Statistical Summary of Commercial Jet Airplane Accidents

Worldwide Operations
1959 – 2007

Contents

Published by:

Aviation Safety
Boeing Commercial Airplanes
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http://www.boeing.com/news/techissues
July 2008

Introduction

The accident statistics presented in this summary are confined to worldwide commercial jet airplanes that are heavier than 60,000 pounds maximum gross weight. Within that set of airplanes, there are two groups excluded:

1) Airplanes manufactured in the Commonwealth of Independent States (CIS) or the Union of Soviet Socialist Republics (USSR) are excluded because of the lack of operational data; and

2) Commercial airplanes operated in military service. (However, if a military-owned commercial jet transport is used for civilian commercial service, those data will be included in this summary.)

The following airplane types are included in the statistics:

717	DC-8	A300	BAe 146	F-28	Concorde	L-1011	BAC 1-11	Comet 4
707, 720	DC-9	A300-600	Avro RJ-70/-85/-100	F-70				Trident
727	DC-10/MD-10	A310	CRJ-700/-900	F-100				Caravelle
737	MD-11	A320/321/319/318	EMB-170/-175/-190					Mercure
747	MD-80/-90	A330						CV-880/-990
757		A340						VC-10
767		A380						
777								

Flight operations data for Boeing airplanes are developed internally from airline operator reports. Flight operations data for non-Boeing airplanes are developed from two external sources, AirCraft Analytical System (ACAS) published by Flight, and Client Aviation System Enquiry (CASE) published by Ascend.

Accident data are obtained, when available, from government accident reports. Otherwise, information is from operators, manufacturers, various government and private information services, and press accounts.

Definitions related to development of statistics in this summary are primarily based on corresponding International Civil Aviation Organization (ICAO), National Transportation Safety Board (NTSB), and Flight Safety Foundation (FSF) terms as explained in the next section.

Definitions

Airplane Accident: An occurrence associated with the operation of an airplane that takes place between the time any person boards the airplane with the intention of flight and such time as all such persons have disembarked, in which

- Death or serious injury results from:
  - Being in the airplane; or
  - Direct contact with the airplane or anything attached thereto; or
  - Direct exposure to jet blast;

  Excluding:
  - Fatal and nonfatal injuries from natural causes; and
  - Fatal and nonfatal self-inflicted injuries or injuries inflicted by other persons; and
  - Fatal and nonfatal injuries of stowaways hiding outside the areas normally available to the passengers and crew; and
  - Nonfatal injuries resulting from atmospheric turbulence, maneuvering, loose objects, boarding, disembarking, evacuation, maintenance and servicing; and
  - Nonfatal injuries to persons not aboard the airplane; or
- The airplane sustains substantial damage; or
- The airplane is missing or is completely inaccessible.

The following occurrences are **not** considered airplane accidents – those that are the result of experimental test flights or the result of a hostile action, including sabotage, hijacking, terrorism, and military action.

Note: This is generally consistent with the ICAO and the NTSB definition of an accident (see the Referenced ICAO and NTSB Definitions section). The differences are:

1) *The ICAO and NTSB reference to "aircraft" was changed to "airplane" and references to propellers and rotors were eliminated; and*

2) *This publication excludes events that result in nonfatal injuries from atmospheric turbulence, maneuvering, etc.; nonfatal injuries to persons not aboard the airplane; and any events that result from an experimental test flight or from hostile action, such as sabotage, hijacking, terrorism, and military action.*

Note: Within this publication, the term "accident" is used interchangeably with "airplane accident."

Definitions (continued)

Destroyed: The estimated or likely cost of repairs would have exceeded 50 percent of the new value of the airplane had it still been in production at the time of the accident.

Note: This definition is consistent with the FSF definition. The NTSB defines destroyed as damaged due to impact, fire, or in-flight failures to an extent not economically repairable.

Fatal Injury: Any injury that results in death within 30 days of the accident.

Note: This is consistent with both the ICAO and the NTSB definition.

Major Accident: An accident in which any of three conditions is met:

- The airplane was destroyed; or
- There were multiple fatalities; or
- There was one fatality and the airplane was substantially damaged.

Note: This definition is consistent with the NTSB definition. It is also generally consistent with FSF, except that FSF confines multiple fatalities to occupants. ICAO does not normally define the term major accident.

Serious Injury: An injury which is sustained by a person in an accident and which:

- Requires hospitalization for more than 48 hours, commencing within seven days from the date the injury was received; or
- Results in a fracture of any bone (except simple fractures of fingers, toes or nose); or
- Involves lacerations which cause severe hemorrhage, nerve, muscle or tendon damage; or
- Involves injury to any internal organ; or
- Involves second or third degree burns, or any burns affecting more than 5 percent of the body surface; or
- Involves verified exposure to infectious substances or injurious radiation.

Note: This is consistent with the ICAO definition. It is also consistent with the NTSB's except for the last bullet, which is not included in the NTSB definition.

Definitions (continued)

Substantial Damage: Damage or failure which adversely affects the structural strength, performance, or flight characteristics of the airplane, and which would normally require major repair or replacement of the affected component.
Substantial damage is **not** considered to be:

- Engine failure or damage limited to an engine if only one engine fails or is damaged
- Bent fairings or cowlings
- Dents in the skin
- Small puncture holes in the skin
- Damage to wheels
- Damage to tires
- Damage to flaps
- Damage to engine accessories
- Damage to brakes
- Damage to wingtips

Note 1. – This is generally consistent with the NTSB definition of substantial damage except: 1) It deletes reference to "puncture holes in the fabric" and "ground damage to rotor or propeller blades"; and 2) It deletes "damage to landing gear" from the list of items not considered to be substantial damage.

Note 2. – ICAO does not define the term substantial damage. Still, the above definition is generally consistent with the ICAO definition of structural damage contained within part b) of the ICAO accident definition.

Boeing Terms

The terms on this page were created by Boeing for this publication and do not have corresponding equivalents in ICAO, the NTSB, etc.

Accident Rates: In general, this expression is a measure of accidents per million departures. Departures (or flight cycles) are used as the basis for calculating rates, since there is a stronger statistical correlation between accidents and departures than there is between accidents and flight hours, or between accidents and the number of airplanes in service, or between accidents and passenger miles or freight miles. Airplane departures data are continually updated and revised as new information and estimating processes become available. These form the baseline for the measure of accident rates and, as a consequence, rates may appear to vary between editions of this publication.

Airplane Collisions: Events involving two or more airplanes are counted as separate events, one for each airplane. For example, destruction of two airplanes in a collision is considered to be two separate accidents.

Fatal Accident: An accident that results in fatal injury.

Hull Loss: Airplane totally destroyed or damaged beyond economic repair. Hull loss also includes but is not limited to events in which:

- The airplane is missing; or
- The search for the wreckage has been terminated without it being located; or
- The airplane is completely inaccessible.

Note: Neither ICAO nor the NTSB has a definition for hull loss.

Exclusions

Certain airplanes and events are excluded from consideration as accidents in this summary. This is a complete list of those exclusions.

Excluded Airplanes

Airplanes manufactured in the Commonwealth of Independent States (CIS) or the Union of Soviet Socialist Republics (USSR) are excluded because of the lack of operational data. Commercial airplanes operated in military service are also excluded. (However, if a military-owned commercial jet transport is used for civilian commercial service, those data are included in this summary.)

