

INSTITUTE FOR INFORMATION TECHNOLOGY APPLICATIONS

United States Air Force Academy, Colorado

OPS TEST: Operational Testing and Evaluation Support Tool

**Volume II:
Administrator's Manual**

Report Documentation Page

Form Approved
OMB No. 0704-0188

Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

1. REPORT DATE 2000		2. REPORT TYPE		3. DATES COVERED 00-00-2000 to 00-00-2000	
4. TITLE AND SUBTITLE OPS Test: Operational Testing and Evaluation Support Tool: Volume II: Administrator's Manual				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) United States Air Force Academy, Institute for Information Technology Applications, USAFA, CO, 80840				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

APPROVED FOR PUBLIC RELEASE. DISTRIBUTION
UNLIMITED.

INSTITUTE FOR INFORMATION TECHNOLOGY APPLICATIONS

Vol II: OPS TEST Administrator's Manual

Lt Col Steven M. Hadfield, USAF

**© Department of Mathematical Sciences
2354 Fairchild Drive, Suite 6D2
United States Air Force Academy, CO 80840
Phone 719.333.4470 • Fax 719.333.2114**

TABLE OF CONTENTS:

INTRODUCTION	1
INTENDED AUDIENCE	1
SYSTEM REQUIREMENTS	2
OVERVIEW	2
INSTALLATION AND SUPPORT	5
OPS TEST TEST-TAKING INSTALLATION	5
OPS TEST ADMINISTRATION INSTALLATION	6
OPS TEST SUPPORT	6
PROBLEM RESOLUTION AND SUGGESTIONS	7
OPS TEST POINTS OF CONTACT	8
TEST ITEM MAINTENANCE	9
OVERVIEW OF TEST ITEM MAINTENANCE	9
SELECTING TEST ITEMS FOR MAINTENANCE	10
TEST ITEM MAINTENANCE FORM	11
BUILD AND MAINTAIN TESTS	17
BUILD/MAINTAIN TESTS MENU FORM	17
<i>Dealing with Master Tests</i>	18
<i>Dealing with Specific Tests</i>	18
MASTER TEST FORM	19
<i>Specifying Master Test Information</i>	23
<i>Adding New Test Items to a Master Test</i>	23
<i>Viewing and Deleting Test Items from a Master Test</i>	24
<i>Reordering Test Items Within a Master Test</i>	24
<i>Previewing a Master Test</i>	24
SPECIFIC TEST FORM	26
<i>Making Specific Tests (from a Master Test)</i>	28
<i>Password Protection on Specific Tests</i>	29
<i>Establishing an Ordering of Test Items</i>	29
<i>Resetting a Specific Test</i>	29
<i>Previewing/Reviewing a Specific Test</i>	29
<i>Printing Hardcopies of Specific Tests and Results</i>	30
VIEWING TEST RESULTS	31
SELECTING TEST RESULTS AND STATUS	31
VIEW SPECIFIC TEST RESULTS FORM	32
TEST ITEM ANALYSIS	34
SELECTION OF TEST ITEMS TO ANALYZE	34
TEST ITEM ANALYSIS FORM	39
FORMAL TEST TAKING	37
STARTING A FORMAL TEST	37
ANSWERING FORMAL TEST ITEMS	39

COMPLETING FORMAL TESTS _____	40
MONTHLY TRAINING TESTS _____	41
TAKING A MONTHLY TRAINING TEST _____	41
ANSWERING MONTHLY TRAINING TEST QUESTIONS _____	42
ON-LINE ACCESS TO MASTER QUESTION FILE _____	44
SELECTING MQF QUESTIONS _____	44
ANSWERING MQF QUESTIONS _____	45
ESTABLISHING AND MAINTAINING CONFIGURATION OF THE OPS TEST DATABASE _____	47
INSTALLING THE BACK-END DATABASE _____	47
OPS TEST CONFIGURATION SETTING _____	48
UPDATE PERSONNEL INFO _____	48
CONFIGURE TASK CODES _____	49
CONFIGURE CENTERS _____	50
CONFIGURE CREW POSITIONS _____	50
CONFIGURE MENU SETTINGS _____	51
CONFIGURATION PASSWORD _____	51
BACKEND DATABASE PASSWORD _____	52

Introduction

What is the OPS TEST Application?

The Institute for Information Technology Applications' Operational Test and Evaluation Support Tool (OPS TEST) is an automated testing environment that includes a repository of training and evaluation test items and tests. Specific functions provided are:

- Ability to add new and update existing test items, which are held as Microsoft Word documents with their associated reference information.
- Ability to build new and maintain existing master tests and to create specific instances of these tests for crew members to take.
- Ability to selectively retrieve, track, and record test results.
- Ability to selectively analyze the performance of specific test items to assess their quality and effectiveness.
- Ability of crew members to take formal training and evaluation tests on-line with automatic grading and feedback to the test-taker.
- Ability of crew members to access the Master Question Files and to build and take practice tests from these files with immediate feedback on each question.

Intended Audience

This manual is intended for several audiences to include:

- **Test Administrators:** Primarily training and standardization/evaluation personnel responsible for building, maintaining, tracking, and analyzing formal tests. These individuals will be interested in the entire manual.

- **Testbank Maintainers:** Those tasked to maintain the OPS TEST database. These individuals will be interested in the entire document.

Test-takers would be interested in Chapters 7, 8, and 9 of this manual, but are better served by the OPS TEST Test-Taker's Manual (Volume III in the OPS TEST documentation), which is specifically designed for their needs.

System Requirements

OPS TEST is an Access 97 application intended to run within a Microsoft Office 97 environment to include an installed version of Access 97. OPS TEST requires a Windows 95/98/NT/2000 capable personal computer, preferably a Pentium (or faster) with at least 16MB of main memory (RAM) and 3MB of available disk space. A monitor running with a resolution of at least 800 X 600 is also assumed. Using a lower resolution will result in some forms not being fully displayed and accessible.

Overview

The OPS TEST consists of two primary areas: Administration and Test-Taking. OPS TEST Administration is oriented toward the standardization/evaluation and training personnel responsible for the development of training and evaluation tests. In fact, there are two different versions of OPS TEST Administration, one for standardization/evaluation and one for training. The standardization/evaluation version allows access to all questions in the testbank, however, the training version disallows access to the questions in the "Eval" category.

The OPS TEST Administration functions are under the START|PROGRAMS|OPS TEST ADMINISTRATION menu from Windows.

Once within the OPS TEST Administration program, the main menu shown in Figure 1.1 is available and provides access to 1) add new and update existing test items, 2) build and maintain existing master tests and specific tests made from the master tests, 3) view the results and status of pending specific tests, and 4) perform analysis of how particular test items have performed across their usages. The test building paradigm is for master tests to be build once and then copies made of this master test to be taken by specific crew members (specific tests).

The OPS TEST Administration software also provides menu bar functions to configure parameters for the forms and to maintain common information like personnel data, task codes, operations centers, and crew positions. These functions are further described in Chapter 10.

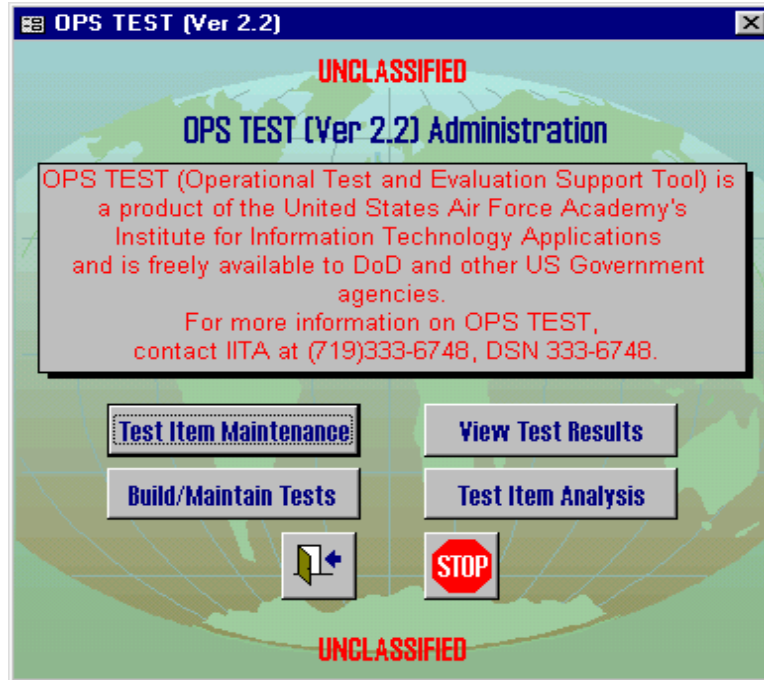


Figure 1.1: OPS TEST Administration Main Menu

The crew member test-taking program is accessed via the Windows' START|PROGRAMS|OPS TEST TEST-TAKING menu. The main test-taking menu is shown as Figure 1.2. The first button provides access to the formal training and evaluation specific tests created for crew members. These tests are uniquely build for individual crew members and are password protected for security. When taking these tests, crew members are presented with one test item at a time and are allowed to move back and forth through the entire test answering or not answering test items as they prefer. Specific buttons provide

quick access to un-answered test items. When the test-taker has completed the test, they press a button to have it graded. If they have any un-answered test items, they are given the opportunity to go back and answer them prior to grading. Once the test-taker has the test graded, they are told their score and given the opportunity to review any test items they missed. This review shows them both their answer and the correct answer together with the associated reference and feedback information for the test item.

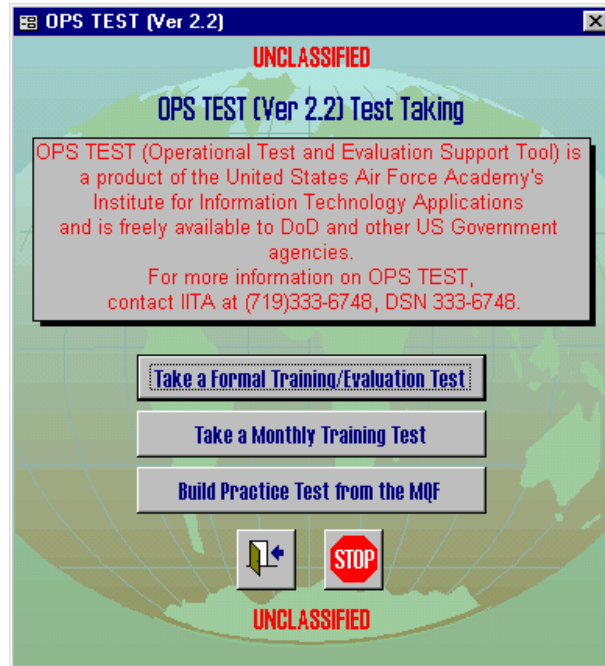


Figure 1.2: Main Test-Taking Menu

The second option provides access to training tests that are designed to be created from a master test upon demand. These tests have more flexibility in that they do not need to be built for specific individuals ahead of time and may be set to be re-entered multiple times.

