



**Federal Aviation  
Administration**

# **Initial En Route Qualification Training**

## **Lesson 19 Initial Separation of Departures and Visual Separation**

**Course 50148001**

## LESSON PLAN DATA SHEET

<b>COURSE NAME:</b>	INITIAL EN ROUTE QUALIFICATION TRAINING
<b>COURSE NUMBER:</b>	50148001
<b>LESSON TITLE:</b>	INITIAL SEPARATION OF DEPARTURES AND VISUAL SEPARATION
<b>DURATION:</b>	10+30 HOURS
<b>DATE REVISED:</b>	2022-02
<b>VERSION:</b>	V.2022-02
<b>REFERENCE(S):</b>	FAA ORDER JO 7110.65, AIR TRAFFIC CONTROL
<b>HANDOUT(S):</b>	InitSep-parttask.f2k - INITIAL SEPARATION PART-TASK STRIPS
<b>EXERCISE(S)/ ACTIVITY(S):</b>	EXERCISE: APPLYING INITIAL SEPARATION, PART 1 AND PART 2
<b>END-OF-LESSON TEST:</b>	YES
<b>PERFORMANCE TEST:</b>	NONE
<b>MATERIALS:</b>	NONE
<b>OTHER PERTINENT INFORMATION:</b>	NONE

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# INTRODUCTION

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## Initial En Route Qualification Training

### Lesson 19 Initial Separation of Departures and Visual Separation

V.2022-02  
Presented by  
FAA Academy  
Air Traffic Division



Federal Aviation  
Administration



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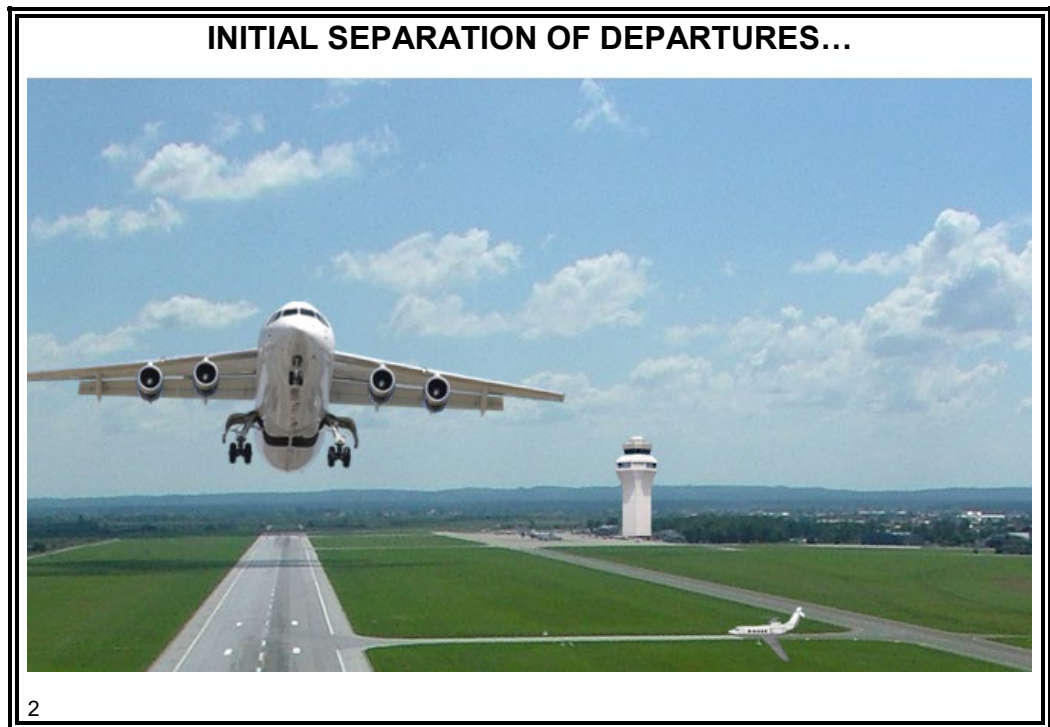
There will be times that numerous aircraft will want to depart a single airport at the same time. In this lesson, you will learn separation rules that will allow you to separate departing aircraft from other departures and arrivals. After applying initial separation, you will then safely and efficiently transition these aircraft into the en route environment using previously learned separation procedures.

