 1981	
Phase of Operation	No.	Percent	Mean	Percent
Landing	881	26.9	1092.0	28.1
Takeoff	682	20.9	772.2	19.9
Cruise	556	17.0	564.2	14.5
Approach	394	12.0	503.0	13.0
Maneuvering	402	12.3	498.2	12.8
Descent	82	2.5	178.6	4.6
Taxi	109	3.3	120.8	3.1
Climb	79	2.4	97.8	2.5
Other	61	1.9	29.2	.8
Standing	24	.7	24.2	.6
Total	3270	100.0	3880.2	100.0

Table 25 - MOST PREVALENT FIRST PHASES OF OPERATION IN FATAL ACCIDENTS
ALL OPERATIONS
1982 AND 1977 - 1981

	1982		1977 - 1981	
Phase of Operation	No.	Percent	Mean	Percent
Maneuvering	146	24.1	167.8	25.0
Cruise	181	29.9	135.6	20.2
Descent	16	2.6	107.0	15.9
Approach	85	14.0	103.8	15.4
Takeoff	94	15.5	85.8	12.8
Climb	23	3.8	28.8	4.3
Other	43	7.1	20.8	3.1
Landing	14	2.3	17.0	2.5
Standing	2	.3	4.2	.6
Taxi	1	.2	1.2	.2
Total	605	100.0	672.0	100.0

Table 26 - BROAD CAUSE/FACTOR ASSIGNMENTS IN ALL ACCIDENTS
ALL OPERATIONS
1982 AND 1977 - 1981

	1982		1977 - 1981	
Broad Cause/Factor	No.	Percent	Mean	Percent
Pilot	2646	80.9	3105.2	80.0
Weather	999	30.6	869.8	22.4
Terrain	1116	34.1	798.0	20.6
Powerplant	724	22.1	582.6	15.0
Personnel	282	8.6	371.2	9.6
Airport/Airways/Facilities	166	5.1	285.2	7.4
Miscellaneous	1049	32.1	160.6	4.1
Landing Gear	269	8.2	135.8	3.5
Undetermined	263	8.0	87.0	2.2
Systems	62	1.9	57.8	1.5
Airframe	132	4.0	47.4	1.2
Rotorcraft	41	1.3	40.6	1.0
Instruments/Equipment/Accessories	31	.9	18.6	.5
Number of Aircraft	3270		3880.2	

Table 27 - BROAD CAUSE/FACTOR ASSIGNMENTS IN FATAL ACCIDENTS
ALL OPERATIONS
1982 AND 1977 - 1981

	1982		1977 - 1981	
Broad Cause/Factor	No.	Percent	Mean	Percent
Pilot	548	90.6	577.2	85.9
Weather	253	41.8	261.4	38.9
Personnel	70	11.6	79.0	11.8
Terrain	153	25.3	69.8	10.4
Powerplant	69	11.4	52.4	7.8
Undetermined	53	8.8	51.4	7.6
Miscellaneous	233	38.5	26.0	3.9
Airframe	34	5.6	25.8	3.8
Airport/Airways/Facilities	11	1.8	8.8	1.3
Systems	10	1.7	8.6	1.3
Rotorcraft	11	1.8	7.8	1.2
Instruments/Equipment/Accessories	5	.8	5.6	.8
Landing Gear	3	.5	.4	.1
Number of Aircraft	605		672.0	

Table 28 - SUMMARY OF LOSSES
ALL FIXED WING AIRCRAFT
1980 - 1982

	1982	1981	1980
Accidents			
Fatal	537	610	569
Involved Serious Injury	277	293	334
Involved Minor Injury	370	482	444
Involved No Injury	1699	1776	1886
Total	2883	3161	3233
Fatalities			
Passenger	527	545	568
Crew	562	645	594
Other Persons	11	18	6
Total	1100	1208	1168
Aircraft Damaged*			
Destroyed	873	1016	917
Substantial	2013	2158	2324
Minor	15	14	12
None	11	1	10
Unknown	6	1	0
Total	2918	3190	3263

* Number of Fixed Wing, General Aviation Aircraft

Table 29 - PERSONS BY ROLE AND DEGREE OF INJURY
ALL FIXED WING AIRCRAFT
1982

Role of Person	Degree of Injury: Fatal	Serious	Minor	None	Total
Pilot	513	250	336	1805	2904
Copilot	32	8	6	46	92
Dual student	9	7	11	87	114
Instructor	1	2	5	15	23
Flight engineer	0	0	0	2	2
Loadmaster	0	0	0	1	1
Other cockpit crew	4	2	1	7	14
Cabin crew	3	0	2	11	16
Passenger	527	244	297	1362	2430
Total aboard	1089	513	658	3336	5596
Other aircraft*	4	0	1	8	13
Other ground	7	9	12	9	37
Grand total	1100	522	671	3353	5646
Percent	19.5	9.2	11.9	59.4	

* 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 30 - PERSONS ABOARD BY KIND OF FLYING AND DEGREE OF INJURY
ALL FIXED WING AIRCRAFT
1982

Kind of Flying	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Personal	777	349	466	2165	3757
Business	142	42	56	295	535
Corporate/Executive	19	5	9	81	114
Aerial application	15	27	21	155	218
Instructional	29	39	60	418	546
Other	107	51	46	222	426
Total	1089	513	658	3336	5596
Percent	19.5	9.2	11.8	59.6	

Table 31 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
ALL FIXED WING AIRCRAFT
1982

Type of first occurrence	Degree of injury: Fatal	Serious	Minor	None	Aircraft: No.	Percent
Abrupt maneuver	0	1	1	2	4	0.1
Airframe/component/system failure/malfunction	13	6	14	52	85	2.9
Ditching	0	0	0	1	1	0.0
Dragged wing, rotor, pod, or float	0	0	0	3	3	0.1
Fire/explosion	0	1	0	2	3	0.1
Fire	4	1	2	10	17	0.6
Explosion	0	0	0	2	2	0.1
Forced landing	0	0	1	1	2	0.1
Gear collapsed	1	0	0	7	8	0.3
Main gear collapsed	0	0	1	39	40	1.4
Nose gear collapsed	0	0	1	15	16	0.5
Complete gear collapsed	0	0	1	13	14	0.5
Other gear collapsed	0	0	0	1	1	0.0
Hard landing	3	7	10	145	165	5.7
In flight collision with object	70	38	29	106	243	8.3
In flight collision with terrain	92	25	13	105	235	8.1
In flight encounter with weather	127	19	14	47	207	7.1
Loss of control - in flight	113	40	35	73	261	8.9
Loss of control - on ground	4	6	40	291	341	11.7
Midair collision	31	6	2	10	49	1.7
Near collision between aircraft	2	0	0	2	4	0.1
Nose down	0	0	0	3	3	0.1
Nose over	1	1	3	53	58	2.0
On ground collision with object	1	2	7	86	96	3.3
On ground collision with terrain	1	3	2	50	56	1.9
On ground encounter with weather	0	1	1	4	6	0.2
Overrun	1	10	16	89	116	4.0
Loss of power	19	26	51	125	221	7.6
Loss of power(total) - mech failure/malfunction	10	21	23	75	129	4.4
Loss of power(partial) - mech failure/malfunction	6	7	17	40	70	2.4
Loss of power(total) - non-mechanical	30	42	68	163	303	10.4
Loss of power(partial) - non-mechanical	2	4	5	18	29	1.0
Propeller blast or jet exhaust/suction	0	0	0	1	1	0.0
Propeller/rotor contact	2	4	0	0	6	0.2
Roll over	0	0	0	2	2	0.1
Undershoot	7	4	14	67	92	3.2
Undetermined	4	0	0	0	4	0.1
Vortex turbulence encountered	0	2	0	1	3	0.1

Table 31 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY (Continued)
ALL FIXED WING AIRCRAFT
1982

Type of first occurrence	Degree of injury: Fatal	Serious	Minor	None	Aircraft: No.	Percent
Missing aircraft	6	0	0	0	6	0.2
Miscellaneous/other	2	2	2	10	16	0.5
Aircraft						
Number -	552	279	373	1714	2918	
Percent -	18.9	9.6	12.8	58.7		

Table 32 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
ALL FIXED WING AIRCRAFT
1982

Phase of operation	Aircraft damage					Aircraft	
	Destr	Subst	Minor	None	Nrept	No.	Percent
Standing	1	2	1	1	0	5	0.2
Standing - starting engine(s)	1	1	0	2	0	4	0.1
Standing - engine(s) operating	1	4	1	3	0	9	0.3
Taxi	2	15	1	0	0	18	0.6
Taxi - to takeoff	2	28	3	1	0	34	1.2
Taxi - from landing	2	48	1	0	0	51	1.7
Takeoff	9	60	1	0	0	70	2.4
Takeoff - ground run	25	115	1	0	0	141	4.8
Takeoff - initial climb	155	250	0	1	1	407	13.9
Climb	10	14	0	0	0	24	0.8
Climb - to cruise	25	25	0	0	0	50	1.7
Cruise	37	35	0	0	0	72	2.5
Cruise - normal	175	228	1	1	2	407	13.9
Cruise - holding(IFR)	1	0	0	0	0	1	0.0
Descent	6	7	0	0	0	13	0.4
Descent - normal	19	42	0	0	1	62	2.1
Descent - emergency	0	1	0	0	0	1	0.0
Descent - uncontrolled	3	0	0	0	0	3	0.1
Approach	24	26	0	0	0	50	1.7
Approach - VFR pattern - downwind	7	13	0	0	0	20	0.7
Approach - VFR pattern - base turn	4	5	0	0	0	9	0.3
Approach - VFR pattern - base to final	8	12	0	0	0	20	0.7
Approach - VFR pattern - final approach	31	153	3	1	0	188	6.4
Approach - go-around (VFR)	11	31	0	0	0	42	1.4
Approach - IAF to FAF/outer marker (IFR)	5	1	0	0	0	6	0.2
Approach - FAF/outer marker to threshold (IFR)	8	8	0	0	0	16	0.5

Table 32 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE (Continued)
ALL FIXED WING AIRCRAFT
1982

Phase of operation	Aircraft damage					Aircraft	
	Destr	Subst	Minor	None	Nrept	No.	Percent
Approach - circling(IFR)	3	3	0	0	0	6	0.2
Approach - missed approach (IFR)	6	3	0	0	0	9	0.3
Landing	12	48	0	0	0	60	2.1
Landing - flare/touchdown	31	311	1	0	0	343	11.8
Landing - roll	25	377	0	0	0	402	13.8
Maneuvering	127	65	1	0	0	193	6.6
Maneuvering - aerial application	50	48	0	1	0	99	3.4
Maneuvering - turn to reverse direction	10	10	0	0	0	20	0.7
Maneuvering - turn to landing area (emergency)	2	3	0	0	0	5	0.2
Other	6	3	0	0	0	9	0.3
Unknown	29	18	0	0	2	49	1.7
Aircraft							
Number -	873	2013	15	11	6	2918	
Percent -	29.9	69.0	0.5	0.4	0.2		

Table 33 - AIRCRAFT BY CONDITION OF LIGHT AND TYPE OF WEATHER
ALL FIXED WING AIRCRAFT
1982

Condition of light	Type of Weather			Aircraft	
	VMC	IMC	Nrept	No.	Percent
Dawn	23	4	0	27	0.9
Daylight	2227	134	25	2386	81.8
Night (dark)	185	92	13	290	9.9
Night (bright)	40	2	1	43	1.5
Dusk	123	24	5	152	5.2
Not reported	8	1	11	20	0.7
Aircraft					
Number -	2606	257	55	2918	
Percent -	89.3	8.8	1.9		

Table 34 - AIRCRAFT BY PROXIMITY TO AIRPORT AND FLIGHT PLAN
ALL FIXED WING AIRCRAFT
1982

Proximity to Airport	Type of Flight Plan					Aircraft	
	VFR	IFR	VFR/IFR	None	Other	No.	Percent
On Airport	126	106	2	998	10	1242	42.6
On Airstrip	4	1	0	141	2	148	5.1
Within 5 NM	46	49	0	532	4	631	21.6
5 NM or Greater	98	54	1	688	4	845	29.0
Other	6	4	0	41	1	52	1.8
Number of Aircraft	280	214	3	2400	21	2918	
Percent	9.6	7.3	0.1	82.3	0.7		

Table 35 - MOST PREVALENT DETAILED ACCIDENT CAUSES
ALL FIXED WING AIRCRAFT
1982

Detailed Cause	Number of Aircraft	Percent of Aircraft
Directional control - Not maintained - Pilot in command	230	7.9
Undetermined	225	7.7
Airspeed - Not maintained - Pilot in command	169	5.8
Distance - Misjudged - Pilot in command	156	5.4
Fluid,fuel - Exhaustion	151	5.2
Preflight planning/preparation - Inadequate - Pilot in command	131	4.5
Unsuitable terrain - Selected - Pilot in command	117	4.0
Aircraft preflight - Inadequate - Pilot in command	116	4.0
Visual lookout - Inadequate - Pilot in command	115	3.9
Airspeed - Misjudged - Pilot in command	107	3.7
Total Number of Aircraft:	2918	

Table 36 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
ALL FIXED WING AIRCRAFT
1975 - 1982

Year	Accidents	Fatal Accidents	Fatalities: Total	Fatalities: Aboard General Aviation Aircraft
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	2883	537	1100	1089

Year	Hours Flown	Accident Rate per 100,000 Aircraft 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

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

Table 37 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
ALL FIXED WING AIRCRAFT
1982 AND 1977 - 1981

	1982		1977 - 1981	
Type of Occurrence	No.	Percent	Mean	Percent
Loss of power	752	25.8	879.0	24.9
Collision with object/terrain	630	21.6	828.6	23.5
Loss of control - in flight	261	8.9	487.2	13.8
Loss of control - on ground	341	11.7	431.8	12.2
Hard landing	165	5.7	209.8	5.9
Miscellaneous	138	4.7	164.4	4.7
Nose over/down	61	2.1	119.4	3.4
Undershoot	92	3.2	108.8	3.1
Gear collapsed/retracted	79	2.7	88.0	2.5
Airframe/component/system fail/malf	85	2.9	83.2	2.4
Midair collision	49	1.7	52.2	1.5
(All other types)	265	9.1	78.2	2.2
Total	2918	100.0	3530.6	100.0

Table 38 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
ALL FIXED WING AIRCRAFT
1982 AND 1977 - 1981

	1982		1977 - 1981	
Phase of Operation	No.	Percent	Mean	Percent
Landing	805	27.6	1017.8	28.8
Takeoff	618	21.2	718.0	20.3
Cruise	480	16.4	504.2	14.3
Approach	366	12.5	459.4	13.0
Maneuvering	317	10.9	415.4	11.8
Descent	79	2.7	165.6	4.7
Taxi	103	3.5	110.4	3.1
Climb	74	2.5	93.0	2.6
Other	58	2.0	26.6	.8
Standing	18	.6	20.2	.6
Total	2918	100.0	3530.6	100.0

Table 39 - BROAD CAUSE/FACTOR ASSIGNMENTS IN ALL ACCIDENTS
ALL FIXED WING AIRCRAFT
1982 AND 1977 - 1981

	1982		1977 - 1981	
Broad Cause/Factor	No.	Percent	Mean	Percent
Pilot	2389	81.9	2862.0	81.1
Weather	909	31.2	809.4	22.9
Terrain	1028	35.2	719.0	20.4
Powerplant	649	22.2	524.2	14.8
Personnel	246	8.4	324.8	9.2
Airport/Airways/Facilities	163	5.6	282.2	8.0
Miscellaneous	953	32.7	138.6	3.9
Landing Gear	265	9.1	134.4	3.8
Undetermined	226	7.7	74.4	2.1
Systems	56	1.9	52.6	1.5
Airframe	117	4.0	43.8	1.2
Instruments/Equipment/Accessories	22	.8	15.2	.4
Number of Aircraft	2918		3530.6	

Table 40 - SUMMARY OF LOSSES
FIXED WING AIRCRAFT - SINGLE RECIPROCATING ENGINE
1980 - 1982

	1982	1981	1980
Accidents			
Fatal	453	497	459
Involved Serious Injury	255	268	302
Involved Minor Injury	346	455	405
Involved No Injury	1492	1601	1688
Total	2546	2821	2854
Fatalities			
Passenger	387	398	404
Crew	454	509	460
Other Persons	16	12	12
Total	857	919	876
Aircraft Damaged*			
Destroyed	747	861	765
Substantial	1800	1969	2096
Minor	13	13	9
None	8	1	9
Unknown	4	0	0
Total	2572	2844	2879

* 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
1982

Kind of Flying	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Personal	668	331	441	1926	3366
Business	71	32	42	182	327
Corporate/Executive	0	0	5	4	9
Aerial application	14	26	21	151	212
Instructional	26	34	56	387	503
Other	62	36	43	151	292
Total	841	459	608	2801	4709
Percent	17.9	9.7	12.9	59.5	

Table 42 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
FIXED WING AIRCRAFT - SINGLE RECIPROCATING ENGINE
1982

Type of first occurrence	Degree of injury: Fatal	Serious	Minor	None	Aircraft: No.	Percent
Abrupt maneuver	0	1	1	2	4	0.2
Airframe/component/system failure/malfunction	10	4	12	41	67	2.6
Dragged wing, rotor, pod, or float	0	0	0	3	3	0.1
Fire/explosion	0	1	0	1	2	0.1
Fire	3	1	1	4	9	0.3
Explosion	0	0	0	1	1	0.0
Forced landing	0	0	1	1	2	0.1
Gear collapsed	1	0	0	3	4	0.2
Main gear collapsed	0	0	1	20	21	0.8
Nose gear collapsed	0	0	1	9	10	0.4
Complete gear collapsed	0	0	1	7	8	0.3
Hard landing	3	6	8	128	145	5.6
In flight collision with object	63	36	26	99	224	8.7
In flight collision with terrain	76	23	12	91	202	7.9
In flight encounter with weather	115	15	13	38	181	7.0
Loss of control - in flight	92	40	34	69	235	9.1
Loss of control - on ground	4	6	38	268	316	12.3
Midair collision	24	6	2	6	38	1.5
Near collision between aircraft	2	0	0	2	4	0.2
Nose down	0	0	0	3	3	0.1
Nose over	1	1	3	52	57	2.2
On ground collision with object	1	2	7	78	88	3.4
On ground collision with terrain	1	3	2	45	51	2.0
On ground encounter with weather	0	1	1	4	6	0.2
Overrun	1	8	16	77	102	4.0
Loss of power	12	23	46	114	195	7.6
Loss of power(total) - mech failure/malfunction	9	21	23	65	118	4.6
Loss of power(partial) - mech failure/malfunction	3	7	16	34	60	2.3
Loss of power(total) - non-mechanical	21	39	65	153	278	10.8
Loss of power(partial) - non-mechanical	2	4	3	18	27	1.0
Propeller blast or jet exhaust/suction	0	0	0	1	1	0.0
Propeller/rotor contact	2	3	0	0	5	0.2
Roll over	0	0	0	2	2	0.1
Undershoot	7	4	14	56	81	3.1
Undetermined	3	0	0	0	3	0.1
Vortex turbulence encountered	0	1	0	1	2	0.1
Missing aircraft	4	0	0	0	4	0.2
Miscellaneous/other	2	1	2	8	13	0.5

Table 42 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY (Continued)
FIXED WING AIRCRAFT - SINGLE RECIPROCATING ENGINE
1982

Type of first occurrence	Degree of injury				Aircraft	
	Fatal	Serious	Minor	None	No.	Percent
Aircraft						
Number -	462	257	349	1504	2572	
Percent -	18.0	10.0	13.6	58.5		

Table 43 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
FIXED WING AIRCRAFT - SINGLE RECIPROCATING ENGINE
1982

Phase of operation	Aircraft damage					Aircraft	
	Destr	Subst	Minor	None	Nrept	No.	Percent
Standing	0	2	1	0	0	3	0.1
Standing - starting engine(s)	1	1	0	1	0	3	0.1
Standing - engine(s) operating	1	4	1	3	0	9	0.3
Taxi	2	12	1	0	0	15	0.6
Taxi - to takeoff	2	25	3	1	0	31	1.2
Taxi - from landing	2	41	1	0	0	44	1.7
Takeoff	7	55	1	0	0	63	2.4
Takeoff - ground run	21	105	1	0	0	127	4.9
Takeoff - initial climb	128	234	0	1	1	364	14.2
Climb	10	14	0	0	0	24	0.9
Climb - to cruise	18	22	0	0	0	40	1.6
Cruise	31	34	0	0	0	65	2.5
Cruise - normal	155	205	0	0	1	361	14.0
Descent	6	7	0	0	0	13	0.5
Descent - normal	14	38	0	0	1	53	2.1
Descent - emergency	0	1	0	0	0	1	0.0
Descent - uncontrolled	3	0	0	0	0	3	0.1
Approach	17	22	0	0	0	39	1.5
Approach - VFR pattern - downwind	4	13	0	0	0	17	0.7
Approach - VFR pattern - base turn	3	4	0	0	0	7	0.3
Approach - VFR pattern - base to final	5	11	0	0	0	16	0.6
Approach - VFR pattern - final approach	27	139	2	1	0	169	6.6
Approach - go-around (VFR)	11	30	0	0	0	41	1.6
Approach - IAF to FAF/outer marker (IFR)	3	0	0	0	0	3	0.1
Approach - FAF/outer marker to threshold (IFR)	4	2	0	0	0	6	0.2
Approach - circling(IFR)	1	2	0	0	0	3	0.1

Table 43 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE (Continued)
FIXED WING AIRCRAFT - SINGLE RECIPROCATING ENGINE
1982

Phase of operation	Aircraft damage					Aircraft	
	Destr	Subst	Minor	None	Nrept	No.	Percent
Approach - missed approach (IFR)	2	0	0	0	0	2	0.1
Landing	12	48	0	0	0	60	2.3
Landing - flare/touchdown	24	265	1	0	0	290	11.3
Landing - roll	23	324	0	0	0	347	13.5
Maneuvering	119	61	1	0	0	181	7.0
Maneuvering - aerial application	50	46	0	1	0	97	3.8
Maneuvering - turn to reverse direction	9	10	0	0	0	19	0.7
Maneuvering - turn to landing area (emergency)	1	3	0	0	0	4	0.2
Other	6	3	0	0	0	9	0.3
Unknown	25	17	0	0	1	43	1.7
Aircraft							
Number -	747	1800	13	8	4	2572	
Percent -	29.0	70.0	0.5	0.3	0.2		

Table 44 - MOST PREVALENT DETAILED ACCIDENT CAUSES
FIXED WING AIRCRAFT - SINGLE RECIPROCATING ENGINE
1982

Detailed Cause	Number of Aircraft	Percent of Aircraft
Directional control - Not maintained - Pilot in command	215	8.4
Undetermined	188	7.3
Airspeed - Not maintained - Pilot in command	158	6.1
Distance - Misjudged - Pilot in command	145	5.6
Fluid,fuel - Exhaustion	140	5.4
Preflight planning/preparation - Inadequate - Pilot in command	119	4.6
Unsuitable terrain - Selected - Pilot in command	106	4.1
Aircraft preflight - Inadequate - Pilot in command	104	4.0
Visual lookout - Inadequate - Pilot in command	103	4.0
Airspeed - Misjudged - Pilot in command	99	3.8
Total Number of Aircraft:	2572	

Table 45 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
FIXED WING AIRCRAFT - SINGLE RECIPROCATING ENGINE
1975 - 1982

Year	Accidents	Fatal Accidents	Fatalities: Total	Fatalities: Aboard General Aviation Aircraft
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	2546	453	857	841

Year	Hours Flown	Accident Rate per 100,000 Aircraft 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

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

Table 46 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
FIXED WING AIRCRAFT - SINGLE RECIPROCATING ENGINE
1982 AND 1977 - 1981

	1982		1977 - 1981	
Type of Occurrence	No.	Percent	Mean	Percent
Loss of power	678	26.4	786.0	25.0
Collision with object/terrain	565	22.0	723.4	23.0
Loss of control - in flight	235	9.1	443.4	14.1
Loss of control - on ground	316	12.3	403.8	12.8
Hard landing	145	5.6	194.2	6.2
Miscellaneous	121	4.7	152.8	4.9
Nose over/down	60	2.3	117.6	3.7
Undershoot	81	3.1	96.2	3.1
Airframe/component/system fail/malf	67	2.6	71.4	2.3
Gear collapsed/retracted	43	1.7	51.2	1.6
Midair collision	38	1.5	46.6	1.5
(All other types)	223	8.7	58.6	1.9
Total	2572	100.0	3145.2	100.0

Table 47 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
FIXED WING AIRCRAFT - SINGLE RECIPROCATING ENGINE
1982 AND 1977 - 1981

	1982		1977 - 1981	
Phase of Operation	No.	Percent	Mean	Percent
Landing	697	27.1	902.0	28.7
Takeoff	554	21.5	650.4	20.7
Cruise	426	16.6	454.0	14.4
Maneuvering	301	11.7	401.0	12.7
Approach	303	11.8	390.6	12.4
Descent	70	2.7	137.0	4.4
Taxi	90	3.5	98.2	3.1
Climb	64	2.5	76.8	2.4
Other	52	2.0	18.2	.6
Standing	15	.6	17.0	.5
Total	2572	100.0	3145.2	100.0

Table 48 - SUMMARY OF LOSSES
FIXED WING AIRCRAFT - MULTIPLE RECIPROCATING ENGINES
1980 - 1982

	1982	1981	1980
Accidents			
Fatal	78	94	99
Involved Serious Injury	19	20	27
Involved Minor Injury	20	27	31
Involved No Injury	179	148	173
Total	296	289	330
Fatalities			
Passenger	114	110	137
Crew	94	108	119
Other Persons	4	2	6
Total	212	220	262
Aircraft Damaged*			
Destroyed	112	133	137
Substantial	180	156	191
Minor	1	0	2
None	2	0	1
Unknown	2	1	0
Total	297	290	331

* 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
1982

	Degree of Injury				
Kind of Flying	Fatal	Serious	Minor	None	Total
Personal	102	16	18	217	353
Business	50	9	7	91	157
Corporate/Executive	11	4	4	54	73
Instructional	3	5	4	29	41
Other	42	15	3	44	104
Total	208	49	36	435	728
Percent	28.6	6.7	4.9	59.8	

Table 50 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
FIXED WING AIRCRAFT - MULTIPLE RECIPROCATING ENGINES
1982

Type of first occurrence	Degree of injury: Fatal	Serious	Minor	None	Aircraft: No.	Percent
Airframe/component/system failure/malfunction	2	2	1	8	13	4.4
Ditching	0	0	0	1	1	0.3
Fire/explosion	0	0	0	1	1	0.3
Fire	1	0	1	6	8	2.7
Explosion	0	0	0	1	1	0.3
Gear collapsed	0	0	0	4	4	1.3
Main gear collapsed	0	0	0	18	18	6.1
Nose gear collapsed	0	0	0	6	6	2.0
Complete gear collapsed	0	0	0	6	6	2.0
Hard landing	0	1	2	14	17	5.7
In flight collision with object	7	1	2	5	15	5.1
In flight collision with terrain	13	2	1	11	27	9.1
In flight encounter with weather	12	4	1	8	25	8.4
Loss of control - in flight	18	0	0	3	21	7.1
Loss of control - on ground	0	0	2	17	19	6.4
Midair collision	4	0	0	2	6	2.0
Nose over	0	0	0	1	1	0.3
On ground collision with object	0	0	0	7	7	2.4
On ground collision with terrain	0	0	0	5	5	1.7
Overrun	0	1	0	10	11	3.7
Loss of power	7	3	5	11	26	8.8
Loss of power(total) - mech failure/malfunction	1	0	0	9	10	3.4
Loss of power(partial) - mech failure/malfunction	2	0	0	6	8	2.7
Loss of power(total) - non-mechanical	9	3	3	8	23	7.7
Loss of power(partial) - non-mechanical	0	0	2	0	2	0.7
Propeller/rotor contact	0	1	0	0	1	0.3
Undershoot	0	0	0	9	9	3.0
Undetermined	1	0	0	0	1	0.3
Vortex turbulence encountered	0	1	0	0	1	0.3
Missing aircraft	2	0	0	0	2	0.7
Miscellaneous/other	0	0	0	2	2	0.7
Aircraft						
Number -	79	19	20	179	297	
Percent -	26.6	6.4	6.7	60.3		

Table 51 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
FIXED WING AIRCRAFT - MULTIPLE RECIPROCATING ENGINES
1982

Phase of operation	Aircraft damage					Aircraft	
	Destr	Subst	Minor	None	Nrept	No.	Percent
Standing	1	0	0	0	0	1	0.3
Standing - starting engine(s)	0	0	0	1	0	1	0.3
Taxi	0	3	0	0	0	3	1.0
Taxi - to takeoff	0	3	0	0	0	3	1.0
Taxi - from landing	0	6	0	0	0	6	2.0
Takeoff	1	4	0	0	0	5	1.7
Takeoff - ground run	2	9	0	0	0	11	3.7
Takeoff - initial climb	26	15	0	0	0	41	13.8
Climb - to cruise	7	3	0	0	0	10	3.4
Cruise	5	1	0	0	0	6	2.0
Cruise - normal	19	19	0	1	1	40	13.5
Cruise - holding(IFR)	1	0	0	0	0	1	0.3
Descent - normal	4	4	0	0	0	8	2.7
Approach	7	4	0	0	0	11	3.7
Approach - VFR pattern - downwind	3	0	0	0	0	3	1.0
Approach - VFR pattern - base turn	0	1	0	0	0	1	0.3
Approach - VFR pattern - base to final	3	1	0	0	0	4	1.3
Approach - VFR pattern - final approach	4	11	1	0	0	16	5.4
Approach - go-around (VFR)	0	1	0	0	0	1	0.3
Approach - IAF to FAF/outer marker (IFR)	2	1	0	0	0	3	1.0
Approach - FAF/outer marker to threshold (IFR)	4	6	0	0	0	10	3.4
Approach - circling(IFR)	1	0	0	0	0	1	0.3
Approach - missed approach (IFR)	4	3	0	0	0	7	2.4
Landing - flare/touchdown	5	39	0	0	0	44	14.8
Landing - roll	2	44	0	0	0	46	15.5
Maneuvering	7	1	0	0	0	8	2.7

Table 51 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE (Continued)
FIXED WING AIRCRAFT - MULTIPLE RECIPROCATING ENGINES
1982

Phase of operation	Aircraft damage					Aircraft	
	Destr	Subst	Minor	None	Nrept	No.	Percent
Maneuvering - turn to reverse direction	1	0	0	0	0	1	0.3
Unknown	3	1	0	0	1	5	1.7
Aircraft							
Number -	112	180	1	2	2	297	
Percent -	37.7	60.6	0.3	0.7	0.7		

Table 52 - MOST PREVALENT DETAILED ACCIDENT CAUSES
FIXED WING AIRCRAFT - MULTIPLE RECIPROCATING ENGINES
1982

Detailed Cause	Number of Aircraft	Percent of Aircraft
Undetermined	33	11.1
Aircraft preflight - Inadequate - Pilot in command	12	4.0
Directional control - Not maintained - Pilot in command	11	3.7
Fluid,fuel - Exhaustion	11	3.7
Preflight planning/preparation - Inadequate - Pilot in command	11	3.7
Fluid,fuel - Starvation	10	3.4
Airspeed - Not maintained - Pilot in command	10	3.4
Emergency procedure - Improper - Pilot in command	10	3.4
In-flight planning/decision - Improper - Pilot in command	10	3.4
VFR flight into IMC - Continued - Pilot in command	10	3.4
Total Number of Aircraft:	297	

Table 53 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
FIXED WING AIRCRAFT - MULTIPLE RECIPROCATING ENGINE
1975 - 1982

Year	Accidents	Fatal Accidents	Fatalities: Total	Fatalities: Aboard General Aviation Aircraft
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	296	78	212	208

Year	Hours Flown	Accident Rate per 100,000 Aircraft 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

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

Table 54 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
FIXED WING AIRCRAFT - MULTIPLE RECIPROCATING ENGINES
1982 AND 1977 - 1981

	1982		1977 - 1981	
Type of Occurrence	No.	Percent	Mean	Percent
Collision with object/terrain	54	18.2	90.4	27.0
Loss of power	69	23.2	85.6	25.6
Loss of control - in flight	21	7.1	36.6	10.9
Gear collapsed/retracted	34	11.4	33.8	10.1
Loss of control - on ground	19	6.4	23.0	6.9
Hard landing	17	5.7	12.8	3.8
Undershoot	9	3.0	10.4	3.1
Miscellaneous	13	4.4	10.0	3.0
Fire/explosion	10	3.4	9.2	2.7
Airframe/component/system fail/malf	13	4.4	8.0	2.4
Midair collision	6	2.0	4.8	1.4
(All other types)	32	10.8	10.0	3.0
Total	297	100.0	334.6	100.0

Table 55 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
FIXED WING AIRCRAFT - MULTIPLE RECIPROCATING ENGINES
1982 AND 1977 - 1981

	1982		1977 - 1981	
Phase of Operation	No.	Percent	Mean	Percent
Landing	90	30.3	100.4	30.0
Takeoff	57	19.2	59.8	17.9
Approach	57	19.2	57.8	17.3
Cruise	47	15.8	45.6	13.6
Descent	8	2.7	24.2	7.2
Climb	10	3.4	14.0	4.2
Taxi	12	4.0	11.6	3.5
Maneuvering	9	3.0	11.2	3.3
Other	5	1.7	8.0	2.4
Standing	2	.7	2.0	.6
Total	297	100.0	334.6	100.0

Table 56 - SUMMARY OF LOSSES
FIXED WING AIRCRAFT - TURBOPROP
1980 - 1982

	1982	1981	1980
Accidents			
Fatal	9	17	11
Involved Serious Injury	2	4	4
Involved Minor Injury	4	0	6
Involved No Injury	23	28	20
Total	38	49	41
Fatalities			
Passenger	22	27	25
Crew	11	21	10
Other Persons	4	13	3
Total	37	61	38
Aircraft Damaged*			
Destroyed	12	19	12
Substantial	26	30	28
Minor	0	0	1
None	0	0	0
Unknown	0	0	0
Total	38	49	41

* Number of Turboprop General Aviation Airplanes

Table 57 - PERSONS ABOARD BY KIND OF FLYING AND DEGREE OF INJURY
FIXED WING AIRCRAFT - TURBOPROP
1982

Kind of Flying	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Personal	7	2	7	13	29
Business	14	0	7	19	40
Corporate/Executive	8	1	0	13	22
Aerial application	1	1	0	4	6
Instructional	0	0	0	2	2
Other	3	0	0	9	12
Total	33	4	14	60	111
Percent	29.7	3.6	12.6	54.1	

Table 58 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
FIXED WING AIRCRAFT - TURBOPROP
1982

Type of first occurrence	Degree of injury: Fatal	Serious	Minor	None	Aircraft: No.	Percent
Airframe/component/system failure/malfunction	1	0	1	2	4	10.5
Main gear collapsed	0	0	0	1	1	2.6
Other gear collapsed	0	0	0	1	1	2.6
Hard landing	0	0	0	3	3	7.9
In flight collision with object	0	1	1	2	4	10.5
In flight collision with terrain	3	0	0	2	5	13.2
In flight encounter with weather	0	0	0	1	1	2.6
Loss of control - in flight	1	0	1	0	2	5.3
Loss of control - on ground	0	0	0	5	5	13.2
Midair collision	3	0	0	0	3	7.9
On ground collision with object	0	0	0	1	1	2.6
Overrun	0	1	0	1	2	5.3
Loss of power(total) - mech failure/malfunction	0	0	0	1	1	2.6
Loss of power(partial) - mech failure/malfunction	1	0	1	0	2	5.3
Loss of power(total) - non-mechanical	0	0	0	2	2	5.3
Undershoot	0	0	0	1	1	2.6
Aircraft						
Number -	9	2	4	23	38	
Percent -	23.7	5.3	10.5	60.5		

Table 59 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
FIXED WING AIRCRAFT - TURBOPROP
1982

Phase of operation	Aircraft damage		Aircraft	
	Destr	Subst	No.	Percent
Taxi - from landing	0	1	1	2.6
Takeoff	0	1	1	2.6
Takeoff - ground run	2	1	3	7.9
Takeoff - initial climb	1	1	2	5.3
Cruise	1	0	1	2.6
Cruise - normal	1	3	4	10.5
Approach - VFR pattern - base turn	1	0	1	2.6
Approach - VFR pattern - final approach	0	1	1	2.6
Approach - circling(IFR)	1	1	2	5.3
Landing - flare/touchdown	2	6	8	21.1
Landing - roll	0	7	7	18.4
Maneuvering	1	2	3	7.9
Maneuvering - aerial application	0	2	2	5.3
Maneuvering - turn to landing area (emergency)	1	0	1	2.6
Unknown	1	0	1	2.6
Aircraft				
Number -	12	26	38	
Percent -	31.6	68.4		

Table 60 - MOST PREVALENT DETAILED ACCIDENT CAUSES
FIXED WING AIRCRAFT - TURBOPROP
1982

Detailed Cause	Number of Aircraft	Percent of Aircraft
Visual lookout - Inadequate - Pilot in command	4	10.5
Undetermined	3	7.9
Directional control - Not maintained - Pilot in command	3	7.9
Visual lookout - Inadequate - Pilot of other aircraft	3	7.9
Proper altitude - Not maintained - Pilot in command	2	5.3
Altitude - Misjudged - Pilot in command	2	5.3
Airspeed - Misjudged - Pilot in command	2	5.3
Procedures/directives - Not followed - Pilot in command	2	5.3
Unsuitable terrain - Selected - Pilot in command	2	5.3
Distance - Misjudged - Pilot in command	2	5.3
Propeller - Improper use of - Pilot in command	2	5.3
Total Number of Aircraft:	38	

Table 61 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
FIXED WING AIRCRAFT - TURBOPROP
1975 - 1982

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

		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

Table 62 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
FIXED WING AIRCRAFT - TURBOPROP
1982 AND 1977 - 1981

	1982		1977 - 1981	
Type of Occurrence	No.	Percent	Mean	Percent
Collision with object/terrain	10	26.3	11.6	30.7
Loss of power	5	13.2	6.8	18.0
Loss of control - in flight	2	5.3	5.4	14.3
Loss of control - on ground	5	13.2	3.4	9.0
Gear collapsed/retracted	2	5.3	2.8	7.4
Airframe/component/system fail/malf	4	10.5	2.6	6.9
Hard landing	3	7.9	1.8	4.8
Undershoot	1	2.6	1.2	3.2
Prop/rotor contact	0	.0	.8	2.1
Midair collision	3	7.9	.6	1.6
Encounter with weather/turbulence	1	2.6	.4	1.1
(All other types)	2	5.3	.4	1.1
Total	38	100.0	37.8	100.0

Table 63 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
FIXED WING AIRCRAFT - TURBOPROP
1982 AND 1977 - 1981

	1982		1977 - 1981	
Phase of Operation	No.	Percent	Mean	Percent
Landing	15	39.5	11.2	29.6
Approach	4	10.5	7.6	20.1
Takeoff	6	15.8	5.4	14.3
Cruise	5	13.2	4.2	11.1
Descent	0	.0	3.2	8.5
Maneuvering	6	15.8	2.8	7.4
Climb	0	.0	1.6	4.2
Standing	0	.0	1.0	2.6
Taxi	1	2.6	.6	1.6
Other	1	2.6	.2	.5
Total	38	100.0	37.8	100.0

Table 64 - SUMMARY OF LOSSES
FIXED WING AIRCRAFT - TURBOJET
1980 - 1982

	1982	1981	1980
Accidents			
Fatal	2	4	3
Involved Serious Injury	1	1	1
Involved Minor Injury	0	0	2
Involved No Injury	7	2	6
Total	10	7	12
Fatalities			
Passenger	4	10	2
Crew	3	7	5
Other Persons	0	0	0
Total	7	17	7
Aircraft Damaged*			
Destroyed	2	3	3
Substantial	7	3	9
Minor	1	1	0
None	1	0	0
Unknown	0	0	0
Total	11	7	12

* Number of Turbojet General Aviation Airplanes

Table 65 - PERSONS ABOARD BY KIND OF FLYING AND DEGREE OF INJURY
FIXED WING AIRCRAFT - TURBOJET
1982

Kind of Flying	Degree of Injury: Fatal	Serious	Minor	None	Total
Personal	0	0	0	9	9
Business	7	1	0	3	11
Corporate/Executive	0	0	0	10	10
Other	0	0	0	18	18
Total	7	1	0	40	48
Percent	14.6	2.1	.0	83.3	

Table 66 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
FIXED WING AIRCRAFT - TURBOJET
1982

Type of first occurrence	Degree of injury: Fatal	Serious	None	Aircraft: No.	Percent
Airframe/component/system failure/malfunction	0	0	1	1	9.1
In flight collision with terrain	0	0	1	1	9.1
Loss of control - in flight	2	0	1	3	27.3
Loss of control - on ground	0	0	1	1	9.1
Midair collision	0	0	2	2	18.2
Overrun	0	0	1	1	9.1
Undershoot	0	0	1	1	9.1
Miscellaneous/other	0	1	0	1	9.1
Aircraft					
Number -	2	1	8	11	
Percent -	18.2	9.1	72.7		

