

Initial En Route Qualification Training

Lesson 34
Radar Handoff and Point Out

Course 50148001

LESSON PLAN DATA SHEET

COURSE NAME: INITIAL EN ROUTE QUALIFICATION TRAINING

COURSE NUMBER: 50148001

LESSON TITLE: RADAR HANDOFF AND POINT OUT

DURATION: 8+00 HOURS

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

REFERENCE(S): FAA ORDER JO 7110.65, AIR TRAFFIC CONTROL; FAA ORDER JO

7110.311, PROCEDURAL GUIDANCE FOR FAA ORDER JO 7110.65 FOLLOWING EN ROUTE AUTOMATION MODERNIZATION (ERAM) IMPLEMENTATION; N JO 7110.582, INTERIM PROCEDURES FOR

AIRBUS A388 FLIGHTS

HANDOUT(S): NONE

EXERCISE(S)/ HANDOFF/POINT OUT PHRASEOLOGY EXERCISE (INCLUDED AT

ACTIVITY(S): THE END OF THE LESSON)

END-OF-LESSON

TEST:

YES

PERFORMANCE

TEST:

NONE

NONE

MATERIALS: NONE

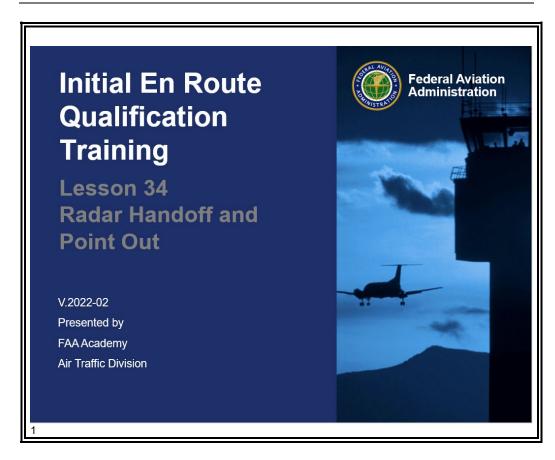
OTHER PERTINENT

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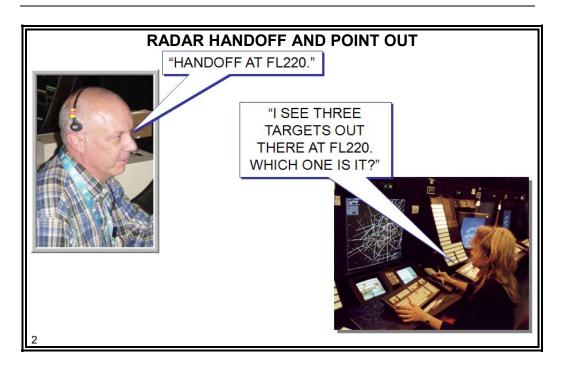
INTRODUCTION



In the nonradar portion of this course, you practiced coordination using nonautomated procedures. In this lesson, you will begin learning about coordination, specifically handoffs and point outs, in an automated environment.

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INTRODUCTION (Continued)



ARTCCs are made up of numerous sectors. An en route aircraft **must** pass through several sectors in order to reach its destination. Procedures have been established to ensure controllers are referring to the same aircraft when making a handoff or point out. Point outs and manual handoffs are a large percentage of a Radar Associate's duties and are fundamental to a Radar Associate's performance.

Purpose

This lesson covers the requirements, procedures, and phraseology for transferring radar identification. The integrity of the ATC system is maintained by the use of these standardized procedures.

INTRODUCTION (Continued)

Lesson Objectives

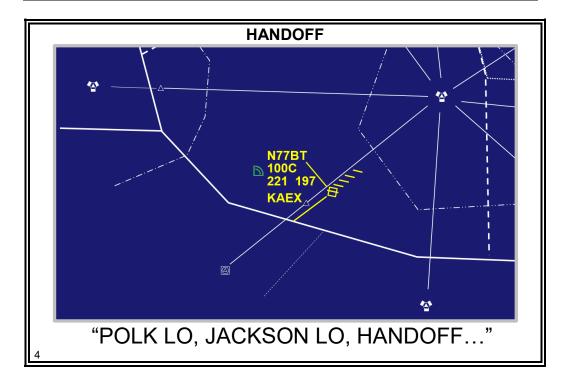
LESSON OBJECTIVES

- On an End-of-Lesson Test, and in accordance with FAA Orders JO 7110.65 and JO 7110.311, you will identify:
 - Terminology and procedures for transferring radar identification
 - Procedures and phraseology for initiating and receiving handoffs and point outs

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TERMINOLOGY

Handoff JO 7110.65, par. 5-4-2



A **handoff** is an action taken to transfer the radar identification of an aircraft from one controller to another controller if the aircraft will enter the receiving controller's airspace and radio communications with the aircraft will be transferred.

