Federal Aviation Administration

55054001 EN ROUTE RADAR ASSOCIATE CONTROLLER TRAINING PART A: BASIC CONCEPTS

Lesson 9: Forwarding Control Information

Version: 1.0 2022.08

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LESSON PLAN DATA SHEET

Course Name	En Route Radar Associate Controller Training Part A: Basic Concepts
Course Number	55054001
Lesson Title	Forwarding Control Information
Duration	1 hour (includes lesson, and ELT)
Version	1.0 2022.08
Reference(s)	JO 7110.65, Air Traffic Control; JO 7610.4, Special Operations; JO 7110.10, Flight Services; NAS−MD−315 En Route Configuration Management Document, Remote Outputs; ERAM FDP SSS 200.04, ERAM System/Segment Specification, Flight Data Processing
Prerequisites	NONE
Handout(s)	NONE
Exercise / Activity	NONE
Scenario	NONE
Assessments	⊙ YES - Written
Materials and Equipment	⊙ Pencil and/or pen
Other Pertinent Information	⊙ **Ensure lesson materials are downloaded to the classroom computer** ⊙ Course 57842, FORWARDING CONTROL INFORMATION, or current course, is available as supplemental training for this lesson ⊙ This lesson is based on ERAM EAE410 ⊙ The lesson has been reviewed and reflects current orders and manuals as of April 2022

LESSON ICON LEGEND

	Description
	The Activity icon indicates an exercise, lab, or hands-on activity.
	The Discussion Question icon signals a discussion question to be asked to the students.
	The Handout icon indicates a handout is to be distributed to the students.
	The Instructor Note icon is in hidden text and indicates text that is for the instructor only.
	The Multimedia icon indicates a video or audio clip is in the presentation.
	The Phraseology icon indicates that phraseology is in the content.
	The WBT icon indicates a component of web-based training.
	The Click icon indicates a PPT slide with click-based functionality to present additional information.
	The Definition icon indicates a published definition.

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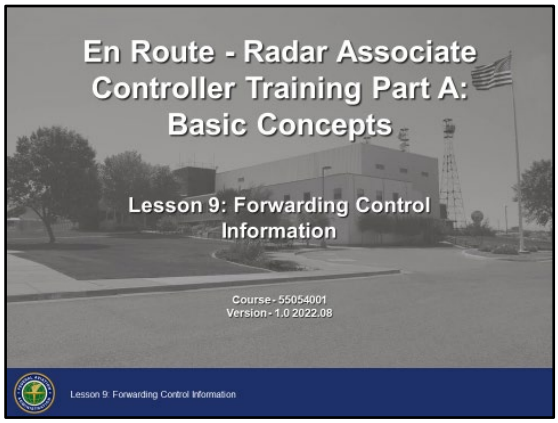
LESSON INTRODUCTION

Lesson Overview

JO 7110.65, par. 2-2-2



Overview

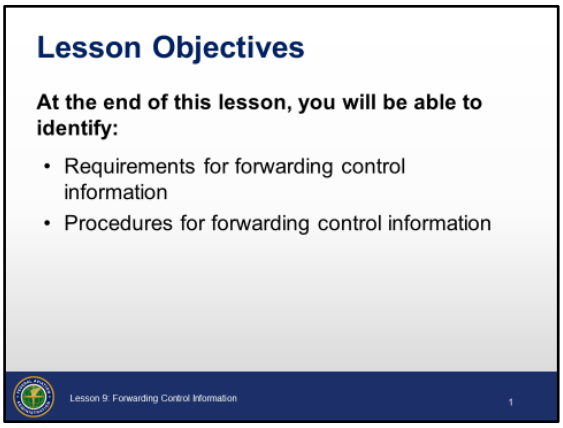
An important factor in controlling air traffic is determining who should receive control information, revisions and how they are forwarded.

The passing of control information is primarily accomplished by the En Route Automation System (EAS), but situations may arise where information must be forwarded manually.

In this lesson you will learn how to properly forward control information and recognize when the EAS fails to forward control information.

LESSON INTRODUCTION *(CONT'D)*

Lesson Objectives



Objectives

⊙ At the end of this lesson, you will be able to identify:

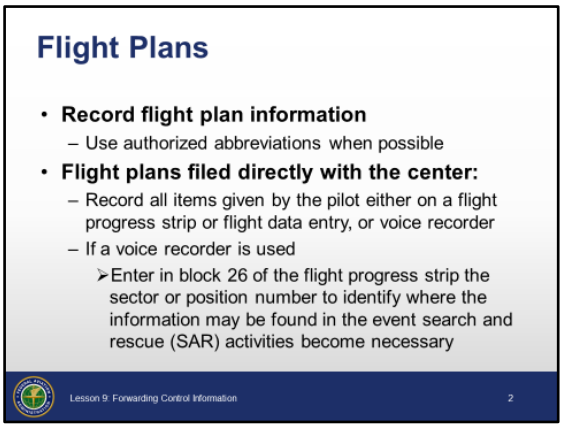
- Requirements for forwarding control information
- Procedures for forwarding control information

NOTE: There will be a graded end-of-lesson test upon completion of the lesson. The passing score is 70%. If you do not achieve a score of 70%, you will be provided study time and one retake of an alternate end-of-lesson test.