The third test-taking option is for crew members to access the Master Question File (MQF) on-line. In this function, they are provided a query form to use in selecting test items from the MQF. They then answer these questions one at a time and are provided immediate feedback as to whether or not they correctly answered the test item. If they answered incorrectly, they are provided both associated references and the item's feedback information. They are also provided a final summary of their results to include an overall score for that set of test items.

Installation and Support

How do I get OPS TEST up and running? What do I do if I need help?

As mentioned in Chapter 1, there are two parts to the OPS TEST. OPS TEST Test-Taking provides an automated mechanism for taking formal training and evaluation tests, monthly training tests, and for accessing the Master Question File for answering practice test questions. The other part of OPS TEST is OPS TEST Administration, which is only accessible to standardization/evaluation and training personnel. Installation procedures for both parts are provided below.

These instructions assume that you have the OPS TEST database installed and configured on your network. If this is not the case, you need to perform the initial database installation and configuration procedures described in Chapter 10 of this document.

OPS TEST Test-Taking Installation

Installation of OPS TEST Test-Taking can be accomplished using the installation compact disk (CD). To accomplish installation of OPS TEST Test-Taking via the CD use the instructions below:

1. Place the OPS TEST Test-Taking installation CD into your CD-ROM drive.
2. Select START|RUN from Windows and enter:
"d:\TestTaking\Setup.exe" (replace the "d:" as appropriate if your CD-ROM uses a different device letter).
3. Select all the default options presented to you.
4. When you initially start up the OPS TEST Test-Taking program, you will be prompted for the location of the OPS TEST Backend Database. Your OPS TEST Administrator will provide you with this path/location. You may also be prompted for a password for the

OPS TEST Backend Database. This also can be provided by your OPS TEST Administrator.

OPS TEST Administration Installation

Installation of OPS TEST Administration is only provided to appropriate standardization/evaluation and training personnel and thus the installation CDs are tightly controlled and the program is password-protected. Furthermore, there are separate versions of OPS TEST Administration for standardization/evaluation and training. You'll need to see personnel in those offices for access to the installation CDs and the initial passwords. Once you have the CD, you can install OPS TEST Administration via the instructions below. Also, they may have a copy of the installation CD on their restricted access shared drives. See them for exact locations.

Once you install OPS TEST Administration and open it using the initial password, you can change the password on your installation via functions within the Administration software.

1. Install the OPS TEST Administration installation CD into your CD-ROM drive.
2. Select START|RUN from Windows and enter:
"d:\EvalAdmin\Setup.exe" or "d:\TrngAdmin\Setup.exe" depending on whether the evaluation or training version of the Administration component is to be installed. Replace the "d:" with the drive letter of your CD-ROM as necessary.
3. Select all the default options presented to you.
4. When you initially start up the OPS TEST Administration program, you will be prompted for the location of the OPS TEST Backend Database. Your OPS TEST Administrator will provide you with this path/location. You may also be prompted for a password for the OPS TEST Backend Database. This also can be provided by your OPS TEST Administrator.

OPS TEST Support

The Institute for Information Technology Applications (IITA) can provide some key support to assist those organizations that adopt the OPS TEST application. Specifically, IITA is prepared to provide:

- Master and backup compact disks that include the setup programs for both the OPS TEST Administration and Test-Taking software

components, an empty database, and electronic copies of both the OPS TEST Administration and Test-Taking manuals. Upon request, IITA can include separate versions of the OPS TEST Administration components for the training and standardization/evaluation functions where the training version is precluded from accessing tests or test items in the "Eval" category.

- On-site installation and initial training support by one IITA technical support person. This support would typically include a 2-3 day TDY funded by the adopting unit.
- Several hardcopies of the OPS TEST Administration and Test-Taking user manuals together with PowerPoint training slides and electronic versions of the same.
- Updated version releases of the OPS TEST Administration and Test-Taking software to keep OPS TEST current with subsequent releases of Microsoft Office (specifically Word and Access). Software releases may also include problem resolutions and functional enhancements possibly including items identified by the adopting unit. However, IITA will serve as the final software configuration management authority and will make all decisions regarding what is and is not included in subsequent software releases.
- Review of current test items and training on effective test item development. This support would also be funded by the adopting unit and could be accomplished in conjunction with the initial installation.
- Limited telephone technical support for user and configuration issues based on the availability of IITA technical support personnel. (However, IITA cannot guarantee such availability).

IITA will provide the support mentioned above until at least the summer of 2001. At this time, IITA will evaluate the extent of OPS TEST usage and formulate continuing support plans as they deem appropriate.

Problem Resolution and Suggestions

If you find problems with the OPS TEST software or have suggestions to improve the application, you can use the contact information below to provide the details of your problem or suggestion to the IITA Technical Support Staff. This is best accomplished via an email or postal mail to IITA. You should provide a detailed description of the problem or

suggestion, version of OPS TEST that you are running (available on the main menus), description of the computer and network you are running on, and version of the Windows operating system you are using. Also provide contact information to include your name, phone, and email, so that the technical staff can get further information as needed.

OPS TEST Points of Contact

Further information and support on OPS TEST can be obtained from the following contacts at the Institute for Information Technology Applications (IITA):

- **Suggestions & Problem Resolution:** Current Managing Director of IITA, (719) 333-6748, DSN: 333-6748, email: iita@usafa.af.mil
- **OPS TEST Project Leader:** Dr. Steve Hadfield, (719) 333-7474, DSN: 333-7474, email: steve.hadfield@usafa.af.mil
- **Educational Information Technologies Director:** Dr Eric Hamilton, (719) 333-8325, DSN 333-8325, email: eric.hamilton@usafa.af.mil

Or via mail to: IITA, HQ USAFA/DFE, Suite 4K25
USAF Academy, CO 80840-6200

Test Item Maintenance

How do you add new and update existing test items?

The main OPS TEST Administration menu (shown in Figure 1.1) provides four primary functions including **Test Item Maintenance**, **Build/Maintain Tests**, **View Test Results**, and **Test Item Analysis**. This chapter discusses the first of these functions that of maintaining test items. This includes the ability to selectively access and update existing test items as well as to add new test items.

Overview of Test Item Maintenance

The **Test Item Maintenance** button on the main OPS TEST Administration menu provides access to a query form from which you can selectively access test items to review and/or update. You can also go directly to add new test items from this form.

Individual test items are shown with all their reference information on a two-page form. On the first page are the actual test item (held as a Word document) with its unique Item # and other information like its associated task code, classification, dates created and last reviewed, Instructional Systems Development (ISD) proficiency/knowledge level, number of choices, correct answer, governing regulation, and category. All but the Item # can be changed and there are pull-down lists of currently used values most all of these fields. The second page provides access to the feedback information presented to test-takers when they incorrectly answer the item, some Test Administrator comments on the test item, associated multimedia clips, and a list of centers and positions that this test item is associated with. Command buttons on this form allow the user to move between pages of the form, mark the item as reviewed as of the current day, bring up a summary of how the test item has performed in previous usages, find another test item based on a selected field's value, add a new test item, save changes to the current test item, print the current test item with its reference information, un-do the last set of changes to the item, delete the test item, and exit the form.

Selecting Test Items for Maintenance

When the **Test Item Maintenance** button on the main OPS TEST Administration menu is clicked, the query form found in Figure 3.1 is displayed and the user can use it to selectively bring up the test items they want to review and/or update. Most fields on this form have pull-down lists to select from. You can also go directly to values in these lists by beginning to type the value you are looking for. Furthermore, some of the fields allow for wildcard selections where some characters are specified but “?” and “*” can also be included to represent one or several unspecified characters, respectively. For example, a value of “NORAD*” in the References field would bring up all test items whose associated reference starts with “NORAD” followed by whatever.

In general, all criteria specified on this selection form must be satisfied by the test items to be returned. The one exception to this rule is Center and Position. Since positions are typically tied to a center, specification of both a Center and a Position (from a different center) will return test items associated with the center OR with the position. If you do not have evaluator privileges (the standardization/evaluation version of OPS TEST Administration), you will automatically be excluded from accessing any test items whose Category starts with “Eval”, that is, you can not access evaluation questions. To get details on the usage and format of the fields in the query form, simply place your cursor over the field and a caption box will appear with a description of that field.

Figure 3.1: Select Test Items for Maintenance Form

Test Item Maintenance Form

Once any desired selection criteria has been specified, click on the **Retrieve Selected Test Items** button to bring up the test items. If you wish to add new test items to the Testbank, click on the **Add New Test Items** button which will disregard any specified selection criteria and bring up a blank copy of the Test Item Maintenance form.

Existing test items selected for review/update and new items to be added to the Testbank are shown via the two-page Test Item Maintenance form shown in Figures 3.2 and 3.3. The fields on this form are labeled and fairlyself-explanatory.

Figure 3.2: Test Item Maintenance Form

The first is Item # which is a unique numeric identifier for each test item that is automatically assigned by the system and can not be changed by the user. The other fields are:

- **Task:** Task code that identifies the area addressed by this test item. The associated pull-down list has a complete listing of all task codes that have been set in the configuration of the system.