Radar Contact JO 7110.65, par. 5-4-2

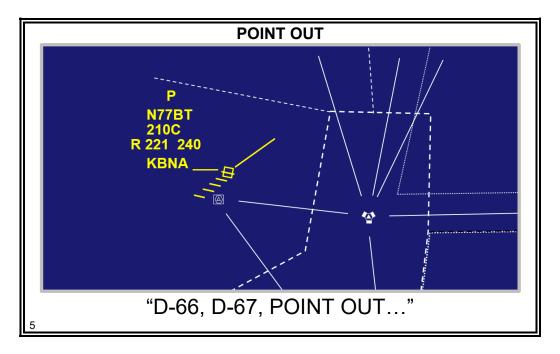


"RADAR CONTACT" is the phrase used to inform the controller initiating a handoff that the aircraft is identified and approval is granted for the aircraft to enter the receiving controller's airspace.

When receiving a handoff, respond to the transferring controller as follows: (aircraft ID or discrete beacon code) (restrictions, if applicable) RADAR CONTACT

TERMINOLOGY (Continued)

Point Out JO 7110.65, par. 5-4-2

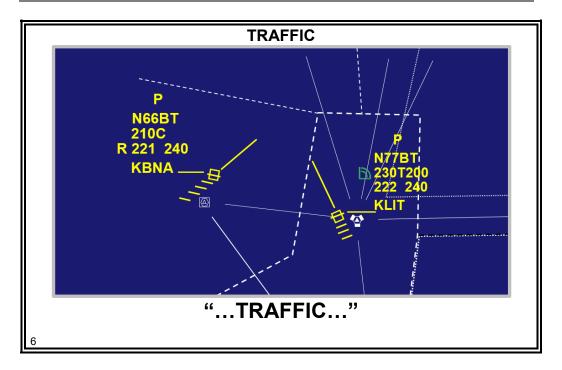


A **point out** is a physical or automated action taken by a controller to transfer the radar identification of an aircraft to another controller if the aircraft will or may enter the airspace or protected airspace of another controller and radio communications will **not** be transferred.

Point Out Approved JO 7110.65, par. 5-4-2 "POINT OUT APPROVED" is the phrase used to inform the controller initiating a point out that the aircraft is identified and that approval is granted for the aircraft to enter the receiving controller's airspace, as coordinated, without a communications transfer or the appropriate automated system response.

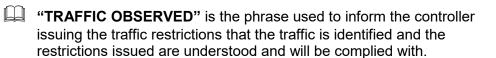
TERMINOLOGY (Continued)

Traffic JO 7110.65, par. 5-4-2



- **"TRAFFIC"** is a term used to transfer radar identification of an aircraft to another controller for the purpose of coordinating separation action.
- Traffic is normally issued in:
 - Response to a handoff or point out
 - Anticipation of a handoff or point out
 - Conjunction with a request for control of an aircraft

Traffic ObservedJO 7110.65,
par. 5-4-2



TERMINOLOGY (Continued)

Knowledge Check

- DISCUSSION QUESTION: In what type of situation would a point out be more beneficial than a handoff?
- DISCUSSION QUESTION: In what type of situation would a receiving controller want to have communication with an aircraft when a point out is attempted?

KNOWLEDGE CHECK

- ♦ QUESTION: The phrase used to inform the initiating controller that the receiving controller has identification on radar and the aircraft may enter the airspace is "_____."
 - A. radar handoff
 - B. radar contact
 - C. handoff, radar contact

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GENERAL PROCEDURES

Information Relay Order JO 7110.65, par. 5-4-3;

INFORMATION RELAY PHRASEOLOGY EXAMPLE "HANDOFF, TWO FIVE MILES NORTHWEST OF MAGNOLIA VORTAC, CODE TWO ONE TWO FOUR, CITATION TWO ONE CHARLIE, DESCENDING TO ONE ONE THOUSAND."

