Federal Aviation Administration

Initial En Route Qualification Training

Instructor
Lesson 10
Board Management

Course 50148001

LESSON PLAN DATA SHEET

COURSE NAME:	INITIAL EN ROUTE QUALIFICATION TRAINING
COURSE NUMBER:	50148001
LESSON TITLE:	BOARD MANAGEMENT
DURATION:	6+30 HOURS
DATE REVISED:	2022-02
VERSION:	V.2022-02
REFERENCE(S):	FAA ORDER JO 7110.65, AIR TRAFFIC CONTROL
HANDOUT(S):	brdmgmt.f2k - EXERCISE STRIPS AND BLANK STRIPS
EXERCISE(S)/ ACTIVITY(S):	ACTIVITY 1: SORTING AND SEQUENCING FLIGHT STRIPS ACTIVITY 2: DIRECTION ARROWS ACTIVITY 3: DIRECTION ARROWS QUIZ EXERCISE: STRIPMARKING
END-OF-LESSON TEST:	YES *(REFER TO ELT10.PDF)*
PERFORMANCE TEST:	NONE
MATERIALS:	NONE
OTHER PERTINENT INFORMATION:	*HAVE ANOTHER INSTRUCTOR ASSIST WITH THE EXERCISE.* *INSTRUCTOR KEY FOR THE E-LEARNING IS INCLUDED AS AN APPENDIX IN THIS DOCUMENT* *EXERCISE:STRIPMARKING INCLUDES A SCRIPT LOCATED IN APPENDIX B OF 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

Board management involves sequencing strips and scanning and correctly interpreting the traffic situation, which will allow you to begin planning control instructions. Using knowledge and skills from previous lessons, you will begin to recognize operational priorities and procedural preferences necessary to operate a safe and efficient sector.

INTRODUCTION *(Continued)*

Opening Scenario

BOARD MANAGEMENT

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☞ ***NOTE:*** *Emphasize that board management allows the controller to effectively plan control instructions that will resolve potential traffic problems.*

Purpose

Board management includes techniques for sector management. You will learn to scan and sequence strips and to determine flight direction by reading the spaces on the flight progress strips. You will also learn how to plan in conjunction with stripmarking, avoid conflicts, determine priorities, and apply procedures.

INTRODUCTION *(Continued)*

Lesson Objectives

LESSON OBJECTIVES

- On an End-of-Lesson Test and in accordance with FAA Order JO 7110.65, you will identify:
  - Procedures for sequencing, scanning, and removing flight progress strips
  - Procedure for nonreceipt of a position report

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☞ ***NOTE:*** *Teach from graphic.*

BOARD MANAGEMENT

☞ ***NOTE:*** *The following procedures for board management involving the sequence and order of flight progress strips are* ***no*** *longer contained in FAA Order JO 7110.65; however, it is recommended that the students follow these procedures while in the labs.*

Fix Designators

FIX DESIGNATORS

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⊙ Arrange strips under the appropriate fix designator.

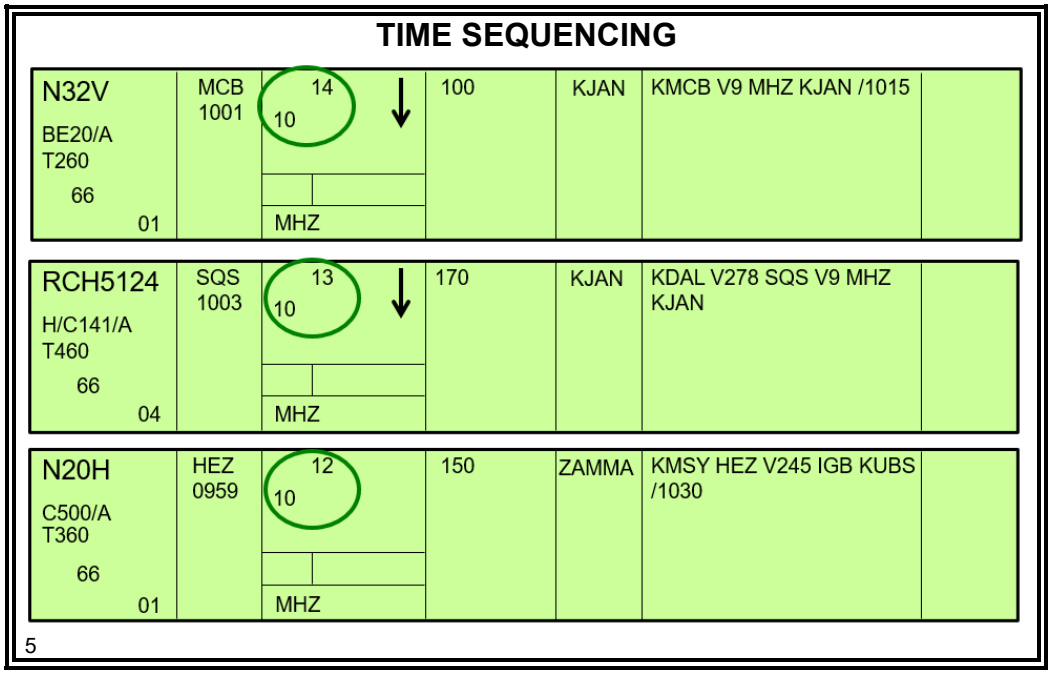
☞ ***NOTE:*** *Demonstrate strip bay setup and organization techniques to students. Discuss the following board management section during your demonstration.*

⊙ Proposal strips are placed in the Suspense Bay (at ZAE, the Suspense Bay is above each bay header).

- For multiple strips on proposals, the first strip is placed below the second strip.
- Strips are sequenced according to P Time in Suspense Bay.

SEQUENCING FLIGHT STRIPS

Time Sequencing



☞ ***NOTE:*** *Click once to highlight the posted times.*

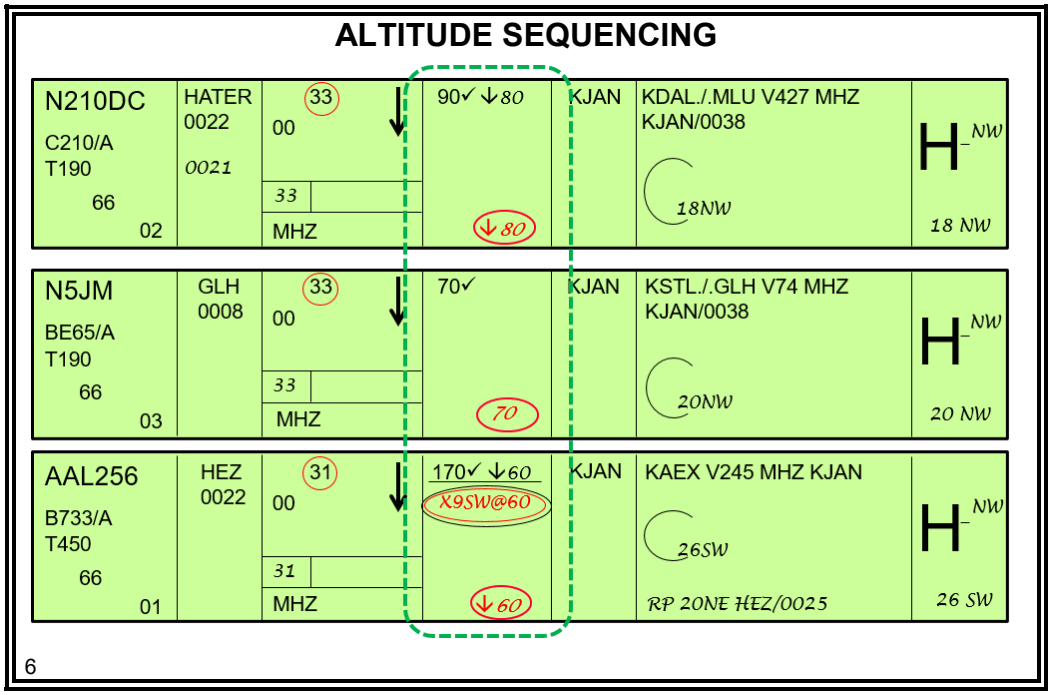
⊙ Post strips in the appropriate low or high altitude sector according to altitude/flight level.

