Federal Aviation Administration

En Route ERAM Ghost Pilot (GP) Training

Lesson 6: Exercise Support Functions

Course FAA55149002

Version: V.2019-05

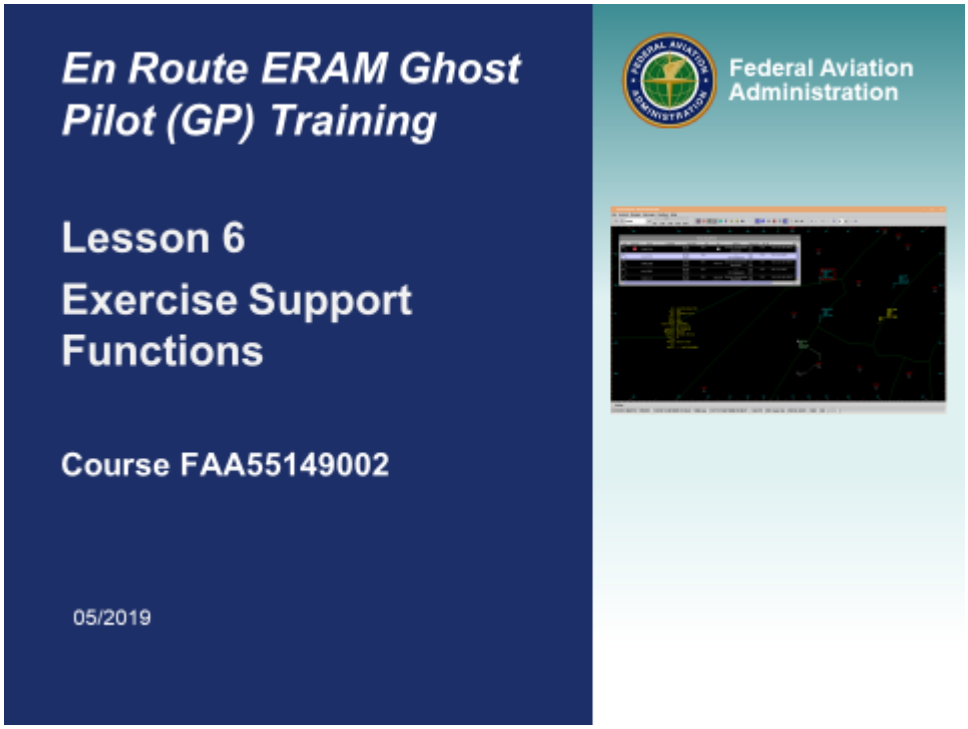
Page intentionally left blank

LESSON PLAN DATA SHEET

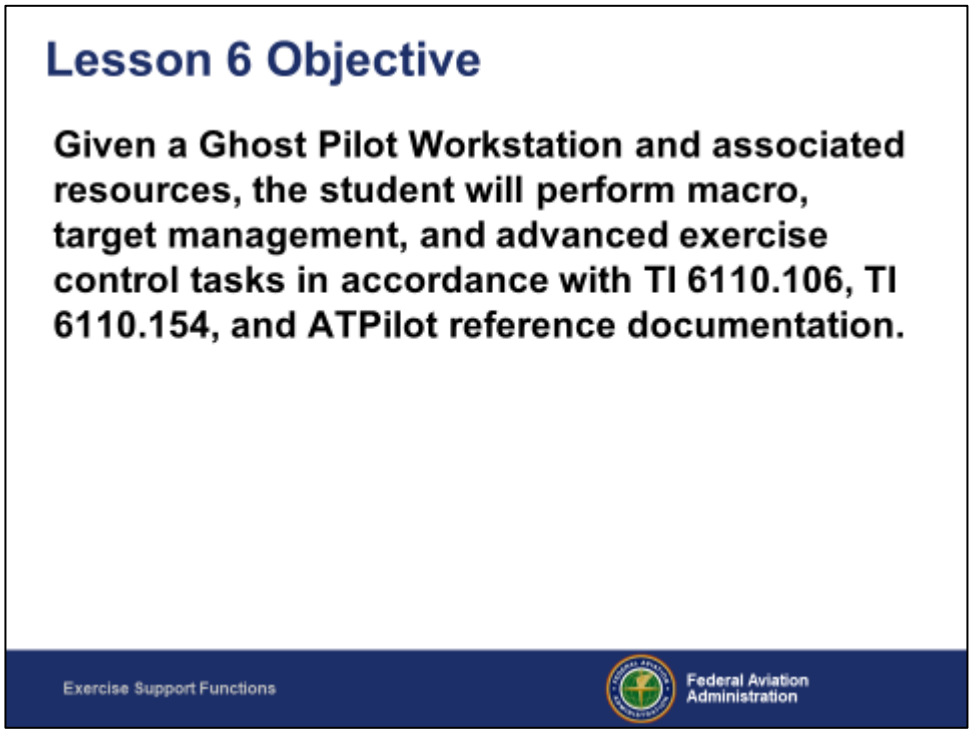
Section	Description
Course Name	En Route ERAM Ghost Pilot (GP)
Course Number	FAA55149002
Lesson Title	Exercise Support Functions
Duration	30 minutes
Date Revised	May 2019
Version	V.2019-05
Software Compatibility	Microsoft Word, Power Point
Reference(s)	• TI 6110.106, ERAM Ghost Pilot Quick Reference Card • TI 6110.154, ERAM ARTCC System Support Manual: Simulation User's Guide • ATPilot Situational Display Data (SDD) User Manual
Handout(s)	None
Exercise(s)/ Activity(s)	Part Task Scenario 6
Assessments	End-of-course Knowledge and Performance Tests
Materials and Equipment	None
Other Pertinent Information	None

Page intentionally left blank

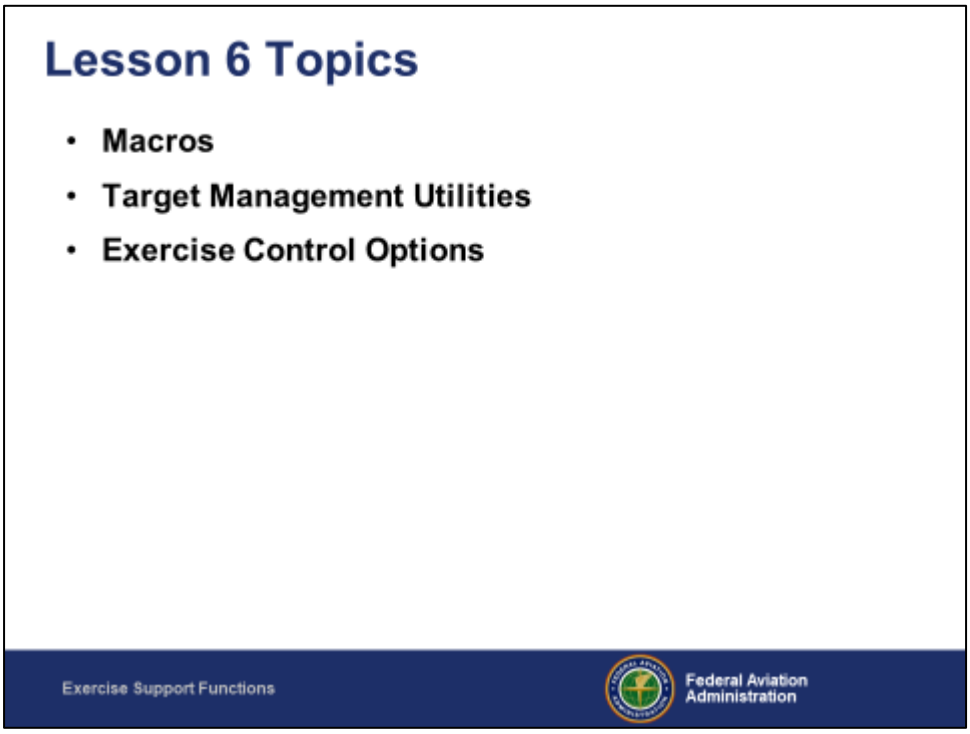
Slide - 1.


En Route ERAM Ghost Pilot (GP) Training
Lesson 6
Exercise Support Functions
Course FAA55149002
05/2019
Federal Aviation Administration

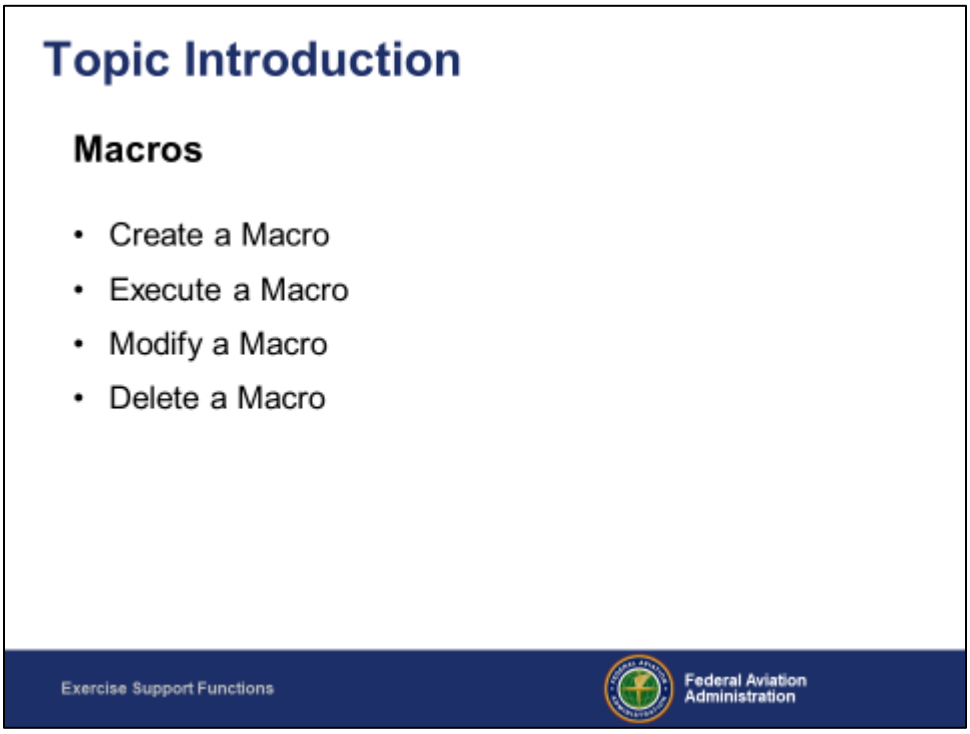
Slide - 2.