Table 67 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
FIXED WING AIRCRAFT - TURBOJET
1982

Phase of operation	Aircraft damage				Aircraft	
	Destr	Subst	Minor	None	No.	Percent
Standing	0	0	0	1	1	9.1
Takeoff	1	0	0	0	1	9.1
Cruise - normal	0	1	1	0	2	18.2
Descent - normal	1	0	0	0	1	9.1
Approach - VFR pattern - final approach	0	2	0	0	2	18.2
Landing - flare/touchdown	0	1	0	0	1	9.1
Landing - roll	0	2	0	0	2	18.2
Maneuvering	0	1	0	0	1	9.1
Aircraft						
Number -	2	7	1	1	11	
Percent -	18.2	63.6	9.1	9.1		

Table 68 - MOST PREVALENT DETAILED ACCIDENT CAUSES
FIXED WING AIRCRAFT - TURBOJET
1982

Detailed Cause	Number of Aircraft	Percent of Aircraft
Wing,winglet - Failure,total	1	9.1
Flight control,elevator - Jammed	1	9.1
Horizontal stabilizer surface - Distorted	1	9.1
Flight and navigation instruments - Improper use of - Pilot in command	1	9.1
Wrong runway - Selected - Pilot in command	1	9.1
Maintenance,installation - Improper - Other maintenance psnl	1	9.1
Airplane handling - Improper - Pilot in command	1	9.1
Airplane handling - Improper - Pilot of other aircraft	1	9.1
Airplane handling - Improper - Unqualified person	1	9.1
Airplane handling - Not maintained - Pilot in command	1	9.1
Clearance - Inaccurate - Pilot in command	1	9.1
Clearance - Misjudged - Pilot in command	1	9.1
Clearance - Not maintained - Pilot in command	1	9.1
Clearance - Not maintained - Pilot of other aircraft	1	9.1
Proper touchdown point - Not attained - Pilot in command	1	9.1
Directional control - Not maintained - Pilot in command	1	9.1
Supervision - Inadequate - Pilot in command	1	9.1
Undetermined	1	9.1
Material defect(inadequate quality control) - Other maintenance psnl	1	9.1
Total Number of Aircraft:	11	

Table 69 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
FIXED WING AIRCRAFT - TURBOJET
1975 - 1982

Year	Accidents	Fatal Accidents	Fatalities: Total	Fatalities: 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

Year	Hours Flown	Accident Rate per 100,000 Aircraft Hours Flown: Total	Accident Rate per 100,000 Aircraft Hours Flown: 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

Table 70 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
FIXED WING AIRCRAFT - TURBOJET
1982 AND 1977 - 1981

	1982		1977 - 1981	
Type of Occurrence	No.	Percent	Mean	Percent
Collision with object/terrain	1	9.1	3.2	24.6
Loss of control - in flight	3	27.3	1.8	13.8
Loss of control - on ground	1	9.1	1.6	12.3
Miscellaneous	2	18.2	1.4	10.8
Airframe/component/system fail/malf	1	9.1	1.2	9.2
Hard landing	0	.0	1.0	7.7
Undershoot	1	9.1	1.0	7.7
Loss of power	0	.0	.6	4.6
Fire/explosion	0	.0	.4	3.1
Dragged wing, rotor, pod, float	0	.0	.2	1.5
Gear collapsed/retracted	0	.0	.2	1.5
Midair collision	2	18.2	.2	1.5
Undetermined	0	.0	.2	1.5
Total	11	100.0	13.0	100.0

Table 71 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
FIXED WING AIRCRAFT - TURBOJET
1982 AND 1977 - 1981

	1982		1977 - 1981	
Phase of Operation	No.	Percent	Mean	Percent
Landing	3	27.3	4.2	32.3
Approach	2	18.2	3.4	26.2
Takeoff	1	9.1	2.4	18.5
Descent	1	9.1	1.2	9.2
Climb	0	.0	.6	4.6
Cruise	2	18.2	.4	3.1
Maneuvering	1	9.1	.4	3.1
Standing	1	9.1	.2	1.5
Other	0	.0	.2	1.5
Total	11	100.0	13.0	100.0

Table 72 - SUMMARY OF LOSSES
ALL ROTORCRAFT
1980 - 1982

	1982	1981	1980
Accidents			
Fatal	41	30	40
Involved Serious Injury	32	36	32
Involved Minor Injury	42	56	54
Involved No Injury	140	134	134
Total	255	256	260
Fatalities			
Passenger	16	21	20
Crew	46	31	37
Other Persons	4	3	3
Total	66	55	60
Aircraft Damaged*			
Destroyed	78	85	79
Substantial	175	171	180
Minor	2	0	0
None	1	0	1
Unknown	0	0	0
Total	256	256	260

* Number of General Aviation Rotorcraft

Table 73 - PERSONS BY ROLE AND DEGREE OF INJURY
ALL ROTORCRAFT
1982

Role of Person	Degree of Injury: Fatal	Serious	Minor	None	Total
Pilot	36	30	30	155	251
Copilot	3	1	1	1	6
Dual student	2	1	2	13	18
Instructor	1	0	2	2	5
Loadmaster	0	0	0	1	1
Other cockpit crew	1	1	2	4	8
Cabin crew	3	0	0	3	6
Passenger	16	21	30	83	150
Total aboard	62	54	67	262	445
Other ground	4	2	5	0	11
Grand total	66	56	72	262	456
Percent	14.5	12.3	15.8	57.5	

Table 74 - PERSONS ABOARD BY KIND OF FLYING AND DEGREE OF INJURY
ALL ROTORCRAFT
1982

Kind of Flying	Degree of Injury: Fatal	Serious	Minor	None	Total
Personal	20	10	7	66	103
Business	14	3	13	30	60
Corporate/Executive	1	3	1	7	12
Aerial application	0	8	12	40	60
Instructional	6	3	7	42	58
Other	21	27	27	77	152
Total	62	54	67	262	445
Percent	13.9	12.1	15.1	58.9	

Table 75 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
ALL ROTORCRAFT
1982

Type of first occurrence	Degree of injury: Fatal	Serious	Minor	None	Aircraft: No.	Percent
Airframe/component/system failure/malfunction	10	4	7	15	36	14.1
Forced landing	1	0	0	3	4	1.6
Hard landing	0	0	1	10	11	4.3
In flight collision with object	5	3	8	13	29	11.3
In flight collision with terrain	4	1	3	14	22	8.6
In flight encounter with weather	6	0	3	0	9	3.5
Loss of control - in flight	6	4	7	18	35	13.7
Loss of control - on ground	0	0	0	1	1	0.4
Nose over	0	0	0	1	1	0.4
On ground collision with object	0	0	2	0	2	0.8
Loss of power	3	8	4	15	30	11.7
Loss of power(total) - mech failure/malfunction	2	4	0	16	22	8.6
Loss of power(partial) - mech failure/malfunction	0	2	2	6	10	3.9
Loss of power(total) - non-mechanical	3	3	3	19	28	10.9
Loss of power(partial) - non-mechanical	0	0	0	1	1	0.4
Propeller/rotor contact	0	1	0	0	1	0.4
Roll over	0	1	3	4	8	3.1
Undershoot	1	0	0	0	1	0.4
Vortex turbulence encountered	0	0	0	2	2	0.8
Miscellaneous/other	0	1	0	2	3	1.2
Aircraft						
Number -	41	32	43	140	256	
Percent -	16.0	12.5	16.8	54.7		

Table 76 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
ALL ROTORCRAFT
1982

Phase of operation	Aircraft damage				Aircraft	
	Destr	Subst	Minor	None	No.	Percent
Standing	0	1	0	0	1	0.4
Standing - starting engine(s)	0	0	1	0	1	0.4
Standing - idling rotors	0	1	1	1	3	1.2
Taxi - aerial	2	4	0	0	6	2.3
Takeoff	6	3	0	0	9	3.5
Takeoff - initial climb	10	25	0	0	35	13.7
Climb - to cruise	0	1	0	0	1	0.4
Cruise	9	9	0	0	18	7.0
Cruise - normal	13	36	0	0	49	19.1
Descent	0	2	0	0	2	0.8
Approach	1	4	0	0	5	2.0
Approach - VFR pattern - downwind	1	0	0	0	1	0.4
Approach - VFR pattern - final approach	3	4	0	0	7	2.7
Landing	0	3	0	0	3	1.2
Landing - flare/touchdown	6	30	0	0	36	14.1
Maneuvering	15	7	0	0	22	8.6
Maneuvering - aerial application	6	23	0	0	29	11.3
Maneuvering - turn to reverse direction	1	2	0	0	3	1.2
Hover	3	19	0	0	22	8.6
Other	1	1	0	0	2	0.8
Unknown	1	0	0	0	1	0.4
Aircraft						
Number -	78	175	2	1	256	
Percent -	30.5	68.4	0.8	0.4		

Table 77 - AIRCRAFT BY CONDITION OF LIGHT AND TYPE OF WEATHER
ALL ROTORCRAFT
1982

Condition of light	Type of Weather			Aircraft	
	VMC	IMC	Nrept	No.	Percent
Daylight	230	11	0	241	94.1
Night (dark)	7	3	1	11	4.3
Night (bright)	2	0	0	2	0.8
Dusk	2	0	0	2	0.8
Aircraft					
Number -	241	14	1	256	
Percent -	94.1	5.5	0.4		

Table 78 - AIRCRAFT BY PROXIMITY TO AIRPORT AND FLIGHT PLAN
ALL ROTORCRAFT
1982

Proximity to Airport	Type of Flight Plan					Aircraft	
	VFR	IFR	VFR/IFR	None	Other	No.	Percent
On Airport	1	0	0	38	1	40	15.6
On Airstrip	1	0	0	8	1	10	3.9
Within 5 NM	2	0	0	42	1	45	17.6
5 NM or Greater	5	0	0	141	3	149	58.2
Other	1	0	0	11	0	12	4.7
Number of Aircraft	10	0	0	240	6	256	
Percent	3.9	0.0	0.0	93.8	2.3		

Table 79 - MOST PREVALENT DETAILED ACCIDENT CAUSES
ALL ROTORCRAFT
1982

Detailed Cause	Number of Aircraft	Percent of Aircraft
Undetermined	36	14.1
Fluid,fuel - Exhaustion	18	7.0
Clearance - Misjudged - Pilot in command	16	6.3
Aircraft preflight - Inadequate - Pilot in command	12	4.7
Altitude - Misjudged - Pilot in command	11	4.3
Rotor rpm - Not maintained - Pilot in command	10	3.9
Distance - Misjudged - Pilot in command	9	3.5
Visual lookout - Inadequate - Pilot in command	8	3.1
Supervision - Inadequate - Pilot in command(CFI)	8	3.1
Adequate rotor rpm - Not maintained - Pilot in command	8	3.1
Miscellaneous - Undetermined	8	3.1
Total Number of Aircraft:	256	

Table 80 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
ALL ROTORCRAFT
1975 - 1982

Year	Accidents	Fatal Accidents	Fatalities: 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

Year	Hours Flown	Accident Rate per 100,000 Aircraft Hours Flown: Total	Accident Rate per 100,000 Aircraft Hours Flown: 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	15.66	2.52

Table 81 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
ALL ROTORCRAFT
1982 AND 1977 - 1981

	1982		1977 - 1981	
Type of Occurrence	No.	Percent	Mean	Percent
Loss of power	91	35.5	78.6	30.0
Collision with object/terrain	53	20.7	71.2	27.2
Airframe/component/system fail/malf	36	14.1	38.8	14.8
Hard landing	11	4.3	25.8	9.8
Loss of control - in flight	35	13.7	17.4	6.6
Roll over	8	3.1	15.6	6.0
Miscellaneous	7	2.7	4.2	1.6
(All other types)	15	5.9	10.4	4.0
Total	256	100.0	262.0	100.0

Table 82 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
ALL ROTORCRAFT
1982 AND 1977 - 1981

	1982		1977 - 1981	
Phase of Operation	No.	Percent	Mean	Percent
Maneuvering	76	29.7	78.0	29.8
Cruise	67	26.2	56.6	21.6
Takeoff	44	17.2	42.4	16.2
Landing	39	15.2	41.4	15.8
Approach	13	5.1	13.6	5.2
Descent	2	.8	10.6	4.0
Taxi	6	2.3	10.0	3.8
Climb	1	.4	4.0	1.5
Standing	5	2.0	3.8	1.5
Other	3	1.2	1.6	.6
Total	256	100.0	262.0	100.0

Table 83 - BROAD CAUSE/FACTOR ASSIGNMENTS IN ALL ACCIDENTS
ALL ROTORCRAFT
1982 AND 1977 - 1981

	1982		1977 - 1981	
Broad Cause/Factor	No.	Percent	Mean	Percent
Pilot	176	68.8	168.0	64.1
Terrain	70	27.3	60.8	23.2
Powerplant	71	27.7	58.0	22.1
Rotorcraft	41	16.0	40.6	15.5
Personnel	23	9.0	35.6	13.6
Weather	54	21.1	32.6	12.4
Miscellaneous	64	25.0	17.0	6.5
Undetermined	37	14.5	10.0	3.8
Systems	3	1.2	2.2	.8
Instruments/Equipment/Accessories	4	1.6	1.6	.6
Airport/Airways/Facilities	2	.8	1.6	.6
Landing Gear	4	1.6	1.4	.5
Airframe	3	1.2	1.0	.4
Number of Aircraft	256		262.0	

Table 84 - SUMMARY OF LOSSES
ROTORCRAFT - RECIPROCATING ENGINE(S)
1980 - 1982

	1982	1981	1980
Accidents			
Fatal	20	21	22
Involved Serious Injury	14	19	22
Involved Minor Injury	27	35	35
Involved No Injury	96	103	101
Total	157	178	180
Fatalities			
Passenger	3	7	1
Crew	21	22	23
Other Persons	0	3	1
Total	24	32	25
Aircraft Damaged*			
Destroyed	40	57	53
Substantial	117	121	127
Minor	0	0	0
None	0	0	0
Unknown	0	0	0
Total	157	178	180

* Number of Reciprocating Engine, General Aviation Rotorcraft

Table 85 - PERSONS ABOARD BY KIND OF FLYING AND DEGREE OF INJURY
ROTORCRAFT - RECIPROCATING ENGINE(S)
1982

Kind of Flying	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Personal	11	6	7	47	71
Business	2	1	7	13	23
Aerial application	0	5	11	37	53
Instructional	3	3	6	34	46
Other	8	12	8	25	53
Total	24	27	39	156	246
Percent	9.8	11.0	15.9	63.4	

Table 86 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
ROTORCRAFT - RECIPROCATING ENGINE(S)
1982

Type of first occurrence	Degree of injury: Fatal	Serious	Minor	None	Aircraft: No.	Percent
Airframe/component/system failure/malfunction	6	2	3	9	20	12.7
Forced landing	1	0	0	1	2	1.3
Hard landing	0	0	1	7	8	5.1
In flight collision with object	1	2	5	9	17	10.8
In flight collision with terrain	3	1	2	13	19	12.1
In flight encounter with weather	2	0	2	0	4	2.5
Loss of control - in flight	2	2	6	12	22	14.0
Loss of control - on ground	0	0	0	1	1	0.6
Loss of power	1	3	3	8	15	9.6
Loss of power(total) - mech failure/malfunction	1	1	0	9	11	7.0
Loss of power(partial) - mech failure/malfunction	0	1	1	4	6	3.8
Loss of power(total) - non-mechanical	2	1	2	15	20	12.7
Loss of power(partial) - non-mechanical	0	0	0	1	1	0.6
Roll over	0	1	2	4	7	4.5
Undershoot	1	0	0	0	1	0.6
Vortex turbulence encountered	0	0	0	2	2	1.3
Miscellaneous/other	0	0	0	1	1	0.6
Aircraft						
Number -	20	14	27	96	157	
Percent -	12.7	8.9	17.2	61.1		

Table 87 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
ROTORCRAFT - RECIPROCATING ENGINE(S)
1982

Phase of operation	Aircraft damage		Aircraft	
	Destr	Subst	No.	Percent
Standing	0	1	1	0.6
Taxi - aerial	2	2	4	2.5
Takeoff	4	2	6	3.8
Takeoff - initial climb	7	19	26	16.6
Cruise	4	5	9	5.7
Cruise - normal	5	19	24	15.3
Descent	0	2	2	1.3
Approach	0	1	1	0.6
Approach - VFR pattern - downwind	1	0	1	0.6
Approach - VFR pattern - final approach	2	4	6	3.8
Landing	0	2	2	1.3
Landing - flare/touchdown	3	21	24	15.3
Maneuvering	9	3	12	7.6
Maneuvering - aerial application	2	22	24	15.3
Maneuvering - turn to reverse direction	0	2	2	1.3
Hover	1	12	13	8.3
Aircraft				
Number -	40	117	157	
Percent -	25.5	74.5		

Table 88 - MOST PREVALENT DETAILED ACCIDENT CAUSES
ROTORCRAFT - RECIPROCATING ENGINE(S)
1982

Detailed Cause	Number of Aircraft	Percent of Aircraft
Undetermined	15	9.5
Fluid,fuel - Exhaustion	13	8.3
Clearance - Misjudged - Pilot in command	9	5.7
Rotor rpm - Not maintained - Pilot in command	9	5.7
Aircraft preflight - Inadequate - Pilot in command	8	5.1
Supervision - Inadequate - Pilot in command(CFI)	7	4.5
Miscellaneous - Undetermined	7	4.5
Altitude - Misjudged - Pilot in command	6	3.8
Compensation for wind conditions - Improper - Pilot in command	6	3.8
In-flight planning/decision - Improper - Pilot in command	6	3.8
Total Number of Aircraft:	157	

Table 89 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
ROTORCRAFT - RECIPROCATING ENGINE(S)
1975 - 1982

			Fatalities	
Year	Accidents	Fatal Accidents	Total	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

		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	27.54	3.51

Table 90 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
ROTORCRAFT - RECIPROCATING ENGINE(S)
1982 AND 1977 - 1981

	1982		1977 - 1981	
Type of Occurrence	No.	Percent	Mean	Percent
Loss of power	53	33.8	56.2	29.4
Collision with object/terrain	36	22.9	53.6	28.0
Airframe/component/system fail/malf	20	12.7	29.4	15.4
Hard landing	8	5.1	19.4	10.1
Loss of control - in flight	22	14.0	13.0	6.8
Roll over	7	4.5	11.0	5.8
(All other types)	11	7.0	8.6	4.5
Total	157	100.0	191.2	100.0

Table 91 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
ROTORCRAFT - RECIPROCATING ENGINE(S)
1982 AND 1977 - 1981

	1982		1977 - 1981	
Phase of Operation	No.	Percent	Mean	Percent
Maneuvering	51	32.5	62.4	32.6
Cruise	33	21.0	35.6	18.6
Takeoff	32	20.4	32.8	17.2
Landing	26	16.6	30.8	16.1
Approach	8	5.1	10.0	5.2
Taxi	4	2.5	7.2	3.8
Descent	2	1.3	6.6	3.5
Climb	0	.0	3.2	1.7
Standing	1	.6	1.4	.7
Other	0	.0	1.2	.6
Total	157	100.0	191.2	100.0

Table 92 - SUMMARY OF LOSSES
ROTORCRAFT - TURBINE POWERED
1980 - 1982

	1982	1981	1980
Accidents			
Fatal	21	9	18
Involved Serious Injury	18	17	10
Involved Minor Injury	15	21	19
Involved No Injury	44	31	33
Total	98	78	80
Fatalities			
Passenger	13	14	19
Crew	25	9	14
Other Persons	4	0	2
Total	42	23	35
Aircraft Damaged*			
Destroyed	38	28	26
Substantial	58	50	53
Minor	2	0	0
None	1	0	1
Unknown	0	0	0
Total	99	78	80

* Number of Turbine Powered, General Aviation Rotorcraft

Table 93 - PERSONS ABOARD BY KIND OF FLYING AND DEGREE OF INJURY
ROTORCRAFT - TURBINE POWERED
1982

Kind of Flying	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Personal	9	4	0	19	32
Business	12	2	6	17	37
Corporate/Executive	1	3	1	7	12
Aerial application	0	3	1	3	7
Instructional	3	0	1	8	12
Other	13	15	19	52	99
Total	38	27	28	106	199
Percent	19.1	13.6	14.1	53.3	

Table 94 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
ROTORCRAFT - TURBINE POWERED
1982

Type of first occurrence	Degree of injury: Fatal	Serious	Minor	None	Aircraft: No.	Percent
Airframe/component/system failure/malfunction	4	2	4	6	16	16.2
Forced landing	0	0	0	2	2	2.0
Hard landing	0	0	0	3	3	3.0
In flight collision with object	4	1	3	4	12	12.1
In flight collision with terrain	1	0	1	1	3	3.0
In flight encounter with weather	4	0	1	0	5	5.1
Loss of control - in flight	4	2	1	6	13	13.1
Nose over	0	0	0	1	1	1.0
On ground collision with object	0	0	2	0	2	2.0
Loss of power	2	5	1	7	15	15.2
Loss of power(total) - mech failure/malfunction	1	3	0	7	11	11.1
Loss of power(partial) - mech failure/malfunction	0	1	1	2	4	4.0
Loss of power(total) - non-mechanical	1	2	1	4	8	8.1
Propeller/rotor contact	0	1	0	0	1	1.0
Roll over	0	0	1	0	1	1.0
Miscellaneous/other	0	1	0	1	2	2.0
Aircraft						
Number -	21	18	16	44	99	
Percent -	21.2	18.2	16.2	44.4		

Table 95 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
ROTORCRAFT - TURBINE POWERED
1982

Phase of operation	Aircraft damage				Aircraft	
	Destr	Subst	Minor	None	No.	Percent
Standing - starting engine(s)	0	0	1	0	1	1.0
Standing - idling rotors	0	1	1	1	3	3.0
Taxi - aerial	0	2	0	0	2	2.0
Takeoff	2	1	0	0	3	3.0
Takeoff - initial climb	3	6	0	0	9	9.1
Climb - to cruise	0	1	0	0	1	1.0
Cruise	5	4	0	0	9	9.1
Cruise - normal	8	17	0	0	25	25.3
Approach	1	3	0	0	4	4.0
Approach - VFR pattern - final approach	1	0	0	0	1	1.0
Landing	0	1	0	0	1	1.0
Landing - flare/touchdown	3	9	0	0	12	12.1
Maneuvering	6	4	0	0	10	10.1
Maneuvering - aerial application	4	1	0	0	5	5.1
Maneuvering - turn to reverse direction	1	0	0	0	1	1.0
Hover	2	7	0	0	9	9.1
Other	1	1	0	0	2	2.0
Unknown	1	0	0	0	1	1.0
Aircraft						
Number -	38	58	2	1	99	
Percent -	38.4	58.6	2.0	1.0		

Table 96 - MOST PREVALENT DETAILED ACCIDENT CAUSES
ROTORCRAFT - TURBINE POWERED
1982

Detailed Cause	Number of Aircraft	Percent of Aircraft
Undetermined	21	21.2
Clearance - Misjudged - Pilot in command	7	7.1
Distance - Misjudged - Pilot in command	5	5.1
Altitude - Misjudged - Pilot in command	5	5.1
Fluid,fuel - Exhaustion	5	5.1
Aircraft preflight - Inadequate - Pilot in command	4	4.0
Adequate rotor rpm - Not maintained - Pilot in command	3	3.0
Visual lookout - Inadequate - Pilot in command	3	3.0
Preflight planning/preparation - Inadequate - Pilot in command	3	3.0
VFR flight into IMC - Continued - Pilot in command	3	3.0
Total Number of Aircraft:	99	

Table 97 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
ROTORCRAFT - TURBINE POWERED
1975 - 1982

Year	Accidents	Fatal Accidents	Fatalities: 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

Year	Hours Flown	Accident Rate per 100,000 Aircraft Hours Flown: Total	Accident Rate per 100,000 Aircraft Hours Flown: 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

Table 98 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
ROTORCRAFT - TURBINE POWERED
1982 AND 1977 - 1981

	1982		1977 - 1981	
Type of Occurrence	No.	Percent	Mean	Percent
Loss of power	38	38.4	22.4	31.6
Collision with object/terrain	17	17.2	17.6	24.9
Airframe/component/system fail/malf	16	16.2	9.4	13.3
Hard landing	3	3.0	6.4	9.0
Roll over	1	1.0	4.6	6.5
Loss of control - in flight	13	13.1	4.4	6.2
Miscellaneous	4	4.0	2.4	3.4
Midair collision	0	.0	1.0	1.4
Prop/rotor contact	1	1.0	1.0	1.4
(All other types)	6	6.1	1.6	2.3
Total	99	100.0	70.8	100.0

Table 99 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
ROTORCRAFT - TURBINE POWERED
1982 AND 1977 - 1981

	1982		1977 - 1981	
Phase of Operation	No.	Percent	Mean	Percent
Cruise	34	34.3	21.0	29.7
Maneuvering	25	25.3	15.6	22.0
Landing	13	13.1	10.6	15.0
Takeoff	12	12.1	9.6	13.6
Descent	0	.0	4.0	5.6
Approach	5	5.1	3.6	5.1
Taxi	2	2.0	2.8	4.0
Standing	4	4.0	2.4	3.4
Climb	1	1.0	.8	1.1
Other	3	3.0	.4	.6
Total	99	100.0	70.8	100.0

Table 100 - SUMMARY OF LOSSES
ALL GLIDERS
1980 - 1982

	1982	1981	1980
Accidents			
Fatal	6	12	7
Involved Serious Injury	12	10	17
Involved Minor Injury	4	11	8
Involved No Injury	29	26	30
Total	51	59	62
Fatalities			
Passenger	1	1	0
Crew	4	12	7
Other Persons	1	0	0
Total	6	13	7
Aircraft Damaged*			
Destroyed	13	15	13
Substantial	39	45	49
Minor	1	0	0
None	0	0	0
Unknown	0	0	0
Total	53	60	62

* Number of General Aviation Gliders

Table 101 - PERSONS BY ROLE AND DEGREE OF INJURY
ALL GLIDERS
1982

Role of Person	Degree of Injury: Fatal	Serious	Minor	None	Total
Pilot	4	11	6	32	53
Dual student	0	1	0	0	1
Passenger	1	6	0	7	14
Total aboard	5	18	6	39	68
Other aircraft*	0	0	0	2	2
Other ground	1	0	0	0	1
Grand total	6	18	6	41	71
Percent	8.5	25.4	8.5	57.7	

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

Table 102 - PERSONS ABOARD BY KIND OF FLYING AND DEGREE OF INJURY
ALL GLIDERS
1982

Kind of Flying	Degree of Injury: Fatal	Serious	Minor	None	Total
Personal	3	17	5	31	56
Instructional	0	1	1	3	5
Other	2	0	0	5	7
Total	5	18	6	39	68
Percent	7.4	26.5	8.8	57.4	

Table 103 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
ALL GLIDERS
1982

Type of first occurrence	Degree of injury: Fatal	Serious	Minor	None	Aircraft: No.	Percent
Airframe/component/system failure/malfunction	0	0	0	5	5	9.4
Forced landing	0	2	0	2	4	7.5
Hard landing	0	0	1	1	2	3.8
In flight collision with object	1	1	0	0	2	3.8
In flight collision with terrain	1	3	0	5	9	17.0
Loss of control - in flight	2	5	2	3	12	22.6
Midair collision	2	0	0	2	4	7.5
On ground collision with object	1	0	0	4	5	9.4
Overrun	0	1	0	2	3	5.7
Undershoot	0	0	0	4	4	7.5
Miscellaneous/other	0	0	1	2	3	5.7
Aircraft						
Number -	7	12	4	30	53	
Percent -	13.2	22.6	7.5	56.6		

Table 104 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
ALL GLIDERS
1982

Phase of operation	Aircraft damage			Aircraft	
	Destr	Subst	Minor	No.	Percent
Takeoff	0	1	0	1	1.9
Takeoff - ground run	0	2	0	2	3.8
Takeoff - initial climb	3	10	0	13	24.5
Climb	1	0	0	1	1.9
Climb - to cruise	0	3	0	3	5.7
Cruise	1	1	0	2	3.8
Cruise - normal	1	1	0	2	3.8
Approach	1	0	0	1	1.9
Approach - VFR pattern - base turn	1	0	0	1	1.9
Approach - VFR pattern - base to final	0	1	0	1	1.9
Approach - VFR pattern - final approach	1	2	0	3	5.7
Landing	0	2	0	2	3.8
Landing - flare/touchdown	1	10	0	11	20.8
Landing - roll	0	2	1	3	5.7
Maneuvering	3	4	0	7	13.2
Aircraft					
Number -	13	39	1	53	
Percent -	24.5	73.6	1.9		

Table 105 - AIRCRAFT BY CONDITION OF LIGHT AND TYPE OF WEATHER
ALL GLIDERS
1982

Condition of light	Type of Weather		Aircraft	
	VMC	Nrept	No.	Percent
Daylight	51	1	52	98.1
Dusk	1	0	1	1.9
Aircraft				
Number -	52	1	53	
Percent -	98.1	1.9		

Table 106 - AIRCRAFT BY PROXIMITY TO AIRPORT AND FLIGHT PLAN
ALL GLIDERS
1982

Proximity to Airport	Type of Flight Plan					Aircraft	
	VFR	IFR	VFR/IFR	None	Other	No.	Percent
On Airport	0	0	0	20	2	22	41.5
On Airstrip	0	0	0	0	0	0	0.0
Within 5 NM	0	0	0	20	0	20	37.7
5 NM or Greater	0	0	0	11	0	11	20.8
Other	0	0	0	0	0	0	0.0
Number of Aircraft	0	0	0	51	2	53	
Percent	0.0	0.0	0.0	96.2	3.8		

Table 107 - MOST PREVALENT DETAILED ACCIDENT CAUSES
ALL GLIDERS
1982

Detailed Cause	Number of Aircraft	Percent of Aircraft
In-flight planning/decision - Improper - Pilot in command	8	15.1
Airspeed - Not maintained - Pilot in command	6	11.3
Visual lookout - Inadequate - Pilot of other aircraft	4	7.6
Visual lookout - Inadequate - Pilot in command	4	7.6
Stall/spin - Inadvertent - Pilot in command	3	5.7
Stall - Inadvertent - Pilot in command	3	5.7
Glider launch/tow equipment - Failure,total	3	5.7
Aircraft preflight - Inadequate - Pilot in command	3	5.7
Flt control syst,elevator control - Disconnected	3	5.7
Flight controls - Improper use of - Pilot in command	3	5.7
Clearance - Misjudged - Pilot in command	3	5.7
Distance - Misjudged - Pilot in command	3	5.7
Compensation for wind conditions - Inadequate - Pilot in command	3	5.7
Total Number of Aircraft:	53	

Table 108 - ACCIDENTS, FATAL ACCIDENTS, AND FATALITIES
ALL GLIDERS
1975 - 1982

Year	Accidents*	Fatal Accidents*	Fatalities	
			Total	Aboard General Aviation
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

* 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
1982 AND 1977 - 1981

	1982		1977 - 1981	
Type of Occurrence	No.	Percent	Mean	Percent
Collision with object/terrain	16	30.2	21.6	33.4
Loss of control - in flight	12	22.6	12.2	18.9
Undershoot	4	7.5	11.6	18.0
Hard landing	2	3.8	5.2	8.0
Miscellaneous	10	18.9	5.0	7.7
Loss of control - on ground	0	.0	4.2	6.5
Airframe/component/system fail/malf	5	9.4	2.0	3.1
Midair collision	4	7.5	1.8	2.8
(All other types)	0	.0	1.0	1.5
Total	53	100.0	64.6	100.0

Table 110 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
ALL GLIDERS
1982 AND 1977 - 1981

	1982		1977 - 1981	
Phase of Operation	No.	Percent	Mean	Percent
Approach	6	11.3	24.4	37.8
Landing	16	30.2	21.6	33.4
Takeoff	16	30.2	9.4	14.6
Maneuvering	7	13.2	4.2	6.5
Cruise	4	7.5	2.0	3.1
Descent	0	.0	1.6	2.5
Other	0	.0	.8	1.2
Climb	4	7.5	.4	.6
Taxi	0	.0	.2	.3
Total	53	100.0	64.6	100.0

Table 111 - BROAD CAUSE/FACTOR ASSIGNMENTS IN ALL ACCIDENTS
ALL GLIDERS
1982 AND 1977 - 1981

	1982		1977 - 1981	
Broad Cause/Factor	No.	Percent	Mean	Percent
Pilot	48	90.6	57.2	88.5
Weather	15	28.3	17.2	26.6
Terrain	13	24.5	12.6	19.5
Personnel	8	15.1	5.8	9.0
Miscellaneous	15	28.3	3.8	5.9
Undetermined	0	.0	2.4	3.7
Airframe	9	17.0	2.0	3.1
Instruments/Equipment/Accessories	5	9.4	1.8	2.8
Systems	0	.0	1.4	2.2
Airport/Airways/Facilities	1	1.9	1.4	2.2
Number of Aircraft	53		64.6	

Table 112 - SUMMARY OF LOSSES
PERSONAL FLYING
1980 - 1982

	1982	1981	1980
Accidents			
Fatal	398	383	389
Involved Serious Injury	211	206	229
Involved Minor Injury	261	336	302
Involved No Injury	1036	1033	1120
Total	1906	1958	2040
Fatalities			
Passenger	408	360	419
Crew	401	378	380
Other Persons	17	11	9
Total	826	749	808
Aircraft Damaged*			
Destroyed	591	608	556
Substantial	1299	1347	1476
Minor	13	8	8
None	14	4	11
Unknown	4	0	0
Total	1921	1967	2051

* Number of General Aviation Aircraft in Personal Operations

Table 113 - PERSONS BY ROLE AND DEGREE OF INJURY
PERSONAL FLYING
1982

Role of Person	Degree of Injury: Fatal	Serious	Minor	None	Total
Pilot	379	183	232	1125	1919
Copilot	18	3	4	21	46
Dual student	3	0	1	2	6
Other cockpit crew	0	1	1	2	4
Cabin crew	1	0	1	7	9
Passenger	408	207	249	1147	2011
Total aboard	809	394	488	2304	3995
Other aircraft*	13	0	4	18	35
Other ground	4	7	10	6	27
Grand total	826	401	502	2328	4057
Percent	20.4	9.9	12.4	57.4	

* 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
1982

Type of first occurrence	Degree of injury: Fatal	Serious	Minor	None	Aircraft: No.	Percent
Airframe/component/system failure/malfunction	9	3	10	36	58	3.0
Dragged wing, rotor, pod, or float	0	0	0	3	3	0.2
Fire/explosion	0	1	0	0	1	0.1
Fire	4	1	1	4	10	0.5
Forced landing	0	2	1	3	6	0.3
Gear collapsed	1	0	0	4	5	0.3
Main gear collapsed	0	0	0	17	17	0.9
Nose gear collapsed	0	0	0	6	6	0.3
Complete gear collapsed	0	0	1	10	11	0.6
Hard landing	3	11	8	75	97	5.0
In flight collision with object	47	26	19	76	168	8.7
In flight collision with terrain	66	16	6	67	155	8.1
In flight encounter with weather	108	13	12	33	166	8.6
Loss of control - in flight	78	35	29	45	187	9.7
Loss of control - on ground	3	7	30	158	198	10.3
Midair collision	22	5	1	7	35	1.8
Near collision between aircraft	2	0	0	0	2	0.1
Nose down	0	0	0	2	2	0.1
Nose over	1	0	1	36	38	2.0
On ground collision with object	1	1	4	57	63	3.3
On ground collision with terrain	1	2	2	33	38	2.0
On ground encounter with weather	0	2	1	1	4	0.2
Overrun	0	8	10	59	77	4.0
Loss of power	10	20	33	78	141	7.3
Loss of power(total) - mech failure/malfunction	6	14	16	41	77	4.0
Loss of power(partial) - mech failure/malfunction	2	3	13	19	37	1.9
Loss of power(total) - non-mechanical	22	31	50	103	206	10.7
Loss of power(partial) - non-mechanical	2	3	3	11	19	1.0
Propeller blast or jet exhaust/suction	0	0	0	1	1	0.1
Propeller/rotor contact	2	3	0	0	5	0.3
Roll over	0	0	0	4	4	0.2
Undershoot	6	3	9	42	60	3.1
Undetermined	2	0	0	0	2	0.1
Vortex turbulence encountered	0	1	0	0	1	0.1

Table 114 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY (Continued)
PERSONAL FLYING
1982

Type of first occurrence	Degree of injury: Fatal	Serious	Minor	None	Aircraft: No.	Percent
Missing aircraft	6	0	0	0	6	0.3
Miscellaneous/other	2	1	2	10	15	0.8
Aircraft						
Number -	406	212	262	1041	1921	
Percent -	21.1	11.0	13.6	54.2		

Table 115 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
PERSONAL FLYING
1982

Phase of operation	Aircraft damage					Aircraft	
	Destr	Subst	Minor	None	Nrept	No.	Percent
Standing	0	0	2	0	0	2	0.1
Standing - starting engine(s)	1	1	0	1	0	3	0.2
Standing - engine(s) operating	0	2	1	3	0	6	0.3
Taxi	2	12	1	0	0	15	0.8
Taxi - to takeoff	2	16	1	1	0	20	1.0
Taxi - from landing	0	29	1	0	0	30	1.6
Taxi - aerial	2	0	0	0	0	2	0.1
Takeoff	8	37	1	0	0	46	2.4
Takeoff - ground run	14	66	0	0	0	80	4.2
Takeoff - initial climb	97	179	0	1	1	278	14.5
Climb	6	7	0	0	0	13	0.7
Climb - to cruise	20	20	0	0	0	40	2.1
Cruise	32	20	0	0	0	52	2.7
Cruise - normal	140	164	1	0	1	306	15.9
Descent	5	5	0	0	0	10	0.5
Descent - normal	12	27	0	0	0	39	2.0
Descent - emergency	0	1	0	0	0	1	0.1
Descent - uncontrolled	3	0	0	0	0	3	0.2
Approach	16	17	0	0	0	33	1.7
Approach - VFR pattern - downwind	4	10	0	0	0	14	0.7
Approach - VFR pattern - base turn	4	3	0	0	0	7	0.4
Approach - VFR pattern - base to final	5	10	0	0	0	15	0.8
Approach - VFR pattern - final approach	22	109	2	1	0	134	7.0
Approach - go-around (VFR)	6	22	0	1	0	29	1.5
Approach - IAF to FAF/outer marker (IFR)	4	1	0	0	0	5	0.3
Approach - FAF/outer marker to threshold (IFR)	5	4	0	0	0	9	0.5

Table 115 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE (Continued)
PERSONAL FLYING
1982

Phase of operation	Aircraft damage					Aircraft	
	Destr	Subst	Minor	None	Nrept	No.	Percent
Approach - circling(IFR)	1	2	0	0	0	3	0.2
Approach - missed approach (IFR)	3	1	0	0	0	4	0.2
Landing	9	37	0	1	0	47	2.4
Landing - flare/touchdown	23	209	2	5	0	239	12.4
Landing - roll	16	225	1	0	0	242	12.6
Maneuvering	97	43	0	0	0	140	7.3
Maneuvering - turn to reverse direction	7	5	0	0	0	12	0.6
Maneuvering - turn to landing area (emergency)	1	0	0	0	0	1	0.1
Hover	0	1	0	0	0	1	0.1
Other	3	2	0	0	0	5	0.3
Unknown	21	12	0	0	2	35	1.8
Aircraft							
Number -	591	1299	13	14	4	1921	
Percent -	30.8	67.6	0.7	0.7	0.2		

Table 116 - AIRCRAFT BY CONDITION OF LIGHT AND TYPE OF WEATHER
PERSONAL FLYING
1982

Condition of light	Type of Weather			Aircraft	
	VMC	IMC	Nrept	No.	Percent
Dawn	13	3	0	16	0.8
Daylight	1446	95	15	1556	81.0
Night (dark)	127	67	6	200	10.4
Night (bright)	32	1	1	34	1.8
Dusk	80	19	5	104	5.4
Not reported	5	1	5	11	0.6
Aircraft					
Number -	1703	186	32	1921	
Percent -	88.7	9.7	1.7		

Table 117 - AIRCRAFT BY PROXIMITY TO AIRPORT AND FLIGHT PLAN
PERSONAL FLYING
1982

Proximity to Airport	Type of Flight Plan					Aircraft	
	VFR	IFR	VFR/IFR	None	Other	No.	Percent
On Airport	77	48	1	639	8	773	40.2
On Airstrip	3	1	0	93	0	97	5.0
Within 5 NM	33	27	0	386	2	448	23.3
5 NM or Greater	65	33	0	468	3	569	29.6
Other	4	3	0	26	1	34	1.8
Number of Aircraft	182	112	1	1612	14	1921	
Percent	9.5	5.8	0.1	83.9	0.7		

