

出國報告（出國類別：受訓）

「美國UH-60基礎修理班」  
完訓返國報告

服務機關：陸軍航空基地勤務廠

姓名職稱：蕭妙格

派赴國家：美國

出國期間：自107年4月10日至107年8月11日

報告日期：107年9月5日

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# 壹、摘要

本次受訓班隊為UH-60直升機基礎修理班。課程內容為UH-60M/L直升機之基礎原理與相關部件介紹及教授直升機基礎修護技術，課程共計接受為期19週的訓練。該學校旨在訓練培育各學員對於直升機之修護能力，除了基本的相關知識外，授課教官同時就所學及從事維修多年之經歷，於教學中學以致用，時時與學員們做分享與討論，使學員們不致受限於文本規範，透過師資的口頭指導，得以將所學實際應用於實務上。本次受訓內容為UH-60黑鷹直升機相關之基礎課程，受訓學員除少數外籍學生外亦有美國大兵與兵科轉換訓練人員，其主要藉課程內容讓受訓學員了解UH-60的各系統與機件原理，透過學習與實作的方式以期培養出具專業素質的維修技術人員。透過後勤戰力的培養，達到提升建軍備戰、戰備整備之效能。

## 貳、目的

美國UH-60M/L基礎修理班(UH-60M/L helicopter repairer) ，受訓地點為美國陸軍運輸後勤訓練基地 Fort Eustis ，受訓目的主要在訓練所有學員培養UH-60黑鷹直升機之基礎修護能力，並有效運用於部隊動員兵力戰備整備。藉由提升修護效能，使直升機維持狀態完善並確保一切功能正常無礙，達建軍備戰之效能。

## 叁、過程

本次受訓期程共計18週：

(一) 各週課程分述如次：

第一週：

以熟悉上課環境跟生活設施為主，須先行準備落地考考試(ECL測驗)，待測驗結束後確認成績是否符合受訓資格。

第二週：

本週先為新進學員講解上課之相關規定以及測驗成績計算方式，主任教官為Mr.Jacobs。本週內容主要為熟悉電子技令操作及其內容介紹。

第三週：

持續熟悉使用技令作為查詢的工具，並針對維修使用工具做基本介紹與講解。

第四週：

本週上課內容為結構介紹，實際進行主起落架與尾輪拆裝作業，學員個人須執行左輪或右輪拆除作業，查詢完課題經教官指導爾後接續執行尾輪的拆裝作業，當實作上一遇到問題，可以立即尋求到幫助與解答。

第五週：

本週內容依然著重於結構介紹，實作課程為執行同步升降舵之拆裝作業，採5至6人小組分工方式進行，執行期間依一般故障排除程序進行系統檢查與基礎修護。

第六週：

講解液壓系統，以分組方式實施起落架升壓及降壓操作程序。而後執行發電機拆裝作業，就電力系統做一般檢

視，確認功能正常與否。

第七週：

結構系延伸至尾旋翼系統介紹，因為部件較多先就基礎課程進行講解，以熟悉尾旋翼各個零組件為主，並針對安裝細節進行講解。

第八週：

開始執行尾旋翼葉片拆裝，因工作耗時較長，分階段式進行，初期須先行拆除尾旋翼固定盤，而後依零件的顏色及標示進行區分並分類，期間須注意扭力值與墊片的加疊量，稍不注意就可能需要調整並重新來過，以分組方式來說，個人覺得此種方式實是嘗試分工進行與協調的最好辦法。

第九週：

持續執行尾旋翼葉片拆裝並就重要部分作講述，安裝部件前須先行檢視裝備序號確認資料無誤後始可進行，由

組員協力將旋翼安裝至定位再進行接合。

#### 第十週:

主旋翼結構介紹的部分由教官講述並帶領學員實地認識部件，而後由學員實際操作如何人力搬運葉片與安裝平衡裝置於葉片且妥善裝於主旋翼殼。學員個人須執行簡易部件拆移而後復裝。

#### 第十一週:

分組實施主旋翼殼總成拆移，由組員分工將各零件拆除後將主旋翼殼以天車吊至安置平台後續行內部件分解，一連串工作做起來其實非常耗神，且細碎零件甚多，如非組員合力其實難以在短時間內迅速完成。

