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SITUATION SIMULATOR FOR FIREFIGHTERS

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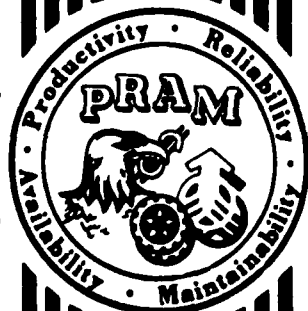
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19. ABSTRACT (Continue on reverse if necessary and identify by block number) The objective of this study was to develop, construct, test, and evaluate a training situation simulator which will be used to train firefighters in fire suppression hoseline operations, apparatus placement and usage, decision making tactics, strategy, communications, and unusual occurrences commensurate with the skill level and position held by the firefighter.						
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PREFACE

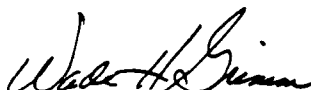
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This report summarizes work done between December 1984 and March 1986. HQ AFESC/RDCF program manager was Joseph L. Walker, Wade H. Grimm was the project manager.

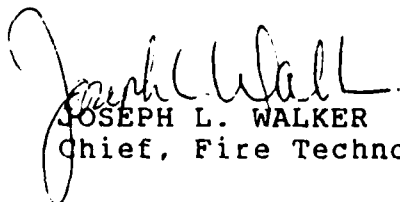
The authors wish to recognize and thank the following personnel for their technical consultant support on the program: Mr Hampton Cayson, Fire Chief Fred Hill, CMSgt Hans Finkbeiner, and Mr Miles Young.

This report has been reviewed by the Public Affairs Office (PA) and is releasable to the National Technical Information Service (NTIS). At NTIS, it will be available to the general public, including foreign nationals.

This technical report has been reviewed and is approved for publication.


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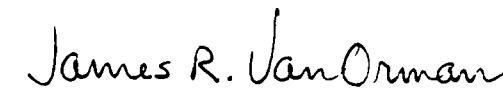

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INTRODUCTION

A. OBJECTIVE

The objective of this effort is to develop, construct, test and evaluate a training situation simulator which will be used to train firefighters in fire suppression hoseline operations, apparatus placement and usage, decision-making tactics, strategy, communications, and situation responses commensurate with their skill levels and positions.

B. BACKGROUND

Increased environmental restrictions on the open burning of hydrocarbon fuel and the increased maintenance and fuel cost for firefighting vehicles have placed severe restraints on firefighting training. Indications are that environmental restrictions will continue to increase. Likewise, the practice of using actual firefighting vehicles for training will become increasingly cost-prohibitive. Fuel shortages and environmental constraints have made the continuance of this type of training unacceptable. The effects of these trends are that the proficiency level of the Air Force firefighters is decreasing. Equipment and training aids must be made available to fire departments to curb this decline in proficiency. A situation simulator system is required to augment the newly developed vehicle training simulator and reinforce the classroom instruction program of the required training subjects as required by AFR 92-1 for proficiency training.

Air Force firefighter training at base level consists of on-the-job training for newly assigned firefighters and recurring proficiency training for qualified fire protection specialists. The training of firefighters requires considerable time and resources. Valuable resources are consumed in creating and extinguishing live fires. While these training situations expose the firefighter to the heat, smoke, and noise of a fire, they are relatively short, the environment is degraded and the fire situation is not reproduced due to wind, weather, etc. In addition to actual live training fires, a multitude of other training requirements are essential to produce a well-rounded and proficient firefighter. An objective rating scale for firefighter efforts is difficult to establish because of changing circumstances. Due to the consistently large turnover of personnel, maintenance cost of the vehicle fleet and fuel consumption, a more economical method of training firefighters is needed. This situation simulator will be designed

specifically to meet the training requirements outlined in AFR 92-1 for recurring proficiency training. A significant aspect of the situation simulator is that it will be able to provide "what if" situations impossible to duplicate in a normal training scenario.

C. SCOPE

The scope of this work consists of: the development of a working model situation simulator design; the construction of a working model fire/crash rescue training situation simulator; the test and evaluation of the simulator; a technical report detailing all the work accomplished in the project; and the preparation of a preliminary purchase description specification for the situation simulator.

SECTION II

PROJECT DEVELOPMENT

The Air Force Situation Simulator for Firefighters was developed as a pilot project to study the effectiveness of interactive video instruction for enhanced firefighter training. The study and drill consist of simulated interior and exterior fire scenarios involving the C-141B wide-body aircraft, as well as aircraft familiarization material. System hardware consists of a laser disc storage medium (which permits high speed, random access to large volumes of data), a microcomputer with touch-sensitive screen, and a standard printer.

Rationale for testing interactive video instruction includes its unique advantages:

- realistic audio/visual fire scenarios
- "what-if" capability
- immediate feedback
- standardized training
- accessibility outside the usual training schedule
- low cost
- frees resources for other uses
- self-paced learning

A. PHASE I - PROJECT DEFINITION

In August 1984, personnel from Hughes Associates, Inc., the Air Force Engineering and Services Center, the Military Aircraft Command, Naval Air Systems Command and the U.S. Naval Research Laboratory met to discuss the role interactive videodisc technology could play in Air Force firefighter training. The discussion was based on a proposal by Hughes Associates, Inc. A decision was made to produce a prototype system based on most frequent/most severe incidents.

In late December a meeting was held with instructors at the Air Force's Chanute Technical Training Center Fire School. The main objective was to determine the most frequent/most severe types of incidents involving wide-body aircraft. Based on the discussion, two scenarios were chosen for the prototype system:

1. A wide-body aircraft with interior electrical fire performs safe emergency landing. Plane is carrying litter patients and attendants.

2. An aircraft with 30,000 gallons of JP-4 fuel develops engine fire on the flight line.

The C-141 was chosen as a "typical" wide-body plane.

A tentative list of elements to be included in each scenario was also developed during this meeting.

1. An introduction to the aircraft including cockpit layout, engines, entries and exits, etc. would be developed.

2. A verbal description of the incident (e.g., "A C-141 loaded with hazardous cargo develops a smoking brake during landing") would be included.

3. Where possible, actual film footage of an incident involving conditions used in the scenario.

4. The development of scenario elements including the results and consequences of decisions would be shown with graphics and animation interspersed where possible with actual film footage.

5. A series of decision paths would be available which would lead to control of the incident with various levels of damage and/or injuries. At least one decision path would lead to the destruction of the aircraft and loss of life.

6. Each decision point would have at least three possible decisions, of which one would lead to worsening conditions.

7. Random selection of fire scene conditions would be designed to provide depth of decision-making and to prevent easy mastery of the scenarios.

8. Each scenario would end with:

a. an estimate of injuries to aircraft occupants, firefighters, and/or bystanders;

b. an estimate of fatalities;

c. an estimate of total damage to aircraft and exposures; and

d. a summary of decisions which were significant in the control of the incident and those which caused increased loss or injuries.

Another outcome of the meeting at Chanute was a set of training system goals.

1. Improve skills needed to combat interior and exterior fires on the C-141
2. Reinforce conventional training
3. Stress established procedures
4. Provide experience in size-up
5. Increase aircraft familiarization
6. Improve decision-making skills
7. Build confidence
8. Provide cross-training of personnel
9. Stress need for communications
10. Prepare trainee for promotion
11. Drill in resource utilization

These goals were used as guidelines during all phases of the project.

B. PHASE II - PROJECT DESIGN

The Situation Simulator for Firefighters is designed to supplement and reinforce standard Air Force practice and procedures. All course material is from CDC 57130 and 57150 manuals, IFSTA manuals, and the C-141 flight manual. Where additional information was required, Air Force personnel were consulted. From the broad range of topics covered in the Career Development Course manuals, specific skills were selected to receive particular attention in the prototype program. Specific skills addressed are listed in Figure 1. Figure 2 cross-references these skills to the appropriate section of CDC 57130. All skills addressed are those required by the Air Force for advancement from Level 3 to Level 5.

The C-141 course is designed in two main sections: untimed, unscored study of basic information and skills; and timed, high-pressure application of that knowledge.

Basic skills and information are taught through study of the C-141 Aircraft Information and the Basic Operations segments. The Aircraft Information section is designed to familiarize the student with the aircraft and includes cockpit layout, location of entries, engine diagrams, etc.

HANDLINE OPERATIONS

- o size up
- o locating "seat" of fire
- o placement of agent on fire, not smoke
- o agent selection
- o protection of rescue operations
- o protection of exposures
- o efficient agent application
- o pattern selection

AIRCRAFT FAMILIARIZATION

- o C-141 description
- o cockpit
- o interior plan
- o latches
- o normal entry points
- o emergency entry points
- o cut-in locations

SAFETY

RESOURCE UTILIZATION

- o size up
- o efficient use of apparatus
- o efficient use of firefighters
- o efficient use of agent
- o efficient use of backup assistance

SECURING THE AIRCRAFT

- o electrical
- o APU
- o fuel
- o oxygen
- o emergency engine shutdown

PLACEMENT OF APPARATUS

- o size up at arrival
- o fire location
- o environmental conditions
- o equipment limitations

VENTILATION

- o location selection
- o size up

COMMUNICATIONS

- o reporting to crash control
- o reporting to incident commander
- o discipline - give information as briefly as possible

Figure 1. Skills Addressed in Prototype Course

Video Course Subroutine

Assign Units
Handline
Prefire Plans
Enter Aircraft Ventilation
Secure Aircraft, Prefire Plans
Position Apparatus, Arrival,
Environmental Condition, Rescue,
Turret, Handline
Turret, Handline Hand Extinguisher
Turret, Handline, Penetrator
Handline, Heat Scanner
Command and Control activities
Control, Protect, Extinguish
Control, Protect, Extinguish,
Overhaul
Ventilation
Rescue, Secure Aircraft
Dispatch messages, wind shifts
Assign Units - Units assigned as a
team
Dispatch messages contain required
Game approach - student plays
variety of positions
Turret; handline; position of
apparatus
Rescue, position of apparatus,
turret, handline
Position apparatus, turret, handline
Prefire plans, protect exposures,
rescue, handline, turret, control
fire
Protect exposures, handline, turret
Extinguish fire, turret, handline,
penetrator
Request Assistance, Size up
Overhaul, handline, heat scanner
Exterior scenario
Handline
Game approach
Command and control

AFSC 57130 Crash Firefighter training Objective

Teamwork (p. 6)
Hoseline Pattern Selection (p.6)
Aircraft Components (pp. 9-12)
Entry Procedure (pp. 12-17)
Aircraft Systems (pp. 18-21)
Positioning (pp. 29-31)

Control (p. 31)
Extinguishment (p. 31)
Overhaul (p. 32)
Crew Chief Duties (p. 33)
Turret Operation (p. 33)
Handline Operations (p. 33-35)

Ventilation (pp. 49-50, 129-141)
Rescue (pp. 65-70)
Runway Numbering (C02)
Teamwork (C01)

Dispatch Message Content (C01) information
Cross-training (C01) (C16)

Wind (C10)

Type of Aircraft (C10)

Positioning (C11)
Rescue (C12)

Protection of Exposures (C12) (C13)
Extinguishment (C12)

Use of Auxiliary Equipment (C12)
Overhaul (C13)
Engine fires (C13)
Nozzleman Duties (C16)
Training Progression (C16)
Crew Chief (C16)

Figure 2. Basic Skills

Basic Operations is designed to reinforce materials in IFSTA manuals and in CDC 57150. It covers numerous topics such as extinguishing agents, ventilation, overhaul and handline operations. Each topic has an information section and a series of questions and answers. Basic Operations contains study material and exercises in a number of areas. These include:

1. Control
2. Extinguishment
3. Positioning apparatus
4. Agent selection
5. Protecting exposures
6. Overhaul
7. Ventilation
8. Pattern selection
9. Locations to apply agent¹

The students then have the opportunity to apply this basic knowledge during the interior and exterior fire scenario courses. Both courses are designed in such a way that students who have not mastered basic skills will find it difficult to extinguish the fire and minimize life and property loss within the time allotted. During these courses, the student will gain simulated experience in handline applications, communications, situation assessment, ventilation, resource utilization, rescue, agent selection and rapid decision-making under pressure. The program design will permit the user to experience a fire scenario from two vantage points - that of the line firefighter and the incident commander. This reinforces the need for following directions by allowing the student to experience a fire from another perspective. It also helps prepare students for additional responsibilities and promotion opportunities.

Both the interior and exterior courses contain random variables so that students face different initial conditions each time they play. Variables include fire size at arrival, blocked doors, equipment available, personnel to be rescued, wind, and temperature. Wind speed, direction, and temperature have no effect on the game but are included as distractors to the student.

¹ All course material, including firefighting tactics and techniques, was verified during meetings with Air Force fire protection managers, fire chiefs and training instructors held in Albuquerque NM in May of 1985 and with personnel from AFESC, Tyndall AFB FL throughout the project.

In addition, unlimited variations of the course will be encountered because the fire progression depends on student actions (or lack thereof) and reaction time. The computer program constantly checks the quantity and flow rates of available agent; whether the vehicle is close enough to the chosen application site for the stream to reach; effect of ventilation; smoke level; death and rescue rates; agent application locations; and numerous other factors in order to produce a realistic fire scenario. For instance, in the interior fire, the death rate increases if Halon is used before all passengers are rescued.