REQUIREMENTS FOR FORWARDING CONTROL INFORMATION

Flight Plans

JO 7110.65, par. 2-2-1



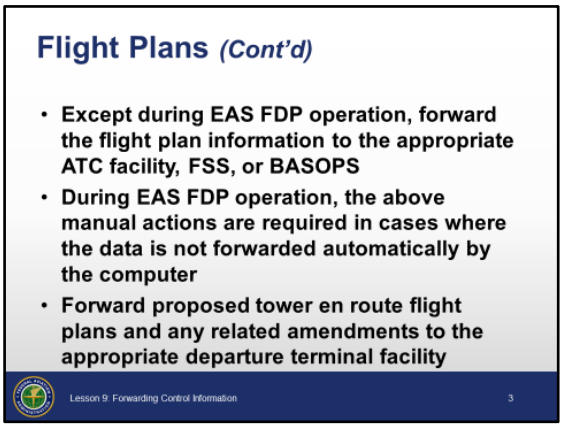
Flight Plans

- Record flight plan information required by the type of flight plan and existing circumstances
  - Use authorized abbreviations when possible
- When flight plans are filed directly with the center:
  - Record all items given by the pilot either on a flight progress strip, flight data entry, or voice recorder
  - If a voice recorder is used:
    - Enter the sector or position number in block 26 of the initial flight progress strip to identify where the information may be found in the event search and rescue (SAR) activities become necessary

REQUIREMENTS FOR FORWARDING CONTROL INFORMATION *(CONT'D)*

Flight Plans (Cont'd)

JO 7110.65, par. 2-2-2

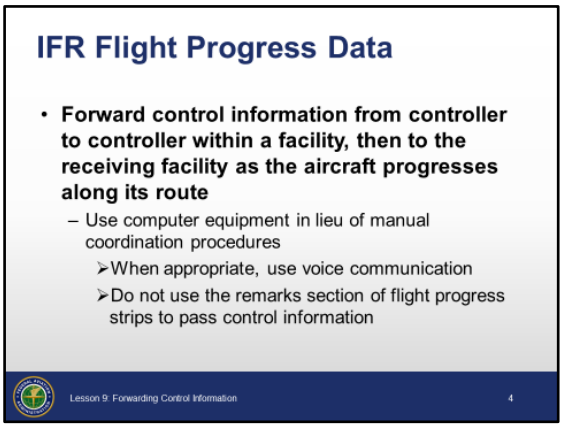


- Except during En route Automation System (EAS) Flight Data Processing (FDP) operation, forward the flight plan information to the appropriate ATC facility, Flight Service Station (FSS), or Base Operations (BASOPS)
  - Record the time of filing and delivery on the form
- During EAS FDP operation, the above manual actions are required in cases where the data is not forwarded automatically by the computer
- Forward proposed tower en route flight plans and any related amendments to the appropriate departure terminal facility

REQUIREMENTS FOR FORWARDING CONTROL INFORMATION *(CONT'D)*

IFR Flight Progress Data

JO 7110.65, par. 2-2-6



IFR Flight Progress Data

⊙ Forward control information from controller to controller within a facility, then to the receiving facility as the aircraft progresses along its route

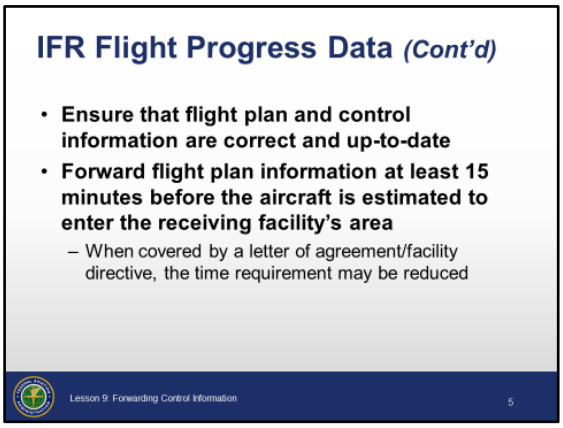
- Use computer equipment in lieu of manual coordination procedures
  - When appropriate, use voice communication
  - Do not use the remarks section of flight progress strips to pass control information

NOTE: The term "in lieu of" means "in the place of" or "instead of."

