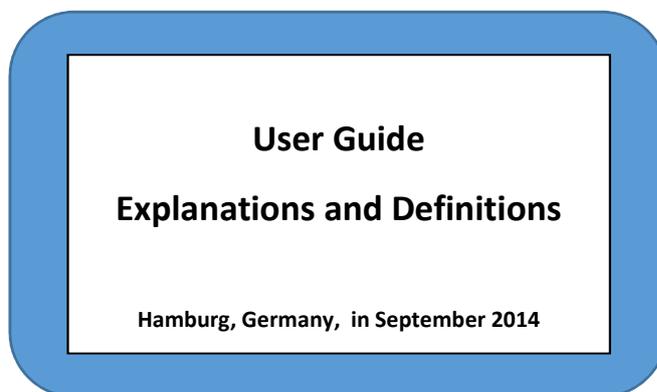


The JACDEC DATABASE

Your source for airline accident analysis



By Jan-Arwed Richter

Founder and Managing Director of JACDEC

The JACDEC DATABASE

How to use



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Discover the new JACDEC Database Service.

Here we show you how you can benefit from all the available features. We want you to fully understand what possibilities you have and what you can achieve with your subscription account.

First of all, this database will never be fully complete as long as there is commercial aviation. At this stage (SEP 2014) JACDEC offers you nearly 8000 datasets of airliner safety occurrences.

The JACDEC database is kept up-to-date on a daily basis. By definition, there were three main sections of occurrence categories.

- Hull Loss Accidents, where an aircraft was destroyed or damaged beyond repair)
- Serious Incidents (by ICAO definition), where safety was seriously compromised or an accident was narrowly avoided
- Significant Incidents, that were on the brink to a Serious Incident

We feed the database in two directions each day. First, by adding very recent occurrences as soon as they became known to us. 2ndly by adding older accidents in the 1990s or before. Finally we want to build up our database over a time range of 30 years back or more.

The JACDEC database gives you a unique and complete overview of all relevant safety occurrences for at least 20 years back.

Some statistics (as of 2021):

Number of Hull Loss entries = 7400

Number of Serious Incidents = 8500

Number of Significant other Incidents = 6600

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ABOUT

What's inside ?

As per definition, the JACDEC Database only covers aircraft types that have a minimum of 19 seats and were mainly used as a commercial aircraft.

However there is one exception. It's the BN-2A Islander, which normally does not meet the minimum capacity requirements but is widely used throughout the globe as a regional aircraft. Its importance for some areas of the world has led us to include this type to our database.

There also where a number of "in-between" aircraft in our database that were built as military aircraft but converted to a civil role (mostly air-tankers or cargo aircraft).

Each dataset has over 30 different items. Each one is individually searchable with the "advanced search" option.

Furthermore we established a unique airline safety page where you have all possible safety indicators at a glance. The most notable feature is the [Airline Safety Matrix](#) where you have full vision about the last 30 years of accident & incident history of each airline.

So let's begin and get into detail..

Jan-Arwed Richter

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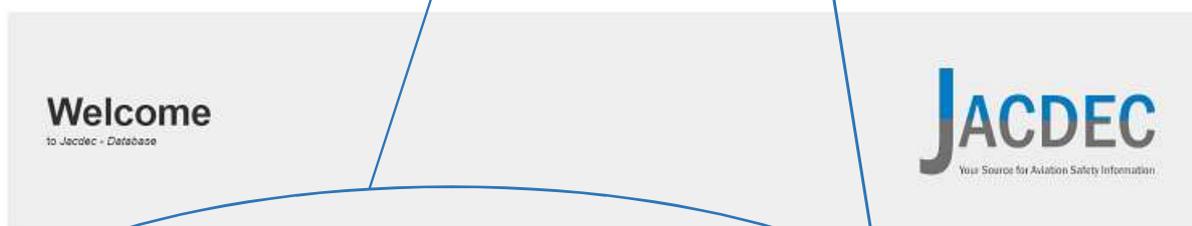
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1. Opening Screen

After you're successfully registry, you will see the opening screen.

Here you always find the **latest additions** to the database. Each row contains one single occurrence. All cases can be viewed by clicking the button  in the very right column.



