Boeing 747-400

Boeing 747 Owners' Workshop Manual

An insight into owning, flying, and maintaining the iconic jumbo jet

1. Introduction to the Boeing 747

The Boeing 747, often referred to as the "Jumbo Jet," revolutionized air travel upon its commercial debut in 1970. As the world's first wide-body commercial airliner, its introduction marked a significant milestone in aviation history, making long-haul air travel more accessible and affordable.

This manual focuses primarily on the 747-400 variant, which is the most widely produced and currently the most numerous version of the 747 family still in service. It provides a comprehensive overview of the aircraft's design, operational procedures, and maintenance requirements.

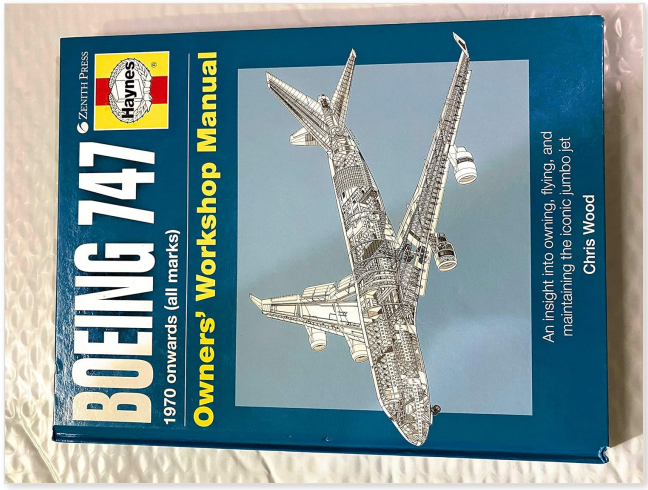


Figure 1.1: The front cover of the Boeing 747 Owners' Workshop Manual, featuring a detailed cutaway illustration of the aircraft.

2. Aircraft Anatomy and Systems

Understanding the fundamental anatomy and complex systems of the Boeing 747 is crucial for both operation and maintenance. This section details the major structural components and integrated systems that enable the aircraft's performance.

2.1 Airframe Structure

The 747's airframe is designed for strength and durability, accommodating its large size and payload capacity. Key structural elements include the fuselage, wings, empennage (tail section), and landing gear.

- **Fuselage:** The main body of the aircraft, housing the flight deck, passenger cabins, and cargo compartments.
- **Wings:** Designed with a distinctive sweep, housing fuel tanks and mounting points for the four engines.
- **Empennage:** Comprising the vertical and horizontal stabilizers, essential for flight stability and control.
- **Landing Gear:** A robust system designed to support the aircraft's immense weight during takeoff, landing, and

ground operations.

2.2 Powerplant

The Boeing 747-400 is powered by four high-bypass turbofan engines, providing the necessary thrust for its operations. These engines are critical for propulsion, and also supply power for various aircraft systems.

2.3 Avionics and Flight Control Systems

Modern avionics and sophisticated flight control systems are integral to the 747's operation. These include navigation, communication, and automated flight management systems, all integrated to assist the flight crew.

3. Flight Operations

Operating the Boeing 747 requires extensive training and adherence to strict protocols. This section outlines key aspects of flight operations, from pre-flight checks to landing procedures.

3.1 Pre-Flight Procedures

Before each flight, pilots and ground crew conduct thorough inspections and system checks. This includes verifying fuel levels, checking control surfaces, and ensuring all onboard systems are operational.

3.2 Takeoff and Climb

Takeoff involves precise coordination between thrust application, rotation, and climb-out. The flight management system assists in optimizing climb profiles for efficiency and safety.

3.3 Cruise and Descent

During cruise, the aircraft operates at optimal altitude and speed to conserve fuel. Descent planning involves managing airspeed, altitude, and configuration changes to prepare for approach.

3.4 Landing Procedures

Landing requires precise control inputs, including managing flaps, landing gear, and thrust reversers. The approach and landing phases are critical for a safe and smooth touchdown.

4. Maintenance and Airworthiness

Maintaining the Boeing 747 to ensure its continued airworthiness is a rigorous process involving scheduled inspections, repairs, and component replacements. This section highlights the importance of regular maintenance.

4.1 Scheduled Maintenance Checks

The 747 undergoes various levels of maintenance checks, from daily pre-flight inspections (A-checks) to extensive heavy maintenance visits (D-checks) performed every few years. These checks ensure all systems and structures are in optimal condition.

- **A-Check:** Minor inspection, typically performed every 400-600 flight hours.
- **C-Check:** More extensive inspection, performed every 20-24 months or 5,000-6,000 flight hours.
- **D-Check:** The most comprehensive inspection, involving disassembly of major aircraft sections, performed every 6-10 years.

4.2 Component Overhaul and Replacement

Key components, such as engines, landing gear, and flight control actuators, have specified service lives and undergo regular overhaul or replacement to prevent failures and ensure safety.

Figure 4.1: The spine of the manual, indicating its comprehensive nature as an Owners' Workshop Manual for the Boeing 747.

5. Troubleshooting Common Issues

While modern aircraft are highly reliable, operational issues can arise. This section provides a general overview of common troubleshooting approaches for the Boeing 747, emphasizing the importance of following official maintenance manuals and procedures.

5.1 System Malfunctions

In the event of a system malfunction, flight crews and maintenance personnel follow established checklists and diagnostic procedures. These often involve isolating the faulty component and implementing backup systems or emergency procedures.

5.2 Engine Performance Anomalies

Any deviation in engine performance, such as unusual vibrations, temperature fluctuations, or thrust issues, requires immediate investigation. Pilots are trained to identify these anomalies and take corrective action, which may include engine shutdown or diversion.

5.3 Structural Integrity Checks

Regular visual inspections and non-destructive testing are performed to detect any signs of fatigue, corrosion, or damage to the airframe. Prompt identification and repair of structural issues are paramount for safety.

6. Technical Specifications (Boeing 747-400)

The following table provides key technical specifications for the Boeing 747-400, the primary focus of this manual.

Specification	Detail
Publisher	Zenith Press
Publication Date	September 15, 2012
Edition	1st
Language	English
Print Length	160 pages
ISBN-10	0760342938
ISBN-13	978-0760342930
Item Weight	1.75 pounds

Specification	Detail
Dimensions	8.5 x 0.63 x 11 inches

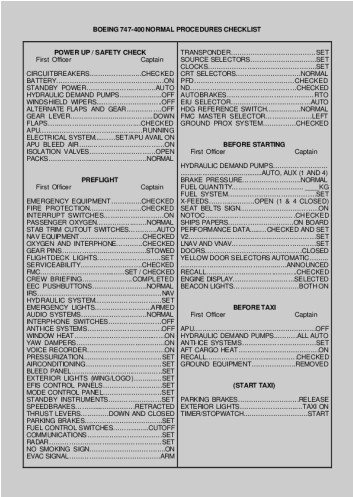
Figure 6.1: A close-up view of the manual's corner, highlighting its physical quality.

7. Support and Resources

This manual serves as an insightful guide into the Boeing 747. For official operational and maintenance procedures, always refer to the aircraft's certified flight manuals, maintenance handbooks, and regulatory authority guidelines.

As this is a historical and educational manual, direct product support or warranty information for the aircraft itself is not applicable through this publication. For inquiries related to the manual's content or publication, please contact the publisher, Zenith Press.