Table 118 - MOST PREVALENT DETAILED ACCIDENT CAUSES
PERSONAL FLYING
1982

Detailed Cause	Number of Aircraft	Percent of Aircraft
Undetermined	139	7.2
Directional control - Not maintained - Pilot in command	132	6.9
Airspeed - Not maintained - Pilot in command	122	6.4
Distance - Misjudged - Pilot in command	118	6.1
Fluid,fuel - Exhaustion	104	5.4
Preflight planning/preparation - Inadequate - Pilot in command	96	5.0
Unsuitable terrain - Selected - Pilot in command	93	4.8
In-flight planning/decision - Improper - Pilot in command	80	4.2
Airspeed - Misjudged - Pilot in command	77	4.0
Visual lookout - Inadequate - Pilot in command	77	4.0
VFR flight into IMC - Continued - Pilot in command	77	4.0
Total Number of Aircraft:	1921	

Table 119 - ACCIDENTS, FATAL ACCIDENTS, AND FATALITIES
PERSONAL FLYING
1975 - 1982

Year	Accidents*	Fatal Accidents*	Fatalities	
			Total	Aboard General Aviation
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

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

Table 120 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
PERSONAL FLYING
1982 AND 1977 - 1981

	1982		1977 - 1981	
Type of Occurrence	No.	Percent	Mean	Percent
Collision with object/terrain	424	22.1	518.0	23.7
Loss of power	480	25.0	517.2	23.7
Loss of control - in flight	187	9.7	307.2	14.1
Loss of control - on ground	198	10.3	257.6	11.8
Hard landing	97	5.0	132.0	6.0
Miscellaneous	100	5.2	121.0	5.5
Undershoot	60	3.1	78.2	3.6
Nose over/down	40	2.1	70.8	3.2
Airframe/component/system fail/malf	58	3.0	57.8	2.6
Gear collapsed/retracted	39	2.0	51.2	2.3
Midair collision	35	1.8	25.6	1.2
(All other types)	203	10.6	48.8	2.2
Total	1921	100.0	2185.4	100.0

Table 121 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
PERSONAL FLYING
1982 AND 1977 - 1981

	1982		1977 - 1981	
Phase of Operation	No.	Percent	Mean	Percent
Landing	528	27.5	657.8	30.1
Takeoff	404	21.0	446.4	20.4
Cruise	358	18.6	328.8	15.0
Approach	253	13.2	303.0	13.9
Maneuvering	154	8.0	173.4	7.9
Descent	53	2.8	118.4	5.4
Taxi	67	3.5	72.0	3.3
Climb	53	2.8	59.2	2.7
Other	40	2.1	14.4	.7
Standing	11	.6	12.0	.5
Total	1921	100.0	2185.4	100.0

Table 122 - BROAD CAUSE/FACTOR ASSIGNMENTS IN ALL ACCIDENTS
PERSONAL FLYING
1982 AND 1977 - 1981

	1982		1977 - 1981	
Broad Cause/Factor	No.	Percent	Mean	Percent
Pilot	1603	83.4	1813.2	83.0
Weather	654	34.0	563.4	25.8
Terrain	653	34.0	441.4	20.2
Powerplant	410	21.3	295.2	13.5
Personnel	148	7.7	177.6	8.1
Airport/Airways/Facilities	90	4.7	174.0	8.0
Miscellaneous	651	33.9	82.8	3.8
Landing Gear	130	6.8	73.2	3.3
Undetermined	140	7.3	42.2	1.9
Systems	35	1.8	30.2	1.4
Airframe	81	4.2	29.0	1.3
Instruments/Equipment/Accessories	16	.8	9.2	.4
Rotorcraft	8	.4	5.4	.2
Number of Aircraft	1921		2185.4	

Table 123 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
PERSONAL AND BUSINESS FLYING COMBINED
1975 - 1982

Year	Accidents	Fatal Accidents	Fatalities: Total	Fatalities: Aboard General Aviation Aircraft
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

Year	Hours Flown	Accident Rate per 100,000 Aircraft 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

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

Table 124 - SUMMARY OF LOSSES
BUSINESS FLYING
1980 - 1982

	1982	1981	1980
Accidents			
Fatal	74	74	62
Involved Serious Injury	25	23	24
Involved Minor Injury	32	33	30
Involved No Injury	161	134	130
Total	292	264	246
Fatalities			
Passenger	79	67	55
Crew	77	78	61
Other Persons	1	0	10
Total	157	145	126
Aircraft Damaged*			
Destroyed	101	99	79
Substantial	188	165	166
Minor	1	3	0
None	1	0	1
Unknown	1	0	0
Total	292	267	246

* Number of General Aviation Aircraft in Business Operations

Table 125 - PERSONS BY ROLE AND DEGREE OF INJURY
BUSINESS FLYING
1982

Role of Person	Degree of Injury: Fatal	Serious	Minor	None	Total
Pilot	69	21	31	171	292
Copilot	6	1	1	4	12
Other cockpit crew	0	0	0	1	1
Cabin crew	2	0	0	3	5
Passenger	79	23	37	146	285
Total aboard	156	45	69	325	595
Other aircraft*	1	0	0	3	4
Other ground	0	1	1	0	2
Grand total	157	46	70	328	601
Percent	26.1	7.7	11.6	54.6	

* 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
1982

Type of first occurrence	Degree of injury: Fatal	Serious	Minor	None	Aircraft: No.	Percent
Airframe/component/system failure/malfunction	5	1	2	10	18	6.2
Ditching	0	0	0	1	1	0.3
Fire/explosion	0	0	0	1	1	0.3
Fire	1	0	1	3	5	1.7
Explosion	0	0	0	1	1	0.3
Gear collapsed	0	0	0	3	3	1.0
Main gear collapsed	0	0	1	8	9	3.1
Nose gear collapsed	0	0	0	3	3	1.0
Complete gear collapsed	0	0	0	2	2	0.7
Other gear collapsed	0	0	0	1	1	0.3
Hard landing	0	0	2	9	11	3.8
In flight collision with object	8	2	3	9	22	7.5
In flight collision with terrain	13	2	3	9	27	9.2
In flight encounter with weather	20	4	2	7	33	11.3
Loss of control - in flight	14	0	4	5	23	7.9
Loss of control - on ground	0	0	0	20	20	6.8
Midair collision	1	0	0	1	2	0.7
Nose over	0	0	1	6	7	2.4
On ground collision with object	1	1	0	11	13	4.5
On ground collision with terrain	0	1	0	1	2	0.7
Overrun	0	2	3	7	12	4.1
Loss of power	6	3	2	8	19	6.5
Loss of power(total) - mech failure/malfunction	1	4	1	10	16	5.5
Loss of power(partial) - mech failure/malfunction	1	1	3	3	8	2.7
Loss of power(total) - non-mechanical	3	3	3	13	22	7.5
Loss of power(partial) - non-mechanical	0	0	0	1	1	0.3
Undershoot	0	0	1	6	7	2.4
Miscellaneous/other	0	1	0	2	3	1.0
Aircraft						
Number -	74	25	32	161	292	
Percent -	25.3	8.6	11.0	55.1		

Table 127 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
BUSINESS FLYING
1982

Phase of operation	Aircraft damage					Aircraft	
	Destr	Subst	Minor	None	Nrept	No.	Percent
Standing	0	1	0	1	0	2	0.7
Standing - engine(s) operating	1	2	0	0	0	3	1.0
Taxi	0	2	0	0	0	2	0.7
Taxi - to takeoff	0	3	0	0	0	3	1.0
Taxi - from landing	1	9	0	0	0	10	3.4
Taxi - aerial	0	2	0	0	0	2	0.7
Takeoff	1	6	0	0	0	7	2.4
Takeoff - ground run	2	5	0	0	0	7	2.4
Takeoff - initial climb	20	28	0	0	0	48	16.4
Climb	2	0	0	0	0	2	0.7
Climb - to cruise	4	4	0	0	0	8	2.7
Cruise	6	3	0	0	0	9	3.1
Cruise - normal	29	30	0	0	1	60	20.5
Descent	0	1	0	0	0	1	0.3
Descent - normal	5	7	0	0	0	12	4.1
Approach	2	2	0	0	0	4	1.4
Approach - VFR pattern - downwind	1	0	0	0	0	1	0.3
Approach - VFR pattern - base turn	1	0	0	0	0	1	0.3
Approach - VFR pattern - base to final	1	1	0	0	0	2	0.7
Approach - VFR pattern - final approach	1	8	1	0	0	10	3.4
Approach - go-around (VFR)	1	0	0	0	0	1	0.3
Approach - IAF to FAF/outer marker (IFR)	1	0	0	0	0	1	0.3
Approach - FAF/outer marker to threshold (IFR)	2	1	0	0	0	3	1.0
Approach - circling(IFR)	1	1	0	0	0	2	0.7
Approach - missed approach (IFR)	2	1	0	0	0	3	1.0
Landing	1	3	0	0	0	4	1.4

Table 127 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE (Continued)
BUSINESS FLYING
1982

Phase of operation	Aircraft damage					Aircraft	
	Destr	Subst	Minor	None	Nrept	No.	Percent
Landing - flare/touchdown	5	24	0	0	0	29	9.9
Landing - roll	2	35	0	0	0	37	12.7
Maneuvering	5	6	0	0	0	11	3.8
Maneuvering - turn to reverse direction	0	2	0	0	0	2	0.7
Maneuvering - turn to landing area (emergency)	1	0	0	0	0	1	0.3
Hover	0	1	0	0	0	1	0.3
Unknown	3	0	0	0	0	3	1.0
Aircraft							
Number -	101	188	1	1	1	292	
Percent -	34.6	64.4	0.3	0.3	0.3		

Table 128 - AIRCRAFT BY CONDITION OF LIGHT AND TYPE OF WEATHER
BUSINESS FLYING
1982

Condition of light	Type of Weather			Aircraft	
	VMC	IMC	Nrept	No.	Percent
Dawn	3	1	0	4	1.4
Daylight	191	28	2	221	75.7
Night (dark)	33	15	3	51	17.5
Night (bright)	5	1	0	6	2.1
Dusk	7	3	0	10	3.4
Aircraft					
Number -	239	48	5	292	
Percent -	81.8	16.4	1.7		

Table 129 - AIRCRAFT BY PROXIMITY TO AIRPORT AND FLIGHT PLAN
BUSINESS FLYING
1982

Proximity to Airport	Type of Flight Plan					Aircraft	
	VFR	IFR	VFR/IFR	None	Other	No.	Percent
On Airport	8	31	1	80	2	122	41.8
On Airstrip	0	0	0	9	2	11	3.8
Within 5 NM	6	16	0	40	0	62	21.2
5 NM or Greater	17	12	0	62	0	91	31.2
Other	2	1	0	3	0	6	2.1
Number of Aircraft	33	60	1	194	4	292	
Percent	11.3	20.5	0.3	66.4	1.4		

Table 130 - MOST PREVALENT DETAILED ACCIDENT CAUSES
BUSINESS FLYING
1982

Detailed Cause	Number of Aircraft	Percent of Aircraft
Undetermined	24	8.2
Distance - Misjudged - Pilot in command	16	5.5
In-flight planning/decision - Improper - Pilot in command	14	4.8
Airspeed - Misjudged - Pilot in command	13	4.4
Directional control - Not maintained - Pilot in command	13	4.4
Aircraft preflight - Inadequate - Pilot in command	12	4.1
Fluid,fuel - Exhaustion	11	3.8
Altitude - Misjudged - Pilot in command	11	3.8
VFR flight into IMC - Continued - Pilot in command	9	3.1
Clearance - Misjudged - Pilot in command	9	3.1
Preflight planning/preparation - Inadequate - Pilot in command	9	3.1
Flight controls - Improper use of - Pilot in command	9	3.1
Fluid,fuel - Starvation	9	3.1
Total Number of Aircraft:	292	

Table 131 - ACCIDENTS, FATAL ACCIDENTS, AND FATALITIES
BUSINESS FLYING
1975 - 1982

Year	Accidents*	Fatal Accidents*	Fatalities: Total	Fatalities: 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

* 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
1982 AND 1977 - 1981

	1982		1977 - 1981	
Type of Occurrence	No.	Percent	Mean	Percent
Collision with object/terrain	64	21.9	72.0	26.6
Loss of power	66	22.6	66.4	24.6
Loss of control - in flight	23	7.9	29.8	11.0
Loss of control - on ground	20	6.8	23.8	8.8
Miscellaneous	15	5.1	17.2	6.4
Gear collapsed/retracted	18	6.2	11.8	4.4
Hard landing	11	3.8	9.8	3.6
Airframe/component/system fail/malf	18	6.2	9.0	3.3
Undershoot	7	2.4	8.8	3.3
Nose over/down	7	2.4	7.6	2.8
Midair collision	2	.7	4.4	1.6
(All other types)	41	14.0	9.8	3.6
Total	292	100.0	270.4	100.0

Table 133 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
BUSINESS FLYING
1982 AND 1977 - 1981

	1982		1977 - 1981	
Phase of Operation	No.	Percent	Mean	Percent
Landing	70	24.0	84.4	31.2
Cruise	69	23.6	48.0	17.8
Takeoff	62	21.2	42.4	15.7
Approach	28	9.6	40.0	14.8
Descent	13	4.5	23.6	8.7
Taxi	17	5.8	12.0	4.4
Maneuvering	15	5.1	9.0	3.3
Climb	10	3.4	7.4	2.7
Standing	5	1.7	1.8	.7
Other	3	1.0	1.8	.7
Total	292	100.0	270.4	100.0

Table 134 - BROAD CAUSE/FACTOR ASSIGNMENTS IN ALL ACCIDENTS
BUSINESS FLYING
1982 AND 1977 - 1981

	1982		1977 - 1981	
Broad Cause/Factor	No.	Percent	Mean	Percent
Pilot	227	77.7	215.6	79.7
Weather	118	40.4	81.6	30.2
Terrain	89	30.5	53.2	19.7
Powerplant	66	22.6	42.2	15.6
Personnel	30	10.3	27.6	10.2
Airport/Airways/Facilities	23	7.9	23.8	8.8
Landing Gear	29	9.9	14.8	5.5
Miscellaneous	104	35.6	9.4	3.5
Undetermined	24	8.2	7.2	2.7
Systems	12	4.1	6.4	2.4
Airframe	19	6.5	3.0	1.1
Rotorcraft	9	3.1	2.0	.7
Instruments/Equipment/Accessories	4	1.4	1.2	.4
Number of Aircraft	292		270.4	

Table 135 - SUMMARY OF LOSSES
CORPORATE/EXECUTIVE FLYING
1980 - 1982

	1982	1981	1980
Accidents			
Fatal	6	30	21
Involved Serious Injury	3	10	11
Involved Minor Injury	4	6	10
Involved No Injury	26	38	54
Total	39	84	96
Fatalities			
Passenger	11	61	42
Crew	9	38	21
Other Persons	1	0	3
Total	21	99	66
Aircraft Damaged*			
Destroyed	8	38	32
Substantial	30	44	61
Minor	0	1	2
None	1	0	1
Unknown	0	1	0
Total	39	84	96

* Number of General Aviation Aircraft in Corporate/Executive Operations

Table 136 - PERSONS BY ROLE AND DEGREE OF INJURY
CORPORATE/EXECUTIVE FLYING
1982

Role of Person	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Pilot	6	2	2	29	39
Copilot	3	0	0	5	8
Passenger	11	6	8	54	79
Total aboard	20	8	10	88	126
Other aircraft*	1	0	0	0	1
Other ground	0	1	0	1	2
Grand total	21	9	10	89	129
Percent	16.3	7.0	7.8	69.0	

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

Table 137 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
CORPORATE/EXECUTIVE FLYING
1982

Type of first occurrence	Degree of injury: Fatal	Serious	Minor	None	Aircraft: No.	Percent
Airframe/component/system failure/malfunction	0	1	1	0	2	5.1
Main gear collapsed	0	0	0	3	3	7.7
Nose gear collapsed	0	0	0	1	1	2.6
Hard landing	0	0	0	1	1	2.6
In flight collision with terrain	1	1	0	4	6	15.4
In flight encounter with weather	1	0	0	1	2	5.1
Loss of control - in flight	2	0	0	2	4	10.3
Loss of control - on ground	0	0	1	8	9	23.1
Midair collision	1	0	0	0	1	2.6
On ground collision with terrain	0	0	0	1	1	2.6
Overrun	0	0	0	1	1	2.6
Loss of power	0	0	1	0	1	2.6
Loss of power(total) - mech failure/malfunction	0	0	1	1	2	5.1
Loss of power(total) - non-mechanical	1	0	0	2	3	7.7
Propeller/rotor contact	0	1	0	0	1	2.6
Undershoot	0	0	0	1	1	2.6
Aircraft						
Number -	6	3	4	26	39	
Percent -	15.4	7.7	10.3	66.7		

Table 138 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
CORPORATE/EXECUTIVE FLYING
1982

Phase of operation	Aircraft damage			Aircraft	
	Destr	Subst	None	No.	Percent
Standing - starting engine(s)	0	0	1	1	2.6
Taxi - to takeoff	0	1	0	1	2.6
Taxi - from landing	0	1	0	1	2.6
Takeoff - ground run	0	1	0	1	2.6
Takeoff - initial climb	2	4	0	6	15.4
Cruise	1	1	0	2	5.1
Cruise - normal	0	1	0	1	2.6
Cruise - holding(IFR)	1	0	0	1	2.6
Descent - normal	1	1	0	2	5.1
Approach	0	2	0	2	5.1
Approach - VFR pattern - base to final	0	1	0	1	2.6
Approach - VFR pattern - final approach	1	1	0	2	5.1
Approach - circling(IFR)	1	0	0	1	2.6
Landing - flare/touchdown	0	8	0	8	20.5
Landing - roll	0	8	0	8	20.5
Maneuvering - turn to reverse direction	1	0	0	1	2.6
Aircraft					
Number -	8	30	1	39	
Percent -	20.5	76.9	2.6		

Table 139 - AIRCRAFT BY CONDITION OF LIGHT AND TYPE OF WEATHER
CORPORATE/EXECUTIVE FLYING
1982

Condition of light	Type of Weather		Aircraft	
	VMC	IMC	No.	Percent
Daylight	23	8	31	79.5
Night (dark)	2	2	4	10.3
Dusk	3	1	4	10.3
Aircraft				
Number -	28	11	39	
Percent -	71.8	28.2		

Table 140 - AIRCRAFT BY PROXIMITY TO AIRPORT AND FLIGHT PLAN
CORPORATE/EXECUTIVE FLYING
1982

Proximity to Airport	Type of Flight Plan					Aircraft	
	VFR	IFR	VFR/IFR	None	Other	No.	Percent
On Airport	0	17	0	10	0	27	69.2
On Airstrip	0	0	0	0	0	0	0.0
Within 5 NM	1	2	0	3	0	6	15.4
5 NM or Greater	0	3	0	3	0	6	15.4
Other	0	0	0	0	0	0	0.0
Number of Aircraft	1	22	0	16	0	39	
Percent	2.6	56.4	0.0	41.0	0.0		

Table 141 - MOST PREVALENT DETAILED ACCIDENT CAUSES
CORPORATE/EXECUTIVE FLYING
1982

Detailed Cause	Number of Aircraft	Percent of Aircraft
Undetermined	5	12.8
Aircraft preflight - Inadequate - Pilot in command	3	7.7
Unsuitable terrain - Selected - Pilot in command	2	5.1
Clearance - Misjudged - Pilot in command	2	5.1
Gear down and locked - Not attained - Pilot in command	2	5.1
Landing gear,normal retraction/extension assembly - Jammed	1	2.6
Landing gear,normal retraction/extension assembly - Undetermined	1	2.6
Rotor drive system,tail rotor drive shaft - Failure,total	1	2.6
Rotor drive system,tail rotor drive shaft bearing - Binding(mechanical)	1	2.6
Warning system(other) - Erratic	1	2.6
Engine assembly - Separation	1	2.6
Engine assembly,crankshaft - Fatigue	1	2.6
Propeller system/accessories,blade - Separation	1	2.6
Propeller system/accessories,hub - Fatigue	1	2.6
Fuel system,ram air - Blocked(partial)	1	2.6
Fuel system,ram air - Ice	1	2.6
Reduction gear assy - Disconnected	1	2.6
Reduction gear assy - Previous damage	1	2.6
Fluid,fuel - Improper	1	2.6
Fluid,fuel - Water	1	2.6
Annunciator panel lights - Improper	1	2.6
Airport facilities,runway/landing area condition - Inadequate	1	2.6
Weather condition - Rain	1	2.6
Landing gear,gear locking mechanism - Failure,partial	1	2.6
Removal of control/gust lock(s) - Not performed - Pilot in command	1	2.6
Powerplant controls - Improper use of - Pilot in command	1	2.6
Landing gear,tire - Leak	1	2.6
Ice/frost removal from aircraft - Inadequate - Pilot in command	1	2.6
Operation with known deficiencies in equipment - Attempted - Pilot in command	1	2.6
VFR flight into IMC - Continued - Pilot in command	1	2.6
Visual lookout - Inadequate - Pilot in command	1	2.6
Visual lookout - Inadequate - Pilot of other aircraft	1	2.6
Flight into known adverse weather - Continued - Pilot in command	1	2.6
Flight to alternate destination - Not selected - Pilot in command	1	2.6

Table 141 - MOST PREVALENT DETAILED ACCIDENT CAUSES (Continued)
CORPORATE/EXECUTIVE FLYING
1982

Detailed Cause	Number of Aircraft	Percent of Aircraft
Compensation for wind conditions - Inadequate - Pilot in command	1	2.6
Landing gear,tire - Failure,partial	1	2.6
Maintenance,service of aircraft - Improper - Fbo personnel	1	2.6
Maintenance,service of aircraft - Inadequate - Other maintenance psnl	1	2.6
Maintenance,major repair - Improper - Other maintenance psnl	1	2.6
Airspeed - Inadequate - Pilot in command	1	2.6
Airspeed - Misjudged - Pilot in command	1	2.6
Proper altitude - Below - Pilot in command	1	2.6
Proper altitude - Not maintained - Pilot in command	1	2.6
Clearance - Inaccurate - Pilot in command	1	2.6
Flight control,gust lock - Engaged	1	2.6
Proper alignment - Not attained - Pilot in command	1	2.6
Proper touchdown point - Not attained - Pilot in command	1	2.6
Flare - Improper - Pilot in command	1	2.6
Flare - Misjudged - Pilot in command	1	2.6
Ground loop/swerve - Uncontrolled - Pilot in command	1	2.6
Directional control - Not possible - Pilot in command	1	2.6
Emergency procedure - Improper - Pilot in command	1	2.6
Recovery from bounced landing - Poor - Pilot in command	1	2.6
Crew/group coordination - Inadequate - Pilot in command	1	2.6
Unsafe/hazardous condition - Performed - Passenger	1	2.6
Wing - Ice	1	2.6
Inadequate training - Company/operator mgmt	1	2.6
Total Number of Aircraft:	39	

Table 142 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
CORPORATE/EXECUTIVE FLYING
1975 - 1982

Year	Accidents	Fatal Accidents	Fatalities: Total	Fatalities: 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

Year	Hours Flown	Accident Rate per 100,000 Aircraft Hours Flown: Total	Accident Rate per 100,000 Aircraft Hours Flown: 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

Table 143 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
CORPORATE/EXECUTIVE FLYING
1982 AND 1977 - 1981

	1982		1977 - 1981	
Type of Occurrence	No.	Percent	Mean	Percent
Collision with object/terrain	7	17.9	27.6	34.1
Loss of power	6	15.4	16.8	20.7
Loss of control - in flight	4	10.3	6.4	7.9
Loss of control - on ground	9	23.1	5.8	7.2
Airframe/component/system fail/malf	2	5.1	4.6	5.7
Gear collapsed/retracted	4	10.3	3.8	4.7
Hard landing	1	2.6	3.6	4.4
Undershoot	1	2.6	3.6	4.4
Miscellaneous	1	2.6	2.8	3.5
Fire/explosion	0	.0	2.0	2.5
Midair collision	1	2.6	1.2	1.5
Roll over	0	.0	1.2	1.5
Prop/rotor contact	1	2.6	1.0	1.2
(All other types)	2	5.1	.6	.7
Total	39	100.0	81.0	100.0

Table 144 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
CORPORATE/EXECUTIVE FLYING
1982 AND 1977 - 1981

	1982		1977 - 1981	
Phase of Operation	No.	Percent	Mean	Percent
Landing	16	41.0	21.6	26.7
Approach	6	15.4	16.4	20.2
Takeoff	7	17.9	14.2	17.5
Cruise	4	10.3	12.0	14.8
Climb	0	.0	5.2	6.4
Descent	2	5.1	4.2	5.2
Taxi	2	5.1	3.0	3.7
Standing	1	2.6	2.4	3.0
Maneuvering	1	2.6	1.8	2.2
Other	0	.0	.2	.2
Total	39	100.0	81.0	100.0

Table 145 - BROAD CAUSE/FACTOR ASSIGNMENTS IN ALL ACCIDENTS
CORPORATE/EXECUTIVE FLYING
1982 AND 1977 - 1981

	1982		1977 - 1981	
Broad Cause/Factor	No.	Percent	Mean	Percent
Pilot	23	59.0	55.6	68.6
Weather	15	38.5	24.2	29.9
Powerplant	9	23.1	13.8	17.0
Personnel	9	23.1	12.4	15.3
Terrain	13	33.3	10.6	13.1
Airport/Airways/Facilities	5	12.8	9.6	11.9
Landing Gear	10	25.6	6.8	8.4
Miscellaneous	6	15.4	4.0	4.9
Undetermined	5	12.8	3.8	4.7
Systems	4	10.3	3.6	4.4
Airframe	3	7.7	1.8	2.2
Rotorcraft	1	2.6	1.8	2.2
Instruments/Equipment/Accessories	0	.0	1.0	1.2
Number of Aircraft	39		81.0	

Table 146 - SUMMARY OF LOSSES
AERIAL APPLICATION FLYING
1980 - 1982

	1982	1981	1980
Accidents			
Fatal	17	30	25
Involved Serious Injury	35	44	30
Involved Minor Injury	31	50	65
Involved No Injury	189	254	243
Total	272	378	363
Fatalities			
Passenger	0	6	3
Crew	15	28	25
Other Persons	3	2	4
Total	18	36	32
Aircraft Damaged*			
Destroyed	87	125	114
Substantial	183	255	249
Minor	2	0	0
None	1	0	1
Unknown	0	0	0
Total	273	380	364

* Number of General Aviation Aircraft in Aerial Application Operations

Table 147 - PERSONS BY ROLE AND DEGREE OF INJURY
AERIAL APPLICATION FLYING
1982

Role of Person	Degree of Injury				
	Fatal	Serious	Minor	None	Total
Pilot	15	34	31	193	273
Passenger	0	1	2	2	5
Total aboard	15	35	33	195	278
Other aircraft*	0	1	0	4	5
Other ground	3	0	2	0	5
Grand total	18	36	35	199	288
Percent	6.3	12.5	12.2	69.1	

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

Table 148 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
AERIAL APPLICATION FLYING
1982

Type of first occurrence	Degree of injury: Fatal	Serious	Minor	None	Aircraft: No.	Percent
Abrupt maneuver	0	1	0	0	1	0.4
Airframe/component/system failure/malfunction	0	1	1	9	11	4.0
Main gear collapsed	0	0	0	3	3	1.1
In flight collision with object	8	16	11	25	60	22.0
In flight collision with terrain	1	4	4	24	33	12.1
In flight encounter with weather	0	0	0	1	1	0.4
Loss of control - in flight	3	4	3	13	23	8.4
Loss of control - on ground	1	0	1	12	14	5.1
Midair collision	2	1	0	0	3	1.1
Nose over	0	0	1	2	3	1.1
On ground collision with object	0	0	0	5	5	1.8
On ground collision with terrain	0	0	0	5	5	1.8
Overrun	1	0	0	3	4	1.5
Loss of power	0	3	5	25	33	12.1
Loss of power(total) - mech failure/malfunction	0	3	1	20	24	8.8
Loss of power(partial) - mech failure/malfunction	0	0	2	10	12	4.4
Loss of power(total) - non-mechanical	2	1	1	28	32	11.7
Loss of power(partial) - non-mechanical	0	1	0	0	1	0.4
Undershoot	0	0	1	0	1	0.4
Vortex turbulence encountered	0	0	0	3	3	1.1
Miscellaneous/other	0	0	0	1	1	0.4
Aircraft						
Number -	18	35	31	189	273	
Percent -	6.6	12.8	11.4	69.2		

Table 149 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
AERIAL APPLICATION FLYING
1982

Phase of operation	Aircraft damage				Aircraft	
	Destr	Subst	Minor	None	No.	Percent
Taxi - to takeoff	0	2	2	0	4	1.5
Takeoff	2	7	0	0	9	3.3
Takeoff - ground run	2	9	0	0	11	4.0
Takeoff - initial climb	16	34	0	0	50	18.3
Climb	0	2	0	0	2	0.7
Climb - to cruise	0	1	0	0	1	0.4
Cruise	1	7	0	0	8	2.9
Cruise - normal	4	16	0	0	20	7.3
Descent	0	1	0	0	1	0.4
Approach	0	1	0	0	1	0.4
Approach - VFR pattern - final approach	1	2	0	0	3	1.1
Landing	0	1	0	0	1	0.4
Landing - flare/touchdown	0	4	0	0	4	1.5
Landing - roll	2	18	0	0	20	7.3
Maneuvering	4	3	0	0	7	2.6
Maneuvering - aerial application	54	69	0	1	124	45.4
Maneuvering - turn to reverse direction	1	3	0	0	4	1.5
Maneuvering - turn to landing area (emergency)	0	1	0	0	1	0.4
Hover	0	2	0	0	2	0.7
Aircraft						
Number -	87	183	2	1	273	
Percent -	31.9	67.0	0.7	0.4		

Table 150 - AIRCRAFT BY CONDITION OF LIGHT AND TYPE OF WEATHER
AERIAL APPLICATION FLYING
1982

Condition of light	Type of Weather		Aircraft	
	VMC	Nrept	No.	Percent
Dawn	4	0	4	1.5
Daylight	254	4	258	94.5
Night (dark)	3	0	3	1.1
Dusk	8	0	8	2.9
Aircraft				
Number -	269	4	273	
Percent -	98.5	1.5		

Table 151 - AIRCRAFT BY PROXIMITY TO AIRPORT AND FLIGHT PLAN
AERIAL APPLICATION FLYING
1982

Proximity to Airport	Type of Flight Plan					Aircraft	
	VFR	IFR	VFR/IFR	None	Other	No.	Percent
On Airport	0	0	0	20	0	20	7.3
On Airstrip	0	0	0	25	0	25	9.2
Within 5 NM	0	0	0	64	0	64	23.4
5 NM or Greater	0	0	0	153	1	154	56.4
Other	0	0	0	10	0	10	3.7
Number of Aircraft	0	0	0	272	1	273	
Percent	0.0	0.0	0.0	99.6	0.4		

Table 152 - MOST PREVALENT DETAILED ACCIDENT CAUSES
AERIAL APPLICATION FLYING
1982

Detailed Cause	Number of Aircraft	Percent of Aircraft
Clearance - Misjudged - Pilot in command	31	11.4
Undetermined	28	10.3
Visual lookout - Inadequate - Pilot in command	22	8.1
Aircraft preflight - Inadequate - Pilot in command	17	6.2
Fluid,fuel - Exhaustion	15	5.5
Preflight planning/preparation - Inadequate - Pilot in command	12	4.4
Airspeed - Not maintained - Pilot in command	12	4.4
Miscellaneous - Undetermined	9	3.3
Stall/mush - Inadvertent - Pilot in command	8	2.9
Stall - Inadvertent - Pilot in command	8	2.9
Total Number of Aircraft:	273	

Table 153 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
AERIAL APPLICATION FLYING
1975 - 1982

Year	Accidents	Fatal Accidents	Fatalities: Total	Fatalities: Aboard General Aviation Aircraft
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

Year	Hours Flown	Accident Rate per 100,000 Aircraft 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

* 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
1982 AND 1977 - 1981

	1982		1977 - 1981	
Type of Occurrence	No.	Percent	Mean	Percent
Collision with object/terrain	103	37.7	139.6	33.9
Loss of power	102	37.4	128.0	31.1
Loss of control - in flight	23	8.4	70.4	17.1
Loss of control - on ground	14	5.1	25.8	6.3
Airframe/component/system fail/malf	11	4.0	18.6	4.5
Nose over/down	3	1.1	9.4	2.3
(All other types)	17	6.2	19.6	4.8
Total	273	100.0	411.4	100.0

Table 155 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
AERIAL APPLICATION FLYING
1982 AND 1977 - 1981

	1982		1977 - 1981	
Phase of Operation	No.	Percent	Mean	Percent
Maneuvering	138	50.5	211.6	51.4
Takeoff	70	25.6	95.0	23.1
Cruise	28	10.3	48.6	11.8
Landing	25	9.2	40.2	9.8
Approach	4	1.5	7.4	1.8
Climb	3	1.1	3.8	.9
Taxi	4	1.5	2.6	.6
Descent	1	.4	1.4	.3
Standing	0	.0	.8	.2
Total	273	100.0	411.4	100.0

Table 156 - BROAD CAUSE/FACTOR ASSIGNMENTS IN ALL ACCIDENTS
AERIAL APPLICATION FLYING
1982 AND 1977 - 1981

	1982		1977 - 1981	
Broad Cause/Factor	No.	Percent	Mean	Percent
Pilot	193	70.7	285.2	69.3
Terrain	121	44.3	122.8	29.8
Powerplant	79	28.9	96.0	23.3
Weather	39	14.3	43.4	10.5
Personnel	12	4.4	37.6	9.1
Airport/Airways/Facilities	5	1.8	19.2	4.7
Miscellaneous	91	33.3	18.6	4.5
Rotorcraft	3	1.1	14.0	3.4
Landing Gear	22	8.1	13.4	3.3
Undetermined	29	10.6	4.6	1.1
Instruments/Equipment/Accessories	5	1.8	4.0	1.0
Systems	2	.7	3.8	.9
Airframe	8	2.9	3.2	.8
Number of Aircraft	273		411.4	

Table 157 - SUMMARY OF LOSSES
INSTRUCTIONAL FLYING
1980 - 1982

	1982	1981	1980
Accidents			
Fatal	22	40	41
Involved Serious Injury	28	21	38
Involved Minor Injury	46	61	54
Involved No Injury	315	306	328
Total	411	428	461
Fatalities			
Passenger	3	6	12
Crew	33	57	58
Other Persons	2	7	3
Total	38	70	73
Aircraft Damaged*			
Destroyed	74	87	78
Substantial	339	342	382
Minor	0	1	1
None	1	1	5
Unknown	0	0	0
Total	414	431	466

* Number of General Aviation Aircraft in Instructional Operations

Table 158 - PERSONS BY ROLE AND DEGREE OF INJURY
INSTRUCTIONAL FLYING
1982

Role of Person	Degree of Injury: Fatal	Serious	Minor	None	Total
Pilot	18	22	42	315	397
Copilot	2	1	0	10	13
Dual student	8	9	12	96	125
Instructor	2	2	7	17	28
Flight engineer	0	0	0	1	1
Loadmaster	0	0	0	1	1
Other cockpit crew	3	2	1	4	10
Cabin crew	0	0	0	3	3
Passenger	3	8	6	19	36
Total aboard	36	44	68	466	614
Other aircraft*	2	0	0	7	9
Other ground	0	0	1	0	1
Grand total	38	44	69	473	624
Percent	6.1	7.1	11.1	75.8	

* 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 - PERSONS ABOARD BY KIND OF FLYING AND DEGREE OF INJURY
INSTRUCTIONAL FLYING
1982

Kind of Flying	Degree of Injury				Total
	Fatal	Serious	Minor	None	
Dual	26	24	37	236	323
Solo	9	9	25	194	237
Check	1	6	3	24	34
Other	0	5	3	12	20
Total	36	44	68	466	614
Percent	5.86	7.17	11.08	75.9	

Table 160 - AIRCRAFT BY FIRST OCCURRENCE AND DEGREE OF INJURY
INSTRUCTIONAL FLYING
1982

Type of first occurrence	Degree of injury: Fatal	Serious	Minor	None	Aircraft: No.	Percent
Abrupt maneuver	0	0	0	1	1	0.2
Airframe/component/system failure/malfunction	1	2	3	5	11	2.7
Forced landing	0	0	0	1	1	0.2
Main gear collapsed	0	0	0	3	3	0.7
Nose gear collapsed	0	0	1	4	5	1.2
Hard landing	0	0	1	63	64	15.5
In flight collision with object	3	2	0	8	13	3.1
In flight collision with terrain	4	4	1	12	21	5.1
In flight encounter with weather	2	1	1	4	8	1.9
Loss of control - in flight	5	5	5	20	35	8.5
Loss of control - on ground	0	0	9	80	89	21.5
Midair collision	6	0	1	0	7	1.7
Near collision between aircraft	0	0	0	1	1	0.2
Nose down	0	0	0	1	1	0.2
Nose over	0	1	0	7	8	1.9
On ground collision with object	0	0	2	11	13	3.1
On ground collision with terrain	0	0	0	7	7	1.7
On ground encounter with weather	0	0	0	2	2	0.5
Overrun	0	1	2	14	17	4.1
Loss of power	0	2	5	12	19	4.6
Loss of power(total) - mech failure/malfunction	1	3	1	7	12	2.9
Loss of power(partial) - mech failure/malfunction	0	2	0	7	9	2.2
Loss of power(total) - non-mechanical	1	2	8	18	29	7.0
Loss of power(partial) - non-mechanical	0	0	1	4	5	1.2
Roll over	0	1	3	2	6	1.4
Undershoot	1	1	2	21	25	6.0
Vortex turbulence encountered	0	1	0	0	1	0.2
Miscellaneous/other	0	0	1	0	1	0.2
Aircraft						
Number -	24	28	47	315	414	
Percent -	5.8	6.8	11.4	76.1		

Table 161 - AIRCRAFT BY PHASE OF OPERATION AND AIRCRAFT DAMAGE
INSTRUCTIONAL FLYING
1982

Phase of operation	Aircraft damage			Aircraft	
	Destr	Subst	None	No.	Percent
Standing	0	2	0	2	0.5
Taxi - to takeoff	0	5	0	5	1.2
Taxi - from landing	1	6	0	7	1.7
Taxi - aerial	0	1	0	1	0.2
Takeoff	1	10	0	11	2.7
Takeoff - ground run	5	28	0	33	8.0
Takeoff - initial climb	14	21	0	35	8.5
Climb	1	2	0	3	0.7
Climb - to cruise	0	2	0	2	0.5
Cruise	1	4	0	5	1.2
Cruise - normal	6	18	1	25	6.0
Descent	1	2	0	3	0.7
Descent - normal	0	5	0	5	1.2
Approach	4	3	0	7	1.7
Approach - VFR pattern - downwind	1	2	0	3	0.7
Approach - VFR pattern - base to final	0	1	0	1	0.2
Approach - VFR pattern - final approach	8	35	0	43	10.4
Approach - go-around (VFR)	3	6	0	9	2.2
Landing	2	9	0	11	2.7
Landing - flare/touchdown	8	93	0	101	24.4
Landing - roll	4	66	0	70	16.9
Maneuvering	10	8	0	18	4.3
Maneuvering - aerial application	0	1	0	1	0.2
Maneuvering - turn to landing area (emergency)	0	1	0	1	0.2
Hover	2	7	0	9	2.2
Other	1	0	0	1	0.2
Unknown	1	1	0	2	0.5
Aircraft					
Number -	74	339	1	414	
Percent -	17.9	81.9	0.2		

Table 162 - AIRCRAFT BY CONDITION OF LIGHT AND TYPE OF WEATHER
INSTRUCTIONAL FLYING
1982

Condition of light	Type of Weather			Aircraft	
	VMC	IMC	Nrept	No.	Percent
Daylight	377	2	5	384	92.8
Night (dark)	11	3	0	14	3.4
Dusk	15	0	0	15	3.6
Not reported	1	0	0	1	0.2
Aircraft					
Number -	404	5	5	414	
Percent -	97.6	1.2	1.2		

Table 163 - AIRCRAFT BY PROXIMITY TO AIRPORT AND FLIGHT PLAN
INSTRUCTIONAL FLYING
1982

Proximity to Airport	Type of Flight Plan					Aircraft	
	VFR	IFR	VFR/IFR	None	Other	No.	Percent
On Airport	35	1	0	235	3	274	66.2
On Airstrip	1	0	0	14	0	15	3.6
Within 5 NM	7	0	0	49	0	56	13.5
5 NM or Greater	15	0	0	49	0	64	15.5
Other	1	0	0	4	0	5	1.2
Number of Aircraft	59	1	0	351	3	414	
Percent	14.3	0.2	0.0	84.8	0.7		

Table 164 - MOST PREVALENT DETAILED ACCIDENT CAUSES
INSTRUCTIONAL FLYING
1982

Detailed Cause	Number of Aircraft	Percent of Aircraft
Directional control - Not maintained - Pilot in command	72	17.4
Supervision - Inadequate - Pilot in command(CFI)	49	11.8
Level off - Improper - Pilot in command	33	8.0
Recovery from bounced landing - Improper - Pilot in command	31	7.5
Compensation for wind conditions - Improper - Pilot in command	27	6.5
Undetermined	24	5.8
Distance - Misjudged - Pilot in command	18	4.4
Fluid,fuel - Exhaustion	18	4.4
Ground loop/swerve - Inadvertent - Pilot in command	17	4.1
Altitude - Misjudged - Pilot in command	16	3.9
Total Number of Aircraft:	414	

