





## 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。

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 Hong Kong International Airport, investigation of aircraft accidents and incidents, and safety data analysis.

### 飛行標準組

### FLIGHT STANDARDS OFFICE

#### 簽發和續發航空經營許可證

#### Issue and Renewal of AOC

截至二零一一年三月三十一日，共有九家航空公司持有香港航空經營許可證，計為：

As at March 31, 2011, there were nine Hong Kong AOC holders and they were:

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)
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)



飛行標準組人員檢查本地航空經營許可證持證公司提交的文件。

Officers of Flight Standards Office inspect documents submitted by Hong Kong AOC holders.

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98次飛行檢查，並對航空經營許可證持證公司作出共280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43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。

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 98 flight operations inspections, the Inspectorate staff of the Flight Standards Office had conducted a total of 280 AOC inspections including station inspections, operational records inspections, training inspections and approval of authorised examiners. The 43 flight simulators, located worldwide and in Hong Kong, used by local airlines were evaluated, inspected and re-approved 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).

### 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27架航空器，詳情如下：

### Delivery of Aircraft

As the Hong Kong aviation industry continued to grow, local airlines expanded their fleets and a total of 27 aircraft were added to the Hong Kong Civil Aircraft Register in the period as follows:

國泰航空 CPA	兩架空中巴士A330型和三架波音B777型 Two Airbus 330 and three Boeing 777
香港航空 CRK	五架空中巴士A330型、兩架空中巴士A330型貨機、一架波音B737型和兩架波音B737型貨機 Five Airbus 330, two Airbus 330 Freighters, One Boeing 737 and two Boeing 737 Freighters
港龍航空 HDA	兩架空中巴士A320型 Two Airbus 320
香港快運 HKE	一架波音B737型 One Boeing 737
香港商用飛機 MTJ	一架龐巴迪CL605型、一架波音B737 BBJ型、一架灣流GIV型和一架灣流G450型 One Bombardier CL605, one Boeing 737BBJ, one Gulfstream GIV and one Gulfstream G450
TBJ	一架龐巴迪CL605型 One Bombardier CL605
私人航空器營運者 Private aircraft operators	一架龐巴迪BD700型、一架灣流G450型和兩架灣流G550型 One Bombardier BD700, one Gulfstream G450 and two Gulfstream G550

## 飛行標準及適航 Flight Standards and Airworthiness

### 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，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。

### 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 other cities in the Mainland, Asia, Middle East, India, 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.



### 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。截至二零一一年三月三十一日，共有24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及廈門太古飛機工程有限公司。

### 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, 2011, there were 24 approved maintenance organisations holding Hong Kong approvals. Major maintenance companies, including Hong Kong Aircraft Engineering Company Limited (HAECO), Hong Kong Aero Engine Services Limited (HAESL), and Taikoo (Xiamen) Aircraft Engineering Company Limited (TAECO), are regulated through rolling audits and regular visits.

### 飛機維修訓練

截至二零一一年三月三十一日，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。

### Aircraft Maintenance Training

As at March 31, 2011, 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.

### 飛機和相關產品/零件的設計與生產

截至二零一一年三月三十一日，內地共有四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。

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

As at March 31, 2011, there were a total of four HKAR-21 Design and Production Organisations located in the Mainland approved by the Department to provide certification of aircraft related products/parts including their design and production.



- 1
- 2
- 3

1. 民航處人員與本地航空經營許可證持證公司負責人開會檢討其提交的文件。  
*CAD officers give a debriefing to HK AOC holder on its submitted flight documents.*
- 2-3. 適航事務組人員於航機內進行檢查。  
*Airworthiness Officers conduct inspections in aircraft.*

### 適航事務組統計數字

(二零一零年四月一日至二零一一年三月三十一日)

### Airworthiness Office Statistics

(between April 1, 2010 and March 31, 2011)

