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STATISTICAL REVIEW

U.S. AIR CARRIER AND GENERAL AVIATION ACCIDENTS

CALENDAR YEAR 1958

NOT REPRODUCIBLE

CIVIL AERONAUTICS BOARD
NOVEMBER 30, 1959

390

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CAB-R301
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FOREWORD

The purpose of this report is to furnish statistics and related data pertaining to accidents incident to flight 1/ which occurred in Air Carrier operations and in certain categories of General Aviation operations during the calendar year 1958.

The report is divided into two parts:

PART I deals with U. S. Air Carrier accidents and safety records.

The classification "Air Carrier" consists of those operators who have been issued a certificate of public convenience and necessity by the Civil Aeronautics Board, or who operated aircraft over 12,500 pounds certificated takeoff weight in accordance with an exemption order issued by the Board. In this report, the former group is designated as "Certificated Air Carriers" and the latter group as "Noncertificated Air Carriers." This classification applies to the situation as it existed in 1958 prior to Order No. E-13436 of January 28, 1959.

In 1958 there were 55 certificated Air Carriers; however, only 52 of these were engaged in service.

As of September 30, 1958, there were 40 Noncertificated Air Carriers.

PART II deals with General Aviation accidents involving fixed-wing aircraft having a gross certificated takeoff weight in excess of 12,500 pounds, and helicopters.

During the period January 1, 1954 to December 31, 1958, the Civil Aeronautics Board had delegated to the Civil Aeronautics Administration the investigating and reporting of accidents involving fixed-wing aircraft of 12,500 pounds and lower certificated takeoff weight, except those used in Alaskan Air Carrier operations. For information concerning accidents occurring in this category during that period, inquiries should be directed to the Federal Aviation Agency, successor to the Civil Aeronautics Administration.

1/ Aircraft Accident. An aircraft accident is an accident which occurs during the starting or warming up of an engine or engines, or operation of an aircraft, which results in serious or fatal injury to one or more persons or in substantial damage to any aircraft, or which involves a collision of two or more aircraft. Whenever serious or fatal injury results from contact with a rotating propeller which is installed on a aircraft, it shall be considered an aircraft accident. (Continued)

Aircraft accident incident to flight. An aircraft accident incident to flight is an aircraft accident which occurs between the time an engine or engines are started for the purpose of commencing flight until the aircraft comes to rest with all engines stopped for complete or partial deplaning or unloading. It excludes death or injuries to persons on board which result from illness, altercations, and other incidents not directly attributable to flight operation.

The statistical details of accident factors cited in this report are based on investigations and analyses by the Bureau of Safety, Civil Aeronautics Board. Air Carrier traffic statistics were furnished by the Board's Office of Carrier Accounts and Statistics. Data on hours flown in General Aviation operations were furnished by the Federal Aviation Agency.

A brief description of the aircraft accidents that served as a basis for this report are contained in the publication, "Resume of U. S. Civil Air Carrier and General Aviation Aircraft Accidents," released July 15, 1959, by the CAB. Note should be taken in this connection that, since the publication of the "Resume", additional information received by the Civil Aeronautics Board has resulted in certain revisions of the data contained therein. Therefore, the data presented in this report will differ in a few instances from that in the "Resume."

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PART I

U. S. AIR CARRIER SAFETY RECORD - 1958

The safety record of the U. S. Air Carriers is presented herein in relation to various classifications and groupings of air carriers, and to the different types of operations in which they engage. The tables of data have been arranged so as to present appropriate information in respect to the two main categories of carriers i. e., Certificated Carriers and Noncertificated Carriers. Further breakdown of data has been made in respect to the different types of service performed by these carriers such as in scheduled passenger service, in total scheduled service, and in the overall operations, revenue and nonrevenue.

HIGHLIGHTS OF THE OVERALL SAFETY RECORD

In the overall 1958 revenue and nonrevenue operations of the entire air carrier group, there were 91 accidents incident to flight, sixteen of which were fatal accidents. Two of these fatal accidents were propeller-to-person accidents in which 2 ground crewman lost their lives. Salient points of the 1958 record are:

TOTAL ACCIDENTS	91	
Fatal accidents	16	
Involving serious injury only	11	
Involving no or minor injury	64	
NUMBER OF AIRCRAFT DESTROYED	16	
TOTAL MILES FLOWN	1,084	Million
TOTAL HOURS FLOWN	4.86	Million
ACCIDENT RATES		
Per 1 million miles	0.083	
Per 100 thousand hours	1.869	
FATALITIES - Total	162	
Passengers	128	
Crew members	29	
Other persons	5	
SERIOUS INJURIES - Total	66	
Passengers	56	
Crew members	9	
Other persons	1 (on ground)	

CERTIFICATED CARRIERS - OVERALL OPERATIONS

In their overall revenue and nonrevenue operations during 1958, the certificated carriers had a total of 85 accidents, of which 15 were fatal. Seventeen of these accidents - 4 fatal - occurred in the operations of the Alaskan Carriers. Of these 17 accidents, 15 involved small aircraft including 1 helicopter. Two of the 85 accidents, both fatal, resulted from ground crewmen being struck by the revolving propeller.

A further breakdown of the accident record according to types of operations shows:

	Total Accidents	Fatal Accidents
In Scheduled Service.....	69	10
Nonscheduled Revenue Service...	12	4
Nonrevenue operations.....	4	1
Total.....	85	15

On the basis of total miles and total hours flown, the 1958 accident rate was as follows:

	Total Accidents	Fatal Accidents
Per 1 million miles flown.....	0.081	0.014
Per 100 thousand hours flown..	1.816	0.321

NONCERTIFICATED CARRIERS - OVERALL OPERATIONS

The noncertificated carriers had 6 accidents in 1958, of which one was fatal. None of these occurred in public passenger operations. According to types of operations, the accident record shows:

	Total	Fatal
In Military Contract Operations.	4	1
In Public Cargo Operations.....	1	0
In Nonrevenue Operations.....	1	0
Total.....	6	1

ACCIDENT RATES:	Total Accidents	Fatal Accidents
Per 1 million miles flown.....	0.153	0.025
Per 100 thousand hours flown...	3.181	0.530

PASSENGER SERVICE OPERATIONS

SCHEDULED PASSENGER SERVICE - Certificated Carriers

In 1958 there were 63 accidents - 10 fatal - in the scheduled passenger operations of the certificated carriers. Two of these accidents, both fatal, occurred as a result of ground crewmen being struck by revolving propellers. The figures and rates that are shown below are based on the exclusion of these 2 accidents.

Number of revenue passengers carried.....	49.16	Million
Number of passenger-miles flown.....	32.67	Billion
Number of plane-miles flown.....	932.33	Million
Total Accidents.....	61	
Involving fatalities..... 8		
Involving serious injury only.. 11		
Involving minor or no injury... 42		
Number of passenger fatalities.....	125	
Passenger Fatality Rate:		
Per 100 million passenger-miles flown....	0.38	
Number of passengers seriously injured.....	56	

Accident Rate per 1 million miles flown:

Total accident rate.....	0.065	
Fatal accident rate.....	0.008	
Miles flown per accident.....	15.28	Million
Miles flown per fatal accident.....	116.54	"

The figure of 116.54 million miles flown per fatal accident is the equivalent of flying 487.6 trips to the moon per fatal accident.

PASSENGER OPERATIONS - NONCERTIFICATED CARRIERS

Public Service

The noncertificated carriers had no accidents in 1958 in their public passenger operations. This is the third consecutive year in which there have been no fatal accidents in public passenger operations.

These carriers are not required to report separate figures as to the number of passengers carried in public operations and the number in military contract operations. However, in both public and military transportation, 644,356 passengers were carried.

Military-Contract Passenger Service

In their military-contract passenger operations the noncertificated carriers had 2 accidents. There were no fatalities or serious injuries in either of these 2 accidents. This year, 1958, makes the 4th year in which there have been no fatal accidents in the passenger services of the noncertificated carriers in military-contract operations.

Passenger-Miles Flown

The number of revenue passenger-miles flown was as follows:

Public operations.....	565.4	Million
Military-contract operations.....	550.8	"
Total.....	1,116.2	"

Plane-Miles Flown

The noncertificated carriers flew a total of 12,222,687 plane-miles in their public operations including both passenger and cargo service. No figure is available as to the miles flown exclusively in passenger service.

ACCIDENT SUMMARY–ALL U.S. AIR CARRIERS
REVENUE AND NONREVENUE OPERATIONS-1958

CARRIERS	Number of Accidents		Aircraft Damage		Miles Flown	Hours Flown	Accident Rates Per			
							1 Million Miles Flown		100,000 Hours Flown	
	Total	Fatal	Destroyed	Substantial			Total	Fatal	Total	Fatal
CERTIFICATED CARRIERS										
Domestic Carriers										
Trunk	41[a]	7[a]	8	27	717,803,370	3,077,248	0.057	0.009	1.332	0.227
Local Service	7	0	0	7	74,978,606	509,015	.093	0.0	1.375	0.0
Helicopters	3	1	1	2	1,759,755	25,723	1.704	.568	11.662[b]	3.887[b]
All-Cargo Carriers	3	1	1	2	34,676,625	163,637	.086	.028	1.833	.611
Sub-total	54	9	10	38	829,218,356	3,775,623	.065	.010	1.430	.238
International Carriers										
Passenger/Cargo Carriers	13	2	1	9	186,347,812	733,184	.069	.010	1.773	.272
All-Cargo Carriers	1	0	1	0	9,736,201	42,955	.102	0.0	2.328[b]	0.0
Sub-total	14	2	2	9	196,084,013	776,139	.071	.010	1.803	.257
Alaskan Carriers	17	4	3	14	15,010,629	95,908	1.132	.266	17.725[b]	4.170[b]
Territorial Carriers	0	0	0	0	5,126,182	30,842	0.0	0.0	0.0	0.0
TOTAL CERTIFICATED CARRIERS	85	15	15	61	1,045,439,180	4,678,512	.081	.014	1.816	.321
NONCERTIFICATED CARRIERS										
Public Operations	2	0	0	2	NA	NA	-	0.0	-	0.0
Military Contract Operations	4	1	1	3	NA	NA	-	-	-	-
TOTAL NONCERTIFICATED CARRIERS	6	1	1	5	39,213,286	188,612	.153	.025	3.181	.530
GRAND TOTAL	91[a]	16[a]	16	66	1,084,652,466	4,867,124	.083	.014	1.869	.328

NA - Not available.

a/Includes 2 fatal propeller accidents to persons on the ground.

b/Exposure data projected as actual exposure was less than base index unit.

ACCIDENT SUMMARY - CERTIFICATED AIR CARRIERS
SCHEDULED AND NONSCHEDULED REVENUE SERVICE - 1958

TYPE OF SERVICE / CLASS OF CARRIERS	NUMBER OF ACCIDENTS				Aircraft Miles Flown	Aircraft Hours Flown	Number of Departures	ACCIDENTS RATES					
		Injury Index						Total Accidents			Fatal Accidents		
	Total Number	Fatal	Serious	Minor/None				1 Million Miles	100,000 Hours	100,000 Departures	1 Million Miles	100,000 Hours	100,000 Departures
SCHEDULED SERVICE													
1. Domestic Carriers - Total	48[a]	6[a]	7	35	784,525,648	3,566,510	3,296,701	0.061	1.345	1.456	0.007	0.168	0.182
Trunk	38[a]	6[a]	6	26	700,583,976	3,003,463	2,299,712	.054	1.265	1.652	.008	.199	2.609
Local Service	7	0	1	6	72,253,574	490,913	858,942	.096	1.425	.814	0.0	0.0	0.0
Helicopter	2	0	0	2	1,675,416	24,596	120,976	1.193	8.131[b]	1.653	0.0	0.0	0.0
All-Cargo Carriers	1	0	0	1	10,012,682	47,538	17,071	.099	2.103[b]	5.857[b]	0.0	0.0	0.0
2. International Carriers - Total	12	2	4	6	172,564,958	673,771	206,648	.069	1.781	5.806	.011	.296	.967
Passenger/Cargo Carriers	12	2	4	6	166,504,591	645,703	198,582	.072	1.858	6.042	.012	.309	1.007
All Cargo Carriers	0	0	0	0	6,060,367	28,068	8,066	0.0	0.0	0.0	0.0	0.0	0.0
3. Alaskan Carriers	9	2	0	7	11,482,626	71,200	85,648	.783	12.640[b]	10.508[b]	.174	2.808[b]	2.335[b]
4. Territorial Carriers	0	0	0	0	4,414,930	27,419	40,073	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL SCHEDULED SERVICE	69[a]	10[a]	11	48	972,988,162	4,338,900	3,629,070	.071	1.590	1.901	.010	.230	.275
NONSCHEDULED SERVICE													
1. Domestic Carriers - Total	3	2	0	1	27,942,818	133,590	39,574	.107	2.245	7.578	.071	1.497	5.053
Trunk	0	0	0	0	2,656,748	11,400	4,906	0.0	0.0	0.0	0.0	0.0	0.0
Local Service	0	0	0	0	1,301,553	8,948	4,706	0.0	0.0	0.0	0.0	0.0	0.0
Helicopter	1	1	0	0	21,356	327	842	46.825[b]	305.810[b]	118.764[b]	46.825[b]	305.810[b]	118.764[b]
All-Cargo Carriers	2	1	0	1	23,963,161	112,915	29,120	.083	1.771	6.868[b]	.041	.885	3.431[b]
2. International Carriers - Total	1	0	0	1	17,801,919	78,691	19,931	.056	1.270[b]	5.017	0.0	0.0	0.0
Passenger/Cargo Carriers	1	0	0	1	14,622,567	66,058	18,049	.068	1.513[b]	5.540[b]	0.0	0.0	0.0
All-Cargo Carriers	0	0	0	0	3,179,352	12,633	1,882	0.0	0.0	0.0	0.0	0.0	0.0
3. Alaskan Carriers	8	2	0	6	2,842,767	19,871	17,341	2.814	40.259[b]	46.133[b]	.703	10.061[b]	11.533[b]
4. Territorial Carriers	0	0	0	0	471,239	1,984	627	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL NONSCHEDULED SERVICE	12	4	0	8	49,058,743	234,136	77,473	.244	5.125	15.489[b]	.081	1.708	5.163[b]
GRAND TOTAL	81[a]	14[a]	11	56	1,022,046,905	4,573,036	3,706,543	.079	1.771	2.185	.013	.306	.377

a/Includes 2 fatal propeller accidents to persons on the ground.
b/Exposure data projected as actual exposure was less than base index unit.

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ACCIDENT RECORD - 1958
IN
PUBLIC PASSENGER SERVICE
U. S. AIR CARRIERS

Class of Carriers	Number of Accidents				Passenger Injuries	
		Injury Classification				
	Total	Fatal	Serious	Minor/None	Number of Fatalities	Number of Serious Injuries
CERTIFICATED CARRIERS						
1. Domestic - Total	41 1/	4 1/	7	30	114	37
Trunk	33 1/	4 1/	6	23	114	37
Local Service	7	0	1	6	0	0
Helicopters	1	0	0	1	0	0
2. International	12	2	4	6	10	11
3. Alaskan	8	2	0	6	1	8
4. Territorial	0	0	0	0	0	0
Total - Certificated Carriers	61 1/	8 1/	11	42	125	56
NONCERTIFICATED CARRIERS						
1. Domestic Carriers	0	0	0	0	0	0
2. International Carriers	0	0	0	0	0	0
Total - Noncertificated Carriers	0	0	0	0	0	0
TOTAL - All U. S. Air Carriers	61 1/	8 1/	11	42	125	56

1/ Excludes 2 fatal propeller accidents to persons on ground.

TRAFFIC STATISTICS - 1958
PUBLIC PASSENGER SERVICE
U. S. AIR CARRIERS

Class of Carriers	Revenue Passengers Carried	Passenger Miles Flown (000) 2/	Plane Miles Flown	Number Departures
CERTIFICATED CARRIERS				
1. Domestic - Total.....	44,008,188	26,179,549	759,932,878	3,215,288
Trunk.....	39,515,238	25,318,658	686,437,337	2,272,385
Local Service.....	4,263,166	855,797	72,253,574	858,942
Helicopters.....	229,784	5,094	1,241,967	83,961
2. International.....	4,272,340	6,230,732	156,987,418	187,515
3. Alaskan.....	312,396	174,715	11,482,626	85,648
4. Territorial.....	572,796	86,852	3,929,644	36,048
Total - Certificated Carriers.....	49,165,720	32,671,848	932,332,566	3,524,499
NONCERTIFICATED CARRIERS				
1. Domestic Carriers.....	NA	285,829	5,448,550	NA
2. International Carriers.....	NA	279,644	6,774,137	NA
Total - Noncertificated Carriers...	NA 1/	565,473	12,222,687	NA
TOTAL - All U. S. Air Carriers	NA	33,237,321	944,555,253	NA

NA - Not available.

1/ Figures on number of passengers transported in civil operations not available, however in combined civil and military contract operations 644,356 passengers were carried.

2/ Total revenue and nonrevenue.

ACCIDENT RATES - 1958
IN
PUBLIC PASSENGER SERVICE
U. S. AIR CARRIERS

Class of Carriers	Passenger Fatalities Per 100 Million Passenger Miles	Accident Rates Per 1 Million Miles Flown		Accident Rates Per 100,000 Departures	
		Total Accidents	Fatal Accidents	Total Accidents	Fatal Accidents
CERTIFICATED CARRIERS					
1. Domestic - Total.....	0.43	0.053	0.005	1.275	0.124
Trunk.....	.45	.048	.005	1.452	.176
Local Service.....	0.0	.096	0.0	.814	0.0
Helicopters.....	0.0	.805	0.0	1.191	0.0
2. International.....	.16	.076	.012	6.399	1.066
3. Alaskan.....	.57	.696	.174	9.340 1/	2.335 1/
4. Territorial.....	0.0	0.0	0.0	0.0	0.0
Total - Certificated Carriers.....	.38	.065	.008	1.730	.226
NONCERTIFICATED CARRIERS					
1. Domestic Carriers.....	0.0	0.0	0.0	0.0	0.0
2. International.....	0.0	0.0	0.0	0.0	0.0
Total - Noncertificated Carriers.....	0.0	0.0	0.0	0.0	0.0
TOTAL - All U. S. Air Carriers	0.37	0.064	0.008	NA 2/	NA 2/

1/ Exposure data projected as actual exposure was less than base index unit.
2/ Figures on departures for the noncertificated carriers are not reported.
NOTE: Data excludes 2 fatal propeller accidents to persons on ground.

