

# Pilot Training

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## A View from ICAO

Jim Dow

Air Navigation Commission  
International Civil Aviation Organization

ALPA

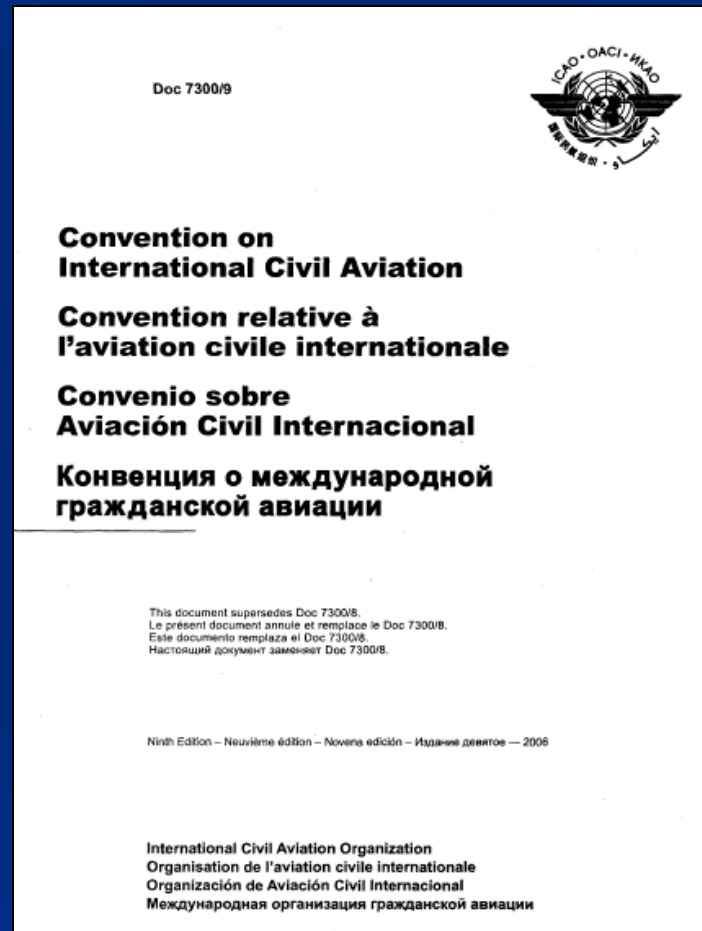
*Evolution of Safety Through Pilot Training*

Washington, D.C.

July 12, 2012



# Convention on International Civil Aviation



# Annexes to the Convention

- 1 Personnel Licensing
- 2 Rules of the Air
- 3 Meteorological Service for International Air Navigation
- 4 Aeronautical Charts
- 5 Units of Measurement to be Used in Air and Ground Operations
- 6 Operation of Aircraft
- 7 Aircraft Nationality and Registration Marks
- 8 Airworthiness of Aircraft
- 9 Facilitation
- 10 Aeronautical Telecommunications
- 11 Air Traffic Services
- 12 Search and Rescue
- 13 Aircraft Accident and Incident Investigation
- 14 Aerodromes
- 15 Aeronautical Information Services
- 16 Environmental Protection
- 17 Security
- 18 The Safe Transport of Dangerous Goods by Air
- 19 Safety Management



