Initial En Route Qualification Training

Instructor
Lesson 06
Recording Clearances and Control Information

Course 50148001

LESSON PLAN DATA SHEET

COURSE NAME: INITIAL EN ROUTE QUALIFICATION TRAINING
COURSE NUMBER: 50148001

LESSON TITLE: RECORDING CLEARANCES AND CONTROL INFORMATION

DURATION: 6+00 HOURS

DATE REVISED: 2022-02
VERSION: V.2022-02

REFERENCE(S): FAA ORDERS JO 7110.65, AIR TRAFFIC CONTROL, AND JO 7340.2, CONTRACTIONS

HANDOUT(S): stripmrk.f2k – STRIPMARKING EXERCISE STRIPS

EXERCISE(S)/ ACTIVITY(S): ACTIVITY 1: IDENTIFYING ABBREVIATIONS
ACTIVITY 2: IDENTIFYING CONTROL INFORMATION SYMBOLS
EXERCISE 1: RECORDING CLEARANCES AND CONTROL INFORMATION
EXERCISE 2: STRIPMARKING

END-OF-LESSON TEST: YES (*REFER TO ELT06.PDF*)

PERFORMANCE TEST: NONE

MATERIALS: NONE

OTHER PERTINENT INFORMATION: *INSTRUCTOR KEY FOR THE ELEARNINGS 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

Correctly issuing and recording clearances and control information is essential to the safe and expeditious flow of traffic in a nonradar environment. Failure to properly record clearance information in a timely manner can lead to subsequent clearances which can result in a loss of separation or an aircraft accident. In this lesson, you will build on your knowledge of flight progress strips by learning control symbology and recording information in the correct spaces.

INTRODUCTION *(Continued)*

Opening Scenario

RECORDING CLEARANCES AND CONTROL INFORMATION
CORRECT STRIPMARKING

N991L	GLH 1840	55 ~~58~~ 18	110✓ ↑ ⟨130⟩	MEI	KGLH V74 MHZ V18 KMEI/1915	6621
BE9L/A T210 G210						
66		MHZ				
117 02						

INCORRECT STRIPMARKING

N991L	GLH 1840	~~18~~ ⟨₩₩⟩ 55	110✓ ⟨130⟩	MEI	KGLH V74 MHZ V18 KMEI/1915	6621
BE9L/A T210 G210						
66		MHZ				
117 02						

2

☞ **NOTE:** *Teach from graphic.*

Purpose — The material in this lesson will demonstrate correct stripmarking, which will help you maintain the current status of each aircraft in your sector.

INTRODUCTION *(Continued)*

Lesson Objectives

<table>
<tr><td colspan="1">LESSON OBJECTIVES</td></tr>
</table>

LESSON OBJECTIVES

• On an End-of-Lesson Test, and in accordance with FAA Order JO 7110.65 and JO 7340.2, you will identify:
 	
   – Select stripmarking symbology
   – Select stripmarking abbreviations
   – Procedures for recording clearance and control information on flight strips
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☞ ***NOTE:*** *Teach from graphic.*

CONTROL SYMBOLOGY

General Information
JO 7110.65,
pars. 2-3-9, 2-3-10

⊙ Use authorized symbols or abbreviations for recording:

- Clearances
- Reports
- Instructions

⊙ You may use:

- Plain language markings when necessary for clarification
- Locally approved identifiers/abbreviations within your facility

⊙ Use appropriate clearance symbol followed by a dash (-) and other information to show status of aircraft.

NOTE: The upcoming sections give more detailed information about the various abbreviations and symbols for use when marking strips.

CLEARANCE AND MISCELLANEOUS ABBREVIATIONS

Clearance Abbreviations
JO 7110.65, par. 2-3-10, table 2-3-11

⊙ Clearance abbreviations include:

- D – Cleared to Depart from Fix
- A – Cleared to Destination Airport
- F – Cleared to Fix
- H – Cleared to Hold and Instructions Issued
- V – Cleared Over Fix
- Z – Tower Jurisdiction
- PD – Cleared to Climb/Descend at Pilot's Discretion

Cleared to Depart from Fix
JO 7110.65, par. 2-3-10

D CLEARED TO DEPART FROM FIX					
N234		↑		HEZ	KJAN MHZ V245 KHEZ/0030
C310/A T180					Ⓓ-A
66		1555/			
01		KJAN P1600		80	ZHU
4					

⊙ Used in space 28 on originating IFR clearance strip **only**

- Departing from airport
- Airfile

Dash From – To
JO 7110.65, par. 2-3-10

- (DASH) FROM – TO (ROUTE, TIME, ETC.)					
N975		T →NE TL 330/⇾V417	↑80	MLU	KVKS MLU V7 KELD/0037 V417
C310/A T180		↑			D⊖A
66		1555/			
01		KVKS P1600		80	ZFW
5					

⊙ Follows "D" in space 28

CLEARANCE AND MISCELLANEOUS ABBREVIATIONS
(Continued)

Cleared to Destination Airport
JO 7110.65, par. 2-3-10

A CLEARED TO DESTINATION AIRPORT						
N975 C310/A T180 66 01		T →NE TL 330/⇛V417 1555/ KVKS P1600	↑80	MLU 80	KVKS MLU V7 KELD/0037 ∧ V417	D-Ⓐ ZFW
6						

⊙ Follows "- (Dash)" in space 28

Cleared to Fix
JO 7110.65, par. 2-3-10

F CLEARED TO FIX						
TO POSTED FIX						
UAL903 DC91/A T450 66 03	GLH 0022	26 00 26 SQS	110✓	IGB	KLIT GLH V278 IGB KGTR	Ⓕ
TO OTHER THAN POSTED FIX						
N21DC C210/A T190 66 01	MLU 0005	20 00 20 HATER	80✓	MHZ 0048	KDAL MLU V427 MHZ V18 KMEI/0110	F-MHZ
7						

⊙ Used in space 28

⊙ "F – (fix)" is used when clearance limit is other than the posted fix.

⊙ Fix need **not** be recorded if:

- The aircraft is cleared to the posted fix
- Holding instructions have been issued and recorded

CLEARANCE AND MISCELLANEOUS ABBREVIATIONS
(Continued)

Cleared to Hold and Instructions Issued
JO 7110.65, par. 2-3-10, 4-6-1, 4-6-4

✈

Phraseology Example

H   CLEARED TO HOLD AND INSTRUCTIONS ISSUED

(FIX)
(LEG)

UAL36	GLH	41	100✓	IGB	KDAL GLH V278 IGB KGTR
	1636	16			
B721/A T420					20 / 10 |H| NE 086 1650
66		41			
02		SQS			

"UNITED THIRTY-SIX CLEARED TO SIDON ZERO EIGHT SIX RADIAL TWO ZERO MILE FIX. HOLD NORTHEAST ON THE ZERO EIGHT SIX RADIAL ONE ZERO MILE LEG. EXPECT FURTHER CLEARANCE ONE SIX FIVE ZERO."

8

☞ **NOTE:** *Show detailed holding information following dash (-) when holding differs from established pattern.*

⊙ Used in space 28

⊙ Holding instructions **must** include:

- Direction from fix

- Holding fix, if **not** posted fix

  – Upper portion of "H" indicates distance from the station to the fix

- Radial, course, azimuth, or route on which aircraft will hold

- Leg length, if other than standard

  – Indicated in lower portion of H and shown in:

    → Minutes, or

    → Miles if DME is used

- Direction of turns

⊙ Additional information, such as holding airspeed or Expect Further Clearance (EFC) time, is sometimes included in holding instructions.

CLEARANCE AND MISCELLANEOUS ABBREVIATIONS
(Continued)

Cleared to Hold and Instructions Issued (Cont'd)
JO 7110.65, par. 2-3-10 4-6-1, 4-6-4

✈

Phraseology Example

H   CLEARED TO HOLD AND INSTRUCTIONS ISSUED (CONT'D)

N36LJ	GLH	40	↓	110✓	KGWO	KGLH V278 SQS
		16			1647	KGWO/1645
LJ25/A	1635					
T420						
66		39				Ⓗ SW −256 LT
02		SQS				

"LEAR THREE SIX LIMA JULIETT, CLEARED TO SIDON VORTAC. HOLD SOUTHWEST ON THE TWO FIVE SIX RADIAL, LEFT TURNS. NO DELAY EXPECTED."

9

☞ **NOTE:** *Point out to students that this second example is less complex because holding is at a NAVAID.*

CLEARANCE AND MISCELLANEOUS ABBREVIATIONS
(Continued)

Cleared Over Fix
JO 7110.65, par. 2-3-10

Phraseology Example

	V	CLEARED OVER FIX			

Cancels previously issued clearance limit and holding instructions.

UAL36	GLH	41	170✓	IGB	KDAL GLH V278 IGB KGTR
	1636	16			
B721/A					
T420					
66		41			
02		SQS			

"UNITED THIRTY-SIX, CLEARED TO GOLDEN TRIANGLE AIRPORT VIA VICTOR TWO SEVENTY-EIGHT BIGBEE DIRECT."

OR

"UNITED THIRTY-SIX, CLEARED TO GOLDEN TRIANGLE AIRPORT VIA LAST ROUTING CLEARED."