ACCIDENT SUMMARY - VITAL STATISTICS
ALL U.S. AIR CARRIERS - ALL OPERATIONS - 1958

ITEM	CERTIFICATED CARRIERS					NONCERTIFICATED CARRIERS				GRAND TOTAL
	Scheduled Passenger Service	All Scheduled Services	Nonsched. Revenue Operations	Nonrevenue Operations	Total Operations	Public Passenger/Cargo Operations	Military Contract Operations	Nonrevenue Operations	Total Operations	
Accidents - Injury Index										
Fatal	10	10	4	1	15	0	1	0	1	16
Serious	11	11	0	0	11	0	0	0	0	11
Minor/None	42	48	8	3	59	1	3	1	5	64
Total	63	69	12	4	85	1	4	1	6	91
Aircraft Damage										
Destroyed	9	9	4	2	15	0	1	0	1	16
Substantial	45	51	8	2	61	1	3	1	5	66
Minor/None	10	10	0	0	10	0	0	0	0	10
Total	64	70	12	4	86 a/	1	4	1	6	92 a/
Fatalities										
Captain	5	5	4	0	9	0	1	0	1	10
Copilot	4	4	2	1	7	0	1	0	1	8
Flight Engineer	1	1	1	0	2	0	0	0	0	2
Cabin Attendants	6	6	2	0	8	0	0	0	0	8
Other Crew	0	0	1 b/	0	1	0	0	0	0	1
Passengers	125	125	3	0	128	0	0	0	0	128
Non-Occupants *	5	5	0	0	5	0	0	0	0	5
Total	146	146	13	1	160	0	2	0	2	162
Serious Injuries										
Captain	5	5	0	1	6	0	0	0	0	6
Copilot	1	1	0	0	1	0	0	0	0	1
Flight Engineer	1	1	0	0	1	0	0	0	0	1
Cabin Attendants	0	0	0	0	0	0	0	0	0	0
Other Crew	0	0	0	1 c/	1	0	0	0	0	1
Passengers	56	56	0	0	56	0	0	0	0	56
Non-Occupants *	1	1	0	0	1	0	0	0	0	1
Total	64	64	0	2	66	0	0	0	0	66

a/ Aircraft damage exceeds number of accidents due to collision between 2 aircraft.
b/ Navigator.
c/ Pilot Trainee.

*Non-Occupants include persons aboard non-air carrier aircraft involved in midair collision and persons on ground struck by revolving propeller.

SAFETY RECORD OF INDIVIDUAL TRUNK CARRIERS
SCHEDULED PASSENGER OPERATIONS - 1958

Operators	Accidents		Fatalities			Revenue Passengers Carried	Passenger-miles 1/ (000)	Revenue Plane-miles	Departures
	Total	Fatal	Passengers 1/	Crew	Others				
Trunk									
American Airlines.....	6					7,191,403	5,069,116	123,771,450	324,697
Braniff Airways.....	2					2,090,101	944,990	34,732,986	165,276
Capital Airlines.....	4	2	51	7	1	3,539,222	1,450,069	56,004,056	225,024
Continental Air Lines..	1					847,968	445,057	16,645,024	94,278
Delta Air Lines.....	1					2,768,614	1,453,366	40,328,321	168,783
Eastern Air Lines.....	5					6,930,845	3,902,598	111,816,744	468,579
National Airlines.....	3					1,554,622	1,028,284	26,007,944	94,589
Northeast Airlines.....	1	1	21	3	0	955,955	427,545	15,046,837	70,001
Northwest Airlines.....	2					1,557,426	1,152,982	29,474,526	87,230
Trans World Airlines...	2					4,393,169	3,815,831	92,429,112	205,646
United Air Lines.....	5	1	42	5	2	6,739,258	5,098,106	124,743,820	306,491
Western Air Lines.....	1					946,655	530,714	15,436,517	61,791
Total.....	33	4	114	15	3	39,515,238	25,318,658	686,437,337	2,272,385

1/ Both revenue and nonrevenue.

NOTE: Excludes propeller accidents to persons. Statistics contained in this and subsequent tables are subject to revision.

SAFETY RECORD OF U. S. INTERNATIONAL CARRIERS
SCHEDULED PASSENGER OPERATIONS - 1958

Operator	Accidents		Fatalities			Revenue Passengers Carried	Passenger-miles 1/ (000)	Revenue Plane-miles	Departures
	Total	Fatal	Passengers 1/	Crew	Others				
American Airlines.....	1	1	9	0	0	126,306	125,663	3,313,245	4,667
Braniff Airways.....						46,548	99,022	3,209,850	3,402
Caribbean Atlantic Airlines						251,270	17,623	1,042,619	14,260
Delta Air Lines.....						57,017	71,566	2,336,864	3,500
Eastern Air Lines.....						336,019	473,320	10,096,862	7,444
Mackey Air Transport....						87,918	17,496	876,716	9,114
National Air Lines.....						92,556	67,369	1,933,660	3,794
Northwest Airlines.....						134,797	314,236	9,616,820	6,504
Pan American World Airways (All Divisions)	9	1	1	0	0	2,559,792	3,714,656	90,107,519	104,830
Pan American Grace Airways						126,781	170,628	5,244,772	9,381
Trans World Airlines....	2					273,870	777,566	20,844,758	16,498
Trans Caribbean Airways.						60,525	97,450	1,182,885	741
United Air Lines.....						100,014	256,695	6,186,490	2,496
Uraba, Medellin & Central Airways.....						2,259	752	101,680	310
Western Air Lines.....						16,668	26,690	892,678	574
Total.....	12	2	10	0	0	4,272,340	6,230,732	156,987,418	187,515

1/ Both revenue and nonrevenue.

SAFETY RECORD OF INDIVIDUAL LOCAL SERVICE (INCLUDING HELICOPTER CARRIERS)
SCHEDULED PASSENGER OPERATIONS - 1958

Operators	Accidents		Fatalities			Revenue Passengers Carried	Passenger-miles 1/ (000)	Revenue Plane-miles	Departures
	Total	Fatal	Passengers 1/	Crew	Others				
Local Service									
Allegheny Airlines.....						474,544	85,972	6,335,777	77,010
Bonanza Airlines.....						180,770	45,042	4,013,292	32,075
Central Airlines.....						136,752	28,351	3,698,241	45,317
Frontier Air Lines.....	1					226,207	65,390	6,141,002	62,221
Lake Central Airlines...						181,778	30,111	3,051,424	43,869
Mohawk Airlines.....						444,606	88,356	4,918,743	51,860
North Central Airlines..	2					737,801	123,447	10,914,306	139,461
Ozark Airlines.....	1					418,705	71,974	6,241,945	73,715
Piedmont Aviation.....						408,147	88,587	7,708,633	92,584
Southern Airways.....	1					221,901	43,205	4,041,246	51,756
Pacific Air Lines..... (formerly Southwest)	2					351,982	80,610	5,058,016	56,017
Trans-Texas Airways.....						236,079	55,404	6,052,711	75,656
West Coast Airlines.....						243,894	49,348	4,078,238	57,401
Subtotal.....	7	0	0	0	0	4,263,166	855,797	72,253,574	858,942
Helicopter Service									
Chicago Helicopter Airways						108,911	2,091	470,534	33,048
Los Angeles Airways.....	1					30,718	1,196	439,975	23,507
New York Airways.....						90,155	1,807	331,458	27,406
Subtotal.....	1	0	0	0	0	229,784	5,094	1,241,967	83,961
Total Local Service.....	8	0	0	0	0	4,492,950	860,891	73,495,541	942,903

1/ Both revenue and nonrevenue.

SAFETY RECORD OF INDIVIDUAL ALASKAN AND TERRITORIAL
AIR CARRIERS IN SCHEDULED PASSENGER OPERATIONS - 1958

Operators	Accidents		Fatalities			Revenue Passengers Carried	Passenger-miles 1/ (000)	Revenue Plane-miles	Departures
	Total	Fatal	Passengers 1/	Crew	Others				
Alaskan									
Alaska Airlines 2/.....	2	0				42,838	31,133	2,144,268	12,987
Alaska Coastal Airlines	2	2	1	1	0	49,464	4,602	858,143	14,304
Cordova Airlines.....						8,711	1,368	283,380	3,693
Ellis Air Lines.....						47,554	2,975	593,644	15,475
Northern Consolidated Airlines.....	2	0				18,479	6,538	1,199,442	12,242
Pacific Northern Airlines 2/.....						111,613	109,500	4,064,302	10,718
Reeve Aleutian Airways.						9,960	8,969	755,146	3,108
Wien Alaska Airlines...						23,777	9,630	1,584,301	13,121
Munz Airways.....	2	0				NA	NA	NA	NA
Total.....	8	2	1	1	0	312,396	174,715	11,482,626	85,648
Territorial									
Hawaiian Airlines.....						394,140	61,470	2,386,340	21,443
Aloha Airlines (formerly Trans-Pacific).....						178,656	25,382	1,543,304	14,605
Total.....	0	0	0	0	0	572,796	86,852	3,929,644	36,048

1/ Both revenue and nonrevenue.
2/ States-Alaska and Intra-Alaska operations.

SAFETY RECORD OF INDIVIDUAL NONCERTIFICATED AIR CARRIERS
IN BOTH PUBLIC AND MILITARY-CONTRACT PASSENGER OPERATIONS
(Calendar Year 1958)

OPERATORS	PUBLIC SERVICES						MILITARY-CONTRACT OPERATIONS						Aggregate[2] Number of Passengers Carried	Total[3] Hours Flown
	Accidents Total	Accidents Fatal	Revenue Passenger-miles (000)	Revenue[1] Plane-Miles	Fatalities Passenger	Fatalities Crew	Accidents Total	Accidents Fatal	Revenue Passenger-miles (000)	Revenue[1] Plane-miles	Fatalities Passenger	Fatalities Crew		
Air Cargo Express			761	18,958					9,092	283,259			8,431	1,866
Airline Transport Carriers, d/b/a California Hawaiian			6,099	36,851					10,849	638,225			9,161	4,459
All American Airways			1,797	50,740					26,868	881,116			23,147	5,248
American Flyers Airlines			1,534	106,774					3,875	279,084			7,011	2,449
Argonaut Airways			-	138,256					-	-			-	733
Associated Air Transport			2,281	147,447			1	0	9,650	400,768			9,943	3,021
Aviation Corporation of Seattle, d/b/a Westair Transport			465	324,532			1	0	3,930	163,190			3,324	2,883
Blatz Airlines			1,489	62,302					-	-			7,754	470
California Air Charter			2,445	147,933					-	-			11,463	1,094
Capitol Airways			6,427	121,200					103,395	9,158,389			36,786	47,987
Central Air Transport			13,299	271,530					5,224	344,753			12,569	3,599
Coastal Cargo Co			98	1,444					23,741	347,742			5,748	1,055
Conner Air Lines			1	1,502					-	-			3	13
Currey Air Transport			39,836	616,350					1,901	36,542			28,302	3,349
General Airways			12,241	267,303					26,127	684,184			17,027	5,711
Great Lakes Airlines			141,575	2,042,772					4,156	74,650			89,121	9,755
Johnson Flying Service			1,189	432,937					-	-			4,698	3,787
Los Angeles Air Service			202	2,932					1,183	16,432			404	80
Mantz Air Services, Paul			-	-					-	-			-	-
Meteor Air Transport			-	-					-	-			-	-
Miami Airlines			6,645	90,843					1,524	94,891			7,266	1,279
Modern Air Transport			3,053	95,405					15,893	586,387			18,192	3,709
Monarch Air Service			137	51,640					-	-			2,437	474
Overseas National Airways			88,456	1,246,395					48,586	1,280,064			40,464	13,943
Quaker City Airways			479	12,573					2,779	72,754			2,826	581
Regina Cargo Airlines			2,267	34,173					9,612	379,886			10,876	2,494
S. S. W., Inc. d/b/a Universal Airlines			-	-					-	-			-	-
Southern Air Transport			-	141,280					-	-			-	828
Standard Airways			279	9,259					-	4,825			1,088	111
Stewart Air Service			5,297	270,284					-	-			76,687	2,262
Trans-Alaskan Airlines			2,573	38,917					-	-			1,649	194
Trans-Caribbean Airways 4/			-	50,592					3,408	10,703			2,400	309
Transocean Air Lines			131,062	3,933,420					121,286	3,447,804			87,216	33,562
U. S. Air Coach			374	16,700					2,517	79,259			2,713	655
United States Overseas Airlines			92,978	1,437,632					89,162	2,760,514			93,755	21,478
World Airways			-	-					25,757	1,642,666			21,635	8,329
World Wide Airlines			134	1,811					305	4,913			260	47
TOTAL	0	0	565,473	12,222,687	0	0	2	0	550,820	23,673,000	0	0	644,356	186,612

1/ Includes miles flown in cargo operations.
2/ Breakdown between public and military-contract services not available.
3/ Total hours flown in all operations.
4/ Inauguration of certificated scheduled operations effective 3/8/58.

NOTE: Operational data based on figures available at time report prepared and subject to revision.

3 0 5 8

ACCIDENT TYPES

Accidents are classified for statistical purposes according to certain established types. The type of accident describes the general circumstances of the occurrence but does not necessarily indicate the cause nor the conditions that contributed thereto. The accident types occurring in 1958 are detailed on the opposite page in relation to the operational phase of flight.

Following are some of the particular types or kinds of accidents that occurred in 1958, together with certain of the operational circumstances:

Midair Collisions: There were 2 fatal midair collisions in 1958. Both cases involved collision with military jet aircraft.

Evasive Action: There were 2 instances wherein serious injury occurred in the sudden maneuvering of the aircraft to avoid what appeared to be an imminent midair collision.

Propeller-to-Person Accidents: There were 2 cases of a ground crewman being killed by impact with a revolving propeller.

Accidents in Ground and Taxi Phase of Operation: As distinct from the Takeoff, Enroute and Landing phase of operation, 5 accidents occurred in the Ground phase and 8 in the Taxi phase. Two of the ground phase accidents were propeller-to-person accidents as described above. Another was the result of a passenger falling from the doorway in an attempt to disembark when the loading ramp was not in position. There were no injuries in the 8 accidents occurring in the Taxi phase.

Propeller Failure: One fatal accident was the result of a propeller blade failing as the aircraft settled in during the flare-out for landing. The blade pierced the cabin and struck 1 passenger.

Carbon Monoxide Asphyxiation: There was one case wherein a pilot - flying alone in a small aircraft in Intra-Alaskan operations was overcome and died from carbon monoxide.

Helicopter Accidents: There were 4 helicopter accidents. Two of these occurred in nonscheduled operations, one of which was fatal.

Small Fixed-Wing Aircraft Accidents: There were 15 accidents, all in Intra-Alaskan operations, involving aircraft of 12,500 pounds and under certificated takeoff weight.

Crew Training: One accident - fatal - occurred during crew training operations.

TYPE OF ACCIDENT VS. OPERATIONAL PHASE

Total Operations - Air Carriers - 1958

OPERATIONAL PHASE → / TYPE OF ACCIDENT ↓	GROUND						TAXIING				TAKEOFF			ENROUTE			LANDING				
	STARTING ENGINE/S	IDLING ENGINE/S	OTHER	TO TAKEOFF	FROM LANDING	OTHER	RUN	INITIAL CLIMB	DISCONTINUED	OTHER	CLIMB	CRUISE	DESCENT	INITIAL APPROACH	FINAL APPROACH	LEVEL - OFF	TOUCHDOWN	ROLL	GO - AROUND	TOTAL
Ground (water) loop				1			1	2									6			10
Landed wheels-up							1									1	3			5
Gear collapsed																	2			2
Gear retracted								1									4			5
Hard landing															1	1				2
Nose down																1				1
Nose over					1												1	1		3
Undershoot														1		1				2
Overshoot								1									5			6
Collision-Aircraft																				
Both airborne											2									2
On ground				2	1	1														4
Collision-ground							1							1						2
Collision-rising terrain											1		1							2
Collision-water							1				1									2
Collision-Objects																				
Trees								1			2									3
Buildings					1															1
Airport hazards															2	1				3
Other	1			1			1										2			5
Stall														1				1		2
Fire on ground	1																			1
Fire in flight							1				3									4
Airframe-air							1													1
Airframe-ground																	1			1
Engine tearaway											1									1
Turbulence											4									4
Propeller accidents to persons		2																		2
Propeller failure							1													1
Roll over(Helicopter)																1				1
Tail-down landing(Helicopter												1								1
Other*	1									1	4						1			7
In Process																			5	5
TOTAL	3	2	0	4	3	1	3	5	5	1	0	18	1	1	3	3	6	25	2	91

*Includes: Accident wherein passenger fell from aircraft; 1 - Aircraft ditched; 1 - Broke through ice; 2 - Powerplant failures; 2 - Evasive maneuver in flight.

CAUSAL FACTORS

In determining the cause of an accident, all contributing factors are considered. These factors are classified according to appropriate categories such as pilot, powerplant, weather, etc. For statistical purposes where two or more causal factors exist in one accident, each is recorded and no attempt is made to establish a primary cause.

