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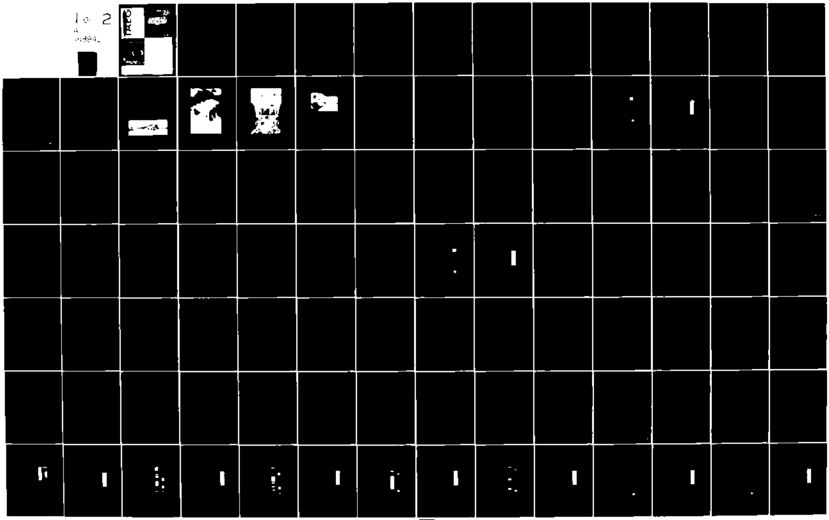

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Technical Report 127

AN ASSESSMENT OF THE TRAINING EFFECTIVENESS OF DEVICE 2F64C FOR TRAINING HELICOPTER REPLACEMENT PILOTS

Robert F. Browning
William C. McDaniel
Paul G. Scott
Alfred F. Smode

Training Analysis and Evaluation Group

July 1982

Alfred F. Smode

ALFRED F. SMODE, Ph.D., Director
Training Analysis and Evaluation Group

W. L. Maloy

W. L. MALOY, Ed.D.
Deputy Chief of Naval Education and Training for Educational Development and Research and Development

ACKNOWLEDGMENT

The foresight demonstrated by the Commanders of Helicopter Antisubmarine Wing ONE in requesting and supporting a training effectiveness evaluation of Device 2F64C well in advance of its acceptance by the U.S. Navy provided the opportunity to assess the device utilizing a syllabus and scenarios developed for its unique capabilities.

The constant support and cooperation provided by the Commanding Officers of Helicopter Antisubmarine Squadron ONE (HS-1), the Training Officers, and instructors are expressly acknowledged. Appreciation is also extended to LT David Spracklin, former Pilot Training Officer of HS-1 and a member of the Fleet Project Team, for his expert assistance in developing the syllabi and in developing and testing the scenarios in the new simulator prior to the start of the training effectiveness assessment.

The names of all who contributed to successful completion of the training effectiveness evaluation and development of a new operational syllabus for Device 2F64C and the SH-3 are too numerous to include but the contribution of the following must be acknowledged.

LCDR J. E. Browning, HS-1 Training Officer
CAPT R. L. Rich, former Commanding Officer of HS-1 and
former Commander, Helicopter Antisubmarine Wing ONE
CAPT B. A. Spofford, Commander, Helicopter Antisubmarine
Wing ONE and former Commanding Officer of HS-1
CDR L. E. Lewis, Commanding Officer of HS-1
LT R. G. Oliver, HS-1 NATOPS Officer
LT D. M. Pranke, HS-1 Safety Officer

Appreciation is also extended to Dr. William M. Swope of TAEG for his assistance in developing the cost analyses.

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER Technical Report 127	2. GOVT ACCESSION NO. AD-A118 942	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) AN ASSESSMENT OF THE TRAINING EFFECTIVENESS OF DEVICE 2F64C FOR TRAINING HELICOPTER REPLACEMENT PILOTS		5. TYPE OF REPORT & PERIOD COVERED 6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Robert F. Browning, William C. McDaniel, Paul G. Scott, and Alfred F. Smode		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS Training Analysis and Evaluation Group Department of the Navy Orlando, FL 32813		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS		12. REPORT DATE July 1982 13. NUMBER OF PAGES 155
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office)		15. SECURITY CLASS. (of this report) Unclassified 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution is unlimited.

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Flight Simulator	Training Effectiveness Evaluation
Transfer of Training	SH-3 Aircraft Training
Simulator Scenarios	Syllabus Development
Device 2F64C	Economic Analyses
Flight Hour Substitution	Proficiency Based Training (continued)

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

The effectiveness of flight simulators is heavily dependent on simulator utilization practices. This report presents the first of four planned assessments of the training effectiveness of Device 2F64C in training fleet replacement SH-3 helicopter pilots.

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S/N 0102-LF-014-6601

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

19. KEY WORDS (continued)

Replacement Pilot Training

20. ABSTRACT (continued)

The performance of a group of pilots trained in a cockpit procedures trainer, the new flight simulator, and the SH-3 aircraft was compared to the performance of a group trained only in the cockpit procedures trainer and the SH-3 aircraft.

The objectives of the study were to:

- conduct a training analysis of the current Helicopter Antisubmarine Squadron ONE fleet readiness squadron pilot and copilot curriculum
- determine, on the basis of the task analysis data, the training requirements of the pilot and copilot positions in the SH-3 helicopter
- develop syllabi for pilot and copilot training and specify the appropriate media for developing the required skills
- assess the training effectiveness of Device 2F64C when the simulator is ready for training.

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

LIST OF ILLUSTRATIONS

LIST OF TABLES

SECTION I

INTRODUCTION

It has become increasingly clear that the effectiveness of flight simulators is heavily dependent on simulator utilization practices. Substantial economies accrue when the flight simulator is employed efficiently in conjunction with the aircraft in the accomplishment of relevant training objectives.

This report presents an assessment of the training effectiveness of the recently accepted state-of-the-art flight simulator (Device 2F64C) in the training of fleet replacement SH-3 helicopter pilots. A companion report to this effort (Browning, McDaniel, and Scott, 1981, hereafter referred to as TAEG Technical Report 108) has been published which describes the preparations conducted in advance of receipt of the simulator ready for training (RFT). It provides an account of the "setting up" phase of the program and is the prelude to assessing the training effectiveness of Device 2F64C and the subsequent integration of the simulator into ongoing FRS training.

The study reported here is the first of four planned assessments of the training effectiveness of Device 2F64C.[1] This first study was designed to determine the effectiveness of the new device as accepted by the Navy--without visual simulation. The performance of a group of pilots trained in a cockpit procedures trainer, the new flight simulator, and the SH-3 aircraft was compared to the performance of a group trained only in the cockpit procedures trainer and the SH-3 aircraft. The second study, currently underway, will assess the effectiveness of Device 2F64C when used without visual or motion simulation. The performance of a group trained in the new simulator with motion simulation activated will be compared to the performance of a group trained in the simulator without the motion simulation engaged. With the addition of visual simulation to the device (1983/84 time frame), the first two studies will be replicated to determine the effectiveness of the device when used with visual and motion simulation and again when used with visual simulation but without motion simulation.

The additional data obtained from the latter two studies will provide guidelines for utilizing the device in the event either visual and/or motion simulation is disabled for a protracted period of time. These data are also expected to be useful in decisions concerning future procurements of visual and motion simulation for helicopter flight simulators.

BACKGROUND

The training effectiveness evaluation of Device 2F64C is modeled on a previous TAEG program which assessed the training potential of the then recently introduced state-of-the-art flight simulator (Device 2F87F) for training replacement pilots for the P-3 aircraft at Patrol Squadron THIRTY (VP-30). A series of reports (Browning, Ryan, Scott, and Smode 1977; Browning, Ryan, and Scott, 1978; and Ryan, Scott, and Browning, 1978)

[1]The plan was approved by CNO (OP-594) ltr ser 594/337392 of June 1979.

describe the integration of the new device into the ongoing program for training replacement pilots. The intent of the program was to determine the value of the simulator as a substitute environment for learning aircraft tasks and to effectively utilize the simulator for pilot training. This was in consonance with the efforts of VP-30 to reduce in-flight training time in qualifying pilots for assignment to operational P-3 squadrons.

In addition to demonstrating the salutary effect of substituting the 2F87F for the P-3 aircraft in the transition training of pilots, major insights were gained relative to training effectiveness. Effective integration of a new simulator into any ongoing program requires certain management controls. Prominent among these are: (1) employing training assets that match media capabilities with training tasks, (2) standardizing instructional practices and grading criteria, (3) instructor training in the capabilities and use of synthetic trainers, and (4) training and continuity in assigning personnel charged with management of training.

As a result of this previous work with the patrol aircraft community, the Commander Helicopter Antisubmarine Wing ONE (COMHSWING ONE) requested that TAEG representatives meet with him and his staff to discuss conducting an assessment of the training effectiveness of Device 2F64C when delivered. The meeting resulted in a request from COMHSWING ONE[2] to the Chief of Naval Education and Training (CNET) for TAEG services. The CNET-approved request included the following objectives:[3]

- conduct a training analysis of the current Helicopter Antisubmarine Squadron ONE (HS-1) fleet readiness squadron (FRS) pilot and copilot curriculum

- determine, on the basis of the task analysis data, the training requirements of the pilot and copilot positions in the SH-3 helicopter

- develop syllabi for pilot and copilot training and specify the appropriate media for developing the required skills

- assess the training effectiveness of Device 2F64C when the simulator is ready for training.

PERSPECTIVE

As a prelude to reporting the results of the training effectiveness evaluation of Device 2F64C, several unique features of this evaluation should be mentioned. The foresight exercised by the HS community in requesting an evaluation of the device well in advance of its delivery is commendable. Evaluating the potential of a state-of-the-art flight simulator concurrent with its acceptance by the Navy and in an operational setting is a rare opportunity. Other features of note are the development of a performance measurement system for assessing the effects of the operational flight trainer (OFT) on a task-by-task basis, as well as in

[2]COMHSWING ONE ltr ser 203 of 12 June 1978.

[3]CNET ltr Code N-531 of 26 July 1978.

terms of substituting for in-flight training hours, and the implementation of a data processing system for recording and analyzing student performance data.

Another unique feature of the present program was the opportunity to develop simulator and in-flight syllabi tailored to the new device and to prepare precise, detailed, and realistic scripts (real-world scenarios) for achieving the syllabus objectives. The decision to produce these complex, difficult, and time-consuming products underscores the belief that, in large part, the manner in which a flight simulator is used determines its effectiveness in the training of pilots.

Certain accommodations had to be made in the design and conduct of the study due primarily to the recency of the device coming on-line and to the constraints associated with gathering data during the normal operations of the squadron. Beginning the study immediately after device acceptance limited the number of training periods available, since maintenance training and maintenance periods competed for simulator time. Also, instructor inexperience with the new OFT and the biases associated with utilizing many instructor pilots in evaluating student performance posed additional problems. However, problems were anticipated and minimized by having TAEG personnel onsite to monitor and assist in the data collection, provide briefings and information to the instructor pilots, and standardize the scoring procedures employed. All told, this "in situ" approach contributed to the assurance of highly relevant evaluations within a tolerable range of experimental control.

ORGANIZATION OF THE REPORT

In addition to this introduction, three sections and two appendices are provided. Section II presents a review of the training situation at HS-1 and describes the approach used for the on-site evaluation of Device 2F64C. Section III presents the results of the data analyses and discusses the findings, as appropriate. The cost benefits of training with the new device are also presented. Section IV presents a number of general and specific conclusions developed during the course of the study. Recommendations are included, as appropriate.

Appendix A contains a copy of one simulator scenario with accompanying grade sheet utilized in training the experimental group. Appendix B describes the process used in developing a proposed operational syllabus based on findings from this study. The annexes to appendix B include a listing of tasks to be trained and proposed syllabi for the cockpit procedures trainer, flight simulator and aircraft, plus a matrix showing the medium where each task is to be trained.