Table 165 - ACCIDENTS, FATAL ACCIDENTS, FATALITIES, AND RATES
INSTRUCTIONAL FLYING
1975 - 1982

Year	Accidents	Fatal Accidents	Fatalities Total	Fatalities Aboard General Aviation Aircraft
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

Year	Hours Flown	Accident Rate per 100,000 Aircraft Hours Flown * Total	Fatal
1975	5,882,000	9.98	0.73
1976	6,102,000	8.87	0.90
1977	7,646,000	7.48	0.63
1978	6,322,000	9.55	0.98
1979	8,144,000	6.34	0.48
1980	7,315,000	6.30	0.56
1981	7,104,000	6.02	0.56
1982	4,939,000	8.32	0.45

Table 166 - MOST PREVALENT FIRST OCCURRENCES IN ALL ACCIDENTS
INSTRUCTIONAL FLYING
1982 AND 1977 - 1981

	1982		1977 - 1981	
Type of Occurrence	No.	Percent	Mean	Percent
Loss of power	74	17.9	105.2	20.2
Loss of control - on ground	89	21.5	98.6	18.9
Hard landing	64	15.5	84.0	16.1
Collision with object/terrain	54	13.0	82.2	15.8
Loss of control - in flight	35	8.5	45.4	8.7
Undershoot	25	6.0	23.0	4.4
Nose over/down	9	2.2	21.6	4.1
Miscellaneous	20	4.8	19.6	3.8
Midair collision	7	1.7	13.8	2.7
Gear collapsed/retracted	8	1.9	9.0	1.7
Airframe/component/system fail/malf	11	2.7	7.4	1.4
(All other types)	18	4.3	10.8	2.1
Total	414	100.0	520.6	100.0

Table 167 - MOST PREVALENT FIRST PHASES OF OPERATION IN ALL ACCIDENTS
INSTRUCTIONAL FLYING
1982 AND 1977 - 1981

	1982		1977 - 1981	
Phase of Operation	No.	Percent	Mean	Percent
Landing	182	44.0	214.2	41.1
Approach	63	15.2	95.2	18.3
Takeoff	79	19.1	90.4	17.4
Cruise	30	7.2	43.4	8.3
Maneuvering	29	7.0	33.2	6.4
Taxi	13	3.1	17.4	3.3
Descent	8	1.9	11.6	2.2
Climb	5	1.2	9.6	1.8
Standing	2	.5	4.0	.8
Other	3	.7	1.6	.3
Total	414	100.0	520.6	100.0

Table 168 - BROAD CAUSE/FACTOR ASSIGNMENTS IN ALL ACCIDENTS
INSTRUCTIONAL FLYING
1982 AND 1977 - 1981

	1982		1977 - 1981	
Broad Cause/Factor	No.	Percent	Mean	Percent
Pilot	360	87.0	450.6	86.6
Weather	108	26.1	84.6	16.3
Terrain	130	31.4	81.2	15.6
Powerplant	58	14.0	56.8	10.9
Personnel	33	8.0	55.0	10.6
Airport/Airways/Facilities	33	8.0	43.6	8.4
Miscellaneous	90	21.7	14.6	2.8
Landing Gear	42	10.1	12.6	2.4
Systems	4	1.0	6.2	1.2
Undetermined	24	5.8	5.0	1.0
Rotorcraft	5	1.2	2.8	.5
Airframe	4	1.0	2.6	.5
Instruments/Equipment/Accessories	3	.7	1.2	.2
Number of Aircraft	414		520.6	

BY THE NATIONAL TRANSPORTATION SAFETY BOARD

/s/ JIM BURNETT
Chairman

PATRICIA A. GOLDMAN
/s/ Vice Chairman

/s/ JOHN K. LAUBER
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 cowling, 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/stall) were events which do not necessarily produce either injury or damage. Therefore, 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 five 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 (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 1982. 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

Previous 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 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 form 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	(OLD) ACCIDENT TYPES	(NEW) 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
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	(OLD) ACCIDENT TYPES	(NEW) 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	(OLD) ACCIDENT TYPES	(NEW) 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
1982

	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE	(1290)	(1363)	(2653)	(6321)	(5922)	(12243)
AIRCRAFT	(175)	(77)	(252)	(1303)	(522)	(1825)
STRUCTURE	(55)	(43)	(98)	(303)	(280)	(583)
FUSELAGE	(5)	(2)	(7)	(14)	(10)	(24)
FUSELAGE	(4)	(0)	(4)	(4)	(1)	(5)
FAILURE,PARTIAL	1	0	1	1	0	1
INADEQUATE	1	0	1	1	0	1
OVERLOAD	1	0	1	1	0	1
SEPARATION	1	0	1	1	0	1
VIBRATION	0	0	0	0	1	1
FUSELAGE,CREW COMPARTMENT	(0)	(2)	(2)	(2)	(7)	(9)
FIRE	0	1	1	1	1	2
SMOKE	0	1	1	0	6	6
UNDETERMINED	0	0	0	1	0	1
FUSELAGE,BULKHEAD	(0)	(0)	(0)	(0)	(1)	(1)
OVERTEMPERATURE	0	0	0	0	1	1
FUSELAGE,FLOOR	(0)	(0)	(0)	(1)	(0)	(1)
FIRE	0	0	0	1	0	1
FUSELAGE,LONGERON	(0)	(0)	(0)	(2)	(0)	(2)
CRACKED	0	0	0	1	0	1
FAILURE,PARTIAL	0	0	0	1	0	1
FUSELAGE,SEAT	(1)	(0)	(1)	(3)	(1)	(4)
FAILURE,TOTAL	0	0	0	1	0	1
INADEQUATE	0	0	0	0	1	1
NOT ENGAGED	1	0	1	2	0	2
FUSELAGE,INSTRUMENT/ELECTRICAL PANEL	(0)	(0)	(0)	(2)	(0)	(2)
FIRE	0	0	0	1	0	1
UNDETERMINED	0	0	0	1	0	1
WING	(27)	(23)	(50)	(37)	(38)	(75)
WING	(14)	(22)	(36)	(22)	(35)	(57)
DETERIORATED	1	0	1	1	0	1
FAILURE,PARTIAL	0	1	1	0	1	1
FAILURE,TOTAL	2	2	4	2	2	4
FOREIGN OBJECT DAMAGE	0	0	0	0	2	2
ICE	6	0	6	14	11	25
LOOS,PARTIAL	0	1	1	0	1	1
OVERLOAD	1	6	7	1	6	7
SEPARATION	4	12	16	4	12	16
WING,SPAR	(8)	(0)	(8)	(8)	(0)	(8)
FAILURE,TOTAL	2	0	2	2	0	2
FIRE	1	0	1	1	0	1
OVERLOAD	4	0	4	4	0	4
SEPARATION	1	0	1	1	0	1
WING,WING RIB	(0)	(0)	(0)	(0)	(1)	(1)
BUCKLED	0	0	0	0	1	1
WING,SKIN	(2)	(0)	(2)	(3)	(1)	(4)
FAILURE,PARTIAL	1	0	1	1	0	1
ICE	0	0	0	0	1	1
OVERLOAD	0	0	0	1	0	1
SEPARATION	1	0	1	1	0	1
WING,WINGTIP	(2)	(0)	(2)	(2)	(0)	(2)
FAILURE,TOTAL	1	0	1	1	0	1
SEPARATION	1	0	1	1	0	1
WING,WINGLET	(1)	(1)	(2)	(2)	(1)	(3)
FAILURE,TOTAL	1	0	1	2	0	2
SEPARATION	0	1	1	0	1	1
NACELLE/PYLON	(0)	(0)	(0)	(1)	(1)	(2)
NACELLE/PYLON,MAIN FRAME	(0)	(0)	(0)	(0)	(1)	(1)
SMOKE	0	0	0	0	1	1
NACELLE/PYLON,AUXILLIARY	(0)	(0)	(0)	(1)	(0)	(1)
PENETRATED	0	0	0	1	0	1
FLIGHT CONTROL SURFACES/ATTACHMENTS	(6)	(7)	(13)	(14)	(13)	(27)

CAUSE/FACTOR TABLE
ALL OPERATIONS
1982

	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
STRUCTURE (Continued)						
FLIGHT CONTROL SURFACES/ATTACHMENTS (Continued)						
FLIGHT CONTROL SURFACES/ATTACHMENTS	(0)	(0)	(0)	(0)	(1)	(1)
ICE	0	0	0	0	1	1
FLIGHT CONTROL,ELEVATOR	(2)	(0)	(2)	(4)	(0)	(4)
FLUTTER	1	0	1	1	0	1
FOREIGN OBJECT DAMAGE	0	0	0	1	0	1
JAMMED	0	0	0	1	0	1
SEPARATION	1	0	1	1	0	1
FLIGHT CONTROL,ELEVATOR TAB SURFACE	(0)	(0)	(0)	(0)	(2)	(2)
FROZEN	0	0	0	0	1	1
INOPERATIVE	0	0	0	0	1	1
FLIGHT CONTROL,ELEVATOR ATTACHMENT	(0)	(0)	(0)	(1)	(0)	(1)
SEPARATION	0	0	0	1	0	1
FLIGHT CONTROL,STABILATOR	(0)	(7)	(7)	(1)	(7)	(8)
FAILURE,TOTAL	0	1	1	0	1	1
IMPROPER	0	0	0	1	0	1
OVERLOAD	0	3	3	0	3	3
SEPARATION	0	3	3	0	3	3
FLIGHT CONTROL,STABILATOR ATTACHMENT	(3)	(0)	(3)	(3)	(0)	(3)
CRACKED	1	0	1	1	0	1
FAILURE,TOTAL	1	0	1	1	0	1
OVERLOAD	1	0	1	1	0	1
FLIGHT CONTROL,AILERON	(0)	(0)	(0)	(0)	(2)	(2)
JAMMED	0	0	0	0	2	2
FLIGHT CONTROL,RUDDER	(0)	(0)	(0)	(3)	(0)	(3)
JAMMED	0	0	0	3	0	3
FLIGHT CONTROL,RUDDER TAB ATTACHMENT	(0)	(0)	(0)	(1)	(0)	(1)
FAILURE,PARTIAL	0	0	0	1	0	1
FLIGHT CONTROL,GUST LOCK	(1)	(0)	(1)	(1)	(0)	(1)
ENGAGED	1	0	1	1	0	1
FLIGHT CONTROL,SPEED BRAKE	(0)	(0)	(0)	(0)	(1)	(1)
UNLOCKED	0	0	0	0	1	1
LANDING GEAR	(0)	(3)	(3)	(156)	(170)	(326)
LANDING GEAR	(0)	(1)	(1)	(4)	(38)	(42)
BENT	0	0	0	0	1	1
BINDING(MECHANICAL)	0	0	0	1	0	1
INOPERATIVE	0	1	1	0	1	1
JAMMED	0	0	0	0	1	1
OVERLOAD	0	0	0	0	34	34
SEPARATION	0	0	0	0	1	1
UNDETERMINED	0	0	0	2	0	2
UNLOCKED	0	0	0	1	0	1
LANDING GEAR,MAIN GEAR	(0)	(1)	(1)	(12)	(36)	(48)
BUCKLED	0	0	0	0	1	1
CRACKED	0	0	0	1	1	2
DISCONNECTED	0	0	0	1	0	1
FAILURE,PARTIAL	0	0	0	1	0	1
FAILURE,TOTAL	0	0	0	4	0	4
FATIGUE	0	0	0	1	0	1
OVERLOAD	0	0	0	3	31	34
SEPARATION	0	1	1	0	1	1
STRESS CORROSION	0	0	0	0	1	1
UNDETERMINED	0	0	0	1	0	1
UNLOCKED	0	0	0	0	1	1
LANDING GEAR,MAIN GEAR SHOCK ABSORBING STRUT	(0)	(0)	(0)	(1)	(0)	(1)
SEPARATION	0	0	0	1	0	1
LANDING GEAR,MAIN GEAR STRUT	(0)	(0)	(0)	(3)	(5)	(8)

CAUSE/FACTOR TABLE
ALL OPERATIONS
1982

	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
STRUCTURE (Continued)						
LANDING GEAR (Continued)						
LANDING GEAR,MAIN GEAR STRUT (Continued)						
FAILURE,TOTAL	0	0	0	2	0	2
FATIGUE	0	0	0	1	0	1
OTHER	0	0	0	0	1	1
OVERLOAD	0	0	0	0	3	3
SEPARATION	0	0	0	0	1	1
LANDING GEAR,MAIN GEAR ATTACHMENT	(0)	(0)	(0)	(11)	(2)	(13)
DISCONNECTED	0	0	0	2	0	2
FAILURE,PARTIAL	0	0	0	1	0	1
FAILURE,TOTAL	0	0	0	2	0	2
FATIGUE	0	0	0	1	0	1
IMPROPER	0	0	0	1	0	1
LOOSE	0	0	0	1	0	1
LOSS,TOTAL	0	0	0	1	0	1
OVERLOAD	0	0	0	2	2	4
LANDING GEAR,NOSE GEAR	(0)	(0)	(0)	(12)	(48)	(60)
BINDING(MECHANICAL)	0	0	0	1	0	1
BUCKLED	0	0	0	0	1	1
DISCONNECTED	0	0	0	1	0	1
FAILURE,TOTAL	0	0	0	2	1	3
JAMMED	0	0	0	2	0	2
OVERLOAD	0	0	0	2	46	48
PREVIOUS DAMAGE	0	0	0	1	0	1
UNDETERMINED	0	0	0	2	0	2
UNLOCKED	0	0	0	1	0	1
LANDING GEAR,NOSE GEAR ASSEMBLY	(0)	(0)	(0)	(5)	(9)	(14)
BINDING(MECHANICAL)	0	0	0	1	0	1
BLOCKED(PARTIAL)	0	0	0	1	0	1
BUCKLED	0	0	0	0	1	1
CORRODED	0	0	0	0	1	1
DISABLED	0	0	0	0	1	1
FAILURE,TOTAL	0	0	0	1	0	1
OVERLOAD	0	0	0	0	5	5
UNDETERMINED	0	0	0	1	0	1
VIBRATION	0	0	0	0	1	1
WORN	0	0	0	1	0	1
LANDING GEAR,TAILWHEEL	(0)	(0)	(0)	(0)	(1)	(1)
OTHER	0	0	0	0	1	1
LANDING GEAR,TAILWHEEL ASSEMBLY	(0)	(0)	(0)	(5)	(2)	(7)
FAILURE,PARTIAL	0	0	0	2	0	2
FAILURE,TOTAL	0	0	0	1	0	1
INADEQUATE	0	0	0	1	0	1
LOOSE	0	0	0	0	1	1
OVERLOAD	0	0	0	0	1	1
UNLOCKED	0	0	0	1	0	1
LANDING GEAR,WHEEL	(0)	(0)	(0)	(9)	(2)	(11)
BINDING(MECHANICAL)	0	0	0	1	0	1
FAILURE,PARTIAL	0	0	0	1	0	1
FAILURE,TOTAL	0	0	0	1	0	1
FOREIGN OBJECT	0	0	0	1	0	1
LOCKED	0	0	0	1	0	1
LOOSE	0	0	0	2	0	2
OVERLOAD	0	0	0	0	1	1
SEPARATION	0	0	0	1	1	2
UNDETERMINED	0	0	0	1	0	1
LANDING GEAR,TIRE	(0)	(0)	(0)	(6)	(3)	(9)
FAILURE,PARTIAL	0	0	0	1	0	1
FAILURE,TOTAL	0	0	0	3	2	5
LEAK	0	0	0	1	0	1
NO PRESSURE	0	0	0	1	0	1
OVERLOAD	0	0	0	0	1	1
LANDING GEAR,AXLE	(0)	(0)	(0)	(6)	(0)	(6)

CAUSE/FACTOR TABLE
ALL OPERATIONS
1982

	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
STRUCTURE (Continued)						
LANDING GEAR (Continued)						
LANDING GEAR,AXLE (Continued)						
FAILURE,TOTAL	0	0	0	5	0	5
SEPARATION	0	0	0	1	0	1
LANDING GEAR,SKI ASSEMBLY	(0)	(0)	(0)	(0)	(2)	(2)
FAILURE,PARTIAL	0	0	0	0	1	1
PREVIOUS DAMAGE	0	0	0	0	1	1
LANDING GEAR,GEAR WARNING SYSTEM	(0)	(0)	(0)	(0)	(5)	(5)
BURNED	0	0	0	0	2	2
DISCONNECTED	0	0	0	0	1	1
INOPERATIVE	0	0	0	0	2	2
LANDING GEAR,GEAR INDICATING SYSTEM	(0)	(0)	(0)	(1)	(1)	(2)
BURNED	0	0	0	0	1	1
FAILURE,PARTIAL	0	0	0	1	0	1
LANDING GEAR,SKID ASSEMBLY	(0)	(0)	(0)	(0)	(3)	(3)
FOREIGN OBJECT	0	0	0	0	1	1
OVERLOAD	0	0	0	0	2	2
LANDING GEAR,NORMAL BRAKE SYSTEM	(0)	(0)	(0)	(50)	(6)	(56)
BINDING(MECHANICAL)	0	0	0	2	0	2
BLOCKED(PARTIAL)	0	0	0	1	0	1
CORRODED	0	0	0	2	0	2
DISABLED	0	0	0	1	0	1
DISCONNECTED	0	0	0	1	0	1
FAILURE,PARTIAL	0	0	0	8	1	9
FAILURE,TOTAL	0	0	0	10	1	11
FROZEN	0	0	0	3	0	3
IMPROPER	0	0	0	1	0	1
INADEQUATE	0	0	0	0	1	1
INOPERATIVE	0	0	0	5	1	6
LEAK	0	0	0	2	0	2
LOCKED	0	0	0	7	1	8
LOOSE	0	0	0	1	0	1
PRESSURE TOO LOW	0	0	0	1	0	1
UNDETERMINED	0	0	0	2	0	2
UNMARKED	0	0	0	1	0	1
WORN	0	0	0	2	1	3
LANDING GEAR,EMERGENCY BRAKE SYSTEM	(0)	(0)	(0)	(1)	(0)	(1)
INOPERATIVE	0	0	0	1	0	1
LANDING GEAR,GEAR LOCKING MECHANISM	(0)	(0)	(0)	(12)	(0)	(12)
FAILURE,PARTIAL	0	0	0	2	0	2
FAILURE,TOTAL	0	0	0	3	0	3
NOT ENGAGED	0	0	0	1	0	1
OTHER	0	0	0	1	0	1
OVERTEMPERATURE	0	0	0	1	0	1
UNDETERMINED	0	0	0	2	0	2
UNLOCKED	0	0	0	2	0	2
LANDING GEAR,GEAR SWITCH	(0)	(0)	(0)	(2)	(0)	(2)
INCORRECT	0	0	0	1	0	1
LOOSE	0	0	0	1	0	1
LANDING GEAR,GEAR LEVER	(0)	(0)	(0)	(0)	(1)	(1)
ENGAGED	0	0	0	0	1	1
LANDING GEAR,NOSEWHEEL STEERING	(0)	(0)	(0)	(1)	(1)	(2)
MOVEMENT RESTRICTED	0	0	0	1	0	1
OVERLOAD	0	0	0	0	1	1
LANDING GEAR,NORMAL RETRACTION/EXTENSION ASSEMBLY	(0)	(1)	(1)	(15)	(5)	(20)
BENT	0	0	0	1	0	1
BINDING(MECHANICAL)	0	0	0	1	0	1
CORRODED	0	0	0	1	0	1
ERRATIC	0	0	0	0	1	1

CAUSE/FACTOR TABLE
ALL OPERATIONS
1982

	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
STRUCTURE (Continued)						
LANDING GEAR (Continued)						
LANDING GEAR,NORMAL RETRACTION/EXTENSION ASSEMBLY (Continued)						
FAILURE,TOTAL	0	0	0	6	0	6
INOPERATIVE	0	0	0	0	1	1
JAMMED	0	0	0	2	0	2
MOVEMENT RESTRICTED	0	0	0	1	0	1
NOT ENGAGED	0	0	0	1	1	2
OTHER	0	0	0	1	0	1
UNDETERMINED	0	1	1	1	2	3
DOOR	(0)	(3)	(3)	(3)	(14)	(17)
DOOR	(0)	(0)	(0)	(0)	(4)	(4)
NOT ENGAGED	0	0	0	0	2	2
OPEN	0	0	0	0	2	2
DOOR,EXTERIOR CREW	(0)	(2)	(2)	(0)	(4)	(4)
LACK OF	0	1	1	0	1	1
OPEN	0	0	0	0	1	1
UNLOCKED	0	1	1	0	1	1
VIBRATION	0	0	0	0	1	1
DOOR,PASSENGER	(0)	(0)	(0)	(0)	(2)	(2)
OPEN	0	0	0	0	1	1
UNLOCKED	0	0	0	0	1	1
DOOR,CARGO	(0)	(0)	(0)	(1)	(2)	(3)
OPEN	0	0	0	0	1	1
UNDETERMINED	0	0	0	1	0	1
UNLOCKED	0	0	0	0	1	1
DOOR,LANDING GEAR	(0)	(1)	(1)	(2)	(1)	(3)
IMPROPER	0	0	0	1	0	1
OTHER	0	1	1	0	1	1
WORN	0	0	0	1	0	1
DOOR,INSPECTION	(0)	(0)	(0)	(0)	(1)	(1)
EXPLODED	0	0	0	0	1	1
WINDOW	(0)	(0)	(0)	(4)	(14)	(18)
WINDOW	(0)	(0)	(0)	(1)	(0)	(1)
UNLOCKED	0	0	0	1	0	1
WINDOW,FLIGHT COMPARTMENT WINDOW/WINDSHIELD	(0)	(0)	(0)	(3)	(14)	(17)
BURST	0	0	0	0	1	1
DIRTY(FOGGY)	0	0	0	0	6	6
FAILURE,PARTIAL	0	0	0	0	1	1
ICE	0	0	0	2	4	6
OTHER	0	0	0	1	0	1
OVERLOAD	0	0	0	0	1	1
SEPARATION	0	0	0	0	1	1
FLIGHT CONTROL SYSTEM	(0)	(0)	(0)	(21)	(6)	(27)
FLIGHT CONTROL SYSTEM	(0)	(0)	(0)	(1)	(1)	(2)
JAMMED	0	0	0	1	0	1
LOCKED	0	0	0	0	1	1
FLT CONTROL SYST,AILERON CONTROL	(0)	(0)	(0)	(2)	(0)	(2)
DISCONNECTED	0	0	0	1	0	1
INCORRECT	0	0	0	1	0	1
FLT CONTROL SYST,ELEVATOR CONTROL	(0)	(0)	(0)	(12)	(0)	(12)
BINDING(MECHANICAL)	0	0	0	1	0	1
DISABLED	0	0	0	1	0	1
DISCONNECTED	0	0	0	5	0	5
FOREIGN OBJECT	0	0	0	1	0	1
INOPERATIVE	0	0	0	1	0	1
JAMMED	0	0	0	1	0	1
LOCKED	0	0	0	1	0	1
UNDERTORQUED	0	0	0	1	0	1
FLT CONTROL SYST,ELEVATOR TAB CONTROL(TRIM)	(0)	(0)	(0)	(0)	(1)	(1)
MOVEMENT RESTRICTED	0	0	0	0	1	1

CAUSE/FACTOR TABLE
ALL OPERATIONS
1962

	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
STRUCTURE (Continued)						
FLIGHT CONTROL SYSTEM (Continued)						
FLT CONTROL SYST,RUDDER CONTROL	(0)	(0)	(0)	(4)	(2)	(6)
DISCONNECTED	0	0	0	1	0	1
IMPROPER	0	0	0	0	1	1
JAMMED	0	0	0	2	1	3
MOVEMENT RESTRICTED	0	0	0	1	0	1
FLT CONTROL SYST,WING FLAP CONTROL	(0)	(0)	(0)	(2)	(0)	(2)
FAILURE,TOTAL	0	0	0	1	0	1
INOPERATIVE	0	0	0	1	0	1
FLT CONTROL SYST,WING SPOILER SYSTEM	(0)	(0)	(0)	(0)	(2)	(2)
MOVEMENT RESTRICTED	0	0	0	0	1	1
UNDETERMINED	0	0	0	0	1	1
STABILIZER	(1)	(1)	(2)	(4)	(2)	(6)
STABILIZER	(1)	(1)	(2)	(1)	(2)	(3)
FOREIGN OBJECT DAMAGE	0	0	0	0	1	1
OVERLOAD	1	1	2	1	1	2
HORIZONTAL STABILIZER SURFACE	(0)	(0)	(0)	(3)	(0)	(3)
BENT	0	0	0	1	0	1
DISTORTED	0	0	0	1	0	1
ICE	0	0	0	1	0	1
ROTORCRAFT FLIGHT CONTROL	(2)	(0)	(2)	(14)	(0)	(14)
ROTORCRAFT FLIGHT CONTROL	(0)	(0)	(0)	(2)	(0)	(2)
FAILURE,TOTAL	0	0	0	1	0	1
SEPARATION	0	0	0	1	0	1
ROTORCRAFT FLIGHT CONTROL,CYCLIC CONTROL	(1)	(0)	(1)	(3)	(0)	(3)
DISCONNECTED	0	0	0	1	0	1
FAILURE,TOTAL	1	0	1	2	0	2
ROTORCRAFT FLIGHT CONTROL,CYCLIC BELLCRANK	(0)	(0)	(0)	(4)	(0)	(4)
DISCONNECTED	0	0	0	1	0	1
FAILURE,TOTAL	0	0	0	1	0	1
FATIGUE	0	0	0	1	0	1
INADEQUATE	0	0	0	1	0	1
ROTORCRAFT FLIGHT CONTROL,COLLECTIVE CONTROL	(1)	(0)	(1)	(3)	(0)	(3)
FAILURE,TOTAL	1	0	1	1	0	1
INCORRECT	0	0	0	1	0	1
UNDETERMINED	0	0	0	1	0	1
ROTORCRAFT FLIGHT CONTROL,TAIL ROTOR CONTROL	(0)	(0)	(0)	(1)	(0)	(1)
LACK OF	0	0	0	1	0	1
ROTORCRAFT FLIGHT CONTROL,PITCH CHANGE ROD	(0)	(0)	(0)	(1)	(0)	(1)
OVERLOAD	0	0	0	1	0	1
ROTOR DRIVE SYSTEM	(10)	(1)	(11)	(26)	(2)	(28)
ROTOR DRIVE SYSTEM	(2)	(0)	(2)	(2)	(0)	(2)
FAILURE,TOTAL	1	0	1	1	0	1
FATIGUE	1	0	1	1	0	1
ROTOR DRIVE SYSTEM,ENGINE TO TRANSMISSION DRIVE	(4)	(0)	(4)	(5)	(0)	(5)
DISABLED	1	0	1	1	0	1
FAILURE,TOTAL	1	0	1	2	0	2
FATIGUE	1	0	1	1	0	1
IMPROPER	1	0	1	1	0	1
ROTOR DRIVE SYSTEM,MAIN ROTOR MAST(DRIVE SHAFT)	(0)	(1)	(1)	(0)	(1)	(1)
OVERLOAD	0	1	1	0	1	1
ROTOR DRIVE SYSTEM,CLUTCH ASSEMBLY	(1)	(0)	(1)	(4)	(0)	(4)
DISABLED	1	0	1	1	0	1
FAILURE,TOTAL	0	0	0	2	0	2
WORN	0	0	0	1	0	1
ROTOR DRIVE SYSTEM,TAIL ROTOR GEAR BOX(90 DEG)	(3)	(0)	(3)	(7)	(0)	(7)
FAILURE,TOTAL	1	0	1	1	0	1
FATIGUE	0	0	0	1	0	1
OVERLOAD	1	0	1	2	0	2

CAUSE/FACTOR TABLE
ALL OPERATIONS
1982

	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
STRUCTURE (Continued)						
ROTOR DRIVE SYSTEM (Continued)						
ROTOR DRIVE SYSTEM/TAIL ROTOR GEAR BOX(90 DEG)			(Continued)			
SEPARATION	0	0	0	2	0	2
UNDETERMINED	1	0	1	1	0	1
ROTOR DRIVE SYSTEM/TAIL ROTOR DRIVE SHAFT	(0)	(0)	(0)	(7)	(0)	(7)
CRACKED	0	0	0	1	0	1
FAILURE/TOTAL	0	0	0	3	0	3
OVERLOAD	0	0	0	1	0	1
SEPARATION	0	0	0	2	0	2
ROTOR DRIVE SYSTEM/TAIL ROTOR DRIVE SHAFT BEARING	(0)	(0)	(0)	(1)	(0)	(1)
BINDING(MECHANICAL)	0	0	0	1	0	1
ROTOR DRIVE SYSTEM/MAIN ROTOR DRIVING PULLEY	(0)	(0)	(0)	(0)	(1)	(1)
WORN	0	0	0	0	1	1
ROTORCRAFT FLIGHT CONTROL SYSTEM	(1)	(0)	(1)	(1)	(2)	(3)
ROTORCRAFT FLIGHT CONTROL SYSTEM	(1)	(0)	(1)	(1)	(1)	(2)
INOPERATIVE	0	0	0	0	1	1
UNDETERMINED	1	0	1	1	0	1
ROTORCRAFT FLIGHT CONTROL SYSTEM/CYCLIC TRIM	(0)	(0)	(0)	(0)	(1)	(1)
BINDING(MECHANICAL)	0	0	0	0	1	1
ROTOR SYSTEM	(3)	(3)	(6)	(8)	(8)	(16)
ROTOR SYSTEM	(0)	(3)	(3)	(2)	(7)	(9)
DISTORTED	0	0	0	0	1	1
FAILURE/TOTAL	0	1	1	0	1	1
FOREIGN OBJECT DAMAGE	0	0	0	2	0	2
INADEQUATE	0	1	1	0	1	1
OVERLOAD	0	0	0	0	1	1
SEPARATION	0	1	1	0	2	2
VIBRATION	0	0	0	0	1	1
ROTOR SYSTEM/MAIN ROTOR BLADE	(0)	(0)	(0)	(2)	(0)	(2)
FAILURE/TOTAL	0	0	0	1	0	1
SEPARATION	0	0	0	1	0	1
ROTOR SYSTEM/MAIN ROTOR BLADE ABRASION STRIP	(0)	(0)	(0)	(0)	(1)	(1)
DETERIORATED	0	0	0	0	1	1
ROTOR SYSTEM/TAIL ROTOR BLADE	(3)	(0)	(3)	(3)	(0)	(3)
FAILURE/TOTAL	1	0	1	1	0	1
OVERLOAD	1	0	1	1	0	1
UNDETERMINED	1	0	1	1	0	1
ROTOR SYSTEM/TAIL ROTOR HUB COUNTERWEIGHT	(0)	(0)	(0)	(1)	(0)	(1)
SEPARATION	0	0	0	1	0	1
SYSTEMS	(14)	(11)	(25)	(45)	(55)	(100)
ELECTRICAL SYSTEM	(3)	(1)	(4)	(20)	(20)	(40)
ELECTRICAL SYSTEM	(0)	(1)	(1)	(8)	(7)	(15)
FAILURE/TOTAL	0	0	0	5	3	8
FIRE	0	0	0	2	1	3
IMPROPER	0	0	0	1	0	1
OUTPUT LOW	0	0	0	0	1	1
UNDETERMINED	0	1	1	0	2	2
ELECTRICAL SYSTEM/BATTERY	(0)	(0)	(0)	(1)	(4)	(5)
FAILURE/PARTIAL	0	0	0	0	1	1
OUTPUT LOW	0	0	0	1	3	4
ELECTRICAL SYSTEM/GENERATOR	(0)	(0)	(0)	(0)	(1)	(1)
FAILURE/TOTAL	0	0	0	0	1	1
ELECTRICAL SYSTEM/ALTERNATOR	(0)	(0)	(0)	(4)	(2)	(6)
FAILURE/PARTIAL	0	0	0	0	1	1
INOPERATIVE	0	0	0	1	0	1
SHORTED	0	0	0	1	0	1
WATER	0	0	0	1	0	1
WORN	0	0	0	1	1	2
ELECTRICAL SYSTEM/VOLTAGE REGULATOR	(0)	(0)	(0)	(1)	(0)	(1)

CAUSE/FACTOR TABLE
ALL OPERATIONS
1982

	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
SYSTEMS (Continued)						
ELECTRICAL SYSTEM (Continued)						
ELECTRICAL SYSTEM,VOLTAGE REGULATOR (Continued)						
POPPED/TRIPPED	0	0	0	1	0	1
ELECTRICAL SYSTEM,ELECTRIC RELAY	(0)	(0)	(0)	(1)	(0)	(1)
DETERIORATED	0	0	0	1	0	1
ELECTRICAL SYSTEM,ELECTRIC WIRING	(2)	(0)	(2)	(2)	(2)	(4)
DISCONNECTED	0	0	0	0	2	2
SHORTED	1	0	1	1	0	1
SMOKE	1	0	1	1	0	1
ELECTRICAL SYSTEM,ELECTRIC MOTOR	(0)	(0)	(0)	(0)	(1)	(1)
BURNED	0	0	0	0	1	1
ELECTRICAL SYSTEM,ELECTRIC SWITCH	(0)	(0)	(0)	(1)	(0)	(1)
INOPERATIVE	0	0	0	1	0	1
ELECTRICAL SYSTEM,FUSE	(0)	(0)	(0)	(1)	(0)	(1)
POPPED/TRIPPED	0	0	0	1	0	1
ELECTRICAL SYSTEM,CIRCUIT BREAKER	(1)	(0)	(1)	(1)	(3)	(4)
ENGAGED	0	0	0	0	1	1
POPPED/TRIPPED	1	0	1	1	2	3
HYDRAULIC SYSTEM	(0)	(0)	(0)	(10)	(1)	(11)
HYDRAULIC SYSTEM	(0)	(0)	(0)	(5)	(0)	(5)
BLOCKED(PARTIAL)	0	0	0	1	0	1
FAILURE,PARTIAL	0	0	0	1	0	1
FAILURE,TOTAL	0	0	0	1	0	1
INOPERATIVE	0	0	0	1	0	1
UNDETERMINED	0	0	0	1	0	1
HYDRAULIC SYSTEM,LINE	(0)	(0)	(0)	(3)	(0)	(3)
BURST	0	0	0	1	0	1
CRACKED	0	0	0	1	0	1
FATIGUE	0	0	0	1	0	1
HYDRAULIC SYSTEM,FITTING	(0)	(0)	(0)	(0)	(1)	(1)
LEAK	0	0	0	0	1	1
HYDRAULIC SYSTEM,SEAL	(0)	(0)	(0)	(1)	(0)	(1)
BRITTLE FRACTURE	0	0	0	1	0	1
HYDRAULIC SYSTEM,RELIEF VALVE	(0)	(0)	(0)	(1)	(0)	(1)
JAMMED	0	0	0	1	0	1
FLIGHT/NAV INSTRUMENTS	(2)	(6)	(8)	(2)	(10)	(12)
FLIGHT/NAV INSTRUMENTS,AIRSPEED INDICATOR	(0)	(0)	(0)	(0)	(1)	(1)
INOPERATIVE	0	0	0	0	1	1
FLIGHT/NAV INSTRUMENTS,ATTITUDE GYRO	(1)	(3)	(4)	(1)	(4)	(5)
DIRTY(FOGGY)	0	1	1	0	1	1
FALSE INDICATION	0	1	1	0	2	2
INOPERATIVE	1	1	2	1	1	2
FLIGHT/NAV INSTRUMENTS,DIRECTIONAL GYRO	(1)	(2)	(3)	(1)	(4)	(5)
ERRATIC	0	1	1	0	2	2
INOPERATIVE	1	1	2	1	2	3
FLIGHT/NAV INSTRUMENTS,HORIZ SITUATION IND(HSI)	(0)	(1)	(1)	(0)	(1)	(1)
NOT OPERATING	0	1	1	0	1	1
ANTI-ICE/DE-ICE SYSTEM	(0)	(0)	(0)	(1)	(2)	(3)
ANTI-ICE/DE-ICE SYSTEM,WING	(0)	(0)	(0)	(0)	(1)	(1)
ERRATIC	0	0	0	0	1	1
ANTI-ICE/DE-ICE SYSTEM,PROPELLER	(0)	(0)	(0)	(0)	(1)	(1)
ERRATIC	0	0	0	0	1	1
ANTI-ICE/DE-ICE SYSTEM,CARBURETOR DE-ICE	(0)	(0)	(0)	(1)	(0)	(1)
FAILURE,PARTIAL	0	0	0	1	0	1
COMM/NAV EQUIPMENT	(0)	(0)	(0)	(0)	(11)	(11)
COMM/NAV EQUIPMENT	(0)	(0)	(0)	(0)	(4)	(4)

CAUSE/FACTOR TABLE
ALL OPERATIONS
1982

	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
SYSTEMS (Continued)						
COMM/NAV EQUIPMENT (Continued)						
COMM/NAV EQUIPMENT (Continued)						
ERRATIC	0	0	0	0	1	1
INOPERATIVE	0	0	0	0	1	1
LOOSE	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,INTERCOM	(0)	(0)	(0)	(0)	(1)	(1)
ERRATIC	0	0	0	0	1	1
COMM/NAV EQUIPMENT,ILS RECEIVER	(0)	(0)	(0)	(0)	(1)	(1)
UNDETERMINED	0	0	0	0	1	1
COMM/NAV EQUIPMENT,VHF RECEIVER	(0)	(0)	(0)	(0)	(4)	(4)
ERRATIC	0	0	0	0	1	1
FAILURE,PARTIAL	0	0	0	0	1	1
INOPERATIVE	0	0	0	0	1	1
LOOSE	0	0	0	0	1	1
AUTOPILOT/FLIGHT DIRECTOR	(0)	(0)	(0)	(0)	(1)	(1)
AUTOPILOT/FLIGHT DIRECTOR	(0)	(0)	(0)	(0)	(1)	(1)
ERRATIC	0	0	0	0	1	1
MISC ROTORCRAFT	(6)	(0)	(6)	(6)	(0)	(6)
MISC ROTORCRAFT,EMERGENCY FLOATATION GEAR	(1)	(0)	(1)	(1)	(0)	(1)
INOPERATIVE	1	0	1	1	0	1
MISC ROTORCRAFT,TAIL BOOM	(4)	(0)	(4)	(4)	(0)	(4)
FAILURE,TOTAL	1	0	1	1	0	1
FATIGUE	1	0	1	1	0	1
SEPARATION	2	0	2	2	0	2
MISC ROTORCRAFT,TAIL CONE	(1)	(0)	(1)	(1)	(0)	(1)
SEPARATION	1	0	1	1	0	1
OTHER SYSTEM	(3)	(4)	(7)	(6)	(10)	(16)
OTHER SYSTEM	(0)	(0)	(0)	(0)	(1)	(1)
FAILURE,TOTAL	0	0	0	0	1	1
PITOT/STATIC SYSTEM	(0)	(0)	(0)	(1)	(2)	(3)
BLOCKED(TOTAL)	0	0	0	0	1	1
INOPERATIVE	0	0	0	0	1	1
OTHER	0	0	0	1	0	1
VACUUM SYSTEM	(2)	(3)	(5)	(3)	(3)	(6)
FAILURE,TOTAL	1	1	2	1	1	2
INOPERATIVE	0	1	1	0	1	1
OTHER	0	0	0	1	0	1
UNDETERMINED	1	1	2	1	1	2
PNEUMATIC SYSTEM	(1)	(0)	(1)	(1)	(0)	(1)
FAILURE,TOTAL	1	0	1	1	0	1
WARNING SYSTEM(OTHER)	(0)	(1)	(1)	(1)	(3)	(4)
ERRATIC	0	0	0	1	0	1
INOPERATIVE	0	1	1	0	3	3
SAFETY SYSTEM(OTHER)	(0)	(0)	(0)	(0)	(1)	(1)
DISABLED	0	0	0	0	1	1
POWERPLANT	(62)	(17)	(79)	(552)	(107)	(659)
ENGINE ASSEMBLY	(15)	(7)	(22)	(140)	(14)	(154)
ENGINE ASSEMBLY	(3)	(3)	(6)	(11)	(6)	(17)
CRACKED	0	0	0	0	1	1
FAILURE,PARTIAL	0	0	0	1	0	1
FAILURE,TOTAL	1	0	1	1	0	1
FIRE	1	1	2	3	1	4
INOPERATIVE	0	0	0	1	0	1
OVERTEMPERATURE	0	0	0	1	0	1
SEPARATION	0	1	1	1	1	2
UNDETERMINED	1	0	1	2	0	2

