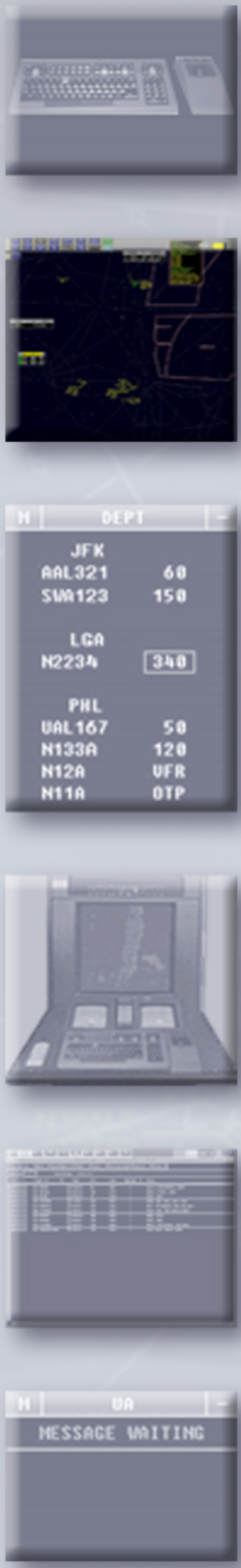

FAA Lesson Plan

En Route Stage 4
Radar Controller Training

Student

Radar Handoff and Point Out
Lesson 7

55055
V.1.07

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LESSON PLAN DATA SHEET

COURSE NAME:	RADAR CONTROLLER TRAINING
COURSE NUMBER:	55055
LESSON TITLE:	RADAR HANDOFF AND POINT OUT
DATE REVISED:	2014-04
VERSION:	V.1.07
REFERENCES:	JO 7110.65V, Air Traffic Control; JO 7110.311B, Procedural Guidance for FAA Order JO 7110.65 following En Route Automation Modernization (ERAM) Implementation; JO 7210.3Y, Facility Operation and Administration; TI 6110.100, En Route Automation Modernization (ERAM) Air Traffic Manual (ATM): R-Position User Manual; TI 6110.141, En Route Automation Modernization (ERAM) System Adaptation Manual (SAM): Local Data Panels; ERAM EDSM SRS 210.04 V1B1, En Route Automation Modernization (ERAM) En Route Display Management (EDSM) R-Position and General EDSM Requirements Volume 1, Book 1; ERAM EDSM SRS 210.04 V1B2, En Route Automation Modernization (ERAM) En Route Display Management (EDSM) Appendices for R-Position and General EDSM Requirements Volume 1, Book 2; ERAM MONF SRS 210.18, En Route Automation Modernization (ERAM) Monitor Flights (MONF); ERAM FDP SSS 200.04, En Route Automation Modernization (ERAM) Flight Data Processing (FDP); ERAM SIG 1508, Side Stream Handoff Enhancements
HANDOUTS:	NONE
EXERCISES:	NONE
END-OF-LESSON TEST:	YES
PERFORMANCE TEST:	NONE
MATERIALS:	NONE
OTHER PERTINENT INFORMATION:	THIS LESSON IS BASED ON ERAM BUILD EAC1500. THIS LESSON HAS BEEN REVIEWED AND REFLECTS CURRENT ORDERS AND MANUALS AS OF APRIL 2014.

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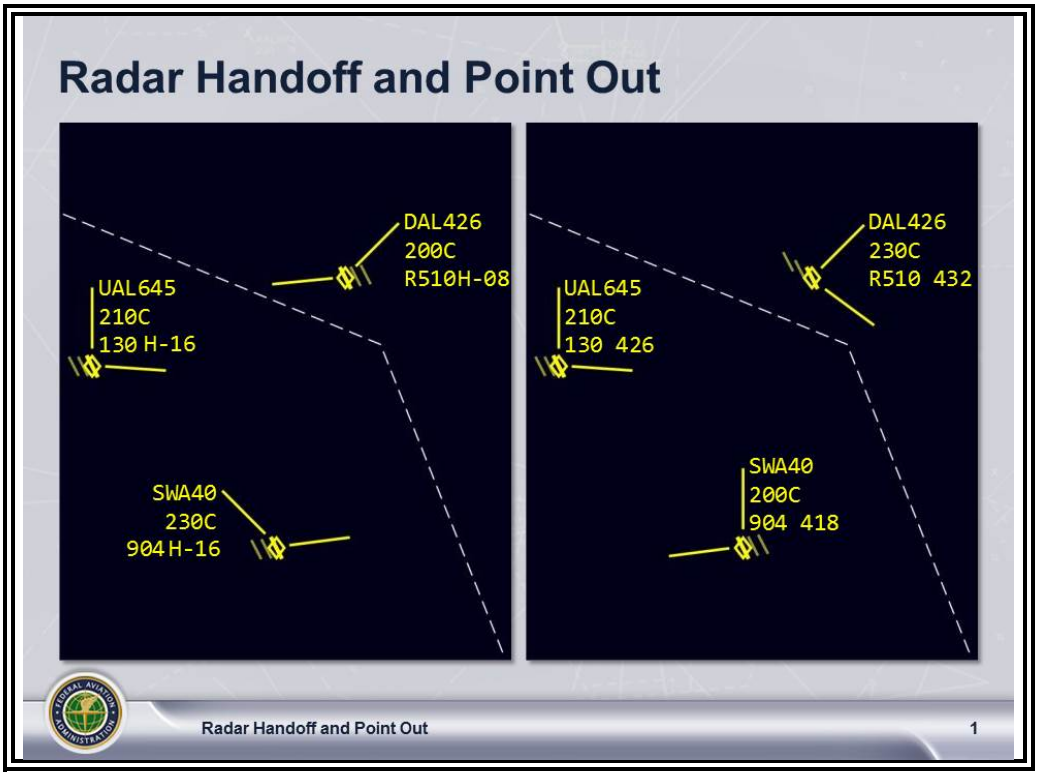
INTRODUCTION



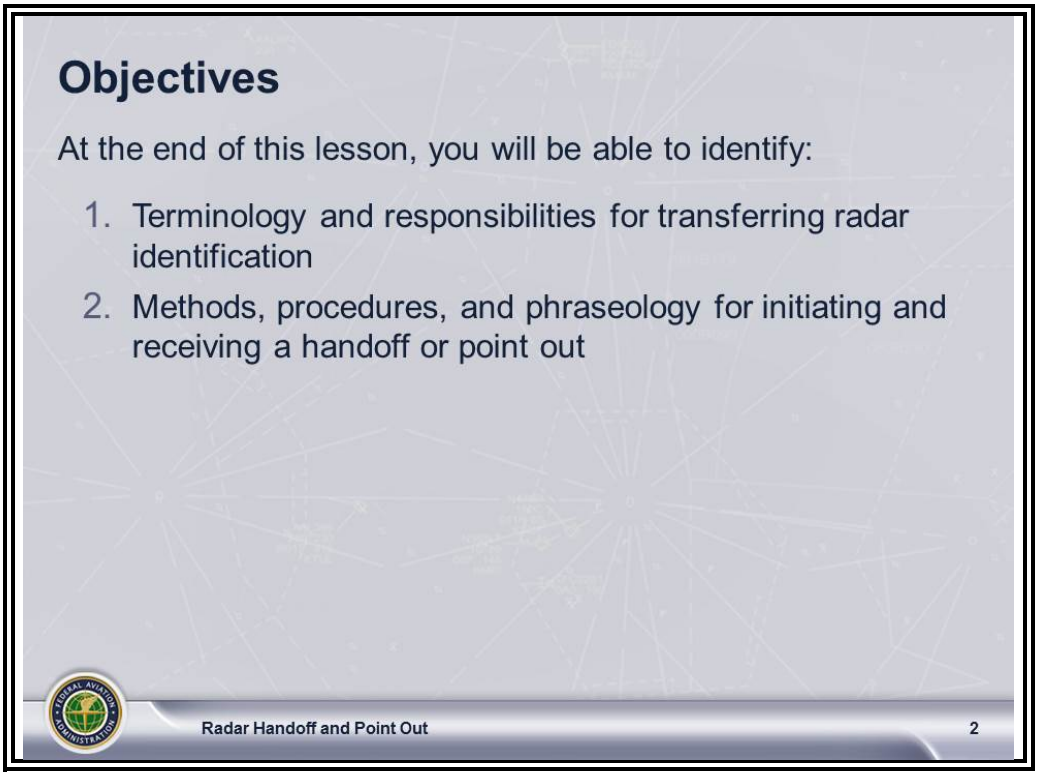
When making a handoff or point out, established procedures must be followed to ensure that both the transferring and receiving controllers are referring to the same target.

Purpose

This lesson covers procedures used to transfer aircraft radar identification from one controller to another.

INTRODUCTION *(Continued)*

Objectives



TERMINOLOGY

Definitions
JO 7110.65, pars. 5-4-2, 5-4-8, 5-4-9;
JO 7110.311B, par. 5-4-2

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

📖 "**Radar Contact"** is a 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.

📖 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.

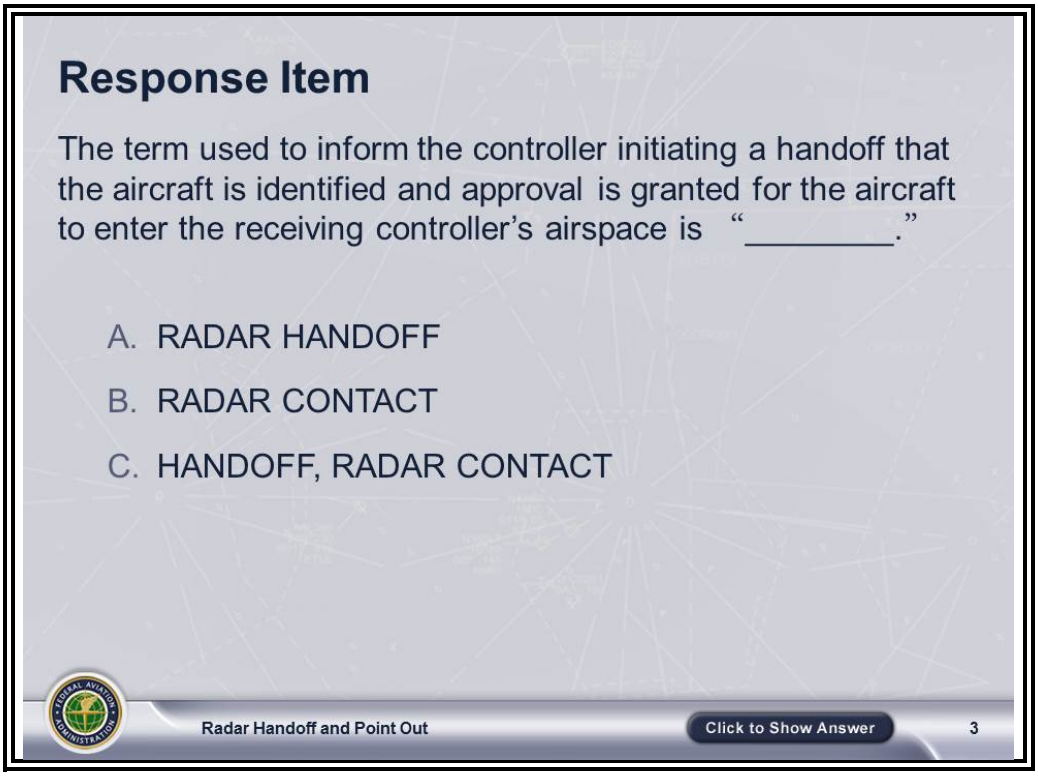
📖 **"Point Out Approved"** is the phrase used to inform the controller initiating a point out that the aircraft is identified and that approval is granted for the aircraft to enter the receiving controller's airspace, as coordinated, without a communications transfer or the appropriate automated system response.

📖 An **Automated Information Transfer (AIT)** is transfer of radar identification, altitude control, and/or en route fourth line control information, without verbal coordination under the following conditions; during a radar handoff via information displayed in full data blocks within the same facility (except in an Interfacility Automated Information Transfer), and when following procedures specified in your facility AIT directive.

📖 An **Interfacility Automated Information Transfer** is a transfer of the radar identification, without verbal coordination, under the following conditions; during a radar handoff via information displayed in full data blocks on aircraft at assigned altitude, in level flight, only the first sector within the receiving facility must utilize the procedure, and when following procedures specified in your facility AIT directive and Letter of Agreement (LOA).

TERMINOLOGY *(Continued)*

Review

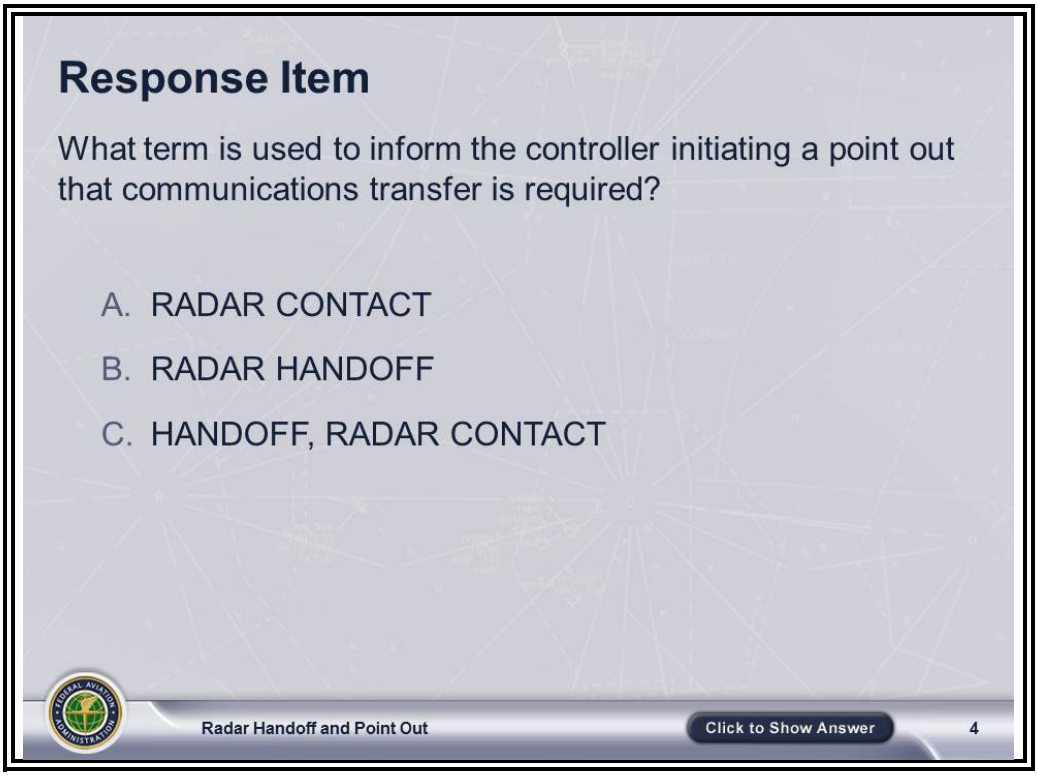


Traffic Terminology
JO 7110.65, pars. 5-4-2, 5-4-4; JO 7110.311B, par. 5-4-2

- **"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
- When using the term "traffic" for coordinating separation, you must issue appropriate restrictions.
- **"Traffic Observed"** is a phrase used to inform the controller issuing traffic restrictions that the traffic is identified and that the restrictions issued are understood and will be complied with.
- As the controller accepting the restrictions, you must be responsible for ensuring that approved separation is maintained between the involved aircraft.