A printout of student activity during a scenario will be provided. This printout will also contain a summary of lives lost, property damage, and recommended study topics.

C. PHASE III - PRODUCTION

1. Audio/Visual

Maintaining student interest in computer-based training is facilitated by effective use of audio and visual elements. An extensive review of visual approaches was conducted.

Use of new or existing films was discarded very early. Videodisc production requires high-quality film. Existing footage of this type to support the scenarios being developed was not found. Shooting live fire footage was not feasible.

The next approach considered was cartooning. Two factors eliminated this approach. It was decided that cartoons conveyed too much of a "game" atmosphere and the cost to develop them was very high.

The graphics finally selected mix several approaches. Those used in the Aircraft Information section are still photographs with gfa text overlays. Basic Operations uses computer-generated text and graphics. Both the Interior and Exterior Courses use photographs of the C-141B overlaid with animated smoke and flame. When combined with various audio tracks, the result far exceeds any other graphically simulated fire we have seen.

2. Hardware

Finding a hardware system capable of meeting the requirements for this interactive video program was much more difficult than originally anticipated. A number of systems are on the market and all were considered.

Digital Equipment's IVIS system is currently the top-of-the-line interactive video system available. It was ruled out immediately because of cost (about \$50,000 at this time) for a development unit. Additional units for fire station installation currently cost about \$15,000.

Several reputable companies offer an Apple computer-based system. The main reason for not selecting one was that each component was from a different manufacturer and service could be a problem.

Initial project development was on a Sony SMC 70 system. This arrangement did not work out as expected. Hardware deliveries were held up; software, though promised, was not available; and it had insufficient internal memory.

The prototype was finally delivered on NCR's InteractTV-2 - a unit designed specifically for interactive video training. Appendix B contains technical specifications for this system and a Life Cycle/Cost Analysis is included as Appendix C, covering hardware, maintenance, and supplies.

IBM has announced development of a system similar to NCR's. It is due to be released in March 1986. The two systems should be interchangeable with a minimum of programming effort. It is expected that at least three manufacturers will be in a position to offer systems that will meet Air Force requirements.

SECTION III

TESTING AND EVALUATION

The prototype system was delivered to Andrews Air Force Base on 3 February 1986 for testing and evaluation. It was installed in the training room and was run approximately 8 hours per day, 7 days per week for 3 weeks. A total of 42 fire department personnel with experience ranging from 4 months to 26 years used the system. Each user played a minimum of four Interior Courses, four Exterior Courses, one Basic Operations Unit and one Aircraft Information Unit. Sessions lasted 2 1/2 - 3 hours. Prior to using the Simulator, users were told that they were not being evaluated but were helping to evaluate the machine. They were given a brief description of the system and were assured of the confidentiality of their scores and opinions. At the conclusion of each session, each user was given a survey sheet to complete (Appendix D). A summary of results is provided in Figure 3.

1. Did you like using the Situation Simulator?

	Disliked			Liked Very Much	
(Scale)	1	2	3	4	5
(# of Responses)	1	1	2	12	26

2. How easy was it to use?

	Very Difficult			Very Easy	
(Scale)	1	2	3	4	5
(# of Responses)	1	4	14	13	10

3. Would you like to take more training this way?

	Absolutely Not			Definitely	
(Scale)	1	2	3	4	5
(# of Responses)	1	1	2	5	33

4. Is the Aircraft Information section easy to understand?

	Not Clear			Clear	
(Scale)	1	2	3	4	5
(# of Responses)	0	0	7	12	23

5. Is the Basic Operations section easy to understand?

	Not Clear			Clear		No Response
(Scale)	1	2	3	4	5	
(# of Responses)	0	0	4	15	23	3

6. Were the fire situations realistic?

	Disliked			liked very much		No Response
(Scale)	1	2	3	4	5	
(# of Responses)	0	0	5	12	22	3

Figure 3. User Survey Sheet Summary Andrews Air Force Base

User response to the Situation Simulator was positive. Ninety percent of those tested indicated their desire for more of this type of training. Those individuals who were uncomfortable with the system cited their dislike of a "machine judging people." No correlation was found between acceptance level and age or experience.

SECTION IV

CONCLUSIONS AND RECOMMENDATIONS

Studies conducted on the effectiveness of videodisc training and student acceptance indicate that this approach can be highly successful. The most comprehensive study to date concludes with these general statements:

1. Interactive videodisc represents a new medium, unique from earlier approaches, containing the many strengths, but fewer weaknesses, of other media. It should be treated as distinct and separate from either educational videotape or computer-assisted forms of instruction.
2. New instructional design methods and models should be used to develop new types of instruction if the benefits of the new technology are to be realized.
3. Interactive videodisc instruction which is thoughtfully and systematically developed, and shows creative new instructional strategies, is beginning to demonstrate consistent positive results.
4. Typically, learners who use interactive systems are achieving scores significantly higher than learners using other approaches. They often do this although they spend less time in instruction. Uniformly, these learners report they enjoy and prefer working with interactive videodisc systems over conventional mediated approaches.
5. The concept has been proven, interactive videodisc lessons can be created, the equipment can be successfully integrated, and it stands up, (often better than other video systems) under thousands of hours of use.²

During the testing period at Andrews AFB, the following observations were made:

1. Students became very involved in the simulations.
2. The simulations frequently served as a basis for further discussion with the Training Instructor.
3. Some users stated they were going to go "read the manuals" so that they could "do better next time."

² DeBloois, Michael, Maki, Karen C., Hall, Arno F., The Effectiveness of Interactive Videodisc Training; a Comprehensive Review, The Videodisc Monitor, Falls Church, VA, 1984, p. 53.

4. Most users wanted to come back and try again.

5. Users liked seeing the overall fire scene and how each action they took changed the fire growth and death rate.

There is no doubt that the Situation Simulator can make a significant impact on Air Force firefighter training, both in the area of basic skills (equipment use, first aid, etc.) and in application of that knowledge in fire simulations.

To complete the evaluation of interactive video as an integral component of Air Force firefighter training, it is recommended that:

1. Two to three additional programs should be developed in other subject areas to allow verification of the system's adaptability and acceptance. While maintaining the basic concepts of the C-141 situation simulator, the development of additional programs should include alternative approaches to the training software program. A specific recommendation is for the development of a simulator which, for a specific class of problems, is capable of a large number of different fire scenarios. Here the videodisc-based graphics and computer-generated graphics are used to their maximum advantage, resulting in more flexible training tools. Additional alternative approaches, consistent with the existing simulator should also be investigated.

2. Formal testing and evaluation of the program should be pursued following completion of additional courseware.

3. A computer-based instructional program (using computer-generated graphics only) should be developed and tested to assess user acceptance.

APPENDIX A
USER'S MANUAL

NOTE: So that this can be used separately, a Table of
 Contents is provided and the Figures are not numbered
 as Appendix Figures.

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SECTION I

INTRODUCTION

This training simulation system will help you to develop and maintain the skills needed to be an effective member of a USAF crash/rescue team. These skills will help you to better protect lives and property, as well as advance within your profession.

These training courses are presented in a format which makes the system fun, as well as educational. In a way, they are similar to video arcade games that you may have played. A unique feature of these courses is that you will be able to experience the consequences of your actions and decisions-- both right and wrong. This feedback will help you understand the effects that your decisions, and the order and speed with which you make them, have on the success of a crash/rescue operation.

The consequences of your actions as you go through a particular training course will usually involve:

- Aircraft passengers rescued or killed
- Firefighters killed
- Extent of fire spread
- Amount of property damage

Your job is to rescue as many people as rapidly as you can. You must also control and extinguish the fire properly and as rapidly as possible to minimize damage. Obviously, your results can vary from one extreme to the other each time you attempt a given course.

One important point to remember is that each time you use the system, the situation presented to you will differ from the one before because of the random events in a particular training session. Therefore, you can use the system over and over without repeating a particular scenario.

The remainder of this manual consists of:

- Section II - A discussion of training course objectives and the basis for establishing your accomplishments
- Section III - A description of the training system hardware

- Section IV - The identification of the procedures for interacting with the system
- Section V - A discussion of the actions you can take throughout this simulation
- Section VI - System installation instructions
- Section VII - A summary of training system operating instructions
- Section VIII - System startup procedures

SECTION II

TRAINING COURSE OBJECTIVES

The fundamental objective of the Situation Simulator for Firefighters is to help you develop and maintain your skills in aircraft firefighting and rescue. This knowledge, and simulated experience, will help you to better protect lives and property, as well as to advance within your profession.

Specific training system objectives are to:

- Improve fireground decision-making skills at all grade levels;

- Build confidence at all levels; Prepare trainee for promotional opportunities;

- Enhance cross-training of all fire department personnel;

- Reinforce the use of standard communications procedures;

- Provide reinforcement of conventional training; Stress use of established procedures;

- Provide simulated experience in situation assessment (sizeup);

- Improve the capability to effectively place apparatus and deploy personnel;

- Provide static and dynamic drills in aircraft familiarization, including securing aircraft systems (i.e., engine, electrical, etc.);

- Improve trainee capability to combat interior and exterior fire/rescue operations.

SECTION III

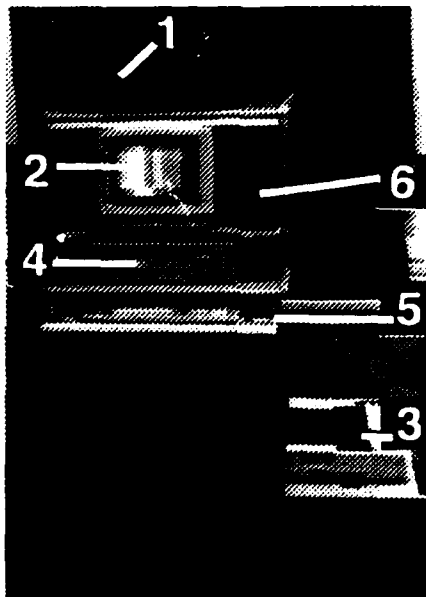
TRAINING SYSTEM HARDWARE

The heart of the system is a laser disc player. This unit plays a disc which is similar in appearance to a long-playing phonograph record, but which contains 30 minutes of audio and video on each side. The disc contains the sights and sounds you will see and hear as you go through the training course.

The video disc player is controlled by a microcomputer. When you enter a decision by touching the screen, this computer determines the expected impact on the fire and selects the corresponding programmed images from the video disc.

The computer monitor is the component of the system which you will use directly. All images and associated audio from the video disc, and messages from the computer, will be received through this monitor. All your instructions to the computer and actions taken throughout the simulation will be entered by touching the screen. When touching the screen, be sure to touch the center of the touch area next to the response that you have selected.

The system also includes a printer which will produce a report at the conclusion of each training session. This report will contain the result you achieved--in terms of life and property loss--and a summary of the actions you took throughout the course.



1. laser disc player
2. microcomputer
3. printer
4. touch sensitive monitor
5. keyboard
6. speaker

Figure 1. Pilot System Hardware - NCR InteracTV2.

SECTION IV

ACTIVITIES ALLOWED

The C-141 course contains four study units, each designed to give you important information about wide-body aircraft firefighting aircraft. Information consists of a "walk-through" of the C-141B including general information, cockpit, engines, etc. Thorough mastery of this section will enhance your effectiveness during actual fires as well as in the simulated fires contained in the course. Basic operation is a review of general firefighting information. This section covers topics such as agent selection, pattern selection, ventilation, etc. Information presented in Basic Operations is designed to reinforce material from Air Force manuals. The Interior and Exterior Courses give you a chance to apply your knowledge of crash/rescue firefighting in simulated fire situations.

When you begin the training course you will be asked to choose a section to work with. The menu will look like this:

- ☐ TRAINING SECTIONS
- ☐ TOUCH CHOICE
- ☐ AIRCRAFT INFORMATION
- ☐ BASIC OPERATIONS
- ☐ EXTERIOR COURSE
- ☐ INTERIOR COURSE
- ☐ SYSTEM INFORMATION
- ☐ EXIT TO SYSTEM

Figure 2. Main Menu.

Touch the circle next to your choice. If, for instance, you touch **AIRCRAFT INFORMATION**, the system will ask you what topic you want to study. Touching **QUIT** at any time during a course returns you to the menu above.

TOUCH Topic to Study

- ☐ **C-141B General Information**
- ☐ **Cockpit**
- ☐ **Engines**
- ☐ **Entrances**
- ☐ **Engine Shutdown**
- ☐ **Quit**

Figure 3. Aircraft Information Menu.

Choosing **BASIC OPERATIONS** leads to a list of study topics. Each topic has both an information and an exercise section designed for self-study.

BASIC OPERATIONS

TOUCH STUDY TOPICS

- | | |
|---|--|
| ☐ AGENT SELECTION | ☐ PATTERN SELECTION |
| ☐ AGENT APPLICATION | ☐ POSITION APPARATUS |
| ☐ CONTROL | ☐ PROTECT EXPOSURES |
| ☐ EXTINGUISHMENT | ☐ VENTILATION |
| ☐ OVERHAUL | ☐ QUIT |

Figure 4. Basic Operations Menu.

Each time you select the Interior or Exterior course you will be given a slightly different situation. For example, a different time of day, weather conditions, or the stage of the fire at the beginning of the training session. You can take each training course many times without repeating the same scenario. You will be given basic background information at the beginning of each course.