CAUSE/FACTOR TABLE
ALL OPERATIONS
1982

	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
POWERPLANT (Continued)						
ENGINE ASSEMBLY (Continued)						
ENGINE ASSEMBLY (Continued)						
VIBRATION	0	1	1	1	3	4
ENGINE ASSEMBLY,BEARING	(0)	(0)	(0)	(4)	(0)	(4)
FAILURE,PARTIAL	0	0	0	1	0	1
FAILURE,TOTAL	0	0	0	1	0	1
OVERTEMPERATURE	0	0	0	2	0	2
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	(1)	(0)	(1)	(6)	(1)	(7)
BINDING(MECHANICAL)	0	0	0	1	0	1
CRACKED	1	0	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
OTHER	0	0	0	1	0	1
ENGINE ASSEMBLY,CRANKSHAFT	(0)	(0)	(0)	(8)	(0)	(8)
FAILURE,PARTIAL	0	0	0	1	0	1
FAILURE,TOTAL	0	0	0	3	0	3
FATIGUE	0	0	0	3	0	3
WORN	0	0	0	1	0	1
ENGINE ASSEMBLY,MASTER ROD	(0)	(0)	(0)	(4)	(0)	(4)
BINDING(MECHANICAL)	0	0	0	1	0	1
FAILURE,PARTIAL	0	0	0	1	0	1
FAILURE,TOTAL	0	0	0	1	0	1
SEPARATION	0	0	0	1	0	1
ENGINE ASSEMBLY,CONNECTING ROD	(1)	(0)	(1)	(30)	(0)	(30)
DISCONNECTED	0	0	0	1	0	1
FAILURE,PARTIAL	0	0	0	2	0	2
FAILURE,TOTAL	0	0	0	14	0	14
FATIGUE	0	0	0	1	0	1
LOOSE	1	0	1	2	0	2
OVERTEMPERATURE	0	0	0	2	0	2
SEPARATION	0	0	0	3	0	3
UNDERTORQUED	0	0	0	3	0	3
UNDETERMINED	0	0	0	2	0	2
ENGINE ASSEMBLY,CYLINDER	(6)	(1)	(7)	(23)	(2)	(25)
CHARED	1	0	1	1	0	1
CORRODED	0	1	1	0	1	1
CRACKED	0	0	0	1	0	1
FAILURE,PARTIAL	0	0	0	4	0	4
FAILURE,TOTAL	1	0	1	4	0	4
FATIGUE	0	0	0	3	0	3
FOREIGN OBJECT	0	0	0	1	0	1
IMPROPER	1	0	1	1	0	1
LOOSE	1	0	1	1	0	1
LOW COMPRESSION	1	0	1	3	1	4
OVERLOAD	0	0	0	1	0	1
SEPARATION	1	0	1	1	0	1
UNDETERMINED	0	0	0	1	0	1
WORN	0	0	0	1	0	1
ENGINE ASSEMBLY,PISTON	(1)	(1)	(2)	(7)	(1)	(8)
BURNED	1	0	1	1	0	1
DISINTEGRATED	0	0	0	1	0	1
FAILURE,PARTIAL	0	0	0	2	0	2
FAILURE,TOTAL	0	0	0	2	0	2
FATIGUE	0	0	0	1	0	1
OTHER	0	1	1	0	1	1
ENGINE ASSEMBLY,PUSH ROD	(0)	(0)	(0)	(3)	(0)	(3)
BENT	0	0	0	1	0	1

CAUSE/FACTOR TABLE
ALL OPERATIONS
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	FATAL ACCIDENTS CAUSE	FACTOR	TOTAL	ALL ACCIDENTS CAUSE	FACTOR	TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
POWERPLANT (Continued)						
ENGINE ASSEMBLY (Continued)						
ENGINE ASSEMBLY,PUSH ROD (Continued)						
FAILURE,TOTAL	0	0	0	2	0	2
ENGINE ASSEMBLY,RING	(1)	(1)	(2)	(5)	(1)	(6)
FAILURE,PARTIAL	0	0	0	1	0	1
FAILURE,TOTAL	1	0	1	3	0	3
WORN	0	1	1	1	1	2
ENGINE ASSEMBLY,VALVE	(0)	(1)	(1)	(23)	(1)	(24)
BENT	0	0	0	1	0	1
BINDING(MECHANICAL)	0	1	1	0	1	1
FAILURE,PARTIAL	0	0	0	2	0	2
FAILURE,TOTAL	0	0	0	6	0	6
FATIGUE	0	0	0	2	0	2
INOPERATIVE	0	0	0	1	0	1
JAMMED	0	0	0	1	0	1
LEAK	0	0	0	2	0	2
LOOSE	0	0	0	1	0	1
MOVEMENT RESTRICTED	0	0	0	3	0	3
OPEN	0	0	0	1	0	1
OTHER	0	0	0	1	0	1
SEPARATION	0	0	0	1	0	1
WORN	0	0	0	1	0	1
ENGINE ASSEMBLY,BLOWER/IMPELLER	(2)	(0)	(2)	(7)	(0)	(7)
FAILURE,PARTIAL	1	0	1	2	0	2
FAILURE,TOTAL	1	0	1	5	0	5
ENGINE ASSEMBLY,MOUNT	(0)	(0)	(0)	(0)	(1)	(1)
BURNED	0	0	0	0	1	1
ENGINE ASSEMBLY,OTHER	(0)	(0)	(0)	(7)	(1)	(8)
FAILURE,TOTAL	0	0	0	2	0	2
LOOSE	0	0	0	2	0	2
LOW COMPRESSION	0	0	0	0	1	1
OVERTORQUE	0	0	0	1	0	1
PENETRATED	0	0	0	1	0	1
WORN	0	0	0	1	0	1
COMPRESSOR ASSEMBLY	(0)	(0)	(0)	(6)	(1)	(7)
COMPRESSOR ASSEMBLY	(0)	(0)	(0)	(2)	(1)	(3)
FAILURE,PARTIAL	0	0	0	1	0	1
FAILURE,TOTAL	0	0	0	1	0	1
OVERTEMPERATURE	0	0	0	0	1	1
COMPRESSOR ASSEMBLY,CASTING	(0)	(0)	(0)	(1)	(0)	(1)
DIRTY(FOGGY)	0	0	0	1	0	1
COMPRESSOR ASSEMBLY,BLADE	(0)	(0)	(0)	(3)	(0)	(3)
FAILURE,TOTAL	0	0	0	1	0	1
FATIGUE	0	0	0	2	0	2
TURBINE ASSEMBLY	(1)	(0)	(1)	(4)	(1)	(5)
TURBINE ASSEMBLY,GUIDE VANE	(0)	(0)	(0)	(1)	(0)	(1)
FAILURE,TOTAL	0	0	0	1	0	1
TURBINE ASSEMBLY,TURBINE WHEEL	(0)	(0)	(0)	(1)	(1)	(2)
LOOSE	0	0	0	1	0	1
OVERTEMPERATURE	0	0	0	0	1	1
TURBINE ASSEMBLY,SHAFT BEARING	(1)	(0)	(1)	(2)	(0)	(2)
FAILURE,PARTIAL	1	0	1	1	0	1
OTHER	0	0	0	1	0	1
EXHAUST SYSTEM	(0)	(0)	(0)	(15)	(4)	(19)
EXHAUST SYSTEM	(0)	(0)	(0)	(1)	(1)	(2)
FIRE	0	0	0	0	1	1
LEAK	0	0	0	1	0	1
EXHAUST SYSTEM,MUFFLER	(0)	(0)	(0)	(0)	(1)	(1)
BURNED	0	0	0	0	1	1

CAUSE/FACTOR TABLE
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	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
POWERPLANT (Continued)						
EXHAUST SYSTEM (Continued)						
EXHAUST SYSTEM/GASKET	(0)	(0)	(0)	(1)	(0)	(1)
FAILURE/TOTAL	0	0	0	1	0	1
EXHAUST SYSTEM/CLAMP	(0)	(0)	(0)	(3)	(0)	(3)
FAILURE/TOTAL	0	0	0	2	0	2
OVERTEMPERATURE	0	0	0	1	0	1
EXHAUST SYSTEM/STACK	(0)	(0)	(0)	(8)	(0)	(8)
CRACKED	0	0	0	2	0	2
FAILURE/PARTIAL	0	0	0	1	0	1
FAILURE/TOTAL	0	0	0	2	0	2
LEAK	0	0	0	1	0	1
LOOSE	0	0	0	1	0	1
SEPARATION	0	0	0	1	0	1
EXHAUST SYSTEM/BAFFLE	(0)	(0)	(0)	(0)	(1)	(1)
DISTORTED	0	0	0	0	1	1
EXHAUST SYSTEM/END PLATE	(0)	(0)	(0)	(0)	(1)	(1)
BLOCKED(PARTIAL)	0	0	0	0	1	1
EXHAUST SYSTEM/TERMINAL	(0)	(0)	(0)	(1)	(0)	(1)
BURST	0	0	0	1	0	1
EXHAUST SYSTEM/TURBOCHARGER	(0)	(0)	(0)	(1)	(0)	(1)
LEAK	0	0	0	1	0	1
PROPELLER SYSTEM/ACCESSORIES	(2)	(2)	(4)	(35)	(15)	(50)
PROPELLER SYSTEM/ACCESSORIES	(0)	(0)	(0)	(3)	(2)	(5)
ENGAGED	0	0	0	1	0	1
FAILURE/PARTIAL	0	0	0	1	0	1
SEPARATION	0	0	0	1	0	1
VIBRATION	0	0	0	0	2	2
PROPELLER SYSTEM/ACCESSORIES/BLADE	(1)	(1)	(2)	(19)	(4)	(23)
BENT	0	0	0	0	1	1
FAILURE/PARTIAL	0	0	0	1	0	1
FAILURE/TOTAL	0	0	0	2	0	2
FATIGUE	1	0	1	6	0	6
FOREIGN OBJECT DAMAGE	0	0	0	1	0	1
ICE	0	0	0	1	1	2
OVERLOAD	0	0	0	1	0	1
SEPARATION	0	1	1	7	2	9
PROPELLER SYSTEM/ACCESSORIES/HUB	(0)	(0)	(0)	(7)	(1)	(8)
DISCONNECTED	0	0	0	1	0	1
FAILURE/TOTAL	0	0	0	2	0	2
FATIGUE	0	0	0	3	0	3
OTHER	0	0	0	0	1	1
SEPARATION	0	0	0	1	0	1
PROPELLER SYSTEM/ACCESSORIES/HYDRAULIC PITCH CTL	(0)	(0)	(0)	(1)	(0)	(1)
BLOCKED(PARTIAL)	0	0	0	1	0	1
PROPELLER SYSTEM/ACCESSORIES/COUNTERWEIGHT	(0)	(0)	(0)	(0)	(1)	(1)
INCORRECT	0	0	0	0	1	1
PROPELLER SYSTEM/ACCESSORIES/GOVERNOR	(0)	(0)	(0)	(1)	(2)	(3)
INOPERATIVE	0	0	0	0	1	1
SEPARATION	0	0	0	0	1	1
UNDETERMINED	0	0	0	1	0	1
PROPELLER SYSTEM/ACCESSORIES/PROP BLADE RETENTION	(0)	(0)	(0)	(2)	(0)	(2)
FATIGUE	0	0	0	1	0	1
UNDERTORQUED	0	0	0	1	0	1
PROPELLER SYSTEM/ACCESSORIES/PROP CONTROL UNIT	(0)	(0)	(0)	(0)	(1)	(1)
UNDETERMINED	0	0	0	0	1	1
PROPELLER SYSTEM/ACCESSORIES/FEATHERING SYSTEM	(1)	(1)	(2)	(2)	(2)	(4)
FAILURE/PARTIAL	0	0	0	1	0	1

CAUSE/FACTOR TABLE
ALL OPERATIONS
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	FATAL ACCIDENTS CAUSE FACTOR		TOTAL	ALL ACCIDENTS CAUSE FACTOR		TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
POWERPLANT (Continued)						
PROPELLER SYSTEM/ACCESSORIES (Continued)						
PROPELLER SYSTEM/ACCESSORIES,FEATHERING SYSTEM			(Continued)			
UNDETERMINED	1	1	2	1	2	3
PROPELLER SYSTEM/ACCESSORIES,PITCH CHANGE MECH	(0)	(0)	(0)	(0)	(1)	(1)
UNDETERMINED	0	0	0	0	1	1
PROPELLER SYSTEM/ACCESSORIES,REVERSING SYSTEM	(0)	(0)	(0)	(0)	(1)	(1)
UNDETERMINED	0	0	0	0	1	1
ACCESSORY DRIVE ASSY	(0)	(0)	(0)	(2)	(0)	(2)
ACCESSORY DRIVE ASSY,DRIVE SHAFT	(0)	(0)	(0)	(2)	(0)	(2)
FAILURE,TOTAL	0	0	0	2	0	2
IGNITION SYSTEM	(4)	(3)	(7)	(33)	(5)	(38)
IGNITION SYSTEM	(0)	(0)	(0)	(2)	(0)	(2)
INADEQUATE	0	0	0	1	0	1
SHORTED	0	0	0	1	0	1
IGNITION SYSTEM,MAGNETO	(4)	(1)	(5)	(20)	(1)	(21)
CONTAMINATION	1	0	1	1	0	1
CORRODED	0	0	0	1	0	1
DETERIORATED	0	0	0	2	0	2
DISCONNECTED	0	0	0	1	0	1
ERRATIC	0	0	0	3	0	3
FAILURE,PARTIAL	0	0	0	3	0	3
FAILURE,TOTAL	1	0	1	3	0	3
FATIGUE	1	0	1	1	0	1
IMPROPER	0	1	1	0	1	1
INOPERATIVE	1	0	1	3	0	3
LOOSE	0	0	0	1	0	1
OUTPUT LOW	0	0	0	1	0	1
IGNITION SYSTEM,DISTRIBUTOR	(0)	(0)	(0)	(1)	(0)	(1)
SHORTED	0	0	0	1	0	1
IGNITION SYSTEM,SPARK PLUG	(0)	(2)	(2)	(7)	(3)	(10)
CONTAMINATION	0	0	0	1	0	1
CORRODED	0	0	0	1	0	1
DISCONNECTED	0	0	0	1	0	1
INOPERATIVE	0	1	1	0	1	1
LEADED PLUGS	0	0	0	0	1	1
OTHER	0	0	0	2	0	2
SEPARATION	0	0	0	1	0	1
STRIPPED THREAD	0	0	0	1	0	1
WORN	0	1	1	0	1	1
IGNITION SYSTEM,LOW TENSION WIRING	(0)	(0)	(0)	(2)	(0)	(2)
DISCONNECTED	0	0	0	1	0	1
LOOSE	0	0	0	1	0	1
IGNITION SYSTEM,IGNITION SWITCH	(0)	(0)	(0)	(1)	(1)	(2)
FAILURE,PARTIAL	0	0	0	1	0	1
WORN	0	0	0	0	1	1
ENGINE ACCESSORIES	(0)	(0)	(0)	(1)	(2)	(3)
ENGINE ACCESSORIES,ENGINE STARTER	(0)	(0)	(0)	(1)	(2)	(3)
DISINTEGRATED	0	0	0	1	0	1
NOT ENGAGED	0	0	0	0	1	1
OVERLOAD	0	0	0	0	1	1
BLEED AIR SYSTEM	(0)	(0)	(0)	(2)	(0)	(2)
BLEED AIR SYSTEM,VALVE	(0)	(0)	(0)	(2)	(0)	(2)
DIRTY(FOGGY)	0	0	0	1	0	1
LOOSE	0	0	0	1	0	1
FUEL SYSTEM	(29)	(4)	(33)	(176)	(23)	(199)
FUEL SYSTEM	(2)	(0)	(2)	(17)	(0)	(17)
BLOCKED(PARTIAL)	0	0	0	2	0	2
EXHAUSTION	0	0	0	3	0	3
FAILURE,PARTIAL	0	0	0	1	0	1
FIRE	1	0	1	1	0	1

CAUSE/FACTOR TABLE
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	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
POWERPLANT (Continued)						
FUEL SYSTEM (Continued)						
FUEL SYSTEM (Continued)						
INADEQUATE	0	0	0	1	0	1
LEAK	0	0	0	2	0	2
OTHER	0	0	0	1	0	1
PREVIOUS DAMAGE	1	0	1	1	0	1
UNDETERMINED	0	0	0	3	0	3
WATER	0	0	0	2	0	2
FUEL SYSTEM,TANK	(0)	(0)	(0)	(7)	(0)	(7)
DETERIORATED	0	0	0	1	0	1
DISTORTED	0	0	0	1	0	1
FAILURE,PARTIAL	0	0	0	1	0	1
INADEQUATE	0	0	0	3	0	3
PREVIOUS DAMAGE	0	0	0	1	0	1
FUEL SYSTEM,LINE	(2)	(0)	(2)	(13)	(2)	(15)
BLOCKED(PARTIAL)	0	0	0	1	0	1
DETERIORATED	0	0	0	2	0	2
DISCONNECTED	0	0	0	1	0	1
EXHAUSTION	0	0	0	0	1	1
FAILURE,PARTIAL	0	0	0	1	0	1
FAILURE,TOTAL	0	0	0	1	0	1
FATIGUE	0	0	0	1	0	1
IMPROPER	1	0	1	1	0	1
LEAK	1	0	1	3	1	4
SEPARATION	0	0	0	1	0	1
SMOKE	0	0	0	1	0	1
FUEL SYSTEM,LINE FITTING	(2)	(1)	(3)	(7)	(1)	(8)
FATIGUE	0	0	0	1	0	1
IMPROPER	1	0	1	2	0	2
LEAK	1	1	2	3	1	4
LOOSE	0	0	0	1	0	1
FUEL SYSTEM,SELECTOR VALVE	(1)	(0)	(1)	(11)	(1)	(12)
BINDING(MECHANICAL)	0	0	0	1	0	1
BLOCKED(PARTIAL)	0	0	0	1	0	1
BLOCKED(TOTAL)	0	0	0	1	0	1
DETERIORATED	0	0	0	1	0	1
DISCONNECTED	0	0	0	2	0	2
FAILURE,PARTIAL	0	0	0	1	0	1
IMPROPER	0	0	0	1	0	1
INADEQUATE	0	0	0	0	1	1
JAMMED	0	0	0	1	0	1
LOOSE	0	0	0	1	0	1
UNDETERMINED	1	0	1	1	0	1
FUEL SYSTEM,FILTER	(1)	(0)	(1)	(3)	(0)	(3)
BLOCKED(TOTAL)	0	0	0	2	0	2
CONTAMINATION	1	0	1	1	0	1
FUEL SYSTEM,STRAINER	(4)	(0)	(4)	(5)	(0)	(5)
BENT	1	0	1	1	0	1
BLOCKED(PARTIAL)	0	0	0	1	0	1
CONTAMINATION	1	0	1	1	0	1
DISCONNECTED	1	0	1	1	0	1
ICE	1	0	1	1	0	1
FUEL SYSTEM,SCREEN	(2)	(0)	(2)	(3)	(0)	(3)
BLOCKED(PARTIAL)	1	0	1	1	0	1
BLOCKED(TOTAL)	0	0	0	1	0	1
CONTAMINATION	1	0	1	1	0	1
FUEL SYSTEM,PRIMER SYSTEM	(0)	(0)	(0)	(2)	(0)	(2)
LOOSE	0	0	0	1	0	1
OPEN	0	0	0	1	0	1
FUEL SYSTEM,CARBURETOR	(5)	(1)	(6)	(38)	(10)	(48)
BINDING(MECHANICAL)	0	0	0	1	0	1

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	FATAL ACCIDENTS CAUSE	FACTOR	TOTAL	ALL ACCIDENTS CAUSE	FACTOR	TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
POWERPLANT (Continued)						
FUEL SYSTEM (Continued)						
FUEL SYSTEM,CARBURETOR (Continued)						
BLOCKED(PARTIAL)	1	0	1	4	0	4
BLOCKED(TOTAL)	1	0	1	4	0	4
CONTAMINATION	1	0	1	2	0	2
CORRODED	1	1	2	2	1	3
DETERIORATED	0	0	0	1	1	2
FAILURE,PARTIAL	0	0	0	2	0	2
FOREIGN OBJECT	0	0	0	1	0	1
ICE	0	0	0	19	6	25
INCORRECT	0	0	0	1	0	1
OTHER	0	0	0	0	2	2
WATER	1	0	1	1	0	1
FUEL SYSTEM,PUMP	(5)	(0)	(5)	(22)	(1)	(23)
BLOCKED(TOTAL)	1	0	1	2	0	2
CONTAMINATION	2	0	2	4	1	5
DISABLED	0	0	0	1	0	1
ERRATIC	0	0	0	2	0	2
FAILURE,TOTAL	0	0	0	1	0	1
FATIGUE	0	0	0	1	0	1
FOREIGN OBJECT	1	0	1	1	0	1
LEAK	0	0	0	1	0	1
LOOSE	0	0	0	2	0	2
OTHER	0	0	0	1	0	1
OUTPUT LOW	0	0	0	1	0	1
PRESSURE EXCESSIVE	0	0	0	2	0	2
WATER	1	0	1	1	0	1
WORN	0	0	0	2	0	2
FUEL SYSTEM,INJECTOR	(0)	(0)	(0)	(6)	(0)	(6)
FAILURE,TOTAL	0	0	0	1	0	1
IMPROPER	0	0	0	1	0	1
LEAK	0	0	0	1	0	1
MOVEMENT RESTRICTED	0	0	0	1	0	1
PRESSURE TOO LOW	0	0	0	1	0	1
WORN	0	0	0	1	0	1
FUEL SYSTEM,VENT	(0)	(0)	(0)	(5)	(0)	(5)
BLOCKED(TOTAL)	0	0	0	2	0	2
FOREIGN OBJECT	0	0	0	1	0	1
IMPROPER	0	0	0	1	0	1
LEAK	0	0	0	1	0	1
FUEL SYSTEM,DRAIN	(0)	(1)	(1)	(1)	(4)	(5)
CORRODED	0	0	0	0	1	1
INADEQUATE	0	1	1	0	2	2
INOPERATIVE	0	0	0	0	1	1
OPEN	0	0	0	1	0	1
FUEL SYSTEM,CAP	(2)	(0)	(2)	(11)	(2)	(13)
BLOCKED(PARTIAL)	0	0	0	1	0	1
CORRODED	0	0	0	2	0	2
DETERIORATED	0	0	0	1	0	1
INADEQUATE	0	0	0	1	0	1
LEAK	1	0	1	3	1	4
LOOSE	0	0	0	2	0	2
LOSS,TOTAL	0	0	0	0	1	1
SEPARATION	1	0	1	1	0	1
FUEL SYSTEM,RAM AIR	(3)	(1)	(4)	(12)	(2)	(14)
BLOCKED(PARTIAL)	0	1	1	3	2	5
BLOCKED(TOTAL)	0	0	0	2	0	2
DISINTEGRATED	1	0	1	1	0	1
FOREIGN OBJECT DAMAGE	0	0	0	1	0	1
ICE	1	0	1	3	0	3
LIFE EXPIRED	1	0	1	1	0	1
WORN	0	0	0	1	0	1

CAUSE/FACTOR TABLE
ALL OPERATIONS
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	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
POWERPLANT (Continued)						
FUEL SYSTEM (Continued)						
FUEL SYSTEM,NOZZLE	(0)	(0)	(0)	(2)	(0)	(2)
BLOCKED(PARTIAL)	0	0	0	1	0	1
INCORRECT	0	0	0	1	0	1
FUEL SYSTEM,FUEL CONTROL	(0)	(0)	(0)	(11)	(0)	(11)
BLOCKED(TOTAL)	0	0	0	1	0	1
CONTAMINATION	0	0	0	1	0	1
CRACKED	0	0	0	1	0	1
ERRATIC	0	0	0	1	0	1
FAILURE,PARTIAL	0	0	0	3	0	3
FAILURE,TOTAL	0	0	0	1	0	1
LEAK	0	0	0	2	0	2
UNDETERMINED	0	0	0	1	0	1
LUBRICATING SYSTEM	(3)	(0)	(3)	(39)	(3)	(42)
LUBRICATING SYSTEM	(0)	(0)	(0)	(5)	(1)	(6)
BLOCKED(PARTIAL)	0	0	0	1	0	1
BLOCKED(TOTAL)	0	0	0	1	0	1
FAILURE,TOTAL	0	0	0	1	0	1
LOOSE	0	0	0	1	1	2
PRESSURE TOO LOW	0	0	0	1	0	1
LUBRICATING SYSTEM,OIL LINE	(0)	(0)	(0)	(17)	(1)	(18)
BURST	0	0	0	1	0	1
CHAFED	0	0	0	1	0	1
CRACKED	0	0	0	2	0	2
DISCONNECTED	0	0	0	1	0	1
FAILURE,PARTIAL	0	0	0	2	0	2
FAILURE,TOTAL	0	0	0	1	0	1
FATIGUE	0	0	0	2	0	2
IMPROPER	0	0	0	1	0	1
LEAK	0	0	0	2	1	3
LOOSE	0	0	0	1	0	1
OVERTEMPERATURE	0	0	0	1	0	1
SEPARATION	0	0	0	1	0	1
VIBRATION	0	0	0	1	0	1
LUBRICATING SYSTEM,OIL HOSE	(2)	(0)	(2)	(2)	(0)	(2)
LEAK	1	0	1	1	0	1
LOOSE	1	0	1	1	0	1
LUBRICATING SYSTEM,OIL PRESSURE PUMP	(1)	(0)	(1)	(8)	(1)	(9)
FAILURE,TOTAL	1	0	1	5	0	5
FATIGUE	0	0	0	1	0	1
JAMMED	0	0	0	1	0	1
MOVEMENT RESTRICTED	0	0	0	1	0	1
WORN	0	0	0	0	1	1
LUBRICATING SYSTEM,OIL COOLER	(0)	(0)	(0)	(1)	(0)	(1)
LEAK	0	0	0	1	0	1
LUBRICATING SYSTEM,OIL SEAL	(0)	(0)	(0)	(3)	(0)	(3)
IMPROPER	0	0	0	1	0	1
LEADED PLUGS	0	0	0	1	0	1
LEAK	0	0	0	1	0	1
LUBRICATING SYSTEM,OIL TUBING	(0)	(0)	(0)	(3)	(0)	(3)
CRACKED	0	0	0	1	0	1
LEAK	0	0	0	1	0	1
SEPARATION	0	0	0	1	0	1
ENGINE INSTRUMENTS	(0)	(0)	(0)	(1)	(24)	(25)
ENGINE INSTRUMENTS,TACHOMETER	(0)	(0)	(0)	(0)	(1)	(1)
IMPROPER	0	0	0	0	1	1
ENGINE INSTRUMENTS,FUEL QUANTITY GAGE	(0)	(0)	(0)	(1)	(22)	(23)
ERRATIC	0	0	0	0	12	12
FAILURE,TOTAL	0	0	0	0	1	1
FALSE INDICATION	0	0	0	0	4	4
INCORRECT	0	0	0	1	2	3

CAUSE/FACTOR TABLE
ALL OPERATIONS
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	FATAL ACCIDENTS CAUSE FACTOR	FATAL ACCIDENTS TOTAL		ALL ACCIDENTS CAUSE FACTOR	ALL ACCIDENTS TOTAL	
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
POWERPLANT (Continued)						
ENGINE INSTRUMENTS (Continued)						
ENGINE INSTRUMENTS,FUEL QUANTITY GAGE (Continued)						
INOPERATIVE	0	0	0	0	3	3
ENGINE INSTRUMENTS,EGT GAGE	(0)	(0)	(0)	(0)	(1)	(1)
FLUCTUATING	0	0	0	0	1	1
REDUCTION GEAR ASSY	(4)	(0)	(4)	(6)	(0)	(6)
REDUCTION GEAR ASSY	(0)	(0)	(0)	(2)	(0)	(2)
DISCONNECTED	0	0	0	1	0	1
PREVIOUS DAMAGE	0	0	0	1	0	1
REDUCTION GEAR ASSY,ACCESSORY DRIVE BEARING	(4)	(0)	(4)	(4)	(0)	(4)
DISABLED	1	0	1	1	0	1
FAILURE,TOTAL	1	0	1	1	0	1
FATIGUE	1	0	1	1	0	1
INCORRECT	1	0	1	1	0	1
COOLING SYSTEM	(1)	(1)	(2)	(1)	(1)	(2)
COOLING SYSTEM	(1)	(0)	(1)	(1)	(0)	(1)
FAILURE,TOTAL	1	0	1	1	0	1
COOLING SYSTEM,COWLING	(0)	(1)	(1)	(0)	(1)	(1)
SEPARATION	0	1	1	0	1	1
THRUST REVERSER	(0)	(0)	(0)	(0)	(1)	(1)
THRUST REVERSER	(0)	(0)	(0)	(0)	(1)	(1)
OTHER	0	0	0	0	1	1
TURBOSHAFT ENGINE	(0)	(0)	(0)	(9)	(1)	(10)
TURBOSHAFT ENGINE,GAS GENERATOR TURBINE	(0)	(0)	(0)	(3)	(0)	(3)
FAILURE,PARTIAL	0	0	0	1	0	1
OVERSPEED	0	0	0	1	0	1
OVERTEMPERATURE	0	0	0	1	0	1
TURBOSHAFT ENGINE,GAS GENERATOR TURBINE SHAFT	(0)	(0)	(0)	(4)	(1)	(5)
FAILURE,TOTAL	0	0	0	1	0	1
FATIGUE	0	0	0	1	0	1
OVERTEMPERATURE	0	0	0	1	0	1
WORN	0	0	0	1	1	2
TURBOSHAFT ENGINE,FREE TURBINE GOVERNOR	(0)	(0)	(0)	(2)	(0)	(2)
BLOCKED(TOTAL)	0	0	0	1	0	1
CORRODED	0	0	0	1	0	1
THROTTLE/POWER LEVER	(0)	(0)	(0)	(8)	(2)	(10)
THROTTLE/POWER LEVER	(0)	(0)	(0)	(2)	(0)	(2)
BINDING(MECHANICAL)	0	0	0	1	0	1
FAILURE,TOTAL	0	0	0	1	0	1
THROTTLE/POWER LEVER,CABLE	(0)	(0)	(0)	(0)	(1)	(1)
BURNED	0	0	0	0	1	1
THROTTLE/POWER LEVER,LINKAGE	(0)	(0)	(0)	(6)	(1)	(7)
DISCONNECTED	0	0	0	2	0	2
FAILURE,PARTIAL	0	0	0	1	0	1
FATIGUE	0	0	0	1	0	1
IMPROPER	0	0	0	1	0	1
INCORRECT	0	0	0	0	1	1
JAMMED	0	0	0	1	0	1
PROPELLER CONTROL	(0)	(0)	(0)	(2)	(1)	(3)
PROPELLER CONTROL,CABLE	(0)	(0)	(0)	(2)	(1)	(3)
BURNED	0	0	0	0	1	1
INOPERATIVE	0	0	0	1	0	1
LOOSE	0	0	0	1	0	1
MIXTURE CONTROL	(0)	(0)	(0)	(8)	(2)	(10)
MIXTURE CONTROL	(0)	(0)	(0)	(6)	(0)	(6)
BINDING(MECHANICAL)	0	0	0	3	0	3
OTHER	0	0	0	1	0	1
SEPARATION	0	0	0	1	0	1
WORN	0	0	0	1	0	1
MIXTURE CONTROL,CABLE	(0)	(0)	(0)	(1)	(1)	(2)

CAUSE/FACTOR TABLE
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	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
POWERPLANT (Continued)						
MIXTURE CONTROL (Continued)						
MIXTURE CONTROL/CABLE (Continued)						
BURNED	0	0	0	0	1	1
FAILURE/TOTAL	0	0	0	1	0	1
MIXTURE CONTROL/LINKAGE	(0)	(0)	(0)	(1)	(1)	(2)
DISCONNECTED	0	0	0	1	1	2
CARBURETOR HEAT CONTROL	(0)	(0)	(0)	(3)	(0)	(3)
CARBURETOR HEAT CONTROL	(0)	(0)	(0)	(2)	(0)	(2)
DISCONNECTED	0	0	0	1	0	1
UNDETERMINED	0	0	0	1	0	1
CARBURETOR HEAT CONTROL/CABLE	(0)	(0)	(0)	(1)	(0)	(1)
LOOSE	0	0	0	1	0	1
FUEL INJECTION CONTROL	(0)	(0)	(0)	(1)	(0)	(1)
FUEL INJECTION CONTROL	(0)	(0)	(0)	(1)	(0)	(1)
UNDETERMINED	0	0	0	1	0	1
INDUCTION AIR CONTROL	(0)	(0)	(0)	(2)	(0)	(2)
INDUCTION AIR CONTROL	(0)	(0)	(0)	(1)	(0)	(1)
BLOCKED(PARTIAL)	0	0	0	1	0	1
INDUCTION AIR CONTROL/LINKAGE	(0)	(0)	(0)	(1)	(0)	(1)
SEPARATION	0	0	0	1	0	1
MISCELLANEOUS	(3)	(0)	(3)	(58)	(7)	(65)
MISCELLANEOUS	(3)	(0)	(3)	(58)	(7)	(65)
FIRE	0	0	0	1	1	2
FROZEN	0	0	0	1	0	1
UNDETERMINED	3	0	3	56	6	62
MISCELLANEOUS	(44)	(6)	(50)	(403)	(80)	(483)
FLUID	(42)	(3)	(45)	(377)	(50)	(427)
FLUID	(0)	(0)	(0)	(1)	(0)	(1)
LEAK	0	0	0	1	0	1
FLUID/FUEL	(39)	(1)	(40)	(328)	(44)	(372)
ASYMMETRICAL	0	0	0	1	0	1
BLOCKED(TOTAL)	0	0	0	1	0	1
CONTAMINATION	3	0	3	15	2	17
ERRATIC	0	0	0	1	0	1
EXHAUSTION	15	1	16	169	17	186
FAILURE/PARTIAL	1	0	1	1	0	1
FAILURE/TOTAL	0	0	0	1	0	1
FLUCTUATING	0	0	0	1	0	1
FUMES	0	0	0	0	1	1
ICE	0	0	0	2	0	2
IMPROPER	1	0	1	4	1	5
INADEQUATE	0	0	0	0	1	1
LEAK	0	0	0	4	1	5
LOW LEVEL	0	0	0	1	11	12
OTHER	0	0	0	1	0	1
STARVATION	15	0	15	82	7	89
WATER	4	0	4	43	3	46
SIPHONING	0	0	0	1	0	1
FLUID/OIL	(2)	(1)	(3)	(37)	(4)	(41)
CONTAMINATION	0	0	0	3	0	3
EXHAUSTION	0	0	0	14	0	14
IMPROPER	0	0	0	1	0	1
LEAK	0	0	0	7	3	10
PRESSURE TOO LOW	0	1	1	0	1	1
STARVATION	2	0	2	12	0	12
FLUID/HYDRAULIC	(0)	(0)	(0)	(8)	(1)	(9)
EXHAUSTION	0	0	0	2	0	2
LEAK	0	0	0	3	0	3
LOW LEVEL	0	0	0	3	1	4

CAUSE/FACTOR TABLE
ALL OPERATIONS
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	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
MISCELLANEOUS (Continued)						
FLUID (Continued)						
FLUID,WATER	(0)	(0)	(0)	(1)	(0)	(1)
FUEL	0	0	0	1	0	1
FLUID,FUEL GRADE	(1)	(1)	(2)	(1)	(1)	(2)
IMPROPER	0	1	1	0	1	1
INCORRECT	1	0	1	1	0	1
FLUID,OIL GRADE	(0)	(0)	(0)	(1)	(0)	(1)
IMPROPER	0	0	0	1	0	1
MISC EQPT/FURNISHINGS	(0)	(0)	(0)	(1)	(1)	(2)
MISC EQPT/FURNISHINGS	(0)	(0)	(0)	(1)	(0)	(1)
NOT REMOVED	0	0	0	1	0	1
MISC EQPT/FURNISHINGS,SHOULDER HARNESS	(0)	(0)	(0)	(0)	(1)	(1)
OTHER	0	0	0	0	1	1
LIGHTS	(1)	(0)	(1)	(1)	(5)	(6)
INSTRUMENT LIGHTS	(0)	(0)	(0)	(0)	(1)	(1)
INOPERATIVE	0	0	0	0	1	1
LANDING LIGHT	(0)	(0)	(0)	(0)	(3)	(3)
INOPERATIVE	0	0	0	0	3	3
ANNUNCIATOR PANEL LIGHTS	(1)	(0)	(1)	(1)	(1)	(2)
IMPROPER	1	0	1	1	0	1
INOPERATIVE	0	0	0	0	1	1
AIRCRAFT PERFORMANCE	(0)	(3)	(3)	(15)	(15)	(30)
AIRCRAFT PERFORMANCE	(0)	(0)	(0)	(0)	(2)	(2)
DETERIORATED	0	0	0	0	2	2
AIRCRAFT PERFORMANCE,TAKEOFF CAPABILITY	(0)	(1)	(1)	(3)	(1)	(4)
EXCEEDED	0	0	0	3	0	3
INADEQUATE	0	1	1	0	1	1
AIRCRAFT PERFORMANCE,CLIMB CAPABILITY	(0)	(0)	(0)	(3)	(2)	(5)
DETERIORATED	0	0	0	0	1	1
EXCEEDED	0	0	0	2	1	3
INADEQUATE	0	0	0	1	0	1
AIRCRAFT PERFORMANCE,ENGINE OUT CAPABILITY	(0)	(2)	(2)	(0)	(3)	(3)
DETERIORATED	0	2	2	0	3	3
AIRCRAFT PERFORMANCE,TURN CAPABILITY	(0)	(0)	(0)	(3)	(0)	(3)
EXCEEDED	0	0	0	3	0	3
AIRCRAFT PERFORMANCE,TWO OR MORE ENGINES	(0)	(0)	(0)	(6)	(0)	(6)
FAILURE,TOTAL	0	0	0	1	0	1
INOPERATIVE	0	0	0	5	0	5
AIRCRAFT PERFORMANCE,HYDROPLANING CONDITION	(0)	(0)	(0)	(0)	(7)	(7)
ENGAGED	0	0	0	0	1	1
OTHER	0	0	0	0	1	1
WATER	0	0	0	0	5	5
AERIAL APPLICATION EQUIPMENT	(0)	(0)	(0)	(0)	(3)	(3)
AERIAL APPLICATION EQUIPMENT	(0)	(0)	(0)	(0)	(2)	(2)
BLOCKED(TOTAL)	0	0	0	0	2	2
SPRAY/DUSTING EQUIPMENT	(0)	(0)	(0)	(0)	(1)	(1)
MOVEMENT RESTRICTED	0	0	0	0	1	1
TOWING/ADVERTISING EQUIPMENT	(0)	(0)	(0)	(7)	(1)	(8)
PICK-UP EQUIPMENT	(0)	(0)	(0)	(2)	(0)	(2)
MOVEMENT RESTRICTED	0	0	0	1	0	1
NOT REMOVED	0	0	0	1	0	1
GLIDER LAUNCH/TOW EQUIPMENT	(0)	(0)	(0)	(5)	(1)	(6)
DISCONNECTED	0	0	0	0	1	1
DISTORTED	0	0	0	1	0	1
FAILURE,PARTIAL	0	0	0	1	0	1
FAILURE,TOTAL	0	0	0	3	0	3

CAUSE/FACTOR TABLE
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	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
MISCELLANEOUS (Continued)						
BALLOON EQUIPMENT	(1)	(0)	(1)	(2)	(5)	(7)
BALLOON EQUIPMENT,ENVELOPE	(0)	(0)	(0)	(0)	(1)	(1)
BURNED	0	0	0	0	1	1
BALLOON EQUIPMENT,BASKET	(0)	(0)	(0)	(0)	(2)	(2)
BURNED	0	0	0	0	1	1
SEPARATION	0	0	0	0	1	1
BALLOON EQUIPMENT,SUSPENSION SYSTEM	(0)	(0)	(0)	(0)	(1)	(1)
BURNED	0	0	0	0	1	1
BALLOON EQUIPMENT,HEATER SYSTEM	(1)	(0)	(1)	(2)	(1)	(3)
ERRATIC	0	0	0	0	1	1
IMPROPER	1	0	1	1	0	1
OTHER	0	0	0	1	0	1
AIRCRAFT ENVIRONMENT	(3)	(241)	(244)	(42)	(1684)	(1726)
ATC SYSTEMS	(0)	(7)	(7)	(1)	(10)	(11)
AIR NAVIGATION AIDS	(0)	(1)	(1)	(0)	(1)	(1)
AIR NAVIGATION AIDS,VORTAC	(0)	(1)	(1)	(0)	(1)	(1)
INACCURATE	0	1	1	0	1	1
RADAR	(0)	(2)	(2)	(0)	(2)	(2)
RADAR,APPROACH/DEPARTURE	(0)	(2)	(2)	(0)	(2)	(2)
UNAVAILABLE	0	2	2	0	2	2
APPROACH AIDS	(0)	(0)	(0)	(0)	(1)	(1)
APPROACH AIDS,ILS GLIDE SLOPE	(0)	(0)	(0)	(0)	(1)	(1)
NOT OPERATING	0	0	0	0	1	1
PROCEDURES	(0)	(2)	(2)	(1)	(2)	(3)
MISSED APPROACH PROCEDURE	(0)	(0)	(0)	(1)	(0)	(1)
INACCURATE	0	0	0	1	0	1
TRAFFIC PATTERN PROCEDURE	(0)	(2)	(2)	(0)	(2)	(2)
CONGESTED	0	2	2	0	2	2
CONTROL TOWER	(0)	(2)	(2)	(0)	(4)	(4)
CONTROL TOWER	(0)	(2)	(2)	(0)	(4)	(4)
UNAVAILABLE	0	2	2	0	2	2
NOT OPERATING	0	0	0	0	2	2
AIRPORT	(1)	(6)	(7)	(18)	(203)	(221)
AIRPORT FACILITIES	(1)	(6)	(7)	(18)	(203)	(221)
AIRPORT FACILITIES	(0)	(0)	(0)	(2)	(5)	(7)
CONGESTED	0	0	0	0	1	1
INADEQUATE	0	0	0	2	1	3
UNAVAILABLE	0	0	0	0	1	1
SNOW COVERED	0	0	0	0	1	1
WET	0	0	0	0	1	1
AIRPORT FACILITIES,RUNWAY/LANDING AREA CONDITION	(1)	(4)	(5)	(11)	(181)	(192)
IMPROPER	1	0	1	1	0	1
CONGESTED	0	0	0	0	1	1
FOREIGN SUBSTANCE COVERED	0	0	0	1	1	2
INADEQUATE	0	1	1	4	4	8
NOT OPERATING	0	0	0	0	2	2
TERRAIN/RUNWAY CONDITION	0	0	0	0	13	13
DIRT BANK	0	0	0	0	1	1
DOWNHILL	0	0	0	0	4	4
HIGH VEGETATION	0	0	0	0	2	2
HIGH OBSTRUCTION(S)	0	0	0	0	3	3
HIDDEN OBSTRUCTION(S)	0	0	0	1	0	1
ICY	0	0	0	1	17	18
LOOSE GRAVEL/SANDY	0	0	0	0	2	2
LOOSE OBJECTS	0	0	0	1	0	1
ROUGH/UNEVEN	0	0	0	0	9	9
SLUSH COVERED	0	0	0	0	4	4
SNOWBANK	0	0	0	0	45	45
SNOW COVERED	0	0	0	2	31	33
SOFT	0	1	1	0	14	14