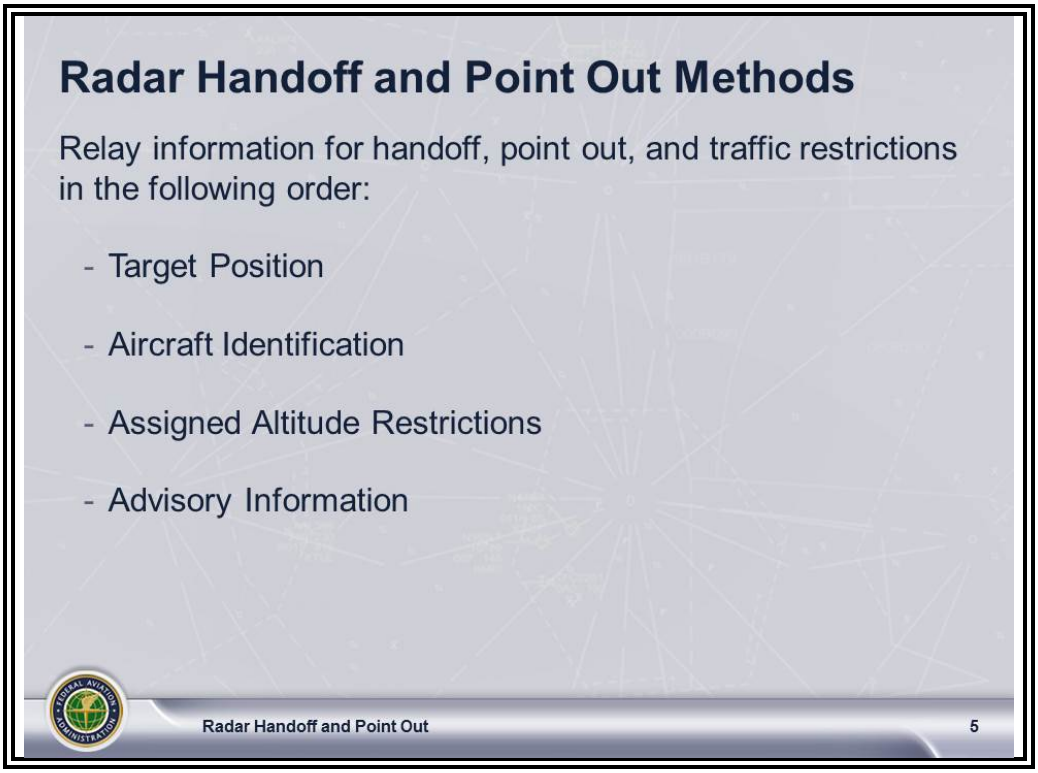
TERMINOLOGY *(Continued)*

Review



HANDOFF/POINT OUT METHODS

General
JO 7110.65,
par. 5-4-3;
JO 7110.311B,
par. 5-4-3



⊙ Relay information for handoff, point out, and traffic restrictions in the following order:

- Target position relative to:
  - A fix
  - A map symbol, or
  - Radar target known and displayed on both Situation Displays
    → Mileage from the reference point may be omitted if a Full Data Block associated with the target has been forced on the receiving controller's Situation Display.
- The aircraft identification:
  - Aircraft call sign, or
  - Discrete beacon code of the aircraft
    → During interfacility point outs only, if both receiving and transferring controllers agree

Continued on next page

HANDOFF/POINT OUT METHODS *(Continued)*

General (Cont'd)
JO 7110.65, par. 5-4-3;
JO 7110.311B, par. 5-4-3

- Assigned altitude restrictions, and whether the aircraft is climbing or descending:
  - Unless inter/intrafacility directives ensure altitude information is known
- 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

HANDOFF/POINT OUT METHODS *(Continued)*

Transfer of Radar Identification
JO 7110.65, par. 5-4-3;
JO 7110.311B, par. 5-4-3

- Transfer radar identification (applies to both handoffs and point outs) by at least one of the following methods:
  - Physically point to the target on the receiving controller's display.
    - When physically pointing to a target, aircraft position does **NOT** need to be stated.
  - Use landline voice communications.
  - Use automation capabilities.

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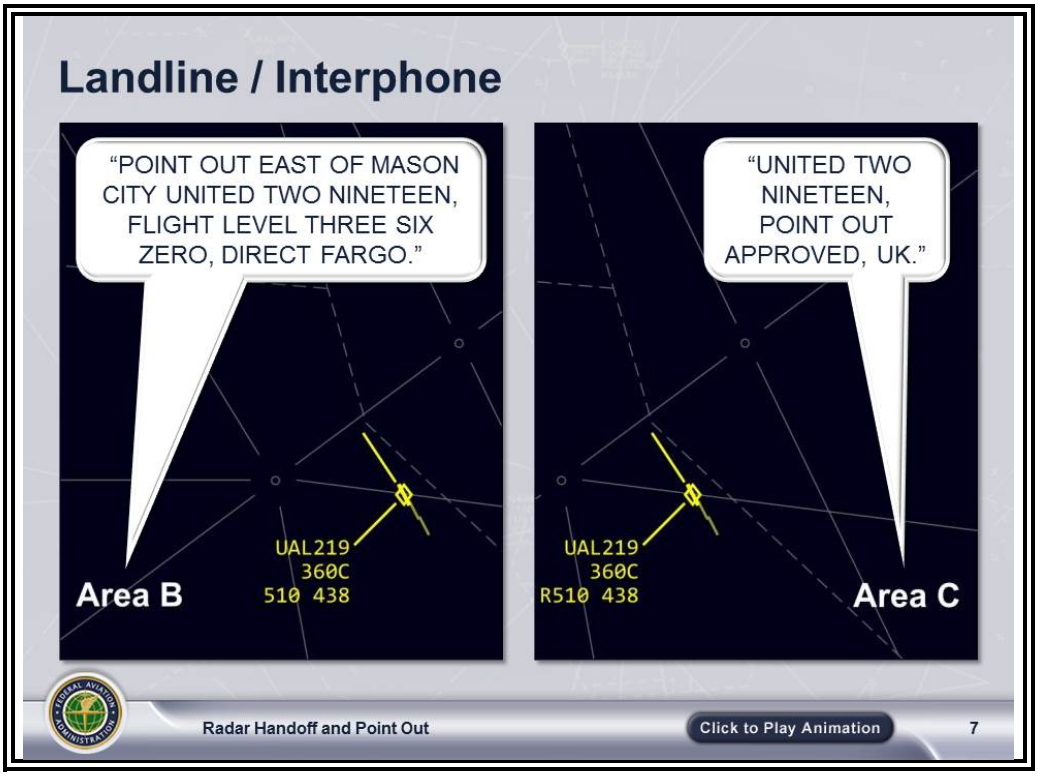
HANDOFF/POINT OUT METHODS *(Continued)*

Transfer of Radar Identification (Cont'd)
JO 7110.65, par. 5-4-3;
JO 7110.311B, par. 5-4-3



- Using landline voice communications

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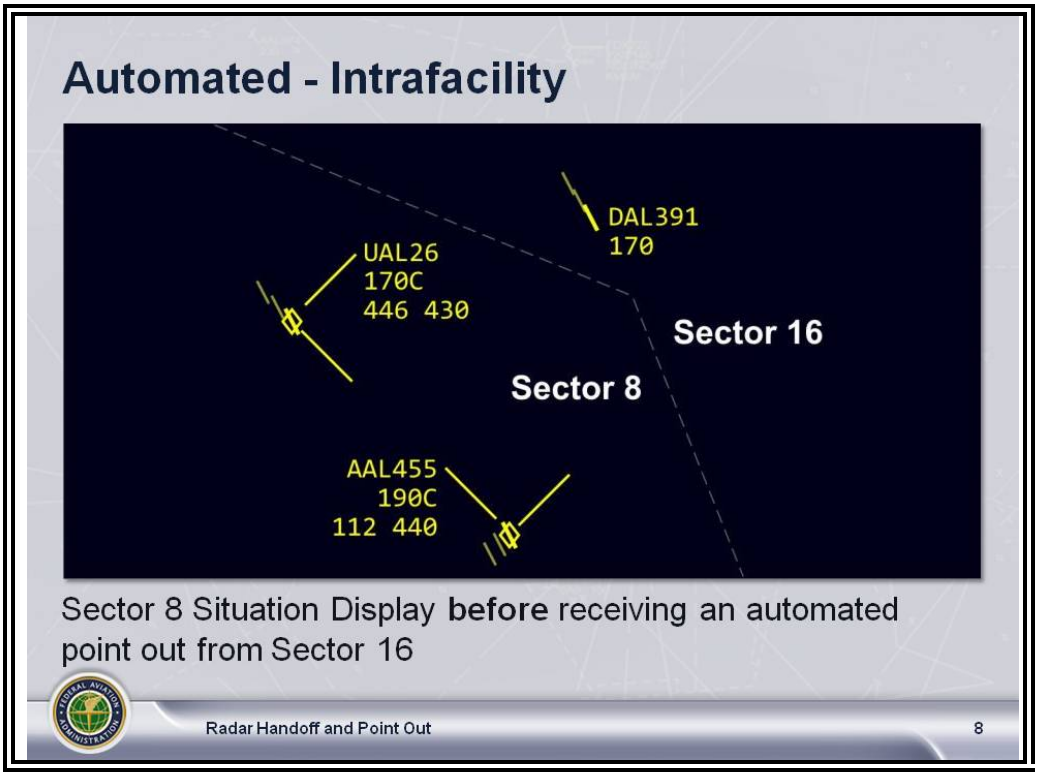
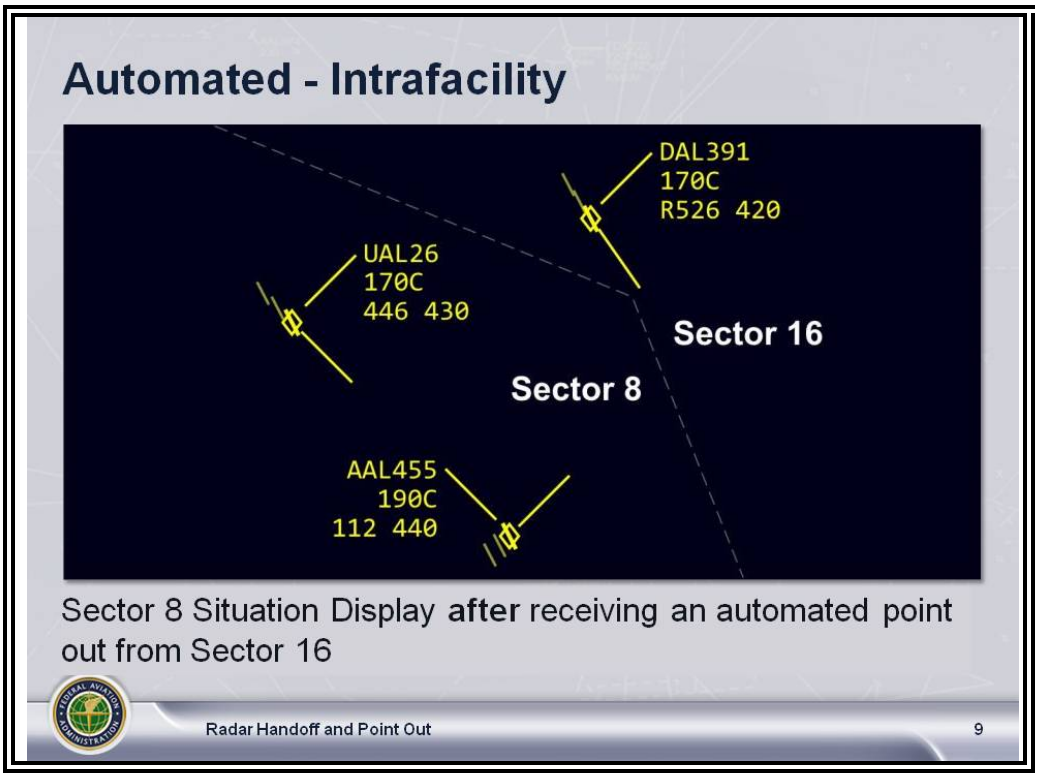
HANDOFF/POINT OUT METHODS *(Continued)*

Transfer of Radar Identification (Cont'd)
JO 7110.65, par. 5-4-3;
JO 7110.311B, par. 5-4-3





- Using intrafacility automation capabilities

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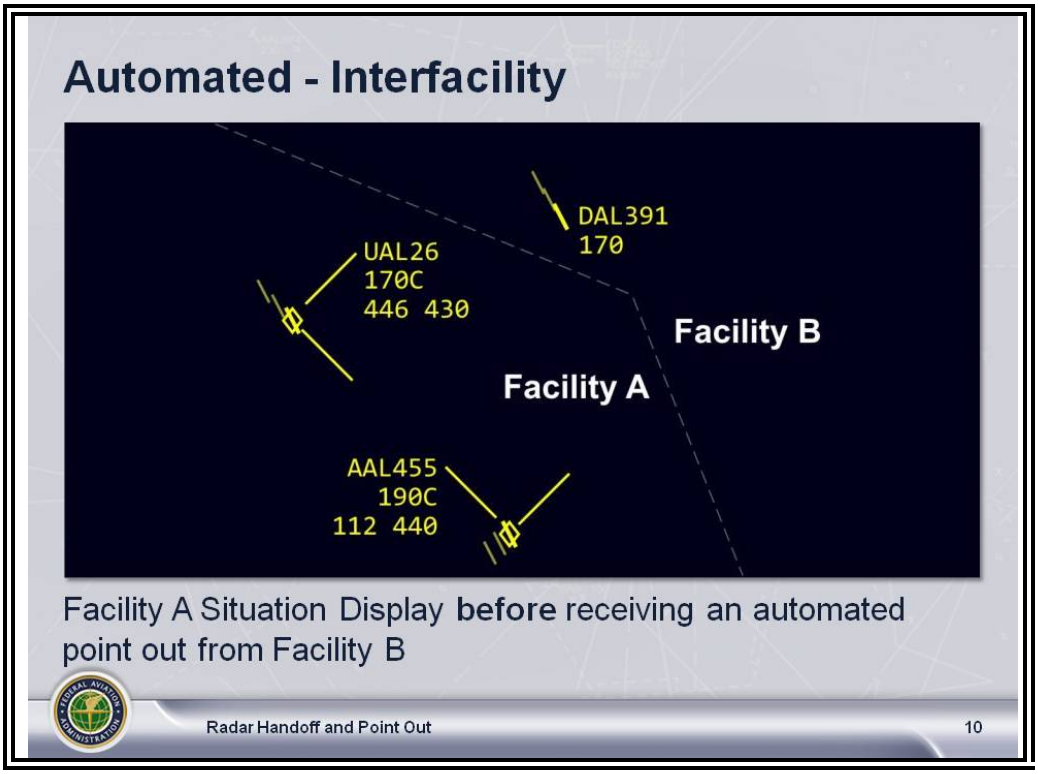
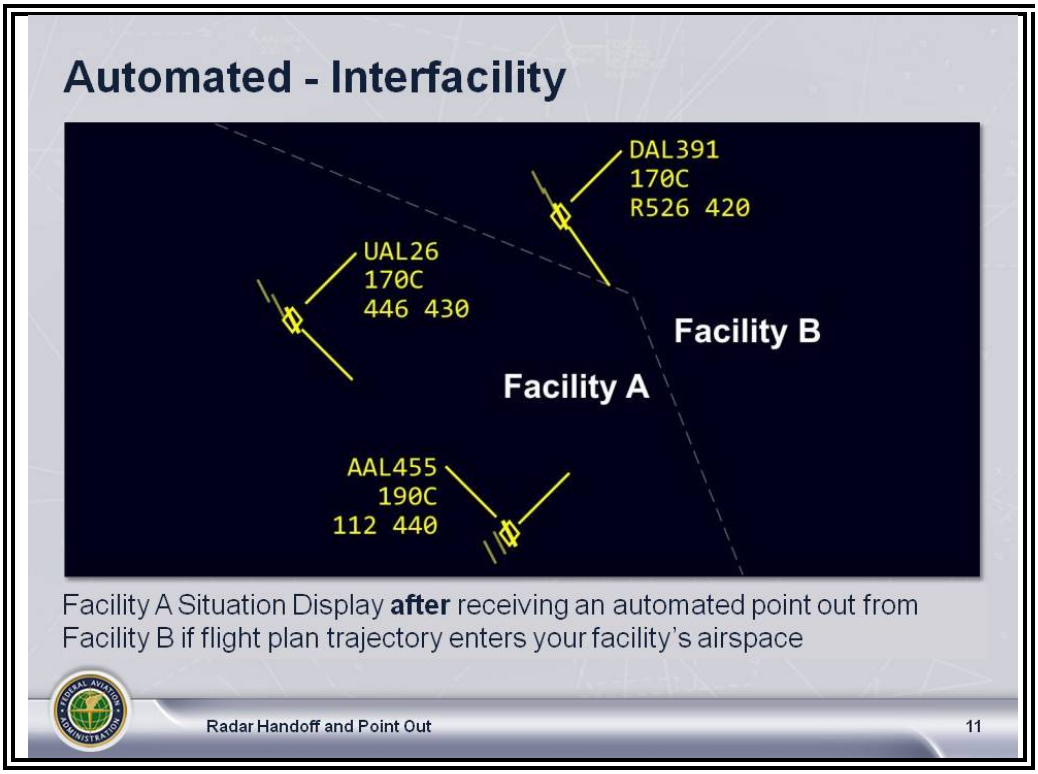
HANDOFF/POINT OUT METHODS *(Continued)*

Transfer of Radar Identification (Cont'd)
JO 7110.65, par. 5-4-3;
JO 7110.311B, par. 5-4-3





