



**Federal Aviation  
Administration**

***55054003  
EN ROUTE  
RADAR ASSOCIATE  
CONTROLLER TRAINING PART C:  
ADVANCED CONCEPTS***

**Lesson 10: Trial Plans**

**Version: 1.0 2022.08**










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# LESSON PLAN DATA SHEET

Course Name	En Route Radar Associate Controller Training Part C: Advanced Concepts
Course Number	55054003
Lesson Title	Trial Plans
Duration	1 hours 45 minutes (includes lesson, practice exercise, and ELT)
Version	1.0 2022.08
Reference(s)	TI 6110.101, En Route Automation Modernization RA-Position User Manual; ERAM ATCHI MISC 230.05, En Route Automation Modernization, Air Traffic Computer-Human Interface; AT URET User Manual Version 3.1a
Prerequisites	NONE
Handout(s)	<ul style="list-style-type: none"> <li>⦿ Part-Task Exercise</li> <li>⦿ TI 6110.108, ERAM Quick Reference Controller Card</li> </ul>
Exercise / Activity	Refer to handout for: <ul style="list-style-type: none"> <li>⦿ Part-task exercise: Trial Plans</li> </ul>
Scenario	<ul style="list-style-type: none"> <li>⦿ Run scenario 55054003_L07_S## in TTL</li> </ul>
Assessments	YES - Written
Materials and Equipment	<ul style="list-style-type: none"> <li>⦿ Pencil and/or pen</li> <li>⦿ TI 6110.108, En Route Automation Modernization Quick Reference Controller Card</li> </ul>
Other Pertinent Information	<ul style="list-style-type: none"> <li>⦿ <b>Ensure lesson materials are downloaded to the classroom computer</b></li> <li>⦿ This lesson is based on ERAM EAE410</li> <li>⦿ The lesson has been reviewed and reflects current orders and manuals as of April 2022</li> </ul>

# LESSON ICON LEGEND

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	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.

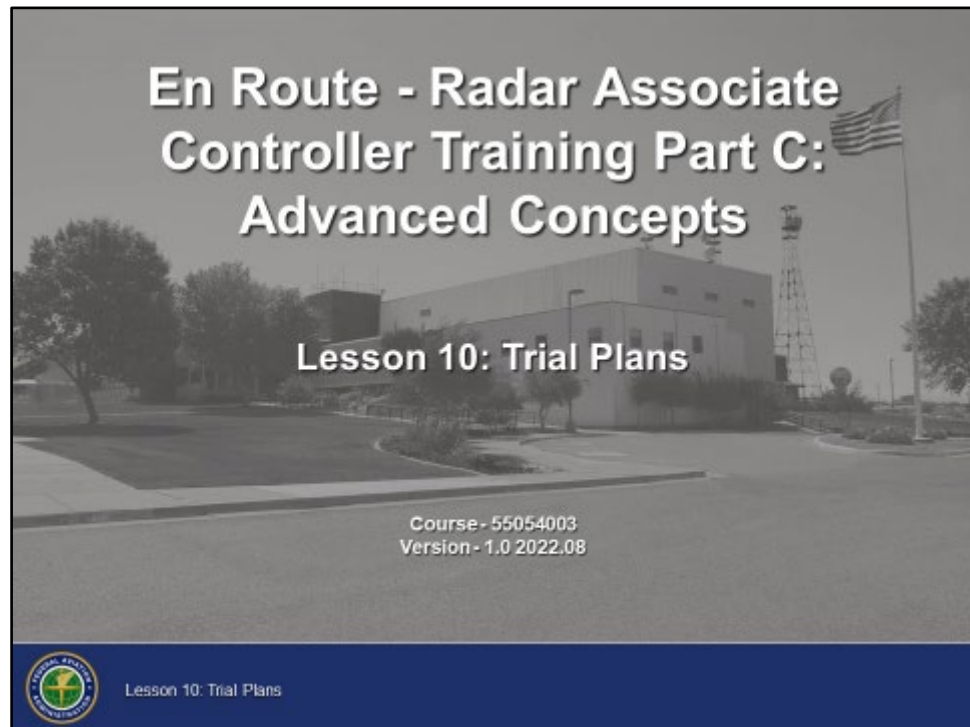
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# LESSON INTRODUCTION

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## Overview



In this lesson, we will discuss the creation of trial plans. A trial plan allows you to test for conflicts and send a flight plan amendment.

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# LESSON INTRODUCTION (CONT'D)

## Lesson Objectives

### Lesson Objectives

**At the end of this lesson, you will be able to identify steps for:**

- Creating a trial plan
- Resubmitting an invalid trial plan
- Sending an amendment or interim altitude
- Graphic trial planning

 Lesson 10: Trial Plans 1

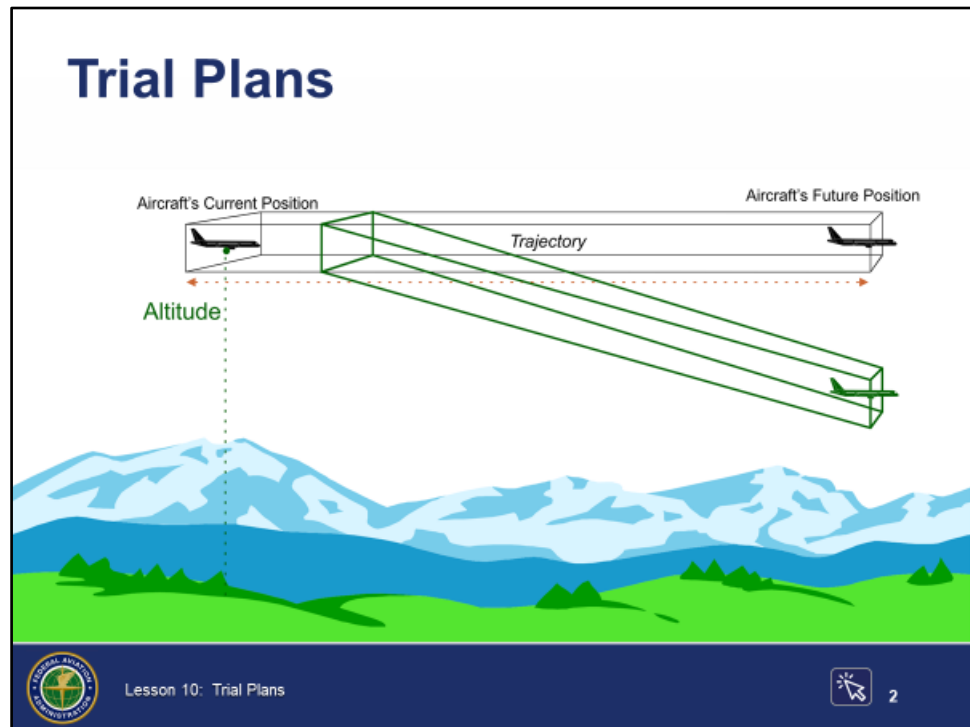
- ⦿ At the end of this lesson, you will be able to identify steps for:
- Creating a trial plan
  - Resubmitting an invalid trial plan
  - Sending an amendment or interim altitude
  - Graphic trial planning