Excluded Events

- Fatal and nonfatal injuries from natural causes;
- Fatal and nonfatal self-inflicted injuries or injuries inflicted by other persons;
- Fatal and nonfatal injuries of stowaways hiding outside the areas normally available to the passengers and crew;
- Nonfatal injuries resulting from atmospheric turbulence, maneuvering, loose objects, boarding, disembarking, evacuation, and maintenance and servicing;
- Nonfatal injuries to persons not aboard the airplane;
- Experimental test flights (However, maintenance test flights, ferry, positioning, training, and demonstration flights are not excluded events.);
- Sabotage, hijacking, terrorism, and military action.

Referenced ICAO and NTSB Definitions

International Civil Aviation Organization (ICAO) and the National Transportation Safety Board (NTSB) definitions are included below for reference.

Accident

ICAO defines an **accident** as follows:

An occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, in which:

a) A person is fatally or seriously injured as a result of:
   - Being in the aircraft, or
   - Direct contact with any part of the aircraft, including parts which have become detached from the aircraft, or
   - Direct exposure to jet blast,

   except when the injuries are from natural causes, self-inflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to the passengers and crew; or

b) The aircraft sustains damage or structural failure which:
   - Adversely affects the structural strength, performance, or flight characteristics of the aircraft, and
   - Would normally require major repair or replacement of the affected component,

   except for engine failure or damage, when the damage is limited to the engine, its cowlings or accessories; or for damage limited to propellers, wing tips, antennas, tires, brakes, fairings, small dents or puncture holes in the aircraft skin; or

c) The aircraft is missing or is completely inaccessible.

The NTSB defines an **aircraft accident** as follows:

Aircraft accident means an occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight and all such persons have disembarked, and in which any person suffers death or serious injury, or in which the aircraft receives substantial damage.

Referenced ICAO and NTSB Definitions (continued)

Serious Injury

ICAO defines **serious injury** as follows:

An injury which is sustained by a person in an accident and which:

a) Requires hospitalization for more than 48 hours, commencing within seven days from the date the injury was received; or
b) Results in a fracture of any bone (except simple fractures of fingers, toes or nose); or
c) Involves lacerations which cause severe hemorrhage, nerve, muscle or tendon damage; or
d) Involves injury to any internal organ; or
e) Involves second or third degree burns, or any burns affecting more than 5 percent of the body surface; or
f) Involves verified exposure to infectious substances or injurious radiation.

The NTSB defines **serious injury** as follows:

Serious injury means any injury which:

1) Requires hospitalization for more than 48 hours, commencing within 7 days from the date the injury was received;
2) Results in a fracture of any bone (except simple fractures of fingers, toes, or nose);
3) Causes severe hemorrhages, nerve, muscle, or tendon damage;
4) Involves any internal organ; or
5) Involves second- or third-degree burns, or any burns affecting more than 5 percent of the body surface.

Substantial Damage

The NTSB defines **substantial damage** as follows:

Damage or failure that adversely affects the structural strength, performance, or flight characteristics of the aircraft, and that would normally require major repair or replacement of the affected component. Engine failure or damage limited to an engine if only one engine fails or is damaged, bent fairings or cowling, dented skin, small puncture holes in the skin or fabric, ground damage to rotor or propeller blades, and damage to landing gear, wheels, tires, flaps, engine accessories, brakes, or wingtips are not considered "substantial damage."

ICAO does not define the term **substantial damage**.

2007 Airplane Accidents

All Accidents – Worldwide Commercial Jet Fleet

Event Date	Airline	Model (A/P Age in Years)	Type of Operation	Accident Location	Phase of Flight	Event Description	Damage Category	Hull Loss	Injury Category	Onboard Fatalities / Onboard Occupants (External Fatalities)	Major Accident
1-Jan-07	Adam Air	737-400 (18)	Sched Pax	(near) Sulawesi Island, Indonesia	Cruise	The airplane impacted the water following loss of control while in cruise over the ocean.	Destroyed	X	Fatal	102/102	X
13-Jan-07	Gading Sari Aviation Services	737-200 (37)	Sched Cargo	Kuching, Malaysia	Landing	The airplane landed short of the runway, shearing off one main landing gear and one engine. There were no injuries.	Destroyed	X			X
25-Jan-07	Regional Airlines	F-100 (16)	Sched Pax	Pau, France	Takeoff	After a normal takeoff, the airplane struck birds and rolled sharply left and right. It lost height, touched down hard, and bounced. The pilot reduced power, putting the airplane back onto the ground. It overran the runway sheared off the MLG, and struck a passing truck, killing the driver.	Substantial Damage	X	Fatal	(1)	X
4-Feb-07	Tampa Cargo	DC-8 (39)	Sched Cargo	Miami, FL, USA	Landing	Following a normal approach and landing, the R MLG collapsed and the airplane came to rest on the #3 and #4 engines. There were no injuries.	Substantial Damage	X			
18-Feb-07	Shuttle America	EMB 170 (2)	Sched Pax	Cleveland, OH, USA	Landing	The airplane overran the runway after landing in snowy weather, collapsing the NLG. There were no injuries.	Substantial Damage				
21-Feb-07	Adam Air	737-300 (13)	Sched Pax	Surabaya, Indonesia	Landing	The airplane touched down hard in heavy rain and strong winds, buckling the aft fuselage. There were no injuries.	Destroyed	X			X
7-Mar-07	Garuda Indonesia	737-400 (15)	Sched Pax	Yogyakarta, Indonesia	Landing	The airplane overran the runway on landing, crossed a road, and impacted an embankment. The airplane was consumed by a fuel-fed, post-impact fire.	Destroyed	X	Fatal	21/140	X
12-Mar-07	Biman Bangladesh Airlines	A310 (11)	Sched Pax	Dubai, United Arab Emirates	Takeoff	The NLG collapsed on takeoff roll. There were minor injuries.	Substantial Damage	X			
16-Mar-07	Kish Air	MD-82 (21)	Sched Pax	Kish Island, Iran	Landing	The airplane landed with the NLG retracted. There were no injuries.	Substantial Damage				
23-Mar-07	Ariana Afghan Airlines	A300B4 (25)	Sched Pax	Istanbul, Turkey	Landing	After landing, the crew steered the airplane off the side of the runway to avoid overrunning. The airplane went down a grassy slope, collapsed the R MLG and came to rest on the right wing tip and #2 engine. There were no injuries.	Substantial Damage	X			
17-Apr-07	Pakistan International Airlines	A310 (16)	Sched Pax	Karachi, Pakistan	Landing	The flight crew turned back shortly after takeoff due to airspeed indication anomalies. The airplane touched down hard, NLG first, and bounced, causing damage to the NLG and windshields. There were no injuries.	Substantial Damage				
30-Apr-07	Royal Air Maroc	737-500 (14)	Sched Pax	Bamako, Mali	Takeoff	The flight crew performed a high speed RTO after an engine failed. The airplane overran the runway, damaging the NLG and local fuselage structure. There were no injuries.	Substantial Damage				