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⊙ Used in space 28 to mark over:

- F – Clearance limit
- H – Holding instructions

CLEARANCE AND MISCELLANEOUS ABBREVIATIONS
(Continued)

Tower Jurisdiction
JO 7110.65, par. 2-3-10

Z TOWER JURISDICTION					
DAL61	HEZ	10 01	↓	130✓ ↓60	KJAN	KMSY./.HEZ V245 MHZ KJAN
B721/A T420	0100					
66		10				26SW
01		MHZ		↓60		26 SW
11						

⊙ Used in space 28

Cleared to Climb/ Descend at Pilot's Discretion
JO 7110.65, par. 2-3-10

✈

Phraseology Example

PD CLEARED TO CLIMB/DESCEND AT PILOT'S DISCRETION					
AAL48	GLH	52 22	200✓ ↓160 PD	MCB	KSTL GLH V74 MHZ V9 KMCB	
B721/A T420	2247					
66		52				
02		MHZ				ZHU

"AMERICAN FORTY-EIGHT, DESCEND AT PILOT'S DISCRETION, MAINTAIN ONE SIX THOUSAND."

12

⊙ Used in space 20

☞ **NOTE:** *An approach clearance and a crossing restriction are also discretionary restrictions, but "PD" is* **not** *written with the altitude.*

Miscellaneous Abbreviations
JO 7110.65, par. 2-3-10 ;
JO 7340.2

⊙ Miscellaneous abbreviations include:

- TL/TR – Turn Left/Turn Right
- HFR – Hold for Release
- RLS – Release
- SYD – Release Subject Your Discretion
- RR/RL/RP/RX – Request for Altitude/Fix Reports

CLEARANCE AND MISCELLANEOUS ABBREVIATIONS
(Continued)

Turn Left/Turn Right
JO 7110.65, par. 2-3-10
TBL2-3-12

TL/TR   TURN LEFT / TURN RIGHT

DAL338		T→N (TL) ↑
DC91A		
T420		
66		1313/
01		KGWO P1315

VV83578		T→RY18 ↑
P3/B		(TR)
T300		
66		1320/
01		KGWO P1325

13

☞ **NOTE:** *T→ is taught later in the lesson.*

TL/TR   TURN LEFT / TURN RIGHT (CONT'D)

N3721K		T→N ↑
C310/A		(TL 300)
T160		
66		1927/
01		KGWO P1930

AAL63		T→S ↑
B722/A		(TR 250)
T450		
66		1913/
01		KGWO P1915

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⊙ Used in space 15 with magnetic heading to be flown

• 001 through 360

CLEARANCE AND MISCELLANEOUS ABBREVIATIONS
(Continued)

Hold For Release
JO 7110.65, par. 4-3-4;
JO 7340.2

HFR HOLD FOR RELEASE						
N234		T →SW TR 240 / ⇒ V11	↑90	MHZ	KGWO SQS V11 MHZ V18 KMEI/0100	
C310/A		HFR				
T180		↑				D-A
66						
01		KGWO P1600		90		
15						

⊙ Used in space 15 in conjunction with departure clearances

⊙ Issued to FDU or tower

Release
JO 7340.2

RLS RELEASE						
N234		T →SW TL 150/ ⇒ V278	↑90	IGB	KGWO SQS V278 IGB KUBS/0035	
C310/A		RLS 1 MIN<N456				
T180						D-A
66		1558/				
01		KGWO P1600		90		
N456		T →SW TR 240/ ⇒ V278	↑80	GLH	KGWO SQS V278 KGLH/0014	
C310/A						
T180						D-A
66		1557/				
01		KGWO P1600		80		

✈
Phraseology Example

"TWIN CESSNA TWO THREE FOUR, RELEASED ONE MINUTE AFTER TWIN CESSNA FOUR FIVE SIX DEPARTS."

16

⊙ Used in space 15 in conjunction with departure clearance

• When aircraft can be released for departure

⊙ Issued to tower

CLEARANCE AND MISCELLANEOUS ABBREVIATIONS
(Continued)

Release Subject Your Discretion
JO 7340.2

SYD   RELEASE SUBJECT YOUR DISCRETION

N456		T →SW -SQS	↑80	GLH	KGWO SQS V278 KGLH/0015	
C310/A T180		SYD/N234				D-A
66		1651/				
01		KGWO P1651		70		

N234	GLH 1638	50 16	70✓	KGWO 1657	KGLH V278 SQS KGWO/1655	VR
C310/A T180						
66		50 1649			⊂ 67 ↓ 70	VR 1645
02		SQS				

17

→

Phraseology Example

⊙ Used in space 15

⊙ Issued to tower when using visual separation

CLEARANCE AND MISCELLANEOUS ABBREVIATIONS
(Continued)

Request for Altitude/Fix Reports
JO 7110.65, par. 2-3-10; JO 7340.2

✈

Phraseology Example

RL REPORT LEAVING						
N31B	IGB	35	120↓40	HEZ	KSTF IGB V245 KHEZ/1600	
	1501	15	RL 60			
BE55/A T190						
66		34	1535			
02		MHZ			26SW/1544	ZHU

"…REPORT LEAVING SIX THOUSAND…"

18

☞ **NOTE:** *Teach from graphic.*

✈

Phraseology Example

RR REPORT REACHING						
N45T	GLH	12	110	IGB	KTXK V278 IGB KUBS/1705	
	1600	16	↓60 RR	1644		
BE65/A T175						
66		12				
02		SQS				

"…REPORT REACHING SIX THOUSAND…"

19

⊙ Used in space 20 with altitude reports

- RL – Report Leaving
- RR – Report Reaching

CLEARANCE AND MISCELLANEOUSABBREVIATIONS

(Continued)

Request for Altitude/Fix Reports (Cont'd)
JO 7110.65, par. 2-3-10; JO 7340.2

RP	REPORT PASSING					
RX	REPORT CROSSING					

N234	MLU 1600 1606	13 16	110✓	MHZ	KMLU V18 MHZ KJAN/1645	
C310/A T180						
66		13 1613			RP DINKY/ RX SQS194R/	
01		STUEE				
20						

"TWIN CESSNA TWO THREE FOUR, REPORT PASSING DINKY INTERSECTION, REPORT CROSSING SIDON ONE NINER FOUR RADIAL."

⊙ Used in space 26 with fix, radial, or DME reports

- RP – Report Passing
- RX – Report Crossing

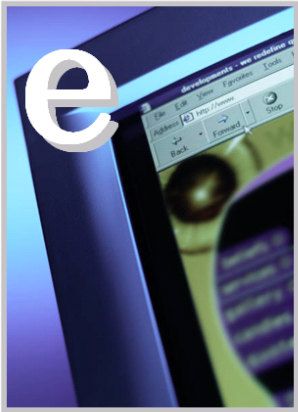⊙ When the report is received from the pilot, the current time is recorded after the slant (/) in four digits.

ACTIVITY 1: IDENTIFYING ABBREVIATIONS

Activity 1

IDENTIFYING ABBREVIATIONS ACTIVITY
Purpose: to practice identifying and using the clearance and miscellaneous abbreviations used in stripmarking

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☞ **NOTE:** *Have the students access the IET eLearning menu and select the first activity for Lesson 6.*

Description   This eLearning activity will provide you with a chance to practice identifying the clearance and miscellaneous abbreviations used in stripmarking. You will answer a total of 21 questions by selecting applicable abbreviations from the image displayed.

Directions   Access the IET eLearning menu. Select **Lesson 6 – Recording Clearances and Control Information**. Click on the title to launch the **Identifying Abbreviations** activity.

Turn on the Cap Lock feature on your keyboard.

Time Allotted   10 minutes

☞ **NOTE:** *Refer to Appendix C for the Instructor Key for this eLearning activity. Remember to disable the eLearning after the students complete the eLearning.*

CONTROL INFORMATION SYMBOLS

Control Information Symbols
JO 7110.65, par. 2-3-10

⊙ Control information symbols include:

Symbol	Meaning
T →	Depart (Direction, if Specified)
/	Until
⇉	Join or Intercept Airway/Jet Route/Track or Course
———	Restriction Bar
↑ ↓	Climb/Descend and Maintain Arrows
X	Cross
⬆ or ⬇	At or Above/Below
— (Dash)	From-To
V < (time)	Clearance Void if Aircraft **not** off Ground by (Time)
( )	Alternate Instructions
C	Communications Transfer
> <	Before and After
→	Cruise
⟋ ↘	Direction of Flight Indicator
(alt)	Aircraft Reported at Other than Assigned Altitude
<u>alt</u> (underline in red)	Inappropriate Altitude for Direction of Flight (IAFDOF)
✓	Aircraft Reported at Assigned Altitude
E (red)	Emergency
W (red)	Warning

Continued on next page

CONTROL INFORMATION SYMBOLS *(Continued)*

Control Information Symbols (Cont'd)
JO 7110.65, par. 2-3-10

⬭ (red)	Information Revised/Information Forwarded
℄	Pilot Canceled Flight Plan
(alt) B (alt)	Block Altitude Assignment
R (alt)	Requested Altitude
R	Radar Contact
R̸	Radar Service Terminated
R̸	Radar Contact Lost
Ⓡ	Radar Handoff
RV	Radar Vector
RV̸	Pilot Resumed Own Navigation
P	Point Out Initiated
△̸	Enter Control Area

CONTROL INFORMATION SYMBOLS *(Continued)*

Depart (Direction, if Specified)
JO 7110.65, pars. 2-3-10, 4-3-2

T ⇢ DEPART (DIRECTION, IF SPECIFIED)				
N456	T→SW TR		GLH	KGWO SQS V278
C182/A	240/ ⇢V278 ↑			KGLH/0014
T160				D-A
66	1355/			
01	KGWO P1400		60	
22				

