

Review all entries carefully before saving new data to the database. To correct an entry before the crew is saved, use one of the following methods:

- (1) To replace an entry, place the cursor on the field and click the mouse button once to position the insertion point. The entire field darkens. Enter the correct data.
  - (2) To edit an entry, place the cursor on the field and click the mouse button three times quickly. Enter the correct data. Use the Delete or Backspace keys to remove any incorrect data.
- e. Click on the Exit button to exit the Add Crew Screen, save the entry, and return to the Crew Identification Screen.

2.6.8.1.2 Add More Screen. Add more than one crew to the database as follows:

- a. At the Add Crew Screen, click on the Save button. The Add More Screen, Figure 2-109, displays.
- b. Click on the Yes button to exit the Add More Screen and return to the Add Crew Screen.
- c. Click on the No button to exit the Add More Screen and return to the Crew Identification Screen.

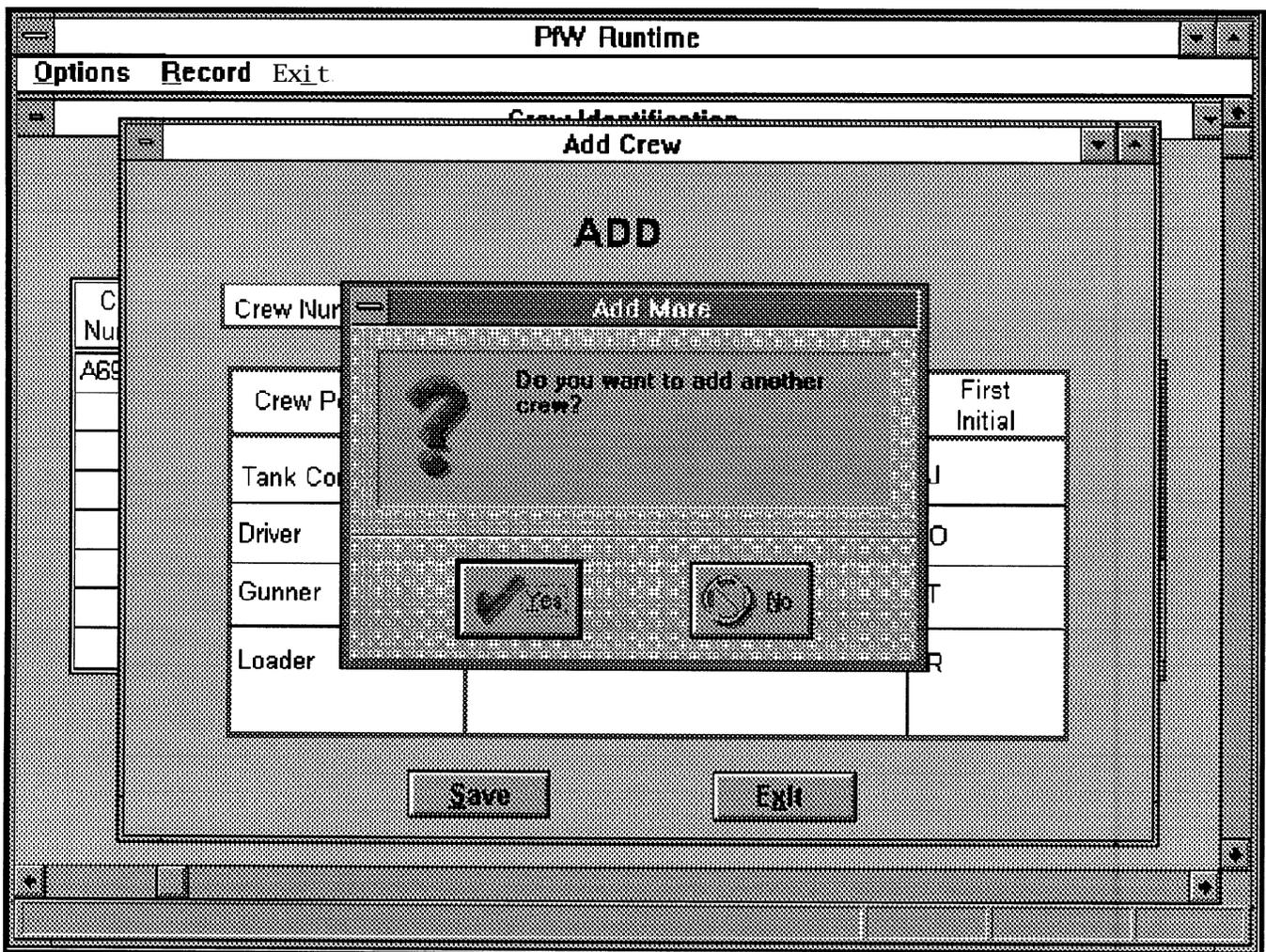


Figure 2-109. Add More Screen

2.6.8.1.3 **Confirm Delete Screen.** Delete a crew and its performance records from the database, as follows:

- a. At the Crew Identification Screen, click on the Delete button or select Delete from the Options menu. The **Confirm Delete Screen**, Figure 2-110, displays.
- b. Click on the Yes button to delete the crew and its performance records from the database, close the Confirm Delete Screen, and return to the Crew Identification Screen.
- c. Click on the No button to close the Confirm Delete Screen and return to the Crew Identification Screen without deleting the crew.
- d. Click on the Cancel button to close the **Confirm Delete Screen** and return to the Crew Identification Screen without deleting the crew.

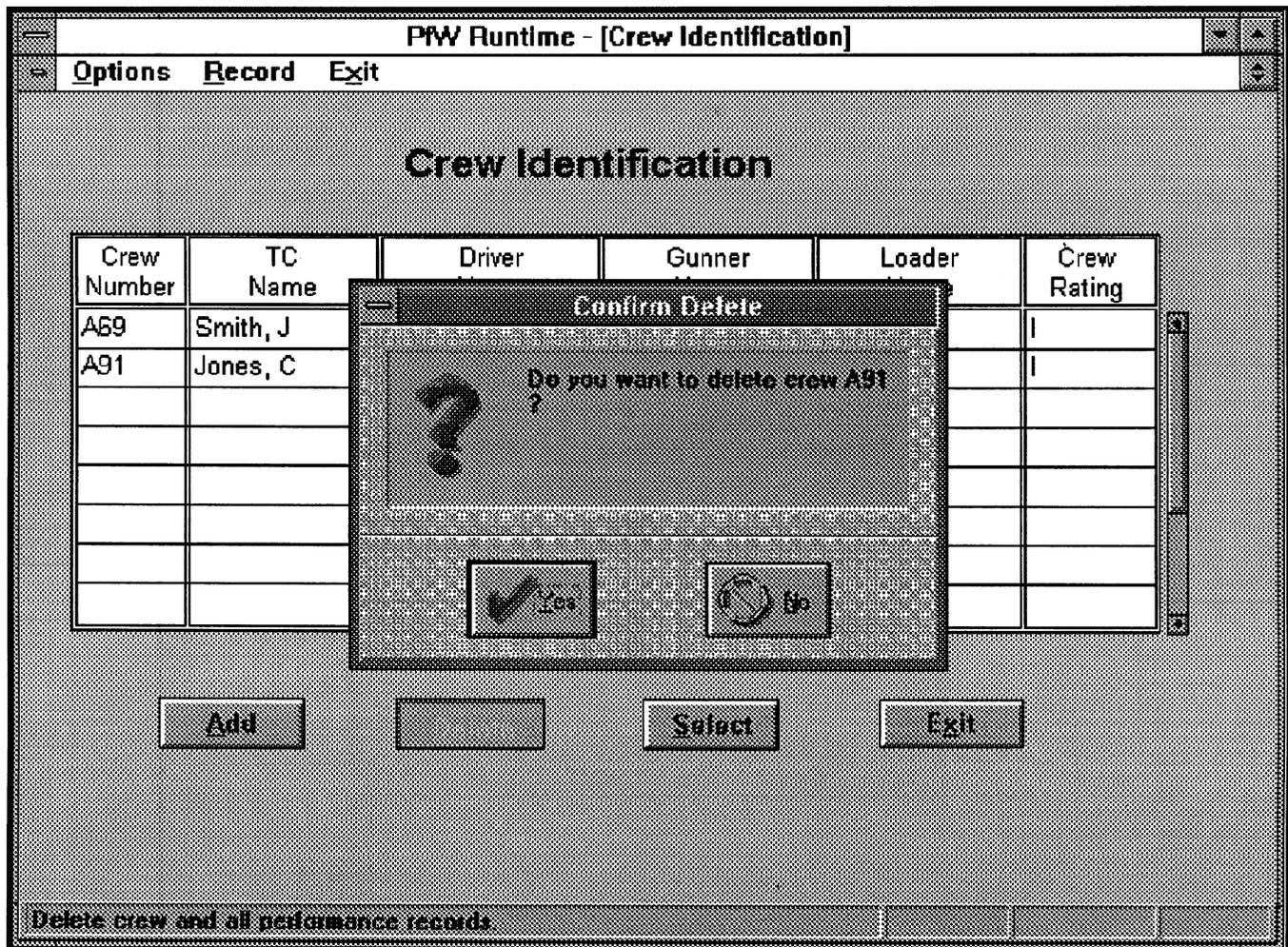


Figure 2410. Confirm Delete Screen

2.6.8.2 Exercise Identification Screen. Once a crew is selected for training, identify an exercise simulation to run as follows:

- a. At the AFIST Main Screen, select Exercise Management. The Exercise Identification Screen, Figure 2-111, displays with the crew identification number of the previously selected crew displayed. Identify and select an exercise simulation for the selected crew as follows:
  - (1) Click on Orientation to run exercises in Orientation mode. Orientation mode tasks run for 3 minutes and are used to familiarize the crew to the exercise and to train the crew in tank gunnery basics and crew coordination.
  - (2) Click on Training to run exercises in Training Mode. In Training Mode, the system records the results of each task performed by the crew in Primary Operating Mode. Training tasks run from 50 to 75 seconds and are used to train crews who have mastered basic duties at each crew position. The I/O evaluates the results of Training exercises to determine when a crew is ready to advance to Evaluation exercises.
  - (3) Click on Evaluation to run exercises in Evaluation Mode. In Evaluation Mode, the system records the results of each Evaluation task performed by the crew. For Croups I through III and Croup V, a crew must pass four of the six Evaluation tasks in one exercise to progress to the next higher exercise group.
- b. Select the Exercise Mode. The selected mode highlights.

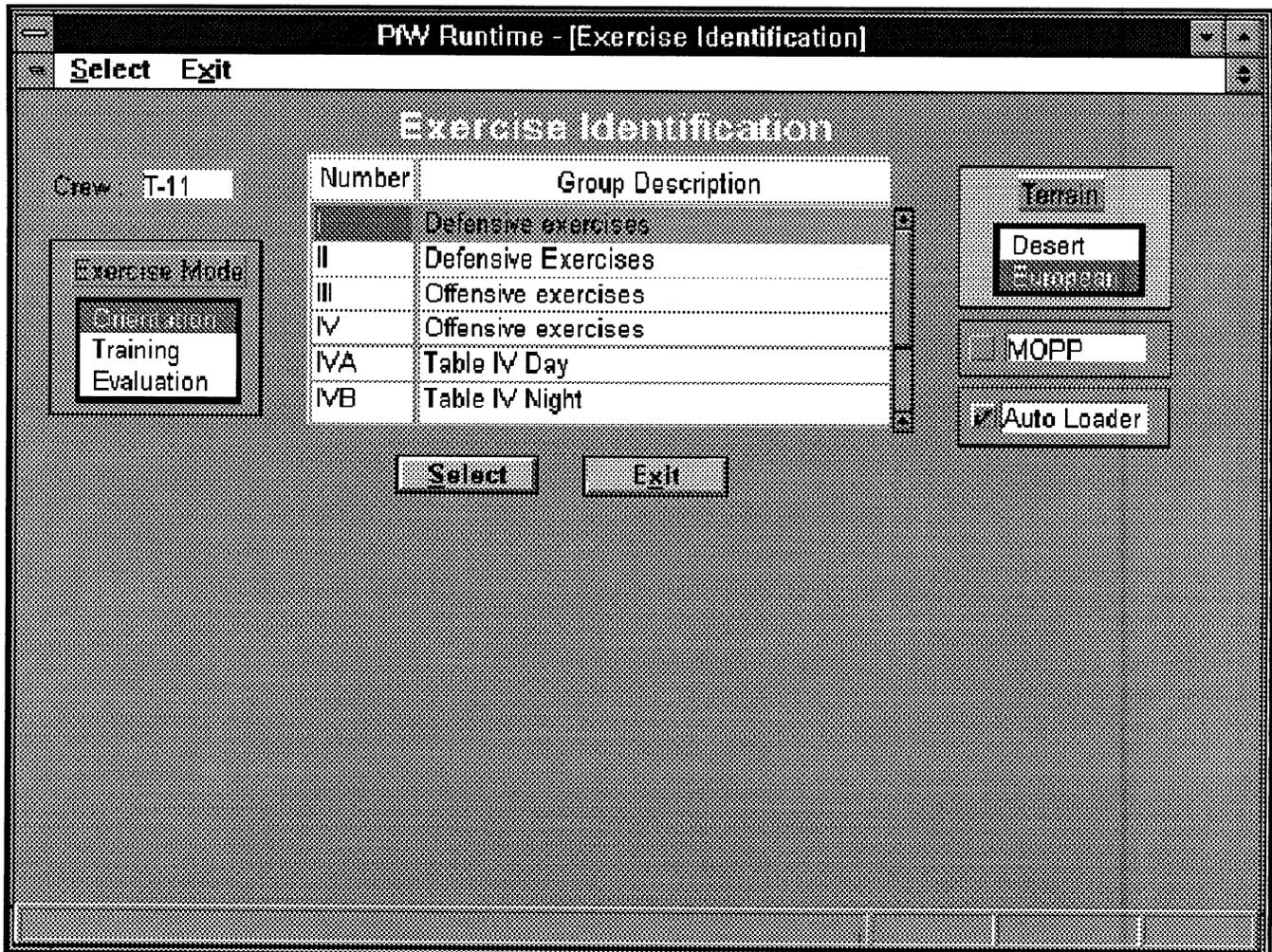


Figure 2-111. Exercise Identification Screen

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Evaluation tasks have time standards comparable to those in FM 12-12-1, 2. Croup VIA and VIB Evaluation exercises consist of linked tasks presented in sequence, just as tasks are encountered on an actual tank range. Group IV Evaluation tasks are not in linked exercises. However, those tasks are scored according to FM 17-12-1, 2.

**NOTE**

The TC cannot select the Evaluation Mode from the TC's keypad.

- c. Click on the Croup number to select the Exercise Group. The selected group highlights. Six exercise groups are available, I, II, III, IV, V, VIA, and VIB. Each group represents a training skill level and consists of related exercises with similar objectives. Each group contains six training exercises and three evaluation exercises. Croup I represents the least difficult or lowest level and Croup VI the most difficult or highest level. Crew progression through group levels is sequential. The system displays an error message when a group number higher than the selected crew's group level is selected.
- d. Select the Terrain database (scenario type).
  - (1) Click the Desert button to highlight and select desert as the terrain type for simulation execution.

- (2) Click the European button to highlight and select European as the terrain type for simulation execution.
- e. Click the MOPP button to select or deselect Mission-Oriented Protective Posture (MOPP) mode for simulation execution. A check mark on this button indicates MOPP mode is selected.
- f. Click the Auto Loader button to select or deselect Auto Loader mode. A check mark on this button indicates the Auto Loader is selected. Select Auto Loader if the crew being trained does not include a Loader. The system compensates for the three-man crew by assuming Loader functions are being performed and by not entering Loader errors.

**NOTE**

Auto Loader does not work in Evaluation mode.

- g. When all screen fields display the desired settings, click on the Select button to select the current exercise settings on the screen and display the Exercise Selection Screen, described in 2.6.8.3.
- h. Click on the Exit button to exit the Exercise Identification Screen and return to the AFIST Main Screen.

2.6.8.3 Exercise Selection Screen. After identifying an exercise and selecting a group number, select an exercise for simulation as follows:

- a. At the Exercise Identification Screen, click on the Select button or select Select from the Menu Bar. The Exercise Selection Screen, Figure 2-112, displays with the currently selected group number.
- b. Click on and highlight an exercise number in the currently selected group. The following data is displayed for each exercise:
  - (1) Number. Displays the exercise number, 1, 2, 3, 4, 5, or 6, for the exercise. The number is an unique number used to identify the particular exercise within the selected group
  - (2) Exercise Description. Displays a general text description of the exercise task.
  - (3) Off/Def. Indicates to whether the exercise is offense or defense. The displayed values are O or D.
  - (4) Terrain. Indicates which terrain database to be used for the exercise. The displayed values are D or E.
- c. Click on the Select button to select the highlighted exercise for simulation execution. AFIST runs a task from the selected exercise or the selected linked-task exercise.
- d. Exit button. Click on the Exit button to exit the Exercise Selection Screen and return to the Exercise Identification Screen.