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2007 Airplane Accidents

All Accidents – Worldwide Commercial Jet Fleet

Event Date	Airline	Model (A/P Age in Years)	Type of Operation	Accident Location	Phase of Flight	Event Description	Damage Category	Hull Loss	Injury Category	Onboard Fatalities / Onboard Occupants (External Fatalities)	Major Accident
5-May-07	Kenya Airways	737-800 (1)	Sched Pax	(near) Douala, Cameroon	Climb	The airplane crashed shortly after takeoff, in a marshy, wooded area. No distress call was received by ATC.	Destroyed	X	Fatal	114/114	X
25-May-07	Indonesia AirAsia	737-300 (16)	Sched Pax	Medan, Indonesia	Landing	The airplane made a hard landing resulting in fuselage skin wrinkles near the NLG. There were no injuries.	Substantial Damage				
28-Jun-07	TAAG Angola Airlines	737-200 (22)	Sched Pax	M'banza Congo, Angola	Landing	The airplane landed short of the runway, tearing off both MLG. It then departed the side of the runway and struck several buildings, fracturing the fuselage.	Destroyed	X	Fatal	5/85 (1)	X
1-Jul-07	Air China	767-200 (20)	Sched Pax	Beijing, China	Load/ Unload	The airplane's NLG suddenly collapsed during passenger boarding. There were minor injuries.	Substantial Damage	X			
10-Jul-07	Sky King	737-200 (23)	Charter Pax	Tunica, MS, USA	Parked	A mechanic fell onto the ramp while attempting to close the main cabin entrance door during a rain storm. The mechanic sustained fatal injuries.			Fatal	(1)	
12-Jul-07	Delta Air Lines	777-200 (8)	Sched Pax	Atlanta, GA, USA	Tow	During pushback, a flight attendant, who had just finished checking the crew rest area, fell down the stairs, and broke her arm.			Serious		
17-Jul-07	Aerorepublica	EMB 190 (<1)	Sched Pax	Santa Marta, Colombia	Landing	The airplane skidded off the runway after landing in a driving rain, broke through a fence, went down an embankment, and came to rest with the nose in the adjacent water. There were minor injuries.	Destroyed	X			X
17-Jul-07	TAM Linhas Aereas	A320 (9)	Sched Pax	Sao Paulo, Brazil	Landing	The airplane overran a wet runway on landing, went down a steep embankment, and impacted a building. An ensuing fire consumed the airplane.	Destroyed	X	Fatal	187/187 (12)	X
18-Aug-07	Swiss European Airlines	RJ100 (7)	Sched Pax	London, UK	Landing	The airplane sustained a heavy tail strike during a hard landing. There were no injuries.	Substantial Damage				
20-Aug-07	China Airlines	737-800 (5)	Sched Pax	Okinawa, Japan	Taxi	The airplane was consumed by fire shortly after arriving at the gate after landing. A large fuel leak, from beneath the right wing, was ignited by the hot engine. There were minor injuries.	Destroyed	X			X
29-Aug-07	Myanma Airways	F-28 (21)	Sched Pax	Dawei, Myanmar	Landing	The airplane landed long and was steered off the side of the runway to avoid an overrun. The NLG collapsed in the soft ground. There were no injuries.	Substantial Damage				
14-Sep-07	Magnicharters	737-200 (32)	Charter Pax	Guadalajara, Mexico	Landing	The airplane landed with the landing gear either retracted or only partially extended and unlocked. The engines and NLG doors also contacted the runway. There were no injuries.	Substantial Damage				
14-Sep-07	Avstar	737-200 (25)	Sched Pax	Ndola, Zambia	Landing	During landing, a flight attendant was seriously injured due to seat failure.			Serious		
16-Sep-07	One-Two-Go Airlines	MD-82 (24)	Sched Pax	Phuket, Thailand	Landing	The airplane touched down hard off the side of the runway in heavy rain and gusting winds. It suffered impact damage and was consumed by a post-impact fire.	Destroyed	X	Fatal	90/130	X

2007 Airplane Accidents

All Accidents – Worldwide Commercial Jet Fleet

Event Date	Airline	Model (A/P Age in Years)	Type of Operation	Accident Location	Phase of Flight	Event Description	Damage Category	Hull Loss	Injury Category	Onboard Fatalities / Onboard Occupants (External Fatalities)	Major Accident
23-Sep-07	Kenya Airways	737-300 (8)	Sched Pax	Nairobi, Kenya	Load/ Unload	The operator of a cargo loader sustained fatal injuries after being crushed between the cargo loader and the airplane.			Fatal	(1)	
11-Oct-07	AMC Airlines	MD-83 (11)	Sched Pax	Istanbul, Turkey	Landing	Due to electrical failures, the airplane made a flaps-up approach, landing at very high speed. It overran the runway, tearing off the MLG. There were no injuries.	Substantial Damage	X			
26-Oct-07	Philippine Airlines	A320 (10)	Sched Pax	Butuan City, Philippines	Landing	The airplane landed long, overran the runway, and came to rest in a coconut grove. There were minor injuries.	Destroyed	X			X
28-Oct-07	Air Europa	737-800 (8)	Charter Pax	Katowice, Poland	Approach	On final approach, in dark and foggy conditions, the airplane contacted approach lights, damaging the #1 engine and flaps. It landed on the runway safely. There were no injuries.	Substantial Damage				
28-Oct-07	AeBal	717-200 (6)	Sched Pax	Palma, Spain	Load/ Unload	The airplane's right wing was struck by an airport passenger bus during passenger boarding. There were minor injuries.	Substantial Damage				
1-Nov-07	Mandala Airlines	737-200 (26)	Sched Pax	Malang, Indonesia	Landing	In heavy rain, the airplane touched down hard, bounced twice, finally touching down on its NLG, which then collapsed. There were only minor injuries.	Substantial Damage	X			
7-Nov-07	Nationwide Airlines	737-200 (26)	Sched Pax	Cape Town, South Africa	Takeoff	The airplane's right engine broke away from the wing on takeoff roll, landing on the runway. The airplane continued its takeoff and made an air turnback. There were no injuries.	Substantial Damage				
9-Nov-07	Iberia Airlines	A340 (1)	Sched Pax	Quito, Ecuador	Landing	The airplane suffered multiple tire bursts after touching down hard. It then overran the runway onto soft ground and came to rest on a downslope with the L MLG collapsed and the two left engines dug into the ground and pushed sideways. There were no injuries.	Destroyed	X			X
30-Nov-07	Atlasjet Airlines	MD-83 (13)	Sched Pax	(near) Isparta, Turkey	Initial Approach	The airplane crashed in mountainous terrain while on initial approach.	Destroyed	X	Fatal	57/57	X
12-Dec-07	Arkefly	767-300 (17)	Charter Pax	Chania, Greece	Taxi	The airplane's wingtip struck a steel light tower as it was being marshalled into its stand. There were no injuries.	Substantial Damage				
14-Dec-07	JetBlue	EMB 190 (2)	Ferry	New York, NY, USA	Parked	While stationary, the airplane's rudder and vertical stabilizer were struck by a taxiing 747, which left its winglet embedded in the tail. There were no injuries.	Substantial Damage				
30-Dec-07	TAROM	737-300 (13)	Charter Pax	Bucharest, Romania	Takeoff	The airplane struck a maintenance vehicle that was on the left side of the runway, at about 90 knots on takeoff roll. It veered off the runway, coming to rest with its L MLG collapsed. There were no injuries.	Substantial Damage	X			
38	Total Accidents							21		576 Onbd. Fatalities (16) Ext. Fatalities	14