- When making a handoff or point out or issuing a traffic restriction, relay information to the receiving controller in the following order:
 - The target position relative to one of the following, which is known and displayed by both the receiving and transferring controller:
 - Fix
 - Map symbol
 - Radar target

NOTE: Mileage from the reference point may be omitted when relaying the position of a target if a Full Data Block associated with the target has been forced on the receiving controller's radar display.

- Aircraft identification, which may be:
 - Aircraft call sign, and/or
 - Discrete beacon code during interfacility point outs

NOTE: Both are required for interfacility handoffs.

NOTE: Include the word "SUPER" immediately after the aircraft call sign in communications with a terminal facility about A388 operations.

- Altitude information, except when inter/intrafacility directives ensure that the altitude information will be known by the receiving controller
 - Assigned altitude
 - Appropriate restrictions
 - Information that aircraft is climbing or descending

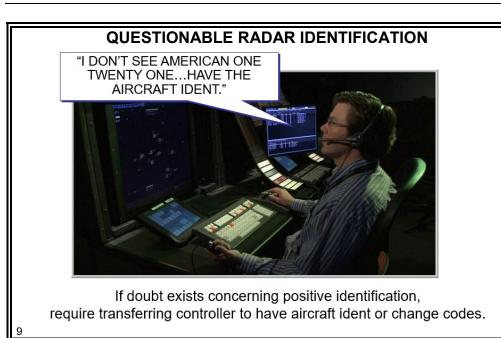
NOTE: During interfacility point outs, when a data is not sent to the receiving controller's radar display, include Mode-C information.

GENERAL PROCEDURES (Continued)

Information Relay Order (Cont'd) JO 7110.65, par. 5-4-3;

- Advise the receiving controller of pertinent information not contained in the data block or available flight data unless covered in an LOA or facility directive. Pertinent information may include:
 - Assigned heading
 - Speed/altitude restrictions
 - Observed track or deviation from the last route clearance
 - Any other pertinent information

Questionable Radar Identification JO 7110.65, par. 5-3-5



- Use more than one method of identification when doubt exists as to target identification.
- If identification is questionable for any reason, take immediate action to:
 - · Re-identify the aircraft
 - Terminate radar service

GENERAL PROCEDURES (Continued)

Knowledge Check

KNOWLEDGE CHECK



QUESTION: How is an aircraft identified during an interfacility handoff?

HANDOFF PROCEDURES

Transferring ControllerJO 7110.311C; JO 7110.65, pars. 2-1-17, 2-3-10, 5-4-5

- Complete the handoff before aircraft enters the receiving controller's airspace.
- Obtain the receiving controller's approval before making any changes to the aircraft's flight path, altitude, speed, or data block after initiating the handoff.
 - Unless otherwise specified by Letter of Agreement (LOA) or facility directive
- Prior to transferring communication:
 - Resolve potential airspace violations and aircraft conflicts
 - Coordinate with all controllers through whose airspace the aircraft will pass before entering the receiving controller's airspace
 - Relay any restrictions issued to ensure separation to the receiving controller

NOTE: in Aero Center you can expect all surrounding sectors to operate in a safe manner and do their required coordination.

- Comply with restrictions issued by the receiving controller.
- Transfer communication when the handoff has been accepted and before the aircraft enters the receiving controller's airspace unless otherwise coordinated.
- Advise the receiving controller of pertinent information **not** contained in the data block or flight progress strip unless covered in an LOA or facility directive, including:
 - Assigned heading
 - · Speed restrictions
 - Altitude information issued
 - Observed track or deviation from the last route clearance
 - · Revised beacon code
 - Any other pertinent information
- Ensure the data block is associated with the appropriate target.

Transferring Controller (Cont'd)

JO 7110.311C; JO 7110.65, pars. 2-1-17, 2-3-10, 5-4-5

- Verbally coordinate to verify the position of primary or nondiscrete beacon targets when using automated handoff function except for:
 - Intrafacility handoffs using single-sensor systems or multisensor systems operating in a mosaic RDP mode.
- Initiate verbal coordination before transferring control of a track when any one of the following is displayed in the data block:
 - CST (Coast status)
 - FAIL (handoff not accepted)
 - NONE (beacon code assigned but **not** received)
- Advise the receiving controller that radar monitoring is required when the aircraft is on a direct route initiated by ATC that exceeds NAVAID distances.
- Issue restrictions to the receiving controller that are necessary to maintain separation from other aircraft within your area before releasing control.
- Consider the handoff complete when the receiving controller:
 - · Acknowledges receipt verbally, or
 - Accepts an automated handoff
- Update radar associate display and/or mark strip as appropriate.
 - Radar handoff is completed
 - C Frequency change (or communications transfer) is made