SECTION II

APPROACH

The approach employed in evaluating the training effectiveness of Device 2F64C involved an assessment of the simulator under actual operating conditions. The work was accomplished onsite using the available resources of HS-1. This approach, while presenting some foreseen problems and confounding influences, has proven to be most valuable in achieving meaningful results immediately available for implementation (see Browning, Ryan, Scott, and Smode 1977).

The present study centered on three areas:

- identification of tasks suitable for training in the simulator
- determination of the amount of training required for each task
- determination of an optimum mix of simulator and aircraft training.

STUDY DESIGN

A conventional transfer of training design was used in assessing the training effectiveness of Device 2F64C. The performance of students trained in the cockpit procedures trainer (Device 2C44), the flight simulator (2F64C), and the aircraft (SH-3) (experimental group) was compared to that of a group trained in the cockpit procedures trainer and the aircraft (control group).

STUDY PLAN. The plan for accomplishing the transfer of training study was designed to facilitate comparison of various measures of student performance, the principal one being in-flight training hours required to complete a prescribed training regimen. Table 1 presents the plan jointly agreed upon by TAEG and HS-1 for accomplishing the study objectives with minimum interference with ongoing training commitments of the squadron.

The performance of the students in the two groups was compared on tasks included in the A and B stages of the HS-1 Category I (CAT-I) syllabus, the syllabus approved by CNO for training recent graduates of undergraduate pilot training (UPT) for subsequent assignment to operational SH-3 antisubmarine (ASW) squadrons. Only the A and B stages were used in the training effectiveness evaluation. A stage tasks are primarily concerned with the training of skills required to transition into a new type aircraft. B stage tasks are primarily concerned with mission related tasks other than ASW tactics. TAEG Technical Report 108 describes in detail the processes used to develop syllabi for the training devices and for the aircraft.

PRECEDING PAGE B

TABLE 1. STUDY PLAN: SEQUENCE AND NUMBER OF TRAINING PERIODS

Training Medium Sequence	Experimental Group (N=15)	Control Group (N=15)
	A STAGE	
Procedures Trainer	7/P*	7/P
Flight Simulator	7/P	0
Aircraft	4/P	6/P
	B STAGE	
Flight Simulator	6/P	0
Aircraft	4/P	8/P

*P = proficiency. Training in each medium continued until proficiency was demonstrated.

SUBJECTS. Students for the control group (N=15) and for the experimental group (N=15) were taken from the approximately 40 first-tour replacement pilots trained by HS-1 each year. All were recent graduates of Navy Undergraduate Advanced Helicopter Flight Training and possessed Standard Instrument Ratings. Undergraduate Pilot Training flight hours per student ranged from 190 to 250. On the basis of their UPT average composite flight scores there were no significant differences between the two groups.

INSTRUCTORS. Cockpit procedures trainer (CPT), simulator, and flight instruction were given by regular HS-1 instructors, all of whom had primary duty assignments in addition to flight instructing. All had completed at least one tour in an operational assignment. Eight of the average 28 instructors on-board during the period of the experiment served as simulator instructors. Each prospective simulator instructor received a short course given by the contractor on the operation of Device 2F64C. The course did not include how to instruct in the device or provide an opportunity for practice instructing. However, prospective simulator instructors did have an opportunity to practice instructing using scenarios developed by TAEG during the device reliability testing period prior to formal acceptance of the device by the Navy.

AIRCRAFT AND TRAINERS. General descriptions of the aircraft, procedures trainer, and flight simulator used in this study are provided in the following paragraphs.

Aircraft. The Sikorsky SH-3 "Sea King" helicopter was used for training both groups. The H model, which was the principal aircraft used for this study, is designed for a primary mission of antisubmarine warfare and a secondary mission of search and rescue. The aircraft has considerable commonality with the H-3 aircraft operated by the Coast Guard and by the Air Force.

Cockpit Procedures Trainer. Cockpit procedures training for both groups was conducted in Device 2C44. This trailerized device includes a facsimile of the SH-3 cockpit, an instructor console, and a digital computer. It provides training in powerplant management, systems tests, and normal and emergency procedures. Flight is simulated by setting in fixed altitude and airspeed parameters.

Flight Simulator. Simulator training for the experimental group was conducted in Device 2F64C, the OFT section of the SH-3 Weapon Systems Trainer (WST). The flight section, as delivered, has a six degrees of freedom motion system but no external visual simulation. It provides training for most tasks associated with transition to the SH-3 and the maintenance of piloting skills. The device, which presently does not include ASW simulation, does accommodate training of tasks associated with tactical missions such as approaches to and departure from a hover and sonar deployment. The device in its present configuration provides simulation adequate for training most tasks required for accomplishment of search and rescue missions. Figures 1, 2, 3, and 4 provide, respectively, the SH-3H Helicopter, an external view of the simulator, the pilot's compartment, and the on-board instructor station.