⊙ Sequence strips in:

- Chronological order of arrival over posted fix (time sequencing)
  - Earliest at the bottom
  - If times are the same, sequence strips by altitude with lower altitudes below higher altitudes

SEQUENCING FLIGHT STRIPS *(Continued)*

Altitude Sequencing



☞ ***NOTE:*** *Click once to highlight posted altitudes.*

- Ascending order of altitudes over posted fix (altitude sequencing)
  - Lowest on the bottom
  - Most often used in holding stacks

ACTIVITY 1: SORTING AND SEQUENCING FLIGHT STRIPS

Activity 1

SORTING AND SEQUENCING ACTIVITY

Purpose: to practice sorting and sequencing flight strips

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☞ ***NOTE:*** *Have the students access the IET eLearning menu and select the first activity for Lesson 10.*

Description

In this activity, you will be presented with four sets of flight strips. You will need to arrange each flight strip in the correct bay and in the correct sequence within each bay. Feedback will be given immediately.

Directions

Access the IET eLearning menu. Select **Lesson 10 – Board Management**. Click **Sorting and Sequencing** activity.

Time Allotted

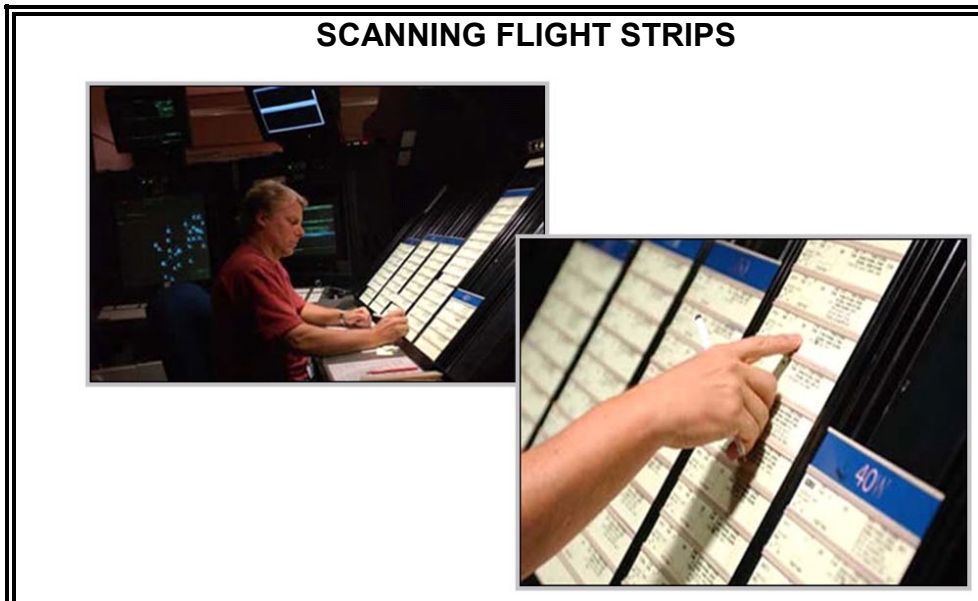
30 minutes

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

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

SCANNING FLIGHT STRIPS

Scanning Flight Strips



- Scan flight progress strips for:
  - Proper sequence
  - Conflicts
  - Inappropriate Altitude For Direction Of Flight (IAFDOF)
  - Arrivals
  - MEA violations
  - Routing errors
  - Coordination functions
  - Type aircraft
    - Number of aircraft, if more than one
    - Category, if aircraft is heavy
  - Non-DME
  - Speed

SCANNING FLIGHT STRIPS *(Continued)*

Less-Than-Minimum Separation Situations
JO 7110.65, par. 2-3-10, fig. 2-3-8

WARNINGS

N1194C C441/A T240 66 01	HEZ 1528	48 15 MHZ	90 W W	ZAMMA	KAEX V245 IGB KBNA/1651	
N143MH PA31/A T170 66 03	GLH 1521	44 15 MHZ	90 W	MIZZE	KPBF V74 MHZ V11 GCV KMOB/1639	

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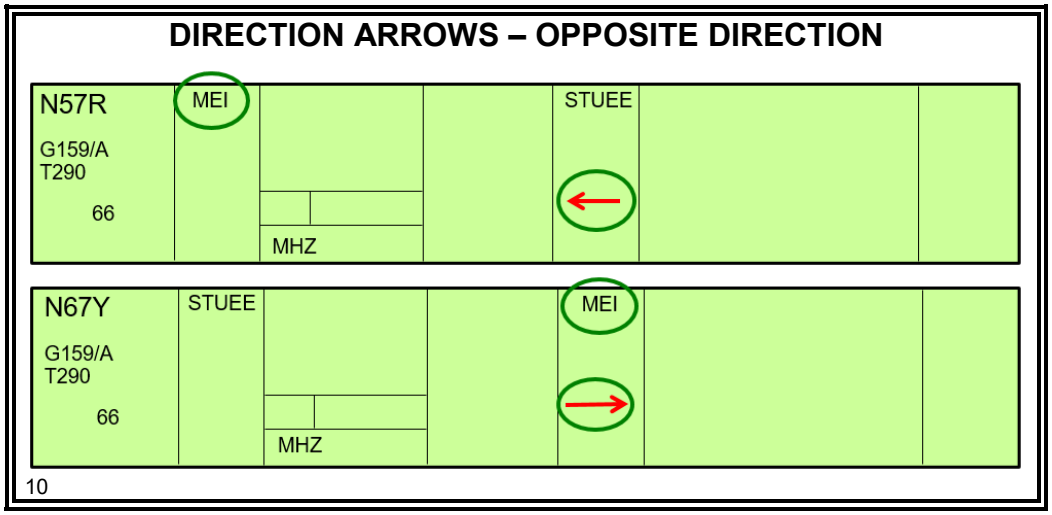
☞ ***NOTE:*** *Click once to display red Ws.*

⊙ Red W (warning) on a strip indicates:

- Less than 10 minutes at the same fix and altitude
- Aircraft conflict
- MEA/MOCA violation
- Warning/Prohibited Area violation

DIRECTION ARROWS

Opposite Direction
JO 7110.65, par. 2-3-2



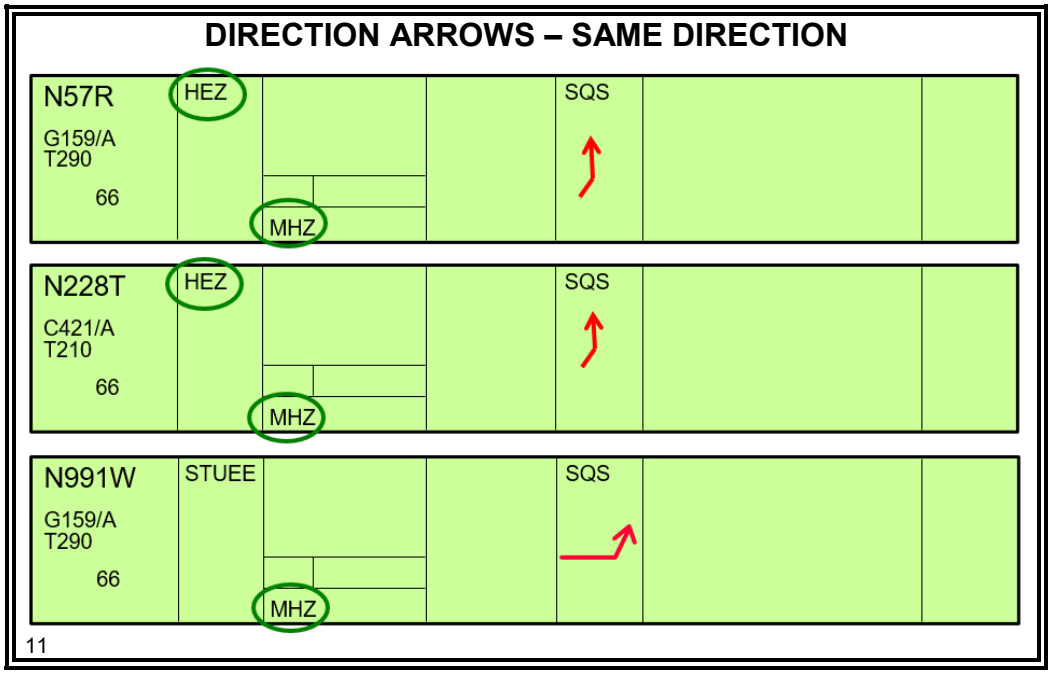
☞ ***NOTE:*** *Click once to highlight the direction arrows. Click again to highlight that the previous fix on the top strip and the next fix on the bottom strip indicate opposite traffic.*