**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.

# CREATION OF TRIAL PLANS

## Trial Plans

AT URET User  
Manual Version  
5.0, p. xx



- ⦿ Trial planning allows you to evaluate changes to flight plan trajectories
  - A trial plan checks a desired flight plan amendment before issuing the clearance to see if the planned amendment will resolve the conflict and/or cause any other conflicts
  - Both user requests and conflict resolutions can be trial planned
  - Trial plans can easily be converted to a flight plan amendment with the click of a button
  - Trial plans can be created for:
    - Altitude
    - Route
    - Speed
    - Restrictions
    - Departures

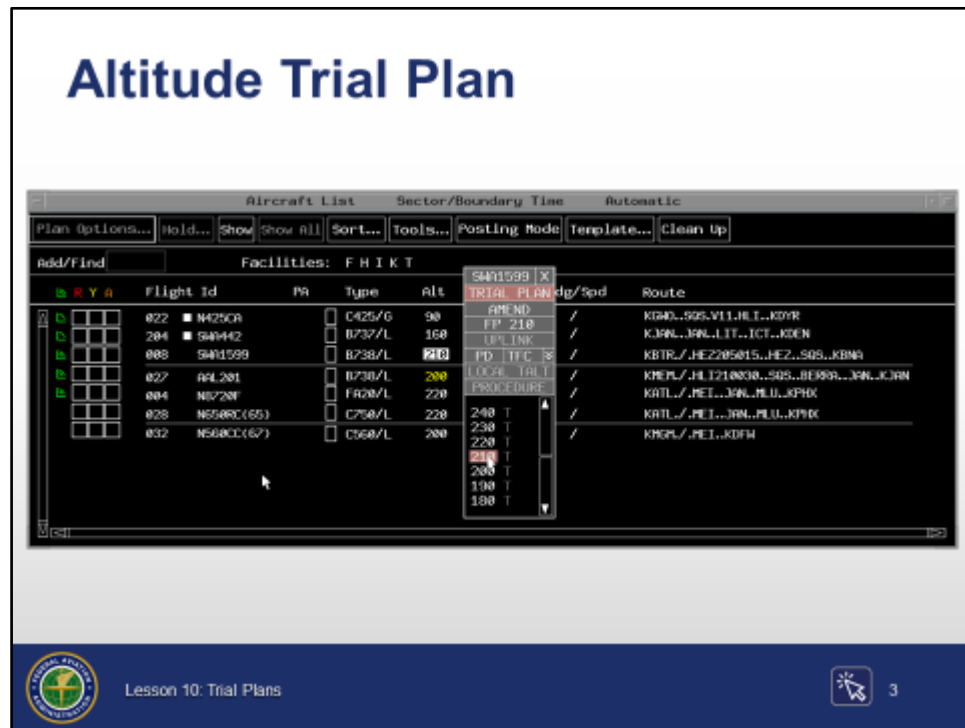


# CREATION OF TRIAL PLANS (CONT'D)

## Altitude Trial Plan

TI 6110.101,  
sec. 3.1.3.7.2

ERAM ATCHI  
MISC 230.05,  
pars. 3.7.3,  
3.8.22



- ⦿ The altitude menu provides a method for:
  - Creating a trial plan
  - Amending a flight plan assigned altitude
  - Entering an interim altitude
  - Entering a procedure altitude
- ⦿ The altitude menu is accessed by:
  - Selecting the altitude field in the Aircraft List (ACL), or
  - The Plan Options Menu

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# CREATION OF TRIAL PLANS (CONT'D)

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## Altitude Trial Plan (Cont'd)

ERAM ATCHI  
MISC 230.05,  
pars. 3.7.3,  
3.8.22

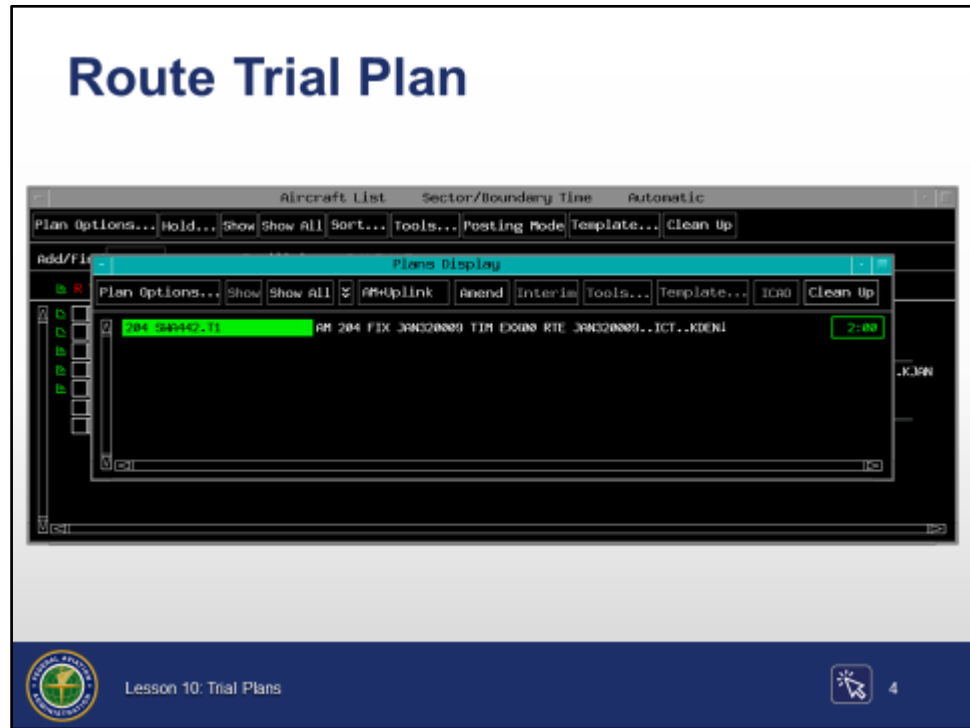
- ⊙ Creating a trial plan via the ACL altitude field:
    - TBP or TBE the altitude field
      - Altitude menu is displayed
        - Aircraft ID displayed below the menu header
        - Trial Plan button is selected by default
    - TBP or TBE a value from the menu
      - Altitude menu is removed from display
    - Trial plan is created to reflect a new altitude
    - Trial plan is displayed on the Plans Display
      - Plans Display will appear on top of all other views
  - ⊙ Creating a trial plan via the Plan Options Menu
    - TBP the call sign
    - TBP Plan Options... button
      - Choose:
        - Altitude...
        - Speed...
        - Route...
        - Trial Restrictions...
-