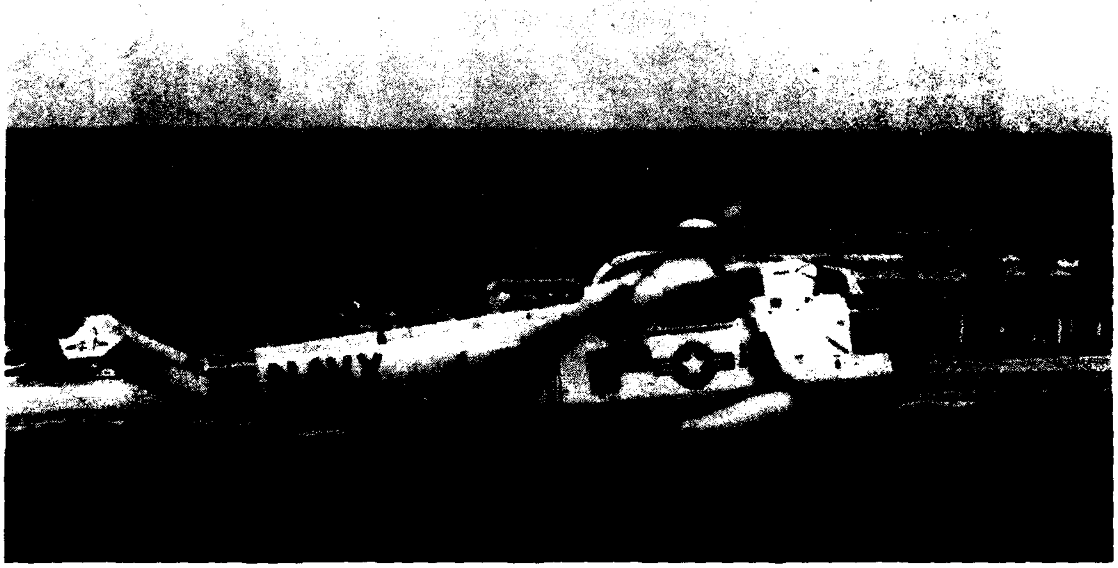

Figure 1. SH-3H Helicopter

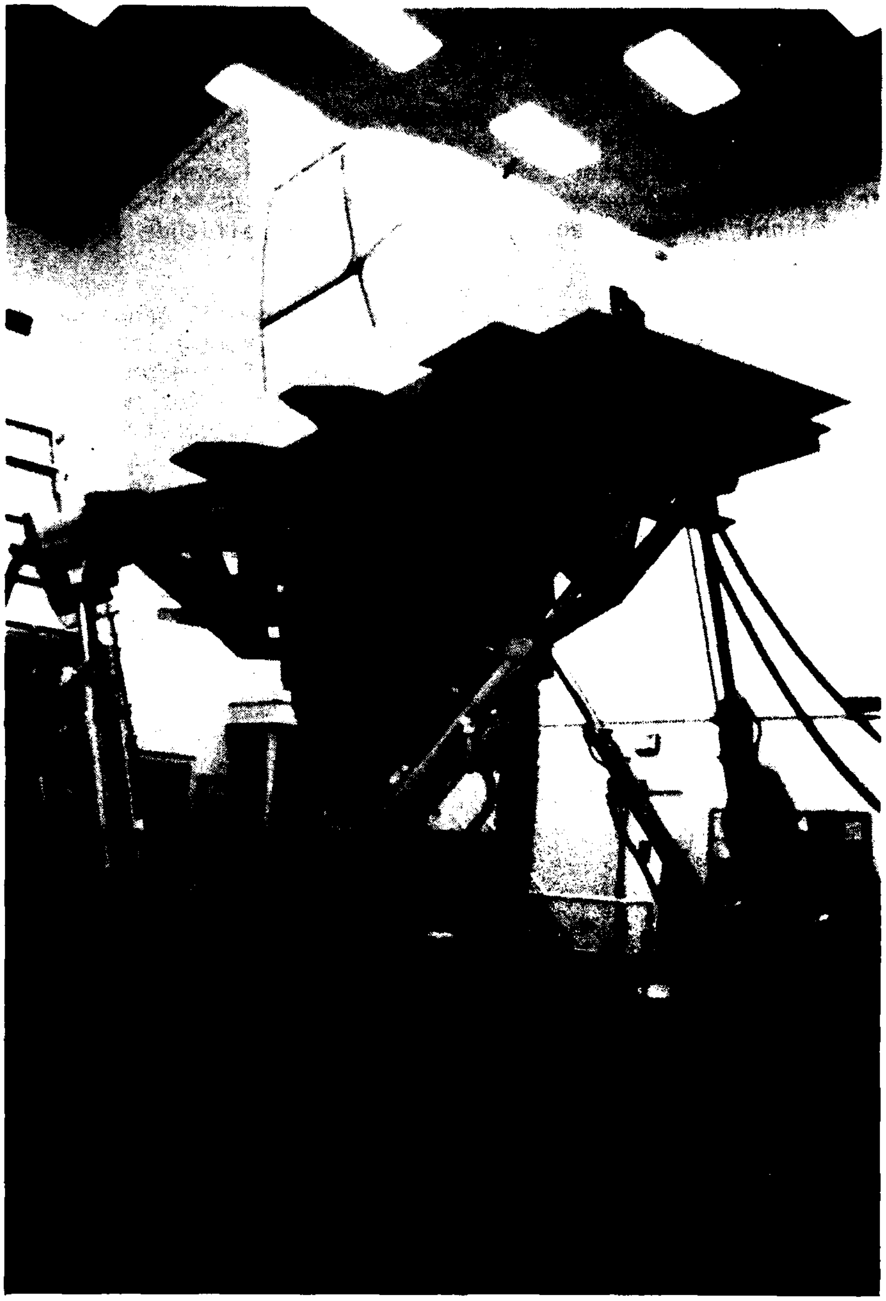

Figure 2. Device 2F64C

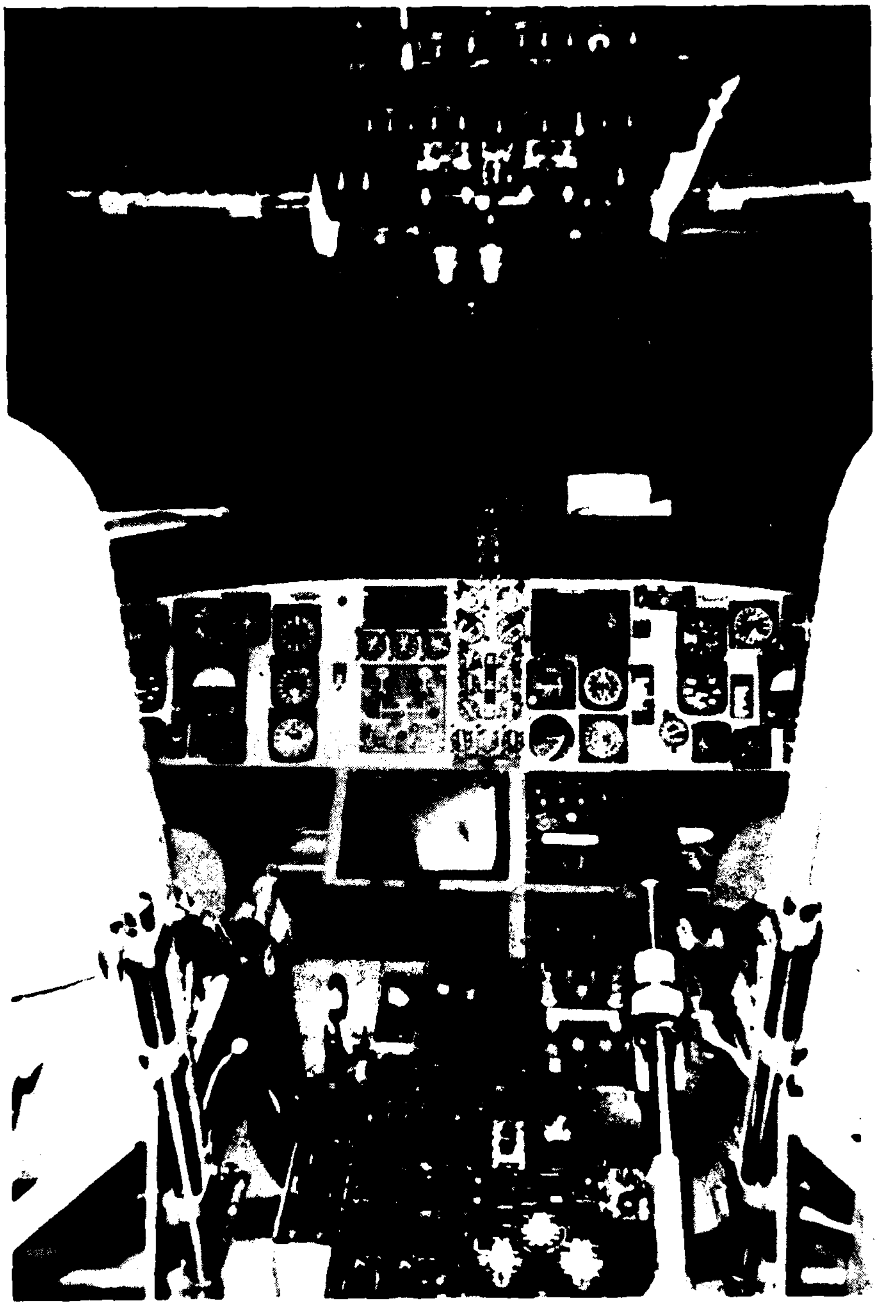

Figure 3. Cockpit, Device 2F64C

Figure 4. Instructor Station, Device 2F64C

The tactics section of the WST is expected to be delivered in mid-1982. It will provide tactical training for aircrewmen when used in the independent mode and combined ASW tactical training for aircrew and pilots when coupled with the flight section in the weapon systems mode.

An on-cab instructor station is used for control of the flight section. It is equipped with the controls for establishing environmental conditions, problem parameters, malfunction insertion, problem or parameter freeze, and record/playback. The flight section can be operated in a free flight, demonstration, or exercise mode. Only free flight and demonstration modes were used during the study.

PROCEDURE

Concurrent training of the control and the experimental groups was precluded by the limited throughput of first-tour pilots at HS-1. However, the training regimes of each group were identical with the exception of the simulator training. Both groups received the academic syllabus developed by HS-10 (the west coast counterpart of HS-1) with the assistance of the Navy Personnel Research and Development Center (NAVPERSRANDCEN) and Courseware, Inc., the contractor for the SH-2 Instructional Systems Development (ISD).

CONTROL GROUP TRAINING. Each student was scheduled for a block of seven training periods or the number of periods required to demonstrate proficiency in the cockpit procedures trainer, Device 2C44. (See table 1, p. 16, for the sequence and the number of training periods scheduled.) A period was scheduled for 2 hours with training conducted on a one-to-one student-to-instructor basis.

No training was scheduled for the control group in the older operational flight trainer, Device 2F64B. After completing CPT training, the group went directly to the aircraft for both A and B stage flight training. Flight training periods, conducted on a one-to-one student-to-instructor basis, were scheduled for 2.5 hours. The control group was scheduled for the same minimum number of aircraft flights as all students trained under the conventional HS-1 FRS syllabus. Control group training continued in both A and B stages until the stage check was satisfactorily completed.

EXPERIMENTAL GROUP TRAINING. The experimental group was scheduled for training in the same number of tasks and the same training regimen in the CPT as the control group (see table 1). Upon completion of CPT they began training immediately in the new flight simulator prior to going to the aircraft.

Simulator Training. TAEG Technical Report 108 describes in detail the process used to determine the tasks included in the simulator syllabus, the amount of training required, and the number and order of simulator periods scheduled. The tasks included in the simulator syllabus were determined from (1) the inventory of training objectives, (2) an analysis of Naval Safety Center SH-3 Mishap Reports, (3) the HS-1 current syllabi, and (4) the high-risk tasks and copilot tasks.

The number of simulator periods needed to meet the various training requirements was determined through a summing process. This process was accomplished as follows. Provisions were made for refreshing those tasks trained in the CPT, training those tasks previously included in the conventional aircraft syllabus, and for additional tasks considered trainable in the new device with its unique capabilities. Provisions were also made for introducing, practicing, and testing the various tasks plus refreshing skills at appropriate intervals.

The time required to practice each task in the simulator was estimated in one of several ways: (1) performance of each task in the CPT, in the SH-3, or in an instrument trainer, (2) mimicking task performance using a paper mock-up of the cockpit, and (3) in some instances, utilizing instructors' estimates. Simulator periods were scheduled for 4 hours and shared by two students. Each student received approximately 1 hour and 45 minutes of training in each seat. One hour and 45 minutes was selected based on an estimate of the time required for an inexperienced pilot to make a start, complete the various checks, takeoff, perform a reasonable number of training tasks, and then practice landings.

The summing process resulted in a requirement for seven A stage and six B stage simulator periods to practice, test, and refresh the large number of tasks included in the syllabus. The syllabus was also designed to accommodate the student who could demonstrate proficiency in fewer than the allotted periods and for the student who required additional periods.

Simulator Scenarios. Two-part scenarios were used to implement the experimental syllabus and to ensure that each student received training in all tasks under similar conditions. The scenarios (detailed scripts) were designed to provide the instructor with a guide for conducting the simulator flights. Each scenario prescribed the environmental conditions, starting configuration for the simulated aircraft, clearances, student voice responses, tasks to be trained and how initiated. A total of 13 two-part scenarios were developed for use in the study. Appendix A contains a sample A stage simulator syllabus grade card and the accompanying scenario.

Flight Training for the Experimental Group. Upon completion of A stage simulator training, the experimental group began A stage flight training. (See table 1 for the sequence and number of flights scheduled.) The same strategy used in the simulator syllabus was employed in the flight training segment. Tasks were introduced, practiced, and then tested. Three 2.5-hour periods were scheduled to meet the requirements for A stage tasks. Upon satisfactory completion of the first three flights and on instructor recommendation, the student was scheduled for an end-of-phase assessment (equivalent to the stage check for the control group on the sixth flight). If performance was to NATOPS standards on the assessment flight, the student was then scheduled for B stage simulator training. Otherwise, A stage training was continued until proficiency was demonstrated. The same procedure was used for B stage flight except that the phase check (fourth flight) was equivalent to the control group B stage check (eighth flight).

It should be noted that considerably more tasks were trained in the simulator than in the aircraft (123 versus 75). There are a number of reasons for this difference. Certain tasks trained in the simulator cannot be verified in the aircraft due to safety considerations (e.g., power settling, blade stall, multiple engine failures, tail rotor drive failures). Also, many of the malfunctions/emergencies trained in the simulator, such as main gear box or engine malfunctions, cannot be realistically simulated in the aircraft. In the air, the instructor is restricted to merely stating a condition or retarding a speed selector. This lessens the realism. Time, risk, and lack of realism do not allow the instructor to assess performance in the aircraft on all tasks trained in the CPT or the flight simulator. Instead, he must select malfunctions and emergencies that best sample systems knowledge, have a higher probability of occurrence, and can be effectively simulated in the aircraft. A representative sample is ASE failure.

MEASUREMENT OF TRAINING EFFECTIVENESS

Two principal measures were used to assess the effectiveness of Device 2F64C for training replacement helicopter pilots. The first was to compare the performance of the control and experimental groups by in-flight training hours required to complete A and B stages of the replacement pilot syllabus. The difference in flight hours was then examined in terms of the number of simulator hours required to effect any change in flight training hours required. The Training Effectiveness Ratio (TER) proposed by Povenmire and Roscoe (1971) was used in assessing simulator training effectiveness. The

TER expresses transfer of training from the simulator to the aircraft in terms of flight hours saved as a result of simulator training.

The second measure used to assess the effectiveness of the new device was to compare performance of the two groups by the number of training trials required in the aircraft to attain proficiency on various tasks. This required a procedure for recording individual performance on each task trial in the order the task was practiced. The procedure was designed to identify the number of training trials received as well as the number required to achieve proficiency on each applicable task.

Proficiency Based Grading. HS-1 has traditionally used the Naval Air Training and Operating Procedures Standardization (NATOPS) scoring system for grading tasks trained in the CPT, flight simulator, and the aircraft.[4] This system provides criteria for evaluating performance at three levels. A grade of Qualified (Q) is awarded if the task is performed to the prescribed NATOPS standard, Conditionally Qualified (CQ) if performed at less than the NATOPS standard, and Unqualified (U) if performance is unsatisfactory. As with most grading systems in a training situation, instructors tend to grade performance on a sliding scale. For example, the grade "Q" may be awarded on flight 1 based on consideration of performance for the level of training or experience. However, a higher level of performance might be required to receive a "Q" on flight 4. Thus, grades are not equivalent at various points in training.

To increase the precision of grading for the control and experimental groups, a proficiency based grading system was developed. The system uses a dichotomous scale; if the task can be scored by trials (discrete task) a "P" is given if the task trial was performed to standard. Otherwise, the trial is recorded as "1." For those tasks which cannot be scored by trials (continuous task), a "P" is given if overall performance is to standard.

The system was designed to permit after-the-fact judgments of when proficiency was attained on a particular task. The data from these judgments were needed to determine the minimum number of task trials to be scheduled in each training medium. The system was not used for making decisions on terminating training on a particular task as training was being conducted. The following is an example of how the number of trials to proficiency on a particular task performed over six training periods was determined.

Task	Grade/Trial Sequence					
Normal Start	1,1	1,P	P,1	P	P	P

The rule used required a sequence of two "P" trials without a sequence of two nonproficient trials or an "Unqualified" grade on the task by NATOPS standard. An after-the-fact judgment was then made that the student had attained proficiency on the first "P" trial in the remaining overall sequence. In the example presented, the judgment was that proficiency was attained on the fourth trial (second period).

[4]NAVAIR 01-230HLH-1, Section X.

DATA MANAGEMENT. Figure 5 is a sample copy of an A stage simulator flight grade card developed by TAEG for the squadron instructors to record student performance. The first column lists the computer codes for the training tasks listed in column 2. The next three columns are provided for the instructor to award grades in accordance with NATOPS standards. The next column requires no explanation. The last column is provided for the instructor to list the training trials on appropriate tasks in the order given (e.g., "P" if the trial is performed to standard or "1" if not to standard). If the column is partially blanked out, no trial information is required; a "P" would be awarded if overall performance on the task was to standard. If the last column is completely blanked out, no trial or proficiency information is required. For example, high speed flight (figure 5) only requires a demonstration. The reverse side of the grade card provides space for listing discussion items and instructor comments.

Data from the completed grade cards were entered into TAEG computer disk files for analysis. Individual files were maintained on each student for use to document the tasks trained, the number of trials received, the sequence of task trial performance, where the training was received, and the training hours by media. Computer programs were used for extensive analysis of each student's performance, comparison of students' performance in each group and between groups.

