

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

Lesson 10: Trial Plans

Version: 1.0 2022.08

INSTRUCTOR LESSON PLAN



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)	 Part-Task Exercise HO01_L10 (Print prior to class) TI 6110.108, ERAM Quick Reference Controller Card
Exercise / Activity	Refer to handout for:
	Part-task exercise: Trial Plans
Scenario	⊙ Run scenario 55054003_L07_S## in TTL
Assessments	YES - Written (Refer to ELT01_L10, print prior to class)
Materials and Equipment	 Pencil and/or pen TI 6110.108, En Route Automation Modernization Quick Reference Controller Card
Other Pertinent Information	Ensure lesson materials are downloaded to the classroom computer
	⊙ This lesson is based on ERAM EAE410
	 The lesson has been reviewed and reflects current orders and manuals as of April 2022

As you prep for this lesson, recall and be prepared to talk about examples and personal experiences that illustrate or explain the teaching points in the lesson.

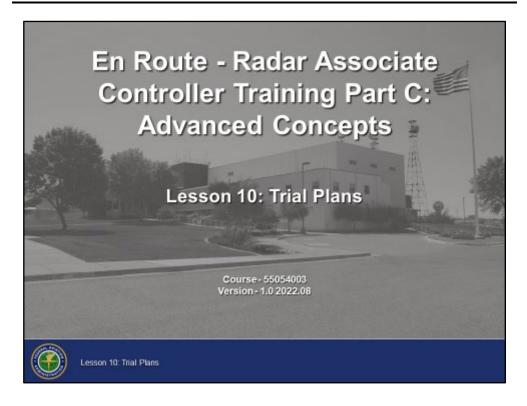
LESSON ICON LEGEND

	Description
Y	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.
.4	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.
W.	The Click icon indicates a PPT slide with click-based functionality to present additional information.
	The Definition icon indicates a published definition.



LESSON INTRODUCTION

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.

LESSON INTRODUCTION (CONT'D)

Lesson Objectives

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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



Review the lesson objectives.

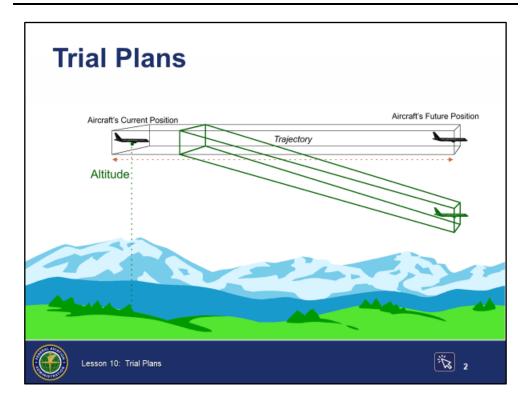
- At the end of this lesson, you will be able to identify steps for:
 - Creating a trial plan
 - Resubmitting an invalid trial plan
 - Sending an amendment or interim altitude
 - Graphic trial planning

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





Slide is animated, 1 click. Click where indicated by click icon.

• Trial planning allows you to evaluate changes to flight plan trajectories



Click to show altitude trial plan.

- 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

Altitude Trial Plan

TI 6110.101, sec. 3.1.3.7.2

ERAM ATCHI MISC 230.05, pars. 3.7.3, 3.8.22





Slide is animated, 5 clicks. Click where indicated by click icons.

- 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

Altitude Trial Plan (Cont'd)

ERAM ATCHI MISC 230.05, pars. 3.7.3, 3.8.22

O Creating a trial plan via the ACL altitude field:



Click to highlight altitude field and open altitude menu.

- TBP or TBE the altitude field
 - Altitude menu is displayed
 - Aircraft ID displayed below the menu header
 - Trial Plan button is selected by default



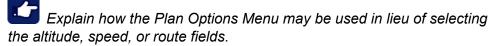
Click to select FL190 and create trial plan.

- 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



Click to close Plans Display.

Creating a trial plan via the Plan Options Menu





Click to highlight SWA1599 call sign.