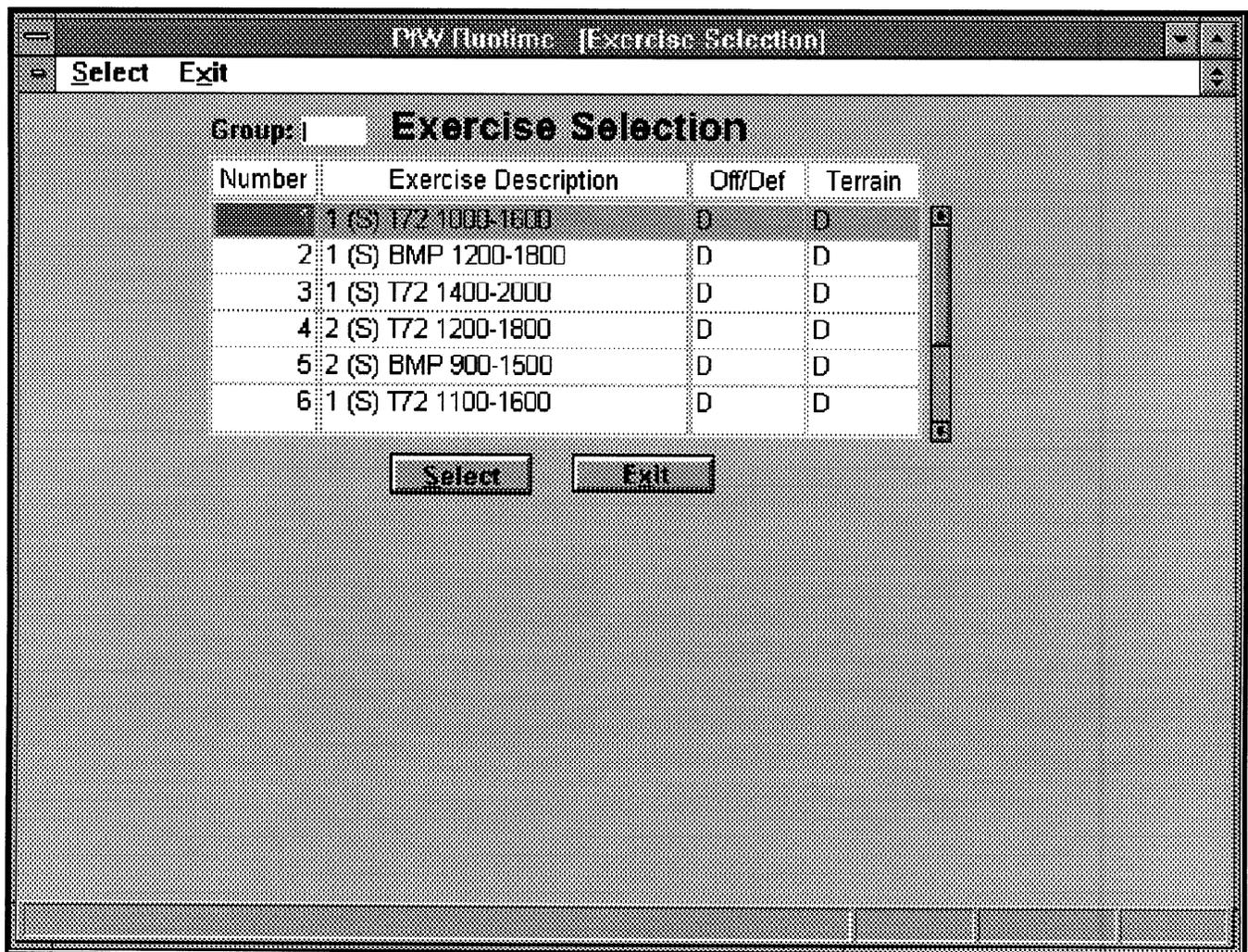


Figure 2-112. Exercise Selection Screen:

2.6.8.4 Actions During Simulation. During the simulation, the I/O can use the following keyboard functions keys to control the simulation and manually log errors the system cannot detect:

<u>Key</u>	<u>Function</u>
F1 - ALERT .	Records TC Alert Command errors
F2 - AMMO/WEAPON	Records Use of Incorrect Ammo/Weapon for Displayed Target errors.
F3 - DESC	Records Target Description errors.
F4 - IDENT	Records Target Identification errors.
F5 - RANGE/SIGHT RND	Records Range/Sight errors (errors especially occur during GAS engagements.)
F6 - LD/CLR	Records Round Load and Breech Path Clear errors.
F7 - EXEC CMD, REPLAY	Records Execution Command by the TC errors. When exercise has been frozen with the Shift-F1 keys, plays back the crew's performance on the current exercise.
F8 - CMD EXEC, REPEAT	Records TC/Gunner Command Execution errors. When exercise has been frozen with the Shift-F1 keys, returns the exercise to its start and reruns it.
F9 - OBSERVATION & SUBSEQUENT COMMAND	Records TC Observation and Subsequent Command errors.
F10 - CREW SAFETY, TERMINATE	Records Crew Safety errors. When exercise has been frozen with the Shift-F1 keys, terminates the currently selected exercise without the option of saving performance data.
F11 - NBC MASK	Records Not Masked During NBC errors.
F12 - SEARCH	Records Not Searching Between Engagements errors.
Shift-F1 -FREEZE/UNFREEZE	Toggles to stop (freeze) and resume (unfreeze) the currently running exercise. In Freeze mode, operator has the option to replay, repeat, or terminate the exercise.
Shift-F6 - EXIT	Exits the exercise mode, with the option of saving performance data.

In Secondary mode, the TC also can control the simulation using the TC keypad:

Key

Function

FREEZE/UNFREEZE

Toggles to stop (freeze) and resume (unfreeze) the currently running exercise. In Freeze mode, TC has the option to replay, repeat, or terminate the exercise

REPEAT

When exercise has been frozen, returns the exercise to its start and reruns it.

TERMINATE

Terminates the currently selected exercise without the option of saving performance data

REPLAY

When exercise has been frozen, plays back the current exercise.

2.6.8.5 Real-Time Display. During the simulation, the I/O receives information from the Real-Time Display screen, shown in Figure 2-113. This screen provides a current report on the following:

- a. Croup, exercise, and task.
- b. Conditions and standards being simulated.
- c. Crew in training.
- d. Simulation mode (Orientation, Training or Evaluation).
- e. Total elapsed time in the scenario.

- f. Time since target exposure.
- g. Engagement time (used for scoring purposes in accordance with FM 17-12-1).
- h. Which crew member engaged the target and the results of the engagement.
- i. Positions of switches that are sensed at each crew station. This reading gives the I/O a visual cue of each crew member's actions.

In addition, the ORIENTATIONS diagram on the screen portrays the bearing of the tank hull, turret, and CWS relative to an arc within which the targets are located. This orientation changes with each simulated tank part movement.

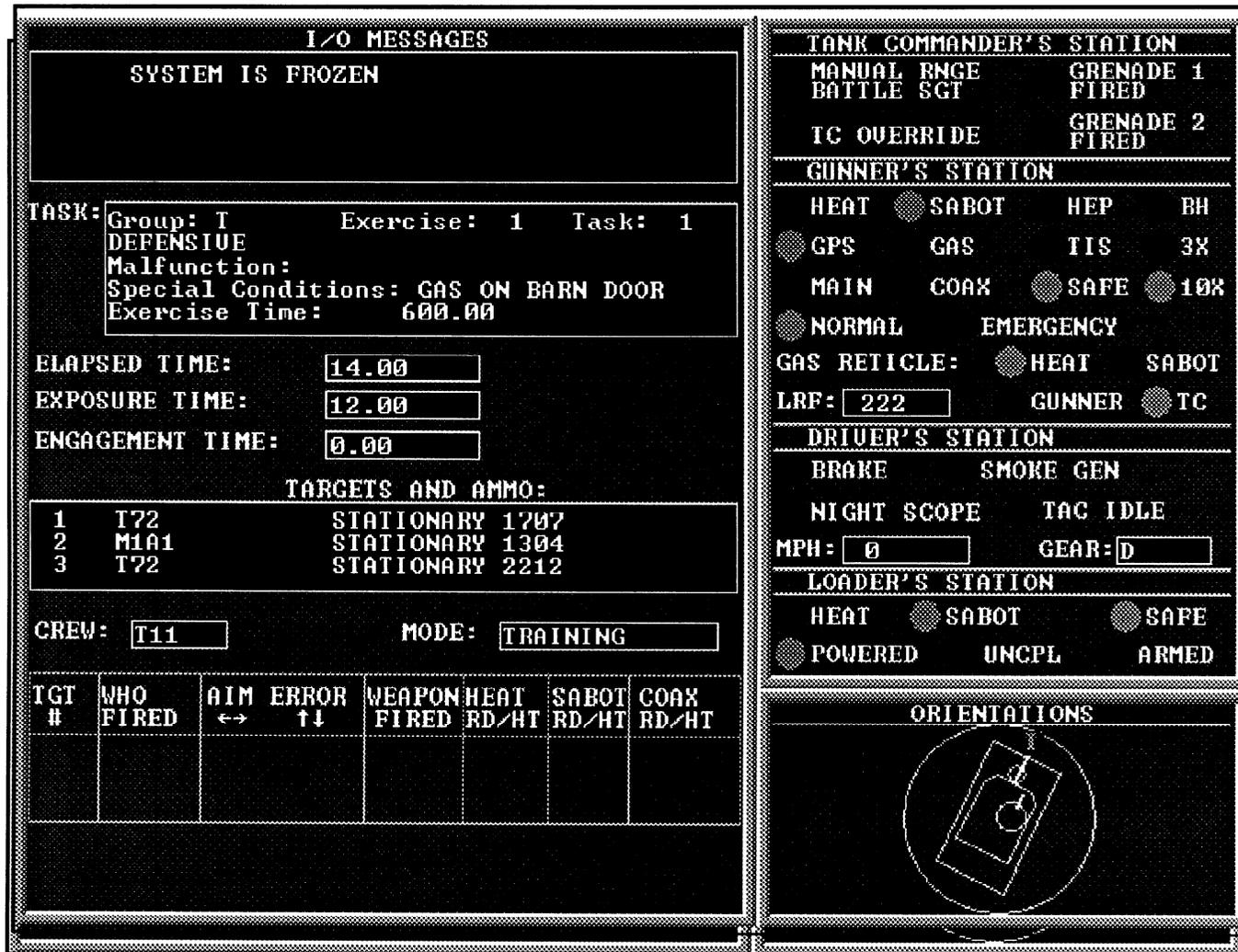


Figure 2-113. Real-Time Display Screen

2.6.9 Exercise Critique Summary Screen. After the completion or termination of each task simulation and each linked-task exercise, the Exercise Critique Summary Screen, Figure 2-114, displays. This is a first of a series of screens providing a critique of the crew's training performance. It provides a summary of the crew's performance during the simulation and is used to access other after-simulation screens. This screen also displays by selecting Critique at the Logged Errors, Rounds Fired, Shot Pattern, Targets, and Exercise Summary Screens. The following data displays:

- a. Crew. Displays the crew identification number of the currently selected crew.
- b. Croup. Displays the group number for the just-completed task (simulation run). The displayed value is I, II, III, IV, IVA, IVB, V, VIA, or VIB.
- c. Exercise. Displays the exercise number for the just-
- d. Task. Displays the task number for the just-completed task. The displayed value is 1, 2, 3, 4, 5, or 6.
- e. Exercise Mode. Displays the exercise mode for the just-completed task. The displayed value is Orientation, Training, or Evaluation.
- f. Date/Time. Displays the date-time group of the task.
- g. Terrain. Displays the terrain database which is currently selected. The displayed value is Desert or European.
- h. Autoloader. Indicates whether the Auto Loader was

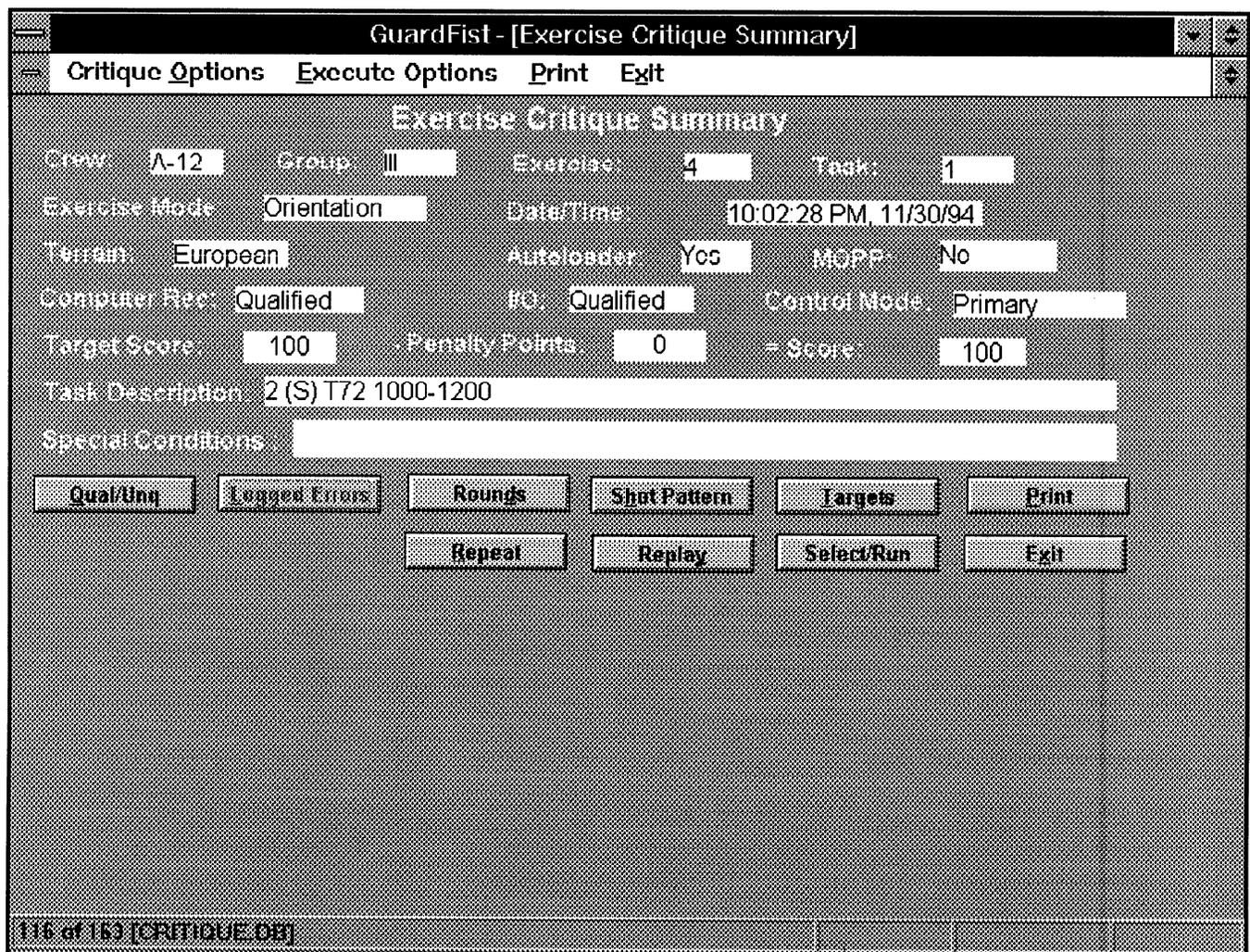


Figure 2-114. Exercise Critique Summary Sheen

- used for the just-completed task (simulation run). The displayed value is Yes or No.
- i. MOPP. Indicates whether MOPP was imposed for the just-completed task. The displayed value is Yes or No.
- j. Computer Rec. Displays the system-recommended rating of the crew's performance on the just-completed task. The displayed value is Qualified or Unqualified.
- k. I/O. Displays the I/O's assessment rating of the crew's performance on the just-completed task. Defaults to the system recommendation. When the system gives a Qualified rating, the I/O can use the **Qual/Unq** option to give a Qualified/Unqualified assessment rating based on observed crew performance. The displayed value is Qualified or Unqualified.
- l. Control Mode. Displays the operating mode (Primary or Secondary) for the just-completed task. The displayed value is Primary or Secondary.
- m. Target Score. For Training tasks and Croup I, II, III, and V Evaluation tasks, displays the total possible points the crew could have earned during the just-completed task. For Croup IV, VIA, and VIB Evaluation tasks, displays total points the crew earned in accordance with FM 17-12-1, 2 Tank Table IV and VIII calculation sheets. The displayed value is 100 (Training and Croup I, II, III, and V Evaluation tasks) or 0 through 100 (Croup IV, VIA, and VIB Evaluation tasks).
- n. Penalty Points. Displays the total crew duties penalty points the crew accrued for any crew errors. The displayed value is 0 through 100.
- o. Score. Displays the crew's total scoring results (Target Score minus Penalty Points) of the just-completed task. The displayed value is 0 through 100.
- p. Task Description. Displays a free-form text description of the task within a given exercise.
- q. Special Conditions. Displays the malfunctions, degraded conditions, or special environmental conditions simulated in the just-completed task. Displayed values may be one or a combination of the following tank malfunctions and operating conditions: Stabilization Failure, LRF Failure,

Computer Failure, Night, NBC, IFF (Identify Friend or Foe), and 3 Man Crew.