⊙ Used **only** at airports within Class D or E surface areas

⊙ Used in space 15 on departure strip **only**

Direction
JO 7110.65, pars. 2-3-10, 4-3-2
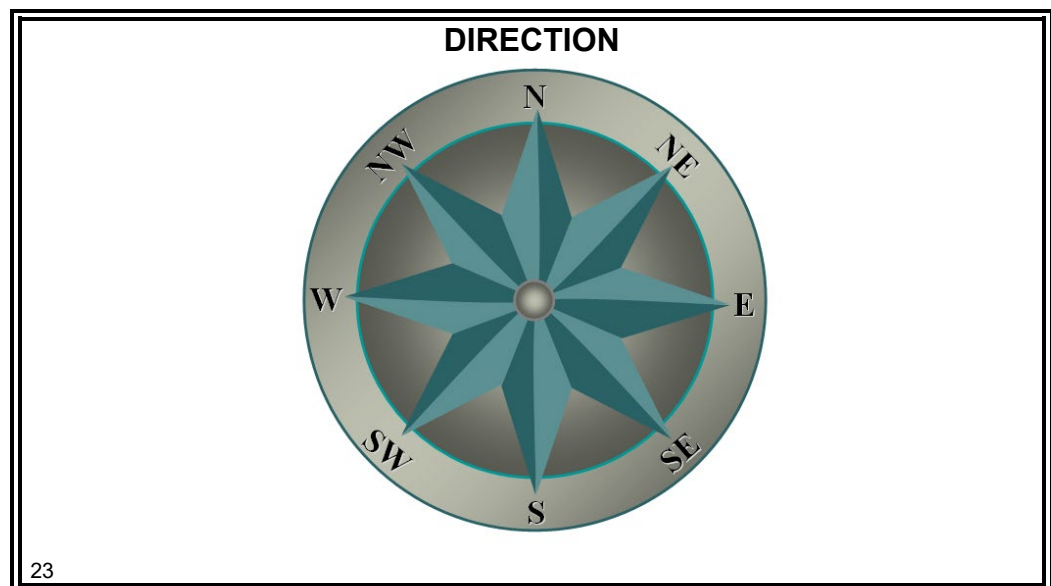
DIRECTION

⊙ Direction of departure is specified:

• To provide separation

• Using eight compass points

CONTROL INFORMATION SYMBOLS *(Continued)*

Until
JO 7110.65,
par. 2-3-10

/ UNTIL						
N34407	T→SW/ TL150 / V278	↑90	IGB	KGWO SQS V278 IGB KUBS/0050		
PA31/A						D-A
T185						
66	(1357/					
01	KGWO P1400	↑90	90			
24						

⊙ Used:

- In any space
- Usually with (time)/(fix)
- As separator between route of flight and ETA/ETE for general aviation aircraft

Join or Intercept Airway/Jet Route/Track or Course
JO 7110.65,
par. 2-3-10

⇒ JOIN OR INTERCEPT AIRWAY/JET ROUTE/TRACK OR COURSE						
N511WC	T→SW/ TR340/ ⇒V535	↑70	HLI	KGWO SQS V535 HLI KMEM/0020		
PA31/A						D-A
T180						
66	(1229/					
01	KGWO P1230	↑70	70			
25						

⊙ Used in spaces 15 or 25

CONTROL INFORMATION SYMBOLS *(Continued)*

Restriction Bar
JO 7110.65, par. 2-3-10

			RESTRICTION BAR			
N15T C310/A T180 66 01 26		T→SW - SQS ↑ ↑80 1425/ KGWO P1430	X17SW SQS ↓50 X17NW MHZ ↕60	MHZ 80	KGWO SQS V557 MHZ KJAN/0023	D-A

- ⊙ Used in space 20 to separate altitude assignments from altitude restrictions

  - • Restrictions on how to get to assigned altitude

Climb/ Descend and Maintain Arrows
JO 7110.65, par. 2-3-10

↑ ↓		CLIMB/DESCEND AND MAINTAIN ARROWS				
UAL42 B721/A T420 66 02	IGB 0111	24 01 SQS	100∨ ↑120	GLH 0129	KGTR IGB V278 KGLH	
DAL61 B721/A T420 66 01 27	HEZ 0100	10 01 MHZ	↓ 130∨ ↓110	KJAN	KBTR V245 MHZ KJAN	

- ⊙ Used in space 20

CONTROL INFORMATION SYMBOLS *(Continued)*

Cross
JO 7110.65,
par. 2-3-10

X CROSS						
N15T C310/A T180 66 01		↑ *1425/* KJAN P1430	↑120 X6SE SQS@ 120	SQS 120	KJAN MHZ V9 UJM KHEE/0058	D-A
28						

☞ **NOTE:** *Point out to students the difference between "X" to delete unwanted altitude information and "X" as control symbology.*

⊙ Used in space 20 to cross a fix/radial/airway

- Followed by a restriction

At or Above/Below
JO 7110.65,
par. 2-3-10

⇳ or ⤈ AT OR ABOVE/BELOW						
N15T C310/A T180 66 01		↑ *1425/* KJAN P1430	↑120 X17NW⇳50 X6SE SQS ⇳110	SQS 120	KJAN MHZ V9 UJM KHEE/0058	D-A
29						

⊙ Used in space 20 followed by an altitude

Continued on next page

CONTROL INFORMATION SYMBOLS *(Continued)*

From-To
JO 7110.65,
par. 2-3-9, 2-3-10

		<u> </u> **FROM – TO**				
N124	T→SW	↑70	HLI	KGWO SQS V535 HLI KMEM/0040		
P28A/A	⌐SQS					
T150						D-A
66	1355/					
01	KGWO P1400		70			

"...VIA DEPART SOUTHWEST DIRECT SIDON"

30

⊙ When used in space 15 and 25, it is spoken as "direct."

⊙ When used in space 28, the dash follows an appropriate control symbol and precedes pertinent control information.

Clearance Void if Not Off by (Time)
JO 7110.65,
par. 2-3-10

V < (TIME)		**CLEARANCE VOID IF NOT OFF BY (TIME)**				
N124	T→NE	↑70	MHZ	KVKS MHZ V18 KMEI/0040		
P28A/A	TR030	X20 SW MHZ		∧		
T150	/ ⇒V417	⤒ 60		V417		
	V < 1515 (20)					D-A
66	1458/					
01	KVKS P1500		70			

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⊙ Used:

- In space 15 followed by a time

- To avoid delay for other traffic at airports:

  - Where communications with aircraft are difficult until airborne

  - **Not** served by control towers

    → Provide alternate instructions requiring pilots to advise ATC of intentions

CONTROL INFORMATION SYMBOLS *(Continued)*

Alternate Instructions
JO 7110.65, par. 2-3-10

→

Phraseology Example

( ) ALTERNATE INSTRUCTIONS						
N124		T→NE TR030 / ⇒V417 V < 1515 (20)	↑70 X20 SW MHZ ⇅60	MHZ	KVKS MHZ V18 KMEI/0040 V417	D-A
P28A/A T150						
66		1458/				
01		KVKS P1500		70		

"…CLEARANCE VOID IF NOT OFF BY ONE FIVE ONE FIVE. IF NOT OFF BY ONE FIVE ONE FIVE, ADVISE AERO CENTER NOT LATER THAN ONE FIVE TWO ZERO OF INTENTIONS."

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⊙ Used in space 15 here, can be used in other spaces.

☞ **NOTE:** *Give examples of other alternate instructions.*

CONTROL INFORMATION SYMBOLS *(Continued)*

**Communica-
tions Transfer**
JO 7110.65,
par. 2-3-10

C	COMMUNICATION TRANSFER					
N456	GLH	46	90✓	HLI	KGLH V278 SQS V11 HLI	
PA31/A	1634	16		1706	M41/1736	
T180						
66		45 1645			25NE	
02		SQS				
33						

- ⊙ Used in space 26

    - Include time, fix, or altitude unless compliance is expected upon receipt

    - Insert frequency when other than standard

    - Frequency is assigned when clearance is issued through:

        − FDU

        − Tower, unless covered in LOA

- ⊙ Approach Controls will assign frequency as part of communications transfer

    - Provided it is covered in LOA

CONTROL INFORMATION SYMBOLS *(Continued)*

Before and After
JO 7110.65, par. 2-3-10

✈

Phraseology Examples

> **>**   **<**   **BEFORE AND AFTER**

N63T	MHZ	20	↓	80↓70	MLU	KJAN MHZ V427 MLU	
		16		70 ⟩ 1625		KMLU/1635	
BE35/A	1604						
T180							
66		19					
02		HATER					

"…DESCEND SO AS TO REACH SEVEN THOUSAND BEFORE ONE SIX TWO FIVE..."

N71C	T →SW TR	↑60	GLH	KGWO SQS V278	
	240 / ⟹V278			KGLH/0014	
C182/U	RLS 1MIN ⟨ N21				
T140					**D-A**
66	1644/				
01	KGWO P1645		60		

"…RELEASE ONE MINUTE AFTER NOVEMBER TWO ONE..."

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⊙   Used in any space

CONTROL INFORMATION SYMBOLS *(Continued)*

Cruise
JO 7110.65,
par. 2-3-10

N234	MLU 1638	54	60✓	VKS 1658	KMLU V417 DORTS VKS KVKS/1658	
C310/A T180		16				APCH 1654
66		54				
01		DORTS				

→ **CRUISE**

↓

"TWIN CESSNA TWO THREE FOUR CLEARED TO VICKSBURG AIRPORT, CRUISE SIX THOUSAND."

35

→
Phraseology Example

⊙ Used in space 20

Direction of Flight Indicator
JO 7110.65,
par. 2-3-10

↗ ↘ **DIRECTION OF FLIGHT INDICATOR**

AAL21	HEZ 1056	06	170✓	ZAMMA	KMSY V245 IGB KGTR	
B721/A T420		11				
66						
01		MHZ				

DAL357	IGB 1656	08	170✓	MHZ	KGTR IGB V278 SQS V555 MHZ KJAN	
B732/A T420		17				
66		07				
02		SQS				

36

⊙ Used in space 23

CONTROL INFORMATION SYMBOLS *(Continued)*

Aircraft Reported at Other Than Assigned Altitude
JO 7110.65, par. 2-3-10

AIRCRAFT REPORTED AT OTHER THAN ASSIGNED ALTITUDE

N234	MLU	30	110	MHZ	KMLU V427 MHZ KJAN/1643
C310/A T180	1615	16	(120✓)		
66		30			
01		HATER			

The aircraft was assigned 110, but reported on frequency level at 120.

