Aircraft Recognition

General Aviation
Commercial Airliners
Business Jets
Helicopters
Military
Cessna 172

High Wing/Struts
Cessna Caravan

HUGE Cessna

Turbo Prop Engine

Cargo Door

Cargo Pod
Beechcraft Bonanza

V-Tail
COMMERCIAL AIRLINERS
COMMERCIAL AIRLINERS

• An airliner is a large aircraft for transporting passengers and cargo. Such aircraft are operated by airlines. Although the definition of an airliner can vary from country to country, an airliner is typically defined as an aircraft intended for carrying multiple passengers in commercial service.

• 14 CFR Part 121 Air Carrier Certification
### Jet Prices

<table>
<thead>
<tr>
<th>Airplane Families</th>
<th>2012 $ in Millions Average</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>737 Family</strong></td>
<td></td>
</tr>
<tr>
<td>737-700</td>
<td>74.8</td>
</tr>
<tr>
<td>737-800</td>
<td>83.1</td>
</tr>
<tr>
<td>737-900ER</td>
<td>94.5</td>
</tr>
<tr>
<td>737 MAX 7</td>
<td>82.0</td>
</tr>
<tr>
<td>737 MAX 8</td>
<td>100.5</td>
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<tr>
<td>737 MAX 9</td>
<td>107.3</td>
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<tr>
<td><strong>747 Family</strong></td>
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</tr>
<tr>
<td>747-8</td>
<td>351.4</td>
</tr>
<tr>
<td>747-8 Freighter</td>
<td>352.0</td>
</tr>
<tr>
<td><strong>767 Family</strong></td>
<td></td>
</tr>
<tr>
<td>767-200ER</td>
<td>150.2</td>
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<tr>
<td>767-300ER</td>
<td>182.8</td>
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<tr>
<td>767-300 Freighter</td>
<td>185.4</td>
</tr>
<tr>
<td>767-400ER</td>
<td>200.8</td>
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<tr>
<td><strong>777 Family</strong></td>
<td></td>
</tr>
<tr>
<td>777-200ER</td>
<td>258.8</td>
</tr>
<tr>
<td>777-200LR</td>
<td>291.2</td>
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<tr>
<td>777-300ER</td>
<td>315.0</td>
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<tr>
<td>777 Freighter</td>
<td>295.7</td>
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<tr>
<td><strong>787 Family</strong></td>
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<tr>
<td>787-8</td>
<td>206.8</td>
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<tr>
<td>787-9</td>
<td>243.6</td>
</tr>
</tbody>
</table>

Boeing is committed to providing the most current data available. We hope you find this information useful as you review our complete family of airplanes -- including the only freighter family available today.

The prices above reflect an average price reflecting a range of available options and configurations for each model. Configurations and options that may affect price include performance capability, interiors, avionics, fuel capacity, etc.

All prices are in U.S. dollars and are in millions.
Boeing 707

4 “Skinny” Engines

KC-135, Military version

RC-135, Military Version
Boeing 707
Boeing 747

Extended “Hump”
Boeing 737

Early, “Skinny” Engines

Short, “Fatter” New Engine Style
Boeing 737 MAX
Airbus A320
Airbus A380

- 2 Rows of Windows
- 4 Engines
- Person
COMMERCIAL COMPARISON

[Diagram showing various Boeing aircraft models and their evolution over time]

[Diagram showing Boeing Commercial Airplane Parade of Progress, detailing the timeline and development of different models]
The KC-135 (gray) is the current and aging tanker in need of replacement.
The NewGen Tanker (blue) is the next generation Boeing replacement tanker.
The KC-30 (red) is the Airbus tanker proposal.
COMMERCIAL COMPARISON
MURPHY'S LAWS OF FLIGHT

Loud, sudden noises in a helicopter WILL get your undivided attention.
Simple Theory

![Diagram of a helicopter showing blade rotation and torque, with a note about tail rotor thrust to compensate for torque and a thought bubble saying "BAD DAY!".
Robinson R22/R44/R66

- **R22**, 2 People, 1 Door
- **R44**, 4 People, 2 Doors
- **R66**, Turbine Engine
- **Tall Mast**
- **R22**, 2 People, 1 Door
Bell 206
Eurocopter 145/BK 117
Eurocopter 145/BK 117

AFT CARGO DOORS
WASHINGTON — Air-ambulance helicopters have the worst fatal crash record in aviation, and their crews are among the most likely to die on the job, an expert told a panel of federal investigators Tuesday.

