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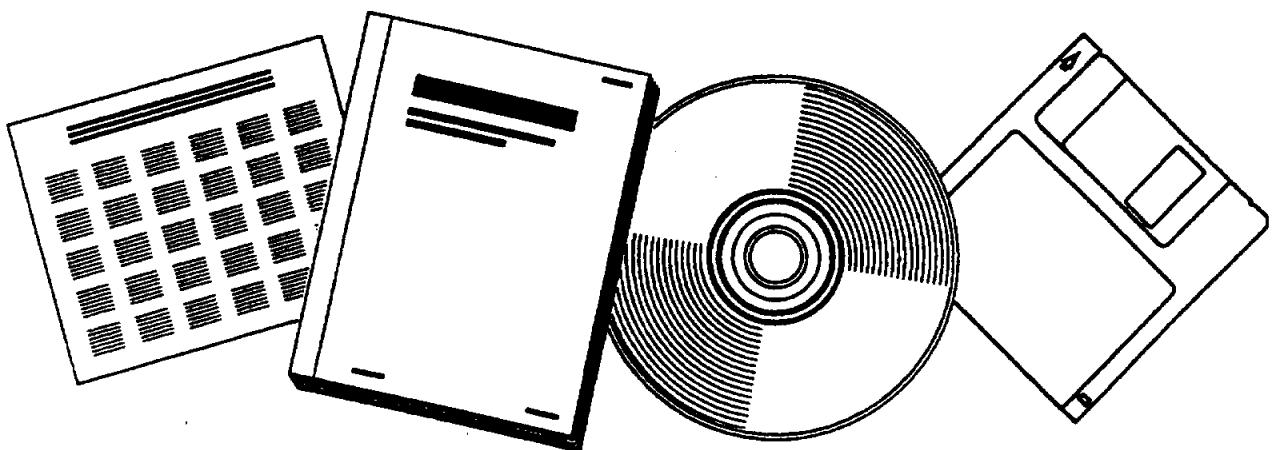
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STUDY OF LESSONS TO BE LEARNED FROM ACCIDENTS ATTRIBUTED TO TURBULENCE

NATIONAL TRANSPORTATION SAFETY BOARD,
WASHINGTON, D.C.

15 DEC 1971



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16. Abstract The study deals with 97 turbulence-involved U. S. air carrier accidents occurring from 1964-1969. Based on the detailed investigation of those accidents, there is discussed lessons to be learned primarily from the point of view of the meteorologist, the air carrier and the pilot. Observations are made and conclusions drawn in regard to such factors as the adequacy of CAT (clear air turbulence) versus thunderstorm-associated turbulence forecasts, the use of airborne weather radar as a thunderstorm avoidance tool, airborne weather radar maintenance problems, the requirement for real-time data in the cockpit, CAT detectors, turbulence associated losses, the nuisance problem and information derived from cockpit voice recorders and flight data recorders. ()			
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FOREWORD

This study of Lessons to be Learned from Accidents Attributed to Turbulence was prepared by Meteorologist Alan I. Brunstein, National Transportation Safety Board. He presented the paper in London, England, at the Royal Aeronautical Society in May 1971. The occasion was the International Conference on Atmospheric Turbulence sponsored jointly by the American Institute of Aeronautics and Astronautics (AIAA), the Canadian Aerospace Institute (CASI) and the Royal Aeronautical Society (RAeS).

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NATIONAL TRANSPORTATION SAFETY BOARD
Washington, D.C. 20591

Adopted: December 15, 1971

STUDY OF
LESSONS TO BE LEARNED FROM ACCIDENTS ATTRIBUTED TO TURBULENCE

Part I. Turbulence Experience

National Transportation Safety Board records for United States air carriers during the past 11 years show a total of 755 accidents, 147 of which involved turbulence. The discussion which follows concerns itself with the accidents occurring from 1964 through 1969, since these data are more easily retrievable because of the conversion of Safety Board records to Automatic Data Processing methods. During the 1964-69 period, the total number of air carrier accidents was 441, including 97 involving turbulence. Turbulence-involved accidents are defined as those in which turbulence was cited as a probable cause or related factor, as well as those in which turbulence was cited as a type of accident.

It is readily apparent from the air carrier data summarized in Tables 1 and 2 that approximately one out of every five total accidents over the 6-year period was a turbulence-involved accident, but that only one out of 16 fatal accidents was turbulence-involved. An optimistic look at Table 2, Injuries, and Table 3, Aircraft Damage, shows that in the total of 97 accidents, more than 90 percent of those aboard the aircraft sustained either minor injuries or none at all, and more than 90 percent of the aircraft involved sustained either minor damage or none at all. The optimist might consider, then, that

atmospheric turbulence is really no more than a nuisance generally and is of minor concern.

On the other hand, with 228 fatalities, 127 persons injured seriously, five aircraft destroyed, and four damaged substantially, we are forced to consider that turbulence is one of the major weather problems to be encountered by aircraft in flight. It should be kept in mind that the turbulence occurrences considered here are those meeting the criteria for an accident, i.e., a person suffered death or serious injury or the aircraft received substantial damage. We are aware that there were many relatively serious turbulence encounters not in our record books simply because the latter two criteria were not met and, therefore, the encounter was not required to be reported.

Little comment is required in regard to Table 4, which separates the clear air turbulence (CAT) involved accidents from those which occurred in association with convective activity. It does, however, highlight the fact that, despite the carriage and use of airborne weather radar equipment, there are many accidents in the convective category.

In view of the changing character of air carrier fleets, it is not surprising as shown in Table 5 that more than three-fourths of the accidents involved turbojet aircraft. Table 5 also shows that the most favored flight regime for the accidents was in normal cruise (almost 65 percent) with the next most favored flight regime being

the descent phase (almost 20 percent). Discussions of accidents are never quite complete without a mention of accident rates. Accordingly, Table 6 has been assembled to show the turbulence accident rates per 100,000 aircraft-hours and the rates per million miles flown. Except for 1968, the latter rate decreased steadily over the 6-year period.

Part II. Case Studies and Lessons Learned

There are many lessons to be learned from those accidents attributed to turbulence. One basic lesson is that, regardless of the excellence of airborne weather radar equipment and the efficiency of its operator, that equipment was always intended to have been used as a thunderstorm avoidance tool and was never intended for use as a thunderstorm penetration aid.

This philosophy regarding the use of an extremely valuable electronic device was expressed by the Safety Board in a letter to the management of all U.S. scheduled air carriers several years ago following a series of thunderstorm-involved catastrophic accidents. The Board was well aware at that time, as it is now, that all of the carriers did have procedures and policies regarding appropriate use of airborne weather radar during severe weather conditions. Concern was expressed that nonadherence to those policies and procedures might have been involved. Fortunately, the catastrophic type of severe weather-involved accident occurs infrequently and the overall U.S. air carrier safety record was and is outstanding. The past 2 years, 1969 and 1970, have been particularly noteworthy.

Nevertheless, accidents involving turbulence associated with convective activity do occur. Of the turbulence-involved accidents from 1964-69 at least 58 occurred in or near convective activity. It is recognized that, in some of these cases, the flightcrews were aware of the turbulence potential, but that deviations were not authorized by Air Traffic Control because of conflicting traffic or other airspace problems.

There were also numerous cases in which the pilots indicated that their weather radar did not reveal thunderstorm activity to them in the area in which the turbulence encounter took place. There are documented cases in the latter category wherein photographs were taken of ground-based weather radarscopes within a few minutes of the accident and show thunderstorm cells of such intensity that one is forced to conclude that a properly operating and properly operated airborne weather radar set would have revealed the activity.

One such case involved a regularly scheduled air carrier flight of a DC-8 which encountered severe turbulence and hail upon penetration of a thunderstorm during cruise westbound over the central United States at Flight Level 390. Six passengers were injured, two of them seriously, and the aircraft was damaged as follows: Nos. 2 and 4 heat exchangers damaged, all four engine chin scoops cracked at island, No. 1 engine PT2 probe damaged and bent, left cabin heat exchanger door damaged, fuselage skin just aft of radome lifted, radome damaged - replaced, splitter between Nos. 3 and 4 compressors damaged, left wingtip window cracked, numerous static wicks missing, five seat tables damaged, hole in right aft lavatory ceiling, isolation band on vertical stabilizer damaged and right horizontal stabilizer damaged.

The turbulence was encountered between about 1545 and 1552 G.m.t. within approximately 50 nautical miles of an operating WSR-57, long range, ground-based weather radar, whose operator was photographing the Plan Position Indicator (PPI) scope. Figs. 1, 2, and 3, are enlargements of several of those photographs. In all three photographs, the radar was on the 250-mile range and the range markers were at 50-mile intervals. In Fig. 1 and 2, which were taken during the turbulence encounter, there was 1/2 degree antenna uptilt; while in Fig. 3, taken shortly after the encounter, the antenna uptilt was 3°. Cell penetration is estimated to have occurred at about the 50-mile range marker east-northeast of the antenna. Tops in that cell at the time of the encounter

were reported by the radar operator as 51,000 feet.

Fig. 4 is a reproduction of a portion of the flight data recorder graph associated with this accident. It can be seen that the maximum variance in vertical acceleration was from + 2.23 g's to -0.99 g or an incremental peak variation of 3.22 g's, while several variations of more than 2 g's are noted. During the worst of the encounter, airspeed fluctuated as much as 52 knots, the heading varied 20° and there were two successive altitude losses of almost 1,000 ft. Although the turbulence in this case has been categorized as severe, the variations in the parameters above, particularly the variation in vertical acceleration, meet the criteria for extreme turbulence.

The captain of the flight later stated that just prior to the encounter the flight was on instruments, the weather radar was on the 150-mile scale, 4° to 5° downtilt, the seat belt sign was on, the air was slightly choppy, light ice was encountered and anti-ice systems were activated. When the turbulence and hail were encountered, the Area Control Center was asked for a vector out of the weather, but the flight was informed that they were unable to comply because they were not "painting" any weather. Various adjustments were made to the airborne radar, but "there was no echo." The ATC radar controller later confirmed the captain's statement regarding his inability to provide the requested vector and indicated, *inter alia*, that the traffic control radar was operating on circular polarization and that "weather" didn't start to show on his radar until it had moved eastward another 25 miles. It was also learned that ground checks of the airborne radar showed that it was functioning normally.

Another DC-8 flight at the same altitude and about 30 miles, or 4 minutes behind the first DC-8, requested and received clearance to deviate from course and remained in the clear about 15 miles south of the original route. That flight confirmed the large, strong echo shown in Fig. 1-3. Neither the company nor the National Weather Service (NWS) forecasts warned of

severe thunderstorm activity for the area and time pertinent to this accident.

During the period 1964-69, the Board's records show that at least 34 accidents occurred in clear air. The clear air turbulence accidents listed are those for which available information indicated that they were not associated with convective activity. One of the CAT accidents occurred during a regularly scheduled eastbound flight of a Boeing 720B, in cruise at Flight Level 370, over the western portion of the north-central United States at 1937 G.m.t. The crew indicated that the flight was above a scattered cloud deck whose tops were estimated as having been some 4,000 to 6,000 feet below the aircraft. There was mountainous terrain below. Because of turbulence described as "light turbulence" or "light chop," the seatbelt sign was turned on 15 minutes or more prior to the encounter of concern. An appropriate announcement had been made by the captain. According to passenger statements, the turbulence became progressively worse. During the worst of the turbulence encounter, a male passenger left his seat to assist in securing his infant grandson who was in the seat directly in front of him. The man was observed to have been thrown against the overhead, then slammed to the floor, striking the armrest of an aisle seat. Because of the seriously injured passenger, the flight diverted and made an emergency landing at a relatively nearby airport. No other serious injuries were reported and there was only minor damage to the aircraft.

A reproduction of a portion of the flight data recorder graph concerning this flight is shown as Fig. 5. It is evident that considerable turbulence was experienced for about 3 minutes and the worst of the occurrence took place during a period of approximately 30 to 40 seconds. During that period, the maximum incremental g forces were about 4.8, i.e., from about +3 g's to -1.8 g. Heading changes were relatively minor and just prior to the maximum g forces, the captain had begun a normal descent in order to vacate the area of turbulence. The airspeed fluctuated about 40 kts. and built up during the

beginning of the descent, but diminished as the turbulence diminished then increased as the turbulence ceased. Safety Board records show that company forecasts called for CAT, but in areas adjacent to the latter occurrence. Some National Weather Service forecasts, including SIGMET, did indicate that CAT was anticipated over an area which included the one in which the accident occurred. It is interesting to note that when the flightcrew was interviewed, they stated that the temperature dropped 10° approximately 3 to 5 minutes prior to the turbulence encounter. As in many other cases of CAT, this one generated a number of detailed meteorological studies, or aftercasts, including one by the Safety Board. Those studies agreed generally that the area in which the accident took place was characterized by the proximity of the jet stream core, a cold air trough, it was at or close to the tropopause, and that mountain wave conditions probably existed. There was some doubt in one of the studies in regard to the contribution of the mountain wave effect, since the winds, even though strong, were not from the most favorable direction for strong mountain wave formation over the area of concern. It also appears that, in this particular case, large vertical wind shears did exist, but probably several thousand feet below the altitude of the occurrence.

Particularly in those accident investigations in which the Board's meteorological staff becomes involved, there is an attempt to assess the adequacy of available forecasts. Unfortunately, data are not available for the total 97 turbulence accidents. The data on forecast adequacy are available for 74 of those accidents and show that, for 58 cases, or almost 78.5 percent of the time, the forecast was considered to have been substantially correct. In the remaining 16 cases, or approximately 21.5 percent of the time, the weather was considered to have been worse than forecast. A review of the adequacy of the CAT forecasts indicates that the ratio of good to bad in the CAT cases was about 2 1/2 to 1, while in the thunderstorm cases, the ratio was about 4 1/2 to 1. The obvious lesson to be learned here

is that there is room for considerable improvement in the forecasting of CAT. In fairness to the meteorological community, it is recognized that the majority of these accidents occurred regardless of the adequacy of the forecasts and it is also recognized that good forecasting has no doubt been at least partly responsible for keeping the turbulence accident statistics to their current levels. However, it is noted that in half the fatal turbulence-involved accidents, the forecasts were not posted in the "substantially correct" column.

Until our understanding of the atmosphere is more comprehensive and has led us to develop CAT forecasts which are much more accurate than they are today, there is a continuing requirement for an efficient, economical, airborne CAT detection system. Ground-based CAT detection would also be desirable, particularly in terminal areas.

Following the several thunderstorm-involved catastrophic accidents, and the Board's letter to U.S. air carrier management mentioned earlier, it became apparent that large segments of the industry were reviewing, amending, and updating their safety and training programs, as well as some of their operational procedures. At about that time, a Government/Industry meeting was convened to discuss generally the subject of severe weather avoidance. Those discussions might be considered as having revealed a series of lessons to be learned from involvement in thunderstorm type turbulence. Most of the lessons were learned well, but our accident statistics would indicate that a certain amount of homework still needs to be accomplished.

Like any other piece of equipment, airborne weather radar is not perfect but, as pointed out previously, a properly operating and properly operated set is an invaluable tool for the avoidance of hazardous weather conditions. Some carriers, having had problems maintaining the equipment, have changed over to solid-state equipment which represents a big step forward in maintenance reliability. At least one large carrier has learned that poor water drainage from the radome, which was made of a honey-

comb material, has caused signal interference. As a result, their radomes are being replaced. The new radomes are made of a fluted material to enhance water drainage. Unfortunately, a properly operating radar is of limited value unless the operator is not only familiar with the mechanics of the system, but he must be trained adequately in its operational use with considerable emphasis on the interpretation of the weather echoes displayed. While all carriers have some type of training program for pilots in the use of airborne weather radar, there are some which require more formalizing. At the Government/Industry meeting mentioned above, the lack of recurrent training was also emphasized.

A most valuable lesson learned as a result of turbulence-involved accidents, and by complaints of the pilot group, is the requirement in the cockpit for up-to-date information concerning the location, intensity and movement of thunderstorm activity and for CAT information as well. Real-time information is also required at originating points and at en route stops. The U.S. Government services have made progress in expediting the flow of weather radar information, particularly via the National Facsimile Network and in the not too distant future the flow of data via weather teletype should be expedited by means of a new and improved system. Meanwhile, in order to provide pilots with as near real-time data as possible, several U.S. air carriers have rented drops on a Government teletype network which carries, among other things, raw weather radar data, i.e., weather radar observations made and transmitted almost immediately.

One of these carriers plots the weather radar data, CAT information and other material such as forecasts on a special plotting board located at their headquarters. The information is coded, sent to outlying stations and is also transmitted directly to the affected aircraft. A flightcrew member plots the coded message on a special chart and deviations are planned accordingly. It is interesting to note that since the system became operational in October 1968, the Safety

Board's records show that the aircraft of that carrier have not been involved in a single turbulence accident.

Another method for obtaining real-time information is by means of radar remoting. The radarscope image is displayed at locations remote from the radar equipment, either by microwave links or by scan conversion with telephone line connections. The telephone line links are either dedicated lines with constant readouts, or can be on a dial-up basis. This allows government forecast centers to receive pictures from selected radars at great distances. There is also considerable air carrier interest in the dial-up capability.

Radar remoting is expanding rapidly in the NWS. At the beginning of 1971, there were eight transmitters and 32 receivers installed. By the end of the year, there should be a total of 25 transmitters and 49 receivers in operation. It is anticipated that eventually all long-range weather radar will have transmitters, and all forecast and warning offices will have receivers. By the end of 1971, there will be approximately 50 long-range radars in operation. This would mean that in the not too distant future, it will be possible, for the price of a telephone call, to receive a radarscope picture, either on a television monitor or on a facsimile receiver, from about 50 locations in the United States. This capability could certainly revolutionize the dispatching and routing of aircraft.

Some years ago, as a result of a catastrophic accident involving severe turbulence shortly after takeoff, joint action was taken by Australian Civil Aviation and Meteorological authorities to develop a system to provide advice and guidance to flights in the terminal areas, in order for pilots to avoid severe convective activity. The experimental system has been in operation at three of the larger terminals, Sydney, Brisbane, and Melbourne, and is known as the Joint Approach Control Meteorological Advisory Service (JACMAS). Based on radar storm cell information from ATC radar, AIREPS and other visual observations, ATC authorities may close airspace or authorize diversions. The

system is in effect within a 50-mile radius of the three airports mentioned.

Additional dissemination of JACMAS advice is made by broadcasting it in plain language over the appropriate NDB and VOR channels. Flight crews have been informed that, on occasion, there have been areas which were forecast to contain severe turbulence, but have been reported by pilots to have been clear. Accordingly, pilots were instructed to regard the information received as an "advisory service." However, one of the basic principles of the JACMAS system was that clearances issued to insure that aircraft do not enter areas of severe turbulence are mandatory, and a pilot who considers that a clearance is unnecessarily restrictive should request an alternative clearance and advise the reason. If ATC approves the alternative, the pilot must accept full responsibility for the intended course of action. It is understood that evaluations of the JACMAS system indicated that it had, in fact, provided effective storm warning information in the three areas where it was in operation and that there were plans to remove the "experimental" label.

Air carriers have learned that the economic penalties of turbulence accidents are severe. There are no current figures available on the economic loss, but, according to a study made by the Flight Safety Foundation for the National Aeronautics and Space Administration, in 1964 there was a total (U.S.) expense attributable to turbulence of \$18,090,000. That figure did not include loss of use of grounded aircraft, loss of employable time by injured occupants, and overhead involved in settling claims for injuries. There is little reason to assume that the losses are any less today.

An interesting sidelight to turbulence accident investigation is the use of new techniques. One means of postaccident determination of the existence of turbulence is the cockpit voice recorder (CVR). This device reflects not only intracockpit conversation (which might be related to the subject), but the sound of objects

being tossed about on the flight deck, the "tin-canning" sounds made by the aircraft as it encounters successive air masses moving from different directions, sounds of hail and/or heavy rain striking the airframe and other sounds within the cockpit. In addition, on aircraft whose CVR is powered by Direct Current, such as the turbo-Convairs and the F-27, FH-227 series, there is installed an impact switch on the CVR power circuit which causes electrical power to be removed when the associated accelerometer senses a fore-to-aft acceleration of 2 g's or more. This type of power failure cannot be rectified until after landing. In the case of an F-27 which lost a wing in CAT conditions over Alaska, this type of power shutdown was observed to have occurred coincident with the wing failure. Another new technique is the use of weather satellite pictures especially for areas from which data are sparse. Jet streams may be located, some wind information may be inferred, convective clouds as well as lenticulars may be located and identified, as may many other local and synoptic scale features.

To summarize the main lessons learned from turbulence-involved accidents it can be said that:

1. Turbulence is one of the major in-flight weather problems.
2. Airborne weather radar is an excellent thunderstorm avoidance tool.
3. Airborne weather radar must be maintained and operated properly.
4. Training should be formalized in the use and interpretation of airborne weather radar.
5. Recurrent airborne weather radar training is desirable.
6. CAT forecasts need considerable improvement.
7. CAT detection systems, airborne and ground-based, are needed.
8. Real-time weather data are needed on the ground, and most certainly in the cockpit.

