Federal Aviation Administration

Initial En Route Qualification Training

Instructor
Lesson 15
Arrival and Approach Procedures

Course 50148001

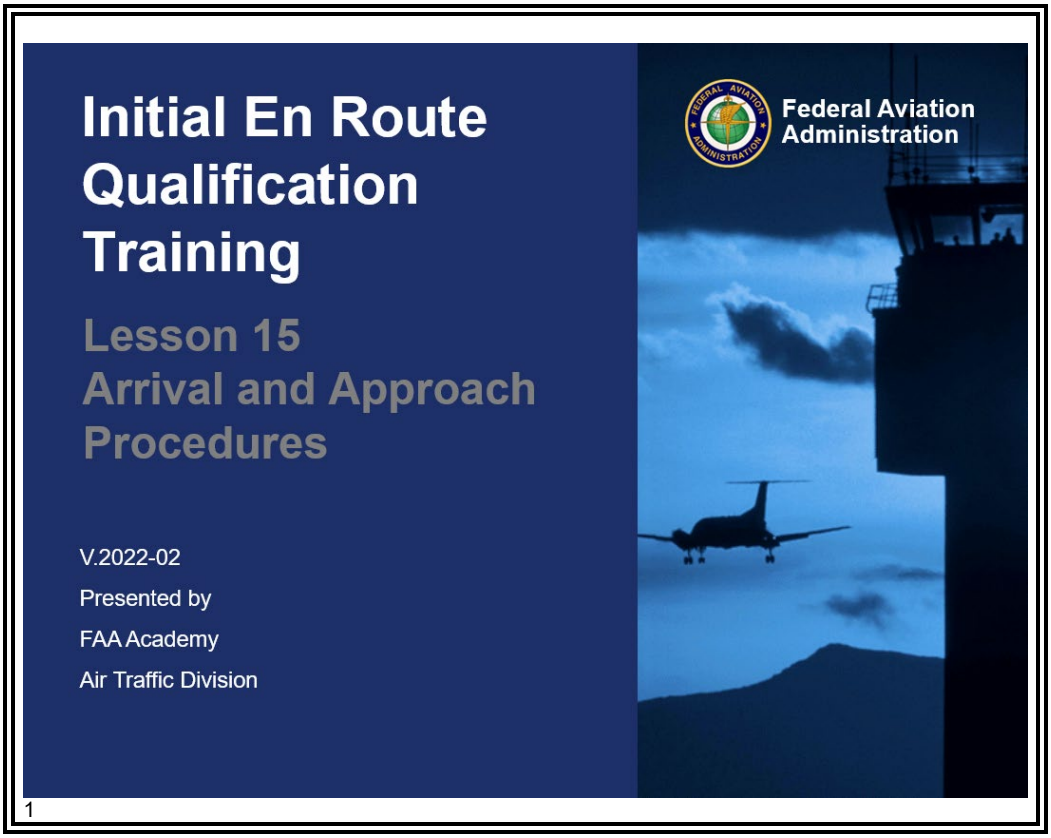
LESSON PLAN DATA SHEET

COURSE NAME:	INITIAL EN ROUTE QUALIFICATION TRAINING
COURSE NUMBER:	50148001
LESSON TITLE:	ARRIVAL AND APPROACH PROCEDURES
DURATION:	7+30 HOURS
DATE REVISED:	2022-02
VERSION:	V.2022-02
REFERENCE(S):	FAA ORDERS JO 7110.65, AIR TRAFFIC CONTROL; N JO 7110.558; AERONAUTICAL INFORMATION MANUAL (AIM)
HANDOUT(S):	inbounds.f2k, FRAHE.f2k and APCH.f2k - EXERCISE STRIPS
EXERCISE(S)/ ACTIVITY(S):	EXERCISE 1: ARRIVAL CLEARANCE PHRASEOLOGY AND STRIPMARKING EXERCISE 2: APPROACH CLEARANCE PHRASEOLOGY AND STRIPMARKING EXERCISE 3: ARRIVAL COORDINATION, ARRIVAL CLEARANCES, APPROACH CLEARANCES, AND STRIPMARKING ACTIVITY: INBOUND AND ARRIVAL CLEARANCES
END-OF-LESSON TEST:	YES *(REFER TO ELT15.PDF)*
PERFORMANCE TEST:	NONE
MATERIALS:	NONE
OTHER PERTINENT INFORMATION:	*INSTRUCTOR KEY FOR THE ELEARNING(S) IS INCLUDED AS AN APPENDIX IN THIS DOCUMENT.*

☞ ***NOTE:*** *As you prepare for this lesson, recall and be prepared to talk about examples and personal experiences that illustrate or explain the teaching points in the lesson.*

INTRODUCTION

Gain Attention



As an IFR aircraft approaches its destination, en route controllers are responsible for transitioning the aircraft from the en route environment to its destination airport. In the previous lesson on holding, you learned the basic procedures to transition aircraft into holding. In this lesson, you will learn how to safely and efficiently transition an aircraft to its destination. This transition may include working with an approach control, nonapproach control tower, or an airport for which you have control.

INTRODUCTION *(Continued)*

Opening Scenario

ARRIVAL/APPROACH PROCEDURES

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Knowledge of arrival/approach procedures enables you to devote more time and attention to your primary duty of separating aircraft. Forwarding arrival information to the appropriate facilities and issuing approach clearances are important air traffic control functions you will be performing throughout your career.

Purpose

This lesson will cover arrival information you **must** forward to nonapproach control towers, and approach controls. In addition to the phraseology used, the lesson will also cover the terminology for approach clearances, instrument approaches, and approach charts.

INTRODUCTION *(Continued)*

Lesson Objectives

LESSON OBJECTIVES

- On an End-of-Lesson Test and in accordance with FAA Orders JO 7110.65, you will identify:
  - Terminology associated with instrument approach procedures
  - Conditions for issuing an approach clearance
  - Responsibilities and phraseology for issuing arrival/approach clearances
  - Arrival information forwarded to approach controls and nonapproach control towers
  - Responsibilities and phraseology for issuing cruise clearances
  - Advance descent procedures

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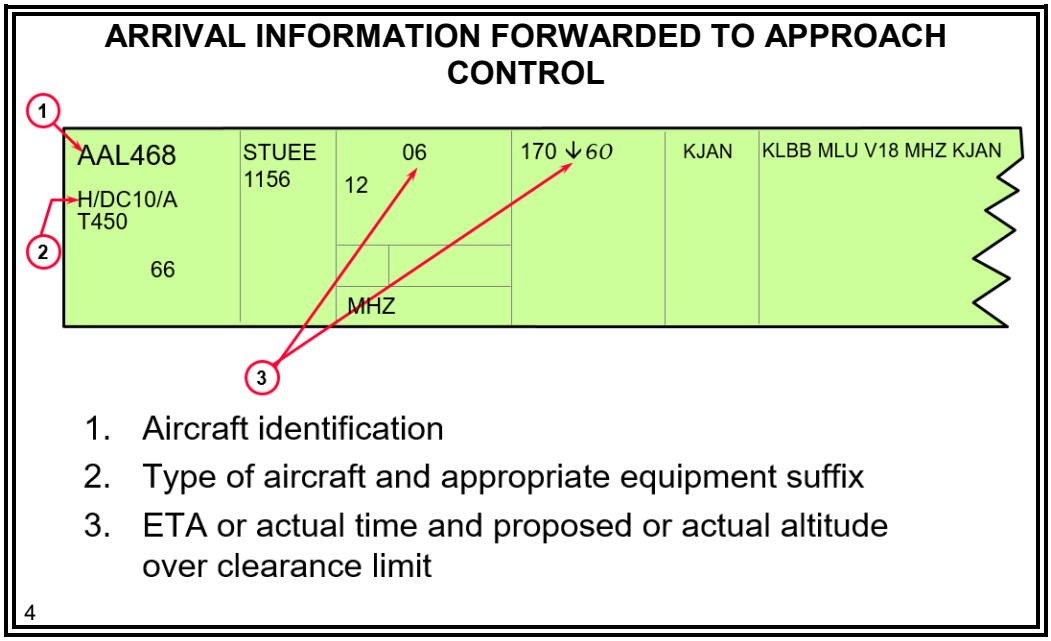
☞ ***NOTE:*** *Teach from graphic.*