TBP the call sign



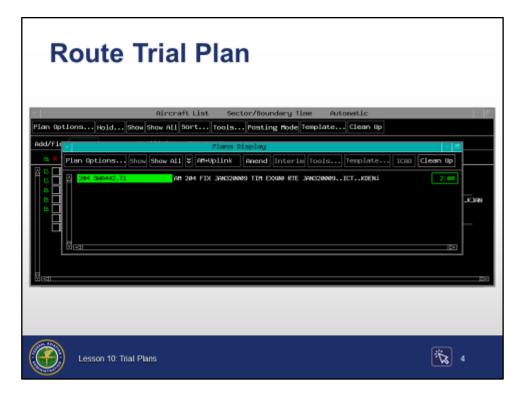
Click to open Plan Options Menu.

- TBP Plan Options... button
 - Choose:
 - Altitude...
 - Speed...
 - Route...
 - Trial Restrictions...

Route Trial Plan

TI 6110.101, secs. 3.1.3.7.3, 10.2.2

ERAM ATCHI MISC 230.05, table 3-117





Slide is animated, 4 clicks. Click where indicated by click icons.

Create a route trial plan



Click to dwell on route.



Click to select route field and open Route Menu.

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

Route Trial Plan (Cont'd)

TI 6110.101, sec. 10.2.2

ERAM ATCHI MISC 230.05, table 3-117



Click to highlight ICT in "Direct-to-Fix".



Click to TBP.

- Enter route information
 - TBP a direct-to-fix, or
 - Select an ATC preferred route, or
 - Manually type in a new route
 - o 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

Speed Trial Plan

TI 6110.101, sec. 3.1.3.7.4

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





Slide is animated, 4 clicks. Click where indicated by click icons.

- There are two methods to create speed trial plans:
 - Graphic Plan Display (GPD)
 - Plans Options Menu
- From the GPD



Click to move cursor to speed field in GPD data block.



Click to TBP speed in GPD data block.

- 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

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



Click to move cursor to -37.



Click to TBP -37.

- Enter speed information
 - TBP a speed value from the menu, or
 - Type the desired speed in the input field
 - o 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

Explain how the selected speed reduction causes an alert with traffic behind, shown on GPD and Plans Display.

- 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

Restrictions **Trial Plan**

TI 6110.101, sec. 3.2.3.10

ERAM ATCHI MISC 230.05, Table 3-118





Slide is animated, 5 clicks. Click where indicated by click icons.

Create a trial plan for restrictions



Click to highlight flight ID and move cursor to active Plan Options.

- TBP flight ID in ACL
 - Flight ID is highlighted in reverse video
 - Plan Options... becomes active



Click to open Plan Options Menu.

- TBP Plan Options... in menu bar
 - Plan Options Menu is displayed
 - Aircraft ID displayed below the menu header

Restrictions Trial Plan (Cont'd)

TI 6110.101, sec. 3.2.3.10

ERAM ATCHI MISC 230.05, Table 3-118



Click to select Trial Restrictions on Plan Options Menu.

- 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



Click to set restriction to Off.

 TBP On or Off radio buttons in the Trial Restrictions Menu to apply or suspend restriction(s)

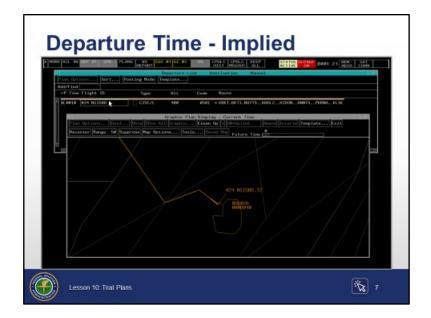


Click to create trial plan.

- 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

Departure Time - Implied

ERAM ATCHI MISC 230.05. par. 7.8.27





Slide is animated, 3 clicks. Click where indicated by click icons.

- There are three methods to create trial departure plans in the Departure List (DL)
 - Current time
 - Proposed time
 - Other specified time



Click to move cursor to dwell on flight ID.

Departure trial plan with current time:



Click to create trial plan at current time.