The rate of fatalities per 100,000 air-ambulance employees over the past 10 years exceeds other dangerous professions such as logging or deep-sea fishing, said Ira Blumen, program director of the University of Chicago Aeromedical Network.

Blumen's comments came during the first day of a hearing by the National Transportation Safety Board (NTSB), which is examining the industry's burgeoning accidents.

"It's a high-risk occupation. It's alarming," Blumen said.

Relatively few patients have died: 34 out of about 4.3 million transported since 1972, Blumen said. It's unclear why; one possible explanation is that air-ambulance flights spend more time flying without a patient than while carrying one. A typical emergency run involves three trips: one to pick up the patient; another to transport the victim; and a third to return to the helicopter base after the patient is dropped off.

Another reason is that crewmembers outnumber patients three or four to one on flights.

Tearful relatives of recent crash victims demanded that the Federal Aviation Administration (FAA) take action to stem the death toll.

Steve Ogletree, 44, an airport manager whose 14-month-old granddaughter, Kirstin Blockinger, died in a crash Oct. 15, said he was stunned by how lightly the government regulates the industry compared with airlines. "I say to the FAA, shame on you," Ogletree said.

The FAA has pushed the industry to adopt stricter safety standards but has emphasized voluntary change because it can be accomplished faster than writing new regulations, FAA spokesman Les Dorr said.

Since 1972, 264 people have died in air-ambulance crashes, according to Blumen. Nine fatal crashes since December 2007 have killed 35 people. That's the highest death toll in the industry's history.

The accident statistics for the USA stand in stark contrast to Canada, which has not had a fatality since 1977. Unlike most companies in the United States, Canada requires two pilots on each helicopter, and flights are conducted under more rigorous standards for weather, said Sylvain Séguin, a vice president of Canadian Helicopters.

The NTSB hearing is trying to pinpoint what could be driving the recent increase in fatal crashes. Several witnesses raised concerns about whether competition to make the helicopter flights — which can pay as much as $10,000 — could be driving up the accident rates.

"The safety board is concerned that these types of accidents will continue if a concerted effort is not made to improve," NTSB member Robert Sumwalt said.
BUSINESS JETS

- **Business jet, private jet** or, colloquially, **bizjet** is a term describing a jet aircraft, usually of smaller size, designed for transporting groups of up to 19 individuals. Business jets may be adapted for other roles, such as the evacuation of casualties or express parcel deliveries, and some are used by public bodies, government officials, or the armed forces. The more formal terms of **corporate jet, executive jet, VIP transport** or **business jet** tend to be used by the firms that build, sell, buy and charter these aircraft.

- **Part 135 – Operating Requirements: Commuter and On Demand Operations and Rules Governing Persons on Board Such Aircraft**
Gulfstream IV

- Winglets
- Military Version
- Oval Windows
- T-Tail
- Twin Engine
Dassault Falcon 7X

- 3 Engines
- Cruciform Tail
- Low Wing
Learjet

Wingtip Tanks

Military Version

Long Sleek Nose
Honda Jet

Engines mounted to top of wings. Very Unique.

Only 3 side windows
MILITARY AVIATION

- A - Ground Attack
- B - Bomber
- C – Transport
- D - Drone Director
- E - Special Electronic Mission
- F – Fighter
- H - Search and Rescue, Medevac
- K – Tanker
- L - Equipped for Cold Weather Operations
- M - Missile Carrier
- M - Mine Countermeasures
- M – Multimission
- O – Observation
- P - Maritime Patrol
- Q - Unmanned Drone
- R – Reconnaissance
- S - Antisubmarine Warfare
- T – Trainer
- U – Utility
- V - Staff Transport
- W - Weather Reconnaissance

F/A-18
F-16C
KC-135
B-1RD
F-16 Fighting Falcon (USAF)
F-15 Eagle (USAF)
A-10 Thunderbolt II aka “The Warthog” (USAF)
GAU-8 Avenger
F-18 Hornet (NAVY)

Slight “Vee”

Round Intakes
F-18 Super Hornet (NAVY)

Square Engine Intakes
P-3C Orion (NAVY)
HH-60 Blackhawk (MULTI)

Utility

Assault

MEDEVAC
C-17 Globemaster
C-5 Galaxy

Forward end lifts up...

Aft end opens

Semi-Tractor Trailer
C-130 Hercules

“J” Model, 6 Bladed Composite Material

Gunship Version