ARRIVAL INFORMATION

Approach Control Facilities
JO 7110.65, pars. 2-3-10, 4-7-6



⊙ Information to forward to approach control:

- Aircraft identification
- Type of aircraft (including “Heavy” when appropriate) and appropriate equipment suffix
  - Include number of aircraft, if appropriate
- Expected Time of Arrival (ETA) or actual time and proposed or actual altitude over clearance limit

☞ ***NOTE:*** *ETA need **not** be given if arrival information is being forwarded during a radar handoff.*

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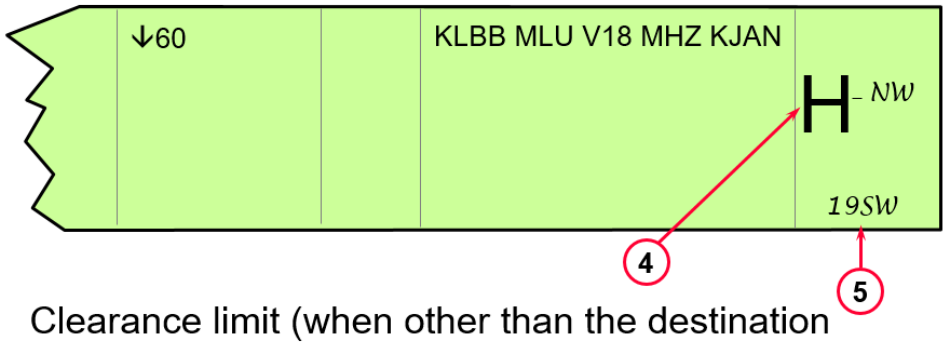
ARRIVAL INFORMATION *(Continued)*

Approach Control Facilities (Cont'd)
JO 7110.65, pars. 2-3-10, 4-7-6

ARRIVAL INFORMATION FORWARDED TO APPROACH CONTROL (CONT'D)



4. Clearance limit (when other than the destination airport) and EFC issued to the aircraft
5. Time, fix, or altitude when control responsibility is transferred to the approach control facility

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- Clearance limit (when other than the destination airport) and Expect Further Clearance (EFC) issued to the aircraft

NOTE: The ZAE/JAN APCH LOA requires forwarding of destination airport if other than KJAN.

☞ ***NOTE:*** *Clearance limit may be omitted when provided for in an LOA.*

- Time, fix, or altitude when control responsibility is transferred to the approach control facility

☞ ***NOTE:*** *This information may be omitted when covered in an LOA.*

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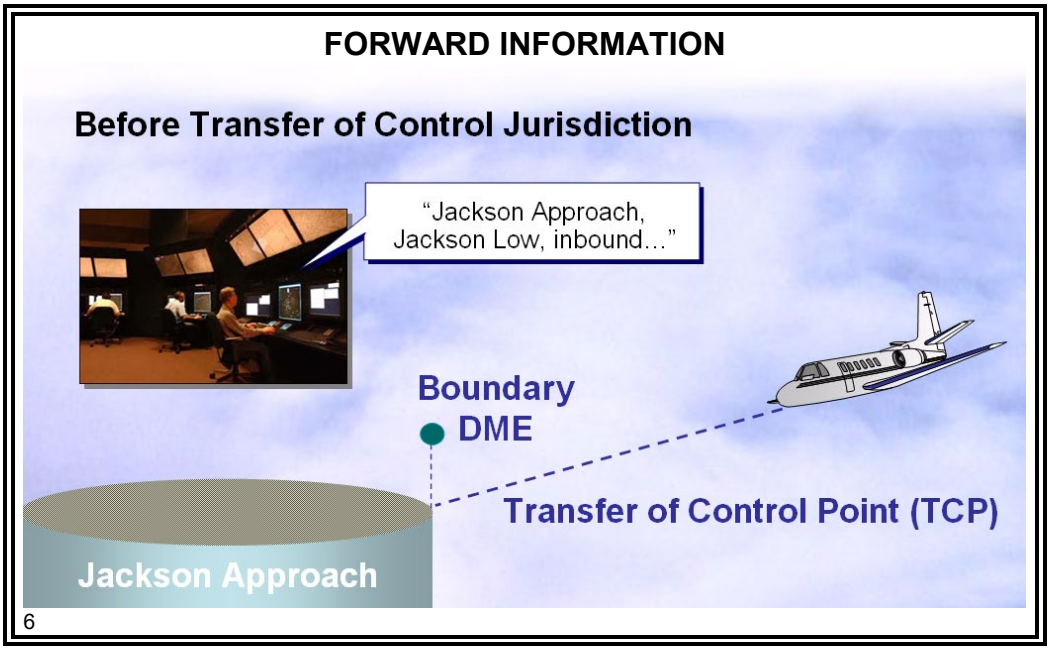
ARRIVAL INFORMATION *(Continued)*

Approach Control Facilities (Cont'd)
JO 7110.65, pars. 2-3-10, 4-7-6



⊙ When to forward arrival information to approach control facilities:

- Before transfer of control jurisdiction

✈ **Phraseology**

"(Identification), (type of aircraft), ESTIMATED/OVER (clearance limit), (time), (altitude), EFC (time).

If required,

YOUR CONTROL AT (time, fix, or altitude)."

Continued on next page

ARRIVAL INFORMATION *(Continued)*

Approach Control Facilities (Cont'd)
JO 7110.65, pars. 2-3-10, 4-7-6

FORWARDING INBOUNDS – JAN APPROACH

AAL468 H/DC10/A T450 66 02	STUEE 1156	06 12 MHZ	170✓ ↓60 X 17 SW ↓100	KJAN	KLBB MLU V18 MHZ KJAN	H-NW 19SW

"American Four Sixty-Eight, Heavy D-C Ten slant Alfa, estimated Magnolia VORTAC one two zero six, descending to six thousand with a restriction to cross one seven miles southwest Magnolia VORTAC at or below one zero thousand. Your control one niner miles southwest Magnolia VORTAC."

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Phraseology Example

☞ ***NOTE:*** *Teach from graphic.*

ARRIVING AIRCRAFT

N234 C421/A T215 66 04	GLH 1004	14 10 SQS	70	KGWO 1021	KTXK GLH V278 SQS KGWO/1019
N77542 C310/A T170 66 01	MLU 1934	51 19 DORTS	50	VKS 1956	KMLU V417 DORTS VKS KVKS/1956
N2266P G159/G T240 66 02	STUEE 0433	52 04 MHZ	150	KJAN	KMLU V18 MHZ KJAN/0455

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⊙ Stripmarking

- Arriving aircraft are indicated by a down arrow in space 16

Continued on next page

ARRIVAL INFORMATION *(Continued)*

Approach Control Facilities (Cont'd)
JO 7110.65, pars. 2-3-10, 4-7-6

STRIPMARKING

Action Planned

SWA20 B733/A T460 66 04	SQS 0936 *0936*	41 09 *41* MHZ	170✓ *60*	KJAN	KLIT GLH SQS V9 MHZ KJAN	

Action Completed

SWA20 B733/A T460 66 04	SQS 0936 *0936*	41 09 *41* MHZ	170✓ ↓*60* *X17NW@60* *60*	KJAN	KLIT GLH SQS V9 MHZ KJAN	H-*NW* *17NW/V9*

9

- Circle coordinated information in red.