- Using interfacility automation capabilities

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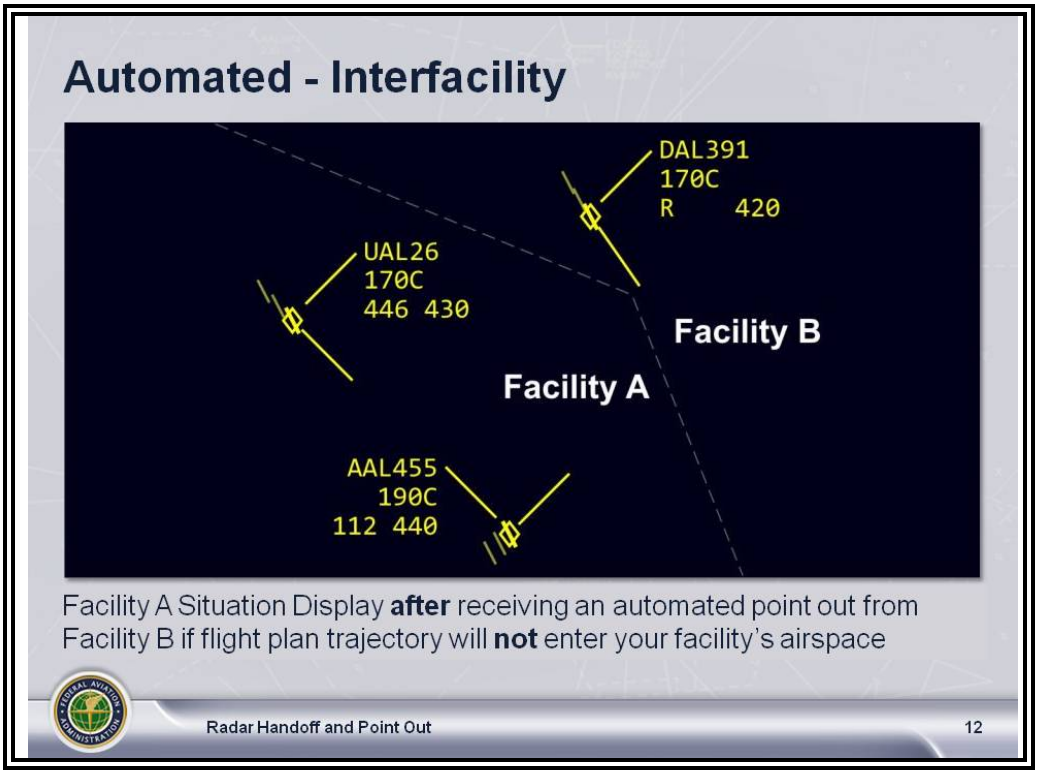
HANDOFF/POINT OUT METHODS *(Continued)*

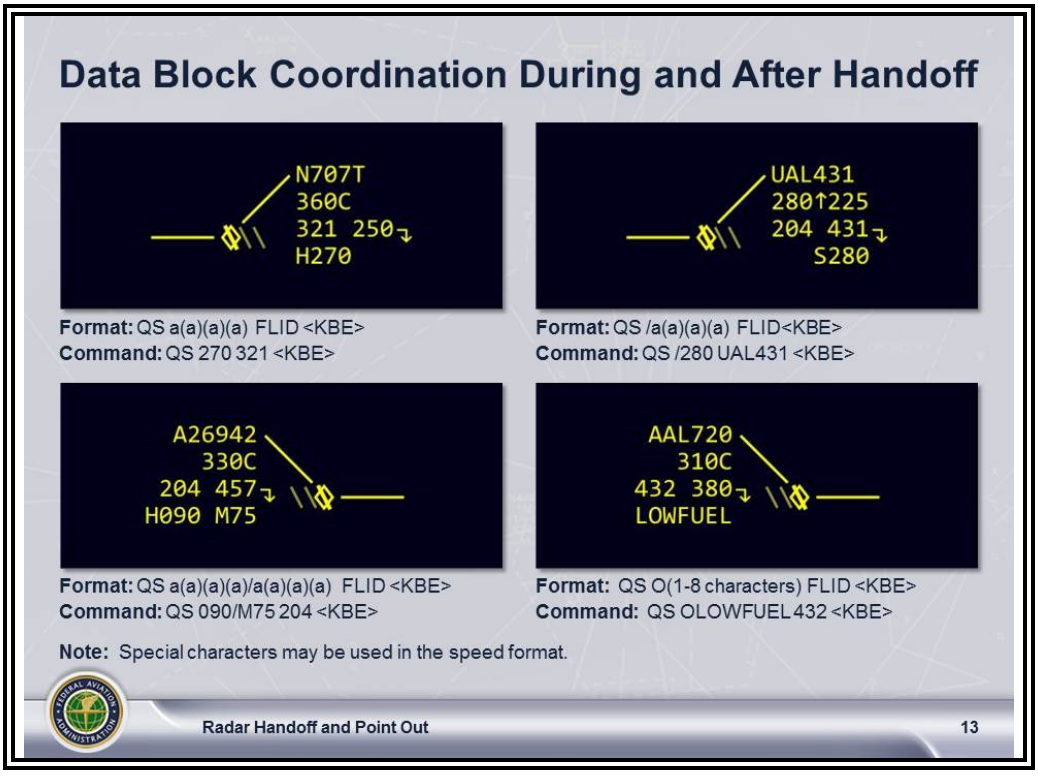
Transfer of Radar Identification (Cont'd)
JO 7110.65, par. 5-4-3;
JO 7110.311B, par. 5-4-3



- Using interfacility automation capabilities when aircraft does not enter facility airspace

HANDOFF/POINT OUT METHODS *(Continued)*

Data Block Coordination During and After Handoff
TI 6110.100, par. 4.7;
JO 7110.311B, par. 5-14-3;
JO 7110.65, par. 5-14-3



- Automation enables you to change the heading, speed, free-form text, and interim altitude after a handoff to another center and before leaving the transferring facility's AOR.

- You, as the transferring controller, can modify 4th line data after the receiving facility accepts the handoff:

  - If the aircraft is within your AOR, the changes you make are reflected in the data blocks of both facilities.

  - You will also see 4th line changes made by the receiving controller after he/she accepts the handoff.

HANDOFF/POINT OUT METHODS *(Continued)*

En Route Fourth Line Data Block Usage
JO 7110.65, par. 5-4-11; TI 6110.100, par. 4.9

⊙ Provided that aircraft are radar-identified, the en route fourth line data block must be used to forward only the following (if assigned):

- Aircraft Data
- Destination
- Heading
  - Information preceded by H
  - Present heading denoted by PH
  - Weather deviations must use designated characters
    - → Information indicated by D and direction
    - → Two digits specify turns and must include direction
    - → Three digits specify headings
    - → /NAVAID, /waypoint, or /F inclusion indicates authorized weather deviation and pilot must rejoin the route
    - → Absence of /NAVAID, /waypoint, or /F indicates deviation for weather only and clearance is required to rejoin the route
- Speed
  - Information preceded by S or M
- Free Text Area, including:
  - Celestial navigation
    - → Information indicated by CELNAV
  - Pilot request
    - → Information preceded by RQ

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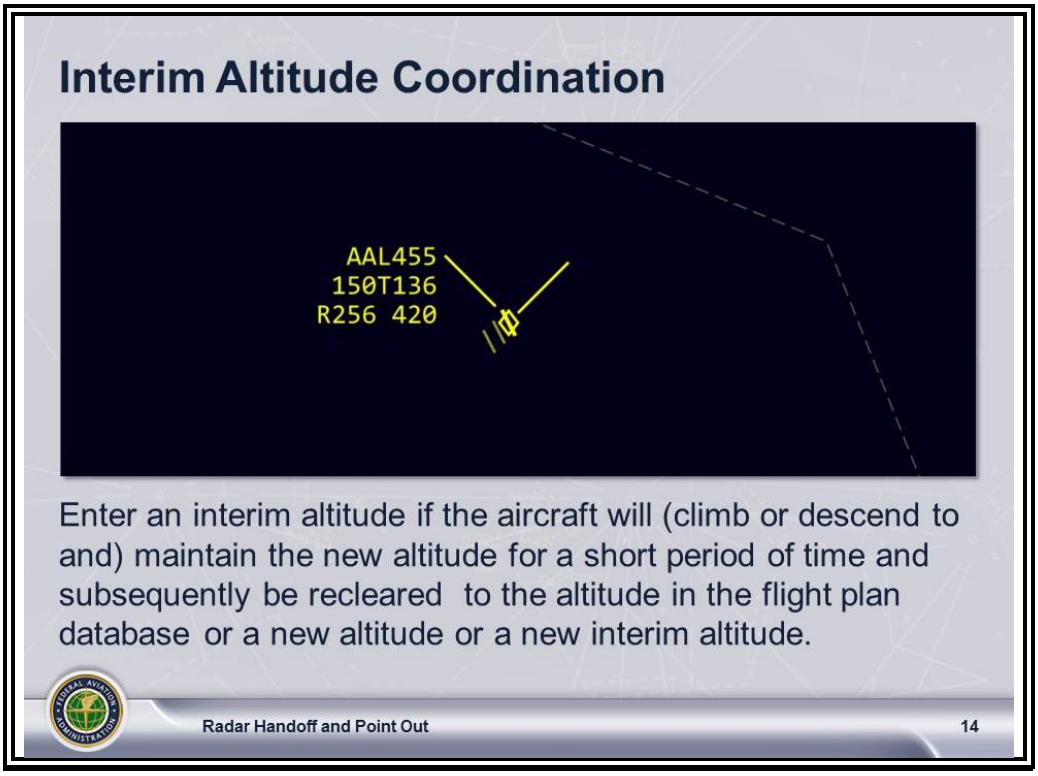
HANDOFF/POINT OUT METHODS *(Continued)*

En Route Fourth Line Data Block Usage (Cont'd)
JO 7110.65, par. 5-4-11; TI 6110.100, par. 4.9

- Acceptance of a handoff by the receiving controller constitutes **receipt** of the information contained within the en route fourth line data block.
  - If data is not clear, it is the responsibility of the receiving controller to request clarification from the transferring controller.
- Any additional control information must be forwarded via other communication methods.
- The fourth line Free Text Area may be used by an individual sector team, but it must be removed prior to initiation of radar handoff.

HANDOFF/POINT OUT METHODS *(Continued)*

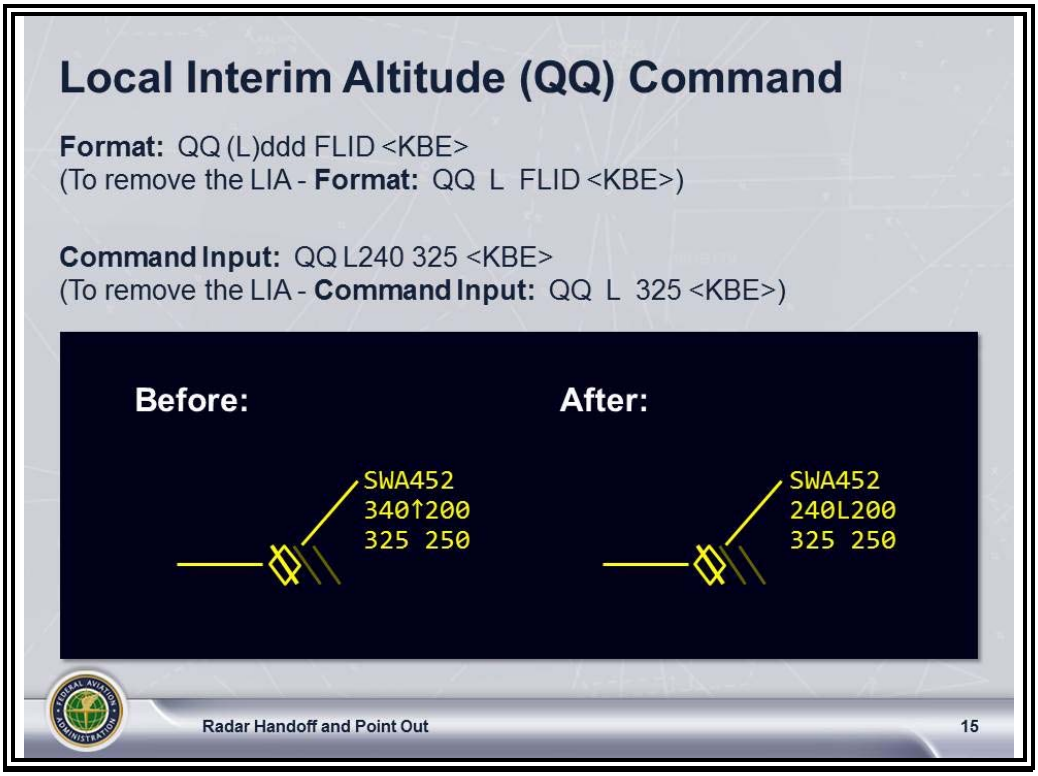
Interim Altitude Coordination
JO 7110.65, par. 5-14-3;
JO 7110.311B, par. 5-14-3



- The data block must always reflect the **current** status of the aircraft, unless otherwise specified in a facility directive.
- Whenever an aircraft is cleared to maintain an altitude different from that in the flight plan database, enter into the computer one of the following:
  - The new assigned altitude, if the aircraft will (climb or descend to and) maintain the new altitude, or
  - An interim altitude, if the aircraft will (climb or descend to and) maintain the new altitude for a short period of time and subsequently be recleared to:
    - The altitude in the flight plan database, or
    - A new altitude, or
    - A new interim altitude

HANDOFF/POINT OUT METHODS *(Continued)*

Local Interim Altitude
TI 6110.100, par. 4.3;
JO 7110.311B, par. 5-14-3;
JO 7110.65, par. 5-14-3



- ⊙ Only used during an interfacility transfer of radar identification
  - The local interim altitude is used to reflect the current status of the aircraft in the transferring facility, while allowing the coordination of a different altitude with an external facility.

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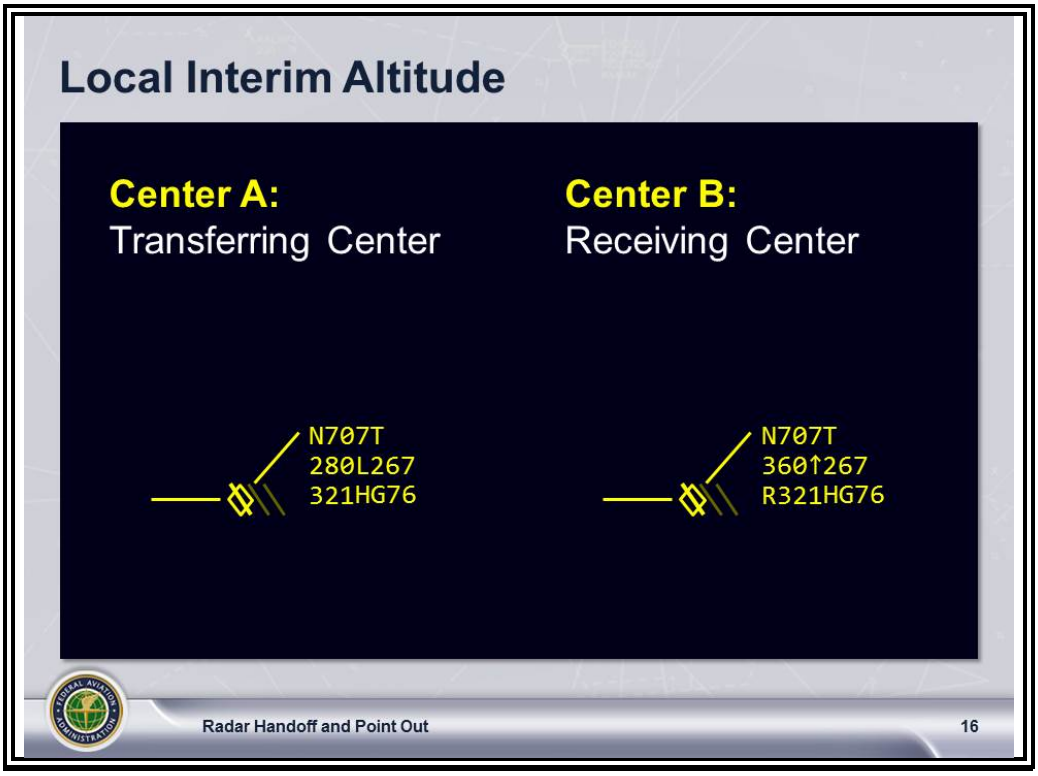
HANDOFF/POINT OUT METHODS *(Continued)*

Local Interim Altitude (Cont'd)
TI 6110.100, par. 4.3;
JO 7110.311B, par. 5-14-3;
JO 7110.65, par. 5-14-3