# CREATION OF TRIAL PLANS (CONT'D)

## Route Trial Plan

TI 6110.101,  
secs. 3.1.3.7.3,  
10.2.2

ERAM ATCHI  
MISC 230.05,  
table 3-117



- ⦿ Create a route trial plan
  - TBP the route field from the ACL
    - Route Menu is displayed
      - Aircraft ID and type displayed below the menu header
      - Trial Plan button is selected by default

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# CREATION OF TRIAL PLANS *(CONT'D)*

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## **Route Trial Plan (Cont'd)**

TI 6110.101,  
sec. 10.2.2

ERAM ATCHI  
MISC 230.05,  
table 3-117

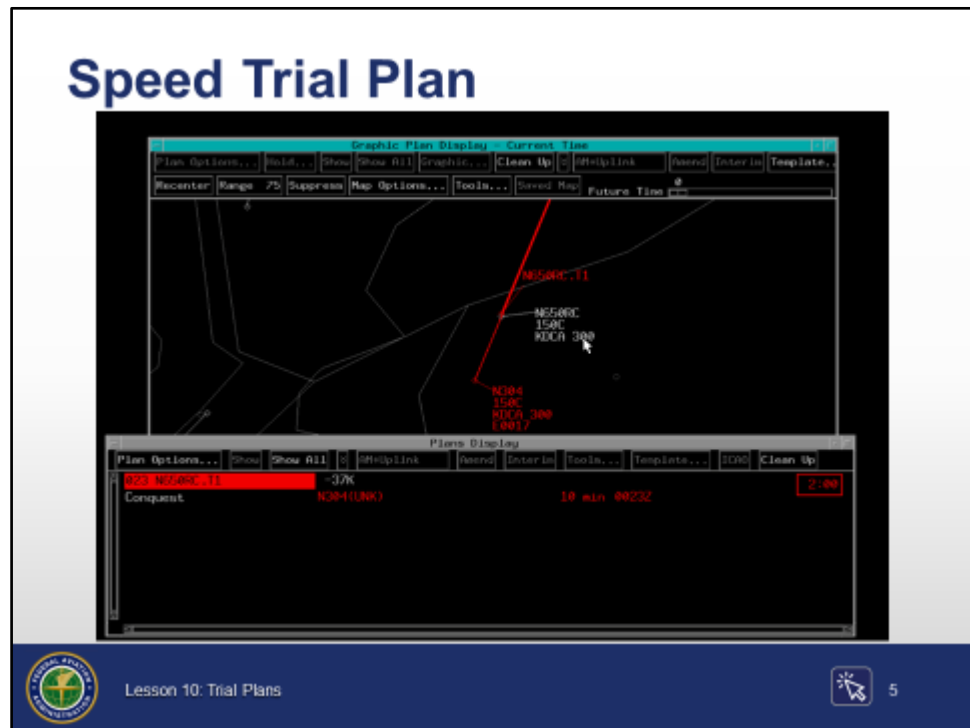
- Enter route information
    - TBP a direct-to-fix, or
    - Select an ATC preferred route, or
    - Manually type in a new route
      - KBE
  - The Route Menu is removed from display
  - Trial plan is created to reflect the new route
  - Trial plan is displayed on the Plans Display
    - Plans Display will appear on top of all other views
-

# CREATION OF TRIAL PLANS (CONT'D)

## Speed Trial Plan

TI 6110.101,  
sec. 3.1.3.7.4

ERAM ATCHI  
MISC 230.05,  
table 3-114, par.  
3.7.31



- ⦿ There are two methods to create speed trial plans:
  - Graphic Plan Display (GPD)
  - Plans Options Menu
- ⦿ From the GPD
  - TBP the speed field in the GPD data block
    - Speed is highlighted in reverse video
    - Speed Menu is displayed
      - Aircraft ID displayed below the menu header

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# CREATION OF TRIAL PLANS (CONT'D)

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## Speed Trial Plan (Cont'd)

TI 6110.101,  
sec. 3.1.3.7.4

ERAM ATCHI  
MISC 230.05,  
table 3-114, par.  
3.7.31

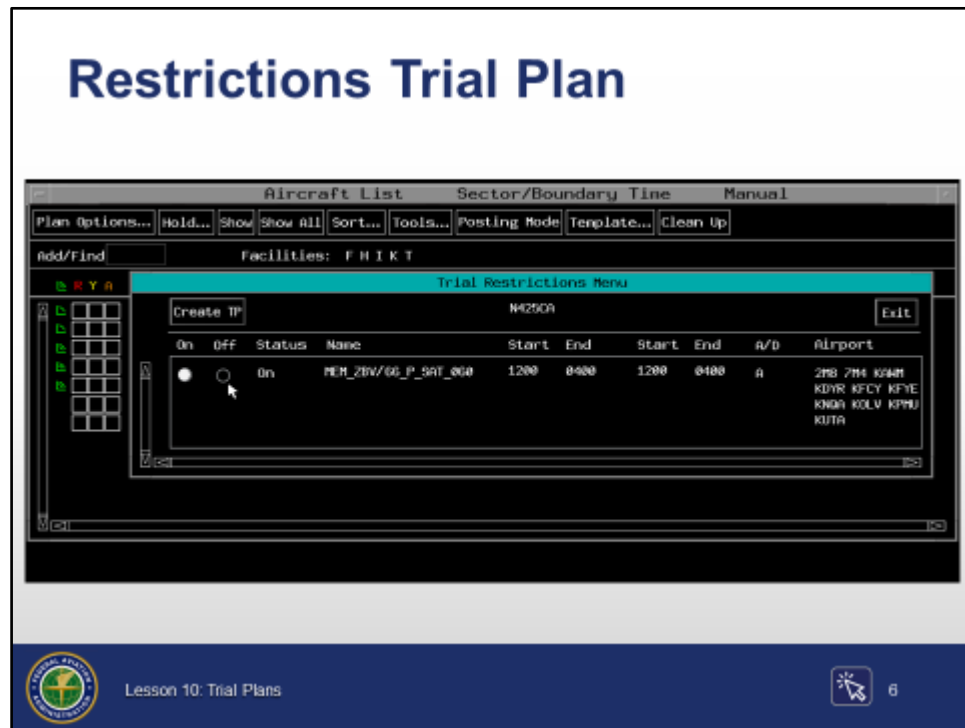
- Enter speed information
    - TBP a speed value from the menu, or
    - Type the desired speed in the input field
      - KBE
  - The Speed Menu is removed from display
  - A trial plan is created to reflect the new speed
  - Results of the trial plan are displayed on the Plans Display
    - Plans Display will appear on top of all other views
- ⊙ Trial Plan for speed from the Plan Options Menu
- TBP Flight ID
    - Flight ID is highlighted in reverse video
    - Plan Options... is active
  - TBP Plan Options Menu bar button
    - Plan Options Menu is displayed
    - Aircraft ID displayed below the menu header
  - Enter speed information
    - TBP a speed value from the menu, or
    - Type the desired speed in the input field
      - KBE
    - The Speed Menu is removed from display
  - Trial plan is created to reflect a new speed
  - Trial plan is displayed on the Plans Display
    - Plans Display will appear on top of all other views
-