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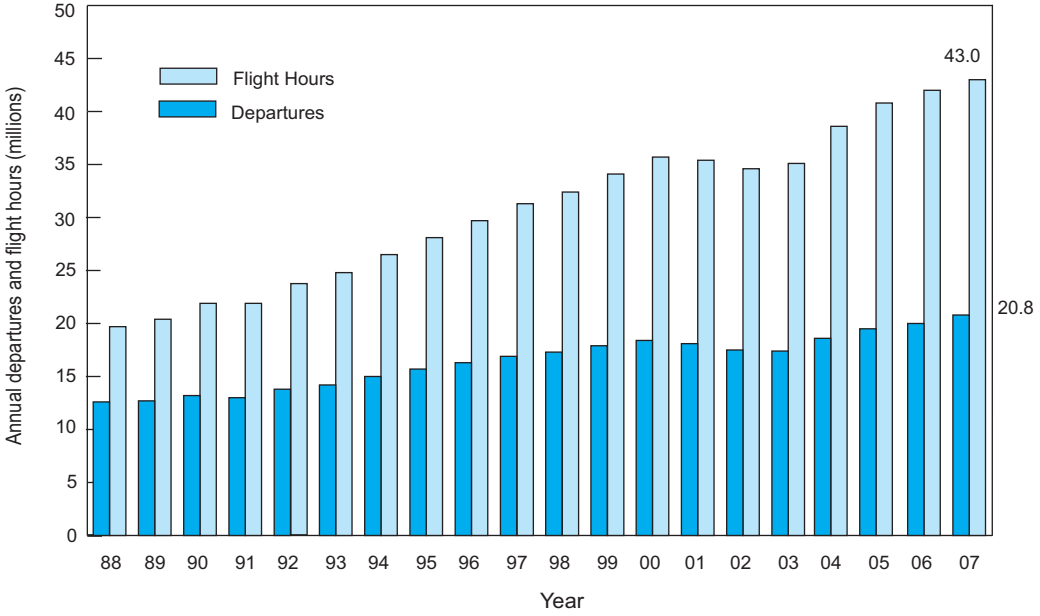
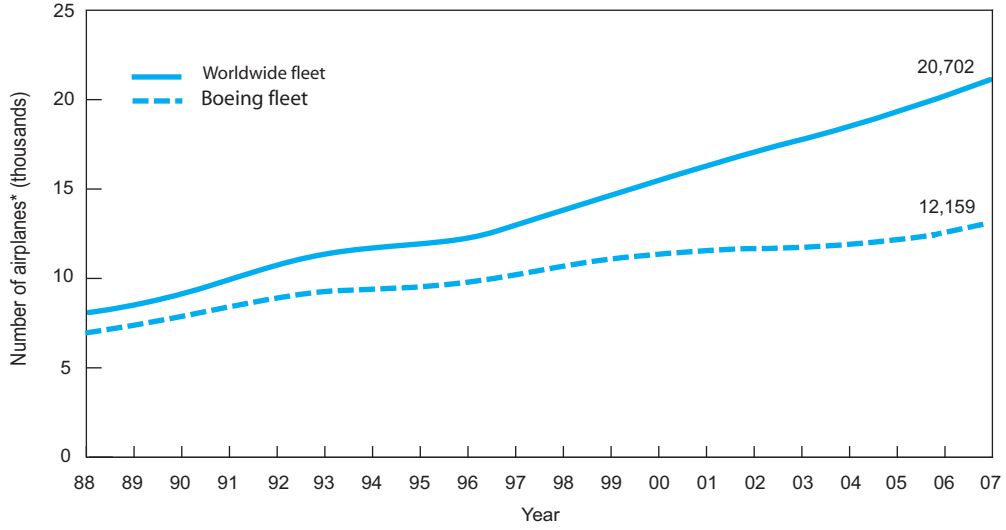
Departures, Flight Hours, and Jet Airplanes in Service*

Worldwide Operations 1988 Through 2007





- 519.3 million cumulative departures since 1959 (408.6 million on Boeing airplanes)
- 898.0 million cumulative flight hours since 1959 (712.2 million on Boeing airplanes)
- There were 37 (16 Boeing) significant types built by 16 original manufacturers that contributed to the hours, departures, and fleet numbers. There are currently four manufacturers of large commercial Western-built jet airplanes.

*Certified jet airplanes greater than 60,000 pounds maximum gross weight, including those in temporary nonflying status and those in use by non-airline operators. Excluded are commercial airplanes operated in military service and CIS/USSR-manufactured airplanes.

Accident Summary by Type of Operation
Worldwide Commercial Jet Fleet

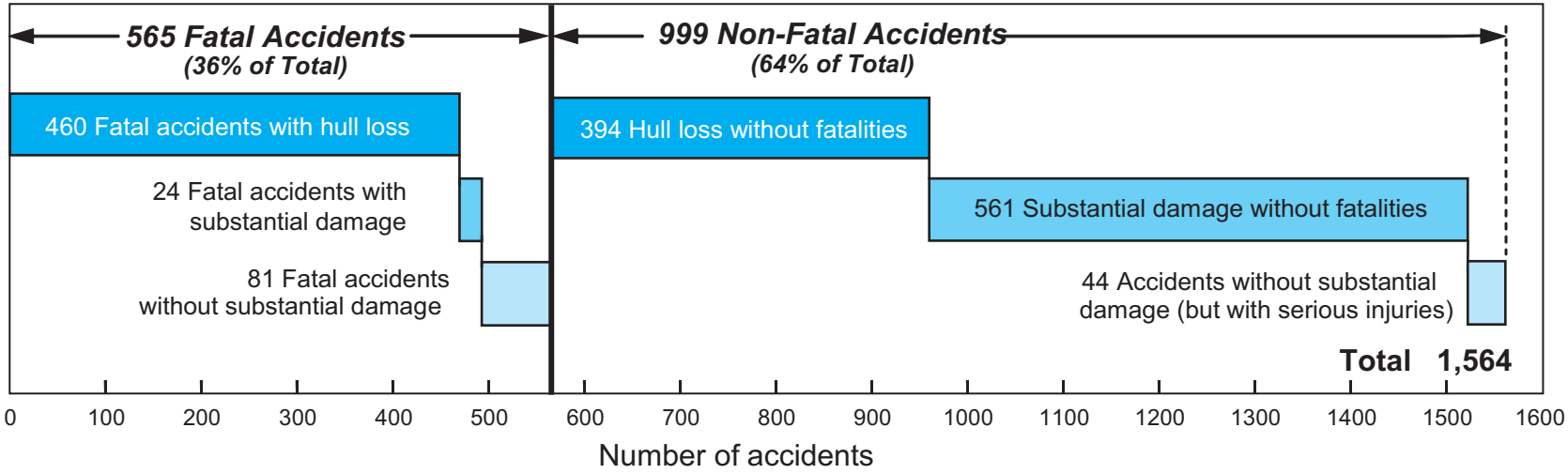
Type of operation	All Accidents		Fatal Accidents		Onboard Fatalities (External Fatalities)*		Hull Loss Accidents	
	1959-2007	1998-2007	1959-2007	1998-2007	1959-2007	1998-2007	1959-2007	1998-2007
Passenger	1,236	286	458	78	27,032 (773)	5,105 (185)	634	146
— Scheduled	*1,139*	*269*	*415*	*74*	*22,999*	*5,048*	*572*	*137*
— Charter	*97*	*17*	*43*	*4*	*4,033*	*57*	*62*	*9*
Cargo	218	70	67	12	237 (327)	42 (76)	153	53
Maintenance test, ferry, positioning, training, and demonstration	110	8	40	0	186 (66)	0 (0)	67	5
Totals	1,564	364	565	90	27,455 (1,166)	5,147 (261)	854	204
U.S. and Canadian Operators	498	72	169	13	6,078 (445)	365 (82)	208	30
Rest of the world	1,066	292	396	77	21,377 (721)	4,782 (179)	646	174
Totals	1,564	364	565	90	27,455 (1,166)	5,147 (261)	854	204

*External fatalities include on-ground fatalities as well as fatalities on other aircraft involved.