You will also be given the number and type of resources available to you.

CRASH 3 / P15 ON SCENE

CRASH 4 / P2 ON SCENE

CRASH 5 / P2 ON SCENE

RESCUE 6 / P10 ON SCENE

ENGINE 7 / STRUCTURAL TRUCK ON SCENE

CRASH 9 / P13 ON SCENE

To go through the training course, you must touch one of the activities listed on the screen.

The activities, as shown here, will always be at the right of the screen. You may touch an activity at any time and as often as you wish. When you touch an activity, the system will automatically lead you through the series of steps necessary to accomplish that activity.

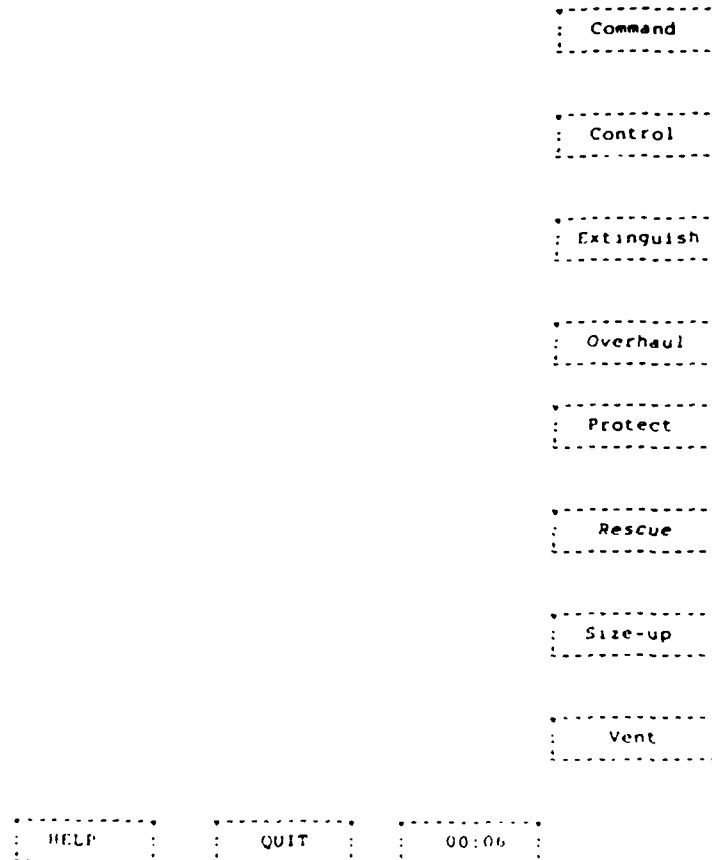


Figure 5. Activity Menu

The following pages show samples of the monitor screens as activities are selected.

Touching **COMMAND** causes the command menu to appear

COMMAND MENU

TOUCH CHOICE

- ☐ POSITION APPARATUS
- ☐ SECURE AIRCRAFT
- ☐ COMMUNICATE
- ☐ REQUEST ASSISTANCE
- ☐ RETURN UNITS

CANCEL

Figure 6. Command Menu.

Touching **POSITION APPARATUS** causes the screen below to appear.

To position apparatus, touch the truck you wish to position (left-hand column) and then touch the position you want it to go to.

You must position apparatus before starting firefighting activities.

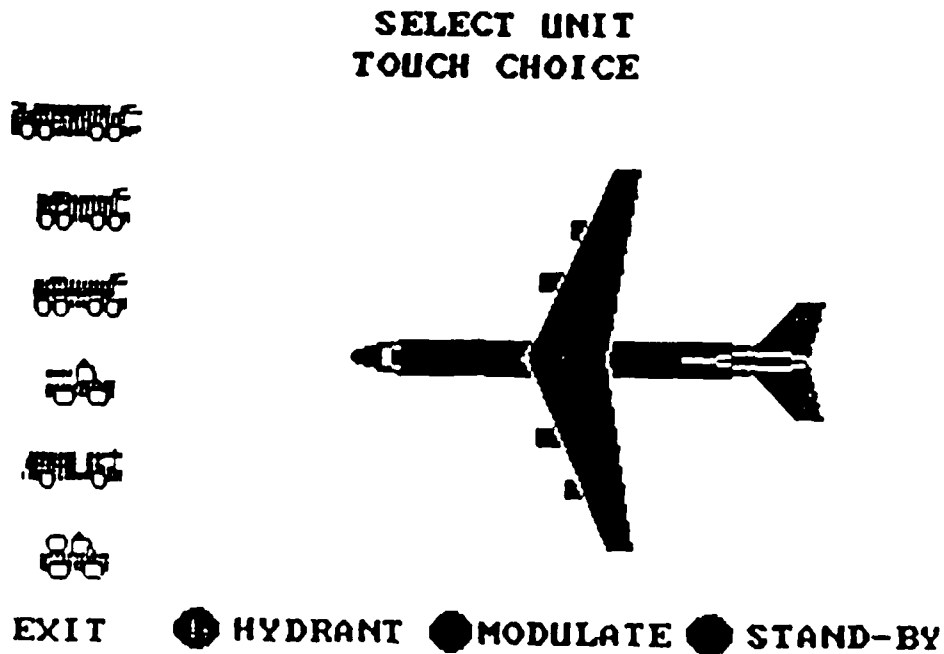


Figure 7. Position Apparatus Menu

When you are finished, touch **EXIT**.

Another choice in the command menu is **SECURE AIRCRAFT**.

Use **SECURE AIRCRAFT** to shut off aircraft systems (electrical, engine, oxygen, etc.)

Touching **COMMUNICATE** permits the student to select and see either of two reports below.

SITUATION STATUS

WING AND ENGINE FIRE = 150

RUNNING FUEL FIRE = 5 FEET

FUEL SPILL = 780 SQUARE FEET

POOL FIRE = 780 SQUARE FEET

GAME TIME = 321 SECONDS

TOUCH TO CONTINUE

UNIT STATUS

<u>UNIT</u>	<u>STATUS</u>	<u>ASSIGNMENT</u>
CRASH 3	STANDING BY	
CRASH 4	IN POSITION	HANDLINE
CRASH 5	IN POSITION	
RESCUE 6	STANDING BY	
ENGINE 7	NOT ON SCENE	
CRASH 9	STANDING BY	

TOUCH TO CONTINUE

Figure 8. Communicate Options.

Touch **REQUEST ASSISTANCE**

To call for additional help. You may select additional help from the menu below.

TOUCH CHOICE

- ☐ OFF-DUTY PERSONNEL
- ☐ AIRCRAFT MAINTENANCE
- ☐ DISASTER CONTROL
- ☐ SCBA AIR RESUPPLY
- ☐ MUTUAL AID FIRE
- ☐ FOAM RESUPPLY
- ☐ TECH SERVICES

CANCEL

Figure 9. Request Assistance Menu

CONTROL, EXTINGUISH, PROTECT

These activities are the heart of firefighting. Each is accomplished by making a series of choices. For example touching **CONTROL** produces the following screen.

HOW WOULD YOU LIKE TO CONTROL?

TOUCH CHOICE

- ☐ HANDLINE
- ☐ PENETRATOR
- ☐ PORTABLE EXTINGUISHER
- ☐ TURRET

CANCEL

Figure 10. Control Menu

Selecting (touching) **HANDLINE** or one of the other choices in the previous menu results in appearance of the following screen.

SELECT AGENT

TOUCH CHOICE

☐ AFFF

☐ DRY CHEMICAL

☐ HALON

☐ WATER

Figure 11. Agent Selection Menu

When an agent is selected by touching the previous screen, the screen below appears which provides numerous choices of where to enter the aircraft.

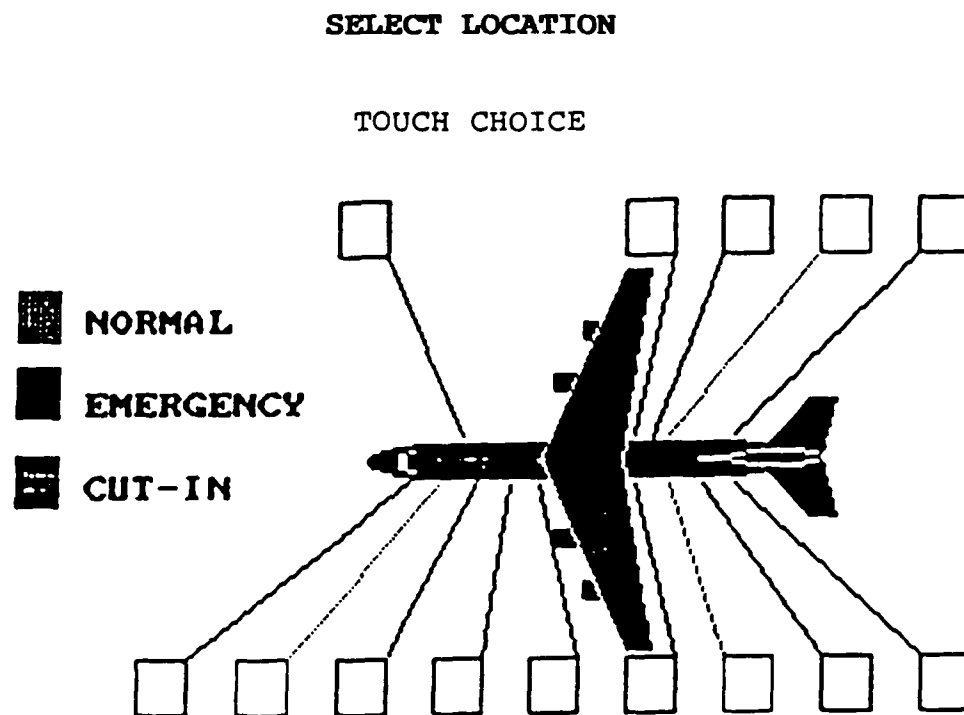


Figure 12. Entrance Selection Menu.

The next screen to appear after an entry location is selected is:

HOW WOULD THIS DOOR BE OPENED?

TOUCH CHOICE

- ☐ PULL T-HANDLE, ROTATE CLOCKWISE
- ☐ PRESS TRIGGER, ROTATE COUNTERCLOCKWISE
- ☐ LIFT RELEASE RING, PULL UPWARD
- ☐ STRIKE BUMP PLATE

CANCEL

Figure 13. Door Entrance Procedure Menu

If the door is opened correctly you will then enter the aircraft and be given further decisions to make.

VENT

Touching **VENT** in the activities list will permit you to ventilate the aircraft through doors, hatches, and designated cut-in areas. After choosing where you want to ventilate, you will go through a series of steps to complete the ventilation process. If you wish to ventilate in more than one area, you must complete the process for the first location, and then touch **VENT** again to repeat the procedure.

RESCUE

Rescue allows you to assign a team (or teams) to rescue duty.

CANCEL

Cancel the assignment you are in the process of making.

SIZE-UP

Size-up is used to send an initial report of conditions to control.

HELP

Help permits you to review aircraft information and system information.

QUIT

Quit returns you to the opening menu.

CLOCK

The clock records the elapsed game time.

To help you review your training, you will get a printout of your results at the conclusion of the scenario. This printout will include a general description of the situation presented to you; what actions you took in what order; when and how long it took you to accomplish various activities; if, or when, rescue and extinguishment were completed; and the number of lives lost and extent of property damage. Figure 14 is a sample print-out.

C-141
SITUATION SIMULATOR
FOR
FIRE FIGHTERS

EXTERIOR COURSE

INITIAL DISPATCH / ARRIVAL

CRASH 3 ON SCENE

CRASH 4 ON SCENE

CRASH 5 ON SCENE

RESCUE 6 ON SCENE

ENGINE 7 ON SCENE

CRASH 9 ON SCENE

Figure 14. Sample Printout, Exterior Course.

POSITIONS AROUND AIRCRAFT

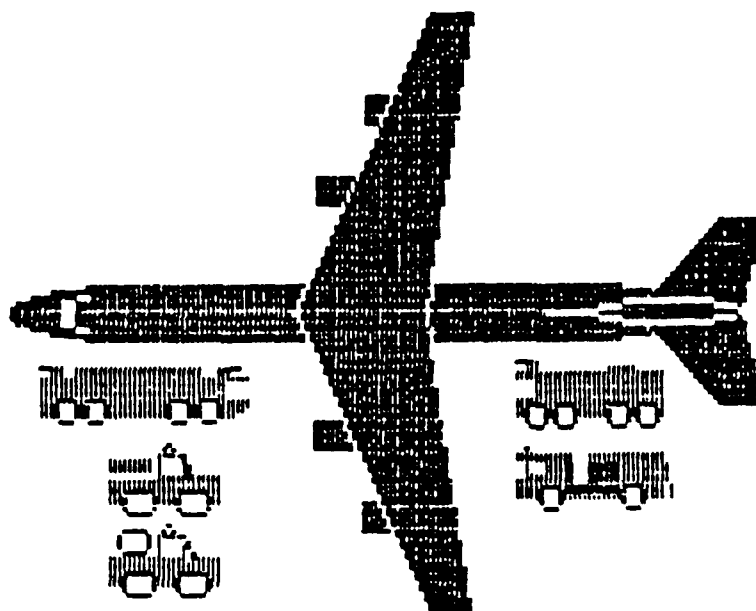


Figure 14. Sample Printout, Exterior Course (Continued).