- **Publisher:** Zenith Press
- **Official Boeing Resources:** Refer to Boeing's official website for general information on their aircraft.
- **Aviation Authorities:** Consult your local aviation regulatory body (e.g., FAA in the US, EASA in Europe) for airworthiness directives and operational regulations.



BOEING 747-400 NORMAL PROCEDURES CHECKLIST

POWER UP / SAFETY CHECK

First Officer — Captain

CIRCUITBREAKERS.....CHECKED
BATTERY.....ON
STANDBY POWER.....AUTO
HYDRAULIC DEMAND PUMPS.....OFF
WINDSHIELD WIPERS.....OFF
ALTERNATE FLAPS AND GEAR.....OFF
GEAR LEVER.....DOWN
FLAPS.....CHECKED
APU.....RUNNING
ELECTRICAL SYSTEM.....SET/APU AVAIL ON
APU BLEED AIR.....ON
ISOLATION VALVES.....OPEN
PACKS.....NORMAL

PREFLIGHT

First Officer — Captain

EMERGENCY EQUIPMENT.....CHECKED
FIRE PROTECTION.....CHECKED
INTERRUPT SWITCHES.....ON
PASSENGER OXYGEN.....NORMAL
STAB TRIM CUTOUT SWITCHES.....AUTO
NAV EQUIPMENT.....CHECKED
OXYGEN AND INTERPHONE.....CHECKED
GEAR PINS.....STOWED
FLIGHTDECK LIGHTS.....SET
SERVICEABILITY.....CHECKED
FMC.....SET / CHECKED
CREW BRIEFING.....COMPLETED
EEC PUSHBUTTONS.....NORMAL
IRS.....NAV
HYDRAULIC SYSTEM.....SET
EMERGENCY LIGHTS.....ARMED
AUDIO SYSTEMS.....NORMAL
INTERPHONE SWITCHES.....OFF
ANTIICE SYSTEMS.....OFF
WINDOW HEAT.....ON
YAW DAMPERS.....ON
VOICE RECORDER.....ON
PRESSURIZATION.....SET
AIRCONDITIONING.....SET
BLEED PANEL.....SET
EXTERIOR LIGHTS (WING/LOGO).....SET
EFIS CONTROL PANELS.....SET
MODE CONTROL PANEL.....SET
STANDBY INSTRUMENTS.....SET
SPEEDBRAKES.....RETRACTED
THRUST LEVERS.....DOWN AND CLOSED
PARKING BRAKES.....SET
FUEL CONTROL SWITCHES.....CUTOFF
COMMUNICATIONS.....SET
RADAR.....SET
NO SMOKING SIGN.....ON
EVAC SIGNAL.....ARM

TRANSPONDER.....SET
SOURCE SELECTORS.....SET
CLOCKS.....SET
CRT SELECTORS.....NORMAL
PFD.....CHECKED
ND.....CHECKED
AUTOBRAKES.....RTO
EIU SELECTOR.....AUTO
HDG REFERENCE SWITCH.....NORMAL
FMC MASTER SELECTOR.....LEFT
GROUND PROX SYSTEM.....CHECKED

BEFORE STARTING

First Officer — Captain

HYDRAULIC DEMAND PUMPS.....AUTO, AUX (1 AND 4)
BRAKE PRESSURE.....NORMAL
FUEL QUANTITY.....KG
FUEL SYSTEM.....SET
X-FEEDS.....OPEN (1 & 4 CLOSED)
SEAT BELTS SIGN.....ON
NOTOC.....CHECKED
SHIPS PAPERS.....ON BOARD
PERFORMANCE DATA.....CHECKED AND SET
V2.....SET
LNAV AND VNAV.....SET
DOORS.....CLOSED
YELLOW DOOR SELECTORS AUTOMATIC
RECALL.....ANNOUNCED
ENGINE DISPLAY.....CHECKED
BEACON LIGHTS.....SELECTED
.....BOTH ON

BEFORE TAXI

First Officer — Captain

APU.....OFF
HYDRAULIC DEMAND PUMPS.....ALL AUTO
ANTI ICE SYSTEMS.....SET
APT CARGO HEAT.....ON
RECALL.....CHECKED
GROUND EQUIPMENT.....REMOVED

(START TAXI)

PARKING BRAKES.....RELEASE
EXTERIOR LIGHTS.....TAXI ON
TIMER/STOPWATCH.....START

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BOEING 747 400 NORMAL PROCEDURES CHECKLIST doc Owner Boeing Flight Manual Pdf 441 Operations narod ru 747checklist onebag popups |||

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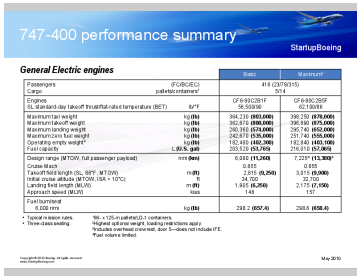

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747-400 performance summary StartupBoeing General Electric engines Basic Maximum2 Passengers Cargo FC/BC/EC pallets/containers1 416 23/78/315 5/14 Engines SL standard-day takeoff thrust/flat-rated temperature BET lb/F CF6-80C2B1F 56,500/90 CF6-80C2B5F 62,100/86 Maximum taxi weight ...

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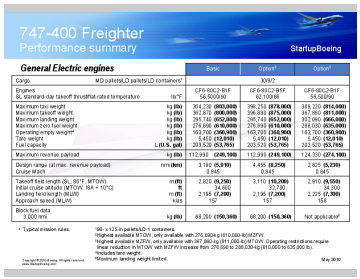

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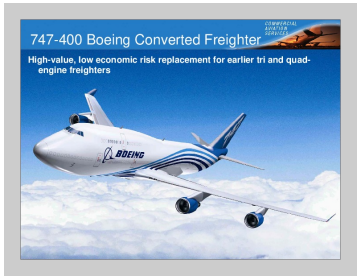

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Collette McMullen 747BCF boeing resources boeingdotcom company about bca startup freighters 747 400 BCF Boeing StartupBoeing |||

747-400 Boeing Converted Freighter High-value, low economic risk replacement for earlier tri and quadengine freighters COPYRIGHT 2006 THE BOEING COMPANY **747-400**BCF conversion overview Retain existing crew rest 8 upper deck supernumeraries Deletion of the aft, straight stairway and installation o...

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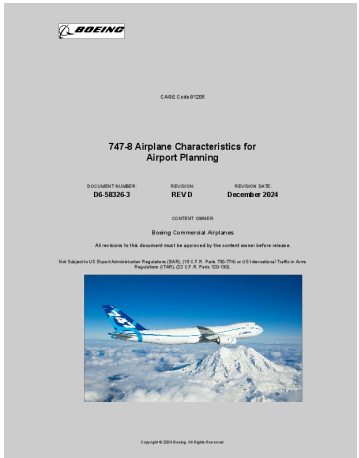

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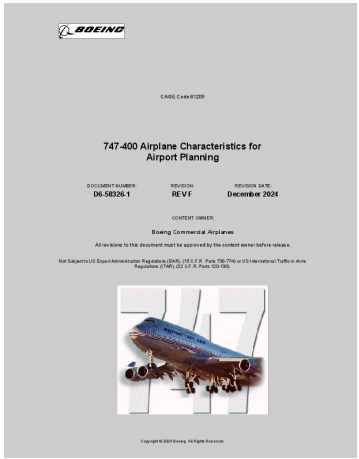