On this opening website you're also able to change from the accident view to the operator view by clicking the specific **airline name**. This feature is enabled for every single occurrence.

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2. Accident Manager

Frankly speaking its more than simple to navigate. There are two main options you can choose. Either “Accident” analysis or “Operators” (Airlines) analysis.



By choosing the “Accident” analysis, you will get to the Case Manager. Simply fill in any of the fields. The general date format is “YYYY-MM-DD” plus the abbreviated type of aircraft. You may enter any letter or number to sort your preferred information.

Example: The entry “2011” will retrieve all cases in the year 2011. In case you fill in “2011-05” you will retrieve all cases in the month in the month of May 2011.

You can sort any column by clicking any of the field titles above the fill-in fields.

Manage Accidents

You may optionally enter a comparison operator (<, <=, >, >=, <> or =) at the beginning of each

Advanced Search

Jacdec incident ID	Ocat	Country	Location
<input type="text" value="1999-03-25"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
2012-04-14-B748	1	USA	KCHS CHS Charleston International

Ocat = Occurrence Category
1 = Incident | 2 = Serious incident
/ 3 = Hull Loss Accident

This table view also enables you to set a number of multifilter options, meaning you can easily combine two or more criteria of all available cases.

Example: ID = “199” + OCAT = “3” + Country “Canada”, meaning: “All cases in the 1990’s + Hull Loss cases only + Only cases in Canada”

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2.1.

Accident Database | Explanation of accident case analysis (Part I)

Home / Accidents **2014-02-16-DHC6** ← Accident Identification

View Accident #2014-02-16-DHC6

Last update: Time: 2014-02-17 11:03:53 Last update: User: jan

Workstatus: **1-minimum** ← 0 = open, only few information available
 1= no investigation report available
 2= preliminary investigation information
 3=final / full official investigation information

Accident details

- Accident Date: 2014-02-16 ← Only when accident took place at or close to an airport
- Accident Time: 13:30:00
- Accident Airport: 0000/: NONE
- Location: Sandhikarka area, Argakhanchi Prov.
- Country: Nepal
- Flight origin: **VNPK/PKR**: Pokhara ← ICAO 4Letter Airport Code + IATA 3Letter Airport Code
- Flight destination: VNJL/JUM: Jumla
- Flight distance: **212** ← In nautical miles (NM)
- Distance category: Short: 0..800km
- Operator: [Nepal Airlines](#) ← Change to Operator View
- on behalf of: Unknown
- Aircraft type: DHC-6 Twin Otter
- Registration: 9N-ABB
- Flight: Passenger
- Flightnr: RA 183
- Ageaircraft: **42.6986** ← Aircraft age in years after the first flight

Occupants

	Crew	Pax	Occ	Other	Total
Occupants	3	15	18		
Fatalities	3	15	18	0	18
Injuries	0	0	0	0	0
Uninjured	0	0	0		
Survivors	0	0	0		

Fatalities %: **100.0000** ← Fatality / survivor rate in percent

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2.1. Accident Database | Explanation of accident case analysis (Part II)

C/N: 302

Phase: ENR - Cruise, Descent, Holding

Tags:

Primary accident factors
P: CFIT - CFIT - controlled flight into or toward terrain

Secondary accident factors
S: UNK - Unknown or undetermined

Jacdec accident factors
J: WEATHER - Weather related

Ocat: 3-hull loss

Damage to AC: hull loss

Number of aircraft: 1

Jacdec Incident ID: 2014-02-16-DHC6

Report: 0

Language: -

Reportlength:

Link to Report:

Jacdec image ID:

Remark: The aircraft went missing in bad weather conditions when it flew into ground about half an hour after departure from Pokhara Airport. Apparently due to weather concerns, the pilots earlier considered to divert to Bhairahawa Airport, located about 50 NM southwest of Pokhara but failed to report any further position.

The pilots made last radio contact with Bhairahawa Tower frequency at 13:13 L.

Search and rescue operations failed to locate the aircraft in daylight time. First report the aircraft was located near Khidin town, turned out to be false.

The remains of the Twin Otter were located the following morning west of the town of Sandhara. No survivors were found.