Section III presents the results of the various analyses.

NS 1 (TAEG) TRAINING FORM REV. 1 (16 JUNE 80)
ASF-4

FRP ________ COMP ________

INST ________ INCOMP ________

DATE ________ PILOT TIME ________ COPILOT TIME ________

COPILOT NAME ________________

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	DISCUSS, INTRO, NOT OBS	NUMBER TRIALS/ PROFICIENCY
AE100	NO. 2 ENGINE START					
BE201	MAX GROSS TAKEOFF					
BB100	INSTRUMENT DEPARTURE					
FJ700	HIGH SPEED FLIGHT					
FJ200	BLADE STALL (INTRO)					
FJ100	POWER SETTLING (INTRO)					
BE408	HOLDING					
BE402	TACAN APPROACH					
BE409	MISSED APPROACH					
CE500	SINGLE ENGINE MALFUNCTION ANALYSIS					
CB100	SINGLE ENGINE APPROACH RUNWAY (INTRO)					
CB300	SINGLE ENGINE APPROACH PAD (INTRO)					
CB200	SINGLE ENGINE LANDING RUNWAY (INTRO)					
CB400	SINGLE ENGINE LANDING PAD (INTRO)					
CB500	SINGLE ENGINE WAVEOFF (INTRO)					
CB600	SINGLE ENGINE MALFUNCTION TAKEOFF/ABORT (INTRO)					
CA100	AUTOROTATIONS (INTRO)					
BE600	RUN ON LANDING					
BE300	INSTRUMENT TAKEOFF					
BE404	ASR APPROACH					
BE500	NORMAL LANDING					
AG100	SHUTDOWN CHECKLIST					
AG200	ROTOR DISENGAGEMENT					
BA500	CHECKLISTS					
BG400	COMMUNICATIONS					
	MALFUNCTIONS/EMERGENCIES (GRADE IF GIVEN)					
F1772	ROTOR BRAKE CAUTION LIGHT					
F1795	BLADE DAMPNER FAILURE					
FD803/4	LUBE PUMP SHAFT FAILURE (803/804)					
FD815/6	ENGINE FIRE (815/816)					
FC782	MGB CHIP LITE					
FC777	IMMEDIATE LOSS OF MGB OIL PRESSURE					
FC786	TRANSMISSION OIL OVERHEAT					
FC775	TRANSMISSION SYSTEM FAILURES (776 TO 789)					
FE798	TAIL ROTOR CONTROL LOSS (INTRO)					

Figure 5. Sample Grade Card

HS 1 (TAEG) TRAINING FORM REV.1 (16 JUNE 80)
ASF-4
SIDE 2

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY
FD839/40	AXIAL SHAFT FAILURE (.839/.840)				
FD807/8	IMMEDIATE OIL PRESSURE LOSS (.807/.808)				
FD811/2	HIGH OIL TEMP (.811/.812)				
FA973	FIRE EXTINGUISHER C.B.				

COCKPIT PROCEDURE			
PREPARATION			
HEADWORK			
DISCUSS COMMUNICATIONS FAILURES, POWER SETTLING, BLADE STALL			

SYSTEMS KNOWLEDGE:

TRANSMISSION SYSTEM, ENGINE EMERGENCIES, SHUTDOWN
FIRE

TASK CODE	TASK COMMENTS

INSTRUCTOR SIGNATURE	TRAINING OFFICER REVIEW SIGNATURE

Figure 5. Sample Grade Card (continued)

SECTION III

DATA ANALYSIS

This section presents analyses and discussion of data collected during this study. The data analyses focus on three major areas. The first presents the results of the control group and experimental group performances. The second addresses the efficiency of utilizing Device 2F64C in terms of potential dollar savings. The third addresses the potential benefits of effective utilization of training resources in other than dollar savings.

PERFORMANCE DATA FOR THE CONTROL AND EXPERIMENTAL GROUPS

A comparison of the average flight training hours required per student in the control and experimental groups to complete A and B stages of the HS-1 replacement pilot flight syllabus is shown in table 2.

TABLE 2. AVERAGE FLIGHT HOURS FOR THE CONTROL AND EXPERIMENTAL GROUPS

	Control Group (N=15)	Experimental Group (N=15)
Average HS-1 A Stage Flight Hours	17.2	13.0
Average HS-1 B Stage Flight Hours	26.4	14.0
Average HS-1 A and B Stage Flight Hours	43.6	27.0

The difference of 16.6 fewer aircraft training hours per student between the experimental and the control groups required to complete A and B stage training represents a 38 percent savings in flight hours. Data of particular interest are the differences in flight time savings between A stage (4.2 hours or 24 percent) and B stage (12.4 hours or 47 percent).

Figures 6 and 7 present graphic comparisons of the performance of the control and experimental groups during A and B stage training. The cumulative percentage of students in each group completing each stage by number of aircraft flights is compared. Perhaps the most significant findings shown in figures 6 and 7 are that 93 percent (14) of the experimental group students completed A stage training in six or less flights compared to 33 percent (5) for the control group students. In B stage 100 percent (15) of the experimental group students completed the stage in eight or less flights compared to only 6 percent (1) student in the control group.

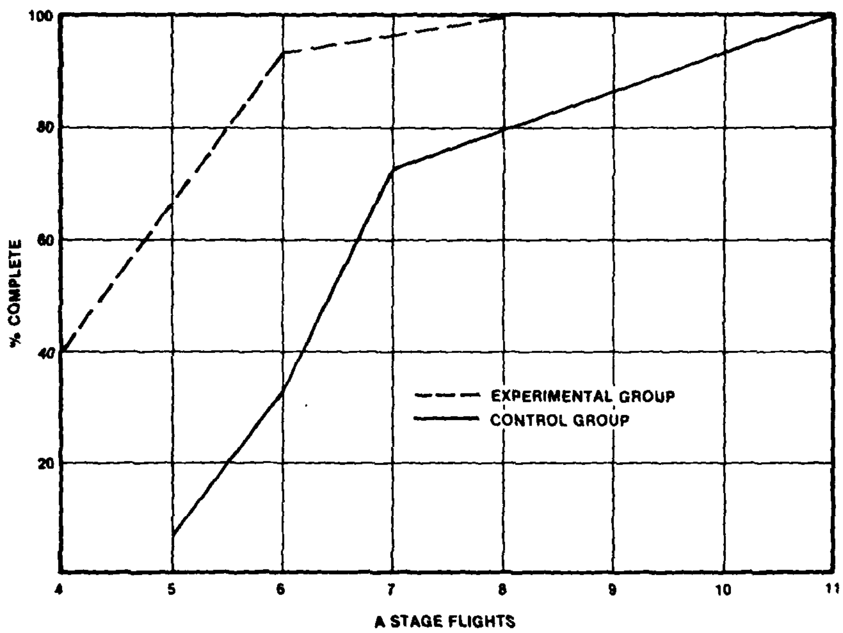

Figure 6. A Stage Cumulative Completion by Flights

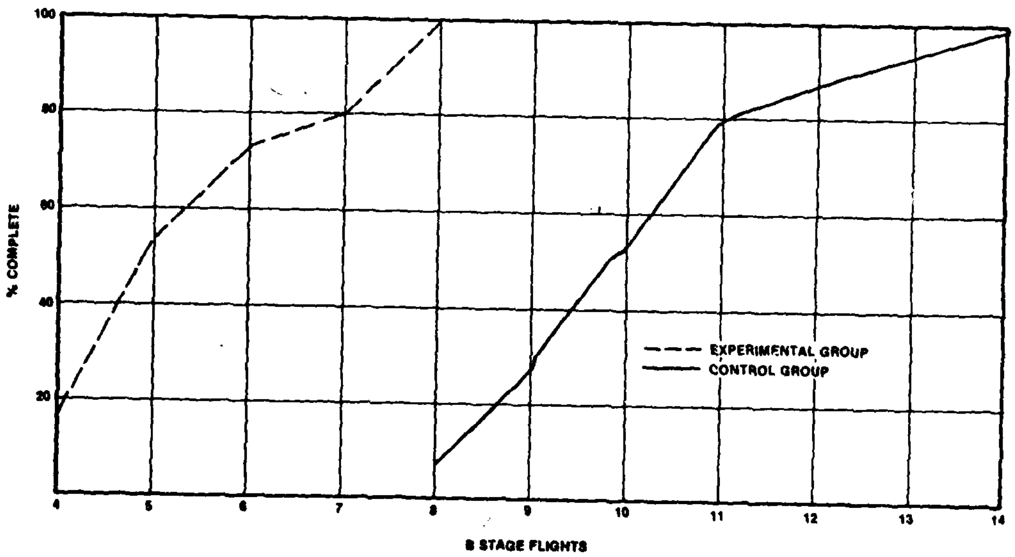

Figure 7. B Stage Cumulative Completion by Flights

The number of flights required by students in the control group to complete A and B stages is consistent with the number of flights required by students trained under the ongoing conventional HS-1 syllabus which included training in the older flight simulator, Device 2F64B. These data suggest that the older device was not contributing significantly to a reduction of in-flight training requirements.

TRAINING EFFECTIVENESS MEASURES

The previous table and figures presented comparisons of the control and experimental groups in terms of flight hours required to complete A and B stage training and the percentage of students completing each stage by number of training flights. These data do not address the amount of simulator training required to achieve the reductions in in-flight training hours. Table 3 presents the average first pilot hours and periods in the simulator for the experimental group as well as the average first pilot hours and periods in the aircraft for both groups. For comparability, only first pilot hours in the simulator are shown since all in-flight training is done in the right (first pilot) seat.

TABLE 3. AVERAGE FLIGHT AND SIMULATOR TRAINING HOURS AND PERIODS UTILIZED BY THE CONTROL AND EXPERIMENTAL GROUPS

	Control Group* (N=15) Aircraft		Experimental Group (N=15) Aircraft		Experimental Group (N=15) Simulator	
	Hours	Periods	Hours	Periods	Hours	Periods
A Stage	17.2	7.3	13.0	5.1	13.5	7.1
B Stage	26.4	10.5	14.0	5.8	12.3	6.5
Total	43.6	17.8	27.0	10.9	25.8	13.6

*Control Group received no simulator training.

The data in table 3 show less aircraft flight hours and less training periods for the experimental group than for the control group to complete A and B stage training. Also shown is the number of simulator hours and periods required to achieve these flight hour reductions. To achieve an indication of simulator and in-flight training trade-off, a Training Effectiveness Ratio (TER) was calculated for the two media.

Flight Training Hours Saved as Measure of Training Effectiveness. The TER expresses the transfer of training (flight hours saved as a result of simulator training) in terms of a ratio and is calculated as follows:

$$TER = \frac{\text{Flight Hours of the C Group - Flight Hours of the E Group}}{\text{Simulator Hours of the E Group}}$$

The TER for each stage is

A stage TER = 0.311

B stage TER = 1.000

These data indicate that 1 hour of simulator training is equivalent to .3 hours of in-flight training for A stage. They also indicate that 1 hour of simulator training is equivalent to 1 hour of in-flight training in B stage. Based on the TER, the simulator is about 3 times as effective for B stage training as it is for A stage training in terms of hours saved. This interesting finding is discussed subsequently.

Task Performance as a Measure of Training Effectiveness. Training Effectiveness was also addressed in terms of the number of training trials required in the simulator to effect a change in performance on the task in the aircraft. This approach was expected to accomplish two study objectives, (1) identify tasks that could be trained in the new device and (2) identify the amount of training required per task. To this end, the performance of each student on each task and the performance of the group on each task were recorded and analyzed.

Table 4 presents a comparison of the performance of the control and experimental groups on A stage check tasks for which training trials were recorded. Average total aircraft trials and aircraft trials to proficiency are shown. The average number of simulator trials received by the experimental group on each task is also presented. For those tasks in which all students did not achieve proficiency, the number of students achieving proficiency is shown in parenthesis. In accordance with NATOPS scoring criteria used by HS-1, it is not necessary for a student to receive a grade of "Qualified" which is equivalent to a "P" (proficient) on each task to satisfactorily complete a stage check. Thus, a student may pass the stage check without having achieved proficiency on each task.