Lesson 6 Objective
Given a Ghost Pilot Workstation and associated resources, the student will perform macro, target management, and advanced exercise control tasks in accordance with TI 6110.106, TI 6110.154, and ATPilot reference documentation.
Exercise Support Functions
Federal Aviation Administration

Slide - 3.


Lesson 6 Topics
• Macros
• Target Management Utilities
• Exercise Control Options
Exercise Support Functions
Federal Aviation Administration

Slide - 4.

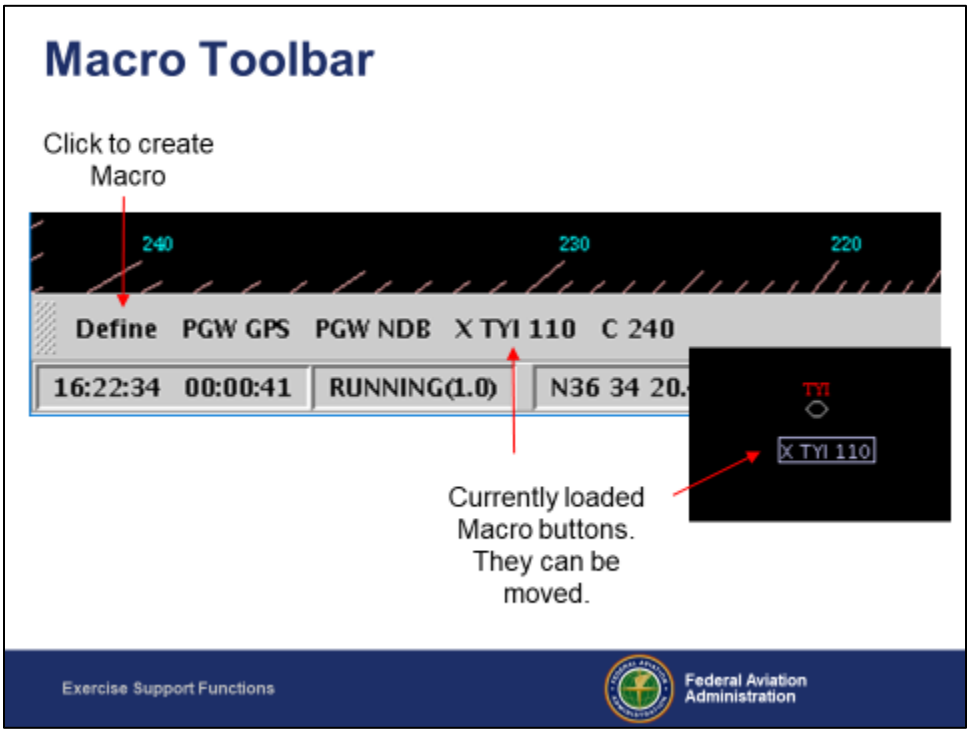


Macros are used to perform frequent or complex actions using a single mouse click. Examples of macros include approaches, complex crossing restrictions, or frequently issued altitude changes.

A Ghost Pilot can create, execute, modify or delete macros.

The scenario development team can also create macro files that a Ghost Pilot can load. The scenario development team will provide information about any available macro files.

Slide - 5.



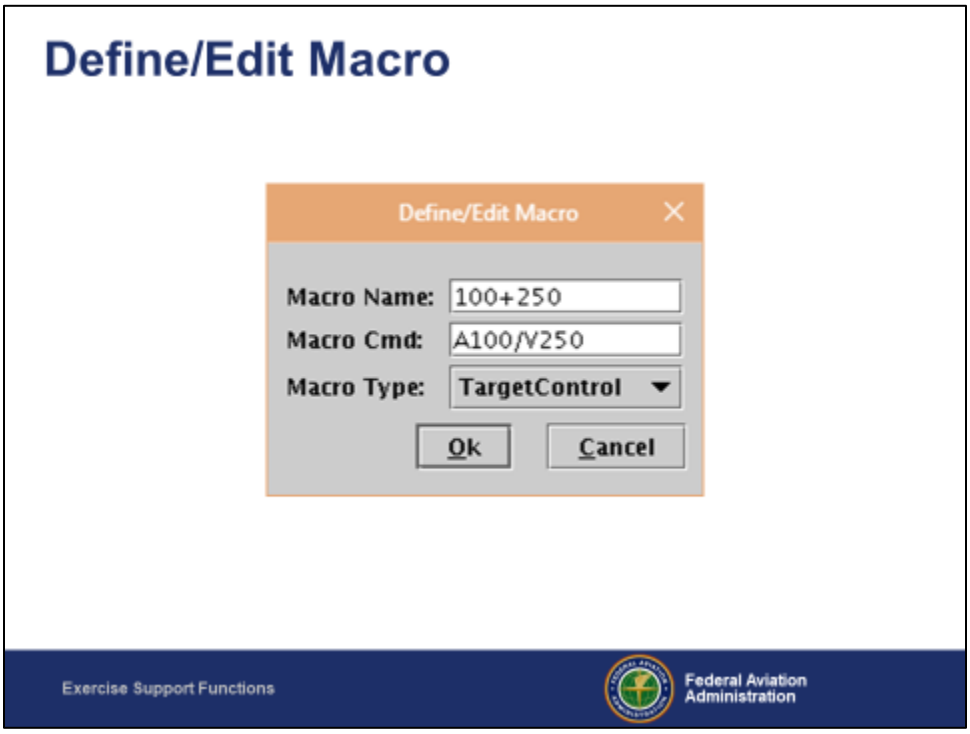
The default location of the Macro toolbar is immediately above the Status Information Bar. The toolbar can be repositioned along the edges of the map display, or to any location on the map. Click and drag on the toolbar Handle bar to do so.

The Macro toolbar contains a **Define** button, and any currently loaded macro buttons. The **Define** button is used to create a macro.

Macro buttons can also be moved anywhere on the map. Click and drag the button to do so. There is also an option to anchor the button to a navigation point (covered later in this lesson). After the button is moved, or anchored, there will be a copy of the button on the toolbar and a new button at the specified location.

If the Macro toolbar is not being displayed, use the **Toolbars** menu on the menu bar to display it.

Slide - 6.



The Define/Edit Macro dialog is used to create or edit a macro.

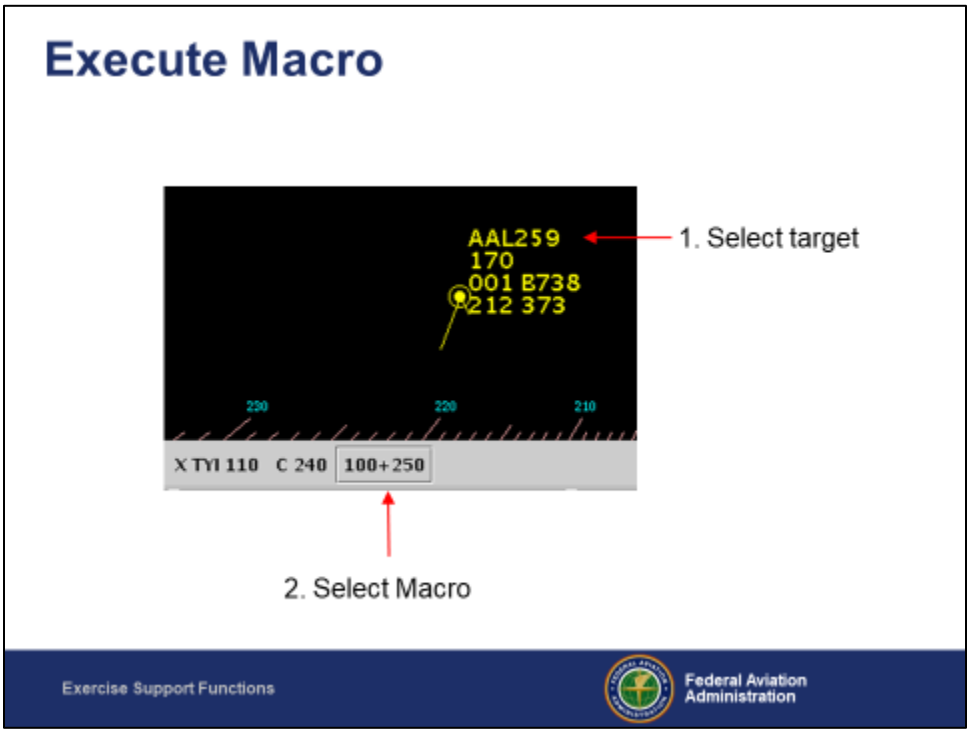
To create a macro:

1. Click on the **Define** button to open the Define/Edit Macro dialog.
2. Enter a macro name.
3. Enter the macro command.
    - Must be a valid ATCoach command or combination of commands.
    - Do not include a target callsign. Macros apply to the selected target.
    - You can copy and paste a command from the Command Line view.
        - Highlight the command string in the Command Line view, omitting the callsign and the slash (/) character.
        - Click in the **Macro Cmd** field and then middle click to paste the highlighted text.
    - Multiple commands can be combined. To execute one after the other, they must be separated by a forward slash. Without a slash, they will be executed simultaneously.

4. Select the macro type from the pull-down list. The types are as follows:
    - Target Control - A target maneuver command executed against the currently selected target. This is the most frequently selected option.
    - Partial Cmd –When the macro button is clicked the Command Line view opens with the macro command in the input area. This allows further command editing. The command is not executed until the Enter key is pressed.
    - ClearCmd - Clears the Command Line view input area.
    - NAS Injection - Used to enter an ERAM message. ERAM format required.
    - System Control - Not intended for Ghost Pilots.
    - Address Aircraft - Not intended for Ghost Pilots.
    - Display Control - Not intended for Ghost Pilots.
    - U Target Control - Not intended for Ghost Pilots.
    - Open Dialog - This does not issue an actual command, it only opens a specified window, such as the Altitude Change window. Special syntax is required.
5. Click **Ok**.

The new macro button will be added to the Macro toolbar.

Slide - 7.