REQUIREMENTS FOR FORWARDING CONTROL INFORMATION *(CONT'D)*

IFR Flight Progress Data (Cont'd)

JO 7110.65, par. 2-2-6

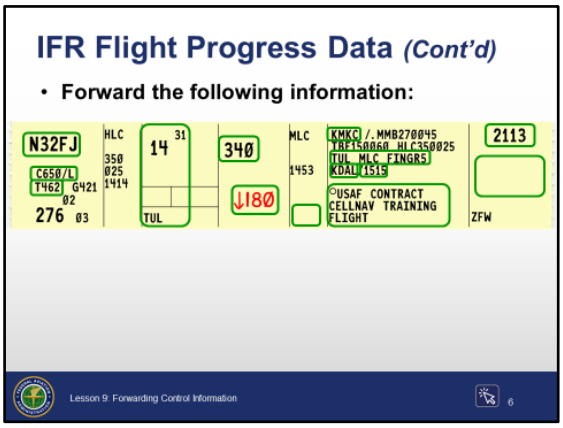


- Ensure that flight plan and control information are correct and up to date
- Forward flight plan information at least 15 minutes before the aircraft is estimated to enter the receiving facility's area
  - When covered by a Letter of Agreement (LOA)/facility directive, the time requirement may be reduced

REQUIREMENTS FOR FORWARDING CONTROL INFORMATION *(CONT'D)*

IFR Flight Progress Data (Cont'd)

JO 7110.65, par. 2-2-6



- Forward the following information:
  - Aircraft identification
  - Type of aircraft and equipment suffix
    - Number of aircraft if more than one
    - Heavy indicator "H/" (if appropriate)
  - Assigned altitude and ETA over last reporting point/fix in your sector
    - Or assumed departure time where applicable
  - Altitude at which aircraft will enter receiving facility's area if other than assigned

Continued on next page

REQUIREMENTS FOR FORWARDING CONTROL INFORMATION *(CONT'D)*

IFR Flight Progress Data (Cont'd)

JO 7110.65, par. 2-2-6

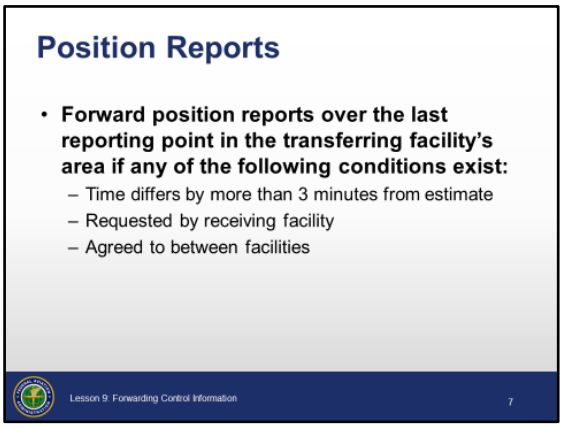
- True airspeed
- Point of departure and remaining route of flight
- Destination airport
  - And clearance limit if other than destination airport
- ETA at destination airport
  - Not required for military or scheduled air carrier
- Requested altitude
  - If other than assigned altitude
  - Within a facility only

  NOTE: Pilot will reinitiate request with next facility if another altitude is still desired.
- Assigned beacon code
  - When flight plan is forwarded manually and aircraft is on a computer-assigned beacon code
- Longitudinal separation being used in nonradar operations between aircraft at the same altitude
  - If it results in these aircraft having less than 10 minutes separation at the facilities' boundary
  - Unless otherwise specified in a LOA
- Additional non-routine information pertinent to flight safety

REQUIREMENTS FOR FORWARDING CONTROL INFORMATION *(CONT'D)*

Position Reports

JO 7110.65, par. 2-2-6

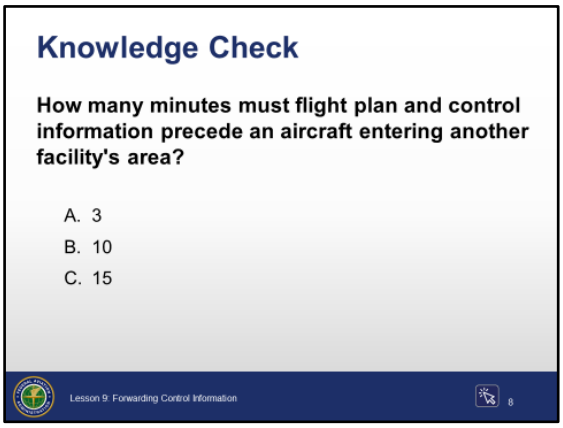


Position Reports

- Forward position report over the last reporting point in the transferring facility's area if any of the following conditions exist:
  - Time differs by more than 3 minutes from estimate given
  - Requested by receiving facility
  - Agreed to between facilities

REQUIREMENTS FOR FORWARDING CONTROL INFORMATION *(CONT'D)*

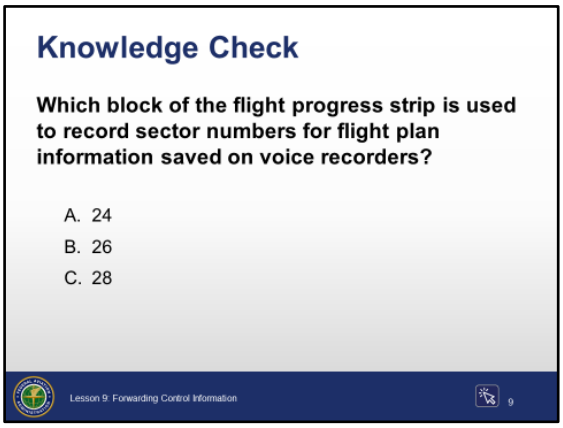
Knowledge Check



Question: How many minutes must flight plan and control information precede an aircraft entering another facility's area?