It should be noted that all students did not have the opportunity to do a complete start, blade spread, blade fold, or shutdown on each flight. When an aircraft is started for the first flight of each training day and remains in an "UP" status, it is not completely shutdown until the end of the training day. At the end of each training flight the aircraft is "hot refueled" (engines running) then the No. 2 engine is shutdown and the rotor disengaged prior to a crew change. This procedure is repeated until that day's operations are complete. Thus, the total trials for certain tasks are low and the number of trials per task received by students will vary in accordance with scheduling (i.e., first flight of the day, during the day, or last flight of the day).

TABLE 4. A STAGE CHECK TASK TRIALS

Tasks	Control Group (N=15)		Experimental Group (N=15)		
	Air Trials	Air Trials to "P"	Air Trials	Air Trials to "P"	Simulator Trials
Normal Landing	26.4	13.4	13.5	3.3	3.1
Autorotations	17.9	13.4 (14)#	18.2	16.5 (13)#	8.9
Normal Takeoff	15.7	9.7	20.4	6.1	3.9
Normal Approach	17.9	9.6	11.8	5.9	1.7
Run On Landing	13.3	8.4	10.7	5.6	8.9
ASE Off Landing	10.5	6.2	11.5	5.5	3.8
S/E Approach	8.7	5.6	9.8	4.5	4.7
Aux/Off Landings	8.8	5.4	8.3	3.9	2.4
Running Takeoff	10.5	4.9	9.1	3.3	4.7
ASE Off Flight	7.9	3.9	2.4	1.4	3.1
S/E Landings	6.5	3.2	9.5	3.7	4.8
Systems Check	5.8	2.7	4.9	1.2	3.9
S/E Malf/Analysis	1.7	2.7 (3)#	7.3	2.9	5.7
S/E Waveoff	4.5	2.5 (14)#	4.1	1.7	3.3
AUX/Off Flight	6.3	2.5	5.1	2.1	2.7
Servo Malfunctions	5.2	2.3	4.9	2.0 (13)#	2.2
Rotor Engagement	5.7	2.3	5.3	2.1	6.4
S/E Malf/T.O Abort	3.8	2.3	3.6	2.1 (14)#	3.3
ASE Off Takeoff	3.1	2.2 (10)#	10.5	2.6	2.5
No. 2 Engine Start	5.8	1.9	5.1	1.1	6.5
Rotor Disengagement	4.8	1.7	4.5	1.2 (14)#	3.4
Manual Throttle	3.0	1.5 (13)#	2.5	1.0 (13)#	5.1
Normal Start	4.3	1.3	3.7	1.1	3.1
Shutdown	4.9	1.3	4.3	1.2 (14)#	3.5
No. 1 Engine Secure	1.5	1.2 (10)#	2.0	1.0 (13)#	1.5
Blade Spread	2.3	1.0 (12)#	1 1	1.1 (10)#	1.7

#Number of subjects achieving proficiency if less than total group.

Table 4 indicates that the experimental group required fewer trials to achieve proficiency on 23 of the 26 A stage tasks. (Note that for the task "Single Engine Malfunction/Analysis" only three control group students were judged proficient, whereas all students in the experimental group were judged proficient.) The experimental group students generally required fewer trials on procedural tasks (e.g., normal start, system checks, shutdown, and rotor disengagement). They also required fewer trials for the psychomotor tasks that could be performed by primary reference to in-cockpit cues (e.g., AUX Off Flight, ASE Off Flight, Single Engine Approach, Single Engine Waveoff, Normal Takeoff, and Run-On-Landing). However, the performance of the experimental group did not differ from the control group on tasks requiring visual cues as a primary reference for successful completion (e.g., Autorotation, ASE Off Takeoff, and Single Engine Landing). A reduction in the number of in-flight trials to proficiency by the experimental group for the task "Normal Landing," which utilizes both external and in-cockpit cues for maintenance of a precision hover was anticipated. However, the dramatic improvement shown by the experimental group for the task was unexpected. It may be attributable to the extensive practice received in all types of landings in the simulator (an average of 23) using the hover indicator in D mode and/or the effect of practicing approaches to landing.

Table 5 presents a comparison of the performance of the control and experimental groups on the B stage check tasks for which training trials were recorded. Average total aircraft trials and trials to proficiency are shown. The average number of simulator trials received by the experimental group on each task is also presented. Fewer trials were needed by the experimental group to attain proficiency on 16 of the 18 tasks trained in the simulator and included on the stage check. Three of the tasks included in the aircraft stage check (SAR Manual Approach, 10 foot Hover Swimmer Deployment and VFR Manual Climbout) required external visual simulation and thus could not be trained in the simulator. With the exception of the three tasks enumerated above, most B stage tasks included in the aircraft syllabus can be performed in the simulator by reference to in-cockpit cues. The data presented in table 5 is consistent with the TER, i.e., that the device is more effective for training B stage tasks than for training A stage tasks. The data also suggest that adding visual simulation to Device 2F64C may not significantly improve the effectiveness of the device for training most B stage tasks.

TABLE 5. B STAGE CHECK TASK TRIALS

Tasks	Control Group (N=15)		Experimental Group (N=15)		
	Air Trials	Air Trials to P	Air Trials	Air Trials to P	Simulator Trials
Alt. App Pilot Proced.	15.4	10.5	10.1	3.8 (14)#	11.7
Hover Depart. Proced.	19.3	10.1 (13)#	12.8	3.1	14.3
Freestream	7.2	6.3 (8)#	5.3	2.8 (11)#	7.6
Sonar Deploy. Voice Proc	12.4	5.0	8.2	1.1	12.5
Auto App. Pilot Proced.	12.7	4.0	8.3	1.6	11.3
Windline Rescue	6.1	3.1 (10)#	5.7	2.9 (14)#	4.2
Alt. App. Copilot/Voice Proced.	18.9	2.8	6.5	1.4	9.0
10 Foot Hover Swimmer Deploy.	3.6	2.7 (13)#	3.5	2.8 (11)#	NONE
SAR Manual Approach	3.9	2.6 (13)#	4.1	3.5 (12)#	NONE
Beeper Trim Failure	3.1	2.3 (11)#	1.5	1.5 (11)#	2.3
Doppler Failure	4.1	2.2 (13)#	1.6	1.0 (14)#	1.9
Practice Single Engine	1.6	1.9 (8)#	1.9	1.5 (13)#	4.0
Verbal Control Positioning	3.0	1.8 (12)#	3.0	1.3 (14)#	2.7
Generator Failure	3.0	1.8 (14)#	1.6	1.0 (11)#	2.5
Auto App. Rad Alt	3.8	1.7 (14)#	2.2	1.1 (12)#	4.3
RAD Alt Failure	2.7	1.6 (14)#	2.5	1.0	3.1
Manual Climbout (VFR)	3.7	1.5	3.3	1.2	NONE
Sonar Raise Malfunctions	1.8	1.5 (11)#	1.4	1.2 (11)#	2.7
SAR Search	2.9	1.4 (9)#	2.9	1.6 (13)#	2.5
Use of Cable Altitude	1.4	1.1 (9)#	1.4	1.0 (9)#	2.6
Manual Cable Angle Hover	1.7	1.0 (9)#	1.4	1.8 (6)#	1.9

#Number of subjects achieving proficiency if less than total group.

Instrument Training Tasks. Training in instrument tasks (i.e., basic instruments, airways instrument navigation, approach procedures) was not emphasized in the conventional HS-1 syllabus in either the older flight simulator or in the aircraft. The experimental syllabus developed for evaluating the training effectiveness of Device 2F64C included instrument training in the simulator and in the aircraft in both A and B stages. Thus, comparisons between groups on all instrument tasks could not be accomplished by stage of training. However, the two groups were compared across A and B stages on three principal instrument tasks for which training trials were recorded. Table 6 presents the average total air trials, average trials to proficiency for each group and the average simulator trials received by the experimental group for these three tasks.

TABLE 6. INSTRUMENT TASK TRIALS

Task	Control Group Air Trials	Control Group Air Trials to "P"	Experimental Group Air Trials	Experimental Group Air Trials to "P"	Experimental Group Simulator Trials
Instrument Takeoff	3.5	3.1 (10)#	2.1	1.8 (12)#	10.6
TACAN Approach	3.9	2.0 (11)#	2.3	1.6 (13)#	3.8
GCA Approach	4.3	2.7 (11)#	1.9	1.2 (13)#	3.4

#Number of subjects attaining proficiency if less than total group.

Task trial performance was not recorded for basic instrument tasks (e.g., partial panel, climbing/descending timed turns, recovery from unusual attitudes) for either group but graded as "P" if the task was performed to the proficiency standard. A review of the grade sheets for the experimental group indicated that most students demonstrated proficiency on basic instrument tasks on the first flight in which the maneuver was graded.

TRAINING EFFICIENCY OF DEVICE 2F64C

To complement the training effectiveness findings, economic analyses were conducted to determine the savings resulting from substituting simulator training (Device 2F64C) for in-flight training in the SH-3 aircraft.

The analyses are based upon two alternative assumptions. First, the variable costs of the simulator which are incurred to obtain a given level of performance are compared with the variable cost of in-flight training using the aircraft to obtain the same level of performance. This approach assumes that both the costs of the simulator and aircraft are sunk costs. It is assumed that both the simulator and aircraft will remain in the inventory.

The alternative assumption is that more intensive use of the simulator will result in a reduction in the number of aircraft necessary for training and all direct costs associated with the operation and maintenance of the aircraft can be eliminated. If the number of aircraft devoted to training can be reduced by substituting simulator time for aircraft time and if there will, in fact, be a reduction in aircraft then substantial reductions in training costs will be possible.

In comparing the cost of the two training regimes (aircraft training versus simulator and aircraft training), the Flight Substitution Ratio (FSR) (Diehl and Ryan, 1977) provides a convenient measure for determining the efficiency of the device. The FSR, which is the reciprocal of the TER (see section II), is the rate at which flight time is being replaced by simulator time. The smaller the positive value of the FSR, the more effective the substitution and the higher the efficiency of the device. The FSR is determined as follows:

$$FSR = \frac{\text{E Group Simulator Hrs}}{\text{C Group Flight Hrs} - \text{E Group Flight Hrs}}$$

The flight hours, simulator hours, and FSRs for both the A stage and B stage are shown in table 7.

TABLE 7. FLIGHT SUBSTITUTION RATIOS BETWEEN SIMULATOR AND AIRCRAFT FOR A AND B STAGES OF TRAINING.

	Training Hours Per Student				
	Control Group		Experimental Group		
Stage	Flight Hrs	Simulator Hrs	Flight Hrs	Simulator Hrs	FSR
A	17.2	0	13.0	13.5	3.21
B	26.4	0	14.0	12.3	1.00

The data indicate that 3.21 hours of simulator time can be substituted for 1 hour of aircraft flight time in the A stage of training. For the B stage of training, 1 hour of simulator time can be substituted for 1 hour of flight time.

The above alternatives for comparing training costs (variable and direct costs) are discussed in the following paragraphs and the costs of training the experimental and control groups are compared for each alternative.

VARIABLE COSTS. The variable costs include those which vary as a direct function of the flying hours. Certain costs of flying the aircraft are nearly continuous functions such as the fuel consumed per unit of flying time. There is no disagreement that such costs should be included as variable. There are other costs which are discrete in nature and ambiguity may arise when classifying them as variable. For example, engine rework is required after a specified number of flying hours and may not vary in any given time period if the hours of flying do not exceed the maximum number of flying hours permitted before engine rework.