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# INTRODUCTION *(Continued)*

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Learning to use nonradar separation minima between successive departing aircraft and/or visual separation between arriving and departing aircraft will help you to expedite traffic into and out of airports.

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## **Purpose**

This lesson covers the rules and procedures for providing initial separation between departures. It also covers application of visual separation between arrivals and departures.

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# INTRODUCTION *(Continued)*

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## Lesson Objectives

### LESSON OBJECTIVES

- On an End-of-Lesson Test and in accordance with FAA Order JO 7110.65, you will identify procedures and phraseology for:
  - Initial separation between successive departing aircraft
  - Authorizing a nonapproach control tower to provide separation between arriving and departing aircraft

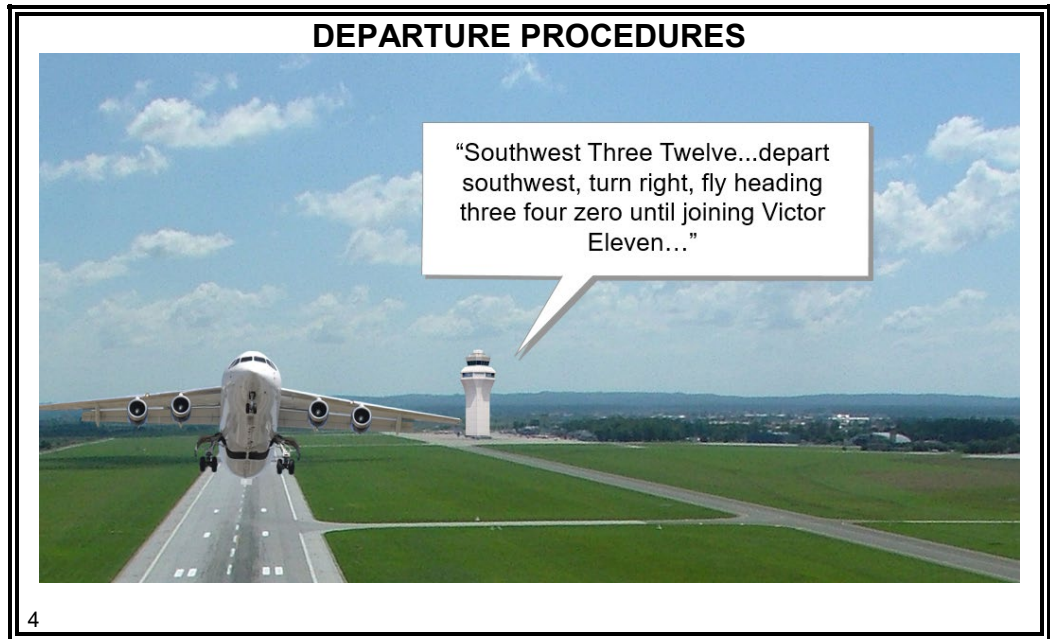
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# DEPARTURE PROCEDURES

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## Clearance Items

JO 7110.65,  
par. 4-3-2



- ⦿ At airports with airport traffic control service, specify as necessary:
  - Direction of takeoff/turn
  - Initial heading/azimuth to be flown