# CREATION OF TRIAL PLANS (CONT'D)

## Restrictions Trial Plan

TI 6110.101,  
sec. 3.2.3.10

ERAM ATCHI  
MISC 230.05,  
Table 3-118



- ⦿ Create a trial plan for restrictions
  - TBP flight ID in ACL
    - Flight ID is highlighted in reverse video
    - Plan Options... becomes active
  - TBP Plan Options... in menu bar
    - Plan Options Menu is displayed
      - Aircraft ID displayed below the menu header

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# CREATION OF TRIAL PLANS (CONT'D)

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## Restrictions Trial Plan (Cont'd)

TI 6110.101,  
sec. 3.2.3.10

ERAM ATCHI  
MISC 230.05,  
Table 3-118

- TBP Trial Restrictions in the Plan Options Menu
    - Plan Options Menu is removed
    - Trial Restrictions Menu is displayed
      - All restrictions in the facility that impact the selected aircraft route of flight are displayed
  - TBP On or Off radio buttons in the Trial Restrictions Menu to apply or suspend restriction(s)
  - TBP the Create TP button
    - Trial Restrictions Menu is removed
  - Trial plan is created to reflect the restriction selection
  - Trial plan is displayed on the Plans Display
    - Plans Display will appear on top of all other views
-

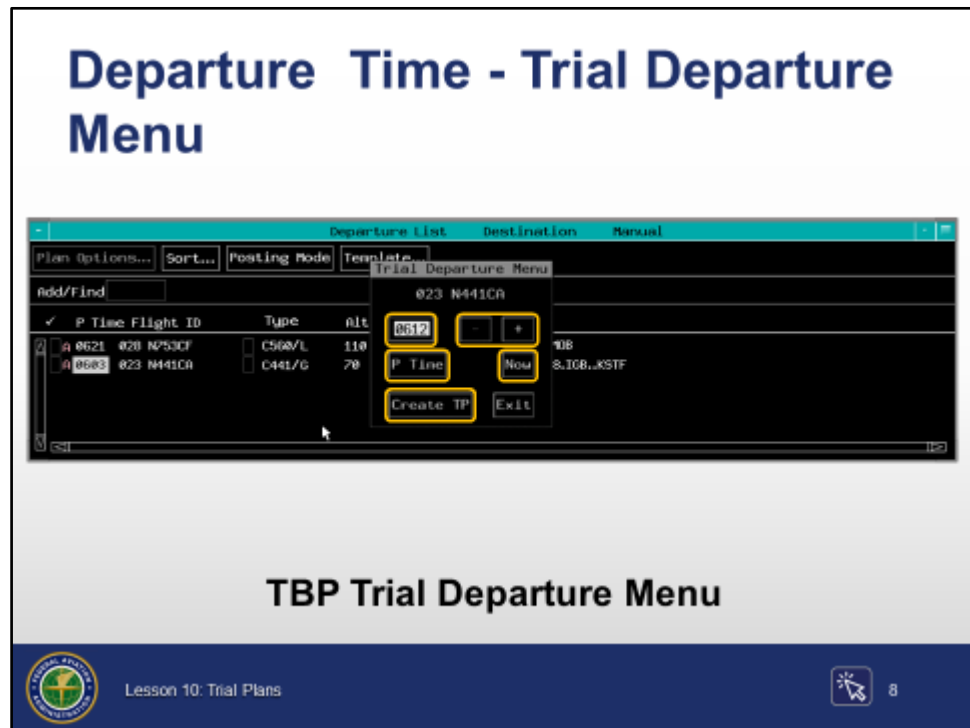




# CREATION OF TRIAL PLANS (CONT'D)

## Departure Time, Trial Departure Menu

ERAM ATCHI  
MISC 230.05,  
par. 7.8.27



- ⦿ Create a departure trial plan with proposed time or other time
  - TBP the time in the P Time column
    - Time is highlighted in reverse video
      - Cannot be in the past
      - In this example current time is 9 minutes after P time
    - The Trial Departure Menu is displayed
      - Aircraft ID and CID displayed at the top of the menu
      - Time entry field is populated with current time highlighted in reverse video

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# CREATION OF TRIAL PLANS (CONT'D)

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## Departure Time, Trial Departure Menu (Cont'd)

ERAM ATCHI  
MISC 230.05,  
par. 7.8.27

- TBP Create TP button or KBE
    - Trial plan is created using time in the Trial Departure Menu
    - Trial plan is displayed on the Plans Display and GPD
      - GPD will appear behind Plans Display
  - ⊙ Departure trial plan with other specified time
    - TBP the time in the P Time column
      - Time displayed is highlighted in reverse video
      - The Trial Departure Menu is displayed
        - Aircraft ID and CID displayed at the top of the menu
        - Time entry field is populated with current time highlighted in reverse video
    - Type the desired time in the entry field, or
    - TBP minus “-” or plus “+” buttons to add or subtract time (in one minute increments) from the displayed time, or
    - TBP the P Time button, or
      - If the filed P time is in the past, this button is grayed out
    - TBP the Now button
    - TBP Create TP button or KBE
      - Trial plan is created using proposed time
      - Trial plan is displayed on the Plans Display and GPD
        - GPD will appear behind Plans Display
-

# CREATION OF TRIAL PLANS (CONT'D)



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## Knowledge Check

### Knowledge Check

**How is a restriction trial plan created from the ACL?**

- A. TBP Trial Restrictions...>Flight ID>Plan Options...
- B. TBP Flight ID>Plan Options...>Trial Restrictions
- C. TBP Plan Options...>Trial Restrictions>Flight ID

 Lesson 10: Trial Plans  9

**Question:** How is a restriction trial plan created from the ACL?

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# CREATION OF TRIAL PLANS (CONT'D)



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## Knowledge Check

### Knowledge Check

How do you create a speed trial plan from the GPD?