BY THE NATIONAL TRANSPORTATION SAFETY BOARD:

/s/ JOHN H. REED
Chairman

/s/ OSCAR M. LAUREL
Member

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/s/ ISABEL A. BURGESS
Member

December 15, 1971

**THE FOLLOWING STATISTICAL TABLES ARE BASED ON
TURBULENCE ACCIDENTS INVOLVING U. S. AIR CARRIERS, 1964-1969**

TABLE 1 - ACCIDENTS

TOTAL ACCIDENTS	YEAR	TURBULENCE ACCIDENTS
79	1964	15
83	1965	14
75	1966	13
70	1967	13
71	1968	22
63	1969	20
<u>441</u>		<u>97</u>

TABLE 2 - INJURIES

	FATAL	SERIOUS	MINOR	NONE	TOTAL
PILOT	5	-	-	92	97
COPILOT	5	-	-	91	96
CHECK PILOT	-	-	-	2	2
FLIGHT ENGINEER	3	-	1	80	84
NAVIGATOR	-	-	-	4	4
CABIN ATTENDANT	9	50	42	245	346
EXTRA CREW	-	1	-	12	13
PASSENGERS	<u>206</u>	<u>76</u>	<u>198</u>	<u>6021</u>	<u>6501</u>
TOTAL	228	127	241	6547	7143

INVOLVES 97 TOTAL ACCIDENTS INCLUDING 6 FATAL ACCIDENTS

TABLE 3 - AIRCRAFT DAMAGE

YEAR	DESTROYED	SUBSTANTIAL	MINOR	NONE	TOTAL
1964	2	2	3	8	15
1965	-	1	-	13	14
1966	1	-	-	12	13
1967	-	-	3	10	13
1968	2	1	2	17	22
1969	-	-	2	18	20
TOTAL	5	4	10	78	97

TABLE 4 - CATEGORY OF WEATHER INVOLVEMENT

YEAR	CAT	CONVECTIVE ACTIVITY	UNKNOWN*	TOTAL
1964	5	9	1	15
1965	2	12	-	14
1966	4	7	2	13
1967	4	8	1	13
1968	10	11	1	22
1969	<u>9</u>	<u>11</u>	-	<u>20</u>
TOTAL	34	58	5	97

*The investigations of these cases are under the jurisdiction of other governments and the data were not available.

TABLE 5 - TYPE OF POWER VS. FIRST PHASE OF OPERATION

	PISTON	TURBOJET	TURBOPROP	ACCIDENT PERCENT
INITIAL CLIMB	2	-	-	2 2.06
CLIMB TO CRUISE	-	8	1	9 9.28
NORMAL CRUISE	6	50	7	63 64.95
DESCENT	2	15	2	19 19.59
UNCNTRLD. DESCENT	-	1	-	1 1.03
INITIAL APPROACH	1	-	-	1 1.03
OTHER	-	-	2	<u>2</u> <u>2.06</u>
ACCIDENTS	11	74	12	97
PERCENT	11.3	76.3	12.4	

TABLE 6 - TURBULENCE ACCIDENT RATES BY AIRCRAFT HOURS AND MILES FLOWN

YEAR	TURBULENCE ACCIDENTS	AIRCRAFT-HRS. FLOWN	AIRCRAFT-MI. FLOWN (000)	TURBULENCE ACCIDENT RATE	
				PER 100,000 AIRCRAFT-HRS. FLOWN	PER MILLION AIRCRAFT-MILES FLOWN
1964	15	4,312,764	1,336,867	.347	.011
1965	14	4,690,882	1,536,395	.298	.009
1966	13	5,104,984	1,768,458	.255	.007
1967	13	5,868,842	2,179,739	.222	.006
1968	22	6,404,260	2,498,848	.328	.009
1969	<u>20</u>	<u>6,612,161</u>	<u>2,736,815</u>	.302	.007
TOTAL	97	32,993,893	12,057,122		

THUNDERSTORM PENETRATION

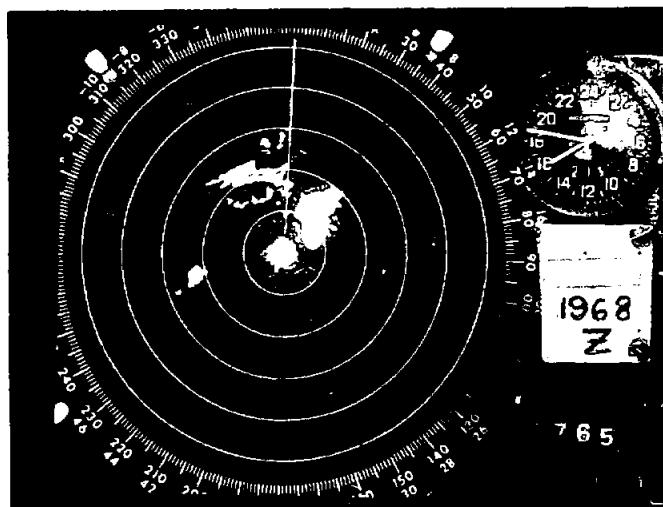


Figure 1

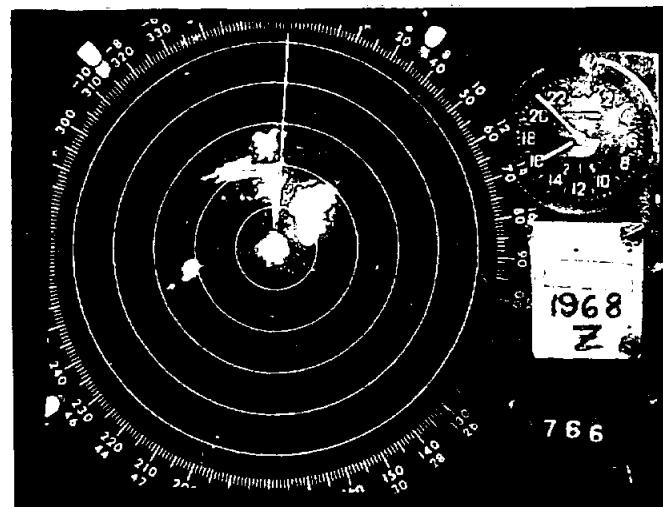


Figure 2

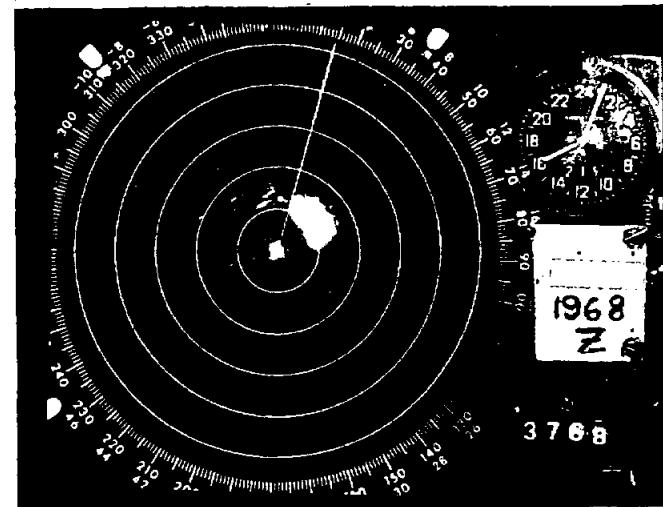


Figure 3

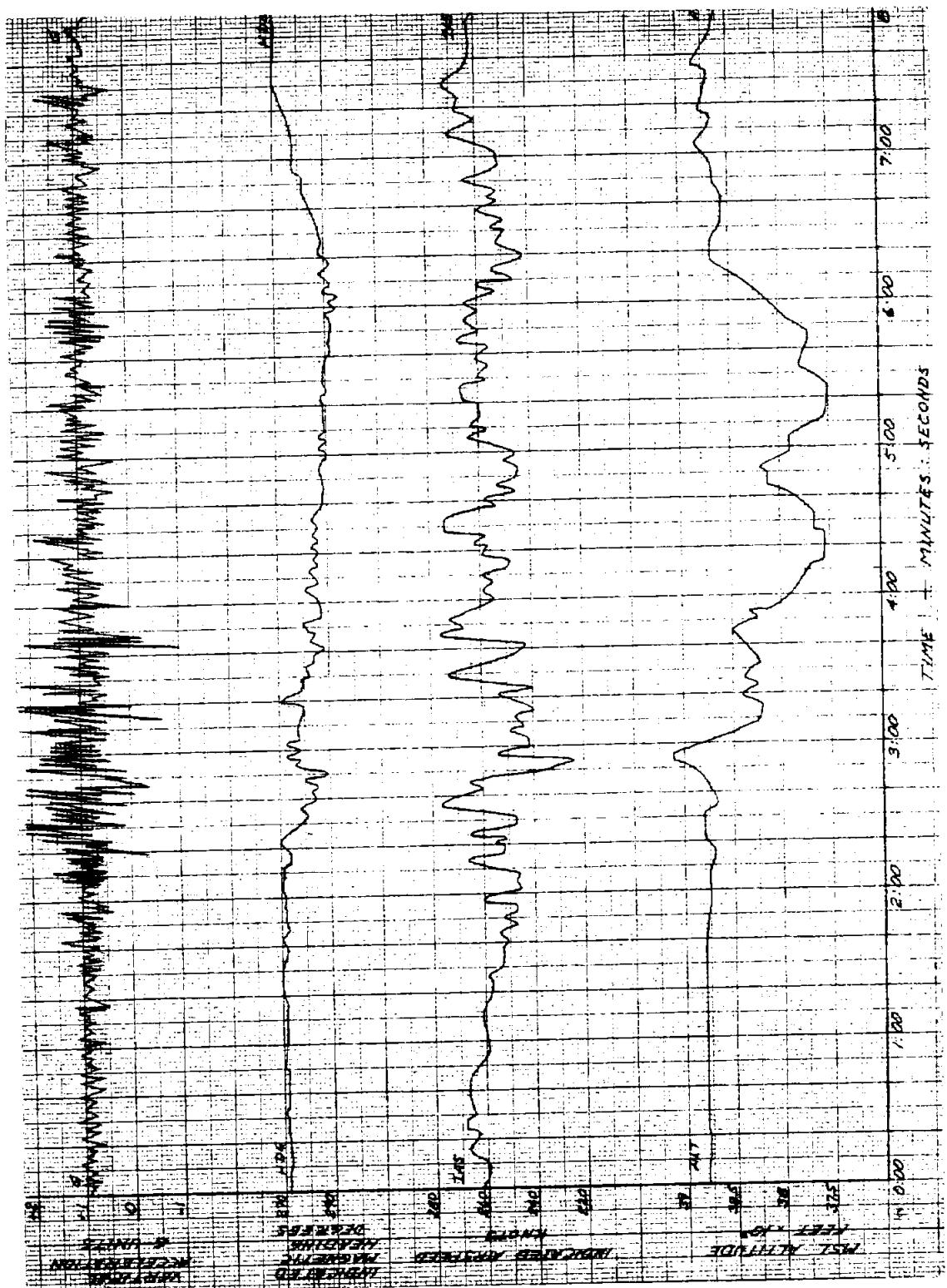


Figure 4 FLIGHT DATA RECORDER GRAPH
THUNDERSTORM PENETRATION

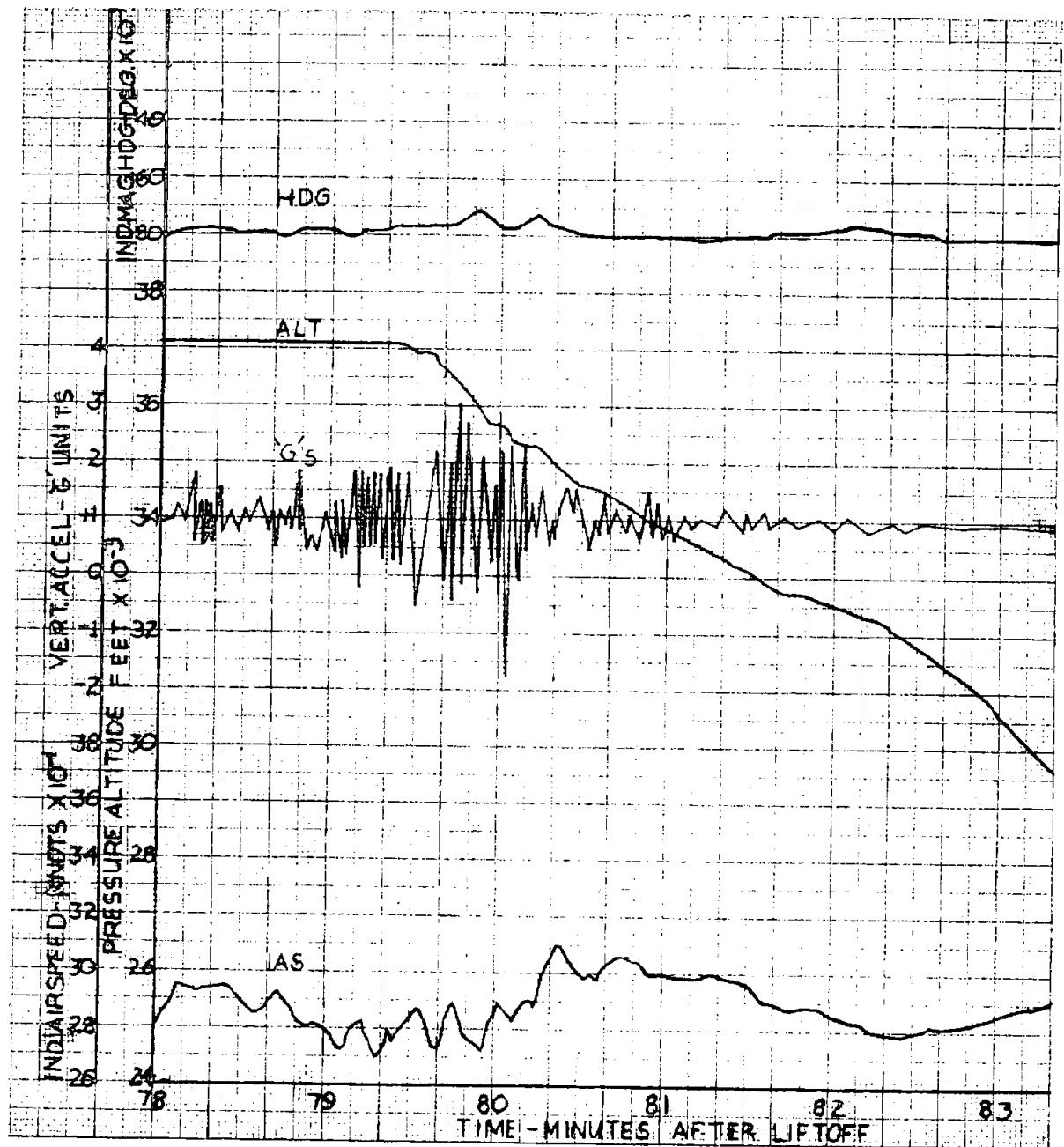


Figure 5 FLIGHT DATA RECORDER GRAPH CAT
PENETRATION

APPENDIX

BRIEFS OF TURBULENCE ACCIDENTS

NATIONAL TRANSPORTATION SAFETY BOARD

BUREAU OF AVIATION SAFETY

WASHINGTON, D. C. 20591

NOTES ON TURBULENCE ACCIDENTS

AS A TYPE OF ACCIDENT

OR AS A CAUSE/FACTOR LESS VORTEX

U.S. AIR CARRIERS

1964-1969

FILE	DATE	LOCATION	AIRCRAFT DATA			FLIGHT PURPOSE	PILOT DATA
			F	S	M/N		
I-0006	2/25/64	NR. NEW ORLEANS LA TIME - 0206	DOUGLAS DC-8 N407 DAMAGE-DESTROYED	CRA- PK-	7 0	SCHED INTERNAL PASSG SRV AIRLINE TRANSPORT, AGE 47, 19160 TOTAL HOURS, 916 IN TYPE, INSTRUMENT RATED.	
OPERATOR - EASTERN AIR LINES, INC.							
TYPE OF ACCIDENT COLLISION WITH GROUND/WATER: UNCONTROLLED							
PHASE OF OPERATION IN FLIGHT: UNCONTROLLED DESCENT							
POTENTIAL CAUSE(S) SYSTEMS - FLIGHT CONTROL SYSTEMS: HORIZONTAL STABILIZER DRIVE SYSTEM MISCELLANEOUS ACTS/CONDITIONS - MATERIAL FAILURE AT AIR - TURBULENCE ASSOCIATED W/ CLOUDS, THUNDERSTORMS WEATHER BRILLING - COMPANY DISPATCH WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT							
SKY CONDITION OVERCAST							
VISIBILITY AT ACCIDENT SITE 5 MI OVER							
OBSTRUCTIONS TO VISION AT ACCIDENT SITE NONE							
WIND DIRECTION-DEGREES 46							
WIND VELOCITY-KNOTS 12							
TYPE OF WEATHER CONDITIONS IFR							
REMARKS - AIRCRAFT CRASHED IN LAKE PONCHARTRAIN WITH DISINTEGRATING FORCE.							

BRIEFS (IF ACCIDENTS)									
FILE	DATE	LOCATION	AIRCRAFT DATA	INJURIES	FLIGHT PURPOSE				PILOT DATA
F	S	M	CR-	0	1	2	SCHED DOM PASSG SRV		AIRLINE TRANSPORT, AGE UNK/NR, UNK/NR TOTAL HOURS, UNK/NR IN TYPE, INSTRUMENT RATED.
PX-	0	0	PX-	0	0	20			
I-0010	1/13/64	HICKSVILLE, NC TIME - 1326	VISCOUNT V-745D N7429 DAMAGF-NONE						
OPERATOR - UNITED AIR LINES, INC.									
TYPE OF ACCIDENT									
TURBULENCE									
PROBABLE CAUSE(S) PERSONNEL - MISCELLANEOUS-PERSONNEL: PASSENGER FACTOR(S)									
WEATHER - TURBULENCE IN FLIGHT-CLEAR AIR									
WEATHER BRIEFING - UNKNOWN/NOT REPORTED									
WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT									
TYPE OF WEATHER CONDITIONS									
IFR									
REMARKS- FAILURE OF A PASSENGER TO COMPLY WITH SEAT BELT ON SIGN									
I-0072	1/17/64	NR. BILLINGS MONT TIME - 0050	BHIEING B-720H N712US DAMAGF-NONE						
OPERATOR - NORTHWEST AIRLINES, INC.									
TYPE OF ACCIDENT									
TURBULENCE									
PROBABLE CAUSE(S) WEATHER - TURBULENCE IN FLIGHT-CLEAR AIR MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT NOT FASTENED									
WEATHER BRIEFING - COMPANY DISPATCH									
WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT									
SKY CONDITION									
CLEAR									
VISIBILITY AT ACCIDENT SITE									
5 OR OVER									
INSTRUCTIONS TO VISION AT ACCIDENT SITE									
ATMOS									
TYPE OF FLIGHT PLAN									
IFR									
REMARKS- STEWARDFESS ATTENDING TO CABIN DUTIES									

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BRIEFS OF ACCIDENTS										
FILE	DATE	LOCATION	AIRCRAFT DATA	F	I	S	M	N	FLIGHT PURPOSE	PILOT DATA
1-0035	2/12/64 TIME - 1848	HUNTSVILLE ALA	DOUGLAS DC-3 N655A DAMAGE--NONE	CR- PX-	0 0	3 1	SCHED DOM PASSG SRV		AIRLINE TRANSPORT, AGE 42, 8092 TOTAL HOURS. 6000 IN TYPE, INSTRUMENT RATED.	
NAME OF AIRPORT - MADISON COUNTY OPERATOR - SOUTHERN AIRWAYS, INC. TYPE OF ACCIDENT TURBULENCE										
PHASE OF OPERATION IN FLIGHT: DESCENDING										
PROBABLE CAUSE(S) MISC - PGCS SEAT BELTS RELEASED FOR UNK REASON. FACTORS(S)										
WEATHER - TURBULENCE, ASSOCIATED W/ CLOUDS, THUNDERSTORMS WEATHER BRIEFING - COMPANY DISPATCH WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT										
SKY CONDITION CLEAR VISIBILITY AT ACCIDENT SITE 5 OR OVER OBSTRUCTIONS TO VISION AT ACCIDENT SITE NONE										
TYPE OF FLIGHT PLAN VFR										
CEILING AT ACCIDENT SITE UNLIMITED PRECIPITATION AT ACCIDENT SITE NONE TYPE OF WEATHER CONDITIONS VFR										
1-0041 7/20/64 TIME - 1210										
DOUGLAS DC-3 N91003 DAMAGE--NONE										
OPERATOR - CENTRAL AIRLINES, INC. TYPE OF ACCIDENT TURBULENCE										
PHASE OF OPERATION IN FLIGHT: DESCENDING										
PROBABLE CAUSE(S) WEATHER - TURBULENCE IN FLIGHT, CLEAR AIR WEATHER BRIEFING - COMPANY DISPATCH WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT										
SKY CONDITION CLEAR VISIBILITY AT ACCIDENT SITE 5 OR OVER OBSTRUCTIONS TO VISION AT ACCIDENT SITE NONE										
TYPE OF FLIGHT PLAN IFR REMARKS- STEWARDESSES COMPLETING DUTIES THROWN AGAINST CABIN STRUCTURE.										