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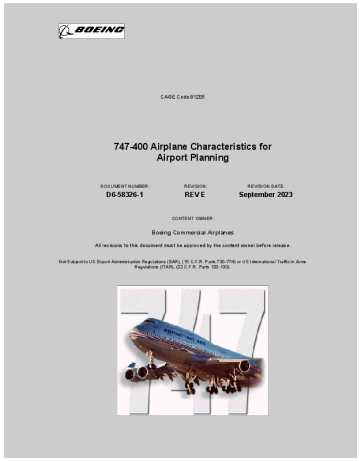

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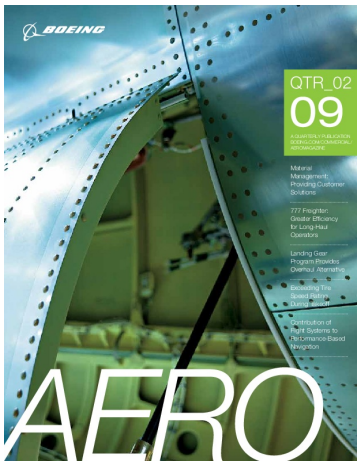

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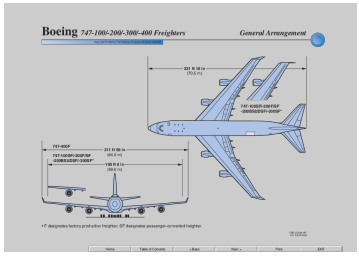

[pdf] User Manual Specifications

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PRESS RELEASE

AirBridgeCargo

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01.10.2005 | AirBridge Cargo orders two new Boeing 747-400 Er Freighters

AirBridge Cargo (ABC), Russia's first international scheduled cargo airline and part of the Volga-Dnepr Group has ordered two Boeing 747-400ER Freighters for delivery in October 2007 and February 2008.

The aircraft will be powered by General Electric CF6-80C2B5F engines and will be operated by AirBridge on cross-polar routes.

"Our partnership with Boeing and the performance of the 747-400ER Freighter are fundamental to achieving our growth plans. The addition of these advanced aircraft to our cargo fleet will allow AirBridge Cargo to take another step towards the realisation of our ambitious project to develop

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01.10.2005 AirBridge Cargo orders two new Boeing **747-400** Er Freighters AirBridge Cargo ABC , Russia s first international scheduled cargo airline and part of the VolgaDnepr Group has ordered two Boeing **747-400**ER Freighters for delivery in October 2007 and February 2008. The aircraft will be power...

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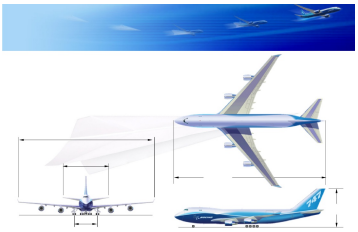

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747 400f boeing resources boeingdotcom company about bca startup freighters Freighter 400 400ER Boeing StartupBoeing |||

747-400/-400ER Freighters StartupBoeing 64.44 m 211 ft 5 in 22.17 m 72 ft 9 in 11.00 m 36 ft 1 in Copyright 2010 Boeing. All rights reserved. www.StartupBoeing.com 70.66 m 231 ft 10 in 19.40 m 63 ft 8 in May 2010 **747-400**/-400ER Freighter Part of a complete Boeing freighter soluti...

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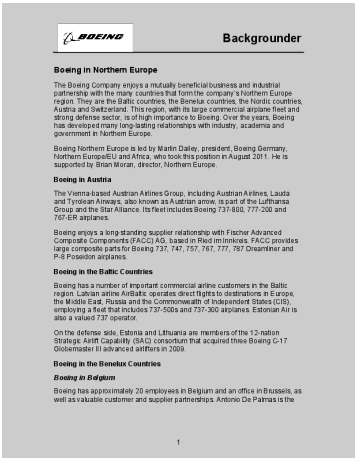
BOEING

Backgrounder

Boeing in Northern Europe

The Boeing Company enjoys a mutually beneficial business and industrial partnership with the many countries that form the company's Northern Europe region. They are the Baltic countries, the Benelux countries, the Nordic countries, Austria and Switzerland. This region, with its large commercial airplane fleet and strong defense sector, is of high importance to Boeing. Over the years, Boeing has developed many long-lasting relationships with industry, academia and government in Northern Europe.

Boeing Northern Europe is led by Martin Dailey, president, Boeing Germany, Northern Europe&EU and Africa, who took this position in August 2011. He is supported by Brian Moran, director, Northern Europe.

Boeing in Austria

The Vienna-based Austrian Airlines Group, including Austrian Airlines, Lauda and Tyrolean Airways, also known as Austrian arrow, is part of the Lufthansa Group and the Star Alliance. Its fleet includes Boeing 737-800, 777-200 and 767-ER airplanes.

Boeing enjoys a long-standing supplier relationship with Fischer Advanced Composite Components (FACC) AG, based in Ried im Innkreis. FACC provides large composite parts for Boeing 737, 747, 757, 767, 777, 787 Dreamliner and P-8 Poseidon airplanes.

Boeing in the Baltic Countries

Boeing has a number of important commercial airline customers in the Baltic region. Latvian airline AirBaltic operates direct flights to destinations in Europe, the Middle East, Russia and the Commonwealth of Independent States (CIS), employing a fleet that includes 737-500s and 737-300 airplanes. Estonian Air is also a valued 737 operator.

On the defense side, Estonia and Lithuania are members of the 12-nation Strategic Airlift Capability (SAC) consortium that acquired three Boeing C-17 Globemaster III advanced airlifters in 2009.

Boeing in the Benelux Countries

Boeing in Belgium

Boeing has approximately 20 employees in Belgium and an office in Brussels, as well as valuable customer and supplier partnerships. Antonio De Palmas is the

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Backgrounder 3 The Boeing Company XXBECKKK beneluxbackgrounder boeing aboutus international docs backgrounders |||

Backgrounder Boeing in Northern Europe The Boeing Company enjoys a mutually beneficial business and ... ith 737 Classic, Next-Generation 737 and 767 airplanes. Cargo carrier TNT Express operates 737s and **747-400** ERFs. Boeing also has a long and productive supplier relationship with ASCO Industries, base...

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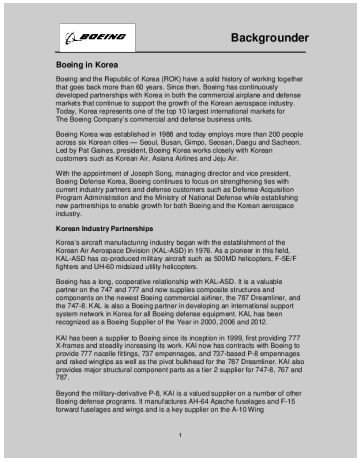

Backgrounder

Boeing in Korea

Boeing and the Republic of Korea (ROK) have a solid history of working together that goes back more than 60 years. Since then, Boeing has continuously developed partnerships with Korea in both the commercial airplane and defense markets that continue to support the growth of the Korean aerospace industry. Today, Korea represents one of the top 10 largest international markets for The Boeing Company's commercial and defense business units.

Boeing Korea was established in 1988 and today employs more than 200 people across six Korean cities — Seoul, Busan, Gimpo, Seosan, Daegu and Sacheon. Led by Pat Gaines, president, Boeing Korea works closely with Korean customers such as Korean Air, Asiana Airlines and Jeju Air.

With the appointment of Joseph Song, managing director and vice president, Boeing Defense Korea, Boeing continues to focus on strengthening ties with current industry partners and defense customers such as Defense Acquisition Program Administration and the Ministry of National Defense while establishing new partnerships to enable growth for both Boeing and the Korean aerospace industry.