DECISIONS MADE BY THE STUDENT

ACTIVITY	EXTINGUISH/TURRET
UNIT ASSIGNED	CRASH 3/P15
TIME	45 SECONDS
FIRE SIZE	4 FEET
ACTIVITY	EXTINGUISH/TURRET
UNIT ASSIGNED	CRASH 4/P2
TIME	66 SECONDS
FIRE SIZE	6 FEET
ACTIVITY	EXTINGUISH/TURRET
UNIT ASSIGNED	CRASH 3/P15
TIME	158 SECONDS
FIRE SIZE	20 FEET
ACTIVITY	EXTINGUISH/TURRET
UNIT ASSIGNED	CRASH 4/P2
TIME	183 SECONDS
FIRE SIZE	45 FEET
ACTIVITY	EXTINGUISH/HANDLINE
UNIT ASSIGNED	CRASH 9/p13
TIME	220 SECONDS
FIRE SIZE	7 FEET
ACTIVITY	EXTINGUISH/HANDLINE
UNIT ASSIGNED	CRASH 9/p13
TIME	255 SECONDS
FIRE SIZE	6 FEET
ACTIVITY	RESCUE
UNIT ASSIGNED	RESCUE 6/P10
TIME	269 SECONDS
FIRE SIZE	6 FEET
ACTIVITY	SECURE A/C
UNIT ASSIGNED	ENGINE7/STRUCTURAL TRUCK
TIME	308 SECONDS
FIRE SIZE	6 FEET

Figure 14. Sample Printout, Exterior Course (Continued).

INITIAL FIRE CONDITIONS

HEAVY SMOKE COMING FROM ENGINE, FLAMES AT REAR OF ENGINE JUST BECOMING VISIBLE

DAMAGE TO PLANE

ENGINE TOTALLY DESTROYED, WING SUFFERED ONLY MINOR DAMAGE

GENERAL COMMENTS/SUGGESTED STUDY AREAS

THE FIRST ACTION TAKEN BY THE STUDENT IN ANY FIRE EMERGENCY SHOULD BE TO SIZE UP THE SITUATION

ALWAYS SEARCH THE AIRCRAFT TO MAKE SURE NO ONE IS ON BOARD

Figure 14. Sample Printout, Exterior Course (Concluded).

That's it! You can know how to use this training system
- but we haven't given all our secrets away, so stay alert.
Good luck and have fun.

SECTION V

INSTALLATION INSTRUCTIONS

A. HOW TO COPY THE PROGRAM TO THE HARD DISK

Insert your DOS disk in drive A and turn on the system. When the screen displays a prompt (A , B , or C), remove the system disk and place disk #1 of the program in the drive. Type

```
COPY A:*. * C:*. *
```

Then hit Enter. A list of files that have been copied will be displayed on the screen. When the process is complete, the same prompt as before should appear on the screen.

Example:

```
A>COPY A:*. * C:*. *  
A:VCONFIG.EXE  
A:ITVDIAG.EXE  
A:ITV9550.EXE  
A:ITVTOUCH.COM  
A:ITVSYS2.COM  
A:ITV1000.COM  
A:BASVID.LIB  
    7 File(s) copied
```

```
A>
```

Repeat copy procedure with disk #2 of software.

When the A> appears type C and hit Enter.

Proceed to calibrate the touchscreen following the instructions on the next page starting with step 2.

B. HOW TO CALIBRATE THE TOUCHSCREEN

Step 1: Exit to the computer operating system from the main menu.

TRAINING SECTIONS TOUCH CHOICE

AIRCRAFT INFORMATION

BASIC OPERATIONS

EXTERIOR COURSE

INTERIOR COURSE

SYSTEM INFORMATION

EXIT TO SYSTEM

Step 2: The C drive prompt will appear C , type "itvdiag" and hit the Enter key. The NCR diagnostics program menu will appear. Choose 8 by hitting "8" key and follow the instructions.

NCR Video System Diagnostics

- 1 Software Drive Summary
- 2 Linearity/White/Black
- 3 Color Bars
- 4 Video Disc Player
- 5 Video Mixer
- 6 Graphics Adapter
- 7 Touch Screen Test
- 8 Calibrate Touch Screen
- X Exit to DOS

SELECT

To return to the operating system, hit the "x" key. Once in the operating system C will appear. Type "vintro" and hit the enter key to restart the course.

C. SYSTEM HOOK-UP

Your Situation Simulator will be assembled for you when delivered. If it becomes necessary to disassemble the equipment, Figure 15 should be used as a guide to connecting the cables.

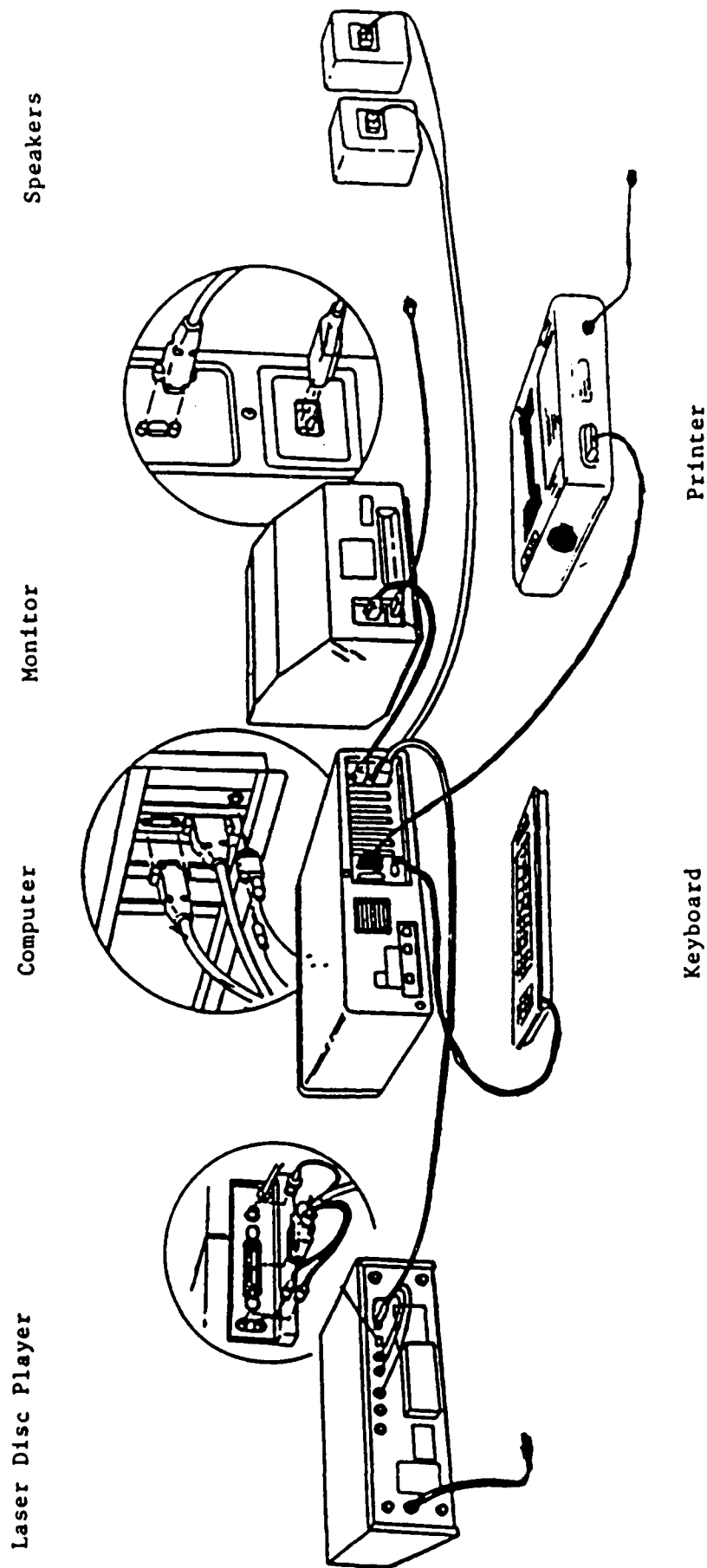


Figure 15. System Hook-up.

SECTION VI

SYSTEM OPERATING INSTRUCTIONS

A. SUMMARY

1. The objective of this simulation-based training course is to rescue as many people as rapidly as you can, and to control and extinguish the fire properly and as rapidly as possible to minimize damage.

2. Each time you use the training system you will be given a slightly different situation. Thus, you can use the system many times to continue to develop your knowledge and skills.

3. You will be given basic information such as environmental conditions, resources on duty, etc., before starting a training session. This information can also be obtained during the simulation through the Help or Communicate functions.

4. Instructions on using the system are always available to you, even during the course of the simulation through the Help function.

5. You may review Aircraft Information before, or during, a simulation through the Help or Communicate functions.

6. The touchscreen monitor is the only device you will need to use.

7. All images and audio associated with the simulation will be received through this screen.

8. Your instructions to the system will be entered by touching the screen in the designated areas.

9. When touching the screen, be sure to touch the center of the touch area next to the response that you have selected.

10. Upon completion of a training session, you will receive a report of the results you achieved in terms of life and property loss. A summary report will be displayed on the monitor and a detailed report will be printed.

SECTION VII

SYSTEM STARTUP PROCEDURES

Once the system has been installed (see Section V), startup is simple. Turn the system on, using the switch located on the power strip, and sit back. In one minute, the Situation Simulator is ready to use.

Turning the system off is accomplished the same way-flip the switch.

If the touchscreen is not working right, "Exit to System" and refer to Section V, "How to Calibrate the Touchscreen."

SECTION VIII

SITUATION SIMULATOR FOR FIREFIGHTERS QUICK REFERENCE

All commands are issued by touching the appropriate area of the screen

Main Menu

Aircraft Information - basic facts about the C-141B

Basic Operations - review of general fire fighting principles

Exterior Course - a simulated engine fire

Interior Course - a simulated interior electrical fire

Activities Allowed

Use COMMAND to:

- Position Apparatus
- Secure Aircraft
- Communicate
- Request Backup Assistance
- Return Units

Use CONTROL to control the fire

Use EXTINGUISH to extinguish the fire

Use OVERHAUL to overhaul the plane

Use PROTECT to protect exposures

Use RESCUE to rescue personnel

Use SIZE-UP to send initial message to Crash Control

Use VENT to ventilate the aircraft

Use HELP to review Aircraft Information or the activities allowed

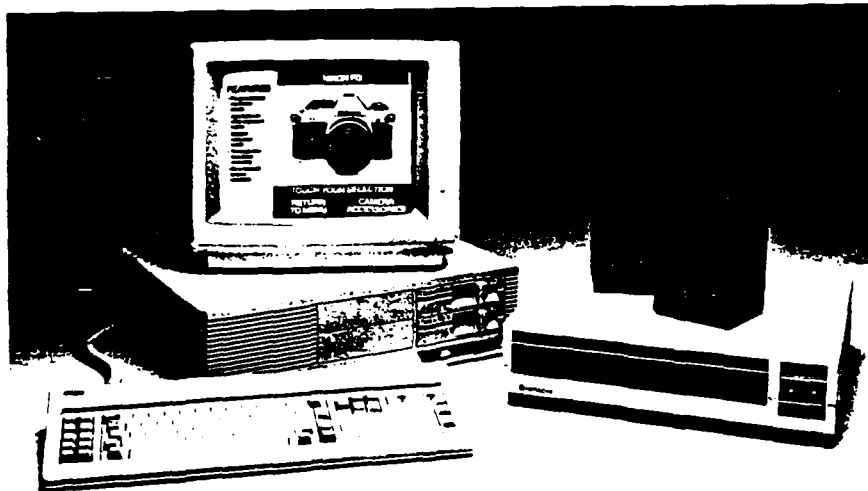
Use QUIT to go back to the main menu

Use CLOCK records elapsed time from arrival on the fire scene

NOTE: Just as in real life, there is a delay between the time you issue a command and the time it is executed!

APPENDIX B
INTERACTV2 DESCRIPTION

NCR InteracTV-2™



Introducing InteracTV-2, the newest, standalone Level III interactive video system from NCR.

InteracTV-2 offers the most advanced features available. Including a state-of-the-art graphic overlay that simultaneously combines full (not partial) resolution of 640 x 400 pixels with full 80 column x 25 line text on a 14-inch color monitor. An interactive laser disc control allowing for random display of up to 54,000 pictures or 30 minutes of moving video per side of a videodisc. Special effects like fade-in and fade-out. Full PC-compatibility NTSC and PAL compatibility. An optional touch screen that redefines user-friendliness. And much more.

A powerful tool for product sales and promotion, training, or information distribution, InteracTV-2 allows you, your employees, and your customers to instantly interact with the information presented in a whole new way.

And it's all available in one easy-to-afford system.