		PILOT DATA			
F/F	DATE	AIRCRAFT DATA		INJURIES	
		TYPE	REGISTRATION	F	S/M/N
I-0049	7/15/64 TIME - 1525	LUCASFED L-1049 N6223C DAMAGE-NONE	CR- PX-	0 1 4 0 0 15	SCHED DOM PASSG SKV
OPERATOR - EASTERN AIR LINES, INC.	TYPE OF ACCIDENT MISCELLANEOUS	PHASE OF OPERATION TAKEOFF: INITIAL CLIMB			AIRLINE TRANSPORT, AGE 46, 16996 TOTAL HOURS, 2503 IN TYPE, INSTRUMENT RATED.
PROBABLE CAUSE(S) PERSONNEL - OTHER FLIGHT PERSONNEL	FACTOR(S) WEATHER - TURBULENCE, ASSOCIATED W/ CLOUDS, THUNDERSTORMS	CEILING AT ACCIDENT SITE UNLIMITED PRECIPITATION AT ACCIDENT SITE NONE TYPE OF WEATHER CONDITIONS VFR			
SKY CONDITION SCATTERED	VISIBILITY AT ACCIDENT SITE 5 OR OVER OBSTRUCTIONS TO VISION AT ACCIDENT SITE NONE	TYPE OF FLIGHT PLAN IFR			
I-0059	7/13/64 TIME - 1210	NK-KNOXVILLE TENN N100TU DAMAGE-NONE	CR- PX-	0 0 5 1 0 48	SCHED DOM PASSG SRV
OPERATOR - UNITED AIR LINES, INC.	TYPE OF ACCIDENT TURBULENCE	PHASE OF OPERATION IN FLIGHT: CLIMB TO CRUISE			AIRLINE TRANSPORT, AGE 56, 27000 TOTAL HOURS, 200 IN TYPE, INSTRUMENT RATED.
PROBABLE CAUSE(S) MISC - SEAT BELT FAILED TO HOLD PAX REASIN UNKNOWN. WEATHER - DOWNDRAFT, UPDRAFTS	FACTOR(S) WEATHER - TURBULENCE ASSOCIATED W/ CLOUDS, THUNDERSTORMS WEATHER BRIEFING - BRIEFING RECEIVED-METHOD UNKNOWN WEATHER FORECAST - UNKNOWN/NOT REPORTED	CEILING AT ACCIDENT SITE 15000 PRECIPITATION AT ACCIDENT SITE NONE TYPE OF WEATHER CONDITIONS VFR			
		SKY CONDITION BROKEN/LOWER SCATTERED VISIBILITY AT ACCIDENT SITE UNKNOWN/NOT REPORTED			
		OBSTRUCTIONS TO VISION AT ACCIDENT SITE NONE			
		TYPE OF FLIGHT PLAN			

BRIEFS OF ACCIDENTS

		LOCATION	AIRCRAFT DATA	INJURIES	FLIGHT PURPOSE	PILOT DATA
FILE	DATE		F S M/N	F		
1-0064	12/2/64	SAN FRANCISCO CAL	LOCKHEED L-10A-9 N6915C	CR- 3 0 0 PX- 0 0 0	SCHED DOM CARGO SRV	AIRLINE TRANSPORT, AGE 49, 1491 TOTAL HOURS, 3942 IN TYPE, INSTRUMENT RATED.
NAME OF AIRPORT - SAN FRANCISCO INT						
OPERATOR - FLYING TIGER LINE, INC.						
TYPE OF ACCIDENT						
COLLISION WITH GROUND/WATER: CONTROLLED						
PROBABLE CAUSE(S)						
PILOT - DEVIATED FROM COURSE FOR UNDETERMINED REASON						
WEATHER - DOWNDRAFT/UPDRAFTS						
WEATHER - TURBULENCE ASSOCIATED W/ CLOUDS, THUNDERSTORMS						
WEATHER BRIEFING - BRIEFED BY WEATHER BUREAU PERSONNEL, BY PHONE						
WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT						
SKY CONDITION						
OVERCAST						
VISIBILITY AT ACCIDENT SITE						
5 OR OVER						
RESTRICTIONS TO VISION AT ACCIDENT SITE						
FOG						
WIND DIRECTION-DEGREES						
240						
TYPE OF WEATHER CONDITIONS						
VFR						
FIRE AFTER IMPACT						
CEILING AT ACCIDENT SITE						
1100						
PRECIPITATION AT ACCIDENT SITE						
RAIN						
TEMPERATURE-F						
59						
WIND VELOCITY-KNOTS						
22						
TYPE OF FLIGHT PLAN						
IFR						

BRIEFS OF ACCIDENTS		PILOT DATA			
FLIGHT NUMBER	DATE	LOCATION	AIRCRAFT DATA	INJURIES	FLIGHT PURPOSE
I-005	11/28/64	N.W. HUGHES ALASKA AIRPORT - 1355	PIL-DOUKIER PC-6A N1421Z	CR- 0 0 1 PX- 0 0 4	SCHED NON PASSG SRV DAMAGE-SUBSTANTIAL
		OPERATIVE - WILSON ALASKA AIRLINES, INC.			COMMERCIAL AGE 36, 5663 TOTAL HOURS, 263 IN TYPE, INSTRUMENT RATED.
		TYPE OF ACCIDENT GEAR COLLAPSED			
		PHASE OF OPERATION LANDING: LEVEL OFF / TOUCHDOWN			
		PREDICTABLE CAUSES(S) AIRFRAME - LAUDING GEAR: MAIN GEAR-SHOCK ABSORBING ASSY, STRUTS, ATTACHMENTS, ETC. MISCELLANEOUS ACTS, CONDITIONS - FROZEN, MOISTURE FAIRING(S) / FAIRINGS			
		MISCELLANEOUS ACTS, CONDITIONS - OVERLOAD FAILURE WEATHER - THUNDERSTORM IN FLIGHT, CLEAR AIR WEATHER FORECAST - NO BRUISING RECEIVED WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT UNFORTUNATE CIRCUMSTANCES - FORCED LANDING ON AIRPORT/STAPLE AND BASE/HELIP.			
		SKY CONDITION CLEAR VISIBILITY AT ACCIDENT SITE 5 DEGREES OBSTRUCTIONS TO VISION AT ACCIDENT SITE NIGHT WIND VELOCITY-KNOTS GALLOP TYPE OF FLIGHT PLAN VFR			CEILING AT ACCIDENT SITE UNLIMITED PRECIPITATION AT ACCIDENT SITE NONE TEMPERATURE-F -30 TYPE OF WEATHER CONDITIONS VFR
		REMARKS- SIGHTED INFLIGHT RELEASE OF STRUT WHICH WAS FROZEN IN COMPRESSED POSITION-WATER GOT IN STRUT TUBE			
I-015	11/24/64	MIAMI, FLA	Douglas DC-8 N9609	CR- 0 0 7 PX- 0 1 9	SCHED INTERNATIONAL PASSG SRV AIRLINE TRANSPORT, AGF DAMAGE-INFINITE
	TIME - 1440	OPERATION - EASTERN AIR LINES, INC.			56, 27453 TOTAL HOURS, 381 IN TYPE, INSTRUMENT RATED.
		TYPE OF ACCIDENT TORN DOWN			
		PREDICTABLE CAUSES(S) WEATHER - THUNDERSTORM ASSOCIATED W/ CLOUDS, THUNDERSTORMS PIRSONNEL - MISCELLANEOUS-PERSONNEL: PASSENGER FACTORS(S)			PHASE OF OPERATION IN FLIGHT: INTERNAL CRUISE
		WEATHER - THUNDERSTORM ACTIVITY MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT NOT FASTENED WEATHER FORECAST - COMPANY DISPATCH WEATHER FORECAST - UNKNOWN/NOT REPORTED			
		SKY CONDITION UNKNOWN/NOT REPORTED VISIBILITY AT ACCIDENT SITE UNKNOWN/NOT REPORTED OBSTRUCTIONS TO VISION AT ACCIDENT SITE UNKNOWN/NOT REPORTED TYPE OF FLIGHT PLAN IFR			CEILING AT ACCIDENT SITE UNKNOWN/NOT REPORTED PRECIPITATION AT ACCIDENT SITE RAIN TYPE OF WEATHER CONDITIONS IFR
		REMARKS- INDULGED PASSENGER DID NOT COMPLY WITH EASTEN-SEAT-BELTS SIGN			

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FILE		LOCATION		AIRCRAFT DATA		INJURIES		FLIGHT		PURPOSE		PILOT DATA	
DATE		F	S	M	N	F	S	M	N	PASSG	SRV	AIRLINE TRANSPORT, AGE	
1-0569	9/7/64	NE. MINNEAPOLIS MNN		BOEING 720		CR- 0	1	6	5	SCHED DDM PASSG	SRV	AIRLINE TRANSPORT, AGE	
	TIME ~ 1700			N736US		PX- 0	1	84				52, 24071 TOTAL HOURS,	
		DAMAGE-MINOR										1627 JN TYPE, INSTRUMENT RATED.	
OPERATOR - NORTHWEST AIRLINES, INC.													
PROBABLE CAUSE(S)													
WEATHER DRIFTING - COMPANY DISPATCH WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT													
WEATHER FORECAST - TURBULENCE ASSOCIATED W/ CLOUDS, THUNDERSTORMS													
WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT													
SKY CONDITION													
OVERCAST/LIGHT SCATTERED VISIBILITY AT ACCIDENT SITE													
3 MILES OR LESS OBSERVATIONS TO VISITOR AT ACCIDENT SITE													
FOG HIGH OBTURATION-DEGREES, 240													
TYPE OF WEATHER CONDITIONS													
TYPE OF WEATHER CONDITIONS													
1-0774 11/15/64 KICHITA KANS LOCATED L-749A CR- 0 0 5 SCHED DDM PASSG SRV													
TIME ~ 1445 FACILITY - NKG3C DAMAGE-MINOR													
OPERATOR - TRANS WORLD AIRLINES, INC.													
TYPE OF WEATHER CONDITIONS													
PROBABLE CAUSE(S)													
WEATHER - TURBULENCE ASSOCIATED W/ CLOUDS, THUNDERSTORMS													
FACILITY - NKG3C OBSERVATIONS TO VISITOR AT ACCIDENT SITE													
STRUCTURES TO VISITOR AT ACCIDENT SITE													
STRUCTURES TO VISITOR AT ACCIDENT SITE													
TYPE OF WEATHER CONDITIONS													
TYPE OF WEATHER CONDITIONS													
REMARKS: SEAT BELT FAILURE PC PASSENGER WAS INJURED TURBULENCE CONSIDERED EXTREME RENDERED A/C UNCONT													

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BRIEFS OF ACCIDENTS

FILE	DATE	LOCATION	AIRCRAFT DATA	INJURIES	FLIGHT PURPOSE	PILOT DATA
				F S M/N		
1-0075	4/11/64	NR. SAN JUSE COSTA RICA	DOUGLAS DC-6B N6520C	CR- 0 1 4 PX- 0 0 20	SCHED INTERNATL PASSG SRV	AIRLINE TRANSPORT, AGE 44, 14440 TOTAL HOURS, 4629 IN TYPE, INSTRUMENT RATED.
	TIME - 2033	DAMAGE-SUBSTANTIAL				
		OPERATOR - PAN AMERICAN WORLD AIRWAYS, INC.				
		TYPE OF ACCIDENT - TURBULENCE				
		REMARKS- INVESTIGATION UNDER JURISDICTION COSTA RICA GOVT/MSC-TURBULENCE CAUSED BY NEARBY VOLCANO				
1-06005	1/24/65	NR. ALLENTON PA	CARAVELLE VIR N1001	CR- 0 1 4 PX- 0 0 26	SCHED DIM PASSG SRV	AIRLINE TRANSPORT, AGE 43, 18000 TOTAL HOURS, 310 IN TYPE, INSTRUMENT RATED.
	TIME - 1225	DAMAGE-NONE				
		OPERATOR - UNITED AIR LINES, INC.				
		TYPE OF ACCIDENT - TURBULENCE				
		PROBABLE CAUSE(S)				
		WEATHER - TURBULENCE ASSOCIATED W/ CLOUDS, THUNDERSTORMS				
		WEATHER BRIEFING - COMPANY DISPATCH				
		WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT				
		SKY CONDITION				
		OVERCAST				
		VISIBILITY AT ACCIDENT SITE				
		UNKNOWN/NOT REPORTED				
		OBSTRUCTIONS, FO VISION AT ACCIDENT SITE				
		UNKNOWN/NOT REPORTED				
		TYPE OF WEATHER CONDITIONS				
		IF-R				
		REMARKS- STewardess was performing galley duties, thrown to the floor-seat belt sign on-weather involved.				

BRIEFS OF ACCIDENTS										
FILE	DATE	LOCATION	AIRCRAFT DATA	INJURIES	FLIGHT PURPOSE				PILOT DATA	
				F S M/N						
1-0009	4/1/65 NR-JULIAN CALIF TIME - 1655	FAIRCHILD F-27A N150L	CR- 0 0 3 SCHED DOM PASSG SRV PX- 0 1 39			AIRLINE TRANSPORT, AGE 43, 1429 TOTAL HOURS, 3302 IN TYPE, INSTRUMENT RATED.				
	OPERATOR - BONANZA AIR LINES, INC. TYPE OF ACCIDENT TURBULENCE				PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE					
	PROBABLE CAUSE(S) PERSONNEL - MISCELLANEOUS-PERSONNEL: PASSENGER PERSONNEL - OTHER FLIGHT PERSONNEL WEATHER - TURBULENCE ASSOCIATED W/ CLOUDS, THUNDERSTORMS WEATHER BRIEFING - COMPANY DISPATCH WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT				CEILING AT ACCIDENT SITE UNKNOWN/NOT REPORTED PRECIPITATION AT ACCIDENT SITE NONE TYPE OF WEATHER CONDITIONS VFR					
	SKY CONDITION BROKEN VISIBILITY AT ACCIDENT SITE 5 OR OVER OBSTRUCTIONS TO VISION AT ACCIDENT SITE NONE TYPE OF FLIGHT PLAN VFR REMARKS- NONREVENUE PASSENGER AND STewardESS TALKING IN GALLEY DID NOT COMPLY WITH FASTEN SEAT BELT SIGN.						PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE			
1-0025	1/31/65 NR-BERMUDA ISLANDS TIME - 1213	BOEING 707 321C N79PA	CR- 0 0 10 SCHED INTERNATIONAL PASSG SRV AIRLINE TRANSPORT, AGE PX- 0 2 65			AIRLINE TRANSPORT, AGE 47, 17965 TOTAL HOURS, 1207 IN TYPE, INSTRUMENT RATED.				
	OPERATOR - PAN AMERICAN WORLD AIRWAYS, INC. TYPE OF ACCIDENT TURBULENCE									
	PROBABLE CAUSE(S) WEATHER - TURBULENCE ASSOCIATED W/ CLOUDS, THUNDERSTORMS PERSONNEL - MISCELLANEOUS-PERSONNEL: PASSENGER FACTOR(S) MISCELLANEOUS ACTS/CONDITIONS - SEAT BELT NOT FASTENED WEATHER BRIEFING - COMPANY DISPATCH WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT EMERGENCY CIRCUMSTANCES - PRECAUTIONARY LANDING ON AIRPORT ADVERSE/UNFAVORABLE WEATHER				CEILING AT ACCIDENT SITE 1800 PRECIPITATION AT ACCIDENT SITE RAIN TYPE OF WEATHER CONDITIONS IFR					
	SKY CONDITION OVERCAST/LOWER SCATTERED VISIBILITY AT ACCIDENT SITE 5 OR OVER OBSTRUCTIONS TO VISION AT ACCIDENT SITE NONE TYPE OF FLIGHT PLAN IFR REMARKS- AIRSPEED AT TIME OF TURBULENCE .80 MACH									

BRIEFS OF ACCIDENTS									
FILE	DATE	LOCATION	AIRCRAFT DATA	INJURIES	FLIGHT	PURPOSE		PILOT DATA	
				F S	M/N				
I-0020	3/28/67	PHOENIX, ARIZ TIAF - 1330	FAIRCHILD F-27A N755L	CR- 0 0 3 PX- 0 1 37	SCHED DUM PASSG SRV			AIRLINE TRANSPORT, AGE 36 • 10467 TOTAL HOURS, 4653 IN TYPE, INSTRUMENT RATED.	
OPERATOR - BONANZA AIR LINES, INC. TYPE OF ACCIDENT TURBULENCE						PHASE OF OPERATION IN FLIGHT: DESCENDING			
PROBABLE CAUSE(S)									
WEATHER - TURBULENCE ASSOCIATED W/ CLOUDS, THUNDERSTORMS PER SONNEL - MISCELLANEOUS-PERSONNEL: PASSENGER FACTORS									
MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT NOT FASTENED									
SKY CONDITION						CLIMBING AT ACCIDENT SITE			
BRKEN						UNKNOWN/NOT REPORTED			
VISIBILITY AT ACCIDENT SITE						PRECIPITATION AT ACCIDENT SITE			
5 OR FEW VISUALIZATIONS IN VISION AT ACCIDENT SITE REINV						RAIN SHOWERS			
TYPE OF FLIGHT PLAN						TYPE OF WEATHER CONDITIONS			
IFR						VFR			
REMARKS - SEAT BELT SIGN ON PILOT SKIRTING CLOUD BUILD-UPS						PASSENGER LEFT SEAT FOR LAVATORY			
I-0037	3/6/68	NR-COTTAGE ILL TIAF - 1612	CONVAIR CV-340 N812TW	CK- 0 0 7 PX- 0 1 55	SCHED DUM PASSG SRV			AIRLINE TRANSPORT, AGE UNK/NR, UNK/NR TOTAL HOURS, UNK/NR IN TYPE, UNK/NR INSTRUMENT RATED.	
OPERATOR - TRANS WORLD AIRLINES, INC. TYPE OF ACCIDENT TURBULENCE						PHASE OF OPERATION IN FLIGHT: CLIMB TO CRUISE			
PROBABLE CAUSE(S)									
PER SONNEL - MISCELLANEOUS-PERSONNEL: PASSENGER MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT NOT FASTENED PILOT IN COMMAND - INADEQUATE SUPERVISION OF FLIGHT FACTORS									
WEATHER - THUNDERSTORM ACTIVITY WEATHER - TURBULENCE ASSOCIATED W/ CLOUDS, THUNDERSTORMS WEATHER SKIRTING - COMPANY DISPATCH WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT									
SKY CONDITION						CLIMBING AT ACCIDENT SITE			
OVERTCAST						4500			
VISIBILITY AT ACCIDENT SITE						PRECIPITATION AT ACCIDENT SITE			
UNKN/NR VISUAL REPORTEO VISUALIZATIONS IN VISION AT ACCIDENT SITE REINV						THUNDERSTORM			
TYPE OF FLIGHT PLAN						TYPE OF WEATHER CONDITIONS			
IFR						VFR			
REMARKS - CREW DID NOT ANNOUNCE SEAT BELT SIGN ON, PASSENGER STATEMENTS INDICATED LACK OF AWARENESS OF SIGN									

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FLIGHT		DATE		LOCATION		AIRCRAFT DATA		INJURIES		FLIGHT PURPOSE		PILOT DATA	
FL	IT	MM	YY	MM	DD	TYPE	REG	F	S	M/N	PURPOSE	NAME	RATING
1-0039	7/16/65	NR.	OMAHA NEBR	AUFLING	707	131H	CR-	0	1	6	SCHED DOM PASSG SRV	AIRLINE TRANSPORT, AGE 49, 20939 TOTAL HOURS, 3980 IN TYPE, INSTRUMENT RATED.	
TIME - 0200 WEATHER - TURBULENCE ASSOCIATED W/ CLOUDS, THUNDERSTORMS MATERIALS ACTS/CONDITIONS - MATERIAL FAILURE WEATHER 3, FORECAST - COMPANY DISPATCH IFR WEATHER 2, FORECAST - UNKNOWN/NOT REPORTED													
PHASE OF OPERATION		IN FLIGHT: NORMAL CRUISE											
PROBABLE CAUSE(S) FACTORS WEATHER - TURBULENCE ASSOCIATED W/ CLOUDS, THUNDERSTORMS MATERIALS ACTS/CONDITIONS - MATERIAL FAILURE WEATHER 3, FORECAST - COMPANY DISPATCH IFR WEATHER 2, FORECAST - UNKNOWN/NOT REPORTED													
SKY CONDITION		CEILING AT ACCIDENT SITE UNKNOWN/NOT REPORTED											
VISIBILITY AT ACCIDENT SITE UNKNOWN/NOT REPORTED OBSTRUCTIONS TO VISION AT ACCIDENT SITE UNKNOWN/NOT REPORTED TYPE OF FLIGHT PLAN IFR													
FLIGHT		PRECIPITATION AT ACCIDENT SITE THUNDERSTORM TYPE OF WEATHER CONDITIONS IFR											
DAMAGE - NO DAMAGE - NONE													
FLIGHT		PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE											
REMARKS - GAVIN ATTENDANT WAS NOT SEATED WHEN TURBULENCE WAS ENCOUNTERED. SHE WAS ATTENDING PASSENGERS.													
FLIGHT		CEILING AT ACCIDENT SITE 6000 PRECIPITATION AT ACCIDENT SITE NAME TEMPERATURE- WIND DIRECTION-DEGREES 65 TYPE OF FLIGHT PLAN 12 VISIBILITY AT ACCIDENT SITE OBSTRUCTIONS TO VISION AT ACCIDENT SITE TYPE OF WEATHER CONDITIONS TYPE OF FLIGHT PLAN IFR											
DAMAGE - NO DAMAGE - NONE													
FLIGHT		REMARKS - GAVIN ATTENDANT WAS NOT SEATED WHEN TURBULENCE WAS ENCOUNTERED. SHE WAS ATTENDING PASSENGERS.											