- TBE flight ID
 - Trial plan is created using current time
 - Trial plan is displayed on the GPD
 - Trial plan may also be viewed in the Plans Display:
 - TBP or TBE on the PLANS button in the ACL toolbar



Click to move cursor to and select the PLANS button.

Departure Time, Trial **Departure** Menu

ERAM ATCHI MISC 230.05, par. 7.8.27





Slide is animated, 8 clicks. Click where indicated by click icons.



Click to dwell on N441CA P time.

Create a departure trial plan with proposed time or other time



Click to open Trial Departure Menu.

- 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

Departure Time, Trial Departure Menu (Cont'd)

ERAM ATCHI MISC 230.05, par. 7.8.27



Click to highlight Create TP.

- 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
 - o 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



Click to highlight user entry time field.

• Type the desired time in the entry field, or



Click to highlight "-" and "+".

• TBP minus "-" or plus "+" buttons to add or subtract time (in one minute increments) from the displayed time, or



Click to highlight P time.

- TBP the P Time button, or
 - If the filed P time is in the past, this button is grayed out



Click to highlight Now.

TBP the Now button



TBP Create TP button or KBE

Click to highlight Create TP.

- Trial plan is created using proposed time
- Trial plan is displayed on the Plans Display and GPD
 - GPD will appear behind Plans Display

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

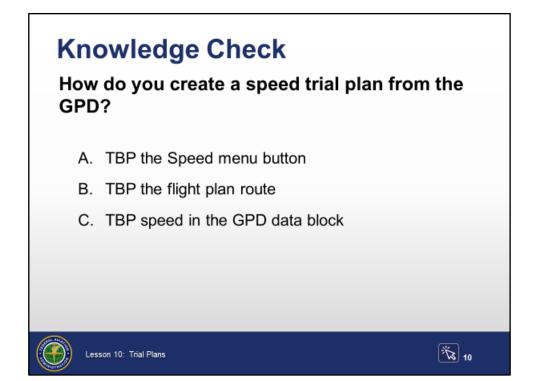


Question: How is a restriction trial plan created from the ACL?



Answer: B. TBP Flight ID>Plan Options...>Trial Restrictions

Knowledge Check



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



Answer: C. TBP speed in the GPD data block

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



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



Answer: A. Add or subtract time from the current time

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.

Resubmit Invalid Trial Plan

TI 6110.101, sec. 3.2.3.8

ERAM ATCHI MISC 230.05, par. 11.8.35





Slide is animated, 4 clicks. Click where indicated by click icon.

- Resubmit an invalid trial plan via two methods on the GPD and Plans Display
 - Implied command (TBE)
 - Selected command (TBP)
- Implied command, GPD



Click to TBE on invalid trial plan ID and resubmit.

- 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

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

TI 6110.101, sec. 3.2

ERAM ATCHI MISC 230.05, par. 11.8.35



Click to begin the selected command (TBP) within the Plans Display.

- 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



Click to TBP the Plan Options button.

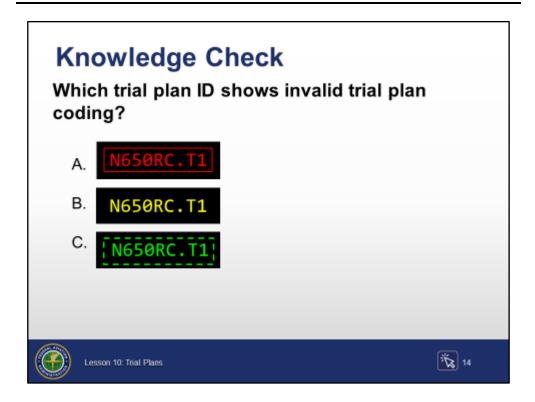
- TBP Plan Options button
 - The Plan Options Menu is displayed and will have the trial plan ID displayed below the menu header



Click to TBP Resubmit.

- **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

Knowledge Check



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



Knowledge Check



Question: How do you resubmit an invalid trial plan?