Use the activating option buttons as follows:

- a. **Qual/Unq** button. Click on the **Qual/Unq** button or select **Qual/Unq** from the pull-down Critique Options menu to enter the I/O's Qualified/Unqualified assessment rating for the just-completed task. The Instructor Assessment Screen, described in 2.6.9.1, displays. When the system recommends Qualified, the I/O must use this option to make an assessment rating before exiting this screen. This option does not display when the system recommends Unqualified.
- b. Click on the Logged Errors button or select Logged Errors from the pull-down Critique Options menu to display the Logged Errors Screen, described in 2.6.9.2.
- c. Click on the Rounds button or select Rounds from the pull-down Critique Options menu to display the Rounds Fired Screen, described in 2.6.9.3. When no rounds were fired during the just-completed task, an error message displays when this option is clicked.
- d. Click on the Shot Pattern button or select Shot Pattern from the pull-down Critique Options menu to display the Shot Pattern Screen, described in 2.6.9.4.
- e. Click on the Targets button or select Targets from the pull-down Critique Options menu to display the Targets Screen, described in 2.6.9.5.

**CAUTION**

Once a print request is made, do not interrupt or cancel it. Using any method to interrupt or cancel a processing print request causes irretrievable loss of the current exercise data.

- f. Click on the Print button or select Print from the menu bar to print the entire exercise critique for the

- just-completed task. The system displays the Print Selected Screen, described in 2.6.9.6.
- g. Click on the Next Task button or select Next Task from the pull-down Execute Options menu to view the Exercise Critique Summary screen for the next task in the just-completed linked-task exercise. This option is active (displays) only after the linked-task Croup VIA and VIB Evaluation exercises.
  - h. Click on the Prev Task button or select Prev Task from the pull-down Execute Options menu to view the Exercise Critique Summary screen for the previous task in the just-completed linked-task exercise. This option is active (displays) only after the linked-task Croup VIA and VIB Evaluation exercises.
  - i. Click on the Repeat button or select Repeat from the pull-down Execute Options menu to repeat the just-completed task or linked-task exercise, allowing the crew to restart with the same task or linked-task exercise.
  - j. Click on the Replay button or select Replay from the pull-down Execute Options menu to replay the just-completed task or linked-task exercise, displaying crew actions performed in the just-completed task or linked-task exercise.
  - k. Click on the Summary button to display the Exercise Summary screen, described in 2.6.9.7. This option displays only after the linked-task Croup VIA and VIB Evaluation exercises.
  - l. Click on the Select/Run button or select Repeat from the pull-down Execute Options menu to run the next **task** simulation in the selected Training or Croup I, II, III, IV, or V Evaluation exercise. If Training is selected, a randomly selected task runs. If Croup I, II, III, IV, or V Evaluation is selected, the next task in the selected group runs. To run tasks in a different database, group, or exercise, click on the Exit button and repeat the initial exercise selection process. This option does not display after the linked-task Croup VIA and VIB Evaluation exercises.
  - m. Click on the Exit button or select Exit from the menu bar to exit the Exercise Critique Summary Screen and return to the **AFIST** Main Menu. Exit must be selected to perform the following:
    - (1) Run tasks in a different database, group, or exercise.
    - (2) Select a different crew.
    - (3) Perform other **AFIST** functions.

2.6.9.1 Instructor Assessment Screen. To enter the I/O's Qualified or Unqualified recommendation for the just-completed task perform the following:

- a. At the Exercise Critique Summary screen, click on the **Qual/Unq** button or select **Qual/Unq** from the pull-down Critique Options menu. The Instructor Assessment, Figure 2-115, displays. The I/O can enter a recommendation at this screen only when the system recommends Qualified.

- b. Click on the Yes button to enter a Qualified assessment for the just-completed exercise and return to the Exercise Critique Summary screen.
- c. Click on the No button to enter an Unqualified assessment for the just-completed exercise and return to the Exercise Critique Summary screen.

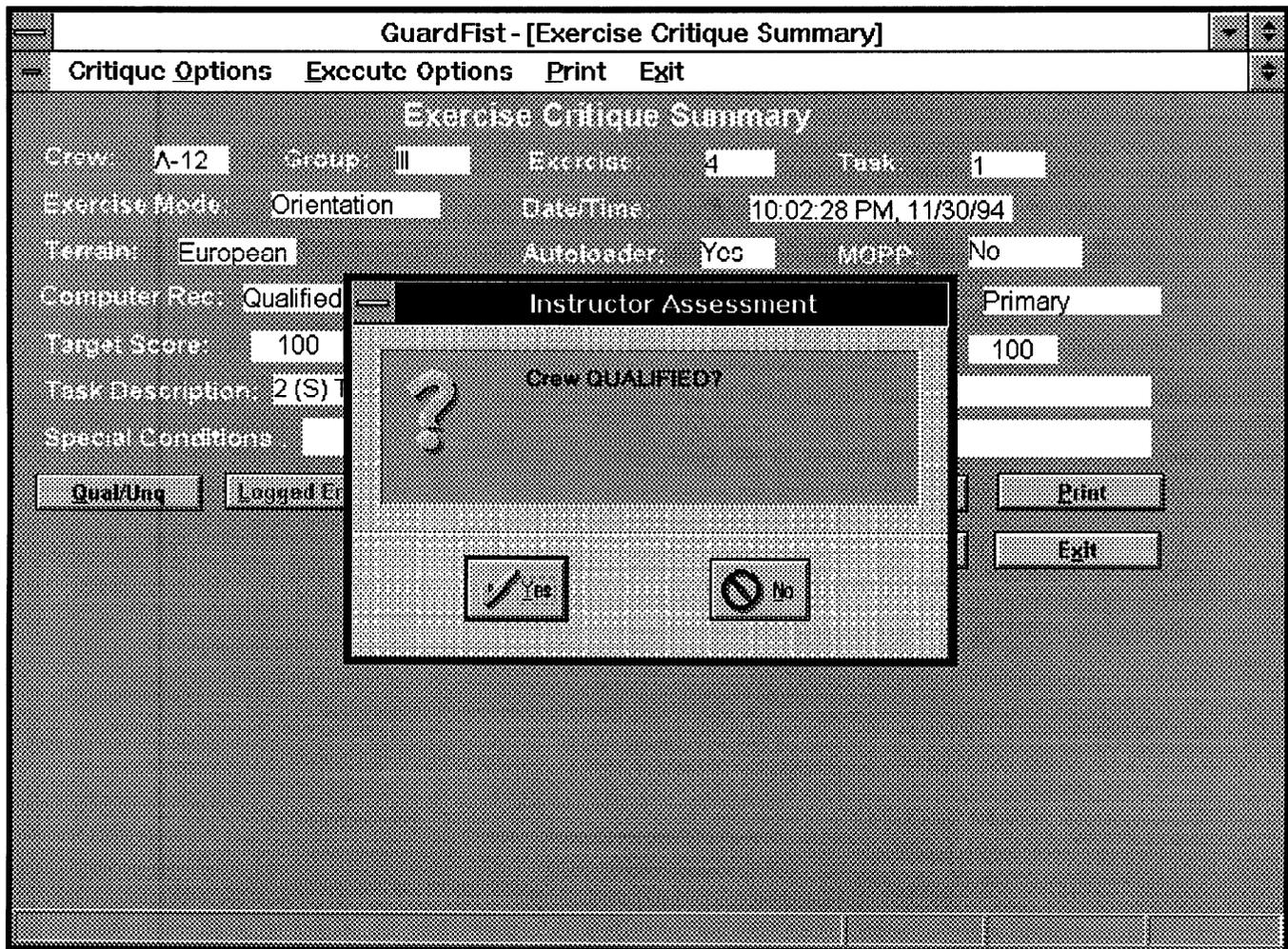
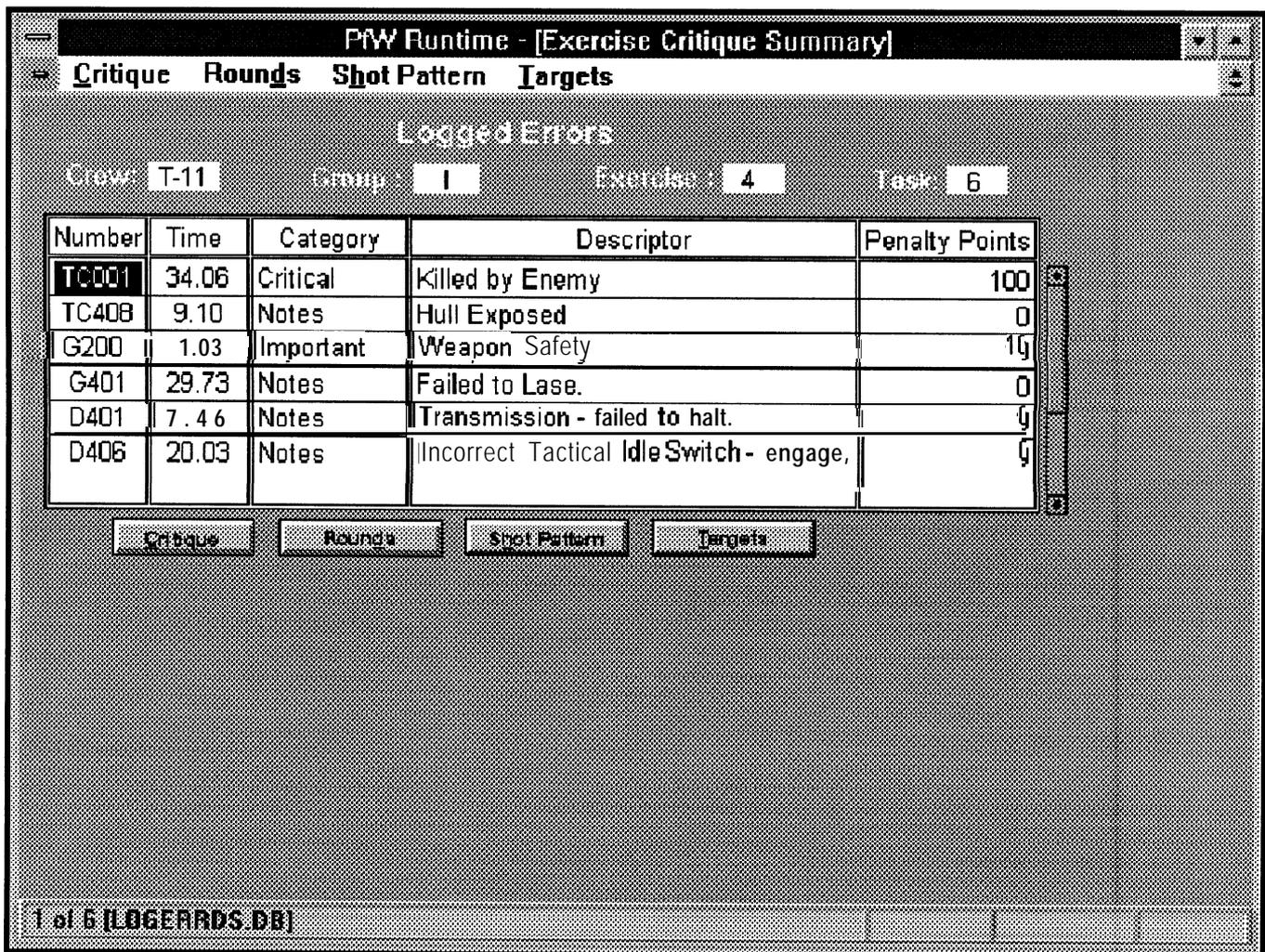


Figure 2-115. Instructor Assessment Screen

2.6.9.2 **Logged Errors Screen.** To view a summary of the errors logged during the just-completed task, perform the following:

- a. At the Exercise Critique Summary Screen, click on the Logged Errors button or select Logged Errors from the pull-down Critique Options menu. The Logged Errors Screen, Figure 2-116, displays. This screen also displays as a result of selecting Logged Errors at the Rounds Fired, Shot Pattern, and Targets Screens. The following data displays:

- (1) Crew. Displays the crew identification number of the currently selected crew.
- (2) Group. Displays currently selected group number. The displayed value is I, II, III, IV, IVA, IVB, V, VIA or VIB .
- (3) Exercise. Displays the exercise number for the currently selected exercise. The displayed value is 1, 2, 3, 4, 5, or 6.



**Figure 2-116. Logged Errors Screen**

- (4) Task. Displays the task number for the currently selected task. The displayed value is 1, 2, 3, 4, 5, or 6.
- (5) Number. Displays the error alphanumeric number, an unique code for the individual error.
- (6) Time. Displays the time at which the crew error was logged. It is expressed as the time elapsed (in seconds) since the start of the exercise.
- (7) Category. Displays the category of the error. Errors are grouped by severity. The displayed value is Critical, Major, Minor, Important, I/O, or Notes.
- (8) Descriptor. Displays the text description of the error, as defined in the specification.
- (9) Penalty Points. Displays the number of penalty points deducted from the target score for making this error. The displayed value is 100, 30, 10, 5, or 0.

- b. Click on the Critique button or select Critique from the menu bar to return to the Exercise Critique Summary Screen.
- c. Click on the Rounds button or select Rounds from the menu bar to display the Rounds Fired Screen, described in 2.6.9.3. If no rounds were fired during the just-completed task, an error message displays when this option is clicked.
- d. Click on the Shot Pattern button or select Shot Pattern from the menu bar to display the Shot Pattern Screen, described in 2.6.9.4.
- e. Click on the Targets button or select Targets from the menu bar to display the Targets Screen, described in 2.6.9.5.

2.6.9.3 Rounds Fired Screen. To view a summary of the rounds fired during the just-completed task, perform the following:

- a. At the Exercise Critique Summary Screen, click on the Rounds button or select Rounds from the pull-down Critique Options menu. The Rounds Fired Screen, Figure 2-117, displays. This screen also displays as a result of selecting Rounds at the

Logged Errors, Shot Pattern, and Targets Screens. The following data displays:

**NOTE**

If no rounds were fired during the just-completed task, clicking on the Rounds button displays an error message.

- (1) Crew. Displays the crew identification number of the currently selected crew,
- (2) Croup. Displays the currently selected group number. The displayed value is I, II, III, IV, IVA, IVB, V, VIA, or VIB.
- (3) Exercise. Displays the exercise number for the currently selected exercise. The displayed value is 1, 2, 3, 4, 5, or 6.
- (4) Task. Displays the task number for the currently selected task. The displayed value is 1, 2, 3, 4, 5, or 6.
- (5) Target. Displays the numeric target identifier assigned to this target by the system.
- (6) Round. Displays the numeric round identifier assigned to this round by the system. Each fired round is numbered consecutively.
- (7) Loaded. Displays the type of round loaded to fire. The displayed value is HEAT, SABOT, or COAX.
- (8) Ammo. Displays the type of ammunition selected for firing. The displayed value is HEAT, SABOT, or COAX (M1A1), or HEAT, SABOT, BH, HEP, or COAX (M1).
- (9) Aim Error L-R+. Displays the reticle error upon firing the round in mils left/right. The displayed value is numeric (right is positive, left is negative).
- (10) Aim Error U+D-. Displays the reticle error (up or down) upon firing the round in mils high/low. The displayed value is numeric (up is positive, down is negative).

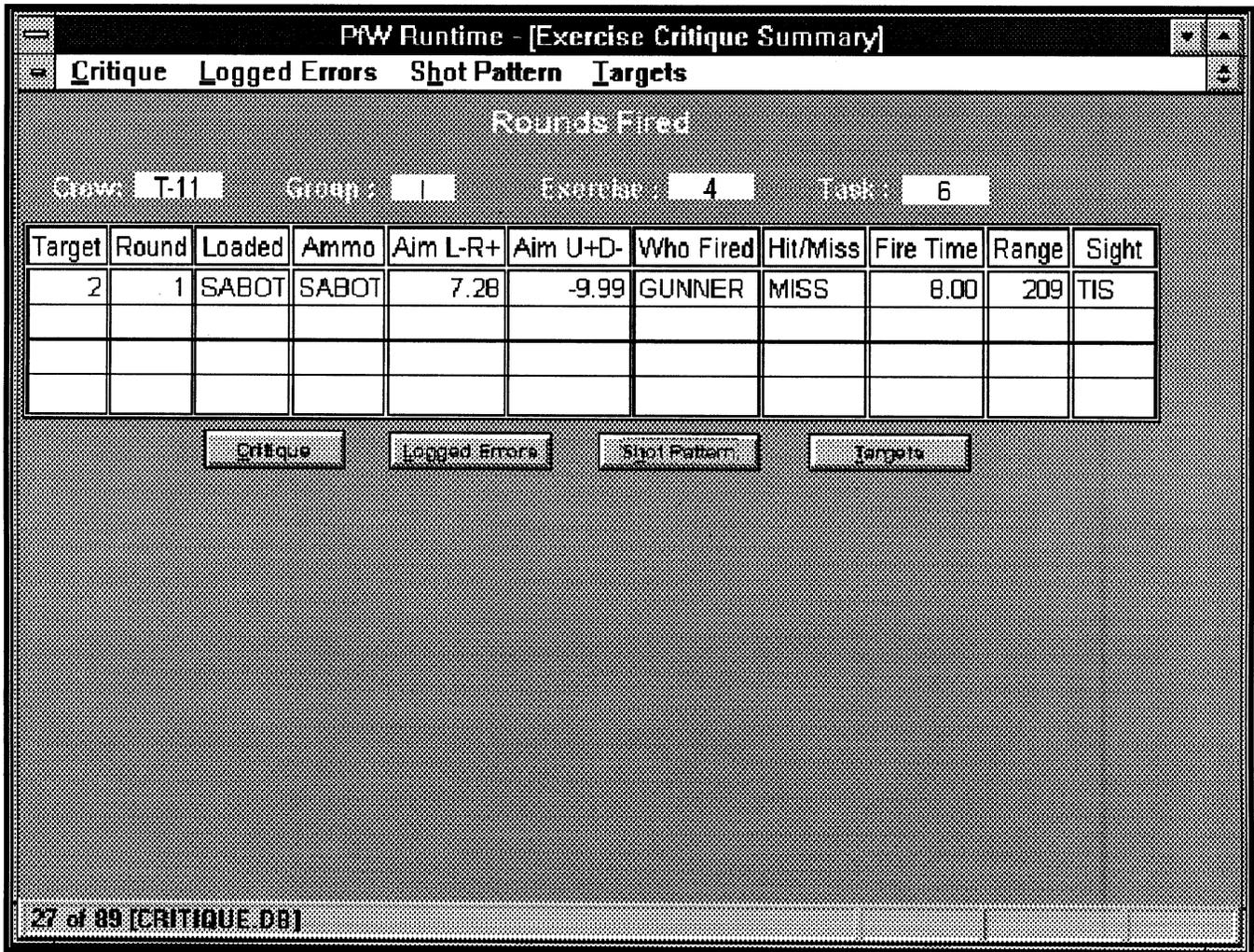


Figure 2-117. Rounds Fired Screen

- (11) Who Fired. Displays who fired the round. The displayed value is GUNNER or TC. TIS, or GAS.
  - (12) Hit/Miss. Indicates whether the round fired hit or missed the target. The displayed value is Hit or Miss.
  - (13) Fire Time. Displays the elapsed simulation time at which the round was fired. The displayed value is numeric.
  - (14) Range. Displays a number indicating the range in the ballistic solution at the time the round was fired. The displayed value is numeric.
  - (15) Sight. Displays the specific sight used to fire the round. The displayed value is GPS, TIS, or GAS.
- b. Click on the Critique button or select Critique from the menu bar to return to the Exercise Critique Summary Screen.
  - c. Click on the Logged Errors button or select Logged Errors from the menu bar to display the Logged Errors Screen, described in 2.6.9.2.
  - d. Click on the Shot Pattern button or select Shot Pattern from the menu bar to display the Shot Pattern Screen, described in 2.6.9.4.
  - e. Click on the Targets button or select Shot Pattern from the menu bar to display the Targets Screen described in 2.6.9.5.