Image(s):

Annotations:

- As defined by ICAO ADREP Flight Phase Taxonomy (points to Phase)
- As defined by ICAO ADREP Flight Phase Taxonomy (multiple factors possible) (points to Secondary and Jacdec factors)
- Accident Investigation Criteria (in this case no report was published yet) (points to Report field)

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2.2. Accident Database | Advanced Search Options

This tool is mainly for statisticians, researchers and professional accident data evaluators.

By clicking the “**Advanced Search**” option in the left upper screen of you Accident Manager, you get a variety of possibilities to connect any possible safety criteria.

You can use it quite similar to the “standard” accident manager (shown on page 6).

Additionally, we you can use the “**exclude**”-option to eliminate unwanted criteria such as “Workstatus”, “Flight”, “OCAT”, “Flight Phase” or “Damage to Aircraft”.

Manage Accidents

You may optionally enter a comparison operator (<, <=, >, >=, <> or =) at the beginning of each of your search values to specify how the comparison should be done.

Advanced Search

(clear search criteria)

Accident details

ID

Jacdec incident ID

Jacdec image ID

Workstatus:

Workstatus (Exclude)

Last update: Time

Last update: User

Occupants

	Crew	Pax	Occ	Other	Total
Occupants	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Fatalities	<input type="text"/>	<input type="text" value=">5"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Injuries	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Uninjured	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Survivors	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Fatalities %	<input type="text"/>				

Example: Search for all cases with 5 (or more) on-board fatalities at New York JFK Intl Airport (KJFK)

Accident Airport

KJFK JFK New York - John F. Kennedy Intl Airport

Flight

Flight (Exclude)

All results are shown on the bottom of the screen below the accident factors. You may scroll a bit to see them. In case you are unsuccessful in generating appropriate results, please click “**Clear Search Criteria**” on top of the page and alter or refine your search.

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3.1. Operator Database | Operators View

This unique feature enables you to get a full overview of the current safety situation of all air operators in the world. Note that JACDEC only covers an airline that has (1.) at least one database case entry or (2.) operates for more than 2 consecutive years or (3.) generates more than 1 m Revenue Passenger Kilometers (RPK) per year.

The following screenshot gives you an example.

Home / Operators / EgyptAir

Operator lookup:

Enter either 3Letter code or name.
NOTE: please wait until the shortlist comes up

EgyptAir

Operatorname: EgyptAir

Former name(s): Former Name: Misrair

Iatacode / Icaocode: MS / MSR

Year of start: 1932

Country: Egypt / Africa

BizType: Premium

SafetyIndex: 1.166

Vetting Category (A-D): C

Iosa certificate: 1

Blacklist: 0

Iasa category/country: 1

Useoap audit/country: 9

Fleet avg. age: 9.2



Last update: 2014-09-09 11:52:58

Last recalculation: 2014-09-11 19:48:51

Active:

Complete: complete 30 J.

ID: 1094

Operational risks: Riskfactor lack of state governance
Riskfactor political instability

Remark: Star Alliance

An operator is only tagged as "Active" when it does in fact conduct revenue flights. Younger airlines automatically are referred as "active", whereas older airlines are shown with the annex "[Historical]".

Accident / Incident Analysis

Total number of incidents in database: 38
Number of incidents in this table: 36

Year	10	20	30	20	10	09	08	07	06	05	04	03	02	01	00	99	98	97	96	95	94	93	92	91	90	89	88	87	86	85	84
Fatalities		231	298													14	217														
Hull losses	1	4	6			1							1			1				1									1	1	
Serious incidents	9	22	24	1	2	1	1	1	1			1	2	1	2	1	2	2	1	1									2		
Incidents	3	6	6	1	2											1	1			1											
IOSA																															
EU Blacklist - Carrier																															
EU Blacklist - Country																															
USOAP																															
IASA																															

The **Safety Index** criteria **vetting categories**, **USOAP** audit information, **IOSA** and **IASA** criteria are shown on our website in the "Safety Ranking" and "Products & Services" sections.

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3.2. Operator Database | Airline Safety Matrix

We stick to the above operator example.

What exact safety history does an air-operator have ? Here comes the answer.

JACDEC included all available accidents and incidents over a period of up to 30 years back. All airlines that do not have an “active”-tag should have a full accident coverage until back to 1969.