37

NOTE: In some cases, an aircraft may have been assigned an altitude by another controller without proper coordination.

◉ Used in space 20

• Write reported altitude and circle it in black

Inappropriate Altitude for Direction of Flight (IAFDOF)
JO 7110.65, par. 2-3-10

alt   **INAPPROPRIATE ALTITUDE FOR DIRECTION OF FLIGHT**

N357	HEZ	39 ↓	80✓	KJAN	KCRP HEZ V245 MHZ KJAN/1810
C182/A T140	1701	17			
66					
01		MHZ			

38

◉ Used in spaces 20 or 24

◉ Underlined in red

CONTROL INFORMATION SYMBOLS *(Continued)*

Aircraft Reported at Assigned Altitude
JO 7110.65, par. 2-3-10

✓			AIRCRAFT REPORTED AT ASSIGNED ALTITUDE		
DAL21	MLU	18	~~190~~ ✓	MHZ	KTUL MLU V18 MHZ V245 IGB KUBS
B721/A T420	1415	14	✗170 ✓		
66		19	1418		
01		STUEE			
39					

⊙ Used in space 20

Emergency
JO 7110.65, par. 2-3-10

E			EMERGENCY		
UAL56	HEZ	49	150	KJAN	KHOU./.HEZ V245 MHZ KJAN
A319/A T420	1627	16	↓		
66		49		**E**	#2 ENGINE OUT
01		MHZ			
40					

⊙ Used in space 26 at Aero Center

⊙ Written in red

  • Information describing the emergency is written in black

CONTROL INFORMATION SYMBOLS *(Continued)*

Warning
JO 7110.65,
par. 2-3-10

<table>
<tr><td colspan="7" align="center"><strong style="color:red">W   **WARNING**</td></tr>
<tr><td colspan="7" align="center">EN ROUTE STRIP</td></tr>
<tr>
<td>N356

C310/A
T180

  66
     02</td>
<td>HEZ

1618</td>
<td>30
16

MHZ</td>
<td>90 (W)</td>
<td>ZAMMA</td>
<td>KHOU./.HEZ V245 IGB
KUBS/1706</td>
<td></td>
</tr>
<tr><td colspan="7" align="center">PROPOSAL STRIP</td></tr>
<tr>
<td>N711JI

PAY1/A
T230

  66
    01</td>
<td></td>
<td>↑

KGWO P2215</td>
<td></td>
<td>HLI

90 (W)</td>
<td>KGWO SQS V11 HLI
KSTL/0112</td>
<td></td>
</tr>
<tr><td colspan="7">41</td></tr>
</table>

- ⊙ Used in space 20 to alert controller that action **must** be taken

- ⊙ Usually adjacent to altitude

- ⊙ Written in red

☞ ***NOTE:*** *Give other examples if necessary.*

CONTROL INFORMATION SYMBOLS *(Continued)*

Information or Revised Information Forwarded
JO 7110.65, par. 2-3-10

INFORMATION OR REVISED INFORMATION FORWARDED

N234	IGB 1144	~~13~~ 12 *(18)*	~~100~~ ↑*120*	GLH	KUBS IGB V278 KGLH /1228	
C310/A T180 66 02		**18** SQS				

Sector 66 forwards to Sector 67.

42

- ☉ Used in any space

- ☉ Circle control information in red when forwarded

Pilot Canceled Flight Plan
JO 7110.65, par. 2-3-10

℄ PILOT CANCELED FLIGHT PLAN

N234	MHZ 1618	30 16 ↓	80✓	VKS 1633	KMEI V18 MHZ V417 DORTS VKS KVKS/1633	
C310/A T180 66 03		30 ℄ 1628 DORTS				

43

- ☉ Used in space 18 with a four-digit time

CONTROL INFORMATION SYMBOLS *(Continued)*

Block Altitude Assignment
JO 7110.65, par. 2-3-10

(alt) B (alt)			BLOCK ALTITUDE ASSIGNMENT			
A69843	TXK	20	190B230	IGB	KTXK J52 IGB KCBM	2321
		15				
H/C141/A	1457					
T450 G450						
66						
105 01		SQS				
44						

- ⊙ Used in space 20

- ⊙ Altitudes are inclusive

    - First altitude **must** be lower than the second

Radar Contact
JO 7110.65, par. 2-3-10

R RADAR CONTACT						
UAL21	DORTS	26	170	KJAN	KMLU V417 MHZ KJAN	2776
		14 ↓				
B732/A	1419					
T420 G420						
66			ⓡ			
234 02		MHZ				
45						

- ⊙ Normally used in spaces 22, 23, or 24

    - Space may be locally adapted for each facility

CONTROL INFORMATION SYMBOLS *(Continued)*

Radar Service Terminated
JO 7110.65, par. 2-3-10

> ℛ (crossed out)   **RADAR SERVICE TERMINATED**
>
> VKS | KJAN MHZ V417 DORTS VKS KVKS/1650 | 7121
>
> (ℛ circled in green)
>
> 46

☞ **NOTE:** *Teach from graphic.*

Radar Contact Lost
JO 7110.65, par. 2-3-10

> ℛ (crossed out)   **RADAR CONTACT LOST**
>
> GLH | KJAN MHZ V74 KGLH/1455 | 2273
>
> (ℛ circled in green)
>
> 47

☞ **NOTE:** *Teach from graphic.*

CONTROL INFORMATION SYMBOLS *(Continued)*

Radar Handoff
JO 7110.65,
par. 2-3-10

Ⓡ **RADAR HANDOFF**

| HLI | KJAN MHZ V11 HLI M41 | 3332 |

R

48

⊙ Circle "R" in black when handoff is completed.

Radar Vector
JO 7110.65,
par. 2-3-10

RV   RADAR VECTOR

| MCB | KMEM V9 KMCB | 7214 |

R V180

| | | ZHU |

49

⊙ Add "V" after "R" when assigning a vector to an aircraft.

• Assigned heading follows the "V"

CONTROL INFORMATION SYMBOLS *(Continued)*

Pilot Resumed Own Navigation
JO 7110.65, par. 2-3-10

	PILOT RESUMED OWN NAVIGATION	
MCB	KMEM V9 KMCB	7214
R̶V̶1̶8̶0̶		ZHU

50
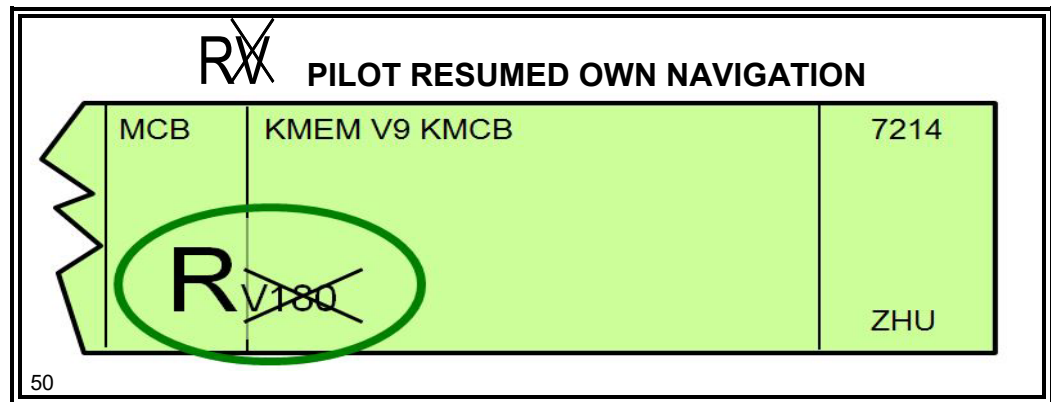
⊙ Draw an X through "V" and heading when the aircraft is taken off the vector and returned to its own navigation.

CONTROL INFORMATION SYMBOLS *(Continued)*

Enter Control Area
JO 7110.65, par. 2-3-10

⊠ **ENTER CONTROL AREA**

N143V	⊠ 50/⇒	↑80	MLU	0M8 MLU KSHV/0100	
	V427			V427	
BE35/A					**D-A**
T180					
66					
01	0M8 P1100		80		ZFW

51
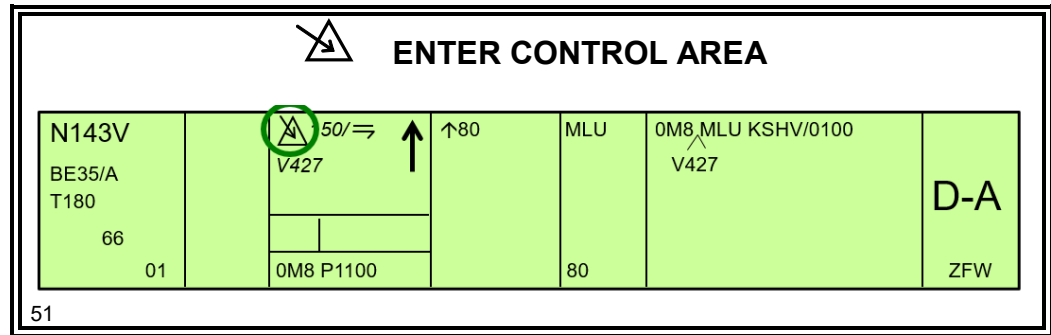
⊙ Used:

   • In space 15

   • For aircraft requesting clearance in other than Class A, B, C, D, and E areas

CONTROL INFORMATION SYMBOLS *(Continued)*

◈ **QUESTION:** How is the word "depart" recorded in space 15?