簽發適航證 Certificate of Airworthiness Issued <b>27</b>	續發適航證 Certificate of Airworthiness Renewed <b>221</b>	審定重大改裝 Major Modification Approved <b>5</b>	認可飛機維修機構 Approved Aircraft Maintenance Organisations <b>24</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>4</b>
---	---	---	--	--	---

## 飛行標準及適航 Flight Standards and Airworthiness

### 航空人員執照事務組

#### 電腦化考試系統

由二零一零年六月二十八日起，空勤人員和飛機維修的執照考試採用電腦化考試系統。採用該系統前，執照考試都以筆試形式進行。採用電腦化考試系統後，考生利用連接電腦系統的終端機應考，考試完成後由系統即時計算成績。這個系統操作簡便，令考試安排更有效率。

#### 空勤人員執照

二零一零至一一年度，航空人員執照事務組(執照事務組)處理了共3 350份申請，包括首次及續期簽發空勤人員執照、加簽和覆檢等級、英語能力認證，以及轉換海外空勤人員執照為香港執照。執照事務組亦舉行了2 977次空勤人員執照考試，其中有1 695次在香港舉行，其餘1 282次則是由本處人員根據《CAD 509—許可審定計劃》批准在海外舉行和監考。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/申請人簽發了共4 124份體檢合格證明書。

#### 飛機維修執照

截至二零一一年三月三十一日，執照事務組處理了920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，舉辦了涉及共5 688份試卷的考試。

### PERSONNEL LICENSING OFFICE

#### Paperless Computerised Examination System

With effect from June 28, 2010, the Paperless Computerised Examination System (PCES) for flight crew and aircraft maintenance licensing examinations was implemented. Before the implementation, the examinations were conducted in paper mode. With the PCES, each candidate would be assigned with a computer terminal for sitting an examination delivered via a computerised system. At the end of the examination, the PCES generates the examination results instantaneously for the candidates. This user friendly system has also enhanced the efficiency in examination arrangements.

#### Flight Crew Licensing

During 2010-11, the Personnel Licensing Office (PELO) handled a total of 3 350 applications including initial issue and renewal of flight crew licences, inclusions and revalidation of ratings, language proficiency endorsements and conversion of foreign flight crew licences into Hong Kong licences. Of the 2 977 CAD flight crew licensing written examinations, 1 695 were held locally in Hong Kong while 1 282 overseas examinations were conducted and invigilated by the CAD under CAD 509 Approval. 4 124 medical certificates were issued to Hong Kong flight crew licence or air traffic controller's licence holders/applicants.

#### Aircraft Maintenance Licensing

As at March 31, 2011, the PELO processed 920 applications for initial licence issue, renewal or inclusion of aircraft type rating endorsements in aircraft maintenance licences. During the report period, a total of 5 688 examinations were conducted at the PELO and the authorised examination centre at HAECO in Tseung Kwan O.

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。  
The flight crew licences and aircraft maintenance licences issued by the Personnel Licensing Office.



## 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。

該組收集和分析業界根據強制呈報事故計劃所提交的數據及其他安全數據。年內，該組亦協助檢討意外調查法例，以確保法例與國際民航組織訂定的標準和建議措施相符。

## 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，協調香港空域使用者之間的安全事宜。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、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.

Mandatory Occurrence Reporting (MOR) data reported by the industries under the MOR Scheme and other safety data had been collected for safety data analysis. During the year, support had also been provided to the review of accident investigation related legislation to ensure it is on par with the Standards and Recommended Practices of the ICAO.

## 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 discuss issues to enhance safety and coordination 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 (PLA), HHK, HEL and the Hong Kong Aviation Club (HKAC)) as well as the Hong Kong Paragliding Association and private aircraft owners.

執照事務組處理簽發空勤人員執照、加簽和覆檢等級等申請。  
PELO handles applications of initial issue and renewal of flight crew licences, inclusions and revalidation of ratings etc.