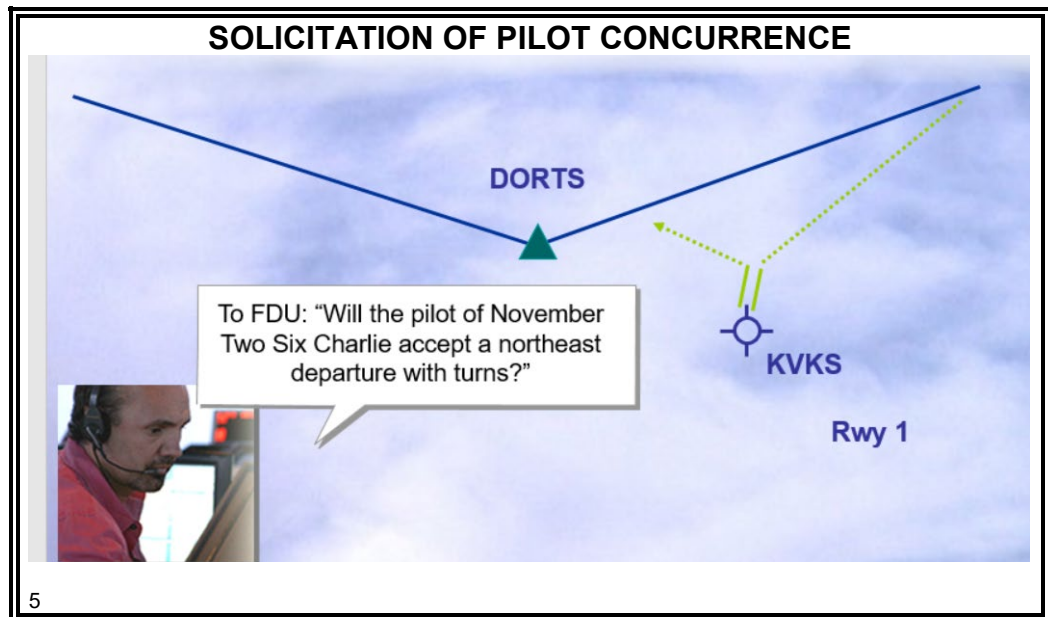
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# DEPARTURE PROCEDURES *(Continued)*

## Clearance Items (Cont'd)

JO 7110.65,  
par. 4-3-2



- ⊙ At airports within Class E surface areas, but without airport traffic control service, specify the following, if necessary, after soliciting/obtaining the pilot's concurrence:

- Direction of takeoff/turn
- Initial heading/azimuth to be flown

**NOTE:** These items can be obtained/solicited directly from the pilot or relayed by a Flight Data Communication Specialist.



## Phraseology

"FLY RUNWAY HEADING."

"DEPART (direction or runway)."

"TURN LEFT/RIGHT."

*Continued on next page*

# DEPARTURE PROCEDURES *(Continued)*

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## Clearance Items (Cont'd)

JO 7110.65,  
par. 4-3-2

- ⊙ At all other airports
  - Do **not** specify direction of takeoff/turn after takeoff
  - If necessary to specify an initial heading/azimuth to be flown after takeoff:
    - Issue the initial heading/azimuth so as to apply **only** within controlled airspace



## Phraseology

“WHEN ENTERING CONTROLLED AIRSPACE (instruction), FLY HEADING (degrees) UNTIL REACHING (altitude, point, or fix) BEFORE PROCEEDING ON COURSE,

or

FLY A (degree) BEARING/AZIMUTH FROM/TO (fix) UNTIL (time),

or

UNTIL REACHING (fix or altitude).”

- ⊙ Where **only** textually described instrument departure procedures are published and pilot compliance is necessary to ensure separation, include the procedure in the ATC clearance.



## Phraseology

“DEPART VIA THE (airport name) (runway number) DEPARTURE PROCEDURE.”

**NOTE:** Consider aircraft speed and climb characteristics.

- Compatibility with a procedure issued may be verified by asking the pilot if items obtained will allow compliance with local traffic pattern, terrain, or obstruction avoidance



## Phraseology Example

“Verify this clearance will allow compliance with local traffic pattern and terrain or obstruction avoidance.”

**NOTE:** Students need to use the above phraseology at OM8 and VKS when a departure clearance (including initial departure instructions) is issued that differs from the pilot's filed route.

**NOTE:** If a published IFR departure procedure is **not** included in an ATC clearance, compliance with such a procedure is the pilot's prerogative.