#### 第十二週:

本週重點教程為認識發動機與APU各部件，發動機的附件一直是整體裝置中組件最多的，故而需要花費去熟記的時間也相對較多。而APU雖與發動機原理相近卻不近



相似，說來也是很奇妙。

第十三週:

個人先執行油控器HMU、金屬屑探測器Chip Detector以及油濾拆裝。完成後分組實施發動機拆移，就拆除之發動機做實地講解。

第十四週:

執行APU輔助動力單元組件拆移，教官就動力與氣體熱流導引，以實際工作經驗與學員分享並討論。

第十五週:

液壓系統著重於過程介紹，學員必須理解液壓整體操作原理與大致運行方式，其內容複雜度堪比發動機，當時系統介紹講解足足耗時一週時間完成。

第十六週:

學員需學習液壓失效時如何手動建壓並輪流練習，完成

後由教官操作指導如拆移驅動軸附件組，依其安裝重點提醒學員妥善完成拆除與安裝，各學員再執行燃油濾拆除並跟教官討論。

#### 第十七週:

本週課程為飛行操縱系統部件辨識，主要飛行模式基礎理論講解，透過地面動力輔助單元模擬飛機飛行操作狀態並講解，學員需拆除伺服器總程並與教官討論

#### 第十八週:

期末總結，以單週時間做總複習，由教官提出模擬試題，學員分組就當前狀況執行檢修，複習之前所教授的內容。

## (二) 優劣分析：

### 1.優點：

- (1)所有學員工作中均可使用個人獨立工具，不會因共用工具箱衍生工具短缺問題。
- (2)學員有充分的實習場地與模擬練習教材可以使用，就實習層面來說非常良好。
- (3)依各系統有不同的專業教官，師資上非常齊全。
- (4)學員們體驗接觸不同的工作模式，相對增加所學見聞。

### 2.缺點：

- (1)由於該班隊伙食是採自理方式，除去自購食材以外外食顯然是唯一的選擇，但有時難免因物價過高使生活費拮据，希望狀況能有所改善。
- (2)實習上有時候因應飛機型號不同時常有需要去對應機型運用技令的問題，但也有兩種機型合併一起的模擬機，對應個機型的不同觀點有時會不由自主混淆。

## 肆、心得

剛開始學習課程的時候，說心裡不惶恐絕對是騙人的。雖然課程預排劃分很明細，但畢竟是新的人文環境，除卻須調整因時差而暫時還無法適應的身體狀況，陌生的人事物總是會讓身在異鄉的我不時感到迷惘。所幸幾週時間下來，對於課業方面也從一開始的茫然到漸漸上手，實作與練習時雖然還是不時需要請教同學並跟教官詢問，至少大致上也比較沒有問題了。個人覺得在美國這裡進行班隊受訓的最大好處在於，所以學員都有足夠的資源可以使用，比方說直升機區分各套系統，而教學環境就以單一工作場地單一系統來上課，各系統都有專屬的上課地點，也因此現在回想起來的盡是當是課程交替時不停地更換上課場地的情景。除了耗材部分不用擔心短少無法實行修護外，所以學員都可以在工作中使用個人專屬電腦與整套工具箱，這一點對於學員來說實在非常便利，並且也不會因為共用工具有可能遺失而衍生責任問題，每一位學員須做到對自己的工具組件負責，我覺得就單一責任區分實在非常好。雖說是基礎課程，一點一

滴加總累計下來其實受益也頗豐，這方面來說我國雖然在料件及附材與裝備方面因經費與政策限制而無法與其比肩，但在人員修護技術上我相信是能比教授的做到更好的，至少透過這十幾週的時間觀察，我可以有自信擔保如我國能掌握更精良的技術國際上要與他國競爭絲毫不是問題。

## 伍、建議事項

- 一、如能適時選派人員赴美受英文語言能力相關強化訓練，對於後期就專業相關訓練上課時聽力的強化相信會有長足的進步。
- 二、因應當地物價相對較高，伙食方面如能由我方資助餐卡或生活費方面可增加，對於平日因時所需相信會更好。