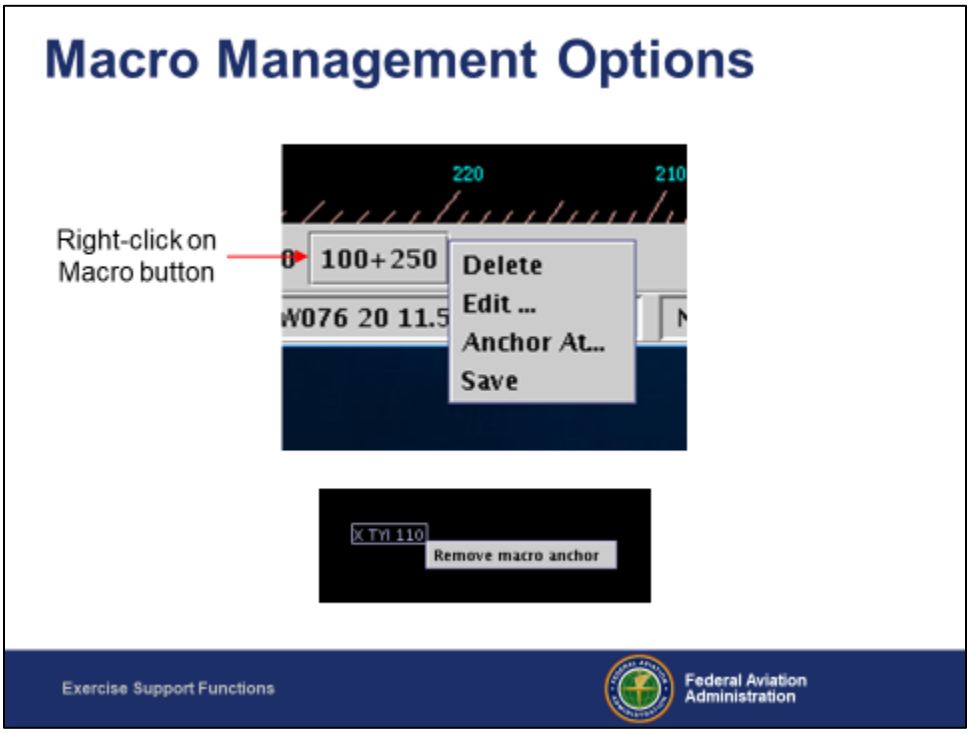


To execute a macro:

1. Select the desired target.
2. Click on the desired macro button.

Macro buttons are grayed out if no Ghost Pilot controlled target is selected.

Slide - 8.



The Macro Management pop-up menu is used to delete, edit, anchor a macro button to a navigation point, or save a macro to a file.

Right-click on the desired macro button to open the pop-up menu.

Select **Delete** to delete the macro and remove the button from the toolbar. This will also remove any copy of the button on the map.

Select **Edit…** to open the Define/Edit Macro dialog. Make any desired modifications as previously described. This will also edit any copy of the macro on the map.

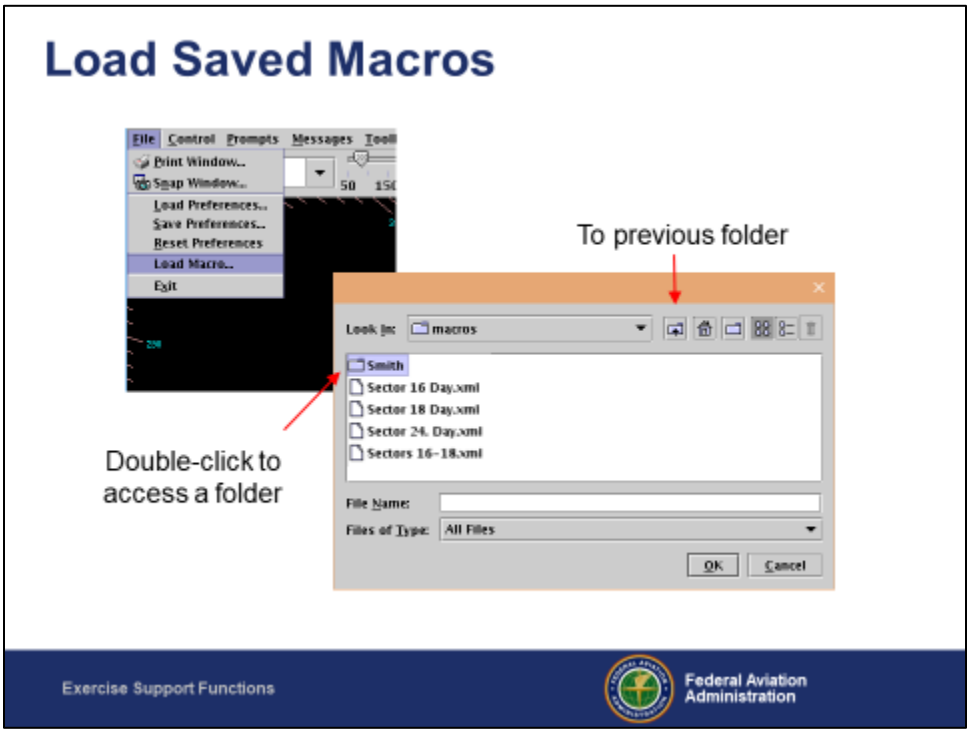
Select **Anchor At…** to anchor the button to a navigation point.

- A dialog listing all adapted navigation points will display.
- Select the desired navigation point and click **Ok**. A copy of the button will appear at the selected navigation point.
    - To remove the copy, right-click on the button and select **Remove macro anchor**.

Select **Save** to save the macro to a file.

- Check your facility procedures before saving to avoid inadvertently overwriting a macro file previously created.
- At many facilities, each Ghost Pilot has their own folder. Always make sure the correct folder is selected before saving.
    - Use the Folder icon to create a new folder.
    - Double-click on a folder to go to that folder.
    - Use the Up Folder icon to go to the previous folder.

Slide - 9.



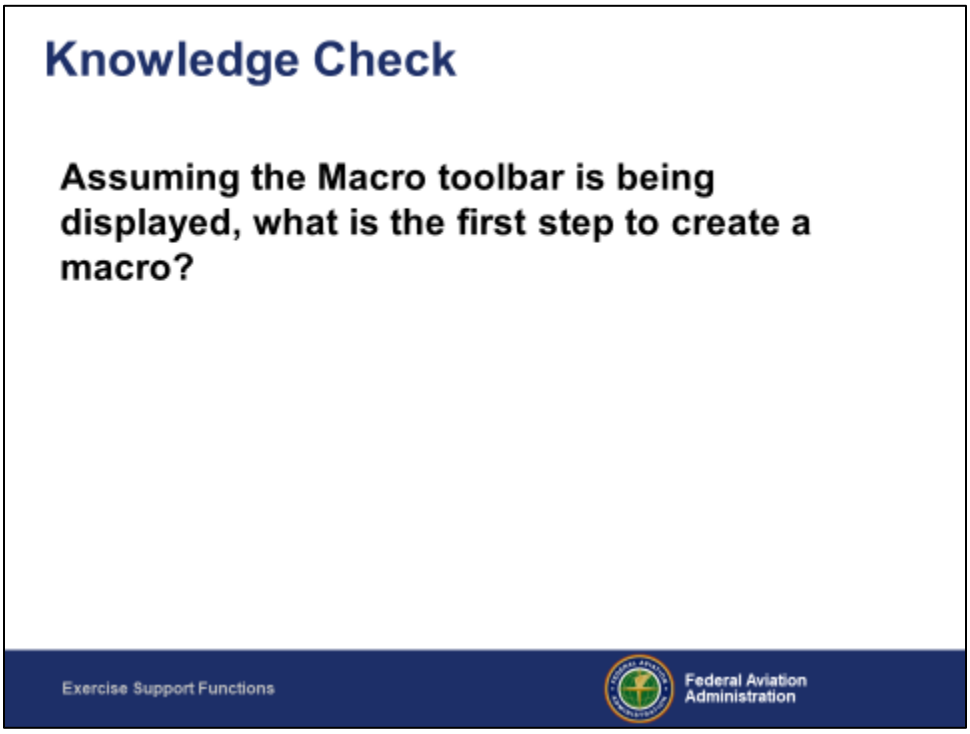
Saved macros can be loaded using the Load Macros dialog. To do so:

1. Select the **Load Macros…** option on the File menu on the menu bar. The dialog will open.
2. Double-click on the desired file.

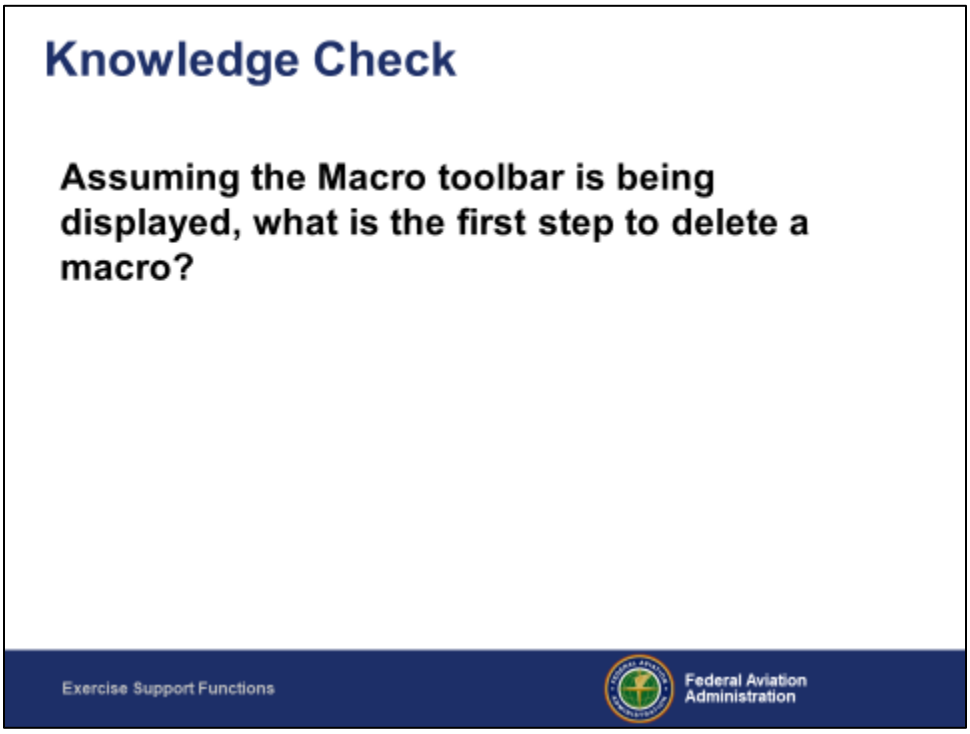
Always make sure the correct folder is selected before loading the macro file.

- Double-click on a folder to go to that folder.
- Use the Up Folder icon to return to the previous folder.