InteracTV-2 Features

- Level III interactive video system
- PC, XT hardware/software compatible
- High resolution analog RGB monitor
- Overlay of text and graphics on a single monitor at high resolution (640x400) with 16 colors
- Intensity of video image can be varied under software control (Fade-in - Fade-out)
- NTSC or PAL video interface
- Dual channel audio amplifier
- Supported with authoring language and systems: NCR Pilot II™ and ITS Authority™
- Bundled toolware disk
- Exceptionally competitive price
- Excellent NCR service and support

InteracTV-2 Accessories

- Choice of three industrial laser videodisc players
- Optional resistive touch screen
- Graphics software
- Two audio speakers
- Variety of industry standard PC peripherals and options available

Systems Components

- InteracTV-2 processor
- Video and graphic controller boards
- Analog RGB monitor with touch screen
- Analog RGB monitor without touch screen
- Pioneer LD-V1000 disc player (NTSC)
- Hitachi 9550 disc player (NTSC)
- Philips 831 disc player (PAL)
- Speaker pair

Specifications

Standard Software

- Operating System
- NCR-DOS™

Language

- GW-BASIC

Tutorials

- NCR PAL™
- NCR TUTOR™

Operating Aids

- On-Line NCR HELP™
- NCR User Interface
- RAM Disk
- User Diagnostics

Supported Languages

- GW-BASIC™

- NCR PILOT II

- LATTICE C

Toolware

- Touch screen driver
- Touch screen calibrator
- Video system configurator
- Boot loader
- Scroll routine

Central Processor

- Dual speed 16-bit 8088-2 (4 77/8 00MHz)

Memory

- RAM-256KB
- Upgradable to 640KB on main board
- ROM-16KB

Video Display System

- 14" full color analog monitor
- 0.31mm dot-pitch high resolution
- 60 Hz refresh (interlaced)
- 525 scan lines (NTSC); 625 (PAL)
- 16 color text and graphics
- Full color TV video

Graphics

- 640 horizontal by 400 vertical graphic pixels (2:1 interlaced)

Text

- 80 characters/line

- 25 lines

Overlay Enhancer

- Overlays TV video with text and graphics

- Internal analog mixer

- Analog fade dissolve

- Opaque graphics mode

- Translucent graphics mode

- Variable intensity graphics

Video Inputs

- 1.0v p-p nominal 0.3 negative sync NTSC format

- 75 ohm terminated input

Keyboard

- Detachable low-profile

- Alphanumeric and numeric key pad

- 10 programmable function keys

Drives

- Drive Positions

- Four 5 25" half-high available

Floppy Disk

- 5 25" integrated

- 160/180/320/360KB

Hard Disk

- 5 25" integrated 20MB

Tape

- 5 25" integrated 10MB

- Multi-mode tape drive

Options

Video Output Adapters

- RGB RS-170 composite sync

- 75 ohm source impedance

Peripheral Adapter

- Centronics parallel interface

- RS-232C serial interface

Communications Adapter

- RS-232C serial interface (async/sync)

- NCR PC2PC™ local area network

Physical Dimensions:

Processor

- Height - 5 5"

- Width - 19 5"

- Depth - 15 0"

- Weight - 23 lbs

- (without drives)

Keyboard

- Height - 1 8"

- Width - 20 5"

- Depth - 7 9"

- Weight - 2 9 lbs

Power Requirements:

Power Requirements

- 115/230 Volts AC

- 50/60 Hz

Environmental

- 10-35 degrees C operating temperature

- Relative Humidity

- 8-80%

Videodisc Player

- Pioneer, Hitachi: 110/120 volts at 50/60 Hz

- 50 watts

- Phillips: 220/240 50 Hz 50 watts

NCR

APPENDIX C
LIFE CYCLE COST ANALYSIS

LIFE CYCLE COST ANALYSIS

Situation Simulator for Fire Fighters

	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Total
1. Hardware	\$1770.00	\$1770.00	\$1770.00	\$1770.00	\$1770.00	\$ 8850.00
2. Maintenance	800.00	800.00	800.00	800.00	800.00	4000.00
3. Supplies (Paper, ribbons)	<u>174.00</u>	<u>181.00</u>	<u>188.00</u>	<u>196.00</u>	<u>204.00</u>	<u>943.00</u>
Total	\$2744.00	\$2751.00	\$2758.00	\$2766.00	\$2774.00	\$13,793.00

Hardware costs are based on the per system cost of NCR's InteractV2, cabinet, and a standard 80 column printer. Although five years was chosen as the life cycle of this equipment, with regular maintenance it can be expected to last well beyond this period.

APPENDIX D
TEST AND EVALUATION DATA

Survey Sheet

How often did you use:

1. Did you like using the situation simulator? (circle answer)

Why? _____

Why? _____

Why? _____

Why? _____

5. Is the information presented in the Basic Operations section easy to understand?

1 2 3 4 5
not clear clear

Why? _____

6. Were the fire situations realistic? (circle answer)

1 2 3 4 5
disliked liked very much

Why? _____

7. What changes would you make to the Situation Simulator?

8. Comments: This was very helpful and can be used
for many other aspects of the fire service

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

data base-
name "c"

Survey Sheet

Date: 2/3 AFSC: 57130 Location: Andrews
& no. experience

How often did you use:

Interior Course /// Exterior Course ///
Aircraft Information 1 Basic Operations 1

1. Did you like using the situation simulator? (circle answer)

1 2 3 (4) 5
disliked liked very much

Why? But computers were always making people upset or
upset.

2. How easy was it to use? (circle answer)

1 2 3 (4) 5
very difficult very easy

Why? Should sit down for awhile and learn all
commands

3. Would you like to take more training this way? (circle answer)

1 (2) 3 4 5
absolutely not definitely

Why? Don't like the idea of computer's judging
a human ability.

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 (3) 4 5
not clear clear

Why? Some things need to be reworded such as
Exit, Cancel, etc

5. Is the information presented in the Basic Operations section easy to understand?

1 2 3 4 5

not clear

clear

Why? Need more time to understand and reach

6. Were the fire situations realistic? (circle answer)

1 2 3 4 5

disliked

liked very much

Why? Excellent video of real life situations

7. What changes would you make to the Situation Simulator?

~~Have a control board~~ Have a control board were
you can control by hand then by touchscreen.

8. Comments: I enjoyed the simulator very much
at some points I got very uptight by using
the computer

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: 3 FEB 86 AFSC: 37150 Location: ANDREWS
3 years experience

How often did you use:

Interior Course 4 Exterior Course 4
Aircraft Information Basic Operations

1. Did you like using the situation simulator? (circle answer)

1 2 3 4 (4) 5

disliked

liked very much

Why? yes BECAUSE IT SAVES you THE BASIC STUFF
IT LETS you MAKE MISTAKES AND LEARN FROM
THEM.

2. How easy was it to use? (circle answer)

1 2 3 (3) 4 5

very difficult

very easy

Why? you HAVE TO GET USED TO THE MACHINE, TO HOW
THE DIFFERENT PARTS ARE AT AND HOW THE
CONTROLS ARE.

3. Would you like to take more training this way? (circle answer)

1 2 3 4 (4) 5

absolutely not

definitely

Why? ITS GOOD TO GIVE you THE DECISIONS TO MAKE
BEFORE THE ACTUAL AND ON SCENE ARE 2 DIFFERENT THINGS
WILL IN FIRE BEHAVIOR.

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 3 4 5 (5)

not clear

clear

Why? VERY CLEAR, EXPLAINS SYSTEMS WELL

5. Is the information presented in the Basic Operations section easy to understand?

1 2 3 4 5

not clear

clear

Why? Operations were explained well

6. Were the fire situations realistic? (circle answer)

1 2 3 4 5

disliked

liked very much

Why? very much To what can happen and what
does

7. What changes would you make to the Situation Simulator?

Being able to resupply, working with it
more To where I know the machine.

8. Comments: I enjoyed the use of the simulator
very much and I wish to use it in the
future. It gave me problems very life like
and I could make a decision and see what
happens.

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: 2/4 AFSC: 57150 Location: Andrews
7 years experience

How often did you use:

Interior Course 4 Exterior Course 4
Aircraft Information 1 Basic Operations 1

1. Did you like using the situation simulator? (circle answer)

1 2 (3) 4 5
disliked liked very much

Why? you can see how the fire go thru different
stage

2. How easy was it to use? (circle answer)

1 (2) 3 4 5
very difficult very easy

Why? _____

3. Would you like to take more training this way? (circle answer)

1 2 (3) 4 5
absolutely not definitely

Why? don't need to know this much

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 (3) 4 5
not clear clear

Why? color blind

- 1 2 3 4 5

clear

- 1 2 3 4 5

liked very much

Why? graphs aren't continuous enough

-
-
-
-

-
-
-
-
-
-

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: 2/4 AFSC: 57150 Location: Andrews

How often did you use:

Interior Course //// Exterior Course ////
Aircraft Information 1 Basic Operations 1

1. Did you like using the situation simulator? (circle answer)

1 2 3 (4) 5
disliked liked very much

Why? _____

2. How easy was it to use? (circle answer)

1 2 3 4 (5)
very difficult very easy

Why? _____

3. Would you like to take more training this way? (circle answer)

1 2 3 4 (5)
absolutely not definitely

Why? _____

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 3 4 (5)
not clear clear

Why? _____

- Why? _____
- _____
- _____

- Why? _____
- _____
- _____

- If possible, quicker reactions as far as pulling lines and turret operations go. Everything else was very realistic.

- 65

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: 2/4/86 AFSC: 57/30 Location: Andrews
7 mos experience

How often did you use:

Interior Course _____ Exterior Course _____
Aircraft Information _____ Basic Operations _____

1. Did you like using the situation simulator? (circle answer)

1 _____ 2 _____ 3 _____ 4 _____ (5)

disliked

liked very much

Why? I think makes learning a lot
more fun & interesting.

2. How easy was it to use? (circle answer)

1 _____ 2 _____ (3) _____ 4 _____ 5

very difficult

very easy

Why? Being a 3 level I thought it was
a little over my head but I still learned
a lot about Basic Operations

3. Would you like to take more training this way? (circle answer)

1 _____ 2 _____ 3 _____ 4 _____ (5)

absolutely not

definitely

Why? It's interesting & fun also challenging.

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 _____ 2 _____ 3 _____ 4 _____ (5)

not clear

clear

Why? _____

- 1 2 3 4 5
-
- not clear clear

Why? _____

- 1 2 3 4 5
disliked liked very much

Why? Not to The lack of actual fire situations.
I really couldn't say.

- None that I know of. I think
It Does exactly what its intended
to do

8. Comments: It makes learning both challenging
and interesting. I enjoyed it!
I want another chance!

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: 2/5/86 AFSC: 57150 Location: Andrews
5 years experience

How often did you use:

Interior Course 4 Exterior Course 5
Aircraft Information Basic Operations

1. Did you like using the situation simulator? (circle answer)

1 2 3 4 5

disliked

liked very much

Why? The stages of speed and high loss factors
will really make you think

2. How easy was it to use? (circle answer)

1 2 3 4 5

very difficult

very easy

Why? Anybody can understand.

3. Would you like to take more training this way? (circle answer)

1 2 3 4 5

absolutely not

definitely

Why? you can see what you forgot to
accomplish right away on print out.

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 3 4 5

not clear

clear

Why? It's easy to understand but to
many variations of terms

5. Is the information presented in the Basic Operations section easy to understand?

1 2 3 4 5

not clear

clear

Why? _____

6. Were the fire situations realistic? (circle answer)

1 2 3 4 5

disliked

liked very much

Why?

The fuel flow and line deviations
were at the engine ports at all times

7. What changes would you make to the Situation Simulator?

1. Either a keyboard or joystick for vehicle
2. Some type of Verbal Command Module

- 8.

Comments:

I liked this very much and
would like to have one to utilize at
all times for various aircraft.

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: 2/5 AFSC: 5750 Location: Andrews

How often did you use:

Interior Course 1 Exterior Course 1
Aircraft Information 1 Basic Operations 1

1. Did you like using the situation simulator? (circle answer)

1 2 3 4 5

disliked

liked very much

Why? _____

2. How easy was it to use? (circle answer)

1 2 3 4 5

very difficult

very easy

Why? _____

3. Would you like to take more training this way? (circle answer)

1 2 3 4 5

absolutely not

definitely

Why? _____

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 3 4 5

not clear

clear

Why? _____

5. Is the information presented in the Basic Operations section easy to understand?

1 2 3 4 5
not clear clear

Why? _____

6. Were the fire situations realistic? (circle answer)

1 2 3 4 5
disliked liked very much

Why? _____

7. What changes would you make to the Situation Simulator?

8. Comments: _____

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: 2/5/86 AFSC: 57150 Location: Andrews
25 years experience

How often did you use:

Interior Course 4 Exterior Course 4
Aircraft Information Basic Operations

1. Did you like using the situation simulator? (circle answer)

1 2 3 (4) 5

disliked

liked very much

Why? IT IS INTERESTING AND IT GIVES A PERSON
WHO DOESN'T GET A CHANCE AT COMMAND &
CONTROL TO SEE WHAT HE CAN DO

2. How easy was it to use? (circle answer)

1 2 3 4 (5)

very difficult

very easy

Why? Just touch the screen

3. Would you like to take more training this way? (circle answer)

1 2 3 4 (5)

absolutely not

definitely

Why? I think it could be a good training aid

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 (3) 4 5

not clear

clear

Why? OK. Some things could be easier

5. Is the information presented in the Basic Operations section easy to understand?

1 2 3 4 5

not clear

clear

Why? it was OK

6. Were the fire situations realistic? (circle answer)

1 2 3 4 5

disliked

liked very much

Why? IT IS what you would expect to see

7. What changes would you make to the Situation Simulator?

from what I see there is only one way
to win!! But in this business there is
no one way to accomplish extinguishment
But the end results can be the same