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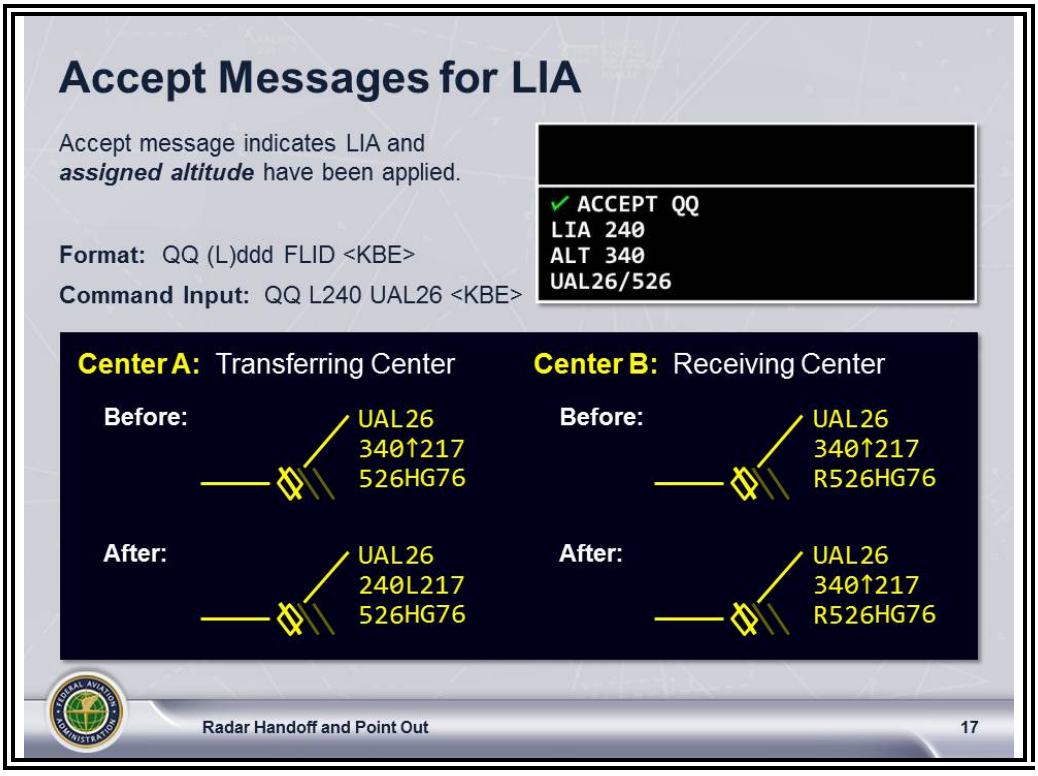
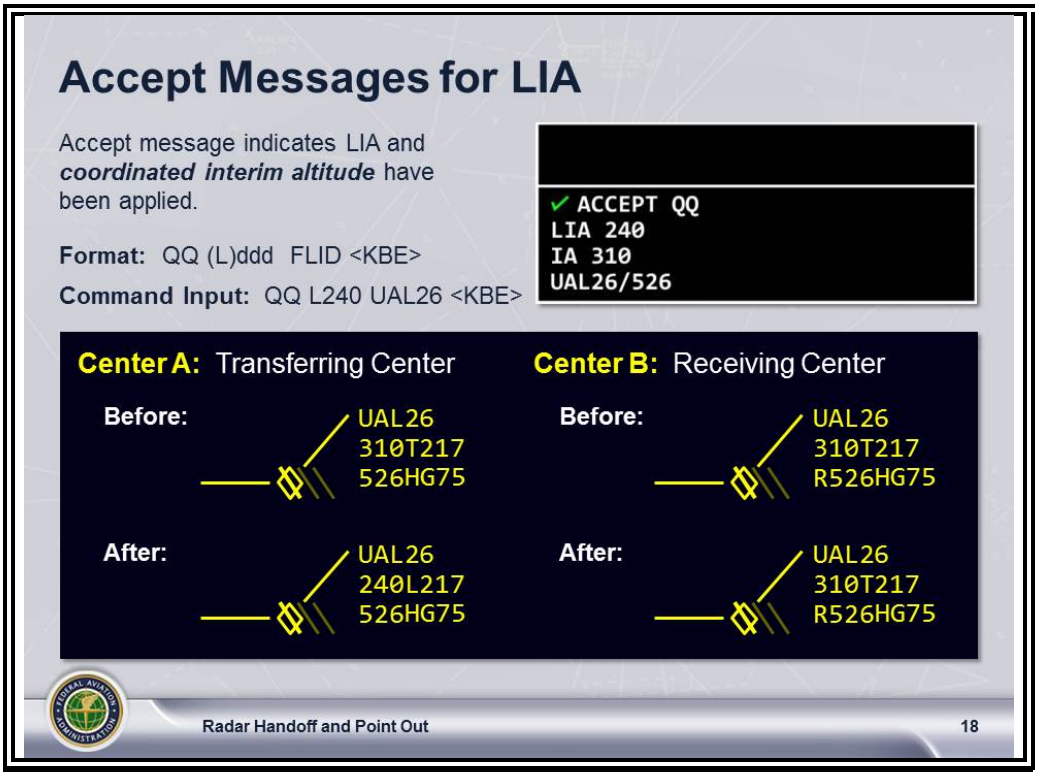
HANDOFF/POINT OUT METHODS *(Continued)*

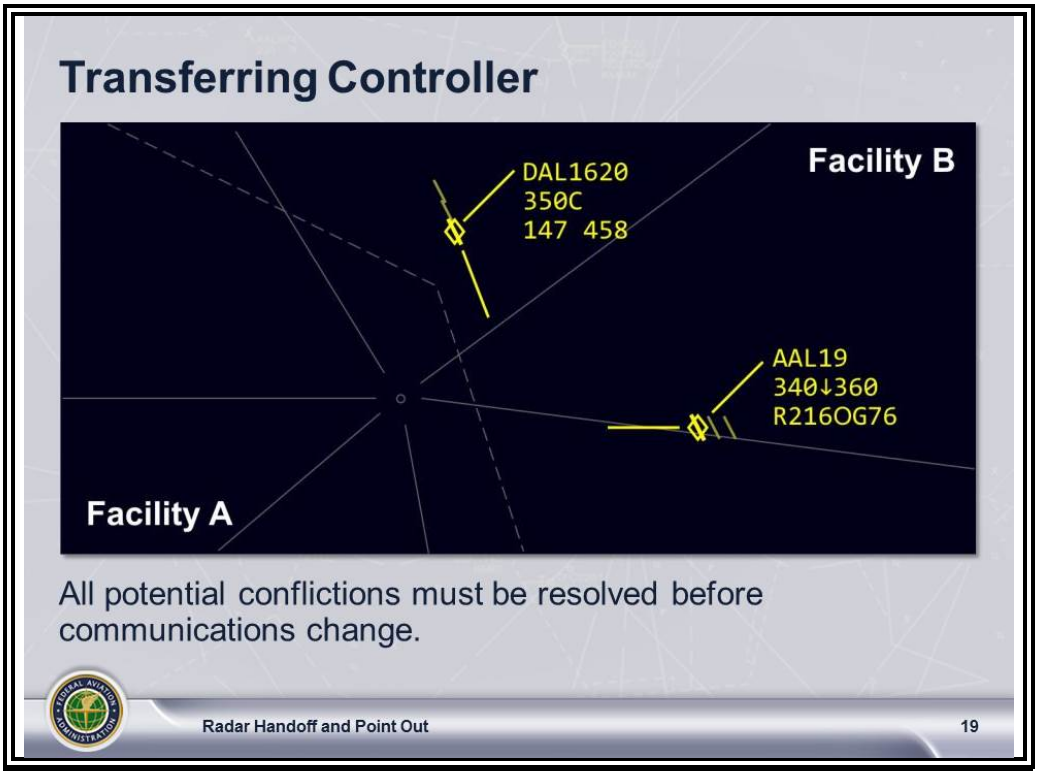
Local Interim Altitude (Cont'd)
TI 6110.100, par. 4.3;
JO 7110.311B, par. 5-14-3;
JO 7110.65, par. 5-14-3





HANDOFF PROCEDURES

Transferring Controller
JO 7110.65, pars. 2-1-14 thru 2-1-17, 5-4-1, 5-4-5



- Handoff the aircraft before it enters the receiving controller's airspace:
  - In all areas of radar surveillance (except where it is not operationally feasible), unless:
    - Covered in an LOA
    - Coordinated for a specified period of time
- Verbally obtain the receiving controller's approval prior to making any changes to an aircraft's flight path, altitude, speed or data block information:
  - While the handoff is being initiated, or
  - After acceptance, unless otherwise specified by a LOA or a facility directive

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HANDOFF PROCEDURES *(Continued)*

Transferring Controller (Cont'd)
JO 7110.65, pars. 2-1-14 thru 2-1-17, 5-4-1, 5-4-5

- ⊙ If a QQ or QS command does not pass:
  - You will receive a message in the feedback area.
  - The MESSAGE WAITING button will be highlighted.
  - When you acknowledge the MESSAGE WAITING button, an Unsuccessful Transmission Message (UTM) will display.
- ⊙ Prior to communications change the radar team must:
  - Resolve potential violations of adjacent airspace and potential conflicts between aircraft in their own area of jurisdiction.
  - Complete necessary coordination with all controllers through whose area the aircraft will pass prior to entering the receiving controller's area of jurisdiction.
    - Except when such coordination is the receiving controller's responsibility and unless otherwise specified by a LOA or a facility directive
- ⊙ Make sure restrictions issued to ensure separation are passed to the receiving controller.
- ⊙ Comply with receiving controller's restrictions.
- ⊙ Transfer control:
  - At a prescribed or coordinated location, time, fix, or altitude, or
  - At the time:
    - A radar handoff and frequency change to the receiving controller have been completed, and
    - When authorized by a facility directive or LOA which specifies the type and extent of control that is transferred
  - After all potential conflicts have been eliminated

Continued on next page

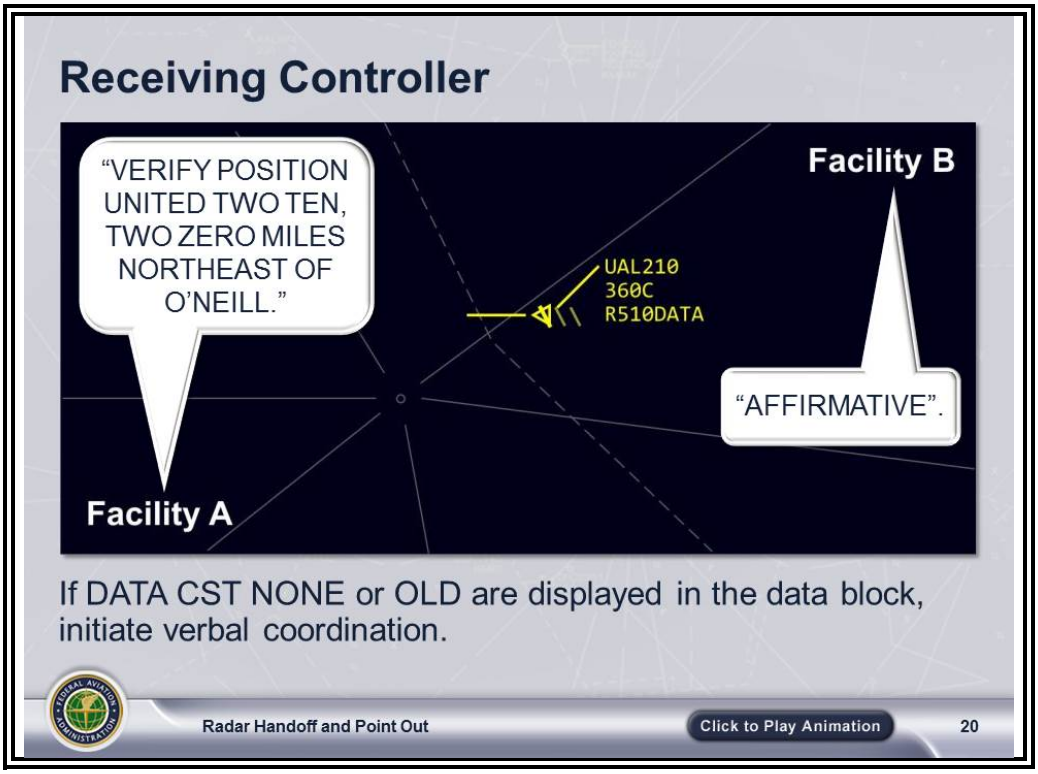
HANDOFF PROCEDURES *(Continued)*

Transferring Controller (Cont'd)
JO 7110.65, pars. 2-1-14 thru 2-1-17, 2-3-2, 5-4-1, 5-4-5, 5-4-6; JO 7110.311B, par. 5-4-6

- ⊙ Coordinate any pertinent information not included in data block or on strip (unless in a LOA or facility directive), such as:
  - Assigned heading
  - Speed restrictions
  - Altitude information issued
  - Track deviation
  - Revised beacon code
  - Other pertinent information
- ⊙ Ensure the data block is associated with the appropriate target.
- ⊙ Verbally verify position with primary or nondiscrete targets (interfacility).
- ⊙ Initiate verbal coordination before transferring control of a track when data block displays:
  - CST (Coast Status)
  - FAIL (handoff not accepted)
  - NONE (assigned a code but not received)
- ⊙ Advise the receiving controller when radar monitoring is required due to:
  - Aircraft on direct route:
    - Initiated by ATC.
    - Exceeding usable NAVAID distances.
- ⊙ Issue restrictions to the receiving controller to provide separation before releasing control.
- ⊙ Consider the handoff complete when the receiving controller:
  - Acknowledges receipt verbally, or
  - Has accepted automated handoff
- ⊙ When advised by the receiving controller prior to accepting the handoff, accomplish coordination required due to expected delay in climb or descent.
- ⊙ Update EDST or mark strips, as appropriate.
- ⊙ To the extent possible, transfer communications when the transfer of radar identification has been accepted.

HANDOFF PROCEDURES *(Continued)*

Receiving Controller
JO 7110.65, pars. 2-1-15, 5-4-6; JO 7110.311B, par. 5-4-6



- Before accepting a handoff:
  - Ensure the data block corresponds to a target at a position given by the transferring controller.
  - Issue any necessary restrictions.
  - Advise the transferring controller of any expected delay in climb or descent.
    - If the transferring controller is not advised until **AFTER** accepting handoff, the receiving controller becomes responsible for all required coordination.
- Comply with restrictions issued by the transferring controller.
- Assume control of an aircraft only after it is in your area of jurisdiction.

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HANDOFF PROCEDURES *(Continued)*

Receiving Controller (Cont'd)
JO 7110.65, pars. 2-1-15, 5-4-6;
JO 7110.311B, par. 5-4-6

- ⊙ Accomplish necessary coordination with all affected controllers through whose area the aircraft will pass before changing an aircraft's:
  - Heading or route
  - Speed
  - Altitude
  - Beacon code
- ⊙ Take the identified action prior to accepting control of a track when the following indicators are displayed in the data block:
  - DATA, CST, NONE, NX, OLD or OL:
    - Initiate verbal coordination.
- ⊙ Notify the FLM/CIC (Front Line Manager/Controller in Charge) when a MISM is displayed in the data block.
  - Only the receiving controller will see MISM in the data block.
- ⊙ After accepting a handoff, confirm the target identity of:
  - Primary target by advising aircraft of its position
  - Beacon target by asking the aircraft to do one of the following:
    - Change code
    - IDENT
    - Squawk standby

NOTE: Confirming target identity is normally required only after a non-automated transfer of radar identification.

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HANDOFF PROCEDURES *(Continued)*

Receiving Controller (Cont'd)
JO 7110.65, pars. 2-1-15, 2-3-2, 5-4-6; JO 7110.311B, par. 5-4-6

⊙ Consider a discrete beacon target's identity confirmed when the data block of the associated target indicates:

- Computer assigned discrete beacon code, or
- Deletion of a discrete code

NOTE: When the aircraft generated discrete beacon code does not match the computer assigned beacon code, the code generated will be displayed in the data block. When the aircraft changes to the assigned discrete code, the code disappears from the data block. In this instance, the observance of code removal from the data block satisfies confirmation requirements.

- Discrete code that the aircraft has been instructed to squawk or reports squawking

⊙ Mark strips, as appropriate.

✈ **Phraseology Examples**

Transferring controller: "SECTOR ONE, SECTOR TWO."

Receiving controller: "SECTOR ONE."

Transferring controller: "HAND OFF, ONE ZERO MILES WEST OF MCALESTER, UNITED TWO TEN CLIMBING TO FLIGHT LEVEL TWO FOUR ZERO, REQUESTING VECTOR TO HECTOR."

Receiving controller: "UNITED TWO TEN, RADAR CONTACT, REQUEST CONTROL."

Transferring controller: "UNITED TWO TEN YOUR CONTROL, J.C."

Receiving controller: "N.D."

Review

◈**QUESTION:** True or False. Unless previously coordinated or covered in Letter of Agreement, you must transfer communications on an aircraft before it enters the receiving controller's airspace.

HANDOFF PROCEDURES *(Continued)*

Both Controllers
JO 7110.65, pars. 2-1-17, 2-1-25, 2-4-3, 10-4-4;
JO 7610.4, par. 7-3-1

⊙ Within a reasonable amount of time, take appropriate action to establish or restore communications with all aircraft for which a communications transfer or initial contact is expected or required.

- A reasonable amount of time is normally considered five minutes from the time the aircraft enters the controller's area of jurisdiction or comes within range of radio/communications coverage.
  - Communications include:
    - → Two-way VHF or UHF radio contact
    - → Data link
    - → Contact through an approved third party (i.e. ARINC)

⊙ If radio communications have not been reestablished with the aircraft after 5 minutes, consider the aircraft's or pilot's actions to be suspicious and report it to the FLM/CIC.