# 陸、附件

## 一、生活花絮



戶外參訪



戶外參訪



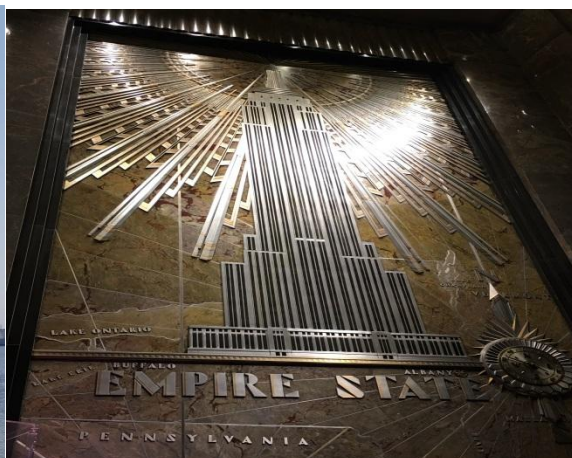
戶外參訪



戶外參訪



戶外參訪



戶外參訪



戶外參訪



戶外參訪



戶外參訪



營區內部景點



參訓學員合影



餐訓學員和





結訓照



UNITED STATES ARMY  
INTERNATIONAL MILITARY STUDENT OFFICE  
FORT EUSTIS, VIRGINIA

*This*  
**Certificate of Achievement**

*is awarded to*

**Staff Sergeant Miao-ke Hsiao**  
UH-60A/L-M HELO RPR  
600-15TT10/043-18

*For outstanding academic performance while attending training at the  
128<sup>th</sup> Aviation Brigade, Fort Eustis, Virginia.  
Your grade point average enabled you to be recognized as the  
**International Distinguished Military Graduate.**  
Your dedication and hard work are indicative of your professionalism  
and reflect great credit upon you and your country.*



Given under my hand at  
Fort Eustis, Virginia  
This 8 August 2018

**JORGE M. MARRERO**  
Director, International Military  
Student Office

The US Army Aviation  
Center of Excellence

128<sup>th</sup> Aviation Brigade



To all who shall see these presents, greetings  
Be it known that

**SSG MIAO-KE HSIAO**

Has satisfactorily completed the

**UH-60A/L-M HELICOPTER REPAIRER COURSE 15T10**

**CLASS 043-18**

**17 April 2018 To 8 August 2018**

For Army Aviation Logistics Training.

In witness thereof, and by the authority vested in me, I do hereby confer this

*Diploma*

Given at Fort Eustis, Virginia this  
8th day of August 2018



*R. H. Zampelli*

Richard H. Zampelli  
Colonel, U.S. Army

### 三、旅行命令(ITO)

ORIGINAL

Invitational Travel Order (ITO) for International Military Student (IMS)

1. ITO Number: TWBOEK0018026      2. Country/Organization: Taiwan      3. Date: 13-Mar-18

The U.S. Government hereby issues this ITO for the IMS herein named to attend the course(s) of instruction herein listed, subject to the terms and conditions contained herein, and as may be amended by competent authority. This ITO is the only document that will be used and is valid only for the IMS entering U.S. training under the Foreign Assistance Act of 1961, as amended, or the Arms Export Control Act.

Definitions of acronyms and abbreviations contained in this document, and instructions for completing this form are provided in the Joint Security Cooperation Education and Training Regulation, JSCETR / Joint Security Assistance Training Regulation, JSATR (SECNAVINST 4950.4A/AR 12-15/AFI 16-105). This computer generated, letter format ITO is authorized in accordance with the Security Assistance Management Manual (SAMM), DoD 5105.38-M.