REQUIREMENTS FOR FORWARDING CONTROL INFORMATION *(CONT'D)*

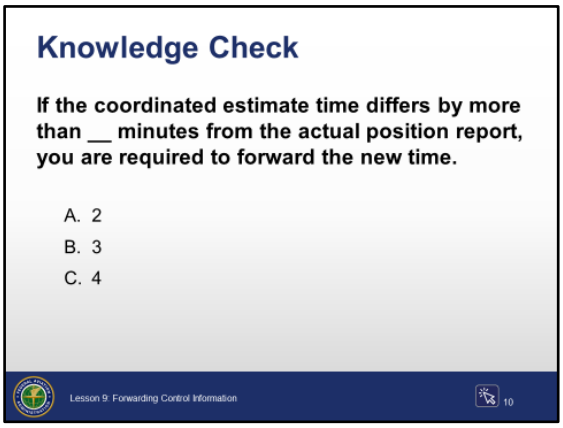
Knowledge Check



Question: Which block of the flight progress strip is used to record sector numbers for flight plan information saved on voice recorders?

REQUIREMENTS FOR FORWARDING CONTROL INFORMATION *(CONT'D)*

Knowledge Check



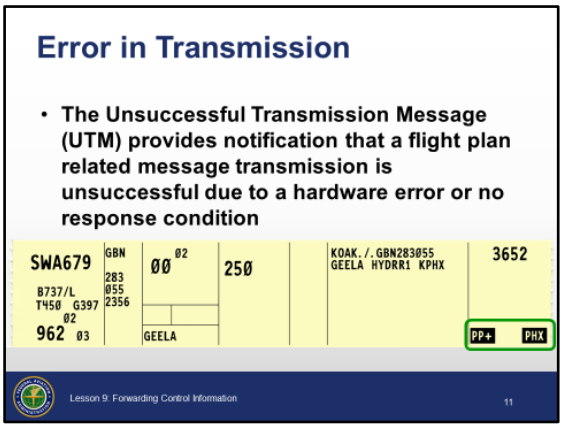
Question: If the coordinated estimate time differs by more than __ minutes from the actual position report, you are required to forward the new time.

PROCEDURES FOR FORWARDING CONTROL INFORMATION

Error in Transmission

ERAM FDP SSS 200.04 3.3.8.2.5, FDP917

NAS−MD−315, par. 4.5



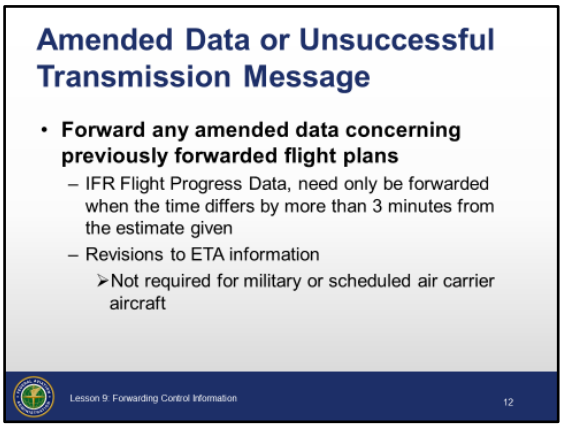
Error in Transmission

- The Unsuccessful Transmission Message (UTM) provides notification that a flight plan related message transmission is unsuccessful due to a hardware error or no response condition
- UTMs are printed on flight strips with the Coordination indicator highlighted in black
- Unsuccessful transmission occurs when a flight data coordination message:
  - Is rejected by the destination
  - Times out without a response after the last allowable re-transmission attempt
  - Cannot be built to send due to missing or incompatible data
  - Results in a communications/hardware error
  - Is too large
  - Is addressed to a facility whose interface is disabled
  - Is outstanding to an ARTS/STARS facility when a restore database request is received

PROCEDURES FOR FORWARDING CONTROL INFORMATION *(CONT'D)*

Amended Data or Unsuccessful Transmission Message

JO 7110.65, pars. 2-2-11, 2-2-6



Amended Data or Unsuccessful Transmission Message

⊙ Forward any amended data concerning previously forwarded flight plans

- IFR Flight Progress Data need only be forwarded when the time differs by more than 3 minutes from the estimate given
- Revisions to ETA information
  - Not required for military or scheduled air carrier aircraft

(Identification), REVISED (revised information)

Examples: "AMERICAN TWO, REVISED FLIGHT LEVEL, THREE THREE ZERO"

"UNITED EIGHT TEN, REVISED ESTIMATE, FRONT ROYAL TWO ZERO ZERO FIVE"