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BRIEFS OF ACCIDENTS		AIRCRAFT DATA	INJURIES F S H/N	FLIGHT PURPOSE	PILOT DATA
FILE	DATE	LOCATION			
I-0042	8/12/65 TIME - 1316	BATTLE MN. N.F.V.	LOCKHEED L-188 N1139C DAMAGE-NONE	CR- 0 1 4 PX- 0 0 89	SCHED DOM PASSG SRV AIRLINE TRANSPORT, AGE 44. 1620 TOTAL HOURS, 950 IN TYPE. INSTRUMENT RATED.
		OPERATOR - WESTERN AIR LINES, INC.		PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE	
		TYPE OF ACCIDENT TURBULENCE			
		PROBABLE CAUSE(S) WEATHER - TURBULENCE ASSOCIATED W/ CLOUDS, THUNDERSTORMS			
		FACTOR(S) MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT NOT FASTENED			
		SKY CONDITION OVERCAST/LOWER SCATTERED		VISIBILITY AT ACCIDENT SITE 1 MILE OR LESS TYPE OF WEATHER CONDITIONS VFR	
		PRECIPITATION AT ACCIDENT SITE HAIL, THUNDERSTORM			
		TYPE OF FLIGHT PLAN IFR			
1-0050	1/23/65 TIME - 1150	NR. CHICAGO ILL	BOEING B-720B N725US DAMAGE-NONE	CR- 0 0 7 PX- 0 2 1	AIRLINE TRANSPORT, AGE 51, 21893 TOTAL HOURS, 2631 IN TYPE. INSTRUMENT RATED.
		OPERATOR - NORTHWEST AIRLINES, INC.		PHASE OF OPERATION IN FLIGHT: DESCENDING	
		TYPE OF ACCIDENT TURBULENCE			
		PROBABLE CAUSE(S) WEATHER - TURBULENCE IN FLIGHT, CLEAR AIR			
		FACTOR(S) WEATHER - TURBULENCE ASSOCIATED W/ CLOUDS, THUNDERSTORMS PERSONNEL - WEATHER PERSONNEL: INCORRECT WEATHER FORECAST PERSONNEL - DISPATCHING: OTHER			
		MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT SIGN OFF			
		MISCELLANEOUS ACTS, CONDITIONS - CIRCUIT BREAKER Popped			
		WEATHER BRIEFING - COMPANY DISPATCH			
		WEATHER FORECAST - WEATHER CONSIDERABLY WORSE THAN FORECAST			
		SKY CONDITION OVERCAST		CEILING AT ACCIDENT SITE 400	
		VISIBILITY AT ACCIDENT SITE 2 MILES OR LESS		PRECIPITATION AT ACCIDENT SITE RAIN SHOWERS, SNOW SHOWERS	
		OBSTRUCTIONS TO VISION AT ACCIDENT SITE ENDS		TEMPERATURE-F 31	
		WIND DIRECTION-DEGREES 220		WIND VELOCITY-KNOTS 141	
		TYPE OF WEATHER CONDITIONS IFR		TYPE OF FLIGHT PLAN IFR	
		REMARKS - SEAT BELT SIGN DID NOT STAY ON DUE TO TRIPPED CIRCUIT BREAKER-WX RUR AND CO TURBUL FRCTS INACCUR			

BRIEFS OF ACCIDENTS									
FIL#	DATE	LOCATION	AIRCRAFT DATA	INJURIES F S M/N	FLIGHT PURPOSE			PILOT DATA	
1-0055	8/12/65 NR SALEM OREG TIME - 1126	CURTISS C-46A N7769B	CR- 0 0 2 PX- 0 0 0	MILITARY CTR CARGO DOM	AIRLINE TRANSPORT, AGE 39, 6065 TOTAL HOURS, UNK/NR IN TYPE, UNK/NR INSTRUMENT RATED.				
	OPERATOR - ZANTOP AIR TRANSPORT TYPE OF ACCIDENT TURBULENCE	DAMAGE-SUBSTANTIAL		PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE					
PROBABLE CAUSE(S)									
	WEATHER - TURBULENCE ASSOCIATED W/ CLOUDS, THUNDERSTORMS WEATHER BRIEFING - OTHER WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT EMERGENCY CIRCUMSTANCES - PRECAUTIONARY LANDING ON AIRPORT SUSPECTED OR KNOWN AIRCRAFT DAMAGE			CEILING AT ACCIDENT SITE 5500 PRECIPITATION AT ACCIDENT SITE RAIN	AIRLINE TRANSPORT, AGE 47, 20637 TOTAL HOURS, 3000 IN TYPE, INSTRUMENT RATED.				
SKY CONDITION									
	BROKEN VISIBILITY AT ACCIDENT SITE 5 OR OVER OBSTRUCTIONS TO VISION AT ACCIDENT SITE NONE			TYPE OF WEATHER CONDITIONS VFR	PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE				
REMARKS- CARGO TIEDOWN LINES SEPARATED IN TURBULENCE, LOOSE CARGO DAMAGED UPPER FUSelage, WRE BRIEF BY MIL.									
1-0064	10/17/65 GLENWOOD SPRGS COL TIME - 1555	BOEING 707 320C N17321	CR- 0 1 7 PX- 0 106	SCHED DOM PASSG SRV DAMAGE-NONE	AIRLINE TRANSPORT, AGE 47, 20637 TOTAL HOURS, 3000 IN TYPE, INSTRUMENT RATED.				
	OPERATOR - CONTINENTAL AIR LINES, INC. TYPE OF ACCIDENT TURBULENCE			PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE					
PROBABLE CAUSE(S)									
	WEATHER - TURBULENCE IN FLIGHT, CLEAR AIR PERSONNEL - WEATHER PERSONNEL: INCORRECT WEATHER FORECAST WEATHER BRIEFING - COMPANY DISPATCH WEATHER FORECAST - WEATHER CONSIDERABLY WORSE THAN FORECAST			CEILING AT ACCIDENT SITE 0 PRECIPITATION AT ACCIDENT SITE NONE WIND DIRECTION-DEGREES 130 TYPE OF WEATHER CONDITIONS IFR					
SKY CONDITION									
	BROKEN/LOWER SCATTERED VISIBILITY AT ACCIDENT SITE ZERO TEMPERATURE-F -38 WIND VELOCITY-KNOTS 57 TYPE OF FLIGHT PLAN IFR			REMARKS- COMPANY AND WEATHER BUREAU FORECASTS WERE INADEQUATE WITH REGARD TO TURBULENCE.					

BRIEFS OF ACCIDENTS

FILE	DATE	LOCATION	AIRCRAFT DATA	INJURIES	FLIGHT PURPOSE	PILOT DATA
			F S M/N	F	S	M/N
1-0072 1184	12-7-76 16:54 0726	SAN DIEGO, CALIF.	DONALD D.C.-8 Nddgy	CR- 0 1 PX- 0 0	SCHED DOM PASSG SRV 3	AIRLINE TRANSPORT, AGE 53, 2700 TOTAL HOURS, 4300 IN TYPE, INSTRUMENT RATED.
TYPE OF ACCIDENT	TURBULENCE				PHASE OF OPERATION IN FLIGHT: DESCENDING	
PROBABLE CAUSES						
FACTOR(S)	WEATHER - TURBULENCE, ASSOCIATED W/ CLOUDS, THUNDERSTORMS					
MISCELLANEOUS ACTS, CONDITIONS	SEAT BELT NOT FASTENED					
WEATHER & DISPATCH	WEATHER: FAIR, FORECAST - UNKNOWN/NOT REPORTED					
WEATHER: FAIR						
SKY CONDITION					CEILING AT ACCIDENT SITE 3,300	
VISION AT ACCIDENT SITE	5 MI OVER				PRECIPITATION AT ACCIDENT SITE NONE	
DISINSTRUCTIONS TO VISION AT ACCIDENT SITE	WEATHER: FAIR				TEMPERATURE-F 52	
FINAL VELOCITY-KM/H	CALM				TYPE OF WEATHER CONDITIONS VFR	
TYPE OF FLIGHT PLAN	IFR					
REMARKS	SEAT BELTS FASTENING SEAT BELT, AIRCRAFT ENCOUNTERED UNANTICIPATED MOD TO, SEVERE TURBULENCE					
1-0073 1186	3-7-76 15:45 WILMINGTON, NC		CONVAIR CV-880 N84941	CR- 0 0 PX- 0 2	SCHED DOM PASSG SRV 97	AIRLINE TRANSPORT, AGE UNK/NR, 1720 TOTAL HOURS, 3100 IN TYPE, INSTRUMENT RATED.
TYPE OF ACCIDENT	TURBULENCE				PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE	
PROBABLE CAUSES						
WEATHER - TURBULENCE, ASSOCIATED W/ CLOUDS, THUNDERSTORMS						
PERSONNEL	OTHER FLIGHT PERSONNEL					
MISCELLANEOUS ACTS, CONDITIONS	SEAT BELT NOT FASTENED					
WEATHER & DISPATCH	WEATHER: FAIR, FORECAST - UNKNOWN/NOT REPORTED					
WEATHER: FAIR	WEATHER: FAIR, FORECAST - UNKNOWN/NOT REPORTED					
SKY CONDITION					CEILING AT ACCIDENT SITE UNKNOWN/NOT REPORTED	
VISIBILITY AT ACCIDENT SITE	UNKNOWN/NOT REPORTED				TYPE OF WEATHER CONDITIONS VFR	
TYPE OF FLIGHT PLAN	IFR					
REMARKS	ACCUIDANT NOTIFICATION 12-17-65, CITE 010 NOT CHECK PASSENGERS SAFEBELTS FOR PROPER SECURITY					

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BRIEFS OF ACCIDENTS					
FILE	DATE	LOCATION	AIRCRAFT DATA	INJURIES	FLIGHT PURPOSE
1-0074	4/19/65 TIME - 1413	No. TALLAHASSEE FLA	LUKHEED L-19B NS-2B DAMAGE - NONE	CR-0 PA-0	SCHD DOM PASSG SRV
OPERATOR - EASTERN AIR LINES, INC.	TYPE OF ACCIDENT	TURBULENCE	PHASE OF OPERATION	IN FLIGHT: NORMAL CRUISE	
PROBABLE CAUSE(S)	WEATHER - TURBULENCE, ASSOCIATED W CLOUDS, THUNDERSTORMS	FACTOR(S)	WEATHER - THUNDERSTORM ACTIVITY		
	PERSONNEL - OTHER FLIGHT PERSONNEL MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT NOT FASTENED		WEATHER - WEATHER FORECAST - COMPANY DISPATCH		
	WEATHER FORECAST - UNKNOWN/NOT REPICTED				
SKY CONDITION	OVERCAST	VISIBILITY AT ACCIDENT SITE	CFILING AT ACCIDENT SITE		
	UNKNOWN/NOT REPORTED	OBSTRUCTIONS IN VISION AT ACCIDENT SITE	20000 FT PRECIPITATION AT ACCIDENT SITE		
	NONE	TYPE OF FLIGHT PLAN	RAIN		
IFR	REMARKS - FLT ATTENDANT PERFORMING DUTIES-INJURED RETURNING TO SEAT	TYPE OF WEATHER CONDITIONS	IFR		

BRIEFS OF ACCIDENTS

FILE	DATE	LOCATION	AIRCRAFT DATA	INJURIES F S M/N	FLIGHT PURPOSE	PHASE OF OPERATION	PILOT DATA
1-0038	8/5/65	N.E. FALLS CITY, NEBR TIME -	BRITISH AIR N1553 DAMAGE-DESTROYED	CR- 4 PX- 38 0 0	SCHED DOM PASSG SRV	IN FLIGHT: NORMAL CRUISE IN FLIGHT: NORMAL CRUISE	AIRLINE TRANSPORT, AGE 47, 2067 TOTAL HOURS, 549 IN TYPE, INSTRUMENT RATED.
		OPERATOR - BRANIFF AIRWAYS, INC. TYPE OF ACCIDENT AIRFRAME FAILURE: IN FLIGHT FIRE OR EXPLOSION: IN FLIGHT					
		PROBABLE CAUSE(S) PILOT - OPERATED ACFT IN AREA OF AVIABLE WX HAZARD WEATHER - TURBULENCE, ASSOCIATED W/ CLOUDS, THUNDERSTORMS AIRFRAME - FLIGHT CENTRAL SURFACES: OTHER AIRFRAME - FUSelage: OTHER MISCELLANEOUS ACTS/CONDITIONS - OVERLOAD FAILURE					
		FACTORS) WEATHER - SQUALL LINE MISCELLANEOUS ACTS/CONDITIONS - SEPARATION IN FLIGHT WEATHER BRIEFING - COMPANY DISPATCH WEATHER FORECAST - WEATHER CONSIDERABLY WORSE THAN FORECAST					
		SKY CONDITION OVERCAST VISIBILITY AT ACCIDENT SITE 5 OR OVER INSTRUCTIONS TO VISION AT ACCIDENT SITE NONE TYPE OF FLIGHT PLAN IFR REMARKS - INT'L TAILPLANE AND RT WING FAILED.			CEILING AT ACCIDENT SITE 2000 PRECIPITATION AT ACCIDENT SITE NONE TYPE OF WEATHER CONDITIONS VFR,		
1-0039	1/10/65	N.E. LOS ANGELES, CALIF TIME - 1408	BULING-707 123 N120A DAMAG-NONE	CR- 0 PX- 0 1 67	SCHED DOM PASSG SRV	CERTIFICATE UNKNOWN, AGE UNK/NR, UNK/NR TOTAL HOURS, UNK/NR IN TYPE, UNK/NR INSTRUMENT RATED.	
		OPERATOR - AMERICAN AIRLINES, INC. TYPE OF ACCIDENT TURBULENCE					
		PROBABLE CAUSE(S) WEATHER - TURBULENCE IN FLIGHT, CLEAR AIR FACTORS) PERSONNEL - WEATHER PERSONNEL: INCORRECT WEATHER FORECAST WEATHER BRIEFING - UNKNOWN/NONE REPORTED WEATHER FORECAST WEATHER FORECAST - WEATHER CONSIDERABLY WORSE THAN FORECAST					
		SKY CONDITION CLEAR VISIBILITY AT ACCIDENT SITE 5 OR OVER INSTRUCTIONS TO VISION AT ACCIDENT SITE NONE TYPE OF FLIGHT PLAN IFR			CEILING AT ACCIDENT SITE UNLIMITED PRECIPITATION AT ACCIDENT SITE NONE TYPE OF WEATHER CONDITIONS VFR		

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FILE	DATE	LOCATION	BRIEFS OF ACCIDENTS		FLIGHT PURPOSE	PILOT DATA
			AIRCRAFT DATA	INJURIES		
1-0025	8/4/66	NR. LOS MICHIS MEX TIME - 1410	RUEING 720B N3156 DAMAGE-NONE	CR- 0 0 7 PX- 0 1 90	SCHED INTERNAL PASSG SRV	AIRLINE TRANSPORT, AGE 56. UNK/NR TOTAL HOURS. UNK/NR IN TYPE, UNK/NR INSTRUMENT RATED.
		TYPE OF ACCIDENT TURBULENCE				
		REMARKS- INVESTIGATION UNDER THE JURISDICTION OF THE GOVT OF MEXICO.			PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE	
1-0026	8/9/66	NR. HARRISBURG PA TIME - 1505	BOEING 707123 N7504 DAMAGE-NONE	CR- 0 0 8 PX- 0 1131	SCHED DOM PASSG SRV	AIRLINE TRANSPORT, AGE 53. UNK/NR TOTAL HOURS. 4900 IN TYPE, INSTRUMENT RATED.
		TYPE OF ACCIDENT TURBULENCE			PHASE OF OPERATION IN FLIGHT: DESCENDING	
		PROBABLE CAUSE(S)				
		PERSONNEL - MISCELLANEOUS-PERSONNEL: PASSENGER				
		FACTOR(S)				
		WEATHER - TURBULENCE IN FLIGHT,CLEAR AIR				
		MISCELLANEOUS ACTS,CONDITIONS - SEAT BELT NOT FASTENED				
		WEATHER BRIEFING - COMPANY DISPATCH				
		WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT				
		SKY CONDITION				
		BROKEN				
		VISIBILITY AT ACCIDENT SITE				
		'S OR OVER				
		OBSTRUCTIONS TO VISION AT ACCIDENT SITE				
		NONE				
		TYPE OF FLIGHT PLAN				
		IFR				
		REMARKS- SEAT BELT SIGN WAS ON AND CREW HAD ISSUED WARNINGS. PASSENGER WAS STANDING IN AISLE.				

BRIEFS OF ACCIDENTS

BRIEFS OF ACCIDENTS					
FILE	DATE	LOCATION	AIRCRAFT DATA	INJURIES F/S M/N	FLIGHT PURPOSE
1-0027	9/27/66	NR. HONOLULU HAWAII TIME - 1500	BOEING 707-321 N401PA DAMAGE - NONE	CR- 0 0 10 MIL CONTRACT PASSG INTL PX- 0 1138	AIRLINE TRANSPORT, AGE 52, 19740 TOTAL HOURS, 1432 IN TYPE, INSTRUMENT RATED.
		OPERATOR - PAN AMERICAN WORLD AIRWAYS, INC. TYPE OF ACCIDENT TURBULENCE			PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE
		POTENTIAL CAUSE(S) WEATHER - TURBULENCE, ASSOCIATED W/ CLOUDS, THUNDERSTORMS FACTOR(S) MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT SIGN OFF WEATHER BRIEFING - COMPANY DISPATCH WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT		Ceiling at accident site 33000 OBSTRUCTIONS TO VISION AT ACCIDENT SITE UNKNOWN/NOT REPORTED TYPE OF FLIGHT PLAN IFR	
		SKY CONDITION PARTIAL OBSCURATION VISIBILITY AT ACCIDENT SITE (UNKNOWN/NOT REPORTED) TYPE OF WEATHER CONDITIONS NOTES - THUNDERSTORM BUILD-UP WAS NOT OBSERVED ON ACFT RADAR			
1-0129	9/22/66	NR. WAGON GA TIME - 0700	DOUGLAS DC-3 N920E DAMAGE - NONE	CR- 0 0 1 SCHED DOM PASSG SRV PX- 0 1 30	AIRLINE TRANSPORT, AGE 54, 26895 TOTAL HOURS, 2415 IN TYPE, INSTRUMENT RATED.
		OPERATOR - DELTA AIR LINES, INC. TYPE OF ACCIDENT TURBULENCE			PHASE OF OPERATION IN FLIGHT: CLIMB TO CRUISE
		POTENTIAL CAUSE(S) WEATHER - TURBULENCE IN FLIGHT, CLEAR AIR PILOT IN COMMAND - INADEQUATE SUPERVISION OF FLIGHT FACTOR(S) MISCELLANEOUS ACTS, CONDITIONS - DISREGARD OF GOOD OPERATING PRACTICE MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT SIGN OFF MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT NOT FASTENED WEATHER BRIEFING - COMPANY DISPATCH WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT			
		SKY CONDITION CLEAR VISIBILITY AT ACCIDENT SITE 5 OR 10K OBSTRUCTIONS TO VISION AT ACCIDENT SITE NOTES TYPE OF FLIGHT PLAN IFR			Ceiling at accident site UNLIMITED PRECIPITATION AT ACCIDENT SITE NONE TYPE OF WEATHER CONDITIONS IFR
		NOTES - PILOT WAS ADVISED TO EXPECT CLR AIR TURB IN AREA WHERE FLI ENCOUNTERED IT. INADEQUATE WARNING TO PILOT			

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BRIEFS OF ACCIDENTS

FILE	DATE	LOCATION	AIRCRAFT DATA	INJURIES	FLIGHT PURPOSE	PILOT DATA
1-0030	9/23/66	NR. RAPID CITY S DAK	DOUGLAS DC-3 N499DF DAMAGE - NONE	CR- 0 1 2 PX- 0 0 7	SCHED DUM PASSG SRV	AIRLINE TRANSPORT, AGE 39, 7718 TOTAL HOURS, 2438 IN TYPE, INSTRUMENT RATED.
		TIME - 2310				
		TYPE OF ACCIDENT				
		TURBULENCE				
		PROBABLE CAUSE(S)				
		WEATHER - TURBULENCE, ASSOCIATED W/ CLOUDS, THUNDERSTORMS				
		FACTORS				
		MISCELLANEOUS ACTS/CONDITIONS - SEAT BELT NOT FASTENED				
		WEATHER BELEIFING - COMPANY DISPATCH				
		WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT				
		SKY CONDITION				
		CLEAR				
		VISIBILITY AT ACCIDENT SITE				
		5 OR OVER				
		OBSTRUCTIONS TO VISION AT ACCIDENT SITE				
		NONE				
		TYPE OF FLIGHT PLAN				
		VFR				
		REMARKS - STEWARDESS WAS ASSISTING PASSENGERS. SHE WAS OPERATING VFR IN THE VICINITY OF THUNDERSTORMS.				
1-0032	9/30/66	INDIANAPOLIS, IND	LUDKOWSKI L-184 N120 DAMAGE - NONE	CR- 0 1 4 PX- 0 0 70	SCHED DUM PASSG SRV	AIRLINE TRANSPORT, AGE 38, 11969 TOTAL HOURS, 286 IN TYPE, INSTRUMENT RATED.
		TIME - 1923				
		TYPE OF ACCIDENT				
		TURBULENCE				
		PROBABLE CAUSE(S)				
		WEATHER - TURBULENCE, ASSOCIATED W/ CLOUDS, THUNDERSTORMS				
		MISCELLANEOUS ACTS/CONDITIONS - SEAT BELT NOT FASTENED				
		WEATHER BELEIFING - COMPANY DISPATCH				
		WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT				
		SKY CONDITION				
		OVERTCAST				
		VISIBILITY AT ACCIDENT SITE				
		5 OR OVER				
		OBSTRUCTIONS TO VISION AT ACCIDENT SITE				
		NONE				
		TYPE OF FLIGHT PLAN				
		IFR				
		REMARKS - STEWARDESS STEERING IN FLIGHT WHEN BROKE ANKLE DUE TO BURELLENCE.				

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FILE		DATE	LOCATION	AIRCRAFT DATA	INJURIES F S M/N	FLIGHT PURPOSE	PILOT DATA
1-0033	9/30/66	NR. KINGSTON JAMAICA TIME - 1907	BOEING 720A N783PA	CR- 0 0 8 PX- 0 1102	SCHED INTERNATL PASSG SRV	AIRLINE TRANSPORT, AGE 50. 1755 TOTAL HOURS. UNK/NR IN TYPE, INSTRU- MENT RATED.	
		OPERATOR - PAN AMERICAN WORLD AIRWAYS, INC.					
		TYPE OF ACCIDENT TURBULENCE					
		REMARKS - INVESTIGATION UNDER JURISDICTION OF THE GOVERNMENT OF JAMAICA.					
1-0037	3/15/66	NR. O'NEILL NEAR LINE - 0300	DOUGLAS DC-8 N9015U	CR- 0 0 7 PX- 0 2 31	SCHED DOM PASSG SRV	AIRLINE TRANSPORT, AGE 46. 13100 TOTAL HOURS. 1090 IN TYPE, INSTRUMENT RATED.	
		OPERATOR - UNITED AIR LINES, INC.					
		TYPE OF ACCIDENT TURBULENCE					
		POSSIBLE CAUSE(S)					
		WEATHER - TURBULENCE ASSOCIATED W/ CLOUDS. THUNDERSTORMS WEATHER - THUNDERSTORM ACTIVITY MISCELLANEOUS ACTS, CONDITIONS - DISREGARD OF GOOD OPERATING PRACTICE MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT SIGN OFF WEATHER BRIEFING - COMPANY DISPATCH WEATHER FORECAST - WEATHER SLIGHTLY WORSE THAN FORECAST					
		SKY CONDITION					
		OVERTCAST			CLOUDING AT ACCIDENT SITE		
		VISIBILITY AT ACCIDENT SITE			3500		
		4 OR OVERS			PRECIPITATION AT ACCIDENT SITE		
		OBSTRUCTIONS TO VISION AT ACCIDENT SITE			NONE		
		None			TYPE OF WEATHER CONDITIONS		
		TYPE OF FLIGHT PLAN			IFR		
		REMARKS - FLIGHT OPERATED IN AREA OF SQUALL LINE. CREW MADE ANY AND COURSE CHANGES TO AVOID. DID NOT ALERT PAX.					