# Procedures for Air Navigation Services

Doc 4444 Air Traffic Management

Doc 8168 Aircraft Operations

Doc 9868 Training

Doc xxx Aerodrome

Doc xxx Aeronautical Information Management



# Circulars

## ICAO CIRCULAR

CIRCULAR 234-AN/142



1992

### HUMAN FACTORS DIGEST No. 5

#### OPERATIONAL IMPLICATIONS OF AUTOMATION IN ADVANCED TECHNOLOGY FLIGHT DECKS

*Approved by the Secretary General  
and published under his authority*

INTERNATIONAL  
CIVIL AVIATION  
ORGANIZATION  
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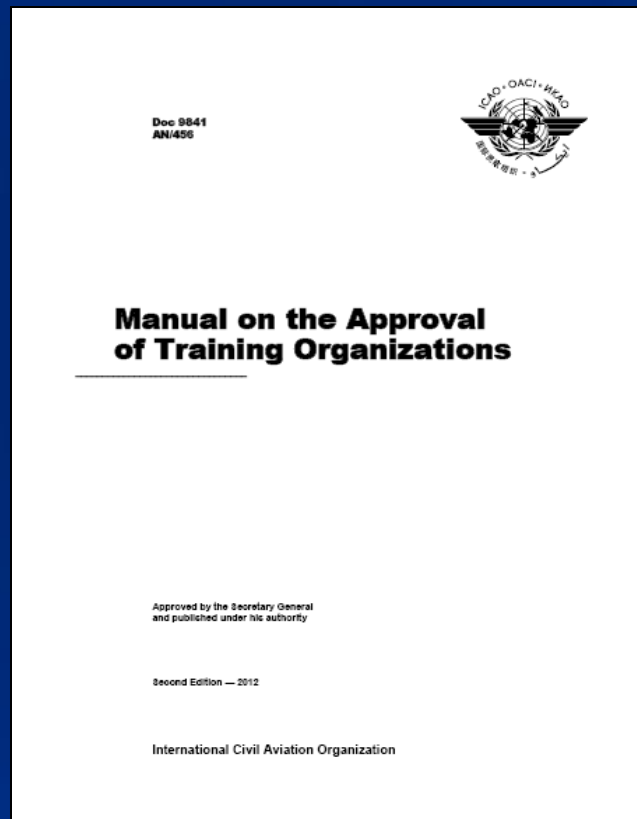