⊙ Use red direction arrows in space 23 to help determine:

- Opposite direction traffic
  - Previous fix (space 11) on one strip will be the same as next fix (space 21) on the other strip
  - Current fix (space 19) will usually be the same for both

DIRECTION ARROWS *(Continued)*

Same Direction
JO 7110.65, par. 2-3-2

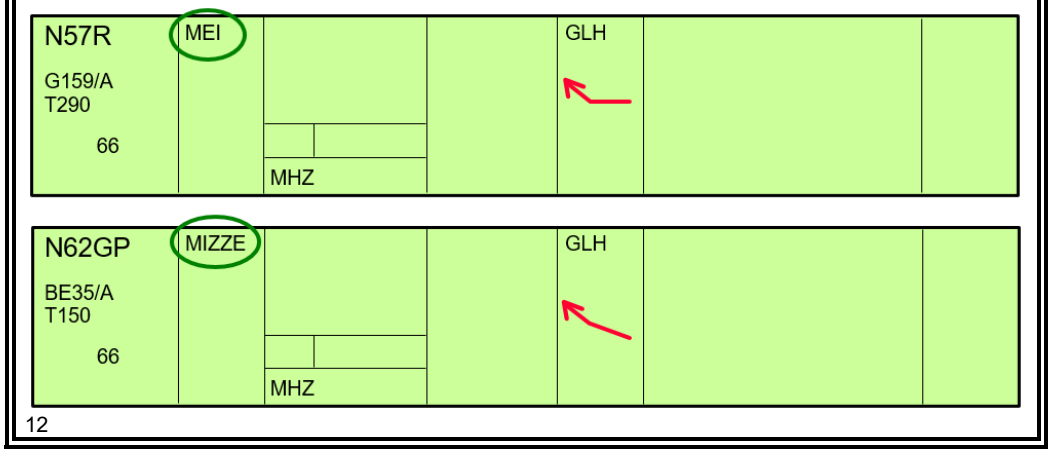


☞ ***NOTE:*** *Click once to highlight previous and next fixes.*

- Same direction traffic
  - Previous fix (space 11) and next fix (space 21) will usually be the same on both strips

DIRECTION ARROWS *(Continued)*

Crossing/ Converging Traffic
JO 7110.65, par. 2-3-2



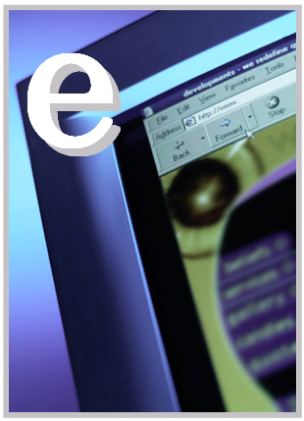
☞ ***NOTE:*** *Click once to highlight previous fixes.*

- Crossing/converging traffic
  - Previous fix (space 11) will be different, and next fix (space 21) may be the same or different

ACTIVITY 2: DIRECTION ARROWS

Activity 2

DIRECTION ARROWS ACTIVITY



Purpose: to practice using direction arrows on flight strips to identify conflictions

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☞ ***NOTE:*** *Have the students access the IET eLearning menu and select the second activity for Lesson 10.*

Description

In this activity, you will be presented with seven sets of flight strips. Each set will mimic a bay in which the flight strips have already been sequenced and sorted. You will also be presented with a set of direction arrows. You will need to drag and drop the correct direction arrow to the correct location on each flight strip.

Directions

Access the IET eLearning menu. Select **Lesson 10 – Board Management**. Click **Direction Arrows** activity.

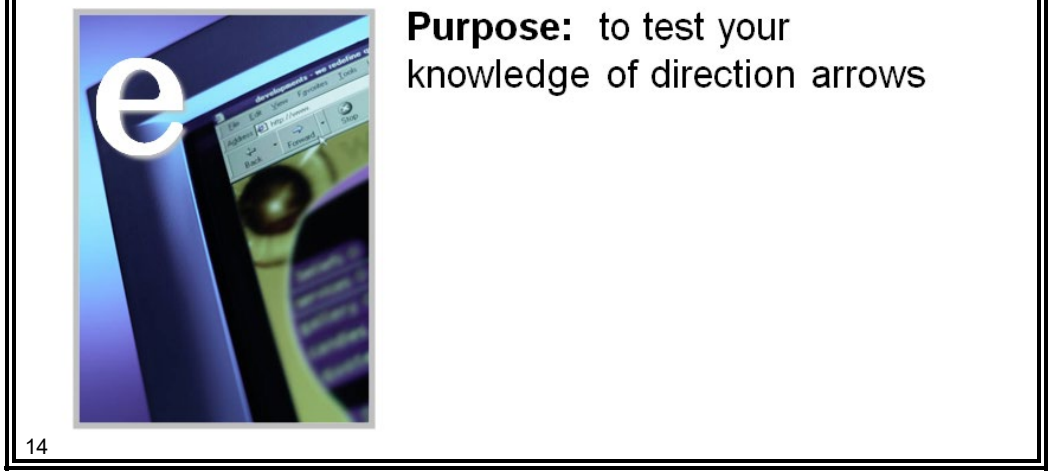
Time Allotted

15 minutes

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

ACTIVITY 3: DIRECTION ARROWS QUIZ

Activity 3



☞ ***NOTE:*** *Have the students access the IET eLearning menu and select the third activity for Lesson 10.*

Description

In this activity, you will apply your map knowledge and test your ability to place the correct direction arrows on flight progress strips. You will be given a total of 10 flight strips, which display one at a time. Along with each flight strip, you are given a table containing various direction arrows. You **must** click the correct direction arrow that applies to the given flight strip.

Directions

Access the IET eLearning menu. Select **Lesson 10 – Board Management**. Click **Direction Arrows Quiz** activity.

Time Allotted

10 minutes

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

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

SECTOR MANAGEMENT

Solutions to Traffic

⊙ Determine different solutions to traffic situations.

- Analyze the situation to determine alternative solutions based on:
  - Pilot's request
  - Other controller's request
  - Operational priorities
  - Operational advantage

NOTE: Solutions to traffic situations are taught in later lessons.

Removing Flight Progress Strips

JO 7110.65, par. 2-3-1

⊙ Remove flight progress strips when they are **no** longer required for control purposes.

Nonreceipt of Position Report

JO 7110.65, par. 6-1-2

⊙ Take action to obtain a position report affecting separation **no** later than 5 minutes after the aircraft is estimated over the fix.

SECTOR MANAGEMENT *(Continued)*

Taking Control of a Sector

⊙ Follow this suggested checklist when preplanning a problem or taking control of a sector:

PRE-PLANNING CHECKLIST	
✓	Stuff and sequence strips.
✓	Check for TUX aircraft.
✓	Check altitude if on frequency.
✓	Mark directions arrows.
✓	Check for IAFDOF.
✓	Mark all conflicts with red Ws.
✓	Resolve conflictions.
✓	Plan all arrival restrictions.
✓	Establish priorities.

EXERCISE: STRIPMARKING

Exercise, Part 1

STRIPMARKING EXERCISE, PART 1

Purpose: to practice marking flight progress strips

Directions: set up bays and bay headers; mark provided strips based on scripts read aloud by instructor

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Directions

☞ ***NOTE:*** *The script for this exercise is located in appendix B.*

This exercise is in three parts. In each part, your instructor will read the script of traffic situations. You will use bay headers for D66 (Magnolia), set up bays, and do the necessary stripmarking on the strips provided. At the end of each part, your instructor will stop and discuss your answers. If necessary, the instructor may stop the clock midway through a part in order to answer questions that may arise.