For purposes of the following analyses the variable costs include POL, maintenance materials, personnel support supplies, engine rework, component rework and replenishment of spares and parts. Costs incurred for these functions were assumed to be flying related. The CNO Resources Analysis Branch estimated these costs to be currently $441 per flying hour.[5] The standard depot level maintenance (SDLM) was assumed to be more time related than flying hour related and was not included as part of the variable costs. The variable costs of operating the simulator were estimated at $41.50 per hour from data obtained from COMNAVAIRLANT (Code 316) and includes utilities and supplies but excludes Military Pay Navy (MPN) costs.

A comparison of the variable costs and savings of operating the simulator and the aircraft to train is shown in table 8.

TABLE 8. COMPARISON OF VARIABLE COSTS OF SIMULATOR WITH VARIABLE COSTS OF AIRCRAFT

	Training Costs Per Student				
Stage	Control Group		Experimental Group		Savings
	Flight	Simulator	Flight	Simulator	
A	$ 7,585	0	$ 5,733	$ 560	$1,292
B	11,642	0	6,174	510	4,958
Total	$19,227	0	$11,907	$1,070	$6,250

[5]Fonecon OP-96D3, May 1982.

DIRECT COSTS. The direct cost of operating the simulator per hour was also obtained from COMNAVAIRLANT (Code 316). These costs were estimated at $220 per hour of operation. The direct cost of operating the SH-3 aircraft was estimated by CNO OP-96D3 at $2,018 per hour of operation.

A comparison of the direct cost and the savings of operating the simulator and the aircraft to train to a priori specified performance criteria is shown in table 9.

TABLE 9. COMPARISON OF DIRECT SIMULATOR COSTS WITH DIRECT AIRCRAFT COSTS

	Training Costs Per Student				
Stage	Control Group		Experimental Group		Savings
	Flight	Simulator	Flight	Simulator	
A	$34,710	0	$26,234	$ 2,970	$ 5,506
B	53,275	0	28,252	2,706	22,317
Total	$87,985	0	$54,486	$ 5,676	$27,823

The direct cost savings per student are estimated at $27,823. In order to obtain these savings it would be necessary to reduce the number of aircraft, thereby eliminating the need for direct services and operation costs.

It must be emphasized that the above cost analyses do not include the simulator acquisition costs, aircraft acquisition costs, student throughput, economic life of the simulator and other variables which impact on life cycle costs of a training program. The decision to acquire a simulator should be supported by an economic analysis which includes the life cycle cost of the entire program. Any economic analysis of the use of simulators must be tailored to the purpose and specific circumstances surrounding the analysis. Often, management prerogatives may be limited and what may prove to be an effective and economic substitution may not be possible because of administrative, political, or technical constraints.

Both the variable and the direct cost analyses support the use of the SH-3 simulator which has already been acquired. In addition, the analysis based upon the alternative assumption (i.e., intensive simulator utilization) demonstrated savings which are sufficient to warrant an economic analysis in support of the acquisition of simulators in similar training situations.

UTILIZATION OF TRAINING RESOURCES

The third analysis in this section examines the potential non-dollar benefits of effective utilization of resources.

ANALYSIS OF MAINTENANCE MAN-HOUR REQUIREMENTS. As important as potential dollar savings are the potential savings in man-hours required to maintain aircraft for training. For example, 31.2 maintenance man-hours were required to support each SH-3 flight hour in calendar year 1981 at HS-1[6] compared to 4.2 maintenance man-hours required to support each hour of training in Device 2F64C.[7] Thus, each hour of aircraft training replaced by simulator training translates into significant savings in manpower. Using the FSRs presented earlier we can determine the differential in man-hours for aircraft training versus aircraft and simulator training generated by each aircraft hour saved as a result of simulator training. The man-hour differential is calculated as follows:

Maintenance Man-hour Differential = SH-3 man-hours per flight hour minus (FSR X Simulator man-hours per training hours)

The man-hour differential (man-hours saved per flight hour saved) is calculated below:

Man-hour Differential for A stage = 31.2 - (3.21 X 4.2) = 17.7 man-hours per flight hour saved

Man-hour Differential for B stage = 31.2 - (1.0 X 4.2) = 27.0 man-hours per flight hour saved

The average flight hour savings per stage (table 2) per student in A stage were 4.2 hours (i.e., 17.2 minus 13) and 12.4 (i.e., 26.4 minus 14) in B stage. From this, the man-hour savings per stage are calculated as follows:

Man-hours saved = Man-hour differential per flight hour saved multiplied by flight hours saved.

Man-hours saved in A stage = 17.7 X 4.2 = 74.3 man-hours per student trained

Man-hours saved in B stage = 27.0 X 12.4 = 334.8 man-hours per student trained

Total maintenance man-hour savings equals 409 per student for A and B stages.

It should be noted that the savings shown were valid for the experimental group trained under the conditions described in this study. Long term savings will depend on the final syllabus adopted by HS-1 and the resulting average hours required for each student to complete training in each stage.

Table 10 presents the numbers of cancelled or incomplete aircraft training flights due to maintenance for the control and experimental groups.

[6] HS-1 data, maintenance man-hours per SH-3 flight hour.

[7] Training Device Utilization Summary, period Jan through Dec 81 NAMSO 4790.A8092-01 (Report of Average Maintenance hours per student hours).

TABLE 10. CANCELLED OR INCOMPLETE TRAINING FLIGHTS DUE TO MAINTENANCE

	Maintenance Cancelled	Maintenance Incomplete	Total
		A Stage	
Control Group	17	10	27
Experimental Group	6	2	8
		B Stage	
Control Group	22	15	37
Experimental Group	13	12	25

Incomplete or cancelled flights due to aircraft maintenance are highly variable, but the number cancelled for the experimental group is substantially less than the number cancelled for the control group. The B stage probability of incomplete or cancelled flights is greater due to the requirement for more functioning avionics than in A stage. Obviously, if fewer flights are required to meet syllabus requirements the incidence of cancelled or incomplete flights will be reduced.

Any reduction in the number of syllabus flights is advantageous, but the potential for reductions is, of course, dependent on the availability of synthetic trainers to meet scheduled training requirements. The availability of synthetic trainers used for training both groups in this study is discussed in the following paragraphs.

Reliability of Synthetic Trainers. Realization of savings whether expressed in dollars, flight hours, or maintenance man-hours is dependent upon the availability of the devices for training. Table 11 presents the number of cancelled or incomplete training sessions in the CPT (Device 2C44) for both the control and experimental groups and for the flight simulator (Device 2F64C) for the experimental group. An unusually high number of periods were cancelled or incomplete for both devices during the training of the experimental group. Thirty percent of the 195 scheduled A and B stage simulator periods for the experimental group were either cancelled or incomplete due to trainer maintenance or related problems (e.g., building air conditioning).

TABLE 11. CANCELLED OR INCOMPLETE TRAINING SESSIONS

	*Device 2C44		Device 2F64C	
	Cancelled	Incomplete	Cancelled	Incomplete
		A Stage		
Control Group	3	7	N/A	N/A
Experimental Group	18	0	33	1
		B Stage		
Experimental Group	N/A	N/A	25	3

*Used for A stage training only

OVERVIEW OF FINDINGS

The findings of this study have demonstrated the effectiveness of Device 2F64C for training a wide variety of tasks and the feasibility of training certain tasks in the device as a substitute for in-flight training. There is another finding, more covert than the tabulated results, but of significance. This concerns the often overlooked benefit of synthetic training--increased efficiency or effectiveness of the air training that follows simulator training. Examination of tables 4 and 5 indicates that even with the significantly fewer aircraft training flights received by the experimental group the average number of training trials received by this group is quite high. This is attributed to the improved readiness of students for aircraft training which enabled them to accomplish more tasks in scheduled air training periods. Anecdotal information from a number of instructors indicated that students in the experimental group were able to start the aircraft, complete systems checks, and become airborne on the first aircraft flight in a fraction of the time required for students trained under the conventional syllabus. This was also true for a number of airborne tasks. Thus the time saved was used for more practice on these and other tasks.

Caution is urged in interpreting the training effectiveness ratio (TER) for A stage. Stating the flight hours saved does not account for another benefit. This is the additional training students receive due to increased availability of training time. This additional training ranged from extensive copilot training in the simulator to increased instrument training in both the simulator and aircraft. The improved performance on individual tasks (table 4) should be considered as well as the TER prior to considering a reduction in A stage simulator training.

The TER or FSR can be valuable in other ways than previously discussed. These ratios can be useful to HS-1 for decisions concerning "reverse substitution" (substitution of aircraft training for simulator training). They can be used as guides for replacing simulator training with aircraft training when the simulator is not available due to being down for modification or protracted maintenance.

IMPLICATIONS OF THE FINDINGS. As stated in section II, the training effectiveness evaluation of Device 2F64C centered on three areas: (1) identification of tasks suitable for training in the new simulator, (2) determination of the amount of training required for each task, and (3) determination of an optimum mix of simulator and aircraft training. This has been accomplished and the results were used to develop a syllabus that is expected to meet the training commitments of HS-1 and provide more effective utilization of squadron training resources. Appendix B describes the process used for development of operational syllabi for the CPT, OFT, and aircraft.

SECTION IV

CONCLUSIONS AND RECOMMENDATIONS

This section presents general and specific conclusions and recommendations derived from the study. For each specific conclusion, a course of action is recommended.

GENERAL CONCLUSIONS AND RECOMMENDATIONS

1. This study has again demonstrated that an on-site assessment of the contribution of new synthetic training devices should be conducted concurrent with their integration into the ongoing production of aviators trained for the Fleet (see Smode, 1979).

2. A large variety of tasks can be highly trained in the flight simulator utilizing only in-cockpit cues. The limitations of Device 2F64C for training tasks highly dependent on external visual cues was also demonstrated. The subsequent addition of a visual system presumably will increase the effectiveness of the device for training tasks requiring extra-cockpit cues, principally in A stage tasks.

3. To maintain the effective integration of this new device into the ongoing replacement pilot training program, certain controls are required. The most prominent are:

   a. effective employment of all training resources that matches media capability to task requirement; i.e., (1) the CPT for part-task training, (2) the flight simulator for part- and whole-task training or tasks which cannot be safely performed in the aircraft, and (3) the aircraft for training tasks that cannot be trained or only partially trained in the CPT or simulator

   b. standardization of instructional practices and grading criteria

   c. instructor training in the capabilities of each medium

   d. heightened awareness of precise management control requirements and special preparations needed for efficiency in training.

4. The organization of Fleet Readiness Squadrons should be examined to determine if these units are optimally structured to meet today's high technology training requirements. When first established, the early FRS training resources consisted primarily of aircraft and skilled pilots, aircrew and maintenance personnel. Their organization paralleled the organization of their counterpart operational squadrons. However, that organization may not be the most appropriate for the modern FRS. Today's FRS has extensive training resources that include complex part- and whole-task trainers, and other sophisticated media (sound slide, television, computer aided/managed instruction) to train personnel to operate and maintain today's complex aircraft and avionics. Management of training and instructing in today's training environment demands that training managers

and instructional personnel be appropriately trained and provided stable assignments to ensure effective use of their skills. An FRS organized for a primary mission of training appears more appropriate than one organized for operational missions.

RECOMMENDATIONS

1. Each new device should undergo a formal assessment concurrent with its introduction to ensure effective utilization and integration into ongoing training.

2. Programs should be established for training appropriate management and instructor personnel to effectively utilize the substantial array of training resources available to the modern FRS.

3. The Chief of Naval Operations should sponsor a study to determine the organizational structure required for the optimal effectiveness of today's FRS.