Number of Accidents in Relation to the Different Categories of Causal Factors

There were 91 accidents in the overall operations of air carriers in 1958. Five of these are still in the process of investigation. The figures shown below indicate the frequency of the different categories of causal factors in the 86 completed cases.

Broad Categories of Causal Factors	Number of Accidents in Which Each Category was Involved	
	Total Number Accidents	Number in Which No Other Causal Factor was Involved
PILOT PERSONNEL	41	19
OTHER PERSONNEL	28	10
WEATHER	17	3
POWERPLANT	14	8
AIRPORT-TERRAIN	13	1
LANDING GEAR	7	3
EQUIPMENT/ACCESSORIES	6	2
MISCELLANEOUS:		
Evasive action	2	2
Pilot died in flight - CO asphyxiation	1	0
Ground crewman hit by propeller	2	2
Human and cockpit visibility limitations under high closure rate allowed insufficient time to avoid collision	1	0
Defective ground power unit	1	0

DETAILED LISTING OF INDIVIDUAL CAUSAL FACTORS

All of the separate, individual causal factors, found to exist in the 86 air carrier accidents on which the investigation has been completed, are detailed below:

PILOT

Misuse, engine controls	3
Misuse, brakes, ground	3
Misuse, flight controls, ground	5
Failed to extend gear	3
Inadvertent gear retraction	1
Misjudged distance	12
Leveled off too high	1
Failed to level off	1
Failed to compensate for wind	1
Failed to observe other aircraft	1
Failed to maintain flying speed	1
Selected unsuitable terrain	1
Inattentive, fuel supply	1
Improper use of fuel valves	1
Improper IFR operation	4
Improper pre-flight planning	4
Inadequate pre-flight inspection and/or preparation	1
Improper in-flight planning	2
Continued IFR below minimums	2
Continued into known unfavorable weather conditions	1
Operating recklessly-carelessly	1
Improper training, supervision	3
Preoccupied with engine fire, failed to maintain altitude	1

OTHER PERSONNEL

Inadequate maintenance-inspection	7
Flight improperly cleared	1
Improper operation, ground facilities	10
Improper training, supervision, ground	3
Co-pilot	1
Passenger fell from aircraft during heedless attempt to disembark	1
Signalman incorrectly parked aircraft	1
Lack of vigilance by mechanic while taxiing aircraft	1
Lack of vigilance by military pilot to see and avoid other traffic	1
Passenger failed to heed seat belt sign	1
Military and CAA supervision of aircraft control	1
Ferry crew failed to record reported No. 3 engine smoking	1
Did not observe parked aircraft	1

POWERPLANT

Fuel system	2
Ignition system	2
Engine structure	4
Supercharger (reciprocating engines only)	2
Propeller and propeller accessories	2
Engine accessories	2

LANDING GEAR

Main gear	4
Nose gear	2
Brakes	1
Undetermined	1

EQUIPMENT AND ACCESSORIES

Electrical equipment	2
Hydraulic system	1
Safety equipment	2
Defective heater	1

RELATED EQUIPMENT

Airport facilities	1

WEATHER

Low ceiling	1
Rain	1
Snow	1
Hail	1
Icing	1
Unfavorable wind, takeoff and landing	6
Turbulence in flight	4
Thunderstorm	1
Whiteout	1

AIRPORT TERRAIN

Wet	4
Soft	2
Snow	4
Ice	2
Rough - Rolling	2

MISCELLANEOUS

Incapacitated	1
Evasive action	2
Defective ground power unit	1
High closure rate visibility limitations	1
Lack of vigilance - ground crewman	2

PART II

GENERAL AVIATION ACCIDENTS
(Calendar Year 1958)

> Only those General Aviation accidents investigated by the Civil Aeronautics Board are dealt with in this report. These consist of the accidents involving (1) fixed-wing aircraft having a certificated gross takeoff weight in excess of 12,500 pounds and (2) helicopters.

In general aviation operations during 1958, there were 119 accidents--21 fatal--involving large fixed-wing aircraft and helicopters. Some of the details are as follows:

No. Accidents	Total	Fatal
Fixed-Wing Aircraft...	40	10
Helicopters.....	79	11
Total.....	119	21

No. Fatalities	
Crew.....	25
Passengers.....	16
Ground Crewman.....	1
	42

No. Serious Injuries	
Crew Members.....	6
Passengers.....	5
	11

No. Aircraft Destroyed	
Fixed-Wing.....	15
Helicopters.....	22
	37

Fixed-Wing Aircraft Accidents

There were 40 accidents--10 fatal--in the operation of large fixed-wing aircraft. There were 18 fatalities; 15 crew, 2 passengers, and 1 ground crewman who was killed in an explosion during the loading of aerial application spray solution. Fifteen aircraft were destroyed and 24 were substantially damaged.

Three of these accidents involved large jet aircraft engaged in the manufacturers training/test operations, none of which resulted in any injury to occupants.

Helicopter Accidents

There were 79 helicopters accidents in 1958, 11 of which were fatal. There were 24 fatalities; 10 crew and 14 passengers. Ten persons suffered serious injury; 5 crew and 5 passengers.

Accident Record 1954-1958

For comparative purposes, the numbers of fixed-wing and helicopter accidents that occurred in General Aviation Operation during 1954-1958 are shown below:

	NUMBER OF ACCIDENTS					
	Fixed-Wing		Helicopters		Total	
Year	Total	Fatal	Total	Fatal	Total	Fatal
1954.....	15	7	32	2	47	9
1955.....	17	4	34	3	51	7
1956.....	12	6	47	3	59	9
1957.....	34	6	55	9	89	15
1958.....	40	10	79	11	119	21

EXECUTIVE (CORPORATE) AIRCRAFT OPERATIONS

Operations under this heading are defined as:

"Flying done by corporations, companies, and other organizations in their own or leased aircraft in connection with the requirements of their enterprises, including the transport of personnel and cargo, not for compensation, and the employment of professional pilots for this purpose."

According to the information available to the Civil Aeronautics Board, the following accidents occurring in 1958 were classified in the above defined category of operations. The fixed-wing aircraft dealt with herein are those over 12,500 pounds gross weight.

No. of Accidents	Total	Fatal
Fixed-Wing Aircraft.....	16	4
Helicopters.....	6	1
Total.....	22	5

No. of Fatalities	Total	Passengers	Crew
Fixed-Wing Aircraft...	9	2	7
Helicopters.....	3	2	1
Total.....	12	4	8

ACCIDENT RECORD - EXECUTIVE OPERATIONS 1951 - 1958

The following data pertains to fixed-wing aircraft over 12,500 pounds certicated take off weight in Executive Operations:

Year	Number Accidents Total	Number Accidents Fatal	Hours Flown	Accident Rates Per 100,000 Hours Flown Total Accidents	Accident Rates Per 100,000 Hours Flown Fatal Accidents
1951	13	2	185,000	7.02	1.08
1952	7	1	206,000	3.39	.48
1953	9	0	265,800	3.39	0.0
1954	13	7	294,210	4.42	2.38
1955	11	3	312,300*	3.52	.96
1956	8	5	324,300*	2.46	1.54
1957	17	2	312,660**	5.44	.64
1958	16	4	325,000*	4.92	1.23

*Estimated
**Preliminary - Based on Partial Analysis of C. A. A. Sample Survey

GENERAL AVIATION ACCIDENTS

Involving Fixed-Wing Aircraft in Excess of 12,500 Pounds
Certificated Takeoff Weight and Helicopters
(Calendar Year 1958)

	FIXED-WING			HELICOPTERS			
	Executive Operations	Other General Aviation	Total	Executive Operations	Other General Aviation	Total	GRAND TOTAL
Accidents							
Injury Index							
Fatal	4	6	10	1	10	11	21
Serious	1	0	1	0	3	3	4
Minor	0	2	2	0	11	11	13
None	11	16	27	5	49	54	81
Total	16	24	40	6	73	79	119
Fatalities							
Pilot	3	5	8	1	8	9	17
Copilot	4	3	7	0	1	1	8
Other Crew	0	0	0	0	0	0	0
Passengers	2	0	2	2	12	14	16
Others	0	1	1	0	0	0	1
Total	9	9	18	3	21	24	42
Serious Injuries							
Pilot	0	0	0	0	4	4	4
Copilot	1	0	1	0	1	1	2
Passenger	0	0	0	0	5	5	5
Other	0	0	0	0	0	0	0
Total	1	0	1	0	10	10	11
Aircraft Damage							
Destroyed	6	9	15	3	19	22	37
Substantial	9	15	24	3	53	56	80
Minor	1	0	1	0	1	1	2
Total	16	24	40	6	73	79	119

TYPE OF ACCIDENT VS. OPERATIONAL PHASE
FIXED-WING AIRCRAFT* ACCIDENTS — 1958

TYPE OF ACCIDENT	GROUND: Engine Idling	TAXIING: To Takeoff	TAXIING: From Landing	TAKEOFF: Run	TAKEOFF: Initial Climb	ENROUTE: Cruise	LANDING: Final Approach	LANDING: Level-Off	LANDING: Touchdown-Roll	LANDING: Go-Around	TOTAL
Ground (water) Loop.....			1	1					5		7
Landed Wheels Up.....									1		1
Gear Collapsed.....									1		1
Gear Retracted.....									2		2
Hard Landing.....							1	1			2
Undershoot.....								1	1		2
Overshoot.....									2		2
Collision-Aircraft Both on Ground.....		1									1
Collision-Ground.....					1						1
Collision-Rising Terrain.						1					1
Collision-Objects.....						1			1		2
Stall.....						4					4
High Rate of Sink.....										1	1
Fire on Ground.....	1		1								2
Fire in Flight.....					1	3					4
Airframe-Air.....					1	2	1				4
Cases in Process 1/.....											3
Total.....	1	1	2	1	3	11	2	2	13	1	40

*Aircraft having a certificated gross takeoff weight in excess of 12,500 pounds.
1/ Preliminary information only - details not available

TYPE OF ACCIDENT VS. OPERATIONAL PHASE
HELICOPTER ACCIDENTS — 1958

OPERATIONAL PHASE / TYPE OF ACCIDENT	GROUND			TAKEOFF			ENROUTE		LANDING		
	Engine Start Warm-Up	Idling Rotors	Vertical	Running	Climb	Discontinued	Cruise	Approach	Touchdown-Roll	Flare-Out	TOTAL
Hard Landing							2	6		4	12
Nose Down								1			1
Nose Up									1		1
Roll Over		1	3				1		3		8
Tail-Down Landing								1		2	3
Rotor Struck Ground			1				1				2
Collision with											
Ground			2	1	1		3				7
Rising Terrain							2				2
Water					1		3				4
Collision-Objects											
Wires-Poles							3	2			5
Trees	1		1		1	1	2				6
Fences-Posts					1						1
Fuel Drum			1								1
Rocks					1			1			2
Broke Through Ice									1		1
Log									1		1
Rotor Blade Stall				1	1		2	1	1		6
Airframe-Air			1				4				5
Main Rotor Hit Tail	1										1
Cooling Fan Spinner Failed							1				1
Other								1			1
Cases in Process 1/											8
Total	2	1	9	2	6	1	24	13	7	6	79

1/ Preliminary information only - details not available.

CAUSAL FACTORS

In determining the cause of an accident all contributing factors are considered. These factors are classified according to appropriate categories such as pilot, powerplant, weather, etc. For statistical purposes where two or more causal factors exist in one accident, each is recorded and no attempt is made to establish a primary cause.

Number of Accidents in Relation to the Different Categories of Causal Factors

Of the 119 general aviation accidents dealt with in this report, 11 are still in the process of investigation. The figures shown below indicated the frequency of the different categories of causal factors in the 108 completed cases - 37 fixed-wing aircraft, 71 helicopters.

BROAD CATEGORIES OF CAUSAL FACTORS	NO. OF ACCIDENTS IN WHICH EACH CATEGORY WAS INVOLVED	
	Total No. Accidents	No. in Which No Other Category Was Involved 1/
FIXED-WING AIRCRAFT		
Pilot Personnel	24	9
Other than Pilot Personnel	7	2
Power Plant	7	4
Airframe	1	-
Landing Gear	2	-
Equipment and Accessories	5	1
Weather	6	-
Airport Terrain	6	1
Miscellaneous	2	1
HELICOPTERS		
Pilot Personnel	58	27
Other than Pilot Personnel	3	1
Powerplant	6	3
Rotor Installation Control	3	-
Transmission	3	2
Airframe	1	1
Weather	15	1
Airport-Heliport Terrain	10	1
Miscellaneous	2	-
Undetermined	2	2

1/ These figures indicate the number of accidents in which no other causal factors existed than the category shown.

DETAILED LISTING OF INDIVIDUAL CAUSAL FACTORS

All of the separate, individual causal factors found to exist in the 108 general aviation accidents on which the investigation has been completed are detailed below. They are grouped in relation to fixed-wing aircraft and helicopters.

FIXED-WING AIRCRAFT

PILOT PERSONNEL

Misuse, propeller controls	1
Misuse, brakes, ground	1
Misuse, flight controls, ground	1
Misjudged distance	5
Failed to level off	1
Failed to maintain flying speed	4
Selected unsuitable terrain	1
Exceeded stress limits aircraft	3
Improper pre-flight planning	2
Inadequate pre-flight inspection and/or preparation	1
Improper in-flight planning	2
Operating recklessly-carelessly	2
Improper use miscellaneous equipment	2
Improper training, supervision, flight	2
Continued into known unfavorable weather	1

OTHER PERSONNEL

Inadequate maintenance-inspection	6
Improper training, supervision, ground	1

POWERPLANT

Fuel system	2
Engine structure	1
Propeller and propeller accessories	1
Undetermined	1

AIRFRAME

Horizontal stabilizer	1

LANDING GEAR

Tail	1
Brakes	1

EQUIPMENT AND ACCESSORIES

Hydraulic system	5

WEATHER

Icing conditions	1
Unfavorable wind, takeoff and landing	3
Turbulence in flight	1
Thunderstorm	1

AIRPORT TERRAIN

Wet	1
Soft	2
Snow	1
Ice	1
Hidden hazard	2

MISCELLANEOUS

Fire during loading of insecticide	1
Erratic DF signals	1

DETAILED CAUSAL FACTORS - HELICOPTER ACCIDENTS

PILOT PERSONNEL

Failed to maintain flying speed	1
Misuse, engine controls	3
Misuse, cyclic pitch control, air	4
Misuse, collective pitch control, air	1
Misuse, collective pitch control, ground	1
Improper control coordination	1
Failed to maintain rotor speed	7
Misjudged distance	5
Flared out too high	2
Failed to flare out	3
Failure to compensate for wind	8
Failed to observe objects	3
Selected unsuitable terrain	6
Inattentive fuel supply	1
Improper pre-flight planning	5
Improper in-flight planning	1
Exceeded ability-experience	2
Operating recklessly-carelessly	2
Improper training, supervision, flight	3
Failed to compensate for high elevation	2
Improper loading	1

OTHER PERSONNEL

Inadequate maintenance-inspection	3

POWERPLANT

Cooling system	1
Fuel system	2
Ignition system	1
Undetermined	1
Flame-out due to ingestion of foreign material	1

ROTOR INSTALLATION - CONTROLS

Main rotor blade	1
Tail rotor blade	1
Tail rotor pitch control system	1

TRANSMISSION

Drive shaft	1
Drive system	1
Clutch assembly	1

AIRFRAME

Failure of fuel tank securing straps	1

WEATHER

Hail	1
Unfavorable wind, takeoff and landing	7
Turbulence in flight	3
Windshift	1
Downdraft	3

AIRPORT - HELIPORT TERRAIN

Soft	1
Snow	1
Ice	1
Rough water	2
High elevation	3
Other	1

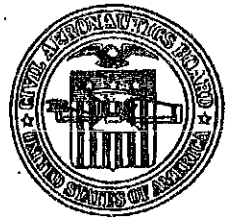
MISCELLANEOUS

Ground resonance	1
Tether rope broke	1
Fire of undetermined origin	1

RESUME OF
U. S. CIVIL AIR CARRIER AND GENERAL AVIATION AIRCRAFT ACCIDENTS

CALENDAR YEAR 1958

FIXED-WING AIRCRAFT IN EXCESS OF 12,500 POUNDS CERTIFICATED TAKE-OFF WEIGHT, HELICOPTERS, AND ALL ALASKAN CERTIFICATED AIR CARRIERS



JULY 15, 1959

CIVIL AERONAUTICS BOARD

FOREWORD

This report deals with aircraft accidents,[1] incident to flight,[2] which occurred during 1958 in (1) the operations of Air Carriers, and (2) those General Aviation operations involving (a) fixed-wing aircraft having a certificated maximum takeoff weight in excess of 12,500 pounds, and (b) helicopters. A brief description is given of each such accident and two statistical recapitulations of data are included, one covering all Air Carrier accidents and the other relating to the General Aviation accidents dealt with in this report. The report includes an addendum listing revisions to the record for calendar year 1957.

During the period January 1, 1954, to December 31, 1958, the Civil Aeronautics Board had delegated to the Civil Aeronautics Administration the investigating and reporting of accidents involving fixed-wing aircraft of 12,500 pounds and lower certificated takeoff weight, except those used in Alaskan Air Carrier operations. For information concerning accidents occurring in this category during that period, inquiries should be directed to the FAA.

Public reports have been issued by the Board on a number of the accidents included in this report, and are available upon request. In those cases where a public report has not been released, factual information obtained in the investigation can be released to inquirers at their expense when reproduction of records is involved.

1/ Aircraft accident. An aircraft accident is an accident which occurs during the starting or warming up of an engine or engines, or operation of an aircraft, which results in serious or fatal injury to one or more persons or in substantial damage to any aircraft, or which involves a collision of two or more aircraft. Whenever serious or fatal injury results from contact with a rotating propeller which is installed on an aircraft, it shall be considered an aircraft accident.