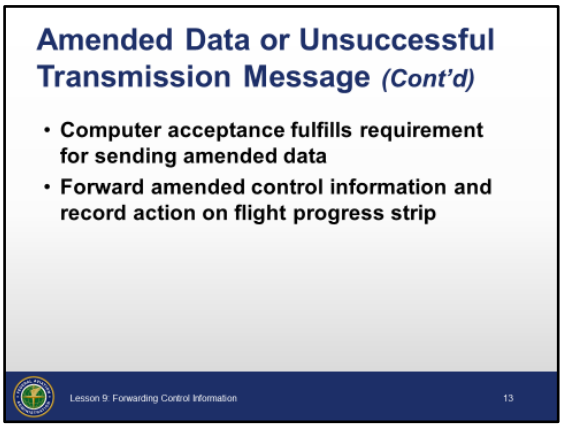
"BARON FIVE ZERO ONE ROMEO, REVISED ALTITUDE, EIGHT THOUSAND"

"DELTA ELEVEN FIFTY-ONE, REVISED TYPE, HEAVY BOEING SEVEN SIXTY-SEVEN"

PROCEDURES FOR FORWARDING CONTROL INFORMATION *(CONT'D)*

Amended Data or Unsuccessful Transmission Message (Cont'd)

JO 7110.65, par. 2-2-11



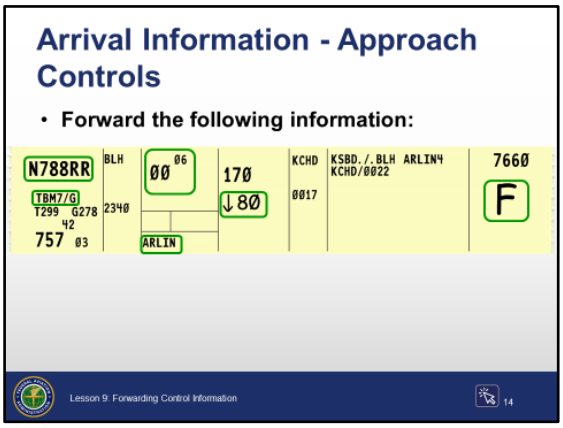
- Computer acceptance of a message fulfills the requirement for sending amended data
  - Amendment data is considered acknowledged on receipt of a computer update message or a computer-generated flight progress strip containing the amended data
- Forward any amended control information and record the action on the appropriate flight progress strip
- When a route or altitude in a previously issued clearance is amended within 30 minutes of an aircraft's proposed departure time:
  - The facility that amended the clearance must coordinate with the receiving facility via verbal AND automated means to ensure timely passage of the information
  - If the automated means of coordination are unavailable, then verbal coordination is sufficient
- Effect manual coordination on any interfacility flight plan data that is not passed through automated means
- When receiving a UTM notification to a Flight Data Input/Output (FDIO) only facility, you must:
  - Effect manual coordination for the flight plan data
  - Verify the flight plan data to the receiving facility within three minutes of the transfer of control point estimate

  NOTE: FDIO only facilities are facilities with FDIO but without STARS.

PROCEDURES FOR FORWARDING CONTROL INFORMATION *(CONT'D)*

Arrival Information - Approach Controls

JO 7110.65, par. 4-7-6



Arrival Information - Approach Controls

⊙ Forward the following information to approach control facilities before transfer of control jurisdiction:

- Aircraft identification
- Type of aircraft and appropriate aircraft equipment suffix
- ETA or actual time, and proposed or actual altitude over clearance limit
  - ETA need not be given if the arrival information is being forwarded during a radar handoff
- Clearance limit (when other than the destination airport) and EFC
  - Clearance limit may be omitted when provided for in a letter of agreement

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PROCEDURES FOR FORWARDING CONTROL INFORMATION *(CONT'D)*

Arrival Information - Approach Controls (Cont'd)

JO 7110.65, par. 4-7-6

- Time, fix, or altitude when control responsibility is transferred to the approach control facility
  - This information may be omitted when provided for in a letter of agreement

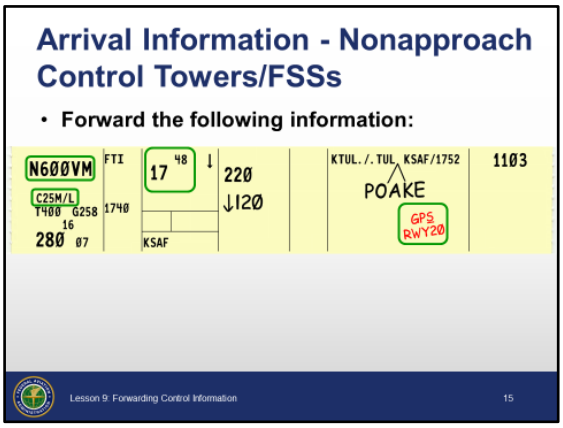
  NOTE: Transfer points are usually specified in a letter of agreement.