Automated Information Transfer (AIT)
7110.65, pars. 2-1-14, 3-7-7, 5-4-3 and 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 when interfacility AIT applies
- When following procedures specified in your facility AIT directive

HANDOFF PROCEDURES *(Continued)*

Interfacility Automated Information Transfer En Route
7110.65, pars. 2-1-14, 5-4-3 and 5-4-9

⊙ Transfer radar identification without verbal coordination under the following conditions:

- During radar handoff
- Via information displayed in full data blocks
- On aircraft at assigned altitude in level flight
- Only the first sector within the receiving facility must utilize the procedure
- When following procedures specified in your facility AIT directive and LOA

Prearranged Coordination
7110.65, pars. 2-1-14, 5-4-3, 5-4-10; 7210.3, par. 3-7-7

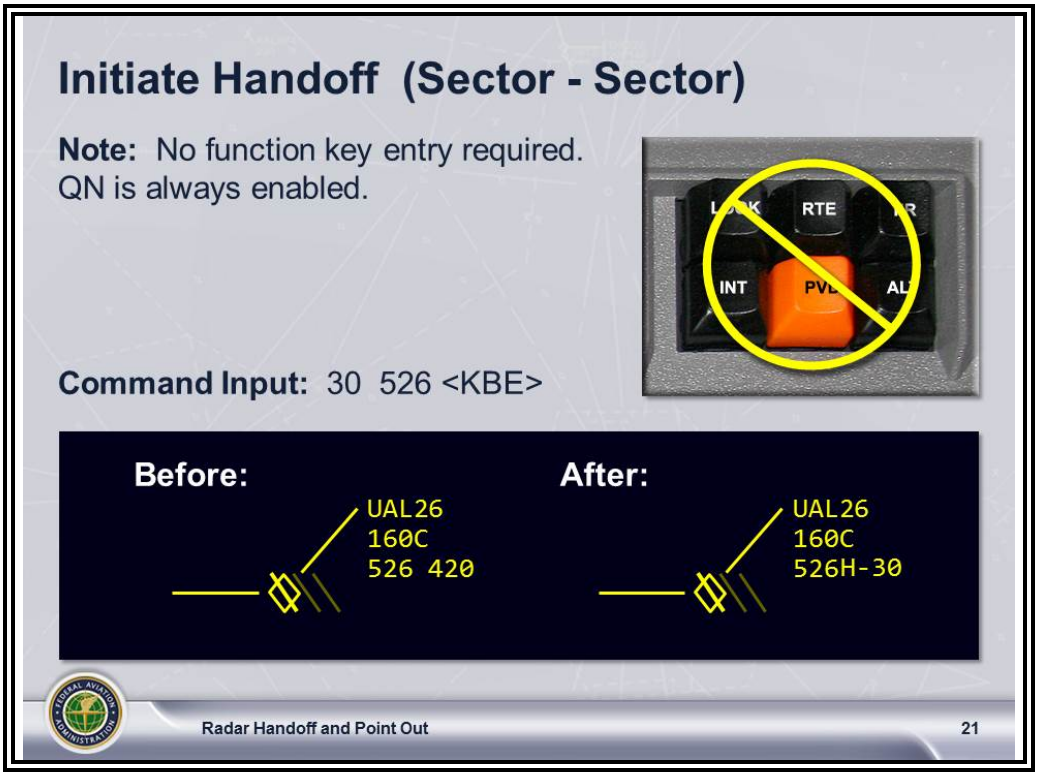
⊙ Allowing aircraft under your control to enter another controller's area of jurisdiction may only be approved provided procedures are established and published in a facility directive/LOA in accordance with FAAO JO 7210.3, par. 3−7−7, Prearranged Coordination.

NOTE: Under no circumstances may one controller permit an aircraft to enter another's airspace without proper coordination.

- Coordination can be accomplished by several means; i.e.:
  - Radar handoff
  - Automated information transfer
  - Verbal
  - Point−out
  - By prearranged coordination procedures identified in a facility directive that clearly describe the correct application
- Airspace boundaries should not be permitted to become barriers to the efficient movement of traffic.
- In addition, the following **cannot** be overemphasized:
  - Complete coordination
  - Awareness of traffic flow
  - Understanding of each position's responsibility concerning penetration of another's airspace

HANDOFF COMMAND ENTRY

Initiating Handoffs
JO 7110.65, pars. 5-4-3 thru 5-4-6; TI 6110.100, Tables B-1 and 4-3; ERAM EDSM SRS 210.04 V1B2, Table 23

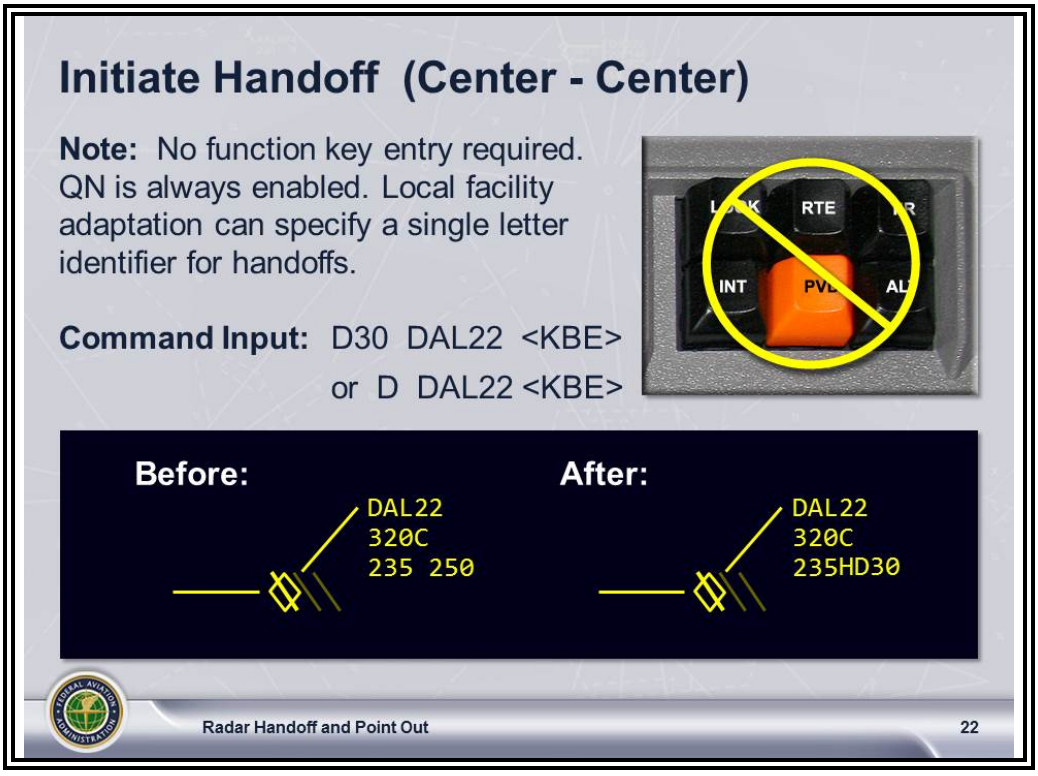


- To initiate a handoff:
  - Force the FDB to the receiving controller with the appropriate handoff indicator.
    - This causes the code to be entered in the receiving controller's Beacon Code View if not already present.
- To hand off multiple FLIDs at one time:
  - Add additional aircraft IDs into the Command Input field and
  - Insert a forward slash between aircraft IDs
- Handoff types include:
  - Sector to sector
  - Center to Center
  - Center to ARTS/STARS

Continued on next page

HANDOFF COMMAND ENTRY *(Continued)*

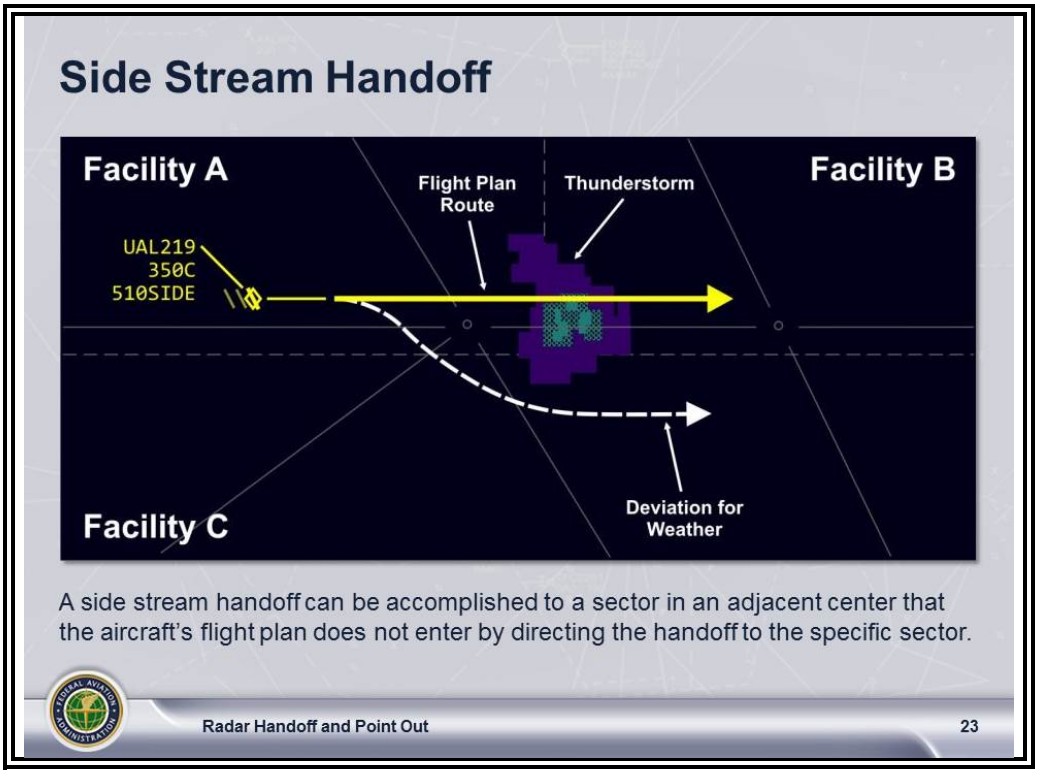
Initiating Handoffs (Cont'd)
JO 7110.65, pars. 5-4-3 thru 5-4-6; TI 6110.100, Tables B-1 and 4-3; ERAM EDSM SRS 210.04 V1B2, Table 23



NOTE: The letter D in the command input is a facility adapted single letter identifier for Denver Center. The single letter identifier will initiate an adaptation-derived handoff to a specific sector depending upon the configuration of the receiving facility.

HANDOFF COMMAND ENTRY *(Continued)*

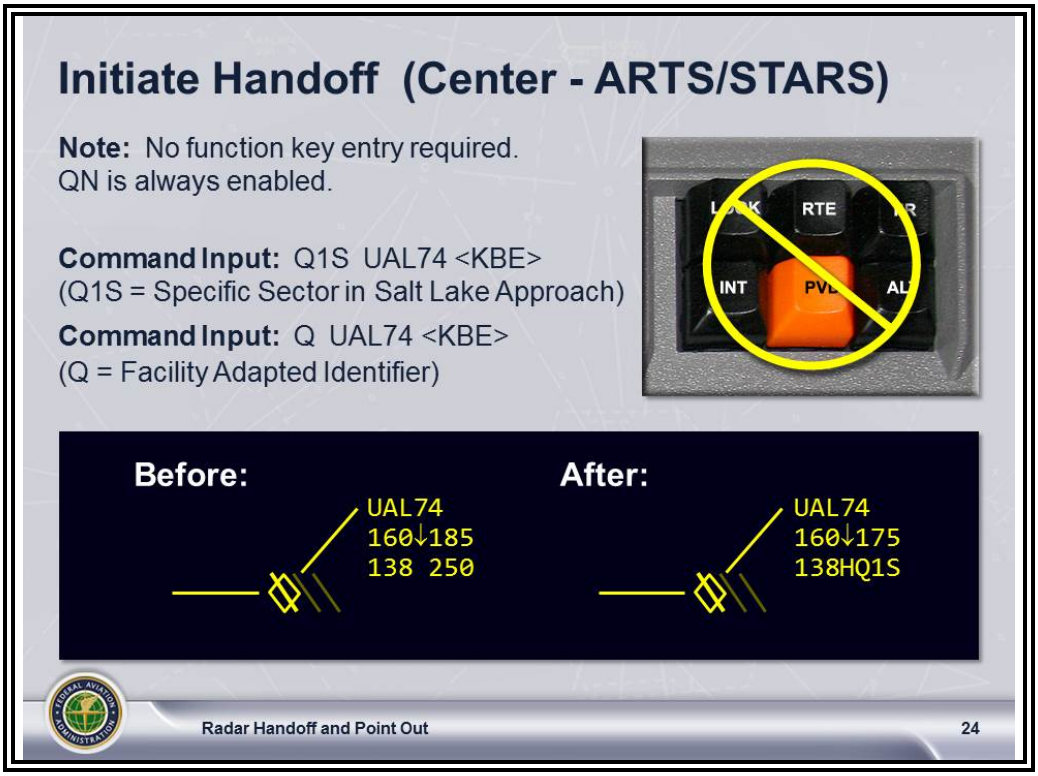
Side Stream Handoff
TI 6110.100, p. 1-3, Table 4-3;
SIG 1508



- Side stream handoff:
  - Allows handoffs to a sector in an ARTCC that is not on the flight plan route when operationally necessary
  - SIDE indicator in Field E of data block will display in both handoff originating and receiving sectors for a locally adapted period of time
  - Receiving sector must be identified
  - System supports a rejoin handoff to an ARTCC on the route of flight where the handoff originating facility is not on the route of flight
  - Attempts to preserve the pairing of the flight plan to the radar track while in the AOI of the adjacent facility

HANDOFF COMMAND ENTRY *(Continued)*

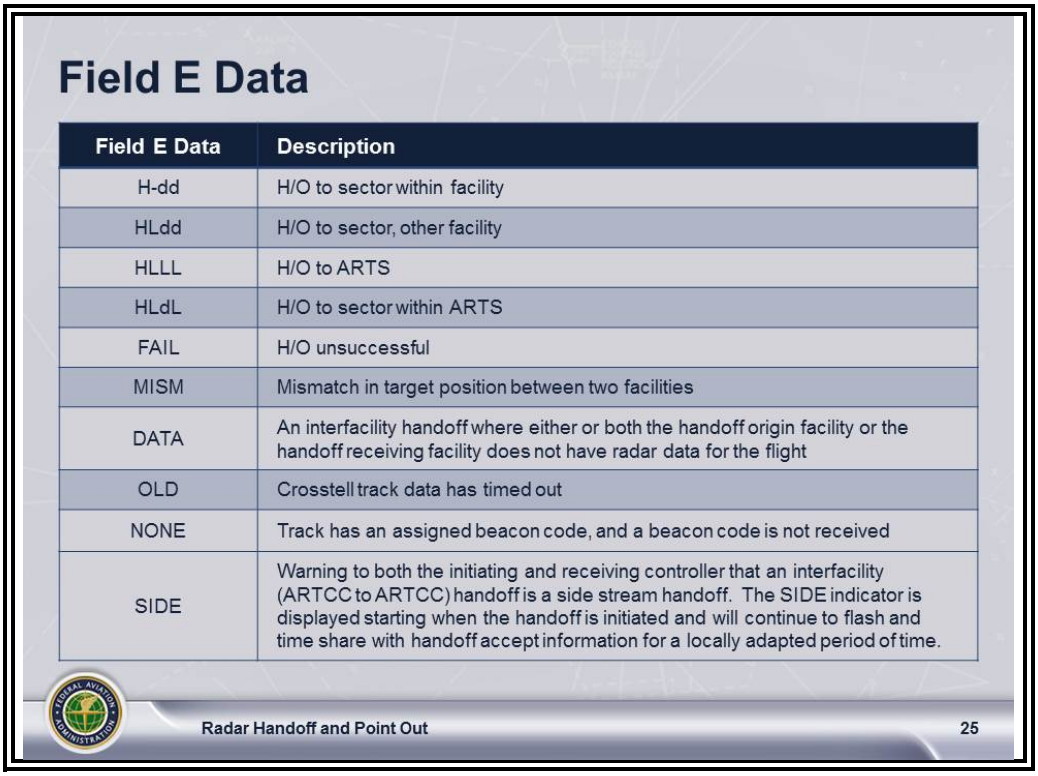
Initiating Handoffs (Cont'd)
JO 7110.65, pars. 5-4-3 thru 5-4-6;
TI 6110.100, Tables B-1 and 4-3; ERAM EDSM SRS 210.04 V1B2, Table 23



- In order to initiate an automated handoff from a center to an ARTS/STARS facility, the flight plan must have been forwarded to the ARTS/STARS facility by the computer.

NOTE: The letter Q in the command input is a facility adapted single letter identifier for Salt Lake Approach. The single letter identifier will initiate an adaptation-derived handoff to a specific sector depending upon the configuration of the receiving facility.

Field E Data Upon Handoff Initiation
TI 6110.100, Table 4-3; ERAM EDSM SRS 210.04 V1B1



Field E Data

Field E Data	Description
H-dd	H/O to sector within facility
HLdd	H/O to sector, other facility
HLLL	H/O to ARTS
HLdL	H/O to sector within ARTS
FAIL	H/O unsuccessful
MISM	Mismatch in target position between two facilities
DATA	An interfacility handoff where either or both the handoff origin facility or the handoff receiving facility does not have radar data for the flight
OLD	Crosstell track data has timed out
NONE	Track has an assigned beacon code, and a beacon code is not received
SIDE	Warning to both the initiating and receiving controller that an interfacility (ARTCC to ARTCC) handoff is a side stream handoff. The SIDE indicator is displayed starting when the handoff is initiated and will continue to flash and time share with handoff accept information for a locally adapted period of time.

- Data will appear in Field E, depending on who is being handed off to and whether or not the handoff is successful:

  NOTE: L stands for letter and d stands for digit.