Answer: B. TBP Plan ID>Plan Options...>Resubmit

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





Slide is animated, 2 clicks. Click where indicated by click icons.

Trial plans may be sent as an amendment



Click to move cursor to trial plan ID and TBP.

- 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

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

TI 6110.101, sec. 3.2.1.2

ERAM ATCHI MISC 230.05, par. 17.8.21



Click to move cursor to Amend and TBP.

- 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

Amendment Trial Plan -GPD

ERAM ATCHI MISC 230.05, par. 11.8.40





Slide is animated, 2 clicks. Click where indicated by click icons.

⊙ Trial plan on the GPD may be sent as an amendment



Click to TBP the trial plan ID.

- 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



Click to move cursor to amend button and TBP.

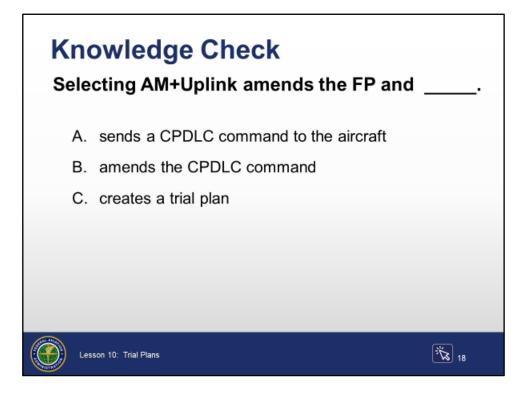
- TBP Amend menu bar button
 - The trial plan route is removed from the GPD
 - All trial plans for that aircraft are removed from the Plans Display
 - In the Plans Display, a new amendment plan will appear with .AM appended to it

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

Knowledge Check



Question: Selecting AM+Uplink amends the FP and ...



Answer: A. sends a CPDLC command to the aircraft

Knowledge Check



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

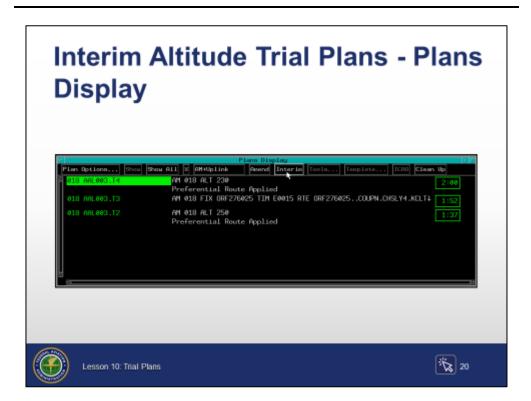


Answer: C. TBP Trial Plan ID>Amend

Interim Altitude Trial Plan - Plans Display

TI 6110.101, sec. 3.2

ERAM ATCHI MISC 230.05, par. 17.8.23



- Slide is animated, 2 clicks. Click where indicated by click icons.
- Interim altitude trial plans may be entered into the system as an amendment



Click to move cursor to plan ID and TBP.

- 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



Click to move cursor to Interim and TBP.

- 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

Interim **Altitude Trial** Plan - GPD

TI 6110.101. sec. 3.2

ERAM ATCHI MISC 230.05. par. 11.8.41





Slide is animated, 2 clicks. Click where indicated by click icons.



Click to TBP the Plan ID.

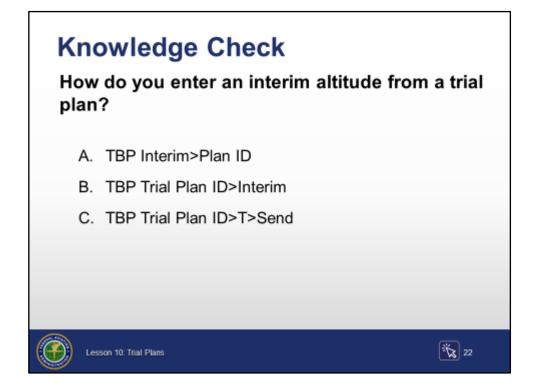
- TBP the trial plan ID in the trial plan data block
 - The trial plan ID is highlighted in reverse video
 - Menu bar buttons applicable to the selected entry are displayed as active



Click to move cursor to Interim and TBP.