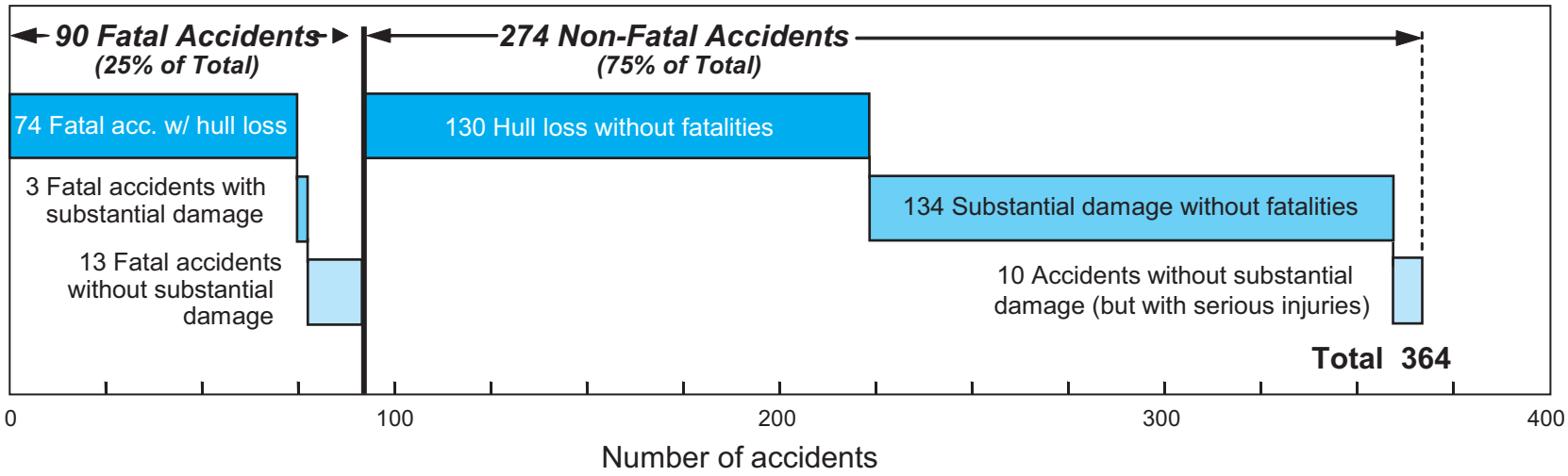
Accident Summary by Injury and Damage

All Accidents – Worldwide Commercial Jet Fleet

1959 Through 2007

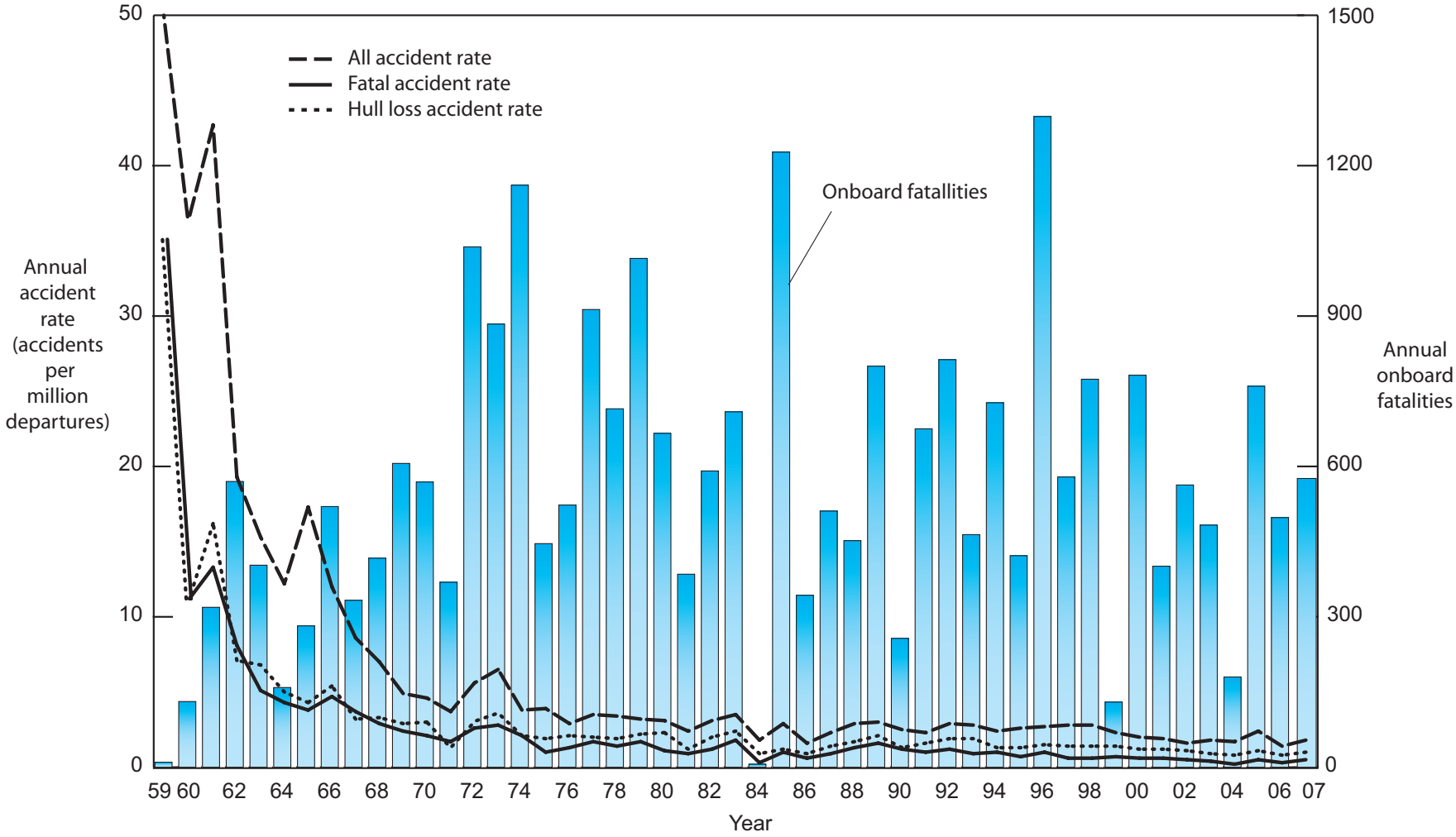


1998 Through 2007



Accident Rates and Onboard Fatalities by Year

Worldwide Commercial Jet Fleet – 1959 Through 2007



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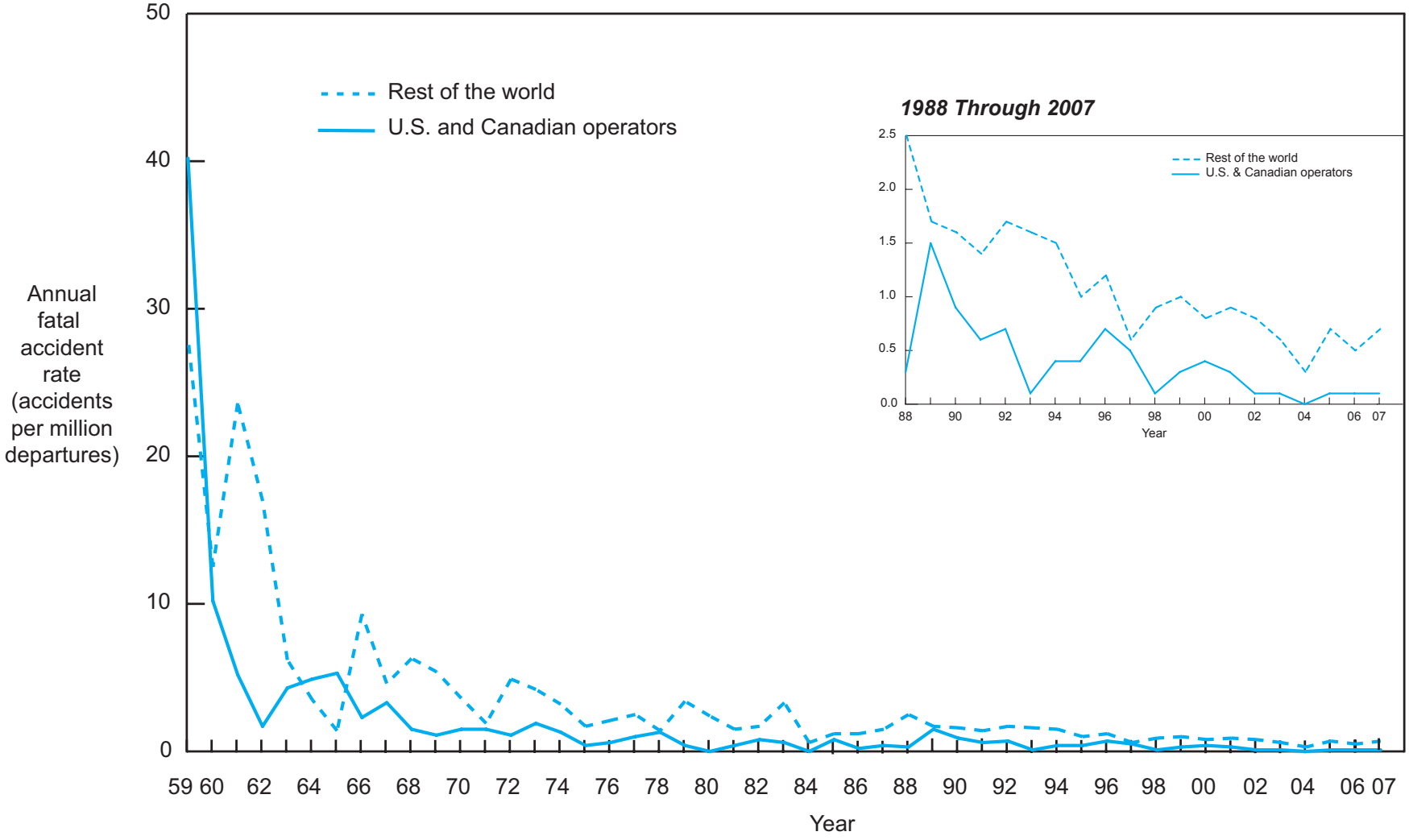