- **Classification:** Security classification of the test item. The pull-down list shows the allowed values.
- **Created:** The date the test item was created (or at least when it was added to the Testbank).
- **Reviewed:** The date the test item was last reviewed and validated by a Testbank Administrator.
- **Proficiency:** The Instructional Systems Development (ISD) proficiency/knowledge level with values A-D indicates the level at which the item tests the topic.
- **# Choices:** The number of choices provided for the test item (a multiple choice format is assumed of all test items). The value in this field is used for subsequent test-taking to determine how many choices to enable for this test item. Thus it is important that this value match the number of options in the actual test item. There must be at least two choices and no more than five.
- **Correct Answer:** Correct answer for the test item with the assumption that the choices are labeled with letters of the alphabet.
- **Governing Regulation, Operating Instruction, Other Guidance:** The authoritative reference for this test item. This information will be displayed to the test-taker as feedback if they incorrectly answer the test item.
- **Category:** Identifies the type of test item this is. **Some special values in this field are keyed in on by OPS TEST. Specifically, values that start with "Eval" are used to identify evaluation test items to which those without evaluator privileges cannot get access. Values that start with "MQF" are used to identify Master Question File test items that may be accessed by anyone for taking practice tests.**
- **Dormant?:** Is a yes/no box that, if checked, means the test item is no longer in use.
- **Actual Test Item:** The actual test item is held as a Word document in the large box in the center of the form. You can double click within this box to activate Word operating on the actual test item. In this way, you can update the test item using all the capabilities of Microsoft Word. When adding a new test item, this box will be empty and a double-click inside of it will cause a test item template to be copied in and Word to

be activated so you can type in the new test item. As these test items are Word documents, they can hold any images, equations, or graphics that can normally be included within Word documents.

On the second page of the Test Item Maintenance form (shown in Figure 3.3), there are the following fields:

- **Feedback to Test-Takers:** Text, in open memo format, that will be displayed to the test-taker if they incorrectly answer the test item.
- **Hyperlink Ref:** This field can be used to specify a link to a file or URL (Universal Resource Locator) that contains additional information pertaining to the test item that is provided to the test-taker if they incorrectly answer the item.
- **Test Administrator Comments:** Any comments that the Testbank Administrators would like carried with the test item. These are only visible to the Testbank Administrators and are to be used in whatever way they see fit (or not at all).

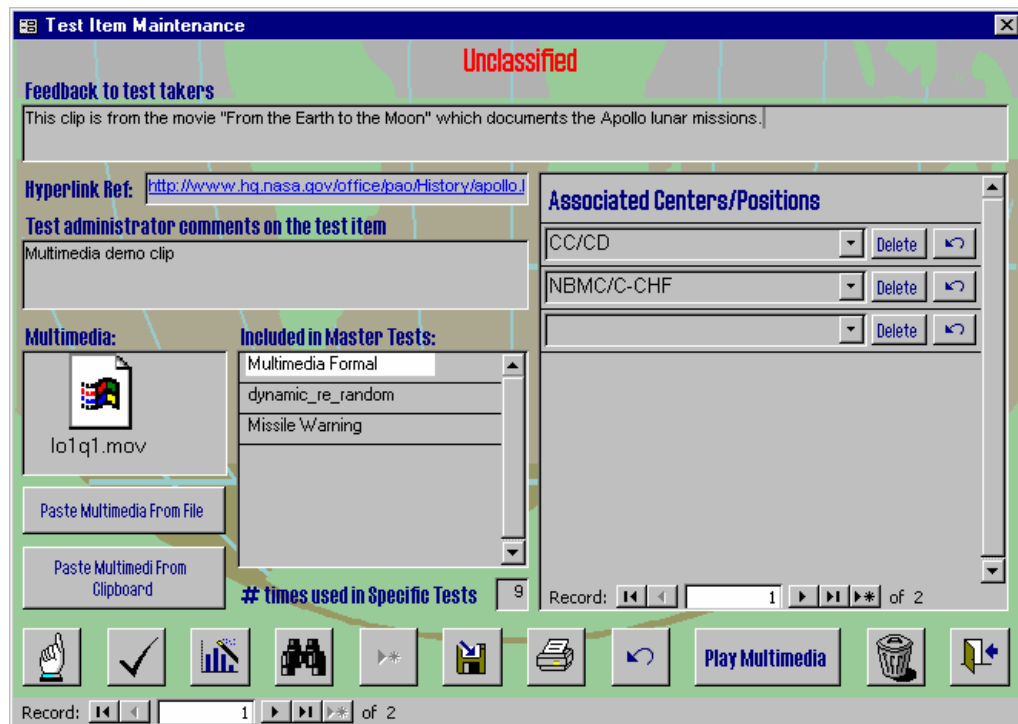


Figure 3.3: Test Item Maintenance Form (Page 2)

- **Associated Centers/Positions:** A list of the center/crew positions that are associated with this test item. There can be any number of such center/positions in the list and pull-down lists let the user select from valid options as specified in the system configuration. The **Delete** button allows center/position pairs to be removed from the list and the **reversed arrow** button allows the latest change to be “un-done”.
- **Multimedia:** Is an Object Linking and Embedding (OLE) field that can contain any type of multimedia file that has an application to support it on the host systems. These can be video clips, static images, or sound clips. The **Paste Multimedia from File** and **Paste Multimedia from Clipboard** buttons below it can be used to add such multimedia to the test item. When test items are displayed that include associated multimedia, the **Play Multimedia** button will appear on the test-taking form. Clicking this button will activate the multimedia clip and its application per the association established on that computer. NOTE: If you are going to use multimedia in a test item, you'll want to be sure that all machines that will be used to answer that test item have an appropriate application associated with the file extension for that type of multimedia.
- **Included in Master Tests:** A list of the master tests that use this test item is provided for reference to help identify the impacted tests if this test item is altered or deleted. Master tests will use the latest update of each test item and deleted items will be automatically removed from master tests.
- **# Times used in Specific Tests:** The number of times this test item is used in specific tests (either taken or awaiting to be taken) is included to help identify the impacts of altering or deleting the test item. Un-taken specific tests will use the latest updated version of the test item and deleting the item will remove it from these tests.

At the bottom of both pages of the Test Item Maintenance form are sets of command buttons for use by the Testbank Administrators. The functions of these buttons are as follows (you can also get a description of the button's function by placing your cursor over it or tabbing to it which causes a caption box to appear):

- **Move to Other Page:** The leftmost button with the pointed hand on it moves the user between the two pages of the Test Item Maintenance Form.

- **Checkmark:** The checkmark button has the date last Reviewed for the test item set to the current date and is intended to help Testbank Administrators efficiently do their periodic reviews of the test items.
- **Chart:** The chart button shows an analysis of the past performance of the currently displayed test item. More details on the information provided from this analysis can be found in Chapter 6.
- **Binoculars:** The binoculars button allows the user to do a “find” operation based on whatever test item field was currently selected prior to clicking on this button. For example, to find a test item in the currently selected set that has a Proficiency value of “A”, click on the Proficiency field and then click the binoculars button. A dialog box will be displayed into which you type an “A” and then click on the “Find First” or “Find Next” buttons. You will then be taken to the appropriate test item satisfying that criteria.
- **Add New:** The add new button has a right arrow followed by a star. Clicking on this button, saves any changes to the current test item and then blanks out the form so a new test item may be added.
- **Save:** The button with a diskette and an arrow on it is used to save the current test item and any specified updates. Saves are also automatically done by moving between test items and closing the form.
- **Print:** The button with a printer on it is used to print the current test item and its reference information to the default system printer.
- **Undo:** The undo button has a counter-clockwise arrow on it. This button un-does the latest changes to the test item. It is also quite useful when you start adding a new item and then decide not to proceed. If all the required fields have not been specified, you can be stuck not able to save or exit the form. Clicking the undo button will clear the partially added item and let you exit the form.
- **Delete:** The delete button has a trash can on it and is used to permanently delete the currently displayed test item. NOTE: This button must be used with caution as it also removes the test item from any tests that it has been included in as well as from the results of previously taken tests. A better alternative to deleting the item is to mark the test item as dormant which retains the item and its usage in any tests but precludes it from normal searches.

- **Close Form:** The close form button has an open door on it and allows the user to close the Test Item Maintenance form. This also causes any changes to the currently displayed test item to be saved.

At the bottom of the Test Item Maintenance form is a navigation bar with arrows that allow movement within the current set of selected test items. It also shows the number of your currently displayed test item (relative to the selected set) as well as the total number of selected test items.

Build and Maintain Tests

How do you build and maintain both master tests and copies of master tests for specific test-takers?

The second button on the main OPS TEST Administrator menu (Figure 1.1) provides access to the mechanisms for building and maintaining master tests as well as to the handling of specific tests which are built from the master tests for individual crew members needing to take that test.

Build/Maintain Tests Menu Form

When the Build/Maintain Tests button is clicked off the main OPS TEST Administrator menu, the Build/Maintain Tests form (see Figure 4.1) is displayed. There are two main areas to this form corresponding to Master Tests and those Specific Tests made from the Master Tests for specific crew members.

The screenshot shows a software interface window titled "Build/Maintain Tests". The window has a blue header bar. Below the header, there are two main panels. The left panel is titled "Master Tests" and contains four buttons: "Create New Master Test", "Make Copy of Master Test", "Review/Update Master Test", and "Delete Master Test". Below these buttons is a dropdown menu with "Missile Warning" selected. The right panel is titled "Specific Tests for Crew Members" and contains three buttons: "Make New Specific Test from Master", "Review/Reset/Reorder Specific Test", and "Delete an existing Specific Test". Below these buttons is another dropdown menu. A small icon with a plus sign is located in the bottom right corner of the window.

Figure 4.1 Build/Maintain Tests Form

Dealing with Master Tests

The concept of operations for the OPS TEST is to make one or two Master Tests for each crew position and then to derive specific instances of the master test for individual crew members needing to test for that position. The four buttons on the left side of the Build/Maintain Tests form provide means to deal with Master Tests. These buttons are:

- **Create New Master Test:** This button opens up a blank copy of the Master Test form (to be discussed shortly) which can be used to build an entirely new Master Test.
- **Make Copy of Master Test:** Typically Master Tests are not completely rewritten each year. More often the old test is modified to become the next year's test. To facilitate this practice, the **Make Copy of Master Test** button allows an existing Master Test to be copied and given a new name. This new copy of the Master Test can then be updated, via the **Review/Update Master Test** button, to become the new test for the coming year. When this button is clicked, a dialog form comes up that allows you to select an existing Master Test to copy and to specify a name for the copy to be made. The software automatically checks that you do not create name conflicts by doing this.
- **Review/Update Master Test:** You must first select an existing Master Test in the combo box below and then click on this button to review and update that Master Test. The review and update process is facilitated by the Master Test form to be discussed shortly. If there are any Specific Tests made, but not yet taken, from the selected Master Test, the software will warn you. Any changes made to the Master Test will not be reflected in these pending Specific Tests. You can, however, delete the pending Specific Tests and recreate them after you have updated the Master Test.
- **Delete Master Test:** To delete an existing Master Test, you must first select it in the combo box provided below the button. The deletion process will check for pending Specific Tests made from the selected Master Test but not yet taken. These Specific Tests, and the results of any previously taken instance of this Master Test, will not be deleted when you delete the Master Test.