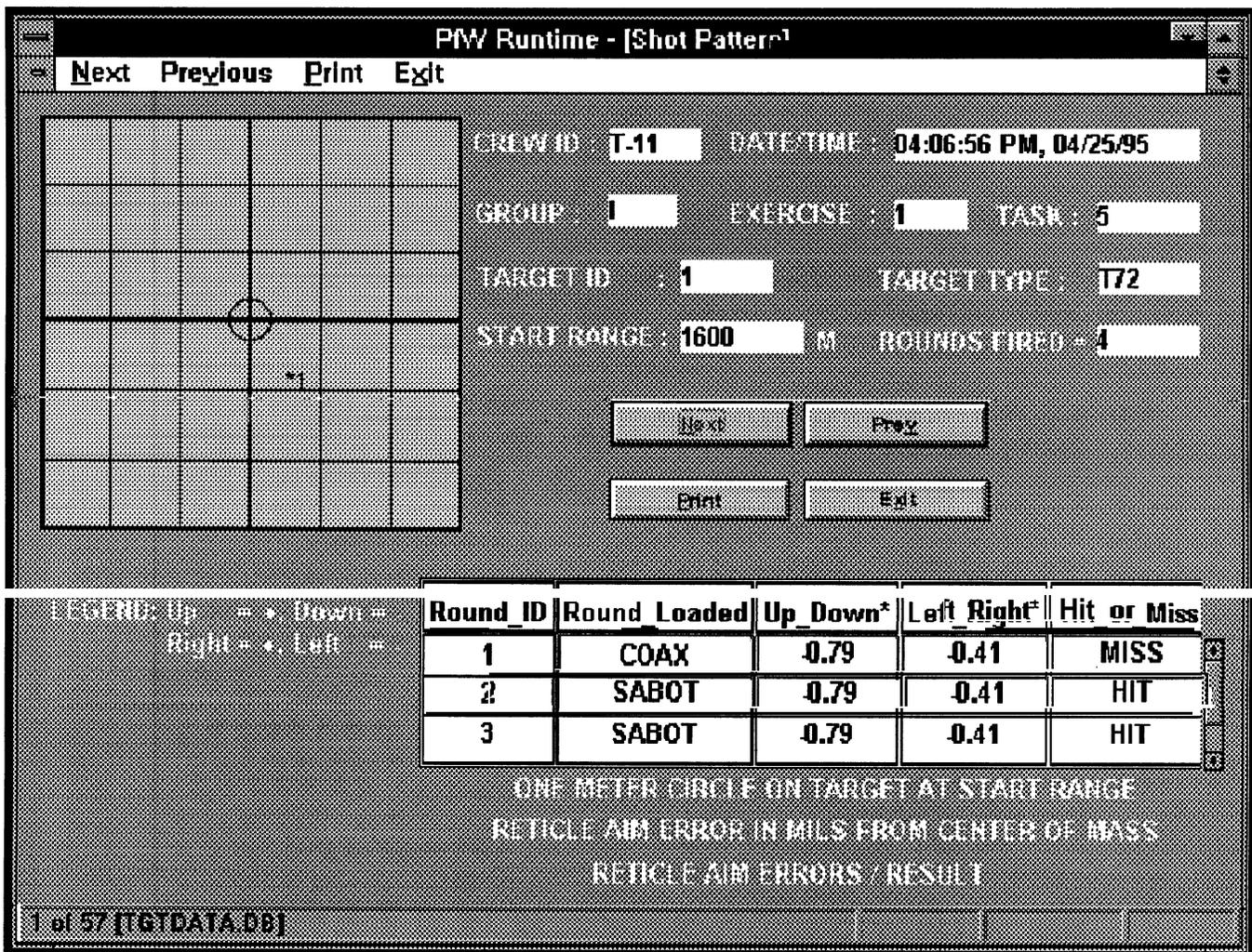
**NOTE**

A graphical depiction of **aimpoint** at time of fire (Reticule Aim) displays in the Shot Pattern Diagram as an asterisk (\*) and the Round ID number. If reticule aim is within .5 mils of a previously fired round, only the first depiction of the reticule aim displays. The I/O must refer to the Reticule Aim Errors/Results data, for the rounds not displayed, for a numeric listing of Reticule Aim.

2.6.9.4 **Shot Pattern Screen.** To view a summary of the shot pattern of the reticle lay for each round **fired** at a target during the just-completed task, perform the following:

- a. At the Exercise Critique Summary Screen, click on the Shot Pattern button or select Shot Pattern from the pull-down Critique Options menu. The Shot Pattern Screen, Figure 2-118, displays. This screen also displays as a result of selecting Shot Pattern at the Logged Errors, Rounds Fired, and Targets Screens. The following data displays:

- (1) Shot Pattern Diagram. Displays a graphic depiction of the shot pattern for this target.



**Figure 2-118. Shot Pattern Screen**

- (2) CREW. Displays the crew identification number of the currently selected crew.
  - (3) DATE/TIME. Displays the date-time group of the just-completed task (simulation run).
  - (4) GROUP. Displays the currently selected group number. The displayed value is I, II, III, IV, IV, IVA, IVB, V, VIA or VIB.
  - (5) EXERCISE. Displays the exercise number for the currently selected exercise. The displayed value is 1, 2, 3, 4, 5, or 6. This is an unique identifier for the particular exercise within a specified group.
  - (6) TASK. Displays the task number for the just-completed task. The displayed value is 1, 2, 3, 4, 5, or 6.
  - (7) TARGET ID. Displays the target identifier randomly assigned to this target by the system. The displayed value is numeric.
  - (8) TARGET TYPE. Indicates the type of target. The displayed value is T-72, BMP, ZSU, BRDM, Troops, M1A1, HIND, or RPG.
  - (9) START RANGE. Displays the approximate range to the target. At the beginning of the task, the target is within 200 meters of this range. The displayed value is numeric.
  - (10) ROUNDS FIRED=. Displays the total number of main gun rounds fired at this target during the task. If COAX was **fired**, this displays every tracer or every fifth round.
  - (11) RETICLE AIM ERRORS/RESULTS.
    - (a) Rounds-ID. Displays round identifier assigned to this round by the system. The displayed value is numeric.
    - (b) Round-Loaded. Displays the type of round loaded to fire. The displayed value is SABOT or HEAT.
    - (c) Up-Down\*. Displays the reticle error (up or down) upon firing the round. The displayed value is numeric (up is positive, down is negative).
    - (d) Left\_Right\*. Displays the reticle error (left or right) upon firing the round. The displayed value is numeric (up is positive, down is negative).
    - (e) Hit\_or\_Miss. Displays whether the round fired **hit** or missed the target. The displayed value is Hit or Miss.
- b. Click on the Next button or select Next from the menu bar to display the Shot Pattern Screen for the next target in this task.
  - c. Click on the Prev button or select Previous from the menu bar to display the Shot Pattern Screen for the previous target in this task.

**CAUTION**

Once a print request is made, do not interrupt or cancel it. Using any method to interrupt or cancel a processing print request causes irretrievable loss of the current exercise **data**.

**NOTE**

The Reticle Aim displays in the Shot Pattern Print Diagram as an asterisk (\*) and the Round ID number. If reticle aim is within .5 mils of a previously **fired** round, only the first depiction of the reticle aim displays in the correct location on the diagram. All other depictions for subsequent rounds in that location are printed slightly offset below and to the right. The I/O must refer to the Reticle Aim Errors/Results data for the rounds that are offset.

- d. Click on the Print button or select Print from the menu bar to print the Shot Pattern Screen.
- e. Click on the Exit button or select Exit from the menu bar to exit the Shot Pattern Screen and return to the Exercise Critique Summary Screen.

- (2) Croup. Displays the currently selected group number. The displayed value is I, II, III, IV, IVA, IVB, V, VIA, or VIB.
- (3) Exercise. Displays the exercise number for the currently selected exercise. The displayed value is 1, 2, 3, 4, 5, or 6.
- (4) Task. Displays the task number for the just-completed task. The displayed value is 1, 2, 3, 4, 5, or 6. This an unique identifier for the particular task within a specified exercise.

2.6.9.5 Targets Screen. To view a summary of the targets engaged during the simulation, perform the following:

- a. At the Exercise Critique Summary Screen, click on the Targets button or select Targets from the pull-down Critique Options menu. The Targets Screen, Figure 2-119, displays. This screen also displays as a result of selecting Targets at the Logged Errors, Rounds Fired, and Shot Pattern Screens. The following data displays:

- (1) Crew. Displays the crew identification number of the currently selected crew.

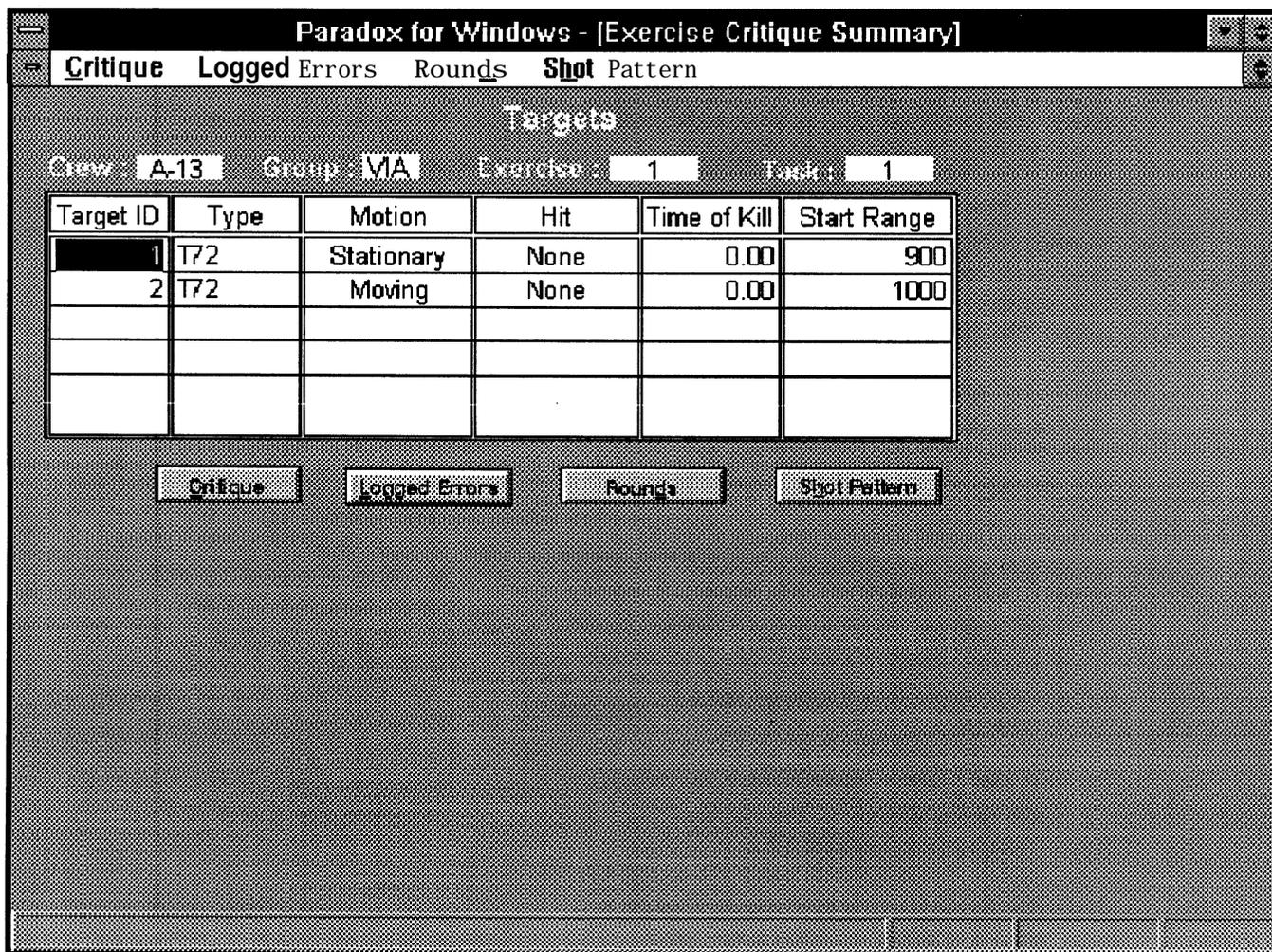


Figure 2-119. Targets Screen

- (5) Target ID. Displays the target identifier assigned to this target by the system. The displayed value is numeric.
  - (6) Target. Displays the type of target. The displayed value is T-72, BMP, ZSU, BRDM, Troops, M1A1, HIND, or RPG.
  - (7) Motion. Indicates if the target was stationary or moving. The displayed value is Stationary or Moving.
  - (9) Hit. Indicates what effect the hit had on the target (Type of Hit). The displayed value is Catastrophic, Mobility, or None.
  - (10) Time of Kill. Indicates when the target was hit after it was first exposed.
  - (11) Start Range. Displays the approximate range to target in meters at the beginning of this task. The displayed value is numeric.
- b. Critique button. Click on the Critique button or select Critique from the menu bar to return to the Exercise Critique Summary Screen.
  - c. Click on the Logged Errors button or select Logged Errors from the menu bar to display to the Logged Errors Screen, described in 2.6.9.2.
  - d. Click on the Rounds button or select Rounds from the menu bar to display the Rounds Fired Screen, described in 2.6.9.3.
  - e. Click on the Shot Pattern button or select Shot Pattern from the menu bar to display the Shot Pattern Screen, described in 2.6.9.4.
- 2.6.9.6 Print Selected Screen. To print the exercise summary of the just-completed task or linked-task exercise, perform the following:

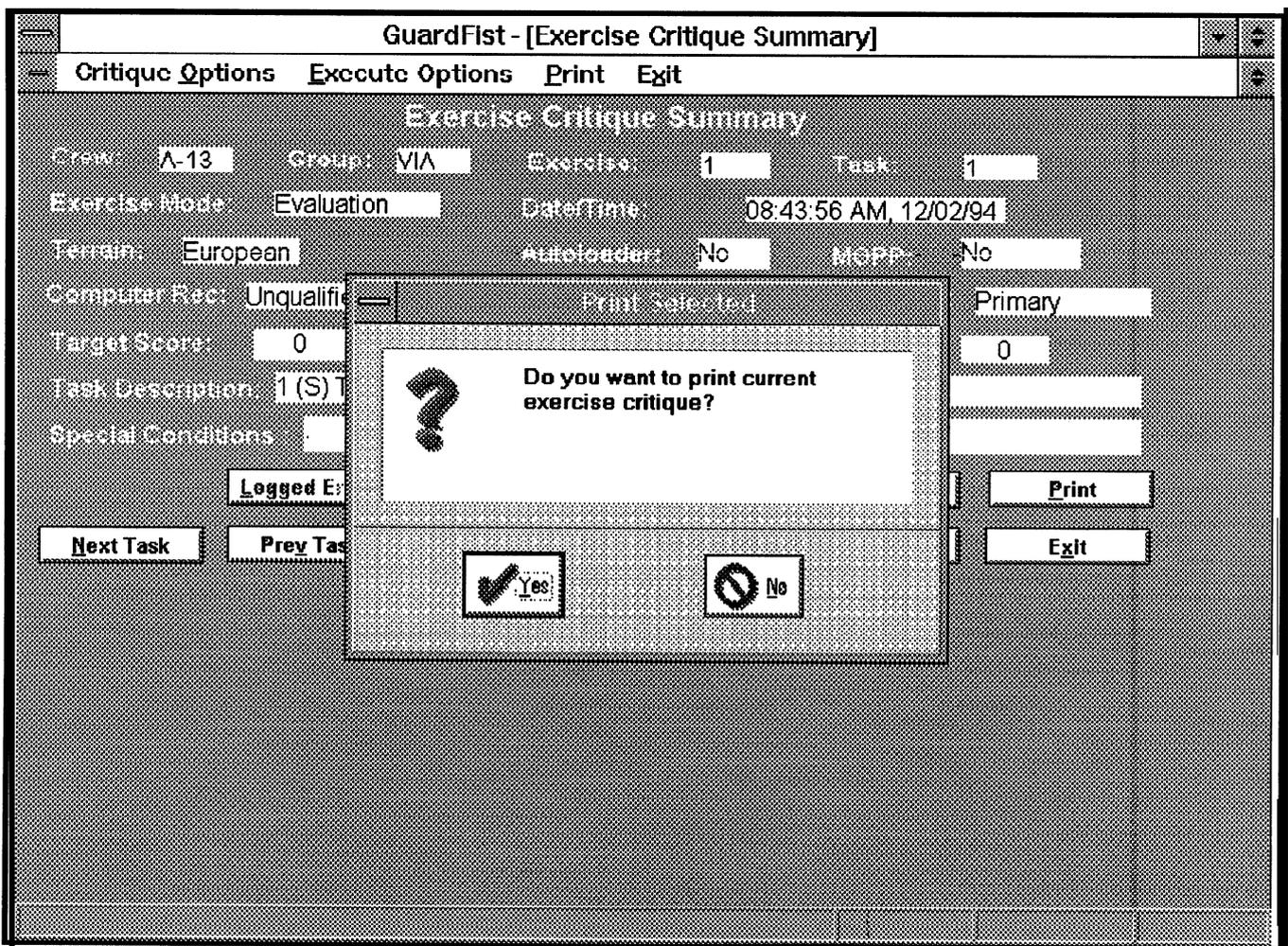


Figure 2-120. Print Selected Screen  
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- a. At the Exercise Critique **Summary** Screen, click on the Print button or select Print from the menu bar. The Print Selected Screen, Figure 2-120, displays.
- b. Click on the Yes button to print the entire exercise critique for the just-completed task or linked-task exercise. Information from the Logged Errors, Rounds, Shot Pattern, and Targets Screens print. When a Croup VIA or VIB linked-task exercise has just completed, information from the Summary Exercise Screen also prints.
- c. Click on the No button to close this screen and return to the Exercise Summary Critique Screen.

**NOTE**

The Shot Pattern and Exercise Summary Screens are the only exercise critique screens that can be printed individually.

2.6.9.7 Exercise Summary Screen. To view the results for each task within the just-completed linked-task Croup VIA or VIB Evaluation exercise, perform the following.

- a. At the Exercise Critique Summary Screen following a Croup VIA or VIB Evaluation linked-task exercise, click on the Summary button or select Summary from the pull-down Execute Options menu. The Exercise Summary Screen, Figure 2-121, displays. The following data displays:

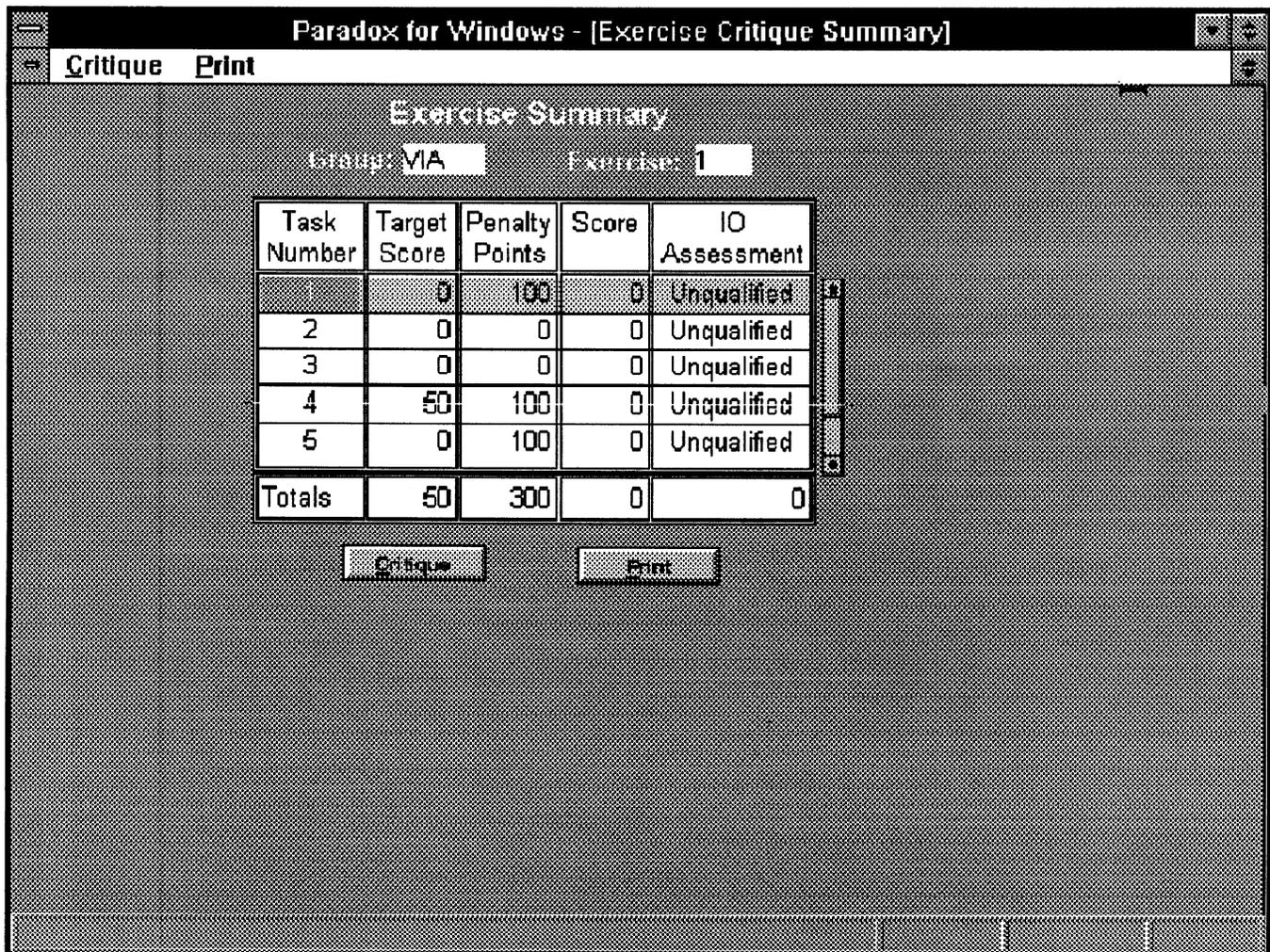


Figure 2421. Exercise Summary Screen  
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- (1) Group. Displays the currently selected group number. The displayed value is VIA or VIB .
  - (2) Exercise. Displays the exercise number for the just-completed linked-task exercise (simulation run). The displayed value is 1 or 2.
  - (3) Task Number. Displays the task number. The displayed value is 1, 2, 3, 4, or 5. This is an unique identifier for the particular task within a specified exercise.
  - (4) Target Score. Displays total points the crew earned in accordance with FM 17-12-1, 2 Tank Table IV and VIII calculation sheets for each task. The displayed values are 0 through 100.
  - (5) Penalty Points. Displays the total crew duties penalty points the crew accrued for any crew errors. The displayed values are 0 through 999.
  - (6) Score. Displays the crew's total scoring results (Target Score minus Penalty Points) for each task. The displayed values are 0 through 100.
  - (7) I/O Assessment. Displays the I/O's assessment rating of the crew's performance of each task. The displayed values are Qualified or Unqualified.
  - (8) Totals. Displays the combined results of all Croup VI Evaluation tasks. First three fields display Target Score, Penalty Point, and Score totals. The displayed values are 0 through 1000. Last field displays the overall Croup VI rating. This rating is determined by the total of all Croup VIA and VIB Evaluation task scores and the number of Qualified Croup VIA and VIB Evaluation tasks. The displayed values are Unqualified, Qualified, Superior, or Distinguished.
- b. Click on the Critique button or select Critique from the menu bar to return to the Exercise Critique Summary Screen.
  - c. Click on the Print button or select Print from the menu bar to print the Exercise Summary Screen.

2.6.10 **Performance Analysis.** The performance of crews and units can be reviewed through the Records Management function.

**NOTE**

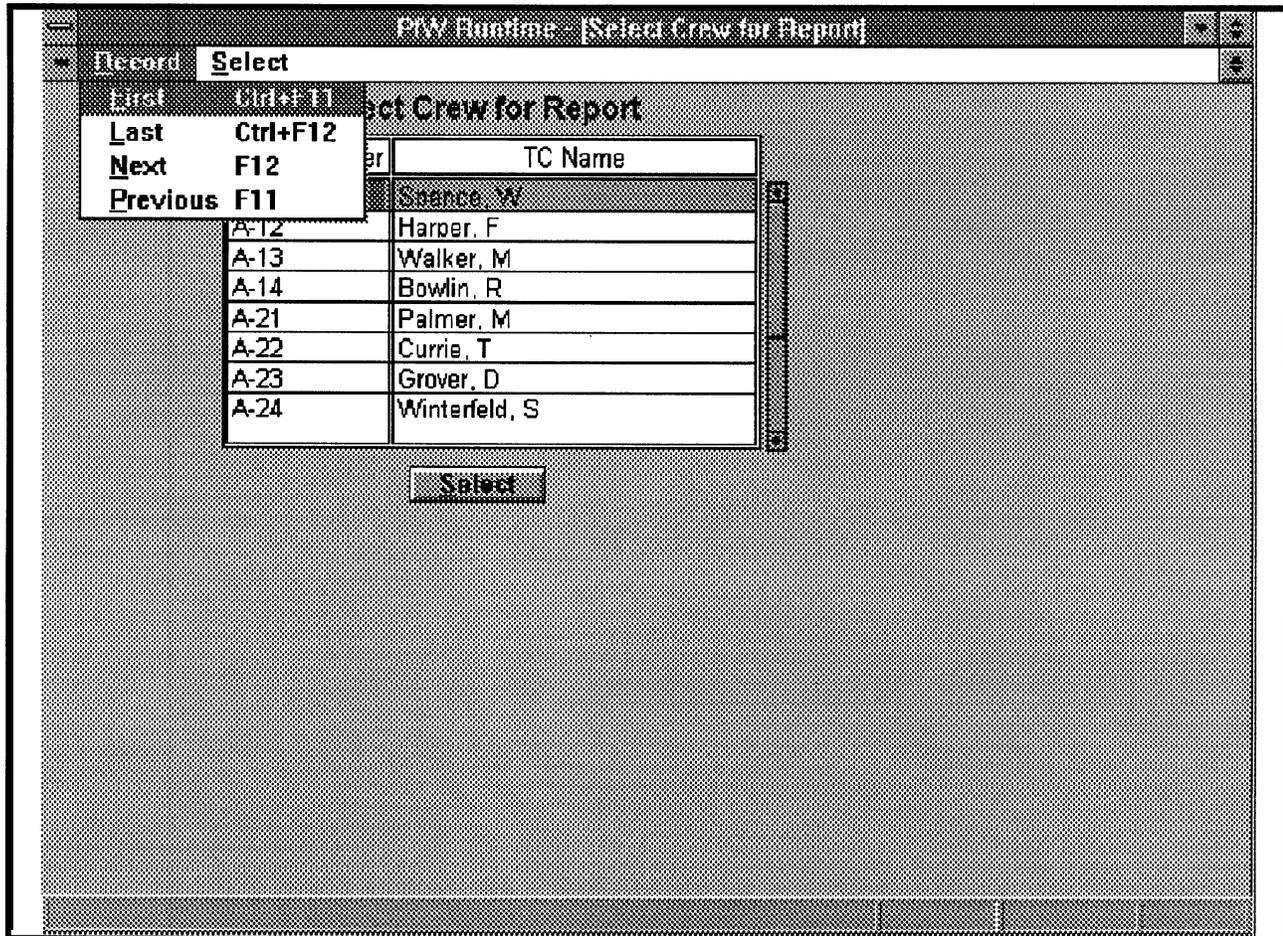
The TC cannot access records management with the TC keypad. Only the I/O at the IOS can access records management functions.

2.6.10.1 **Crew Performance.**

2.6.10.1.1 **Select Crew for Report Screen.** To select the crew for which to generate a Crew Performance Report, perform the following:

- a. At the AFIST Main Screen, select Crew Performance from the Records Management Menu. The Select Crew for Report Screen, Figure 2-122, displays with the crew identification number and TC of each crew entered into the database.

- b. Click on the crew to highlight it in the list. If the desired crew is not displayed on the screen, use the options in the Record Menu to move through the list of crews in the database.
  - (1) Select First to display the first record in the database.
  - (2) Select Last to display the last record in the database.
  - (3) Select Next to display the next record in the database.
  - (4) Select Previous to display the previous record in the database.
- c. Click the Select button or Select on the Menu bar to display the highlighted crew's Crew Performance History Screen, described in 2.6.10.1.2.



**Figure 2-122. Select Crew for Report Screen**  
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2.6.10.1.2 Crew Performance History Screen. To view the Crew Performance History report for the selected crew, perform the following:

- a. At the Select Crew for Report Screen, click on the Select button or select Select from the Menu Bar. The Crew Performance History Screen, Figure 2-123, displays with the following data for the selected crew:
  - (1) Crew Performance Summary for. Displays the crew identification number of the selected crew.
  - (2) Croup. Displays the group number of the exercises that the crew has conducted. The displayed values are I, II, III, IV, V, VIA, or VIB.
  - (c) Qualified Date. Displays the time and date when the crew achieved at least a Qualified rating in each exercise conducted. If the crew has not earned at least a Qualified rating for the exercise, this field is empty.
  - (d) Exercise. Displays the exercise numbers of the exercises that the crew has conducted. The displayed values are 1, 2, 3, 4, 5, or 6.
  - (5) Terrain. Displays the terrain database which was used for each exercise. The displayed values are Desert or European.
  - (6) Exercise Mode. Displays the mode in which each exercise was conducted. The displayed values are Orientation, Training, or Evaluation.
  - (7) Attempts. Displays the number of times the crew has run this exercise, including the times not run to completion. The displayed values are numeric.

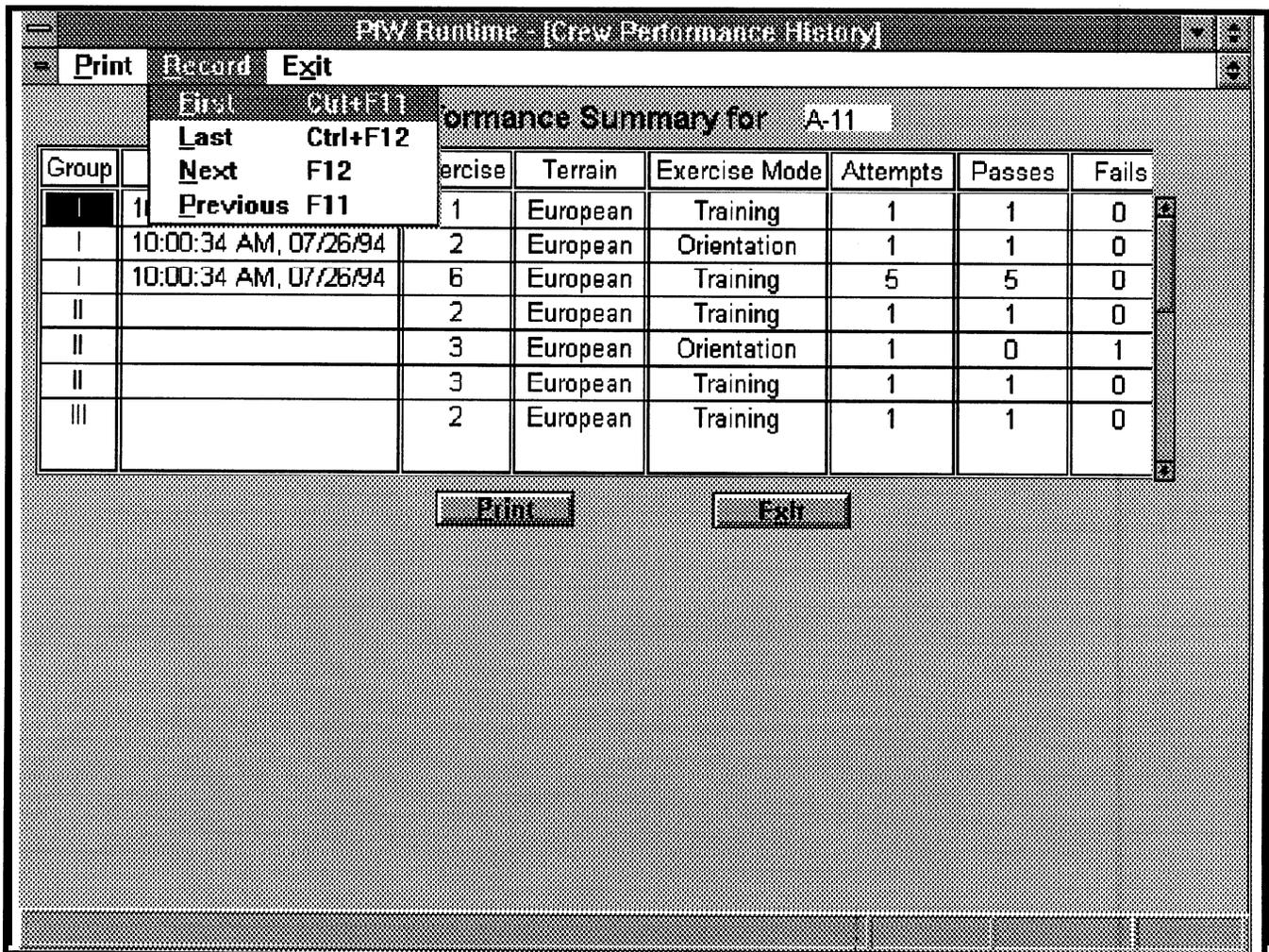


Figure 2-123. Crew Performance History Screen  
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### NOTE

Tasks terminated by the I/O are not counted as either a Pass or Fail.