2/ Aircraft accident incident to flight. An aircraft accident incident to flight is an aircraft accident which occurs between the time an engine or engines are started for the purpose of commencing flight until the aircraft comes to rest with all engines stopped for complete or partial deplaning or unloading. It excludes death or injuries to persons on board which result from illness, altercations, and other incidents not directly attributable to flight operation.

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PART I

U.S. AIR CARRIER ACCIDENTS

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RECAPITULATION OF U.S. AIR CARRIER ACCIDENTS
(Calendar Year 1958)

TYPE OF OPERATOR	Accidents		Aircraft Damage			Crew Injury			Passenger Injury			Others Injured			Total Aboard	Fire		
	Total	Fatal	Destroyed	Substantial	Minor/None	Fatal	Serious	Minor/None	Fatal	Serious	Minor/None	Fatal	Serious	Minor		In Air	After Impact	On Ground
CERTIFICATED CARRIERS																		
A. DOMESTIC OPERATORS																		
1. Certificated Passenger Carriers																		
Scheduled Passenger Service	43a/	6a/	7	30	7	15	2	148	114	37	1075	5	1	1	1391	2	8	1
Scheduled Cargo Service	4	0	0	4	0	0	0	7	0	0	0	0	0	0	7	0	0	0
Nonscheduled Revenue Operations	1	1	1	0	0	1	0	0	1	0	0	0	0	0	2	0	0	0
Nonrevenue Operations	3	0	1	2	0	0	3	7	0	0	0	0	0	0	10	1	1	0
2. Certificated All-Cargo Carriers																		
Scheduled Service	1	0	0	1	0	0	0	3	0	0	0	0	0	0	3	0	0	0
Military Contract	2	1	1	1	0	4	0	8	4	0	20	0	0	0	36	0	0	0
Total - Domestic Operators	54	8	10	38	7	20	5	173	119	37	1095	5	1	1	1449	3	9	1
B. FOREIGN/OVERSEAS OPERATORS																		
1. Certificated Passenger Carriers																		
Scheduled Passenger Service	11	2	1	7	3	0	4	72	10	11	333	0	0	0	430	2	0	0
Scheduled Cargo Service	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nonscheduled Revenue Operations	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nonrevenue Operations	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Military Contract	1	0	0	1	0	0	0	2	0	0	0	0	0	0	2	0	0	0
2. Certificated All-Cargo Carriers																		
Scheduled Service	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nonrevenue Operations	1	0	1	0	0	0	0	5	0	0	0	0	0	0	5	0	1	0
Total - Foreign/Overseas Operators	13	2	2	8	3	0	4	79	10	11	333	0	0	0	437	2	1	0
C. ALASKAN AIR CARRIERS																		
Scheduled Passenger Service	8	2	1	7	0	1	1	6	1	8	13	0	0	0	30	0	0	0
Scheduled Cargo Service	1	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0
Nonscheduled Revenue Operations	8	2	2	6	0	3	0	8	0	0	6	0	0	0	17	0	0	0
Nonrevenue Operations	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total - Alaskan Air Carriers	17	4	3	14	0	4	1	15	1	8	19	0	0	0	48	0	0	0
D. TERRITORIAL OPERATORS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NONCERTIFICATED CARRIERS																		
Passenger Service	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cargo Service	1	0	0	1	0	0	0	3	0	0	0	0	0	0	3	0	0	0
Nonrevenue Operations	1	0	0	1	0	0	0	2	0	0	0	0	0	0	2	0	0	0
Military Contract	4	1	1	3	0	2	0	10	0	0	82	0	0	0	94	0	2	0
Total - Noncertificated Air Carriers	6	1	1	5	0	2	0	15	0	0	82	0	0	0	99	0	2	0
TOTAL - ALL CARRIERS																		
Passenger Service	62a/	10a/	9	44	10	16	7	226	125	56	1421	5	1	1	1852	4	8	1
Cargo Service	7	0	0	7	0	0	0	14	0	0	0	0	0	0	14	0	0	0
Nonscheduled Operations	9	3	3	6	0	4	0	8	1	0	6	0	0	0	19	0	0	0
Nonrevenue Operations	5	0	2	3	0	0	3	14	0	0	0	0	0	0	17	1	2	0
Military Contract	7	2	2	5	0	6	0	20	4	0	102	0	0	0	132	0	2	0
GRAND TOTAL	90a/	15a/	16	65	10	26	10	282	130	56	1529	5	1	1	2033	5	12	1

a/ Includes 2 fatal propeller accidents to persons on ground.

NOTE: Totals for aircraft damage to air carrier aircraft exceed actual number of accidents because of collisions between two aircraft.

DESCRIPTION
OF
AIR CARRIER ACCIDENTS - CALENDAR YEAR 1958

Domestic Operators - Certificated Passenger Carriers - Scheduled Passenger Service

Date	Time of Accident	Location	Airline	Aircraft	Aircraft Damage	Fire	Total Aboard	Division of Injury								
								Crew			Passengers			Others		
								F	S	M/N	F	S	M/N	F	S	M
1/8/58	1925 EST	New York, N. Y.	Eastern	L-049	None	None	70	0	0	5	0	0	65	1	0	0
	A ramp service man was injured fatally when struck by No. 3 propeller of the aircraft which was being ground serviced prior to departure. He was observed standing by a portable generator about 10 feet from No. 3 propeller; however, his subsequent actions were unobserved. The ramp was in a hazardous condition due to snow and ice.															
1/14/58	1138 EST	Cleveland, Ohio	Northwest	B-377	Substantial	None	22	0	0	6	0	0	16			
	The left wing collided with a small hangar while the aircraft was being taxied to the unloading position.															
1/25/58	0938 EST	Pittsburgh, Pa.	Capital	V-700D	Substantial	None	27	0	0	4	0	0	23			
	During the approach, the flight was informed by the tower that snow ridges as a result of snow removal operations on a bi-secting runway extended across the active runway. Touchdown was made with the nose wheel being held off the runway. As the aircraft passed through the ridges, the nose gear partially collapsed rearward.															
1/28/58	1745 CST	Chicago, Ill.	Capital	V-700D	Substantial	None	48	0	0	4	0	0	44			
	While taxiing out on an ice-rutted surface the right wheel struck an ice ridge obliquely, fracturing the landing gear fitting.															
1/30/58	2216 CST	Chicago, Ill.	American	DC-6B	Substantial	None	36	0	0	5	0	0	31			
	As the propellers were being reversed after a normal landing, the nose gear suddenly collapsed, the aircraft sliding to a stop with the nose of the fuselage on the runway.															
2/2/58	1445 CST	St. Louis, Mo.	Eastern	CV-440	Substantial	None	47	0	0	3	0	0	44			
	The runways had been plowed following an unusual snowfall leaving a two-to three-foot snow bank on each side of the cleared area of the runway. The aircraft veered slightly during the landing roll on the slippery surface. The left propeller struck the snow bank resulting in the propeller and engine nose section becoming detached.															

5311

2/13/58	1344 PST	Nr. Palm Springs, Calif.	Western	CV-240	Destroyed	After Impact	21	0	0	3	0	5	13

Shortly after takeoff, a section of the right wing leading edge separated from the aircraft resulting in severe control difficulty and buffeting. The crew maintained sufficient control of the aircraft to make a wheels-down landing on a boulder-strewn desert area. Impacts with the boulders during the landing roll caused severe damage and breakup of the aircraft, and a fire originating in the left wing spread rapidly. All occupants were safely evacuated before the aircraft was destroyed by the fire.

2/15/58	1932 CST	Birmingham, Ala.	Delta	DC-7	Substantial	None	48	0	0	5	0	0	43

A skid occurred during a crosswind landing on a slushy snow-covered runway. The nose gear collapsed as the aircraft veered off the runway.

2/15/58	0755 EST	Key West, Fla.	National	L-18	Substantial	None	14	0	0	3	0	0	11

During takeoff in a gusty 15-20 knot crosswind the aircraft yawed sharply. The pilot was unable to regain directional control and aborted the takeoff. The aircraft skidded off the runway into a marsh, the left gear striking a bank and being torn off.

3/1/58	1024 EST	New Haven, Conn.	American	CV-240	Substantial	After Impact	8	0	0	3	0	0	5

The captain in the left seat was performing the duties of copilot while the first officer made the takeoff. Upward pressure on the landing gear selector handle was applied prematurely during the takeoff run. This action, together with a defective gear safety switch, allowed the landing gear selector handle to be unlocked and the gear to retract before the aircraft was airborne. A fire developed in the left nacelle and fuel tank area as the aircraft skidded to a stop on the runway. The fire was extinguished by ground fire equipment.

3/11/58	1140 CST	St. Louis, Mo.	Ozark	DC-3	Substantial	None	26	0	0	3	0	0	23

Following touchdown, the main gear struck a snowbank which had been piled across the runway threshold during snow removal operations and which was not easily discernible from the air, nor had the crew been advised of its presence. The aircraft settled on the damaged gear and nosed down slowly after rolling down the runway.

3/15/58	1005 EST	Tampa, Fla.	National	DC-7	Substantial	None	46	0	0	5	0	0	41

The No. 2 PRT on No. 4 engine failed and broken parts struck the propeller breaking the tips of two blades, resulting in severe vibration. The fuselage was also punctured by flying debris and the cabin unpressurized. The propeller was feathered and a slow descent was executed as the flight returned to Tampa and landed without further incident.

3/17/58	0728 EST	Melbourne, Fla.	Eastern	M-404	Destroyed	After Impact	10	0	0	3	0	0	7

Just prior to landing touchdown the left gear struck an unmarked pile of gravel at the approach end of the runway. The left gear collapsed during the rollout and the aircraft burned.

Domestic Operators - Certificated Passenger Carriers - Scheduled Passenger Service

Date	Time of Accident	Location	Airline	Aircraft	Aircraft Damage	Fire	Total Aboard	Division of Injury: Crew F	Crew S	Crew M/N	Passengers F	Passengers S	Passengers M/N	Others F	Others S	Others M
4/6/58	2319 CST	Freeland, Mich.	Capital	V-700D	Destroyed	After Impact	47	3	0	0	44	0	0			

On an approach made under conditions of restricted visibility, a steep turn was made to align the flight with the runway. A stall occurred followed by an over-the-top spin. Insufficient altitude remained for recovery before striking the ground.

4/7/58	1833 PST	Orange, Calif.	Los Angeles Airways	S-55	Substantial	None	1	0	0	1						

Engine failure occurred at an altitude of 1,000 feet, and the pilot went into autorotation for a landing in an open field. During touchdown, the right gear bogged down in soft muddy ground and the helicopter rolled over on its right side.

4/17/58	1630 PST	Arcata, Calif.	Pacific	M-202	Substantial	None	17	0	0	3	0	0	14			

The right engine backfired during takeoff causing the right throttle to kick back. The power was cut, and an unsuccessful attempt was made to stop the aircraft on the wet runway. To avoid obstructions and a high embankment a short distance off the runway end, the pilot groundlooped the aircraft. The nose gear collapsed as it passed through a ditch, the aircraft coming to rest on its nose.

4/21/58	0830 PST	Nr. Las Vegas, Nev.	United	DC-7	Destroyed	After Impact	47	5	0	0	42	0	0	2	0	0
			Air Force	F-100F	Destroyed											

The two aircraft collided near head-on in clear weather conditions at an altitude of 21,000 feet, and crashed out of control. The civil DC-7 was proceeding in normal cruise while the military F-100F was executing a simulated jet penetration in the course of an instrument training flight. It is indicated that at the high rate of the near head-on closure at high altitude, together with human and cockpit limitations, there was little opportunity for either crew to observe the other aircraft and effect evasive action in time to avoid the collision.

5/2/58	0655 EST	Newark, N. J.	Eastern	DC-7	Substantial	None	47	0	0	5	0	0	42			

During an ILS approach under marginal weather conditions, the runway lights became visible at 200 feet. The copilot, as prearranged, took over to complete the landing, but encountered low scud which again obscured the runway lights. The captain, taking the controls, prepared to go around but quickly decided to complete the landing as the runway lights were again sighted. Insufficient runway remained and propeller reversal and hard braking were used, resulting in three main gear tires blowing out. As the aircraft rolled onto the overrun area, the left main gear collapsed.

5/8/58	1452 EST	Charlotte, N. C.	Eastern	L-1049C	Substantial	None	64	0	0	6	0	0	58			

The nose gear retracted only partially following takeoff and unsuccessful attempts were made to get it in the down and locked, or fully retracted position. Extensive preparations were made aloft and on the ground for an emergency landing as the flight circled to burn off fuel. The landing was made on the main gear and, as speed was dissipated, the nose dropped and the aircraft skidded on the foam-covered runway.

5/8/58	0905 EDT	New York, N. Y.	United Parked	DC-6 Viscount	Minor Substantial	None	26	0	0	4	0	0	22			
In taxiing away from gate, the left wing struck the tail section of a Viscount parked on the ramp area																
5/20/58	1029 EST	Nr. Brunswick, Md.	Capital National Guard	V-700D Jet T-33	Destroyed Destroyed	After Impact	11	4	0	0	7	0	0	1	1	0
The two aircraft were flying parallel courses on an easterly heading at an altitude of about 8,000 feet, with the T-33 to the left and rear of the Viscount. The former quickly overtook the Viscount and while making a gentle right turn it struck the forward left side of the fuselage of the other aircraft, both crashing out of control. The T-33 pilot parachuted to safety.																
6/9/58	0805 CST	Nr. St. Louis, Mo.	American	DC-7	None	None	54	0	0	5	0	1	48			
The civil aircraft operating on an IFR clearance in VFR conditions had descended to an altitude of 5,000 feet when a military C-47 was observed on a collision course. Evasive action was initiated and during the sudden descent several passengers were thrown from their seats.																
6/11/58	0902 PDT	Nr. Merced, Calif.	United	CV-340	None	None	8	0	0	3	0	1	4			
While cruising at an altitude of 3,000 feet, the civil aircraft pilot observed a military jet in a turn on a collision course. He initiated sharp evasive action, during which one passenger and the stewardess were thrown from their seats.																
6/12/58	1616 EST	Key West, Fla.	National	L-18	Substantial	None	18	0	0	3	0	0	15			
The aircraft was landed in a gusty 20-30 knot crosswind and after a short roll veered to the left toward a concrete block building near the runway. The pilot initiated a groundloop to avoid the building and as the aircraft turned off the runway its left gear was sheared on a pile of dirt, the right gear collapsing as it dropped into a small ditch.																
6/19/58	2116 EST	Jackson, Mich.	North Central	DC-3	Substantial	None	28	0	0	3	0	0	25			
Overshot on landing, ran off the end of the runway and down an embankment.																
7/8/58	2326 PDT	Reno, Nevada	United	CV-340	Substantial	None	29	0	0	3	0	0	26			
The aircraft skipped following first touchdown. As it again contacted the runway the gear had retracted and it slid to a stop on its belly.																
7/11/58	1150 MST	Nr. North Platte, Nebraska	Continental	V-812	Substantial	None	26	0	0	4	0	0	22			
An internal failure of No. 2 engine occurred during cruise, and the propeller was immediately feathered. An unscheduled landing was made without further incident.																

Domestic Operators - Certificated Passenger Carriers - Scheduled Passenger Service

Date	Time of Accident	Location	Airline	Aircraft	Aircraft Damage	Fire	Total Aboard	Division of Injury								
								Crew			Passengers			Others		
								F	S	M/N	F	S	M/N	F	S	M
7/14/58	0225 CST	Des Moines, Iowa	American	DC-7	None	None	27	0	0	5	0	1	21			
	While cruising at 19,000 feet, a line of thunderstorm activity was observed ahead of the flight and the seat belt sign was turned on. With the aid of weather avoidance radar the captain chose an area which appeared suitable to traverse between two thunderstorms. As the flight approached the clouds, however, the two storm cells rapidly converged and momentary severe turbulence was encountered. One passenger was thrown from his seat and several others with loosely fastened safety belts were tossed about in their seats.															
8/10/58	0648 CDT	Green Bay, Wisc.	North Central	DC-3	Substantial	None	9	0	0	3	0	0	6			
	The right engine lost power before V-1 speed had been attained and the pilot aborted the takeoff. He was unable to stop on the wet runway and made an unsuccessful attempt to groundloop. The aircraft continued off the overrun area and rolled into a ditch.															
8/15/58	2334 EST	Nantucket, Mass.	Northeast	CV-240	Destroyed	After Impact	34	3	0	0	21	10	0			
	On a VOR instrument approach, as the aircraft was at low altitude in the area of the "H" facility, a heavy fog bank was encountered, obscuring the end of the runway and eliminating all visual ground reference. The evidence indicates that a special observation taken at 2330 and giving "partial obscuration, one-eighth mile visibility, fog," was promptly transmitted to the flight and was, in all probability, received by it. Although this latest condition was below the "sliding scale" minimum, the descent was continued. The aircraft struck the ground at about the time a pull-up was being started, apparently, and at a point 1450 feet short of the runway and about 600 feet to the left of its extended centerline.															
8/23/58		Pueblo, Colo.	Frontier	DC-3	Substantial		22	0	0	3	0	0	19			
	Emergency landing on rough terrain. (Investigation not completed)															
8/26/58	1745 MST	Yuma, Arizona	American	DC-6	None	None	57	0	0	5	0	1	51			
	The seat belt sign had been turned on and the passengers requested to fasten their seat belts about ten minutes before rough air was encountered. One passenger failed to heed the sign and was thrown to the floor while walking down the aisle, and a fractured ankle resulted.															