# Manuals

Doc 7192 Training Manual Doc 8071 Manual on Testing of Radio Navigation Aids Doc 8126 Aeronautical Information Services Manual Doc 8335 Manual of Procedures for Operations Inspection, Certification and Continued Surveillance Doc 8896 Manual of Aeronautical Meteorological Practice Doc 8984 Manual of Civil Aviation Medicine Doc 9137 Airport Services Manual Doc 9150 Stolport Manual Doc 9157 Aerodrome Design Manual Doc 9161 Manual on Air Navigation Services Economics Doc 9184 Airport Planning Manual Doc 9261 Heliport Manual Doc 9284 Technical Instructions for the Safe Transport of Dangerous Goods by Air Corrigenda/Addenda/Guidance only Doc 9328 Manual of Runway Visual Range Observing and Reporting Practices Doc 9332 Manual on the ICAO Bird Strike Information System (IBIS) Doc 9375 Dangerous Goods Training Manual Doc 9377 Manual on Coordination between Air Traffic Services, Aeronautical Information Services and Aeronautical Meteorological Services Doc 9426 Air Traffic Services Planning Manual Doc 9432 Manual of Radiotelephony Doc 9433 Manual Concerning Interception of Civil Aircraft (Consolidation of Current ICAO Provisions and Special Recommendations) Doc 9476 Manual of Surface Movement Guidance and Control Systems (SMGCS) Doc 9501 Environmental Technical Manual Doc 9554 Manual Concerning Safety Measures Relating to Military Activities Potentially Hazardous to Civil Aircraft Operations Doc 9562 Airport Economics Manual Doc 9574 Manual on Implementation of a 300 m (1 000 ft) Vertical Separation Minimum Between FL 290 and FL 410 Inclusive Doc 9613 Performance-based Navigation (PBN) Manual Doc 9625 Manual of Criteria for the Qualification of Flight Simulation Training Devices Doc 9626 Manual on the Regulation of International Air Transport Doc 9640 Manual of Aircraft Ground De-Icing/Anti-Icing Operations Doc 9643 Manual on Simultaneous Operations on Parallel or Near-Parallel Instrument Runways (SOIR) Doc 9684 Manual on the Secondary Surveillance Radar (SSR) Systems Doc 9688 Manual on Mode S Specific Services Doc 9689 Manual on Airspace Planning Methodology for the Determination of Separation Minima Doc 9691 Manual on Volcanic Ash, Radioactive Material and Toxic Chemical Clouds Doc 9694 Manual of Air Traffic Services Data Link Applications Doc 9731 IAMSAR Manual - International Aeronautical and Maritime Search and Rescue Manual Doc 9734 Safety Oversight Manual Doc 9735 Safety Oversight Audit Manual Doc 9756 Manual of Aircraft Accident and Incident Investigation Doc 9760 Airworthiness Manual Doc 9774 Manual on Certification of Aerodromes Doc 9806 Human Factors Guidelines for Safety Audits Manual Doc 9815 Manual on Laser Emitters and Flight Safety Doc 9817 Manual on Low-level Wind Shear Doc 9824 Human Factors Guidelines for Aircraft Maintenance Manual Doc 9830 Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Manual Doc 9835 Manual on the Implementation of ICAO Language Proficiency Requirements Doc 9837 Manual on Automatic Meteorological Observing Systems at Aerodromes Doc 9841 Manual on the Approval of Flight Crew Training Organizations Doc 9859 Safety Management Manual (SMM) Doc 9861 Manual on the Universal Access Transceiver (UAT) Doc 9863 Airborne Collision Avoidance System (ACAS) Manual Doc 9869 Manual on Required Communication Performance (RCP) Doc 9870 Manual on the Prevention of Runway Incursions Doc 9873 Manual on the Quality Management System for the Provision of Meteorological Service to International Air Navigation Doc 9880 Manual on Detailed Technical Specifications for the Aeronautical Telecommunication Network (ATN) using ISO/OSI Standards and Protocols Doc 9882 Manual on Air Traffic Management System Requirements Doc 9883 Manual on Global Performance of the Air Navigation System Doc 9889 Airport Air Quality Guidance Manual Doc 9896 Manual on the Aeronautical Telecommunication Network (ATN) using Internet Protocol Suite (IPS) Standards and Protocols Doc 9905 Required Navigation Performance Authorization Required (RNP AR) Procedure Design Manual Doc 9906 Quality Assurance Manual for Flight Procedure Design Doc 9910 Normal Operations Safety Survey (NOSS) Manual Doc 9924 Aeronautical Surveillance Manual Doc 9925 Manual on the Aeronautical Mobile Satellite (Route) Service Doc 9931 Continuous Descent Operations (CDO) Manual Doc 9937 Manual of Operating Procedures and Practices for Regional Monitoring Agencies in Relation to the Use of a 300 m (1 000 ft) Vertical Separation Minimum above FL 290 Doc 9946 Manual on Regional Accident and Incident Investigation Organization

# ATO Manual

## 2012





Doc 9956

# Global and Regional 20-year Forecasts

**Pilots • Maintenance Personnel • Air Traffic Controllers**

Approved by the Secretary General and published under his authority





Hours, hours, hours...



# Annex 1 – Personnel Licensing

11<sup>th</sup> Edition

## 1.2.8 Approved training and approved training organization

*Note — The qualifications required for the issue of personnel licences can be more readily and speedily acquired by applicants who undergo closely supervised, systematic and continuous courses of training, conforming to a planned syllabus or curriculum. Provision has accordingly been made for some reduction in the experience requirements for the issue of certain licences and ratings prescribed in these Standards and Recommended Practices ...*



# Annex 1 - Commercial Pilot Licence

## 2.4.3.1 *Experience*

2.4.3.1.1 The applicant shall have completed not less than 200 hours of flight time, or 150 hours if completed during a course of approved training, as a pilot of aeroplanes.



# Remarks on the MPL



# Supply and Demand in Pilot Training

## Reflections on the Pilot Training Marketplace



# Trend in Pilot Training Activity

Private Pilot Licences Issued

Canada

1979 - 2011



# Thank you