- (8) Passes. Displays the number of times the crew passed each exercise (included in the number of attempts). The displayed values are numeric.
  - (9) Fails. Displays the number of times the crew failed each exercise (included in the number of attempts). The displayed values are numeric.
- b. View the Crew Performance Summary of other crews listed in the database using one of the following options:
- (1) Use the Records menu options,
    - (a) First. Select First to display the first record in the database.
    - (b) Last. Select Last to display the last record in the database.
    - (c) Next. Select Next to display the next record in the database.
    - (d) Previous. Select Previous to display the previous record in the database.
  - (2) Use the arrow or PgUp and PgDn keys on the keyboard.

### CAUTION

Once a print request is made, do not interrupt or cancel it. Using any method to interrupt or cancel a processing print request causes irretrievable loss of the current exercise data.

- c. Click on the Print button or select Print from the Menu bar to print the crew performance summary currently displayed on the Crew Performance History Screen.
- d. Click on the Exit button or select Exit from the Menu bar to exit the Crew Performance History Screen and return to the AFIST Main Screen.

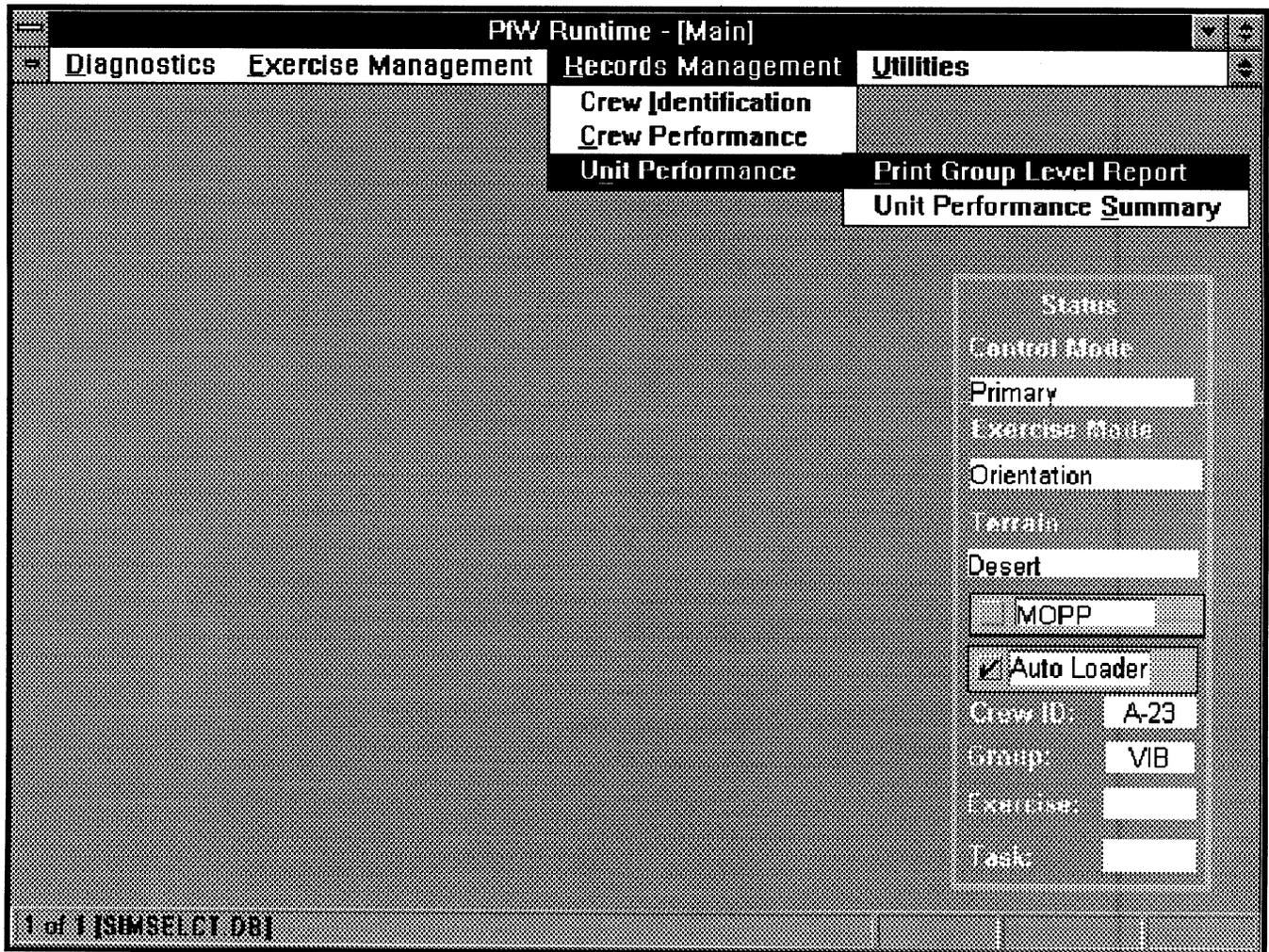
2.6.10.2 Unit Performance

2.6.10.2.1 Print Group Level Report. To generate a hard copy printout of the group rating of the currently selected crew, perform the following:

- a. At the AFIST Main Screen, select Unit Performance from the Records Management menu. The Unit Performance menu, Figure 2-124, displays.

**CAUTION**

Once a print request is made, do not interrupt or cancel it. Using any method to interrupt or cancel a processing print request causes irretrievable loss of the current exercise data.



**Figure 2-124. Unit Performance Menu**

b. At Unit Performances menu, 'select Print Group Level Report. The menu closes and the Crews Current Group Level Rating Report, Figure 2-125, prints with the following data:

(1) Crew Number. Displays the crew identification number of each crew entered into the database.

(2) Group Rating. Displays the group rating of each crew entered into the database. The displayed values are I, II, III, IV, V, VIA, or VIB.

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### CREWS CURRENT GROUP LEVEL RATING REPORT

Crew Number	Group Rating
A-1 1	VI A
A- 12	VI A
A-1 3	VI A
A- 14	VI A
A- 21	VI A
A- 22	VI A
<b>A-23</b>	VI A
A- 24	<b>VIA</b>
A- 31	VI A
<b>A-34</b>	<b>VIA</b>
<b>A-55</b>	<b>VIA</b>

**Figure 2-125. Crews Current Group Level Rating Report**

2.6.10.2.2 Unit Selection Screen. To select a unit for a unit performance summary, perform the following:

- a. At the Unit Performance menu, select Unit Performance Summary. The Unit Selection Screen, Figure 2-126, displays.
- b. Enter the unit identifier (A, B, C, HQ, etc.) to generate the performance summary of a specific unit.

### NOTE

Enter only the letters of the unit. Do not add a space or other punctuation or character before or after the unit's letter identifier.

- c. Click on the Select button to display the Unit Performance Summary Screen, described in 2.6.10.2.3, with the selected unit's data displayed.
- d. Click on the Exit button to exit the Unit Selection Screen and return to the AFIST Main Screen.

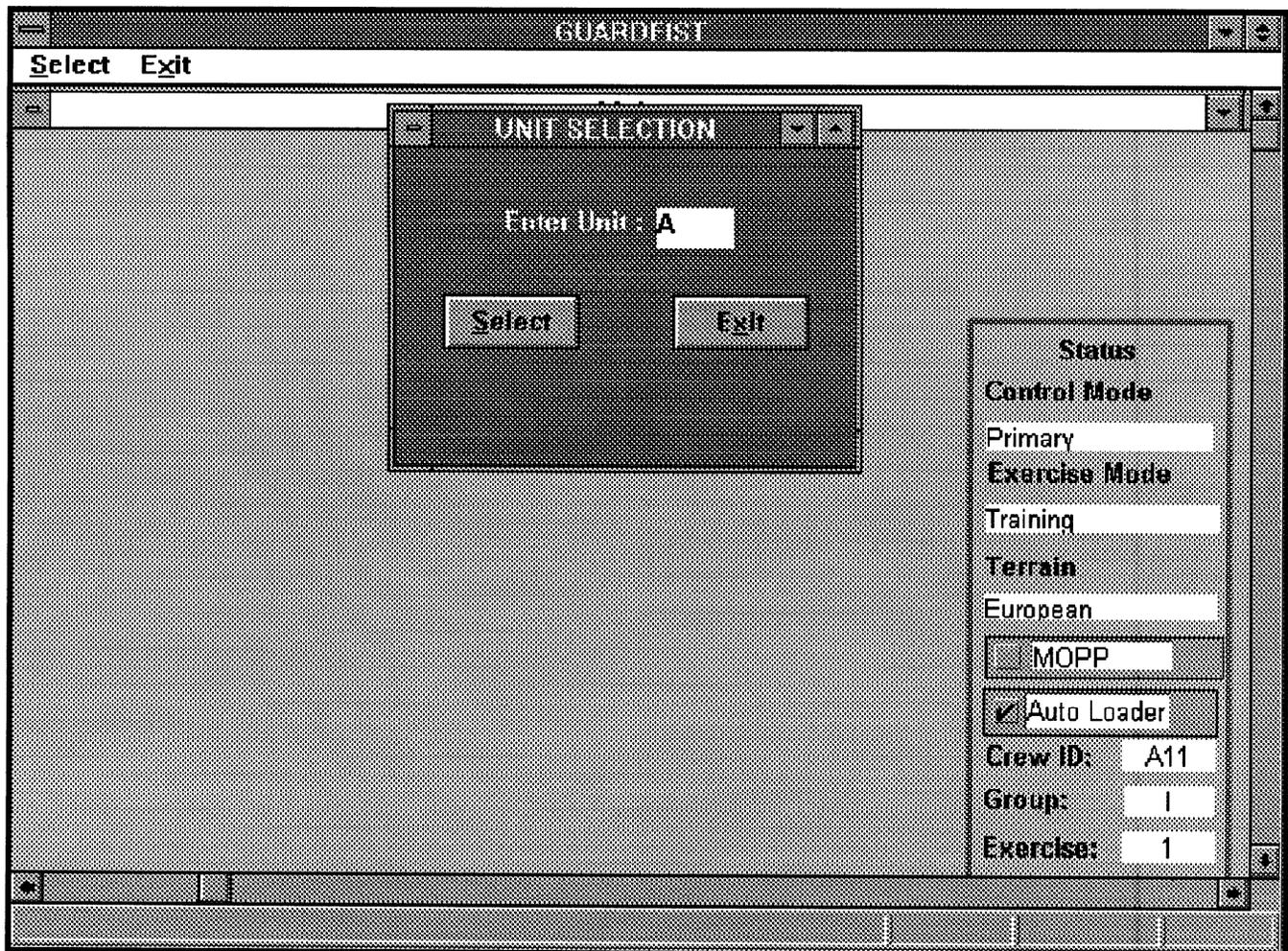


Figure 2-126. Unit Selection Screen

2.6.10.2.3 Unit Performance Summary Screen. To view the performance summary of the currently selected crew in the Unit Selection Screen, perform the following:

- a. At the Unit Selection Screen, click on the Select button. The Unit Performance Summary Screen, Figure 2-127, displays with the following data:

- (1) Crew. Displays the crew identification number of each crew in the unit. The crew identification number is a unique alphanumeric identifier assigned by the individual unit to identify a specific crew.

- (2) Croup. Displays the exercise group numbers. The displayed value is I, II, III, IV, V, or VI. Each group represents a training skill level and consists of related exercises with similar objectives. There are a total of six groups, each with six training exercises and three evaluation exercises. Croup I represents the least difficult or lowest level and Group VI the most difficult or highest level.

- (3) Date of Rating. Displays the time and date the crew earned its current rating (if any) in this exercise group.

Crew	Croup	Date of Rating	Score	Rating
C-11	I	08:07:12 AM, 11/30/94		Qualified
C-11	II	07:24:49 AM, 12/01/94		Qualified
C-11	III	07:24:49 AM, 12/01/94		Unqualified
C-11	IVA			
C-11	IVB			
C-11	V			
C-11	VIA			
C-11	VIB			
C-12	I	10:09:28 AM, 12/01/94		Unqualified
C-12	II			
C-12	III			
C-12	IVA			
C-12	IVB			
C-12	V			

Figure 2-127. Unit Performance Summary Screen

- (4) Score. Displays the numerical score the crew earned in Croup IV, VIA, and VIB Evaluation exercises. AFIST determines this score by subtracting the crew duties penalty points of the entire exercise from the total points the crew accrued in accordance with FM17-12-1, 2 Tank Table IV and VIII calculation sheets. The displayed value is 0 through 100.
- (5) Rating. Displays the rating the crew earned (if any) for this exercise group. The displayed value is Unqualified or Qualified (Croups I, II, III and V), and Unqualified, Qualified, Superior, or Distinguished (Croups IV, VIA, and VIB).



Once a print request is made, do not interrupt or cancel it. Using any method to interrupt or cancel a processing print request causes irretrievable loss of the current exercise **data**.

- b. Click on the Print button or select Print from the Menu bar to print the Unit Performance Summary.
- c. Click on the Exit button to exit the Unit Selection Screen and return to the AFIST Main Screen.





2.6.11.2.1 Backup Tape Screens. To create a backup tape of the AFIST database, perform the following:

- a. At the Tape Utilities screen, click on the Backup button or select Backup from the pull-down Options menu. The Backup Tape Request screen, Figure 2-129, displays.
- b. Insert the destination tape into the system controller tape drive.
- c. Click on the OK button. A series of messages displays indicating the progress of the backup process. The Tape Utility screen displays when the process is completed.

**CAUTION**

Creating a backup tape destroys **all** data on the destination backup tape and replaces it with the contents of the database.



Figure 2-129. Backup Tape Request Screen

2.6.11.2.2 **Restore Tape Screens.** To restore the AFIST database to the system controller hard drive from a backup tape, perform the following:

- a. At the Tape Utilities screen, click on the Restore button or select Restore from the pull-down Options menu. The Restore Tape Request screen, Figure 2-130, displays.

- b. Insert the backup tape into the system controller tape drive.

- c. Click on the OK button. A series of messages displays indicating the progress of the restoration process. The Tape Utility screen displays when the process is completed.

## CAUTION

# 1

Restoring a tape destroys **all** data in the database and replaces it with the contents of the backup tape. Make sure current data is not replaced by outdated data before performing these functions.