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ARRIVAL INFORMATION *(Continued)*

Approach Control Facilities (Cont'd)
JO 7110.65, pars. 2-3-10, 4-7-6

STRIPMARKING

Action Planned

DAL81 B738/A T440 66	MCB 0936	47 09 ↓ 47 MHZ	170✓ 170/21NE MCB X8SE ↓80 ↓60	KJAN	KIAH MCB V9 MHZ KJAN	

Action Completed

DAL81 B738/A T440 66	MCB 0936	(47) 09 ↓ 47 MHZ	170✓ ↓60 170/21NE MCB X8SE ↓80 (↓60)	KJAN	KIAH MCB V9 MHZ KJAN	H NW 35SE/V9

10

  - Minutes - space 15
  - Altitude and any restrictions inside Transfer of Control Point (TCP) - space 20
  - Clearance limit if other than destination airport - space 28
  - Pertinent remarks - space 26

- Record preplanned actions in red

☞ ***NOTE:*** *Emphasize that overwriting is **not** allowed.*

- Record completed actions in black
  - Transfer of Control Point (TCP) - space 29

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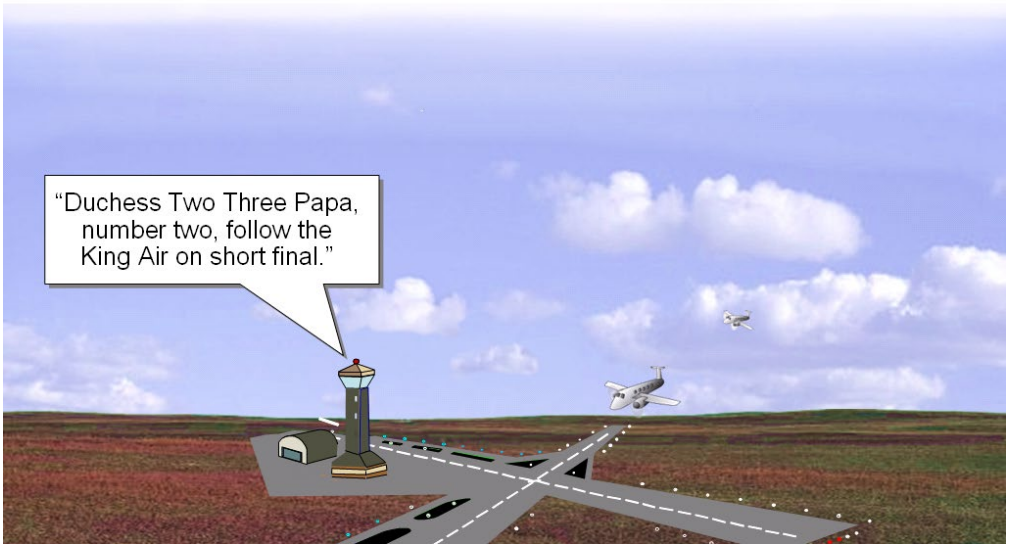
ARRIVAL INFORMATION *(Continued)*

Nonapproach Control Towers
JO 7110.65, pars. 2-1-16, 4-7-6 , 7-4-3

FORWARD ARRIVAL INFORMATION



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- Information to forward to nonapproach control towers:
  - Aircraft identification
  - Type of aircraft
  - ETA
  - Type of instrument approach the aircraft will execute, or
    - Position of aircraft on visual approach
- When to forward arrival information to nonapproach control towers
  - Soon enough to permit adjustment of traffic flow
  - Prior to issuing clearance which would require flight within the surface area

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ARRIVAL INFORMATION *(Continued)*

Nonapproach Control Towers (Cont'd)
JO 7110.65, pars. 2-1-16, 4-7-6

✈ **Phraseology Example**

PHRASEOLOGY

Nonapproach Control Tower

N265T G159/A T280 66 02	GLH 0936	45 09 ↓ SQS	110	KGWO 0952	KGLH V278 SQS KGWO	

"Inbound, Gulfstream Two Six Five Tango, G One Fifty-Nine, estimated Greenwood Airport zero niner five zero, for VOR approach."

Stripmarking - Nonapproach Control Tower

N265T G159/A T280 66 02	GLH 0936	45 09 ↓ SQS	110	KGWO 0952	KGLH V278 SQS KGWO	VR

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- Stripmarking
  - Arriving aircraft are indicated by a down arrow in space 16
  - Circle coordinated information in red.
    - Minutes - space 22
    - Type of approach - space 28
  - Record preplanned information in red
  - Record completed information in black

Continued on next page

ARRIVAL INFORMATION *(Continued)*

Knowledge Check

KNOWLEDGE CHECK

QUESTION: An aircraft landing at KGWO estimated the SQS VORTAC at 1615. At 1610, the aircraft is cleared for approach. At 1615, the inbound is passed to GWO Tower. Why is this procedure incorrect?

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☞ ***NOTE:*** *Click once to show answer.*

ANSWER: *The inbound must be passed prior to issuing approach clearance that would allow the aircraft to enter the surface area*

KNOWLEDGE CHECK

QUESTION: What is the phraseology for passing this inbound?

MES3412 E120/A T280 66 03	UJM 1312	22 13 SQS	150	KGWO 1329	KMEM UJM V9 SQS KGWO	VR

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☞ **NOTE:** Click once to show answer.

ANSWER: *"Greenwood Tower, Jackson Low, inbound. Mesaba Thirty-Four Twelve, Embraer One Twenty, estimated Greenwood Airport one three two niner, for VOR approach."*

ARRIVAL CLEARANCES

Arrival Clearance Information
JO 7110.65, pars. 2-1-16, 2-1-17, 4-7-1

⊙ Clear an aircraft to a clearance limit by specifying the following:

- Name of either:
  - Fix or Airport
- Route of flight
- Altitude instructions
- Holding instructions, EFC, and additional delay information, as required

Continued on next page

ARRIVAL CLEARANCES *(Continued)*

Arrival Clearance Information (Cont'd)
JO 7110.65, pars. 2-1-16, 2-1-17, 4-7-1

- Instructions regarding further communications by stating:
  - Facility name
  - Frequency
    - → **Not** required for FDU
  - When to initiate contact:
    - → Time
    - → Fix
    - → Altitude
    - → Compliance expected upon receipt if **no** other instructions
- Transfer communications
  - At approach control facilities, early enough to allow receiving facility to clear aircraft beyond the clearance limit before the aircraft reaches it

✈ **Phraseology Example**

"American Twelve cleared to Magnolia VORTAC. Descend and maintain six thousand. Hold northwest as published, **no** delay expected. Contact Jackson Approach one one niner point two two six miles southwest of Magnolia VORTAC."

☞ ***NOTE:*** *At MHZ, at or before the TCP. At MLU, before the TCP.*

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ARRIVAL CLEARANCES *(Continued)*

Arrival Clearance Information (Cont'd)
JO 7110.65, pars. 2-1-16, 2-1-17, 4-7-1

✈ **Phraseology Example**

ARRIVAL PROCEDURES TO MAGNOLIA

N829 BE9L/A T240 66 01	MCB 0936	43 09 43 MHZ	170✓ ↓60 ~~170/21 NE~~ MCB X17 SE↓90 X17 SE↓90 ↓60	KJAN	KIAH MCB V9 MHZ KJAN/0947 35 SE MHZ	H NW 35SE/V9

"King Air Eight Two Niner, cleared to Magnolia VORTAC, maintain one seven thousand until two one miles northeast of McComb VORTAC, cross one seven miles southeast of Magnolia VORTAC at or below niner thousand, descend and maintain six thousand. Hold northwest as published, no delay expected. Contact Jackson Approach one one niner point two three five miles southeast Magnolia VORTAC."

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⊙ At airports with approach control service:

- En route facility clears arriving aircraft to the clearance limit
- Approach control facility issues approach clearance and provides separation for aircraft under their control

☞ ***NOTE:*** *Instructions inside TCP should be coordinated and circled in red.*

☞ ***NOTE****: Additional examples are in the AERO CENTER PHRASEOLOGY AND STRIPMARKING GUIDE.*

EXERCISE 1: ARRIVAL CLEARANCE PHRASEOLOGY AND STRIPMARKING

Exercise 1

EXERCISE 1: ARRIVAL CLEARANCE PHRASEOLOGY AND STRIPMARKING

Purpose: to practice identifying and using correct phraseology

Directions: mark each strip and write the correct phraseology

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Directions

Mark each strip and write the phraseology specifying the Transfer of Control Point for passing each inbound in questions 1 through 4. Additionally on question 4, write the phraseology to issue an arrival clearance.