4. Issuing Security Cooperation Organization (SCO).

a. Name of Organization: Security Cooperation Office (SCO), AIT/Taipei  
b. Mailing Address: Department of State  
4170 AIT Taipei Place  
Security Cooperation Office (Training Branch)  
Washington, DC 20521-4170  
c. E-mail Address: pengkks@state.gov

5. Program Type: FMS: Foreign Military Sales TW-B-OEK001

6. IMS Information:

a. Surname: Hsiao  
First Name: Miao-ke  
b. Sex: FEMALE  
c. Country Service Rank: E-6  
d. U.S. Equivalent Rank/Pay Grade: E6  
e. Country Service: Army  
f. Country Service Number: I200233960  
g. Date of Birth: 16-Nov-91  
h. Place of Birth: Chiayi, Taiwan  
i. Passport Number: 307893651  
j. Country of Citizenship: Taiwan  
k. Visa Number: M6996602  
l. Visa Type: E-1  
m. Military Unit/Organization: Army Aviation Depot, TA

7. Invitation.

The Secretary of Department of the Army invites the IMS listed in Item 6 of this Order, to proceed from Taiwan to Fort Eustis, VA 23604, reporting on 10-Apr-18 for the purpose of commencing training listed in Item 8 of this order.

8. a. Authorized Training: No additional training to that specified in this order will be provided.

CASE: OEK001  
a. WCN: 8026A 562007.1      MASL: B141778      Title: UH-60A/L-M HELICOPTER REPA  
Military Service Course No: 600-15T10      School: AVIATION LOGISTICS SCHOOL  
Location: Fort Eustis, VA 23604      Report Date: 10-Apr-18      End Date: 08-Aug-18  
\*\*\*\*\*Last Line\*\*\*\*\*

9. Funding.

Fund Cite: 097 8242TWTXX A57XX OEK001B 21T0 8026Q BTW0430279Y001 F.0004958.27.34 5056614803 001 402095 77 021001

10. Language Prerequisites:

a. Highest Required ECL: 70  
b. IMS completed in-country English language testing as follows:  
ECL Exam No: 18B      Date Completed: 17-Jan-18      Score: 85

11. Security and Student Screening:

a. Human Rights, Security, and Medical screening have been completed in accordance with SAMM C10.8. and JSCET paragraph 10-39 for IMS listed in item 6 of this order. The IMS was properly screened via Department of State (INVEST) and within DoD, Homeland Security and other required USG databases for records of human rights abuses, drug trafficking, support of terrorist activity, corruption, criminal conduct, or other activities inconsistent with U.S. policy goals. U.S. security requirements have been complied with. See 11.a.2 for U.S. equivalent security clearance granted by IMS home government. This in and of itself does not permit the disclosure of classified U.S. information. Such disclosure must be specifically authorized by an officially delegated authority and U.S. foreign disclosure regulations or directives. The IMS may require a security clearance to gain computer access or building/site access associated with training.  
1). The highest U.S. classification level required for training is: Unclassified.  
2). The U.S. equivalent security clearance level granted to the IMS by the home government is Secret.

12. Conditions:

a. Dependents: Dependents are not authorized by U.S. authority to accompany the IMS or join the IMS while in training.  
b. Medical Services.  
IMS:  
IMS under FMS.  
Non-NATO/PFP SOFA IMS-Case. Charges for DoD and civilian medical and emergency dental care are chargeable to the case and will be forwarded to the appropriate MILDEP for processing.  
MilDep Billing Address: Army: HQ MEDCOM ATTN:MCRM-F  
2748 WORTH RD STE 9  
JBSA Fort Sam Houston, TX 78234  
Or items may be scanned and emailed to:  
usarmy.jbsa.medcom.mbx.medcom-ims@mail.mil

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DO Forms 7 and or 7A will be used for DOD reimbursements and SF 1034 for civilian reimbursements.