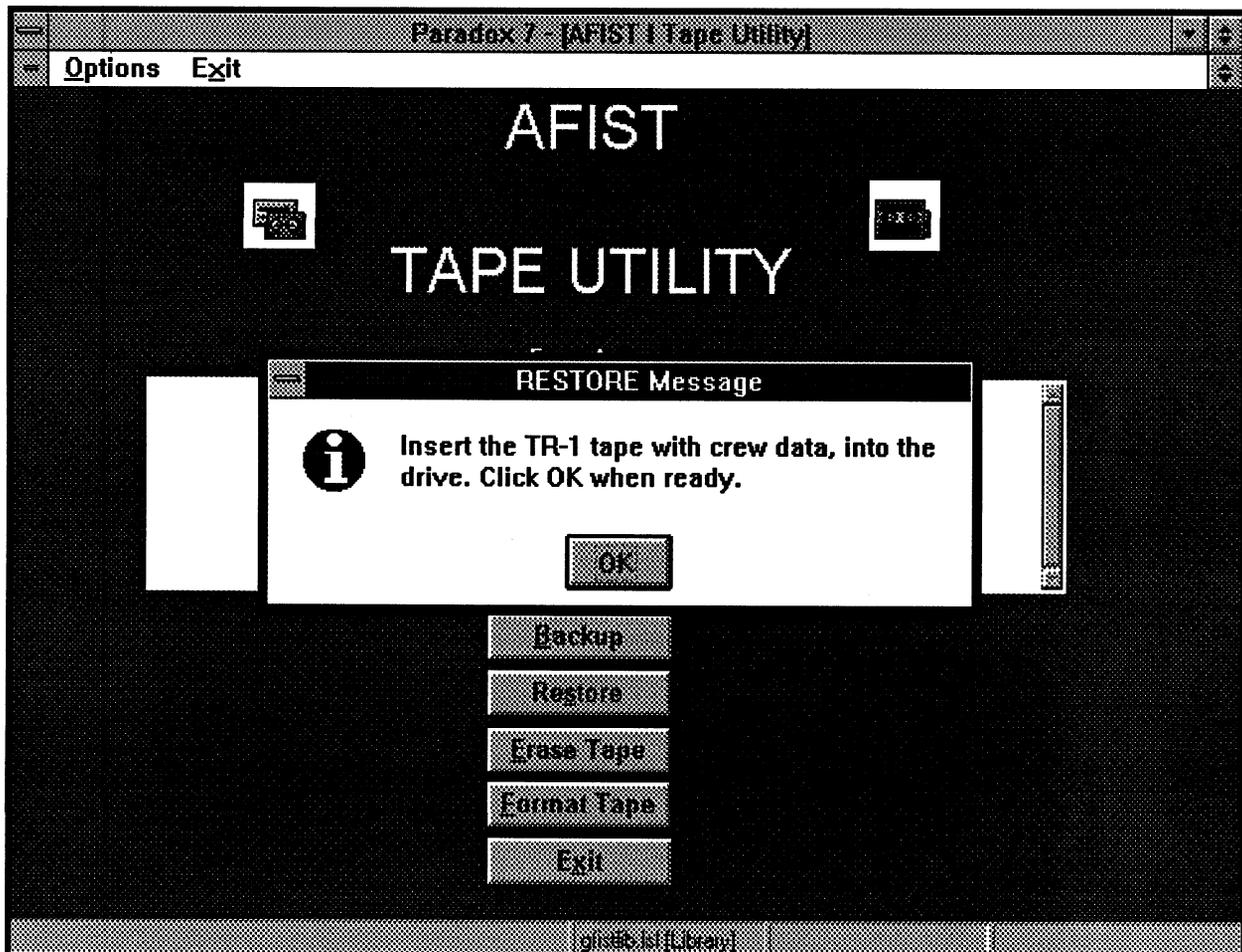


Figure 2-130. Restore Tape Request Screen

2.6.11.2.3 Erase Tape Screens. To erase data from a tape, perform the following:

- a. At the Tape Utilities screen, click on the Erase Tape button or select Erase Tape from the pull-down Options menu. The Erase Tape Request screen, Figure 2-13 1, displays.
- b. Inserting the tape to be erased into the system controller tape drive
- c. Click on the OK button. The Warning screen, described in 2.6.11.2.3.1, displays.



Figure 2-131. Erase Tape Request Screen

2.6.11.2.3.1 **WARNING Screens.** At the Erase Tape , Format Tape, Tape Restore or the Backup Tape Request screens, insert a tape then click on the OK button. The WARNING screen, Figure 2-132, 2-132a, 2-132b or 2-132c displays. This screen notifies the I/O of the consequences of the erase tape, format tape, tape restore and backup tape operations.

- a, Click on the Yes button to continue the Erase Tape, Format Tape, Restore Tape or the Backup Tape operation. A series of messages displays indicating the progress of the each process. The Tape Utility screen displays when the process is completed.

- b. Click on the No button to cancel the operation. The Canceling Erase Request and Backup Request Screens described in 2.6.11.2.3.2, displays if the WARNING screen was displayed as a result of an Erase Tape or Backup Tape request. The Canceling Format Request and Restore Tape Screens, described in 2.6.11.2.3.3, displays if the WARNING Screen was displayed as a result of a Format Tape or Restore Tape request.

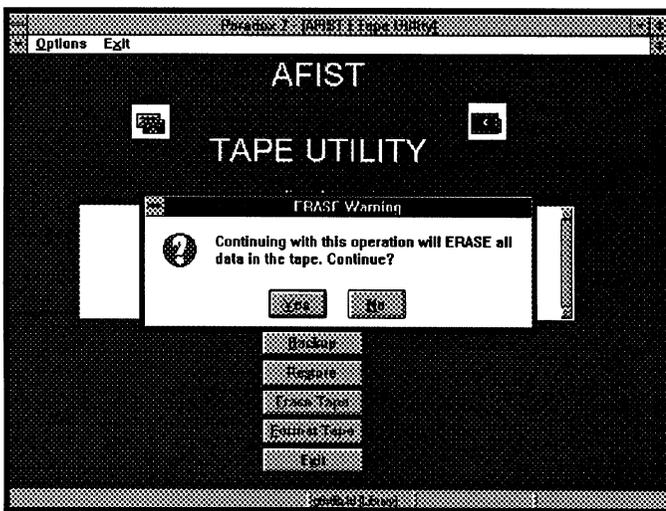


Figure 2-132. Erase Request Warning Screen



Figure 2-132a. Format Request Warning Screen

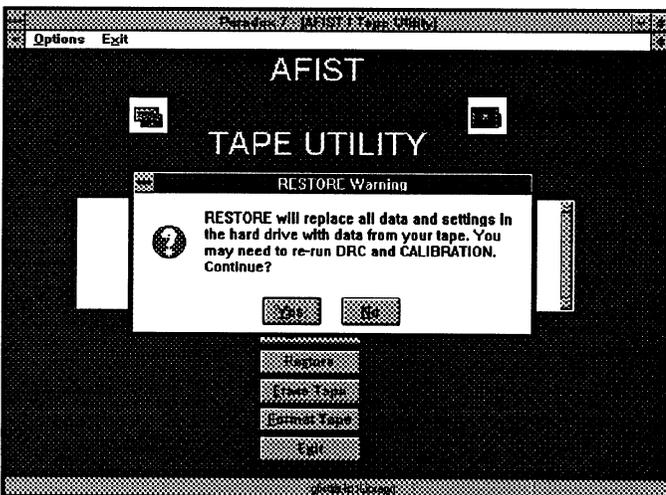


Figure 2-132b. Restore Request Warning Screen

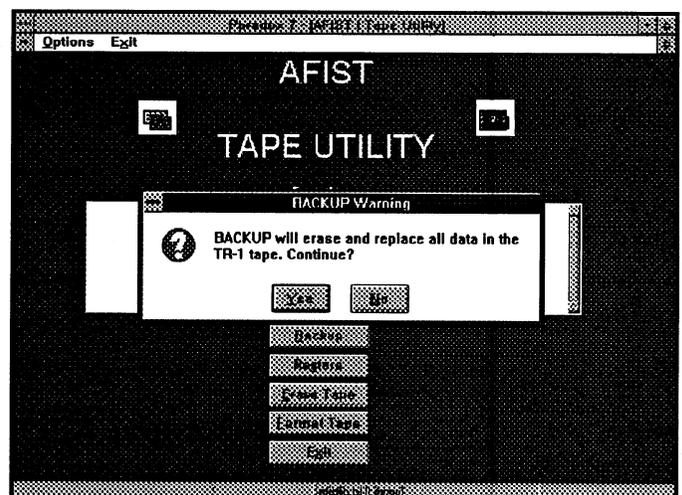


Figure 2-132c. Backup Request Warning Screen

2.6.11.2.3.2 Canceling Erase Request and Backup Request  
Alerts. Erase Tape Request or the Backup Tape Request Screen, click on OK. Then, at the WARNING Screen, click on NO. The Canceling Erase Request Screen, Figure 2-133 or the Canceling Backup Request Screen, Figure 2-133a, displays. These screens notify the operator that the Erase Tape Request or the Backup Tape Request is being canceled.

Click on the OK button to return to the Tape Utilities Screen without completing the Erase Tape Request or the Backup Tape Request.



Figure 2-133. Canceling Erase Request Screen

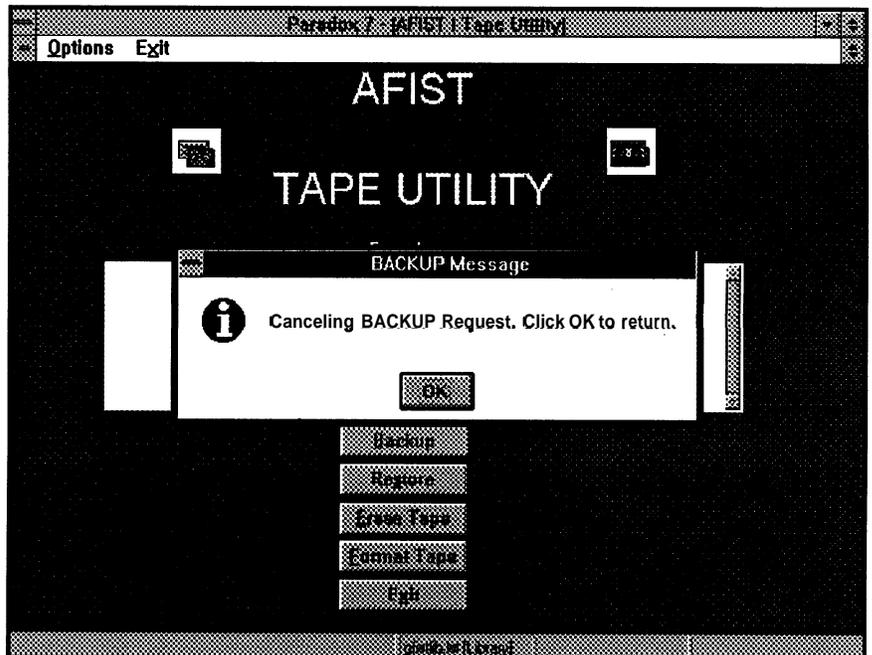


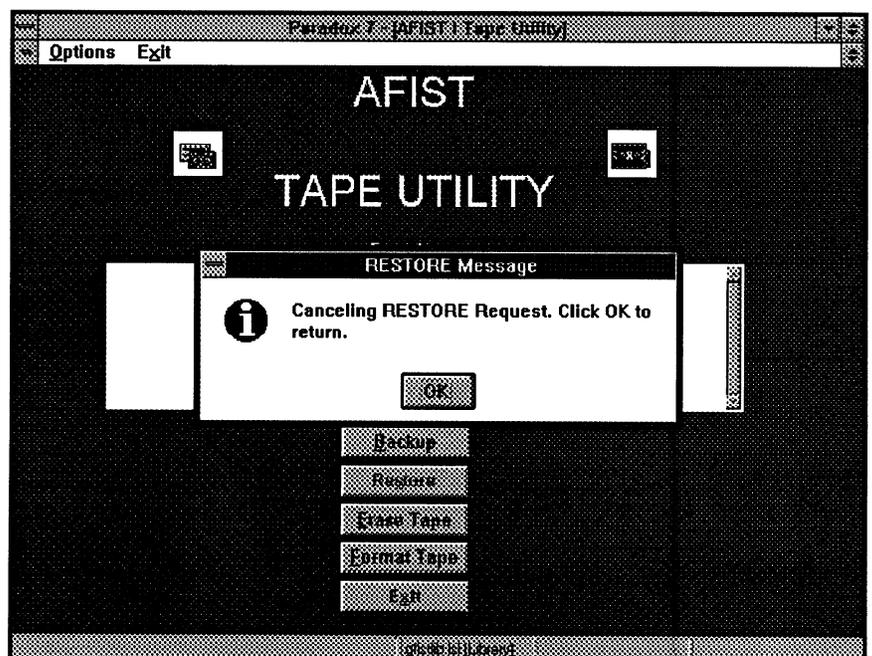
Figure 2-133a Canceling Tape Backup Screen

2.6.11.2.3.3 Canceling Format Request and Restore Tape Request Screens. At the Format Tape Request Screen or the Restore Tape Request Screens click on OK. Then, at the WARNING Screen, click on NO. The Canceling Format Request Screen, Figure 2-134 or the Canceling Restore Request Screen, Figure 2-134a, displays. These screens notify the operator that the Format Tape Request or the Restore Tape Request is being canceled.

Click on the OK button to return to the Tape Utilities Screen without completing the Format Tape Request or the Restore Tape Request.



**Figure 2-134. Canceling Format Request Screen**



**Figure 2-134a. Canceling Restore Request Screen**

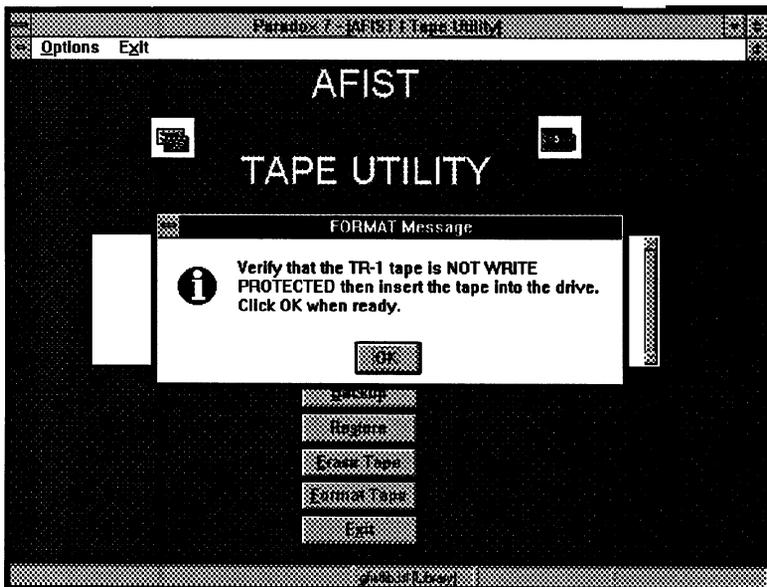
2.6.11.2.4 Format Tape Screen. To format a tape, perform the following:

- a. At the Tape Utilities screen, click on the Format Tape button or select Format Tape from the pull-down Options menu. The Format **Tape** Request screen, Figure 2-135, displays.
- b. Insert the tape to be formatted into the system controller tape drive.
- c. Click on the OK button. The Warning screen, described in 2.6.11.2.3.1, displays.

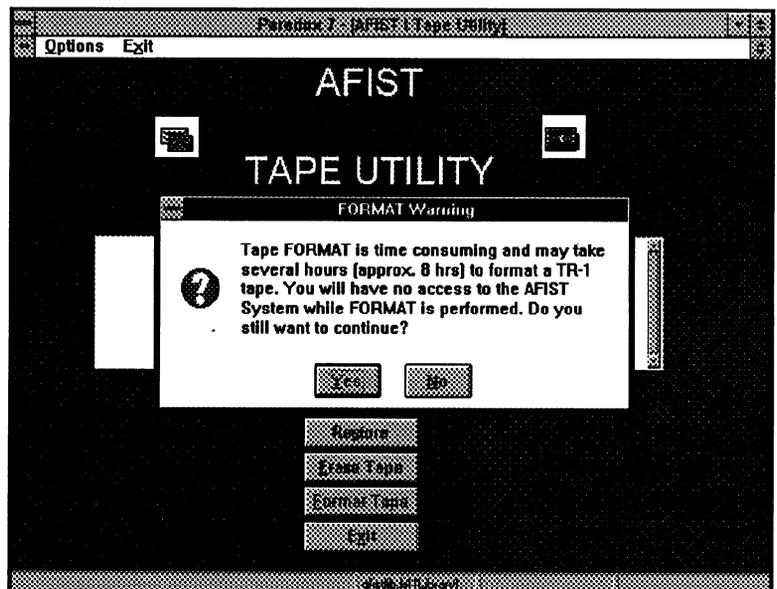
**CAUTION**

**Formatting a tape takes** approximately 1 hour. The system cannot be used for other operations while the tape is being formatted. Plan time accordingly.

- d. Click on the YES button to continue. The final Format Warning screen (see Figure 2-135a.) appears.



**Figure 2-135. Format Tape Request Screen**



**Figure 2-135a. Format Tape Warning Screen**

2.6.12 Backing Up the Sound Bank. To create a backup disk of the tank sound effects sound bank from a running AFIST I system, perform the following at the S/P, shown in Figure 2-136:

- a. Remove the sound bank disk from the S/P floppy disk drive and insert the back-up (destination) disk.
- b. Press the DISK button.
- c. If the destination disk is uninitialized (unformatted), format the disk as follows:

- (1) Press the +/INC or -/DEC button repeatedly until the *disk utilities* menu option displays on the LCD.
- (2) Press the EXEC button.
- (3) Press the +/INC or -/DEC button repeatedly until the *initialize flopd for SP sound storage* option displays.
- (4) Press the EXEC button. The LCD displays the following messages:

*this will wipe out everything on disk! are you fairly sure you want to do this?  
press <exec> button to continue  
press <disk> button to quit*

- (5) Press the EXEC button again. The LCD displays the following messages:

*disk initialization cannot be undone!last chance for you to reconsider!*

*press <exec> button to continue  
press <disk> button to quit*

- (6) Press the EXEC button again. The LCD returns to the *initialize flopd for sound storage* display.
- (7) Press the DISK button.

- d. Press the +/INC or -/DEC button repeatedly until the *save bank* menu option displays on the LCD.
- e. Push the EXEC menu button. The S/P LCD displays the following messages:

*I disk(s) needed...  
insert first disk...  
press <exec> button to continue...  
press disk button to quit...*

- f. Press the EXEC menu button again.
- g. The S/P LCD displays the following messages:

*saving...  
verifying...*

When the sound bank is loaded onto the destination disk, the displays flashes:

*operation complete*

then returns to the *save bank* screen.