Dealing with Specific Tests

Specific Tests are copies of a Master Test to be taken by a specific individual crew member. The buttons on the right side of the

Build/Maintain Tests form allow you to deal with Specific Tests. There are three such buttons and they are:

- **Make New Specific Test from Master:** This button opens up a blank copy of the Specific Tests form (to be discussed shortly), which can then be used to build a specific instance of a Master Test for an individual crew member.
- **Review/Reset/Reorder Specific Test:** To use this button, you must first select an existing Specific Test from the combo box below. The button will cause this Specific Test to be displayed in the Specific Tests form from where it can be reviewed, reset (so interrupted tests can be re-entered by the test-taker), and reordered. If the selected Specific Test was already taken, you can use this form to review and print the results.
- **Delete an Existing Specific Test:** First select an existing Specific Test in the combo box below and then click this button to have the test deleted. *NOTE: Deleting an already taken Specific Test will discard all record of how the included test items performed on that Specific Test.*

Master Test Form

The creation, review, and update of Master Tests is done via the Master Test Form shown in Figure 4.2. The fields included on this form include:

The screenshot shows the 'Master Tests' form. At the top, there are several dropdown menus: 'Master test' (Missile Warning), 'Center' (MVC), 'Position' (MVC/CDR), 'Category' (Eval), 'Type of test' (Special), 'OPR' (J3S), and 'Originator' (Hadfield, Steven M.). Below these is a table with columns: '#', 'Item #', 'PEC', 'Reference', and 'Answer'. The table contains four rows of test items. At the bottom, there are several buttons: 'Add New Test Item', 'Reorder Test Items', 'Preview Test On-Line', 'Print Test Summary', 'Print Full Test', and 'Close/Save'. There are also checkboxes for 'Make on request?', 'Random order?', and 'Re-entrant?', and a 'Password:' field.

#	Item #	PEC	Reference	Answer
1	40	C09M-3	Missile Warning Info	C
2	41	C01A-	Missile Warning Info	B
3	42	A01A-	Missile Warning Info	D
4	49	G01A-	Missile Warning Info	C

Figure 4.2: Master Test Form

- **Master Test Name:** A 20-character identifier of the Master Test that typically includes reference to the Center, Crew Position(s), and timeframe of its use.
- **Center:** The operations center that this Master Test is associated with.
- **Position:** The Crew Position that this test is associated with. If there are multiple positions, you can just list one or none of them.
- **Category:** The Category of the test is used to identify evaluation tests (by specifying “Eval” followed by whatever) and precluding access to these tests by Testbank Administrators that do not have evaluator privileges. For non-evaluation test, you may put whatever you like for category.
- **Type of Test:** Typically tests are classified as “Initial”, “Recurring”, and “Special”, but other values are also allowed in this field.
- **OPR:** The Office of Primary Responsibility for the test. Typically, this is “stan/eval” for Eval tests and “training” for training tests, but you can specify whatever you wish here.

- **Originator:** Person originating this Master Test.
- **#:** A sequence number given to each test item in the Master Test starting with one and going through the number of items in the test. You can change the numbers in these fields for all test items currently in the Master Test and then click on the Reorder Test Items button which will sort the test items per the numbers you assigned and then renumber the test items per the new ordering. *NOTE: You may skip numbers in this reordering process and the system will automatically provide a correct ordering eliminating any skipped values. You can also use negative numbers to move items to the beginning of the test.*
- **Item #:** The unique Testbank Item # for each test item included in the Master Test.
- **Task:** The task code for each test item included in the Master Test.
- **Reference:** The governing regulation, operating instruction or other guidance that provides the authority for each included test item.
- **Answer:** The correct answer for each included test item.
- **Make on request?** Checking this box indicates that specific instances of this test do not need to be created separately. They will be made upon request via the Take Monthly training Test button from within OPS TEST Test-Taking. Selecting this option also enables the three fields below it; Random order?, Re-entrant”, and Password.
- **Random order?:** This is an option for “Make on request?” (monthly training) tests. Checking it specifies that the items in the test will be randomly reordered when each instance of the test is built.
- **Re-entrant?:** This is another option for the “Make on request?” (monthly training) tests. Checking it specifies that the test-taker will be allowed to enter and work on the test, then exit without having it graded and re-enter it at a later time. All previous responses will be preserved.
- **Password:** This is an optional parameter for “Make on request?” (monthly training) tests. The text (letters, numbers, and/or symbols) will be the global password for creating and taking instances of this test. If left blank, the test will not be password protected.

The Master Test form also has several command buttons for use in dealing with Master Tests. For each included test item, there are the following

buttons (you must first click on that test item and then click on it's specific buttons):

- **View:** Allows you to bring up that test item in a form very similar to the Test Item Maintenance form so you can look at the item and its associated reference information.
- **Delete:** Allows you to delete this test item from the Master Test.
- **Undo:** The button with the reversed arrow undoes (removes) any changes you may have inadvertently made within the entry for this test item.

The remaining buttons on the Master Test form pertain to the test as a whole. They are:

- **Add New Test Item:** This button brings up a query form for you to use to select test items to consider for inclusion in the Master Test. The process of adding new test items to a Master Test is discussed in further detail below.
- **Reorder Test Items:** To use this button, first specify the relative ordering of test items currently in the Master Test by typing these numbers in the # field for each test item. Then click on the **Reorder Test Items** button to have the test items sorted by your new numbering and then renumbered according. You can use numbering gaps, negative numbers (to move items to the beginning) and very large numbers (to move items to the end).
- **Preview Test On-Line:** This button allows you to see what the test will look like as seen by the test-taker and is discussed in more detail shortly.
- **Print Test Summary:** Causes a summary listing of the test items included in the Master Test to be printed to the default printer.
- **Print Full Test:** Produces a full print out of the Master Test (to include the actual test items themselves) to be printed on the default printer.
- **Close and Save:** Saves any changes to the Master Test and closes the Master Test form.

Specifying Master Test Information

Most of the information on the Master Test form can be specified using pull-down lists associated with the fields. The key exceptions are the name of the Master Test, which is a 20-character field that usually includes the operations center, positions, and time-frame, and the included test items that are actually added via the **Add New Test Item** button.

Adding New Test Items to a Master Test

New test items must be added to the Master Test via the **Add New Test Item** button on the Master Test form. Clicking this button brings up a query form to be used to retrieve test items for consideration to be included in the Master Test. This query form is shown as Figure 4.3 below. Once you specify the selection criteria, click on the **Retrieve Selected Test Items** button to obtain those test items that meet all of the specified criteria. (The only exception to this rule is if both Center and Position are specified and they reference different centers, items matching either the Center or Position criteria will be included). Wildcards are allowed in some fields. To get the specifics on each field, move your cursor over the field and a caption box will appear and provide you the details.

Figure 4.3: Selecting Test Items for a Master Test

The test items retrieved via the Select Test Items for a Master Test form are displayed in a form very similar to the Test Item Maintenance form (see Figures 3.2 and 3.3). There is a new button on this form that has a right pointing arrow to a little document icon in the lower right corner of the form. Clicking on this button will include the currently displayed test item into the

Master Test (unless that test item is already in the Master Test, in which case an error message is displayed).

Viewing and Deleting Test Items from a Master Test

Viewing and deleting test items from a Master Test is done via the small buttons provided with each included test item. The **View** button brings up that test item in a form very similar to the Test Item Maintenance form (see Figures 3.2 and 3.3). The **Delete** button removes that test item from the Master Test.

Reordering Test Items Within a Master Test

You can re-order the test items currently in a Master Test by:

1. Specifying new **#** field entries for the test items currently in the Master Test in accordance with where you would like them to be in the test. Gaps in the numbering are no problem as the software will later sort and renumber the test items per your specified ordering. You can also use negative/large positive numbers to move items to the beginning or end of the test respectively.
2. Click the **Reorder Test Items** button which will cause the system to sort the test items per your specified ordering and then sequentially renumber them appropriately (thus getting rid of any gaps you may have left).

Previewing a Master Test

Clicking on the **Preview Test On-Line** button lets you see how the Master Test will look to the test-taker when taken on-line (see Figure 4.4 below). The display is slightly different from the test-taker's view in that it includes the Testbank Item # of each test item and the feedback information for each test item. If the test item has associated multimedia, the **Play Multimedia** button is provided and clicking it will play the associated multimedia clip (as shown in Figure 4.4). If a hyperlink is associated with the test item, it is also provided on the display and is active so you can click on it to see the referenced material. Also the correct answer to the test item is displayed in the **Answer Here** selection box. These are provided so you can easily review and evaluate your Master Test.

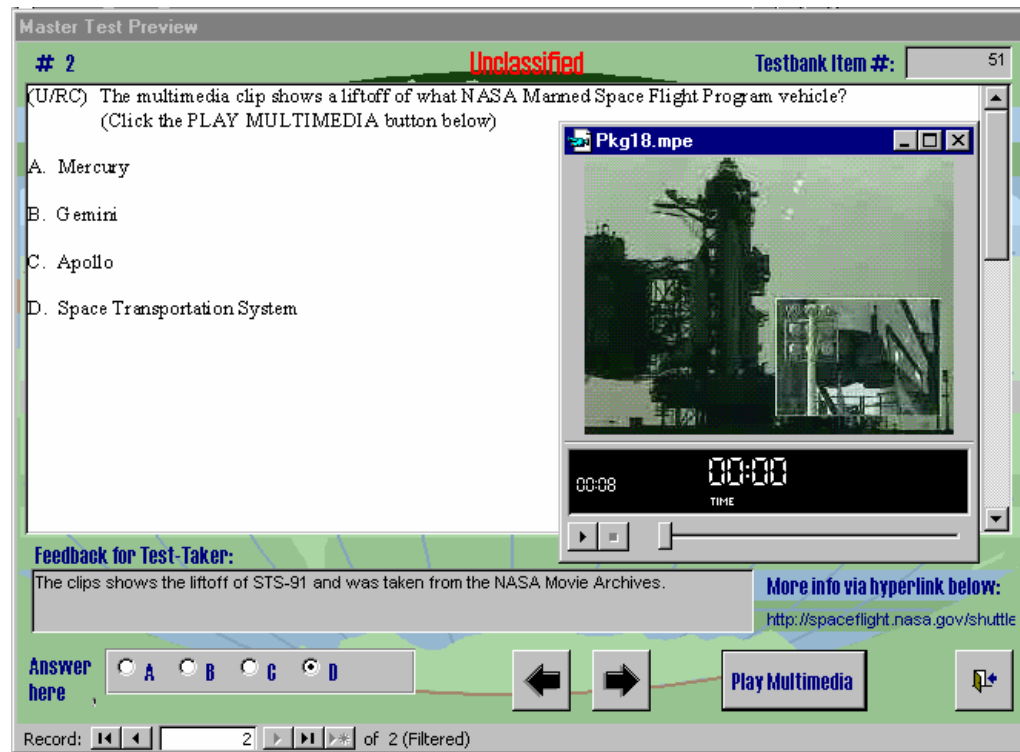


Figure 4.4: Master Test Preview Form

Specific Test Form

When creating or reviewing Specific Tests via the right side buttons on the Build/Maintain Tests form (see Figure 4.1), the Specific Tests are shown in the Specific Tests for Crew Members form (shown as Figure 4.5). On this form, there are the following fields:

Specific Tests For Crew Members	
Specific Test #	45
Master Test	Missile Warning
Test Taker	HADFIELD, STEVEN O-5 111-22-3333
Password	steve
Position	CC/CD
Can Re-enter?	<input type="checkbox"/>
Date Created	14-Apr-99
Retest?	<input type="checkbox"/>
Suspense	04-Apr-99
Administered by	HADFIELD
Start Date/Time	04/16/1999 3:03:25 PM
Finish Date/Time	14/1999 5:31:07 PM
Score (0-100%)	75
Results Posted?	<input type="checkbox"/>
Random Order?	<input type="checkbox"/>
Preview On-Line Print Hardcopy Print Answer Key ↶ 📁 📄	
Random Order Reset Test Print Results	

Figure 4.5: Specific Test Form

- **Master Test:** Name of the Master Test from which this Specific Test is derived. Should be selected from the pull-down list.
- **Test-taker:** Name, grade, and social security number of the crew member who is to take this test.
- **Password:** To protect this Specific Test from access by those other than for whom it was built, there is a password assigned. The system will automatically default this to a random value, but this value can be overwritten by the Testbank Administrator.
- **Position:** The center/crew position for which the test-taker is to take this test.

- **Can Re-Enter?:** If checked, allows the Test-Taker to close the test-taking form and later re-enter the test. If un-checked, such re-entry is not allowed. In no case is a Test-Taker allowed to re-enter a test that has been graded (without direct intervention from the test administrator to “reset” the test).
- **Date Created:** Is the date this Specific Test was built. This date is defaulted to the current day and is also displayed when the test-taker goes to access their test per the instructions in Chapter 7.
- **Retest?:** Indicates if this is a retest (if checked).
- **Suspense:** Optional suspense date by which this Specific Test must be taken. This date will show up in the Test Results/Status summary described in Chapter 5.
- **Administered By:** Indicates who is building/administering this Specific Test.
- **Start Date/Time:** Set when the test-taker starts the test. Once set, the test-taker can not exit the test and re-enter it. A Test Administrator must first use the **Reset Test** button to clear this date and any test-taker responses for the test-taker to get back into the test.
- **Finish Date/Time:** When the test-taker finished the test by clicking on the **Grade Test** button.
- **Score:** The percentage of test items the test-taker correctly answered, if the test was already taken and graded.
- **Results Posted?:** Indicates that the results of this Specific Test have been posted to the appropriate personnel records (if checked).
- **Random Order?:** Check box that indicates whether this Specific Test has been randomly reordered (if checked) or if it retains the original ordering of test items from the Master Test. The **Random Order** button toggles between these two options.

The Specific Tests for Crew Members form in Figure 4.5 has several buttons for use in dealing with Specific Tests. These buttons are:

- **Preview On-Line:** Provide a preview of the test items in the Specific Tests. In this preview format, any test-taker answers will be shown in the **Answer Here** selection box. You can also provide test-taker responses on this form which allows you to specify responses given by

test-takers on a hardcopy of the test. Other reference information is also provided in this view (that regular test-takers don't see) to help you in reviewing the test. NOTE: You can also update the answers if necessary and hit the **Grade Test** button to have it regraded.

- **Print Hardcopy:** Provides a printed version of the test suitable for administering the test off-line.
- **Print Answer Key:** Prints the answer key for the Specific Test to the default printer.
- **Random Order:** Toggles between a random ordering of the test items in the Specific Test and the original order from the associated Master Test. The **Random Order?** check box on the form shows the current state.
- **Reset Test:** Clears the Start and Finish Date/Times, the score, and all test-taker responses, so the test can be "re-taken" even if it had already been graded.
- **Print Results:** Provides a summary report of the results of this Specific Test including test-taker responses to each test item.
- **Undo:** Un-does any currently pending changes to the Specific Test.
- **Save:** Saves any changes to the Specific Test. (The **Close Form** button also causes any pending changes to be saved).
- **Close Form:** Causes any pending changes to the Specific Test to be saved and the Specific Tests form to be closed.

Making Specific Tests (from a Master Test)

To make a Specific Test from a Master Test:

1. Click on the **Make New Specific Test from Master** button on the Build/Maintain Tests form.
2. Complete the Specific Tests for a Crew Member form per the directions and descriptions above.
3. Use the **Print Hardcopy** button to print a version of the test to take off-line. (If this Specific Test is to be taken on-line, skip this step).
4. Save the Specific Test with either the **Save** or **Close Form** buttons.

Password Protection on Specific Tests

A password mechanism is provided for all Specific Tests to preclude access by those other than who the test was designed for. This password is defaulted to a random value on the Specific Tests for Crew Members form, but it can be over-written by typing in a new password on that form. The password then provides a controlled access to the Specific Test.

Establishing an Ordering of Test Items

Specific Tests may be either randomly ordered or retain the original ordering of test items from the Master Test. The **Reorder Test** button on the Specific Tests for Crew Members form toggles between these two options and the **Random Order?** check box on that form gives the current state of the test.

Resetting a Specific Test

Once a Specific Test has been started and does not have the “Can Re-Enter?” box checked, it cannot be exited and re-entered without intervention from a Test Administrator. If the “Can Re-Enter?” box is checked, they can get back in but only if the test has not yet been graded. If in either of these cases, the test-taker has been locked out and needs to re-enter the test, the test can be reset by the test administrator.

If a currently locked out Specific Test needs to be “re-entered”, the Test Administrator can call up the Specific Test via the **Review/Reset/Reorder Specific Test** button on the Build/Maintain Tests form. Then, use the **Reset Test** button on the Specific Tests for Crew Members form to clear the Start and Finish Date/Times, the Score, and all responses to test items on that Specific Test at which point the Specific Test can be re-entered and taken.

Previewing/Reviewing a Specific Test

The Specific Test can be previewed (or reviewed if already taken) via the **Preview On-Line** button on the Specific Tests for Crew Members form. When this is done, each test item in the Specific Test will be shown using the form shown in Figure 4.6 below. On this form, any answers from the test-taker will be shown in the Answer Here selection box. These responses can also be specified at this time, which allows the Test Administrator to input the responses from a Specific Test taken off-line. The **Grade Test** button will calculate and record the grade of this test for you if you're having to input the test-taker's responses yourself.

If you ever encounter a question that has the wrong correct answer specified and the test-taker answers with the real correct answer, you can review the test to change their answer to that which would give them credit for the test item and click the **Grade Test** button to have their score updated appropriately.

On this Specific Test Preview form, you can move through the test using either set of arrow buttons. The left set (with the shadows) moves to the previous/next un-answered test item. The right set moves to the previous/next test item regardless of whether or not it has been answered.

Printing Hardcopies of Specific Tests and Results

You can print a hardcopy of a Specific Test suitable for taking the test off-line by calling up the Specific Test via the **Review/Reset/Reorder Specific Test** button on the Build/Maintain Tests form. Then use the **Print Hardcopy** button to obtain the print out. You can get an answer key printed via the **Print Answer Key** button. You can also print a summary of a taken Specific Test by the **Print Results** button.

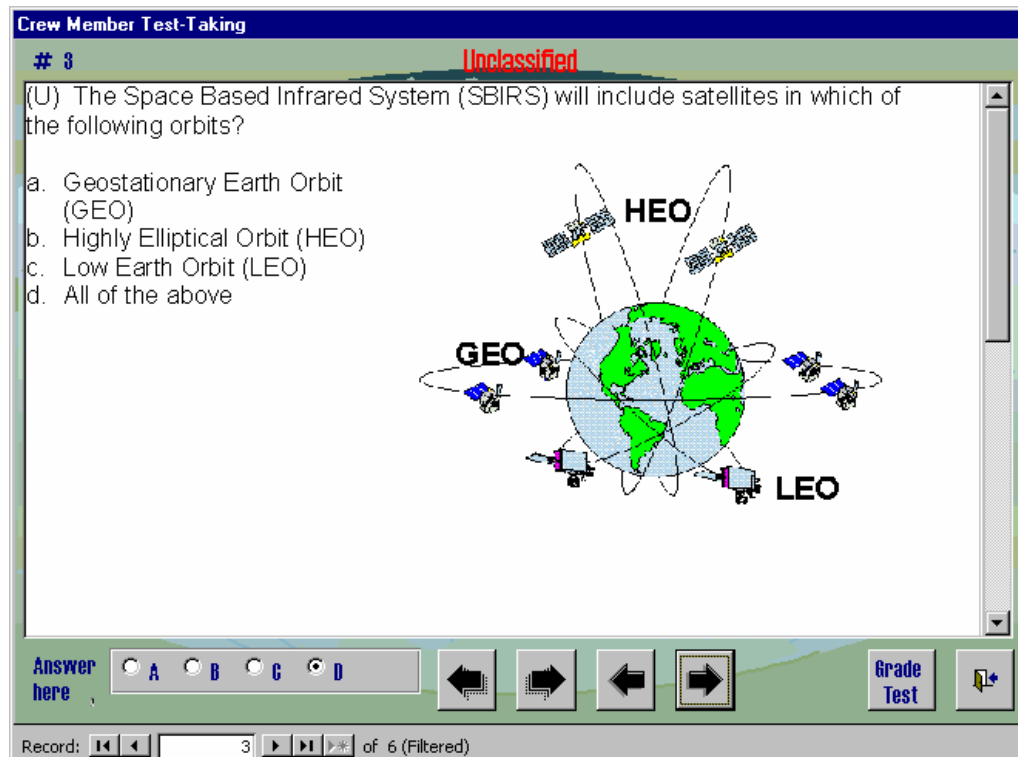


Figure 4.6: Specific Test Preview Form

Viewing Test Results

How do you check on the results of taken tests and the status of un-taken tests?