A.   T

B.   D

C.   T→

52

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

ANSWER: *C*

◈ **QUESTION:** What does the abbreviation/symbol T→N TL in space 15 mean?

A.   "Take off north, left turn."

B.   "Depart now, turn left."

C.   "Depart north, turn left."

53

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

ANSWER: *C*

CONTROL INFORMATION SYMBOLS *(Continued)*

❖ **QUESTION:** An aircraft has been cleared from 140 to 80 and requested to report leaving 140 and reaching 80. How and where should these reports be recorded?

54

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

ANSWER: *"RL140, RR80" in space 20*

❖ **QUESTION:** When an aircraft reports at an altitude other than its assigned altitude, the altitude is _____.

   A. Circled in red

   B. Circled in black

   C. Underlined in black

55

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

ANSWER: *B*

APPROACH ABBREVIATIONS

Approach Abbreviations
JO 7110.65,
par. 2-3-10;
JO 7340.2

✈

Phraseology Example

APPROACH ABBREVIATION						

N234	MLU 1618	30	110✓	VKS 1635	KMLU V417 DORTS VKS	
C310/A		16	↓		KVKS /1635	
T180						
			↓			APCH 1624
66		29				
01		DORTS				

"TWIN CESSNA TWO THREE FOUR, CLEARED APPROACH VICKSBURG AIRPORT."

56

☞ **NOTE:** *Clarify that stripmarking in space 20 (↓) is **not** required, but frequently used.*

⊙ APCH – Approach

  • Used in space 28

    − Circle in red when coordinated

    − Write in black when aircraft is cleared for approach

      → Including four-digit time when aircraft was cleared for approach

  • Implies pilot may execute approach of his/her choice

☞ **NOTE:** *Discuss with students what "CLEARED APPROACH" implies.*

Specific Approach Procedure Abbreviations
JO 7110.65,
par. 2-3-10

⊙ The following specific approach procedure abbreviations are entered in space 28:

☞ **NOTE:** *These approaches will be covered in later lessons.*

  • VR – VOR approach

  • ILS – ILS approach

  • NDB – Nondirectional Radio Beacon approach

  • VA – Visual approach

  • GPS – GPS approach

EXERCISE 1: RECORDING CLEARANCES AND CONTROL INFORMATION

Exercise 1

Directions

For items 1-13, use approved stripmarking and record the clearances and control information on the flight progress strips using the clearance/request preceding each strip.

EXERCISE 1: RECORDING CLEARANCES AND CONTROL INFORMATION *(Continued)*

Questions

1. "Queen Air Five Six Seven, cleared to St. Louis Airport via depart southwest, turn right fly heading two niner zero until joining Victor Niner, Victor Niner. Cross niner miles northwest Sidon VORTAC established on Victor Niner at or below six thousand, climb and maintain one zero thousand."

EXERCISE 1 – QUESTION 1						
N567		↑		UJM	KGWO SQS V9 KSTL/0215	
BE80/A						
T180						
66						
01		KGWO P1300		100		
58						

ANSWER:

N567		T→SW TR 290/ ⇉ V9	↑100 X9NW SQS ✲60	UJM	KGWO SQS V9 KSTL/0215	
BE80/A		↑				
T180						**D-A**
66						
01		KGWO P1300		100		

2. "Cessna Two Three Four, cleared to Leakesville Airport via direct Sidon, Victor Eleven. Cross one seven miles southeast Sidon VORTAC at or below six thousand, cross one seven miles northwest Magnolia VORTAC at or above eight thousand, climb and maintain one one thousand."

EXERCISE 1 – QUESTION 2						
N234		↑		MHZ	KGWO SQS V11 KGCV/0055	
C310/A						
T200						
66						
01		KGWO P1630		110		
59						

ANSWER:

N234		↑	↑110 X17SE SQS ✲60	MHZ	KGWO SQS V11 KGCV/0055	
C310/A						
T200			X17NW MHZ ✲80			**D-A**
66						
01		KGWO P1630		110		

EXERCISE 1: RECORDING CLEARANCES AND CONTROL INFORMATION *(Continued)*

3. "Queen Air Two Five Six Quebec, cleared from Vicksburg Airport to Meridian Airport, via depart northeast turn right, fly heading zero three zero until joining Victor Four Seventeen, Victor Four Seventeen Magnolia then as filed, Cross two zero miles southwest Magnolia VORTAC established on Victor Four Seventeen at or above six thousand, climb and maintain niner thousand. Clearance void if **not** off by one four one zero. If **not** off by one four one zero advise Aero Center **not** later than one four one five of intentions. Verify this clearance will allow compliance with local traffic pattern and terrain or obstruction avoidance. Advise, Queen Air Two Five Six Quebec Released for Departure, Contact AERO Center One Two Five Point Zero."

EXERCISE 1 – QUESTION 3						
N256Q BE65/A T175 66 01		↑ KVKS P1400		MHZ 90	KVKS MHZ V18 KMEI/0125	
60						

ANSWER:

| N256Q

BE65/A
T175

66
01 | EDC
1405 | T→NE TR
030/ ⇛ V417
V < 1410(15)
1400 /
KVKS P1400 | ↑90
X 20 SW
MHZ ⬆ 60 | MHZ

90 | KVKS MHZ V18 KMEI/0125
⌃
V417 | D-A |

Questions (Cont'd)

4. "Cessna Five Six Three Juliett, cleared from Vicksburg Airport to East Texas Regional 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 Monroe VORTAC established on Victor Four Seventeen at or above seven thousand. Climb and maintain one two thousand. Hold for release."

EXERCISE 1 – QUESTION 4						
N563J		↑		MLU	KVKS MLU V18 KGGG/0141	
C310/A						
T180						
66						
01		KVKS P1630		120		ZFW

61

ANSWER:

N563J		T→NE TL 340 /⇛V417 HFR	↑120 X 31 SE MLU ⬆ 70	MLU	KVKS MLU V18 KGGG/0141 V417	
C310/A						
T180						**D-A**
66	EDC	(1630 /				
01	1635	KVKS P1630	↑ 120	120		ZFW

EXERCISE 1: RECORDING CLEARANCES AND CONTROL INFORMATION *(Continued)*

Questions (Cont'd)

5. "Delta Twenty-One, cleared to Magnolia VORTAC, descend and maintain six thousand, hold northwest as published, **no** delay expected. Contact Jackson Approach one one niner point two at one two three zero."

EXERCISE 1 – QUESTION 5						

DAL21
 	
B721/A
T450
  66
     01
	HEZ
	1220
		32
		12
		
		31
		MHZ
			↓	170✓	KJAN	KHOU HEZ V245 MHZ
						KJAN

62

ANSWER:

DAL21
 	
B721/A
T450
  66
     01
	HEZ
	1220
		32
		12
		
		31
		MHZ
			↓	170✓ ↓60	KJAN	KHOU HEZ V245 MHZ
						KJAN
						
						⌒1230
							H ˍNW

6. "Aero Center, Cessna Two Niner One One Echo estimating Sidon VORTAC two one one niner at one zero thousand."

EXERCISE 1 – QUESTION 6						

N2911E
 	
C182/A
T170
  66
     02
	IGB
	
	2050
		20
		21
		
		SQS
				120	GLH	KUBS IGB V278 KGLH/2133

63

ANSWER:

N2911E
 	
C182/A
T170
  66
     02
	IGB
	
	2050
		20
		21
		
		19
		SQS
				120
				(100)✓
					GLH	KUBS IGB V278 KGLH/2133

EXERCISE 1: RECORDING CLEARANCES AND CONTROL INFORMATION *(Continued)*

Questions (Cont'd)

7. "United Five Zero One, cleared to Meridian Airport via last routing cleared."

EXERCISE 1 – QUESTION 7						
UAL501 DC91/A T420 66 01	HEZ 1221	32 12 31 MHZ	190✓	MEI	KHOU HEZ V245 MHZ V18 KMEI	H⎯NW

64

ANSWER:

| UAL501

DC91/A
T420

66
01 | HEZ

1221 | 32
12

31
MHZ | 190✓ | MEI | KHOU HEZ V245 MHZ V18 KMEI | H̶V⎯NW |

8. "Air Force Six Seven Niner Three Four, maintain one two thousand until one four miles northeast Sidon VORTAC, cross Sidon VORTAC at or above one three thousand, climb and maintain block flight level one eight zero through flight level two zero zero."

EXERCISE 1 – QUESTION 8						
A67934 3/C130/A T300 66 02	IGB 2103	20 21 20 SQS	120✓	GLH	KCBM IGB V278 GLH KLRF	

65

ANSWER:

| A67934

3/C130/A
T300

66
02 | IGB
2103 | 20
21

20
SQS | 120✓
↑180B200
120/14NE
X ⬍130 | GLH | KCBM IGB V278 GLH KLRF | |

EXERCISE 1: RECORDING CLEARANCES AND CONTROL INFORMATION *(Continued)*

Questions (Cont'd)

9. "Cessna Six Two One One Four, cleared to McComb Airport via direct Sidon, Victor Niner. Climb and maintain one zero thousand."

EXERCISE 1 – QUESTION 9					
N62114		↑		MHZ	SQS V9 MCB KMCB/0045
C182/A					
T150					
66					
692 01		SQS P1400		100	PICK UP OVER SQS

66

ANSWER:

N62114		↑	↑ 100	MHZ	SQS V9 MCB KMCB/0045	
C182/A						
T150						**D-A**
66						
692 01		SQS P1400		100	PICK UP OVER SQS	

10. "Delta Thirty-Seven, cleared to Memphis Airport via direct SQS as filed. Climb and maintain one zero thousand, expect one seven thousand one zero minutes after departure."