- A. TBP the Speed menu button
- B. TBP the flight plan route
- C. TBP speed in the GPD data block

 Lesson 10: Trial Plans  10

**Question:** How do you create a speed trial plan from the GPD?

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# CREATION OF TRIAL PLANS (CONT'D)



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## Knowledge Check

### Knowledge Check

**What is the function of the “+” and “-” buttons on the Trial Departure Menu?**

- A. Add or subtract time from the current time
- B. Move the flight entry up or down in the view
- C. Raise or lower the requested altitude

 Lesson 10: Trial Plans  11

**Question:** What is the function of the “+” and “-” buttons on the Trial Departure Menu?

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# INVALID TRIAL PLAN

## Invalid Trial Plan

ERAM ATCHI  
MISC 230.05,  
pars. 2.1.3,  
11.6, 17.6



⦿ Invalid trial plans are coded in the Plans Display and GPD, as follows:

- Plans Display
  - Box drawn around entire entry with a dashed line in the same color as the trial plan ID
- GPD
  - Projected route of flight dashed line
  - Trial plan ID box drawn with a dashed line around trial plan ID in the same color as the trial plan

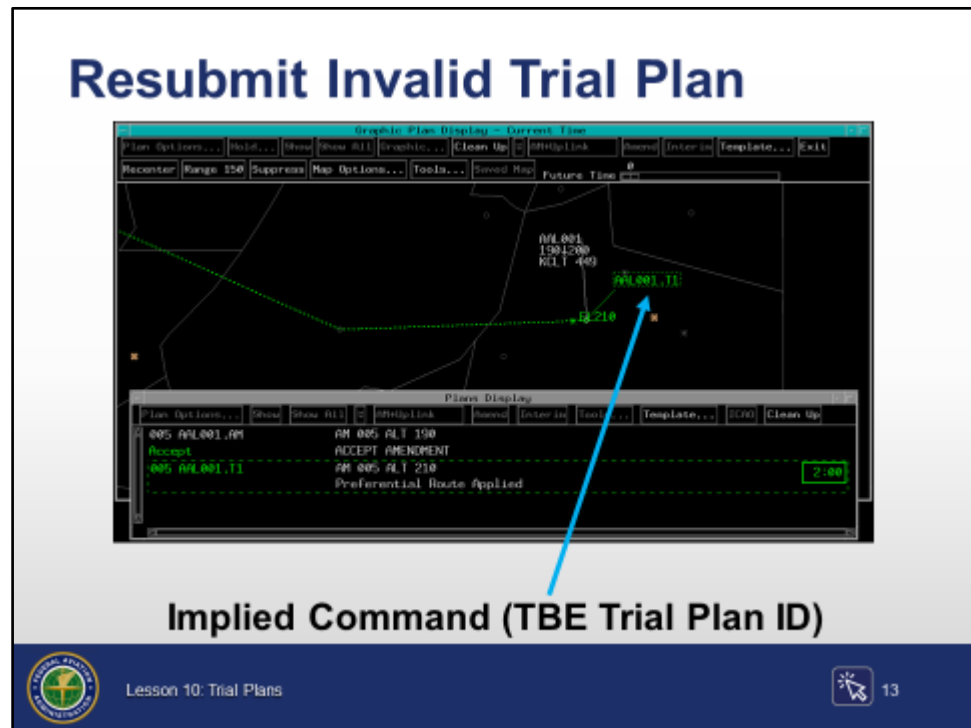
**Note:** A Trial Plan becomes invalid if a flight plan amendment is made after the trial plan for that flight was created.

# INVALID TRIAL PLAN (CONT'D)

## Resubmit Invalid Trial Plan

TI 6110.101,  
sec. 3.2.3.8

ERAM ATCHI  
MISC 230.05,  
par. 11.8.35



- ⦿ Resubmit an invalid trial plan via two methods on the GPD and Plans Display
  - Implied command (TBE)
  - Selected command (TBP)
- ⦿ Implied command, GPD
  - TBE trial plan ID of a plan that is coded invalid in the GPD
    - Resubmitted trial plan is displayed with a new trial plan number on the GPD and the Plans Display
    - The selected invalid trial plan is removed from the GPD and the Plans Display

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# INVALID TRIAL PLAN (CONT'D)

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## Resubmitting an invalid Trial Plan (Cont'd)

TI 6110.101,  
sec. 3.2

ERAM ATCHI  
MISC 230.05,  
par. 11.8.35

- ⦿ Selected command, Plans Display
    - TBP the trial plan ID on Plans Display
      - The trial plan ID is highlighted in reverse video
      - Menu bar buttons applicable to the selected entry are displayed as active
    - TBP Plan Options button
      - The Plan Options Menu is displayed and will have the trial plan ID displayed below the menu header
    - TBP Resubmit
      - The Plan Options Menu is removed from display
    - Trial plan is created with a new trial plan ID on the GPD
    - Trial plan is displayed with a new trial plan number on the Plans Display
      - Plans Display will appear on top of all other views
-

# INVALID TRIAL PLAN (CONT'D)

## Knowledge Check


### Knowledge Check

Which trial plan ID shows invalid trial plan coding?


A. **N650RC.T1**

B. **N650RC.T1**

C. **N650RC.T1**



Lesson 10: Trial Plans



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**Question:** Which trial plan ID shows invalid trial plan coding?

# INVALID TRIAL PLAN (CONT'D)


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## Knowledge Check


### Knowledge Check

**How do you resubmit an invalid trial plan?**

- A. TBP Plan Options...>Resubmit>Trial Plan ID
- B. TBP Trial Plan ID>Plan Options...>Resubmit
- C. TBP Invalid List>Trial Plan ID>Resubmit



Lesson 10: Trial Plans



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**Question:** How do you resubmit an invalid trial plan?

