



## 飛行標準及適航

## Flight Standards and Airworthiness

飛行標準及適航部負責簽發航空運輸企業經營許可證(航空經營許可證)，以及在發出許可證後監察所有持證公司的運作，確保這些公司遵守國際民航組織所訂定的標準和建議措施。

The Flight Standards and Airworthiness Division is responsible for the grant of Air Operator's Certificate (AOC) and the subsequent monitoring of all AOC holders to ensure their compliance with the Standards and Recommended Practices of the ICAO.





# 飛行標準及適航

## Flight Standards and Airworthiness

本部的其他職責包括簽發空勤人員及飛機維修執照，監察在香港登記的飛機的適航標準和維修水平，監督飛機維修機構、輕型飛機和直升機運作，監察外國航空公司在香港國際機場的運作，調查飛機意外和事故，以及分析安全數據。

### 飛行標準組

#### 簽發和續發航空經營許可證

香港航空公務機管理有限公司（香港商務航空）於二零一一年十一月四日獲民航處簽發航空經營許可證後，本地持有航空經營許可證的公司增至十家，計為：

香港華民航空有限公司（華民航空）	AHK Air Hong Kong Limited (AHK)
國泰航空有限公司（國泰航空）	Cathay Pacific Airways Limited (CPA)
直升機服務（香港）有限公司	Heliservices (Hong Kong) Limited (HEL)
香港航空有限公司（香港航空）	Hong Kong Airlines Limited (CRK)
香港航空公務機管理有限公司（香港商務航空）	Hong Kong Airlines Corporate Jet Management Limited (HKJ)
港龍航空有限公司（港龍航空）	Hong Kong Dragon Airlines Limited (HDA)
香港快運航空有限公司（香港快運）	Hong Kong Express Airways Limited (HKE)
香港商用飛機有限公司（香港商用飛機）	Metrojet Limited (MTJ)
空中快線有限公司（空中快線）	Sky Shuttle Helicopters Limited (HHK)
TAG Aviation Asia Limited (TBJ)	TAG Aviation Asia Limited (TBJ)

年內，飛行標準組對航空經營許可證持證公司巡查共339次。

During the year, the Flight Standards Office carried out 339 AOC inspections.

Other functions of the Division include the issue of flight crew and aircraft maintenance licences, monitoring of airworthiness and maintenance standards of aircraft registered in Hong Kong, supervision of aircraft maintenance organisations, supervision of light aircraft and helicopter operations, surveillance of foreign airline operators' operations at the HKIA, investigation of aircraft accidents and incidents, and safety data analysis.

### FLIGHT STANDARDS OFFICE

#### Issue and Renewal of AOC

Subsequent to the issue of AOC by the CAD to Hong Kong Airlines Corporate Jet Management Limited on November 4, 2011, the number of Hong Kong AOC holders increased to ten and they were:

年內，本部通過全面的巡查和審查，繼續監察本地航空經營許可證持證公司的安全表現和營運標準。飛行標準組巡查人員執行了149次飛行及機艙安全檢查，並對航空經營許可證持證公司作出共339次其他巡查，包括外站巡查，檢查運作記錄，視察訓練情況和審批核准考核人員。本部亦按照檢查程序，評審和視察本港航空公司位於海外和香港的50台飛行模擬器，並重新簽發使用許可。此外，本部負責監察政府飛行服務隊的直升機和定翼機運作。

#### 新設的多機組飛行員執照（飛機）培訓課程

二零一一年九月二十八日，飛行標準組批准港龍航空和牛津航空學院開辦多機組飛行員執照（飛機）的第一階段試驗培訓課程，對象為港龍航空的飛行學員。培訓課程根據國際民航組織最新的發牌制度和着重才能的訓練概念而制訂，受訓學員共有12人。

During the year, the safety performance and operating standards of Hong Kong AOC holders were monitored through a comprehensive programme of inspections and audits. In addition to 149 flight operations and cabin safety inspections, the Inspectorate staff of the Flight Standards Office had conducted a total of 339 AOC inspections including station inspections, operational records inspections, training inspections and approval of authorised examiners. The 50 flight simulators, located worldwide and in Hong Kong and used by local airlines, were evaluated, inspected and reapproved for use in accordance with the inspection procedures. The Division was also tasked with the responsibility of monitoring the helicopter and fixed-wing aircraft operations of the Government Flying Service (GFS).