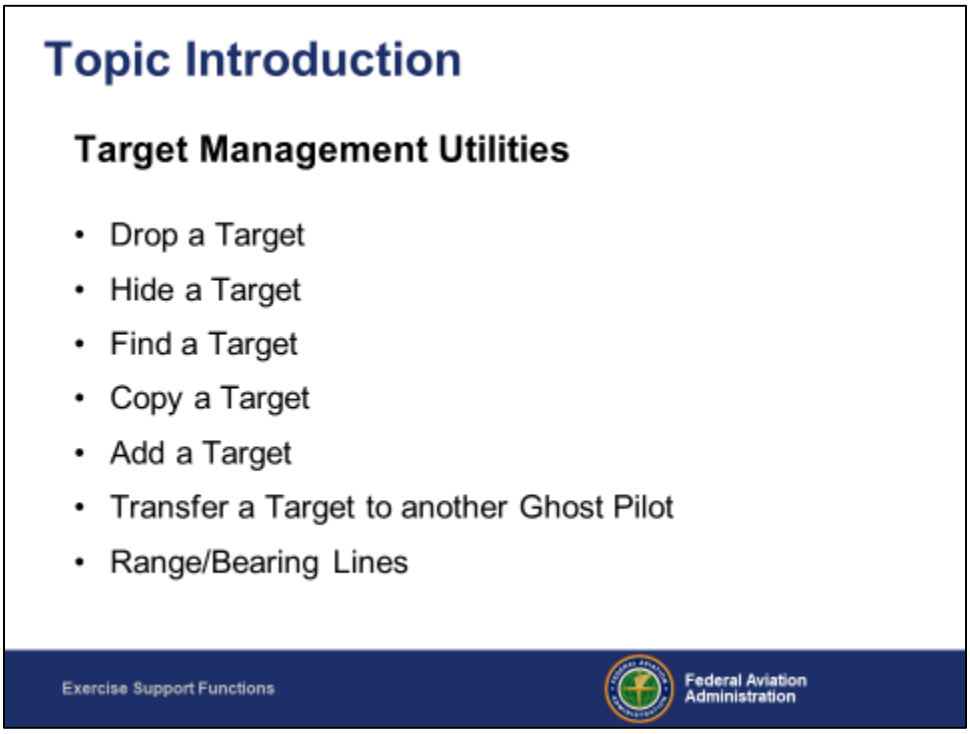
Slide - 10.


Knowledge Check
Assuming the Macro toolbar is being displayed, what is the first step to create a macro?
Exercise Support Functions
Federal Aviation Administration

Slide - 11.


Knowledge Check
Assuming the Macro toolbar is being displayed, what is the first step to delete a macro?
Exercise Support Functions
Federal Aviation Administration

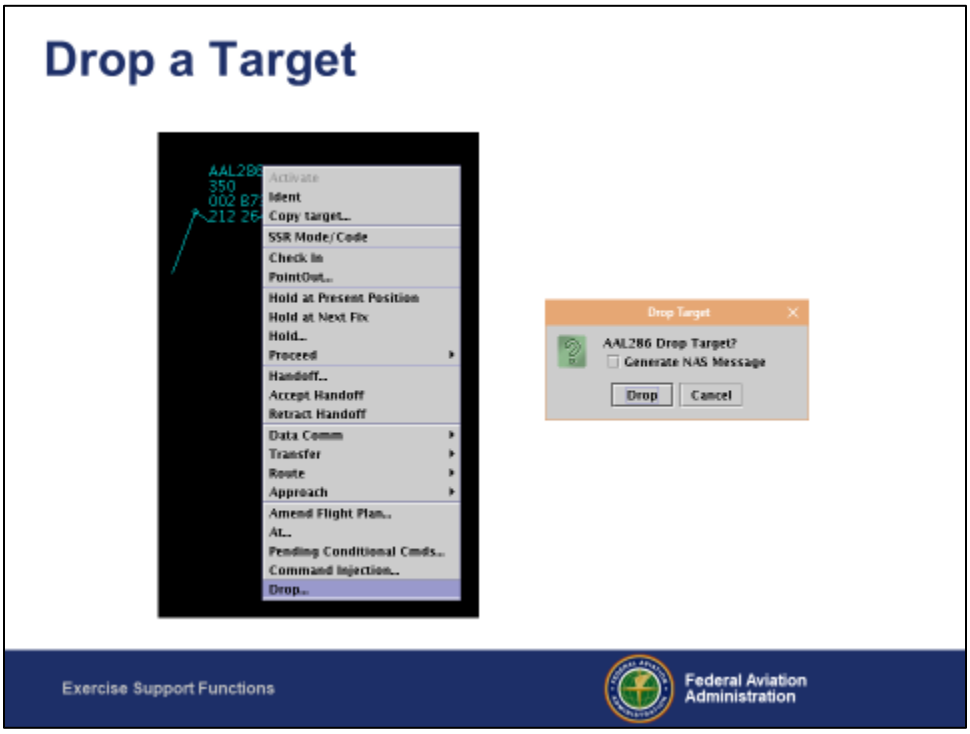
Slide - 12.



In this section we will cover six target management utilities.

We will also cover how to draw a Range/Bearing line. These can have a target position symbol as the starting point.

Slide - 13.



The **Drop…** option on the Target Control menu removes the selected target from the scenario. No further surveillance data will be generated for the target.

To drop a target:

1. Open the Target Control menu for the selected target.
2. Click on **Drop…**. A confirmation dialog will appear.
3. Click on **Drop** in the confirmation dialog.

Only targets assigned to a Ghost Pilot can be dropped. System traffic cannot be dropped.

If the training sector does not have track control, the Ghost Pilot has the option to generate a NAS message (i.e. QX) that will cause the data block at the R position to also drop.

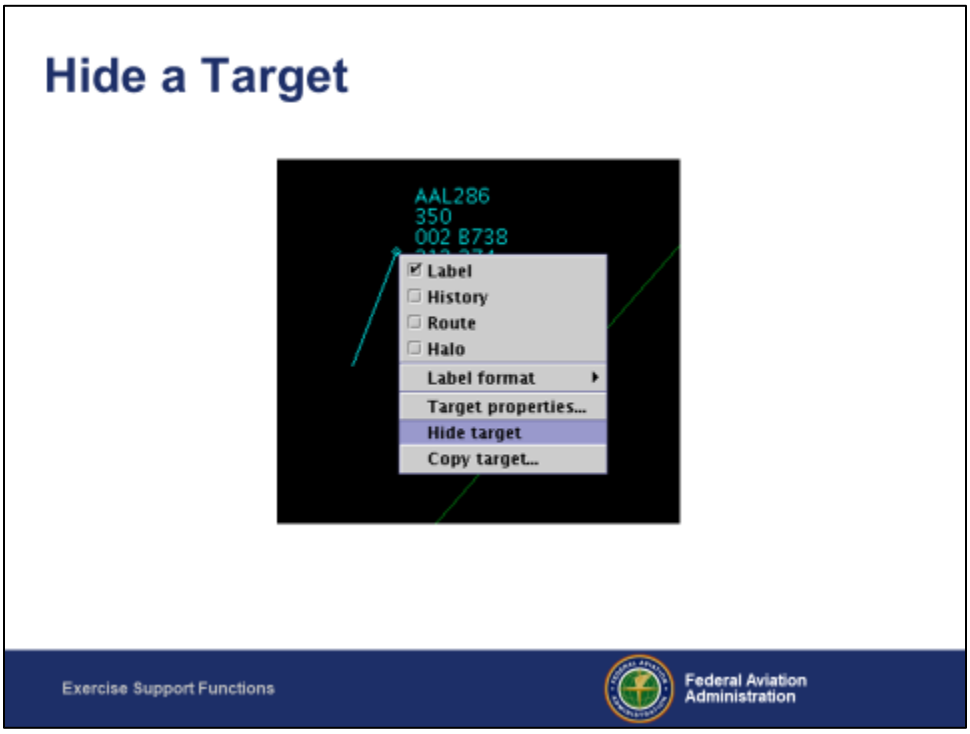
- The option to generate a NAS message will be grayed out if the training sector has control.

A target can also be dropped by entering the D command in the command line. The syntax is ACID/D.

The target should be far enough from the sector boundary so any resulting coast track will not disturb the training sector controller.

Dropping a target also removes the Active Aircraft List (AAL) entry for that target if the view is set to auto compress.

Slide - 14.



The **Hide target** option on the Data Block menu removes the target from the Ghost Pilot display, but not from the scenario. Simulated surveillance data will still be generated, and the controller will continue to see the target.

To hide a target:

1. Right-click on the target position symbol to open the Data Block menu.
2. Select the **Hide target** option.

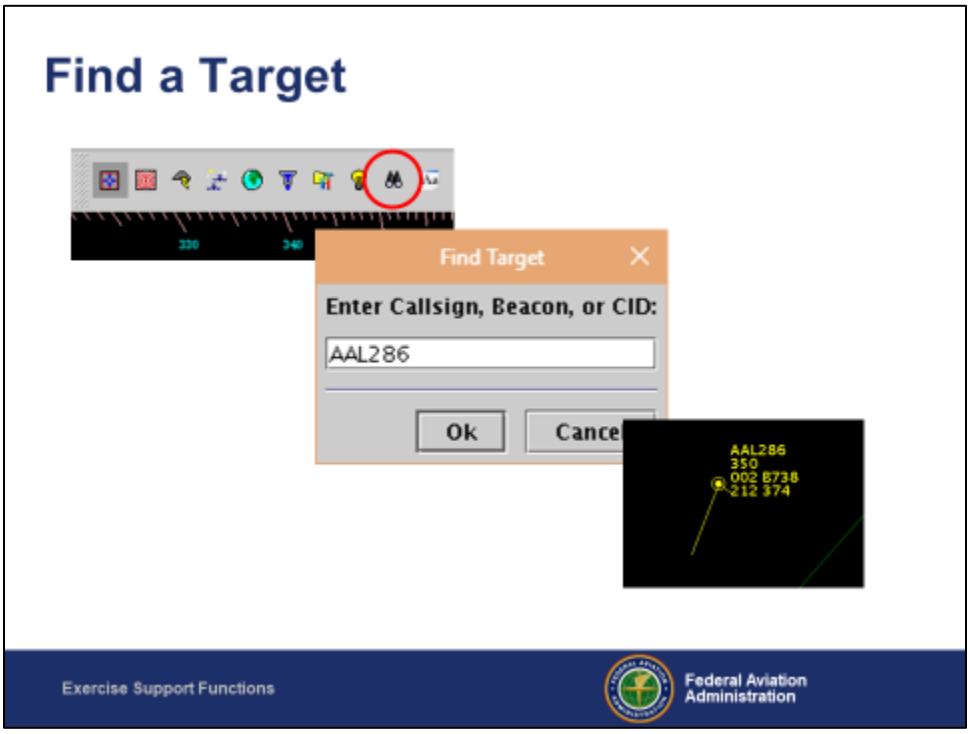
The target will disappear from the Ghost Pilot display.