  Example: "YOUR CONTROL LEAVING ONE ZERO THOUSAND"

PROCEDURES FOR FORWARDING CONTROL INFORMATION *(CONT'D)*

Arrival Information - Nonapproach Control Towers/FSSs

JO 7110.65, par. 4-7-6



Arrival Information - Nonapproach Control Towers/FSSs

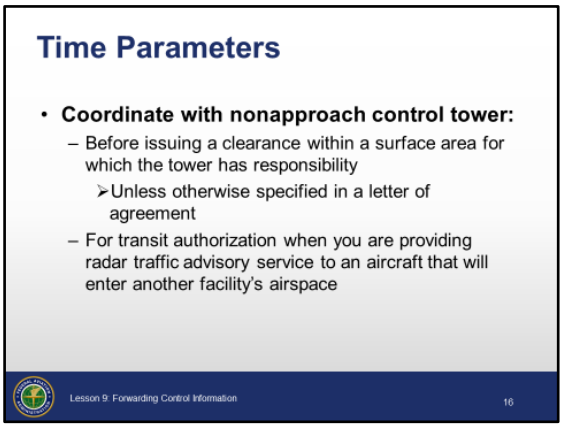
⊙ Forward the following information to nonapproach control towers soon enough to permit adjustment of the traffic flow or to FSSs (Alaska Only) soon enough to provide local airport advisory where applicable:

- Aircraft identification
- Type of aircraft
- ETA
- Type of instrument approach procedure the aircraft will execute, or
- For aircraft executing a contact approach, position of the aircraft, or
- For SVFR
  - Direction from which the aircraft will enter Class B, Class C, Class D, or Class E surface area
  - Altitude restrictions that were issued

PROCEDURES FOR FORWARDING CONTROL INFORMATION *(CONT'D)*

Time Parameters

JO 7110.65, par. 2-1-16



Time Parameters

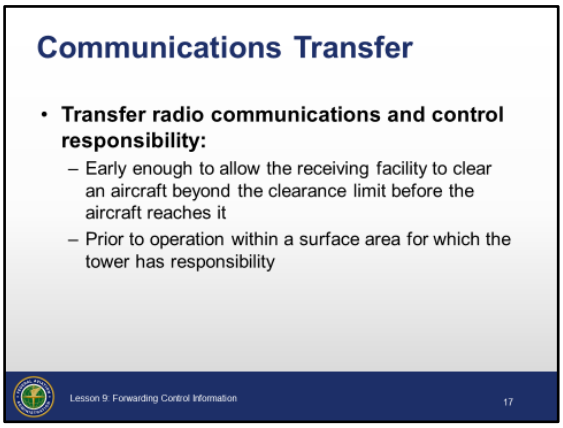
⊙ Coordinate with the appropriate nonapproach control tower:

- Before issuing a clearance which would require flight within a surface area for which the tower has responsibility
  - Unless otherwise specified in a letter of agreement
- For transit authorization when you are providing radar traffic advisory service to an aircraft that will enter another facility's airspace

PROCEDURES FOR FORWARDING CONTROL INFORMATION *(CONT'D)*

Communications Transfer

JO 7110.65, par. 4-7-9



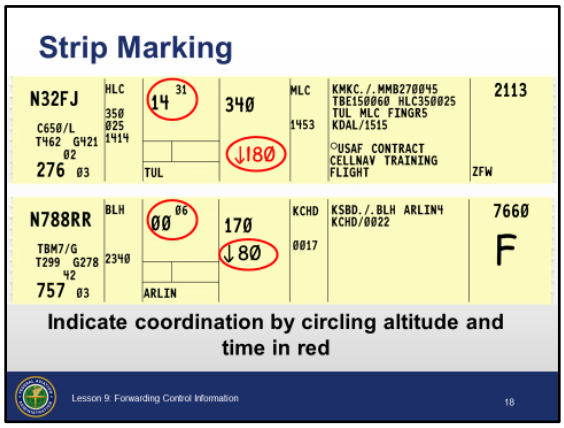
Communications Transfer

- ⊙ Transfer radio communications and control responsibility:
  - Early enough to allow the receiving facility to clear an aircraft beyond the clearance limit before the aircraft reaches it
  - Prior to operation within a surface area for which the tower has responsibility

PROCEDURES FOR FORWARDING CONTROL INFORMATION *(CONT'D)*

Strip Marking

JO 7110.65, FIG 2-3-8



Strip Marking

- ⊙ Information or revised information forwarded
  - Circle in red any flight plan data when coordination has taken place
    - To indicate the entire flight plan or estimate is forwarded, circle the time and altitude in red
  - Use this in both inter-center and intra-center coordination

  Examples: Time, IAFDOF, altitude

PROCEDURES FOR FORWARDING CONTROL INFORMATION *(CONT'D)*

Altitude Reservations (ALTRV)

JO 7110.65, par. 2-2-8, PCG

JO 7610.4 pars. 3-3-5, 3-4-6

Altitude Reservations (ALTRV)