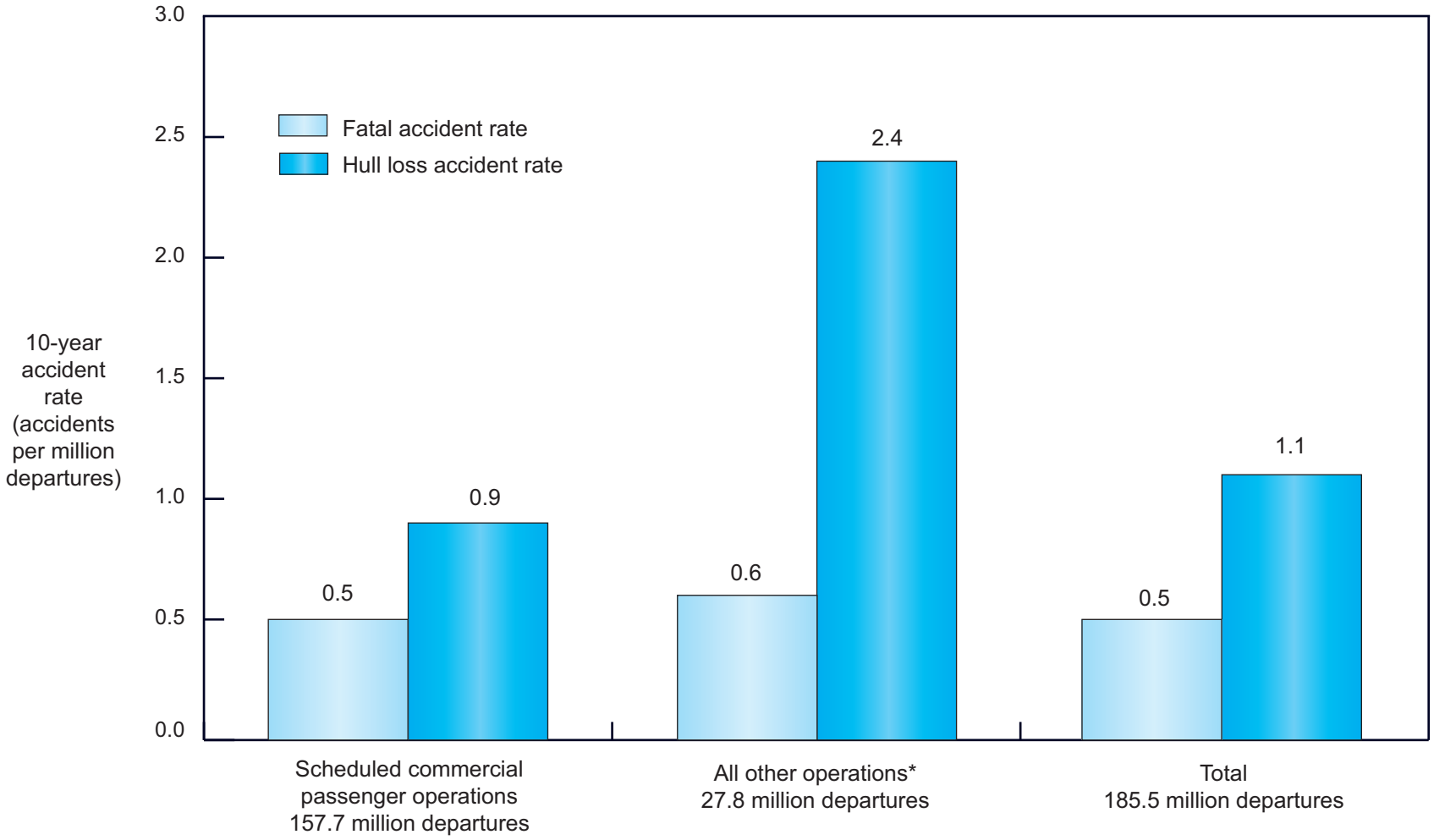
U.S. and Canadian Operators Accident Rates by Year

Fatal Accidents – Worldwide Commercial Jet Fleet – 1959 Through 2007



10-Year Accident Rates by Type of Operation

Fatal and Hull Loss Accidents – Worldwide Commercial Jet Fleet – 1998 Through 2007



*Charter passenger, charter cargo, scheduled cargo, maintenace test, ferry, positioning, training, and demonstration flights