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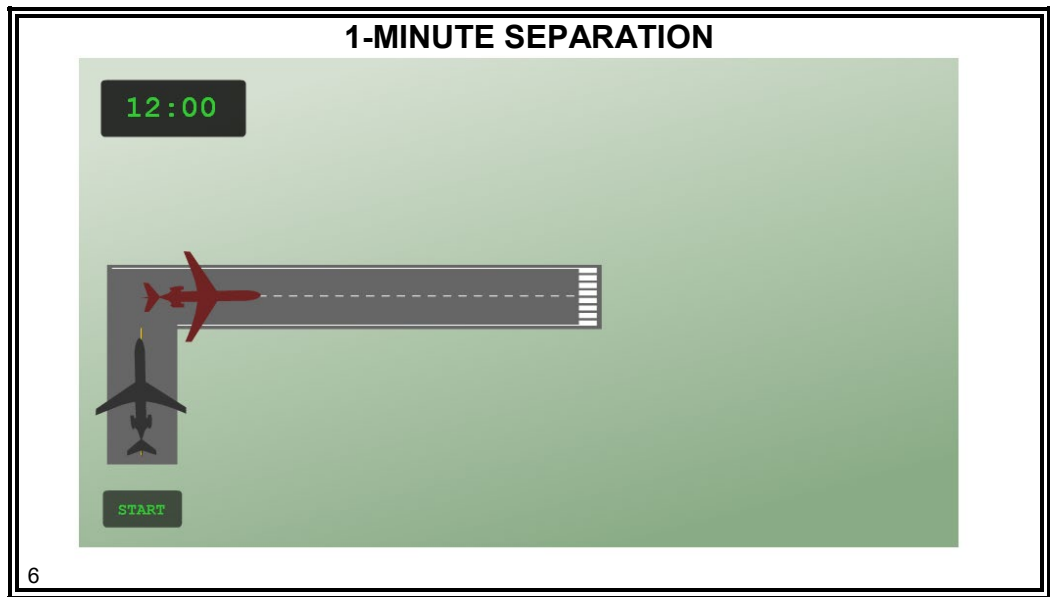
# INITIAL SEPARATION OF SUCCESSIVE DEPARTURES

## Diverging Courses

JO 7110.65,  
par. 6-2-1

- ⦿ Courses **must** diverge by 45 degrees or more after departure from adjacent or same airport.

**NOTE:** Controllers can make courses diverge by issuing turns and headings.



- ⦿ Separation minima

**NOTE:** Consider aircraft performance characteristics.

- For courses diverging immediately after takeoff:
  - 1 minute



## Phraseology Example

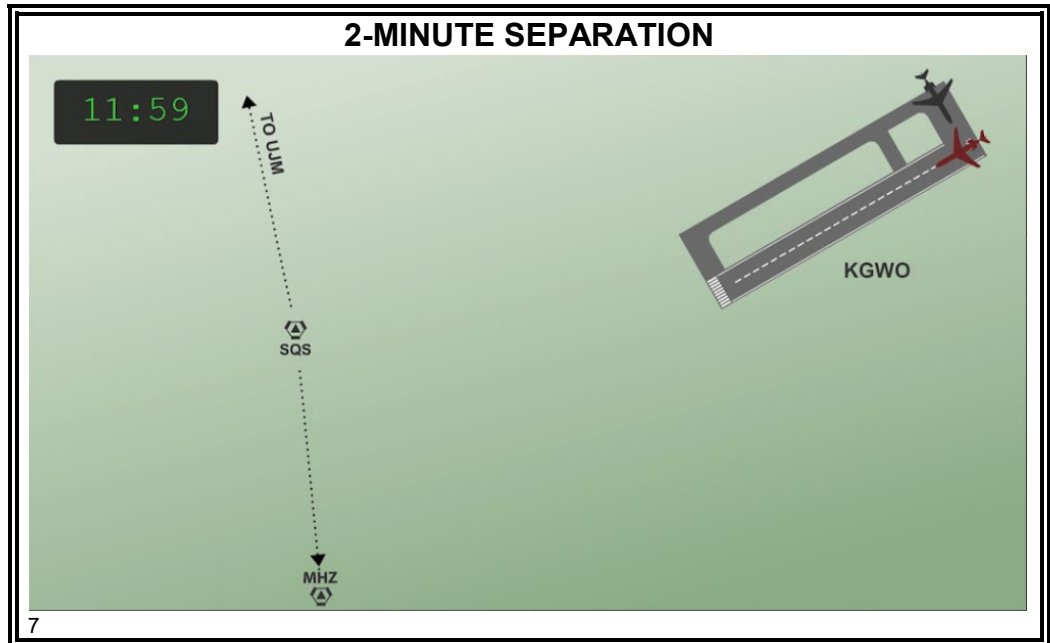
“November One Two Three released one minute after November Four Five Six departs.”