8/27/58	1925 PST	Bakersfield, Calif.	Pacific	M-202	Substantial	On Ground	21	0	0	3	0	0	18			
	The ground power unit was plugged into the aircraft electrical system for engine starting. However, when this caused the lights to flicker on and off the unit was disconnected and the engines were started on aircraft battery. A fire was observed in the belly electrical compartment and was extinguished by ground personnel using CO_2.															
8/28/58		Minneapolis, Minn.	Northwest	DC-6B	Destroyed	After Impact	62	0	1	3	0	18	40	0	0	1
	Struck a fence on airport boundary during takeoff, crashed and burned. (Investigation not completed)															
9/3/58	1740 C.	Nr. Texarkana, Tex.	Braniff	DC-7C	Substantial	In Air	35	0	0	5	0	0	30			
	The No. 2 PRT of No. 4 engine failed and fragments struck the propeller, breaking off a large portion of one blade, resulting in fire and severe vibration. The fire was extinguished and the propeller feathered. No. 3 engine was damaged by flying debris and it too was feathered. The flight returned to Dallas and landed without further incident.															
9/6/58	0605 PDT	San Francisco, Calif.	Trans World	L-049	None	None	50	0	0	5	0	0	45	1	0	0
	The crew was unable to get a green light on the left gear and, as a safety measure, stopped on the runway to have the gear pins inserted before taxiing in. The flight engineer deplaned to accomplish this. While he was doing so, one of the ground emergency crew who had followed him was struck by No. 2 propeller with fatal results.															
9/11/58	2141 CST	Baton Rouge, La.	Southern	DC-3	Substantial	None	14	0	1	2	0	0	11			
	Low clouds obscured the airport as an ILS approach was continued, and the aircraft leveled off at minimum altitude. At 370 feet, in the vicinity of the middle marker, the airport again became visible and the pilot elected to complete the landing. Touchdown was made beyond the halfway mark and the pilot was unable to stop on the remaining runway due to poor braking action on the wet surface. An attempt was made to groundloop; however, the aircraft rolled off the runway and slid into a ditch.															
9/16/58	1033 EST	Cleveland, Ohio	American	CV-240	Substantial	None	25	0	0	3	0	0	22			
	During, or shortly after, touchdown the landing gear retracted and the aircraft slid to a stop on its belly.															
9/21/58		Washington, D. C.	United	DC-7	Substantial	In Air	63	0	0	5	0	0	58			
	No. 4 engine malfunctioned and a propeller overspeed and fire followed. A return to the airport was successfully accomplished. (Investigation not completed)															

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Domestic Operators - Certificated Passenger Carriers - Scheduled Passenger Service

Date	Time of Accident	Location	Airline	Aircraft	Aircraft Damage	Fire	Total Aboard	Division of Injury: Crew F	Crew S	Crew M/N	Passengers F	Passengers S	Passengers M/N	Others F	Others S	Others M
11/3/58	0036 CST	Sioux City, Iowa	Braniff	CV-440	Substantial	None	18	0	0	3	0	0	15			

The landing approach was made at greater than normal speed and with approximately 600 brake horsepower being developed by the engines. The evidence indicates that the landing gear control was not positioned for gear down and locked prior to the landing. The failure of the gear warning signals to operate was probably due to the comparatively high power output of the engines on touchdown.

12/2/58	1020 PST	Lewiston, Idaho	West Coast	F-27	Substantial	None	39	0	0	3	0	0	36			

Unknown to the crew, a large portion of the left wing fairing was torn off in flight. The aircraft landed at Lewiston without further incident.

12/16/58	2032 PST	Los Angeles, Calif.	Trans World	L-1649A	Substantial	None	49	0	0	5	0	0	44			

N-7125C was incorrectly parked, its right wing extending into the taxi area. N-7311C was cleared to taxi and was following the taxi guide line when its left wing tip struck the right wing tip of the parked aircraft.

12/20/58	0738 EST	Columbus, Ohio	Trans World	M-404	Substantial	None	20	0	0	3	0	0	17			

The first 2,000 feet of the approach end of the runway was closed and the pilot was so informed by the tower controller. This had also been noted in "NOTAMS." It was, however, cleared of snow for that distance to the approach lights of the usable runway. The flight touched down at the head of the closed area, hitting an unmarked snowbank, and the left gear collapsed rearward. The aircraft continued to roll down the runway and the left wing dropped as speed dissipated.

Scheduled Cargo Service

1/20/58	1552 EST	Stamford, Conn.	New York Airways	S-55	Substantial	None	1	0	0	1						

While descending in autorotation with reduced power, the engine stopped. An approach to the heliport was continued and a part-positive flare over the fence was accomplished. The helicopter touched down on the tail skid and the tail rotor assembly struck the ground.

1/24/58	1354 EST	Jacksonville, Fla.	Delta	C-46	Substantial	None	2	0	0	2						

The air was rough and unstable during the approach and a strong gust was encountered on touchdown. The aircraft nosed down and the propellers struck the runway; however, it became airborne for a short distance and then landed in a three-point attitude with normal roll-out.

1/30/58	0457 CST	Chicago, Ill.	Braniff	C-46	Substantial	None	2	0	0	2						
				Beech D-18S	Substantial											

During pretakeoff run-up an engine malfunction was detected and it was decided to return to the hangar. During the turn, the stabilizer of the C-46 hooked a parked Beechcraft and dragged it approximately 75 feet. The parked aircraft displayed no lights and the only ramp lighting was that reflected from an illuminated hangar sign. A portion of the ramp area had not been cleared and was snow covered with icy ruts.

12/12/58		Atlanta, Ga.	Delta	C-46	Substantial		2	0	0	2						

Left engine lost power on takeoff. Takeoff aborted and landing made on runway with gear retracted. (Investigation not completed)

Nonscheduled Revenue Operations

10/12/58		New York, N. Y.	New York Airways	Bell 47H-1	Destroyed		2	1	0	0	1	0	0			

Dived into Hudson River following engine failure. (Investigation not completed)

Nonrevenue Operations

1/9/58	0945 EST	Islip, N. Y.	Eastern	L-1049C	Substantial	None	4	0	0	4						

During flare-out for landing the crew observed a high, unmarked snowbank across the threshold of the runway and made an unsuccessful attempt to pull up over it. The left gear became detached on contact with the runway and the aircraft veered into a large snowbank. As the aircraft was turning through the snow, the left wing separated and the nose gear failed, the assembly piercing the floor at the flight engineer's station.

4/12/58	0235 EST	Baltimore, Md.	Delta	DC-7	Substantial	In Air	3	0	0	3						

While cruising at an altitude of 20,000 feet an overspeed of No. 4 engine occurred followed by an intense fire within Zone 2. The crew was unable to feather or control the propeller and use of CO_2 failed to extinguish the fire. A short time thereafter No. 3 engine oversped; however, the crew succeeded in slowing the engine but the propeller continued to rotate slowly. A large slash in the accessory cowl indicated fragments from No. 4 engine supercharger impeller had penetrated and ruptured the No. 3 engine oil cooler. The flight was radar vectored into Baltimore where airport fire fighting equipment had been alerted and the remaining fire in No. 4 engine was extinguished after landing.

6/4/58		Martinsburg, W. Va.	Capital	DC-3	Destroyed	After Impact	3	0	3	0						

On training flight, trees were struck during single-engine climbout. (Investigation not completed)

Domestic Operators

Date	Time of Accident	Location	Airline	Aircraft	Aircraft Damage	Fire	Total Aboard	Division of Injury: Crew F	Crew S	Crew M/N	Passengers F	Passengers S	Passengers M/N	Others F	Others S	Others M
Certificated All-Cargo Carriers - Scheduled Service																
2/6/58	0552 EST	New York, N. Y.	AAXICO	C-46	Substantial	None	3	0	0	3						
The right engine lost power during the takeoff run. Both throttles were immediately cut and the takeoff was aborted. The right tire blew out and the aircraft veered from the runway into soft sand.																
Certificated All-Cargo Carriers - Military Contract																
9/9/58		Tokyo, Japan	Flying Tiger Line	L-1049H	Destroyed		8	4	0	0	4	0	0			
Crashed into mountain 15 miles SW of airport. (Investigation not completed)																
9/20/58	1753 Z	Kadena AFB, Okinawa	Flying Tiger Line	L-1049H	Substantial	None	28	0	0	8	0	0	20			
A jet barrier, the presence of which the crew had not been informed, was struck during the takeoff run.																

Foreign/Overseas Operators

Date	Time of Accident	Location	Airline	Aircraft	Aircraft Damage	Fire	Total Aboard	Division of Injury								
								Crew			Passengers			Others		
								F	S	M/N	F	S	M/N	F	S	M
Certificated Passenger Carriers - Scheduled Passenger Service																
4/18/58	0645 EST	New York, N. Y.	PAWA	B-377	Substantial	None	35	0	0	6	0	0	29			
				Britannia	Substantial											
The Boeing was being taxied to the unloading gate while the Britannia was being taxied away from the gate by a mechanic. The latter had ample clearance to make a right turn to continue to the outer perimeter; however, he made a left turn towards the then stopped Boeing and the left wing tips collided.																
6/2/58	2123 Z	Manila, P. I.	PAWA	B-377	Substantial	None	56	0	0	8	1	1	46			
During flareout for landing in a heavy downpour of rain, the aircraft settled in. A blade from No. 3 propeller failed and penetrated the fuselage resulting in fatal injuries to a passenger.																
8/25/58	2203 MST	Cut Bank, Mont.	TWA	L-1649A	Substantial	In Air	71	0	0	10	0	1	60			
A gradual loss of power occurred in No. 3 engine followed by a propeller overspeed. The propeller could not be feathered and continued to windmill after the engine froze. The flight was directed to Cut Bank where on approach for landing the propeller fell from the engine. This was followed by an engine fire which continued in a varying degree of intensity despite all efforts to extinguish it. A smooth landing was made and, as evacuation progressed, the fire was put out by ground equipment.																
10/8/58	0528 CST	Carmen, Mexico	PAWA	DC-6B	Substantial	None	28	0	0	5	0	0	23			
During normal cruise and without prior warning, a loud report was heard followed by a heavy jar on the left side accompanied by a short period of violent vibration. It was then discovered that No. 2 engine had fallen free of the aircraft. A jagged hole in the fuselage caused mild decompression. The flight then diverted to Carmen and landed without further incident.																
11/13/58	2227 HST	Honolulu, Hawaii	PAWA	DC-7C	None	None	63	0	0	7	0	1	55			
The purser was blocking the open door with outstretched arms as the passenger boarding ramp was moved a short distance from the aircraft. One passenger ducked under his arms and fell to the ramp incurring serious injury.																

Foreign/Overseas Operators - Certificated Passenger Carriers - Scheduled Passenger Service

Date	Time of Accident	Location	Airline	Aircraft	Aircraft Damage	Fire	Total Aboard	Division of Injury								
								Crew			Passengers			Others		
								F	S	M/N	F	S	M/N	F	S	M
1/12/58	0345 Z	Nr. Sydney, Australia	PAWA	B-377	None	None	27	0	1	7	0	0	19			
	Two passengers and two crew members were injured when turbulence was encountered for a brief period.															
2/1/58	1413 GMT	Amsterdam, Netherlands	PAWA	DC-7C	Substantial	None	16	0	0	5	0	0	11			
	The copilot was making an ILS approach. At an altitude of approximately 200 feet he decided to abandon the approach and called for gear up and takeoff power. At this instant, the captain took over the controls, called for gear down, and proceeded to complete the landing. The landing gear had not reached the down-locked position and retracted during the landing roll.															
2/19/58	1908 CST	Brownsville, Tex.	PAWA	DC-6B	Substantial	None	38	0	0	5	0	0	33			
	A heavy rain was falling at the time of the landing approach, the wind being variable both in direction and velocity. A swerve followed touchdown and directional control could not be regained as there was approximately 7 to 9 inches of water on the runway. The aircraft rolled off the runway and bogged down in muddy terrain.															
3/20/58	2227 EST	New York, N. Y.	PAWA	DC-6B	Substantial	None	11	0	0	6	0	0	5			
	The unsafe light came on as the gear handle was placed in the up position following takeoff. Several unsuccessful attempts were made to retract the gear. The captain then decided to return to the airport, making a crosswind landing on a snow covered runway. He was unable to maintain control as the aircraft skidded sideways.															
3/25/58	0006 EST	Miami, Florida	Braniff	DC-7C	Destroyed	In Air	24	0	3	2	9	7	3			
	No. 3 engine failed shortly after takeoff, during a climbing right turn and a fire developed in that area. Emergency procedures were immediately initiated and decision was made to return to the airport. The aircraft lost altitude rapidly while still in a right turn, crashed in an open marsh, and was destroyed by ground fire and disintegration as it skidded and rolled a considerable distance on the ground. Full power was available from the remaining three engines and there was no impairment of structure or control of the aircraft prior to impact with the ground.															
4/5/58	1604 Z	Nr. Bastia, Corsica, Italy	TWA	L-1649A	None	None	61	0	0	11	0	1	49			
	Sudden momentary, severe turbulence was encountered causing extreme oscillation of the aircraft, throwing occupants about the cabin.															

Military Contract

4/5/58	1047 EST	Middletown, Pa.	Resort	C-54B	Substantial	None	2	0	0	2	

Construction work was in progress on the approach to the runway with loose dirt being higher than the level of runway. The main gear contacted the dirt and then struck a large rock which was partially obscured by the dirt. The landing was completed and the aircraft was taxied to the line where examination revealed that substantial damage had occurred.

Certificated All-Cargo Carrier - Nonrevenue Operations

11/10/58		New York, N. Y.	Seaboard & Western	L-1049D	Destroyed	After	5	0	0	5	
			Trans-Canada	Viscount	Destroyed	Impact					

Unwanted propeller reversal during takeoff resulted in collision with another aircraft parked on ramp. (Investigation not completed)

2447

Scheduled Passenger Service

Date	Time of Accident	Location	Airline	Aircraft	Aircraft Damage	Fire	Total Aboard	Division of Injury								
								Crew			Passengers			Others		
								F	S	M/N	F	S	M/N	F	S	M
1/15/58	1600 PST	Nr. Tenakee, Alaska	Alaska Coastal	Lockheed Vega	Destroyed	None	3	1	0	0	0	2	0			
This was a round-robin flight originating at Juneau with a number of intermediate stops, including two planned fuel stops. Weather prevented a direct flight through the pass and the longer alternate route was used from the point of last takeoff to the second refueling point. The engine failed due to fuel exhaustion and the aircraft collided with trees as pilot attempted to make an emergency landing. One of the two fuel tanks was unusable due to a leak.																
2/4/58	1420 AST	Hooper Bay, Alaska	Northern Consolidated	Cessna T-50	Substantial	None	4	0	0	1	0	0	3			
The ski-equipped aircraft veered off the runway into an area of hard-packed snowdrifts and the right gear collapsed.																
2/18/58	1120 AST	Teller, Alaska	Alaska Airlines	Cessna 180	Substantial	None	2	0	0	1	0	0	1			
The ski-equipped aircraft was landed on sea ice which was covered with ridged hard-packed snowdrifts. Its right ski collided with a snowdrift.																
2/20/58	1305 AST	Platinum, Alaska	Northern Consolidated	Cessna T-50	Substantial	None	6	0	0	1	0	0	5			
The left brake failed during taxiing in a 13 knot tailwind. The aircraft groundlooped off the runway, the left gear failing as it dropped into a hole.																
7/14/58	1000 BST	Shaktoolik, Alaska	Munz Airways	Stinson V-77	Substantial	None	2	0	0	1	0	0	1			
The aircraft nosed over during taxiing in a 25-30 mph tailwind on a rough runway.																
8/5/58	1115 BST	Cape Wales, Alaska	Alaska Airlines	Norseman UC-64	Substantial	None	1	0	0	1						
During a landing on a beach, the left gear contacted a soft spot followed by a nose-over.																
8/12/58	1230 BST	Serpentine Hot Springs, Alaska	Munz Airways	Stinson V-77	Substantial	None	3	0	0	1	0	0	2			
The takeoff was aborted when the aircraft failed to gain flying speed. The pilot was unable to stop on the remaining runway and the aircraft went into a brush-covered area.																

8/20/58		Nr. Eldred Rock, Alaska	Alaska Coastal	Grumman G-21	Substantial		9	0	1	0	1	6	1
	Flew into water while conducting low altitude flight. (Investigation not completed)												
Scheduled Cargo Service													
5/12/58	1903 AST	McGrath, Alaska	Alaska Airlines	Noorduyn UC-64	Substantial	None	1	0	0	1			
	Shortly after observing the fuel pressure warning light to be "On," the pilot changed the fuel tank selector to another tank without result. The engine lost power and an approach was initiated for a forced landing in tundra. During the descent, the selector was positioned to the left tank and engine caught momentarily; however, the pilot was unable to continue his attempt to restart the engine because of the low altitude. The aircraft landed among small spruce trees, coming to rest in an upright attitude with the left gear severed from the airframe.												
Nonscheduled Revenue Operations													
5/31/58	1320 BST	Driftwood Bay, Alaska	Reeve Aleutian	C-46	Destroyed	None	2	2	0	0			
	Approximately three or four minutes after the aircraft had been loaded with bags of cement, the engines were started and taxiing started almost immediately. It began an increasingly severe porpoising action seconds after becoming airborne and while climbing. At an altitude of about 800 feet it went into a vertical climb and then dived into deep water. During the climb numerous objects were observed streaming out of the tail, presumed to be sacks of cement.												
6/9/58	1300 AST	Peters Lake, Alaska	Wien Alaska	C-46	Substantial	None	2	0	0	2			
	The aircraft landed on a frozen fresh water lake. The structural strength of the ice was insufficient to sustain the weight of the aircraft and it broke through near the end of the landing roll.												
8/17/58	1547 BST	Cape Thompson, Alaska	Wien Alaska	Cessna 180	Substantial	None	1	0	0	1			
	The left landing gear spring strut failed at the lower end and the gear collapsed during the landing roll.												
8/28/58	1015 PST	Juneau, Alaska	Alaska Coastal	Hiller UH-12C	Substantial	None	2	0	0	2			
	Shortly after takeoff, the engine became rough and stopped at an altitude of approximately 100 feet. An autorotative landing was made on water and the helicopter, not equipped with flotation landing gear, sank in about 45 seconds.												