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BRIEFS OF ACCIDENTS									
FILE	DATE	LOCATION	AIRCRAFT DATA	INJURIES	FLIGHT PURPOSE				PILOT DATA
F	S	M/N	F	S	M/N				
I-0040	6/18/66	MELBOURNE FLA	BOEING 8-727 N8136N DAMAGE-NONE	CR- PX- 0 1 0 82	SCHED DOM PASSG SRV	AIRLINE TRANSPORT, AGE 46, 7092 TOTAL HOURS, 965 IN TYPE, INSTRUMENT RATED.			
	TIME - 1500								
	OPERATOR - EASTERN AIR LINES, INC.								
	TURBULENCE								
	PROBABLE CAUSE(S)								
	WEATHER - TURBULENCE, ASSOCIATED W/ CLOUDS, THUNDERSTORMS								
	PILOT IN COMMAND - DIVERTED ATTENTION FROM OPERATION OF AIRCRAFT								
	FACTOR(S)								
	PERSONNEL - MISCELLANEOUS-PERSONNEL: PASSENGER								
	MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT NOT FASTENED								
	SKY CONDITION								
	BROKEN								
	VISIBILITY AT ACCIDENT SITE								
	5 OR OVER								
	OBSTRUCTIONS TO VISION AT ACCIDENT SITE								
	NONE								
	TYPE OF FLIGHT PLAN								
	IFR								
	REMARKS - PILOT INADVERTENTLY ENTERED TOP OF RAPIDLY BUILDING CUMULUS CLOUD. FASTEN SEAT BELT SIGN WAS ON.								
I-0064	8/22/66	NR SAN DIEGO CALIF	L-109A N7137C DAMAGE-NONE	CR- PX- 0 0 0 1	SCHED DOM PASSG SRV	AIRLINE TRANSPORT, AGE 42, UNK/NR TOTAL HOURS, UNK/NR IN TYPE, INSTRU- MENT RATED.			
	TIME - 1500								
	OPERATOR - WESTERN AIR LINES, INC.								
	TURBULENCE								
	PROBABLE CAUSE(S)								
	WEATHER - TURBULENCE, ASSOCIATED W/ CLOUDS, THUNDERSTORMS								
	WEATHER BRIEFING - COMPANY DISPATCH								
	WEATHER FORECAST - UNKNOWN/NOT REPORTED								
	SKY CONDITION								
	UNKNOWN/NOT REPORTED								
	VISIBILITY AT ACCIDENT SITE								
	UNKNOWN/NOT REPORTED								
	TYPE OF WEATHER CONDITIONS								
	VFR								
	REMARKS - AIRSICK PX IN LAVATORY INJURED. FASTEN SEAT BELT SIGN ON DUE TURBULENCE.								

BRIEFS OF ACCIDENTS

FILE	DATE	LOCATION	AIRCRAFT DATA	INJURIES F S M/N	FLIGHT PURPOSE	PILOT DATA
I-0068	11/12/66 NR-MILLINGS, MONT	BOEING 8-720	CR- 0 0 7 PX- 0 1 3	SCHED DLM PASSG SRV	AIRLINE TRANSPORT, AGE 51, 1855 TOTAL HOURS, 2343 IN TYPE, INSTRUMENT RATED.	
	TIM - 1354	N7203U				
	DAMAGE-NONE					
OPERATOR - UNITED AIR LINES, INC.	TYPE OF ACCIDENT	TURBULENCE	PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE			
PROBABLE CAUSE(S)						
WEATHER - TURBULENCE IN FLIGHT, CLEAR AIR						
PERSONNEL - MISCELLANEOUS-PERSONNEL: PASSING FOR OTHER FLIGHT PERSONNEL						
WEATHER BRIEFING - COMPANY DISPATCH						
WEATHER FORECAST - UNKNOWN/ACI REPORTED						
SKY CONDITION						
CLEAR						
VISIBILITY AT ACCIDENT SITE						
5 OR OVER						
INSTRUCTIONS TO VISION AT ACCIDENT SITE						
NONE						
WIND VELOCITY-KNOTS						
55						
TYPE OF FLIGHT PLAN						
IFR						
REMARKS- PX FTL WHILE RETURNING TO SEAT.COCKPIT WARNING GIVEN. ATTENDANTS FAILED TO OBSERVE PX MOVEMENTS.						
I-0013	3/6/67	POLO, ILL	BOEING 727	CR- 0 1 5 PX- 0 0 3	SCHFD NON PASSG SRV	AIRLINE TRANSPORT, AGE 47, 1500 TOTAL HOURS, 728 IN TYPE, INSTRUMENT RATED.
	TIME - 1440					
	DAMAGE-NONE					
OPERATOR - UNITED AIR LINES, INC.	TYPE OF ACCIDENT	TURBULENCE	PHASE OF OPERATION IN FLIGHT: CLIMB TO CRUISE			
PROBABLE CAUSE(S)						
WEATHER - TURBULENCE IN FLIGHT, CLEAR AIR						
PERSONNEL - OTHER FLIGHT PERSONNEL						
FACTOR(S)						
MISCELLANEOUS CONDITIONS - SEAT BELT NOT FASTENED						
WEATHER BRIEFING - COMPANY DISPATCH						
WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT						
SKY CONDITION						
CLEAR						
VISIBILITY AT ACCIDENT SITE						
5 OR OVER						
INSTRUCTIONS TO VISION AT ACCIDENT SITE						
NONE						
TYPE OF FLIGHT PLAN						
IFR						
REMARKS- SEAT BELT SIGN WAS ON.						

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FLIGHT	DATE	LOCATION	AIRCRAFT DATA	INJURIES	FLIGHT PURPOSE	PILOT DATA
I-0016	4/7/67	N.Y. SPRINGFIELD, ILL	DOUGLAS DC-3 N901U DAMAGE-NONE	CR- PX- 0 0 7 0 1 59	SCHED DUE PASSENGER	ATR•FLIGHT INSTR•AGE 47• 23336 TOTAL HOURS, 2528. IN TYPE. INSTRUMENT RATED.
TYPE OF ACCIDENT FIRE/EXPLOSION						
PROBABLE CAUSE(S) WEATHER - TURBULENCE ASSOCIATED W/ CLOUDS. THUNDERSTORMS WEATHER REPORTING - COMPANY DISPATCH WEATHER FORECAST - PRECAUTIONARY LANDINGS ON AIRPORT POOR WEATHER CIRCUMSTANCES - PRECAUTIONARY LANDINGS ON AIRPORT PHYSICAL CONDITION OF PASSENGER						
SKY CONDITION OVERCAST VISIBILITY AT ACCIDENT SITE 5-8 OVERCAST INSTRUCTIONS TO VISION AT ACCIDENT SITE TYPE OF FLIGHT PLAN IFR AT 0225Z- PX, AT 0245Z, FULL BREAK LEG, WHILE RETURNING TO SEAT. SEAT BELT SIGN TURNED ON WHILE PX WAS IN LAVATORY						
I-0124	4/29/67	N.Y. STERLING, NY	BEEING B-720 N722OU DAMAGE-MINOR	CR- PX- 0 0 7 0 1 41	SCHED DUE PASSENGER	AIRLINE TRANSPORT. AGF 46, 14000 TOTAL HOURS, 935 IN TYPE. INSTRUMENT RATED.
TYPE OF ACCIDENT FIRE/EXPLOSION						
PROBABLE CAUSE(S) WEATHER - TURBULENCE IN FLIGHT, CLEAR AIR ONE SPOTLIGHT - MISCELLANEOUS PERSONNEL: PASSENGER SEAT BELT - MISCELLANEOUS ACTS OF DELIBERATE SEATBELT - MISCELLANEOUS PERSONNEL: OTHER SEATBELT ADVICE - COMPANY DISPATCH WEATHER FORECAST - WEATHER SLIGHTLY WORSE THAN FORECAST						
SKY CONDITION CLEAR VISIBILITY AT ACCIDENT SITE 5-8 OVERCAST INSTRUCTIONS TO VISION AT ACCIDENT SITE NONE WEATHER FORECASTS 8:30 AM WEATHER-KNIGHTS TYPE OF FLIGHT PLAN IFR REMARKS- CR WAS OLD NIGHT RFFECT TURB. 0520 FCIS 010 SER. INJ. PAX SUBSEQUENTLY DIED DUE HEART CONDITION.						

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FILE		DATE	LOCATION	AIRCRAFT DATA	INJURIES	FLIGHT PURPOSE	PILOT DATA
				F S M/N			
I-0030	6/9/67	NR. OF TRUIT, MICH TIME - 1840	Douglas DC-8 N227LU DAMAGE-NONE	CR- 0 1 7 PX- 0 0 67	SCHED DOM PASSG SRV	AIRLINE TRANSPORT, AGE 49, 20909 TOTAL HOURS, 4291 IN TYPE, INSTRUMENT RATED.	
		TYPE OF ACCIDENT TURBULENCE			PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE		
		PROBABLE CAUSE(S) WEATHER - THUNDERSTORM ACTIVITY MISCELLANEOUS ACTS/CONDITIONS - SEAT BELT NOT FASTENED WEATHER BRIEFING - COMPANY DISPATCH WEATHER FORECAST - FORECAST SUBSTANTIALLY CURRENT					
		SKY CONDITION OBSCURATION VISIBILITY AT ACCIDENT SITE ZERO OBSTRUCTIONS TO VISION AT ACCIDENT SITE NONE			CEILING AT ACCIDENT SITE 0 PRECIPITATION AT ACCIDENT SITE THUNDERSTORM TYPE OF WEATHER CONDITIONS IFR		
		TYPE OF FLIGHT PLAN IFR			PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE		
		REMARKS- FLIGHT ATTENDANTS INJURED WHILE PERFORMING IN FLIGHT DUTIES.					
I-0034	5/15/67	NR. PHILADELPHIA, PA TIME - 1800	Boeing 727 N144N DAMAGE-NONE	CR- 0 0 6 PX- 0 1 92	SCHED INTERNAL PASSG SRV AIRLINE TRANSPORT, AGE 47, 25000 TOTAL HOURS, 1650 IN TYPE, INSTRUMENT RATED.		
		OPERATOR - EASTERN AIR LINES, INC.					
		TYPE OF ACCIDENT TURBULENCE					
		PROBABLE CAUSE(S) WEATHER - TURBULENCE, ASSOCIATED W/ CLOUDS, THUNDERSTORMS PERSONNEL - MISCELLANEOUS-PERSONNEL: PASSENGER MISCELLANEOUS ACTS/CONDITIONS - PASSENGER WEATHER BRIEFING - COMPANY DISPATCH WEATHER FORECAST - UNKNOWN/NOT REPORTED EMERGENCY CIRCUMSTANCES - PRECAUTIONARY LANDING ON AIRPORT ADVERSE/UNFAVORABLE WEATHER					
		SKY CONDITION OBSCURATION/LOWEK SCATTERED VISIBILITY AT ACCIDENT SITE ZERO OBSTRUCTIONS TO VISION AT ACCIDENT SITE NONE			CEILING AT ACCIDENT SITE 800 PRECIPITATION AT ACCIDENT SITE RAIN TYPE OF WEATHER CONDITIONS IFR		
		TYPE OF FLIGHT PLAN IFR			REMARKS- PX OUT OF SEA1 WHEN ACFT ENCOUNTERED TURBULENCE. SEAT BELT SIGN ON WELL BEFORE TURBULENCE ENCOUNTER		

BRIEFS OF ACCIDENTS		FLIGHT PURPOSE		PILOT DATA
FILE	DATE	LOCATION	AIRCRAFT DATA	INJURIES F S M/N
I-0038	6/20/67 TIME - 1825	70F HAYES CR. NEAR N37567	DOUGLAS DC-6A N37567 DAMAGE-NONE	CR-D 1 4 PX-0 0 47 SCHED 00M PASSG SRV
				AIRLINE TRANSPORT, AGE 40, 14677 TOTAL HOURS, 7585 IN TYPE, INSTRUMENT RATED.

OPERATOR - UNITED AIR LINES, INC.

TYPE OF ACCIDENT
TURBULENCE

PHASE OF OPERATION
IN FLIGHT: NORMAL CRUISE

PROBABLE CAUSE(S)
MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT NOT FASTENED

WEATHER - TURBULENCE ASSOCIATED W/ CLOUDS, THUNDERSTORMS

WEATHER - SQUALL LINE

WEATHER BRIEFING - COMPANY DISPATCH

WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT

SKY CONDITION

OVERCAST

VISIBILITY AT ACCIDENT SITE

UNKNOWN/NOT REPORTED

OBSTRUCTIONS TO VISION AT ACCIDENT SITE

UNKNOWN/NOT REPORTED

TYPE OF FLIGHT PLAN

IFR

REMARKS- 10-40 SEC BELT OF MODERATE TURB BTWN RAIN CELLS. SEAT BELT SIGN ON. STEWARDESSES SEAT BELT NOT FSTND.

CEILING AT ACCIDENT SITE
UNKNOWN/NOT REPORTED
PRECIPITATION AT ACCIDENT SITE
SNOW GRAINS/SNOW PELLETS
TYPE OF WEATHER CONDITIONS
IFR

BRIEFS OF ACCIDENTS

FILE	DATE	LOCATION	AIRCRAFT DATA	INJURIES	FLIGHT PURPOSE	PILOT DATA
I-0039	4/30/67 TIME - 1230	COCONUT, FLA	Douglas DC-3 N8615 DAMAGE - NONE	CR-0 px-0	1 Y 1102 SCHED DOM PASSG SHV	AIRLINE TRANSPORT, AGE 50, 21212 TOTAL HOURS, 486 IN TYPE, INSTRUMENT RATED.

OPERATOR - LASTFM AIR LINES, INC.
TYPE OF ACCIDENT
TURBULENCE

PROBABLE CAUSE(S)
PILOT IN COMMAND - FAILED TO FOLLOW APPROVED PROCEDURES, DIRECTIVES, ETC.
WT/ATM - TURBULENCE ASSOCIATED W/ CLOUDS, THUNDERSTORMS

FACT(S)
WEATHER - THUNDERSTORM ACTIVITY
ALLIGATOROUS ACTS, CONDITIONS - SEAT BELT NOT FASTENED
MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT SIGN OFF
WEATHER - COMPANY DISPATCH
WEATHER - SKYFALLING - COMPANY DISPATCH
WEATHER FORECAST - WEATHER SLIGHTLY WORSE THAN FORECAST
EMERGENCY CIRCUMSTANCES - PRECAUTIONARY LANDING ON AIRPORT
PHYSICAL CONDITION OF PASSENGER

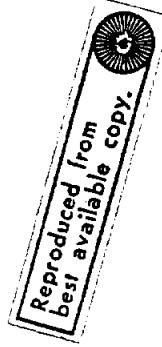
SKY CONDITION
SKY OVERCAST SCATTERED
VISIBILITY AT ACCIDENT SITE
5 OR OVER
OBSTRUCTIONS TO VISION AT ACCIDENT SITE
NONE
WIND DIRECTION - DEGREES
110
TYPE OF WEATHER CONDITIONS
WT/

REMARKS - PILOT FAILED TO DIVERT AROUND CLOUDS ON ADVISE OF GRND RADAR.

PHASE OF OPERATION
IN FLIGHT: NORMAL CRUISE

CEILING AT ACCIDENT SITE
15000
PRECIPITATION AT ACCIDENT SITE
NONE
TEMPERATURE - F
83
WIND VELOCITY - KNOTS
9
TYPE OF FLIGHT PLAN
IFR

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BRIEFS OF ACCIDENTS

FILE	DATE	LOCATION	AIRCRAFT DATA	INJURIES F S M/N	FLIGHT PURPOSE	PILOT DATA					
1-0041	10/1/67 TIME - 1115	NR. JACKSONVILLE, FLA	Douglas DC-8 N8613 DAMAGE-MINOR	CR- 0 0 1 PX- 0 1105	SCHED INTERNATIONAL PASSG SKY AIRLINE TRANSPORT, AGE 45, 1,0576 TOTAL HOURS, 620 IN TYPE, INSTRUMENT RATED.						
OPERATOR - EASTERN AIR LINES, INC.											
TYPE OF ACCIDENT TURBULENCE		PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE		 Reproduced from best available copy.							
PROBABLE CAUSES(S)											
WEATHER - TURBULENCE IN FLIGHT, CLEAR AIR WEATHER - TURBULENCE, ASSOCIATED W/ CLOUDS, THUNDERSTORMS PERSONNEL - MISCELLANEOUS-PERSONNEL: PASSENGER MISCELLANEOUS ACTS/CONDITIONS - SEAT BELT NOT FASTENED WEATHER BRIEFING - COMPANY DISPATCH WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT											
SKY CONDITION CLEAR											
VISIBILITY AT ACCIDENT SITE 5 OR OVER											
OBSTRUCTIONS TO VISION AT ACCIDENT SITE NONE											
TYPE OF FLIGHT PLAN IFR											
REMARKS- FAILURE OF PX TO REMAIN IN SEAT,FASTEN SEAT BELTS,AFTER BEING ALERTED BY CREW. SEAT BELT SIGN ON.											
1-0049	8/25/67 TIME - 2040	N. ATLANTIC OCEAN	Douglas DC-8 N8610 DAMAGE-MINOR	CR- 0 2 4 PX- 0 1101	SCHED INTERNATIONAL PASSG SKY AIRLINE TRANSPORT, AGE 56, 2,495 TOTAL HOURS, 43 IN TYPE, INSTRUMENT RATED.						
OPERATOR - EASTERN AIR LINES, INC.		PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE									
PROBABLE CAUSE(S)											
WEATHER - TURBULENCE IN FLIGHT,CLEAR AIR FACTOR(S) MISCELLANEOUS ACTS/CONDITIONS - SEAT BELT SIGN OFF WEATHER BRIEFING - COMPANY DISPATCH WEATHER FORECAST - WEATHER SLIGHTLY WORSE THAN FORECAST											
SKY CONDITION CLEAR											
VISIBILITY AT ACCIDENT SITE 5 OR OVER											
OBSTRUCTIONS TO VISION AT ACCIDENT SITE NONE											
WIND VELOCITY-KNOTS 13											
TYPE OF FLIGHT PLAN IFR											
REMARKS- TURBULENCE OF 5-6 SEC'S DURATION.											

BRIEFS UP. ACCIDENTS

FILE	DATE	LOCATION	AIRCRAFT DATA	INJURIES	FLIGHT PURPOSE	PILOT DATA
				F S M/N		
1-0050	11/27/61 TIME - 2235	MR. JACKSONVILLE, FLA.	CONVAIR 980 N8494H	CR- 0 0 6 .PX- 0 1 18	SCHED DOM PASSG SRV DAMAGE-NONE	AIRLINE TRANSPORT, AGE 54. 15177 TOTAL HOURS, 1629 IN TYPE. INSTRUMENT RATED.
		OPERATOR - NORTHEAST AIRLINES, INC. TURBULENCE			PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE	
		PROBABLE CAUSE(S) WEATHER - TURBULENCE ASSOCIATED W/ CLOUDS. THUNDERSTORMS FACTOR(S) PILOT IN COMMAND - FAILED TO FOLLOW APPROVED PROCEDURES, DIRECTIVES, ETC. MISCELLANEOUS ACTS/CONDITIONS - SEAT BELT SIGN OFF WEATHER BRIEFING - COMPANY DISPATCH WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT			CLOUDING AT ACCIDENT SITE UNLIMITED PRECIPITATION AT ACCIDENT SITE NONE	TYPE OF WEATHER CONDITIONS VR
		SKY CONDITION CLEAR VISIBILITY AT ACCIDENT SITE 5 OR OVER OBSTRUCTIONS TO VISION AT ACCIDENT SITE NONE				
		TYPE OF FLIGHT PLAN IFR				
		REMARKS - ACCI PENETRATED TOP OF CUMULUS BUILD UP FOR 30 TO 60 SEC. AIRBORNE RADAR NOT IN USE.				

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-0054	S/18/67 NR-MANILA, P.I. T-4F - 2115	BOEING 707 N17322 DAMAGED-NCNE	CR- px-	O 1 4 0 0 23	MIL CONTRACT PASSENGER INTL	AIRLINE TRANSPORT, AGE 66 • UNK/NR TOTAL HOURS, UNK/NR IN TYPE, UNK/NR INSTRUMENT RATED.
	OFFICIAIR - CONTINENTAL AIR LINES, INC. TYPE OF ACCIDENT TURBULENCE				PHASE OF OPERATION IN FLIGHT: CLIMB TO CRUISE	
	Possible Cause(s) WEATHER - TURBULENCE ASSOCIATED W/ CLOUDS, THUNDERSTORMS PERSONNEL - OTHER FLIGHT PERSONNEL ACCIDENTAL ACTS, CONDITIONS - SEAT BELT NOT FASTENED				CEILING AT ACCIDENT SITE UNKNOWN/NOT REPORTED	
	Factor(s) WEATHER - THUNDERSTORM ACTIVITY WEATHER HAVING - COMPANY DISPATCH WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT				OBSTRUCTIONS TO VISION AT ACCIDENT SITE UNKNOWN/NOT REPORTED	
					TYPE OF FLIGHT PLAN IFR	
	REMARKS - SEAT BELT SIGN CN, STEWARDESSES THROWN FROM SEAT.				PLI HAD ADVISED CREW AND PAX OF EXPECTED TURB.	