#### New Multi-crew Pilots Licence (Aeroplanes) Course

On September 28, 2011, the Flight Standards Office granted the approval to HDA and Oxford Aviation Academy to conduct the first phase of a Trial Multi-crew Pilots Licence (Aeroplanes) Course for the airlines' cadet pilots. The course was developed based on the ICAO new licensing regime and competency based training concept. A total of 12 cadets had joined the training programme.

適航事務組人員檢查航機，  
監察維修和適航標準。  
The Airworthiness Office conducts  
inspections to monitor maintenance and  
airworthiness standards of aircraft.



本部人員正檢查直升機。  
An FSAD officer inspecting a helicopter.

### 新成立的飛行模擬器營運公司

Flight Safety Training International (FSI)於二零一二年起，在香港為區內的商務飛機營運者培訓飛行員。為配合本地營運者的培訓需要，飛行標準組審核FSI在本港的設施及其灣流G550型飛行模擬器的標準，並於二零一二年一月二十七日，核准該飛行模擬器用作培訓和測試本地飛行員。

### 交付航空器

隨着香港航空業持續增長，本地航空公司紛紛擴充機隊。年內，香港民用航空器登記冊共新增29架航空器，詳情如下：

### New Flight Simulator Operator

In 2012, Flight Safety Training International (FSI) began to provide flight crew training service in Hong Kong for business jet operators in the region. To facilitate Hong Kong operators' training needs, the Flight Standards Office examined the standards of FSI's facilities in Hong Kong and their Gulfstream G550 simulator. The simulator was subsequently approved for Hong Kong flight crew's training and checking on January 27, 2012.

### Delivery of Aircraft

As the Hong Kong aviation industry continued to grow, local airlines expanded their fleets and a total of 29 aircraft were added to the Hong Kong Civil Aircraft Register in the period as follows:

國泰航空 CPA	三架空中巴士A330型、五架波音B747型貨機和七架波音B777型 Three Airbus 330, five Boeing 747 freighters and seven Boeing 777
香港航空 CRK	三架空中巴士A330型、一架空中巴士A330型貨機和一架空中巴士A320型 Three Airbus 330, one Airbus 330 freighter, and one Airbus A320
港龍航空 HDA	兩架空中巴士A320型 Two Airbus 320
香港商務航空 HKJ	一架灣流G550型 One Gulfstream G550
香港商用飛機 MTJ	一架Cessna 560XL型 One Cessna 560XL
私人航空器營運者 Private aircraft operators	一架龐巴迪CL605型和兩架龐巴迪BD700型 One Bombardier CL605 and two Bombardier BD700
	一架龐巴迪BD700型和一架灣流G550型 One Bombardier BD700, and one Gulfstream G550



## 適航事務組

適航事務組監察所有在香港登記飛機的維修和適航標準。適航事務組的適航主任經驗豐富，定期審查本港航空公司、內地和海外的飛行站，又定期審查認可的維修和設計/生產機構，以及在香港、內地、中東、印度、亞洲其他地方、歐洲和北美洲各地城市檢查飛機，以持續監察航空經營許可證、維修和設計/生產機構的認可，以及為在香港登記的飛機簽發或續發適航證。

### 飛機維修

適航事務組繼續通過機庫檢查、公司運作審查及產品審查，定期監察所有香港認可的飛機維修及飛機部件維修機構。截至二零一二年三月三十一日，共有26家公司獲發香港認可維修機構的資格。適航事務組通過持續審查和定期視察，監察多家主要維修公司，包括香港飛機工程有限公司、香港航空發動機維修服務有限公司和廈門太古飛機工程有限公司。

## AIRWORTHINESS OFFICE

The Airworthiness Office monitored the maintenance and airworthiness standards of all Hong Kong registered aircraft. With a team of experienced Airworthiness Officers, the Office carried out routine AOC line station audits, approved maintenance and design/production organisation audits, and aircraft surveys locally in Hong Kong as well as cities in the Mainland, Middle East, India, other parts of Asia, Europe and North America, for the purpose of continual monitoring of AOC, approval of maintenance and design/production organisation, and the issue and renewal of Certificates of Airworthiness for Hong Kong registered aircraft.