- When an aircraft is a part of an approved ALTRV, forward only those items necessary to properly:
  - Identify the flight
  - Update flight data, or
  - Revise previously given information
- Forward departure times of ALTRV aircraft to the ALTRV approval authority and to all facilities concerned
  - Departure messages must include the departure time and identification of the following:
    - Cell formation
    - First and last aircraft of a stream formation
    - Individual aircraft not listed in the above
- In a nonradar environment, unless otherwise stated in the ALTRV
  - Pilot must advise ATC if actual fix timing will be more than plus or minus 5 minutes from the planned ALTRV en route fix estimate
- Forward cancellations of ALTRV aircraft and other ALTRV changes to Central Altitude Reservation Function (CARF) and appropriate approach control facilities
  - This applies to cancellations of individual aircraft within the ALTRV or the whole mission

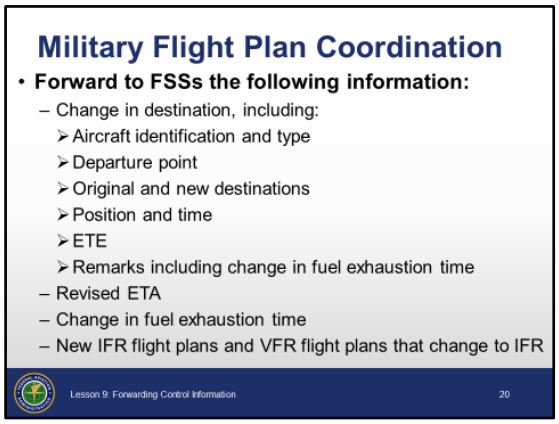
  NOTE: Relay cancellations and other ALTRV changes to your supervisor/CIC who will forward this information to CARF.

PROCEDURES FOR FORWARDING CONTROL INFORMATION *(CONT'D)*

Military Flight Plan Coordination

JO 7110.65, par. 2-2-12, 9-2-2

JO 7110.10, par. 5-4-8



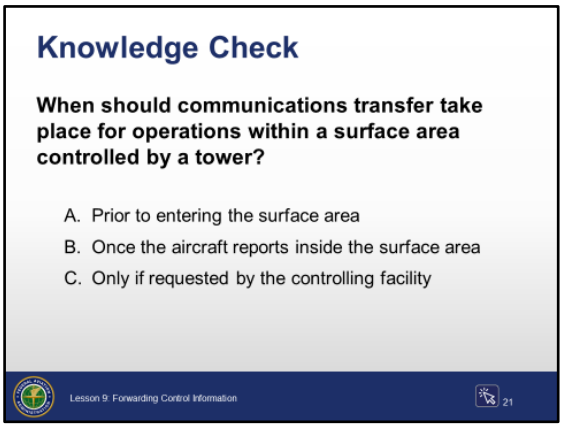
Military Flight Plan Coordination

- Forward to FSSs the following information received from airborne military aircraft:
  - Change in destination, including:
    - Aircraft identification and type
    - Departure point
    - Original and new destinations
    - Position and time
    - ETE
    - Remarks including change in fuel exhaustion time
  - Revised ETA
  - Change in fuel exhaustion time
  - New IFR flight plans and VFR flight plans that change to IFR

  NOTE: This makes current information available to FSSs for relay to military bases concerned and for use by centers in the event of two-way radio communications failure.
- Celestial Navigation (CELNAV)
  - Prior to control transfer, ensure that the receiving controller is informed of the nature of the CELNAV training leg

PROCEDURES FOR FORWARDING CONTROL INFORMATION *(CONT'D)*

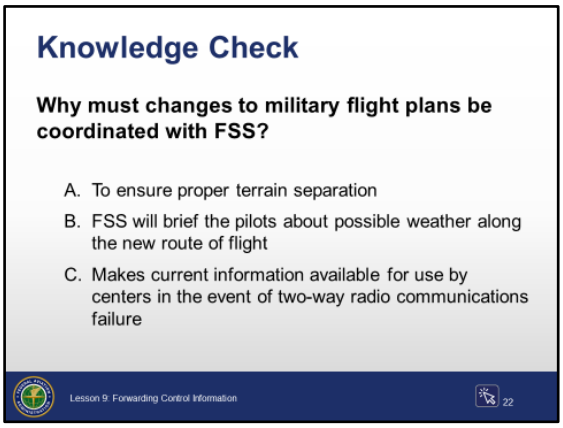
Knowledge Check



Question: When should communications transfer take place for operations within a surface area controlled by a tower?

PROCEDURES FOR FORWARDING CONTROL INFORMATION *(CONT'D)*

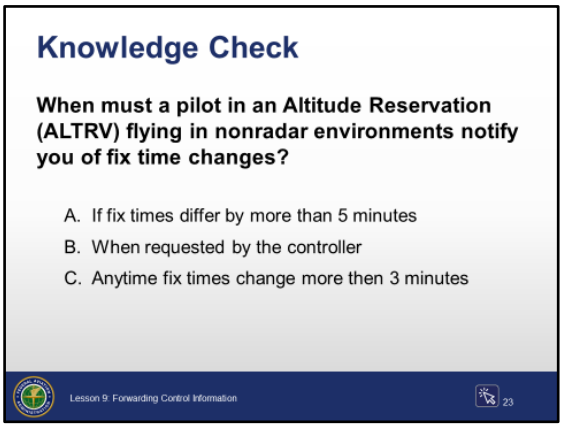
Knowledge Check



Question: Why must changes to military flight plans be coordinated with FSS?