BRIEFS OF ACCIDENTS

FILE	DATE	LOCATION	AIRCRAFT DATA	INJURIES		FLIGHT PURPOSE	PILOT DATA
				F	S	M/N	
1-0057	6/9/67 NR. MASSENA, NY TIME - 2135	BOEING 727 N845N DAMAGE -NONE	CRA- PX-	0 0 0 1	6 2	SCHED INTERNAL PASSG SRV AIRLINE TRANSPORT, AGF 40, 10629 TOTAL HOURS, 23 IN TYPE, INSTRUMENT RATED.	
		OPERATOR - EASTERN AIR LINES, INC. TYPE OF ACCIDENT TURBULENCE				PHASE OF OPERATION IN FLIGHT: CLIMB TO CRUISE	
PROBABLE CAUSES:							
WEATHER - TURBULENCE ASSOCIATED W/ CLOUDS, THUNDERSIGNS PERSONNEL - MISCELLANEOUS-PERSONNEL: PASSENGER FACTORS)							
MISCELLANEOUS ACTS-CONDITIONS - SEAT BELT NOT FASTENED PERSONNEL - TRAFFIC CONTROL PERSONNEL: OTHER WEATHER BRIEFING - COMPANY DISPATCH WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT							
SKY CONDITION OVERCAST/LOW SCATTERED VISIBILITY AT ACCIDENT SITE 5 KM OVER OBSTRUCTIONS TO VISION AT ACCIDENT SITE NONE TYPE OF WEATHER CONDITIONS VER							
REMARKS- ACFT PENETRATED ISOLATED 15MM CELLS.PAX WERE ALLEGEDLY WARNED.RFQ TO DIVERT DELAYED BY DEP CONTROL							
1-0060	9/29/67 NR. UNION, THAILAND TIME - 1305	BOEING 707 N41PA DAMAGE -NONE	CRA- PX-	0 1 0 0	8 3	SCHED INTERNAL PASSG SRV CERTIFICATE UNKNOWN, AGE UNK/NR, UNK/NR TOTAL HOURS, UNK/NR IN TYPE, UNK/NR INSTRUMENT RATED.	
		OPERATOR - PAN AMERICAN WORLD AIRWAYS, INC. TYPE OF ACCIDENT TURBULENCE				PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE	
REMARKS- INVESTIGATION UNDER JURISDICTION OF GOVT. OF THAILAND. STEWARDESSES FRACTURED PFL VIS DURING FALL.							

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FLIGHT	DATE	LOCATION	AIRCRAFT DATA	INJURIES	FLIGHT PURPOSE	PILOT DATA
1-093	5/19/63 1141	DAVISON, TEX 15 mi.	LIL KITCAT I-133 NOVOIC DAMAGE-DESTROYED	CR- 5 PX- 0 SCHD DOM PASSG SRV 0 0	AIRLINE TRANSPORT AGE 46, 10890 TOTAL HOURS, 1380 IN TYPE, INSTRUMENT RATED.	
OPEATOR - BRANIFF AIRWAYS, INC.						
TYPE OF ACCIDENT						
TURBULENCE						
AIRFRAME FAILURE						
PROBABLE CAUSE(S)						
PILOT IN COMMAND - IMPROPER IN-FLIGHT DECISIONS OR PLANNING PILOT IN COMMAND - EXCERPT DESIGNED STRESS LIMITS OF AIRCRAFT						
AIRTRATE - WINGS: OTHER MISCELLANEOUS ACTS/CONDITIONS - OVERLOAD FAILURE						
WEATHER - TURBULENCE, ASSOCIATED W/ CLOUDS, THUNDERSTORMS						
FACCTOR(S)						
MISCELLANEOUS ACTS/CONDITIONS - SEPARATION IN FLIGHT WEATHER BREWING - SELF-HELP - PILOT CHECKED WEATHER DATA						
WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT						
SKY CONDITION						

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1-10107 1/13/63 NH-PACIFIC OCEAN
 TIME - 04000 BOEING 707
 N715PA 52 18107 TOTAL HOURS,
 DAMAGE - NONE
 OPERATOR - PAN AMERICAN WORLD AIRWAYS, INC.
 TYPE OF ACCIDENT
 TURBULENCE
 PROBABLE CAUSE(S)
 WEATHER - TURBULENCE ASSOCIATED WITH CLOUDS, THUNDERSTORMS
 PER SONNL - MISCELLANEOUS PERSONNEL: PASSENGER
 FACTORS/ISSUES
 MISCELLANEOUS ACTS/CONDITIONS - SEAT BELT NOT FASTENED
 WEATHER DISPATCH - COMPANY DISPATCH
 WEATHER FORECAST - WEATHER SLIGHTLY WORSE THAN FORECAST
 SKY CONDITION
 UNKNOWN/NOT REPORTED
 VISIBILITY AT ACCIDENT SITE
 UNKNOWN/NOT REPORTED
 INSTRUCTIONS TO PILOTS AT ACCIDENT SITE
 UNKNOWN/NOT REPORTED
 TYPE OF FLIGHT PLAN
 IFR
 REMARKS - PAX WERE PREVIOUSLY ADVISED TO KEEP SEAT BELTS LOOSELY FASTENED. RADAR OLD NIGHT SHOW RETURN

BRIEFS OF ACCIDENTS

FILE	DATE	LOCATION	AIRCRAFT DATA	INJURIES F S M/N	FLIGHT PURPOSE	PILOT DATA
1-0017	5/13/58 NR-MASON CITY, IA TIME - 1727	BLUFFTON N7549AA DAMAGE-NONE	DUEIMS 720B	EX- 0 0 7 PAX- 0 1 77	SCHED DOM PASSG SRV	CERTIFICATE UNKNOWN, AGE UNK/NR, UNK/NR TOTAL HOURS, UNK/NR IN TYPE, UNK/NR INSTRUMENT RATED.
	OPERATOR - AMERICAN AIRLINES, INC. TYPE OF ACCIDENT TURBULENCE				PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE	
	PROBABLE CAUSE(S) WEATHER - TURBULENCE IN FLIGHT, CLEAR AIR FACTORS MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT SIGN OFF					
	WEATHER BRIEFING - COMPANY DISPATCH WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT					
	SKY CONDITION CLEAR				CEILING AT ACCIDENT SITE 5000	
	VISIBILITY AT ACCIDENT SITE 5 OR OVER				PRECIPITATION AT ACCIDENT SITE NONE	
	OBSSTRUCTIONS TO VISION AT ACCIDENT SITE NONE				TYPE OF WEATHER CONDITIONS VFR	
	TYPE OF FLIGHT PLAN IFR					
	REMARKS - CREW WARNED PAX TO KEEP SEAT BELTS FASTENED DUE TO POSSIBLE TURB.					
1-0322	8/14/58 NR-PRESQUE ISLE, MI TIME - 1650	Douglas DC-3	CR- 0 0 9 PAX- 0 1136	SCHED INTERNATL PASSG SRV	CERTIFICATE UNKNOWN, AGE UNK/NR, UNK/NR TOTAL HOURS, UNK/NR IN TYPE, UNK/NR INSTRUMENT RATED.	
	OPERATOR - PAN AMERICAN WORLD AIRWAYS, INC. TYPE OF ACCIDENT TURBULENCE			PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE		
	PROBABLE CAUSE(S) WEATHER - TURBULENCE IN FLIGHT, CLEAR AIR FACTORS MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT SIGN OFF					
	WEATHER BRIEFING - COMPANY DISPATCH WEATHER FORECAST - UNKNOWN/NOT REPORTED					
	SKY CONDITION CLEAR				CEILING AT ACCIDENT SITE UNLIMITED	
	VISIBILITY AT ACCIDENT SITE 5 OR OVER				PRECIPITATION AT ACCIDENT SITE NONE	
	OBSSTRUCTIONS TO VISION AT ACCIDENT SITE NONE				TYPE OF WEATHER CONDITIONS VFR	
	TYPE OF FLIGHT PLAN IFR					
	REMARKS - PAX FELL IN AISLE, FRACTURED LEFT FOOT.					

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BRIEFS OF ACCIDENTS									
FILE	DATE	LOCATION	AIRCRAFT DATA	INJURIES	FLIGHT PURPOSE				PILOT DATA
1-0027	7/11/68	NR. PHILIPSBURG, PA TIME - 1310	BOEING 727 N894TW	CR- 0 2 5 PX- 0 0 34	SCHED DOM PASSG SRV	CERTIFICATE UNKNOWN, AGE UNK/NR, UNK/NR TOTAL HOURS, UNK/NR IN TYPE, UNK/NR INSTRUMENT RATED.			
		OPERATOR - TRANS WORLD AIRLINES, INC. TYPE OF ACCIDENT TURBULENCE			PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE				
		PROBABLE CAUSE(S) PERSONNEL - OTHER FLIGHT PERSONNEL WEATHER - TURBULENCE ASSOCIATED W/ CLOUDS, THUNDERSTORMS WEATHER BRIEFING - COMPANY DISPATCH WEATHER FORECAST - UNKNOWN/NOT REPORTED							
		SKY CONDITION DISCURATION VISIBILITY AT ACCIDENT SITE ZERO OBSTRUCTIONS TO VISION AT ACCIDENT SITE UNKNOWN/NOT REPORTED TYPE OF FLIGHT PLAN IFR			CEILING AT ACCIDENT SITE UNKNOWN/NOT REPORTED PRECIPITATION AT ACCIDENT SITE UNKNOWN/NOT REPORTED TYPE OF WEATHER CONDITIONS IFR				
		REMARKS- UNABLE TO CHNG ATC CLNC. PENETRATED CUMULUS LINE. SEAT BELT SIGN ON, CREW AND PAX WARNED.							
1-0035	1/28/68	NR. HILD, HAWAII TIME - 1415	CONVAIR 640 MISSION DAMAGE-NONE	CR- 0 0 .3 PX- 0 1 41	SCHED DOM PASSG SRV	AIRLINE TRANSPORT, AGE 47, 19350 TOTAL HOURS, 875 IN TYPE, INSTRUMENT RATED.			
		OPERATOR - HAWAIIAN AIRLINES, INC. TYPE OF ACCIDENT TURBULENCE			PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE				
		PROBABLE CAUSE(S) PERSONNEL - MISCELLANEOUS-PERSONNEL: PASSENGER MISCELLANEOUS ACTS/CONDITIONS - SEAT BELT NOT FASTENED WEATHER - TURBULENCE ASSOCIATED W/ CLOUDS, THUNDERSTORMS WEATHER BRIEFING - DRIEFEED BY WEATHER BUREAU PERSONNEL, BY PHONE WEATHER FORECAST - FORECAST SURSTANTILLY CORRECT							
		SKY CONDITION OVERCAST/LOUDER SCATTERED VISIBILITY AT ACCIDENT SITE ZERO OBSTRUCTIONS TO VISION AT ACCIDENT SITE NONE TYPE OF FLIGHT PLAN IFR			CEILING AT ACCIDENT SITE 1000 PRECIPITATION AT ACCIDENT SITE HAIL TYPE OF WEATHER CONDITIONS VFR				
		REMARKS- SEAT BELT SIGN ON. PAX INADVERTENTLY RELEASED SEAT BELT DURING TURB, WAS THROWN FROM SEAT.							

BRIEFS OF ACCIDENTS

FILE	DATE	LOCATION	AIRCRAFT DATA	INJURIES F S M/N	FLIGHT PURPOSE	PILOT DATA	
						CR-	PX-
1-0036	11/23/68 TIME - 0240	NR GACHIMBO, BRAZIL	BOEING 707 N42PA	0 1 8 0 0 0	SCHED INTERNATL PASSG SRV	CERTIFICATE UNKNOWN, AGE UNK/NR, UNK/NR TOTAL HOURS, UNK/NR IN TYPE, UNK/NR INSTRUMENT RATED.	
		DAMAGE-NONE					
		OPERATOR - PAN AMERICAN WORLD AIRWAYS, INC.					
		TYPE OF ACCIDENT					
		TURBULENCE					
		REMARKS- INVESTIGATION UNDER JURISDICTION OF GOVT OF BRAZIL. NO OF PAX AND UNREPORTED. SCID TESTS.					
1-0038	12/2/58 TIME - 0916	PEDRO BAY, ALAS	FAIRCHILD F-27B N4905B	0 0 0 0 0 0	SCHED DOM PASSG SRV	AIRLINE TRANSPORT, AGE 37, 10557 TOTAL HOURS, 5357 IN TYPE, INSTRUMENT RATED.	
		DAMAGE-DESTROYED					
		OPERATOR - WEN CONSOLIDATED AIRLINES, INC.					
		DEPARTURE POINT					
		ANCHORAGE, ALAS					
		INTENDED DESTINATION					
		DILLINGHAM, ALAS					
		TYPE OF ACCIDENT					
		TURBULENCE					
		AIRFRAME FAILURE: IN FLIGHT					
		PROBABLE CAUSE(S)					
		PERSONNEL - MAINTENANCE, SERVICING, INSPECTION: IMPROPER MAINTENANCE (MAINTENANCE PERSONNEL)					
		PERSONNEL - WEATHER PERSONNEL: INCORRECT WEATHER FORECAST					
		AIRFRAME - WINGS: SKIN AND ATTACHMENTS					
		MISCELLANEOUS ACTS/CONDITIONS - FATIGUE, FRACTURE					
		WEATHER - TURBULENCE IN FLIGHT, CLEAR AIR					
		FACTOR(S)					
		MISCELLANEOUS ACTS/CONDITIONS - SEPARATION IN FLIGHT					
		WEATHER BRIEFING - COMPANY DISPATCH					
		WEATHER FORECAST - WEATHER CONSIDERABLY WORSE THAN FORECAST					
		SKY CONDITION					
		CLEAR					
		VISIBILITY AT ACCIDENT SITE					
		5 OR OVER					
		OBSTRUCTIONS TO VISION AT ACCIDENT SITE					
		NONE					
		TYPE OF FLIGHT PLAN					
		IFR					
		REMARKS- ENC PRO SRV TO EXTRM UNFCST TURBO. R WING WKND INDETERMINATE DEG BY PRE-EXISTING FATIGUE CRACKS.					

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BRIEFS OF ACCIDENTS

FILE	DATE	LOCATION	AIRCRAFT DATA	INJURIES F S M/N	FLIGHT PURPOSE	PILOT DATA	
						CR-	PX-
1-0043	8/17/68	ELMWOOD, PA T14F - 2100	SUD AVIATN SE 210 N1005 DAMAGE-NONE	0 1 4 0 0 47	SCHED DOM PASSG SRV	AIRLINE TRANSPORT, AGE 44, 11245 TOTAL HOURS, 2937 IN TYPE, INSTRUMENT RATED.	
		OPERATOR - UNITED AIR LINES, INC. TYPE OF ACCIDENT TURBULENCE			PHASE OF OPERATION IN FLIGHT: DESCENDING		
		PROBABLE CAUSE(S) WEATHER - TURBULENCE IN FLIGHT, CLEAR AIR FACTORS MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT SIGN OFF WEATHER BRIEFING - COMPANY DISPATCH WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT			CEILING AT ACCIDENT SITE UNLIMITED		
		SKY CONDITION CLEAR			PRECIPITATION AT ACCIDENT SITE NONE		
		VISIBILITY AT ACCIDENT SITE 5 OR OVER OBSTRUCTIONS TO VISION AT ACCIDENT SITE NONE			TYPE OF WEATHER CONDITIONS VFR		
		TYPE OF FLIGHT PLAN IFR			PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE		
		REMARKS - TWO SHARP JOLTS OF TURBULENCE ENCOUNTERED.					
1-0045	9/14/68	NW. ATLANTIC OCEAN TIME - 1920	BOEING 707 N757PA DAMAGE-NONE	0 0 9 0 1 17	SCHED INTERNATL PASSG SRV AIRLINE TRANSPORT, AGE 45, 10946 TOTAL HOURS, 3869 IN TYPE, INSTRUMENT RATED.		
		OPERATOR - PAN AMERICAN WORLD AIRWAYS, INC. TYPE OF ACCIDENT TURBULENCE			PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE		
		PROBABLE CAUSE(S) WEATHER - TURBULENCE, ASSOCIATED W/ CLOUDS, THUNDERSTORMS WEATHER BRIEFING - COMPANY DISPATCH WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT			CEILING AT ACCIDENT SITE 39000		
		SKY CONDITION SCATTERED			PRECIPITATION AT ACCIDENT SITE NONE		
		VISIBILITY AT ACCIDENT SITE 5 OR OVER OBSTRUCTIONS TO VISION AT ACCIDENT SITE NONE			TYPE OF WEATHER CONDITIONS VFR		
		TYPE OF FLIGHT PLAN IFR					
		REMARKS - INSUFFICIENT TIME FOR PAX RET'D SEATS WHEN SEAT BELT SIGN WAS TURNED ON.					

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BRIEFS OF ACCIDENTS									
FLIGHT	DATE	LOCATION	AIRCRAFT DATA	INJURIES	FLIGHT PURPOSE				PILOT DATA
I-0049	7/20/68	NR-BILLINGS, MONT TIME - 1100	LOCKHEED 188C NI30US DAMAGF-NONE	CR- 0 2 3 PX- 0 1 15	SCHED DUM PASSG SRV	AIRLINE TRANSPORT, AGE 38, 5000 TOTAL HOURS, 700 IN TYPE, INSTRUMENT RATED.			
OPERATOR - NORTHWEST AIRLINES, INC.									
TYPE OF ACCIDENT									
TURBULENCE									
PROBABLE CAUSE(S)									
WEATHER - TURBULENCE IN FLIGHT, CLEAR AIR									
FACTOR(S)									
PERSONNEL - WEATHER PERSONNEL: INCORRECT WEATHER FORECAST									
WEATHER BRIEFING - COMPANY DISPATCH									
WEATHER FORECAST - WEATHER CONSIDERABLY WORSE THAN FORECAST									
SKY CONDITION									
CLEAR									
VISIBILITY AT ACCIDENT SITE									
5 OR OVER									
OBSTRUCTIONS TO VISION AT ACCIDENT SITE									
NONE									
WIND DIRECTION-DEGREES									
290									
TYPE OF WEATHER CONDITIONS									
VFR									
REMARKS - MIN WAVE EFFECT NOT FCST. SEAT BELT SIGN ON.									
I-0050	4/2/68	YAKIMA, WASH TIME - 1425	BOEING 727 N7407U	CR- 0 0 6 PX- 0 1 57	SCHED DUM PASSG SRV	AIRLINE TRANSPORT, AGE 43, 12692 TOTAL HOURS, 429 IN TYPE, INSTRUMENT RATED.			
OPERATOR - UNITED AIR LINES, INC.									
TYPE OF ACCIDENT									
TURBULENCE									
PROBABLE CAUSE(S)									
WEATHER - TURBULENCE IN FLIGHT, CLEAR AIR									
WEATHER BRIEFING - COMPANY DISPATCH									
WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT									
SKY CONDITION									
OVERCAST									
VISIBILITY AT ACCIDENT SITE									
5 OR OVER									
OBSTRUCTIONS TO VISION AT ACCIDENT SITE									
NONE									
TYPE OF WEATHER CONDITIONS									
VFR									

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BRIEFS OF ACCIDENTS

FILE	DATE	LOCATION	AIRCRAFT DATA	INJURIES	FLIGHT PURPOSE	PILOT DATA
				F S M/N		
I-0052	1/11/68	INTERNATIONAL WATERS TIME - 0650	DOUGLAS DC-6A N90782 DAMAGE-MINOR	CR- 0 1 px- 0 0	NS/CTR REVENUE CARGO INT'L AIRLINE TRANSPORT, AGE 39, 10800 TOTAL HOURS, 97 IN TYPE, INSTRUMENT RATED.	
		OPERATOR - SOUTHERN AIR TRANSPORT, INC. TYPE OF ACCIDENT TURBULENCE			PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE	
		PROBABLE CAUSE(S) WEATHER - TURBULENCE IN FLIGHT, CLEAR AIR WEATHER BRIEFING - COMPANY DISPATCH WEATHER FORECAST - UNKNOWN/NOT REPORTED				
		SKY CONDITION OVERCAST VISIBILITY AT ACCIDENT SITE 5 OR OVER OBSTRUCTIONS TO VISION AT ACCIDENT SITE NONE TYPE OF FLIGHT PLAN IFR			CEILING AT ACCIDENT SITE 16000 PRECIPITATION AT ACCIDENT SITE NONE TYPE OF WEATHER CONDITIONS VFR	
		REMARKS- ACCDT LOCATION, 133 MI NW OF RANGUN, BURMA. OFF DUTY CREW MEMBER THROWN FROM BUNK.				
I-0053	1/29/68	N. ATLANTIC TIME - UNK/NR	DOUGLAS DC-8 N818PA DAMAGE-NONE	CR- 0 10 px- 0 13	SCHED INTERNATL PASSG SRV AIRLINE TRANSPORT, AGE UNK/NR, 20384 TOTAL HOURS, 5715 IN TYPE, INSTRUMENT RATED.	
		OPERATOR - PAN AMERICAN WORLD AIRWAYS, INC. TYPE OF ACCIDENT TURBULENCE			PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE	
		PROBABLE CAUSE(S) WEATHER - TURBULENCE IN FLIGHT, CLEAR AIR PERSONNEL - MISCELLANEOUS-PERSONNEL: PASSENGER WEATHER BRIEFING - UNKNOWN/NOT REPORTED WEATHER FORECAST - UNKNOWN/NOT REPORTED				
		SKY CONDITION UNKNOWN/NOT REPORTED VISIBILITY AT ACCIDENT SITE UNKNOWN/NOT REPORTED OBSTRUCTIONS TO VISION AT ACCIDENT SITE UNKNOWN/NOT REPORTED TYPE OF FLIGHT PLAN IFR			CEILING AT ACCIDENT SITE UNKNOWN/NOT REPORTED PRECIPITATION AT ACCIDENT SITE UNKNOWN/NOT REPORTED TYPE OF WEATHER CONDITIONS UNKNOWN/NOT REPORTED	
		REMARKS- PX SAID SEAT BELT FASTENED LOOSELY, NO INSTRUCTIONS. CREW SAID SEAT BELT SIGN ON ANNOUNCEMENT MADE.				

