



民航英语特色课程系列教材

MINHANG YINGYU TESE KECHENG XILIE JIAOCAI



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飞行英语

无线电陆空通话高级教程

Advanced Radiotelephony Communication Course

for Pilots



西南交通大学出版社
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前 言

对于飞行员和管制员来讲，无线电陆空通话语言不仅是交流和空地对话的工具，而且是保证航空安全的重要因素之一。

早在1998年，针对飞行人员和管制人员语言能力不足而造成的飞行事故，国际民航组织第32届大会在A32-16决议中就敦促ICAO理事会对ICAO附件1和附件10进行修订，要求参与国际运行的飞行人员和管制员应该具有足够的保证航空安全的英语通讯能力。2003年3月，ICAO理事会推出了针对通讯语言能力的标准和建议措施（SARPs），并对与语言熟练程度相关的附件1、6、10、11和PANS-ATM（空中航行服务程序-空管）进行了修订。2004年，国际民航组织出版了《ICAO语言熟练程度要求执行手册》（ICAO DOC 9835），对与语言熟练程度要求相关的培训和测试做出了具体要求。随后，包括中国在内的很多成员国开始开发研制本国的测试系统或同时为其他国家展开测试服务。

2007年，国际民航组织大会通过了A36-11决议《用于无线电通讯的英语语言熟练程度》，要求各成员国采用全球统一的语言测试标准。在此决议的基础上，国际民航组织先后发布了《促进全球统一化的语言测验标准》（318号通告，2009年6月）和《航空英语培训方案指导原则》（323号通告，2010年）。《促进全球统一化的语言测验标准》要求各成员国根据国际民航组织的语言能力要求处理对候选人的测验事宜，并就航空语言测验方案的制作或选择提供建议的标准；《航空英语培训方案指导原则》是应各主管当局、运营人和服务提供者对制定英语语言培训更详细的指导的请求而与国际民用航空英语协会（ICAEA）联手制作的，以便能有效地实施附件1《人员执照的颁发》中所载的语言能力要求。2010年9月，国际民航组织出版了《ICAO语言熟练程度要求执行手册》（ICAO DOC 9835，第二版），对原有的有关民航语言测试和培训等内容做了较大的修改，对标准和原则做了更加细致的说明，并结合了318号和323号通告对测试和培训的操作标准。

针对国际民航组织的标准，中国民用航空局于2006年启动了针对飞行人员的英语等级执照签注考试，2007年开始PEPEC考试系统的立项和研制，并于2008年开始使用具有中国民航自主知识产权的PEPEC考试系统。中国民航局空中交通管理局于2005年委托中国民航飞行学院开始进行中国民航空管人员英语等级考试系统（AETS）的开发工作，并于2007年12月开始AETS的考试。

作为世界上最大的航空训练机构，中国民航飞行学院是中国民航培养飞行员和空中交通管制员的主力院校。飞行学院的毕业生不仅要满足法规所规定的执照签注要求，还要满足国

际民航组织所要求的国际运行所需要的语言熟练程度执行标准。中国民航飞行员和管制员语言能力的提高不仅是保证安全的需要，同时也是中国民航从民航大国迈向民航强国所必须完成的任务。

中国民航飞行学院外国语学院就是在这样的背景下提出了“民航英语特色课程系列教材”的编写。学院和民航局给予了大力支持，该系列教材的建设成为我校“以英语教学改革为龙头，推动全面教学改革”的教改项目和民航局资助的“国际民航组织英语语言课程建设”项目。

本系列教材共六本：《飞行英语阅读》(李明良主编)《飞行英语听说》(陈方主编)《飞行英语口语》(陈方主编)《飞行英语无线电陆空通话高级教程》(申卫华、陈艾莎主编)《管制英语阅读》(郑丽主编)《管制英语无线电通话》(何均洪主编)。该系列教材可用于飞行技术专业 and 空管专业讲授民航英语的高段课程。也可作为航空公司或空中交通管理局培训部的培训教材。

民航英语特色课程系列教材旨在提高飞行技术专业学生和空管专业学生应用英语语言的综合能力、使用英语进行通讯的能力，以及针对一些特殊情况的处理能力。本系列教材从六个方面对学员进行语言能力的培养(语言、结构、词汇、理解、流利程度、应对能力)，全面提高学员的交际能力和应用能力。教材的编写全面贯彻国际民航组织(ICAO)新语言标准。