Test administrators can quickly check up on the results of taken test and the status of un-taken tests by clicking on the **View Test Results** button of the main OPS TEST Administration form (Figure 1.1). When this is done, they get a query form which can be used to select what test results (or pending tests) to review. The selected tests are then displayed in a summary form from which they may be printed or looked into in more detail.

Selecting Test Results and Status

Clicking on the **View Test Results** button of the main OPS TEST Administration form brings up the Select Specific Test Results to View form shown below in Figure 5.1.

Select Specific Test Results To View

[Specify any desired test results selection criteria and click 'View Selected Test Results.]

Test Status

Any

Completed, But Not Yet Posted

Not Yet Taken

Master Test

Test Taker

Administrator

Position

Completed After Before

View Selected Test Results

Figure 5.1: Select Specific Test Results to View Form

On the Select Specific Test Results to View form there are several fields that can be used to specify selection criteria used to filter the Specific Test results to be reviewed. All such specified criteria must be satisfied by the Specific Test results returned. These selection fields are:

- **Test Status:** The test status can be one (and only one) of the three provided options.
 - The “**Any**” option does not impose a selection criteria in regards to test status.
 - The “**Completed, But Not Yet Posted**” option returns those tests that have been completed but not marked as having their results manually posted to the appropriate personnel records.
 - The “**Not Yet Taken**” option shows all the specific tests that have been created for individual crew members but not yet taken.
- **Master Test:** The name of the Master Test from which the Specific Tests to be reviewed were derived. The pull-down list provides a listing of the current Master Tests.
- **Test-Taker:** Name of the person for who the Specific Test was made.
- **Administrator:** Name of the standardization/evaluation/training Test Administrator who created the Specific Test.
- **Position:** Crew position for which the Specific Test was designed.
- **Completed Date Range:** Range of dates within which selected Specific Tests were completed. You can also specify only a first (or a last) date if you wish.

Once the selection criteria has been specified, click on the View Selected Results button to retrieve those Specific Tests. They will be displayed in summary on the View Specific Test Results form.

View Specific Test Results Form

The View Specific Test Results form is used to display a summary of Specific Tests retrieved via the just discussed query form and is shown in Figure 5.2.

View Specific Test Results							
Test ID	Crew Member Tested	Crew Position	Completed	Suspense	Score	Posted?	
AF History	Auringer, Amos A (E-6)	CC/CD	04-Mar-99		100	<input checked="" type="checkbox"/>	Print Results View Details
AF History	Hadfield, Steven M (O-5)	CC/CD	12-Jan-00		0	<input type="checkbox"/>	Print Results View Details
Missile Warning	Hadfield, Steven M (O-5)	CC/CD	14-Apr-99	04-Apr-99	75	<input checked="" type="checkbox"/>	Print Results View Details
Multimedia Formal	Hadfield, Steven M (O-5)	CC/CD	17-Apr-99		50	<input type="checkbox"/>	Print Results View Details
Multimedia Formal	Hadfield, Steven M (O-5)	CC/CD	17-Apr-99	30-Apr-99	0	<input type="checkbox"/>	Print Results View Details
Complete Test	Hadfield, Steven M (O-5)	CC/CD	18-May-99	30-Apr-99	85	<input checked="" type="checkbox"/>	Print Results View Details
Multimedia Formal	Hadfield, Steven M (O-5)	M/WC/CDR	23-Dec-99	30-May-99	50	<input type="checkbox"/>	Print Results View Details
recur_nonreentrant	Hadfield, Steven M (O-5)	CC/CD				<input type="checkbox"/>	Print Results View Details
recur_nonreentrant	Hadfield, Steven M (O-5)	CC/CD				<input type="checkbox"/>	Print Results View Details
recur_nonreentrant	Hadfield, Steven M (O-5)	CC/CD				<input type="checkbox"/>	Print Results View Details
recur_nonreentrant	Hadfield, Steven M (O-5)	CC/CD	12-May-99		50	<input type="checkbox"/>	Print Results View Details
recur_reentrant	Hadfield, Steven M (O-5)	CC/CD	12-May-99		100	<input type="checkbox"/>	Print Results View Details
Print Summary of Results					Avg Score: 60.412		
Record: 1 of 22							

Figure 5.2: Test Results and Status Summary Form

Each returned Specific Test results displayed on the View Specific Test Results form will have the Master Test ID, crew member tested, crew position they tested for, date the test was completed (if it is completed), suspense date by which it must be taken (if one has been specified), the score (as a percentage correct), and an indication as to whether or not the results have been posted to the appropriate personnel records.

For each Specific Test, there are also buttons to get a print of that test's results and a button to view the details. The **Print Results** button causes a summary of the results for that test to be printed on the default printer. The **View Details** button brings up the Specific Test form for that test and allows you a range of further functions as described in Chapter 4 of this manual.

The **Print Summary of Results** button at the bottom of the form produces a summary report of all the displayed results to be printed on the default printer. The record navigation bar at the bottom of the form allow you to move through the Specific Test results returned.

Test Item Analysis

How do you analyze the results of using test items?

Individual test items in the OPS TEST testbank can be analyzed per their past performance to assess their quality and to determine if they should be included in new tests. This can be done in two primary ways. First, when an individual test item is being displayed, there is a button with a chart on it that leads to the analysis statistics for that item. The other way is via the **Test Item Analysis** button on the OPS TEST Administration main menu (Figure 1.1), which leads to a query form. You can use this query form to select a set of test items and then view the analysis statistics for each of these items in turn. This chapter discusses the query form and the analysis statistics form.

Selection of Test Items to Analyze

Clicking on the Test Item Analysis button of the OPS TEST Administration main menu brings up the Select Test Items for Analysis form shown in Figure 6.1 below. You can specify whatever combination of selection criteria that you wish and the returned test items must meet all the specified criteria (with the exception that if both Center and Position are specified and not in the same center, items satisfying either criteria will be returned). Several of the selection fields have pull-down lists of acceptable values. Some allow the use of wildcards ("?" and "**") to substitute for one or many characters. Other fields allow a range of values to be specified. In any of the range criteria, either the lower, upper, or both ends of the range can be specified. There are range criteria for:

- **Item Numbers:** The unique Testbank Item Numbers assigned to each test item.
- **Test Results:** Date range on when the item was taken in a test.
- **Number of Misses:** Range of the number of times the test item was incorrectly answered.

- **Overall Ease:** Range on the overall percentage of times when the test item was correctly answered.

To get an explanation of any selection criteria field, whether wildcards are allowed, and any required formatting constraints, simply place your cursor over the field and a caption box will appear with this additional information.

Figure 6.1: Selecting Test Items for Analysis

Test Item Analysis Form

Whether you ask for analysis statistics on just a single test item or if you select a set of items to analyze, the analysis statistics will be shown for a single test item at a time via the Test Item Analysis form shown in Figure 6.2 below.

There are three parts to this form. Across the top of the form are the unique Testbank Item # assigned to the test item, the correct answer, an overall ease (percentage of times the item was correctly answered), and counts of the total number of times it was used and how many respondents chose each option. The correct option is also boxed for your reference.

The second part of the form provides results by crew position and includes the position as well as ease and counts for when the test item was taken for that crew position.

The third part of the form provides a historical listing of each time that test item has been used in a Specific Test. This listing includes the date of usage, test it was taken as part of, crew position, individual answering the test item, and the option they selected.

The View Test Item button is provided at the bottom of the form to allow access to the actual test item. There is also a record navigation bar at the bottom of the form for use in moving between test items when multiple items were selected for analysis.

Test Item Analysis

Item #	Answer	Ease	Total	A	B	C	D	E
7	A	50.0%	2	1		1		

Results by Crew Position

CC/CD	50.0%	2	1		1		
-------	-------	---	---	--	---	--	--

Record: 1 of 1

Results History (Date Completed, Master Test, Crew Position, Name of Test-Taker, Their Response)

18-May-99	Complete Test	CC/CD	HADFIELD, STEVEN M (O-5)	C
12-May-99	recur_nonreentrant	CC/CD	HADFIELD, STEVEN M (O-5)	A

Record: 1 of 2

[View Test Item](#)

Record: 1 of 22

Figure 6.2: Test Item Analysis Form

Formal Test Taking

How do crew members take formal training and evaluation tests on-line?

Formal training and evaluation tests can be taken on-line using the Specific Tests created by Test Administrators per the instructions in Chapter 4. These tests are specific to the crew member taking the test and have a password protection mechanism. Once the test administrator has created the test, they will give the test-taker the password. The test-taker will access the test via the instructions below and work through the test items in the test. When done with the test, the test-taker clicks on the a **Grade Test** button at which point the test is graded and the test-taker is given the opportunity to review and get feedback on any test item that they may have missed. If a test is interrupted once it has been started, the test-taker may not be able to get back into the test without the intervention of the Test Administrator to “reset” the test per the instructions in Chapter 4. This depends on whether the “Can Re-Enter?” box was checked for the test. Regardless, if the test has been graded, the Test-Taker cannot re-enter it without the test administrator’s assistance.

Starting a Formal Test

Once a crew member to be tested has been given the password to their test they can access the main Test-Taking menu shown in Figure 7.1.

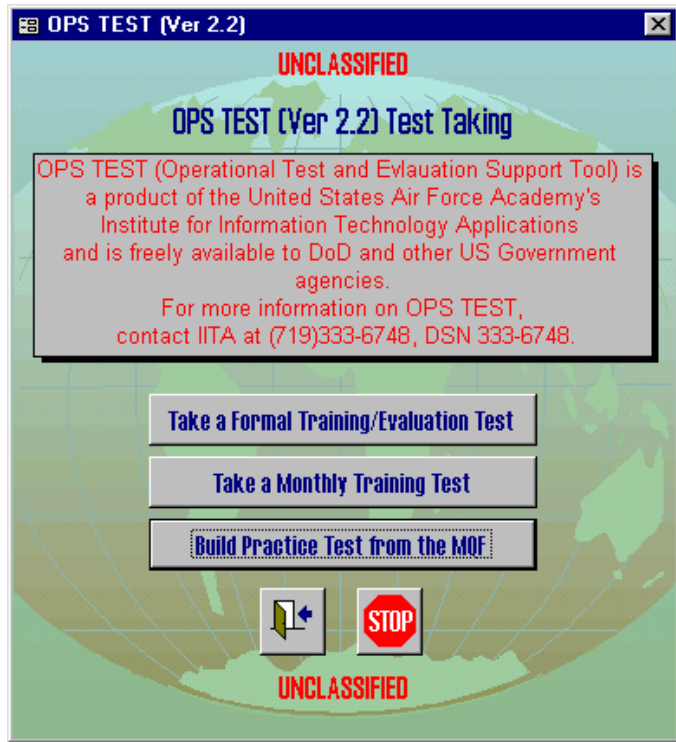


Figure 7.1: Open a Specific Formal Test

This can be accessed by the START|PROGRAMS|OPS TEST TEST-TAKING menu from Windows.