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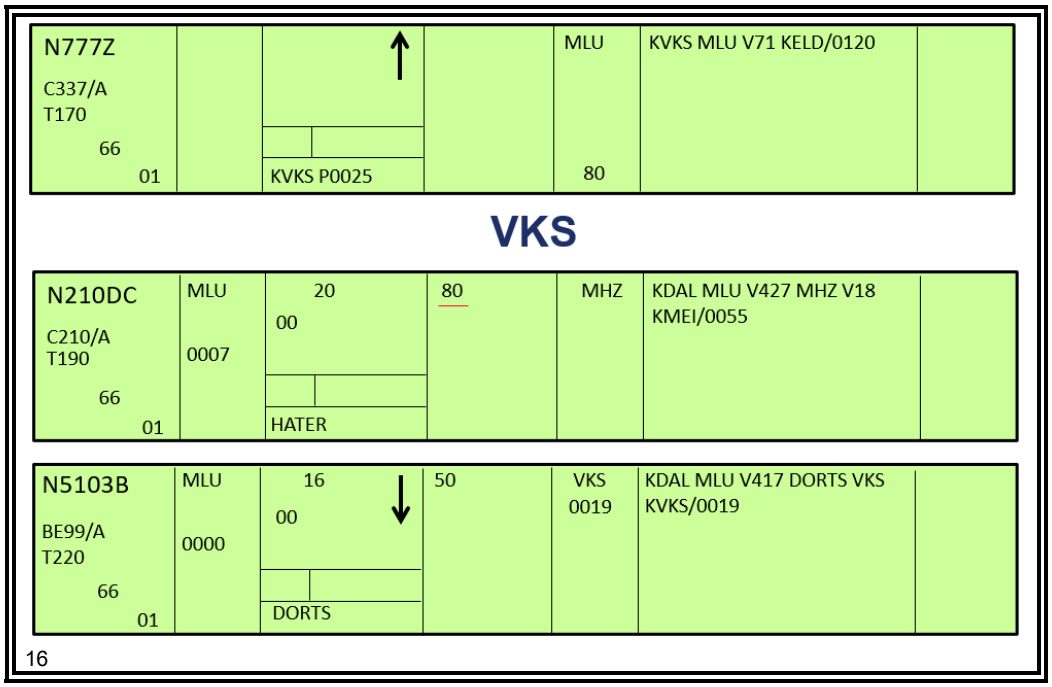
EXERCISE: STRIPMARKING *(Continued)*

Part 1
Strips



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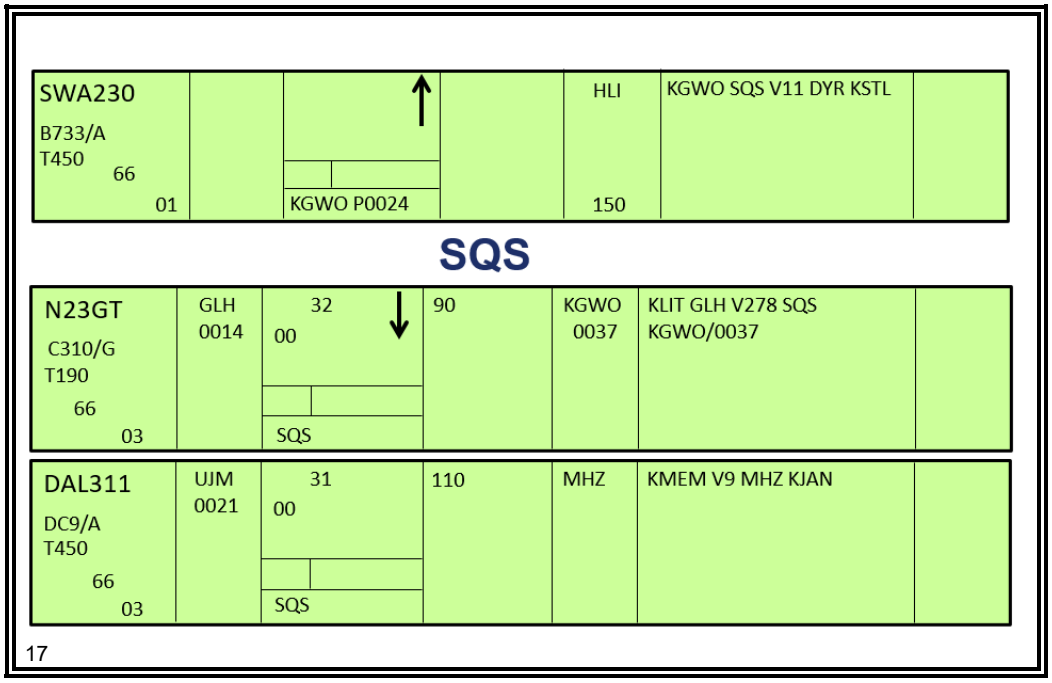
EXERCISE: STRIPMARKING *(Continued)*

Part 1
Strips
(Cont'd)



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EXERCISE: STRIPMARKING *(Continued)*

Exercise, Part 2

STRIPMARKING EXERCISE, PART 2

Purpose: to practice marking flight progress strips

Directions: set up bays and bay headers; mark provided strips based on scripts read aloud by instructor

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Part 2 Strips

N777Z C337/A T170 66 01		↑ KVKS P0025		MLU 80	KVKS MLU V71 KELD/0120	

VKS

N210DC C210/A T190 66 01	MLU 0007	20 00 20 HATER	~~80~~ 90✓	MHZ	KDAL MLU V427 MHZ V18 KMEI/0055	
N5103B BE99/A T220 66 01	MLU 0000	16 00 16 0016 DORTS	50 ✓ 50/31SE MLU	VKS 0019	KDAL MLU V417 DORTS VKS KVKS/0019	APCH 0011

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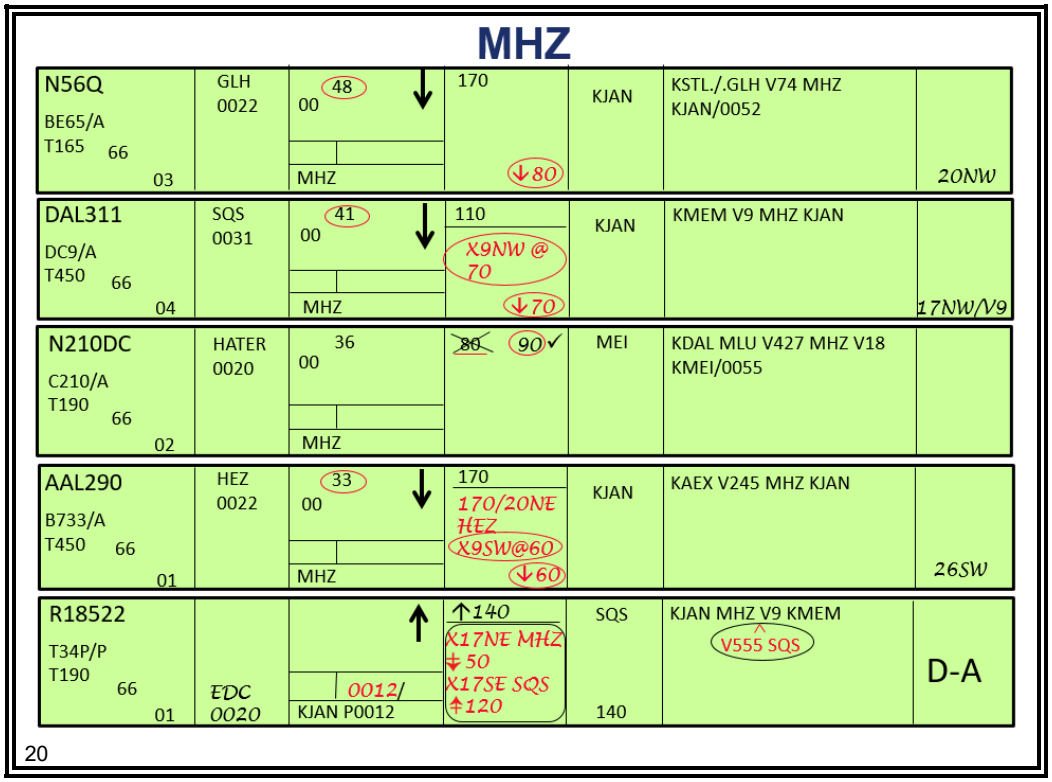
EXERCISE: STRIPMARKING *(Continued)*