☞ ***NOTE:*** *If time allows, this exercise can be done in teams. Have the students answer the questions individually first (give them about 10 minutes to do this), and then work in teams of 6 to come to a group consensus on the correct answers (give the groups another 10 minutes). Review the answers with the class by calling on a group to report their answer out loud and then comparing it to the answer on the slide.*

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EXERCISE 1: ARRIVAL CLEARANCE PHRASEOLOGY AND STRIPMARKING *(Continued)*

Questions

EXERCISE 1 – QUESTION 1

Time: 0920

AAL21 B738/A T450 66 01	HEZ 0923	31 09 MHZ	170	KJAN	KIAH HEZ V245 MHZ KJAN	

17

☞ ***NOTE:*** *Click once to show answer.*

ANSWER:

AAL21 B738/A T450 66 01	HEZ 0923	31 09 MHZ	170 ↓60	KJAN	KIAH HEZ V245 MHZ KJAN	26SW

Inbound: *"American Twenty-One, Boeing Seven Thirty-Eight slant Alfa, estimated Magnolia VORTAC zero niner three one, descending to six thousand, your control two six miles southwest Magnolia VORTAC."*

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EXERCISE 1: ARRIVAL CLEARANCE PHRASEOLOGY AND STRIPMARKING *(Continued)*

Questions (Cont'd)

EXERCISE 1 – QUESTION 2

Time: 1330

AAL212 B738/A T450 66 04	GLH 1333	43 13 MHZ	170	KJAN	KFSM V74 MHZ KJAN	

18

☞ ***NOTE:*** *Click once to show answer.*

ANSWER:

AAL212 B738/A T450 66 04	GLH 1333	43 13 MHZ	170 ↓60	KJAN	KFSM V74 MHZ KJAN	20NW

Inbound: *"American Two Twelve, Boeing Seven Thirty-*

Eight slant Alfa, estimated Magnolia VORTAC one three four three,

descending to six thousand, your control two zero miles northwest

Magnolia VORTAC."

Continued on next page

EXERCISE 1: ARRIVAL CLEARANCE PHRASEOLOGY AND STRIPMARKING *(Continued)*

Questions (Cont'd)

EXERCISE 1 – QUESTION 3

Time: 1135

N242P BE20/A T240 66 02	STUEE 1131	50 11 MHZ	110	KJAN	KSHV MLU V18 MHZ KJAN/1155	

19

☞ ***NOTE:*** *Click once to show answer.*

ANSWER:

N242P BE20/A T240 66 02	STUEE 1131	50 11 MHZ	110 ↓60	KJAN	KSHV MLU V18 MHZ KJAN/1155	19SW

Inbound: *"King Air Two Four Two Papa, B-E Twenty slant Alfa, estimated Magnolia VORTAC one one five zero, descending to six thousand, your control one niner miles southwest Magnolia VORTAC."*

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EXERCISE 1: ARRIVAL CLEARANCE PHRASEOLOGY AND STRIPMARKING *(Continued)*

Questions (Cont'd)

EXERCISE 1 – QUESTION 4

Time: 1140

A67850 C130/A T310 66 01	MCB 1137	52 11 ↓ 52 MHZ	150✓	KJAN	KEFD MCB V9 MHZ KJAN	

20

☞ ***NOTE:*** *Click twice to show answer.*

NOTE: Forward arrival information to JAN APCH and issue arrival clearance to aircraft. Ensure A67850 is in your airspace before issuing a descent clearance, or obtain control from PCU LO, or issue a crossing restriction to clear PCU LO airspace.

ANSWER:

A67850 C130/A T310 66 01	MCB 1137	52 11 ↓ 52 MHZ	150✓↓60 150/21 NE MCB ↓60	KJAN	KEFD MCB V9 MHZ KJAN C 35SE	H- NW 35SE/V9

Inbound: *"Jackson Approach, Jackson Low, inbound. Air Force Six Seven Eight Five Zero, C One-Thirty slant Alfa, estimated Magnolia VORTAC one one five two, descending to six thousand, your control three five miles southeast Magnolia VORTAC on Victor Niner."*

Continued on next page

EXERCISE 1: ARRIVAL CLEARANCE PHRASEOLOGY AND STRIPMARKING *(Continued)*

Questions (Cont'd) Arrival Clearance: *"Air Force Six Seven Eight Five Zero, cleared to Magnolia VORTAC, maintain one five thousand until two one miles northeast McComb VORTAC, descend and maintain six thousand, hold northwest as published. No delay expected. Contact Jackson Approach one one niner point two, or two five niner point two three five miles southeast Magnolia VORTAC."*

APPROACH CLEARANCES

Terms
JO 7110.65, Pilot/Controller Glossary

📖 An **approach clearance** is authorization by ATC for a pilot to conduct an instrument approach. The type of instrument approach for which a clearance and other pertinent information is provided in the approach clearance when required.

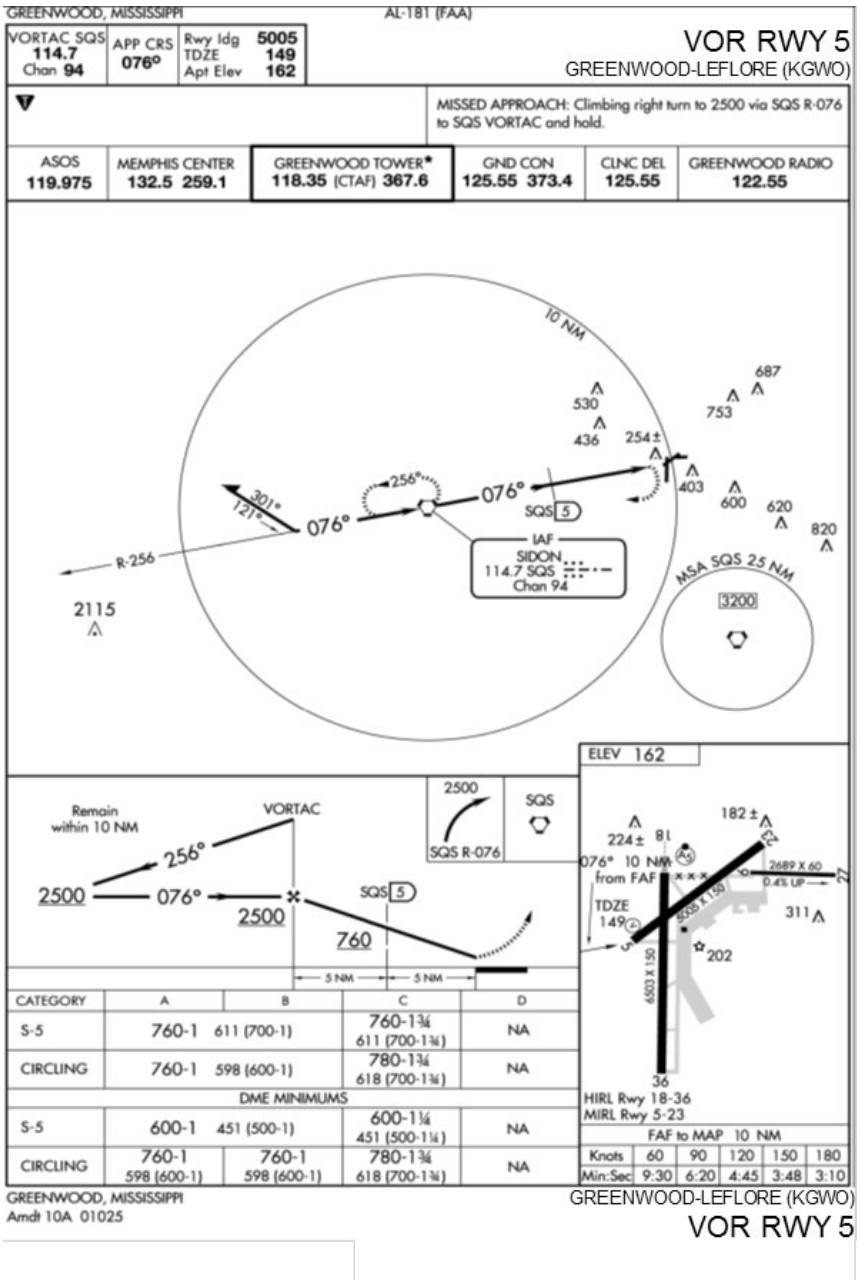
📖 An **Instrument Approach Procedure (IAP)** is a series of predetermined maneuvers for the orderly transfer of an aircraft under instrument flight conditions from the beginning of the initial approach to a landing or to a point from which a landing may be made visually. It is prescribed and approved for a specific airport by competent authority.