EXERCISE 1 – QUESTION 10					
DAL37		↑		HLI	KGWO SQS V535 HLI KMEM
MD88/A					
T450					
66					
142 01		KGWO P1630		170	

67

ANSWER:

DAL37		↑	↑100	HLI	KGWO SQS V535 HLI KMEM	
MD88/A						
T450						**D-A**
66						
142 01		KGWO P1630		(170	10<D)	

EXERCISE 1: RECORDING CLEARANCES AND CONTROL INFORMATION *(Continued)*

Questions (Cont'd)

11. "November Five Six Six maintain seven thousand until one three miles northwest of Sidon VORTAC, cleared VOR runway five approach circle to runway two three."
TIME: 0124

<table>
<tr><td colspan="9" align="center">EXERCISE 1 – QUESTION 11</td></tr>
<tr>
<td>N566

BE80/A
T180

66
    02</td>
<td>GLH
0118</td>
<td> 30
01

29
SQS</td>
<td>70✓

↓</td>
<td>KGWO
⟨0137⟩</td>
<td>KGLH V278 SQS
KGWO/0135

⟨67 ⤓70⟩</td>
<td>Ⓥ Ⓡ</td>
</tr>
<tr><td colspan="9">68</td></tr>
</table>

ANSWER:

<table>
<tr>
<td>N566

BE80/A
T180

66
    02</td>
<td>GLH
0118</td>
<td> 30
01

29
SQS</td>
<td>70✓
70/13NW
↓</td>
<td>KGWO
⟨0137⟩</td>
<td>KGLH V278 SQS
KGWO/0135

⟨67 ⤓70⟩</td>
<td>Ⓥ Ⓡ
VR
0124</td>
</tr>
</table>

NOTE: Arrival information **must** be forwarded to GWO Tower before approach clearance is issued. This is indicated on the strip by circling the GWO estimate in red and by writing and circling VR in red in space 28.

EXERCISE 1: RECORDING CLEARANCES AND CONTROL INFORMATION *(Continued)*

Questions (Cont'd)

12. "November Five Six Juliett Sierra, cleared to Magnolia VORTAC, maintain one one thousand until two zero miles northeast Natchez VOR/DME, descend and maintain six thousand, hold northwest as published, **no** delay expected.

EXERCISE 1 – QUESTION 12						

N56JS
 	
C310/A
T200
 	
  66
      02
	HEZ
	1007
		41
		10
		
		40
		MHZ
			↓	110✓	KJAN	KAEX V245 MHZ KJAN/1041	

69

ANSWER:

| N56JS

C310/A
T200

  66
      02 | HEZ
1007 | 41
10

40
MHZ | ↓ | 110✓ ↓60
——————
110 / 20NE
HEZ | KJAN | KAEX V245 MHZ KJAN/1041 | H⎯NW |

EXERCISE 1: RECORDING CLEARANCES AND CONTROL INFORMATION *(Continued)*

Questions (Cont'd)

13. "Cessna Niner Six Seven Bravo cleared from the Vicksburg Airport to the Alexandria Airport via the Natchez Zero Two Six Radial, Natchez, then as filed. Climb and maintain eight thousand, report leaving six thousand. Clearance void if not off by one four one zero. If not off by one four one zero, advise Aero Center not later than one four one five of intentions. Verify this clearance will allow compliance with local traffic pattern and terrain or obstruction avoidance. Advise, Cessna Niner Six Seven Bravo Released for Departure, Contact AERO Center One Two Five Point Zero."

EXERCISE 1 – QUESTION 13						
N967B		↑		HEZ	KVKS HEZ KAEX/0040	
C208/A T160						
66						
01		KVKS P1400		80		ZHU
70						

ANSWER:

N967B			↑ ↑80	HEZ	KVKS HEZ KAEX/0040	
C208/A T160		V < 1410(15)			A HEZ026R	D-A
66	EDC	1400 /				
01	1405	KVKS P1400	RL60 ↑ 80 80			ZHU

ACTIVITY 2: IDENTIFYING CONTROL INFORMATION SYMBOLS

Activity 2

IDENTIFYING CONTROL INFORMATION SYMBOLS ACTIVITY
Purpose: to practice using control information symbology used in stripmarking
71

☞ **NOTE:** *Have the students access the IET eLearning menu and select the second activity for Lesson 6.*

Description   This exercise provides you with opportunities to practice identifying the control information symbols used in stripmarking. The first activity consists of a set of electronic flash cards that allows you to test yourself on how well you know the symbols. You will have one flash card per symbol and will click the card to view the description of the symbol.

Directions   Access the IET eLearning menu. Select **Lesson 6 – Recording Clearances and Control Information**. Click on the title to launch the **Identifying Control Information Symbols** activity.

Time Allotted   10 minutes

☞ **NOTE:** *Refer to Appendix C for the Instructor Key for this eLearning activity. Remember to disable the eLearning after the students complete the eLearning.*

RECORDING REPORTS/TIMES ON FLIGHT PROGRESS STRIPS

Position/DME Reports
JO 7110.65, par. 2-3-2

POSITION/DME REPORTS						
N291EE	MHZ 1526	56 ↓	70✓	KGWO 1603	KJAN MHZ V9 SQS KGWO/1600	VR
C182/A T170		15				H SW 256 LT 1605
66		55			20 SE/1550	
02		SQS				
72						

⊙ Record reports in space 26 followed by:

- Slant (/)
- Time reported by pilot

☞ **NOTE:** *Use board to show examples, if necessary.*

Times
JO 7110.65, par. 2-3-2

PREVIOUS FIX				
11				
12				
13				
14				
14a				
73				

⊙ Spaces 11 – 14

- Space 11 - Previous fix
- Space 12 - Previous fix estimated time
- Space 13 - Revised previous fix estimated time
- Space 14 - Previous fix actual time

  – Actual departure time on first fix posting after departure

- Space 14a - Plus time (in minutes) from previous fix to posted fix

---

Continued on next page

RECORDING REPORTS/TIMES ON FLIGHT PROGRESS STRIPS *(Continued)*

Times (Cont'd)
JO 7110.65,
par. 2-3-2

```
┌─────────────────────────────────────────────────────┐
│                    POSTED FIX                         │
│  ┌──────────┬─────┬────────┬─────┬─────────┬──────┐  │
│  │          │ ⑮   │        │     │         │      │  │
│  │          ├─────┼──┐     │     │         │      │  │
│  │          │⑰│⑱│  │     │     │         │      │  │
│  │          │⑲│  │  │     │     │         │      │  │
│  └──────────┴─────┴──┴─────┴─────┴─────────┴──────┘  │
│  74                                                   │
└─────────────────────────────────────────────────────┘
```

- ⊙ Spaces 15, 17, 18, and 19

  - • Space 15 - Center-estimated time over posted fix
  - • Space 17 - Pilot-estimated time over posted fix

    - – Written in two digits (minutes)

  - • Space 18

    - – Actual time (pilot-reported) over posted fix
    - – Time entered/leaving holding fix

☞ *NOTE: Give example on board.*

  - – Arrival time (at nonapproach control airport) if posted fix in space 19 is the airport.
  - – Cancellation of IFR
  - – Departure time

    - → Actual (written in black), or
    - → Assumed (written in red)

☞ *NOTE: Give examples of assumed/actual departure times on board.*

- ⊙ Space 19 - Posted fix

RECORDING REPORTS/TIMES ON FLIGHT PROGRESS STRIPS *(Continued)*

NEXT POSTED FIX

- ⊙ Spaces 21 and 22

    - Space 21 - Next posted fix, write airport ID, if not already in space 19 or 21.

    - Space 22 - Pilot's estimate at next fix, or arrival time (at non approach control airport) if airport in space 21.

        - Pilot will give estimate of this fix when they report progressing the posted fix

EXERCISE 2: STRIPMARKING

Exercise 2

STRIPMARKING EXERCISE
Purpose: to practice marking flight progress strips **Directions:** complete the strips based on information provided by instructor
76

Directions

Your instructor will read 14 clearances aloud. You should record each clearance on a different flight progress strip provided by your instructor.

☞ *NOTE: This exercise requires one set of strips (STRIPMRK) for every student.*

*Describe the scenario and read the clearance to the class. Each student **must** record the clearance on the (green) strips provided. After all 14 clearances have been read, have one student at a time record each clearance on the board. Ensure the students record the correct stripmarking on the strips in their lesson plans.*

EXERCISE 2: STRIPMARKING *(Continued)*

Flight Strips   1.   JAN Approach requests clearance, Delta One-Fifty, to MSY Airport.
(Coordination has been completed.)

<div style="border:1px solid #000;">

EXERCISE 2 – QUESTION 1

DAL150			↑		MCB	KJAN MHZ V9 MCB KMSY/0025	
MD82/A T460							
66							
01			KJAN P1200		140		ZHU
77							

</div>

ANSWER:

DAL150			↑	↑140	MCB	KJAN MHZ V9 MCB KMSY/0025	
MD82/A T460							
66	EDC	(1200/)					**D-A**
01	1205	KJAN P1200		(↑140)	140		ZHU

CONTROLLER: "*Delta One-Fifty cleared to MSY Airport via Victor Niner,
MCB direct. Climb and maintain one four thousand.*"

NOTE: Assumed departure time is written in red in space 18.