Date	Time of Accident	Location	Airline	Aircraft	Aircraft Damage	Fire	Total Aboard	Division of Injury								
								Crew			Passengers			Others		
								F	S	M/N	F	S	M/N	F	S	M
9/9/58	0950 AST	Bar A Radar Site, Alaska	Wien Alaska	Norseman UC-64	Substantial	None	6	0	0	1	0	0	5			
During a power-on, relatively flat approach, the aircraft made initial contact with the ground prior to reaching the runway, a bounce following. A second contact was then made with the runway, another slight bounce occurring. At this point the pilot decided to make a go-around and applied takeoff power. The aircraft veered to the left into soft gravel at the edge of the runway. It continued into soft tundra where the wheels became mired and a nose-over occurred.																
9/19/58	0932 AST	Icy Cape, Alaska	Wien Alaska	Cessna 180	Destroyed	None	1	1	0	0						
The aircraft crashed into a lagoon six miles northeast of the airport on which a landing was to be made. There were no witnesses to the accident. An autopsy showed the cause of pilot's death to be "asphyxia, due to carbon monoxide." The origin of the carbon monoxide was probably the cabin heater assembly which was not recovered for examination.																
10/2/58	1020 AST	Dew Line Site Liz B, Alaska	Wien Alaska	Cessna 180	Substantial	None	1	0	0	1						
During normal landing, the left landing gear strut failed at the wheel axle attach point, resulting in separation of the left wheel from the gear. The aircraft came to rest in an upright attitude after veering through a counterclockwise arc.																
11/6/58	1125 AST	POW "C" Alaska (Radar Site)	Wien Alaska	Cessna 180	Substantial	None	2	0	0	1	0	0	1			
The runway was not easily discernible due to a "white out" condition and the area was covered with powdered snow. A high approach was made, the pilot being unable to stop the aircraft before running off the end of the runway. It rolled into large snowdrifts and nosed over, coming to rest inverted.																

Date	Time of Accident	Location	Airline	Aircraft	Aircraft Damage	Fire	Total Aboard	Division of Injury: Crew F	Crew S	Crew M/N	Passengers F	Passengers S	Passengers M/N	Others F	Others S	Others M
Cargo Service - Foreign/Overseas																
1/1/58	0600Z	Santa Cruz, Bolivia	Meteor Air Transport	C-46F	Substantial	None	3	0	0	3						
The flight was unable to pick up the radio beacon, the sole navigational facility, at the intended destination and a low overcast prevented sighting the airport. Receiving no reply to emergency broadcasts, and because of a low fuel supply, the flight descended through an open area and made a wheels-up landing on a dry river bank.																
Military Contract - Passenger - Domestic																
8/6/58	1324 MST	Cheyenne, Wyo.	Associated Air Transport	C-46A	Substantial	None	43	0	0	3	0	0	40			
The landing was made with excess speed in a 19 knot right crosswind. Power was used on the right engine to offset the effect of the crosswind and moderate, intermittent braking was applied until reaching the last quarter of the runway. Full braking at that point failed to stop the aircraft whereupon an unsuccessful attempt was made to groundloop to the left. The aircraft continued off the far end of the runway and lofted off the top of a high embankment, landing 30 feet below the runway level.																
8/6/58	0805 CST	North Platte, Nebraska	Aviation Corporation of Seattle, d/b/a/ Westair Transport	C-46F	Substantial	After Impact	47	0	0	5	0	0	42			
The aircraft was landed with the gear in the retracted position.																
Military Contract - Cargo - Domestic																
6/10/58	1737 EST	Columbus, Ohio	Capitol Airways	C-46F	Substantial	None	2	0	0	2						
An unscheduled landing was made to avoid an approaching thunderstorm. The aircraft began to veer during the rollout and, to avoid obstructions at the end of the runway, the aircraft was groundlooped to the left. The aircraft ran through the airport boundary fence across a highway and into trees.																
11/16/58	0615 MST	Nr. Ft. Collins, Colo.	Capitol Airways	C-46F	Destroyed	After Impact	2	2	0	0						
The right engine failed during flight over mountainous terrain in instrument conditions. The forecasted weather for the area included turbulence and icing conditions. The aircraft collided with a mountain at an approximate elevation of 8,700 feet and burned.																
Nonrevenue - Domestic																
12/5/58	0515 PST	Alameda, Calif.	United States Overseas	DC-4	Substantial	None	2	0	0	2						
While the engines were being started the aircraft moved forward, No. 2 propeller striking an auxiliary ground power unit.																

PART II

GENERAL AVIATION ACCIDENTS INVOLVING FIXED-WING AIRCRAFT HAVING A CERTIFICATED MAXIMUM TAKE-OFF WEIGHT IN EXCESS OF 12,500 POUNDS AND HELICOPTERS

RECAPITULATION OF GENERAL AVIATION ACCIDENTS
INVOLVING FIXED-WING AIRCRAFT IN EXCESS OF 12,500 POUNDS GROSS WEIGHT
AND
HELICOPTERS
Calendar Year 1958

CLASS OF OPERATION	Number Accidents		Aircraft Damage			Crew Injury			Passenger Injury			Others Injured			Total Aboard	Fire		
	Total	Fatal	Destroyed	Substantial	Minor-None	Fatal	Serious	Minor-None	Fatal	Serious	Minor-None	Fatal	Serious	Minor-None		In Air	After Impact	On Ground
FIXED-WING																		
Executive (Corporate)	16	4	6	9	1	7	1	25	2		40				75	2	2	
Aerial Application	2	2	2			2		1				1			3		1	1
Air Taxi	3			3				6			9				15			
Cargo	1		1					3							3			
Cloud Seeding	1	1	1			1									1			
Fire Fighting	2	2	2			3									3		1	
Test-Training Check-Ferry	9		1	8				25			10				35	2	2	1
Public	2			2				7							7			
Cases in Process[1]	6	3	2	3	1	2		10			2				14			
TOTAL - FIXED-WING	42	10	15	25	2	15	1	77	2		61	1			156	4	6	2
HELICOPTER																		
Executive (Corporate)	6	1	3	3		1		5	2		4				12		1	
Aerial Application	4		3	1				5							5			
Contract-Charter	31	4	9	22		3	2	26	1	3	41				76		2	
Pipeline Survey	7	1	1	6			1	6	1		5				13			
Other Industrial	2	2	2			2		1	8	1	5				17			
Instructional	3		1	2			2	4							6		1	
Pleasure	1			1				1			1				2			
Test-Training Check	10	1	1	9		2		14			3			1	19			
Exhibition-Demonstration	2			2				2			3				5			
Experimental	2			2				2							2			
Public	1			1				1			1				2			
Cases in Process[1]	11	2	2	7	2	2		10	2	1	4				19			
TOTAL - HELICOPTER	80	11	22	56	2	10	5	77	14	5	67			1	178		4	
GRAND TOTAL	122	21	37	81	4	25	6	154	16	5	128	1		1	334	4	10	2

1/ Only preliminary information received.

DESCRIPTION
OF
GENERAL AVIATION ACCIDENTS INVOLVING FIXED-WING AIRCRAFT
IN EXCESS OF 12,500 POUNDS CERTIFICATED TAKEOFF WEIGHT-
CALENDAR YEAR 1958

Date	Time of Accident	Location	Aircraft	Aircraft Damage	Fire	Total Aboard	Division of Injury								
							Crew			Passengers			Others		
							F	S	M/N	F	S	M/N	F	S	M
EXECUTIVE (CORPORATE) OPERATIONS															
1/3/58	1530 EST	Ocho Rios, Jamaica	Lockheed 18	Substantial	None	3			2			1			
	Following a normal landing, minimum braking action was applied initially. Subsequent maximum braking action was ineffective and the aircraft went off the runoff area into soft ground, and the pilot intentionally groundlooped the aircraft.														
1/14/58	0951 EST	Hagerstown, Md.	Douglas B-23	Destroyed	None	3			2			1			
	The pilot was advised during the approach that there was a 12-knot right crosswind and that braking action was fair to spotty because of slush and melting sleet on the runway. After observing the windsock, however, he erroneously determined the wind to be approximately 5 mph. During the rollout, the aircraft skidded and directional control could not be regained. The right gear collided with a culvert, deflecting the aircraft path over a 45-foot embankment and into a tree.														
1/29/58	0855 EST	Lantana, Florida	Lockheed LB-30 Aero Commander	Minor	None	4			3			1			
	While taxiing out, the right wing tip struck the tail surface of a parked Aero Commander.														
2/24/58	1304 CST	Chicago, Illinois	Lockheed 18	Substantial	None	7			2			5			
	Takeoff was made in a 20-30 knot gusty crosswind. The aircraft veered off the runway and rolled over the seawall into the lake.														
3/12/58	1912 CST	Indianapolis, Ind.	Convair 285 ACF	Substantial	In Air	4			2			2			
	A fire occurred in the right engine and the crew attempted to extinguish it without success. An emergency landing was made at Indianapolis where the fire was extinguished by ground fire fighting personnel. The left gear and nose wheel had failed to lock in the down position and collapsed during the landing.														

3/22/58	0240 MST	Grants, New Mexico	Lockheed 18	Destroyed	After Impact	4	2		2	

The aircraft was overloaded by at least 2,152 pounds over the maximum certificated weight on takeoff. En route, icing conditions were encountered, resulting in some ice accretion on the plane. The evidence shows that a sudden failure of the right engine occurred and its propeller was feathered. The combined effects of the overload condition, icing, and the failure of an engine at an altitude of 13,000 feet MSL resulted in a complete loss of control. The 5800 foot terrain clearance was insufficient to permit recovery by instrument reference.

4/5/58	1622 EST	Tallahassee, Florida	Douglas B-23	Destroyed	None	6		2		4

During start of approach letdown, the right engine malfunctioned and its propeller was feathered. The weather was deteriorating and an ILS approach was made, the aircraft touching down about halfway down the runway. Braking action was ineffective on the wet runway, and the pilot attempted a go-around; however, flying speed was lost and the aircraft mushed into a dense growth of low trees.

4/11/58	1146 CST	San Antonio, Texas	Lockheed PV-1	Substantial	None	7		2		5

While making a local test flight after brake assembly had been changed, the brakes held during runup and all hydraulic components operated normally prior to takeoff. As the gear handle was placed in UP position after takeoff, however, the hydraulic pressure gauge indicated zero pressure and the gear remained down but the cockpit indicators showed an unsafe condition. The gear handle was placed DOWN and the indicators showed gear down and locked. Flight returned and landed short but crew was unable to stop the aircraft as the emergency brake system was found to be inoperative. The aircraft was groundlooped to avoid two mowing machines in the center of the runway overrun and both gears collapsed. Inspection disclosed a failure of the hydraulic line which allowed all hydraulic fluid to be lost.

5/14/58	1010EST	Bristol, Tenn.	Lockheed 18	Substantial	None	10		2		8

The aircraft started veering to the right immediately after the tail wheel touched down on landing and the pilot was unable to recover directional control. He then groundlooped to avoid a steep embankment at edge of airport. The tail wheel, equipped with an improved tail wheel lock, was found seized in a right turn attitude.

7/9/58	1625 CST	New Braunfels, Texas	Lockheed PV-1	Destroyed	After Impact	2	2			

Pilot was on a familiarization flight in the modified type PV-1, during which low speed maneuvers were practiced. The aircraft was observed at a low altitude with the right engine feathered and shortly after the engine was restarted the aircraft turned abruptly and assumed a steep nosedown attitude. Evidence indicates partial recovery was effected but the aircraft then stalled and dived into the ground from a low altitude, exploding on impact.

Date	Time of Accident	Location	Aircraft	Aircraft Damage	Fire	Total Aboard	Division of Injury								
							Crew			Passengers			Others		
							F	S	M/N	F	S	M/N	F	S	M
EXECUTIVE (CORPORATE) OPERATIONS (Cont'd.)															
7/12/58	1025 CST	Nr. Greenville, Miss.	Douglas A-26	Destroyed	None	2	2								
A violent thunderstorm, with severe turbulence, was over the area at the time the accident occurred. Examination of the wreckage indicated that the aircraft disintegrated at a high altitude and that the failures were as a result of loads in excess of design limitations. The aircraft was equipped with an airborne radar system reportedly capable of operation at the time of departure on this flight.															
7/27/58	1705 PDT	Manzanillo, Mexico	Lockheed 18	Substantial	None	6		1	1			4			
During takeoff climb, the aircraft encountered gusty conditions and turbulence. While returning to the cockpit, the copilot fell, receiving serious leg injuries. Several days after the flight, and as the aircraft was being washed, damage to the wings and the center section was discovered.															
8/9/58	1740 AST	Nr. Fairbanks, Alaska	Lockheed PV-2	Destroyed	In Air	2	1		1						
A fire developed in the left engine and continued to burn after the pilot initiated emergency procedures. The engines were not equipped with a fire warning or fire extinguishing system. The flight was over a remote, rolling timbered area and pilot decided to parachute from the aircraft. The copilot, however, failed to abandon the aircraft and received fatal injuries as it crashed and burned.															
9/25/58	1225 CST	Dallas, Texas	Lockheed PV-1	Substantial	None	7			2			5			
The right main gear retracted during the landing roll. Examination revealed dirt and metal shavings in the hydraulic tanks and in the landing gear hydraulic selector valves.															
10/9/58	1105 AST	Chirikof Island, Alaska	Douglas B-18	Substantial	None	6			2			4			
A landing was made on a narrow beach area and the left wheel dropped into a soft depression during the rollout. The aircraft swerved and ran into the water before the pilot could effect recovery.															
10/11/58	0750 AST	Kalakaket Creek, Alaska	Convair LB-30	Substantial	None	2			2						
The landing area, which had a covering of new snow with no tracks, is located on a ridge which slopes steeply away from the runway. The left gear made contact below the edge of the runway and was sheared. The aircraft then made a skidding turn to the left.															

AERIAL APPLICATION

6/18/58	0845 MST	Rye, Colorado	Douglas B-18	Destroyed	After Impact	2	2		

The flight was one of a series being conducted in spraying grain fields and pasture lands for grasshopper control. Witnesses observed the aircraft in a spraying run at an altitude of approximately 200 feet from which a slight right turn was started followed by a steep climbing left turn. The aircraft stalled and spun into the ground with fire following impact.

7/13/58	0550 MST	Sterling, Colorado	Grumman TBM-3E	Destroyed	On Ground	1		1	1

The aircraft was parked with engine idling and pilot remaining in the cockpit, while the spray solution was being pumped into the aircraft tanks from a trailer tank truck. Shortly after the loader had signalled that 800 gallons had been loaded a muffled noise was heard and flames enveloped the entire left side of the aircraft where the loading was being done. The aircraft, tanker service truck, and associated equipment were destroyed by the fire.

AIR TAXI

7/3/58	0835 PDT	Long Beach, Calif.	Sikorsky S-43	Substantial	None	2		2	

The pilot attempted a nose-low landing on a smooth glassy water surface. The nose immediately started to dig in and the aircraft waterlooped before recovery could be effected.

8/23/58	1905 PDT	Catalina Island, Calif.	Sikorsky S-43	Substantial	None	2		2	

A submerged object was struck during landing and a waterloop occurred.

9/28/58	1820 PDT	Long Beach, Calif.	Sikorsky S-43	Substantial	None	11		2	9

Shortly after takeoff the hydraulic pressure dropped to zero and repeated attempts by the crew to retract or extend and lock the gear were unsuccessful. The flight returned and after passengers were moved to the rear seats, a hull landing was made.

CARGO

1/16/58	2116 AST	Aklavik, Y.T., Canada	Douglas DC-3	Destroyed	None	3		3	

The captain was utilizing the nondirectional radio homing beacons (ADF) provided for navigation over this remote area. He had not been advised, however, that this facility is frequently unreliable at lower levels due to terrestrial conditions and normal atmospheric disturbances resulting in reflected signals and voids. The crew was not maintaining a listening watch on the aural signal from the radio beacons, or, when the ADF began to fluctuate erratically, did not try to determine bearing from the station by manually operating the loop to locate the null of the aural signal. The flight deviated from the direct course and the aircraft crashed on a ridge approximately 50 feet from the top.

5-58

Date	Time of Accident	Location	Aircraft	Aircraft Damage	Fire	Total Aboard	Division of Injury								
							Crew			Passengers			Others		
							F	S	M/N	F	S	M/N	F	S	M
CLOUD SEEDING															
7/30/58	1405 PDT	Bishop, California	Lockheed P-38	Destroyed	None	1	1								
Excessive propellar cavitation was heard during takeoff and the aircraft was observed in a climb to approximately 800 feet. A left turn was started and was followed by an abrupt right turn ending in a steep dive which continued to the ground.															
FIRE FIGHTING															
8/19/58	1645 PDT	Nr. Porterville, California	Grumman TBM-1C	Destroyed	After Impact	1	1								
The flight was for the purpose of making a borate drop on a forest fire in mountainous terrain. The pilot was observed taking a direct, upslope heading on the drop area, passing over the target without dropping any borate. The aircraft then appeared to stall and crashed on the side of the slope coming to rest in the center of a forest fire.															
9/8/58	1913 PDT	Nr. San Luis Obispo, California	Convair PBY-6A	Destroyed	After Impact	2	2								
While in process of making a borate drop on a small forest fire atop a ridge, the pilot was observed making an extremely low pass. After dropping the rear tankful of solution on the fire, and during the pullup, the aircraft struck trees shearing the left wing. The aircraft then cleared the ridge and crashed into the side of another hill across a small canyon.															
TEST-TRAINING CHECK OR FERRY FLIGHTS															
1/1/58	1305 CST	Dallas, Texas	Boeing B-17G	Substantial	None	2			2						
The aircraft was removed from storage, inspected and cleared for ferry flight. While taxiing in after a normal landing, brakes became ineffective due to loss of hydraulic pressure and the aircraft veered off the taxiway into some packing crates.															
1/7/58	1211 CST	Amarillo, Texas	Douglas B-26C	Substantial	None	2			2						
While in the landing roll the left main gear hydraulic line was ruptured, showering the cockpit with fluid, and shortly thereafter the left gear retracted. Inspection disclosed the gear down locking adjusting rod was too short to properly engage the locking mechanism, and the gear was forced to retract against the normal hydraulic system pressure.															