### Aircraft Maintenance

The Airworthiness Office continued to monitor all Hong Kong approved aircraft and aircraft component maintenance organisations regularly through hangar surveys, company audits and product audits. As at March 31, 2012, there were 26 approved maintenance organisations holding Hong Kong approvals. Major maintenance companies, including Hong Kong Aircraft Engineering Company Limited (HAECO), Hong Kong Aero Engine Services Limited, and Taikoo (Xiamen) Aircraft Engineering Company Limited, are regulated through rolling audits and regular visits.



年內，香港民用航空器  
登記冊新增29架航空器。  
Twenty nine aircraft were  
put on the Hong Kong Civil  
Aircraft Register during  
the year.



## 飛機維修訓練

截至二零一二年三月三十一日，本港和內地共有五家維修訓練機構獲發《香港航空要求—147》許可證，可以舉辦與維修香港登記飛機有關的基本訓練及飛機型號訓練課程。

## 飛機和相關產品/零件的設計與生產

截至二零一二年三月三十一日，共有八家設計和生產機構獲發《香港航空要求—21》許可證，可以審定飛機相關產品/零件，包括設計和生產。

## Aircraft Maintenance Training

As at March 31, 2012, there were a total of five HKAR-147 Aircraft Maintenance Training Organisations located in Hong Kong and the Mainland which were approved to provide basic and aircraft type training for the maintenance of Hong Kong registered aircraft.

## Design and Production of Aircraft and Related Products/Parts

As at March 31, 2012, a total of eight HKAR-21 Design and Production Organisations were approved by the Department to provide certification of aircraft related products/parts including their design and production.

航空人員執照事務組簽發的空勤人員執照及飛機維修執照。  
Flight crew licences and aircraft maintenance licences issued by the Personnel Licensing Office.



航空人員執照事務組的考試室。  
Examination Room at the Personnel Licensing Office.

## 適航事務組統計數字

(二零一一年四月一日至二零一二年三月三十一日)

## Airworthiness Office Statistics

(between April 1, 2011 and March 31, 2012)

簽發適航證 Certificate of Airworthiness Issued <b>29</b>	續發適航證 Certificate of Airworthiness Renewed <b>240</b>	審定重大改裝 Major Modification Approved <b>12</b>	認可飛機維修機構 Approved Aircraft Maintenance Organisations <b>26</b>	認可飛機維修訓練機構 Approved Aircraft Maintenance Training Organisations <b>5</b>	認可設計和生產機構 Approved Design and Production Organisations <b>8</b>
---	---	--	--	--	---

## 航空人員執照事務組

### 空勤人員執照

二零一一至一二年度，航空人員執照事務組共處理2 726份申請，當中包括首次及續期簽發空勤人員執照、簽發飛機及儀表等級、英語能力認證和轉換海外執照為香港執照。執照事務組亦舉行了4 702次空勤人員執照考試，其中有1 227次在香港舉行。為配合業界對海外培訓及考試的需求，民航處核准了澳洲和英國的飛行培訓機構，及分別在兩地監察3 091次及384次空勤人員執照考試。此外，執照事務組向香港空勤人員執照或航空交通管制執照持有人/申請人簽發共4 263份體檢合格證明書。

## PERSONNEL LICENSING OFFICE

### Flight Crew Licensing

During 2011-12, the Personnel Licensing Office (PELO) processed a total of 2 726 applications, including initial grant and renewal of flight crew licences, aircraft and instrument ratings, language proficiency endorsements and conversion of foreign flight crew licences into Hong Kong licences. Of the total 4 702 CAD flight crew licensing written examinations, 1 227 were conducted locally in Hong Kong. To meet industry demand for conducting trainings and examinations overseas, the CAD approved flying training organisations overseas and invigilated 3 091 examinations in Australia and 384 examinations in the United Kingdom. In addition, 4 263 medical certificates were issued to holders/applicants of Hong Kong flight crew licence or air traffic controller's licence.