CAUSE/FACTOR TABLE
ALL OPERATIONS
1982

	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
AIRCRAFT ENVIRONMENT (Continued)						
AIRPORT (Continued)						
AIRPORT FACILITIES (Continued)						
AIRPORT FACILITIES,RUNWAY/LANDING AREA CONDITION			(Continued)			
UPHILL	0	1	1	0	5	5
WET	0	1	1	0	23	23
AIRPORT FACILITIES,VISUAL APCH SLOPE IND(VASI)	(0)	(0)	(0)	(0)	(1)	(1)
UNAVAILABLE	0	0	0	0	1	1
AIRPORT FACILITIES,RUNWAY END IDENT LIGHTS(REIL)	(0)	(0)	(0)	(0)	(2)	(2)
UNAVAILABLE	0	0	0	0	2	2
AIRPORT FACILITIES,RUNWAY EDGE LIGHTS	(0)	(2)	(2)	(1)	(8)	(9)
UNAVAILABLE	0	1	1	0	3	3
NOT OPERATING	0	1	1	1	5	6
AIRPORT FACILITIES,IN-RUNWAY LIGHTS	(0)	(0)	(0)	(0)	(1)	(1)
UNAVAILABLE	0	0	0	0	1	1
AIRPORT FACILITIES,WIND DIRECTION INDICATOR	(0)	(0)	(0)	(0)	(2)	(2)
FAILURE,PARTIAL	0	0	0	0	1	1
UNAVAILABLE	0	0	0	0	1	1
AIRPORT FACILITIES,TAXIWAY CONDITION	(0)	(0)	(0)	(2)	(2)	(4)
FOREIGN SUBSTANCE COVERED	0	0	0	1	0	1
HIDDEN OBSTRUCTION(S)	0	0	0	1	0	1
ICY	0	0	0	0	1	1
ROUGH/UNEVEN	0	0	0	0	1	1
AIRPORT FACILITIES,TAXIWAY LIGHTING	(0)	(0)	(0)	(1)	(1)	(2)
UNAVAILABLE	0	0	0	1	0	1
OBJECT	0	0	0	0	1	1
AIRPORT FACILITIES,TAXIWAY MARKING	(0)	(0)	(0)	(1)	(0)	(1)
INADEQUATE	0	0	0	1	0	1
MISCELLANEOUS	(0)	(0)	(0)	(1)	(0)	(1)
AIRCRAFT MANUALS	(0)	(0)	(0)	(0)	(0)	(0)
AIRCRAFT MANUALS	(0)	(0)	(0)	(1)	(0)	(1)
AIRCRAFT MANUALS,PERFORMANCE INFORMATION	(0)	(0)	(0)	(1)	(0)	(1)
CONGESTED	0	0	0	1	0	1
TERRAIN/RUNWAY	(2)	(228)	(230)	(22)	(1471)	(1493)
TERRAIN/RUNWAY CONDITION	0	1	1	0	21	21
CROP	0	1	1	1	36	37
DIRT BANK	0	1	1	2	58	60
DISPLACED THRESHOLD	0	0	0	0	4	4
DITCH	0	2	2	2	145	147
DOWNHILL	0	3	3	0	34	34
GROUND	0	5	5	1	17	18
HIGH TERRAIN	0	34	34	0	54	54
HIGH VEGETATION	0	4	4	0	106	106
HIGH OBSTRUCTION(S)	0	13	13	1	101	102
HIDDEN OBSTRUCTION(S)	0	1	1	1	15	16
ICY	0	1	1	0	10	10
LOOSE GRAVEL/SANDY	0	0	0	0	12	12
LOOSE OBJECTS	0	0	0	0	2	2
NONE SUITABLE	1	2	3	1	8	9
MOUNTAINOUS/HILLY	1	90	91	1	160	161
OPEN FIELD	0	6	6	0	42	42
RISING	0	34	34	0	65	65
ROUGH/UNEVEN	0	5	5	0	113	113
RUNWAY	0	1	1	0	5	5
SAND BAR	0	0	0	0	8	8
SNOWBANK	0	0	0	1	37	38
SNOW COVERED	0	9	9	1	51	52
SOFT	0	1	1	4	219	223
UPHILL	0	4	4	0	16	16
WATER,GLASSY	0	5	5	1	17	18
WATER,ROUGH	0	4	4	2	17	19
WEAK ICE	0	0	0	0	1	1

CAUSE/FACTOR TABLE
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	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
AIRCRAFT ENVIRONMENT (Continued)						
TERRAIN/RUNWAY (Continued)						
WET	0	0	0	3	90	93
OBJECT	0	0	0	0	1	1
FENCE	0	0	0	0	1	1
SUBMERGED OBJECT	0	1	1	0	1	1
TREE(S)	0	0	0	0	4	4
ENVIRONMENTAL CONDITIONS	(6)	(839)	(845)	(98)	(2879)	(2977)
WEATHER CONDITION	(6)	(565)	(571)	(78)	(1687)	(1765)
ICE	1	0	1	1	0	1
WEATHER CONDITION	0	1	1	0	4	4
BELOW APPROACH MINIMUMS	0	5	5	1	9	10
CARBURETOR ICING CONDITIONS	0	2	2	3	27	30
CROSSWIND	0	3	3	7	189	196
CLOUDS	1	31	32	1	51	52
DOWNDRAFT	0	13	13	6	53	59
FOG	0	105	105	1	163	164
GUSTS	1	13	14	8	215	223
HAIL	0	1	1	0	3	3
HAZE	0	15	15	0	28	28
HIGH WIND	0	14	14	4	70	74
HIGH DENSITY ALTITUDE	0	23	23	5	122	127
ICING CONDITIONS	0	17	17	1	42	43
LOW CEILING	0	140	140	0	188	188
LIGHTNING	0	1	1	0	1	1
MOUNTAIN WAVE	0	2	2	2	3	5
OBSCURATION	2	12	14	2	15	17
RAIN	0	67	67	2	116	118
SNOW	0	30	30	0	47	47
TAILWIND	0	7	7	7	79	86
TEMPERATURE EXTREMES	0	0	0	1	12	13
TURBULENCE	0	18	18	3	42	45
TURBULENCE/CLEAR AIR	0	1	1	1	15	16
TURBULENCE IN CLOUDS	0	4	4	0	6	6
TURBULENCE(THUNDERSTORMS)	0	6	6	0	7	7
THUNDERSTORM	0	20	20	1	33	34
WHITEOUT	0	1	1	1	6	7
WINDSHEAR	0	1	1	4	20	24
UNFAVORABLE WIND	1	12	13	16	120	136
SNOW COVERED	0	0	0	0	1	1
LIGHT CONDITION	(0)	(148)	(148)	(1)	(346)	(347)
DAWN	0	2	2	0	6	6
DUSK	0	16	16	0	50	50
NIGHT	0	11	11	0	40	40
DARK NIGHT	0	115	115	1	226	227
SUNGLARE	0	4	4	0	24	24
OBJECT	(0)	(126)	(126)	(19)	(846)	(865)
OBJECT	0	2	2	1	40	41
AIRCRAFT MOVING ON GROUND	0	0	0	2	9	11
AIRCRAFT PARKED	0	2	2	2	32	34
AIRPORT FACILITY	0	0	0	0	4	4
ANIMAL(S)	0	0	0	1	9	10
APPROACH LIGHT/NAVAID	0	0	0	0	9	9
BIRD(S)	0	0	0	3	1	4
BUILDING(NONRESIDENTIAL)	0	0	0	0	15	15
ELECT TOWER	0	2	2	0	5	5
FENCE	0	3	3	0	126	126
GUY WIRE	0	1	1	0	2	2
OTHER PERSON	0	1	1	0	6	6
RESIDENCE	0	6	6	0	17	17
RUNWAY LIGHT	0	0	0	0	15	15
SUBMERGED OBJECT	0	0	0	3	1	4
TREE(S)	0	69	69	1	353	354
UTILITY POLE	0	1	1	1	22	23

CAUSE/FACTOR TABLE
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	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
ENVIRONMENTAL CONDITIONS (Continued)						
OBJECT (Continued)						
VEHICLE	0	3	3	1	43	44
WIRE/STATIC	0	1	1	1	9	10
WIRE/TRANSMISSION(MARKED)	0	2	2	1	5	6
WIRE/TRANSMISSION	0	33	33	2	123	125
HUMAN PERFORMANCE	(1106)	(206)	(1312)	(4878)	(837)	(5715)
AIRCRAFT	(90)	(13)	(103)	(577)	(62)	(639)
LANDING GEAR	(6)	(2)	(8)	(100)	(15)	(115)
LANDING GEAR	(0)	(1)	(1)	(1)	(1)	(2)
IMPROPER USE OF	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INADEQUATE	(0)	(1)	(1)	(0)	(1)	(1)
NO PERSON SPECIFIED	0	1	1	0	1	1
GEAR RETRACTION	(3)	(1)	(4)	(17)	(6)	(23)
DELAYED	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	2	2
INADVERTENT	(0)	(0)	(0)	(12)	(0)	(12)
PILOT IN COMMAND	0	0	0	11	0	11
COPILOT	0	0	0	1	0	1
NOT ATTAINED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT PERFORMED	(2)	(0)	(2)	(3)	(0)	(3)
PILOT IN COMMAND	2	0	2	3	0	3
NOT POSSIBLE	(0)	(1)	(1)	(0)	(2)	(2)
PILOT IN COMMAND	0	1	1	0	1	1
NO PERSON SPECIFIED	0	0	0	0	1	1
PREMATURE	(1)	(0)	(1)	(2)	(1)	(3)
PILOT IN COMMAND	1	0	1	2	1	3
GEAR EXTENSION	(3)	(0)	(3)	(34)	(4)	(38)
ATTEMPTED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
INATTENTIVE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INTENTIONAL	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
INADVERTENT USE	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
NOT ATTAINED	(0)	(0)	(0)	(4)	(0)	(4)
PILOT IN COMMAND	0	0	0	4	0	4
NOT PERFORMED	(0)	(0)	(0)	(18)	(1)	(19)
PILOT IN COMMAND	0	0	0	18	1	19
NOT OBTAINED	(0)	(0)	(0)	(4)	(0)	(4)
PILOT IN COMMAND	0	0	0	4	0	4
NOT POSSIBLE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT SELECTED	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	3	0	3
PREMATURE	(2)	(0)	(2)	(2)	(1)	(3)
PILOT IN COMMAND	2	0	2	2	1	3
GEAR DOWN AND LOCKED	(0)	(0)	(0)	(6)	(0)	(6)
NOT ATTAINED	(0)	(0)	(0)	(5)	(0)	(5)
PILOT IN COMMAND	0	0	0	5	0	5
NOT IDENTIFIED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
BRAKES(NORMAL)	(0)	(0)	(0)	(37)	(3)	(40)

CAUSE/FACTOR TABLE
ALL OPERATIONS
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	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
LANDING GEAR (Continued)						
BRAKES(NORMAL) (Continued)						
DELAYED	(0)	(0)	(0)	(2)	(2)	(4)
PILOT IN COMMAND	0	0	0	2	2	4
EXCESSIVE	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
IMPROPER USE OF	(0)	(0)	(0)	(32)	(1)	(33)
PILOT IN COMMAND	0	0	0	31	1	32
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
BRAKES(EMERGENCY)	(0)	(0)	(0)	(1)	(0)	(1)
DELAYED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PARKING BRAKES	(0)	(0)	(0)	(4)	(1)	(5)
DISREGARDED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
IMPROPER USE OF	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
INATTENTIVE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
INADVERTENT USE	(0)	(0)	(0)	(1)	(0)	(1)
DUAL STUDENT	0	0	0	1	0	1
FLIGHT CONTROLS	(37)	(0)	(37)	(150)	(22)	(172)
FLIGHT CONTROLS	(28)	(0)	(28)	(83)	(1)	(84)
IMPROPER	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	3	0	3
IMPROPER USE OF	(28)	(0)	(28)	(80)	(1)	(81)
PILOT IN COMMAND	28	0	28	77	1	78
DUAL STUDENT	0	0	0	2	0	2
OTHER PERSON	0	0	0	1	0	1
ELEVATOR	(0)	(0)	(0)	(10)	(1)	(11)
DELAYED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
EXCESSIVE	(0)	(0)	(0)	(1)	(0)	(1)
DUAL STUDENT	0	0	0	1	0	1
IMPROPER USE OF	(0)	(0)	(0)	(8)	(0)	(8)
PILOT IN COMMAND	0	0	0	6	0	6
DUAL STUDENT	0	0	0	2	0	2
MISJUDGED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
ELEVATOR TRIM	(1)	(0)	(1)	(1)	(1)	(2)
INATTENTIVE	(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
AILERON	(0)	(0)	(0)	(1)	(0)	(1)
IMPROPER USE OF	(0)	(0)	(0)	(1)	(0)	(1)
DUAL STUDENT	0	0	0	1	0	1
RUDDER	(0)	(0)	(0)	(21)	(0)	(21)
DELAYED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
EXCESSIVE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
IMPROPER	(0)	(0)	(0)	(1)	(0)	(1)

CAUSE/FACTOR TABLE
ALL OPERATIONS
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	FATAL ACCIDENTS CAUSE FACTOR		TOTAL	ALL ACCIDENTS 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
IMPROPER USE OF	(0)	(0)	(0)	(16)	(0)	(16)
PILOT IN COMMAND	0	0	0	14	0	14
DUAL STUDENT	0	0	0	2	0	2
INADEQUATE	(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
RUDDERVATOR	(0)	(0)	(0)	(1)	(0)	(1)
IMPROPER	(0)	(0)	(0)	(1)	(0)	(1)
PRODUCTION/DESIGN PSNL	0	0	0	1	0	1
RAISING OF FLAPS	(3)	(0)	(3)	(14)	(5)	(19)
DELAYED	(0)	(0)	(0)	(1)	(2)	(3)
PILOT IN COMMAND	0	0	0	1	2	3
IMPROPER	(1)	(0)	(1)	(4)	(0)	(4)
PILOT IN COMMAND	0	0	0	2	0	2
NO PERSON SPECIFIED	1	0	1	1	0	1
DUAL STUDENT	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 ATTAINED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT CORRECTED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
NOT PERFORMED	(1)	(0)	(1)	(4)	(0)	(4)
PILOT IN COMMAND	1	0	1	4	0	4
NOT SELECTED	(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
PREMATURE	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
LOWERING OF FLAPS	(4)	(0)	(4)	(12)	(12)	(24)
IMPROPER	(2)	(0)	(2)	(4)	(3)	(7)
PILOT IN COMMAND	2	0	2	3	3	6
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
INADEQUATE	(0)	(0)	(0)	(2)	(1)	(3)
PILOT IN COMMAND	0	0	0	2	1	3
INADVERTENT USE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT PERFORMED	(2)	(0)	(2)	(2)	(5)	(7)
PILOT IN COMMAND	2	0	2	2	5	7
NOT OBTAINED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT POSSIBLE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT SELECTED	(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
PREMATURE	(0)	(0)	(0)	(1)	(0)	(1)

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	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
FLIGHT CONTROLS (Continued)						
LOWERING OF FLAPS (Continued)						
PILOT IN COMMAND	0	0	0	1	0	1
RAISING OF SLATS	(0)	(0)	(0)	(1)	(0)	(1)
NOT MAINTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
SPOILER RETRACTION	(0)	(0)	(0)	(0)	(1)	(1)
NOT POSSIBLE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
SPOILER EXTENSION	(0)	(0)	(0)	(2)	(0)	(2)
INADVERTENT	(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
SPEED BRAKES	(0)	(0)	(0)	(2)	(0)	(2)
IMPROPER USE OF	(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
REMOVAL OF CONTROL/GUST LOCK(S)	(1)	(0)	(1)	(2)	(0)	(2)
NOT PERFORMED	(1)	(0)	(1)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	2	0	2
TRIM SETTING	(0)	(0)	(0)	(0)	(1)	(1)
IMPROPER	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
FUEL SYSTEM	(28)	(0)	(28)	(187)	(5)	(192)
FUEL SYSTEM	(0)	(0)	(0)	(7)	(0)	(7)
IMPROPER USE OF	(0)	(0)	(0)	(7)	(0)	(7)
PILOT IN COMMAND	0	0	0	7	0	7
FUEL TANK SELECTOR POSITION	(6)	(0)	(6)	(31)	(1)	(32)
DELAYED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
IMPROPER	(4)	(0)	(4)	(21)	(0)	(21)
PILOT IN COMMAND	4	0	4	20	0	20
COPILOT	0	0	0	1	0	1
IMPROPER USE OF	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	3	0	3
INATTENTIVE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT CORRECTED	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	3	0	3
NOT UNDERSTOOD	(1)	(0)	(1)	(1)	(0)	(1)
PASSENGER	1	0	1	1	0	1
NOT SELECTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
SELECTED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
FUEL BOOST PUMP SELECTOR POSITION	(1)	(0)	(1)	(1)	(0)	(1)
IMPROPER	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
FUEL SUPPLY	(21)	(0)	(21)	(148)	(4)	(152)
IMPROPER USE OF	(0)	(0)	(0)	(7)	(0)	(7)
PILOT IN COMMAND	0	0	0	7	0	7
INACCURATE	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	2	0	2

CAUSE/FACTOR TABLE
ALL OPERATIONS
1982

	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
FUEL SYSTEM (Continued)						
FUEL SUPPLY (Continued)						
NO PERSON SPECIFIED	0	0	0	1	0	1
INATTENTIVE	(3)	(0)	(3)	(22)	(1)	(23)
PILOT IN COMMAND	3	0	3	21	1	22
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
INADEQUATE	(5)	(0)	(5)	(15)	(0)	(15)
PILOT IN COMMAND	5	0	5	15	0	15
MISJUDGED	(4)	(0)	(4)	(57)	(1)	(58)
PILOT IN COMMAND	4	0	4	56	1	57
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
NOT IDENTIFIED	(1)	(0)	(1)	(4)	(0)	(4)
PILOT IN COMMAND	1	0	1	3	0	3
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
NOT MAINTAINED	(8)	(0)	(8)	(39)	(1)	(40)
PILOT IN COMMAND	8	0	8	39	1	40
NOT UNDERSTOOD	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
POWERPLANT CONTROLS	(7)	(2)	(9)	(108)	(8)	(116)
POWERPLANT CONTROLS	(1)	(0)	(1)	(10)	(1)	(11)
IMPROPER USE OF	(1)	(0)	(1)	(10)	(1)	(11)
PILOT IN COMMAND	1	0	1	8	1	9
NO PERSON SPECIFIED	0	0	0	2	0	2
THROTTLE/POWER CONTROL	(2)	(0)	(2)	(46)	(0)	(46)
ATTEMPTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
DELAYED	(0)	(0)	(0)	(6)	(0)	(6)
PILOT IN COMMAND	0	0	0	4	0	4
DUAL STUDENT	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
EXCESSIVE	(0)	(0)	(0)	(5)	(0)	(5)
PILOT IN COMMAND	0	0	0	5	0	5
IMPROPER	(1)	(0)	(1)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	2	0	2
IMPROPER USE OF	(1)	(0)	(1)	(29)	(0)	(29)
PILOT IN COMMAND	1	0	1	23	0	23
DUAL STUDENT	0	0	0	4	0	4
PILOT OF OTHER AIRCRAFT	0	0	0	1	0	1
OTHER PERSON	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)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
PROPELLER	(0)	(0)	(0)	(3)	(0)	(3)
IMPROPER USE OF	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
INATTENTIVE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
MIXTURE	(0)	(1)	(1)	(5)	(1)	(6)
IMPROPER USE OF	(0)	(1)	(1)	(4)	(1)	(5)
PILOT IN COMMAND	0	1	1	4	1	5
NOT CORRECTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
CARBURETOR HEAT	(1)	(1)	(2)	(31)	(4)	(35)

CAUSE/FACTOR TABLE
ALL OPERATIONS
1982

	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
POWERPLANT CONTROLS (Continued)						
CARBURETOR HEAT (Continued)						
ATTEMPTED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
IMPROPER USE OF	(1)	(0)	(1)	(26)	(2)	(28)
PILOT IN COMMAND	1	0	1	24	2	26
PILOT IN COMMAND(CFI)	0	0	0	2	0	2
NOT MAINTAINED	(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
NOT USED	(0)	(1)	(1)	(3)	(1)	(4)
PILOT IN COMMAND	0	1	1	3	1	4
PROPELLER FEATHERING	(0)	(0)	(0)	(3)	(1)	(4)
INTENTIONAL	(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
PREMATURE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
ADEQUATE ROTOR RPM	(3)	(0)	(3)	(9)	(1)	(10)
NOT MAINTAINED	(3)	(0)	(3)	(9)	(0)	(9)
PILOT IN COMMAND	3	0	3	8	0	8
DUAL STUDENT	0	0	0	1	0	1
NOT POSSIBLE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
WRONG ENGINE SHUTDOWN	(0)	(0)	(0)	(1)	(0)	(1)
INADVERTENT	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
ELECTRICAL SYSTEM	(0)	(0)	(0)	(2)	(0)	(2)
ELECTRICAL SYSTEM	(0)	(0)	(0)	(1)	(0)	(1)
POOR	(0)	(0)	(0)	(1)	(0)	(1)
NO PERSON SPECIFIED	0	0	0	1	0	1
ALTERNATOR	(0)	(0)	(0)	(1)	(0)	(1)
BELOW	(0)	(0)	(0)	(1)	(0)	(1)
NO PERSON SPECIFIED	0	0	0	1	0	1
AUTOPILOT	(0)	(1)	(1)	(0)	(1)	(1)
AUTOPILOT	(0)	(1)	(1)	(0)	(1)	(1)
NOT USED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
FLIGHT AND NAVIGATION INSTRUMENTS	(2)	(2)	(4)	(4)	(3)	(7)
FLIGHT AND NAVIGATION INSTRUMENTS	(2)	(0)	(2)	(3)	(0)	(3)
IMPROPER USE OF	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
INATTENTIVE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT FOLLOWED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
ALTIMETER SETTING	(0)	(1)	(1)	(0)	(1)	(1)
IMPROPER	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
NAVIGATION RECEIVER	(0)	(1)	(1)	(1)	(1)	(2)
IMPROPER USE OF	(0)	(1)	(1)	(1)	(1)	(2)
PILOT IN COMMAND	0	1	1	1	1	2
ALTIMETER	(0)	(0)	(0)	(0)	(1)	(1)

CAUSE/FACTOR TABLE
ALL OPERATIONS
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	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
AIRCRAFT (Continued)						
FLIGHT AND NAVIGATION INSTRUMENTS (Continued)						
ALTIMETER (Continued)						
IMPROPER USE OF	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
ROTORCRAFT FLIGHT CONTROLS	(9)	(0)	(9)	(19)	(2)	(21)
ROTORCRAFT FLIGHT CONTROLS	(6)	(0)	(6)	(9)	(0)	(9)
IMPROPER USE OF	(6)	(0)	(6)	(9)	(0)	(9)
PILOT IN COMMAND	6	0	6	7	0	7
DUAL STUDENT	0	0	0	2	0	2
CYCLIC	(0)	(0)	(0)	(4)	(0)	(4)
IMPROPER USE OF	(0)	(0)	(0)	(4)	(0)	(4)
PILOT IN COMMAND	0	0	0	2	0	2
DUAL STUDENT	0	0	0	2	0	2
COLLECTIVE	(3)	(0)	(3)	(4)	(2)	(6)
ATTEMPTED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
EXCESSIVE	(0)	(0)	(0)	(1)	(0)	(1)
DUAL STUDENT	0	0	0	1	0	1
IMPROPER USE OF	(2)	(0)	(2)	(2)	(0)	(2)
PILOT IN COMMAND	2	0	2	2	0	2
NOT POSSIBLE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
UNCONTROLLED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
TAIL ROTOR	(0)	(0)	(0)	(2)	(0)	(2)
IMPROPER USE OF	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
MISCELLANEOUS EQUIPMENT	(1)	(6)	(7)	(7)	(6)	(13)
MISCELLANEOUS EQUIPMENT	(0)	(0)	(0)	(4)	(0)	(4)
IMPROPER USE OF	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
INADVERTENT	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INADVERTENT USE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
SEAT BELT	(1)	(6)	(7)	(2)	(6)	(8)
NOT USED	(1)	(6)	(7)	(2)	(6)	(8)
PILOT IN COMMAND	0	4	4	0	4	4
CHECK PILOT	0	0	0	1	0	1
PASSENGER	1	2	3	1	2	3
OXYGEN SYSTEM	(0)	(0)	(0)	(1)	(0)	(1)
IMPROPER USE OF	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
OPERATIONS	(1016)	(193)	(1209)	(4301)	(775)	(5076)
PLANNING-DECISION	(470)	(85)	(555)	(1612)	(243)	(1855)
PLANNING-DECISION	(6)	(0)	(6)	(18)	(0)	(18)
IMPROPER	(4)	(0)	(4)	(12)	(0)	(12)
PILOT IN COMMAND	4	0	4	11	0	11
NO PERSON SPECIFIED	0	0	0	1	0	1
INADEQUATE	(1)	(0)	(1)	(4)	(0)	(4)
PILOT IN COMMAND	1	0	1	4	0	4
NOT MAINTAINED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
POOR	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PREFLIGHT PLANNING/PREPARATION	(44)	(21)	(65)	(159)	(46)	(205)
IMPROPER	(3)	(0)	(3)	(14)	(0)	(14)

CAUSE/FACTOR TABLE
ALL OPERATIONS
1982

	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
PLANNING-DECISION (Continued)						
PREFLIGHT PLANNING/PREPARATION (Continued)						
PILOT IN COMMAND	3	0	3	14	0	14
INACCURATE	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
INATTENTIVE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INTENTIONAL	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
INADEQUATE	(40)	(19)	(59)	(142)	(44)	(186)
PILOT IN COMMAND	39	19	58	139	44	183
NO PERSON SPECIFIED	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	1	0	1	2	0	2
POOR	(1)	(0)	(1)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	2	0	2
AIRCRAFT PREFLIGHT	(16)	(5)	(21)	(142)	(18)	(160)
IMPROPER	(1)	(0)	(1)	(6)	(0)	(6)
PILOT IN COMMAND	0	0	0	5	0	5
DUAL STUDENT	1	0	1	1	0	1
INADEQUATE	(15)	(5)	(20)	(135)	(17)	(152)
PILOT IN COMMAND	15	5	20	131	15	146
DUAL STUDENT	0	0	0	2	2	4
OTHER CREW MEMBER	0	0	0	1	0	1
GROUND PERSONNEL	0	0	0	1	0	1
NOT PERFORMED	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
AIRCRAFT SERVICE	(0)	(0)	(0)	(3)	(0)	(3)
IMPROPER	(0)	(0)	(0)	(1)	(0)	(1)
NO PERSON SPECIFIED	0	0	0	1	0	1
INADEQUATE	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
ICE/FROST REMOVAL FROM AIRCRAFT	(1)	(0)	(1)	(3)	(0)	(3)
INADEQUATE	(1)	(0)	(1)	(3)	(0)	(3)
PILOT IN COMMAND	1	0	1	3	0	3
AIRCRAFT UNATTENDED/ENGINE(S) RUNNING	(0)	(0)	(0)	(2)	(0)	(2)
INTENTIONAL	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PERFORMED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
AIRCRAFT WEIGHT AND BALANCE	(10)	(8)	(18)	(15)	(16)	(31)
EXCEEDED	(7)	(6)	(13)	(8)	(9)	(17)
PILOT IN COMMAND	7	6	13	8	9	17
EXCESSIVE	(0)	(1)	(1)	(0)	(2)	(2)
PILOT IN COMMAND	0	1	1	0	2	2
IMPROPER	(2)	(1)	(3)	(5)	(4)	(9)
PILOT IN COMMAND	2	1	3	4	4	8
NO PERSON SPECIFIED	0	0	0	1	0	1
INACCURATE	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
NOT PERFORMED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
OPERATION WITH KNOWN DEFICIENCIES IN EQUIPMENT	(5)	(5)	(10)	(16)	(17)	(33)
ATTEMPTED	(1)	(2)	(3)	(6)	(6)	(12)
PILOT IN COMMAND	1	2	3	6	6	12
CONTINUED	(0)	(0)	(0)	(2)	(0)	(2)

CAUSE/FACTOR TABLE
ALL OPERATIONS
1982

	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
PLANNING-DECISION (Continued)						
OPERATION WITH KNOWN DEFICIENCIES IN EQUIPMENT (Continued)						
PILOT IN COMMAND	0	0	0	2	0	2
INITIATED	(3)	(3)	(6)	(5)	(8)	(13)
PILOT IN COMMAND	3	3	6	5	7	12
PILOT IN COMMAND(CFI)	0	0	0	0	1	1
PERFORMED	(1)	(0)	(1)	(3)	(3)	(6)
PILOT IN COMMAND	1	0	1	3	3	6
TIE DOWN/SECURITY OF CARGO	(0)	(0)	(0)	(2)	(0)	(2)
IMPROPER	(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
PROPER ASSISTANCE	(0)	(0)	(0)	(25)	(2)	(27)
DELAYED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
NOT ATTAINED	(0)	(0)	(0)	(4)	(0)	(4)
PILOT IN COMMAND	0	0	0	4	0	4
NOT MAINTAINED	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	0	1
GROUND PERSONNEL	0	0	0	0	1	1
NOT PERFORMED	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND(CFI)	0	0	0	0	1	1
OTHER CREW MEMBER	0	0	0	1	0	1
NOT OBTAINED	(0)	(0)	(0)	(18)	(0)	(18)
PILOT IN COMMAND	0	0	0	17	0	17
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
IN-FLIGHT PLANNING/DECISION	(39)	(4)	(43)	(145)	(14)	(159)
CONFLICTING	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
IMPROPER	(34)	(4)	(38)	(122)	(14)	(136)
PILOT IN COMMAND	33	4	37	117	14	131
NO PERSON SPECIFIED	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	1	0	1	3	0	3
CHECK PILOT	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)	(7)	(0)	(7)
PILOT IN COMMAND	1	0	1	7	0	7
MISJUDGED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
POOR	(4)	(0)	(4)	(13)	(0)	(13)
PILOT IN COMMAND	4	0	4	13	0	13
WIND INFORMATION	(0)	(0)	(0)	(6)	(2)	(8)
INADEQUATE	(0)	(0)	(0)	(1)	(0)	(1)
ATC PSNL(LCL/GND/CLNC)	0	0	0	1	0	1
MISJUDGED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT OBTAINED	(0)	(0)	(0)	(3)	(1)	(4)
PILOT IN COMMAND	0	0	0	3	1	4
NOT UNDERSTOOD	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
POOR	(0)	(0)	(0)	(0)	(1)	(1)
ATC PSNL(LCL/GND/CLNC)	0	0	0	0	1	1
FUEL CONSUMPTION CALCULATIONS	(1)	(0)	(1)	(39)	(3)	(42)

CAUSE/FACTOR TABLE
ALL OPERATIONS
1982

	FATAL ACCIDENTS CAUSE FACTOR		TOTAL	ALL ACCIDENTS CAUSE FACTOR		TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
PLANNING-DECISION (Continued)						
FUEL CONSUMPTION CALCULATIONS (Continued)						
ATTEMPTED	(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
IMPROPER	(0)	(0)	(0)	(6)	(1)	(7)
PILOT IN COMMAND	0	0	0	6	1	7
INACCURATE	(1)	(0)	(1)	(20)	(2)	(22)
PILOT IN COMMAND	1	0	1	20	2	22
INADEQUATE	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	1	0	1
OTHER MAINTENANCE PSNL	0	0	0	1	0	1
MISJUDGED	(0)	(0)	(0)	(7)	(0)	(7)
PILOT IN COMMAND	0	0	0	7	0	7
NOTAMS	(0)	(0)	(0)	(2)	(3)	(5)
ISSUED	(0)	(0)	(0)	(0)	(1)	(1)
AIRPORT PERSONNEL	0	0	0	0	1	1
NOT ISSUED	(0)	(0)	(0)	(1)	(1)	(2)
AIRPORT PERSONNEL	0	0	0	1	1	2
NOT OBTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
SELECTED	(0)	(0)	(0)	(0)	(1)	(1)
AIRPORT PERSONNEL	0	0	0	0	1	1
BECAME LOST/DISORIENTED	(6)	(4)	(10)	(26)	(17)	(43)
INADVERTENT	(6)	(4)	(10)	(24)	(17)	(41)
PILOT IN COMMAND	6	4	10	24	17	41
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
VFR FLIGHT INTO IMC	(97)	(1)	(98)	(121)	(6)	(127)
ATTEMPTED	(1)	(0)	(1)	(2)	(1)	(3)
PILOT IN COMMAND	1	0	1	2	1	3
CONTINUED	(80)	(1)	(81)	(94)	(3)	(97)
PILOT IN COMMAND	80	1	81	94	2	96
DUAL STUDENT	0	0	0	0	1	1
CONFLICTING	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
INADVERTENT	(2)	(0)	(2)	(6)	(2)	(8)
PILOT IN COMMAND	2	0	2	6	2	8
INTENTIONAL	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
INITIATED	(10)	(0)	(10)	(12)	(0)	(12)
PILOT IN COMMAND	10	0	10	12	0	12
NOT CORRECTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT FOLLOWED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND(CFI)	1	0	1	1	0	1
PERFORMED	(1)	(0)	(1)	(3)	(0)	(3)
PILOT IN COMMAND	1	0	1	3	0	3
VFR PROCEDURES	(6)	(1)	(7)	(7)	(3)	(10)

CAUSE/FACTOR TABLE
ALL OPERATIONS
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	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
PLANNING-DECISION (Continued)						
VFR PROCEDURES (Continued)						
CONFLICTING	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND(CFI)	0	0	0	0	1	1
PILOT OF OTHER AIRCRAFT	0	0	0	0	1	1
IMPROPER	(5)	(1)	(6)	(6)	(1)	(7)
PILOT IN COMMAND	4	1	5	5	1	6
PILOT OF OTHER AIRCRAFT	1	0	1	1	0	1
NOT FOLLOWED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
FLIGHT MANUALS	(1)	(0)	(1)	(1)	(0)	(1)
INADEQUATE	(1)	(0)	(1)	(1)	(0)	(1)
COMPANY/OPERATOR MGMT	1	0	1	1	0	1
PERFORMANCE DATA	(2)	(0)	(2)	(10)	(0)	(10)
EXCEEDED	(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
MISJUDGED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT ATTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PRODUCTION/DESIGN PSNL	0	0	0	1	0	1
NOT IDENTIFIED	(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
NOT UNDERSTOOD	(2)	(0)	(2)	(3)	(0)	(3)
PILOT IN COMMAND	2	0	2	3	0	3
NOT USED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
REFUELING	(0)	(1)	(1)	(30)	(7)	(37)
IMPROPER	(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
NOT PERFORMED	(0)	(1)	(1)	(26)	(6)	(32)
PILOT IN COMMAND	0	1	1	25	5	30
PILOT IN COMMAND(CFI)	0	0	0	1	1	2
NOT OBTAINED	(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
VISUAL LOOKOUT	(83)	(2)	(85)	(215)	(2)	(217)
DELAYED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
INACCURATE	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
INATTENTIVE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INADEQUATE	(75)	(1)	(76)	(197)	(1)	(198)
PILOT IN COMMAND	47	1	48	129	1	130
DUAL STUDENT	0	0	0	2	0	2
PILOT IN COMMAND(CFI)	0	0	0	3	0	3
GROUND PERSONNEL	0	0	0	1	0	1
PILOT OF OTHER AIRCRAFT	27	0	27	59	0	59

CAUSE/FACTOR TABLE
ALL OPERATIONS
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	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
PLANNING-DECISION (Continued)						
VISUAL LOOKOUT (Continued)						
DRIVER OF VEHICLE	1	0	1	3	0	3
NOT MAINTAINED	(8)	(0)	(8)	(12)	(0)	(12)
PILOT IN COMMAND	6	0	6	10	0	10
GROUND PERSONNEL	1	0	1	1	0	1
PILOT OF OTHER AIRCRAFT	1	0	1	1	0	1
POOR	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
REDUCED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
WEATHER EVALUATION	(6)	(3)	(9)	(19)	(7)	(26)
DELAYED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
IMPROPER	(3)	(0)	(3)	(9)	(0)	(9)
PILOT IN COMMAND	3	0	3	9	0	9
INACCURATE	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	3	0	3
INADEQUATE	(2)	(2)	(4)	(5)	(4)	(9)
PILOT IN COMMAND	2	2	4	5	4	9
MISJUDGED	(0)	(1)	(1)	(1)	(1)	(2)
PILOT IN COMMAND	0	1	1	1	1	2
POOR	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	2	2
FLIGHT INTO KNOWN ADVERSE WEATHER	(53)	(8)	(61)	(70)	(11)	(81)
ATTEMPTED	(7)	(0)	(7)	(10)	(0)	(10)
PILOT IN COMMAND	7	0	7	10	0	10
CONTINUED	(24)	(3)	(27)	(33)	(5)	(38)
PILOT IN COMMAND	24	3	27	33	5	38
DISREGARDED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
INADVERTENT	(2)	(0)	(2)	(2)	(0)	(2)
PILOT IN COMMAND	2	0	2	2	0	2
INTENTIONAL	(3)	(0)	(3)	(3)	(1)	(4)
PILOT IN COMMAND	3	0	3	3	1	4
INITIATED	(15)	(5)	(20)	(16)	(5)	(21)
PILOT IN COMMAND	15	5	20	16	5	21
MISJUDGED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PERFORMED	(1)	(0)	(1)	(4)	(0)	(4)
PILOT IN COMMAND	1	0	1	4	0	4
IFR PROCEDURE	(20)	(1)	(21)	(26)	(2)	(28)
IMPROPER	(16)	(1)	(17)	(21)	(2)	(23)
PILOT IN COMMAND	16	1	17	21	2	23
NOT FOLLOWED	(3)	(0)	(3)	(4)	(0)	(4)
PILOT IN COMMAND	2	0	2	3	0	3
PILOT IN COMMAND(CFI)	1	0	1	1	0	1
NOT POSSIBLE	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
FLIGHT TO ALTERNATE DESTINATION	(5)	(2)	(7)	(16)	(8)	(24)
CONTINUED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
DELAYED	(3)	(0)	(3)	(8)	(1)	(9)