The test-taker then clicks on the **Take a Formal Training/Evaluation Test** button. This will cause a Begin Test form to come up as shown in Figure 7.2. You can then locate the “Test” in the pull-down menu, enter the provided password, and click the **Begin Test** button.

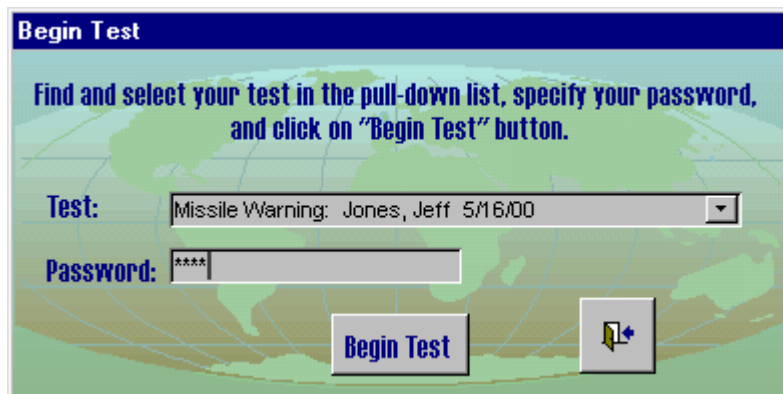


Figure 7.2: Selecting a Specific Formal Test to Open

Once the test has been successfully entered you will get the individual test items displayed one at a time via the Crew Member Test-Taking form shown in Figure 7.3.

Answering Formal Test Items

To answer a test item in a formal test, click on the appropriate radio button in the Answer Here selection box in the lower left corner of the form. You can move to the next test item using either of the right arrow buttons provided on the form. The first right arrow button (with the shadowed effect) takes you to the next unanswered test item. The plain right arrow takes you to the next test item regardless of whether or not it has been already answered. The left pointing arrow moves you to previous test items and the one with the shadowed effect moves you to the next previous test item that has not yet been answered. If the test item has an associated multimedia clip, the **Play Multimedia** button will be available. Click on this button to have the multimedia clip played for your viewing. You may play the clip as many times as you like.

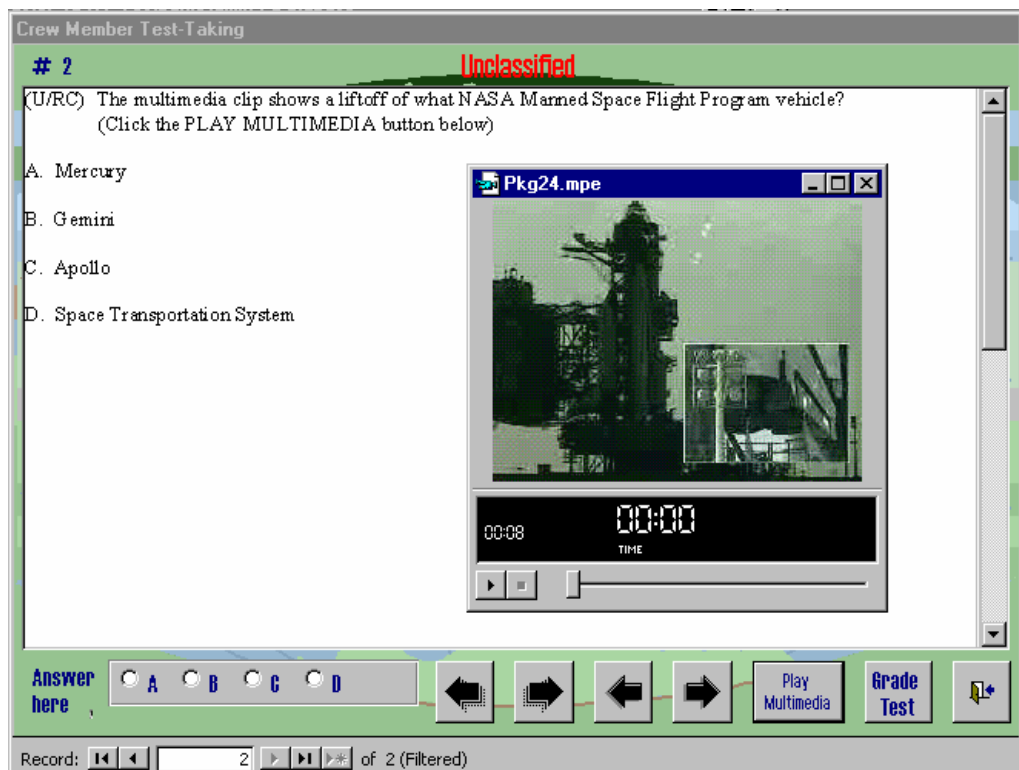


Figure 7.3: Formal Test Taking Form

Once you have completed the test, click on the **Grade Test** button. If you have left any test items unanswered it will warn you and provide you a

chance to go back and answer them prior to grading. Otherwise your test will be scored and your score presented to you. If you missed any test items, you will be given the opportunity to go back and review them.

When reviewing missed test items, you will not be able to change your answers but you can use the arrows to move through the missed items. With each missed test item you will be provided the governing reference for that item and perhaps some additional feedback information about the test item.

Completing Formal Tests

After the test has been graded, per the instructions above, and any missed items optionally reviewed, simply close out of the remaining forms to exit OPS TEST Test-Taking.

Monthly training Tests

How do you take the Monthly training Tests?

Crew members can use OPS TEST Test-Taking to take monthly training tests that are built for them by their training personnel. These tests are built upon request and some can be closed without being graded and then later re-entered with all the previous responses kept intact. The status and results of these tests are typically monitored by and reported to the training personnel.

Taking a Monthly Training Test

When a crew member wants to take a monthly training test, they can do so by clicking on the Take Monthly training Test button of the main Test-Taking form (seen as Figure 7.1). This can be accessed via the START|PROGRAMS|OPS TEST TEST-TAKING menu from Windows.

Clicking on the **Take Monthly Training Test** button on this main Test-Taking form brings up a form that allows the crew member to specify the test they wish to take, their name, and the password for the test (if one has been placed on the test). This same form is used to re-enter tests that were started but not completed. This form is shown in Figure 8.1 below. Once this information has been specified, click on the associated **Take Test** or **Re-Enter Test** button to access the test.

Figure 8.1: Selecting MQF Test Items

Answering Monthly Training Test Questions

Once you have gained access to the training test, the test items are displayed one at a time using the form shown in Figure 8.2 below. If there is a multimedia clip associated with the test item, the **Play Multimedia** button will be shown and you can click on it to play the clip as many times as you like. Answer the test items by selecting the appropriate response in the **Answer Here** selection box in the lower left corner of the form.

As with formal testing, you can move freely between test items using the arrow buttons. The ones with the shadows move to the previous/next unanswered item while the plain arrows move you to the immediate prior/next item.

Once you have answered all the questions, you can click on the **Grade Test** button to have your test scored. If you answered any questions incorrectly, you will be provided the opportunity to review them with the correct answer and some feedback text shown for you. Some test items also include hyperlinks to associated reference material.

If you wish to exit the test prior to completing it, you can click on the **Close Form** button. Depending on how the test was created, you may or may not be able to re-enter it later. If this option is not available on your test, you'll need to have your training test administrator reset the test for you.

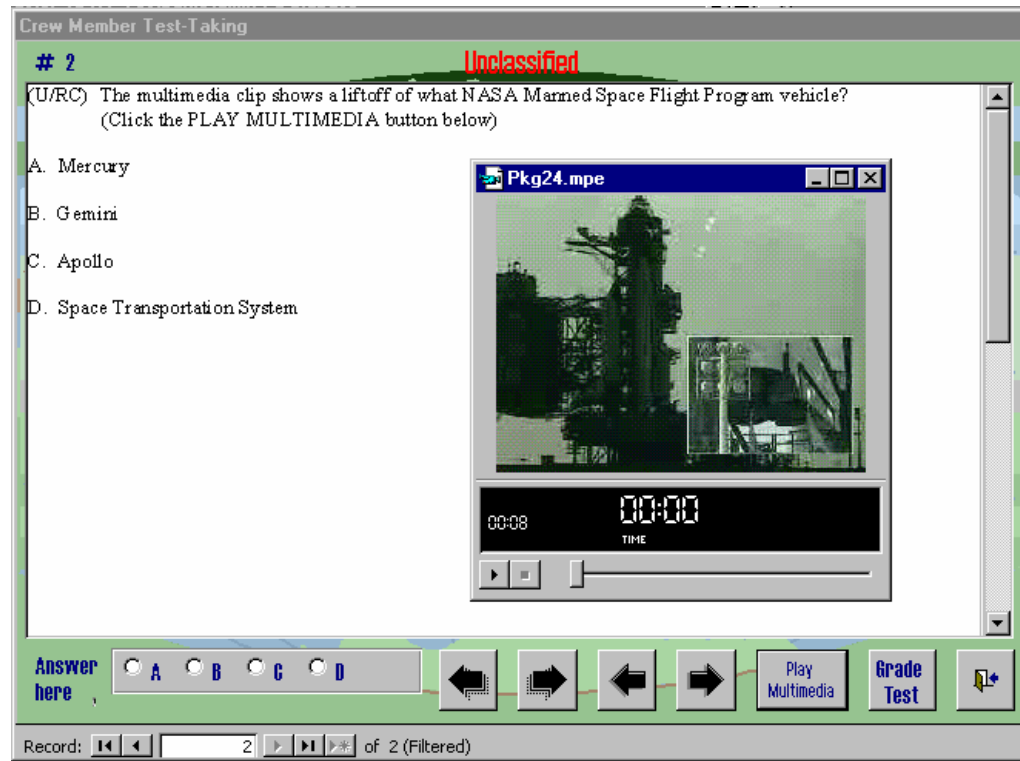


Figure 8.2: Answering Test Items

On-Line Access to Master Question File

How do you access the Master Question File to take practice tests on-line?