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# INITIAL SEPARATION OF SUCCESSIVE DEPARTURES

(Continued)

**Diverging  
Courses  
(Cont'd)**  
JO 7110.65,  
par. 6-2-1



- For courses diverging within 5 minutes after takeoff (same course initially):
  - 2 minutes



**Phraseology  
Example**

“November One Two Three released two minutes after November Four Five Six departs.”

# INITIAL SEPARATION OF SUCCESSIVE DEPARTURES

(Continued)

## Knowledge Check

KNOWLEDGE CHECK							
N795K BE9L/A T250 66 01	<del>EDC</del> <del>1500</del>	T → SW- SQS RLS 2 MIN < N31KA  1502/	↑ 90 X8NE SQS ↓ 70  ↑ 90	HLI   90	KGWO SQS V535 KMEM/0035	D-A	
N31KA BE9L/A T250 66 01	<del>EDC</del> <del>1500</del>	T → SW- SQS  1500/	↑ 100 X8NE SQS ↓ 70 X17NW MHZ ↑ 60	MHZ   100	KGWO SQS V9 KMCB/0035	D-A	

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# INITIAL SEPARATION OF SUCCESSIVE DEPARTURES

(Continued)

Knowledge  
Check  
(Cont'd)

## KNOWLEDGE CHECK

❖ **QUESTION:** What phraseology would you use to issue the necessary instructions to each of the aircraft in the previous question?

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*Continued on next page*

# INITIAL SEPARATION OF SUCCESSIVE DEPARTURES

(Continued)

## Knowledge Check (Cont'd)

KNOWLEDGE CHECK						
N78J C182/A T140 66 01		T→SW TL 205/⇒ V9 ↑	↑60	MHZ	KGWO SQS V9 MHZ V245 KAEX/0130	D-A
		KGWO P1500	60			
N45C C210/A T180 66 01		T→SW TR 310/⇒ V535 ↑	↑70	HLI	KGWO SQS V535 HLI M41/0034	D-A
		1500/1503				
		KGWO P1500	↑70	70		

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# INITIAL SEPARATION OF SUCCESSIVE DEPARTURES

(Continued)

Knowledge  
Check  
(Cont'd)

## KNOWLEDGE CHECK

❖ **QUESTION:** Select the correct phraseology for:

**T→SW TL 200/⇒V555**

- A. "Depart southwest heading two zero zero until joining Victor Five Fifty-Five."
- B. "Depart southwest, turn left two zero zero until joining Victor Five Fifty-Five."
- C. "Depart southwest, turn left fly heading two zero zero until joining Victor Five Fifty-Five."

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*Continued on next page*

## INITIAL SEPARATION OF SUCCESSIVE DEPARTURES

(Continued)

## Knowledge Check (Cont'd)

KNOWLEDGE CHECK							
AAL111 B722/A T440 66 01		↑		UJM  120	KGWO SQS V9 UJM KMEM		
DAL421 B732/A T440 66 01		↑		MHZ  120	KGWO SQS V9 MHZ V245 KAEX		

**QUESTION:** By at least how many degrees must these aircraft diverge immediately after takeoff in order to depart 1 minute apart?

A. 25  
B. 35  
C. 45

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# EXERCISE: APPLYING INITIAL SEPARATION, PART 1

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## Exercise

### APPLYING INITIAL SEPARATION EXERCISE, PART 1



**Purpose:** to practice recording clearances and control information and writing phraseology

**Directions:** record the clearance and control information on the flight progress strips and write the appropriate phraseology

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## Directions

For questions 1 and 2, record the clearance and control information on the flight progress strips and write the appropriate phraseology in the space provided.