Flight Strips (Cont'd)

2. Greenwood Tower requests clearance Blue Streak Two Twenty-One, to Memphis Airport. (Coordination has been completed.)

EXERCISE 2 – QUESTION 2

JIA221			↑		HLI	KGWO SQS V535 HLI KMEM	
E120/A							
T300							
66							
01		KGWO P1200			150		

78

ANSWER:

JIA221		T → SW —SQS	↑	↑150	HLI	KGWO SQS V535 HLI KMEM	
E120/A							
T300				X 8NE SQS ↕70			D-A
66		(1200)					
01		KGWO P1200		(↑150)	150		

CONTROLLER: *"Blue Streak Two Twenty-One, cleared to Memphis Airport via depart southwest, direct Sidon VORTAC, Victor Five-Thirty-Five, as filed. Cross eight miles north east SQS established on V535 at or below seven thousand, Climb and maintain one five thousand."*

NOTE: Assumed departure time is written in red in space 18.

EXERCISE 2: STRIPMARKING *(Continued)*

Flight Strips (Cont'd)

3. Aero Center Flight Data requests clearance, Twin Cessna Four Six Three, from Vicksburg Airport to Meridian Airport. (Coordination has been completed.)

EXERCISE 2 – QUESTION 3

N463 C310/A T180 66 01		↑ KVKS P1600		MHZ 90	KVKS MHZ V18 KMEI/0038	

79

ANSWER:

N463 C310/A T180 66 01		T →NE TR 030/⇛ V417 V<1610(15) ↑ KVKS P1600	↑90	MHZ 90	KVKS MHZ V18 KMEI/0038 ∧ V417	D-A

CONTROLLER: *"Twin Cessna Four Six Three cleared from Vicksburg Airport to Meridian Airport via depart northeast, turn right fly heading zero three zero until joining Victor Four Seventeen, Victor Four Seventeen, Magnolia, then as filed. Climb and maintain niner thousand. Clearance void if **not** off by one six one zero, if **not** off by one six one zero, advise Aero Center **not** later than one six one five of intentions. Verify this clearance will allow compliance with local traffic pattern and terrain or obstruction avoidance."*

Flight Strips (Cont'd)

4. N156 is estimating Sidon VORTAC two three five zero, level at one one thousand.

EXERCISE 2 – QUESTION 4					

N156	MHZ 2330	49	↓	110	KGWO 2352	KMSY./.MCB V9 SQS KGWO/2352	
PA27/A T180		23					
66							
02		SQS					

80

ANSWER:

N156	MHZ 2330	49	↓	110✓↓60	KGWO 2352	KMSY./.MCB V9 SQS KGWO/2352	H ⌐SW −256 ⌐LT
PA27/A T180		23					
66		*50*					
02		SQS		RL70			

CONTROLLER: *"Aztec One Five Six, cleared to Sidon VORTAC, descend and maintain six thousand, hold southwest on the two five six radial, left turns, **no** delay expected. Report leaving seven thousand."*

5.

EXERCISE 2 – QUESTION 5					

N234	IGB 1601	30		100	GLH	KBNA V278 GLH KTXK/1736	
C310/A T180		16					
66							
04		SQS					

81

ANSWER:

N234	IGB 1601	30		100✓	GLH	KBNA V278 GLH KTXK/1736	
C310/A T180		16					
66		29					
04		SQS					

N234: *"Aero Center, Twin Cessna Two Three Four estimating Sidon VORTAC one six two niner, level one zero thousand. Greenville next."*

EXERCISE 2: STRIPMARKING *(Continued)*

Flight Strips (Cont'd)

6. N147 is estimating Sidon VORTAC one six three one, level at niner thousand.

EXERCISE 2 – QUESTION 6						
N147 BE35/A T180 66 02	MHZ 1610	30 16 SQS	↓	90	KGWO	KMSY V9 SQS KGWO/1634

82

ANSWER:

N147 BE35/A T180 66 02	MHZ 1610	30 16 31 SQS	↓	90✓	KGWO 1634	KMSY V9 SQS KGWO/1634	H SW -256 LT 1640

CONTROLLER: *"Bonanza One Four Seven, cleared to Sidon VORTAC, hold southwest on the two five six radial, left turns, expect further clearance one six four zero."*

7. Indicate that AAL16 estimated Magnolia VORTAC one six two seven, at one seven thousand and has declared an emergency due to a fuel leak.

EXERCISE 2 – QUESTION 7						
AAL16 MD88/A T450 66 02	STUEE 1618	27 16 MHZ	↓	170	KJAN	KDFW./.MLU V18 MHZ KJAN

83

ANSWER:

AAL16 MD88/A T450 66 02	STUEE 1618	27 16 27 MHZ	↓	170✓	KJAN	KDFW./.MLU V18 MHZ KJAN E FUEL LEAK

Flight Strips (Cont'd)

8.

EXERCISE 2 – QUESTION 8						
AAL431 MD82/A T450 66 04	SQS 1519	26 15 MHZ	160✓	HEZ	KMEM UJM V9 SQS V557 MHZ V245 HEZ KDFW	 ZHU
84						

ANSWER:

| AAL431

MD82/A
T450

66
04 | SQS
1519

1519 | 26
15

26
MHZ | 160✓ | HEZ | KMEM UJM V9 SQS V557
MHZ V245 HEZ KDFW |

ZHU |

AAL431:   *"Aero Center, American Four Thirty-One, progressed Sidon VORTAC one five one niner, level one six thousand, estimating Magnolia VORTAC one five two six, Natchez next."*

9.

EXERCISE 2 – QUESTION 9						
DAL412 B753/A T480 66 01	MCB 2121	30 21 MHZ	*150*	SQS	KMSY V9 SQS V535 HLI KMEM	
85						

ANSWER:

| DAL412

B753/A
T480

66
01 | MCB
2121 | 30
21

30
MHZ | *150✓↑170*
150 / 21NE
MCB | SQS | KMSY V9 SQS V535 HLI
KMEM | |

DAL412:   *"Aero Center, Delta Four Twelve, estimating Magnolia VORTAC, two one three zero, level one five thousand, Sidon next."*

CONTROLLER: *"Delta Four Twelve, Aero Center, maintain one five thousand until two one miles northeast McComb VORTAC, climb and maintain one seven thousand."*

Flight Strips (Cont'd)

10.

<table>
<tr><td colspan="7" align="center">**EXERCISE 2 – QUESTION 10**</td></tr>
<tr>
<td>N16S

BE35/A
T180

  66
    02
86</td>
<td>ZAMMA
1615</td>
<td>30
16

MHZ</td>
<td>*120*</td>
<td>STUEE</td>
<td>KUBS IGB V245 MHZ V18
MLU KMLU/1703</td>
<td></td>
</tr>
</table>

ANSWER:

<table>
<tr>
<td>N16S

BE35/A
T180

  66
    02</td>
<td>ZAMMA
1615</td>
<td>30
16

30
MHZ</td>
<td>*120✓ ↓70*

‾‾‾‾‾‾‾‾‾
120 / 14NE</td>
<td>STUEE</td>
<td>KUBS IGB V245 MHZ V18
MLU KMLU/1703</td>
<td></td>
</tr>
</table>

N16S: *"Aero Center, Bonanza One Six Sierra, estimating Magnolia VORTAC, one six three zero, level one two thousand, STUEE next."*

CONTROLLER: *"Bonanza One Six Sierra, Aero Center, maintain one two thousand until one four miles northeast Magnolia VORTAC, descend and maintain seven thousand."*

Flight Strips (Cont'd)

11. N521 is level at one one thousand.

EXERCISE 2 – QUESTION 11						

N521	MHZ 2108	27	↓	110✓	KGWO 2134	KMSY HEZ V245 MHZ V9 SQS KGWO/2135	
BE35/A T180		21					
66		27					
02		SQS				67↓70	
87							

ANSWER:

N521	MHZ 2108	27	↓	110✓ ↓70	KGWO 2134	KMSY HEZ V245 MHZ V9 SQS KGWO/2135	H	*SW 256 LT 2135*
BE35/A T180		21		*110/17NW MHZ X6SE @ 70*				
66		27						
02		SQS				67↓70		

CONTROLLER: *"Bonanza Five Two One, cleared to Sidon VORTAC. Maintain one one thousand until one seven miles northwest Magnolia VORTAC, cross six miles southeast Sidon VORTAC at and maintain seven thousand. Hold southwest on the two five six radial, left turns, expect further clearance two one three five."*

Flight Strips (Cont'd)

12.

<table>
<tr><td colspan="6" align="center">EXERCISE 2 – QUESTION 12</td></tr>
</table>

| N45T

BE65/U
T175

66
    02 | HLI
1550 | 12
16

    | |
SQS | *100* | MHZ | M41 HLI V535 SQS V11
MHZ KJAN/1632 | |

88

ANSWER:

| N45T

BE65/U
T175

66
    02 | HLI
1550 | 12
16

12 |
SQS | *100✓ ↓70*
100/

RR70 | MHZ | M41 HLI V535 SQS V11
MHZ KJAN/1632 | |

N45T: *"Aero Center, Queen Air Four Five Tango, estimating Sidon VORTAC, one six one two, level one zero thousand, Magnolia next."*

CONTROLLER: *"Queen Air Four Five Tango, Aero Center, maintain one zero thousand until Sidon VORTAC, descend and maintain seven thousand. Report reaching seven thousand."*

Flight Strips (Cont'd)

13. Greenwood Tower requests clearance Lear Two Two Lima Juliett, to Atlanta Airport. (Coordination has been completed.)

EXERCISE 2 – QUESTION 13

N22LJ			↑		IGB	KGWO SQS J52 IGB RMG KATL/0130	
LJ35/A							
T450							
66							
	01		KGWO P1800		230		
89							

ANSWER:

N22LJ		*T →SW* *TL 110/⇛* *J52* ↑	*↑230*	IGB	KGWO SQS J52 IGB RMG KATL/0130	
LJ35/A						
T450						**D-A**
66		(*1800/*)				
	01	KGWO P1800	(↑230) 230			

CONTROLLER: "Lear Two Two Lima Juliett, cleared to Atlanta Airport via depart southwest, turn left fly heading one one zero until joining J Fifty-Two, J-Fifty-Two, Bigbee, then as filed. Climb and maintain flight level two three zero."