Crew members can use OPS TEST to call up practice test items from the Master Question File (MQF). Practice test items are retrieved via a query form. The crew member may answer as many or as few of the retrieved test questions as they wish. None of their responses will be recorded or can be traced back to them. As each retrieved MQF test item is answered, the test-taker is given immediate feedback as to whether they answered correctly or not. If they did not correctly answer, the test item is displaced with some additional reference information (including the correct answer) so they can learn the objective of the question. Upon completing a set of retrieved questions, an overall score for that set of test items is provided. At this point the crew member can either retrieve some more MQF test items or exit.

Selecting MQF Questions

When a crew member wishes to answer some practice test items from the MQF, they can access the main Test-Taking form (seen as Figure 7.1). This form is accessed via the START|PROGRAMS|OPS TEST TEST-TAKING menu from Windows.

Clicking on the **Practice Test from the MQF** button on this main Test-Taking form brings up a query form that can be used to select questions from the MQF (see Figure 9.1 below). Several of the selection fields allow the use of wildcards (“?” and “*”) to substitute for one or many of any characters. You can also find current values for these fields using the pull-down lists provided. The test items returned must meet all specified criteria. Clicking on the **Take Practice Test** button will retrieve the selected test items and display them one at a time to be answered.

Enter your selection criteria and click on the Take Practice Test button.

Task

Center

Proficiency

Position

References

Take Practice Test

Figure 9.1: Selecting MQF Test Items

Answering MQF Questions

Once test items have been retrieved from the MQF via the query form described above, they are displayed one at a time using the MQF Test Taking form shown in Figure 9.2 below. If a multimedia clip is associated with the test item, the **Play Multimedia** button will be shown and you can click on it as many times as you want to play the clip. Answer the test items by selecting the appropriate response in the Answer Here selection box in the lower left corner of the form. Your response will be immediately checked against the correct answer and you will be told if you got it right. If you missed it, you will be provided some feedback information on the question and what the correct answer is. You will also be provided with a hyperlink to an associated reference for some test items. Clicking on the link will open that reference up for you.

Once you have answered all the questions, you will be given a summary score for that set. You can then select more questions or simply exit out of the form(s) via the open door buttons in the lower right corner. None of your responses to MQF questions will be recorded or are trace-able back to you.



Figure 9.2: Answering MQF Test Items

Establishing and Maintaining Configuration of the OPS TEST Database

How do you initially establish and later maintain the OPS TEST database?

When you initially install the Operational Test and Evaluation Support Tool (OPS TEST) on your network/computer(s), you need the backend database installed and the initial configuration of several items established before administrators and test-takers can begin using OPS TEST.

Installing the Back-End Database

Installation of the OPS TEST backend database involves copying an empty version of the database into a specified location and file name on a shared network drive. Once that has been done, you should install one copy of the OPS TEST Administration program. Upon start up, it will detect that it does not have the current path/location for the OPS TEST database and prompt you to specify the new location. From the OPS TEST Administration program, you should use the Configuration|Backend Database Password menu selection to specify a new password for the backend database (see details at end of this chapter). You will then give this password together with the path and file name for the backend database to everyone that is installing either or both the OPS TEST Administration and Test-Taking software as they will be prompted for this information when they first start up their OPS TEST programs. The IITA Technical Support personnel can easily assist you with this process.

OPS TEST Configuration Setting

Prior to usage, OPS TEST requires information on each administrator and test-taker, codes and descriptions for tasks that will be tested, designation of operational centers (you may have only one), designations of crew positions, settings for the menus, , password for the backend database, and password for accessing menu settings. Furthermore, you may want to later update these settings. All of these functions are provided in the Configuration menu from within the OPS TEST Administration software. Below each of these configuration tasks are further detailed.

Update Personnel Info

Probably the most used configuration task will be to update personnel information in the OPS TEST database to include adding new personnel. To accomplish this, click on the Configuration|Update Personnel Info option from the menu bar in the OPS TEST Administration software (either the standardization/evaluation or training versions). This will bring up the **Configure Personnel Info** form shown in Figure 10.1. To find a particular person's data, type in or search for their name in the **Find Person** list box and click the **Find Person** button. You can now modify that person's data as needed. In addition to basic name, rank, and service information, there is a field to specify which center they normally work in (although one is specified here, this does not restrict the centers they can test for). There are also check boxes to specify if this person is an evaluator and/or a trainer, which allows them to show up as the administrator of tests. Buttons are provided on this form to allow you to navigate through the personnel info records, add new records, delete records (although we typically don't delete departed personnel so we can keep their performance data on particular test items), and to save and exit the form. Hovering the cursor over any of these buttons will cause a caption box to appear which will specify the button's function. Moving to other records or closing the form will cause any changes or additions to be automatically saved.

Figure 10.1: Configure Personnel Info form

Configure Task Codes

Another common configuration procedure is to update the list of tasks that are being tested. These tasks include a task code (of up to 12 characters) and a description of the task. The **Configure Task Codes** form (Figure 10.2) has fields for both the task code and the description. There is also a **Go to Task** selection box where you can type in or search for the task of interest and then click the **Go to Task** button to move to that task. The software automatically saves updates to existing tasks and the addition of new tasks when you move to a new task or close the form. Other buttons are provided for you to move between tasks, add a new task, delete an existing task, explicitly save your updates, and to exit the form.

Figure 10.2: Configure Task Codes form

Configure Centers

OPS TEST is designed to accommodate facilities that have multiple operations centers (which could also be thought of as groups of positions). The **Configure Centers** form (Figure 10.3) allows you to enter and modify the names for these centers. As with the other forms there are the typical suite of buttons to allow you to navigate between different centers and to add/delete centers as well as to explicitly save updates and close the form. If you do not have distinct centers, you should just define one center, probably as your organization's name, and use that one center for all positions.

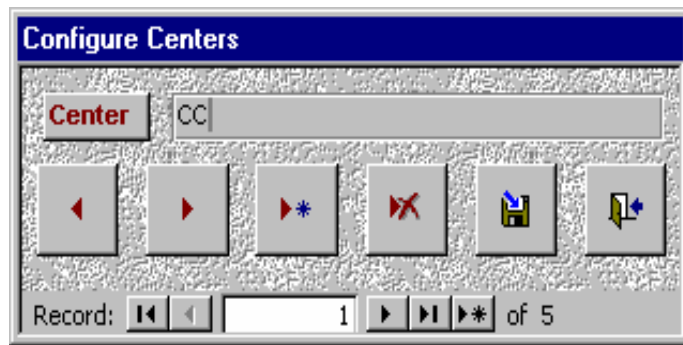


Figure 10.3: Configure Centers form

Configure Crew Positions

Most implementations of OPS TEST will need to support multiple positions or task areas. The **Configure Crew Positions** form (Figure 10.4) allows you to specify and update these positions. With each position, you specify the associated center and then the position name or descriptor. The center must be one that has already been specified using the **Configure Centers** form. If you have not already specified the center, you can use to **Add Center** button to access the **Configure Centers** form. As with the other configuration forms, there is the standard suite of record navigation and maintenance buttons.

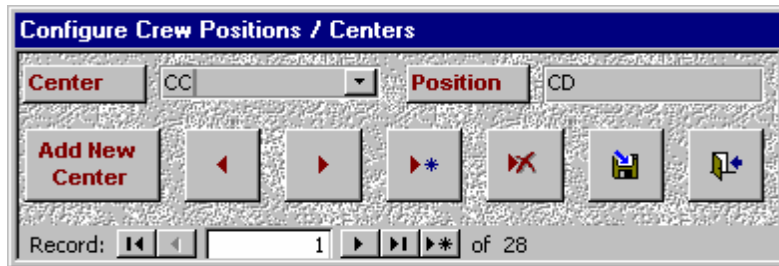


Figure 10.4: Configure Crew Positions form

Configure Menu Settings

The Configure Menu Settings form (Figure 10.5) provides a mechanism for you to configure the appearance of the OPS TEST forms so as to customize your implementation. When accessing this form, you'll need a password that has been hard-coded into your implementation of OPS TEST. This restricts access to this global function. On the Configure Menu Settings form, you can specify the security classification to be displayed on test item forms which should be the highest classification of any test item. You can also specify what you call your task codes. In the example of Figure 10.5, we just call them "Task", but other possible names are "PEC" for Performance Evaluation Criteria or "JPR" for Job Performance Requirement. There are also fields to specify a form caption (which is prefixed to several of the forms' captions) and a foreword that describes the program. When these have been specified/updated, you can either explicitly save them via the Save button or just close the form, which will also cause the updates to be saved. It is possible to specify multiple configuration settings, but only the first one will actually be used by OPS TEST.

The screenshot shows a window titled "Configuration Settings" with a close button in the top right corner. The window contains the following fields and text:

- SecurityLabel:** A text box containing "Unclassified".
- TaskCode:** A text box containing "Task".
- FormCaption:** A text box containing "IOTA Testbank".
- Foreword:** A large text area containing the following text:

The Institute for Information Technology Applications (IITA) Operational Testbank Application (IOTA) supports operational training and stan/eval testing and is freely available to DoD and other US Government agencies.

For more information on this software and its potential usage, contact IITA at (719) 333-6748, DSN 333-6748.
- Buttons:** Two buttons are visible: a "Save" button (represented by a floppy disk icon) and a "Close" button (represented by a window icon with an arrow).
- Record Navigation:** At the bottom, there is a record navigation bar with the text "Record: 1 of 1" and navigation icons.

Figure 10.5: Configure Menu Settings form

Configuration Password

Selection Configuration|Configuration Password allows you to change the password that protects the Configure Menu Settings form (Figure 10.5). To accomplish this you will need to specify the current (old) password and then the new password twice. Feedback is provided regarding whether the password was successfully changed or not. The maximum password length is 12 characters and the default password that the OPS TEST Administration software comes with is "config4amos".

Backend Database Password

The Configuration|Backend Database Password selection provides access to a form that allows you to change the password on the OPS TEST backend database where all the test items, tests, and results are stored. This is a single common, shared database used by all OPS TEST programs that typically resides on a network disk drive. When you select this function, the form shows the current password. You then type in your new password (which must be exactly six digits (0-9)) and click the Update Password button. You will be told if the operation was successful or not.