Part 2 Strips (Cont'd)



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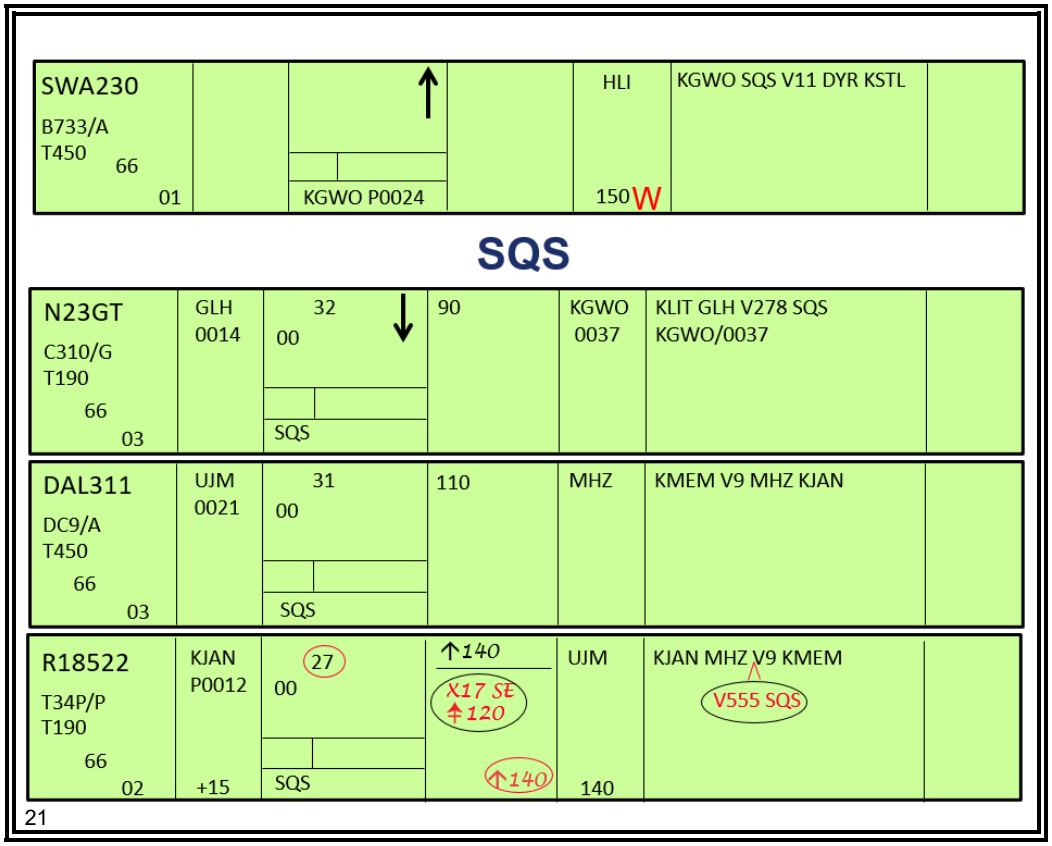
EXERCISE: STRIPMARKING *(Continued)*

Part 2 Strips (Cont'd)



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EXERCISE: STRIPMARKING *(Continued)*

Exercise, Part 3

STRIPMARKING EXERCISE, PART 3

Purpose: to practice marking flight progress strips

Directions: set up bays and bay headers; mark provided strips based on scripts read aloud by instructor

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Part 3 Strips

VKS

N210DC C210/A T190 66 01	MLU 0007	20 00 20 0019 HATER	~~80~~ 90✓	MHZ 0034	KDAL MLU V427 MHZ V18 KMEI/0055	
N5103B BE99/A T220 66 01	MLU 0000	16 00 ℄ 0018 16 0016 DORTS	50✓ 50/31SE MLU	VKS 0019	KDAL MLU V417 DORTS VKS KVKS/0019	APCH 0011
N777Z C337/A T170 66 01	EDC 0027	KVKS P0025		MLU 80	KVKS MLU V71 KELD/0120	

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EXERCISE: STRIPMARKING *(Continued)*

Part 3 Strips (Cont'd)

MHZ

N56Q BE65/A T165 66 03	GLH 0022	48 00 MHZ	170 ↓80	KJAN	KSTL./.GLH V74 MHZ KJAN/0052	20NW
DAL311 DC9/A T450 66 04	SQS 0031	41 00 MHZ	110 X9NW @ 70 ↓70	KJAN	KMEM V9 MHZ KJAN	17NW/V9
N210DC C210/A T190 66 02	HATER 0020	36 00 34 MHZ	~~80~~ 90✓	MEI	KDAL MLU V427 MHZ V18 KMEI/0055	
AAL290 B733/A T450 66 01	HEZ 0022	33 00 33 MHZ	170✓ ↓60 170/20NE HEZ X9SW@60 ↓60	KJAN	KAEX V245 MHZ KJAN 26 SW	H-NW 26SW
R18522 T34P/P T190 66 01	EDC 0020	↑ 0012/0015 KJAN P0012	↑140 X17NE MHZ ↓50 X17SE SQS ↑120	SQS 0030 140	KJAN MHZ V9 KMEM V555 SQS	D-A

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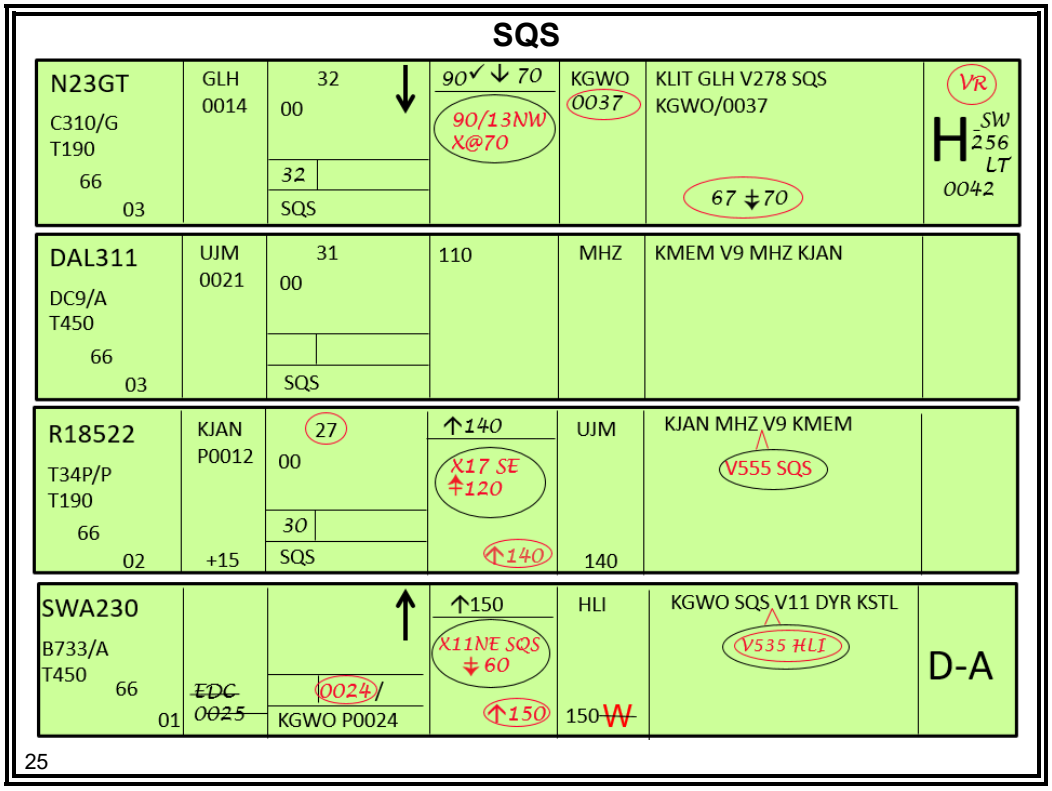
EXERCISE: STRIPMARKING *(Continued)*

Part 3 Strips (Cont'd)



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EXERCISE: STRIPMARKING *(Continued)*