  - H-dd = Track is being handed off to sector dd within the center.
  - HLdd = Track is being handed off intercenter or from an ARTS facility.
    - L contains the receiving center's one letter designator.
    - dd contains the two-digit ID of the receiving sector.
  - HLLL = Handoff is to an ARTS facility where LLL is the ARTS facility identifier.
  - HLdL = Track is being handed off to a specific position dL in an ARTS facility.
  - FAIL = A Fail indication may be caused by the lack of a flight plan at the receiving facility. In response to a FAIL indication an RF command (request flight plan transfer) can be initiated to the receiving facility to attempt correct the indication.

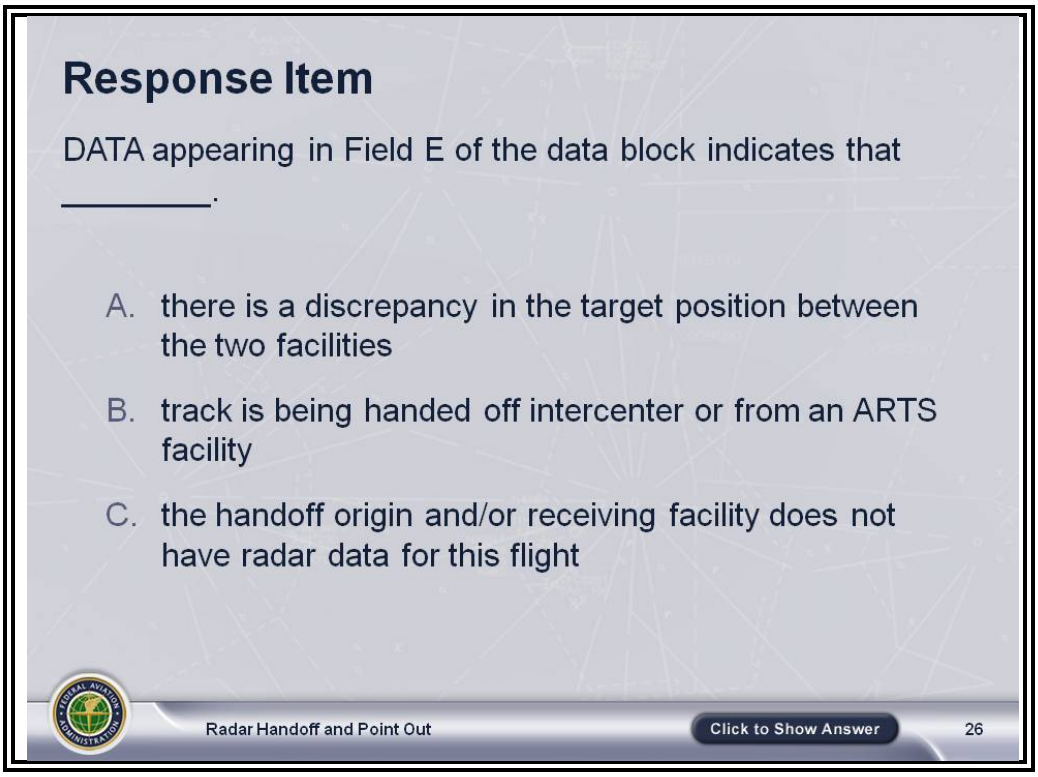
Continued on next page

HANDOFF COMMAND ENTRY *(Continued)*

Field E Data Upon Handoff Initiation (Cont'd)
TI 6110.100, Table 4-3; ERAM EDSM SRS 210.04 V1B1; SIG 1508

- MISM = A mismatch or discrepancy in the target position during an interfacility handoff:
  - MISM timeshares in Field E of the data block at the receiving ERAM facility
- DATA = An interfacility handoff where the handoff origin facility AND/OR the handoff receiving facility does not have radar data for the flight.
- OLD = Crosstell track data has timed out.
- NONE = Displayed if the track has an assigned beacon code, and a beacon code is not received.
- SIDE = Interfacility warning that handoff is a side stream handoff. The SIDE indicator is displayed starting when the handoff is initiated and will continue to flash and time share with handoff accept information for a locally adapted period of time.

Review



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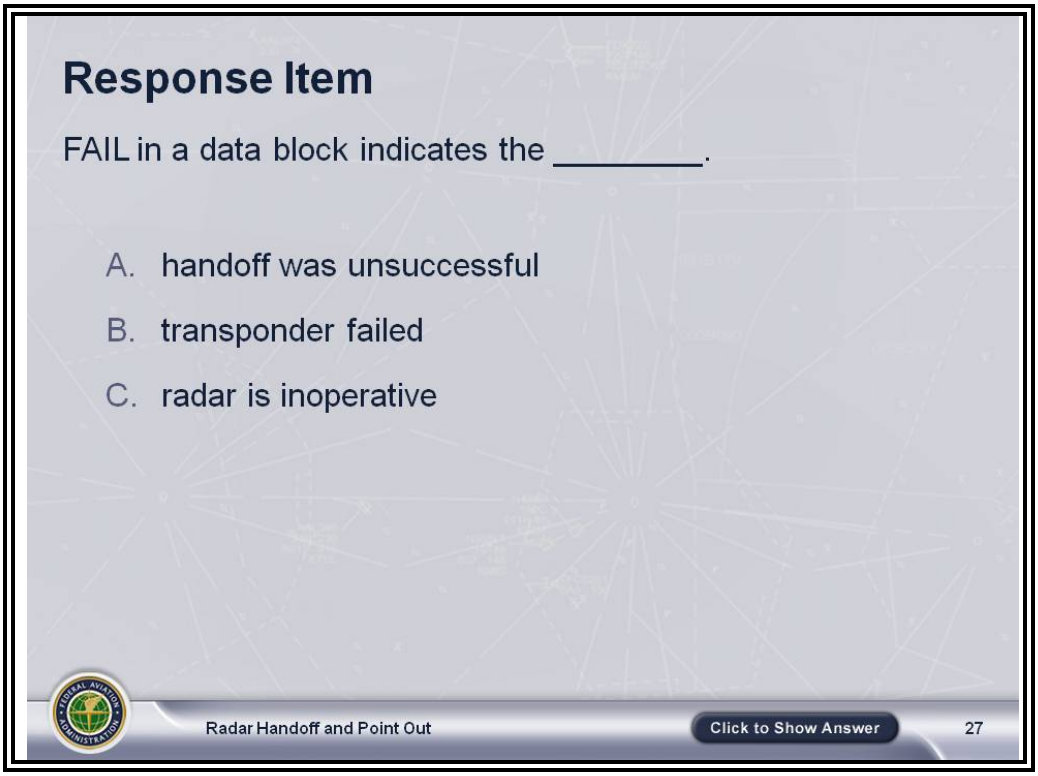
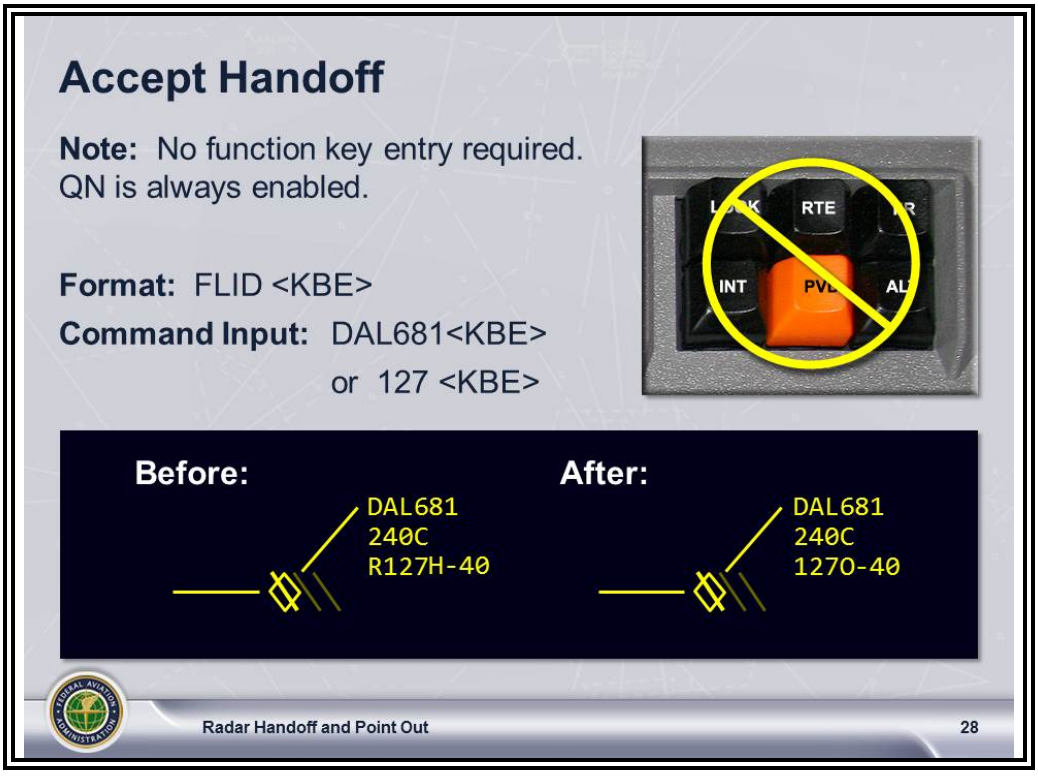
HANDOFF COMMAND ENTRY *(Continued)*

Review (Cont'd)



HANDOFF COMMAND ENTRY *(Continued)*

Receiving a Handoff
TI6110.100, Table B-1



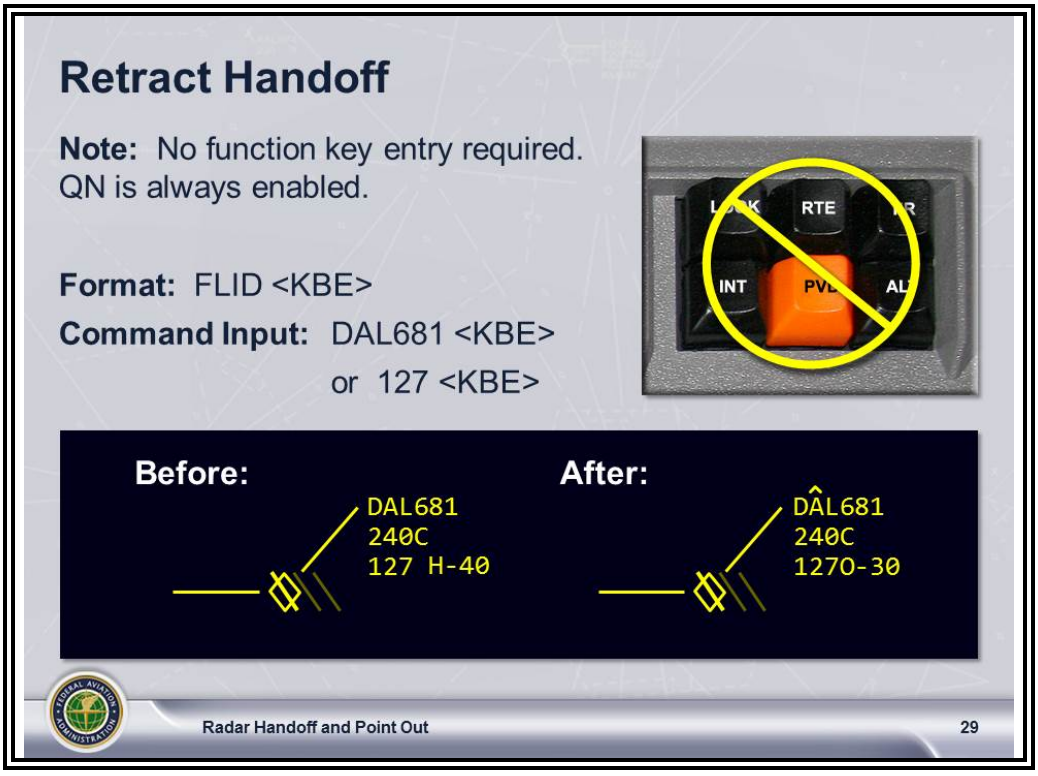
- The receiving controller:
  - Accepts the handoff entered at the addressed sector/facility and assumes control.

Results
TI6110.100, Table 4-3

- Field E changes to one of the following:
  - OLLL (accepted by ARTS)
  - O-dd (accepted within the facility)
  - OLdd (accepted outside the facility)
  - OUNK (handoff to a unknown facility)
- The FDB disappears from the sending sector after an adapted time, and Field E Accept Handoff indication drops from the receivers FDB.

HANDOFF COMMAND ENTRY *(Continued)*

Retracting a Handoff
TI 6110.100, Table 4-3



⊙ To retract a handoff:

- Accept handoff entered at initiating sector.
  - The initiating Field E changes to:
    - → O-dd (Intrafacility), or
    - → OLdd (Interfacility)
  - The receiving display drops FDB:
    - → Unless display eligibility exists
  - Automatic handoff is inhibited.
  - Aircraft remains under the control of sending sector.

Continued on next page

HANDOFF COMMAND ENTRY *(Continued)*

Retracting a Handoff (Cont'd)
TI 6110.100, Table 4-3

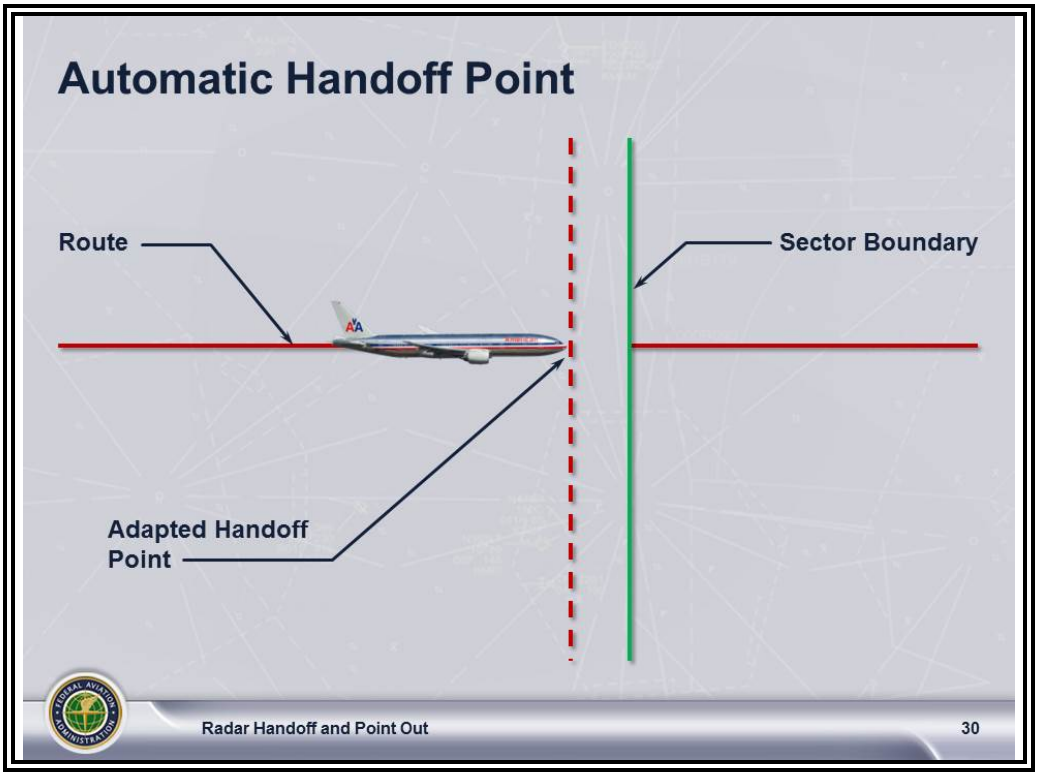
⊙ Assume control of a track not currently under your control (/OK)

- FDB control is "stolen."
- Field E of all displayed FDBs changes to:
  - K-dd (intrafacility), or
  - KLdd (interfacility)

⊙ **WARNING: By utilizing the /OK command, you have the capability of "stealing" track control of an aircraft. Always be very cautious when utilizing the /OK feature.**

HANDOFF COMMAND ENTRY *(Continued)*

Automatic (Computer-Generated) Handoff
TI 6110.141, 2.1.36.1.5

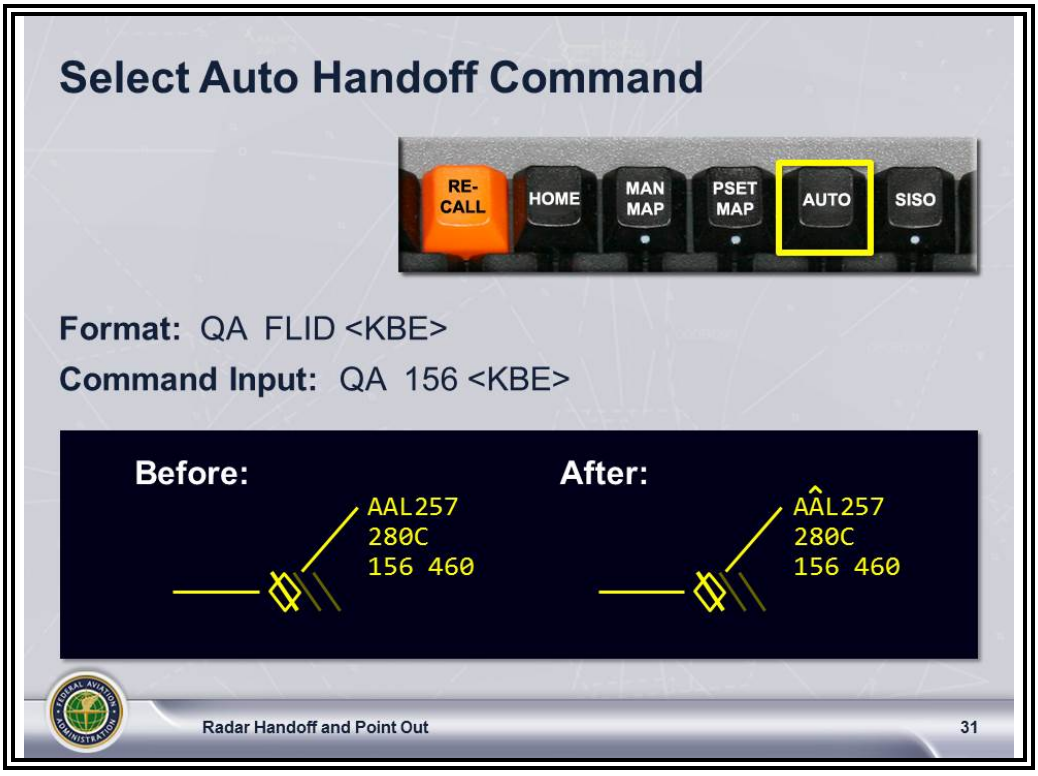


- The automatic handoff function (QA) allows the controller to enable or inhibit automatic handoffs on aircraft to other sectors or facilities.
- Automatic handoff reference points are adapted locally.
- For the automatic handoff function to work, the aircraft must be in FLAT Track (Flight Plan Aided Tracking).