Receiving Controller

JO 7110.65, pars. 2-1-17, 2-3-10, 5-4-6

- O Before accepting the handoff:
 - Ensure:
 - The target position corresponds with the position given by the transferring controller, or
 - There is an appropriate association between an automated data block and the target being transferred
 - · Issue necessary restrictions before accepting the handoff
- Comply with restrictions issued by the transferring controller unless otherwise coordinated.

Receiving Controller (Cont'd) JO 7110.65.

JO 7110.65, pars. 2-1-17 2-3-10, 5-4-6

- Obtain approval from the transferring controller and/or any intervening controller through whose area the aircraft will pass before changing the aircraft's:
 - Heading or route
 - Altitude
 - Speed
 - Beacon code
- After accepting a handoff, confirm the identity of a:
 - Primary target by advising the aircraft of its position
 - Beacon target by observing a code change, an "ident" reply, or a "standby" squawk
 - Consider a beacon target's identity to be confirmed when:
 - → The associated data block indicates the computer-assigned code is being received
 - → You observe the deletion of a discrete code that was displayed in the data block
 - → You observe the numeric display of a discrete code that an aircraft has been instructed to squawk or reports squawking
- Initiate verbal coordination prior to accepting control of a track when the data block displays:
 - CST
 - NONE
 - OLD
 - DATA
- Advise the transferring controller **before** accepting the handoff, that you will delay the climb or the descent of an aircraft through the vertical limits of their airspace, unless covered in an LOA or directive.
- If you advise the transferring controller that you will delay the climb or descent of an aircraft after accepting the handoff:
 - You now have coordination responsibility with any controller whose airspace is affected by that delay, unless covered in an LOA or directive

Receiving Controller (Cont'd)

JO 7110.65, pars. 2-1-17 2-3-10, 5-4-6

- Update radar associate display and/or mark strip as appropriate.
 - R Radar contact

NOTE: Radar Associate Controller must immediately coordinate with the Radar Controller after accepting any point out or handoff.

Knowledge Check

KNOWLEDGE CHECK

QUESTION: Must you always transfer communication on an aircraft before it enters the receiving controller's airspace?

KNOWLEDGE CHECK

QUESTION: Why are specific responsibilities assigned to each position?

Landline/Inter phone Handoff JO 7110.65, par. 5-4-3

LANDLINE/INTERPHONE HANDOFF



Transferring Controller: "MONROE LOW, JACKSON LOW, HANDOFF."

Receiving Controller: "MONROE LOW."

Transferring Controller: "TWO ZERO MILES EAST OF MONROE VORTAC, SQUAWKING

TWO THREE ONE FIVE, UNITED TWO TEN, CLIMBING TO FLIGHT LEVEL TWO TWO ZERO, HEADING TWO NINER ZERO

FOR WEATHER."

Receiving Controller: "UNITED TWO TEN, RADAR CONTACT, G.T."

Transferring Controller: "T.S."

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Or

• Transferring controller makes interphone connection to receiving controller in accordance with 7110.65, par. 2-4-12, and states:

NOTE: You **must** memorize this phraseology.

→ Phraseology

"HANDOFF (aircraft position) (aircraft ID) (altitude, restrictions, and other appropriate information, if applicable)."

Receiving controller locates the target and states:

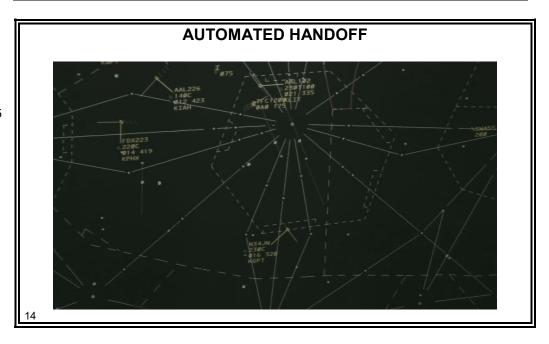
+ Phraseology

"(Aircraft ID) (restrictions, if applicable) RADAR CONTACT."

"UNABLE (appropriate information, as required)."