The **Hide target** function will not work for targets displaying an Attention Required Indicator or in handoff mode.

Some Ghost Pilots hide a target after it exits the training sector as a means of decluttering their display. This option has no impact on the controller, but does not remove the target's entry from the AAL.

A hidden target will reappear if it is in handoff status or when squawking a special beacon code.

Slide - 15.



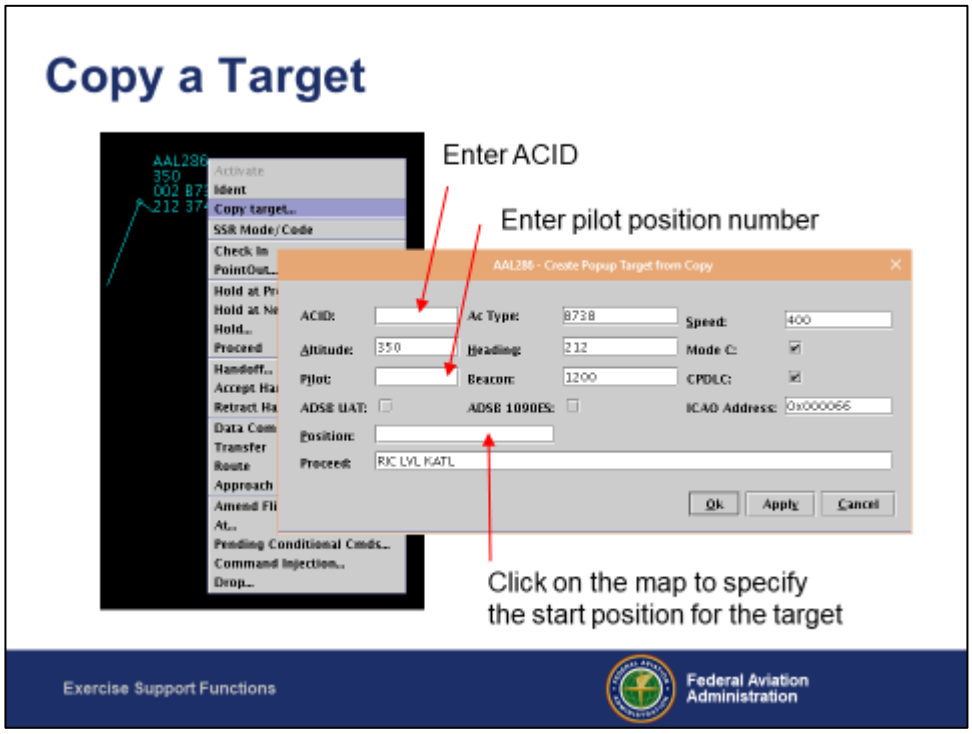
The Find Target dialog is used to select (i.e., highlight) a target and any associated view entries. If a target is hidden, the Find Target function will restore it to the display.

To find a target:

1. Click on the binocular icon on the Display toolbar. The Find Target dialog will open.
2. Type the desired callsign, beacon code, or CID.
3. Click **Ok**.

Another option to find a target is to open the Target Filters dialog, select the Callsign tab, and then click on the desired target's checkbox.

Slide - 16.



The **Copy target…** option on the Target Control menu creates a new target by using information from an existing target. To do so:

1. Open the Target Control menu for the selected target.
2. Click on **Copy target…** to open the Create Popup Target from Copy dialog. Most fields are populated with the information from the copied target.
3. Click in the ACID field and enter a new callsign.
4. Click in the Pilot field and type the Ghost Pilot position that will control the target (most likely your position). This is a numeric value such as 1 or 2.
5. Specify the starting position for the target.
    - Click in the Position field and then click on the desired location on the map.

      or

    - Type a valid fix in the field.

    The starting position should be different from the current position of the target being copied.
6. If desired, modify any other fields by clicking in the field and editing the entry.
7. Click **Ok**.

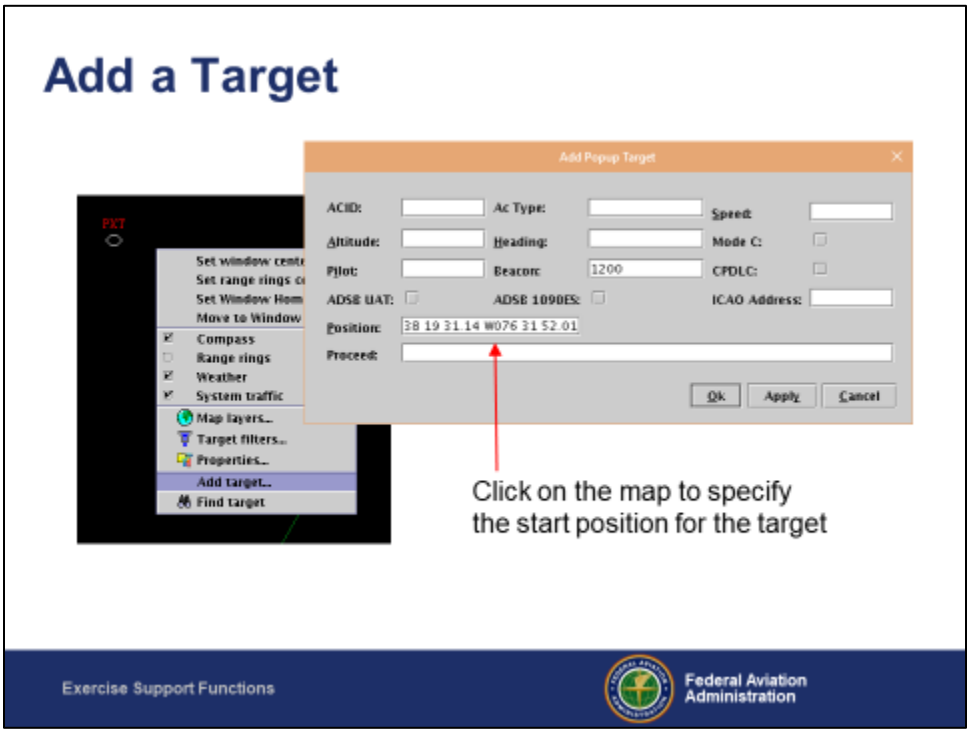
The **Apply** button will create the new target but leave the dialog open.

Unless modified, the new target includes the entire route from the original target. This means the new target may turn back to the first fix on the route if the starting position is beyond that fix.

This function only creates the radar target. If ERAM flight data is desired, it will need to be entered by the controller or by the Ghost Pilot using ERAM command injection.

The Create Popup Target from Copy dialog can also be accessed from the Data Block management menu (right-click on the target position symbol).

Slide - 17.



The Add Popup Target dialog is used to create a new radar target. It contains the same fields as the Create Popup Target from Copy dialog, but they are blank when the dialog opens.

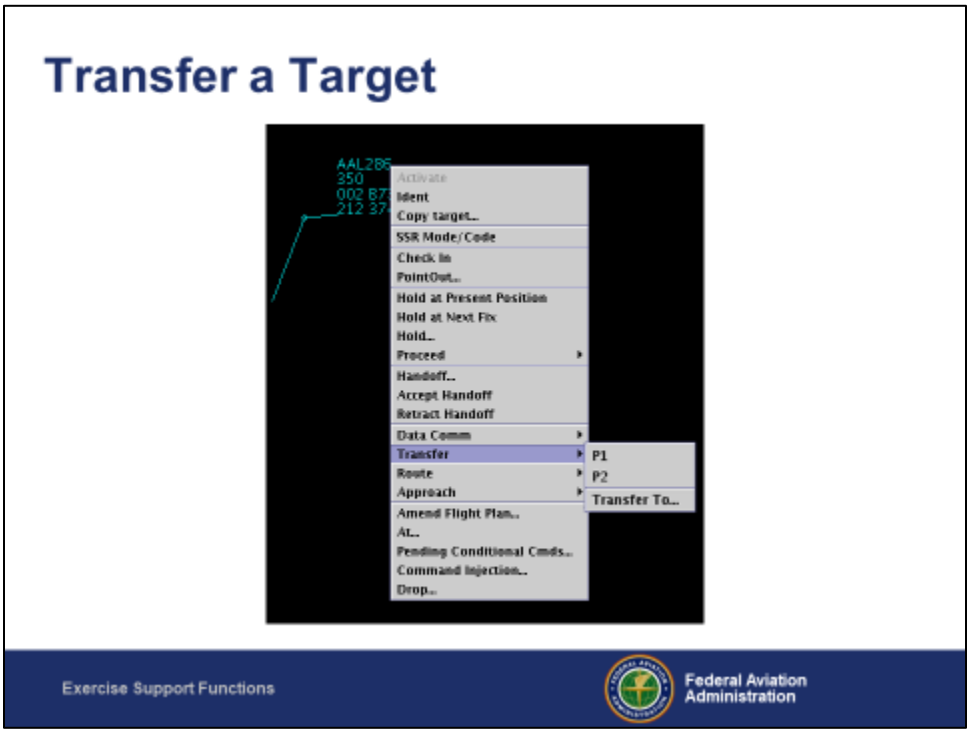
To create a new target:

1. Right-click on any blank part of the map to open the Map Display menu.
2. Select the **Add target…** option. The Add Popup Target dialog will appear.
3. Enter all required information, as well as any optional information. The required fields are:
    - ACID
    - Ac Type
    - Speed
    - Altitude
    - Heading
    - Beacon

- Position
  - Click in the field, and then click on the desired location on the map.
    or
  - Type a valid fix in the field.

4. Click **Ok**.

Slide - 18.