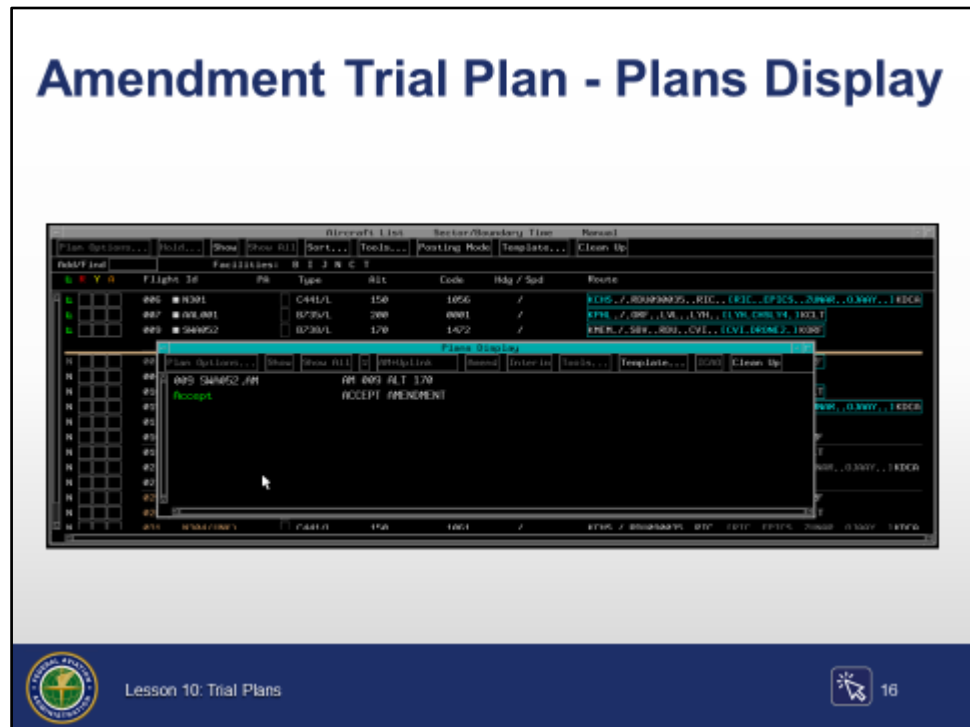
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# SENDING AN AMENDMENT OR INTERIM ALTITUDE

## Amendment Trial Plan - Plans Display

TI 6110.101,  
sec. 3.2

ERAM ATCHI  
MISC 230.05,  
par. 17.8.21



- ⦿ Trial plans may be sent as an amendment
  - TBP trial plan ID
    - The trial plan ID is highlighted in reverse video
    - Menu bar buttons applicable to the selected entry are displayed as active

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# SENDING AN AMENDMENT OR INTERIM ALTITUDE (CONT'D)

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## **Amendment, Trial Plan - Plans Display (Cont'd)**

TI 6110.101,  
sec. 3.2.1.2

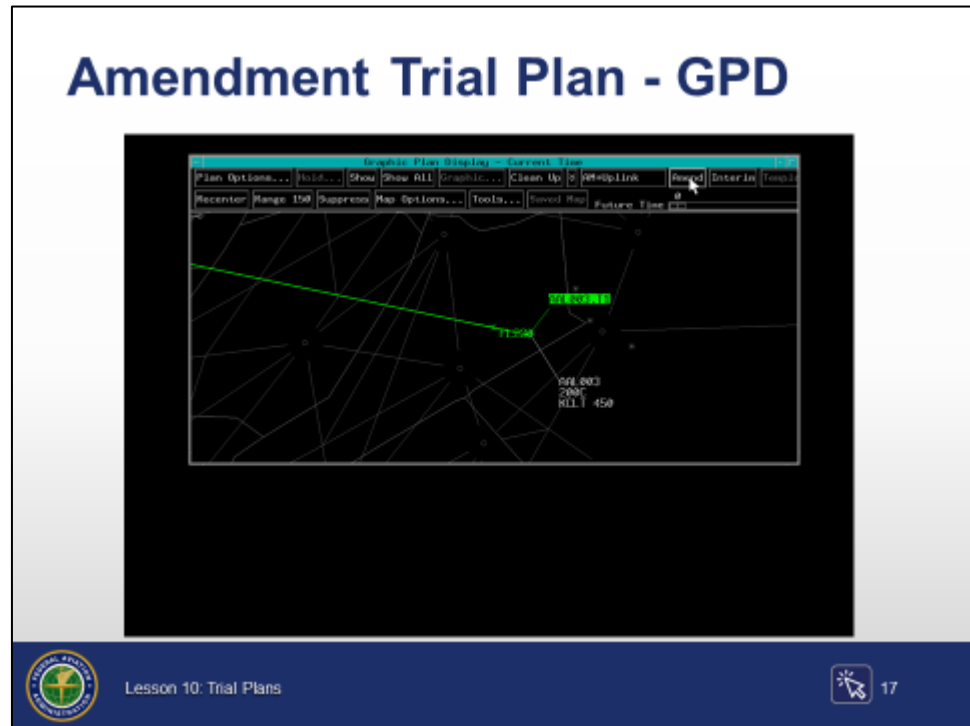
ERAM ATCHI  
MISC 230.05,  
par. 17.8.21

- TBP Amend menu bar button
    - All trial plans for that aircraft ID are removed from the Plans Display
    - A new amendment plan will appear with .AM appended to it
  - TBP AM+Uplink menu bar button
    - This command is similar to TBP Amend, but it will also send the CPDLC command to the aircraft
- ⦿ If the system is unable to generate valid amendment text, the Amend button is grayed out
  - ⦿ If the FRC check box was selected in a Route Menu when a route trial plan was created, it is ignored when the user enters the amend command
-

# SENDING AN AMENDMENT OR INTERIM ALTITUDE (CONT'D)

## Amendment Trial Plan - GPD

ERAM ATCHI  
MISC 230.05,  
par. 11.8.40



- ⦿ Trial plan on the GPD may be sent as an amendment
  - TBP the trial plan ID in the trial data block
    - Trial plan ID is highlighted in reverse video
    - Menu bar buttons applicable to the selected entry are displayed as active
  - TBP Amend menu bar button
    - The trial plan route is removed from the GPD
    - All trial plans for that aircraft are removed from the Plans Display
    - In the Plans Display, a new amendment plan will appear with .AM appended to it

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# SENDING AN AMENDMENT OR INTERIM ALTITUDE (CONT'D)

## **Amendment Trial Plan - GPD (Cont'd)**

ERAM ATCHI  
MISC 230.05,  
par. 11.8.40

- 
- TBP AM+Uplink menu bar button
    - This command is similar to TBP amend, but it will also send the CPDLC command to the aircraft
-

# SENDING AN AMENDMENT OR INTERIM ALTITUDE (CONT'D)



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## Knowledge Check

### Knowledge Check

Selecting AM+Uplink amends the FP and \_\_\_\_.