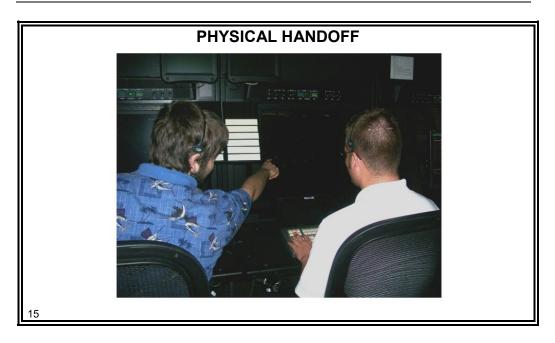
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Automated Handoff (Controller-Generated) JO 7110.65, pars. 5-4-3, 5-4-5



- Transferring controller makes computer entry to "force" the data block on the receiving controller's display.
- Receiving controller makes computer entry to accept handoff.
- If unable to accept the handoff, receiving controller makes interphone connection and advises transferring controller of necessary restrictions or states "UNABLE."
- Transferring controller complies with any restrictions issued by receiving controller.

Physical Handoff JO 7110.65, par. 5-4-3



• Instead of stating the aircraft position, the transferring controller physically points to the target on the receiving controller's display and makes the handoff.



Transferring controller: (Physically pointing to the target on receiving controller's display) "Handoff, American Twelve, one two thousand."

Receiving controller: "American Twelve, radar contact."

Knowledge Check

KNOWLEDGE CHECK

QUESTION: What information does the transferring controller provide in a landline/interphone handoff that is **not** provided in a physical handoff?

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POINT OUT PROCEDURES

Transferring Controller

JO 7110.65, par. 5-4-7; JO 7110.311C, par. 5-4-7

Obtain verbal approval before allowing the aircraft to enter the receiving controller's delegated airspace.

NOTE: This includes the protected airspace (usually 2.5 miles) of the receiving controller.

- Between ERAM facilities, force the data block on the receiving controller's display.
- After the point out has been approved, obtain the receiving controller's approval before making any changes to the aircraft's flight path, altitude, speed, or data block information.
- Comply with restrictions issued by the receiving controller unless otherwise coordinated.
- Make subsequent handoffs and communications transfer, as well as flight data revisions and coordination, unless otherwise agreed to by the receiving controller.

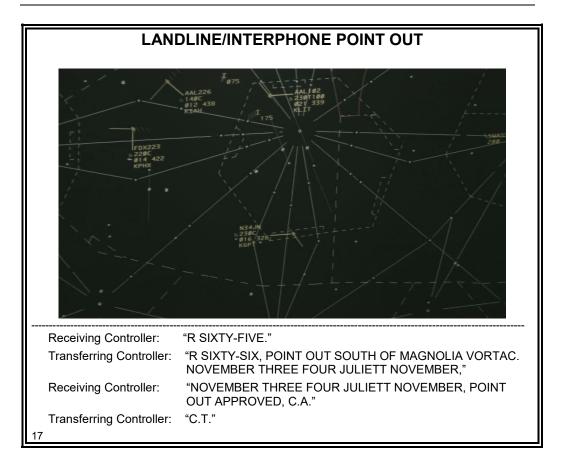
NOTE: When a student points out an aircraft that is "climbing to high" and the climb is going to be delayed, the student must include the delayed climb as pertinent information in the point out.

Receiving Controller

JO 7110.65, pars. 5-4-3, 5-4-7

- Prior to approving the point out, ensure:
 - The target position corresponds with the position given by the transferring controller, or
 - Association exists between a computer data block and the target being transferred
- Before approving a point out, issue restrictions necessary to provide separation from other aircraft within the receiving controller's area of jurisdiction.
- After approving a point out, the receiving controller is responsible for separation between the point out aircraft and other aircraft for which he/she has separation responsibility.
- If communications transfer is needed for control purposes, inform the transferring controller by stating "RADAR CONTACT."

Landline/ Interphone Point Out JO 7110.65, par. 5-4-3



- Transferring controller makes interphone connection to receiving controller in accordance with FAA Order JO 7110.65, par. 2-4-12, and states:
- A point out must be issued in the following order.



"POINT OUT (aircraft position)

(aircraft ID)

(altitude and appropriate restrictions not contained in the data

olock)

(pertinent information not contained in the data block, if

applicable)"

NOTE: You **must** memorize this phraseology.