Korean Industry Partnerships

Korea's aircraft manufacturing industry began with the establishment of the Korean Air Aerospace Division (KAL-ASD) in 1976. As a pioneer in this field, KAL-ASD has co-produced military aircraft such as 500MD helicopters, F-5E/F fighters and UH-60 midsized utility helicopters.

Boeing has a long, cooperative relationship with KAL-ASD. It is a valuable partner on the 747 and 777 and now supplies composite structures and components on the newest Boeing commercial airliner, the 787 Dreamliner, and the 747-8. KAL is also a Boeing partner in developing an international support system network in Korea for all Boeing defense equipment. KAL has been recognized as a Boeing Supplier of the Year in 2000, 2006 and 2012.

KAI has been a supplier to Boeing since its inception in 1999, first providing 777 X-frames and steadily increasing its work. KAI now has contracts with Boeing to provide 777 nacelle fittings, 737 empennages, and 737-based P-8 empennages and raked wingtips as well as the pivot bulkhead for the 787 Dreamliner. KAI also provides major structural component parts as a tier 2 supplier for 747-8, 767 and 787.

Beyond the military-derivative P-8, KAI is a valued supplier on a number of other Boeing defense programs. It manufactures AH-64 Apache fuselages and F-15 forward fuselages and wings and is a key supplier on the A-10 Wing.

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Boeing in Korea 2 The Company koreabackgrounder boeing assets aboutus international docs backgrounders |||

Backgrounder Boeing in Korea Boeing and the Republic of Korea ROK have a solid history of working ... d a 777 Freighter. As of May 2013, Korean Air operates a total of 88 Boeing passenger airplanes: 15 **747-400**s, 18 777-200ERs, 11 777-300ERs, four 777-300s and 40 737s 2 20 737-800s,16 737-900s and f...

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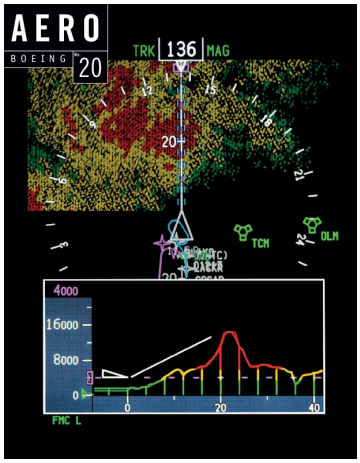

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AERO 20 B O E I N G No. Boeing 40-A Publisher Brian Ames Editor-in-chief Jill Langer Art director/ ... AINTENANCE Updates to the required scheduled maintenance programs for the 747-100/-200/-300 and the **747-400** offer significant cost savings to operators. COVER Vertical situation display on 737 fligh...

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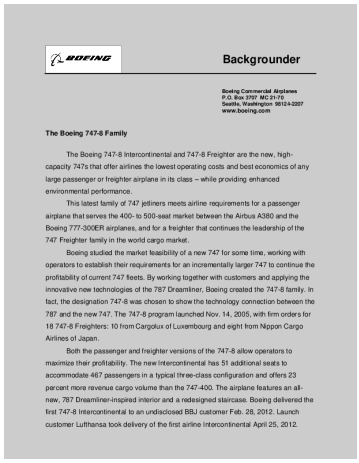

Backgrounder

Boeing Commercial Airplanes
P.O. Box 3707 MC 21-70
Seattle, Washington 98124-2207
www.boeing.com

The Boeing 747-8 Family

The Boeing 747-8 Intercontinental and 747-8 Freighter are the new, high-capacity 747s that offer airlines the lowest operating costs and best economics of any large passenger or freighter airplane in its class – while providing enhanced environmental performance.

This latest family of 747 jetliners meets airline requirements for a passenger airplane that serves the 400- to 500-seat market between the Airbus A380 and the Boeing 777-300ER airplanes, and for a freighter that continues the leadership of the 747 Freighter family in the world cargo market.

Boeing studied the market feasibility of a new 747 for some time, working with operators to establish their requirements for an incrementally larger 747 to continue the profitability of current 747 fleets. By working together with customers and applying the innovative new technologies of the 787 Dreamliner, Boeing created the 747-8 family. In fact, the designation 747-8 was chosen to show the technology connection between the 787 and the new 747. The 747-8 program launched Nov. 14, 2005, with firm orders for 18 747-8 Freighters: 10 from Cargolux of Luxembourg and eight from Nippon Cargo Airlines of Japan.

Both the passenger and freighter versions of the 747-8 allow operators to maximize their profitability. The new Intercontinental has 51 additional seats to accommodate 467 passengers in a typical three-class configuration and offers 23 percent more revenue cargo volume than the 747-400. The airplane features an all-new, 787 Dreamliner-inspired interior and a redesigned staircase. Boeing delivered the first 747-8 Intercontinental to an undisclosed BBJ customer Feb. 28, 2012. Launch customer Lufthansa took delivery of the first airline Intercontinental April 25, 2012.

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747 8 family backgrounder Boeing Commercial Airplanes bck Family boeing 80 farnborough2014 BCA |||

Backgrounder Boeing Commercial Airplanes P.O. Box 3707 MC 21-70 Seattle, Washington 98124-2207 www.b ... ers in a typical three-class configuration and offers 23 percent more revenue cargo volume than the **747-400**. The airplane features an allnew, 787 Dreamliner-inspired interior and a redesigned staircas...

lang:en score:19 filesize: 26.63 K page_count: 3 document date: 2014-06-12

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aero 21 boeing 80 commercial aeromagazine |||

AERO 21 B O E I N G No. Publisher Brian Ames Editor-in-chief Stephen S. Szehner Art director/desig ... lope signals. TECHNOLOGY/ PRODUCT DEVELOPMENT 19 747ER AND 747ER FREIGHTER The new Longer Range **747-400** airplanes offer significant range and payload improve- ments and provide greater reliabili...

lang:en score:19 filesize: 5.08 M page_count: 35 document date: 2002-12-04

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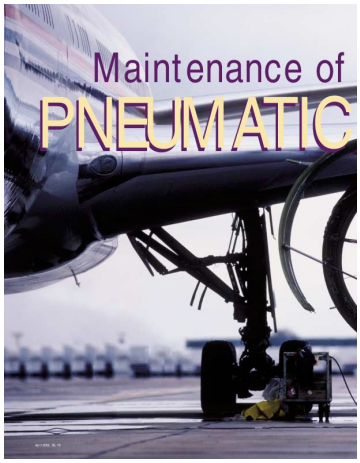
747 boeing 80 commercial aeromagazine aero 20 |||

747 SCHEDULED MAINTENANCE COST REDUCTIONS Boeing, the U.S. Federal Aviation Administration, and 747 operators have completed a three-year effort to update the required scheduled maintenance programs for the 747-100/-200/-300 and the **747-400**. The revisions offer significant cost savings for both ne...

lang:en score:19 filesize: 2.72 M page_count: 12 document date: 2002-08-22



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pneumatic boeing commercial aeromagazine aero 18 |||

Maintenance of PNEUMATIC April 2002, No. 18 747 and 767 BLEED SYSTEMS The pneumatic bleed system o ... rt Association ATA Chapter 36 is the third most frequent cause of schedule interruptions for the **747-400** and the fourth most frequent shutoff valve and pressure-regulating valve position switch. S...