4/17/	1823 PST	Seattle, Washington	Boeing 707	Substantial	After Impact	4	4		

A high rate of sink occurred shortly after power was reduced for landing in a gusty 20-knot crosswind. Power was reapplied, but the rate of sink was not checked and the aircraft touched down hard on the left gear with the left wing low, allowing the underside of No. 1 engine to scrape the runway. A momentary flash fire occurred and No. 1 engine was secured during the rollout.

5/10/58	1805 PST	Madras, Oregon	Boeing 307	Destroyed	In Air	2	2		

The aircraft was taken out of storage and a ferry permit was issued to determine fuel and oil consumption. Auxiliary gasoline tanks were installed in the cabin but had not been functionally tested prior to the test flight. There were warnings of fuel leaks both prior to and during the test flight; however, the source was not determined and the flight continued. A muffled explosion occurred in the cabin and fire was observed coming from the accessory compartment "hell hole." The pilot landed ahead on a mesa with grass-covered boulders, and the aircraft burned completely.

5/16/58	1755 EST	Miami, Florida	Curtiss-Wright C-46A	Substantial	After Impact	2	2		

The crew advised that complete gear downlock light indications were not available and that the system was leaking hydraulic fluid. Shortly after touchdown the gear retracted and the aircraft slid to a stop. Investigation disclosed both main and auxiliary hydraulic reservoirs empty as a result of a failed external source hydraulic line. The emergency landing gear hand crank was not found in its bracket.

5/24/58	1415 EDT	Hartford, Conn.	Grumman TBM-3E	Substantial	In Air	1	1		

The pilot suddenly smelled raw gasoline and shortly thereafter an explosion occurred in the engine nacelle and the cockpit became filled with smoke and flames. An immediate descent was made and a wheels-and flaps-up landing was effected in a cove in water about six feet deep.

6/27/58	1402 PDT	Rosamond, California	Lockheed 188A	Substantial	None	12	3	9	

The flight was for the purpose of conducting certification type landing tests. In the course of this series of landing tests, a three-engine approach was being made with intent to use full three-engine reverse on ground contact. At the signal to cut the power, the power levers were moved sharply towards flight idle and were apparently inadvertently pulled into the Beta range resulting in a high rate of sink. The aircraft touched downward on the right gear first, followed by the left and nose gears, and rolled out to a stop.

Date	Time of Accident	Location	Aircraft	Aircraft Damage	Fire	Total Aboard	Division of Injury								
							Crew			Passengers			Others		
							F	S	M/N	F	S	M/N	F	S	M
TEST-TRAINING CHECK OR FERRY FLIGHTS (Cont'd.)															
10/9/58	1742 PST	Los Angeles, Calif.	Boeing 367-80	Substantial	None	5			4			1			
While making an ILS approach, in the course of a training flight, the aircraft was allowed to descend to a low altitude below an established glide path. The pilot had believed he had the airport in sight although in fact he was a considerable distance from it. On advice of the air controller, pullup was made. The full flap placard speed was exceeded resulting in failure of the flap which fell to the ground. The aircraft was then landed without further incident.															
10/16/58	0821 PST	Palm Springs, Calif.	Convair 340	Substantial	On Ground	5			5						
Flight was for the purpose of conducting full gross landing tests, with a decelostat installed. During the second landing, in a scheduled series of six, a fire momentarily occurred in the vicinity of both main landing gears as the aircraft was coming to a stop. Shortly thereafter, as taxiing was begun, fire recurred causing extensive damage before it was extinguished by ground fire fighting equipment. There was evidence of hydraulic fluid leakage at point of initial stop to a point near the second stop.															
PUBLIC															
1/10/58	1615 EST	Presque Isle, Maine	Douglas DC-3	Substantial	None	4			4						
The external rudder lock was not removed prior to takeoff and as a result the pilot was unable to maintain directional control. The aircraft veered off the runway and nosed up into a snowbank.															
1/16/58	1015 CST	Oklahoma City, Okla.	Douglas DC-3	Substantial	None	3			3						
A series of performance stalls was being demonstrated during the course of Flight Inspection DC-3 Standardization training. An abnormal pitchout to the right was experianced and was corrected by normal recovery technique. However, during a repeat of the series, a violent pitchout to the right occurred and the aircraft entered a tight spiral. As the spiral was stopped the aircraft assumed a steep diving attitude requiring the combined efforts of both pilots to overcome the forward position of the yoke. The crew regained and maintained control by establishing a proper combination of power and forward pressure on the yoke and landed without further incident. Inspection after landing disclosed a downward failure of the right horizontal stabilizer.															

PRELIMINARY CASES - (Complete Report Not Available)

5/7/58	1515 PT	Crucero, Calif.	Lockheed PV-2			2		2		
	A forced landing was made approximately one mile NW of Crucero due to a sticking valve which prevented transfer of fuel from one tank to another.									
9/5/58		La Guardia, N. Y.	Lockheed Ventura	Substantial	None	4		2	2	
	During the course of a cockpit checkoff list of a JATO-equipped aircraft, one bottle fired and the underside of the fuselage was burned from the excessive heat.									
10/30/58		Newark, N. J.	Lockheed Learstar	Destroyed	None	2		2		
	The right vertical upper fin failed in flight.									
10/30/58	2007 EST	Tampa, Florida	Lockheed PV-2	Substantial	None	2		2		
	Both engines failed during the approach and the aircraft was crash landed west of the airport.									
12/15/58	0935 EST	Woonsocket, R. I.	Lockheed Learstar	Destroyed	None	2	2			
	The aircraft crashed 5 miles SW of Woonsocket as a result of the failure of one engine and the cutting out of the second.									
12/22/58		Chicago, Illinois	Lockheed 10	Substantial	None	2		2		
	The landing gear collapsed while taxiing in from landing.									

DESCRIPTION
OF
GENERAL AVIATION ACCIDENTS INVOLVING HELICOPTERS
CALENDAR YEAR 1958

Date	Time of Accident	Location	Aircraft	Aircraft Damage	Fire	Total Aboard	Division of Injury								
							Crew			Passengers			Others		
							F	S	M/N	F	S	M/N	F	S	M
EXECUTIVE (CORPORATE) OPERATIONS															
1/13/58	1200 PST	Manson, Washington	Bell 47G	Substantial	None	1									
	The pilot had landed in a nose-high attitude on hard crusted snow on the brow of a mountain. He then attempted to take off from this position and as the helicopter started to rise it drifted backwards and the tail rotor struck the hard snow crust.														
2/10/58	1300 PST	Manson, Washington	Bell 47G	Substantial	None	1			1						
	The pilot made a vertical takeoff and was hovering at approximately 15 feet when a momentary power interruption occurred. An immediate landing was initiated and the helicopter touched down hard from a vertical descent with power on.														
2/24/58	1645 EST	Andover, N. J.	Bell 47G	Destroyed	None	2			1			1			
	The approach was made over a snow-covered open field. While making a flaring turn into the heliport, the pilot misjudged his altitude and the tail rotor struck the ground.														
3/24/58	1705 EST	Warren, Michigan	Bell 47J	Destroyed	After Impact	3	1			2					
	Observers noted the helicopter in cruise configuration when a sharp, sudden explosion occurred, followed by black smoke and flaming falling objects. The main rotor blades disintegrated in flight, the helicopter struck the ground inverted, then rolled and came to rest on the bottom of the fuselage.														
7/1/58	1505 EST	Greensboro, N. C.	Bell 47J	Destroyed	None	2			1			1			
	While making a practice auto-rotation landing the pilot flared out too high and dropped in hard. The main rotor blades deflected downward striking the tail cone and the helicopter rolled over on its right side, bursting into flames.														
8/13/58	1630 CDT	Morrison, Illinois	Bell 47G	Substantial	None	3			1			2			
	The helicopter was parked near the fair grounds as the engines were being warmed up preparatory to takeoff. A young bystander suddenly appeared in the area and apprehensive that she would be struck by the tail rotor, the pilot lifted the helicopter, swung the tail boom to the left, and the rotor struck a tree.														

AERIAL APPLICATION

3/18/58	1705 PST	Paso Robles, Calif.	Bell 47G	Substantial	None	1		1	

The takeoff was made from a position parallel to a fence and the tail rotor struck a fence post during a hovering turn.

6/5/58	0620 EDT	Lewisburg, Penna.	Bell 47B	Substantial	None	1		1	

The pilot observed a guy line wire too late to avoid striking it with the main rotor blades as he made his approach to start a spray run. He maintained control of the helicopter, however, and landed without further incident.

6/6/58	1605 CST	Hereford, Texas	Bell 47G2	Substantial	None	1		1	

The takeoff was made at maximum gross weight from a field of high elevation during high temperature conditions. At an altitude of approximately 40 feet, R.P.M. decreased slightly and airspeed started to drop. The pilot was unable to regain rotor speed and made a running landing in a wheat field. The spray boom fouled in the tall wheat and the helicopter overturned.

9/21/58	1300 PDT	Firebaugh, Calif.	Hiller B	Destroyed	None	2		2	

After he had finished applying defoliating chemical, the pilot picked up the flagman, a pilot with limited helicopter experience, and allowed him to fly the helicopter to landing in a large field at base of operations. The helicopter was not equipped with dual controls and while preparing to change seats so that pilot could move the helicopter to a more definite area for overnight parking the collective pitch control was inadvertently moved. The helicopter became airborne and during attempted recovery the tail rotor struck the ground resulting in loss of control, and a collision with the ground occurred.

CONTRACT-CHARTER

2/5/58	0740 CST	Houma, Louisiana	Sikorsky S58B	Substantial	None	10		1	9

While approaching the landing platform on an offshore oil rig, the pilot heard a loud noise and observed the jagged edges of supports and wires of the air intake screen sticking up in front of him. There was no loss of power, however, and a landing was made without difficulty.

3/22/58	0830 CST	Van Horn, Texas	Bell 47G	Destroyed	None	2	1		1

While over a sparsely populated area at a low altitude, the helicopter struck a powerline and pitched downward into the ground.

3/26/58	1415 PST	Big Creek, Calif.	Bell 47G	Destroyed	None	1	1		

The flight was made to salvage parts of two helicopters that had previously crashed in this mountainous area at high altitude. The bulky cargo was tied on the outside of the helicopter and was statically balanced by a pole and offset weight on the opposite side. The helicopter appeared to be in control during takeoff and hover, and as it went out of sight in what appeared to be normal acceleration. The evidence indicates that it crashed out of control and struck the ground in a nearly vertical, or slightly inverted, attitude, coming to rest on its back.

Date	Time of Accident	Location	Aircraft	Aircraft Damage	Fire	Total Aboard	Division of Injury								
							Crew			Passengers			Others		
							F	S	M/N	F	S	M/N	F	S	M
CONTRACT-CHARTER (Cont'd.)															
4/9/58	1600 AST	Anchorage, Alaska	Sikorsky S51	Substantial	None	1			1						
Shortly after touchdown on ice near the shore of a lake, the right gear broke through, the helicopter tilted, and the main rotor blades struck the ice.															
4/14/58	1704 EST	Cincinnati, Ohio	Bell 47J	Destroyed	None	1	1								
The flight was en route to pick up passengers for return to the airport. While cruising at an altitude of approximately 500 feet, the helicopter was observed as it began to disintegrate. It then rolled over and crashed in an inverted attitude.															
5/8/58	1330 ZT	Edri, Fezzan, Libya	Bell 47B	Substantial	None	3			1	1		1			
The helicopter was being used in the course of geophysical oil exploration and survey operations in the desert. Following takeoff toward a large sand dune it began to settle rapidly apparently due to turbulence and downdrafts. Full power was used to check the descent and to attempt a landing; however, perception was poor due to sun glare. The helicopter touched down on the edge of a small ridge, slid to the right and overturned. One of the occupants attempted to jump and was struck by the main rotor blades.															
5/18/58	1700 AST	Lake Wassila, Alaska	Bell 47G2	Substantial	None	2			1			1			
The pilot was hovering just above the water awaiting visual signals from the pilot of an accompanying helicopter who had landed on the only available beach area. The hovering helicopter was observed to tilt, seemed to balance momentarily on the toe of the left float, then rolled to the left coming to rest inverted.															
5/19/58	0730 CST	Grand Isle, La.	Bell 47G	Substantial	None	3			1			2			
Normal collective pitch was applied to slow descent during an approach for landing on a drilling rig platform located in the Gulf. This was not adequate, however, and full collective pitch was applied without effect, the helicopter settling in hard, with the main rotor blades striking the tail boom.															
5/23/58	0830 MST	Silver City, N. M.		Substantial	None	1			1						
The takeoff was made from a small area, at an elevation of approximately 10,000 feet, toward tall trees, but insufficient altitude was attained to clear the trees. The pilot turned to land but was unable to reach a suitable area, the helicopter touching down on sloping terrain and rolling over to the left.															

5/2[illegible]	1600 AST	Ninilchik, Alaska	Sikorsky S51	Substantial	None	2	1	1	

While engaged in a geological exploration flight, a landing had been made in a large muskeg between two trees. On the takeoff, shortly after becoming airborne a gust was encountered, the helicopter drifted, and the main rotor blades collided with a nearby tree before the pilot could effect recovery. The takeoff was aborted and the tail rotor blades struck the ground during landing.

6/9/58	0955 AST	Soldotna, Alaska	Bell 47G	Destroyed	None	3	1	2	

An unmarked powerline spanned the river and blended in with the background from the low altitude at which the helicopter was being flown. The pilot diverted his attention from the area ahead to scan a possible landing site and then observed wires too late to avoid collision. The rotors broke on contact with the wires and the helicopter crashed into the river.

6/14/58	1030 AST	Nr. Eureka, Alaska	Bell 47G1	Substantial	None	2	1	1	

During transition from lift-off to normal flight an apparent wind shift, with an unexpected change in velocity, was encountered. The helicopter settled into the ground before recovery could be effected.

6/14/58	1430 EDT	Voluntown, Conn.	Hiller UH12	Destroyed	After Impact	1	1		

The tail rotor failed causing loss of directional control and a shift of normal center of gravity while over a heavily wooded area. The pilot was unable to reach a clear area and the helicopter descended through the trees, coming to rest on its side.

6/18/58	0830 AST	Herendeen Bay, Alaska	Bell 47G2	Substantial	None	2	1	1	

A range of hills with elevations ranging to 1800 feet separated the main field camp from which the flight departed, and the intended work area. While approximately 20-30 feet above the rising terrain, and upon reaching the crest of the saddle, severe turbulence was encountered. The forward ground speed was reduced to zero and the pilot attempted to maneuver the helicopter downslope and downwind. He was unsuccessful in clearing the terrain, however, and settled in and bounced. The tail rotor was damaged, the helicopter spun out of control and crashed into the hillside.

7/7/58	1520 PDT	Glendale, Calif.	Bell 47H1	Destroyed	None	2	1	1	

The engine failed suddenly during takeoff climb over a densely populated area. The pilot went into autorotation and attempted to land in a schoolyard but was forced to deviate as children were in the yard. The helicopter collided with a tree and a telephone pole and crash landed upright in a street.

7/7/58	1035 AST	Seldovia, Alaska	Bell 47G	Substantial	None	2	1	1	

During a geological survey flight, an approach was made to an open beach for landing. The helicopter began to settle in a downdraft and, as recovery was made, a strong gust caused the helicopter to drift, the main rotor blades striking a large boulder.

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Date	Time of Accident	Location	Aircraft	Aircraft Damage	Fire	Total Aboard	Division of Injury								
							Crew			Passengers			Others		
							F	S	M/N	F	S	M/N	F	S	M
CONTRACT-CHARTER (Cont'd.)															
7/7/58	1330 AST	Healy, Alaska	Bell 47G	Substantial	None	2			1			1			
	An area was being circled at low altitude to determine its suitability for landing. As power was applied and a turn made into the wind to effect a go-around the helicopter began to settle and the pilot was unable to recover. The main rotor blades contacted the top of a tree and a maneuver around trees for a landing was attempted, but the rotors struck three more trees before the landing was accomplished. Temporary repairs were made and the helicopter was flown a short distance to safely remove it from a forest fire in the immediate area.														
7/8/58	1445 MST	Escalante, Utah	Bell 47G2	Substantial	None	3			1			2			
	A takeoff was attempted from a spot in the bottom of a canyon under conditions of high altitude, high temperature, and a gusty 10-25 mph wind. The heavily loaded helicopter settled in a downdraft and was forced into a dry wash despite application of full power. Its right skid struck a large rock, and it then skidded into a clay bank.														
7/8/58	1315 PDT	Nr. Quincy, Calif.	Bell 47G	Substantial	None	2			1			1			
	In taking off from a newly prepared helispot in mountainous terrain, the helicopter was stalled in an effort to clear obstructions. An autorotational landing was attempted but the helicopter collided with trees and crashed to the ground.														
7/8/58	1230 AST	Palmer, Alaska	Bell 47G2	Destroyed	None	2			1			1			
	The helicopter had been parked approximately three feet to the left of a fuel drum. As it took off in a 30-40 mph gusty wind, it drifted to the right and became uncontrollable as its right skid caught on the fuel pump attached to the drum.														
7/17/58	1430 PDT	Marineland, Calif.	McCulloch MC4C	Substantial	None	2			1			1			
	Following two descents at low power, the pilot started to hover at about ten feet above the ocean when the engine began to lose power. Power could not be regained, the helicopter settling into the water, capsizing and submerging.														
7/22/58	1645 CST	Nr. Venice, La.	Piasecki HRP-1	Substantial	None	1			1						
	A landing was made in an undeveloped soft swamp area. On takeoff, the right wheels mired down and a ground resonance condition occurred. Upon application of full power the helicopter rolled to the right and came to rest on its side.														