CAUSE/FACTOR TABLE
ALL OPERATIONS
1982

	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
PLANNING-DECISION (Continued)						
FLIGHT TO ALTERNATE DESTINATION (Continued)						
PILOT IN COMMAND	3	0	3	8	1	9
IMPROPER	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT PERFORMED	(0)	(2)	(2)	(2)	(4)	(6)
PILOT IN COMMAND	0	2	2	2	4	6
NOT SELECTED	(1)	(0)	(1)	(5)	(1)	(6)
PILOT IN COMMAND	1	0	1	5	1	6
PERFORMED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
COMPENSATION FOR WIND CONDITIONS	(2)	(0)	(2)	(138)	(6)	(144)
IMPROPER	(2)	(0)	(2)	(109)	(3)	(112)
PILOT IN COMMAND	2	0	2	108	3	111
DUAL STUDENT	0	0	0	1	0	1
INACCURATE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INADEQUATE	(0)	(0)	(0)	(24)	(1)	(25)
PILOT IN COMMAND	0	0	0	24	1	25
NOT ATTAINED	(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 POSSIBLE	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
PERFORMED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
LANDED AT WRONG AIRPORT	(0)	(0)	(0)	(1)	(0)	(1)
INADEQUATE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
WRONG RUNWAY	(2)	(1)	(3)	(25)	(20)	(45)
INADVERTENT	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
SELECTED	(2)	(0)	(2)	(25)	(19)	(44)
PILOT IN COMMAND	2	0	2	25	19	44
UNSUITABLE TERRAIN	(5)	(1)	(6)	(129)	(4)	(133)
NOT CORRECTED	(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	(5)	(1)	(6)	(126)	(4)	(130)
PILOT IN COMMAND	4	1	5	123	4	127
DUAL STUDENT	1	0	1	2	0	2
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
CHECKLIST	(1)	(2)	(3)	(11)	(6)	(17)
INADEQUATE	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	3	0	3
MISJUDGED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT FOLLOWED	(0)	(1)	(1)	(2)	(2)	(4)
PILOT IN COMMAND	0	1	1	2	2	4
NOT PERFORMED	(0)	(0)	(0)	(3)	(0)	(3)

CAUSE/FACTOR TABLE
ALL OPERATIONS
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	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
PLANNING-DECISION (Continued)						
CHECKLIST (Continued)						
PILOT IN COMMAND	0	0	0	3	0	3
NOT USED	(1)	(1)	(2)	(2)	(4)	(6)
PILOT IN COMMAND	1	1	2	2	4	6
JUDGEMENT	(38)	(6)	(44)	(105)	(9)	(114)
IMPROPER	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	3	0	3
INACCURATE	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
INATTENTIVE	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
POOR	(37)	(6)	(43)	(99)	(9)	(108)
PILOT IN COMMAND	37	5	42	96	8	104
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
COMPANY/OPERATOR MGMT	0	1	1	0	1	1
PASSENGER	0	0	0	2	0	2
PROCEDURES/DIRECTIVES	(13)	(8)	(21)	(40)	(12)	(52)
DISREGARDED	(3)	(0)	(3)	(6)	(0)	(6)
PILOT IN COMMAND	3	0	3	6	0	6
IMPROPER	(4)	(0)	(4)	(11)	(0)	(11)
PILOT IN COMMAND	4	0	4	9	0	9
PILOT OF OTHER AIRCRAFT	0	0	0	2	0	2
IMPROPER USE OF	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
INADEQUATE	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	3	0	3
MISJUDGED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT ATTAINED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT FOLLOWED	(5)	(8)	(13)	(15)	(11)	(26)
PILOT IN COMMAND	2	6	8	11	9	20
ATC PERSONNEL(DEP/APCH)	2	0	2	2	0	2
GROUND PERSONNEL	1	0	1	1	0	1
PILOT OF OTHER AIRCRAFT	0	2	2	1	2	3
NOT UNDERSTOOD	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT SELECTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PREMATURE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
ALL AVAILABLE RUNWAY	(3)	(0)	(3)	(12)	(1)	(13)
DISREGARDED	(1)	(0)	(1)	(1)	(0)	(1)
ATC PSNL(LCL/GND/CLNC)	1	0	1	1	0	1
NOT USED	(2)	(0)	(2)	(11)	(1)	(12)
PILOT IN COMMAND	2	0	2	11	1	12
PLANNED APPROACH	(5)	(1)	(6)	(33)	(1)	(34)
IMPROPER	(2)	(0)	(2)	(9)	(0)	(9)
PILOT IN COMMAND	2	0	2	9	0	9
INACCURATE	(0)	(0)	(0)	(4)	(0)	(4)
PILOT IN COMMAND	0	0	0	4	0	4
INATTENTIVE	(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 CAUSE	FACTOR	TOTAL	ALL ACCIDENTS CAUSE	FACTOR	TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
PLANNING-DECISION (Continued)						
PLANNED APPROACH (Continued)						
INADEQUATE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
MISJUDGED	(0)	(0)	(0)	(9)	(0)	(9)
PILOT IN COMMAND	0	0	0	9	0	9
NOT FOLLOWED	(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
POOR	(3)	(1)	(4)	(7)	(1)	(8)
PILOT IN COMMAND	3	1	4	7	1	8
MAINTENANCE	(15)	(4)	(19)	(116)	(34)	(150)
MAINTENANCE	(3)	(0)	(3)	(29)	(9)	(38)
IMPROPER	(1)	(0)	(1)	(11)	(3)	(14)
PILOT IN COMMAND	0	0	0	1	0	1
NO PERSON SPECIFIED	0	0	0	1	0	1
COMPANY MAINTENANCE PSNL	0	0	0	3	0	3
OTHER MAINTENANCE PSNL	1	0	1	4	3	7
MANUFACTURER	0	0	0	1	0	1
OTHER PERSON	0	0	0	1	0	1
INADEQUATE	(1)	(0)	(1)	(17)	(4)	(21)
PILOT IN COMMAND	0	0	0	2	0	2
NO PERSON SPECIFIED	0	0	0	1	0	1
OTHER MAINTENANCE PSNL	1	0	1	11	3	14
COMPANY/OPERATOR MGMT	0	0	0	1	1	2
OTHER PERSON	0	0	0	2	0	2
NOT PERFORMED	(1)	(0)	(1)	(1)	(0)	(1)
COMPANY/OPERATOR MGMT	1	0	1	1	0	1
NOT OBTAINED	(0)	(0)	(0)	(0)	(1)	(1)
COMPANY/OPERATOR MGMT	0	0	0	0	1	1
POOR	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
MAINTENANCE,SERVICE OF AIRCRAFT	(3)	(0)	(3)	(16)	(3)	(19)
IMPROPER	(3)	(0)	(3)	(9)	(2)	(11)
PILOT IN COMMAND	1	0	1	3	0	3
NO PERSON SPECIFIED	1	0	1	1	1	2
OTHER MAINTENANCE PSNL	0	0	0	1	0	1
FBO PERSONNEL	1	0	1	3	1	4
OTHER PERSON	0	0	0	1	0	1
INTENTIONAL	(0)	(0)	(0)	(0)	(1)	(1)
NO PERSON SPECIFIED	0	0	0	0	1	1
INADEQUATE	(0)	(0)	(0)	(6)	(0)	(6)
PILOT IN COMMAND	0	0	0	1	0	1
NO PERSON SPECIFIED	0	0	0	1	0	1
COMPANY MAINTENANCE PSNL	0	0	0	1	0	1
OTHER MAINTENANCE PSNL	0	0	0	2	0	2
COMPANY/OPERATOR MGMT	0	0	0	1	0	1
ISSUED	(0)	(0)	(0)	(1)	(0)	(1)
OTHER MAINTENANCE PSNL	0	0	0	1	0	1
MAINTENANCE,INSPECTION OF AIRCRAFT	(3)	(1)	(4)	(15)	(4)	(19)
INADEQUATE	(3)	(1)	(4)	(14)	(4)	(18)
PILOT IN COMMAND	0	0	0	0	1	1
NO PERSON SPECIFIED	1	1	2	1	1	2
COMPANY MAINTENANCE PSNL	0	0	0	3	0	3
OTHER MAINTENANCE PSNL	2	0	2	10	2	12
NOT PERFORMED	(0)	(0)	(0)	(1)	(0)	(1)
OTHER MAINTENANCE PSNL	0	0	0	1	0	1

CAUSE/FACTOR TABLE
ALL OPERATIONS
1982

	FATAL ACCIDENTS CAUSE FACTOR	FATAL ACCIDENTS TOTAL		ALL ACCIDENTS CAUSE FACTOR	ALL ACCIDENTS TOTAL	
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
MAINTENANCE (Continued)						
MAINTENANCE,ANNUAL INSPECTION	(0)	(2)	(2)	(3)	(5)	(8)
INACCURATE	(0)	(1)	(1)	(0)	(1)	(1)
OTHER MAINTENANCE PSNL	0	1	1	0	1	1
INADEQUATE	(0)	(0)	(0)	(2)	(1)	(3)
OTHER MAINTENANCE PSNL	0	0	0	2	1	3
NOT PERFORMED	(0)	(1)	(1)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	1	1
COMPANY/OPERATOR MGMT	0	1	1	0	1	1
NOT OBTAINED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
POOR	(0)	(0)	(0)	(1)	(0)	(1)
COMPANY MAINTENANCE PSNL	0	0	0	1	0	1
MAINTENANCE,100 HOUR INSPECTION	(0)	(0)	(0)	(3)	(0)	(3)
DELAYED	(0)	(0)	(0)	(1)	(0)	(1)
COMPANY/OPERATOR MGMT	0	0	0	1	0	1
INADEQUATE	(0)	(0)	(0)	(2)	(0)	(2)
OTHER MAINTENANCE PSNL	0	0	0	2	0	2
MAINTENANCE,ADJUSTMENT	(0)	(0)	(0)	(3)	(4)	(7)
IMPROPER	(0)	(0)	(0)	(3)	(2)	(5)
OTHER MAINTENANCE PSNL	0	0	0	3	2	5
INTENTIONAL	(0)	(0)	(0)	(0)	(1)	(1)
COMPANY/OPERATOR MGMT	0	0	0	0	1	1
INADEQUATE	(0)	(0)	(0)	(0)	(1)	(1)
COMPANY MAINTENANCE PSNL	0	0	0	0	1	1
MAINTENANCE,ALIGNMENT	(0)	(1)	(1)	(0)	(1)	(1)
IMPROPER	(0)	(1)	(1)	(0)	(1)	(1)
COMPANY MAINTENANCE PSNL	0	1	1	0	1	1
MAINTENANCE,INSTALLATION	(2)	(0)	(2)	(24)	(2)	(26)
DISREGARDED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
IMPROPER	(2)	(0)	(2)	(21)	(1)	(22)
PILOT IN COMMAND	0	0	0	2	0	2
NO PERSON SPECIFIED	0	0	0	1	0	1
OTHER MAINTENANCE PSNL	2	0	2	16	1	17
COMPANY/OPERATOR MGMT	0	0	0	1	0	1
MANUFACTURER	0	0	0	1	0	1
INADEQUATE	(0)	(0)	(0)	(2)	(0)	(2)
COMPANY MAINTENANCE PSNL	0	0	0	1	0	1
OTHER MAINTENANCE PSNL	0	0	0	1	0	1
POOR	(0)	(0)	(0)	(0)	(1)	(1)
SPECTATOR	0	0	0	0	1	1
MAINTENANCE,LUBRICATION	(0)	(0)	(0)	(2)	(1)	(3)
INADEQUATE	(0)	(0)	(0)	(1)	(1)	(2)
OTHER MAINTENANCE PSNL	0	0	0	1	1	2
NOT CORRECTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
MAINTENANCE,MODIFICATION	(0)	(0)	(0)	(3)	(0)	(3)
IMPROPER	(0)	(0)	(0)	(3)	(0)	(3)
COMPANY MAINTENANCE PSNL	0	0	0	1	0	1
OTHER MAINTENANCE PSNL	0	0	0	1	0	1
OTHER PERSON	0	0	0	1	0	1
MAINTENANCE,REPLACEMENT	(1)	(0)	(1)	(3)	(1)	(4)
IMPROPER	(0)	(0)	(0)	(2)	(0)	(2)
COMPANY MAINTENANCE PSNL	0	0	0	1	0	1
OTHER MAINTENANCE PSNL	0	0	0	1	0	1

CAUSE/FACTOR TABLE
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	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
MAINTENANCE (Continued)						
MAINTENANCE/REPLACEMENT (Continued)						
NOT PERFORMED	(1)	(0)	(1)	(1)	(1)	(2)
COMPANY MAINTENANCE PSNL	0	0	0	0	1	1
OTHER MAINTENANCE PSNL	1	0	1	1	0	1
MAINTENANCE/MAJOR REPAIR	(1)	(0)	(1)	(3)	(1)	(4)
IMPROPER	(0)	(0)	(0)	(2)	(1)	(3)
OTHER MAINTENANCE PSNL	0	0	0	2	1	3
NOT PERFORMED	(1)	(0)	(1)	(1)	(0)	(1)
OTHER MAINTENANCE PSNL	1	0	1	1	0	1
MAINTENANCE/MAJOR ALTERATION	(1)	(0)	(1)	(1)	(0)	(1)
IMPROPER	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
MAINTENANCE/SERVICE BULLETINS	(0)	(0)	(0)	(4)	(3)	(7)
DISREGARDED	(0)	(0)	(0)	(1)	(0)	(1)
OTHER MAINTENANCE PSNL	0	0	0	1	0	1
NOT FOLLOWED	(0)	(0)	(0)	(1)	(2)	(3)
COMPANY MAINTENANCE PSNL	0	0	0	1	0	1
OTHER MAINTENANCE PSNL	0	0	0	0	1	1
COMPANY/OPERATOR MGMT	0	0	0	0	1	1
NOT PERFORMED	(0)	(0)	(0)	(2)	(1)	(3)
OTHER MAINTENANCE PSNL	0	0	0	2	1	3
MAINTENANCE/DESIGN CHANGE	(0)	(0)	(0)	(1)	(0)	(1)
INADEQUATE	(0)	(0)	(0)	(1)	(0)	(1)
PRODUCTION/DESIGN PSNL	0	0	0	1	0	1
MAINTENANCE/OVERHAUL	(1)	(0)	(1)	(6)	(0)	(6)
IMPROPER	(1)	(0)	(1)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	1	0	1
OTHER MAINTENANCE PSNL	1	0	1	2	0	2
INADEQUATE	(0)	(0)	(0)	(3)	(0)	(3)
NO PERSON SPECIFIED	0	0	0	1	0	1
OTHER MAINTENANCE PSNL	0	0	0	2	0	2
AIRPORT	(1)	(1)	(2)	(7)	(3)	(10)
RUNWAY MAINTENANCE	(0)	(0)	(0)	(1)	(1)	(2)
INADEQUATE	(0)	(0)	(0)	(0)	(1)	(1)
AIRPORT PERSONNEL	0	0	0	0	1	1
NOT MAINTAINED	(0)	(0)	(0)	(1)	(0)	(1)
AIRPORT PERSONNEL	0	0	0	1	0	1
AIRPORT SNOW REMOVAL	(0)	(0)	(0)	(2)	(1)	(3)
IMPROPER	(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
POOR	(0)	(0)	(0)	(1)	(0)	(1)
AIRPORT PERSONNEL	0	0	0	1	0	1
OTHER AIRPORT/RUNWAY MAINTENANCE	(1)	(0)	(1)	(2)	(0)	(2)
INADEQUATE	(1)	(0)	(1)	(2)	(0)	(2)
AIRPORT PERSONNEL	1	0	1	2	0	2
AIRPORT OPERATIONS	(0)	(1)	(1)	(2)	(1)	(3)
INADEQUATE	(0)	(1)	(1)	(2)	(1)	(3)
AIRPORT PERSONNEL	0	1	1	2	1	3
METEOROLOGICAL SERVICE	(3)	(9)	(12)	(5)	(13)	(18)
WEATHER FORECAST	(1)	(1)	(2)	(1)	(2)	(3)
INACCURATE	(0)	(1)	(1)	(0)	(2)	(2)
NWS PERSONNEL	0	1	1	0	2	2
NOT OBTAINED	(1)	(0)	(1)	(1)	(0)	(1)

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	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
METEOROLOGICAL SERVICE (Continued)						
WEATHER FORECAST (Continued)						
PILOT IN COMMAND	1	0	1	1	0	1
WEATHER OBSERVATION	(0)	(1)	(1)	(0)	(2)	(2)
NOT PERFORMED	(0)	(1)	(1)	(0)	(1)	(1)
NWS PERSONNEL	0	1	1	0	1	1
NOT OBTAINED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
PREFLIGHT BRIEFING SERVICE	(1)	(5)	(6)	(2)	(7)	(9)
IMPROPER	(1)	(0)	(1)	(1)	(0)	(1)
ATC PERSONNEL(FSS)	1	0	1	1	0	1
INADEQUATE	(0)	(1)	(1)	(0)	(1)	(1)
ATC PERSONNEL(FSS)	0	1	1	0	1	1
NOT OBTAINED	(0)	(3)	(3)	(0)	(4)	(4)
PILOT IN COMMAND	0	3	3	0	4	4
NOT UNDERSTOOD	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT USED	(0)	(1)	(1)	(1)	(1)	(2)
PILOT IN COMMAND	0	1	1	1	1	2
IN FLIGHT BRIEFING SERVICE	(1)	(0)	(1)	(2)	(0)	(2)
NOT OBTAINED	(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	0	0	0	1	0	1
IN FLIGHT WEATHER ADVISORIES	(0)	(2)	(2)	(0)	(2)	(2)
INADEQUATE	(0)	(1)	(1)	(0)	(1)	(1)
ATC PERSONNEL(FSS)	0	1	1	0	1	1
NOT OBTAINED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
AIRCRAFT HANDLING	(503)	(68)	(571)	(2420)	(414)	(2834)
AIRCRAFT HANDLING	(53)	(0)	(53)	(66)	(3)	(69)
DISREGARDED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
IMPROPER	(18)	(0)	(18)	(28)	(1)	(29)
PILOT IN COMMAND	17	0	17	23	1	24
DUAL STUDENT	1	0	1	2	0	2
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
PILOT OF OTHER AIRCRAFT	0	0	0	1	0	1
UNQUALIFIED PERSON	0	0	0	1	0	1
INATTENTIVE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT MAINTAINED	(14)	(0)	(14)	(16)	(0)	(16)
PILOT IN COMMAND	14	0	14	16	0	16
NOT UNDERSTOOD	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
NOT POSSIBLE	(2)	(0)	(2)	(2)	(0)	(2)
PILOT IN COMMAND	2	0	2	2	0	2
UNCONTROLLED	(18)	(0)	(18)	(19)	(0)	(19)
PILOT IN COMMAND	18	0	18	18	0	18
UNQUALIFIED PERSON	0	0	0	1	0	1
AEROBATICS	(6)	(6)	(12)	(8)	(8)	(16)
PERFORMED	(6)	(6)	(12)	(8)	(8)	(16)
PILOT IN COMMAND	6	6	12	8	8	16
ABORT	(1)	(0)	(1)	(4)	(1)	(5)
DELAYED	(0)	(0)	(0)	(1)	(0)	(1)

CAUSE/FACTOR TABLE
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	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
AIRCRAFT HANDLING (Continued)						
ABORT (Continued)						
PILOT IN COMMAND	0	0	0	1	0	1
NOT PERFORMED	(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 POSSIBLE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
ABORT ABOVE V1	(0)	(0)	(0)	(1)	(0)	(1)
PERFORMED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
ABORTED LANDING	(1)	(6)	(7)	(10)	(14)	(24)
DELAYED	(0)	(0)	(0)	(4)	(0)	(4)
PILOT IN COMMAND	0	0	0	4	0	4
NOT PERFORMED	(1)	(0)	(1)	(4)	(0)	(4)
PILOT IN COMMAND	1	0	1	4	0	4
NOT SELECTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PERFORMED	(0)	(6)	(6)	(1)	(14)	(15)
PILOT IN COMMAND	0	6	6	1	14	15
ABORTED TAKEOFF	(3)	(2)	(5)	(70)	(15)	(85)
DELAYED	(0)	(0)	(0)	(39)	(1)	(40)
PILOT IN COMMAND	0	0	0	36	1	37
DUAL STUDENT	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
CHECK PILOT	0	0	0	1	0	1
INTENTIONAL	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
INITIATED	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	2	2
MISJUDGED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT PERFORMED	(3)	(2)	(5)	(24)	(3)	(27)
PILOT IN COMMAND	3	2	5	23	2	25
DUAL STUDENT	0	0	0	0	1	1
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
PERFORMED	(0)	(0)	(0)	(6)	(8)	(14)
PILOT IN COMMAND	0	0	0	6	8	14
AIRSPEED	(101)	(3)	(104)	(362)	(30)	(392)
ABOVE	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
EXCEEDED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
EXCESSIVE	(1)	(0)	(1)	(10)	(5)	(15)
PILOT IN COMMAND	1	0	1	10	5	15
IMPROPER	(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
INADEQUATE	(6)	(0)	(6)	(24)	(1)	(25)
PILOT IN COMMAND	6	0	6	24	1	25
MISJUDGED	(6)	(2)	(8)	(115)	(18)	(133)
PILOT IN COMMAND	5	2	7	110	18	128
DUAL STUDENT	1	0	1	5	0	5
NOT ATTAINED	(2)	(0)	(2)	(9)	(3)	(12)
PILOT IN COMMAND	2	0	2	8	2	10

CAUSE/FACTOR TABLE
ALL OPERATIONS
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	FATAL ACCIDENTS CAUSE	FACTOR	TOTAL	ALL ACCIDENTS CAUSE	FACTOR	TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
AIRCRAFT HANDLING (Continued)						
AIRSPEED (Continued)						
PILOT OF OTHER AIRCRAFT	0	0	0	0	1	1
OTHER PERSON	0	0	0	1	0	1
NOT MAINTAINED	(84)	(0)	(84)	(183)	(1)	(184)
PILOT IN COMMAND	82	0	82	176	1	177
DUAL STUDENT	1	0	1	4	0	4
PILOT IN COMMAND(CFI)	0	0	0	2	0	2
UNQUALIFIED PERSON	1	0	1	1	0	1
NOT PERFORMED	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
NOT OBTAINED	(1)	(0)	(1)	(16)	(0)	(16)
PILOT IN COMMAND	1	0	1	16	0	16
AIRSPEED(VLOF)	(0)	(0)	(0)	(5)	(1)	(6)
NOT ATTAINED	(0)	(0)	(0)	(2)	(1)	(3)
PILOT IN COMMAND	0	0	0	2	1	3
NOT OBTAINED	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	3	0	3
AIRSPEED(VMC)	(10)	(0)	(10)	(13)	(1)	(14)
BELOW	(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
NOT ATTAINED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT MAINTAINED	(9)	(0)	(9)	(11)	(0)	(11)
PILOT IN COMMAND	9	0	9	10	0	10
DUAL STUDENT	0	0	0	1	0	1
AIRSPEED(VS)	(4)	(0)	(4)	(5)	(0)	(5)
NOT MAINTAINED	(4)	(0)	(4)	(5)	(0)	(5)
PILOT IN COMMAND	3	0	3	4	0	4
COPILOT	1	0	1	1	0	1
AIRSPEED(VSO)	(1)	(0)	(1)	(1)	(0)	(1)
NOT MAINTAINED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
AIRSPEED(VA)	(0)	(0)	(0)	(1)	(0)	(1)
EXCEEDED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
AIRSPEED(VMO)	(1)	(0)	(1)	(1)	(0)	(1)
EXCEEDED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
ALTITUDE	(30)	(0)	(30)	(152)	(3)	(155)
IMPROPER	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	2	0	2
DUAL STUDENT	0	0	0	1	0	1
INATTENTIVE	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	3	0	3
INADEQUATE	(3)	(0)	(3)	(5)	(1)	(6)
PILOT IN COMMAND	3	0	3	5	1	6
MISJUDGED	(24)	(0)	(24)	(126)	(2)	(128)
PILOT IN COMMAND	23	0	23	117	0	117
DUAL STUDENT	1	0	1	9	2	11
NOT ATTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	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 CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
AIRCRAFT HANDLING (Continued)						
ALTITUDE (Continued)						
NOT MAINTAINED	(3)	(0)	(3)	(11)	(0)	(11)
PILOT IN COMMAND	3	0	3	11	0	11
NOT POSSIBLE	(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
PROPER ALTITUDE	(54)	(4)	(58)	(88)	(6)	(94)
ABOVE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
BELOW	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
MISJUDGED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	1	0	1
DUAL STUDENT	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	(50)	(4)	(54)	(74)	(6)	(80)
PILOT IN COMMAND	50	4	54	72	6	78
DUAL STUDENT	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
NOT OBTAINED	(3)	(0)	(3)	(6)	(0)	(6)
PILOT IN COMMAND	3	0	3	6	0	6
NOT POSSIBLE	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
NOT SELECTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
AUTOROTATION	(2)	(1)	(3)	(4)	(24)	(28)
ATTEMPTED	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	2	2
CONTINUED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND(CFI)	0	0	0	0	1	1
IMPROPER	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
INTENTIONAL	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
INITIATED	(1)	(0)	(1)	(1)	(2)	(3)
PILOT IN COMMAND	1	0	1	1	2	3
NOT POSSIBLE	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	2	2
PERFORMED	(0)	(1)	(1)	(2)	(14)	(16)
PILOT IN COMMAND	0	1	1	2	13	15
DUAL STUDENT	0	0	0	0	1	1
POOR	(0)	(0)	(0)	(0)	(1)	(1)
DUAL STUDENT	0	0	0	0	1	1
UNCONTROLLED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
BUZZING	(16)	(2)	(18)	(27)	(4)	(31)
INADVERTENT	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
INTENTIONAL	(3)	(0)	(3)	(6)	(0)	(6)
PILOT IN COMMAND	3	0	3	6	0	6

CAUSE/FACTOR TABLE
ALL OPERATIONS
1982

	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
AIRCRAFT HANDLING (Continued)						
BUZZING (Continued)						
PERFORMED	(13)	(2)	(15)	(21)	(3)	(24)
PILOT IN COMMAND	13	2	15	21	3	24
DECISION HEIGHT	(3)	(0)	(3)	(5)	(1)	(6)
BELOW	(3)	(0)	(3)	(4)	(0)	(4)
PILOT IN COMMAND	3	0	3	4	0	4
EXCEEDED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT ATTAINED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
DISTANCE	(14)	(2)	(16)	(179)	(19)	(198)
IMPROPER	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INADEQUATE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
MISJUDGED	(13)	(2)	(15)	(177)	(18)	(195)
PILOT IN COMMAND	12	2	14	168	16	184
DUAL STUDENT	1	0	1	9	2	11
NOT MAINTAINED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
DESCENT	(2)	(0)	(2)	(7)	(1)	(8)
CONTINUED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
EXCESSIVE	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	0	1	1
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
IMPROPER	(1)	(0)	(1)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	2	0	2
MISJUDGED	(1)	(0)	(1)	(3)	(0)	(3)
PILOT IN COMMAND	1	0	1	3	0	3
PROPER DESCENT RATE	(1)	(0)	(1)	(16)	(2)	(18)
EXCEEDED	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	3	0	3
MISJUDGED	(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 ATTAINED	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	0	1
DUAL STUDENT	0	0	0	0	1	1
NOT MAINTAINED	(1)	(0)	(1)	(6)	(0)	(6)
PILOT IN COMMAND	1	0	1	6	0	6
NOT OBTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT POSSIBLE	(0)	(0)	(0)	(3)	(1)	(4)
PILOT IN COMMAND	0	0	0	3	1	4
CLEARANCE	(38)	(1)	(39)	(159)	(2)	(161)
IMPROPER	(0)	(0)	(0)	(6)	(0)	(6)
PILOT IN COMMAND	0	0	0	5	0	5
PILOT OF OTHER AIRCRAFT	0	0	0	1	0	1
INACCURATE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INADEQUATE	(2)	(0)	(2)	(10)	(1)	(11)
PILOT IN COMMAND	2	0	2	10	1	11

CAUSE/FACTOR TABLE
ALL OPERATIONS
1982

	FATAL ACCIDENTS CAUSE FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)				
HUMAN PERFORMANCE (Continued)				
OPERATIONS (Continued)				
AIRCRAFT HANDLING (Continued)				
CLEARANCE (Continued)				
MISJUDGED	(27) (0)	(27)	(117) (0)	(117)
PILOT IN COMMAND	27 0	27	114 0	114
DUAL STUDENT	0 0	0	1 0	1
PILOT IN COMMAND(CFI)	0 0	0	1 0	1
PILOT OF OTHER AIRCRAFT	0 0	0	1 0	1
NOT ATTAINED	(0) (0)	(0)	(1) (0)	(1)
PILOT IN COMMAND	0 0	0	1 0	1
NOT FOLLOWED	(1) (0)	(1)	(1) (0)	(1)
PILOT IN COMMAND	1 0	1	1 0	1
NOT MAINTAINED	(8) (0)	(8)	(22) (0)	(22)
PILOT IN COMMAND	8 0	8	21 0	21
PILOT OF OTHER AIRCRAFT	0 0	0	1 0	1
NOT POSSIBLE	(0) (1)	(1)	(1) (1)	(2)
PILOT IN COMMAND	0 1	1	1 1	2
CLIMB	(1) (0)	(1)	(4) (2)	(6)
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
INADEQUATE	(0) (0)	(0)	(0) (1)	(1)
FLIGHT INSTRUCTOR(ON GROUND)	0 0	0	0 1	1
MISJUDGED	(0) (0)	(0)	(1) (0)	(1)
PILOT IN COMMAND	0 0	0	1 0	1
NOT MAINTAINED	(1) (0)	(1)	(1) (1)	(2)
PILOT IN COMMAND	1 0	1	1 1	2
PROPER CLIMB RATE	(7) (0)	(7)	(14) (0)	(14)
NOT ATTAINED	(3) (0)	(3)	(4) (0)	(4)
PILOT IN COMMAND	3 0	3	4 0	4
NOT FOLLOWED	(1) (0)	(1)	(1) (0)	(1)
PILOT IN COMMAND	1 0	1	1 0	1
NOT MAINTAINED	(3) (0)	(3)	(9) (0)	(9)
PILOT IN COMMAND	2 0	2	8 0	8
COPILOT	1 0	1	1 0	1
MINIMUM DESCENT ALTITUDE	(5) (0)	(5)	(7) (1)	(8)
BELOW	(3) (0)	(3)	(4) (0)	(4)
PILOT IN COMMAND	3 0	3	4 0	4
INADEQUATE	(0) (0)	(0)	(0) (1)	(1)
PILOT IN COMMAND	0 0	0	0 1	1
NOT MAINTAINED	(1) (0)	(1)	(2) (0)	(2)
PILOT IN COMMAND	1 0	1	2 0	2
PREMATURE	(1) (0)	(1)	(1) (0)	(1)
PILOT IN COMMAND	1 0	1	1 0	1
PROPER ALIGNMENT	(1) (0)	(1)	(31) (5)	(36)
MISJUDGED	(0) (0)	(0)	(3) (0)	(3)
PILOT IN COMMAND	0 0	0	3 0	3
NOT ATTAINED	(1) (0)	(1)	(6) (1)	(7)
PILOT IN COMMAND	1 0	1	6 1	7
NOT MAINTAINED	(0) (0)	(0)	(20) (2)	(22)
PILOT IN COMMAND	0 0	0	17 1	18
DUAL STUDENT	0 0	0	3 0	3
UNQUALIFIED PERSON	0 0	0	0 1	1
NOT OBTAINED	(0) (0)	(0)	(2) (0)	(2)

CAUSE/FACTOR TABLE
ALL OPERATIONS
1982

	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
AIRCRAFT HANDLING (Continued)						
PROPER ALIGNMENT (Continued)						
PILOT IN COMMAND	0	0	0	1	0	1
DUAL STUDENT	0	0	0	1	0	1
NOT POSSIBLE	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	2	2
PROPER TOUCHDOWN POINT	(0)	(0)	(0)	(29)	(0)	(29)
DISREGARDED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
EXCEEDED	(0)	(0)	(0)	(9)	(0)	(9)
PILOT IN COMMAND	0	0	0	9	0	9
MISJUDGED	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	3	0	3
NOT ATTAINED	(0)	(0)	(0)	(15)	(0)	(15)
PILOT IN COMMAND	0	0	0	14	0	14
DUAL STUDENT	0	0	0	1	0	1
NOT SELECTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PROPER GLIDEPATH	(1)	(0)	(1)	(3)	(0)	(3)
BELOW	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
NOT MAINTAINED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
LIFT-OFF	(3)	(1)	(4)	(24)	(5)	(29)
IMPROPER	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
INADVERTENT	(1)	(1)	(2)	(2)	(1)	(3)
PILOT IN COMMAND	1	1	2	2	1	3
PREMATURE	(2)	(0)	(2)	(20)	(4)	(24)
PILOT IN COMMAND	2	0	2	19	4	23
OTHER PERSON	0	0	0	1	0	1
LEVEL OFF	(2)	(0)	(2)	(107)	(4)	(111)
IMPROPER	(2)	(0)	(2)	(100)	(4)	(104)
PILOT IN COMMAND	2	0	2	94	3	97
DUAL STUDENT	0	0	0	4	1	5
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
UNQUALIFIED PERSON	0	0	0	1	0	1
INADEQUATE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
MISJUDGED	(0)	(0)	(0)	(5)	(0)	(5)
PILOT IN COMMAND	0	0	0	5	0	5
NOT MAINTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
FLARE	(0)	(1)	(1)	(78)	(12)	(90)
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	1	0	1
DUAL STUDENT	0	0	0	1	0	1
IMPROPER	(0)	(0)	(0)	(51)	(7)	(58)
PILOT IN COMMAND	0	0	0	48	6	54
COPILOT	0	0	0	1	0	1
DUAL STUDENT	0	0	0	2	1	3
INATTENTIVE	(0)	(0)	(0)	(1)	(0)	(1)
DUAL STUDENT	0	0	0	1	0	1
INADEQUATE	(0)	(0)	(0)	(1)	(0)	(1)

CAUSE/FACTOR TABLE
ALL OPERATIONS
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	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
AIRCRAFT HANDLING (Continued)						
FLARE (Continued)						
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
MISJUDGED	(0)	(0)	(0)	(19)	(1)	(20)
PILOT IN COMMAND	0	0	0	16	1	17
DUAL STUDENT	0	0	0	3	0	3
NOT POSSIBLE	(0)	(0)	(0)	(2)	(3)	(5)
PILOT IN COMMAND	0	0	0	2	3	5
PREMATURE	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
GO-AROUND	(8)	(4)	(12)	(137)	(25)	(162)
ATTEMPTED	(0)	(0)	(0)	(6)	(2)	(8)
PILOT IN COMMAND	0	0	0	6	2	8
DELAYED	(6)	(0)	(6)	(63)	(2)	(65)
PILOT IN COMMAND	6	0	6	59	2	61
DUAL STUDENT	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	0	0	0	3	0	3
IMPROPER	(2)	(0)	(2)	(3)	(0)	(3)
PILOT IN COMMAND	1	0	1	2	0	2
PILOT OF OTHER AIRCRAFT	1	0	1	1	0	1
INITIATED	(0)	(4)	(4)	(3)	(13)	(16)
PILOT IN COMMAND	0	4	4	3	13	16
MISJUDGED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT PERFORMED	(0)	(0)	(0)	(54)	(6)	(60)
PILOT IN COMMAND	0	0	0	54	6	60
NOT UNDERSTOOD	(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 SELECTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PERFORMED	(0)	(0)	(0)	(4)	(1)	(5)
PILOT IN COMMAND	0	0	0	4	1	5
PREMATURE	(0)	(0)	(0)	(1)	(0)	(1)
DUAL STUDENT	0	0	0	1	0	1
GROUND LOOP/SWERVE	(2)	(1)	(3)	(114)	(51)	(165)
ATTEMPTED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
DELAYED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INADVERTENT	(2)	(1)	(3)	(68)	(23)	(91)
PILOT IN COMMAND	2	1	3	63	22	85
COPILOT	0	0	0	1	0	1
DUAL STUDENT	0	0	0	3	1	4
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
INTENTIONAL	(0)	(0)	(0)	(5)	(6)	(11)
PILOT IN COMMAND	0	0	0	5	6	11
INADEQUATE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT CORRECTED	(0)	(0)	(0)	(10)	(3)	(13)

CAUSE/FACTOR TABLE
ALL OPERATIONS
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	FATAL ACCIDENTS CAUSE FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)				
HUMAN PERFORMANCE (Continued)				
OPERATIONS (Continued)				
AIRCRAFT HANDLING (Continued)				
GROUND LOOP/SWERVE (Continued)				
PILOT IN COMMAND	0	0	10	3	13
NOT IDENTIFIED	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND(CFI)	0	0	1	0	1
NOT MAINTAINED	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	1	0	1
PERFORMED	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	1	1
UNCONTROLLED	(0)	(0)	(27)	(17)	(44)
PILOT IN COMMAND	0	0	27	17	44
DESIGN STRESS LIMITS OF AIRCRAFT	(18)	(0)	(18)	(0)	(18)
EXCEEDED	(18)	(0)	(18)	(0)	(18)
PILOT IN COMMAND	16	0	16	0	16
NO PERSON SPECIFIED	2	0	2	0	2
DIRECTIONAL CONTROL	(6)	(0)	(6)	(22)	(262)
IMPROPER	(0)	(0)	(0)	(0)	(3)
PILOT IN COMMAND	0	0	0	0	2
COPILOT	0	0	0	0	1
INADVERTENT	(0)	(0)	(0)	(0)	(3)
PILOT IN COMMAND	0	0	0	0	3
NOT ATTAINED	(0)	(0)	(0)	(0)	(2)
PILOT IN COMMAND	0	0	0	0	2
NOT MAINTAINED	(6)	(0)	(6)	(8)	(252)
PILOT IN COMMAND	6	0	6	8	241
DUAL STUDENT	0	0	0	0	10
PILOT IN COMMAND(CFI)	0	0	0	0	1
NOT PERFORMED	(0)	(0)	(0)	(0)	(2)
PILOT IN COMMAND	0	0	0	0	2
NOT POSSIBLE	(0)	(0)	(0)	(13)	(18)
PILOT IN COMMAND	0	0	0	13	18
POOR	(0)	(0)	(0)	(0)	(1)
PILOT IN COMMAND	0	0	0	0	1
UNCONTROLLED	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	1	1
LOAD JETTISON	(0)	(1)	(1)	(19)	(23)
DELAYED	(0)	(0)	(0)	(1)	(3)
PILOT IN COMMAND	0	0	0	1	3
INITIATED	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	2	2
NOT PERFORMED	(0)	(1)	(1)	(5)	(6)
PILOT IN COMMAND	0	1	1	5	6
NOT POSSIBLE	(0)	(0)	(0)	(2)	(3)
PILOT IN COMMAND	0	0	0	2	3
PERFORMED	(0)	(0)	(0)	(9)	(9)
PILOT IN COMMAND	0	0	0	9	9
LOW PASS	(6)	(14)	(20)	(25)	(34)
ATTEMPTED	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	1	1
INTENTIONAL	(1)	(0)	(1)	(0)	(2)
PILOT IN COMMAND	1	0	1	0	2
MISJUDGED	(1)	(0)	(1)	(0)	(2)
PILOT IN COMMAND	1	0	1	0	2
PERFORMED	(4)	(14)	(18)	(24)	(29)

CAUSE/FACTOR TABLE
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1982

	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
AIRCRAFT HANDLING (Continued)						
LOW PASS (Continued)						
PILOT IN COMMAND	4	14	18	5	24	29
REMEDIAL ACTION	(1)	(0)	(1)	(12)	(3)	(15)
ATTEMPTED	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	2	2
DELAYED	(0)	(0)	(0)	(3)	(0)	(3)
PILOT IN COMMAND	0	0	0	1	0	1
DUAL STUDENT	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
DISREGARDED	(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(CFI)	0	0	0	1	0	1
IMPROPER	(0)	(0)	(0)	(2)	(1)	(3)
PILOT IN COMMAND	0	0	0	2	0	2
DUAL STUDENT	0	0	0	0	1	1
INADEQUATE	(1)	(0)	(1)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	2	0	2
MISJUDGED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT PERFORMED	(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
MANEUVER	(3)	(4)	(7)	(9)	(13)	(22)
ATTEMPTED	(1)	(1)	(2)	(1)	(1)	(2)
PILOT IN COMMAND	1	1	2	1	1	2
BELOW	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
DELAYED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
EXCESSIVE	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
IMPROPER	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
INTENTIONAL	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
INITIATED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
MISJUDGED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
NOT CORRECTED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
PERFORMED	(0)	(2)	(2)	(2)	(9)	(11)
PILOT IN COMMAND	0	2	2	2	8	10
PILOT IN COMMAND(CFI)	0	0	0	0	1	1
MISSED APPROACH	(3)	(2)	(5)	(7)	(3)	(10)
DELAYED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT FOLLOWED	(2)	(0)	(2)	(2)	(0)	(2)
PILOT IN COMMAND	2	0	2	2	0	2
NOT PERFORMED	(1)	(0)	(1)	(3)	(0)	(3)