二零一一年十一月三日，民航處向香港飛機工程有限公司發出《香港航空要求-21》的設計機構及生產機構許可證。  
HKAR-21 Design Organisation Approval and HKAR-21 Production Organisation Approval were issued to HAECO on November 3, 2011.

### 飛機維修執照

截至二零一二年三月三十一日，執照事務組共處理882份有關首次簽發飛機維修執照、執照續期或加簽飛機型號等級的申請。年內，該組及香港飛機工程有限公司設於將軍澳的認可考試中心，舉行了涉及共5 321份試卷的考試。

### Aircraft Maintenance Licensing

As at March 31, 2012, the PELO processed 882 applications for initial licence issue, renewal or inclusion of aircraft type rating endorsements in aircraft maintenance licences. During the report period, a total of 5 321 examinations were conducted at the PELO and the authorised examination centre at HAECO in Tseung Kwan O.





適航事務組通過機庫檢查、公司運作審查及產品審查，定期監察相關機構。  
The Airworthiness Office monitors relevant organisations through hangar surveys, company audits and product audits.

### 飛行安全組

飛行安全組繼續對香港航空經營許可證持證公司實施安全監察計劃。計劃的主要目的，是利用風險管理模式編排和統籌各項審查工作。

年內，飛行安全組從航空業界接獲536宗強制性事故報告。該組與各航空公司、維修機構、機場營運人和航空交通服務提供者保持緊密聯繫，調查和跟進所有強制性事故報告，務求改善航空安全，防止事故再度發生。

### 協調本地空域使用者

為加強航空安全，由本地空域使用者組成的香港非控制區飛行安全小組繼續定期召開會議，協調香港空域的安全事宜。這些本地空域使用者包括定翼機機構和旋翼機機構（政府飛行服務隊、中國人民解放軍駐香港部隊、空中快線、直升機服務（香港）有限公司和香港飛行總會）、香港滑翔傘協會，以及個別私人航空器擁有人。

### FLIGHT SAFETY OFFICE

The Flight Safety Office continued to implement the surveillance programme for the safety oversight of Hong Kong AOC holders. The key purpose of the programme is to apply a risk management approach to the scheduling and coordination of inspection activities.

During the year, the Flight Safety Office received 536 Mandatory Occurrence Reporting (MOR) from the industry. Through close liaison with airline operators, maintenance organisations, aerodrome operator and air traffic service provider, all MORs were investigated for the purpose of enhancing aviation safety and preventing recurrence.

### COORDINATION WITH LOCAL AIRSPACE USERS

To promote flight safety, the Hong Kong Sector Flight Safety Committee comprising local airspace users continued to meet regularly to coordinate safety issues in the local airspace. These local airspace users include fixed-wing operators and rotary wing operators (the GFS, the Hong Kong Garrison of the People's Liberation Army, HHK, HEL and the Hong Kong Aviation Club) as well as the Hong Kong Paragliding Association and private aircraft owners.