- A. sends a CPDLC command to the aircraft
- B. amends the CPDLC command
- C. creates a trial plan

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**Question:** Selecting AM+Uplink amends the FP and \_\_\_\_.

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# SENDING AN AMENDMENT OR INTERIM ALTITUDE (CONT'D)

## Knowledge Check


### Knowledge Check

How is a trial plan sent as an amendment?

- A. TBP Trial Plan ID>Plan Options...>Amend
- B. TBP Amend>Trial Plan ID
- C. TBP Trial Plan ID>Amend



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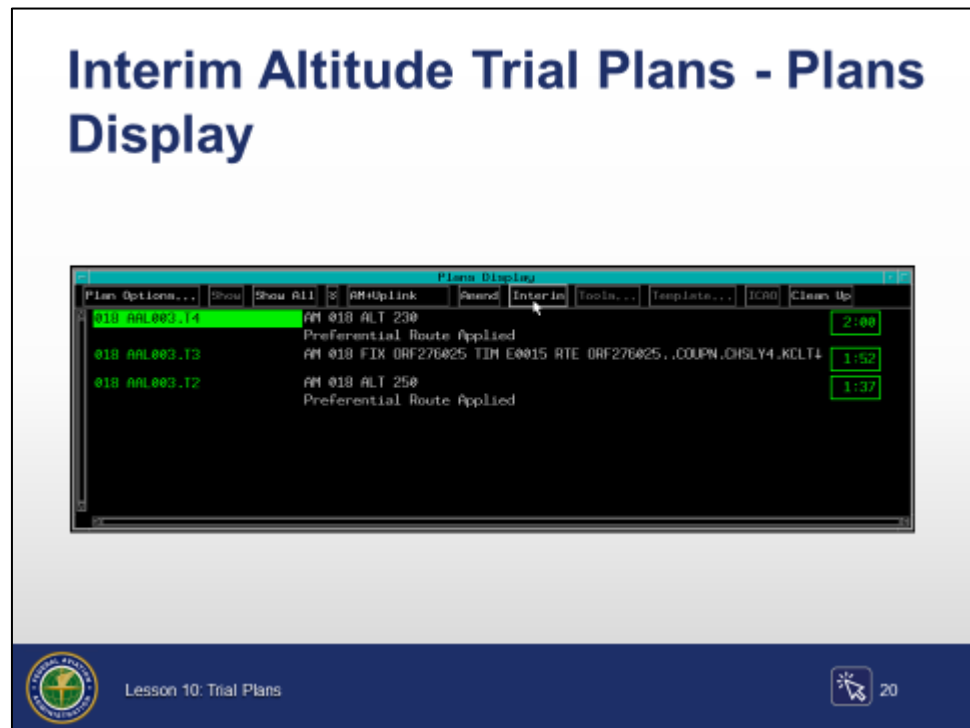
**Question:** How is a trial plan sent as an amendment?

# SENDING AN AMENDMENT OR INTERIM ALTITUDE (CONT'D)

## Interim Altitude Trial Plan - Plans Display

TI 6110.101,  
sec. 3.2

ERAM ATCHI  
MISC 230.05,  
par. 17.8.23



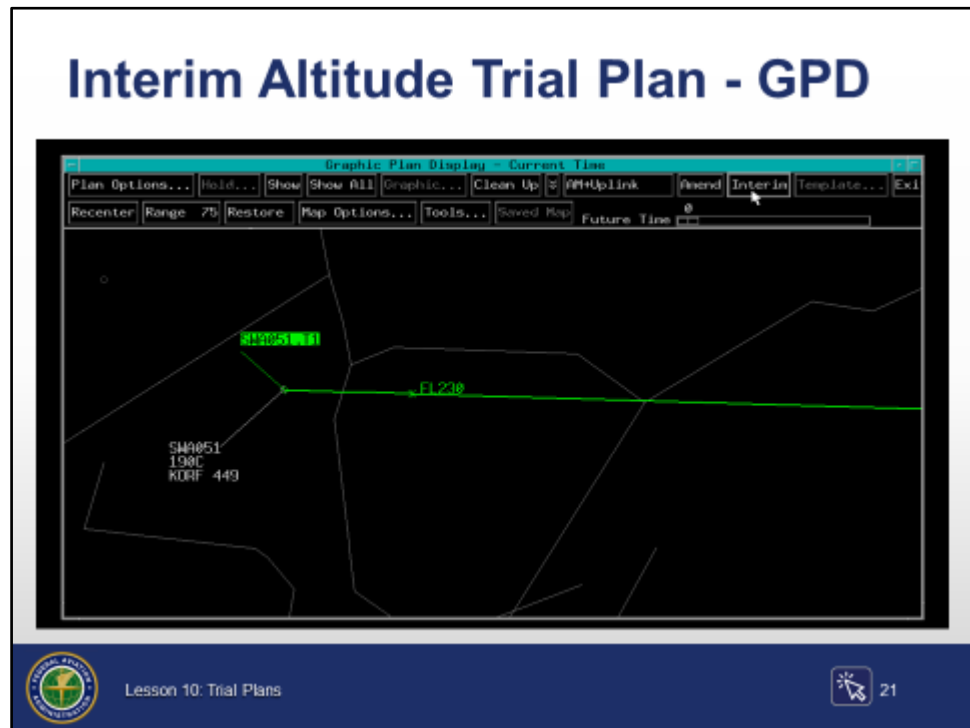
- ⦿ Interim altitude trial plans may be entered into the system as an amendment
  - TBP a trial plan ID
    - The trial plan ID is highlighted in reverse video
    - Menu bar buttons applicable to the selected entry are displayed as active
  - TBP Interim menu bar button
    - All trial plans for that aircraft ID are removed from the Plans Display
    - A new amendment plan will appear with .AM appended to it

# SENDING AN AMENDMENT OR INTERIM ALTITUDE (CONT'D)

## Interim Altitude Trial Plan - GPD

TI 6110.101,  
sec. 3.2

ERAM ATCHI  
MISC 230.05,  
par. 11.8.41



- ⦿ TBP the trial plan ID in the trial plan data block
  - The trial plan ID is highlighted in reverse video
  - Menu bar buttons applicable to the selected entry are displayed as active
- ⦿ TBP Interim menu bar button
  - The trial plan route is removed from the GPD
  - All trial plans for that aircraft are removed from the Plans Display
  - A new amendment plan will appear with .AM appended to it



# SENDING AN AMENDMENT OR INTERIM ALTITUDE (CONT'D)

## Knowledge Check

### Knowledge Check

How do you enter an interim altitude from a trial plan?