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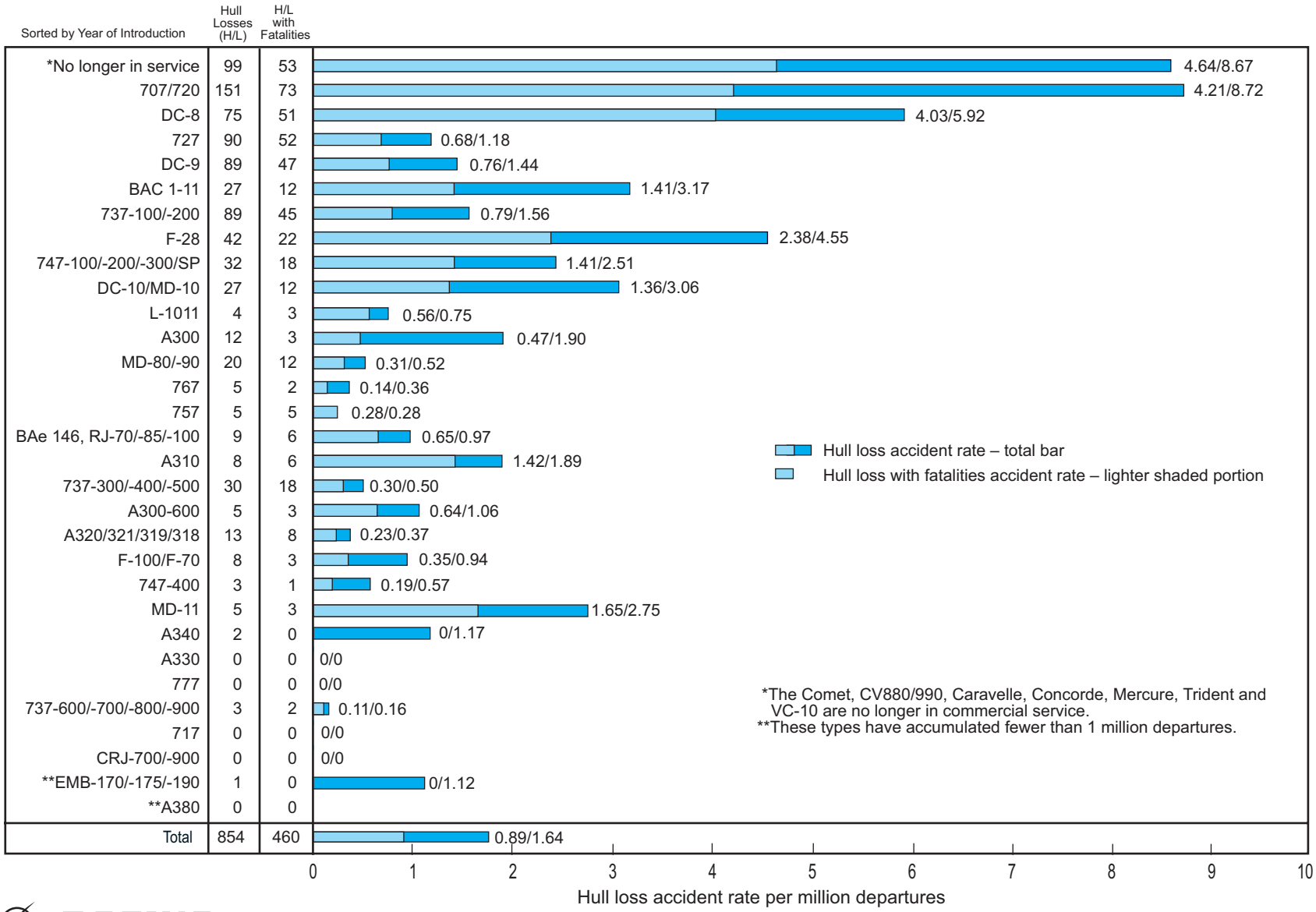
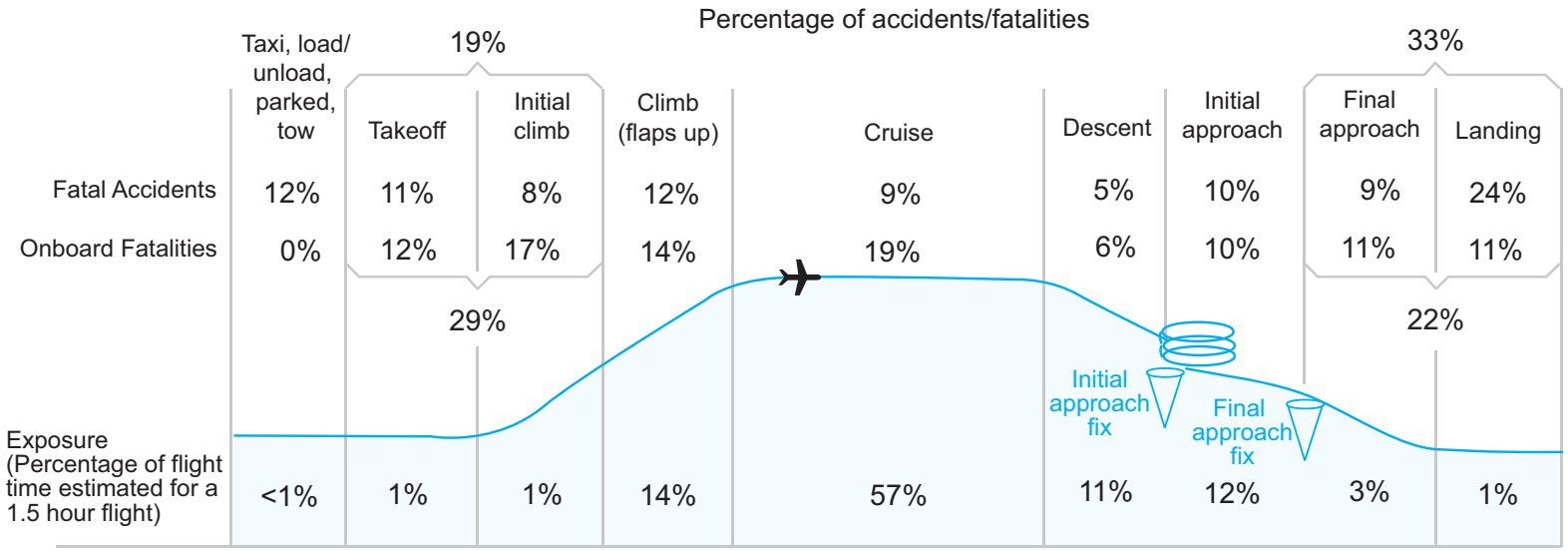
Accident Rates by Airplane Type

Hull Loss Accidents – Worldwide Commercial Jet Fleet – 1959 Through 2007

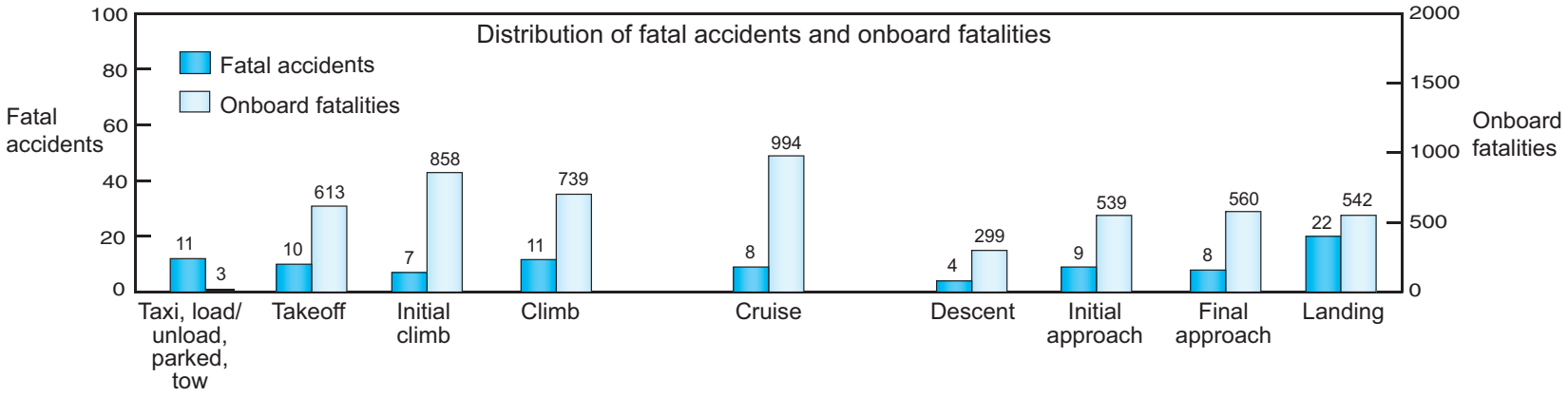


Fatal Accidents and Onboard Fatalities by Phase of Flight

Worldwide Commercial Jet Fleet – 1998 Through 2007



Percentages may not sum to 100% due to numerical rounding.