8. Comments: Just as Dry Chemical on a Running
Fuel Fire

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: 2/6 AFSC: 5730 Location: Andrews
7 years experience

How often did you use:

Interior Course 11/67 Exterior Course 11/17
Aircraft Information 3/7 Basic Operations 1/1

1. Did you like using the situation simulator? (circle answer)

1 2 3 4 (5)

disliked

liked very much

Why? WAS FUN + A CHALLENGE

2. How easy was it to use? (circle answer)

1 2 3 (4) 5

very difficult

very easy

Why? SOME DIFFICULTY AT FIRST UNTIL
Familiarized

3. Would you like to take more training this way? (circle answer)

1 2 3 4 (5)

absolutely not

definitely

Why? EASIER, NO BOSSY INSTRUCTOR
hangings over you - making you nervous

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 3 4 (5)

not clear

clear

Why? Presented in a clear understandable
style

5. Is the information presented in the Basic Operations section easy to understand?

1 2 3 (4) 5

not clear

clear

Why? Basically - I didn't know anything
about C-141's

6. Were the fire situations realistic? (circle answer)

1 2 3 (4) 5

disliked

liked very much

Why? Sort of - all began the same
+ some were the same type fire
repeatedly

7. What changes would you make to the Situation Simulator?

beginnings + all fires completely
different

8. Comments: NONE

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: 2-11 AFSC: 57150 Location: Andrew
13 years experience

How often did you use:

Interior Course /// Exterior Course ///
Aircraft Information / Basic Operations /

1. Did you like using the situation simulator? (circle answer)

1 2 3 4 5

disliked

liked very much

Why? TRAINING IS NEEDED
FOR THIS TYPE OF
SITUATION

2. How easy was it to use? (circle answer)

1 2 3 4 5

very difficult

very easy

Why? — SELF EXPLANATORY

3. Would you like to take more training this way? (circle answer)

1 2 3 4 5

absolutely not

definitely

Why? ON MY TIME, IN ANOTHER
WORDS, MORE OF MY SPARE TIME
WOULD BE USED ON THIS TYPE OF
TRAINING PROGRAM

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 3 4 5

not clear

clear

Why? SELF EXPLANATORY, but you
CAN'T FORGET COMMON SENSE

5. Is the information presented in the briefings section easy to understand?

1 2 3 4 5
not clear clear

Why?

6. Were the fire situations realistic? (circle answer)

1 2 3 4 5
disliked liked very much

Why? SHOWS AIRCRAFT ACTUAL

7. What changes would you make to the Situation Simulator?

NA

8. Comments: THIS TYPE OF TRAINING
SHOULD NOT BE USED UNTIL A
FIRE FIGHTER HAS ENOUGH TRAINING
ON AREA'S OF Command & Control

Survey Sheet

How often did you use:

1. Did you like using the situation simulator? (circle answer)

2. How easy was it to use? (circle answer)

3. Would you like to take more training this way? (circle answer)

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

Why? _____

5. Is the information presented in the Basic Operations section easy to understand?

1 2 3 4 5

not clear

clear

Why? _____

6. Were the fire situations realistic? (circle answer)

1 2 3 4 5

disliked

liked very much

Why? _____

7. What changes would you make to the Situation Simulator?

None.

8. Comments: It was an easy way to

learn how to react in an

actual situation.

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: 2/6/86 AFSC: 57130 Location: Andrews
5 mos experience

How often did you use:

Interior Course _____ Exterior Course _____
Aircraft Information _____ Basic Operations _____

1. Did you like using the situation simulator? (circle answer)

1 _____ 2 _____ 3 _____ 4 _____ 5 (5)

disliked

liked very much

Why? EDUCATE'S YOU AS WELL AS ENTERTAIN'S.

2. How easy was it to use? (circle answer)

1 _____ 2 _____ 3 (3) 4 _____ 5 _____

very difficult

very easy

Why? I personally am Not Familiar With
Computers.

3. Would you like to take more training this way? (circle answer)

1 _____ 2 _____ 3 _____ 4 _____ 5 (5)

absolutely not

definitely

Why? Educational

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 _____ 2 _____ 3 _____ 4 _____ 5 (5)

not clear

clear

Why? Same Information Taught
at Tech-School.

- 1 2 3 4 5
not clear clear

- 1 2 3 4 5
disliked liked very much

- NONE

-
-
-
-

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: 7 Feb 86 AFSC: 57190 Location: HQ TAC/DEMF
25 years experience Langley AFB VA.

How often did you use:
Interior Course 1 Exterior Course
Aircraft Information Basic Operations

1. Did you like using the situation simulator? (circle answer)

1 2 3 4 5
disliked liked very much

Why? I think it will be cert
effective to the pilot

2. How easy was it to use? (circle answer)

1 2 3 4 5
very difficult very easy

Why? Just follow instructions

3. Would you like to take more training this way? (circle answer)

1 2 3 4 5
absolutely not definitely

Why? makes a firefighter think
for his or herself

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 3 4 5
not clear clear

Why?

5. Is the information presented in the Basic Operations section easy to understand?

1 2 3 4 5
not clear clear

Why? _____

6. Were the fire situations realistic? (circle answer)

1 2 3 4 5
disliked liked very much

Why? _____

7. What changes would you make to the Situation Simulator?

nothing at this time

8. Comments:

I think it will help fire series throughout the Academy.

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: 2-7-86 AFSC: 57170 Location: _____

How often did you use:

Interior Course 4 Exterior Course 4
Aircraft Information 1 Basic Operations 1

1. Did you like using the situation simulator? (circle answer)

1 _____ 2 _____ 3 _____ 4 _____ 5 (5)

disliked

liked very much

Why? Actual Thinking & Knowledge Situations

2. How easy was it to use? (circle answer)

1 _____ 2 _____ 3 _____ 4 (4) 5 _____

very difficult

very easy

Why? Finger Touch

3. Would you like to take more training this way? (circle answer)

1 _____ 2 _____ 3 _____ 4 _____ 5 (5)

absolutely not

definitely

Why? Very much of Visual work is almost of
real situations

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 _____ 2 _____ 3 _____ 4 _____ 5 (5)

not clear

clear

Why? I.O. Information that personnel should know

5. Is the information presented in the Basic Operations section easy to understand?

1 2 3 4 5

not clear

clear

Why? General Knowledge

6. Were the fire situations realistic? (circle answer)

1 2 3 4 5

disliked

liked very much

Why? The Best I have ever seen.

7. What changes would you make to the Situation Simulator?

Number Vehicles on Screen

8. Comments: I don't need more Disc's of Aircraft
And Structural Situations

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: 2/7/86 AFSC: 57XX Location: NAFB
28 years experience

How often did you use:

Interior Course 1 Exterior Course 1
Aircraft Information 1 Basic Operations 1

1. Did you like using the situation simulator? (circle answer)

1 2 3 4 5

disliked

liked very much

Why? EXCELLENT AS A CLASSROOM TRAINING
Aid.

2. How easy was it to use? (circle answer)

1 2 3 4 5

very difficult

very easy

Why? EVERYTHING IS SELF EXPLANATORY

3. Would you like to take more training this way? (circle answer)

1 2 3 4 5

absolutely not

definitely

Why? EXCELLENT WAY TO STAY PROFICIENT
ON FIRE GROUND OPERATIONS

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 3 4 5

not clear

clear

Why? _____

5. Is the information presented in the Basic Operations section easy to understand?

1 2 3 4 5
not clear clear

Why? _____

6. Were the fire situations realistic? (circle answer)

1 2 3 4 5
disliked liked very much

Why? _____

7. What changes would you make to the Situation Simulator?

8. Comments: _____

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: _____ AFSC: 57150 Location: WHEELER AFB
14 years experience

How often did you use:

Interior Course 4 Exterior Course 14
Aircraft Information 1 Basic Operations 1

1. Did you like using the situation simulator? (circle answer)

(1) 2 (3) 4 5
disliked liked very much

Why? LIKED THE UNIT. IT'S FUN, HOWEVER PEOPLE
NEEDS TO GET THE FEEL OF THE MACHINE TO BE EFFECTIVE

2. How easy was it to use? (circle answer)

1 2 (3) 4 5
very difficult very easy

Why? AGAIN, THE MORE THE PERSON USES IT, THE BETTER
THE OPERATION.

3. Would you like to take more training this way? (circle answer)

1 2 3 4 (5)
absolutely not definitely

Why? BECAUSE IT CAN AID ME IN SITUATIONS THAT
MIGHT OCCUR HERE. IT GIVES SEQUENTIAL THINGS TO DO.

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 (3) 4 5
not clear clear

Why? YES, BUT ITS EASY TO FORGET BECAUSE OF
THE AMOUNT OF TIME A PERSON IS ALLOWED. AGAIN,
POOR PRACTICE.

Why? MOST OF THE INFORMATION.

1 2 3 4 5
disliked liked very much

Why? 10.5

NUMBER THE VEHICLES ON THE SCREEN, SUCH AS THE
P-15 BEING P-3. INDICATE P-3 IN THE SCREEN.
WHEN VEHICLE CALLS CONTROL, YOU DON'T EXACTLY KNOW
WHAT VEHICLE IS CALLING.

8. Comments: Very Good Learning And The unit
Has To Be Learned & used To Be Effective.

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: _____ AFSC: 5770 Location: Amman, Jordan
16 years experience

How often did you use:

Interior Course 114 Exterior Course 44
Aircraft Information 7 Basic Operations 7

1. Did you like using the situation simulator? (circle answer)

1 2 3 4 5
disliked liked very much

Why? Because if the machine will be utilized as
a simulator, make sure that the individual
completely understand the operation.

2. How easy was it to use? (circle answer)

1 2 3 4 5
very difficult very easy

Why? Because of the operation

3. Would you like to take more training this way? (circle answer)

1 2 3 4 5
absolutely not definitely

Why? for hands on training

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 3 4 5
not clear clear

Why? information is ~~not~~ clear, the
simulator itself is a problem.

- Why? _____
- _____

- Why? _____
- _____
- _____

- 91

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: 2-10-86 AFSC: 57150 Location: Andrews AFB
13 years experience

How often did you use:

Interior Course |||| Exterior Course ||||
Aircraft Information —/— Basic Operations —/—

1. Did you like using the situation simulator? (circle answer)

1 2 3 4 5

disliked

liked very much

Why? Puts you in the position to make some
kind of decision and see what the results are!

2. How easy was it to use? (circle answer)

1 2 3 4 5

very difficult

very easy

Why? IN the Beginning it is Difficult to Remember
the Location OF the type OF Action you want to
take - But After you ARE on it awhile it is pretty easy

3. Would you like to take more training this way? (circle answer)

1 2 3 4 5

absolutely not

definitely

Why? For Example the repetition of Shut-Down Procedures
Become instinctive (At least the area to start looking). Overall
Doing the Right things become instinctive, that's important

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 3 4 5

not clear

clear

Why? SELF EXPLANATORY!

5. Is the information presented in the Basic Operations section easy to understand?

1 2 3 4 (5)

not clear

clear

Why? SELF EXPLANATORY

6. Were the fire situations realistic? (circle answer)

1 2 (3) 4 5

disliked

liked very much

Why? I THINK ACTUALLY THE SITUATIONS WERE REAL ENOUGH; HOWEVER, I FEEL IN A REAL LIFE SITUATION, THE EFFECTS ~~WOULD BE~~ OF THE AGENT WOULD BE MORE DOMINATING!

7. What changes would you make to the Situation Simulator?

NUMBERING OF VEHICLES MAKING IT EASIER TO KEEP TRACK OF THESE ASSIGNMENTS. ALSO HAVING SOMEWAY OF RESCUING APPARATUS FROM A HYDRANT.

8. Comments: I THINK IT IS VERY HARD TO SIMULATE

~~ACTUAL~~ ACTUAL TRAINING AND MAKE IT SEEM REALISTIC. THIS TYPE OF SIMULATION NOT ONLY MAKES IT SOMEWHAT REALISTIC, IT ENABLES YOU TO SET GOALS AND SEE THE OUTCOME.

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: 2-13-66 AFSC: 57150 Location: Andrews AFB
8 mos Experience

How often did you use:

Interior Course XXXX Exterior Course IIII
Aircraft Information II Basic Operations IIII

1. Did you like using the situation simulator? (circle answer)

1 2 3 4 (5)

disliked

liked very much

Why? IT WAS VERY INTERESTING
ALSO TAUGHT
ME A LOT ABOUT THE C-141.

2. How easy was it to use? (circle answer)

1 2 3 4 (5)

very difficult

very easy

Why? IT TELLS YOU ANYTHING YOU NEED TO
KNOW IN HOW TO CONTROL, RESCUE, ETC.

3. Would you like to take more training this way? (circle answer)

1 2 3 4 (5)

absolutely not

definitely

Why? I THINK WITH THIS AT EACH BASE IT WOULD BE
A VERY GOOD TRAINING AID. IT HAS SOMETHING
UNDER ALL SITUATIONS.

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 3 4 (5)

not clear

clear

Why? EVERYTHING DISCUSSED WAS ALSO PRESENTED
ON THE SCENE FULLY.