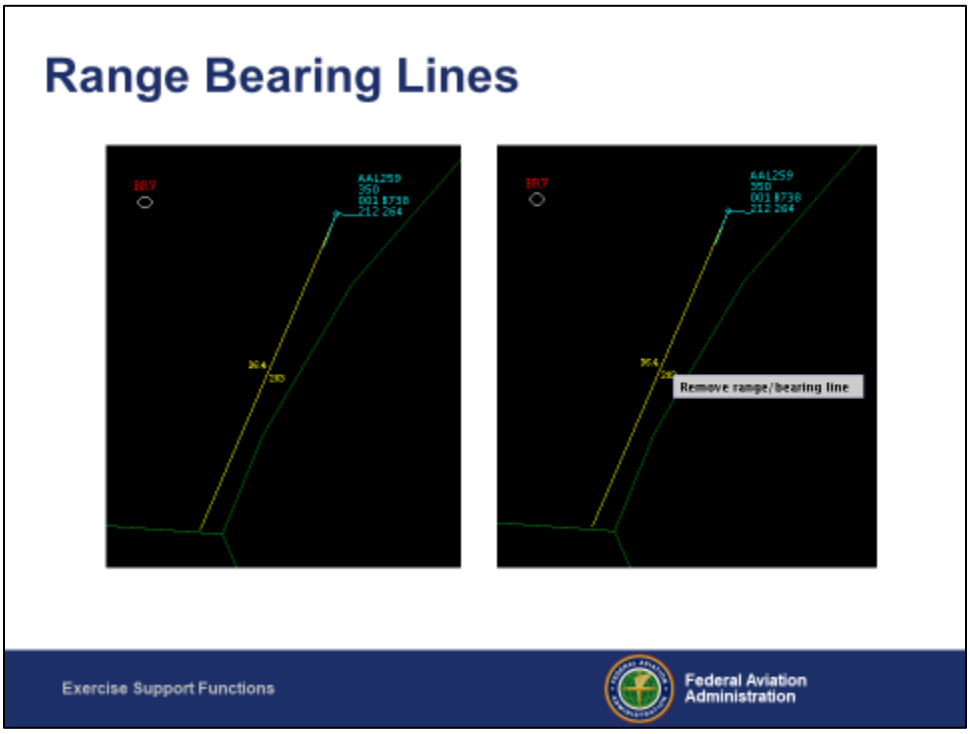


The **Transfer** option in the Target Control menu is used to transfer target control to any other Ghost Pilot working the scenario. To do so:

1. Open the Target Control menu.
2. Select the **Transfer** option. A sub-menu will appear.
3. Select the desired pilot position (i.e., P1 or P2).

The **Transfer To…** option opens a dialog that accomplishes the same thing.

Slide - 19.



ATPilot provides a function to draw Range/Bearing lines. The starting point needs to be a target position symbol or an individual map element (e.g., VOR, Airport, radar site).

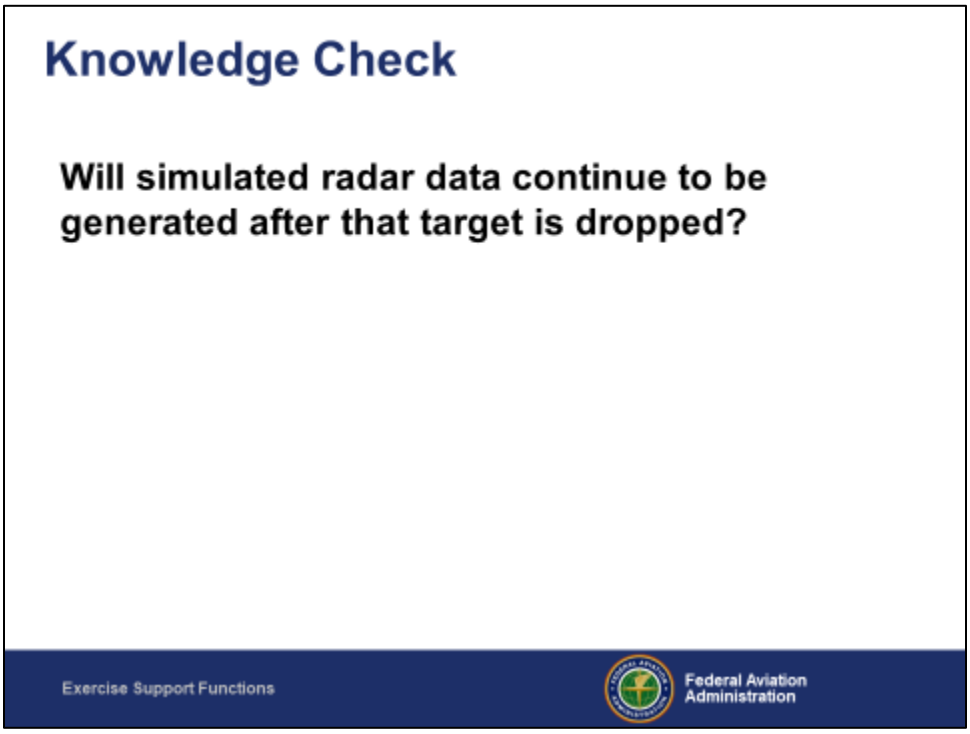
To draw a Range/Bearing line:

1. Position the cursor on the desired start point. The cursor shape will change to a cross.
2. Right-click and drag the cursor to the end position.
3. Release the right mouse button.

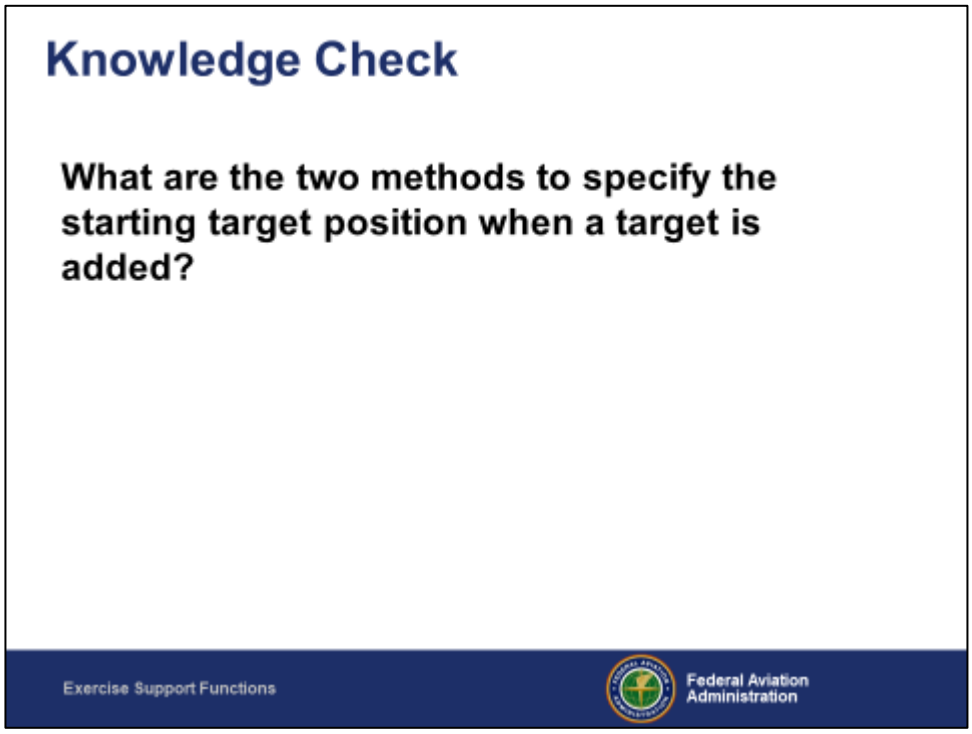
To delete a Range/Bearing line:

1. Right-click on either the range or bearing value. An option to Remove range/bearing line will appear.
2. Click on **Remove range/bearing line**.

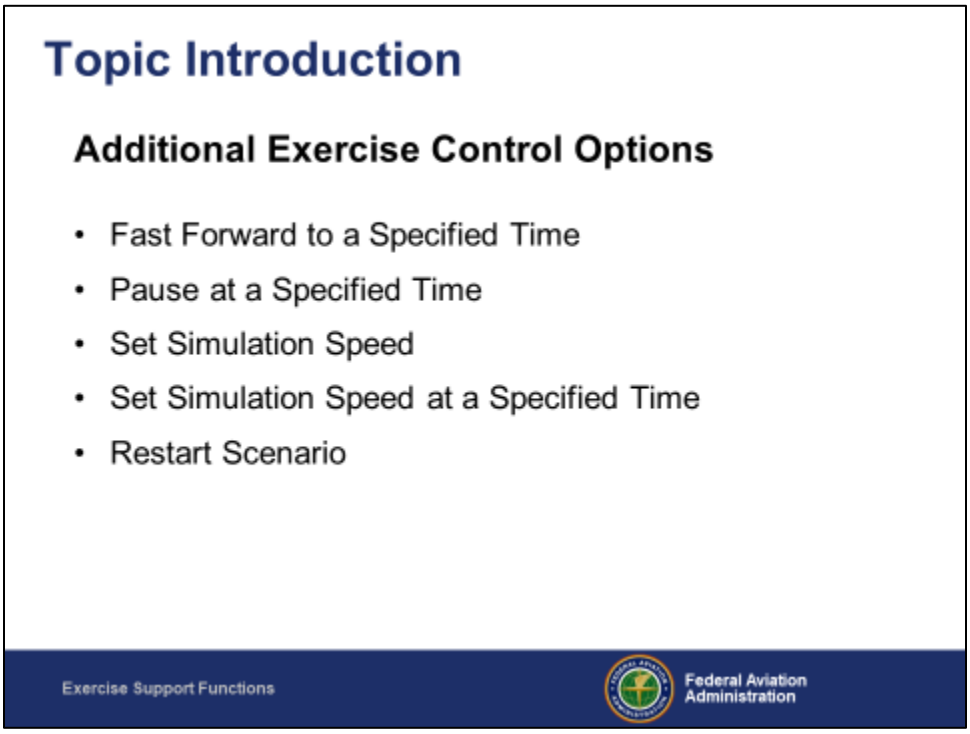
Slide - 20.


Knowledge Check
Will simulated radar data continue to be generated after that target is dropped?
Exercise Support Functions
Federal Aviation Administration

Slide - 21.


Knowledge Check
What are the two methods to specify the starting target position when a target is added?
Exercise Support Functions
Federal Aviation Administration

Slide - 22.