Continued on next page

HANDOFF COMMAND ENTRY *(Continued)*

Automatic (Computer-Generated) Handoff (Cont'd)
TI 6110.100, Table B-1; ERAM EDSM SRS 210.04 V1B2, Table 23



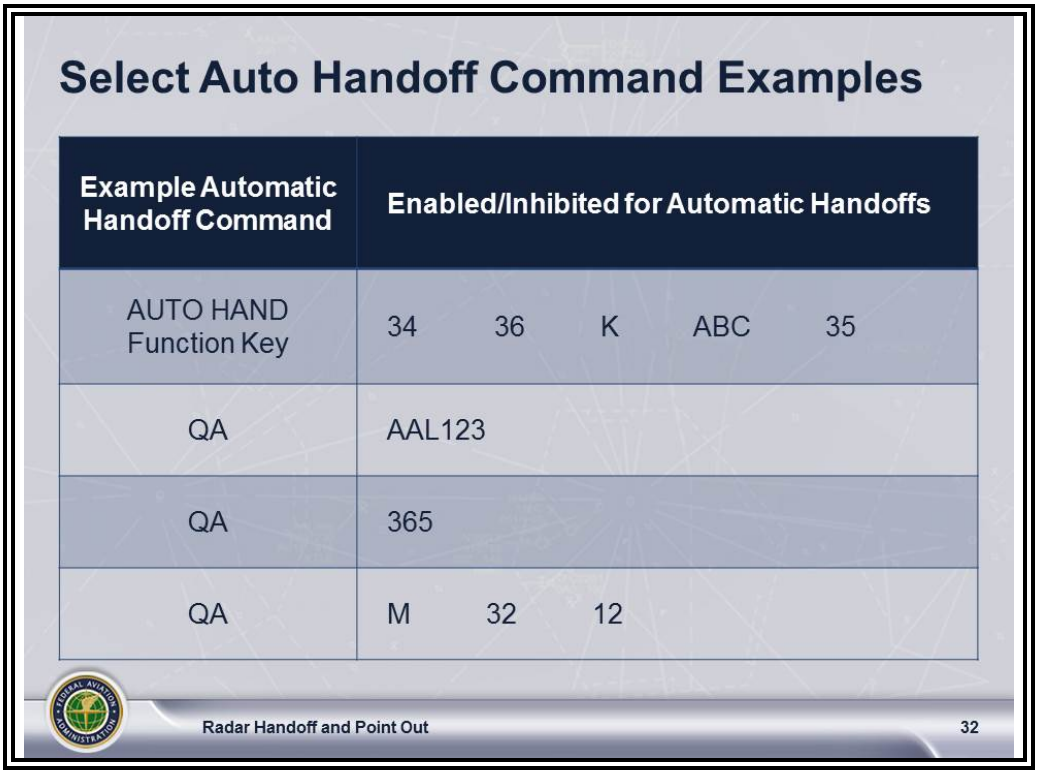
- The automatic handoff command is an alternate action function that will enable or inhibit an automatic handoff.
  - Individual aircraft may be enabled or inhibited by using one of the following means of identification:
    - Aircraft ID (AID)
    - Computer ID (CID)
    - Trackball entry
    - Discrete beacon code
  - A maximum of 5 (Field E) sectors or facilities may be used to enable or inhibit an automatic handoff by using one of the following means of identification
    - Sector - 2 digits
    - ARTS Facility - 3 letters
    - ARTCC - 1 letter

NOTE: To hand off or inhibit the hand off of multiple FLIDs at one time, add additional aircraft IDs into the Command Input field and insert a forward slash between them.

Continued on next page

HANDOFF COMMAND ENTRY *(Continued)*

Automatic (Computer-Generated) Handoff (Cont'd)
TI 6110.100, Table B-1; ERAM EDSM SRS 210.04 V1B2, Table 23

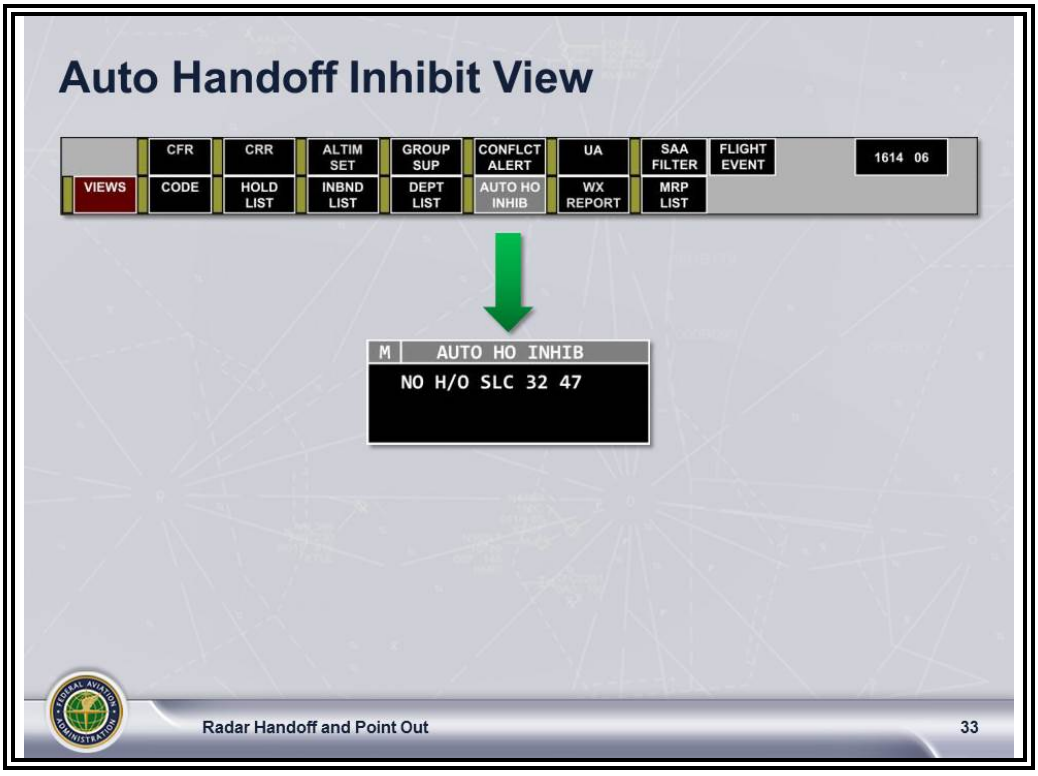


- Select Auto Handoff Command.
- In the examples above:
  - The following are enabled or inhibited for automatic handoffs (alternate action function) using the Auto Function Key:
    - Sector 34
    - Sector 36
    - K Center
    - ABC Approach
    - Sector 35
  - The following are enabled or inhibited for automatic handoff by typing QA:
    - AAL123
    - The aircraft with Computer Identification (CID) 365
    - M Center and Sectors 32 and 12

Continued on next page

HANDOFF COMMAND ENTRY *(Continued)*

Automatic (Computer-Generated) Handoff (Cont'd)
ERAM EDSM SRS 210.04 V1B2, Table 23;
TI 6110.100, par. 13.1

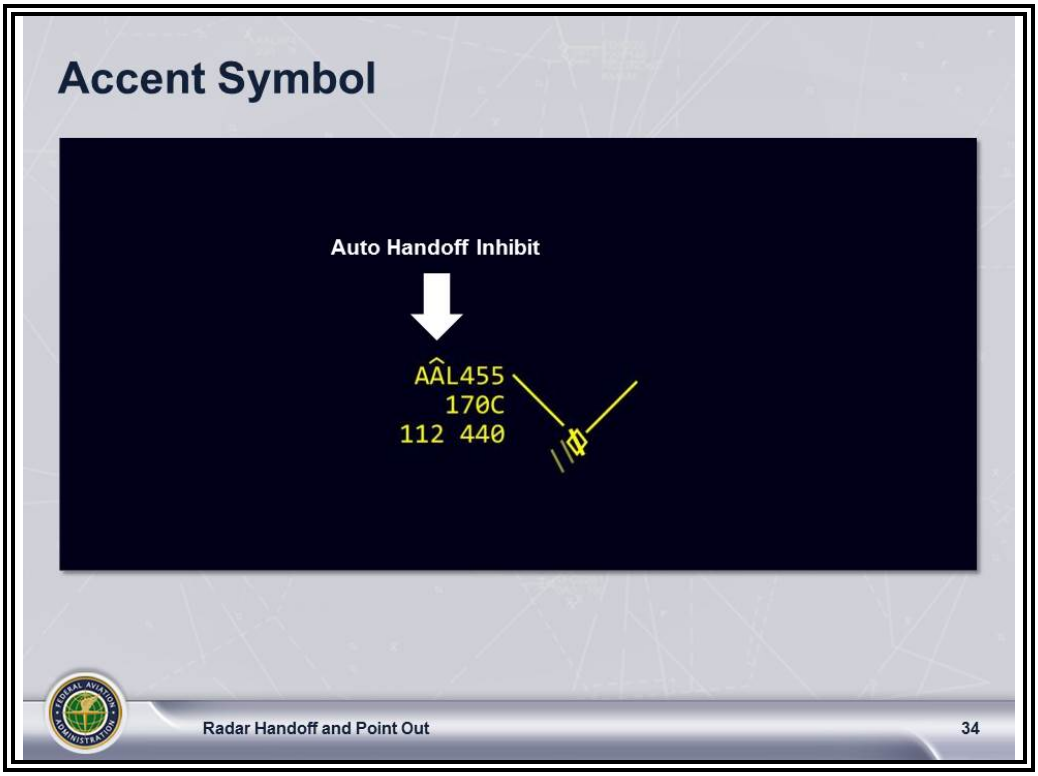


- The Auto Handoff Inhibit View shows the automatic handoff inhibit list.
  - After the NO H/O label, facilities will be listed first, then sectors.
    - Up to four facilities and sector IDs can be listed per line.
  - The Auto Handoff Inhibit View has sufficient display capability, however only five elements may be entered at a time.

Continued on next page

HANDOFF COMMAND ENTRY *(Continued)*

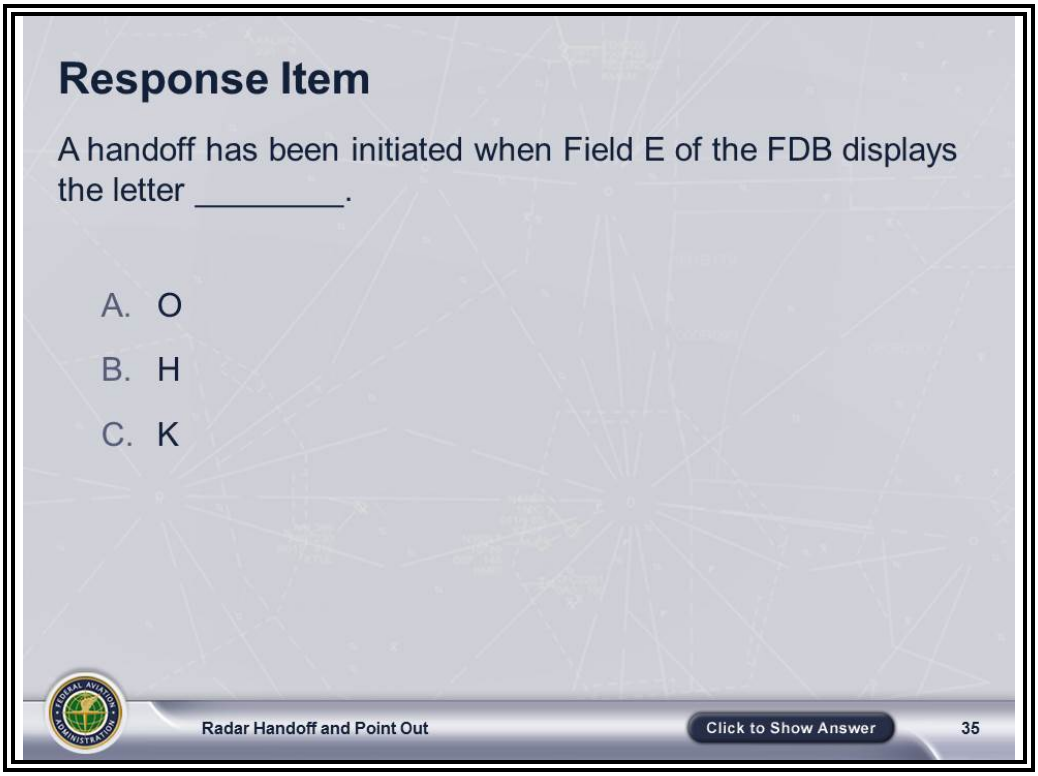
Automatic (Computer-Generated) Handoff (Cont'd)
ERAM EDSM SRS 210.04 V1B2, Table 23;
TI 6110.100, par. 4.3.1



- An accent symbol (^) above the **second** character of Field A in a data block indicates automatic handoff initiation has been inhibited for the flight.