📖 **Instrument Approach Procedures (IAP) Charts** portray the aeronautical data which is required to execute an instrument approach to an airport.

📖 A **missed approach** is a maneuver conducted by a pilot when an instrument approach **cannot** be completed to a landing. The route of flight and altitude are shown on instrument approach procedure charts.

APPROACH CLEARANCES *(Continued)*

Approach Charts
AIM, par. 9-1-4b



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☞ ***NOTE:*** *Click 4 times to show each part of the approach chart individually. Be sure to point out missed approach procedure.*

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APPROACH CLEARANCES *(Continued)*

Approach Charts (Cont'd)
AIM, par. 9-1-4b

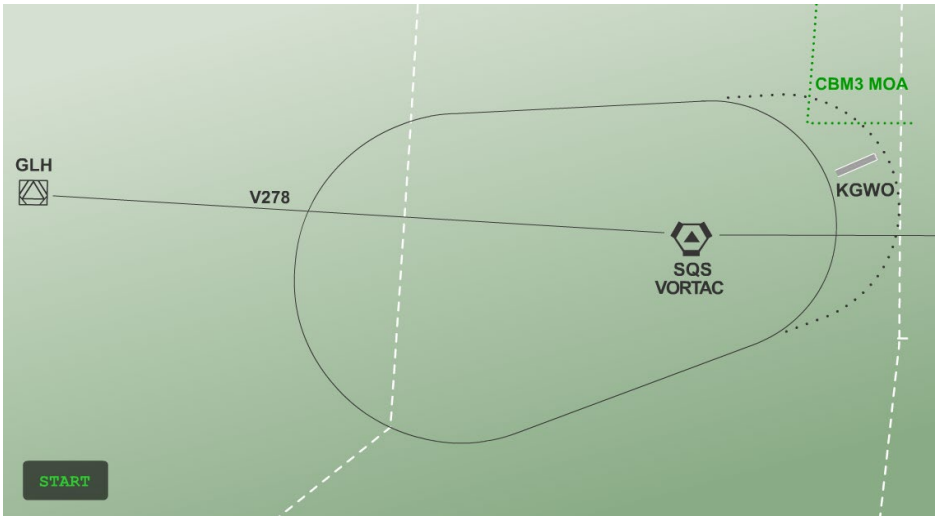
⊙ Each approach chart depicts:

- Initial approach fix
- Navigational data
- Communications information
- Airport sketch
- Missed approach procedure

APPROACH CLEARANCES *(Continued)*

Approach Information
AIM, par. 9-1-4b

APPROACH FROM HOLDING OR WITHOUT A PROCEDURE TURN



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☞ ***NOTE:*** *Introduce topic and then click **START** to play animation. "Animation Complete" will display when the animation is finished. Click the **REPLAY** button to play animation again.*

☞ ***NOTE:*** *Click outside the animation to advance to the next slide.*

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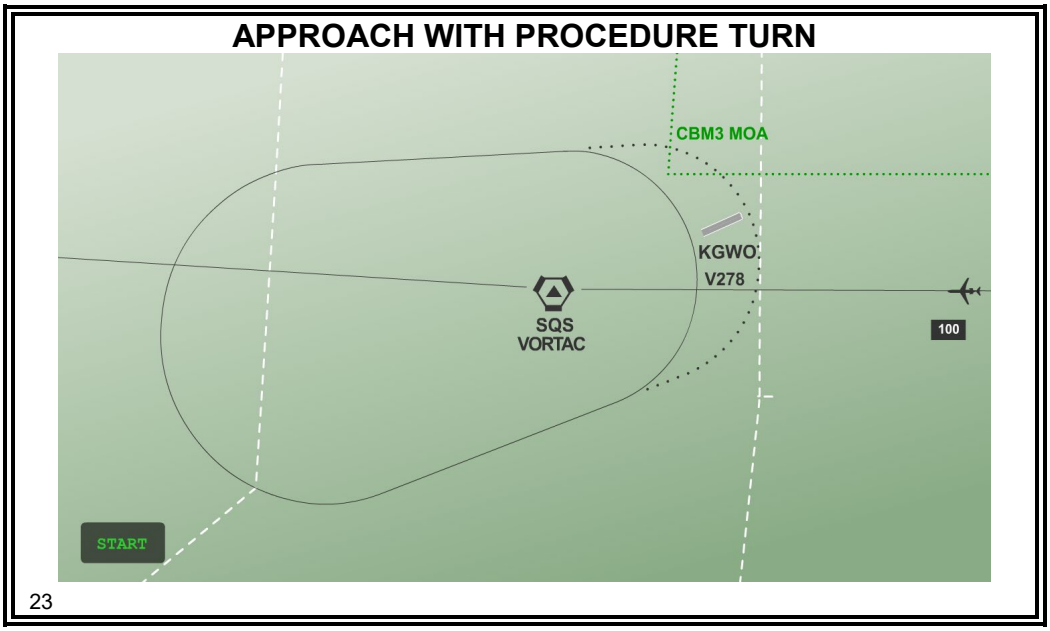
APPROACH CLEARANCES *(Continued)*

Approach Information (Cont'd)
AIM, par. 9-1-4b



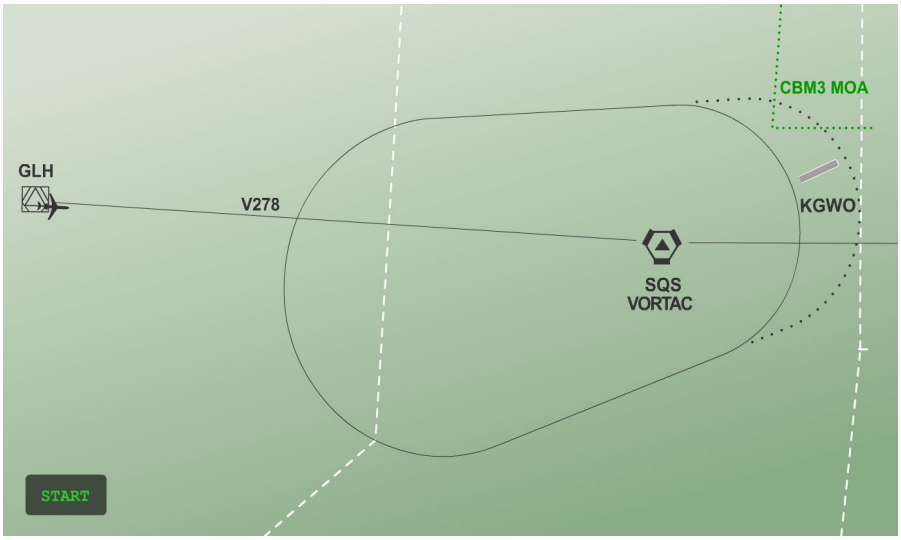
☞ ***NOTE:*** *Introduce topics and then click **START** to play animations. "Animation Complete" will display when each animation is finished. Click the **REPLAY** button to play animation again.*

☞ ***NOTE:*** *Click outside the animation to advance to the next slide.*

APPROACH CLEARANCES *(Continued)*

Missed Approach Information
AIM, par. 9-1-4b

APPROACH WITH MISSED APPROACH



GWO: "Jackson Low. Greenwood Tower."
JLO: "Jackson Low."
GWO: "November 77121 missed approach. Coming back to your frequency."
JLO: "O-L."
GWO: "D-B."

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☞ ***NOTE:*** *Introduce topics and then click* ***START*** *to play animations. "Animation Complete" will display when each animation is finished. Click the* ***REPLAY*** *button to play animation again.*

☞ ***NOTE:*** *Click outside the animation to advance to the next slide.*

APPROACH CLEARANCES *(Continued)*

Approach Information
JO 7110.65, pars. 2-9-2, 4-7-10

⊙ Provide current approach information to aircraft at airports for which you provide approach control services:

- On initial contact, or
- As soon as possible after initial contact

NOTE: Ensure pilot has current weather prior to beginning approach.