Final Answers

FINAL ANSWERS

Purpose: to practice marking flight progress strips

Directions: set up bays and bay headers; mark provided strips based on scripts read aloud by instructor

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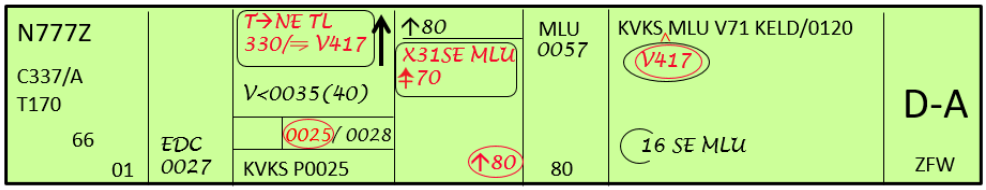
Final Answers Strips

VKS



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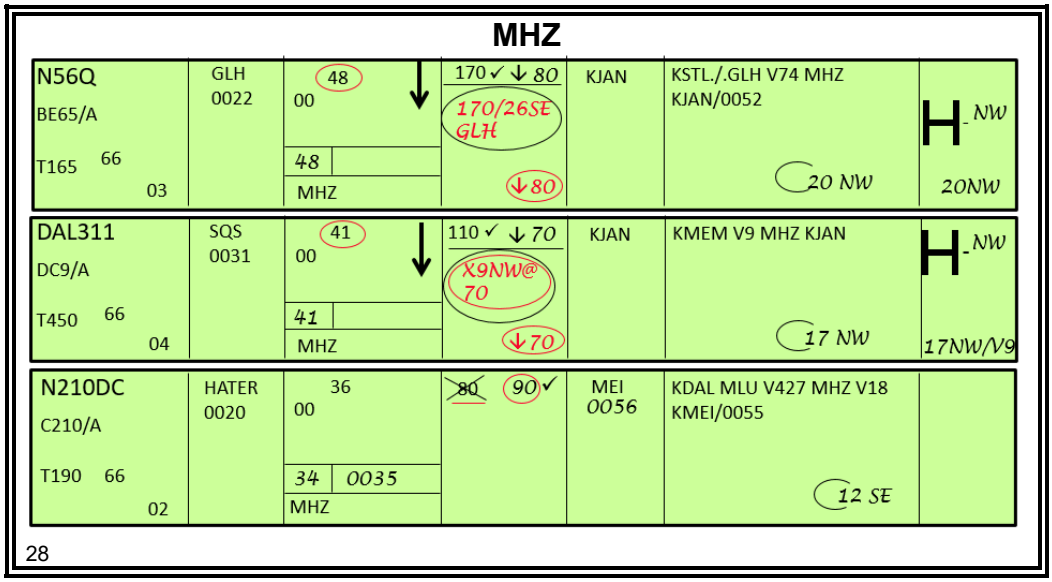
EXERCISE: STRIPMARKING *(Continued)*

Final Answers Strips (Cont'd)



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EXERCISE: STRIPMARKING *(Continued)*

Final Answers Strips (Cont'd)

SQS

N23GT C310/G T190 66 03	GLH 0014	32 00 32 | 0032 SQS	~~90~~ ✓ ↓ ~~70~~ ✓ 90/13NW X@70	KGWO 0037	KLIT GLH V278 SQS KGWO/0037 67 ↓70	VR SW 256 0042 LT VR 0032
DAL311 DC9/A T450 66 03	UJM 0021	31 00 31 | 0031 SQS	110 ✓ ↓ 70 110/24NW X5SE ↑100	MHZ 0041	KMEM V9 MHZ KJAN	
R18522 T34P/P T190 66 02	KJAN P0012 +15	27 00 30 | 0030 SQS	↑140 X17 SE ↑120 ↑140	UJM 0053 140	KJAN MHZ V9 KMEM V555 SQS 24 NW	
SWA230 B733/A T450 66 01	EDC 0025	0024/0024 KGWO P0024	↑150 X11NE SQS ↓ 60 ↑150	HLI 0039 150 ~~W~~	KGWO SQS V11 DYR KSTL V535 HLI 23 NE SQS RP 8NE SQS/0029	D-A

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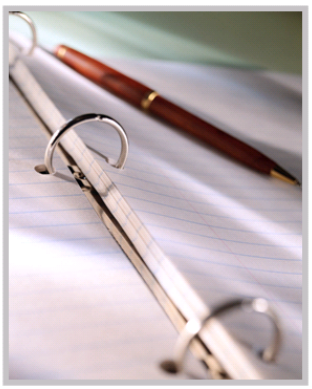
IN CONCLUSION

Lesson Review

LESSON REVIEW

The following topics were covered in this lesson:

- Sequencing of flight strips
- Scanning of flight strips
- Direction arrows
- Sector Management



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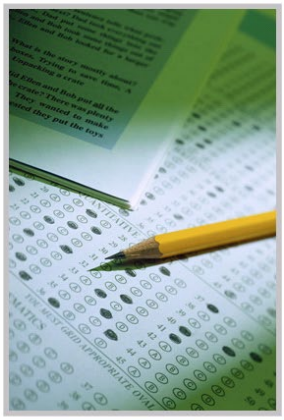
☞ ***NOTE:*** *Teach from graphic. Review and elaborate briefly on the topics covered in this lesson.*

End-of-Lesson Test

END-OF-LESSON TEST

Board Management



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☞ ***NOTE:*** *Stripmarking exercise begins on the next page.*

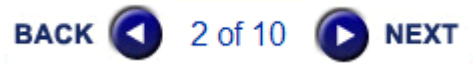
APPENDIX A: INSTRUCTOR KEY FOR ELEARNING ACTIVITIES

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.

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

Lesson Title	Lesson 10 Board Management
eLearning Objectives	The objectives of the following eLearning activities are to reinforce: sorting of progress strips into their appropriate bays; sequencing of progress strips in the correct order within the bays based on time and altitude; positioning of red direction arrows on flight progress strips; and applying map knowledge in order to draw direction arrows according to the route of flight outlined on the flight strip
eLearning Activities	⊙ Lesson 10 contains the following eLearning activities: • Activity 1: Sorting and Sequencing Strips • Activity 2: Direction Arrows Practice • Activity 3: Direction Arrows Quiz

Activity 1: Sorting and Sequencing Strips

Activity 1 Description	In this activity, students are presented with four sets of strips. Students **must** arrange each strip in the correct bay and in the correct sequence within each bay.
Activity 1 Content	⊙ Page 1 contains an activity introduction. ⊙ Pages 2-5 contain drag and drop activities to practice sorting and sequencing flight progress strips by placing strips into the appropriate position within a bay.

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

Activity 1 Specifics

- Drag and drop activity
  - On pages 2-5, students have two attempts to drag and drop the given flight progress strip to the correct location within the appropriate bay.
  - Students can click  to learn more information about the activity.
  - At the end of each set, students should click **RESULTS** to see how many strips were placed correctly on first and on second attempt.
  - In Set 4, students **must** place all strips correctly on first attempt. If they do **not**, then they **must** click **START OVER** and the activity will reset.

Activity 2: Direction Arrows

Activity 2 Description

In this activity, students are presented with seven sets of flight strips. Each set mimics a bay in which the flight strips have already been sequenced and sorted. The student is also presented with a set of direction arrows. Students **must** drag and drop the correct direction arrow to the correct location on each flight strip.

Activity 2 Content

- Page 1 contains an activity introduction.
- Pages 2-7 contain drag and drop activities to practice placing direction arrows on flight progress strips.

Activity 2 Specifics

- Drag and drop activity
  - On pages 2-7, students **must** place the arrow in the fifth column of the flight progress strip or it will snap back to its original position.
  - Students can click  to learn more information about the activity.

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

Activity 3: Direction Arrows Quiz

Activity 3 Description

In this activity, students apply their map knowledge and test their ability to place the correct direction arrows on flight progress strips. They are given a total of 10 flight strips, which display one at a time. Along with each flight strip, students are given a table containing various direction arrows. Students **must** click the correct direction arrow that applies to the given flight strip.

Activity 3 Content

- Page 1 contains an activity introduction.
- Pages 2 and 3 contain a hot spot quiz in which students click the appropriate arrow for the flight progress strip.