lang:en score:19 filesize: 279.28 K page_count: 8 document date: 2002-03-06

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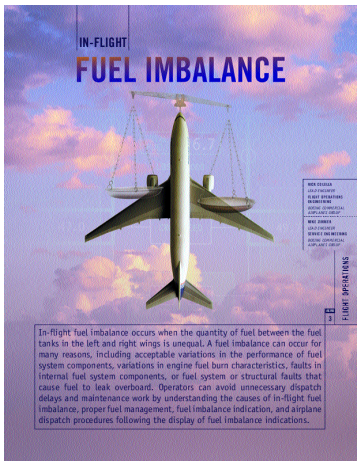
747 8 family backgrounder Boeing Commercial Airplanes Family Backgrounder English boeing resources boeingdotcom media dubai2015 Backgrounders |||

Backgrounder Boeing Commercial Airplanes P.O. Box 3707 MC 21-70 Seattle, Washington 98124-2207 www.b ... ers in a typical three-class configuration and offers 23 percent more revenue cargo volume than the **747-400**. The airplane features an allnew, 787 Dreamliner-inspired interior and a redesigned staircas...

lang:en score:19 filesize: 19.83 K page_count: 2 document date: 2015-10-22



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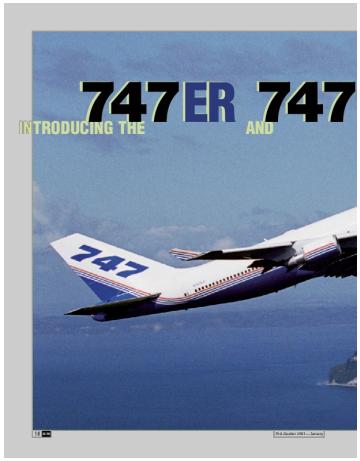
The Boeing Co fuel boeing 80 commercial aeromagazine aero 09 |||

IN-FLIGHT RICK COLELLA LEAD ENGINEER FLIGHT OPERATIONS E N G I N E E R I N G BOEING COMMERCIAL AIRPL ... aded in the center tank and any auxiliary fuel tanks, such as the horizontal stabilizer tank on the **747-400**. On three-engine airplanes fig.3 , fuel is first distributed equally to the wing tanks and ...

lang:en score:19 filesize: 463.64 K page_count: 7 document date: 1999-12-13



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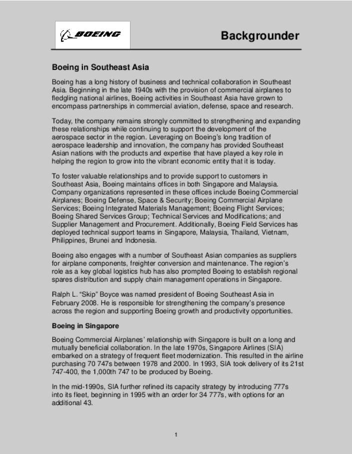
747ER boeing commercial aeromagazine aero 21 |||

747ER 747 INTRODUCING THE AND 18 AERO First-Quarter 2003 -- January ER FREIGHTER KURT KRAFT PROGRAM MANAGER LONGER RANGE 747 PROGRAM BOEING COMMERCIAL AIRPLANES TECHNOLOGY/PRODUCT DEVELOPMENT The Longer Range **747-400** airplanes -- the **747-400** Extended Range and **747-400** Extended Range Freighter...

lang:en score:19 filesize: 1.11 M page_count: 8 document date: 2002-12-04


Backgrounder

Boeing in Southeast Asia

[pdf]

Information and Communications Systems was formed in 1997 to manage many of the high technology products services designed built supported by Boeing 3 The Company SEasiabackgrounder boeing assets aboutus international docs backgrounders |||

Backgrounder Boeing in Southeast Asia Boeing has a long history of business and technical collaborat ... ted in the airline purchasing 70 747s between 1978 and 2000. In 1993, SIA took delivery of its 21st **747-400**, the 1,000th 747 to be produced by Boeing. In the mid-1990s, SIA further refined its capacit...

lang:en score:19 filesize: 36.08 K page_count: 6 document date: 2013-05-15


FEATURE STORY

Something big is in the air

Flight test program is under way for the 747 Large Cargo Freighter, an important 787 production tool

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mainfeature boeing news frontiers archive 2006 november |||

n FEATURE STORY Something bigis in the air Flight test program is under way for the 747 Large Cargo ... Boeing employees who have spent the past three years designing, building and now flight-testing the **747-400** Large Cargo Freighter. The LCF recently achieved some crucial milestones, including taking t...

lang:en score:19 filesize: 592.93 K page_count: 4 document date: 2006-10-27

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Microsoft PowerPoint Boeing Shanghai Overview for BGS Sep 2017 xiasj Services Maintenance Execution BoeingShanghaiOverviewSep boeing resources boeingdotcom commercial services overview |||

Boeing Shanghai Overview Boeing Shanghai AGENDA Company Profile Organization Facility Capabil ... apabilities 737 Series All Levels 767-200/300 All Levels 747-100/200/300 C Check 747-8 C Check **747-400**/F C Check 777-200/300 3C Check and below 787-8/9 up to 2C check Painting 737,767,747,777...

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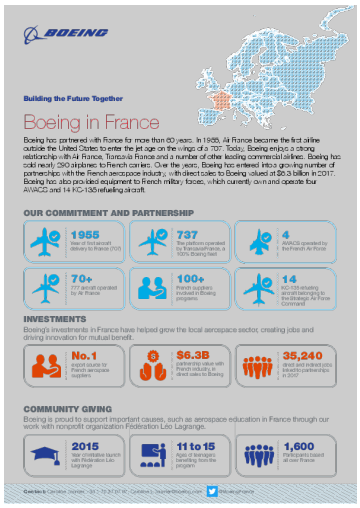

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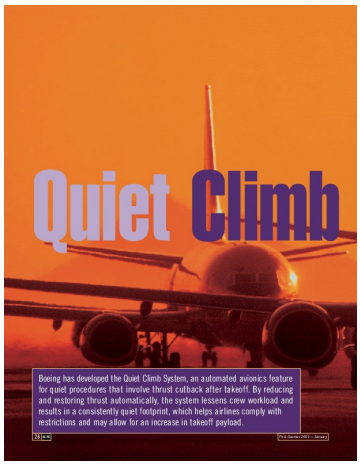
francebackgrounder boeing resources boeingdotcom company key orgs international France English Boeing International Country Regional Leadership |||

Building the Future Together Boeing in France Boeing has partnered with France for more than 60 year ... r France has recently ordered 787 Dreamliner airplanes. Air France was also launch customer for the **747-400**ER Freighter in 2001 and the 777 Freighter in 2005. In addition, Air France operates a large ...

lang:en score:18 filesize: 343.93 K page_count: 2 document date: 2019-06-20



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Boeing has developed the Quiet Climb System an automated avionics feature for quiet procedures that involve thrust cutback afte quietclimb boeing commercial aeromagazine aero 21 |||

Quiet Climb Boeing has developed the Quiet Climb System, an automated avionics feature for quiet pr ... ble in first-quarter 2003 on the 737-600/-700/-800/-900. Boeing also is considering the QCS for the **747-400**, which would have an 28 AERO First-Quarter 2003 -- January automatic thrust cutback engi...