⊙ Include the following information:

- NOTAMS and other current pertinent information
- Approach clearance or type of approach to expect
  - If two or more approaches are published, and
  - Clearance limit does **not** indicate which approach will be used
- Runway
  - If different from that to which instrument approach will be made
- Surface wind
- Ceiling and visibility, if
  - Reported ceiling is below 1,000 feet or highest circling minima (whichever is greater), or
  - Visibility is less than 3 miles
- Altimeter setting for destination airport

✈ **Phraseology**

"VERIFY YOU HAVE INFORMATION ALPHA"

⊙ Inform pilot where automated weather data may be obtained

- If pilot requests

✈ **Phraseology**

"(Airport) AWOS/ASOS WEATHER AVAILABLE ON (frequency)."

⊙ Inform pilot if weather is **not** available.

APPROACH CLEARANCES *(Continued)*

Issuing Approach Clearances
JO 7110.65, pars. 4-8-1, 4-8-2

⊙ Issue approach clearance after preceding aircraft has landed or canceled IFR except when applying:

- Radar procedures
- Timed or Visual approaches

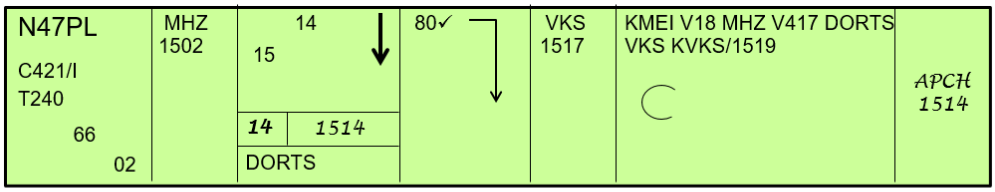
NOTE: Radar procedures and timed or visual approaches are covered in later stages of training.

⊙ Clear aircraft for standard instrument procedures **only**.

- The procedures **must** commence at an Initial Approach Fix
- Where adequate radar coverage exists, an aircraft may be vectored to final approach course in accordance with FAA Order JO 7110.65, paragraphs 5-9-1 and 5-9-2 (taught in a later lesson)

✈ **Phraseology Example**

PILOT'S CHOICE OF APPROACH



"Cessna Four Seven Papa Lima, cleared approach Vicksburg airport, report cancellation of IFR this frequency or with Aero Center Flight Data, change to advisory frequency approved.

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⊙ Authorize pilots to execute any standard instrument approach procedure for that airport.

✈ **Phraseology**

"CLEARED APPROACH."

Continued on next page

APPROACH CLEARANCES *(Continued)*

Issuing Approach Clearances (Cont'd)
JO 7110.65, pars. 4-8-1, 4-8-2, 4-8-6

PHRASEOLOGY FOR VARIOUS TYPES OF APPROACHES

N215 C310/A T180 66 02	GLH 1605	17 16 17 SQS	70✓	KGWO 1624	KGLH V278 SQS KGWO/1617 PT D67 ↓ 70	VR VR 1612

"Twin Cessna Two One Five, cleared
VOR approach."
I-L-S Runway One Eight approach."
TACAN approach."
S-D-F approach."
R-NAV approach."
VOR Runway Five Approach Circle to Runway Two Three."

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Phraseology

⊙ To require a particular approach:

- Specify name of approach as published on approach chart

Phraseology

"CLEARED (type) APPROACH."

- If **only** one approach of a particular type is published, the approach need **not** be identified by runway reference

⊙ Circling approach

- Circling approach instructions may only be given for aircraft landing at airports with operational control towers.

Phraseology

"CIRCLE TO RUNWAY (number),"

Continued on next page

APPROACH CLEARANCES *(Continued)*

Issuing Approach Clearances (Cont'd)
JO 7110.65, pars. 4-8-1, 4-8-2, N JO 7110.558

APPROACH AT AIRPORT WITHOUT ATC SERVICES

N2245G C182/A T130 66 03	MHZ 1317	47 13 47 1347 DORTS	60✓	VKS 1352	KMEI MHZ V417 DORTS VKS KVKS/1352	APCH 1347

"Cessna Two Two Four Five Golf, cleared approach Vicksburg Airport, report cancellation of IFR this frequency or with Aero Center Flight Data, change to advisory frequency approved."

Note: For Aero Center the approach clearance for Vicksburg must be issued prior to the DORTS center estimate.

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Phraseology Example

⊙ At airports without air traffic control services, include destination airport with approach clearance.

NOTE: At airports with nonapproach control towers, En Route facility clears aircraft for approach; nonapproach control tower clears aircraft to land.

NOTE: At airports without ATC services, En Route facility clears aircraft for approach; a clearance to land is **not** issued.

⊙ Before instructing an IFR aircraft arriving at an airport not served by an air traffic control tower or FDU to change to advisory frequency, provide the pilot with instructions on how to cancel his/her IFR flight plan.

- Airports with an air/ground communications station:

Phraseology

"(Call sign) REPORT CANCELLATION OF IFR ON (frequency)"

- Airports without an air/ground communications station: (eg.VKS, 0M8)

Phraseology

"(Call sign) REPORT CANCELLATION OF IFR THIS FREQUENCY OR WITH (ATC controlling facility's) FLIGHT DATA".

Phraseology Example

"N13YH report cancellation of IFR this frequency or with Aero Center Flight Data".

Continued on next page

APPROACH CLEARANCES *(Continued)*

Issuing Approach Clearances (Cont'd)
JO 7110.65, pars. 4-8-1, 4-8-2, N JO 7110.558

⊙ Transfer communications

- At nonapproach control towers, prior to operation within Class D surface area
- At airports **not** served by a tower or FDU, approve a change to advisory frequency when you **no** longer require direct communications

✈ **Phraseology**

"CHANGE TO ADVISORY FREQUENCY APPROVED."

⊙ Acknowledging cancellation of IFR

✈ **Phraseology**

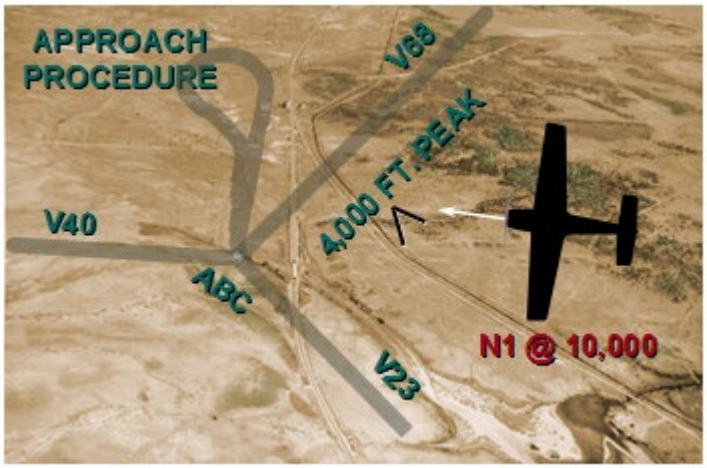
- Respond to a pilot's cancellation of his/her IFR flight plan as follows:

"(Call sign) IFR CANCELLATION RECEIVED".

APPROACH CLEARANCES FOR AIRCRAFT ON UNPUBLISHED ROUTES

Unpublished Routes
JO 7110.65, par. 4-8-1

INBOUND AIRCRAFT ON UNPUBLISHED ROUTE



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⊙ Issue the approach clearance **only** after aircraft is:

- Established on a segment of a published route or an instrument approach procedure
- Assigned an altitude to maintain until established on a segment of a published route or an instrument approach procedure

  – Altitude **must** ensure terrain and obstruction clearance

☞ ***NOTE:*** *Give examples: If aircraft is via an airway, the clearance would be "CLEARED APPROACH." If the aircraft is direct ABC, the clearance would be "Cross A-B-C VORTAC at or above five thousand, cleared approach." Tell students if aircraft is on an airway or published route, they get altitude guidance from that. If aircraft is* ***not*** *on a published route, controller provides altitude guidance.*

CRUISE CLEARANCES

Conditions
JO 7110.65, Pilot/Controller Glossary

⊙ A cruise clearance authorizes pilot to proceed to and make an approach at the destination airport:

- When used in conjunction with airport clearance limit, or
- At an airport which does **not** have a published instrument approach procedure

  – **Not** an authorization for pilot to descend under IFR conditions below minimum IFR altitude

  – Provides means for aircraft to proceed to destination airport, descend, and land in accordance with Code of Federal Regulations (CFRs) governing VFR flight operations

NOTE: Provides Search and Rescue (SAR) protection until IFR flight plan is canceled or closed.