民航英语特色课程系列教材中所编制的情景的主要依据是国际民航组织《语言熟练程度要求执行手册》(ICAO DOC 9835, 2010)、中国民航飞行人员英语等级考试(PEPEC)大纲和民航管制员英语考试(AETS)大纲中所列出的事件和范围，以及近年来世界范围内一些典型的航空事故和事件。

民航英语特色课程系列教材项目总负责人为中国民航飞行学院陈布科副校长，参与编写人员有外国语学院教师、空管学院教师、继续教育学院教师、空乘学院教师、分院民航英语教师、飞行教员、航空公司飞行员，同时由资深教师、资深飞行员和我院外籍教师审定。

民航英语特色课程系列教材编写组

2013年4月

编写说明

《飞行英语无线电陆空通话高级教程》以国际民航组织对飞行员英语语言能力的新要求为原则，以飞行英语教学大纲为指导而编写。

无线电陆空通话高级教程是《中国民航飞行人员英语》之《无线电陆空通话》的延伸、补充教材。这部教材可以独立使用，也可以与《无线电陆空通话》配套使用。

该教材内容的编排体例与《中国民航飞行人员英语》之《无线电陆空通话》相似，以飞行进程为主线编写。与《无线电陆空通话》不同的是，本书增加了飞行前准备内容，增加了非常规、非正常及紧急情况下的通话内容，这部分内容占本书内容的 75%。而《无线电陆空通话》非正常及紧急情况下的通话内容仅占《无线电陆空通话》的 25%。本书还增加了 ICAO 无线电通话手册 (Doc9432) 所列出的常用缩略词和主要术语的练习。

教材结构也与《无线电陆空通话》相似，按实际飞行进程，语言学习规律而设计：句型 (Model Exchanges) 以非常规、非正常情况的典型例子为主；对话 (Dialogue) 内容正常情况 20%；非常规情况 30%，非正常情况 30%，紧急情况 20%；新增了模拟飞行情景通话；列出了生词及词组 (New Words and Phrase)；(Notes) 为英文注解；练习 (Exercises) 内容共有七项，包括 Multiple Choice, Decode, Match, Substitution, Blank Filling, True or False, Extended Practice, 所有的练习旨在提高学员的听说能力和通话的综合应用能力。

该教材体现了无线电陆空通话专业内容和语言知识的结合。教材不过于偏重语言知识或也不过于偏重通话专业内容，而是将民航英语六个方面的语言能力培养（语言、结构、词汇、理解、流利程度、应对能力）与无线电通话知识结合起来，全面提高学员的交际能力和应用能力。教材的编写全面贯彻 ICAO 新语言标准并将其渗透于教材中。

《飞行英语无线电陆空通话高级教程》包括学生和教师用书各一册，同步提供录音光盘。书籍和光盘互为补充，教学中可根据学院和培训单位的具体条件和学生的情况选择不同的教学方式。

本教材是民航总局教学基金项目“民航英语特色课程建设”之《飞行英语无线电陆空通话高级教程》。

《飞行英语无线电陆空通话高级教程》主编为申卫华 (CAFUC 副教授) 和陈艾莎 (CAFUC 教授)，主要编写人员为张永忠 (CAFUC 教员)，陈久锐 (CCA 飞行员)、曾萍 (CAFUC 副教授)、陈虎 (CAFUC 飞行教员)。图片由张俊俊 (CAFUC 研究生) 绘制。Matt Vegh (CAFUC 外籍教员)、Kerry D. Kitchen (美国 Sierra 航校教员)、Barbara I. Snell (ATA 南非民航培训学

院教员)、陈华妮、苗汪汪、陈艾莎、邓晓熹参与了录音工作。在本教材编写过程中,曾得到孙乐寅、王志学、余一航、齐鸣、季冬野等飞行员的帮助。

Kerry D. Kitchen 和 CAFUC 空中交通管制主任罗军对本教材提出了专业意见。本教材由吴土星教授审定定稿。在此,一并表示感谢。

由于编者水平有限,书中不足之处在所难免,欢迎广大使用者批评指正。

编者
2013年8月

Special Notices

Explanation of scenario

In order to assist in understanding the context, all the conversations or exchanges in the textbook are designed in relation to simulated situations, therefore all the call signs, flight numbers, ground stations and locations are fictitious. Any resemblance between them and the actual ones is entirely coincidental. Any similarity with call signs of actual aircraft and ground stations is also coincidental.