lang:en score:18 filesize: 718.19 K page_count: 6 document date: 2002-12-04

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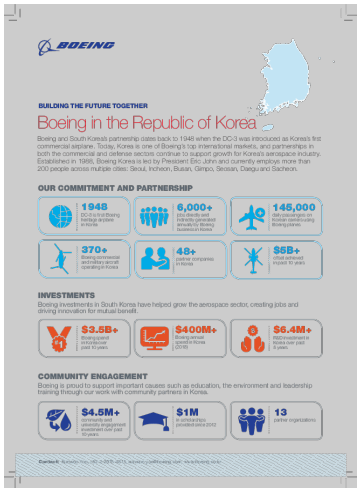
Boeing Chronology boeing resources boeingdotcom history |||

Boeing history chronology PRE-1910 1910 1920 Boeing history chronology 1930 1940 1950 1960 197 ... Calif. Jan. 26: Dual ceremonies celebrate the simultaneous rollout of the Boeing 737-400 and the **747-400**. Feb. 19: The first Boeing 767-300ER extended range is delivered to American Airlines. ...

lang:en score:18 filesize: 1.21 M page_count: 130 document date: 2015-12-14



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koreabackgrounder boeing resources boeingdotcom company key orgs international Full Backgrounder Boeing International Country Regional Leadership |||

BUILDING THE FUTURE TOGETHER Boeing in the Republic of Korea Boeing and South Korea s partnership da ... onics, data analytics, smart cabin, smart factory and autonomy. Commercial Korean Air: 12 747s 2 **747-400**s, 10 747-8Is 43 777s 14 777-200ERs, 25 777-300ERs, 4 777-300s 31 737s 9 737-800s, 16 7...

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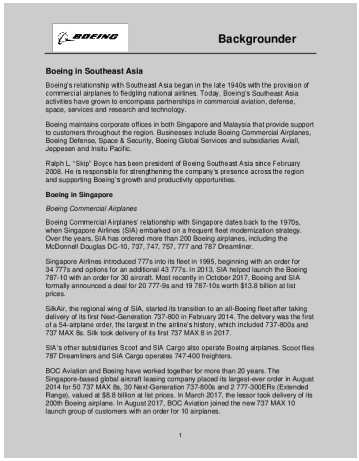

Backgrounder

Boeing in Southeast Asia

Boeing's relationship with Southeast Asia began in the late 1940s with the provision of commercial airplanes to fledgling national airlines. Today, Boeing's Southeast Asia activities have grown to encompass partnerships in commercial aviation, defense, space, services and research and technology.

Boeing maintains corporate offices in both Singapore and Malaysia that provide support to customers throughout the region. Businesses include Boeing Commercial Airplanes, Boeing Defense, Space & Security, Boeing Global Services and subsidiaries Aviall, Jeppesen and Insitu Pacific.

Ralph L. "Skip" Boyce has been president of Boeing Southeast Asia since February 2008. He is responsible for strengthening the company's presence across the region and supporting Boeing's growth and productivity opportunities.

Boeing in Singapore

Boeing Commercial Airplanes

Boeing Commercial Airplanes' relationship with Singapore dates back to the 1970s, when Singapore Airlines (SIA) embarked on a frequent fleet modernization strategy. Over the years, SIA has ordered more than 200 Boeing airplanes, including the McDonnell Douglas DC-10, 737, 747, 757, 777 and 787 Dreamliner.

Singapore Airlines introduced 777s into its fleet in 1995, beginning with an order for 34 777s and options for an additional 43 777s. In 2013, SIA helped launch the Boeing 787-10 with an order for 30 aircraft. Most recently in October 2017, Boeing and SIA formally announced a deal for 20 777-9s and 19 787-10s worth $13.8 billion at list prices.

SilkAir, the regional wing of SIA, started its transition to an all-Boeing fleet after taking delivery of its first Next-Generation 737-800 in February 2014. The delivery was the first of a 54-airplane order, the largest in the airline's history, which included 737-800s and 737 MAX 8s. Silk took delivery of its first 737 MAX 8 in 2017.

SIA's other subsidiaries Scoot and SIA Cargo also operate Boeing airplanes. Scoot flies 787 Dreamliners and SIA Cargo operates 747-400 freighters.

BOC Aviation and Boeing have worked together for more than 20 years. The Singapore-based global aircraft leasing company placed its largest-ever order in August 2014 for 50 737 MAX 8s, 30 Next-Generation 737-800s and 2 777-300ERs (Extended Range), valued at $8.8 billion at list prices. In March 2017, the lessor took delivery of its 200th Boeing airplane. In August 2017, BOC Aviation joined the new 737 MAX 10 launch group of customers with an order for 10 airplanes.

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Boeing in China SEasiabackgrounder boeing resources boeingdotcom company key orgs international Full Backgrounder International Country Regional Leadership |||

Backgrounder Boeing in Southeast Asia Boeing s relationship with Southeast Asia began in the late 19 ... oot and SIA Cargo also operate Boeing airplanes. Scoot flies 787 Dreamliners and SIA Cargo operates **747-400** freighters. BOC Aviation and Boeing have worked together for more than 20 years. The Singapo...

lang:en score:18 filesize: 106.87 K page_count: 8 document date: 2018-09-10

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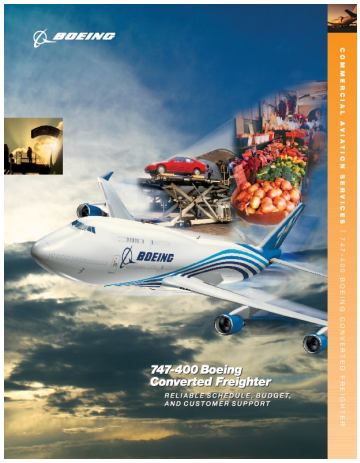
aero 18 boeing 80 commercial aeromagazine |||

AERO 18 B O E I N G No. Boeing 40B-4 Publisher Brian Ames Editor-in-chief Jill Langer Art director ... rt Association ATA Chapter 36 is the third most frequent cause of schedule interruptions for the **747-400** and the fourth most frequent shutoff valve and pressure-regulating valve position switch. S...

lang:en score:18 filesize: 1.02 M page_count: 35 document date: 2002-02-28

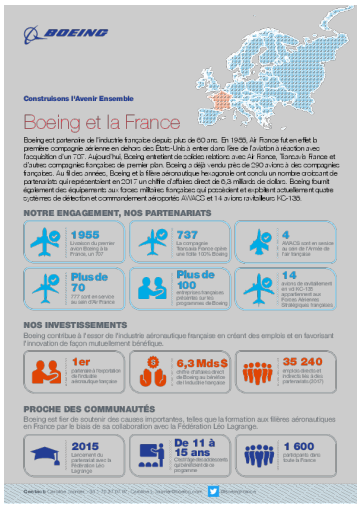


[pdf] Borchure

737 900EX 12 14 747 400BCF Card boeing commercial aviationservices brochures |||

COMMERCIAL AVIATION SERVICES **747-400** BOEING CONVERTED FREIGHTER **747-400** Boeing Converted Freighter R E L I A B L E S C H E D U L E , B U D G E T, A N D C U S T O M E R S U P P O R T GENUINE BOEING ENGINEERING AND PARTS Renowned 747 Revenue Performance From a Converted Freighter When freight ca...

lang:en score:18 filesize: 792.18 K page_count: 2 document date: 2005-10-06



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francebackgrounder french boeing resources boeingdotcom company key orgs international France French Boeing International Country Regional Leadership |||

Construisons l Avenir Ensemble Boeing et la France Boeing est partenaire de l industrie franaise de ... flotte, Air France a rcemment command des 787 Dreamliner. Elle est galement client de lancement du **747-400**ER Cargo en 2001, puis du 777 Cargo en 2005. Par ailleurs, Air France loue un grand nombre d ...