7/24	0933 PST	Sitka, Alaska	Hiller UH12	Substantial	None	3		1		2

After climbing to an altitude of about 150 feet, the engine suddenly stopped developing power. The pilot made an autorotation landing on water but the helicopter, not equipped with floats, rolled over and submerged.

8/2/58	1725 PDT	Angeles Nat. Forest, California	Bell 47G	Destroyed	None	3	1		1	1

Upon entering a box canyon, a complete loss of engine power was experienced. An autorotation landing was made among trees and large boulders on a steep slope of the canyon wall.

8/19/58	1050 CDT	Mount Prospect, Ill.	Bell 47H	Destroyed	None	3		1		2

The takeoff was made from a landing pad which was within 60 feet of a long rectangular building. The wind was such that the takeoff path was on the lee side of the building. Little altitude was gained and the helicopter assumed a slightly nose-high attitude and then glided steeply to the ground. A landing was made on a railroad embankment, the aircraft rolling down on the tracks.

8/27/58	2145 CDT	St. Paul, Minn.	Hiller UH12	Substantial	None	2		1		1

Following normal takeoff, and at an altitude of 20 feet, the clutch slipped and disengaged. An autorotation landing was made and the helicopter settled in hard on the right skid.

9/18/58	1430 AST	Anchorage, Alaska	Bell 47G2	Substantial	None	2		1		1

The helicopter was unbalanced laterally as a result of cargo loading being concentrated on the right cargo carrier. Immediately after takeoff, the pilot realized he was unable to maintain controlled flight and attempted to land. The helicopter touched down on the right float, bounced and came to rest on its right side.

10/11/58	1200 AST	Kenai, Alaska	Bell 47G	Substantial	None	3		1		2

During a petroleum survey, the flight duration was longer than anticipated and headwinds were encountered on the return to the field base. The engine failed due to fuel exhaustion. As the pilot attempted to make a vertical descent to avoid trees ahead, the helicopter settled in hard.

10/28/58	0740 CST	Nr. Morgan City, La.	Bell 47G2	Substantial	None	3		1		2

An emergency water landing was made successfully following engine stoppage due to fuel exhaustion. The helicopter was pitching severely in a heavy sea and after the pilot restarted the engine the main rotor blade struck the tail boom. The helicopter was then towed ashore by a tug.

Date	Time of Accident	Location	Aircraft	Aircraft Damage	Fire	Total Aboard	Division of Injury								
							Crew			Passengers			Others		
							F	S	M/N	F	S	M/N	F	S	M
CONTRACT-CHARTER (Cont'd.)															
11/15/58	1500 CST	Morgan City, La.	Alouette Mark II	Substantial	After Impact	4			1			3			
A loud explosion was heard, followed by complete loss of power. The pilot immediately started an autorotation descent and, as the helicopter landed hard in a swamp area, the main rotors deflected downward striking the tail boom. A large quantity of fabric material was found to have been ingested into the compressor section restricting the airflow, resulting in a flameout.															
12/4/58	0935 CST	Wheeling, Ill.	Bell 47H1	Substantial	None	3			1			2			
A hovering approach into the parking area was being made and the pilot turned with tail downwind, in a 15-knot wind, at an altitude of 2 to 3 feet. The tail rose, and being unable to level off with full rear cyclic control the pilot attempted to ground the skids. The front curved portions of both skids fractured, both main rotor blades struck the ground, and the helicopter came to rest on its right side.															
PIPE LINE SURVEY															
1/4/58	0910 EST	Nr. Central, S. C.	Bell 47G	Substantial	None	2			1			1			
An approach was being made into the morning sun and the pilot did not see a telephone line in time to avoid collision. The main rotor struck and broke the wire which whipped around the cabin destroying the bubble canopy cockpit enclosure. Control was maintained, however, and a landing was made without further damage.															
3/2/58	1730 PST	Oakland, Calif.	Bell 47G	Substantial	None	2			1			1			
A jump takeoff was made from a snowcovered meadow at high elevation. While going from hover to forward motion, the helicopter settled, its right ski dug into the soft snow, and it rolled over.															
3/5/58	1230 PST	Nr. Big Creek, Calif.	Bell 47G	Substantial	None	2			1			1			
The helicopter was equipped with flat plywood skiis, without turned up noses, for support on loose snow. A hovering takeoff was made over a broad snow-covered area, at high altitude, and while translating to forward motion the right ski dug into the snow and the helicopter nosed over.															

4/12/58	1100 PST	Vallejo, Calif.	Bell 47G	Substantial	None	2		1			1	

A downwind approach was being made at an altitude of about 50 feet to check the area atop a hill for landing. The helicopter settled in despite use of full power and collective pitch and struck the ground in a slight nose-down attitude. It skidded a short distance until the skids dug into the soft ground. It then nosed up and rolled over to the right.

4/28/58	1400 EST	Morristown, Tenn.	Bell 47G2	Destroyed	None	2		1		1		

The pilot and observer, engaged in a power line patrol, had stopped to refuel. The pilot, a certificated instructor, permitted the observer to fly the helicopter following the ensuing takeoff. It started to slip in a steep turn at approximately 150 feet. The pilot took over control but was unable to effect a recovery and stop the rapid descent before striking the ground.

6/5/58	1430 AST	Mr. Fairbanks, Alaska	Bell 47G	Substantial	None	1		1				

After landing on tundra, the pilot deplaned with passengers to assist in unloading, leaving the helicopter unattended with its rotors idling. Moments later the left skid began to settle in the tundra and the helicopter rolled over on its left side.

7/3/58	0920 EST	Beckley, W. Va.	Bell 47G	Substantial	None	2		1			1	

At an altitude of approximately 100 feet, while ascending along the side of a mountain for the purpose of observing a gas line, a downdraft was encountered. The helicopter settled in before the pilot could effect recovery. On contact with the ground, it rolled over on its side and the main rotor struck the side of the mountain.

OTHER INDUSTRIAL

2/1/58	0002 CST	Grand Isle, La.	Sikorsky S58	Destroyed	None	11	1	1	3	1	5	

During a night takeoff from an offshore oil-drilling platform, a failure of the tail rotor system occurred. As the helicopter drifted away from the rig it was turning to the right rapidly and struck the water in a level upright attitude. The left float separated shortly thereafter, and the helicopter capsized to the left and sank. All occupants were wearing life jackets and safely evacuated; however, because of strong winds and rough seas they were quickly dispersed, and four of them drowned.

Date	Time of Accident	Location	Aircraft	Aircraft Damage	Fire	Total Aboard	Division of Injury								
							Crew			Passengers			Others		
							F	S	M/N	F	S	M/N	F	S	M
OTHER INDUSTRIAL (Cont'd.)															
6/1/58	0900 CST	Grand Isle, La.	Sikorsky S58	Destroyed	None	6	1			5					
After the flight was reported overdue, while transporting a drilling crew to an offshore drilling platform, search craft located the body of one passenger, and the right float of the helicopter. The wreckage was located during dragging operations, and its condition made it apparent that the helicopter had struck the water almost flat on the left side with a slightly horizontal and a high vertical velocity. Approximately six minutes prior to the estimated time of the accident, the pilot had made a position report and had given no indication that the flight was other than normal and routine.															
INSTRUCTIONAL															
2/5/58	1700 PST	Pacoima, Calif.	Bell 47G	Destroyed	After Impact	2		2							
While practicing very steep reversals (duster turns) in the course of an instructional flight, the helicopter stalled and settled in at a high rate of descent. It touched down tail low, and came to rest inverted. Fire followed impact.															
4/5/58	1145 PST	Van Nuys, Calif.	Bell 47G	Substantial	None	2			2						
A downwind autorotation landing was made in a large open area on soft ground. The right skid failed during the landing slide and as the broken skid dug into the ground the helicopter nosed over to the right.															
8/28/58	1135 CST	Nr. Ft. Worth, Texas	Bell 47G	Substantial	None	2			2						
In making a touchdown on the sloping surface of an earth dam, the helicopter began sliding backwards down the slope. The instructor took over the controls and attempted to regain flight. The aircraft revolved through an angle of 140 degrees, airborne, and settled abruptly to the ground.															
PLEASURE															
5/26/58	1450 PST	Nr. Waterloo, Oregon	Hiller UH12	Substantial	None	2			1			1			
Upon encountering a hail storm, the pilot decided to land in an undeveloped area rather than risk possible damage to the rotors from hailstones. The tail rotor struck a log during the landing.															

TEST-TRAINING CHECK

1/16/58	1420 EST	Stratford, Conn.	Sikorsky S55	Substantial	None	2		1	1	

Pilot was practicing an autorotation landing and leveled off at about 10-15 feet in a 10-knot crosswind. The helicopter touched down hard, the main rotor flexing downward and striking the tail cone.

3/13/58	1600 EST	Philadelphia, Penna.	Vertol 44	Substantial	None	2		2		

Flight tests were being conducted for certification of a float installation on the helicopter. While conducting a landing autorotation the flare-out was started too low and the pilot was unable to check the high rate of descent, resulting in a hard touchdown. As the helicopter was subsequently being towed on to the ramp, it rolled over to the right.

5/5/58	1530 PST	Seattle, Wash.	Monte-Copter 12	Substantial	None	1		1		

The helicopter was tethered by ropes at the center bottom of the fuselage and on the nose gear to restrict flight to about one foot altitude during test and check of the rotor control system. While hovering with tension on the ropes, the rope on the nose gear broke and the helicopter struck the ground and gyrated before engines were cut.

5/9/58	0910 EST	Philadelphia, Penna.	Sikorsky R5A	Substantial	None	2		1	1	1

Pilot had no prior experience in this helicopter and was preparing to take off on a familiarization flight. Power was added and while applying collective pitch to reach a hover the left wheel lifted off the ground and the helicopter rolled over to the right. The wind was reported variable at 12 knots.

5/16/58	0904 PDT	Culver City, Calif.	Hughes 269A	Substantial	None	1		1		

The helicopter was being hovered at 6 to 7 feet altitude to test an experimental drive system sub-assembly. Failure occurred in the engine coupling quill shaft and the helicopter settled in hard before pilot could effect a recovery.

5/24/58	1000 PST	San Francisco, Calif.	Bell 47G	Substantial	None	2		2		

At an altitude of about 35 feet, during an autorotation descent, the helicopter rate of descent increased with such rapidity that it was impossible to apply power to effect a recovery. It touched down hard, bounced, and rolled left allowing the main rotors to strike the ground.

6/24/58	1414 PDT	San Francisco, Calif.	Bell 47D1	Destroyed	None	2	2			

The helicopter was observed in a left turn at an altitude of approximately 250 feet. Shortly thereafter, it went into a descending right turn and continued in an ever steepening nose-down attitude into the ground.

Date	Time of Accident	Location	Aircraft	Aircraft Damage	Fire	Total Aboard	Division of Injury								
							Crew			Passengers			Others		
							F	S	M/N	F	S	M/N	F	S	M
TEST-TRAINING CHECK (Cont'd.)															
9/15/58	1100 PST	Santa Barbara, Calif.	Bell 47G2	Substantial	None	2			2						
While making an autorotation approach as part of a test flight following minor maintenance, the pilot decided to make a running touchdown. The helicopter settled in at high rate of speed, before full collective pitch became effective, and touched down hard.															
9/30/58	1550 CST	Frederick, Okla.	Brantly B2	Substantial	None	2			1			1			
During a test flight to obtain engine cooling data, the helicopter was being hovered at an altitude of approximately 4 feet. A shaft in the tail rotor drive system failed causing loss of anti-torque control and the helicopter touched down while turning. The left skid buckled and the rotor blades struck the ground.															
10/5/58	0915 PDT	Nr. Newhall, Calif.	Bell 47G2	Substantial	None	3			3						
This was the third in a series of short test flights following minor adjustments for vibration. The helicopter was not properly flared from an autorotation landing and the tail rotor struck the ground resulting in loss of the anti-torque control. It was then leveled off and settled in hard.															
EXHIBITION-DEMONSTRATION															
4/5/58	1445 PST	Fresno, Calif.	Alouette 3130	Substantial	None	3			1			2			
The flight was to demonstrate and test the capabilities of the helicopter in high altitude operations. Takeoff was made from snow to a hover and then climb was attempted to clear some tall trees. An apparent turbine compressor stall occurred and the helicopter settled back in. The pilot attempted a ground-loop to avoid running over a precipice and the helicopter rolled over.															
6/29/58	1220 EST	Adrian, Michigan	Bell 47H	Substantial	None	2			1			1			
The pilot was approaching the landing area, coming in over a low telephone line, and almost parallel to a power line on the left, in a gusty 20-24 MPH wind. When approximately four feet above the ground the helicopter lurched causing the main rotor blades to strike the power lines. Severe vibration resulted and the helicopter settled in hard.															

EXPERIMENTAL

4/27/[illegible]	1815 CST	San Antonio, Texas	Benson Gyrocopter	Substantial	None	1	1		

The gyrocopter ballooned during an approach for landing in a gusty wind. The pilot reduced power and applied full back azimuth on the cyclic pitch control, which prevented transition into forward flight. The gyrocopter went into autorotation and settled in hard.

12/16/58	1530 CST	Salina, Kansas	Benson Gyrocopter B7M (Uncertificated)	Substantial	None	1	1		

The gyrocopter flight controls, with the exception of the rudder, operated in reverse of those of conventional helicopters. The pilot was conducting taxi operations to familiarize himself with the aircraft and no flight was intended. The gyrocopter, however, was inadvertently lifted off to an altitude of approximately 15 feet. In an effort to level off, the pilot overcontrolled and it dived into the ground.

PUBLIC

10/6/58	1500 CST	Indianapolis, Ind.	Bell 47G2	Substantial	None	2	1	1	

The pilot was practicing hovering at a few feet above the ground and, while in a turn, a gust moved the helicopter to the right and the nose came up. Before recovery could be effected, its right rear skid struck the ground and it rolled over on its side.

PRELIMINARY CASES - (Complete Report Not Available)

5/16/58	1500 CT	Beaumont, Texas	Bell 47G	Minor	None	1	1		

The pilot was practicing autorotation landings in water tank. He leveled off over water, lost ground cushion, and the tail rotor struck the water.

6/2/58	0220 GMT	Kostall Mine, B. C.	Bell 47J	Substantial	None	1	1		

Loss of power necessitated an immediate forced landing.

8/28/58		Stockton, Calif.	Bell 47G	Substantial	None	1	1		

The tail rotor blade broke in flight at approximately the 14 inch station.

10/11/58	1440 EDT	Stratford, Conn.	Sikorsky S55	Substantial	None	2	2		

Collided with two parked helicopters.

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Date	Time of Accident	Location	Aircraft	Aircraft Damage	Fire	Total Aboard	Division of Injury								
							Crew			Passengers			Others		
							F	S	M/N	F	S	M/N	F	S	M
PRELIMINARY CASES (Cont'd.)															
10/21/58		Netherlands, New Guinea	Bell 47H	Destroyed	None	1	1								
	Details not available.														
10/24/58	1145 EST	Leesburg, Virginia	Bell 47H	Substantial	None	1			1						
	The aircraft was damaged while making a practice autorotation landing.														
11/7/58	1540 EST	Columbia, N. C.	Bell 47D1	Substantial	None	2			1			1			
	The engine stopped suddenly at an altitude of about 75 feet during mapping operations														
11/24/58	1130 EST	Nr. Floral City, Fla.	Bell 47D1	Minor	None	2			1			1			
	The cockpit bubble canopy was broken by collision with high tension wires during low level photographic flight.														
12/2/58	1330 CST	Gulf of Mexico	Alouette	Destroyed	None	4	1			2	1				
	The float assembly broke off at the fuselage and the helicopter crashed in water.														
12/12/58	1710 EST	Bean City, Fla.	Bell 47G	Substantial	None	1			1						
	A wind gust turned the helicopter over during takeoff.														
12/26/58	1500 EST	Miami, Fla.	Bell 47G2	Substantial	None	3			1			2			
	While approaching at 400 feet for a heliport landing an unusual sound and vibration occurred and directional control was lost.														

ADDENDUM

REVISIONS - 1957 ACCIDENT RECORD

The information presented in the annual "Resume" is based on the data available at the time the publication goes to press. Information subsequently received may alter the basis for the classification of certain occurrences. In this respect, the following changes have occurred relative to the accident record for calendar year 1957 as it appeared in the Resume dated June 30, 1958.

DELETIONS:

1. Under Scheduled Domestic Operators - Scheduled Passenger Service; the accident shown as occurring on 10/3/57, at Syracuse, N. Y., involving Mohawk Airlines, CV-240. This has been reclassified as an incident.

2. Under Scheduled Domestic Operators - Nonrevenue Operations; the accident shown as occurring on 11/12/57, at Seattle, Washington, Northwest Airlines, Boeing. This has been reclassified as an incident.

ADDITIONS:

1. Under Scheduled Domestic Operators - Scheduled Passenger Service; accident occurring Near South Bend, Indiana on 7/4/57, Trans World Airlines - L-049; total aboard 87; aircraft damage minor; 5 crew no injury; 1 passenger serious injury; 81 passengers minor/no injury. Flight encountered turbulence. The seat belt sign had been on, however, several passengers having loosened or removed their seat belts were thrown about in their seats.

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