The agency making the transmission is identified by the letter as follows:

F: aerodrome flight information officer

P: pilot

C: controller

S: student pilot

I: flight instructor

G: ground mechanics

D: dispatcher

P1: pilot 1

P2: pilot 2

P3: pilot 3

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Unit One Preflight Preparation

Objectives

- To learn the words and phrases used in preflight preparation
- To practice radiotelephony communication in preflight preparation
- To practice listening for abnormal situations in preflight preparation
- To use plain language to describe non-normal situations in preflight preparation

Part I

Model Exchanges

Fuel imbalance

Instructor: Good morning, Li Ming. Have you completed the external check?

Student: Yes, I have finished the walk-around inspection and I found something that was not right.

I: What was that?

S: The left fuel tank was full, but the right fuel tank was only half full. Maybe the mechanic made a mistake.

I: In that case, how would you fix the problem?

S: I think I should notify the mechanic the situation and I will transfer fuel from the left tank to the right tank to balance the fuel load.

I: That sounds like a good solution to this problem.

Cockpit preliminary check

I: Good morning, Li Ming. Have you finished the cockpit preliminary check?

S: Yes. I have finished nearly all the checks except the pitot heater.

I: Is there anything wrong with it?

S: I turned on the pitot heater during the ground test, but the pitot tube has remained cold.

The pitot light was on until now.

I: Did you check the circuit breaker of the pitot heater? Is it in the “On” position?

S: Oh, maybe that’s the reason. I should have checked it before. I am going to examine it right now.

High level flight training preparation

I: Li Ming, do you know that our cruise altitude is predetermined to be 7,500m for today’s flight?

P: Affirm. And this is my first time to have the training flight at such high altitude.

I: Do you know what we should pay more attention to during the cockpit preparation?

P: Of course. Firstly we must check the oxygen quantity, oxygen mask and oxygen microphone. Secondly we should ensure the anti-icing devices working well due to the overcast cloud and the low temperature at such high cruise altitude.

I: That is right.

Weather preparation

G: Good morning, captain. Are you preparing for the flight to Xi’an this morning?

P: Yes, but the weather looks bad here at the moment. How about the weather at the destination airport Xi’an?

G: The weather in Xi’an is CAVOK. But the weather here is getting worse. The visibility is only 500m and it is deteriorating. What is the minimum for takeoff?

P: The minimum for taking off is 600m. So we have to wait for the weather to improve. Do you think the visibility will become better in an hour?

G: It is hard to say. Maybe it will be gradually improving.

P: If the visibility can not turn to greater than 600m before 10:30, we have to cancel. We are going to do the fixed simulator training this afternoon.

G: Understood. I will keep you advised.

P: Thank you very much.

Low temperature preparation

P: Hi, Mr. Li. It is cold, isn’t it?

G: Yes, it is! The ground temperature is a little bit below zero degrees centigrade.

P: Could you please tell me about the base of the cloud layer?

G: The cloud base is 500m above ground level. Is your aircraft equipped with anti-icing devices? If not, you are not allowed to fly the traffic circuit. Otherwise, it would be dangerous.

P: Thank you. Fortunately, all the advanced flight trainers have the anti-icing devices.

Preflight preparation for approaches

G: Good morning, captain. Your destination is Mian Yang, isn't it?

P: Yes, it is. Any problems?

G: The ILS glide slope to runway 32 is inoperative, so you can only make a VOR or an NDB approach.

P: Thank you very much. The information is very important for me. I am going to check whether the weather criteria will reach approach minimum for VOR landing and NDB approaches.

Airport closed

P: Morning, sir.

G: Morning, captain. What is your destination today?

P: I am going to fly to Chong Qing. Is there any latest information for the airport?

G: Yes, there is. The latest NOTAM shows the airport will not be opened until 12 o'clock due to the heavy thunderstorm and lightning last night. The lighting system in the runway threshold area has been destroyed. It is under repair.

P: Got it. We will calculate the landing distance carefully. By the way, is there any other airport equipment damaged?

G: Thank goodness, no. There is no damage to any other airport equipment.

In the dispatch office

P: Good afternoon, sir. We are going to have a training flight to Xi'an this afternoon. But we were told that the route was not available this morning due to air-force activities. We would like to know if the route is accessible this afternoon.

G: The route has still been closed up to now, sir. The airport authority told us the activities would last until 3:00 pm. Anyhow, I will keep you advised.

P: Thank you.

Health check

I: Hi, Li Ming. You look so bad. Are you OK?

S: I got a headache this morning. After taking some medicine, I feel much better now.