- A. TBP Interim>Plan ID
- B. TBP Trial Plan ID>Interim
- C. TBP Trial Plan ID>T>Send

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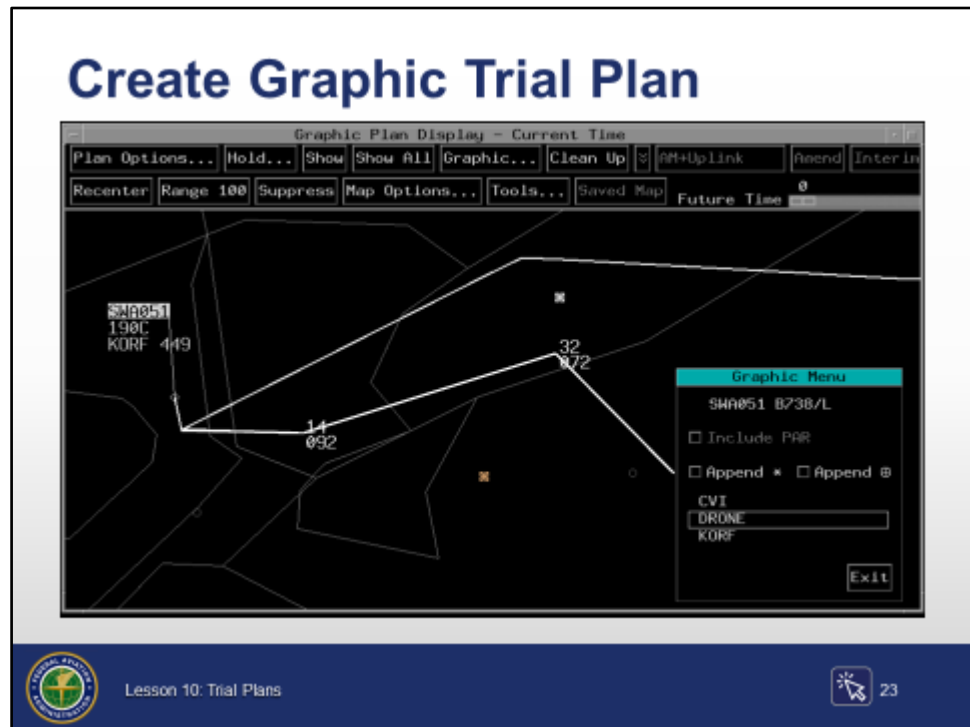
**Question:** How do you enter an interim altitude from a trial plan?

# GRAPHIC TRIAL PLAN

## Create Graphic Trial Plan

TI 6110.101,  
sec. 3.1.2.2

ERAM ATCHI  
MISC 230.05,  
par. 11.8.29



- ⦿ TBH destination field of the GPD data block
  - Route of the selected aircraft is shown and coded to indicate graphic entry mode
    - Cursor shape becomes a plus symbol
      - Graphic Menu is displayed
- ⦿ Construct the new route by TBP(s) to select the new points
  - The displayed route line is anchored at each selected location and the continuation of the route line follows the trackball location
    - Each selected location displays number of miles from the position symbol above the bearing from the position symbol

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# GRAPHIC TRIAL PLAN (CONT'D)

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## Create Graphic Route Trial Plan (Cont'd)

TI 6110.101,  
sec. 3.1.2.2

ERAM ATCHI  
MISC 230.05,  
par. 11.8.29

- ⊙ To delete a segment
    - TBH to delete the last selected point
      - The displayed route line is anchored at the previously selected location
      - Continuation of the route line follows the trackball location
  - ⊙ Select rejoin fix
    - After designating graphic route point(s), TBP a fix from the Graphic Menu to rejoin the original route
    - The graphic trial plan is displayed on the GPD
-

# GRAPHIC TRIAL PLAN (CONT'D)



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## Knowledge Check

### Knowledge Check

What is the first step to create a graphic trial plan on the GPD?

- A. TBH the destination in the GPD data block
- B. TBP Graphic from the menu
- C. TBE flight ID

 Lesson 10: Trial Plans  24

**Question:** What is the first step to create a graphic trial plan on the GPD?

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# GRAPHIC TRIAL PLAN (CONT'D)

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## Knowledge Check

### Knowledge Check

Only one point can be designated when creating a graphic trial plan.

A. True

B. False

 Lesson 10: Trial Plans  25

**Question:** Only one point can be designated when creating a graphic trial plan.

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# PART-TASK EXERCISE: TRIAL PLANS

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## Part-Task Exercise

- **Purpose**
  - Perform the following tasks:
    - Creating a trial plan
    - Resubmitting an invalid trial plan
    - Sending an amendment or interim altitude
    - Graphic trial planning
- **Materials**
  - TTL part-task exercise: Trial Plans
- **Directions**
  - This exercise takes approximately 30 minutes to complete. Each student must complete the checklist. No headsets are required.

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## Purpose

Perform the following tasks:

- ⦿ Creating a trial plan
  - ⦿ Resubmitting an invalid trial plan
  - ⦿ Sending an amendment or interim altitude
  - ⦿ Graphic trial planning
- 

## Materials



Handout:

- ⦿ TTL part-task exercise: Trial Plans



TTL Scenario: 55054003\_L10\_S##

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## Directions

This exercise takes approximately 30 minutes to complete. Each student must complete the checklist. No headsets are required.

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# CONCLUSION

## Lesson Summary

### Lesson Summary

**This lesson covered:**

- Creating a trial plan
- Resubmitting an invalid trial plan
- Sending an amendment or interim altitude
- Graphic trial planning



Lesson 10: Trial Plans

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- ⊙ This lesson covered
  - Creating a trial plan
    - Altitude
    - Route
    - Speed
    - Restrictions
    - Departure time, implied
    - Departure time, Trial Departure Menu
  - Resubmitting an invalid trial plan
  - Sending an amendment or interim altitude
    - Amendment, trial plan ID, Plans Display
    - Amendment, trial plan ID, GPD

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## CONCLUSION (CONT'D)

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### Lesson Summary (Cont'd)

- Interim altitude, trial plan ID, Plans Display
  - Interim altitude, trial plan ID, GPD
  - Graphic trial planning
    - Create graphic route trial plan
-