- 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

Knowledge Check



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



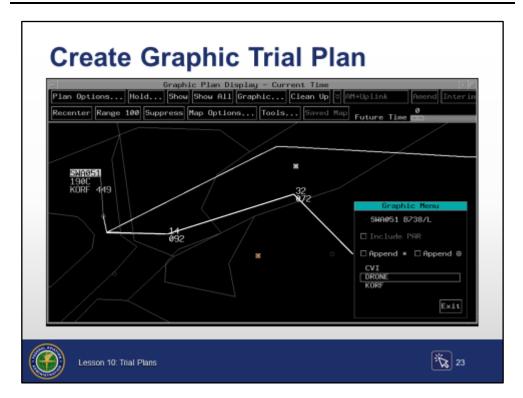
Answer: B. TBP Trial Plan ID>Interim

GRAPHIC TRIAL PLAN

Create **Graphic Trial** Plan

TI 6110.101, sec. 3.1.2.2

ERAM ATCHI MISC 230.05, par. 11.8.29





Slide is animated, 4 clicks. Click where indicated by click icons.



Click to TBH destination field.

- 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



Click to TBP first point south of current route.



Click again for second point.

- 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

GRAPHIC TRIAL PLAN (CONT'D)

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

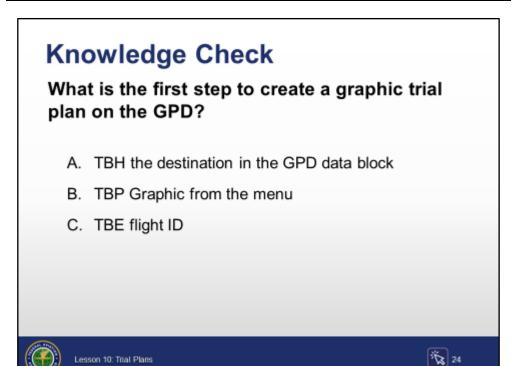


Click to TBP DRONE on Graphic Menu.

- 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)

Knowledge Check



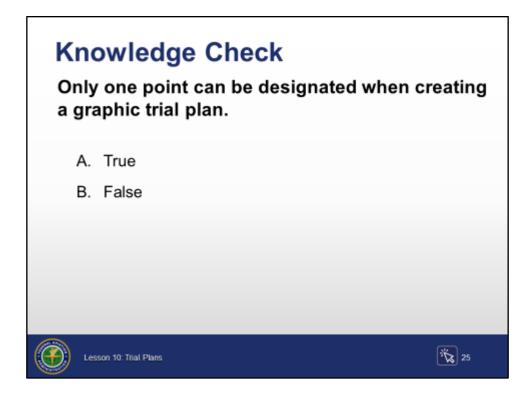
Question: What is the first step to create a graphic trial plan on the GPD?



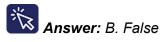
Answer: A. TBH the destination in the GPD data block

GRAPHIC TRIAL PLAN (CONT'D)

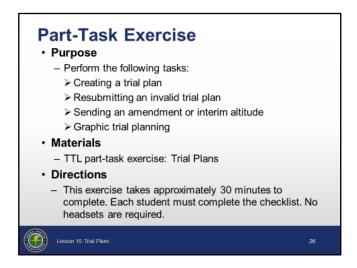
Knowledge Check



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



PART-TASK EXERCISE: TRIAL PLANS



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: HO01_L10

TTL part-task exercise: Trial Plans



TTL Scenario: 55054003_L10_S##

Directions

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

Provide instruction as required. Check off each task after completion. No ghost pilots are required.

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



27

Review and elaborate briefly on the following topics. Ask students if they have questions about any of the concepts covered in the lesson.

- 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

CONCLUSION (CONT'D)

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

Hand out and administer the End-of-Lesson Test. Provide feedback on missed items, including why particular answers are correct, as well as why some responses are incorrect.