Landline/ Interphone Point Out (Cont'd) JO 7110.65, par. 5-4-3

Receiving controller locates the target and states:

→ Phraseology

"(Aircraft ID or discrete beacon code) (restrictions, if applicable) POINT OUT APPROVED."

Or, if you wish to communicate with the aircraft,

"RADAR CONTACT (appropriate information, as required)."

Or

"UNABLE (appropriate information, as required)."

Out

JO 7110.65, par. 5-4-3

Physical Point • Transferring controller physically points to the target on the receiving controller's display and makes a point out.

+

Phraseology Example

Transferring controller: (Physically pointing to the target on receiving controller's display) "Point out, American Twelve."

Receiving controller: "American Twelve, point out approved."

Traffic

JO 7110.65, pars. 5-4-3, 5-4-4; JO 7110.311C, par. 5-4-4

- When using the term "traffic" for coordinating separation, the controller issuing traffic shall provide appropriate restrictions and shall force the data block(s) of the traffic to the other controller's display when the point out is between ERAM facilities.
- Controller accepting restriction **shall** be responsible to ensure approved separation is maintained.
 - When receiving traffic restrictions, state:



"(Aircraft ID or discrete beacon code) TRAFFIC OBSERVED."

Phraseology



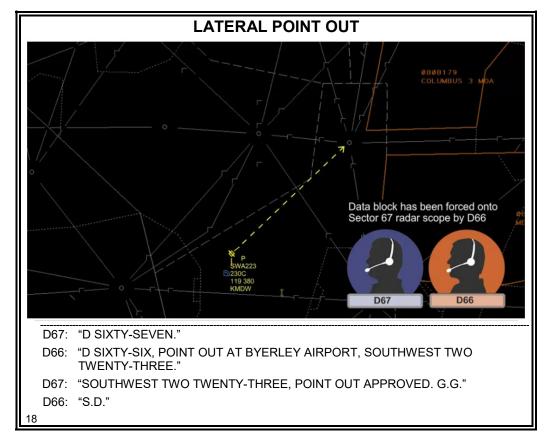
Transferring controller: "Point out, south of Magnolia VORTAC, Southwest Four Fifteen."

Receiving controller: Traffic southwest of McComb VORTAC United Three Twenty."

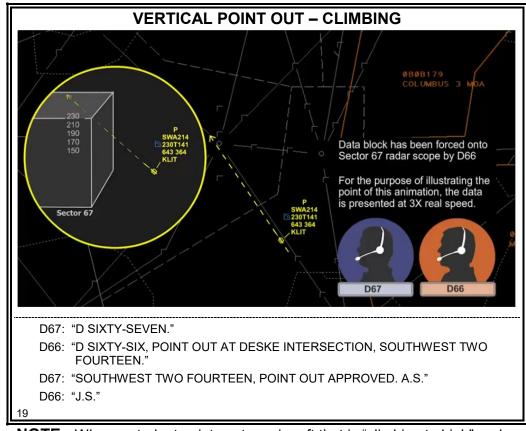
Transferring controller: United Three Twenty, traffic observed."

NOTE: You **must** memorize this phraseology.

Lateral Point Out

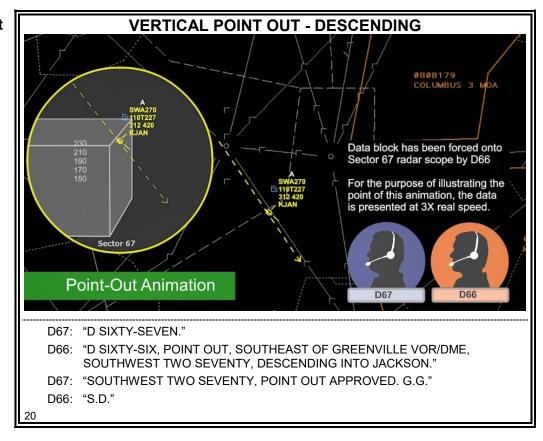


Vertical Point Out -Climbing



NOTE: When a student points out an aircraft that is "climbing to high" and the climb is going to be delayed, the student **must** include the delayed climb as pertinent information in the point out.

Vertical Point Out -Descending



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Knowledge Check

KNOWLEDGE CHECK

QUESTION: How would you advise a controller initiating a point out that you are assuming track control of the aircraft and that communication should be transferred to you?

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KNOWLEDGE CHECK

QUESTION: What are the four ways to transfer radar identification for handoffs?