Accident / Incident Analysis

Total number of incidents in database: 38

Number of incidents in this table: 36

Year	10	20	30	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00	99	98	97	96	95	94	93	92	91	90	89	88	87	86	85	84
Fatalities	231	298														14		217														5	62	
Hull losses	1	4	6				1									1			1			1									1	1		
Serious incidents	9	22	24		1	2	1											1	2	2	1		2	1								2		
Incidents	3	6	6	1		2												1	1			1												
IOSA						1																												
EU Blacklist - Carrier																																		
EU Blacklist - Country																																		
USOAP							9	9																										
IASA							1	1	1	1																								

Fatality and case number cumulated for 10 years back / 20 years back / 30 years back

Last hull loss: 2011-07-29 Fat per HL (30yr): 49.67
 Worst hull loss: 1999-10-31: 217 Fatalities Fatality rate per year (since begin of ops): 3.63

Each blue number is connected to another info-screen. You can either click any of the case numbers to get to all the specific Accident / Incident case information, or you choose a year and get all the occurrences in this time period of the operator.

NOTE: a full history of IOSA, IASA, USOAP and EU-Black List entries is currently being set up.

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3.3. Operator Database | Accident Factors – Flight Phases

The 3rd part of the operators safety analysis page is about contributing accident factors.

What are the **reasons** that have led to an accident or incident?

JACDEC have 15 items classified as primary accident factors, 18 classified as 2ndary accident factors and 5 additional factors that JACDEC believes are furthermore important to categorize the safety analysis. Beside each factor the number of cases is shown. No entry means “zero” cases.

Analysis of accidents/incidents shown in table

Primary accident factors

P: SCF-NP: 3

P: SCF-PP: 3

P: F-N: 3

P: USOS: 5

P: RE: 5

P: BIRD: 5

P: GCOL: 5

P: CTOL: 2

P: RI-A: 2

P: CFIT: 2

P: MAC: 5

P: ARC: 5

P: LOC-I: 1

P: RAMP: 5

P: RI-VAP: 4

Jacdec accident factors

J: CREW: 12

J: MIL: 2

J: OAPT: 5

J: MAINT: 5

J: WEATHER: 5

Secondary accident factors

S: UNK: 20

S: F-POST: 2

S: WSTR: 2

S: ICE: 5

S: TURB: 5

S: SEC: 5

S: CABIN: 3

S: LOC-G: 1

S: FUEL: 2

S: ATM: 2

S: EVAC: 1

S: GTOW: 5

S: LOLI: 1

S: UIMC: 5

S: LALT: 5

S: ADRM: 5

S: AMAN: 5

S: EXTL: 1

Flight phases

Pha Unk: 2

Pha Enr: 5

Pha Enr2: 3

Pha Enr3: 1

Pha Emg: 5

Pha Und: 5

Pha Apr: 4

Pha Icl: 5

Pha Ldg: 10

Pha Std: 2

Pha Tof: 3

Pha Txi: 6

Pha Mnv: 5

Pha Pim: 5

Pha Pbt: 5

All abbreviated accidents factors have a mouse-over function that lets you know what all the acronyms stand for.

All abbreviated flight phases have a mouse-over function that lets you know what all the acronyms stand for.

All accident factors are based on official or indubitable evidence from investigating bodies. The right column shows the 16 different stages of a flight according to ICAO taxonomy.

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4. Accident Database | Export and Analysis Tools

Finally, you want to download you researched cases for further analysis? No problem.

Simply, choose the function “**Export Excel**”. A separate .xlsx-file of your customized database analysis will be generated and is available for download on your computer. *Microsoft Excel* or any associated programm is required. Please NOTE that the maximum number of cases is limited to 500.

For a quick analysis of any of your filtered cases, I recommend to choose the “**Analyze**” option. By clicking this option, you get a quick datasheet containing all cases on the accident matrix as well as all case numbers to each accident fasctor and flight phase.

Please NOTE that the maximum number of cases is limited to 500.



Interested getting in touch with one of the best aviation safety sources ?

For more details about terms and condions, prices and limitations, please check our website at <http://www.jacdec.de/products-services/database/> or contact me directly by mail: [jrichter \(at\) jacdec.de](mailto:jrichter@jacdec.de)

Always happy landings

Jan-Arwed Richter