HANDOFF COMMAND ENTRY *(Continued)*

Review



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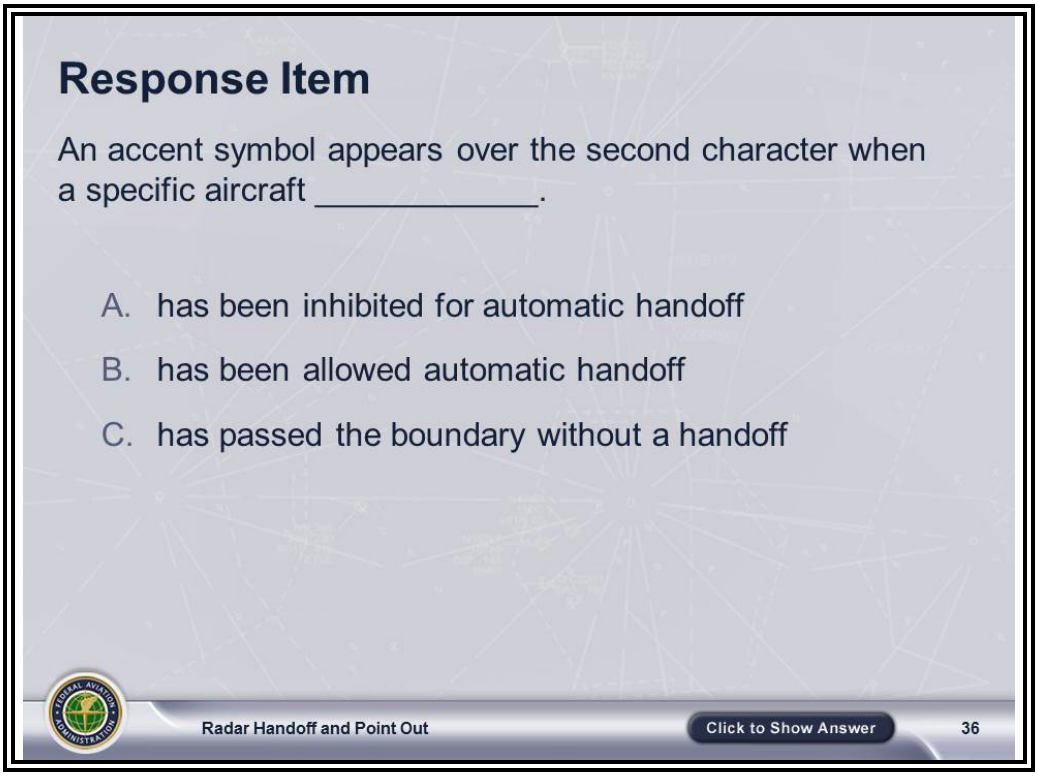
HANDOFF COMMAND ENTRY *(Continued)*

Review (Cont'd)



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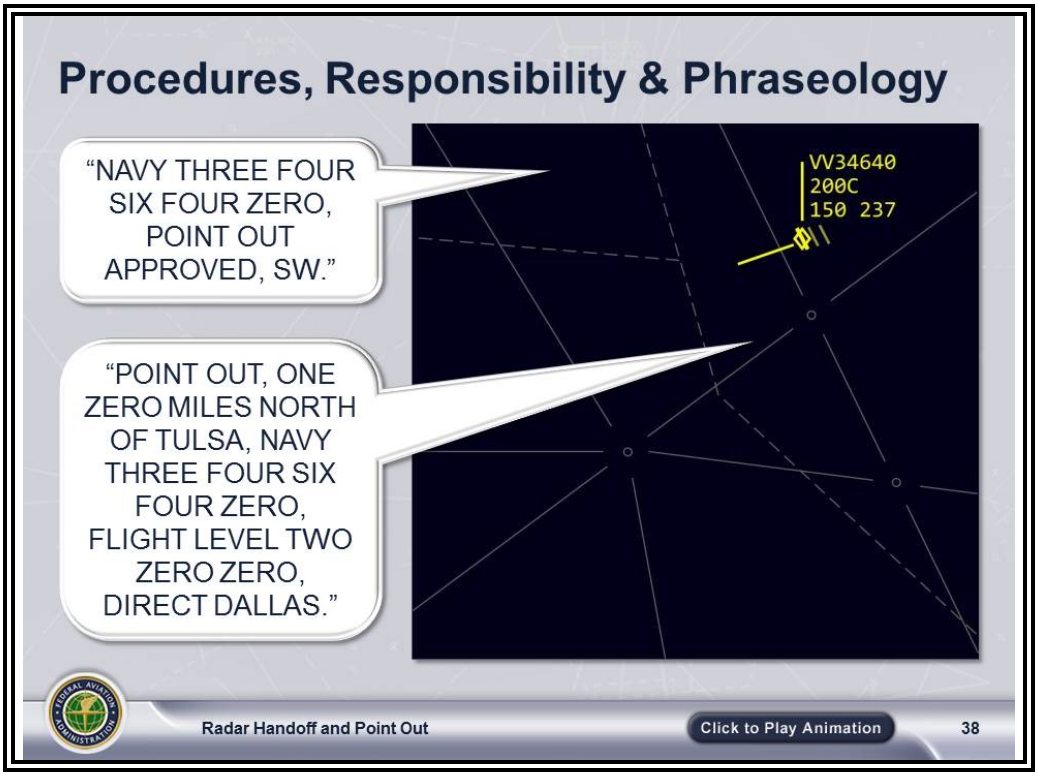
HANDOFF COMMAND ENTRY *(Continued)*

Review (Cont'd)

POINT OUT

Procedures, Responsibilities & Phraseology
JO 7110.65, pars. 5-4-3, 5-4-4, 5-4-7;
JO 7110.311B par. 5-4-3



- The transferring controller must:
  - Obtain approval before an aircraft enters the receiving controller's delegated airspace.
  - After point out is approved, obtain approval before changing:
    - Flight path
    - Altitude
    - Speed
    - Data block information
  - Comply with the receiving controller's restrictions.

Continued on next page

POINT OUT *(Continued)*

- Be responsible for:
  - Subsequent handoffs and point outs
  - Communications transfer
  - Flight data revision and coordination

⊙ The receiving controller must:

- Ensure that the data block corresponds to the target position given by the transferring controller before approving a point out.
- Be responsible for separation between his/her traffic and the point out traffic.
- Issue restrictions to ensure separation.

⊙ When receiving a point out, use one of the following phraseologies, as appropriate:

- “POINT OUT APPROVED.”
- “RADAR CONTACT.”
  - Used when communications is requested with the aircraft being pointed out
- “UNABLE (appropriate information, as required).”

✈ **Phraseology**

Example:

Transferring controller: “SECTOR ONE, SECTOR TWO.”

Receiving controller: “SECTOR ONE.”

Transferring controller: “"POINT OUT, ONE ZERO MILES NORTH OF TULSA, NAVY THREE FOUR SIX FOUR ZERO, FLIGHT LEVEL TWO ZERO ZERO, DIRECT DALLAS."

Receiving controller: “NAVY THREE FOUR SIX FOUR ZERO, POINT OUT APPROVED, SW.”

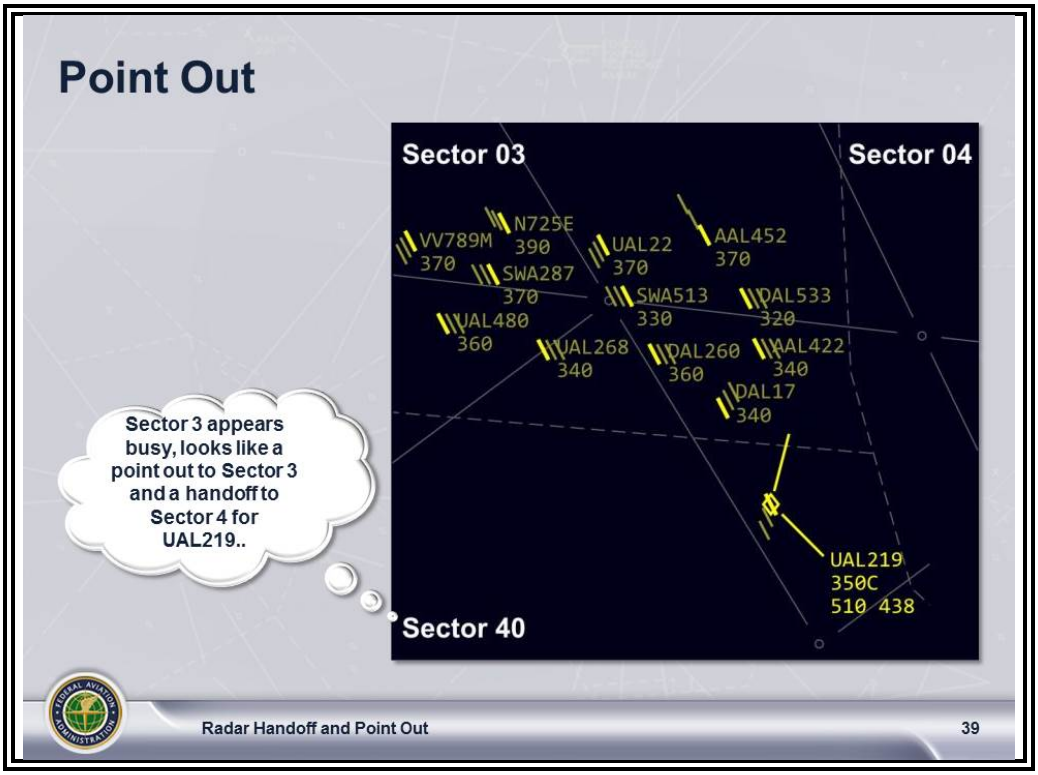
Transferring controller: “MD.”

POINT OUT *(Continued)*

"TRAFFIC"

- Use the term "TRAFFIC" for coordinating separation as follows:
  - Controller issuing traffic issues appropriate restrictions.
  - Controller accepting restrictions is responsible for ensuring separation between aircraft involved.
  - When receiving traffic restrictions, state "TRAFFIC OBSERVED."

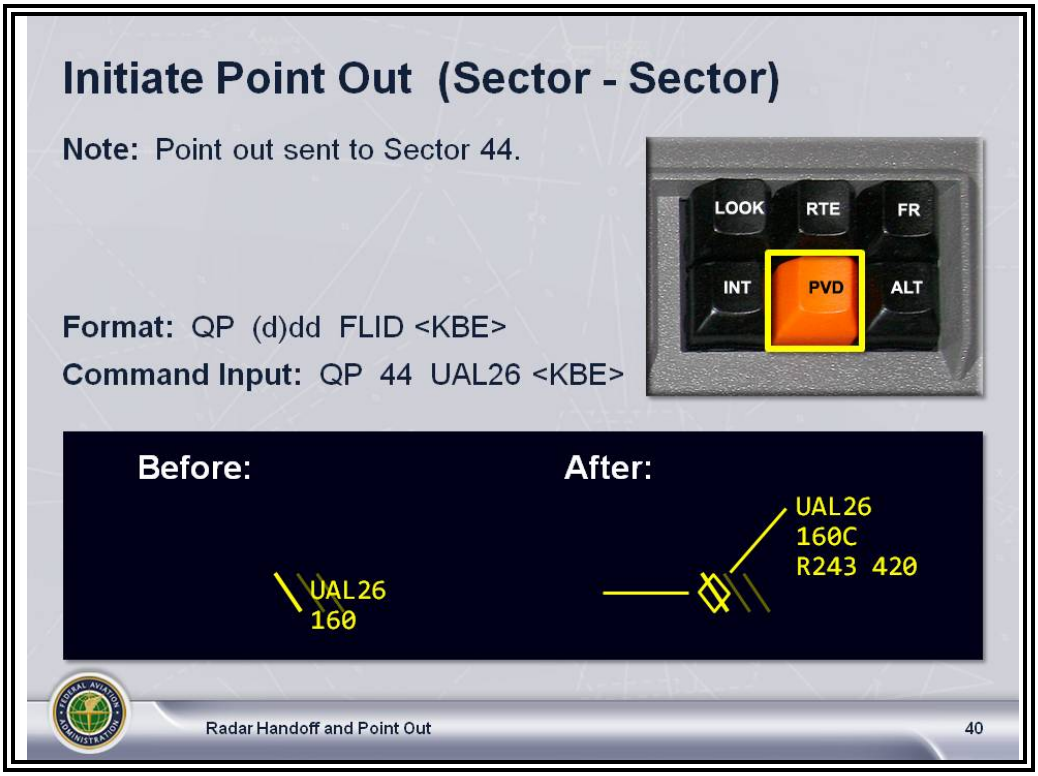
Results



- A successful point out achieves the following:
  - Transfers radar identification to another controller
  - Reduces frequency changes
  - Expedites traffic
    - Aircraft can be routed through a portion of another sector while minimizing the increase to that sector controller's workload

POINT OUT *(Continued)*

Command Entry
ERAM EDSM SRS 210.04 V1B2, Table 23;
TI 6110.100, Table B-1



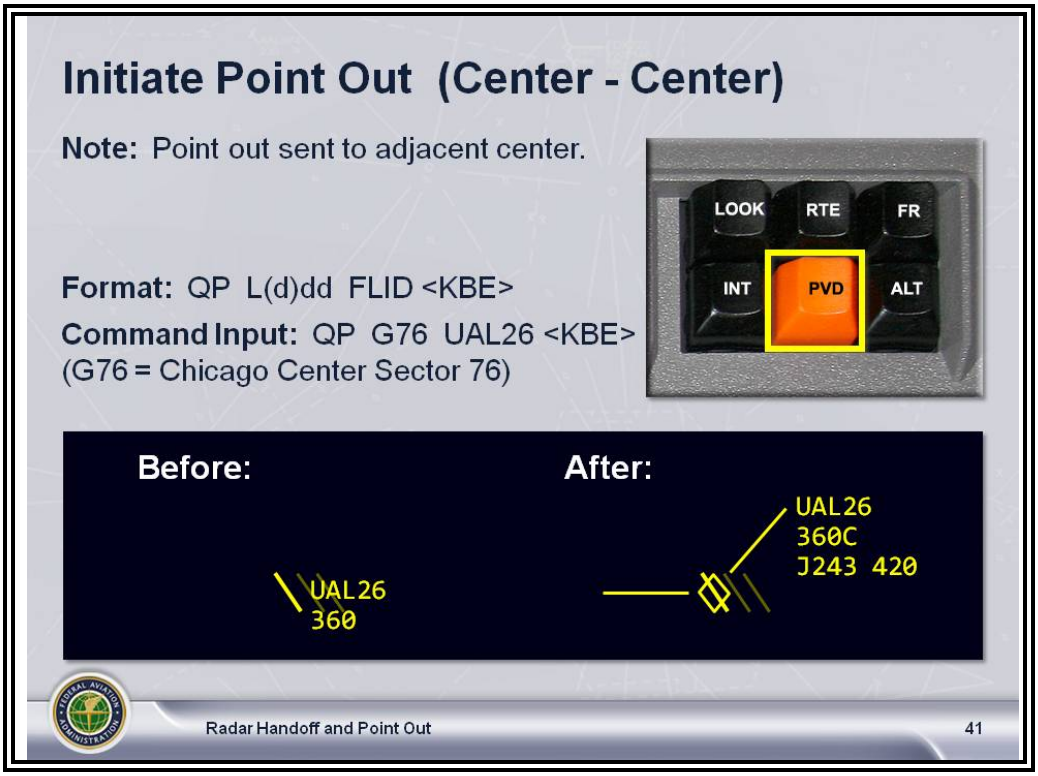
- Forces FDB at the addressed sector

NOTE: To point out multiple FLIDs at one time, add additional aircraft IDs into the Command Input field and insert a forward slash between them.

Continued on next page

POINT OUT *(Continued)*

Command Entry (Cont'd)
ERAM EDSM SRS 210.04 V1B2, Table 23;
TI 6110.100, Table B-1

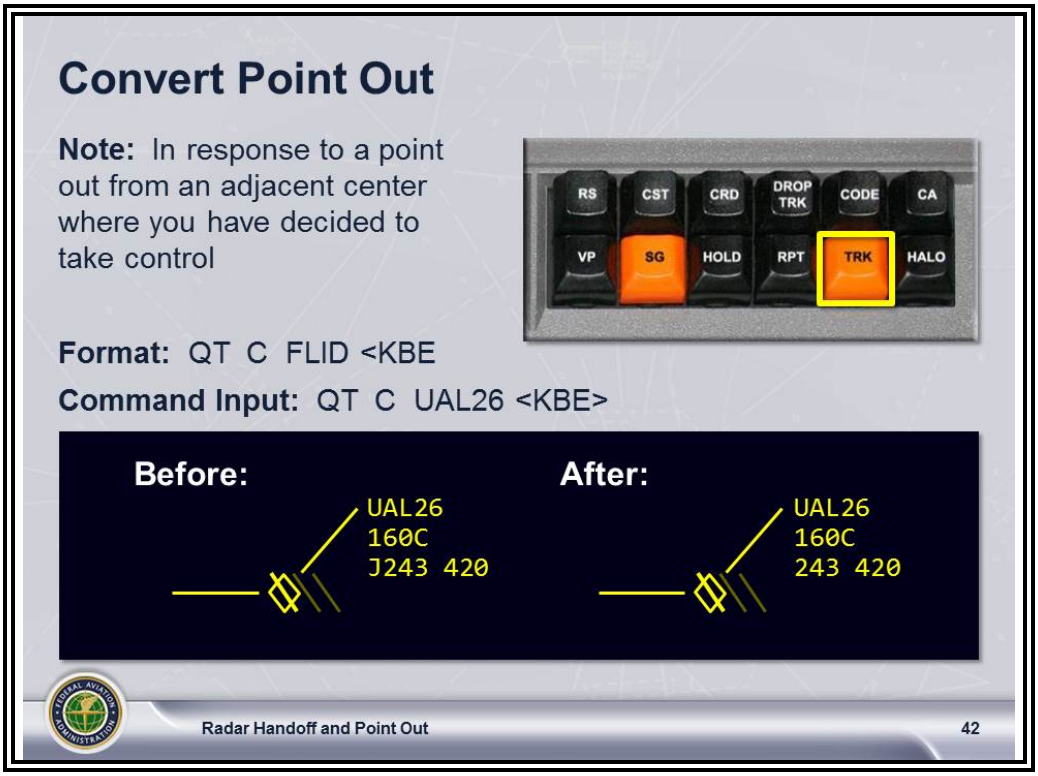


- Forces FDB at the addressed center

NOTE: To point out multiple FLIDs at one time, add additional aircraft IDs into the Command Input field and insert a forward slash between them.

POINT OUT *(Continued)*

Convert Point Out
ERAM EDSM SRS 210.04 V1B2, Table 23; ERAM MONF SRS 210.18, 3.2.1.2.2.4



- Used to take control of an interfacility point out
- Basic procedure:
  - Press Track Function Key.
  - Type the letter C.
  - Track ball enter over position symbol or enter FLID.
- Changes the D1 position in the FDB from a J to a P at other sectors displaying the FDB
  - Deletes the J from the FDB at the input sector
- If present, removes aircraft from any inbound/departure list

POINT OUT *(Continued)*

Review

QUESTION: What are the methods of transferring radar identification?

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

CONCLUSION

Summary

- Terminology and Responsibilities
- Handoff/Point Out Methods
- Handoff Procedures and Phraseology
- Handoff Command Entry
- Point Out Procedures and Phraseology
- Point Out Command Entry

End-of-Lesson Test

- Your instructor will now administer the End-of-Lesson Test.