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# EXERCISE: APPLYING INITIAL SEPARATION, PART 1

(Continued)

## Questions

- Using the 1-minute rule, record the clearance and control information on the flight progress strips and write the appropriate phraseology.

KNOWLEDGE CHECK							
Time: 1340							
Runway: 23							
N545HM			↑		HLI	KGWO SQS V535 HLI M41/0043	
C172/A							
T140							
66							
01			KGWO P1345		70		
N33T			↑		MHZ	KGWO SQS V9 MCB KNEW/0115	
C310/A							
T180							
66							
01			KGWO P1345		60		
14							

Continued on next page

## EXERCISE: APPLYING INITIAL SEPARATION, PART 1

*(Continued)*

## Questions (Cont'd)

**ANSWER:**

*Continued on next page*

# EXERCISE: APPLYING INITIAL SEPARATION, PART 1

(Continued)

## Questions (Cont'd)

- Using the 2-minute rule, record the clearance and control information on the flight progress strips and write the appropriate phraseology.

KNOWLEDGE CHECK					
Time: 1340					
Runway: 23					
N709SK BE35/A T180 66 01				HLI	KGWO SQS V535 HLI M41/0035
		↑			
		KGWO P1345		90	
N545HM BE35/A T180 66 01				GLH	KGWO SQS V278 GLH KELD/0050
		↑			
		KGWO P1345		80	
15					

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# EXERCISE: APPLYING INITIAL SEPARATION, PART 1

(Continued)

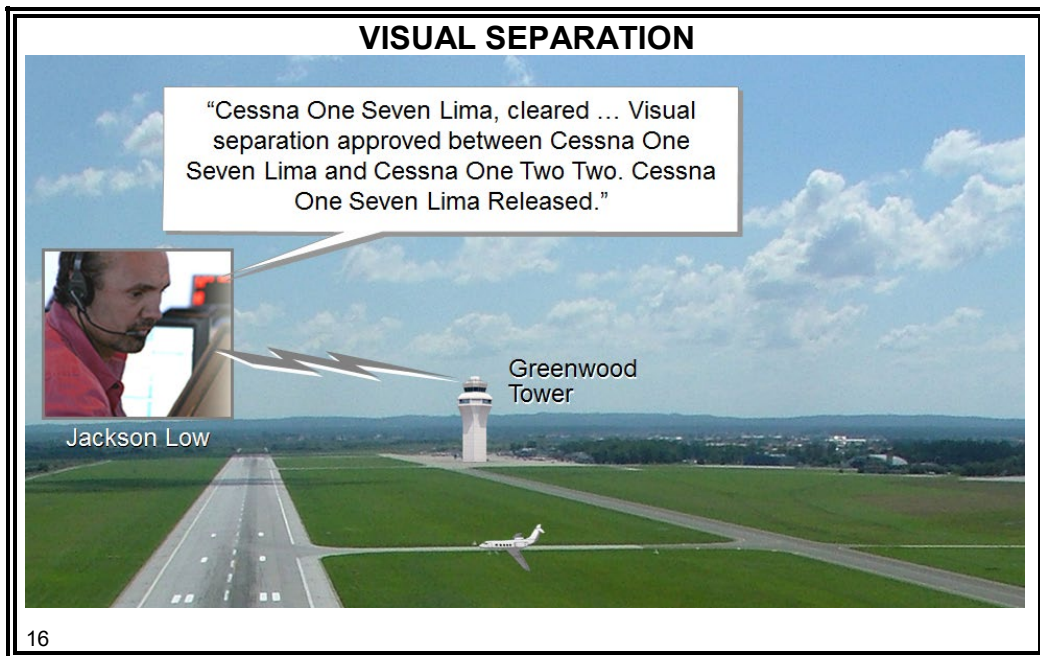
Questions  
(Cont'd)

**ANSWER:**

# VISUAL SEPARATION

## Application

JO 7110.65,  
par. 7-2-1



- ⦿ Nonapproach control towers may be authorized to provide visual separation between aircraft within surface areas or designated areas provided other separation is assured before and after the application of visual separation.