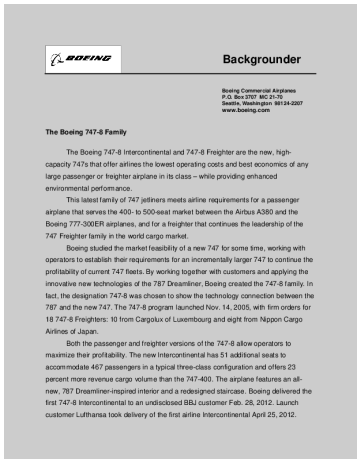
lang:fr score:18 filesize: 348.6 K page_count: 2 document date: 2019-06-20

[pdf] Dimension Guide Borchure

Slide 1 bha5742 The Boeing Company 777Xbrochure boeing resources boeingdotcom commercial airports acaps |||

777X Airport Compatibility Brochure Specific airport compatibility questions concerning Boeing comme ... vailable airport planning manuals Minimum width of values may vary during pavement operations **747-400** 787-10 1 747-8 ICAO Airplane Design Code E E F 180 turn width m max steering angle 3 ...

lang:en score:18 filesize: 1.36 M page_count: 19 document date: 2016-08-18



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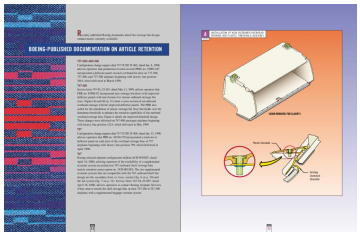
Backgrounder Boeing Commercial Airplanes P.O. Box 3707 MC 21-70 Seattle, Washington 98124-2207 www.b ... ers in a typical three-class configuration and offers 23 percent more revenue cargo volume than the **747-400**. The airplane features an allnew, 787 Dreamliner-inspired interior and a redesigned staircas...

lang:en score:18 filesize: 14.56 K page_count: 3 document date: 2015-05-11

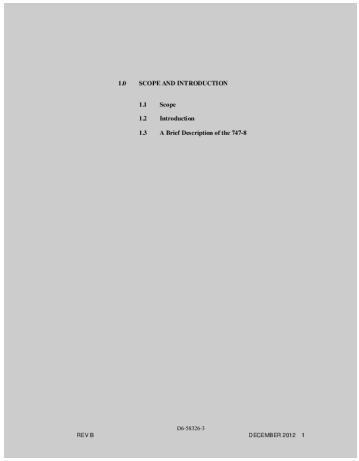


[pdf] Documentation

retention boeing commercial aeromagazine aero 15 |||

Recently published Boeing documents detail the stowage bin design enhancements currently available: ... 00, and 737-500 airplanes beginning with factory line position 3016, which delivered in March 1998. **747-400** Service letter 747-SL-25-183, dated May 11, 1999, advises operators that PRR no. 85900-92 in...

lang:en score:18 filesize: 483.11 K page_count: 1 document date: 2001-06-19



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747 8 AIRPORT PLANNING DOCUMENT Section 1 Scope 747APD Rachel Malcolm Mike Roginski Jack Christy The Boeing Company 7478sec1 boeing assets commercial airports acaps |||

1.0 SCOPE AND INTRODUCTION 1.1 Scope 1.2 Introduction 1.3 A Brief Description of the 747-8 REV B D ... nes and is offered in both Freighter and Passenger versions. The 747-8 is externally similar to the **747-400** with a higher gross weight, longer fuselage and increased wingspan. The 747-8 Freighter reta...

lang:en score:18 filesize: 21.97 K page_count: 4 document date: 2013-01-11

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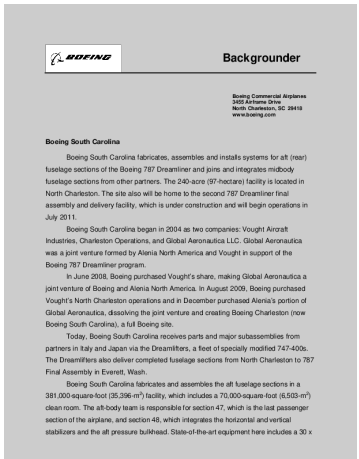
fs differences747 400to747 8 boeing 80 resources boeingdotcom commercial edge assets brochure flight services |||

Flight Training Differences Course **747-400** to 747-8 Flight Training Differences Course **747-400** to 747-8 Boeing flight training courses are designed to meet regulatory requirements and the stringent training requirements of airlines. Our flight training solutions are designed by training developer...

lang:en score:18 filesize: 468.74 K page_count: 2 document date: 2013-02-01



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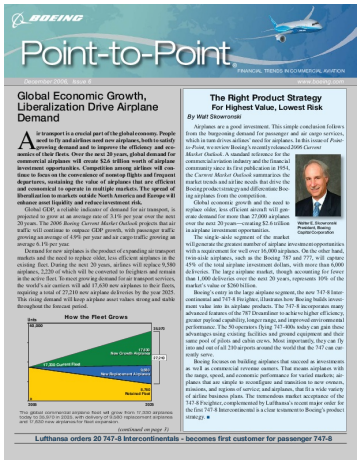
2 Boeing Commercial Airplanes Julie O Donnell bkg BoeingSC boeing 80 commercial charleston |||

Backgrounder Boeing Commercial Airplanes 3455 Airframe Drive North Charleston, SC 29418 www.boeing.c ... subassemblies from partners in Italy and Japan via the Dreamlifters, a fleet of specially modified **747-400**s. The Dreamlifters also deliver completed fuselage sections from North Charleston to 787 Fin...

lang:en score:18 filesize: 20.25 K page_count: 2 document date: 2010-07-28



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Sixth Newsletter 12 14 06 indd vkb6058 p2p newsletter boeing commercial P2P |||

Point-to-Point FINANCIAL TRENDS IN COMMERCIAL AVIATION December 2006, Issue 6 www.boeing.com Glo ... payload capability, longer range, and improved environmental performance. The 50 operators flying **747-400**s today can gain these advantages using existing facilities and ground equipment and their ...

lang:en score:18 filesize: 247.36 K page_count: 4 document date: 2006-12-19

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AERO 2012q1 boeing 80 commercial aeromagazine articles 2012 q1 s |||

qtr_01 12 A quarterly publication boeing.com/commercial/ aeromagazine Revolutionizing Flight RFID Op ... ts in fuel economy and carbon emissions and generates a 30 percent smaller noise footprint than the **747-400**. Now -- as airlines introduce these new airplanes into their fleets -- Boeing tech nical ex...

lang:en score:18 filesize: 3.71 M page_count: 32 document date: 2014-11-05

[pdf] User Manual Borchure

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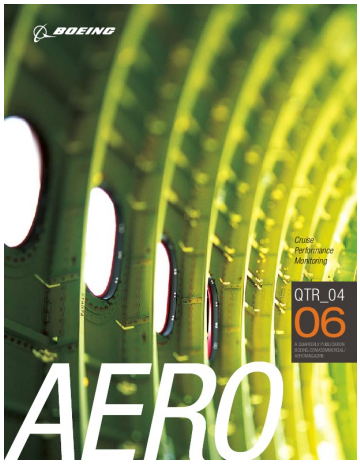
C O M M E R C I A L AV I AT I O N S E R V I C E S AFM-DPI RETROFIT KITS AFM-DPI Retrofit Kits OP ... rease revenue payload. At many performance-limited airports, given dry runway conditions, a typical **747-400** passenger airplane could add from 1,000 to 4,000 pounds in allowable takeoff weight through ...