- 1 2 3 4 5
not clear clear

Were the fire situations realistic? (circle answer)

- 1 2 3 4 5
disliked liked very much

7. What changes would you make to the Situation Simulator?

8. Comments: I THOUGHT IT WAS AND IS A
VERY GOOD IDEA AND SHOULD BE USED
AT EVERY CASE TO TEACH FIREFIGHTERS.
ALSO EXPAND TO OTHER AIRCRAFT AND ALSO
HAZ MAT AND STRUCTURE FIREFIGHTING.
IT IS A VERY GOOD TRAINING DEVICE.

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: 2-11-86 AFSC: 57170 Location: Andrews AFB
20 years experience

How often did you use:

Interior Course |||| Exterior Course ||||
Aircraft Information I Basic Operations I

1. Did you like using the situation simulator? (circle answer)

1 2 3 (4) 5

disliked

liked very much

Why? The course was well set up and student had to
rely on experience and knowledge to be effective

2. How easy was it to use? (circle answer)

1 2 (3) 4 5

very difficult

very easy

Why? Student would benefit by being more familiar with
machines or basic use of equipment

3. Would you like to take more training this way? (circle answer)

1 2 3 4 (5)

absolutely not

definitely

Why? This type training would keep student more alert
to fire ground tactics

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 (3) 4 5

not clear

clear

Why? Student must be familiar with aircraft systems
to understand subject as presented. Com of
terminology, etc.

5. Is the information presented in the Basic Operations section easy to understand?

1 2 3 ④ 5

not clear

clear

Why? Detailed information given for students with
knowledge of aircraft systems.

6. Were the fire situations realistic? (circle answer)

1 2 3 ④ 5

disliked

liked very much

Why? Fire ground commander slower time to opening
skits or recurring aircraft system.

7. What changes would you make to the Situation Simulator?

8. Comments: _____

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: _____ AFSC: 57150 Location: Angelo, AFB
3 years experience

How often did you use:

Interior Course 1111 Exterior Course 111
Aircraft Information 1 Basic Operations 1

1. Did you like using the situation simulator? (circle answer)

1 2 3 4 5

disliked

liked very much

Why? It was different and kept my attention.

2. How easy was it to use? (circle answer)

1 2 3 4 5

very difficult

very easy

Why? After I got used to the machine it was easy but
there is a lot to remember. Not difficult after I knew where
everything was.

3. Would you like to take more training this way? (circle answer)

1 2 3 4 5

absolutely not

definitely

Why? Because it was interesting and helped me in
making decisions also made me aware quick decisions
decisions are very important.

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 3 4 5

not clear

clear

Why? It was easy to understand but the pictures
presented could be clearer. (too fuzzy)

5. Is the information presented in the Basic Operations section easy to understand?

1 2 3 4 (5)

not clear

clear

Why? It gives all the info. needed if you

6. Were the fire situations realistic? (circle answer)

1 2 3 4 (5)

disliked

liked very much

Why? They were realistic but I would have liked to see more of a variety of situations.

7. What changes would you make to the Situation Simulator?

① Make the fires in different locations ② Make rescue more effective by using, say, the pumpers because they have more men. ③ The pumper has longer lines than the crash trucks and can lay in from a hydrant for resupply (should take this into consideration) ④ make resupply of crash trucks possible

8. Comments: Basically I like the idea of the program. It will be a good training aid for getting to know aircraft and the capabilities of the vehicles.

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: _____ AFSC: 3 years experience Location: _____

How often did you use:

Interior Course 1/1 Exterior Course 1/1
Aircraft Information 1/1 Basic Operations 1/1

1. Did you like using the situation simulator? (circle answer)

1 2 3 4 5

disliked

liked very much

Why? Informative, could save the A.F. Money in the
long run, but nothing can replace actual Hands on Experience.
IF used in the Proper manner it will be a good Training Aide.

2. How easy was it to use? (circle answer)

1 2 3 4 5

very difficult

very easy

Why? _____

3. Would you like to take more training this way? (circle answer)

1 2 3 4 5

absolutely not

definitely

Why? _____

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 3 4 5

not clear

clear

Why? _____

5. Is the information presented in the Basic Operations section easy to understand?

1 2 3 4 5

not clear

clear

Why? _____

6. Were the fire situations realistic? (circle answer)

1 2 3 4 5

disliked

liked very much

Why? FIRE tracked well, Vehicle running out of agent
Good.

7. What changes would you make to the Situation Simulator?

8. Comments: _____

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: AFSC: 5715 Location:
26 years experience

How often did you use:
Interior Course //// Exterior Course ////
Aircraft Information / Basic Operations /

1. Did you like using the situation simulator? (circle answer)

1 2 3 4 5

disliked

liked very much

Why? Teaches timely and effective responses from personnel
involved in emergency situations.

2. How easy was it to use? (circle answer)

1 2 3 4 5

very difficult

very easy

Why? Some difficulty at first understanding some of the functions,
but became easier with each use.

3. Would you like to take more training this way? (circle answer)

1 2 3 4 5

absolutely not

definitely

Why? Gives opportunity to see and understand
all phases of operations.

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 3 4 5

not clear

clear

Why? Sometimes seeing how something operates is better
than just reading or being told how it works.

- 1 2 3 4 5
not clear clear

- 1 2 3 4 5
disliked liked very much

- None at this time in training.

-
-
-

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: _____ AFSC: 51550 Location: AMERICAN AFPS
32 years experience

How often did you use:

Interior Course /// Exterior Course ///
Aircraft Information /// Basic Operations ///

1. Did you like using the situation simulator? (circle answer)

1 2 3 (4) 5
disliked liked very much

Why? will help in Training.

2. How easy was it to use? (circle answer)

1 2 (3) 4 5
very difficult very easy

Why? VERY HARD AT FIRST.

3. Would you like to take more training this way? (circle answer)

1 2 3 (4) 5
absolutely not definitely

Why? IT would help in Command and Control. IT would also make you think faster.

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 3 4 5
not clear clear

Why? The information is easy to understand because it goes into detail on the functions of the aircraft.

5. Is the information presented in the Basic Operations section easy to understand?

1 2 3 4 5

not clear

clear

Why? IT gives complete details

6. Were the fire situations realistic? (circle answer)

1 2 3 4 5

disliked

liked very much

Why? The Fire situations seems
Real

7. What changes would you make to the Situation Simulator?

NONE

8. Comments: The Situation Simulator
is very Good

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: 19 FEB 86 AFSC: 57150 Location: RAFB
~~4 yrs 3 mos experience~~

How often did you use:

Interior Course |||| Exterior Course ||||
Aircraft Information | Basic Operations |

1. Did you like using the situation simulator? (circle answer)

1 2 3 4 5

disliked

liked very much

Why? VERY GOOD FOR TRAINING

2. How easy was it to use? (circle answer)

1 2 3 4 5

very difficult

very easy

Why? AFTER YOU GET USE TO THE
DIFFERENT SELECTIONS & WHAT THEY DO
IT WAS EASIER TO UNDERSTAND.

3. Would you like to take more training this way? (circle answer)

1 2 3 4 5

absolutely not

definitely

Why? ALMOST LIKE REAL OPERATION &
MAKE YOU THINK WHAT YOU WOULD
REALLY DO.

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 3 4 5

not clear

clear

Why? _____

- Why? _____
- _____
- _____

- Why? _____
- _____
- _____

-
-
-
-

- 107

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: 19 Feb 86 AFSC: 57150 Location: Andrews AFB
3 1/2 yrs experience

How often did you use:

Interior Course 4 Exterior Course 4
Aircraft Information 1 Basic Operations 2

1. Did you like using the situation simulator? (circle answer)

1 _____ 2 _____ 3 _____ 4 _____ 5
disliked _____ liked very much

Why? excellent training method

2. How easy was it to use? (circle answer)

1 _____ 2 _____ 3 _____ 4 _____ 5 _____
very difficult _____ very easy

Why? its a totally new experience

3. Would you like to take more training this way? (circle answer)

1 _____ 2 _____ 3 _____ 4 _____ 5
absolutely not _____ definitely

Why? excellent opportunity for training
also offers capacity to train without use of actual aircraft

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 _____ 2 _____ 3 _____ 4 _____ 5 _____
not clear _____ clear

Why? it takes a while to get used too. We need to have
about 6 more, year round...

5. Is the information presented in the Basic Operations section easy to understand?

1 2 3 4 5

not clear

clear

Why? It's not a matter of being clear, the information
takes a while to digest, presented as it is...

6. Were the fire situations realistic? (circle answer)

1 2 3 4 5

disliked

liked very much

Why? _____

7. What changes would you make to the Situation Simulator?

One scene on the interior course is misleading (P.2 drives
up to the front of the aircraft...)

8. Comments: This may be the best training method ever
used by the Air Force. It offers almost unlimited
capabilities... We need about 6 to use year round...

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: _____ AFSC: 3 years experience Location: AFSC

How often did you use:

Interior Course 111 Exterior Course 111
Aircraft Information 1 Basic Operations 1

1. Did you like using the situation simulator? (circle answer)

1 2 3 4 5

disliked

liked very much

Why? Because it makes you enjoy learning
the aircraft and it seems quite thorough

2. How easy was it to use? (circle answer)

1 2 3 4 5

very difficult

very easy

Why? It takes some time to remember which
button does which result

3. Would you like to take more training this way? (circle answer)

1 2 3 4 5

absolutely not

definitely

Why? It's explained in the first answer

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 3 4 5

not clear

clear

Why? Yes just be to read it

5. Is the information presented in the Basic Operations section easy to understand?

1 2 3 4 5
not clear clear

Why? _____

6. Were the fire situations realistic? (circle answer)

1 2 3 4 5
disliked liked very much

Why? *Because some of the situations it doesn't fit your cabin.*

7. What changes would you make to the Situation Simulator?

NONE

8. Comments: *Easy to understand. Everybody*

needs a training change sometimes

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: 5-1-80 AFSC: 57150 Location: Andrews AFB
3 yrs. 2 mos. experience

How often did you use:

Interior Course //// Exterior Course ////
Aircraft Information / Basic Operations /

1. Did you like using the situation simulator? (circle answer)

1 2 3 4 5
disliked liked very much

Why? _____

2. How easy was it to use? (circle answer)

1 2 3 4 5
very difficult very easy

Why? WHEN YOU STARTED IT WAS HARD BUT AFTER
A LITTLE WHILE IT GETS EASIER.

3. Would you like to take more training this way? (circle answer)

1 2 3 4 5
absolutely not definitely

Why? _____

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 3 4 5
not clear clear

Why? _____

- 1 2 3 4 5

clear

Why? _____

- 1 2 3 4 5

liked very much

Why? _____

-
-
-
-

8. Comments: _____

21:45 23:30

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: 19 FEB 86 AFSC: 57150 Location: ANDREWS
4 yrs. of exp. experience

How often did you use:

Interior Course 1111 Exterior Course 1111
Aircraft Information 1 Basic Operations 1

1. Did you like using the situation simulator? (circle answer)

1 2 3 4 5
disliked liked very much

Why? BECAUSE I LEARNED THINGS ABOUT
THE AIRCRAFT AND FIGHTING FIRE IN DIFFERENT
SITUATIONS THAT I DIDNT KNOW BEFORE

2. How easy was it to use? (circle answer)

1 2 3 4 5
very difficult very easy

Why? IT WAS EASY BUT SOME TIMES
THE MACHINE DELAYED AND WASTED
YOUR TIME

3. Would you like to take more training this way? (circle answer)

1 2 3 4 5
absolutely not definitely

Why? IT WAS EDUCATIONAL PLUS IT WAS
FUN WHILE YOU LEARNED

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 3 4 5
not clear clear

Why? IT WAS VERY CLEAR AND WELL
WORKED EASY TO UNDERSTAND

- 1 2 3 4 5
not clear clear

Why? _____

- 1 2 3 4 5
- disliked liked very much

Why? _____

-
-
-
-

8. Comments: _____

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: 21 FEB 86 AFSC: 5750 Location: ANDREWS AFB
4 years experience

How often did you use:

Interior Course 4 Exterior Course 2
Aircraft Information 1 Basic Operations 1

1. Did you like using the situation simulator? (circle answer)

1 2 3 4 5

disliked

liked very much

Why? I LIKED USING IT BUT IF YOU OPEN A
DOOR FOR ATTACKING THE FUEL OR RESCUE YOUR ACCOMPANYING
THE SAME AS JUST OPENING IT TO VENTILATE

2. How easy was it to use? (circle answer)

1 2 3 4 5

very difficult

very easy

Why? EVERYTHING IN SIMPLE TERMINOLOGY

3. Would you like to take more training this way? (circle answer)

1 2 3 4 5

absolutely not

definitely

Why? YOU HAVE MORE TIME TO SET THERE AND SEE
WHAT YOUR LOGGING AT

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 3 4 5

not clear

clear

Why? PICTURES COULD BE CLEARER
BATTERY SWITCH WAS THE MAIN PICTURE
YOU SEE A PICTURE WITH ABOUT 4 SWITCHES AND YOU
CAN HARDLY READ THE LEGS BECAUSE OF REFLECTION

5. Is the information presented in the Basic Operations section easy to understand?

1 2 3 4 5
not clear clear

Why? _____

6. Were the fire situations realistic? (circle answer)

1 2 3 4 5
disliked liked very much

Why? _____

7. What changes would you make to the Situation Simulator?

8. Comments: _____

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: 21 Feb 86 AFSC: 57150 Location: Shaw AFB
8 years experience

How often did you use:

Interior Course 4 Exterior Course 4
Aircraft Information 1 Basic Operations 1

1. Did you like using the situation simulator? (circle answer)

1 2 3 4 5

disliked

liked very much

Why? I learned from it, it makes the situation's seem
more realistic than just reading material on the
screen procedures

2. How easy was it to use? (circle answer)

1 2 3 4 5

very difficult

very easy

Why? you just had to touch the screen

3. Would you like to take more training this way? (circle answer)

1 2 3 4 5

absolutely not

definitely

Why? I feel you could learn a great deal from using
it

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 3 4 5

not clear

clear

Why? It explains, and pictures were realistic and
graphs

- 1 2 3 4 5
- not clear clear

1 2 3 4 5
disliked liked very much

8. Comments: this is a good machine and should be kept
And serious training should be practiced on it

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: 2/24/86 AFSC: 57150 Location: Andrew AFB

How often did you use:

Interior Course |||| Exterior Course ||||
Aircraft Information | Basic Operations |

1. Did you like using the situation simulator? (circle answer)

1 2 3 (4) 5

disliked

liked very much

Why? YES, BUT I FEEL IT COULD CAUSE
PROBLEMS IN FUTURE IF TOO MUCH DEPENDENCE
IS PLACED ON IT, GETTING AWAY FROM HANDS ON TRAINING

2. How easy was it to use? (circle answer)

1 2 (3) 4 5

very difficult

very easy

Why? TO TRY AND THINK THE WAY THE MACHINE
IS PROGRAMMED TO THINK WHICH IS IN MANY
WAYS DIFFERENT TO ACTUAL OPERATIONS.