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KNOWLEDGE CHECK

QUESTION: How does a point out differ from a handoff?

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AUTOMATED INFORMATION TRANSFER (AIT)

General JO 7110.65, par. 5-4-8

- Transfer radar identification, altitude control, and/or en route fourth line control information, without verbal coordination under the following conditions:
 - During radar handoff
 - Via information displayed in full data blocks
 - Within the same facility, except as provided in FAA Order JO 7110.65, par. 5-4-9, Interfacility Automated Information Transfer
 - When following procedures specified in your facility Automated Information Transfer (AIT) directive

Interfacility AIT

JO 7110.65, par. 5-4-9

- Transfer radar identification without verbal coordination under the following conditions:
 - · During radar handoff; and
 - Via information displayed in full data blocks; and
 - · On aircraft at assigned altitude in level flight; and
 - Only the first sector within the receiving facility shall utilize the procedure; and
 - When following procedures specified in your facility AIT directive and LOA

En Route Fourth Line Data Block JO 7110.65, par. 5-4-11, d through K

The en route fourth line data block shall be used to forward only the specified control information listed in FAA Order JO 7110.65.

NOTE: This information was covered in the Radar Data Display lesson.

 Any additional control information shall be forwarded via other communication methods

AUTOMATED INFORMATION TRANSFER (AIT)

(Continued)

En Route Fourth Line Data Block (Cont'd) JO 7110.65, par. 5-4-11 The en route fourth line data block free text area may be used by individual sector teams for recording any additional information the team deems appropriate for managing the sector, but **shall** be removed prior to initiation of identification transfer.

NOTE: Examples are headings, speed, or deviations.

- The acceptance of a handoff by the receiving controller **shall** constitute approval of the information contained within the en route fourth line data block.
 - It is the responsibility of the receiving controller to advise the transferring controller if any information is **not** understood or needs to be revised
- All other control information shall be coordinated via other methods.

IN CONCLUSION

Lesson Review

LESSON REVIEW

The following topics were covered in this lesson:

- Terminology
- General procedures
- Handoff procedures
- Point out procedures
- Automated Information Transfer (AIT)



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NOTE: You will now complete the Handoff/Point Out Phraseology Exercise.

End-of-Lesson Test

END-OF-LESSON TEST

Radar Handoff and Point Out



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HANDOFF/POINT OUT PHRASEOLOGY EXERCISE

Exercise
Purpose

The purpose of this exercise is primarily to practice manual handoff and point out phraseology.

HANDOFF/POINT OUT PHRASEOLOGY EXERCISE

(Continued)

Scenario Events

NWA911 Point out to 67; manual handoff to MLU LO

AAL110 Manual handoff to JAN APCH

AAL112 Point out to 67; automated handoff to 15

AAL111 Manual handoff to JAN APCH

NWA1781 Manual handoff to JAN APCH

N19AR Point out to 67; automated handoff to 15

N51KG Manual handoff to JAN APCH

N50WR Point out to MLU APCH

N476P Point out to JAN APCH

N167NT Point out to POE LO; manual handoff to HMU LO

N911GM Point out to MLU LO; manual handoff to POE LO

N55LJ Point out to 65; automated handoff to 12

N123DF Manual handoff to JAN APCH

N50WR Point out to 67; manual handoff to MLU LO

N414PP Point out to 67

A14376 Point out to 65; manual handoff to PCU LO

N776MB Manual handoff to PCU LO (APREQ. Climbing to 160)

N435CB Manual handoff to POE LO

Handoff Phraseology

Transferring controller makes interphone connection to receiving controller and states:

"HANDOFF (aircraft position) (aircraft ID) (altitude, restrictions, and other appropriate information, if applicable)."

Receiving controller locates the target and states:

"(Aircraft ID) (restrictions, if applicable) RADAR CONTACT."

or

"UNABLE (appropriate information, as required)."

HANDOFF/POINT OUT PHRASEOLOGY EXERCISE

(Continued)

Point Out Phraseology

Transferring controller makes interphone connection to receiving controller in accordance and states:

"POINT OUT (aircraft position) (aircraft ID) (altitude, restrictions, and other appropriate information, if applicable)."

Receiving controller locates the target and states:

"(Aircraft ID or discrete beacon code) (restrictions, if applicable) POINT OUT APPROVED."

or

"RADAR CONTACT (appropriate information, as required)."

or

"UNABLE (appropriate information, as required)."