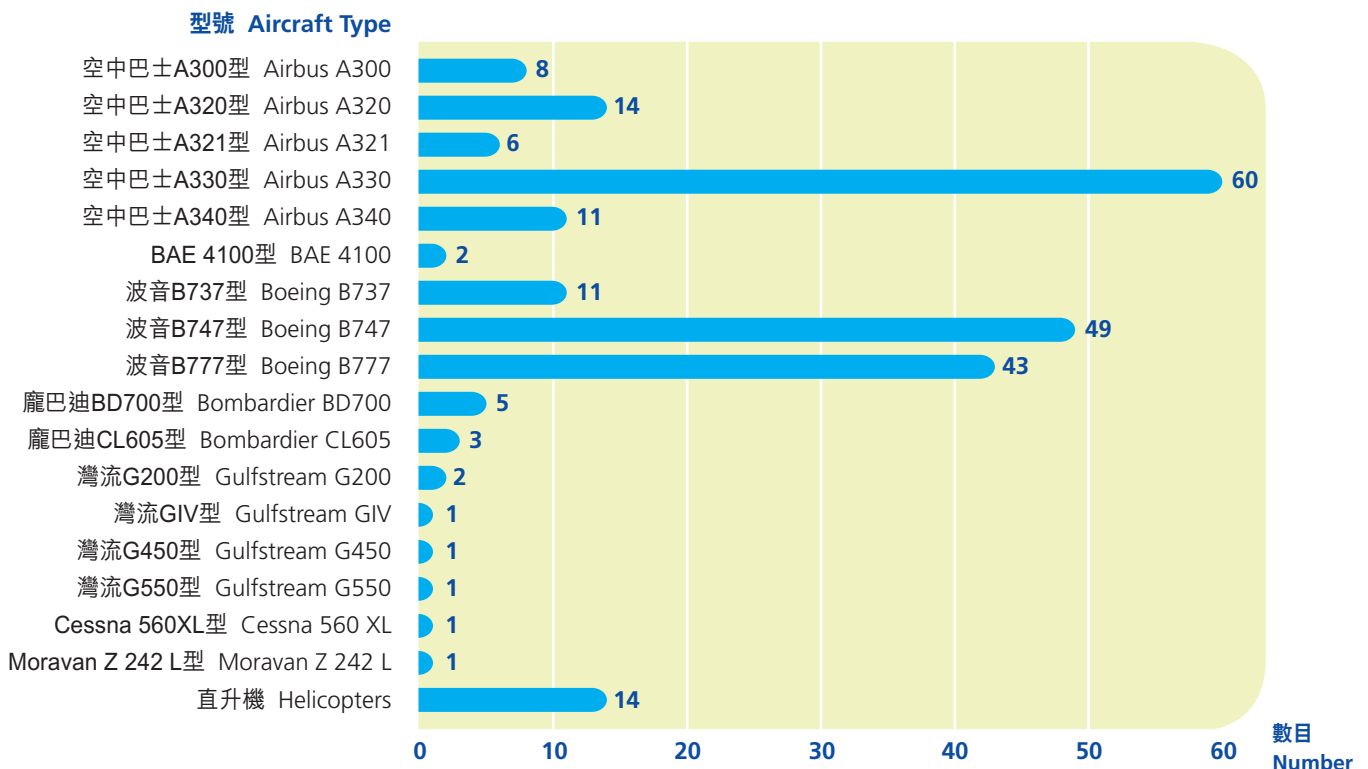
適航事務組人員檢查航機，監察維修和適航標準。  
The Airworthiness Office conducts inspections to monitor maintenance and airworthiness standards of aircraft.

## 飛機登記

年內，香港民用航空器登記冊共新增29架航空器，同期另有四架空中巴士A340型、一架灣流G200型和一架歐洲直升機公司EC120型取消登記。截至二零一二年三月三十一日，香港民用航空器登記冊上共有269架民用航空器，當中233架由香港航空經營許可證持證公司和政府飛行服務隊所擁有，詳情如下：

## AIRCRAFT REGISTER

During the year, a total of 29 aircraft were put on the Hong Kong Civil Aircraft Register. In the same period, four Airbus 340, one Gulfstream G200 and one Eurocopter EC120 were removed from the Register. As at March 31, 2012, the total number of civil aircraft in the Hong Kong Civil Aircraft Register was 269, of which 233 were registered under Hong Kong AOC holders and the GFS as follows:



### 持續訓練巡查人員

為確保巡查人員的專業知識和能力與時並進，本部安排人員接受各項飛行運作及適航事宜的訓練，包括個別飛機型號、飛行模擬器評審、審查技巧，以至安全管理訓練。此外，他們亦參與國際和地區會議、研討會及工作組會議，與國際專家交流，切磋經驗及良好實務。這些國際會議包括國際民航組織有關基於性能導航的會議/研討會、歐洲航空安全局旋翼機座談會、空中巴士的合格審定及維修審查委員會工作組會議，以及飛行記錄器及其海上搜索、廣播式自動相關監察系統和意外調查的研討會等。

### 意外調查

民航處是本港的飛機意外調查當局，負責調查於香港發生的飛機意外及嚴重事故。調查工作由受過訓練的意外調查主任，根據國際民航組織附件13的標準和建議措施進行，目的是確定發生事故的情況及因由，以免事故再次發生。