BRIEFS OF ACCIDENTS

FILE	DATE	LOCATION	AIRCRAFT DATA	INJURIES	FLIGHT PURPOSE	PILOT DATA	
				F F	S M/N		
1-0059	7/23/68	LAFAYETTE, IND TIME - 1522	BOEING 707 N355US DAMAGE-NONE	CR- PX-	0 1 0 0	SCHED DUN PASSG SRV 57	AIRLINE TRANSPORT AGE 46, 18347 TOTAL HOURS, 1667 IN TYPE, INSTRUMENT RATED

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OPERATOR - NORTHWEST AIRLINES, INC. TYPE OF ACCIDENT TURBULENCE	PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE	PROBABLE CAUSE(S) PERSONNEL - OTHER FLIGHT PERSONNEL MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT NOT FASTENED WEATHER - TURBULENCE ASSOCIATED W/ CLOUDS. THUNDERSTORMS WEATHER BRIEFING - COMPANY DISPATCH WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT	SKY CONDITION UNKNOWN/NOT REPORTED VISIBILITY AT ACCIDENT SITE UNKNOWN/NOT REPORTED OBSTRUCTIONS TO VISION AT ACCIDENT SITE NONE	TYPE OF FLIGHT PLAN IFR	REMARKS - CABIN ATTENDANT WAS NOT SEATED. SFAT BELT SIGN ON.	1-0065 1/25/63 NR-KANDAHAR, AFGHAN TIME - 0205 BOEING 707 N427PA - NONE DAMAGE - NONE	CR- 0 1 9 PX- 0 5 3	SCHED DUM PASSG SRV	AIRLINE TRANSPORT, AGE 59, 26163 TOTAL HOURS, 517 IN TYPE, INSTRUMENT RATED.
OPERATOR - PAN AMERICAN WORLD AIRWAYS, INC. TYPE OF ACCIDENT TURBULENCE	PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE	REMARKS - INVESTIGATION UNDER JURISDICTION OF GCNT OF AFGHANISTAN.							

BRIEFS OF ACCIDENTS

FILE	DATE	LOCATION	AIRCRAFT DATA	INJURIES	FLIGHT PURPOSE	PILOT DATA
			F S M/N	F S M/N		
1-0066	9/5/66 TWF - 0945	NE RICHMOND, WIS	DOUGLAS DC-8 NEOLOU DAMAGE-SUBSTANTIAL	CR- 0 PX- 0	SCHED DUM PASSG SRV	AIRLINE TRANSPORT, AGE 47, 1100 TOTAL HOURS, 3327 IN TYPE, INSTRUMENT RATED.
OPERATOR - UNITED AIR LINES, INC. DEPARTURE PTN: BOSTON, MASS. INTENDED DESTINATION SEATTLE, WASH	TYPE OF ACCIDENT TURBULENCE	PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE				
POSSIBLE CAUSE(S) WEATHER - TURBULENCE, ASSOCIATED W/ CLOUDS, THUNDERSTORMS FACTORS						
MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT NOT FASTENED						
WEATHER - THUNDERSTORM ACTIVITY						
WEATHER BRIEFING - COMPANY DISPATCH						
WEATHER FORECAST - WEATHER SLIGHTLY WORSE THAN FORECAST						
SKY CONDITION OVERCAST						
VISIBILITY AT ACCIDENT SITE ZERO						
OBSTRUCTIONS TO VISION AT ACCIDENT SITE NONE						
TYPE OF FLIGHT PLAN IFR						
REMARKS- GND AND ACFT RADAR DIDNT SHOW CELL. WEA FCST INACCURATE AS TO TIME AND LOCATION OF TSTM.						
1-0067	10/3/66 N.E. FILLMORE, CALIF TIME - 1345	BOEING 727 N1622U DAMAGE-NONE	CR- 0 PX- 0	1 6 3 8	SCHED DUM PASSG SRV	AIRLINE TRANSPORT, AGE 43, 12740 TOTAL HOURS, 460 IN TYPE, INSTRUMENT RATED.
OPERATOR - UNITED AIR LINES, INC. DEPARTURE PTN: JACKSON, CALIF INTENDED DESTINATION LOS ANGELES, CALIF	TYPE OF ACCIDENT TURBULENCE	PHASE OF OPERATION IN FLIGHT: DESCENDING				
POSSIBLE CAUSE(S) WEATHER - TURBULENCE, ASSOCIATED W/ CLOUDS, THUNDERSTORMS FACTORS						
MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT SIGN ON						
WEATHER BRIEFING - COMPANY DISPATCH						
WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT						
SKY CONDITION UNKNOWN/NOT REPORTED						
VISIBILITY AT ACCIDENT SITE ZERO						
OBSTRUCTIONS TO VISION AT ACCIDENT SITE NONE						
TYPE OF FLIGHT PLAN IFR						
REMARKS- RADAR SHOWED NO RETURN.						

FILE		DATE	LOCATION	AIRCRAFT DATA	INJURIES	FLIGHT PURPOSE	PILOT DATA
1-0069	1/25/63	No. ATLANTIC OCEAN	Douglas DC-8 N4904C	CR- PX- 0	0 1 6 1183	SCHED INTERNAL PASSG SRV	AIRLINE TRANSPORT. AGE 57, 20000 TOTAL HOURS, 500 IN TYPE. INSTRUMENT RATED.
OPERATOR - EASTERN AIR LINES INC.		DEPARTURE POINT NEW YORK, NY	INTENDED DESTINATION SAN JUAN, PR	PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE			
TYPE OF ACCIDENT TURBULENCE							
<p>PROBABLE CAUSE(S)</p> <p>WEATHER - TURBULENCE ASSOCIATED W/ CLOUDS. THUNDERSTORMS</p> <p>PERSONNEL - WEATHER PERSONNEL: INCORRECT WEATHER FORECAST</p> <p>FACTOR(S)</p> <p>MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT SIGN ON</p> <p>WEATHER BRIEFING - COMPANY DISPATCH</p> <p>WEATHER FORECAST - WEATHER CONSIDERABLY WORSE THAN FORECAST</p>							
SKY CONDITION		CEILING AT ACCIDENT SITE CLEAR		UNLIMITED		CEILING AT ACCIDENT SITE	
VISIBILITY AT ACCIDENT SITE		PRECIPITATION AT ACCIDENT SITE 5 OR OVER		NONE		PRECIPITATION AT ACCIDENT SITE	
OBSTRUCTIONS TO VISION AT ACCIDENT SITE		TYPE OF WEATHER CONDITIONS NONE		VFR		TYPE OF WEATHER CONDITIONS	
TYPE OF FLIGHT PLAN							
IFR							
<p>REMARKS- WEA PRG CHART INACCURATE AS TO LOCATION OF CR CLOUDS AND TURB INTENSITY. RADAR DONT SHOW RETURN.</p>							
1-0069	6/12/64	NP-NORFOLK, VA	Douglas DC-8 N8775	CR- PX- 0	0 10 1 94	SCHED DOM PASSG SRV	AIRLINE TRANSPORT. AGE 47, 19377 TOTAL HOURS, 620 IN TYPE. INSTRUMENT RATED.
OPERATOR - EASTERN AIR LINES INC.		DEPARTURE POINT JFK INT'L, NY	INTENDED DESTINATION MIAMI, FLA	PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE			
TYPE OF ACCIDENT TURBULENCE							
<p>PROBABLE CAUSE(S)</p> <p>WEATHER - TURBULENCE ASSOCIATED W/ CLOUDS. THUNDERSTORMS</p> <p>FACTOR(S)</p> <p>PILOT IN COMMAND - FAILED TO FOLLOW APPROVED PROCEDURES, DIRECTIVES, ETC.</p> <p>MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT SIGN ON</p> <p>WEATHER BRIEFING - COMPANY DISPATCH</p> <p>WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT</p>							
SKY CONDITION		CEILING AT ACCIDENT SITE OVERCAST		PRECIPITATION AT ACCIDENT SITE ZERO		CEILING AT ACCIDENT SITE UNKNOWN/NOT REPORTED	
VISIBILITY AT ACCIDENT SITE		THUNDERSTORM		AIRSTRUCTURE TO VISION AT ACCIDENT SITE NONE		THUNDERSTORM	
TYPE OF FLIGHT PLAN						TYPE OF WEATHER CONDITIONS	
IFR							
<p>REMARKS- KNOWN ISM ACTIVITY IN AREA. PILOT DID NOT GIVE VERBAL WARNING TO PILOT AND CREW.</p>							

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BRIEFS OF ACCIDENTS

FILE	DATE	LOCATION	AIRCRAFT DATA	INJURIES	FLIGHT PURPOSE	PILOT DATA
				F S/M/N		
1-0070	7/5/68	NR-HECTOR, CALIF TIME - 1317	BOEING 727 N898PC DAMAGE - NONE	CR- 0 1 5 PX- 0 0 6	SCHED DOM PASSG SRV	AIR, FLIGHT INSTR., AGE 49, 23000 TOTAL HOURS, 871 IN TYPE, INSTRUMENT RATED.
OPERATOR - AIR WEST, INC. DEPARTURE POINT LAS VEGAS, NEV TYPE OF ACCIDENT TURBULENCE	INTENDED DESTINATION LOS ANGELES, CALIF				PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE	
PROBABLE CAUSE(S) WEATHER - TURBULENCE IN FLIGHT, CLEAR AIR FACTOR(S) MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT SIGN ON WEATHER BRIEFING - COMPANY DISPATCH WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT					CEILING AT ACCIDENT SITE UNKNOWN/NOT REPORTED PRECIPITATION AT ACCIDENT SITE NONE TYPE OF WEATHER CONDITIONS VFR	
SKY CONDITION BROKEN VISIBILITY AT ACCIDENT SITE 5 OR OVER OBSTRUCTIONS TO VISION AT ACCIDENT SITE NONE TYPE OF FLIGHT PLAN IFR REMARKS- CUMULUS BUILDUP TO RT. UNABLE TO STEER LEFT DUE TO RESTRICTED AREA 2501.						
1-0071	10/28/68	NO. PACIFIC OCEAN TIME - 2200	BOEING 707 N424PA DAMAGE - NONE	CR- 0 2 9 PX- 0 0 53	SCHED DOM PASSG SRV	AIRLINE TRANSPORT, AGE 57, 19300 TOTAL HOURS, 5226 IN TYPE, INSTRUMENT RATED.
OPERATOR - PAN AMERICAN WORLD AIRWAYS, INC. DEPARTURE POINT TOKYO, JAPAN TYPE OF ACCIDENT TURBULENCE	INTENDED DESTINATION SAN FRANCISCO, CALIF				PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE	
PROBABLE CAUSE(S) WEATHER - TURBULENCE IN FLIGHT, CLEAR AIR FACTOR(S) MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT SIGN OFF WEATHER BRIEFING - COMPANY DISPATCH WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT					CEILING AT ACCIDENT SITE UNKNOWN/NOT REPORTED PRECIPITATION AT ACCIDENT SITE NONE TYPE OF WEATHER CONDITIONS VFR	
SKY CONDITION BROKEN VISIBILITY AT ACCIDENT SITE 5 OR OVER OBSTRUCTIONS TO VISION AT ACCIDENT SITE NONE TYPE OF FLIGHT PLAN IFR REMARKS- PX WARNED TO KEEP SEAT BELTS LOOSELY FASTENED.						

FILE	DATE	LOCATION	AIRCRAFT DATA	BRIEFS OF ACCIDENTS			PILOT DATA
				INJURIES F S M/N	FLIGHT PURPOSE		
I-0011	3/20/69	NR. HONOLULU, HAWAII TIME - 0400	BOEING 707 N427PA DAMAGE-NONE	CR- 0 0 8 PX- 0 1 70	SCHED INTERNATL	PASSG SRV AIRLINE TRANSPORT. UNK/AR, 17290 TOTAL HOURS, 3413 IN TYPE. INSTRUMENT RATED.	
		OPERATOR - PAN AMERICAN WORLD AIRWAYS, INC. DEPARTURE POINT LOS ANGELES, CALIF TYPE OF ACCIDENT TURBULENCE	INTENDED DESTINATION NEW YORK, NY		LAST ENROUTE STOP LONDON, ENGLAND PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE		
		PROBABLE CAUSE(S) FACTOR(S)	MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT SIGN ON WEATHER BRIEFING - COMPANY DISPATCH WEATHER FORECAST - UNKNOWN/NOT REPORTED				
		SKY CONDITION CLEAR	VISIBILITY AT ACCIDENT SITE 5 OR OVER OBSTRUCTIONS TO VISION AT ACCIDENT SITE NONE	CEILING AT ACCIDENT SITE UNLIMITED PRECIPITATION AT ACCIDENT SITE NONE			
		TYPE OF FLIGHT PLAN IFR	WEATHER FORECAST - UNKNOWN/NOT REPORTED	TYPE OF WEATHER CONDITIONS VFR			
		REMARKS- PX RETURNING TO SEAT FROM BLUF ROOM AS SEAT BELT SIGN WAS TURNED ON WAS THROWN TO FLOOR.					
I-0012	3/16/69	NR. PULASKI, VA TIME - 1640	DOUGLAS DC-8 N8038A DAMAGE-NONE	CR- 0 1 6 PX- 0 0 59	SCHED DOM PASSG SRV	AIRLINE TRANSPORT. AGE 44, 22778 TOTAL HOURS, 1452 IN TYPE. INSTRUMENT RATED.	
		OPERATOR - DELTA AIR LINES, INC. DEPARTURE POINT NEW ORLEANS, LA TYPE OF ACCIDENT .. TURBULENCE	INTENDED DESTINATION DULLES AIRPORT, VA		PHASE OF OPERATION IN FLIGHT: DESCENDING		
		PROBABLE CAUSE(S) FACTOR(S)	MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT SIGN ON WEATHER BRIEFING - UNKNOWN/NOT REPORTED WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT				
		SKY CONDITION UNKNOWN/NOT REPORTED	VISIBILITY AT ACCIDENT SITE UNKNOWN/NOT REPORTED OBSTRUCTIONS TO VISION AT ACCIDENT SITE UNKNOWN/NOT REPORTED	CEILING AT ACCIDENT SITE UNKNOWN/NOT REPORTED PRECIPITATION AT ACCIDENT SITE UNKNOWN/NOT REPORTED			
		TYPE OF FLIGHT PLAN IFR	WEATHER FORECAST - UNKNOWN/NOT REPORTED	TYPE OF WEATHER CONDITIONS VFR			
		REMARKS- STEWARDESSES THROWN TO CEILING WHILE IN AISLE.					

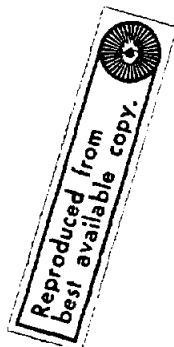
BRIEFS OF ACCIDENTS

FILE DATE	LOCATION	AIRCRAFT DATA	INJURIES F S M/N	FLIGHT PURPOSE	PILOT DATA	
					CR- PX-	0 0 1 75
1-0915 27/9/99	SEATTLE, WASH	BOEING B-727 N7056U			AIRLINE TRANSPORT, AGE 38, 7000 TOTAL HOURS, 345 IN TYPE, INSTRUMENT RATED.	
OPERATOR - UNITED AIR LINES, INC.						
DEPARTURE POINT	INTENDED DESTINATION					
LOS ANGELES, CALIF	SEATTLE, WASH					
TYPE OF ACCIDENT						
TURBULENCE						
POTENTIAL CAUSE(S)						
WEATHER - TURBULENCE IN FLIGHT, CLEAR AIR						
PERSONNEL - MISCELLANEOUS-PERSONNEL: PASSENGER						
FACT(S)						
MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT SIGN ON						
WEATHER BRIEFING - BRIEFING RECEIVED-METHOD UNKNOWN						
WEATHER FORECAST - UNKNOWN/NOT REPORTED						
SKY CONDITION						
CLEAR						
VISIBILITY AT ACCIDENT SITE						
5 KM OVER						
OBSTRUCTIONS TO VISION AT ACCIDENT SITE						
VORAF						
TYPE OF FLIGHT PLAN						
IFR						
REMARKS - PX RETURNING TO SEAT FELL, BROKE ANKLE.						

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BRIEFS OF ACCIDENTS									
FILE	DATE	LOCATION	AIRCRAFT DATA	INJURIES	FLIGHT PURPOSE				PILOT DATA
				F S F S M/N					
1-0018	4/27/69	OVER CUBA TIME - 1345	DOUGLAS DC-8 N8764 DAMAGE-MINOR	CR- 0 PX- 0	NS/CTR REVENUE PASSG INTL AIRLINE TRANSPORT T. AGE 56, 24289 TOTAL HOURS, 1805 IN TYPE, INSTRUMENT RATED.				
		OPERATOR - EASTERN AIR LINES, INC. DEPARTURE POINT - BOSTON, MASS TYPE OF ACCIDENT - TURBULENCE	INTENDED DESTINATION JAMAICA, BWI						
		PURSUIT CAUSE(S) WEATHER - TURBULENCE, ASSOCIATED W/ CLOUDS, THUNDERSTORMS FACT(V)S)	PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE						
		PILOT IN COMMAND - FAILED TO FOLLOW APPROVED PROCEDURES, DIRECTIVES, ETC. MISCELLANEOUS ACTIC CONDITIONS - SEAT BELT SIGN ON WEATHER - THUNDERSTORM ACTIVITY WEATHER BRIEFING - COMPANY DISPATCH WEATHER FORECAST - WEATHER SLIGHTLY WORSE THAN FORECAST	SKY CONDITION OVERCAST VISIBILITY AT ACCIDENT SITE ZERO INSTRUCTIONS TO VISION AT ACCIDENT SITE UNKNOWN/NOT REPORTED TYPE OF FLIGHT PLAN IFR		CETILING AT ACCIDENT SITE UNKNOWN/NOT REPORTED PRECIPITATION AT ACCIDENT SITE UNKNOWN/NOT REPORTED TYPE OF WEATHER CONDITIONS IFR				
		REMARKS - PILOT GAVE CREW AND PX AMPLE WARNING BUT DID NOT SLOW ACFT TU COMPANY MAX TSTM PENETRATION A/S.							



BRIEFS OF ACCIDENTS						
FILE	DATE	LOCATION	AIRCRAFT DATA	INJURIES	FLIGHT PURPOSE	PILOT DATA
1-0019	4/7/77/69 TIME - 1055	NO. ATLANTIC OCEAN	DOUGLAS DC-8 N8601 DAMAGE-MINOR	CR- 0 0 7 PX- 0 8100	SCHED INTERNAL PASSG SRV	AIRLINE TRANSPORT, AGE 53, UNK/NR TOTAL HOURS UNK/NR IN TYPE, INSTRUMENT RATED.
OPERATOR - EASTERN AIR LINES, INC.						
DEPARTURE POINT SAN JUAN, PR						
INTENDED DESTINATION PHILADELPHIA, PA						
TYPE OF ACCIDENT TURBULENCE						
PROBABLE CAUSE(S)						
WEATHER - TURBULENCE, ASSOCIATED W CLOUDS, THUNDERSTORMS						
FACTOR(S)						
PERSONNEL - OTHER FLIGHT PERSONNEL						
MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT SIGN ON						
WEATHER - THUNDERSTORM ACTIVITY						
WEATHER BRIEFING - COMPANY DISPATCH						
WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT						
SKY CONDITION						
UNKNOWN/NOT REPORTED						
VISIBILITY AT ACCIDENT SITE						
UNKNOWN/NOT REPORTED						
OBSTRUCTIONS TO VISION AT ACCIDENT SITE						
UNKNOWN/NOT REPORTED						
TYPE OF FLIGHT PLAN						
IFR						
REMARKS- RADAR INOPERATIVE. PLT WARNED FLT ATTENDANTS, BUT THEY DID NOT CHECK PX SEAT BELTS.						

BRIEFS OF ACCIDENTS									
FILE	DATE	LOCATION	AIRCRAFT DATA	INJURIES	FLIGHT PURPOSE				PILOT DATA
				F S M/N					
1-0023	11/26/59	NR. JAFNSVILLE, WIS.	BOEING 720 N721U DAMAGE-NONE	CR- 0 0 7 PX- 0 118	SCHED DOM PASSG SRV	AIRLINE TRANSPORT, AGE 52, 201.0 TOTAL HOURS, 1250 IN TYPE, INSTRUMENT RATED.			
	TIME - 1250								
	OPERATOR - UNITED AIR LINES, INC.								
	DEPARTURE POINT - DENVER, COLOR.								
	TYPE OF ACCIDENT - TURBULENCE								
		INTENDED DESTINATION CHICAGO, ILL							
	PROBABLE CAUSE(S)								
	WEATHER - TURBULENCE, ASSOCIATED W/ CLOUDS, THUNDERSTORMS								
	FACTOR(S)								
	PERSONNEL - DISPATCHING: FAILURE TO KEEP FLIGHT PROPERLY ADVISED								
	PILOT IN COMMAND - FAILED TO FOLLOW APPROVED PROCEDURES, DIRECTIVES, ETC.								
	MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT SIGN ON								
	WEATHER BRIEFING - COMPANY DISPATCH								
	WEATHER FORECAST - WEATHER SLIGHTLY WORSE THAN FORECAST								
	SKY CONDITION								
	OVERCAST								
	VISIBILITY AT ACCIDENT SITE								
	LEVEL								
	OBSTRUCTIONS TO VISION AT ACCIDENT SITE								
	NONE								
	TYPE OF FLIGHT PLAN								
	IFR								
	REMARKS - PLT DID NOT GIVE VERBAL WARNING TO CABIN. SEVERE WEA FCST WAS NOT RELAYED TO ACFT BY DISPATCHER.								
1-0029	4/3/69	NR. ST.LOUIS, MO	BOEING 707 N771W DAMAGE-NONE	CR- 0 1 6 PX- 0 52	SCHED DOM PASSG SRV	AIRLINE TRANSPORT, AGE 49, 2176.5 TOTAL HOURS, 237 IN TYPE, INSTRUMENT RATED.			
	TIME - 2020								
	OPERATOR - TRANS WORLD AIRLINES, INC.								
	DEPARTURE POINT - KANSAS CITY, MO								
	INTENDED DESTINATION MIAMI, FLA								
	TYPE OF ACCIDENT - TURBULENCE								
	PROBABLE CAUSE(S)								
	WEATHER - TURBULENCE, ASSOCIATED W/ CLOUDS, THUNDERSTORMS								
	FACTOR(S)								
	MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT SIGN ON								
	WEATHER BRIEFING - COMPANY DISPATCH								
	WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT								
	SKY CONDITION								
	UNKNOWN/NOT REPORTED								
	VISIBILITY AT ACCIDENT SITE								
	UNKNOWN/NOT REPORTED								
	OBSTRUCTIONS TO VISION AT ACCIDENT SITE								
	NONE								
	TYPE OF FLIGHT PLAN								
	IFR								
	REMARKS - ARTC WAS RADAR VECTORING ACFT AROUND WORST STM ACTIVITY. ACFT RADAR ON AND OPERATING.								