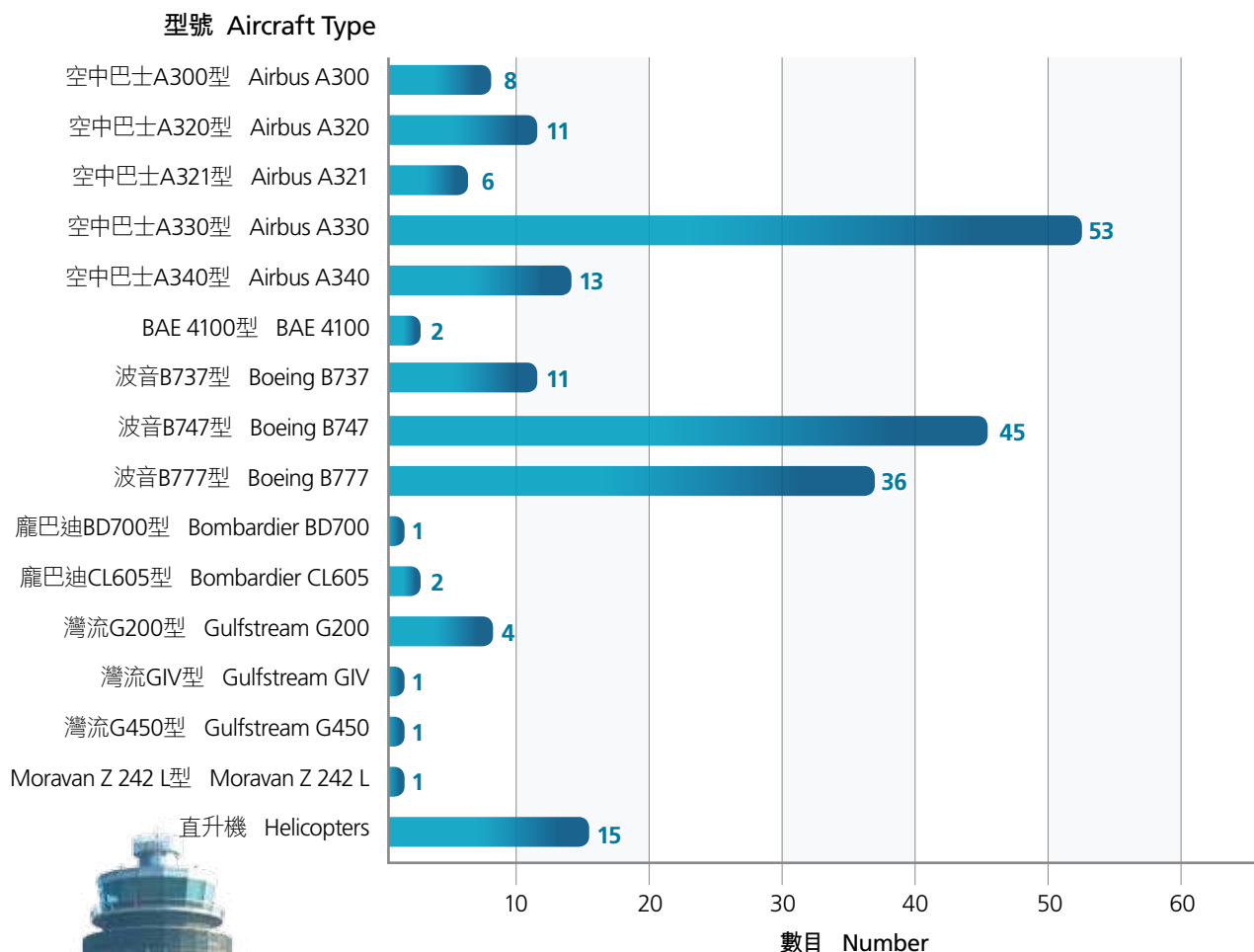
## 飛行標準及適航 Flight Standards and Airworthiness