- h. Remove the destination disk and replace the original sound bank disk in the floppy disk drive. Store the destination disk in a safe place.

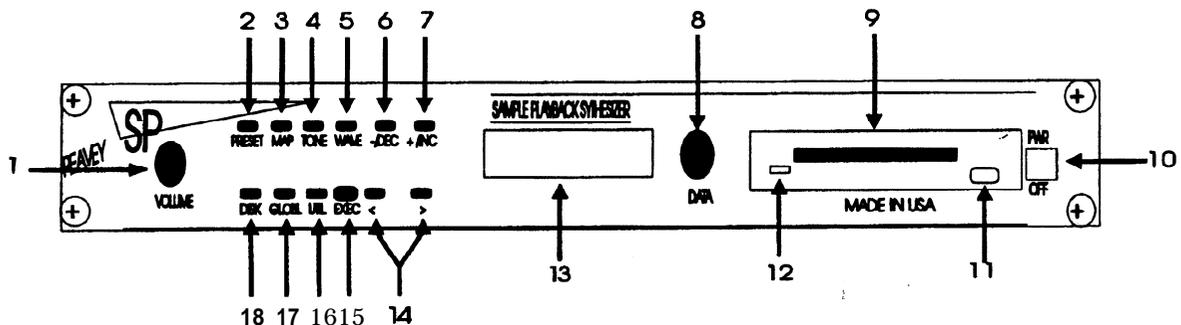


Figure 2-136. S/P Controls and Indicators

2.7 SHUTDOWN PROCEDURES.

To shut down the simulator, perform the following:

- a. Return to the **AFIST** Main screen.
- b. Select the **EXIT** option from the **DIAGNOSTICS** menu to safely shutdown the system. Wait until the system is safe to turn off.
- c. Place the active passkey (Instructor/ Operator or Tank Commander) on the I/O Control Panel in the **OFF** (12 o'clock) position.
- d. Place the **DOMELIGHTS POWER** switch in the **OFF** position. The **DOMELIGHTS POWER** light dims.
- e. Place the **MAIN POWER SWITCH** in the **OFF** position. The system shuts down, leaving the **24-Vdc** system operational for a short time. (This system provides power to the domelights and the Emergency off system. Instructions for turning this portion of the system off during disassembly are in 2.9.4.)

## 2.8 EMERGENCY PROCEDURES

The only emergency procedure for the **AFIST** simulator trainer is to cut off the source of electrical power to the simulator.

CUT OFF ELECTRICAL POWER TO THE SIMULATOR by using one of the three following methods:

a. Press the **EMERGENCY STOP** button at the **IOS**.

or

b. Press the **EMERGENCY OFF** push button on the **EMERGENCY OFF** device on the turret ceiling.

or

c. Disconnect the **120-Vac** and the **220-Vac** power cables at the external power source (wall outlet).

If the **AFIST** does not respond appropriately after an emergency power down or catastrophic power failure, refer to the Troubleshooting Guide in Chapter 3 to determine the cause of the problem and to implement recommended solutions.

2.9 DISASSEMBLY AND PACKING FOR STORAGE OR SHIPMENT.



Disassemble **AFIST** only after the system has been shut down at the **IOS**. If the system has not been shut down, do not proceed until shutdown has been completed. Death or serious injury may result from contact with high-voltage electrical connections.

Disassembly of the **AFIST** essentially takes place in the reverse order of the assembly process. As during assembly, disassembly is conducted by the I/O and a turret mechanic under the supervision of the I/O. Organize to remove components inside and outside the tank at the same time. When necessary, the team works together to hand large components down off the tank, or to move the containers which require a two-man lift. All of the team's work is checked by the I/O, especially inside the tank.

Many of the disassembly and packing procedures can be performed concurrently. The sequence prescribed here is the sequence that would be followed if only two persons were available to disassemble the simulator trainer.



If more than two people are working concurrently, coordinate the following actions:

- a. Ensure the GAS monitor mount And monitor have been moved From next to the main gun tube Before moving the main gun
- b. Ensure the Driver's monitor has been moved before opening the Driver's hatch.

2.9.1 Disconnecting the IOS. Disconnect the **IOS** according to the following steps.

**NOTES**

After initial installation, **IOS** components remain in the **IOS** racks between training. The **IOS** remains in position, with **120-Vac** power applied, until the domelight harness to the tank has been removed from the tank. The other cables leading to the **IOS** can be disconnected, however, and the separate components of the **IOS** packed before the final disconnect is made.

- a. Disconnect cables.
  - (1) Go to the **IOS** Interface Connector Panel on the back of the **IOS**.
  - (2) Disconnect the connectors, except main power cables **W1P1** and **W2P1**, ground cable, and domelight harness **W6P1**.
- b. Re-pack the headset in the drawer below the keyboard shelf.
- c. Store keyboard by sliding the shelf with the keyboard attached back into the **IOS**.

**NOTE**

The last steps in re-packing the **IOS** must wait until the domelight harness is dismantled from the tank and cables **W1P1**, **W2P1**, and **W2P1** are disconnected from the rear of the **IOS**.

### 2.9.2 Removing and Re-packing External Components Appended to the Tank.

#### CAUTION

During removal of the components appended to the outside of the tank, take particular care in handling and passing them down off the tank. This step requires care to ensure the monitor mounts and monitors are not damaged.

Removal of the external components generally takes place in the reverse order of installation.

- a. Remove the monitor cables. Disconnect the video and power cables leading to the Driver's, CWS, GAS, and GPS monitor mounts. As each cable is disconnected, hand it to a crewman on the ground to set aside until it can be packed.
- b. Remove monitor light shrouds and supports.
- c. Remove the monitor mounts and monitors.
- d. Remove the GAS collimator lens.
- e. Remove the GPS collimator lens.

2.9.3 Removing Components Inside the Tank. Removal of the AFIST components from inside the turret takes place in reverse order from installation. Remove them in the order prescribed in the following.

#### CAUTION

When removing simulator components from the tank, make sure to place them in a safe location until they

can be re-packed.

Be especially careful when reconnecting the **onboard** connectors which were disconnected to install the AFIST. Before pushing the connectors together, ensure that the keys and **keyways** in receptacles and connectors are aligned and that the pins in connectors are aligned with the holes in receptacles. When reconnecting, ensure that the connection has been securely made and tightened with the **keyed** retaining ring on the plug. Damage to the tank's components can occur if the connections are not properly made.

#### NOTE

When disconnecting a cable from an **onboard** connector, immediately **reconnect** the corresponding **onboard** component and place the protective cap on the end of the simulator cable.

#### 2.9.3.1 Disconnecting the Tank Interface Assembly and AFIST Gun Elevation lock.

#### WARNING

Before moving the **main gun**, ensure the GAS monitor mount and monitor have been moved from next to the main gun tube and that personnel on the tank have been alerted.

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- a. Dismount the **AFIST** gun elevation lock.
  - b. Remove the Tank Interface Assembly
    - (1) Manually depress the main gun to provide access to the Tank Interface Assembly.
    - (2) Disconnect all seven cables connected to the face of the Tank Interface Assembly.
    - (3) Remove the Tank Interface Assembly from the turret.
  - c. Remove Tank Interface cables **W5P2** and **W4P2** from the turret.
  - d. Reconnect the main **gun** or Ejection **Guard/SAFE/ARMED** Handle
    - (1) Reach under the main gun breech and disconnect the Gunner's Crew Station cable connector from the Ejection **Guard/SAFE/ARMED** Handle.
    - (2) Reconnect the **onboard** connector from the Ejection **Guard/SAFE/ARMED** Handle to the tank's wiring harness.
  - e. Disconnect and remove the speaker cable and speaker.
  - f. Reinstall the tank's elevation lock.
- 2.9.3.2 Loader's Station.
- a. Disconnect the cables from the Loader's Station in this recommended order:
    - (1) Disconnect the **AM-1780/VCR** Intercom Amplifier.
    - (2) Disconnect the Loader's intercom box cable.
    - (3) **AMMUNITION SELECT** switch facade (on the ammunition door).
    - (4) Disconnect the Loader's Knee switch.
    - (5) Disconnect the Loader's Control Panel.
    - (6) Disconnect the Loader's Breech switch facade.
  - b. Withdraw the Loader's Crew Station cable from its routing and remove it from the turret.
  - c. Remove the **AMMUNITION SELECT** Switch facade:
    - (1) Use an adjustable wrench to loosen the jamb nuts on the adjustable end of the facade.
    - (2) Remove the facade from the door support and the turret.
  - d. Remove the Loader's Breech Switch facade:
    - (1) Grasp the Loader's Breech Switch facade and pull it **firmly** away from the rear of the main gun breech.
    - (2) Remove the facade from the turret.
- 2.9.3.3. TC's Station.
- a. Disconnect the cables from the **TC's** station in this recommended order:
    - (1) Commander's Handle.
    - (2) CWS Power Control Handle.
    - (3) Commander's Panel.
    - (4) TC Keypad.
  - b. Withdraw the cable from its routing and remove it from the turret.
  - c. Disconnect the **M1A1** adapter cable from the cable assembly (**M1A1**).
  - d. Remove the **TC's** keypad:
    - (1) Grasp the keypad and pull it **firmly** away from the turret wall.
    - (2) Remove the keypad from the turret.
- 2.9.3.4. Gunner's Station.
- a. Disconnect Gunner's Crew Station cable **2W3** and components in this recommended order:
    - (1) Gunner's Power Control Handles.
      - (a) Remove the three bolts securing

front support and lower the sight.

the Gunner's Power Control Handles and remove the handles

- (b) Disconnect the AFIST connector and reconnect the onboard tank connector.
  - (c) Replace the handles and secure with the three bolts.
- (2) GPS Control Panel.
- (3) GAS Proximity Sensor.
- (a) Loosen the retaining knob on the GAS browpad.
  - (b) Remove the sensor from beneath the mounting knob.
  - (c) Disconnect the Gunner's cable from the sensor.
  - (d) Re-tighten the retaining knob.
  - (e) Remove the sensor from the turret.
- b. Withdraw cable 2W2 from its routing and remove it from the turret.
- c. Disconnect Gunner's Crew Station cable 2W1 in this recommended order:
- (1) Image Control Unit.
  - (2) Thermal Receiver Unit..
  - (3) GPS MAGNIFICATION Switch facade.
  - (4) GAS Reticle Select Switch facade.
  - (5) GAS Reticle Illumination knob.
- d. Withdraw cable 2W1 from its routing and remove it from the turret.
- e. Remove components in this recommended order:
- (1) GAS Reticle Select Switch facade,
    - (a) Elevate the main gun to lower the breech.
    - (b) Disconnect the GAS from the
  - (c) Disconnect the Gunner's cable from the facade.
  - (d) Using a 5/64-inch Allen wrench, loosen the two setscrews on the bottom side of the knob and remove the knob from the facade.
  - (e) Using a small Phillips screwdriver, loosen the two screws to the left of the knob, one above and one below it.
  - (f) Remove the facade by pulling it to the left and then straight off the knob shaft.
  - (g) Re-tighten the two screws to the left of the knob position.
  - (h) Loosen the setscrews on the shaft extension and remove the extension.
  - (i) Replace the knob. Use a 5/64-inch Allen wrench to secure the knob with the two setscrews.
  - (j) Remove the facade from the turret.
- (2) GPS Reticle Intensity Knob facade.
- (a) Using a small Phillips screwdriver, loosen the two screws on the right of the facade.
  - (b) Slide the facade mounting slots from beneath the loosened screws.
  - (c) Re-tighten the screws.
- (3) GPS FLTR./CLEAR/SHTR Switch facade,
- (a) Using a 5/64-inch Allen wrench, loosen the setscrew to the right and at the bottom of the knob on the GPS FLTR./CLEAR/SHTR switch facade.
  - (b) Pull the knob off.

2.9.3.5. Driver's Station.

- (c) Using a Phillips screwdriver, remove the two screws holding the GPS Control Panel just above and below the GPS FLOR./CLEAR/SHTR switch.
- (d) Remove the facade by pulling it straight off the switch shaft.
- (e) Using the Phillips screwdriver, replace and secure the two screws.
- (f) Replace the knob and use the Allen wrench to tighten and secure the two setscrews.

(4) LRF Switch facade.



Do not remove the Laser Safety Guard. With the Guard removed, the laser is operational and can cause blindness.

- (a) Turn the red protective cover at the top of the facade counterclockwise and remove it.
  - (b) Remove the facade from the control panel.
  - (c) Replace the protective cover over the connector and turn it clockwise to secure it.
- (5) GPS Magnification Switch facade.
- (a) Loosen the knurled knobs on the flange on the right side of the facade.
  - (b) Remove the facade cover from over the actual lever.
  - (c) Remove the facade from the turret.

**CAUTION**

Ensure the Driver's monitor mount and monitor are removed before opening the Driver's hatch and removing the Driver's station components.

**NOTE**

Before disconnecting the Driver's station components, open the Driver's hatch.

- a. Disconnect the Driver's Crew Station cable in this recommended order:
  - (1) Throttle control (connector 2DT101J1).
  - (2) Transmission Shift Control.
  - (3) Brake sensor.
  - (4) Steering sensor.

**NOTE**

Disconnecting the Driver's intercom may be necessary to gain access to the Driver's Master Control Panel connection.

- (5) Master Control Panel.
- b. Withdraw both branches of the cable from their routing and remove the cable from the turret.
- c. Remove the steering sensor assembly:
  - (1) Use a 5/64-inch Allen wrench to loosen and remove the wedge bolt from the fork forward of the Steer-Throttle Control housing.

- (2) Loosen and remove the clamping device from the actuating cylinder.
  - (3) Stow the Steer-Throttle Control.
  - (4) Remove the sensor assembly from the turret.
  - d. Remove the brake sensor assembly:
    - (1) Loosen the clamp securing the sensor to the service brake linkage shaft.
    - (2) Swing the bracket open and remove it from the brake shaft.
    - (3) Remove the sensor assembly from the turret.
- 2.9.4 Completing IOS Shutdown and Disconnecting the Domelight Harness. After all simulator components have been removed from the inside of the tank and all connectors have been reconnected, turn off, disconnect, and remove the domelight harness and the Turret Emergency Power Off switch according to the following steps.
- a. Shut off the **24-Vdc** power at the I/O Control Panel:
    - (1) From the **AFIST** main screen, select the EXIT option from the DIAGNOSTICS menu. Wait until the system is safe to turn off.
    - (2) Locate and press the EMERGENCY STOP button. The 24V POWER SUPPLY STATUS light dims. The IOS is completely shutdown.
    - (3) Disconnect the domelight harness from the IOS Interface Connector Panel.
  - b. Driver's station
    - (1) Disconnect the connector from the domelight harness and reconnect the **onboard** domelight connector.
    - (2) Remove the cable from the Driver's compartment.
  - c. Gunner's station
    - (1) Disconnect the connector from the domelight harness and reconnect the **onboard** domelight connector.
  - (2) Place the cable on the breechblock of the main gun.
  - d. TC's station
    - (1) Disconnect the connector from the domelight harness to the Commander's domelight and reconnect the **onboard** domelight connector.
    - (2) Place the cable on the breechblock of the main gun.
  - e. Turret Emergency Power Off Switch
    - (1) Disconnect the connector from the domelight harness cable to the Turret Emergency Power Off Device.
    - (2) Place the cable on the breechblock of the main gun.
    - (3) Grasp the switch **firmly** and pull it away from its position on the turret ceiling.
    - (4) Remove the switch from the turret.
  - f. Loader's station
    - (1) Disconnect the connector from the domelight harness to the Loader's domelight and reconnect the **onboard** domelight connector.
    - (2) Place the cable on the breechblock of the main gun.
  - g. Secure the five individual cable leads from the domelight harness and remove them from the turret.
  - h. Facility power cables.
    - (1) Disconnect facility power cables **W1** and **W2** from the facility power outlets.
    - (2) Disconnect cable **W1** from the IOS Interface Connector Panel.
    - (3) Disconnect cable **W2** from the IOS Interface Connector Panel.
    - (4) Disconnect ground cable.
- 2.9.5 Repacking AFIST Components. Repacking the individual containers is a reverse process of unpacking. Replace each component in its designated position in its shipping/storage case, and

replace the packing material around the component.



Ensure all six doors are closed and secured before attempting to move the IOS. Swinging doors **may** cause personal injury and damage to equipment.



Remove the wheel chocks and release the parking brake only when preparing to move the tank. Removing the wheel chocks can allow the tank to move, resulting in death or injury to personnel and damage to equipment.

2.9.6 Restoring the Tank for Normal Operation. Restore the tank to normal operation according to the following steps:

- a. Restore the machine gun spare barrel rack at the Loader's station.
- b. Replace the five-pronged tray ("Five Fingers of Death") to the top of the breech. (**See** the Operator's Manual appropriate for the tank in use.)
- c. Replace the aft cap base stub deflector to the top of the breech. (See the Operator's Manual appropriate for the tank in use.)
- d. Turn the CWS to the front. And replace the **eyebolt**.
- e. Reconnect the battery bus bar. (See the Operator's Manual appropriate for the tank in use.)

- f. Remove the wheel chocks if preparing to immediately move the tank.
- g. Conduct the tank Before Operations Check. Refer to the Operator's Manual appropriate for the tank model in use.