## Phraseology

“VISUAL SEPARATION APPROVED BETWEEN (identification) AND (identification).

And for departing aircraft,

(Departing/succeeding aircraft) (ACID), RELEASED.”

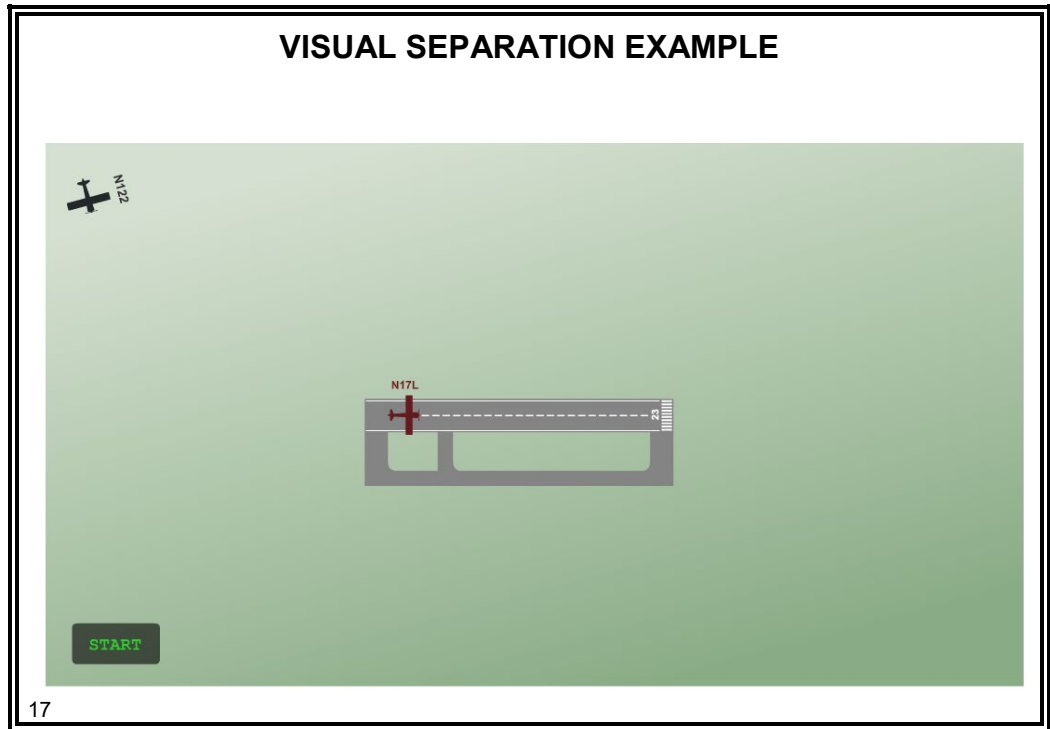
**NOTE:** Both aircraft **must** be visually observed by the tower.

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# VISUAL SEPARATION *(Continued)*

## Application (Cont'd)

JO 7110.65,  
par. 7-2-1



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## VISUAL SEPARATION *(Continued)*

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### Knowledge Check

#### KNOWLEDGE CHECK

- ❖ **QUESTION:** N316K is on approach to KGWO Airport. N13Y requests clearance to depart. What phraseology would the center controller use to authorize GWO Tower to provide visual separation?
- A. "Visual separation approved between November One Three Yankee and November Three One Six Kilo. November One Three Yankee released."
  - B. "Release November One Three Yankee your discretion when November Three One Six Kilo is in sight."
  - C. "Apply VFR between November One Three Yankee and November Three One Six Kilo."

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## EXERCISE: APPLYING INITIAL SEPARATION, PART 2

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### Exercise

#### APPLYING INITIAL SEPARATION EXERCISE, PART 2



**Purpose:** to practice recording clearances and control information and writing phraseology

**Directions:** record the clearance and control information on the flight progress strips and write the appropriate phraseology

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### Directions

For questions 1 through 4, record the coordination, clearance, and control information on the flight progress strips and write the appropriate phraseology in the space provided.