### 飛機登記

年內，香港民用航空器登記冊共新增27架航空器，同期另有兩架空中巴士A330型、一架波音B737型、一架波音B737型貨機、一架波音B747型和一架波音B747型貨機取消登記。截至二零一一年三月三十一日，香港民用航空器登記冊上共有246架民用航空器，當中210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 27 aircraft were put on the Hong Kong Civil Aircraft Register. In the same period, two Airbus 330, one Boeing 737, one Boeing 737 Freighter, one Boeing 747 and one Boeing 747 Freighter were removed from the Register. As at March 31, 2011, the total number of civil aircraft in the Hong Kong Civil Aircraft Register was 246. Of which 210 were registered under Hong Kong AOC holders and the GFS as follows:



截至二零一一年三月三十一日，香港民用航空器登記冊上共有246架民用航空器。  
As at March 31, 2011, the total number of civil aircraft in the Hong Kong Civil Aircraft Register was 246.



## 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，空中巴士、波音、ARJ21型飛機的合格審定及維修審查委員會工作組會議，飛行記錄器及數據與廣播式自動相關監察系統和意外調查研討會等。

## 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 on 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 the international experts. These international events included the ICAO conference/seminar on Performance Based Navigation; the Airbus, Boeing and ARJ 21 working group meetings on Certification and Maintenance Review Board; the Flight Recorder & Data and Automatic Dependent Surveillance Broadcast; and accident investigation seminar.

本部人員進行直升機檢查。  
An FSAD officer conducts  
helicopter inspection.



年內，飛行標準組巡查人員執行了  
98次飛行檢查。  
During the year, inspectorate staff  
of the Flight Standards Office  
conducted 98 flight operations  
inspections.

## 飛行標準及適航 Flight Standards and Airworthiness

### 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。這些調查由受過訓練的意外調查主任，根據國際民航組織附件13的標準和建議措施而進行，目的是確定發生事故的情況及因由，以免事故再次發生。

年內，民航處公布一份調查報告，當中涉及一架Robinson R22型直升機撞向宋皇臺道香港飛行總會毗鄰停車場的旅遊車。事發於二零零九年五月一日，直升機在意外中損毀。另外，仍在調查的意外及嚴重事故如下：

- 二零一零年四月十三日，一架屬國泰航空公司的空中巴士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。

### 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.

During the year, CAD published the Report on the investigation of a Robinson R22 helicopter crashed into a coach at the parking lot adjacent to the Hong Kong Aviation Club in Sung Wong Toi Road. The accident happened on May 1, 2009 and the helicopter was damaged. In addition, the following accidents and serious incidents were under investigation:

- On April 13, 2010, an Airbus 330 aircraft operated by Cathay Pacific Airways conducted an emergency landing at the Hong Kong International Airport 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.

意外調查主任調查於香港發生的飛機意外及嚴重事故。

*Inspectors of Accidents carry out investigations for any aircraft accidents and serious incidents occurred in Hong Kong.*



- 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。
- 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。
- On November 26, 2010, an Airbus 340 aircraft registered in Finland and operated by Finnair attempted to take off from a taxiway in the Hong Kong International Airport. There was no injury or property damage.
- On December 27, 2010, a Eurocopter AS332 L2 Super Puma helicopter of Government Flying Service ditched in Shing Mun Reservoir due to failure of an engine during a fire-fighting operation. All crew members evacuated safely.
- On January 3, 2011, an Aerospatiale SA315B LAMA helicopter of Heliservices (Hong Kong) Limited conducting 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.

所有調查報告，包括初步報告，均已上載民航處網頁 (<http://www.cad.gov.hk/chinese/reports.html>)。

All the investigation reports, including the preliminary reports, are published in CAD's website (<http://www.cad.gov.hk/english/reports.html>).

空勤人員和飛機維修的執照考試已採用電腦化考試系統。  
The Paperless Computerised Examination System (PCES) for flight crew and aircraft maintenance licensing examinations had been implemented.