☞ ***NOTE:*** *Stress that with a cruise clearance, more airspace **must** be protected.*

Issuing Cruise Clearance
JO 7110.65, pars. 4-5-7, 4-8-1

ISSUING CRUISE CLEARANCE

N441AP C441/A T250 66 01	MLU 1220	32 12 32 DORTS	50✓	KTVR 1240	KRSN MLU V417 DORTS KTVR/1240

Phraseology Example

"November Four Four One Alfa Papa, cruise five thousand."

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⊙ If the aircraft is on an unpublished route:

- Issue appropriate crossing restriction to ensure terrain clearance until aircraft reaches fix/point/route where altitude information is available to the pilot

Continued on next page

CRUISE CLEARANCES *(Continued)*

Issuing Cruise Clearance (Cont'd)
JO 7110.65, pars. 4-5-7, 4-8-1

⊙ At airports where **no** instruction approach procedure is published:

- Issue a cruise clearance with **no** crossing restriction
  - Authorizes pilot to determine minimum IFR altitude as prescribed in 14 CFR Part 91.177

✈ **Phraseology**

"CRUISE (altitude)."

"MAINTAIN (altitude) UNTIL (time, fix, waypoint),

or

(number of miles/minutes) MILES/MINUTES PAST (fix, waypoint)."

"CROSS (fix, point, waypoint),

or

INTERCEPT (route) AT OR ABOVE (altitude), CRUISE (altitude)."

Pilot's Responsibilities
JO 7110.65, Pilot/Controller Glossary

⊙ Pilot is assigned altitude to cruise airspace from ATC assigned altitude to minimum IFR altitude.

NOTE: Controller **must** protect those altitudes.

⊙ Pilot may climb, descend, or level off at any altitude within the block of airspace.

- Climb/descent within the block is made at pilot's discretion
- Once pilot verbally reports leaving an altitude, they **cannot** return to that altitude without ATC clearance

ADVANCE DESCENT CLEARANCES FOR ARRIVALS NEAR COMMON BOUNDARY

Advance Descent Clearance
JO 7110.65, par. 4-7-2

⊙ Coordinate with the receiving facility for a lower altitude.

⊙ Issue clearance, as appropriate, at a distance sufficient to allow for:

- Normal descent and speed reduction

☞ ***NOTE:*** *Give example: For GLH, MCB, and HEZ arrivals, Sector 66 would coordinate a lower altitude with appropriate sector/facility.*

EXERCISE 2: APPROACH CLEARANCE PHRASEOLOGY AND STRIPMARKING

Exercise 2

EXERCISE 2: APPROACH CLEARANCE PHRASEOLOGY AND STRIPMARKING

Purpose: to practice using correct phraseology for approach clearances

Directions: write the phraseology for each inbound and approach clearance

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Directions

Write the phraseology for each inbound and each approach clearance in items 1 through 3. Mark strips accordingly. Be prepared to recite your answers to the class.

☞ ***NOTE:*** *Once students have completed the exercise, display the next 4 slides and discuss the answers with the class. If time allows, this exercise can be done in teams. Have the students answer the questions individually first (give them about 10 minutes to do this), and then work in teams of 6 to come to a group consensus on the correct answers (give the groups another 10 minutes). Review the answers with the class by calling on a group to report their answer out loud and then comparing it to the answer on the slide.*

Continued on next page

EXERCISE 2: APPROACH CLEARANCE PHRASEOLOGY AND STRIPMARKING *(Continued)*

Questions

EXERCISE 2 – QUESTION 1 (PART A)

Time: 0931

N234M C310/A T180 66 02	MHZ 0926	42 09 ↓ 42 DORTS	60✓	VKS 0947	KMCB MHZ V417 DORTS VKS KVKS/0947	

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☞ ***NOTE:*** *Click once to show answer.*

ANSWER:

N234M C310/A T180 66 02	MHZ 0926	42 09 ↓ 42 DORTS	60✓ 60/20SW MHZ ↓	VKS 0947	KMCB MHZ V417 DORTS VKS KVKS/0947	APCH 0931

NOTE: Consider JAN approach airspace.

1. Approach Clearance: _____

   "Cessna Two Three Four Mike, maintain six thousand until two zero miles southwest Magnolia VORTAC, cleared approach Vicksburg Airport."

Continued on next page

EXERCISE 2: APPROACH CLEARANCE PHRASEOLOGY AND STRIPMARKING *(Continued)*

EXERCISE 2 – QUESTION 1 (PART B)

Time: 0942

N234M C310/A T180 66 02	MHZ 0926	42 09 42 DORTS	60✓ 60/20SW MHZ	VKS 0947	KMCB MHZ V417 DORTS VKS KVKS/0947	APCH 0931

32

☞ ***NOTE:*** *Click once to show answer.*

ANSWER:

N234M C310/A T180 66 02	MHZ 0926	42 09 42 0942 DORTS	60✓ 60/20SW MHZ	VKS 0947	KMCB MHZ V417 DORTS VKS KVKS/0947 C	APCH 0931

NOTE: Consider JAN approach airspace.

1. Frequency change after DORTS progress: *"Cessna Two Three Four **Mike**, report cancellation of IFR this frequency or with Aero Center Flight Data, change to advisory frequency approved."*

Continued on next page

EXERCISE 2: APPROACH CLEARANCE PHRASEOLOGY AND STRIPMARKING *(Continued)*

Questions (Cont'd)

EXERCISE 2 – QUESTION 2

Time: 1624
VOR Approach

N77121 BE30/I T280 66 03	GLH 1623	30 16 30 SQS	110✓	KGWO 1635	KLIT GLH V278 SQS KGWO/1635

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☞ **NOTE:** Click once to show the coordination answers. Click a second time to show the approach clearance answer.

ANSWER:

N77121 BE30/I T280 66 03	GLH 1623	30 16 30 SQS	110✓ 110/13NW X ↓70	KGWO 1635	KLIT GLH V278 SQS KGWO/1635 67 ↓70	VR VR 1624

NOTE: Consider D67 and CBM MOA airspace (position report or restriction) when issuing clearance or obtain control of aircraft. Block the airspace with D67.

2. Coordination with D67: *"D67, D66 APREQ, block seven thousand and below for holding and approach at Sidon."*

   Coordination with GWO (Inbound): *"Greenwood Tower, Jackson Low, inbound, King Air Seven Seven One Two One, B-E Thirty, estimated Greenwood Airport one six three five, for V-O-R Approach."*

   Approach Clearance: *"King Air Seven Seven One Two One, maintain one one thousand until one three miles northwest Sidon VORTAC, cross Sidon VORTAC at or below seven thousand cleared V-O-R runway five approach circle to runway two three."*

Continued on next page

EXERCISE 2: APPROACH CLEARANCE PHRASEOLOGY AND STRIPMARKING *(Continued)*

Questions (Cont'd)

EXERCISE 2 – QUESTION 3

Time: 1617

Approach

N456PP C310/A T180 66 01	MLU 1610	30 16 ↓ 30 DORTS	70✓	VKS 1635	KMLU V417 DORTS VKS KVKS/1635	

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☞ ***NOTE:*** *Click once to show answer.*

ANSWER:

N456PP C310/A T180 66 01	MLU 1610	30 16 ↓ 30 DORTS	70✓ 70/31SE MLU ↓	VKS 1635	KMLU V417 DORTS VKS KVKS/1635	APCH 1617

NOTE: Consider MLU approach airspace.