Activity 3 Specifics

- Hot spot quizzes
  - Students have 5 minutes to complete each quiz (Rounds 1 and 2).
  - Students have one attempt to answer the question before they are given feedback (either incorrect or correct).
  - At the end of each quiz, they should click **REVIEW ANSWERS** to see their answers and the correct answers.

APPENDIX B: EXERCISE: STRIPMARKING

Directions

☞ ***NOTE:*** *Have another instructor assist with reading the script.*

Exercise, Part 1

This exercise is in three parts. In each part, your instructor will read the script of traffic situations. You will use bay headers for D66 (Magnolia), set up bays, and do the necessary stripmarking on the strips provided. At the end of each part, your instructor will stop and discuss your answers. If necessary, the instructor may stop the clock midway through a part in order to answer questions that may arise.

☞ ***NOTE:*** *When the exercise starts, the clock time should be 0005 and the altitude of N210DC (80) should be underlined in red (IAFDOF). CBM 3 MOA is in use.*

☞ ***NOTE:*** *After each part, display the answers and discuss with class (IE… THE SLIDES TO START PART 2 ARE THE ANSWERS TO PART 1; THE SLIDES TO START PART 3 ARE THE ANSWERS TO PART 2; FINAL ANSWERS ARE THE ANSWERS TO PART 3).*

☞ ***NOTE:*** *Pass out strips titled **brdmgmt**. Have students use these strips for the exercise. Reasons for the traffic restrictions issued are taught in later separation lessons and discussion of them now is inappropriate. Discussion of boundary crossing restrictions is appropriate. You may give each student an extra set of blank strips to ensure the correct answer was recorded on the strip after the answer was reviewed.*

Continued on next page

APPENDIX B: EXERCISE: STRIPMARKING *(Continued)*

Part 1 Script

N5103B:	*"Aero Center, November Five One Zero Three Bravo, estimated DORTS at zero zero one six, level five thousand, landing Vicksburg, and we have Vicksburg weather."*
ZAE66:	*"November Five One Zero Three Bravo, Aero Center, the Vicksburg altimeter three zero one four. Maintain five thousand until three one miles southeast of Monroe VORTAC, cleared approach Vicksburg Airport."*
N5103B:	*"November Five One Zero Three Bravo, Roger."*
ZAE66:	*"Jackson Approach, Jackson Low, three inbounds."*
MHZ:	*"Jackson Approach."*
ZAE66:	*"American Two Ninety, Boeing Seven Thirty-Seven slant Alfa, estimating Magnolia VORTAC zero zero three three, descending to six thousand with a restriction to cross niner miles southwest Magnolia VORTAC at and maintain six thousand. Your control two six miles southwest Magnolia VORTAC, next."*
MHZ:	*"Go ahead."*
ZAE66:	*"Delta Three Eleven, D-C Niner slant Alfa, estimated Magnolia VORTAC zero zero four one, descending to seven thousand with a restriction to cross niner miles northwest Magnolia VORTAC at and maintain seven thousand. Your control one seven miles northwest Magnolia VORTAC on Victor Niner, next."*
MHZ:	*"Go ahead."*
ZAE66:	*"November Five Six Quebec, Beech Sixty-Five slant Alfa, estimated Magnolia VORTAC zero zero four eight, descending to eight thousand. Your control two zero miles northwest Magnolia VORTAC."*
MHZ:	*"While I have you, request clearance Army One Eight Five Two Two to Memphis Airport."*
ZAE66:	*"Army One Eight Five Two Two expect departure clearance at zero zero two zero."*
MHZ:	*"R.K."*
ZAE66:	*"B.P."*
ZAE66:	*"D Fifteen, D Sixty-Six APREQ."*
D15:	*"D Fifteen."*
ZAE66:	*"In suspense, Army One Eight Five Two Two, estimated Sidon VORTAC zero zero two seven, climbing to one four thousand."*
D15:	*"Army One Eight Five Two Two, approved as requested, E.P."*
ZAE66:	*"B.P."*
ZAE66:	*"Jackson Approach, Jackson Low, clearance."*
MHZ:	*"Jackson Approach."*

Continued on next page

APPENDIX B: EXERCISE: STRIPMARKING *(Continued)*

Part 1 Script (Cont'd)

ZAE66: *"Army One Eight Five Two Two, cleared to Memphis Airport via revised routing Victor Five Fifty-Five Sidon, then as filed, cross one seven miles northeast Magnolia VORTAC at or below Five thousand, cross one seven miles southeast Sidon VORTAC at or above one two thousand, climb and maintain one four thousand."*

MHZ: *"R.K."*

ZAE66: *"B.P."*

MLULO: *"Jackson Low, Monroe Low, information."*

ZAE66: *"Jackson Low."*

MLULO: *"At HATER, November Two One Zero Delta Charlie, revised altitude, niner thousand."*

ZAE66: *"B.P."*

MLULO: *"J.K."*

ZAE66: *"D Sixty-Five, D Sixty-Six, information."*

D65: *"D Sixty-Five."*

ZAE66: *"At Meridian, November Two One Zero Delta Charlie, revised altitude, niner thousand."*

D65: *"D.M."*

ZAE66: *"B.P."*

N210DC: *"Aero Center, Centurion Two One Zero Delta Charlie, estimating HATER intersection zero zero two zero, niner thousand, Magnolia next."*

ZAE66: *"Centurion Two One Zero Delta Charlie, Aero Center, the Vicksburg altimeter three zero one four."*

N5103B: *"Aero Center, November Five One Zero Three Bravo, progressing DORTS at zero zero one six, leaving five thousand on approach."*

ZAE66: *"November Five One Zero Three Bravo, report cancellation of IFR this frequency or with Aero Center Flight Data, change to advisory frequency approved."*

☞ ***NOTE:*** *Stop the clock. Check each bay of traffic to ensure correct stripmarking and sequencing.*

☞ ***NOTE:*** *Reference R18522, point out to students that preplanned information written in red and circled in black has the same meaning as information written in black (either way is correct).*

Continued on next page

PART 2 BEGINS HERE

Part 2 Script

AAL290: *"Aero Center, American Two Ninety, estimating Magnolia VORTAC zero zero three three, one seven thousand, landing Magnolia."*

ZAE66: *"American Two Ninety, Aero Center, the Magnolia altimeter three zero zero six, cleared to Magnolia VORTAC, maintain one seven thousand until two zero miles northeast Natchez VOR-DME, cross niner miles southwest Magnolia VORTAC at and maintain six thousand, hold northwest as published,* ***no*** *delay expected. Contact Jackson Approach one one niner point two, two six miles southwest Magnolia VORTAC."*

AAL290: *"American Two Ninety, Roger."*

R18522: *"Aero Center, Army One Eight Five Two Two, departed Magnolia Airport zero zero one five, climbing to one four thousand with restrictions, estimating Sidon VORTAC zero zero three zero, Marvell next."*

ZAE66: *"Army One Eight Five Two Two, Aero Center, the Greenwood altimeter three zero zero two."*

GWO: *"Jackson Low, Greenwood Tower."*

ZAE66: *"Jackson Low."*

GWO: *"Request clearance Southwest Two Thirty to St Louis Airport."*

ZAE66: *"Southwest Two Thirty, expect departure clearance zero zero two five. I have one inbound."*

GWO: *"Go ahead."*

ZAE66: *"November Two Three Golf Tango, Cessna Three Ten, estimating Greenwood Airport zero zero three seven for VOR approach. BP"*

GWO: *"P.D."*

ZAE66: *"D Sixty-Seven, D Sixty-Six, APREQ."*

D67: *"D Sixty-Seven."*

ZAE66: *"Block seven thousand and below for holding and approach at Sidon."*

D67: *"Approved as requested, E.P."*

ZAE66: *"B.P."*

Continued on next page

Part 2 Script (Cont'd)

N23GT: *"Aero Center, Twin Cessna Two Three Golf Tango, estimating Sidon VORTAC zero zero three two, niner thousand landing Greenwood with information Foxtrot."*