SPECIFIC CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS	RECOMMENDATIONS
Device 2F64C is effective for training both mission oriented (B stage tasks) and transition training (A stage tasks). It is most effective for procedural and psychomotor tasks utilizing in-cockpit cues.	Approve a syllabus that incorporates the findings of this study.
Simulator training should be given in appropriate block sequencing (i.e., all A stage simulator training before beginning A stage flight training), rather than simulator and flight training interspersed to maximize the efficiency of flight training.	Approve the syllabus proposed appendix B or one similar in training strategy.
Device 2C44, Cockpit Procedures Trainer, is effective for training procedural tasks in preparation for later training in Device 2F64C.	Continue the basic CPT training regime used in the study as modified in the recommended operational syllabus proposed by TAEG (appendix B).
Cancelled training sessions in devices 2C44 and 2F64C, due to maintenance, could compromise the continuity of training and the timely completion of the curriculum. Missing instruments and malfunctioning equipment reduce the effectiveness of training in these devices and inhibit acceptance by the user.	Ensure that essential parts/instruments are supplied in a more timely manner. Strong attention by HS-1, HSWING ONE, and FASOTRAGRULANT be given to ensure that both devices are maintained in a manner that will ensure their training effectiveness.
The delay in incorporating program modifications required to replace or update approach maps, and to change Center, Approach, or Tower frequencies, seriously interferes with the conduct of realistic and accurate training. The instrument approaches originally selected for the device should be changed to facilitate the HS-1 training requirements. The capability to incorporate approach plate changes, and maintenance of related simula-	Develop a procedure for timely incorporation of program changes to frequencies and approach plates as they are promulgated in DOD Flight Information Publications or Facility Manuals. Authorize programming of new approach maps and navigation facilities as needed to facilitate HS-1 training requirements which are peculiar to the device location.

tion is essential to maintaining the psychological fidelity of the device (i.e., the degree to which the simulator and simulated task is perceived by the trainee as being a duplicate of the operational equipment and the task situation).	
The use of 4-hour simulator periods shared by two students is appropriate. It provides each student with first pilot training in an equivalent number of tasks to that received in the average 2.5 hour aircraft flight and provides copilot training. Efficient scheduling is also facilitated.	Retain the 4-hour periods as used during the device evaluation. Strive to complete the briefing and to start training sessions at the scheduled time to ensure each student receives the entire scenario.
The instructor training course for Device 2F64C was oriented to operation of the device rather than how to effectively use the device for training.	Orient simulator instructor courses toward the effective utilization of the device and its unique capabilities for training. If the device manufacturer cannot furnish this training it could be obtained from a commercial flight training company or airline.
Effective utilization of Device 2F64C is highly dependent on the use of well trained instructors who instruct on a regular basis.	Limit the number of instructors to ensure the opportunity to instruct frequently on this complex device. Train instructors fully and limit their rotation to realize the benefits of their training. Conduct regular standardization checks. Investigate the alternative of providing one or more non-military instructors to ensure stability of the simulator instructor program and to assist in assuring that the device is maintained and effectively utilized. Instructors, whether contract or government Civil Service, should be well trained in simulator utilization practices and be qualified pilots, preferably with H-3 or SH-3 experience.

Detailed scenarios or scripts ensure standardization of instruction and presentation of tasks in a hierarchy consistent with learning difficulty and in a manner designed to establish and reinforce correct procedures and responses.

Develop and utilize scenarios that are relevant to the local area. Ensure that these scenarios are updated as changes occur in the syllabus or in NATOPS procedures. Require that instructors become familiar with the scenario, brief it thoroughly, and adhere to it.

Standardization of flight instruction should be improved. A review of in-flight grade cards indicated a considerable variation in task emphasis and tasks trained. This is in contrast to the review of simulator grade cards which indicated that the use of scenarios resulted in uniformity of instruction.

Develop scenarios for each scheduled flight period even though it is not convenient or feasible for the instructor to consult them while in the air. The instructor should become familiar with the scenario prior to flight in order to fully accomplish the flight objectives.

Device 2F64C has proved effective for training both operational mission instrument tasks and instrument flight under Air Traffic Control. The simulator should be used for maintaining instrument proficiency and for conducting instrument evaluations.

Conduct instrument evaluation flights in Device 2F64C for replacement pilots and Jacksonville based SH-3 pilots in connection with the HS-1 instrument ground school. OPNAV Instruction 3710.7K lists the device as approved for conducting instrument evaluations. Both the U.S. Coast Guard and U.S. Air Force conduct H-3 helicopter instrument evaluations in simulators equivalent to Device 2F64C. Federal Aviation Regulations, Part 61.57, paragraph (e), (2), permit instrument competency checks in approved flight simulators.

NATOPS minimums specified for designation as Pilot Qualified in Model do not provide for any substitution of simulator time for flight time. The minimums of 35 hours in model, 6 hours of night in model, and 4 hours of instrument in model were promulgated prior to receipt of Device 2F64C. Waivers were required for five students in the experimental group who completed training through the NATOPS designation check in less than the specified minimums.

Revise NATOPS minimums specified for designation as Pilot Qualified in Model to provide credit for training received in Device 2F64C subject to demonstrated competency in the simulator and aircraft on scheduled syllabus checks. OPNAV Instruction 3710.7K, Chapter X, paragraph 1051 b, permits substitution of simulator training for annual flight and instrument hour requirements.

A computer based system for data management is needed at HS-1. The extensive data generated in training each student on approximately 200 tasks in synthetic trainers and in the aircraft cannot be effectively monitored with the current procedures. The present system which involves labor intensive manual data processing does not facilitate constant monitoring of student progress and is not likely to identify a student encountering a problem until the problem has reached a serious stage. The present system permits inadvertent overtraining, undertraining, and instructional omissions.	TAEG has developed extensive computer programs for use in the present study and in connection with the development of a prototype Computer Aided Training Evaluation and Scheduling (CATES) System for assessing flight task proficiency. TAEG, at the request of the Commanding Officer of HS-1, is investigating the feasibility of incorporating appropriate programs into the Aviation Training Support System (ATSS), which is available to HS-1. If implementation is determined to be feasible, approve and fund as required.
The proficiency based grading system utilized in this study provided a more sensitive measure of task performance than the conventional NATOPS grading system. It is also capable of presenting a trial by trial record of student performance on any given task.	Implement a proficiency based grading system for all replacement pilot training at HS-1.

POST NOTE

Since completion of the study reported here two events worthy of comment have ocurred.

- Extensive liaison with the new Officer in Charge of FASOTRAGRULANT Detachment at Jacksonville, and with the Naval Training Equipment Center Regional Office Central in Pensacola, has resulted in an identification of a procedure to expedite changes to approach plates, radio facilities and frequency changes as needed to support training peculiar to Naval Air Station Jacksonville squadrons.

- New scenarios for the proposed operational syllabus have been developed by TAEG and the entire syllabus and scenarios are being used with a group of first-tour students. Data are being gathered on the performance of this group utilizing the new CPT, simulator and aircraft flight syllabi. The results of this effort will be used to validate the syllabus and scenarios.

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APPENDIX A

SAMPLE SYLLABUS GRADE SHEET AND ACCOMPANYING SCENARIO

HS 1 (TAEG) TRAINING FORM REV. 1 (16 JUNE 80)
ASF-4

FRP ________ COMP ________

INST ________ INCOMP ________

DATE ________ PILOT TIME ________ COPILOT TIME ________

COPILOT NAME ________________

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	DISCUSS. INTRO. NOT OBS	NUMBER TRIALS/ PROFICIENCY
AE100	NO. 2 ENGINE START					
BE201	MAX GROSS TAKEOFF					
BB100	INSTRUMENT DEPARTURE					
FJ700	HIGH SPEED FLIGHT					
FJ200	BLADE STALL (INTRO)					
FJ100	POWER SETTLING (INTRO)					
BE408	HOLDING					
BE402	TACAN APPROACH					
BE409	MISSED APPROACH					
CE500	SINGLE ENGINE MALFUNCTION ANALYSIS					
CB100	SINGLE ENGINE APPROACH RUNWAY (INTRO)					
CB300	SINGLE ENGINE APPROACH PAD (INTRO)					
CB200	SINGLE ENGINE LANDING RUNWAY (INTRO)					
CB400	SINGLE ENGINE LANDING PAD (INTRO)					
CB500	SINGLE ENGINE WAVEOFF (INTRO)					
CB600	SINGLE ENGINE MALFUNCTION TAKEOFF/ABORT (INTRO)					
CA100	AUTOROTATIONS (INTRO)					
BE600	RUN ON LANDING					
BE300	INSTRUMENT TAKEOFF					
BE404	ASR APPROACH					
BE500	NORMAL LANDING					
AG100	SHUTDOWN CHECKLIST					
AG200	ROTOR DISENGAGEMENT					
BA500	CHECKLISTS					
BG400	COMMUNICATIONS					
	MALFUNCTIONS/EMERGENCIES (GRADE IF GIVEN)					
FI772	ROTOR BRAKE CAUTION LIGHT					
FI795	BLADE DAMPNER FAILURE					
FD803/4	LUBE PUMP SHAFT FAILURE (803/804)					
FD815/6	ENGINE FIRE (815/816)					
FC782	MGB CHIP LITE					
FC777	IMMEDIATE LOSS OF MGB OIL PRESSURE					
FC786	TRANSMISSION OIL OVERHEAT					
FC775	TRANSMISSION SYSTEM FAILURES (776 TO 789)					
FE798	TAIL ROTOR CONTROL LOSS (INTRO)					

HS 1 (TAEG) TRAINING FORM REV.1 (16 JUNE 80)
ASF-4
SIDE 2

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY
FD839/40	AXIAL SHAFT FAILURE (.839/.840)				
FD807/8	IMMEDIATE OIL PRESSURE LOSS (.807/.808)				
FD811/2	HIGH OIL TEMP (.811/.812)				
FA973	FIRE EXTINGUISHER C.B.				

COCKPIT PROCEDURE				
PREPARATION				
HEADWORK				
DISCUSS COMMUNICATIONS FAILURES, POWER SETTLING, BLADE STALL				
SYSTEMS KNOWLEDGE:				

TRANSMISSION SYSTEM, ENGINE EMERGENCIES, SHUTDOWN
FIRE

TASK CODE	TASK COMMENTS

INSTRUCTOR SIGNATURE	TRAINING OFFICER REVIEW SIGNATURE

ASF-4 SIMULATOR SCENARIO

OBJECTIVE

An objective of this flight is to continue developing instrument skills. At the completion of this flight, the student should be able to (1) plan and fly a flight under simulated instrument conditions requiring an instrument departure, airways navigation, and terminal procedures and (2) cope with malfunctions while operating under instrument conditions. A second objective is to introduce the student to unusual flight characteristics of the SH-3 aircraft when operating under max gross conditions, encountering blade stall or power settling. The third objective is to introduce complex emergencies such as dual engine failure, autorotations, single engine landings, and takeoff aborts.

BRIEFING INFORMATION

Characteristics of blade stall and power settling are discussed in PQS 0102, Flight Characteristics Theory. Students should be briefed on the conditions expected and the manner in which the other malfunctions and emergencies to be introduced are handled. In addition, the following items should be briefed:

CREW BRIEF

1. Flight Gear
2. Ditching
   a. Overland
      (1) Controlled
      (2) Uncontrolled
   b. Overwater
      (1) Controlled
      (2) Uncontrolled
3. Lookout

COPILOT BRIEF

1. Cockpit Coordination
   a. Checklist Method
   b. Practice Autorotations
   c. Practice Single Engines
   d. Power/Scan Backup
2. Communications Responsibilities
   IFR/VFR
3. Vertigo/Disorientation
   a. Notification
   b. Parameters
4. Emergencies
   a. Control of Aircraft
   b. Dual Concurrence
   c. Immediate Action
      (1) Engine Fire
      (2) Engine Malfunction
      (3) Hardover
      (4) Tail Rotor Loss
      (5) Dual Engine Loss
      (6) Others: Use Checklist

SPECIAL BRIEFING ITEMS FOR THIS FLIGHT

1. Aircraft/Simulator Start

   a. Interior and exterior preflight inspections--complete
   b. Aircraft has flown previously today; this will be a hot seat change of pilots with systems checks complete
   c. Complete all checklists applicable for this flight.