- (d) Medical Examinations (Before CONUS Arrival)  
Medical examination, to include HIV Test, was completed on 07-Feb-18.
  - c. Participation in Hazardous Duty.  
IMS is authorized to participate in hazardous duty training.
  - d. Physical Fitness Training.  
Participation in physical fitness training is not required.
  - e. Leave.  
Upon completion of training, IMS is not authorized leave, and will proceed immediately as directed to home country.
  - f. Living Allowances.  
Living allowance is responsibility of the foreign government.
  - g. Travel.  
Travel is responsibility of the foreign government.
  - h. Travel by POV.  
IMS is authorized to travel by POV.
  - i. Baggage.  
No baggage will be transported at U.S. government expense.
13. Terms:
- a. Prior to departure from home country, the IMS and dependents listed herein are required to be medically examined and found physically acceptable in accordance with the health provisions of the Immigration and Nationality Act (8 USC 1182(A)(1)-(7); Public Health Service, Department of Health and Human Services, 42 CFR Part 34, Medical Examination of Aliens, and 42 CFR Part 71, Foreign Quarantine; applicable U.S. MILDEP regulations; and other U.S. laws or DoD directives and regulations which may be enacted from time to time.
  - b. The home country will ensure that the IMS has sufficient funds in United States dollar instruments to meet all expenses while en route to and to include living allowance for not less than the first 2 weeks and not more than 30 days of training, pending receipt of applicable pay and allowances by the IMS.
  - c. Prior to departure from home country, the IMS and dependents listed are required to acquire and maintain healthcare insurance coverage through the duration of their training in the U.S.. The IMS will be responsible for custodial fees and personal debts incurred by self or family members. This includes accepting responsibility for reimbursing the providers of all emergency/non-elective medical costs for the IMS and all authorized dependents during their stay in the U.S.. If the IMS permits his healthcare policy to lapse, is unable to meet these financial obligations and the home country government has not agreed to indemnify the costs, the student may be withdrawn from training and returned to home country. This will jeopardize future grant funding and training allocations for the country.
  - d. The IMS will bring adequate uniforms and work clothing for field duty or technical work. U.S. fatigue uniforms and footwear will be purchased by the IMS in the event that the country work uniforms are inadequate. When flying training is involved, required special flight clothing and individual equipment will accompany the IMS, or provisions will be made by the home country or the IMS to obtain the use of all necessary equipment prior to start of training. The IMS will also possess adequate civilian clothing for off-duty wear.
  - e. The Government of the United States is responsible for IMS travel which is part of the training program and for which costs are part of the course tuition.
  - f. The IMS will comply with all applicable U.S. Military Service regulations.
  - g. The United States may cancel training and return to country IMSs who violate U.S. law or Military Service regulation or who are found otherwise unsatisfactory. The IMS government will be alerted to such action in accordance with U.S. MILDEP regulations.
  - h. The Government of the United States disclaims any liability or financial responsibility for injuries received by the IMS listed herein while in transit to and from the training installation, while undergoing training or while in leave status, and any liability or financial responsibility for personal injury claims or property damage claims resulting from the IMS action.
  - i. The IMS will participate in flights of U.S. military aircraft as required for scheduled course(s) or as specified in U.S. MILDEP regulations.
  - j. The acceptance of this order by the host country constitutes agreement that an IMET funded student will be utilized, upon return to the host country, in the skills for which he was trained for a period of time sufficient to warrant the expense to the U.S. Government, in accordance with the SAMM, Chapter 10.

14. Implementing Authority:

a. MILDEP AUTHORIZATION: 0687754

b. Date: 05-Oct-17

15. Special Remarks:

This training case allows for local area billeting or housing costs (max \$110 per night) for on-post/base or off-post/base billeting or housing when on-post/base billeting or housing is not available. US military installation Billeting Facilities or Housing Authorities who accommodate, or who arrange local area billeting, lodging or housing, can utilize the fund cite offered in para 9 of this ITO to direct bill the US Army DFAS. IMS required to utilize off-post/base area housing (i.e., local apartment) with no capability of direct DFAS billing, are responsible for all contracts and will work with local IMSO for reimbursement from US Army DFAS. IMS is not authorized Case funding to support any travel, messing or incidentals.

Retainable instructional materials should be shipped to:  
TA Liaison Officer  
c/o Training Branch  
Security Cooperation Office  
4170 AIT Taipei Place  
Washington, DC 20521-4170

16. Distribution:

SC-TMS generated ITO # TWBOEK0018026

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ORIGINAL

AVIATION LOGISTICS SCHOOL  
Fort Eustis, VA 23604  
1-DIRSATFA TRADOC ATFA-R FT MONROE, VA 23651  
1-AIT/T  
1-TECRO/W  
3-INDIVIDUAL

ORIGINAL

17. ITO Authorization:  
a. Signature of U.S. Authority Authenticating Orders:  
b. Title:

// SIGNED //

  
Joe Goodrich  
Deputy Chief, SCO