ZAE66: *"Twin Cessna Two Three Golf Tango, Aero Center, the Greenwood altimeter three zero zero two, cleared to Sidon VORTAC, maintain niner thousand until one three miles northwest Sidon VORTAC, cross Sidon VORTAC at and maintain seven thousand, hold southwest on the two five six radial, left turns, expect further clearance zero zero four two."*

N23GT: *"Twin Cessna Two Three Golf Tango, Wilco."*

ZAE66: *"D Twelve, D Sixty-Six APREQ."*

D12: *"D Twelve."*

ZAE66: *"In suspense, Southwest Two Thirty, assumed Greenwood departure zero zero two four, climbing to one five thousand via revised routing Victor Five Thirty-Five Holly Springs, then as filed."*

D12: *"Southwest Two Thirty, approved as requested, Z.M."*

ZAE66 *"B.P."*

N210DC: *"Aero Center, Centurion Two One Zero Delta Charlie, progressed HATER zero zero one niner, niner thousand, estimating Magnolia VORTAC zero zero three four, Meridian next."*

ZAE66: *"November Zero Delta Charlie, Roger."*

FDU: *"D66, Flight Data, information."*

ZAE66: *"D66."*

FDU: *"November Five One Zero Three Bravo cancelled IFR at zero zero one eight and request clearance November Seven Seven Seven Zulu from Vicksburg Airport to Eldorado Airport."*

ZAE66: *"November Seven Seven Seven Zulu expect departure clearance zero zero two seven. BP"*

FDU: *"L.B."*

ZAE66: *"Greenwood Tower, Jackson Low, clearance."*

GWO: *"Greenwood Tower."*

ZAE66: *"Southwest Two Thirty cleared to St. Louis Airport via direct Sidon VORTAC, Victor Five Thirty-Five Holly Springs, then as filed, cross one one miles northeast of Sidon VORTAC at or below six thousand, climb and maintain one five thousand."*

GWO: *"P.D."*

ZAE66: *"B.P."*

☞ ***NOTE:*** *Stop the clock to check stripmarking, then continue.*

☞ ***NOTE:*** *The flight strip for N5103B would be removed from the bay.*

Continued on next page

PART 3 BEGINS HERE

Part 3 Script

ZAE66:	*"Monroe Low, Jackson Low APREQ."*
MLULO:	*"Monroe Low."*
ZAE66:	*"In suspense, November Seven Seven Seven Zulu, assumed Vicksburg departure zero zero two five, climbing to eight thousand via revised routing Victor Four Seventeen Monroe, then as filed."*
MLULO:	*"November Seven Seven Seven Zulu, approved as requested, J.K."*
ZAE66:	*"B.P."*
SWA230:	*"Aero Center, Southwest Two Thirty, departed Greenwood Airport zero zero two four, climbing to one five thousand with restrictions, estimating Holly Springs VORTAC zero zero three niner."*
ZAE66:	*"Southwest Two Thirty, Aero Center, the Greenwood altimeter three zero zero two, report passing eight miles northeast of Sidon VORTAC, established on Victor Five Thirty-Five."*
SWA230:	*"Southwest Two Thirty, Roger."*
ZAE66:	*"Flight Data, D66, clearance."*
FDU:	*"Flight Data."*
ZAE66:	*"Will the pilot of November Seven Seven Seven Zulu accept a northeast departure with turns?"*
FDU:	*"Affirmative."*
ZAE66:	*"November Seven Seven Seven Zulu, cleared from Vicksburg Airport to the Eldorado Airport via depart northeast, turn left, fly heading three three zero until joining Victor Four Seventeen, Victor Four Seventeen Monroe, then as filed, cross three one miles southeast of Monroe VORTAC established on Victor Four Seventeen, at or above seven thousand, climb and maintain eight thousand. Clearance void if **not** off by zero zero three five. If **not** off by zero zero three five, advise Aero Center **not** later than zero zero four zero of intentions. Verify this clearance will allow compliance with local traffic pattern and terrain or obstruction avoidance. Advise (ACID) Released for Departure Contact AERO Center One Two Five Point Zero."*
FDU:	*"L.B."*
ZAE66:	*"B.P."*

Continued on next page

Part 3 Script (Cont'd)

DAL311: *"Aero Center, Delta Three Eleven, estimating Sidon VORTAC zero zero three one, one one thousand, Magnolia next."*

ZAE66: *"Delta Three Eleven, Aero Center, the Greenwood altimeter two niner niner seven, cleared to Magnolia VORTAC, maintain one one thousand until two four miles northwest Sidon VORTAC, cross five miles southeast Sidon VORTAC at or above one zero thousand, cross niner miles northwest Magnolia VORTAC at and maintain seven thousand, hold northwest as published, **no** delay expected."*

DAL311: *"Delta Three Eleven, Roger."*

SWA230: *"Aero Center, Southwest Two Thirty is eight miles northeast Sidon VORTAC at zero zero two niner."*

ZAE66: *"Southwest Two Thirty, Roger, contact Aero Center one two eight point zero, two three miles northeast of the Sidon VORTAC."*

SWA230: *"Southwest Two Thirty, Roger."*

N56Q: *"Aero Center, Queen Air Five Six Quebec estimating Magnolia VORTAC at zero zero four eight, one seven thousand."*

ZAE66: *"Queen Air Five Six Quebec, Aero Center, the Magnolia altimeter three zero zero six, cleared to Magnolia VORTAC, maintain one seven thousand until two six miles southeast Greenville VOR-DME, descend and maintain eight thousand, hold northwest as published, **no** delay expected. Contact Jackson Approach one one niner point two, two zero miles northwest Magnolia VORTAC."*

N56Q: *"Queen Air Five Six Quebec, Roger."*

R18522: *"Aero Center, Army One Eight Five Two Two, progressed Sidon VORTAC at zero zero three zero, climbing to one four thousand with restrictions, estimating Marvel VOR/DME zero zero five three."*

ZAE66: *"Army One Eight Five Two Two, contact Aero Center one two seven point zero or three two seven point zero, two four miles northwest Sidon VORTAC."*

R18522: *"Army One Eight Five Two Two, Roger."*

DAL311: *"Aero Center, Delta Three Eleven, progressed Sidon VORTAC zero zero three one, descending to seven thousand with restrictions, estimating Magnolia VORTAC zero zero four one."*

ZAE66: *"Delta Three Eleven, contact Jackson Approach one one niner point two, one seven miles northwest Magnolia VORTAC."*

DAL311: *"Delta Three Eleven, Roger."*

Continued on next page

APPENDIX B: EXERCISE: STRIPMARKING *(Continued)*

Part 3 Script (Cont'd)

N23GT: *"Aero Center, Twin Cessna Two Three Golf Tango entered hold at Sidon zero zero three two at seven thousand."*

ZAE66: *"November Two Three Golf Tango, cleared VOR runway five approach circle to Runway Two Three, contact Greenwood Tower one two zero point two."*

N23GT: *"Twin Cessna Two Three Golf Tango, Wilco."*

N777Z: *"Aero Center, Skymaster Seven Seven Seven Zulu, departed Vicksburg Airport zero zero two eight, climbing to eight thousand with restrictions, estimating Monroe VORTAC zero zero five seven, Eldorado next."*

ZAE66: *"Skymaster Seven Seven Seven Zulu, Aero Center, the Vicksburg altimeter three zero zero niner, contact Fort Worth Center one three five point one, one six miles southeast Monroe VORTAC."*

N777Z: *"Skymaster Seven Seven Zulu, Roger."*

MHZ: *"Jackson Low, Jackson Approach, information."*

ZAE66: *"Jackson Low."*

MHZ: *"American Two Ninety, tower jurisdiction."*

ZAE66: *"B.P."*

MHZ: *"R.K."*

N210DC: *"Aero Center, Centurion Two One Zero Delta Charlie, progressed Magnolia VORTAC zero zero three five, niner thousand, estimating Meridian VORTAC zero zero five six."*

ZAE66: *"November Two One Zero Delta Charlie, contact Aero Center one two niner point zero, one two miles southeast Magnolia VORTAC."*

N210DC: *"Centurion Zero Delta Charlie, Wilco."*

☞ ***NOTE:*** *Stop the clock. Check for correct stripmarking in all traffic bays.*

☞ ***NOTE:*** *Final answers are on Power point slides 28-30.*