lang:en score:18 filesize: 432.22 K page_count: 4 document date: 2004-06-08



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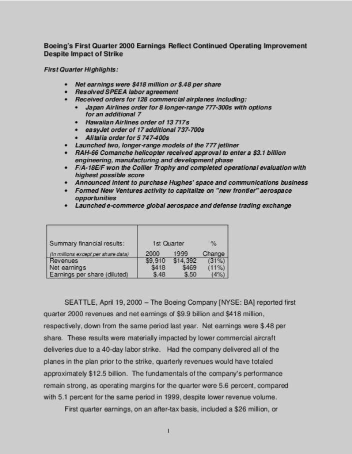
AERO Q406 article2 boeing 80 commercial aeromagazine articles qtr 4 06 |||

Cruise Performance Monitoring qtr_04 06 a quarterly publication boeing.com/commercial/ aeromagazine ... study 1: Airframe versus engine -- causes of fuel mileage deterioration An airline that operates a **747-400** airplane fleet was concerned about what it considered to be excessive fuel mileage deteriora...

lang:en score:18 filesize: 2.2 M page_count: 9 document date: 2006-09-12



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DRAFT BOEING news release 000419a boeing releases 2000 |||

Boeing s First Quarter 2000 Earnings Reflect Continued Operating Improvement Despite Impact of Strik ... Hawaiian Airlines order of 13 717s easyJet order of 17 additional 737-700s Alitalia order for 5 **747-400**s Launched two, longer-range models of the 777 jetliner RAH-66 Comanche helicopter received...

lang:en score:18 filesize: 43.33 K page_count: 11 document date: 2000-04-19

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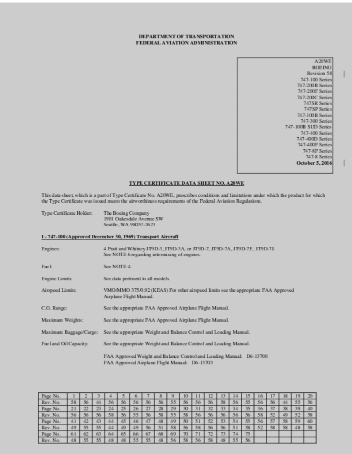
qt snapshots boeing news frontiers archive 2007 december |||

SNAPSHOT A package deal UPS recently staged an air-to-air film and photo shoot for promotional purpo ... red another 27 of the 767 Freighters, with delivery to begin in 2009. In addition, UPS operates two **747-400**Fs and has six **747-400**s and two **747-400** Boeing Converted Freighters on order. Photo courtesy ...

lang:en score:18 filesize: 479.73 K page_count: 1 document date: 2007-12-06



[pdf] Datasheet

DEPARTMENT OF TRANSPORTATION 5 Roxanne Hanshaw FAA DOT A20WE boeing assets commercial airports misc |||

DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION A20WE BOEING Revision 58 747-100 Series 747-200B Series 747-200F Series 747-200C Series 747SR Series 747SP Series 747-100B Series 747-300 Series 747-100B SUD Series **747-400** Series **747-400**D Series **747-400**F Series 747-8F Series 747-8 Series...

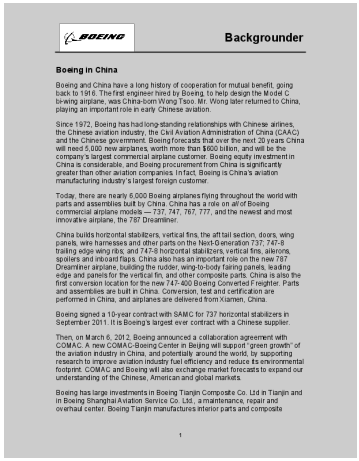
lang:en score:18 filesize: 598.69 K page_count: 75 document date: 2016-10-06

[pdf]

Frontiers June2012 boeing news frontiers archive 2012 june pubData source |||

Frontiers www.boeing.com/frontiers JUNE 2012 / Volume XI, Issue II SHARING THE DREAM Boeing South ... the 747-8 required an extensive redesign of the traditional 747 concept, pilots who have flown the **747-400** will feel right at home. New technology has been added to assist Intercontinental flight cre...

lang:en score:18 filesize: 20.11 M page_count: 48 document date: 2012-05-29



Backgrounder

Boeing in China

Boeing and China have a long history of cooperation for mutual benefit, going back to 1916. The first engineer hired by Boeing, to help design the Model C bi-wing airplane, was China-born Wong Tsoo. Mr. Wong later returned to China, playing an important role in early Chinese aviation.

Since 1972, Boeing has had long-standing relationships with Chinese airlines, the Chinese aviation industry, the Civil Aviation Administration of China (CAAC) and the Chinese government. Boeing forecasts that over the next 20 years China will need 5,000 new airplanes, worth more than $600 billion, and will be the company's largest commercial airplane customer. Boeing equity investment in China is considerable, and Boeing procurement from China is significantly greater than other aviation companies. In fact, Boeing is China's aviation manufacturing industry's largest foreign customer.

Today, there are nearly 6,000 Boeing airplanes flying throughout the world with parts and assemblies built by China. China has a role on all of Boeing commercial airplane models — 737, 747, 767, 777, and the newest and most innovative airplane, the 787 Dreamliner.

China builds horizontal stabilizers, vertical fins, the aft tail section, doors, wing panels, wire harnesses and other parts on the Next-Generation 737; 747-8 trailing edge wing ribs; and 747-8 horizontal stabilizers, vertical fins, ailerons, spoilers and inboard flaps. China also has an important role on the new 787 Dreamliner airplane, building the rudder, wing-to-body fairing panels, leading edge and panels for the vertical fin, and other composite parts. China is also the first conversion location for the new 747-400 Boeing Converted Freighter. Parts and assemblies are built in China. Conversion, test and certification are performed in China, and airplanes are delivered from Xiamen, China.

Boeing signed a 10-year contract with SAMC for 737 horizontal stabilizers in September 2011. It is Boeing's largest ever contract with a Chinese supplier.

Then, on March 6, 2012, Boeing announced a collaboration agreement with COMAC. A new COMAC-Boeing Center in Beijing will support "green growth" of the aviation industry in China, and potentially around the world, by supporting research to improve aviation industry fuel efficiency and reduce its environmental footprint. COMAC and Boeing will also exchange market forecasts to expand our understanding of the Chinese, American and global markets.

Boeing has large investments in Boeing Tianjin Composite Co. Ltd in Tianjin and in Boeing Shanghai Aviation Service Co. Ltd., a maintenance, repair and overhaul center. Boeing Tianjin manufactures interior parts and composite

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Backgrounder Boeing in China Boeing and China have a long history of cooperation for mutual benefit, ... he vertical fin, and other composite parts. China is also the first conversion location for the new **747-400** Boeing Converted Freighter. Parts and assemblies are built in China. Conversion, test and ce...

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Flight plan

Boeing test pilots who will fly the Dreamliner and 747-8 Freighter will soon be in the spotlight, but the goal is to make the first flights as routine as possible

By Eric Fetters-Walp

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Flight plan Boeing test pilots who will fly the Dreamliner and 747-8 Freighter will soon be in the s ... ece. While working for the Federal Aviation Administration, he issued the first type rating for the **747-400** model in 1988 and he co-piloted the final**747-400** on a production flight test last spring. I...

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