I: Medicine? You said you had taken some pills? Why don't you see a doctor?

S: It was too early to see a doctor.

I: Oh, you'd better see a doctor now and tell him what medicine you have taken. Then

he will decide whether you can fly today.

S: OK, I will go to see the doctor in the university clinic right now.

Error in a load sheet

P: Captain, there is an error in the load sheet. The dry operating weight is not correct.

C: Read it carefully and try to find the problem. It is crucial to aircraft safety in flight.

P: The dry operating weight is short of 10.5 tons.

C: It is a serious mistake, which will cause errors in centre of gravity, takeoff weight and landing weight data.

P: I will contact with the company dispatcher for it.

Part II

Dialogue I

Practice I. Listen and answer the questions.

Question 1: What are they doing based on the exchange?

Question 2: Do you know why they prepare it so carefully? And what is the new NOTAM of Xi'an Airport?

Question 3: Why did the student not compute the fuel? And what are the alternate airports?

Practice II. Listen to the dialogue for the second time and then fill in the missing messages.

S: Good afternoon, Mr. Wang.

I: Good afternoon, Mr. Li. Tomorrow we are going to fly to Xi'an. _____?

S: Yes, it is. _____. There are so many takeoffs and landings each day. I believe tomorrow's training flight must _____! I am going to _____ before the flight.

I: Have you got the tomorrow's weather information of Xi'an?

S: Yes, I went to _____ just now. The weather forecaster told me that tomorrow the weather in Xi'an _____. It would reach the minimum for takeoff and landing. The reported wind would be about 150 degrees 5 meters per second, so we should _____.

I: Well done! How about the airport information? Have you ever _____?

S: Yes, of course. I have already got nearly all the necessary information. Besides, I have

been to _____. After checking the NOTAM, I found that _____. We could only _____. After a while I am going to check _____ and other information from Mianyang to Xi'an.

I: You have done a good job! The last question, have you completed the fuel computation?

S: Sorry, I haven't. I am not sure _____, so I can not decide how much fuel is required.

I: The first alternate is Luoyang Airport and the second is Zhengzhou Airport. Now, _____.

Practice III. Listen to the dialogue for the third time and then describe it.

Dialogue II

Practice I. Listen and answer the questions.

Question 1: Where and what are they talking about?

Question 2: What does the upper chart show?

Question 3: Please list at least three words that are related to thunderstorm in the exchange.

Practice II. Listen to the dialogue for the second time and then fill in the missing messages.

Pilot: Good morning, sir. I am planning a flight to Beijing. _____?

Forecaster: Morning, captain. I am afraid _____.

P: I am sorry to hear that. Please _____.

F: There are some cumulonimbus clouds _____. Our radar shows some cells. A squall line might _____.

P: Maybe there is heavy rain.

F: I agree with you. _____. There is a trough line across the route near Beijing city. _____.

P: I am sure _____ and poor visibility.

F: Yes, I think so. As a matter of fact, many of the airports in that area are below _____.

P: Is there any latest weather report, sir?

F: Sure. Here is _____. An hourly weather report is very helpful.

P: I know what you mean. _____.

F: I am afraid so.

Practice III. Listen to the dialogue for the third time and then describe it.

Part III

Simulating Radiotelephony Communication

Practice I. Look at the pictures and listen, try to get the main idea of the conversation in the simulated situation.

Background information: The call sign of the aircraft is CAC123. Now the aircraft is parking on the apron and you are ready for ATC clearance.

1-1



1-2



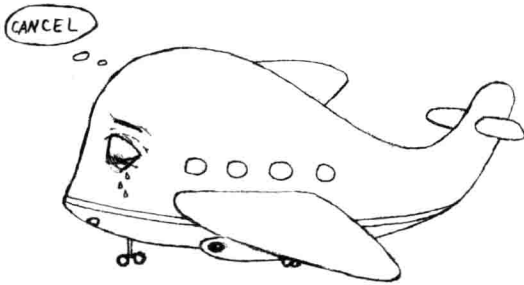
1-3



1-4



1-5



Practice II. Listen to the conversation for the second time. You play a role of a pilot and give responses to the controllers' instructions or the prompts as required.

Practice III. Make up dialogues with your partners according to the situations given.

Part IV

Words and Phrases

preliminary	初始
external check	外部检查
pitot tube	皮托管
parachute	降落伞, 跳伞
aerobatics	特技飞行
demonstration	示范, 表演
front	锋
squall line	飑线
cell	雷暴单体