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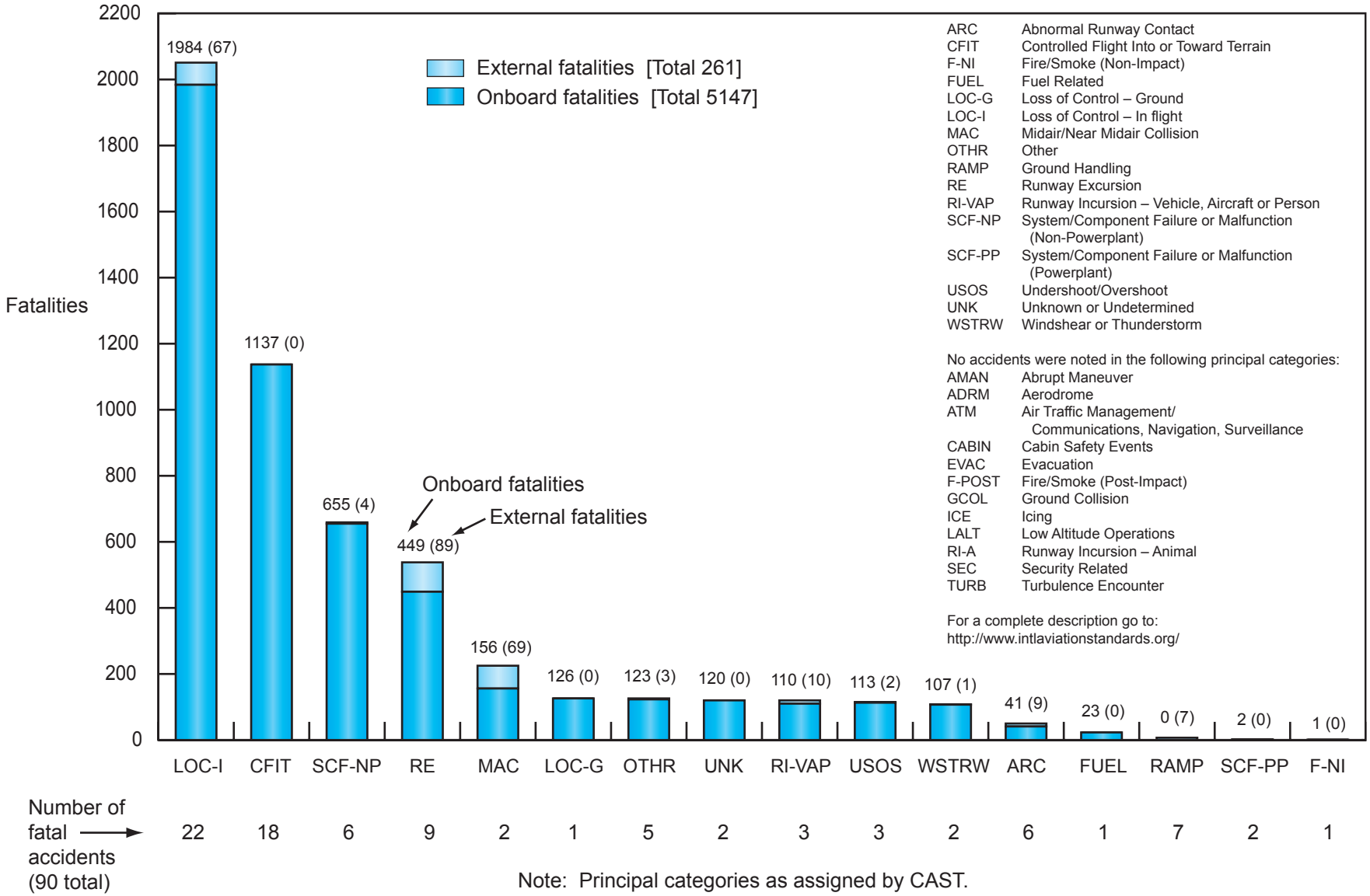
Fatalities by CAST/ICAO Common Taxonomy Team (CICTT) Aviation Occurrence Categories

Fatal Accidents – Worldwide Commercial Jet Fleet – 1998 Through 2007



ARC	Abnormal Runway Contact
CFIT	Controlled Flight Into or Toward Terrain
F-NI	Fire/Smoke (Non-Impact)
FUEL	Fuel Related
LOC-G	Loss of Control – Ground
LOC-I	Loss of Control – In flight
MAC	Midair/Near Midair Collision
OTHR	Other
RAMP	Ground Handling
RE	Runway Excursion
RI-VAP	Runway Incursion – Vehicle, Aircraft or Person
SCF-NP	System/Component Failure or Malfunction (Non-Powerplant)
SCF-PP	System/Component Failure or Malfunction (Powerplant)
USOS	Undershoot/Overshoot
UNK	Unknown or Undetermined
WSTRW	Windshear or Thunderstorm

No accidents were noted in the following principal categories:

AMAN	Abrupt Maneuver
ADRM	Aerodrome
ATM	Air Traffic Management/ Communications, Navigation, Surveillance
CABIN	Cabin Safety Events
EVAC	Evacuation
F-POST	Fire/Smoke (Post-Impact)
GCOL	Ground Collision
ICE	Icing
LALT	Low Altitude Operations
RI-A	Runway Incursion – Animal
SEC	Security Related
TURB	Turbulence Encounter

For a complete description go to:
http://www.intlaviationstandards.org/

Note: Principal categories as assigned by CAST.

CAST/ICAO Common Taxonomy Team (CICTT) Aviation Occurrence Categories

The International Civil Aviation Organization (ICAO) and the Commercial Aviation Safety Team (CAST), which includes Government officials and aviation industry leaders, have jointly chartered the CAST/ICAO Common Taxonomy Team (CICTT). CICTT includes experts from several air carriers, aircraft manufacturers, engine manufacturers, pilot associations, regulatory authorities, transportation safety boards, ICAO, and members from Canada, the European Union, France, Italy, the Netherlands, the United Kingdom, and the United States. CICTT is co-chaired by a representative from ICAO and CAST.

The team is charged with developing common taxonomies and definitions for aviation accident and incident reporting systems. Common taxonomies and definitions establish a standard industry language, thereby improving the quality of information and communication. With this common language, the aviation community's capacity to focus on common safety issues is greatly enhanced.

The CICTT Aviation Occurrence Taxonomy is designed to permit the assignment of multiple categories as necessary to describe the accident or incident. Since 2001, the Safety Indicator Steering Group (SISG) has met annually to assign CICTT occurrence categories to the prior year's accidents.

In a separate activity, the CAST assigned each accident to a single principal category. Those accident assignments and a brief description of the categories are reported in the preceding chart.

The CAST use of principal categories has been instrumental in focusing industry and government efforts and resources on accident prevention. Pareto charts using principal categories are used by CAST to identify changes to historic risk and to help to determine if the safety enhancements put in place are effective.

For a complete description of the categories go to: http://www.intlaviationstandards.org/

Notes

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Printed in U.S.A.