3. Approach Clearance: *"Twin Cessna Four Five Six Papa Papa, maintain seven thousand until three one miles southeast Monroe VORTAC, cleared approach Vicksburg Airport."*

EXERCISE 3: ARRIVAL COORDINATION, ARRIVAL CLEARANCES, APPROACH CLEARANCES, AND STRIPMARKING

Exercise 3

EXERCISE 3: ARRIVAL COORDINATION, ARRIVAL CLEARANCES, APPROACH CLEARANCES, AND STRIPMARKING

Purpose: to practice using correct stripmarking

Directions: complete the strips based on information provided by instructor

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Directions

In this exercise, you will practice marking strips based on arrival and approach information.

Your instructor will provide 3 separate sets of flight progress strips—one set for arrival (inbound) coordination, one set for arrival (FRAHE) clearances, and one set for approach clearances. Students will be called to the board one at a time to mark the strips while they coordinate arrivals, issue arrival clearances, and issue approach clearances.

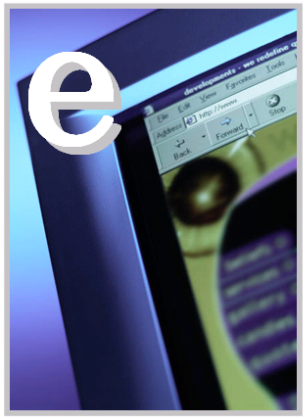
☞ ***NOTE:*** *This exercise requires 3 separate sets of strips for every student—one set for arrival (inbound) coordination, one set for arrival (FRAHE) clearances, and one set for approach clearances.*

Conduct the exercise using one set of strips at a time. Use the board to display the strips a few at a time. Preplan any crossing restrictions and mark this information on the strips for the students. Call the students to the board one at a time to mark the strips while they coordinate arrivals, issue arrival clearances, and issue approach clearances.

ACTIVITY: INBOUND AND ARRIVAL CLEARANCES

Activity

INBOUND AND ARRIVAL CLEARANCES ACTIVITY



Purpose: to practice identifying and using correct phraseology for issuing inbound and arrival clearances

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☞ ***NOTE:*** *Have the students access the IET eLearning menu and select the activity for Lesson 15*

Description

In this activity, you will practice identifying and using correct phraseology for issuing inbound and arrival clearances. In addition, you will work with the stripmarking associated with inbound and arrival clearances.

Directions

Access the IET eLearning menu. Select **Lesson 15 – Arrivals and Approach Procedures**. Click on the titles to launch the **Inbound and Arrival Clearances** activities.

Time Allotted

30 minutes

☞ ***NOTE:*** *Refer to the appendix for the Instructor Key for this eLearning activity.*

☞ ***NOTE:*** *Remember to disable the eLearning after the students complete the eLearning.*

IN CONCLUSION

Lesson Review

LESSON REVIEW

The following topics were covered in this lesson:

- Arrival information
- Approach clearances
- Approach clearances for aircraft on unpublished routes
- Approach information
- Cruise clearances
- Advance descent clearances for arrivals near common boundary

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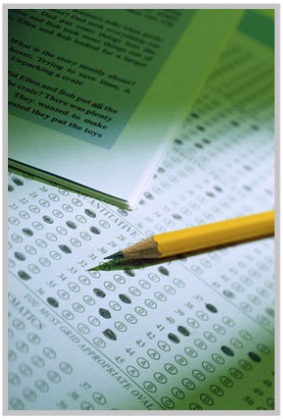
☞ ***NOTE:*** *Teach from graphic. Review and elaborate briefly on the topics covered in this lesson.*

End-of-Lesson Test

END-OF-LESSON TEST

Arrival and Approach Procedures



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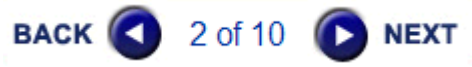
APPENDIX A: INSTRUCTOR KEY FOR ELEARNING ACTIVITIES

Purpose

This document serves as a guide for facilitating the eLearning activities of the Initial En Route Training course and provides an overview of the objectives and content of the eLearning activities within this lesson.

Navigation

- To navigate within the eLearning activities, a Navigation Bar is positioned at the top right of the page and contains the following options:
  - MAIN MENU: Allows students to access a main menu listing all of the eLearning activities
  - RESOURCES: Allows students to access additional resources, including:
    - A **Glossary** link
    - A **References** link
    - A **Help** link
  - EXIT: Allows students to exit from the eLearning activity at any time



- To navigate within an activity, a navigation tab is also positioned near the top right of the screen, just below the navigation bar.
  - The navigation tab contains the following buttons:
    - BACK: When active, returns students to the previous page
    - NEXT: When active, allows students to advance to the next page

NOTE: Inactive BACK and NEXT buttons indicate students are at the beginning or at the end of a lesson.

Navigation Tips

- To refresh a page or reset an activity, press **F5**.
- You can advance to a specific page in the activity without completing the activity. Click the **NEXT** or **BACK** buttons until the page is displayed.

Continued on next page

APPENDIX A: INSTRUCTOR KEY FOR ELEARNING ACTIVITIES (*Continued)*

Lesson Title

IET-15, Arrival and Approach Procedures

eLearning Objectives

The objective of the following eLearning activities is to practice using proper approach control phraseology and stripmarking for inbound and arrival clearances.

eLearning Activities

⊙ Lesson 15 contains the following eLearning activities:

- Activity 1: Inbound and Arrival Clearance Phraseology
- Activity 2: Inbound and Arrival Clearance Stripmarking

Activity 1: Inbound and Arrival Clearance Phraseology

Activity 1 Description

In this activity, students practice using proper phraseology for inbound and arrival clearances by completing arrival clearance text with fill-in-the blank selections. Students then properly sequence segments of arrival clearances and coordination after reviewing corresponding flight progress strips.

Activity 1 Content

⊙ Page 1 contains an activity introduction.

⊙ Pages 2 and 3 contain a drop-down activity to practice forwarding arrival information using proper phraseology in the appropriate order.

⊙ Page 4 contains a drop-down activity to practice completing arrival clearances using proper phraseology in the appropriate order.

⊙ Page 5 contains a drag and drop activity to practice sequencing arrival information.

⊙ Page 6 contains a drag and drop activity to practice sequencing arrival clearances.

Continued on next page

APPENDIX A: INSTRUCTOR KEY FOR ELEARNING ACTIVITIES *(Continued)*

Activity 1 Specifics

- ⊙ Drop-down activity
  - On pages 2-4, students have one attempt to select from the drop down menus. Students **must** click **DONE** to receive feedback.
  - Students can listen to the answer by clicking **PLAY AUDIO**.
- ⊙ Drag and drop activity
  - On pages 5-6, students have one attempt to drag and drop the movable icons to the blank spaces. Students **must** click **DONE** to receive feedback.
  - Students will be able to hear the answer by clicking **PLAY AUDIO**.

Activity 2: Inbound and Arrival Clearance Stripmarking

Activity 2 Description

In this activity, students practice stripmarking by listening to arrival information (inbounds) and arrival clearances and then dragging and dropping appropriate symbols to the proper space on a partially marked strip. Students are presented with marked flight progress strips and **must** listen to inbound and arrival clearances. They **must** then determine what is wrong with the presented strip based on the arrival clearance audio.

Activity 2 Content

- ⊙ Page 1 contains an activity introduction.
- ⊙ Pages 2-4 contain drag and drop audio activities to practice marking arrival strips.
- ⊙ Pages 5 and 6 contain drag and drop audio activities and multiple choice questions to practice marking arrival strips.

Continued on next page

APPENDIX A: INSTRUCTOR KEY FOR ELEARNING ACTIVITIES *(Continued)*

Activity 2 Specifics

⊙ Drag and drop activity

- On pages 2-4, students **must** listen to the audio before dragging and dropping the symbols to the appropriate spaces on the flight progress strip.
- When students click **DONE**, they will receive visual feedback where they can compare their answer with the correct strip. They can also replay the audio.

⊙ Multiple choice questions

- On pages 5 and 6, after students listen to the audio and review the flight progress strip, they are given a multiple choice question to answer. Students have one attempt to answer the question before receiving feedback.