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# EXERCISE: APPLYING INITIAL SEPARATION, PART 2

(Continued)

## Questions

- Using the 1-minute rule, record the coordination, clearance, and control information on the flight progress strips and write the appropriate phraseology.

KNOWLEDGE CHECK							
Time: 0055							
Runway: 1							
N4815G AC90/A T290	EDC 0120	↑		MHZ	KVKS MHZ V18 KMEI/0029		
		KVKS P0100					
N5878K AC90/A T290	EDC 0115	↑		MLU	KVKS MLU V94 EMG KSHV/0038	ZFW	
		KVKS P0100					
20							

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## EXERCISE: APPLYING INITIAL SEPARATION, PART 2

*(Continued)*

## Questions (Cont'd)

**ANSWER:**

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# EXERCISE: APPLYING INITIAL SEPARATION, PART 2

(Continued)

## Questions (Cont'd)

- Using the 2-minute rule, record the coordination, clearance, and control information on the flight progress strips and write the appropriate phraseology.

KNOWLEDGE CHECK							
Time: 1700							
Runway: 23							
N792FG BE58/A T190 66 01		↑		GLH	KGWO SQS V278 GLH KPBF/0115	D-A	
							KGWO P1705
FLG690 BE58/A T190 66 01		↑		UJM	KGWO SQS V9 UJM KMEM	D-A	
							KGWO P1705
21							

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## EXERCISE: APPLYING INITIAL SEPARATION, PART 2

(Continued)

Questions  
(Cont'd)

**ANSWER:**

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# EXERCISE: APPLYING INITIAL SEPARATION, PART 2

(Continued)

## Questions (Cont'd)

- Using the 1-minute rule, record the coordination, clearance, and control information on the flight progress strips and write the appropriate phraseology.

KNOWLEDGE CHECK							
Time: 1455 Runway: 23							
FLG690 BE58/A T190 66 01		↑		UJM	KGWO SQS V9 UJM KMEM		
		KGWO P1500		60			
N601T C421/A T190 66 01		↑		MHZ	KGWO SQS V9 MCB KNEW/0120		
		KGWO P1500		60			
22							

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## EXERCISE: APPLYING INITIAL SEPARATION, PART 2

*(Continued)*

## Questions (Cont'd)

**ANSWER:**

Continued on next page

# EXERCISE: APPLYING INITIAL SEPARATION, PART 2

(Continued)

## Questions (Cont'd)

- Write the phraseology to clear N359DB and authorize GWO ATCT to separate N752HY and N359DB. Record the coordination, clearance, and control information on the flight progress strips.

KNOWLEDGE CHECK						
Time: 1424						
Runway: 23 is active at GWO						
N752HY B350/A T230 66 04	UJM 1409	26 14 1426 26 1426 SQS	90✓ 90/24 NW X↗70	KGWO 1431	KLIT./UJM V9 SQS KGWO/1431 C 67↗70	VR VR 1424
N359DB PAY3/A T260 66 01				UJM 160	KGWO SQS V9 UJM KSUS/0124	

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## EXERCISE: APPLYING INITIAL SEPARATION, PART 2

*(Continued)*

**Questions  
(Cont'd)**

**ANSWER:**

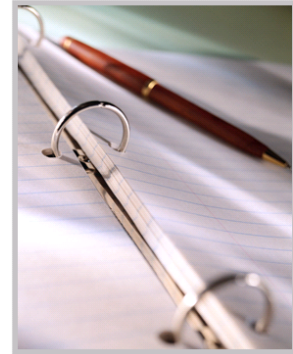
# IN CONCLUSION

## Lesson Review

### LESSON REVIEW

**The following topics were covered in this lesson:**

- Departure procedures
- Initial separation of successive departures
- Visual separation



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## End-of-Lesson Test

### END-OF-LESSON TEST

**Initial  
Separation of  
Departures and  
Visual  
Separation**



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**Part-Task Lab** You will now complete the Initial Separation part-task lab using InitSep-parttask.f2k strips.