PROCEDURES FOR FORWARDING CONTROL INFORMATION *(CONT'D)*

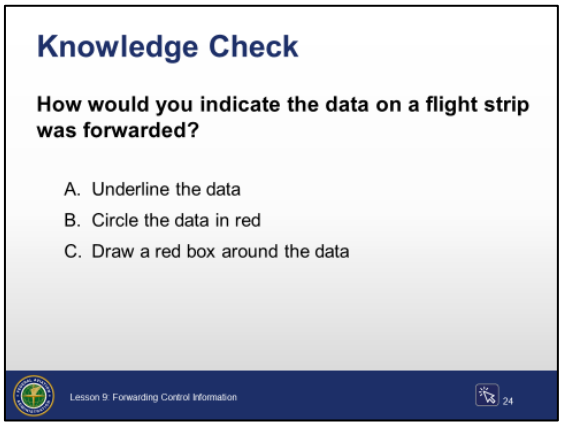
Knowledge Check



Question: When must a pilot in an Altitude Reservation (ALTRV) flying in nonradar environments notify you of fix time changes?

PROCEDURES FOR FORWARDING CONTROL INFORMATION *(CONT'D)*

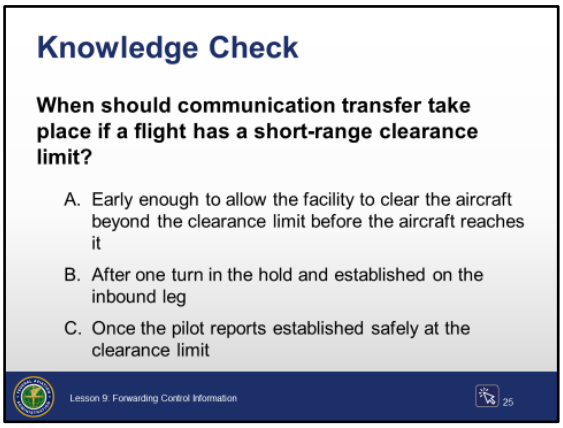
Knowledge Check



Question: How would you indicate the data on a flight strip was forwarded?

PROCEDURES FOR FORWARDING CONTROL INFORMATION *(CONT'D)*

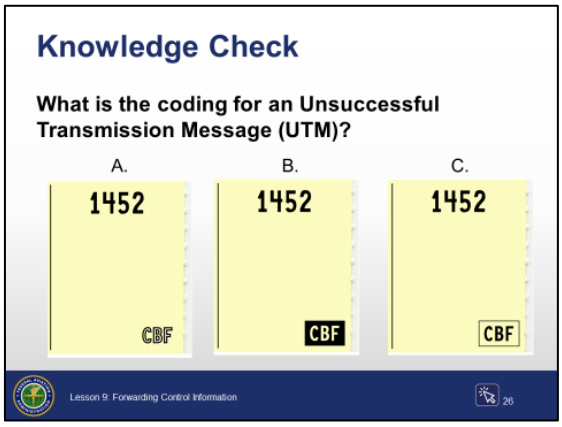
Knowledge Check



Question: When should communication transfer take place if a flight has a short-range clearance limit?

PROCEDURES FOR FORWARDING CONTROL INFORMATION *(CONT'D)*

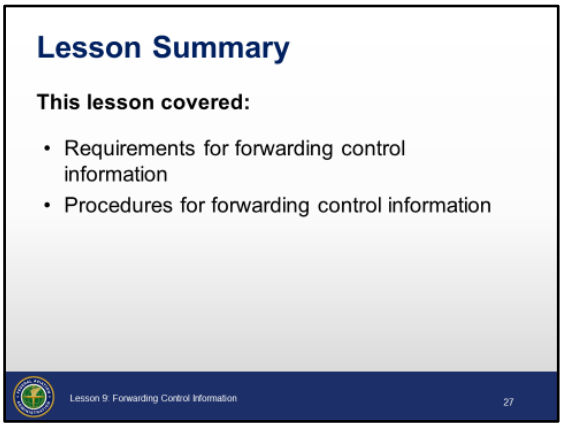
Knowledge Check



Question: What is the coding for an Unsuccessful Transmission Message (UTM)?

CONCLUSION

Lesson Summary



Summary

- Requirements for forwarding control information
  - Forwarding information
    - Flight plans
    - IFR flight progress data
  - Position reports
- Procedures for forwarding control information
  - Amended data or unsuccessful transmission message
    - Error in transmission
  - Approach control facilities
    - Arrival information
  - VFR towers and flight service stations
    - Arrival information
    - Time parameters
    - Communications transfer
  - Strip marking

Continued on next page

CONCLUSION *(CONT'D)*

Lesson Summary (Cont'd)

- Altitude reservations (ALTRV)
- Airborne military flight plan coordination
  - Change to IFR flight plan
  - New IFR flight plan
  - Change from VFR to IFR flight plan
  - Celestial navigation