NOTE: Assumed departure time is written in red in space 18.

EXERCISE 2: STRIPMARKING *(Continued)*

Flight Strips (Cont'd)

14.

EXERCISE 2 – QUESTION 14						
N125X C310/A T180 66 01	MCB 1245	10 13 *10* | MHZ	*130✓*	MEI	KMCB V557 MHZ V18 KMEI/1357	
90						

ANSWER:

N125X C310/A T180 66 01	MCB 1245	10 13 *10* | *1310* MHZ	*130✓*	MEI 1332	KMCB V557 MHZ V18 KMEI/1357	

N125X: *"Aero Center, Twin Cessna One Two Five X-Ray progressing Magnolia VORTAC at one three one zero, level one three thousand, estimating Meridian VORTAC one three three two."*

IN CONCLUSION

LESSON REVIEW

The following topics were covered in this lesson:

- Control symbology
- Clearance and miscellaneous abbreviations
- Control information symbols
- Approach abbreviations
- Recording reports/times on flight progress strips

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

END-OF-LESSON TEST

Recording Clearances and Control Information
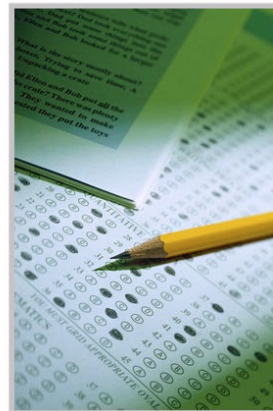
92

APPENDIX A: ABBREVIATIONS TABLE

Abbreviation	Meaning
A	Cleared to airport (point of intended landing)
B	Center clearance delivered
C	ATC clears (when clearance relayed through non–ATC facility)
CAF	Cleared as filed
D	Cleared to depart from the fix
F	Cleared to the fix
H	Cleared to hold and instructions issued
L	Cleared to land
N	Clearance not delivered
O	Cleared to the outer marker
PD	Cleared to climb/descend at pilot's discretion
Q	Cleared to fly specified sectors of a NAVAID defined in terms of courses, bearings, radials or quadrants within a designated radius.
T	Cleared through (for landing and takeoff through intermediate point)
V	Cleared over the fix
X	Cleared to cross (airway, route, radial) at (point)
Z	Tower jurisdiction

APPENDIX A: ABBREVIATIONS TABLE *(Continued)*

**Miscellaneous
Abbreviations**
JO 7110.65,
par. 2-3-10, table
2-3-12

Abbreviation	Meaning
BC	Back course approach
CT	Contact approach
FA	Final approach
FMS	Flight management system approach
GPS	GPS approach
I	Initial approach
ILS	ILS approach
MA	Missed approach
MLS	MLS approach
NDB	Nondirectional radio beacon approach
OTP	VFR conditions—on—top
PA	Precision approach
PT	Procedure turn
RA	Resolution advisory (Pilot reported TCAS event)
RH	Runway heading
RNAV	Area navigation approach
RP	Report immediately upon passing (fix/altitude)
RX	Report crossing
SA	Surveillance approach
SI	Straight—in approach
TA	TACAN approach
TL	Turn left
TR	Turn right
VA	Visual approach
VR	VOR approach

APPENDIX B: CONTROL INFORMATION SYMBOLS TABLE

Control Information Symbols (Part I)
JO 7110.65, par. 2-3-10, figure 2-3-7

Symbols	Meaning
T → ( )	*Depart (direction, if specified)*
↑	*Climb and Maintain*
↓	*Descend and Maintain*
→	*Cruise*
@	*At*
X	*Cross*
M →	*Maintain*
⇗	*Join or intercept airway/jet route/track or course*
≡	*While in controlled airspace*
△	*While in control area*
⧨	*Enter control area*
⧩	*Out of control area*
NW ◔ ◹ NE ◓→ E	*Cleared to enter, depart or through surface area. Indicated direction of flight by arrow and appropriate compass letter. Maintain Special VFR conditions (altitude if appropriate) while in surface area.*
250 K	*Aircraft requested to adjust speed to 250 knots.*
-20 K	*Aircraft requested to reduce speed 20 knots*
+30 K	*Aircraft requested to increase speed 30 knots*
W	*Local Special VFR operations in the vicinity of (name) airport are authorized until (time). Maintain special VFR conditions (altitude if appropriate)*
>	*Before*
<	*After or past*
<u>170</u> (red)	*Inappropriate altitude for direction of flight. (Underline assigned altitude/flight level in red).*
/	*Until*
( )	*Alternate instructions*
<u>Restriction</u>	*Restriction*
⊽	*At or Below*
⊼	*At or Above*
- (Dash)	*From-to (route, time, etc.)*
(Alt)B(Alt)	*Indicates a block altitude assignment. Altitudes are inclusive, and the first altitude shall be lower than the second. Ex: 310B370*
V <	*Clearance void if aircraft not off ground by (time)*
	NOTE: The absence of an airway route number between two fixes in the route of flight indicates "direct"; no symbol or abbreviation is required.
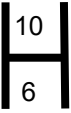
Continued on next page

APPENDIX B: CONTROL INFORMATION SYMBOLS TABLE *(Continued)*

Control Information Symbols (Part II)
JO 7110.65, par. 2-3-10, figure 2-3-8

Symbol	Description
₵	Pilot cancelled flight plan
✓	EN ROUTE: Aircraft has reported at assigned altitude, Example; 80
✓	TERMINAL/FSS: Information forwarded (indicated information forwarded as required
◯ (red)	EN ROUTE: Information or revised information forwarded. (altitude/flight level for direction of flight or other control infor Also circle, in red, the time (Minutes and altitude when a flig forwarded. Use method in both inter-center and intra-cente
⬤ 50	Other than assigned altitude reported (circle reported altitude)
H 10 / 6	DME holding (use with mileages)(Upper figure indicates distance from station to DME fix, lower figure indicates length of holding pattern.) In the example, the DME fix is 10 miles out with a 6 mile pattern indicated.
⌒ (mi.)(dir.)	DME arc of VORTAC, TACAN, or MLS.
C (freq.)	Contact (facility) or (Freq.), (time, fix, or altitude if appropriate). Insert frequency only when it is other than standard.
R	Radar contact
R	EN ROUTE: Requested altitude (preceding altitude information)
⃠R	Radar service terminated
⃠	Radar contact lost
RV	Radar vector
R✗	Pilot resume own navigation
Ⓡ	Radar handoff (circle symbol when handoff completed)
E (red)	EMERGENCY
W (red)	WARNING
P	Point out initiated. Indicate the appropriate facility, sector or position. Example: PZFW.
FUEL	Minimum fuel
	NOTE: The absence of an airway route number between two fixes in the route of flight indicates "direct"; no symbol or abbreviation is required.

APPENDIX C: 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

MAIN MENU | RESOURCES | EXIT

- 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

BACK ◄ 2 of 10 ► NEXT

- 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 C: INSTRUCTOR KEY FOR ELEARNING ACTIVITIES *(Continued)*

Lesson Title	Lesson 6 Recording Clearances and Control Information

eLearning Objectives	The objective of the following eLearning activities is to reinforce clearance information, miscellaneous abbreviations, and information symbology used in stripmarking.

eLearning Activities	⊙ Lesson 6 contains the following eLearning activities: • Activity 1: Identifying Abbreviations • Activity 2: Identifying Control Information Symbols

Activity 1: Identifying Abbreviations

Activity 1 Description	In this activity, students practice identifying clearance and miscellaneous abbreviations used in stripmarking. Students **must** answer 21 questions by clicking applicable abbreviations on the displayed image.

Activity 1 Content	⊙ Page 1 contains an activity introduction. ⊙ Page 2 contains a hot spot quiz regarding stripmarking abbreviations. ⊙ Page 3 contains a fill-in-the-blank quiz regarding stripmarking abbreviations.

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

Activity 1 Specifics

⊙ Hot spot quiz questions

- Students have one attempt to answer before the correct answer is given.

- At the end of the activity, students receive a summary of results. By clicking **REVIEW ANSWERS**, students have the option to review the correct answers to the quiz questions.

⊙ Fill-in-the-blank quiz

- Students have 5 minutes to complete all 16 questions before they see their score and can view the correct answers.

- If students want to review their answers or make changes to their answers before seeing their score, they can navigate through the questions by clicking **FORWARD** or **PREVIOUS**.

- Students **must** click **SUBMIT ANSWERS** when they are done answering all 16 questions. Then they will see a quiz results page. They should click **REVIEW ANSWERS** to see their marked answers and the correct answers.

Activity 2: Identifying Control Symbols

Activity 2 Description

In this activity, students practice identifying control information symbols used in stripmarking. The first activity consists of a set of virtual flash cards that allow students to test themselves on how well they know control symbols. There is one flash card per symbol and they **must** click the card to view the description of the symbol (just like traditional flash cards). In the second activity, students **must** pair a control symbol with the correct description. There are 34 symbols total in which students **must** complete 3 rounds.

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

Activity 2 Content

- ⊙ Page 1 contains an introduction for the flashcard activity.

- ⊙ Page 2 contains a flash card activity for identifying control symbols.

- ⊙ Page 3 contains an introduction for the matching activity.

- ⊙ Page 4 contains a matching challenge in which students **must** match control symbols with their corresponding descriptions.

Activity 2 Specifics

- ⊙ Flash card activity

  - • Students **must** click each control symbol image to view a description of the symbol.

- ⊙ Matching Challenge

  - • Students are given two attempts before the correct answers are given.

  - • To re-attempt a question, students should drag and drop the movable icons back to the right side of the screen.