3. Would you like to take more training this way? (circle answer)

1 2 3 4 (5)

absolutely not

definitely

Why? I FEEL THE CONTINUED USE AND RECESSIVENESS
OF THE PROGRAM (GETTING THE BUGS OUT) WILL
BE BENEFICIAL TO ALL BY STANDARDIZING METHODS.

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 3 (4) 5

not clear

clear

Why? _____

5. Is the information presented in the Basic Operations section easy to understand?

1 2 3 4 5
not clear clear

Why? _____

6. Were the fire situations realistic? (circle answer)

1 2 3 4 5
disliked liked very much

Why? I BELIEVE THEY ARE AS REALISTIC
AS POSSIBLE.

7. What changes would you make to the Situation Simulator?

I DON'T KNOW HOW MANY VARIABLES CAN
BE PUT INTO IT BUT SOME OF THE REASONING
ON FIRE FIGHTING ARE TYPICAL A.F. MUST TELL
IT TO GO TO EXTINGUISHMENT FROM CONTROL IF A
FIREFIGHTER MUST BE INSTRUCTED TO DO THIS AC

8. Comments: HAS NO BUSINESS IN THE POSITION,
ALONG WITH WHO EVER "TAUGHT. HIM". I FEEL
THIS IS THE IDEA'S THAT ~~WILL~~ WILL BE DRILLED
INTO THE YOUNG USERS, DON'T MOVE, FIGHT, OR
ANY THING WITHOUT AN ORDER.

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: 25 Feb 86 AFSC: 57150 Location: _____
2 years experience

How often did you use:

Interior Course 4 Exterior Course 5
Aircraft Information 1 Basic Operations 1

1. Did you like using the situation simulator? (circle answer)

1 2 3 4 5
disliked liked very much

Why? it is a way to learn without endangering life or
property

2. How easy was it to use? (circle answer)

1 2 3 4 5
very difficult very easy

Why? it was easy after you get to know the location of
the controls.

3. Would you like to take more training this way? (circle answer)

1 2 3 4 5
absolutely not definitely

Why? it is a cheaper way to learn than burning a C-141

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 3 4 5
not clear clear

Why? because it showed the location of switches, doors,
emergency hatches, and not access information as how to
open doors.

5. Is the information presented in the Basic Operations section easy to understand?

1 2 3 4 5

not clear

clear

Why? types of equipment available

6. Were the fire situations realistic? (circle answer)

1 2 3 4 5

disliked

liked very much

Why? yes because it show what can happen in fire situations.

7. What changes would you make to the Situation Simulator?

more types & areas of fire on the aircraft

8. Comments: This piece of equipment would be very valuable of the air force. It would be nice to see different types of aircrafts

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: 25 Feb 86 AFSC: 50 Location: Andrews
1 year experience

How often did you use:

Interior Course /// Exterior Course ///
Aircraft Information / Basic Operations /

1. Did you like using the situation simulator? (circle answer)

1 (2) 3 4 5

disliked

liked very much

Why? confusing because I was new to the machine

2. How easy was it to use? (circle answer)

1 (2) 3 4 5

very difficult

very easy

Why? Touch screen sometimes inaccurate in
selections

3. Would you like to take more training this way? (circle answer)

1 2 (3) 4 5

absolutely not

definitely

Why? you do learn a little

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 3 4 (5)

not clear

clear

Why? _____

- 1 2 3 4 5
not clear clear

Why? _____

- 1 2 3 4 5
disliked liked very much

Why? _____

- I would like to see a key board instead of a touch screen.

8. Comments: _____

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: 25 Feb 86 AFSC: 57130 Location: Bldg. 1287
your experience

How often did you use:

Interior Course 4 Exterior Course 4
Aircraft Information 1 Basic Operations 1

1. Did you like using the situation simulator? (circle answer)

1 2 3 4 5

disliked

liked very much

Why? Very realistic and constructive.

2. How easy was it to use? (circle answer)

1 2 3 4 5

very difficult

very easy

Why? It's hard at the beginning to get used to it.

3. Would you like to take more training this way? (circle answer)

1 2 3 4 5

absolutely not

definitely

Why? It's easy to learn this way and learn more.

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 3 4 5

not clear

clear

Why? It's pretty well presented and simple.

5. Is the information presented in the Basic Operations section easy to understand?

1 2 3 ④ 5

not clear

clear

Why? It was simple and explained in detail.

6. Were the fire situations realistic? (circle answer)

1 2 3 4 ⑤

disliked

liked very much

Why? The pictures are very realistic and with the voices of the people from the computer it feels like you are in a real fire.

7. What changes would you make to the Situation Simulator?

Make more different situations.

8. Comments:

I enjoyed pretty much because it gave me the chance of made decision from different positions like; crew chief, assistant chief, handline, driver, etc.

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: 25 FEB 86 AFSC: 57150 Location: _____
" years experience

How often did you use:

Interior Course / Exterior Course /
Aircraft Information / Basic Operations /

1. Did you like using the situation simulator? (circle answer)

1 2 3 4 5

disliked

liked very much

Why? gave oneself an idea of what
goes on outside of the individual
truck

2. How easy was it to use? (circle answer)

1 2 3 4 5

very difficult

very easy

Why? after a couple of tries it goes
up to a 5

3. Would you like to take more training this way? (circle answer)

1 2 3 4 5

absolutely not

definitely

Why? gives more insight

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 3 4 5

not clear

clear

Why? sometimes it didn't make
sense

- 1 2 3 4 5

clear

Why? _____

- 1 2 3 4 5

liked very much

Why? _____

- none

8. Comments: _____

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: 27 FEB 86 AFSC: 57150 Location: AA DFWWS AFB
55-7
18 years experience

How often did you use:

Interior Course ☒ Exterior Course ☒
Aircraft Information ☒ Basic Operations ☒

1. Did you like using the situation simulator? (circle answer)

1 2 3 4 5

disliked

liked very much

Why? helps with decision making process

2. How easy was it to use? (circle answer)

2 3 4 5

very difficult

very easy

Why? Takes sometime getting familiar
with using hands to put info on
scene into proper areas.

3. Would you like to take more training this way? (circle answer)

1 2 3 4 5

absolutely not

definitely

Why? More time would allow for
more experimentation

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 3 4 5

not clear

clear

Why? Quite sufficient to make
decisions

5. Is the information presented in the Basic Operations section easy to understand?

1 2 3 4 5

not clear

clear

Why?

Not too detailed

6. Were the fire situations realistic? (circle answer)

1 2 3 4 5

disliked

liked very much

Why?

appear to be common areas
that fires may be expected on
actual emergencies

7. What changes would you make to the Situation Simulator?

None

8. Comments:

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: 27 Feb 86 AFSC: 5750 Location: AAFB
4 years experience

How often did you use:

Interior Course 4 Exterior Course 4
Aircraft Information Basic Operations

1. Did you like using the situation simulator? (circle answer)

1 2 3 4 (5)
disliked liked very much

Why? Gave the feeling of control in
fireground situation

2. How easy was it to use? (circle answer)

1 2 (3) 4 5
very difficult very easy

Why? It was moderate to operate do to
student being color blind and entrances
to aircraft were hard to identify

3. Would you like to take more training this way? (circle answer)

1 2 3 4 (5)
absolutely not definitely

Why? helps you make fire ground
decisions more accurate and faster

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 3 (4) 5
not clear clear

Why? Aircraft information was good,
and explained, easy to understand

5. Is the information presented in the Basic Operations section easy to understand?

1 2 3 4 (5)

not clear

clear

Why? very well illustrated

6. Were the fire situations realistic? (circle answer)

1 2 3 4 (5)

disliked

liked very much

Why? liked the way the fire situations were set up

7. What changes would you make to the Situation Simulator?

changes I would like to see would be that symbols should be used instead of colors to identify entrances & into aircraft

8. Comments: _____

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: 27 FEB 1968 AFSC: 57150 Location: AMW-25AFB F.O.
9 years experience

How often did you use:

Interior Course 3 Exterior Course 5
Aircraft Information _____ Basic Operations _____

1. Did you like using the situation simulator? (circle answer)

1 2 3 4 5

disliked

liked very much

Why? A NEW APPROACH TO TRAINING

2. How easy was it to use? (circle answer)

1 2 3 4 5

very difficult

very easy

Why? FOR SOMEONE NOT USED FOR COMMUTERS
IT MAY PROVED TO BE A LITTLE DIFFICULT
DIFFICULT TO USE

3. Would you like to take more training this way? (circle answer)

1 2 3 4 5

absolutely not

definitely

Why? _____

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 3 4 5

not clear

clear

Why? _____

5. Is the information presented in the Basic Operations section easy to understand?

1 2 3 4 5

not clear

clear

Why? _____

6. Were the fire situations realistic? (circle answer)

1 2 3 4 5

disliked

liked very much

Why? GIVES YOU DIFFERENT SCENARIOS THAT
YOU COULD FACE ON THE FIREGROUND.

7. What changes would you make to the Situation Simulator?

THAT IT IS SET UP TO LOCAL F.O. SOPS

8. Comments: THIS IS GOOD TRAINING AID. IT ALLOWS
YOU TO HAVE COMMAND & CONTROL TACTICS AND APPLY
THEM.

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: 3 MAR. 86 AFSC: 57150 Location: Andrews
21 YEARS Experience

How often did you use:

Interior Course K Exterior Course K
Aircraft Information L Basic Operations L

1. Did you like using the situation simulator? (circle answer)

1 2 3 (4) 5

disliked

liked very much

Why? _____

2. How easy was it to use? (circle answer)

1 2 3 4 (5)

very difficult

very easy

Why? _____

3. Would you like to take more training this way? (circle answer)

1 2 3 4 (5)

absolutely not

definitely

Why? _____

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 3 4 (5)

not clear

clear

Why? _____

5. Is the information presented in the Basic Operations section easy to understand?

1 2 3 4 (5)

not clear

clear

Why? _____

6. Were the fire situations realistic? (circle answer)

1 2 3 → (4) 5

disliked

liked very much

Why? In "real" situations (1) crew is able to ventilate and secure systems, begin rescue searches, and also a handline can be operated in conjunction with turrets for exterior fires.

7. What changes would you make to the Situation Simulator?

Add in the units from mutual aid response to the Command/Position Apparatus phase and be able to direct them. Wouldn't hurt to have a medical unit involved for triage etc.

8. Comments: Very Good

SITUATION SIMULATOR
FOR FIREFIGHTERS
C-141

Survey Sheet

Date: 3/4 AFSC: 37150 Location: Andrews
4 Years Experience

How often did you use:

Interior Course 1111 Exterior Course 111
Aircraft Information 1 Basic Operations 1
System info 1

1. Did you like using the situation simulator? (circle answer)

1 2 3 4 5
disliked liked very much

Why? To help calm personell in tense
situations

2. How easy was it to use? (circle answer)

1 2 3 4 5
very difficult very easy

Why? different

3. Would you like to take more training this way? (circle answer)

1 2 3 4 5
absolutely not definitely

Why? Self Study

4. Is the information presented in the Aircraft Information section easy to understand? (circle answer)

1 2 3 4 5
not clear clear

Why?

- 1 2 3 4 5
- not clear clear

Why? _____

- 1 2 3 4 5
disliked liked very much

Why? _____

-
-
-
-

8. Comments: _____

THE PRAM PROGRAM OFFICE

A co-managed Air Force organization (ASD and AFALC) whose mission is to reduce AF Operational and Support costs and enhance the combat effectiveness of fielded systems. PRAM has the funds and the expertise required to prototype and test new ideas. Since 1975, PRAM has initiated projects to:

- Apply current technology to fielded systems/equipment problems.
- Improve equipment/procedures for repair and overhaul at the ALCs and operational units.
- Test new lab developments for solving old support problems.
- Adapt commercial equipment and methods to AF use.
- Develop new specifications and standards.