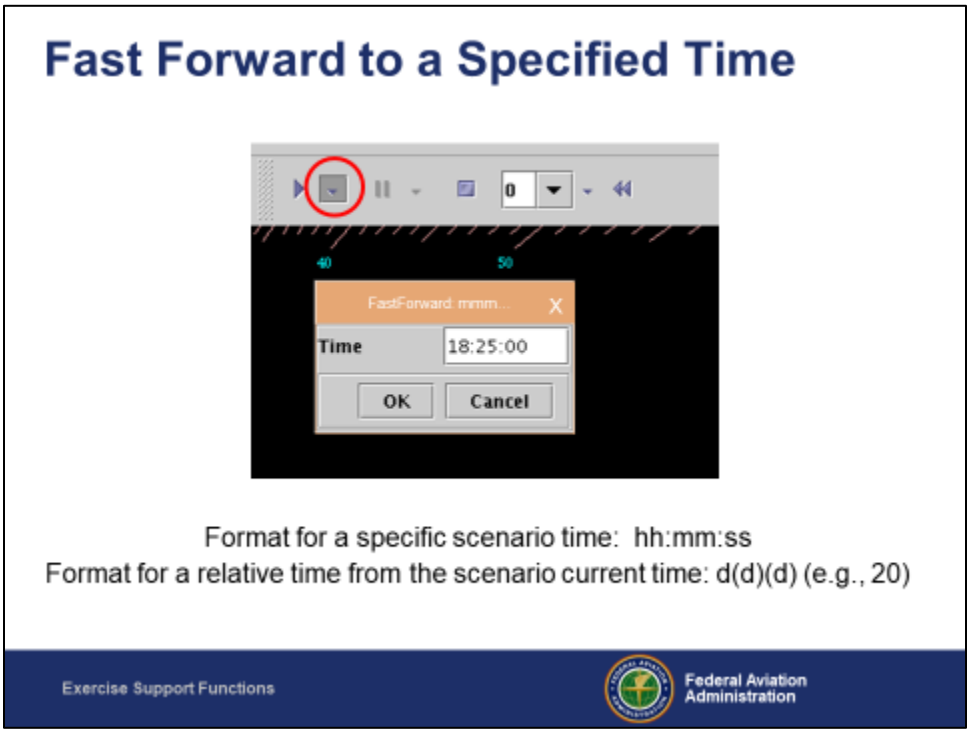


Start and Terminate are the most frequently performed exercise control tasks. In this section, we will introduce five additional exercise control options.

These options are not typically used when running training scenarios since training scenarios are intended to run in their entirety and at normal speed.

The scenario development team can use these options during the scenario debug process.

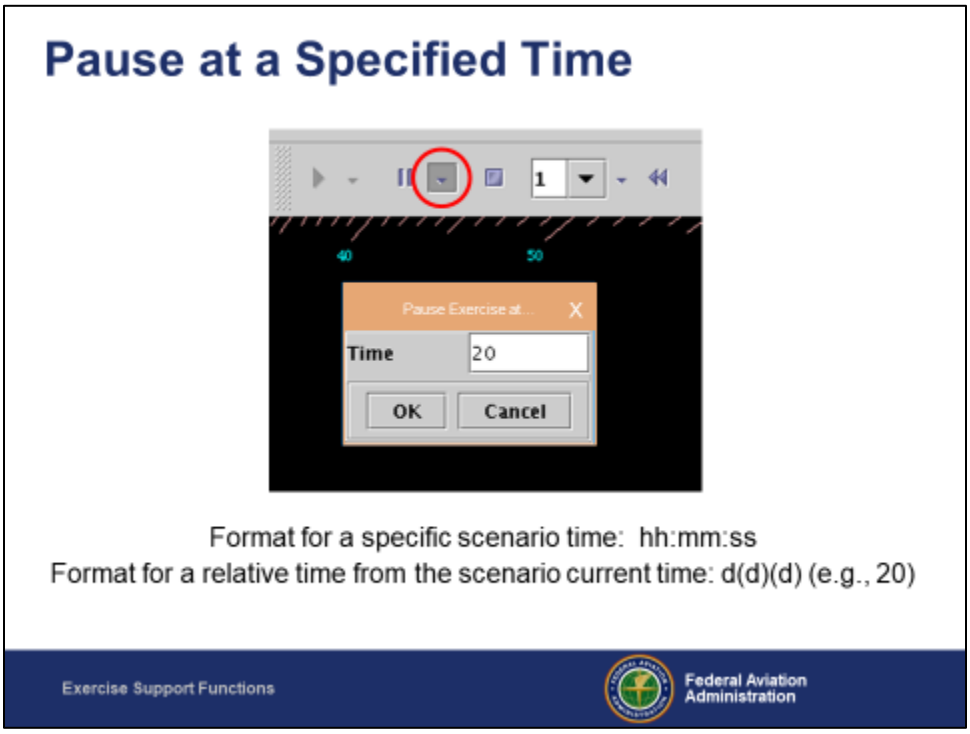
Slide - 23.



To fast-forward an exercise to a specific time in the scenario:

1. Click on the small down arrow to the right of the Run icon. The FastForward dialog will open.
2. Enter the desired scenario start time.
    a. Format is hh:mm:ss to fast forward to a specific scenario time (e.g., 18:25:00).
    b. Format is d(d)(d) to fast forward to a time relative to the current scenario time (e.g., 20 will start the scenario 20 minutes from the current time).
3. Click **Ok**.

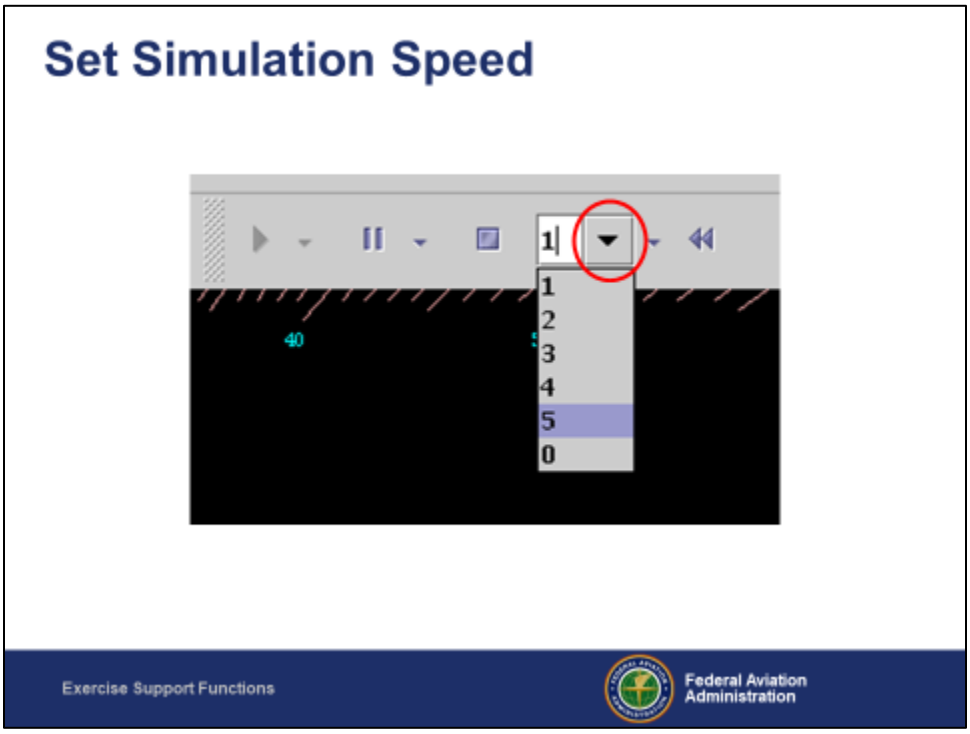
Slide - 24.



To pause an exercise at a specific time in the scenario:

1. Click on the small down arrow to the right of the Pause icon. The Pause Exercise at… dialog will open.
2. Enter the desired scenario pause time.
    a. Format is hh:mm:ss to pause at a specific scenario time (e.g., 18:25:00).
    b. Format is d(d)(d) to pause at a time relative to the current scenario time (e.g., 20 will pause the scenario 20 minutes from the current time).
3. Click **Ok**.

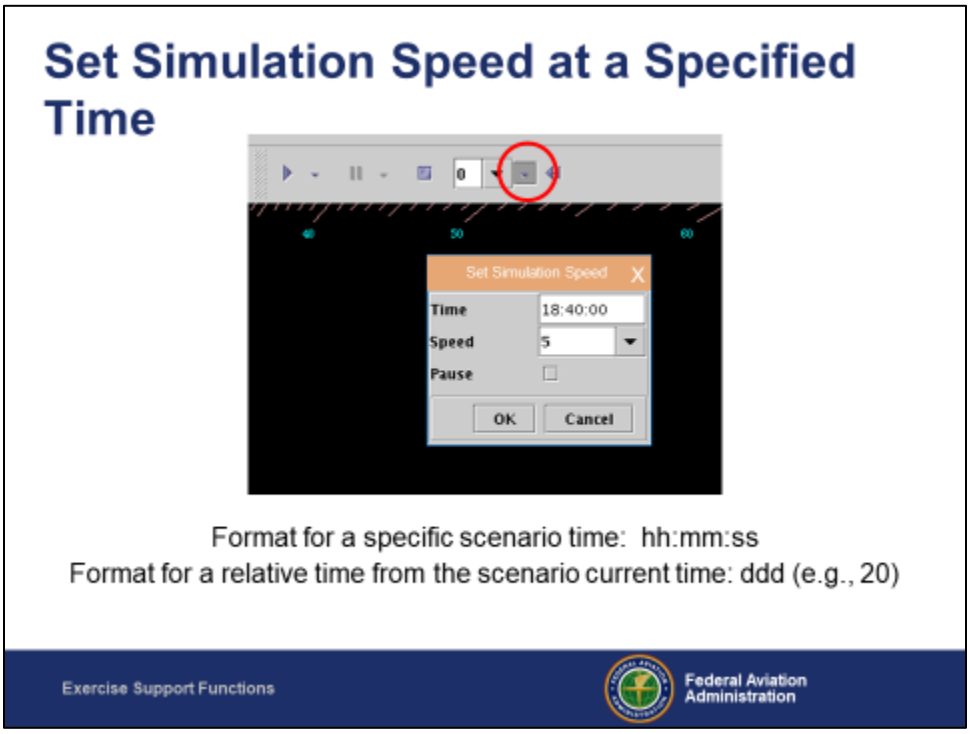
Slide - 25.