### CONTINUOUS TRAINING FOR INSPECTING STAFF

To maintain the technical knowledge and competence of officers in pace with the latest aviation development, the Division arranged a wide spectrum of training for the officers on flight operations and airworthiness matters. These included training on specific aircraft types, simulator evaluation, auditing techniques as well as safety management. In addition, officers participated in international and regional conferences, seminars and working group meetings to exchange and share experiences and best practices with international experts. These international events included the ICAO conference/seminar on Performance-Based Navigation; EASA Rotorcraft Symposium; Airbus working group meetings on Certification and Maintenance Review Board; seminars on flight recorders and their sea search, Automatic Dependent Surveillance Broadcast and accident investigation.

### ACCIDENT INVESTIGATION

The Department is also the aircraft accidents investigation authority for any aircraft accidents and serious incidents occurred in Hong Kong. These investigations are carried out by trained Inspectors of Accidents in line with the ICAO Annex 13 Standards and Recommended Practices with the purpose of determining the circumstances and causes of the occurrences to prevent recurrence in future.





年內，本處公布一份嚴重事故調查報告，涉及二零一零年十一月二十六日，一架屬芬蘭航空公司並於芬蘭登記的空中巴士A340型飛機，試圖在香港國際機場滑行道起飛。事件中無人受傷，亦無財物損毀。報告提出共六項安全建議。另外，仍在調查的意外如下：

- 二零一零年四月十三日，一架屬國泰航空的空中巴士A330型飛機因兩台發動機出現控制問題，於香港國際機場緊急降落。一名乘客在疏散期間嚴重受傷。
- 二零一零年七月三日，一架屬亞太航空的阿古斯塔威斯特蘭AW139型號直升機，在上環空中快線直升機機場起飛後不久，尾槳脫落，在維多利亞港水面迫降。機上機組人員和乘客全部獲救。
- 二零一零年十二月二十七日，一架屬政府飛行服務隊的歐洲直升機公司AS332 L2型超級美洲豹直升機，在執行滅火任務期間一台發動機失效，於城門水塘水面迫降。機上所有機組人員安全撤離。
- 二零一一年一月三日，一架屬直升機服務(香港)有限公司的Aerospatiale SA315B LAMA型直升機，在粉嶺為中華電力有限公司執行吊運工作。鄰近架空高壓電纜的位置突然起火，導致地面兩名工人受傷。直升機結構並無損毀。

所有調查報告，包括初步報告及意外調查公報，均已上載民航處網頁([www.cad.gov.hk/chinese/reports.html](http://www.cad.gov.hk/chinese/reports.html))。

During the year, the CAD published the report on the investigation of a serious incident involving an Airbus 340 aircraft registered in Finland and operated by Finnair that attempted to take off from a taxiway in the HKIA. The incident happened on November 26, 2010 and there was no injury or property damage. A total of six safety recommendations were made in the Report. In addition, the following accidents were under investigation:

- On April 13, 2010, an Airbus 330 aircraft operated by CPA conducted an emergency landing at the HKIA due to control problem on both engines. One passenger suffered serious injury during the evacuation.
- On July 3, 2010, an Agusta Westland AW139 helicopter of East Asia Airlines from Macao experienced a loss of tail rotors shortly after takeoff from the Sky Shuttle Heliport in Sheung Wan and ditched in the Victoria Harbour. All crew and passengers onboard were rescued.
- On December 27, 2010, a Eurocopter AS332 L2 Super Puma helicopter of the GFS ditched in Shing Mun Reservoir due to failure of an engine during a fire-fighting operation. All crew members left the helicopter safely.
- On January 3, 2011, an Aerospatiale SA315B LAMA helicopter of HEL conducted an underslung load operation for the China Light and Power Limited in Fanling. A flash of fire occurred adjacent to the overhead high voltage electricity power cables, injuring two workers on the ground. There was no structural damage to the helicopter.

All the investigation reports, including the preliminary reports and accident bulletins, are published on the CAD's website ([www.cad.gov.hk/english/reports.html](http://www.cad.gov.hk/english/reports.html)).