CAUSE/FACTOR TABLE
ALL OPERATIONS
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	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
AIRCRAFT HANDLING (Continued)						
MISSED APPROACH (Continued)						
PILOT IN COMMAND	1	0	1	3	0	3
NOT USED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PERFORMED	(0)	(2)	(2)	(0)	(3)	(3)
PILOT IN COMMAND	0	2	2	0	3	3
EMERGENCY PROCEDURE	(9)	(5)	(14)	(43)	(18)	(61)
DELAYED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
IMPROPER	(7)	(1)	(8)	(29)	(2)	(31)
PILOT IN COMMAND	7	1	8	29	2	31
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	2	1	3
INITIATED	(0)	(1)	(1)	(0)	(2)	(2)
PILOT IN COMMAND	0	1	1	0	1	1
PILOT IN COMMAND(CFI)	0	0	0	0	1	1
NOT FOLLOWED	(2)	(2)	(4)	(4)	(3)	(7)
PILOT IN COMMAND	1	2	3	3	3	6
COPILOT	1	0	1	1	0	1
NOT PERFORMED	(0)	(0)	(0)	(4)	(0)	(4)
PILOT IN COMMAND	0	0	0	4	0	4
NOT USED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PERFORMED	(0)	(0)	(0)	(0)	(5)	(5)
PILOT IN COMMAND	0	0	0	0	5	5
SIMULATED	(0)	(1)	(1)	(1)	(5)	(6)
PILOT IN COMMAND	0	1	1	1	2	3
PILOT IN COMMAND(CFI)	0	0	0	0	3	3
PRECAUTIONARY LANDING	(1)	(2)	(3)	(7)	(21)	(28)
DELAYED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
MISJUDGED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT MAINTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PERFORMED	(0)	(2)	(2)	(4)	(18)	(22)
PILOT IN COMMAND	0	2	2	4	18	22
POOR	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
SELECTED	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	2	2
PULL-UP	(4)	(2)	(6)	(7)	(3)	(10)
ATTEMPTED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
DELAYED	(1)	(0)	(1)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	2	0	2
EXCESSIVE	(1)	(0)	(1)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	2	0	2
INADVERTENT	(1)	(0)	(1)	(1)	(0)	(1)

CAUSE/FACTOR TABLE
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	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
AIRCRAFT HANDLING (Continued)						
PULL-UP (Continued)						
DUAL STUDENT	1	0	1	1	0	1
INITIATED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
NOT PERFORMED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
PERFORMED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
PREMATURE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
STARTING PROCEDURE	(0)	(0)	(0)	(4)	(1)	(5)
DELAYED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
IMPROPER	(0)	(0)	(0)	(2)	(1)	(3)
PILOT IN COMMAND	0	0	0	2	1	3
NOT USED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
SPIRAL	(3)	(0)	(3)	(3)	(1)	(4)
NOT CORRECTED	(2)	(0)	(2)	(2)	(0)	(2)
PILOT IN COMMAND	2	0	2	2	0	2
UNCONTROLLED	(1)	(0)	(1)	(1)	(1)	(2)
PILOT IN COMMAND	1	0	1	1	1	2
STALL	(46)	(1)	(47)	(108)	(4)	(112)
INADVERTENT	(40)	(1)	(41)	(96)	(2)	(98)
PILOT IN COMMAND	38	1	39	93	2	95
DUAL STUDENT	2	0	2	3	0	3
INADEQUATE	(2)	(0)	(2)	(2)	(0)	(2)
PILOT IN COMMAND	2	0	2	2	0	2
NOT CORRECTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PERFORMED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
UNCONTROLLED	(4)	(0)	(4)	(9)	(1)	(10)
PILOT IN COMMAND	4	0	4	9	1	10
STALL/SPIN	(22)	(3)	(25)	(30)	(4)	(34)
INADVERTENT	(15)	(2)	(17)	(23)	(3)	(26)
PILOT IN COMMAND	15	2	17	23	3	26
INTENTIONAL	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
NOT CORRECTED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
UNCONTROLLED	(6)	(0)	(6)	(6)	(0)	(6)
PILOT IN COMMAND	5	0	5	5	0	5
NO PERSON SPECIFIED	1	0	1	1	0	1
STALL/MUSH	(7)	(0)	(7)	(47)	(4)	(51)
INADVERTENT	(7)	(0)	(7)	(42)	(2)	(44)
PILOT IN COMMAND	7	0	7	41	2	43
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
NOT CORRECTED	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	0	1
DUAL STUDENT	0	0	0	0	1	1
UNCONTROLLED	(0)	(0)	(0)	(4)	(1)	(5)
PILOT IN COMMAND	0	0	0	4	1	5

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	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
AIRCRAFT HANDLING (Continued)						
WATER LOOP/SWERVE	(0)	(0)	(0)	(2)	(0)	(2)
ATTEMPTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
DELAYED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
WHEELS DOWN LANDING IN WATER	(0)	(0)	(0)	(3)	(0)	(3)
INADVERTENT	(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
WHEELS UP LANDING	(0)	(0)	(0)	(18)	(15)	(33)
INADVERTENT	(0)	(0)	(0)	(12)	(0)	(12)
PILOT IN COMMAND	0	0	0	12	0	12
INTENTIONAL	(0)	(0)	(0)	(1)	(8)	(9)
PILOT IN COMMAND	0	0	0	1	8	9
INITIATED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PERFORMED	(0)	(0)	(0)	(4)	(6)	(10)
PILOT IN COMMAND	0	0	0	4	6	10
UNCONTROLLED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
ROTOR RPM	(3)	(0)	(3)	(12)	(1)	(13)
INADEQUATE	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
NOT MAINTAINED	(2)	(0)	(2)	(11)	(1)	(12)
PILOT IN COMMAND	2	0	2	10	1	11
DUAL STUDENT	0	0	0	1	0	1
RUN ON LANDING	(0)	(0)	(0)	(2)	(0)	(2)
CONTINUED	(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
RUNNING TAKEOFF	(0)	(0)	(0)	(0)	(1)	(1)
NOT CORRECTED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
VERTICAL TAKEOFF	(0)	(0)	(0)	(1)	(0)	(1)
ATTEMPTED	(0)	(0)	(0)	(1)	(0)	(1)
DUAL STUDENT	0	0	0	1	0	1
RECOVERY FROM BOUNCED LANDING	(0)	(0)	(0)	(78)	(6)	(84)
ATTEMPTED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
DELAYED	(0)	(0)	(0)	(2)	(1)	(3)
PILOT IN COMMAND	0	0	0	1	1	2
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
IMPROPER	(0)	(0)	(0)	(72)	(1)	(73)
PILOT IN COMMAND	0	0	0	67	1	68
NO PERSON SPECIFIED	0	0	0	1	0	1
DUAL STUDENT	0	0	0	3	0	3
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
INADEQUATE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT USED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PERFORMED	(0)	(0)	(0)	(1)	(3)	(4)

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	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
AIRCRAFT HANDLING (Continued)						
RECOVERY FROM BOUNCED LANDING (Continued)						
PILOT IN COMMAND	0	0	0	1	2	3
PILOT IN COMMAND(CFI)	0	0	0	0	1	1
POOR	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
TOUCH-AND-GO LANDING	(0)	(0)	(0)	(4)	(10)	(14)
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
INITIATED	(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
PERFORMED	(0)	(0)	(0)	(1)	(9)	(10)
PILOT IN COMMAND	0	0	0	1	9	10
COMMUNICATIONS/INFORMATION/ATC	(22)	(24)	(46)	(124)	(53)	(177)
COMMUNICATIONS/INFORMATION/ATC	(0)	(0)	(0)	(0)	(1)	(1)
INADEQUATE	(0)	(0)	(0)	(0)	(1)	(1)
GROUND PERSONNEL	0	0	0	0	1	1
INTERPRETATION OF INSTRUCTIONS	(0)	(0)	(0)	(0)	(2)	(2)
IMPROPER	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	2	2
INSTRUCTIONS/WRITTEN/VERBAL	(2)	(1)	(3)	(6)	(5)	(11)
IMPROPER	(1)	(0)	(1)	(1)	(1)	(2)
ATC PSNL(LCL/GND/CLNC)	1	0	1	1	1	2
INADEQUATE	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
ATC PSNL(LCL/GND/CLNC)	0	0	0	1	0	1
NOT ATTAINED	(0)	(0)	(0)	(1)	(0)	(1)
GROUND PERSONNEL	0	0	0	1	0	1
NOT FOLLOWED	(0)	(1)	(1)	(1)	(2)	(3)
PILOT IN COMMAND	0	1	1	1	2	3
NOT UNDERSTOOD	(0)	(0)	(0)	(0)	(2)	(2)
COPILOT	0	0	0	0	1	1
DUAL STUDENT	0	0	0	0	1	1
NOT USED	(1)	(0)	(1)	(1)	(0)	(1)
OTHER PERSON	1	0	1	1	0	1
IDENTIFICATION OF AIRCRAFT VISUALLY	(1)	(0)	(1)	(1)	(0)	(1)
NOT ATTAINED	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
ARTCC SERVICE	(1)	(0)	(1)	(1)	(1)	(2)
INADEQUATE	(1)	(0)	(1)	(1)	(0)	(1)
ATC PERSONNEL(DEP/APCH)	1	0	1	1	0	1
POOR	(0)	(0)	(0)	(0)	(1)	(1)
ATC PERSONNEL(ARTCC)	0	0	0	0	1	1
CONTROL TOWER SERVICE	(2)	(3)	(5)	(3)	(4)	(7)
INADEQUATE	(1)	(1)	(2)	(2)	(1)	(3)
ATC PERSONNEL(DEP/APCH)	0	1	1	0	1	1
ATC PSNL(LCL/GND/CLNC)	1	0	1	2	0	2
NOT POSSIBLE	(0)	(2)	(2)	(0)	(3)	(3)
PILOT IN COMMAND	0	1	1	0	2	2
DRIVER OF VEHICLE	0	1	1	0	1	1
POOR	(1)	(0)	(1)	(1)	(0)	(1)

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	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
COMMUNICATIONS/INFORMATION/ATC (Continued)						
CONTROL TOWER SERVICE (Continued)						
ATC PSNL(LCL/GND/CLNC)	1	0	1	1	0	1
INFORMATION	(0)	(0)	(0)	(2)	(0)	(2)
NOT OBTAINED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT UNDERSTOOD	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
MONITORING	(0)	(0)	(0)	(1)	(0)	(1)
INADEQUATE	(0)	(0)	(0)	(1)	(0)	(1)
COPILOT	0	0	0	1	0	1
RADIO COMMUNICATIONS	(0)	(6)	(6)	(1)	(8)	(9)
INADEQUATE	(0)	(2)	(2)	(0)	(2)	(2)
ATC PSNL(LCL/GND/CLNC)	0	2	2	0	2	2
NOT CORRECTED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT POSSIBLE	(0)	(4)	(4)	(0)	(5)	(5)
PILOT IN COMMAND	0	2	2	0	2	2
PILOT OF OTHER AIRCRAFT	0	2	2	0	3	3
NOT USED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
TRAFFIC ADVISORY	(0)	(2)	(2)	(0)	(4)	(4)
NOT ISSUED	(0)	(0)	(0)	(0)	(1)	(1)
ATC PERSONNEL(DEP/APCH)	0	0	0	0	1	1
NOT OBTAINED	(0)	(2)	(2)	(0)	(2)	(2)
PILOT IN COMMAND	0	1	1	0	1	1
PILOT OF OTHER AIRCRAFT	0	1	1	0	1	1
NOT RECEIVED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
FSS SERVICE	(0)	(0)	(0)	(0)	(1)	(1)
NOT USED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
SAFETY ADVISORY	(1)	(0)	(1)	(2)	(0)	(2)
NOT FOLLOWED	(1)	(0)	(1)	(1)	(0)	(1)
PASSENGER	1	0	1	1	0	1
NOT UNDERSTOOD	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
VISUAL SEPARATION	(0)	(2)	(2)	(1)	(2)	(3)
MISJUDGED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT MAINTAINED	(0)	(2)	(2)	(0)	(2)	(2)
ATC PSNL(LCL/GND/CLNC)	0	2	2	0	2	2
RADAR SEPARATION	(0)	(0)	(0)	(0)	(1)	(1)
NOT MAINTAINED	(0)	(0)	(0)	(0)	(1)	(1)
ATC PERSONNEL(DEP/APCH)	0	0	0	0	1	1
IN FLIGHT WEATHER AVOIDANCE ASSISTANCE	(0)	(0)	(0)	(0)	(1)	(1)
PERFORMED	(0)	(0)	(0)	(0)	(1)	(1)
DUAL STUDENT	0	0	0	0	1	1
AIR/GROUND COMMUNICATIONS	(2)	(7)	(9)	(2)	(7)	(9)
INADEQUATE	(0)	(4)	(4)	(0)	(4)	(4)
PILOT IN COMMAND	0	2	2	0	2	2
PILOT OF OTHER AIRCRAFT	0	2	2	0	2	2
NOT ATTAINED	(0)	(2)	(2)	(0)	(2)	(2)
PILOT IN COMMAND	0	1	1	0	1	1
PILOT OF OTHER AIRCRAFT	0	1	1	0	1	1

CAUSE/FACTOR TABLE
ALL OPERATIONS
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	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AI-CRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
COMMUNICATIONS/INFORMATION/ATC (Continued)						
AIR/GROUND COMMUNICATIONS (Continued)						
NOT PERFORMED	(2)	(0)	(2)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	1	0	1
GROUND PERSONNEL	1	0	1	1	0	1
NOT RECEIVED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
ATC CLEARANCE	(0)	(0)	(0)	(1)	(1)	(2)
ATTEMPTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT OBTAINED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
CREW/GROUP COORDINATION	(3)	(0)	(3)	(10)	(3)	(13)
INADEQUATE	(1)	(0)	(1)	(8)	(1)	(9)
PILOT IN COMMAND	1	0	1	7	1	8
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
NOT ATTAINED	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND(CFI)	0	0	0	0	1	1
NOT MAINTAINED	(0)	(0)	(0)	(0)	(1)	(1)
COPILOT	0	0	0	0	1	1
NOT PERFORMED	(2)	(0)	(2)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	1	0	1
GROUND PERSONNEL	1	0	1	1	0	1
PASSENGER BRIEFING	(0)	(1)	(1)	(1)	(2)	(3)
INADEQUATE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
NOT FOLLOWED	(0)	(0)	(0)	(1)	(0)	(1)
PASSENGER	0	0	0	1	0	1
NOT PERFORMED	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
SUPERVISION	(9)	(0)	(9)	(77)	(5)	(82)
IMPROPER	(1)	(0)	(1)	(7)	(1)	(8)
PILOT IN COMMAND	0	0	0	1	0	1
PILOT IN COMMAND(CFI)	1	0	1	6	1	7
INADEQUATE	(8)	(0)	(8)	(69)	(4)	(73)
PILOT IN COMMAND	4	0	4	13	0	13
PILOT IN COMMAND(CFI)	3	0	3	49	1	50
FLIGHT INSTRUCTOR(ON GROUND)	0	0	0	1	3	4
CHECK PILOT	1	0	1	5	0	5
COMPANY/OPERATOR MGMT	0	0	0	1	0	1
INADVERTENT USE	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
UNSAFE/HAZARDOUS CONDITION	(0)	(2)	(2)	(12)	(5)	(17)
DISREGARDED	(0)	(0)	(0)	(2)	(0)	(2)
PILOT IN COMMAND	0	0	0	2	0	2
INATTENTIVE	(0)	(0)	(0)	(1)	(0)	(1)
PASSENGER	0	0	0	1	0	1
INADVERTENT	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
INTENTIONAL	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT CORRECTED	(0)	(0)	(0)	(1)	(0)	(1)
AIRPORT PERSONNEL	0	0	0	1	0	1
NOT IDENTIFIED	(0)	(2)	(2)	(1)	(3)	(4)
ATC PERSONNEL(DEP/APCH)	0	2	2	0	2	2

CAUSE/FACTOR TABLE
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	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
COMMUNICATIONS/INFORMATION/ATC (Continued)						
UNSAFE/HAZARDOUS CONDITION (Continued)						
COMPANY/OPERATOR MGMT	0	0	0	0	1	1
OTHER PERSON	0	0	0	1	0	1
PERFORMED	(0)	(0)	(0)	(5)	(1)	(6)
GROUND PERSONNEL	0	0	0	1	0	1
PASSENGER	0	0	0	1	0	1
SPECTATOR	0	0	0	1	0	1
DRIVER OF VEHICLE	0	0	0	2	1	3
UNSAFE/HAZARDOUS CONDITION WARNING	(1)	(0)	(1)	(3)	(0)	(3)
DISREGARDED	(1)	(0)	(1)	(1)	(0)	(1)
SPECTATOR	1	0	1	1	0	1
INADEQUATE	(0)	(0)	(0)	(1)	(0)	(1)
AIRPORT PERSONNEL	0	0	0	1	0	1
NOT USED	(0)	(0)	(0)	(1)	(0)	(1)
AIRPORT PERSONNEL	0	0	0	1	0	1
MISCELLANEOUS	(2)	(2)	(4)	(17)	(15)	(32)
MISCELLANEOUS	(0)	(0)	(0)	(2)	(0)	(2)
INADVERTENT	(0)	(0)	(0)	(1)	(0)	(1)
GROUND PERSONNEL	0	0	0	1	0	1
PREMATURE	(0)	(0)	(0)	(1)	(0)	(1)
PASSENGER	0	0	0	1	0	1
EQUIPMENT, OTHER	(0)	(0)	(0)	(1)	(1)	(2)
IMPROPER	(0)	(0)	(0)	(0)	(1)	(1)
PASSENGER	0	0	0	0	1	1
NOT CORRECTED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
CONTROL INTERFERENCE	(0)	(0)	(0)	(8)	(3)	(11)
INADVERTENT	(0)	(0)	(0)	(6)	(3)	(9)
PILOT IN COMMAND	0	0	0	2	1	3
NO PERSON SPECIFIED	0	0	0	1	0	1
PASSENGER	0	0	0	3	2	5
INITIATED	(0)	(0)	(0)	(2)	(0)	(2)
DUAL STUDENT	0	0	0	2	0	2
RELINQUISHING OF CONTROL	(2)	(0)	(2)	(4)	(0)	(4)
DELAYED	(1)	(0)	(1)	(1)	(0)	(1)
DUAL STUDENT	1	0	1	1	0	1
IMPROPER	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
INADVERTENT	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT PERFORMED	(0)	(0)	(0)	(1)	(0)	(1)
DUAL STUDENT	0	0	0	1	0	1
STOLEN AIRCRAFT/UNAUTHORIZED USE	(0)	(2)	(2)	(0)	(9)	(9)
IMPROPER USE OF	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
INTENTIONAL	(0)	(1)	(1)	(0)	(4)	(4)
PILOT IN COMMAND	0	1	1	0	1	1
OTHER PERSON	0	0	0	0	1	1
UNQUALIFIED PERSON	0	0	0	0	2	2
PERFORMED	(0)	(1)	(1)	(0)	(4)	(4)
PILOT IN COMMAND	0	1	1	0	4	4
SABOTAGE	(0)	(0)	(0)	(2)	(2)	(4)
INTENTIONAL	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
NOT IDENTIFIED	(0)	(0)	(0)	(0)	(2)	(2)

CAUSE/FACTOR TABLE
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	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
AIRCRAFT, ENVIRONMENT, HUMAN PERFORMANCE (Continued)						
HUMAN PERFORMANCE (Continued)						
OPERATIONS (Continued)						
MISCELLANEOUS (Continued)						
SABOTAGE (Continued)						
PILOT IN COMMAND	0	0	0	0	1	1
OTHER PERSON	0	0	0	0	1	1
PERFORMED	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
UNDETERMINED	53	0	53	261	2	263
DIRECT UNDERLYING CAUSE FACTORS:	(194)	(151)	(345)	(333)	(402)	(735)
IMPROPER USE OF PROCEDURE	(39)	(37)	(76)	(91)	(147)	(238)
DIVERTED ATTENTION	(2)	(1)	(3)	(23)	(11)	(34)
PILOT IN COMMAND	2	1	3	23	11	34
DUAL STUDENT	0	0	0	0	1	1
UNDER CONFIDENCE IN PERSONAL ABILITY	(0)	(1)	(1)	(1)	(1)	(2)
PILOT IN COMMAND	0	1	1	1	1	2
OVER CONFIDENCE IN PERSONAL ABILITY	(4)	(1)	(5)	(5)	(4)	(9)
PILOT IN COMMAND	4	1	5	5	4	9
OVER CONFIDENCE IN AIRCRAFT'S ABILITY	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
ANXIETY/APPRENHENSION	(1)	(0)	(1)	(2)	(0)	(2)
PILOT IN COMMAND	1	0	1	2	0	2
PANIC	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
SELF-INDUCED PRESSURE	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND	0	0	0	1	1	2
PRESSURE INDUCED BY OTHERS	(0)	(0)	(0)	(1)	(0)	(1)
OTHER PERSONNEL	0	0	0	1	0	1
VISUAL/AURAL PERCEPTION	(1)	(2)	(3)	(1)	(4)	(5)
PILOT IN COMMAND	1	2	3	1	4	5
DUAL STUDENT	0	0	0	0	1	1
MENTAL PERFORMANCE OVERLOAD	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
HABIT INTERFEPENCE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
OTHER PSYCHOLOGICAL CONDITION	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	2	2
PHYSICAL IMPAIRMENT(CARBON MONOXIDE)	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
PHYSICAL IMPAIRMENT(MOTION SICKNESS)	(0)	(0)	(0)	(0)	(1)	(1)
DUAL STUDENT	0	0	0	0	1	1
PHYSICAL IMPAIRMENT(VISUAL DEFICIENCY)	(0)	(1)	(1)	(0)	(2)	(2)
PILOT IN COMMAND	0	1	1	0	2	2
PHYSICAL IMPAIRMENT(ALCOHOL)	(4)	(0)	(4)	(5)	(0)	(5)
PILOT IN COMMAND	4	0	4	5	0	5
PHYSICAL IMPAIRMENT(DRUGS)	(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
SPATIAL DISORIENTATION	(4)	(0)	(4)	(5)	(0)	(5)
PILOT IN COMMAND	4	0	4	5	0	5
PILOT IN COMMAND(CFI)	0	0	0	1	0	1
VISUAL/AURAL DETECTION	(0)	(1)	(1)	(0)	(4)	(4)
PILOT IN COMMAND	0	1	1	0	4	4
PILOT OF OTHER AIRCRAFT	0	0	0	0	1	1
FATIGUE	(0)	(1)	(1)	(1)	(3)	(4)

CAUSE/FACTOR TABLE
ALL OPERATIONS
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	FATAL ACCIDENTS CAUSE FACTOR		TOTAL	ALL ACCIDENTS CAUSE FACTOR		TOTAL
DIRECT UNDERLYING CAUSE FACTORS: (Continued)						
IMPROPER USE OF PROCEDURE (Continued)						
FATIGUE (Continued)						
PILOT IN COMMAND	0	1	1	1	3	4
QUALIFICATION	(1)	(2)	(3)	(1)	(2)	(3)
PILOT IN COMMAND	1	2	3	1	2	3
IMPROPER TRANSITION/UPGRADE TRAINING	(1)	(1)	(2)	(1)	(2)	(3)
PILOT IN COMMAND	1	1	2	1	2	3
COMPANY/OPERATOR MGMT	1	0	1	1	0	1
INADEQUATE TRAINING	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
COMPANY/OPERATOR MGMT	1	0	1	1	0	1
GROUND PERSONNEL	0	0	0	0	1	1
INADEQUATE INITIAL TRAINING	(1)	(0)	(1)	(1)	(1)	(2)
PILOT IN COMMAND	1	0	1	1	1	2
DUAL STUDENT	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	(3)	(0)	(3)	(4)	(1)	(5)
PILOT IN COMMAND	3	0	3	4	1	5
COMPANY/OPERATOR MGMT	1	0	1	1	0	1
LACK OF FAMILIARITY WITH AIRCRAFT	(1)	(5)	(6)	(10)	(17)	(27)
PILOT IN COMMAND	1	5	6	10	17	27
DUAL STUDENT	0	0	0	0	2	2
LACK OF FAMILIARITY WITH GEOGRAPHIC AREA	(0)	(1)	(1)	(0)	(4)	(4)
PILOT IN COMMAND	0	1	1	0	4	4
DUAL STUDENT	0	0	0	0	1	1
PILOT IN COMMAND(CFI)	0	0	0	0	1	1
LACK OF TOTAL EXPERIENCE	(2)	(3)	(5)	(3)	(31)	(34)
PILOT IN COMMAND	2	3	5	3	31	34
DUAL STUDENT	0	0	0	0	1	1
PILOT IN COMMAND(CFI)	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	(1)	(0)	(1)	(1)	(3)	(4)
PILOT IN COMMAND	1	0	1	1	3	4
LACK OF TOTAL EXPERIENCE IN TYPE OF AIRCRAFT	(2)	(2)	(4)	(4)	(6)	(10)
PILOT IN COMMAND	2	2	4	4	6	10
LACK OF TOTAL INSTRUMENT TIME	(4)	(6)	(10)	(5)	(6)	(11)
PILOT IN COMMAND	4	6	10	5	6	11
LACK OF TOTAL EXPERIENCE IN TYPE OPERATION	(2)	(0)	(2)	(5)	(4)	(9)
PILOT IN COMMAND	2	0	2	5	4	9
DUAL STUDENT	0	0	0	0	2	2
PILOT IN COMMAND(CFI)	0	0	0	0	1	1
PILOT OF OTHER AIRCRAFT	0	0	0	0	1	1
LACK OF RECENT EXPERIENCE	(0)	(1)	(1)	(0)	(3)	(3)
PILOT IN COMMAND	0	1	1	0	3	3
LACK OF RECENT TOTAL EXPERIENCE	(0)	(1)	(1)	(1)	(4)	(5)
PILOT IN COMMAND	0	1	1	1	4	5
LACK OF RECENT EXPERIENCE IN TYPE OF AIRCRAFT	(0)	(0)	(0)	(1)	(2)	(3)
PILOT IN COMMAND	0	0	0	1	2	3
DUAL STUDENT	0	1	1	0	1	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)	(2)	(2)
PILOT IN COMMAND	0	1	1	0	2	2
INFORMATION INSUFFICIENT	(0)	(0)	(0)	(0)	(1)	(1)

CAUSE/FACTOR TABLE
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	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
DIRECT UNDERLYING CAUSE FACTORS: (Continued)						
IMPROPER USE OF PROCEDURE (Continued)						
INFORMATION INSUFFICIENT (Continued)						
PILOT IN COMMAND	0	0	0	0	1	1
IMPROPER USE OF EQUIPMENT/AIRCRAFT	(107)	(46)	(153)	(170)	(120)	(290)
IMPROPER USE OF EQUIPMENT/AIRCRAFT	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
DIVERTED ATTENTION	(9)	(3)	(12)	(42)	(11)	(53)
PILOT IN COMMAND	9	3	12	42	11	53
MOTIVATION	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
COMPLACENCY	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
UNDER CONFIDENCE IN PERSONAL ABILITY	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
OVER CONFIDENCE IN PERSONAL ABILITY	(0)	(4)	(4)	(1)	(5)	(6)
PILOT IN COMMAND	0	4	4	1	5	6
OVER CONFIDENCE IN AIRCRAFT'S ABILITY	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
ANXIETY/APPRENHENSION	(0)	(1)	(1)	(1)	(2)	(3)
PILOT IN COMMAND	0	1	1	1	2	3
PANIC	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
SELF-INDUCED PRESSURE	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
VISUAL/AURAL PERCEPTION	(2)	(0)	(2)	(2)	(2)	(4)
PILOT IN COMMAND	2	0	2	2	2	4
EMOTIONAL REACTION	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
HABIT INTERFERENCE	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
EXCESSIVE WORKLOAD (TASK OVERLOAD)	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
PHYSICAL IMPAIRMENT(ANOXIA/HYPOXIA)	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PHYSICAL IMPAIRMENT(OTHER TOXIC)	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
PHYSICAL IMPAIRMENT(OTHER ORGANIC PROBLEM)	(0)	(0)	(0)	(1)	(2)	(3)
PILOT IN COMMAND	0	0	0	1	2	3
PHYSICAL IMPAIRMENT(ALCOHOL)	(7)	(2)	(9)	(8)	(2)	(10)
PILOT IN COMMAND	7	2	9	8	2	10
INCAPACITATION	(2)	(0)	(2)	(2)	(0)	(2)
PILOT IN COMMAND	2	0	2	2	0	2
INCAPACITATION(OTHER CARDIOVASCULAR)	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
INCAPACITATION(ALCOHOL)	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
SPATIAL DISORIENTATION	(47)	(2)	(49)	(49)	(2)	(51)
PILOT IN COMMAND	47	2	49	49	2	51
VISUAL/AURAL DETECTION	(0)	(1)	(1)	(2)	(3)	(5)
PILOT IN COMMAND	0	1	1	2	3	5
FATIGUE	(1)	(2)	(3)	(1)	(3)	(4)
PILOT IN COMMAND	1	2	3	1	3	4
COPILOT	0	1	1	0	1	1

CAUSE/FACTOR TABLE
ALL OPERATIONS
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	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
DIRECT UNDERLYING CAUSE FACTORS: (Continued)						
IMPROPER USE OF EQUIPMENT/AIRCRAFT (Continued)						
FATIGUE(FLIGHT SCHEDULE)	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
QUALIFICATION	(0)	(1)	(1)	(0)	(4)	(4)
PILOT IN COMMAND	0	1	1	0	4	4
PILOT IN COMMAND(CFI)	0	0	0	0	1	1
INADEQUATE RECURRENT TRAINING	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
INADEQUATE TRANSITION/UPGRADE TRAINING	(1)	(3)	(4)	(4)	(3)	(7)
PILOT IN COMMAND	1	3	4	4	3	7
COPILOT	1	0	1	1	0	1
FLIGHT INSTRUCTOR(ON GROUND)	0	0	0	1	0	1
LACK OF FAMILIARITY WITH AIRCRAFT	(3)	(1)	(4)	(6)	(15)	(21)
PILOT IN COMMAND	3	1	4	6	15	21
PILOT IN COMMAND(CFI)	0	0	0	0	1	1
LACK OF FAMILIARITY WITH GEOGRAPHIC AREA	(0)	(1)	(1)	(0)	(5)	(5)
PILOT IN COMMAND	0	1	1	0	5	5
LACK OF TOTAL EXPERIENCE	(4)	(1)	(5)	(6)	(11)	(17)
PILOT IN COMMAND	4	1	5	6	11	17
LACK OF TOTAL EXPERIENCE IN KIND OF AIRCRAFT	(1)	(0)	(1)	(2)	(2)	(4)
PILOT IN COMMAND	1	0	1	2	2	4
LACK OF TOTAL EXPERIENCE IN TYPE OF AIRCRAFT	(3)	(6)	(9)	(4)	(13)	(17)
PILOT IN COMMAND	3	6	9	4	13	17
COPILOT	1	0	1	1	0	1
DUAL STUDENT	0	0	0	1	0	1
LACK OF TOTAL INSTRUMENT TIME	(14)	(14)	(28)	(14)	(17)	(31)
PILOT IN COMMAND	14	14	28	14	17	31
LACK OF TOTAL EXPERIENCE IN TYPE OPERATION	(0)	(0)	(0)	(2)	(3)	(5)
PILOT IN COMMAND	0	0	0	2	3	5
LACK OF RECENT EXPERIENCE	(0)	(1)	(1)	(0)	(5)	(5)
PILOT IN COMMAND	0	1	1	0	5	5
LACK OF RECENT TOTAL EXPERIENCE	(2)	(0)	(2)	(4)	(0)	(4)
PILOT IN COMMAND	2	0	2	4	0	4
LACK OF RECENT EXPERIENCE IN KIND OF AIRCRAFT	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
LACK OF RECENT EXPERIENCE IN TYPE OF AIRCRAFT	(0)	(1)	(1)	(2)	(1)	(3)
PILOT IN COMMAND	0	1	1	2	1	3
LACK OF RECENT INSTRUMENT TIME	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
LACK OF RECENT EXPERIENCE IN TYPE OPERATION	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
IMPROPER USE OF FACILITY	(1)	(0)	(1)	(2)	(2)	(4)
OVER CONFIDENCE IN PERSONAL ABILITY	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
SELF-INDUCED PRESSURE	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
VISUAL/AURAL PERCEPTION	(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
IMPROPER DECISION	(43)	(64)	(107)	(53)	(124)	(177)
IMPROPER DECISION	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
COMPANY/OPERATOR MGMT	0	1	1	0	1	1
DIVERTED ATTENTION	(2)	(0)	(2)	(4)	(4)	(8)

CAUSE/FACTOR TABLE
ALL OPERATIONS
1982

	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
DIRECT UNDERLYING CAUSE FACTORS: (Continued)						
IMPROPER DECISION (Continued)						
DIVERTED ATTENTION (Continued)						
PILOT IN COMMAND	2	0	2	4	4	8
INATTENTIVE	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
MOTIVATION	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
UNDER CONFIDENCE IN PERSONAL ABILITY	(0)	(0)	(0)	(0)	(1)	(1)
PILOT IN COMMAND	0	0	0	0	1	1
OVER CONFIDENCE IN PERSONAL ABILITY	(5)	(18)	(23)	(6)	(26)	(32)
PILOT IN COMMAND	5	18	23	6	26	32
OVER CONFIDENCE IN AIRCRAFT'S ABILITY	(2)	(1)	(3)	(2)	(6)	(8)
PILOT IN COMMAND	2	1	3	2	6	8
ANXIETY/APPRENHENSION	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
PANIC	(0)	(0)	(0)	(1)	(0)	(1)
PILOT IN COMMAND	0	0	0	1	0	1
PRESSURE	(0)	(2)	(2)	(0)	(3)	(3)
PILOT IN COMMAND	0	2	2	0	3	3
SELF-INDUCED PRESSURE	(0)	(5)	(5)	(0)	(5)	(5)
PILOT IN COMMAND	0	5	5	0	5	5
COMPANY-INDUCED PRESSURE	(0)	(1)	(1)	(0)	(1)	(1)
COMPANY/OPERATOR MGMT	0	1	1	0	1	1
PRESSURE INDUCED BY OTHERS	(0)	(3)	(3)	(0)	(3)	(3)
PILOT IN COMMAND	0	3	3	0	3	3
OTHER PERSONNEL	0	0	0	0	1	1
VISUAL/AURAL PERCEPTION	(0)	(2)	(2)	(0)	(5)	(5)
PILOT IN COMMAND	0	2	2	0	5	5
DUAL STUDENT	0	0	0	0	1	1
EMOTIONAL REACTION	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
PHYSICAL IMPAIRMENT(ALCOHOL)	(13)	(5)	(18)	(14)	(5)	(19)
PILOT IN COMMAND	13	5	18	14	5	19
INCAPACITATION	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
INCAPACITATION(ALCOHOL)	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
SPATIAL DISORIENTATION	(12)	(0)	(12)	(13)	(1)	(14)
PILOT IN COMMAND	12	0	12	13	1	14
VISUAL/AURAL DETECTION	(0)	(0)	(0)	(0)	(3)	(3)
PILOT IN COMMAND	0	0	0	0	3	3
FATIGUE	(0)	(1)	(1)	(1)	(2)	(3)
PILOT IN COMMAND	0	1	1	1	2	3
FATIGUE(LACK OF SLEEP)	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
QUALIFICATION	(1)	(2)	(3)	(3)	(2)	(5)
PILOT IN COMMAND	1	2	3	3	2	5
LACK OF FAMILIARITY WITH AIRCRAFT	(0)	(1)	(1)	(0)	(9)	(9)
PILOT IN COMMAND	0	1	1	0	9	9
DUAL STUDENT	0	0	0	0	1	1
CHECK PILOT	0	0	0	0	1	1
ATC PSNL(LCL/GND/CLNC)	0	1	1	0	1	1
LACK OF FAMILIARITY WITH GEOGRAPHIC AREA	(0)	(2)	(2)	(0)	(5)	(5)

CAUSE/FACTOR TABLE
ALL OPERATIONS
1982

	FATAL ACCIDENTS CAUSE	FATAL ACCIDENTS FACTOR	FATAL ACCIDENTS TOTAL	ALL ACCIDENTS CAUSE	ALL ACCIDENTS FACTOR	ALL ACCIDENTS TOTAL
DIRECT UNDERLYING CAUSE FACTORS: (Continued)						
IMPROPER DECISION (Continued)						
LACK OF FAMILIARITY WITH GEOGRAPHIC AREA (Continued)						
PILOT IN COMMAND	0	2	2	0	5	5
LACK OF TOTAL EXPERIENCE	(0)	(3)	(3)	(0)	(15)	(15)
PILOT IN COMMAND	0	3	3	0	15	15
LACK OF TOTAL EXPERIENCE IN KIND OF AIRCRAFT	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
LACK OF TOTAL EXPERIENCE IN TYPE OF AIRCRAFT	(0)	(1)	(1)	(0)	(1)	(1)
PILOT IN COMMAND	0	1	1	0	1	1
LACK OF TOTAL INSTRUMENT TIME	(2)	(11)	(13)	(2)	(12)	(14)
PILOT IN COMMAND	2	11	13	2	12	14
LACK OF TOTAL EXPERIENCE IN TYPE OPERATION	(0)	(0)	(0)	(1)	(1)	(2)
PILOT IN COMMAND(CFI)	0	0	0	1	1	2
LACK OF RECENT EXPERIENCE	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	2	2
LACK OF RECENT EXPERIENCE IN TYPE OF AIRCRAFT	(0)	(0)	(0)	(0)	(2)	(2)
PILOT IN COMMAND	0	0	0	0	2	2
LACK OF RECENT INSTRUMENT TIME	(1)	(0)	(1)	(1)	(0)	(1)
PILOT IN COMMAND	1	0	1	1	0	1
PROCEDURE INADEQUATE	(0)	(0)	(0)	(4)	(0)	(4)
CONDITION(S)/STEP(S) INSUFFICIENTLY DEFINED	(0)	(0)	(0)	(1)	(0)	(1)
COMPANY/OPERATOR MGMT	0	0	0	1	0	1
GROUND PERSONNEL	0	0	0	1	0	1
PRODUCTION/DESIGN PSNL	0	0	0	1	0	1
CONDITION(S)/STEP(S) IN IMPROPER SEQUENCE	(0)	(0)	(0)	(1)	(0)	(1)
GROUND PERSONNEL	0	0	0	1	0	1
AIRCRAFT/EQUIPMENT INADEQUATE	(1)	(4)	(5)	(7)	(8)	(15)
AIRCRAFT/EQUIPMENT,INADEQUATE DESIGN	(0)	(0)	(0)	(2)	(1)	(3)
MANUFACTURER	0	0	0	2	1	3
PRODUCTION/DESIGN PSNL	0	1	1	1	1	2
CONTROL LOCATION	(0)	(0)	(0)	(0)	(1)	(1)
MANUFACTURER	0	0	0	0	1	1
ACFT HANDLING/PERF CAPABILITIES	(0)	(1)	(1)	(0)	(1)	(1)
MANUFACTURER	0	1	1	0	1	1
PRODUCTION/DESIGN PSNL	0	0	0	0	1	1
AIRFRAME	(1)	(1)	(2)	(3)	(1)	(4)
MANUFACTURER	1	1	2	3	1	4
PRODUCTION/DESIGN PSNL	0	0	0	0	1	1
SUPPLEMENTAL TYPE CERTIFICATE	(0)	(0)	(0)	(1)	(0)	(1)
MANUFACTURER	0	0	0	1	0	1
AIRCRAFT/EQUIPMENT,INADQT COMPLIANCE DETERMINATION	(0)	(1)	(1)	(0)	(1)	(1)
COMPANY/OPERATOR MGMT	0	1	1	0	1	1
MATERIAL INADEQUATE	(3)	(0)	(3)	(6)	(1)	(7)
MATERIAL DEFECT(INADEQUATE QUALITY CONTROL)	(0)	(0)	(0)	(1)	(0)	(1)
OTHER MAINTENANCE PSNL	0	0	0	1	0	1
MANUFACTURER	2	0	2	3	0	3
PRODUCTION/DESIGN PSNL	1	0	1	1	0	1
MATERIAL DEFECT(INADEQUATE QUALITY OF MATERIAL)	(0)	(0)	(0)	(1)	(0)	(1)
MANUFACTURER	0	0	0	1	0	1
MATERIAL INADEQUATE,IMPROPER	(0)	(0)	(0)	(0)	(1)	(1)
MANUFACTURER	0	0	0	0	1	1
INDIRECT UNDERLYING CAUSE FACTORS:	(0)	(3)	(3)	(0)	(3)	(3)
INADEQUATE SURVEILLANCE OF OPERATION	(0)	(1)	(1)	(0)	(1)	(1)
INADEQUATE SURVEILLANCE OF OPERATION	(0)	(1)	(1)	(0)	(1)	(1)
COMPANY/OPERATOR MGMT	0	1	1	0	1	1
INSUFFICIENT STANDARDS/REQUIREMENTS	(0)	(1)	(1)	(0)	(1)	(1)

CAUSE/FACTOR TABLE
ALL OPERATIONS
1982

	FATAL ACCIDENTS CAUSE FACTOR		TOTAL	ALL ACCIDENTS CAUSE FACTOR		TOTAL
INDIRECT UNDERLYING CAUSE FACTORS: (Continued)						
INSUFFICIENT STANDARDS/REQUIREMENTS (Continued)						
OPERATION/OPERATOR	(0)	(1)	(1)	(0)	(1)	(1)
COMPANY/OPERATOR MGMT	0	1	1	0	1	1
INADEQUATE CERTIFICATION/APPROVAL	(0)	(1)	(1)	(0)	(1)	(1)
AIRMAN	(0)	(1)	(1)	(0)	(1)	(1)
FAA(ORGANIZATION)	0	1	1	0	1	1

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NOV 22 [illegible]			
NOV 22 1991			
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