To change the simulation speed:

1. Click on the down arrow next to the current simulation speed to open a drop down list.
2. Select the desired simulation speed.
    a. 1 – Normal speed
    b. 2 – Twice normal speed
    c. 3 – Three times normal speed
    d. 4 – Four times normal speed
    e. 5 – Five times normal speed
    f. 0 – Pause exercise

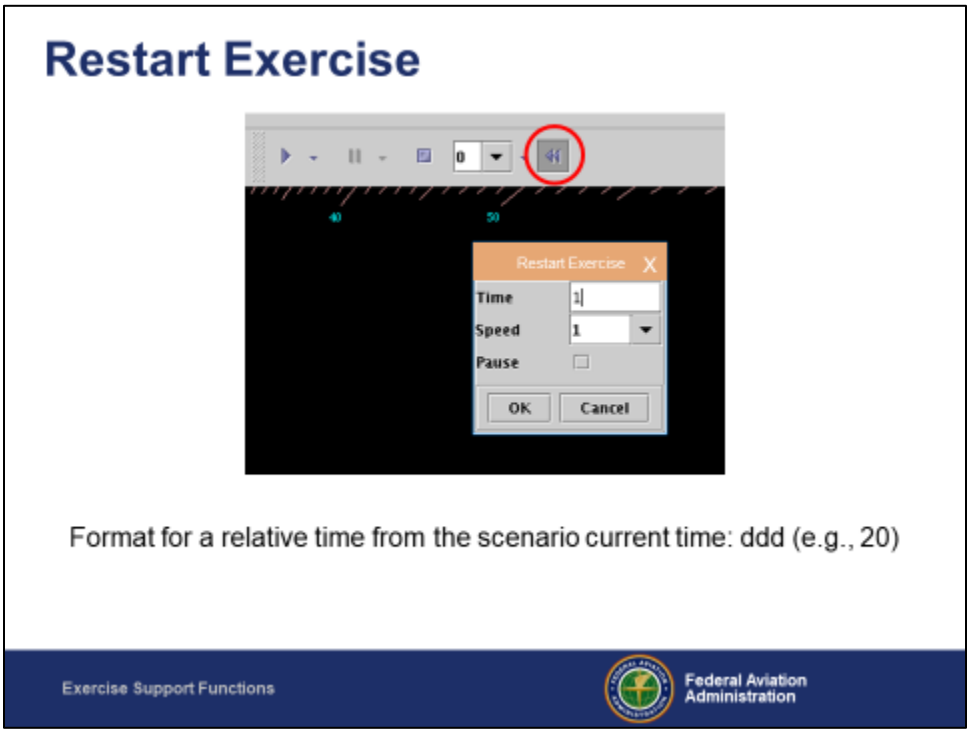
Slide - 26.



To change the simulation speed of an exercise at a specific time in the scenario:

1. Click on the small down arrow to the right of the Set Simulation Speed icon. The Set Simulation Speed dialog will open.
2. Enter the desired speed change time.
    a. Format is hh:mm:ss to change speed at a specific scenario time (e.g., 18:25:00).
    b. Format is d(d)(d) to change speed at a time relative to the current scenario time (e.g., 20 will pause the scenario 20 minutes from the current time).
3. Specify the desired simulation speed using the pull-down list.
4. Click on the Pause checkbox for a simulation speed of 0 (i.e., paused).
5. Click **Ok**.

Slide - 27.

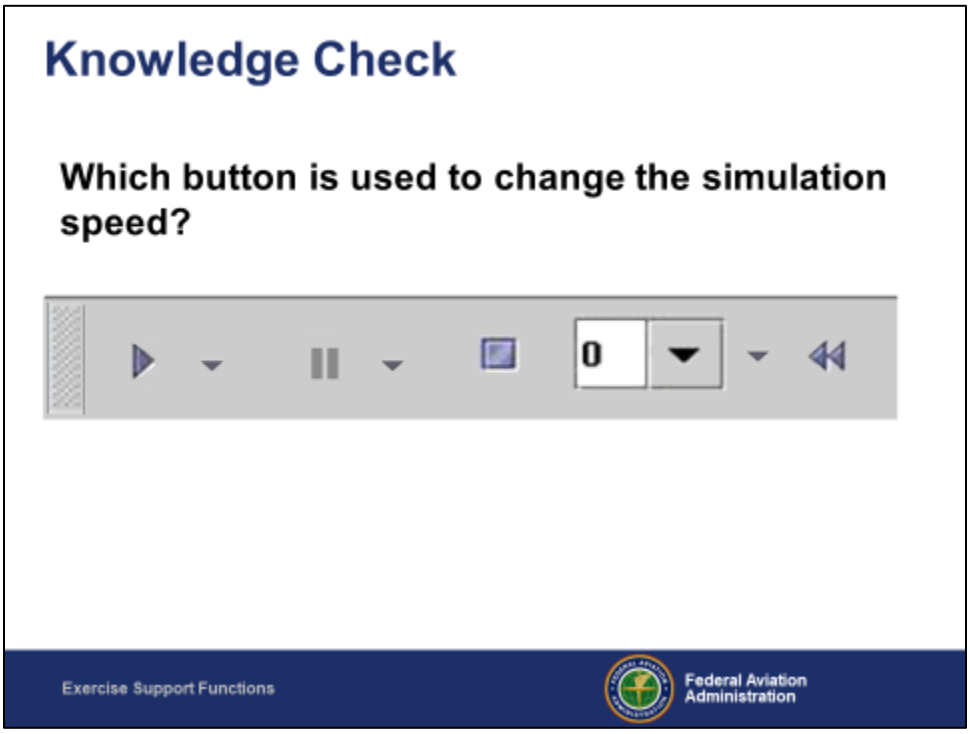


To restart an exercise at a specific time in the scenario:

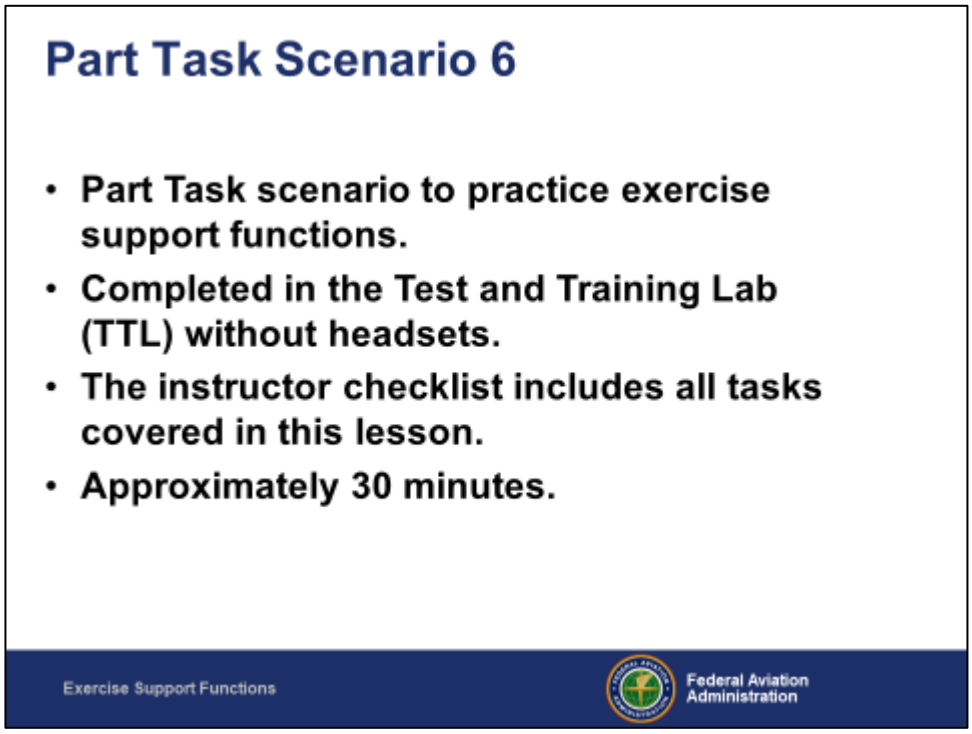
1. Click on the Restart icon. The Restart Exercise dialog will open.
2. Enter the desired restart point from the beginning, in minutes.
3. If desired, use the pull-down list to specify a simulation speed.
4. If desired, click on the **Pause** checkbox for a simulation speed of 0 (i.e., paused).
5. Click **Ok**.

The scenario will restart (at the beginning) then advance the number of minutes specified from the beginning and run. All Ghost Pilot and student commands prior to the restart time will be retained.

Slide - 28.


Knowledge Check
Which button is used to change the simulation speed?
0
Exercise Support Functions
Federal Aviation Administration

Slide - 29.

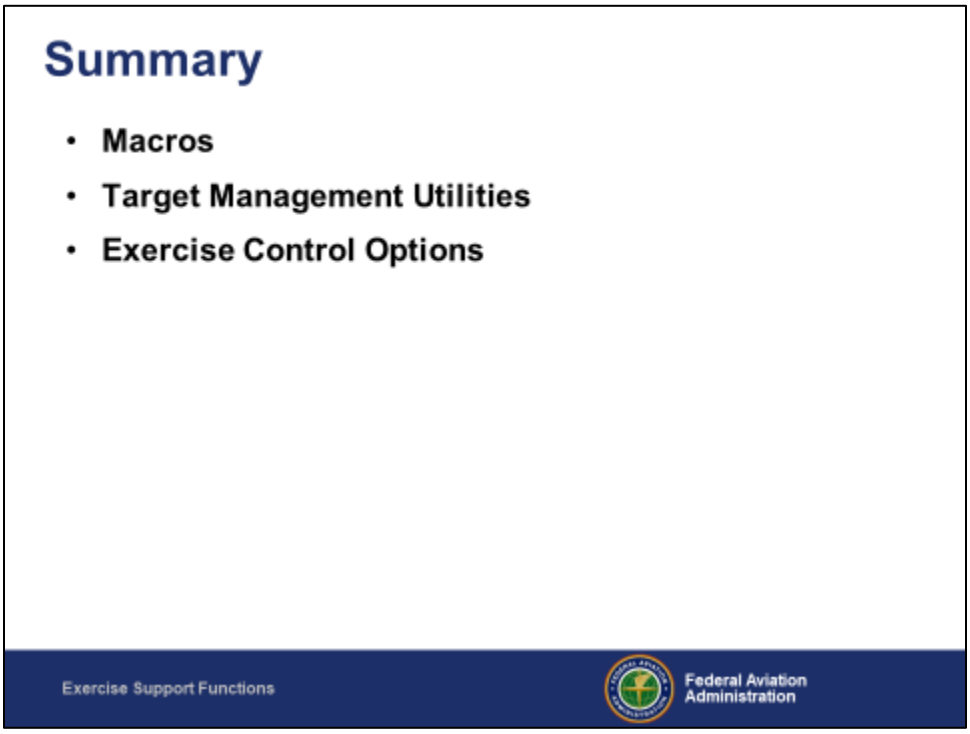


After completion of this exercise, this lesson will resume in the classroom. Your instructor will provide the details.

Part Task Scenario 6:

Purpose	To practice exercise support functions performed by Ghost Pilots.
Materials	The instructor will use the Part Task Scenario 6 checklist. No student handouts are required.
Directions	A locally developed scenario should be loaded and ready to start in the TTL. Requirements for the scenario have been provided to the facility. No controllers are needed. No headsets are needed. Instructors should use the checklist to step through all the functionality to be practiced. Instructors should assist students as necessary. Students should check-in and accept handoffs from the training sector without direction from the instructor. Approximate duration of the exercise is 30 minutes.

Slide - 30.


Summary
• Macros
• Target Management Utilities
• Exercise Control Options
Exercise Support Functions
Federal Aviation Administration

Slide - 31.


THE END
Introduction to the Ghost Pilot Situation Display
Federal Aviation Administration
29