BRIEFS OF ACCIDENTS

FILE	DATE	LOCATION	AIRCRAFT DATA	INJURIES F S M/N	FLIGHT PURPOSE	PILOT DATA
1-0030	7/22/63	IVERGREEN, ALA TIME - 1620	Douglas DC-8 N812F DAMAGE-NONE	CR- 0 1 6 PX- 0 0 75	SCHED DOM PASSG SRV	AIRLINE TRANSPORT, AGE 47+ 13850 TOTAL HOURS, 140 IN TYPE, INSTRUMENT RATED.
		OPERATOR - DELTA AIR LINES, INC. DEPARTURE POINT ATLANTA, GA TYPE OF ACCIDENT TURBULENCE	INTENDED DESTINATION NEW ORLEANS, LA		PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE	
		PROBABLE CAUSE(S) PILOT IN COMMAND - FAILED TO FOLLOW APPROVED PROCEDURES, DIRECTIVES, ETC. WEATHER - TURBULENCE, ASSOCIATED W/ CLOUDS, THUNDERSIGNS				
		FACTOR(S)				
		WEATHER - THUNDERSTORM ACTIVITY WEATHER BRIEFING - COMPANY DISPATCH WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT				
		SKY CONDITION UNKNOWN/NOT REPORTED	CeILING AT ACCIDENT SITE UNKNOWN/NOT REPORTED			
		VISIBILITY AT ACCIDENT SITE UNKNOWN/NOT REPORTED	PRECIPITATION AT ACCIDENT SITE UNKNOWN/NOT REPORTED			
		INSTRUCTIONS TO VISION AT ACCIDENT SITE UNKNOWN/NOT REPORTED	TYPE OF WEATHER CONDITIONS VFR			
		TYPE OF FLIGHT PLAN IFR				
		REMARKS - SEAT BELT SIGN WAS TURNED ON TOO LATE. REVERSED SERVICE IN PROGRESS.				
1-0031	8/7/69	NO. ATLANTIC OCEAN TIME - 1441	Douglas DC-8 N8775 DAMAGE-NONE	CR- 0 0 9 PX- 0 1100	SCHED INTERNATI PASSG SRV AIRLINE TRANSPORT, AGE 55+ 24000 TOTAL HOURS, 1000 IN TYPE, INSTRUMENT RATED.	
		OPERATOR - JASPER AIR LINES, INC. DEPARTURE POINT FORT MCDOWELL, AZ TYPE OF ACCIDENT TURBULENCE	INTENDED DESTINATION JFK INTL, NY		PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE	
		PROBABLE CAUSE(S) WEATHER - TURBULENCE, ASSOCIATED W/ CLOUDS, THUNDERSIGNS				
		FACTOR(S)				
		MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT SIGN ON				
		WEATHER BRIEFING - COMPANY DISPATCH WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT				
		SKY CONDITION OVERCAST	CeILING AT ACCIDENT SITE UNKNOWN/NOT REPORTED			
		VISIBILITY AT ACCIDENT SITE OVERCAST	PRECIPITATION AT ACCIDENT SITE UNKNOWN			
		INSTRUCTIONS TO VISION AT ACCIDENT SITE UNKNOWN	TYPE OF WEATHER CONDITIONS VFR			
		TYPE OF FLIGHT PLAN IFR				
		REMARKS - PX WAS RETURNING TO SEAT FROM HIKE ROOM. ACFT ABOUT MIDWAY BETWEEN BERMUDA AND NY.				

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BRIEFS OF ACCIDENTS						
FILE	DATE	LOCATION	AIRCRAFT DATA	INJURIES	FLIGHT	PILOT DATA
				F S M/N	PURPOSE	
1-0032	9/20/69	SOUTHERN PACIFIC OCEAN TIME - 0940	BOEING 707 N17321 DAMAGE-NONE	CR- 0 1 7 PX- 0 0165	MIL CONTRACT PASSG INTL	AIRLINE TRANSPORT, AGE 49, 21715 TOTAL HOURS, 5510 IN TYPE, INSTRUMENT RATED.
DEPARTURE POINT HONOLULU, HAWAII	CONTINENTAL AIR LINES, INC. INTENDED DESTINATION CLARK AFB, PI	TYP OF ACCIDENT TURBULENCE	PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE			
PROBABLE CAUSE(S) WEATHER - TURBULENCE, ASSOCIATED W/ CLOUDS, THUNDERSTORMS FACTORS)	MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT SIGN ON	SKY CONDITION UNKNOWN/NOT REPORTED	CEILING AT ACCIDENT SITE UNKNOWN/NOT REPORTED			
WEATHER BRIEFING - COMPANY DISPATCH	OBSTRUCTIONS TO VISION AT ACCIDENT SITE	VISIBILITY AT ACCIDENT SITE ZERO	PRECIPITATION AT ACCIDENT SITE NONE			
WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT	TYPE OF FLIGHT PLAN IFR	TYPE OF WEATHER CONDITIONS VFR	TYPE OF WEATHER CONDITIONS VFR			
REMARKS- RADAR DIDNT SHOW PATTERN. PLT HAD AVOIDED KNOWN TSTM ACTIVITY. HALFWAY BETWEEN GUAM AND PI.						
1-0034	9/4/69	NR. JACKSON, MISS TIME - 1710	CONVAIR 880 N880E DAMAGE-NONE	CR- 0 1 5 PX- 0 0 48	SCHED DMD PASSG SRV	AIRLINE TRANSPORT, AGE 50, 21000 TOTAL HOURS, 6100 IN TYPE, INSTRUMENT RATED.
OPERATOR - DELTA AIR LINES, INC.	INTENDED DESTINATION CHICAGO, ILL	PHASE OF OPERATION IN FLIGHT: DESCENDING	CEILING AT ACCIDENT SITE UNKNOWN/NOT REPORTED			
DEPARTURE POINT NEW ORLEANS, LA	TYPE OF ACCIDENT TURBULENCE	PROBABLE CAUSE(S) PILOT IN COMMAND - FAILED TO FOLLOW APPROVED PROCEDURES, DIRECTIVES, ETC. WEATHER - TURBULENCE, ASSOCIATED W/ CLOUDS, THUNDERSTORMS FACTORS)	PRECIPITATION AT ACCIDENT SITE NONE			
MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT SIGN OFF	WEATHER BRIEFING - COMPANY DISPATCH	OBSTRUCTIONS TO VISION AT ACCIDENT SITE NONE	TYPE OF WEATHER CONDITIONS VFR			
WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT	REMARKS- SC10 TSTM FCST FOR ROUTE OF FLT.					

BRIEFS OF ACCIDENTS

FILE	DATE	LOCATION	AIRCRAFT DATA	INJURIES F S M/N	FLIGHT PURPOSE	PILOT DATA
1-0038	7/23/69	N. PACIFIC OCEAN TIME - 1150	DOUGLAS DC8-63 N8635SW DAMAGE-NONE	CR- 0 2 8 PX- 0 0219	MIL CONTRACT PASSG INTL	AIRLINE TRANSPORT, AGE 44, 136.75 TOTAL HOURS, 800 IN TYPE, INSTRUMENT RATED.
OPERATOR - SEABOARD WORLD AIRLINES, INC. INTENDED DESTINATION CAM RANH, S. VIETNAM						
TYPE OF ACCIDENT TURBULENCE						
PROBABLE CAUSE(S) PILOT IN COMMAND - FAILED TO FOLLOW APPROVED PROCEDURES, DIRECTIVES, ETC. WEATHER - TURBULENCE IN FLIGHT, CLEAR AIR						
FACTOR(S) MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT SIGN ON WEATHER BRIEFING - BRIEFING RECEIVED-METHOD UNKNOWN WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT						
SKY CONDITION SCATTERED VISIBILITY AT ACCIDENT SITE 2 MILES OR LESS OBSTRUCTIONS TO VISION AT ACCIDENT SITE UNKNOWN/DID NOT REPORTED TYPE OF FLIGHT PLAN IFR						
REMARKS- TCU AND CU IN AREA. FLT FNCTRD CHOP APRX 2 MIN BFR HARO GUSTS. SEAT BELT SIGN TURNED ON TOO LATE.						
1-0039	8/7/69	N.J. PACIFIC OCEAN TIME - 0425	BOEING 707 N763PA DAMAGE-NONE	CR- 0 1 10 PX- 0 2 85	SCHED INTERNATL PASSG SRV AIRLINE TRANSPORT, AGE 59, UNK/NR TOTAL HOURS, 780 IN TYPE, INSTRUMENT RATED.	
OPERATOR - PAN AMERICAN WORLD AIRWAYS, INC. INTENDED DESTINATION SYDNEY, AUS						
DEPARTURE POINT HONOLULU, HAWAII						
TYPE OF ACCIDENT TURBULENCE						
PROBABLE CAUSE(S) WEATHER - TURBULENCE IN FLIGHT, CLEAR AIR						
FACTOR(S) MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT SIGN OFF WEATHER BRIEFING - COMPANY DISPATCH WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT						
SKY CONDITION CLEAR VISIBILITY AT ACCIDENT SITE 4 MILES OR LESS OBSTRUCTIONS TO VISION AT ACCIDENT SITE HAZE TYPE OF FLIGHT PLAN IFR						

BRIEFS OF ACCIDENTS									
FILE	DATE	LOCATION	AIRCRAFT DATA	INJURIES	FLIGHT PURPOSE	F	S	M/N	PILOT DATA
1-0041	10/11/69 TIME - 0245	NO. PACIFIC OCEAN	BOEING 707 N18701 DAMAGE-NONE	CR- 0 2 6 PX- 0 62	SCHED INTERNATL PASSG SRV	AIRLINE TRANSPORT, AGE 53, 25896 TOTAL HOURS, 6440 IN TYPE, INSTRUMENT RATED.			
OPERATOR - TRANS WORLD AIRLINES, INC.									
	DEPARTURE POINT HONOLULU, HAWAII	INTENDED DESTINATION AGANA, GUAM			PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE				
	TYPE OF ACCIDENT TURBULENCE								
PROBABLE CAUSE(S)									
	WEATHER - TURBULENCE IN FLIGHT,CLEAR AIR FACTOR(S)								
	MISCELLANEOUS ACTS,CONDITIONS - SEAT BELT SIGN ON WEATHER BRIEFING - COMPANY DISPATCH								
	WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT								
SKY CONDITION									
	CLEAR				CEILING AT ACCIDENT SITE UNLIMITED				
	VISIBILITY AT ACCIDENT SITE 5 OR OVER				PRECIPITATION AT ACCIDENT SITE NONE				
	OBSTRUCTIONS TO VISION AT ACCIDENT SITE NONE				TYPE OF WEATHER CONDITIONS VFR				
	TYPE OF FLIGHT PLAN IFR								
	REMARKS- MALE BAGS SIGNED IN REAR SEATS PREVENTED FLT ATTNTS FROM OBSERVING SEAT BELT SIGN.								
 1-0042 10/12/69 NO. PACIFIC OCEAN									
	TIME - 0130		BOEING 707 N18709 DAMAGE-NONE	CR- 0 0 8 PX- 0 146	MIL CONTRACT PASSG INTL	AIRLINE TRANSPORT, AGE 55, 20250 TOTAL HOURS, UNK/NR IN TYPE, INSTRU- MENT RATED.			
	DEPARTURE POINT Kadena,Okinawa	INTENDED DESTINATION HONOLULU,HAWAII			PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE				
	TYPE OF ACCIDENT TURBULENCE								
PROBABLE CAUSE(S)									
	WEATHER - TURBULENCE IN FLIGHT,CLEAR AIR PILOT IN COMMAND - FAILED TO FOLLOW APPROVED PROCEDURES,DIRECTIVES,ETC..								
	MISCELLANEOUS ACTS,CONDITIONS - SEAT BELT SIGN OFF WEATHER BRIEFING - COMPANY DISPATCH								
	WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT								
SKY CONDITION									
	CLEAR				CEILING AT ACCIDENT SITE UNLIMITED				
	VISIBILITY AT ACCIDENT SITE 5 OR OVER				PRECIPITATION AT ACCIDENT SITE NONE				
	OBSTRUCTIONS TO VISION AT ACCIDENT SITE NONE				TYPE OF WEATHER CONDITIONS VFR				
	TYPE OF FLIGHT PLAN IFR								
	REMARKS- FLT NEAR A TYPHOON AREA.								

BRIEFS OF ACCIDENTS

FILE	DATE	LOCATION	AIRCRAFT DATA			INJURIES F S M/N	FLIGHT PURPOSE	PILOT DATA
			TYPE	MANUFACTURER	MODEL			
I-0043	27/1/69 NR-HCUSTON, TEX TIME - 1130	NR-HCUSTON, TEX INTENDED DESTINATION HOUSTON, TEX	BOEING 720 N720PA DAMAGE-NONE	CR-PX-	0 0 7 0 0 23	SCHED INTERNATL PASSG SRV	AIRLINE TRANSPORT. AGE 51, 21348 TOTAL HOURS, 868 IN TYPE, INSTRUMENT RATED.	
OPERATOR - PAN AMERICAN WORLD AIRWAYS, INC. DEPARTURE POINT - MEXICO CITY, MEX TYPE OF ACCIDENT - THREUH ENCE								
PROBABLE CAUSE(S) WEATHER - TURBULENCE, ASSOCIATED W/ CLOUDS, THUNDERSTORMS PERSONNEL - OTHER FLIGHT PERSONNEL MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT NOT FASTENED FACTOR(S) MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT SIGN ON WEATHER BRIEFING - COMPANY DISPATCH WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT								
SKY CONDITION OVERCAST VISIBILITY AT ACCIDENT SITE ZERO OBSTRUCTIONS TO VISION AT ACCIDENT SITE NONE TYPE OF FLIGHT PLAN IFR REMARKS - SEAT BELT ANNOUNCEMENT HAD BEEN MADE.								

CEILING AT ACCIDENT SITE
UNKNOWN/NOT REPORTED
PRECIPITATION AT ACCIDENT SITE
UNKNOWN/NOT REPORTED
TYPE OF WEATHER CONDITIONS
IFR

BRIEFS OF ACCIDENTS

FILE	DATE	LOCATION	AIRCRAFT DATA	INJURIES F S M/N	FLIGHT PURPOSE	PILOT DATA
I-0047	8/27/69	ATLANTA, GA	DOUGLAS DC-8 N1302L DA/PAC-NINE	CR- 0 PX- 0	1 8 0 0167	SCHED DUM PASSG SRV ATLANTIC TRANSPORT, AGE 57, 24339 TOTAL HOURS, 4342 IN TYPE, INSTRUMENT RATED.

OPERATOR - DELTA AIR LINES, INC.

DEPARTURE POINT - ATLANTA, GA

INTENDED DESTINATION - TAMPA, FLA

TYPE OF ACCIDENT

TURBULENCE

PROBABLE CAUSE(S)

WEATHER - TURBULENCE ASSOCIATED W CLOUDS, THUNDERSTORMS
PERSONNEL - OTHER FLIGHT PERSONNEL

"1" MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT NOT FASTENED

FACTOR(S)

MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT SIGN ON

WEATHER - THUNDERSTORM ACTIVITY

WEATHER WITNESSING - COMPANY DISPATCH

WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT

SKY CONDITION

BROKEN/LOUDER SCATTERED

VISIBILITY AT ACCIDENT SITE

ZERO

OBSTRUCTIONS TO VISION AT ACCIDENT SITE

NONE

TYPE OF FLIGHT PLAN

IFR

REMARKS - PILOT REQUESTED VECTOR AROUND STORM. ATC RADAR WAS INOP. STEWARDESSE INADVERTENTLY RELEASED SEAT BELT.

CLOUDING AT ACCIDENT SITE
10000
PRECIPITATION AT ACCIDENT SITE
RAIN SHOWERS, THUNDERSTORM
TYPE OF WEATHER CONDITIONS
VFR

BRIEFS OF ACCIDENTS

FILE	DATE	LOCATION	AIRCRAFT DATA	INJURIES F S M/N	FLIGHT PURPOSE	PILOT DATA
1-0057	4/24/63 NR LAS VFGAS,NFV TIME - 1444	Douglas UC-9 N9337 DAMAGE-NONE	CR- PX- 0	0 0 5 1 28	SCHED DOM PASSG SRV PHASE OF OPERATION IN FLIGHT: DESCENDING	AIRLINE TRANSPORT, AGE 46, 24500 TOTAL HOURS. UNK/NR IN TYPE, INSTRU- MENT RATED.
OPERATOR - AIR WEST, INC.	DEPARTURE POINT RENDO, NEV TYPE OF ACCIDENT TURBULENCE	INTENDED DESTINATION PHOENIX, ARIZ			LAST ENROUTE STOP LAS VEGAS, NEW PHASE OF OPERATION	
PROBABLE CAUSE(S) PERSONNEL - MISCELLANEOUS-PERSONNEL: PASSENGER WEATHER - TURBULENCE IN FLIGHT, CLEAR AIR	FACTOR(S)					
MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT SIGN ON WEATHER BRIEFING - COMPANY DISPATCH WEATHER FORECAST - WEATHER SLIGHTLY WORSE THAN FORECAST						
SKY CONDITION CLEAR	VISIBILITY AT ACCIDENT SITE 5 OR OVER	CEILING AT ACCIDENT SITE UNLIMITED				
OBSTRUCTIONS TO VISION AT ACCIDENT SITE NONE	TYPE OF WEATHER CONDITIONS VFR	PRECIPITATION AT ACCIDENT SITE NONE				
TYPE OF FLIGHT PLAN IFR	REMARKS- PX FRACTURED KNEE WHILE IN LAVATORY.	TYPE OF WEATHER CONDITIONS VFR				
1-0059	2/7/69 SD, PACIFIC OCEAN TIME - 0426	BOEING 707 N414PA DAMAGE-NONE	CR- PX- 0	0 10 1 12	SCHED INTERNATIONAL PASSG SRV PHASE OF OPERATION IN FLIGHT: NORMAL CRUISE	AIRLINE TRANSPORT, AGE UNK/NR, 20117 TOTAL HOURS, 4317 IN TYPE, INSTRUMENT RATED.
OPERATOR - PAN AMERICAN WORLD AIRWAYS, INC.	DEPARTURE POINT HONG KONG, CHINA	INTENDED DESTINATION SYDNEY, AUSTRALIA				
TYPE OF ACCIDENT TURBULENCE						
PROBABLE CAUSE(S) WEATHER - TURBULENCE, ASSOCIATED W/ CLOUDS, THUNDERSTORMS	FACTOR(S)	CEILING AT ACCIDENT SITE UNKNOWN/NOT REPORTED				
MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT SIGN ON WEATHER BRIEFING - COMPANY DISPATCH WEATHER FORECAST - FORECAST SUBSTANTIALLY CORRECT		PRECIPITATION AT ACCIDENT SITE NONE				
SKY CONDITION BROKEN	OBSTRUCTIONS TO VISION AT ACCIDENT SITE 3 MILES OR LESS	TYPE OF WEATHER CONDITIONS VFR				
VISIBILITY AT ACCIDENT SITE NONE	REMARKS- PENETRATED TOP OF CB CLOUD FLYING IN STRATUS LAYER. RADAR DIDNT SHOW CB.					

BRIEFS OF ACCIDENTS

FILE	DATE	LOCATION	AIRCRAFT DATA	INJURIES F S M/N	FLIGHT PURPOSE	PILOT DATA
1-0061	12/21/69 NR. DENVER, COLO TIME - 1450	BOEING 720 N1707 DAMAGE-NONE	CR- 0 0 7 PX- 0 1 86	SCHED DOM PASSG SRV	AIRLINE TRANSPORT, AGE 36, 1000 TOTAL HOURS, 2000 IN TYPE, INSTRUMENT RATED.	

OPERATOR - CONTINENTAL AIR LINES, INC.

DEPARTURE POINT
LOS ANGELES, CALIF
TYPE OF ACCIDENT
TURBULENCEINTENDED DESTINATION
DENVER, COLOPHASE OF OPERATION
IN FLIGHT: DESCENDING

PROBABLE CAUSE(S)

PERSONNEL - MISCELLANEOUS-PERSONNEL: PASSENGER
PERSONNEL - OTHER FLIGHT PERSONNEL
WEATHER - TURBULENCE IN FLIGHT, CLEAR AIR

FACTOR(S)

MISCELLANEOUS ACTS, CONDITIONS - SEAT BELT SIGN ON
WEATHER BRIEFING - BRIEFING RECEIVED-METHOD UNKNOWN
WEATHER FORECAST - UNKNOWN/NOT REPORTED

SKY CONDITION

SCATTERED

VISIBILITY AT ACCIDENT SITE

5 OR OVER

OBSTRUCTIONS TO VISION AT ACCIDENT SITE

NONE

TYPE OF FLIGHT PLAN

IFR

REMARKS - VERBAL AND VISUAL WARN ISSUED IN ANTICIPATION OF TURB. STEWARDESS AND PX INJURED.

CEILING AT ACCIDENT SITE

14000

PRECIPITATION AT ACCIDENT SITE

NONE

TYPE OF WEATHER CONDITIONS

VFR