2. Communications

   Make all applicable radio calls. The call sign of today's aircraft is "ALPHA ROMEO ____."

3. Taxi, Takeoff, and Flight

   a. Taxi
   b. Takeoff (high gross weight, high temperature)
   c. Tasks to be trained or maneuvers to be performed on this flight.

4. Flight Publications Required

   En route Low Altitude Charts 19/20
   Vol. 9, Low Altitude Instrument Approach Procedures, S.E.
   IFR and VFR Supplements
   Jacksonville Sectional Chart

FREQUENCIES THAT MAY BE REQUIRED ON THIS FLIGHT

Frequency and Channelization card.

ASF-4 SIMULATOR SCENARIO, STUDENT NO. 1

1. Simulator setup:

   a. Check safety mat free of objects, ramp and walkway clear
   b. Lower safety bar and close door
   c. Raise ramp and ensure UP light illuminated
   d. Students--briefed on EMERGENCY EGRESS FROM TRAINER
   e. Safety belts fastened
   f. Master power, trainer power, and freeze lights illuminated
   g. MAT, DOOR, HI TEMP, LOW OIL, GATE, and RAMP indicator lights out
   h. Motion--ON
   i. Ensure all systems are ON and rotor brake is ON.

2. Initiate problem with No. 1 engine running, blades spread, and systems check complete. Prepare for malfunction on rotor engagement. SELECT IC No. 4 and enter.

   a. Freeze--OFF
   b. Start No. 2 engine; complete checklist
   c. Enter (.794), blade out of track
   d. Clear malfunction and complete engagement after action on malfunction.

3. Before Taxi:

Call sign for today is "ALPHA ROMEO _____."

a. Contact Clearance Delivery

(1) If clearance previously filed, "Navy JAX Clearance Delivery ALPHA ROMEO _____, NIP 32 to Mayport." If not, include ETD, ETE and Wx Brief number.

(2) "ALPHA ROMEO _____, Navy JAX Clearance Delivery, clearance on request."

b. Taxi Checklist

(1) "ALPHA ROMEO _____, Navy JAX Clearance Delivery, advise when ready to copy clearance."

(2) "Navy JAX Clearance Delivery, ALPHA ROMEO _____, ready to copy."

(3) "ALPHA ROMEO _____ cleared as filed. After takeoff, maintain Rwy Head; climb to 2,000. One West of Navy JAX turn right to heading 360. Expect 4,000, 10 minutes after departure. Contact Departure Control on frequency 351.8, Squawk Mode 3, Code 0401. Readback."

2F64C (SH-3) Scenario
Developed by TAEG
ASF-4 Page 3 of 15

(4) Readback

(5) "ALPHA ROMEO _____, readback correct; contact Navy JAX ground control when ready to taxi."

c. Taxi Clearance

(1) "Navy JAX Ground Control, ALPHA ROMEO _____, taxi, IFR to Mayport."

(2) "ALPHA ROMEO _____, Navy JAX Ground Control cleared to taxi to and hold short of Runway 27. Wind 240/6 knots, altimeter 29.92. Over."

(3) "ALPHA ROMEO _____."

4. Before Takeoff:

a. Instructor/student brief
b. Pre-Takeoff Checklist
c. Takeoff Checklist
d. Request Takeoff Clearance.

(1) "Navy JAX Tower ALPHA ROMEO _____, ready for takeoff, IFR to Mayport."

(2) "ALPHA ROMEO _____, wind 240/5 knots, cleared for takeoff, maintain runway heading after takeoff, change to Jacksonville Departure Control."

5. Max Gross Running Takeoff IFR:

Contact Departure and complete Post-Takeoff Checklist.

a. "Jacksonville Departure, Navy Copter ALPHA ROMEO _____, off Navy JAX climbing to 2,000."

b. "ALPHA ROMEO _____, radar contact, turn right heading 360 and report reaching 2,000."

c. Report 2,000 feet.

d. "Roger ALPHA ROMEO _____, turn right heading 060, climb to and maintain 4,000."

e. Acknowledge.

6. Instructor establish conditions to demonstrate onset of blade stall or use DEMO No. 1.

a. At onset of blade stall have student recover. Freeze trainer if necessary to prevent loss of control.

b. Establish controlled flight.

c. If DEMO used: Press DEMO switch. (Note segment light will illuminate and show a "0" if a briefing is available or a "1" if demonstration maneuver only is available.)

7. Power Settling.

a. Establish flight conditions that could lead to power settling and recovery. Press FREEZE. At Select Digi Switches, enter DEMO 9 for power settling demonstration.

b. At conclusion of Demo, trainer should freeze and return to position prior to Demo.

c. Establish normal flight en route to PARNEL. Reduce gross weight to 19,000 lbs and temperature to 15°. (Notify student.)

d. Establish normal flight en route to PARNEL.

8. Clearance to PARNEL.

a. "ALPHA ROMEO _____, cleared direct to PARNEL. Enter published holding. Maintain 4,000. Expect approach clearance at ______. Over."

b. "ALPHA ROMEO _____."

c. "Jacksonville Approach, ALPHA ROMEO _____ 4,000."

d. "ALPHA ROMEO _____, Jacksonville Approach, Radar temporarily out of service. Report established in holding at PARNEL."

e. Report PARNEL.

f. "ALPHA ROMEO _____, JAX Approach, descend to and maintain 2,000."

g. "Jacksonville Approach, ALPHA ROMEO _____, out of 4,000 for 2,000."

9. Holding and Approach. Allow student to enter holding and make at least one pattern with clearance on second inbound, time permitting. (Mayport Approach Map.)

Approach Clearance

a. "ALPHA ROMEO ____ is cleared for a TACAN 22 approach to Mayport. Mayport reporting 500 broken, visibility 2 miles, fog, wind 210/7 knots, altimeter 29.94. Contact Mayport tower on 265.8 at the 4 mile DME on final approach."

b. Acknowledge and complete Before Landing Checklist.

c. Contact Mayport at 4 DME.

d. "ALPHA ROMEO ____, wind 210/6 knots, cleared to land RWY 22, check landing gear down and locked."

e. Acknowledge.

10. At minimums advise student that field is not in sight. He should execute a missed approach.

a. "Mayport Tower, ALPHA ROMEO ____, missed approach, request clearance to Jacksonville Approach."

b. "ALPHA ROMEO ____, contact Jacksonville Approach on 381.5."

c. Acknowledge and contact JAX.

d. "ALPHA ROMEO ____, left turn heading _____ to intercept the 075 radial of Mayport, cleared to PARNEL. Over."

e. Acknowledge.

f. "JAX approach, ALPHA ROMEO ____, cancel my IFR at this time."

g. Freeze Trainer. Show student track on CRT or print copy for debrief.

11. Single Engine Malfunction Analysis:

a. Select a malfunction that will cause engine failure or require the student to shut the engine down such as Lube Pump Shaft Failure (.803/.804) or engine fire (.815/.816). For delayed malfunction use number preceded by a minus (-) instead of a point (.).

b. Enter. If delayed malfunction press MALF's INSERT switch.

c. Single Engine Checklist.

12. Single Engine Operations:

Landing Clearance

a. "Mayport Tower, ALPHA ROMEO, ____ miles East of Mayport at ____ft. Lost No. ___ engine, request landing and emergency equipment standing by."

b. "ALPHA ROMEO _____, Mayport Tower, cleared to land Runway 22 or Pad 2; wind 200/7 knots, altimeter 29.93. Report channel entry with gear."

c. Complete landing checklist and single engine landing approach.

13. Single engine waveoff:

a. At an appropriate time before touchdown, instructor direct waveoff, continue around for another approach to touchdown. If additional approaches are needed reset trainer to pattern altitude for another approach (IC ___).

b. After Landing Checklist, as required, preparatory for the next takeoff. Delete all previous malfunctions.

14. Single Engine Malfunction on Takeoff/Abort:

a. Call up .839/.840 for axial shaft failure which will cause flameout when activated.

b. Complete Pre-Takeoff and Takeoff Checklists as required.

c. Begin Takeoff.

d. Enter malfunction unless delayed malfunction procedure has been entered, then press MALF INSERT.

e. Upon completion of abort. Freeze the trainer and reset to inflight at Mayport. (IC-8)

15. Main Gear Box Malfunctions. Select MGB Chip Light (.782), immediate loss of transmission oil pressure (.777), or transmission oil overheat (.786).

a. Enter malfunction code.

b. After required malfunction action is completed and checklist completed, delete malfunction by punching in Malfunction Override.

16. Normal Takeoffs and Landings. At least three.

17. Autorotations. Position aircraft for autorotations at Mayport or assume autorotation at night on instruments. Recommend demonstration No. 2.

a. Press Freeze. At Select Digi Switches, enter 2 for demonstration.

(1) Press DEMO switch. (Note: segment light will illuminate and show a "0" if a briefing is available or a "1" if demonstration maneuver only is available.)

(2) Press Freeze and briefing will begin. Upon completion of briefing,

(3) Press Freeze and demonstration will begin.

b. At conclusion of Demo, trainer should freeze and return to position prior to Demo.

18. Autorotation should be practiced to the ground. The student is being trained to cope with an emergency, not for practice in power recoveries.

Reset to appropriate altitude for subsequent practice. At least one dual engine failure should be given. Malfunctions .839 and .840 if given simultaneously should set up condition to flameout both engines. Altitude can be varied from 500 feet up in accordance with student performance. Caution: recommend that not more than 5 or 6 be given without a significant break to do other type training. After practicing autorotations resulting from malfunctions, practice autorotations with power recovery.

19. Run On Landing. Have student do one or more run on landings at Mayport. Upon completion of this practice interrupt for change of students.

20. Landing:

a. After landing checklist
b. Refueling in accordance with hot seat procedures. (Perform hand signals)
c. Shutdown No. 2
d. Freeze for change of pilots.

21. Simulator Shutdown:

a. Freeze--PRESSED
b. Motion--PRESSED, light extinguished
c. Lower RAMP--Down light illuminated
d. Unlatch and raise safety bar.

ASF-4 SIMULATOR SCENARIO, STUDENT NO. 2

1. Simulator setup:

   a. Check safety mat free of objects, ramp and walkway clear
   b. Lower safety bar and close door
   c. Raise ramp and ensure UP light illuminated
   d. Students--briefed on EMERGENCY EGRESS FROM TRAINER
   e. Safety belts fastened
   f. Master power, trainer power, and freeze lights illuminated
   g. MAT, DOOR, HI TEMP, LOW OIL, GATE, and RAMP indicator lights out
   h. Motion--ON
   i. Ensure all systems are ON and rotor brake is ON
   j. Initiate problem with No. 1 engine running, blades spread, and systems check complete. Verify internal cargo to 700; crewmen to 2; fuel 2359 Fwd, 1006 Center, AFT 2400 (gross should be about 21,000) Temp to 35°.

2. All other conditions remain the same. Select malfunction. Blade dampner failure (.795).

   a. Freeze--OFF
   b. Start Engine No. 2
   c. Enter Malfunction selected
   d. Clear malfunction and complete engagement.

3. Before taxi:

   a. Taxi Checklist
   b. Taxi Clearance.

4. Before takeoff:

   a. Pre-takeoff Checklist
   b. Takeoff Checklist
   c. Instructor brief on Max Gross Takeoff Procedure, high speed flight and blade stall.

5. Takeoff:

   Takeoff Clearance

   a. "Mayport Tower, ALPHA ROMEO _____, ready for takeoff; request JAX 1 departure."

   b. "ALPHA ROMEO _____, cleared to lift, right turn after takeoff, JAX 1 departure approved. Wind 240/8, altimeter 29.92."

c. Takeoff

d. Post-Takeoff Checklist.

6. High Speed Flight

Continue until onset of blade stall; if stall occurs and student is unable to recover, freeze the trainer.

7. Power Settling. Demonstration mode can be used or instructor can allow student to perform. If Demo used, refer to procedure used for first student.

a. Instructor establish conditions to induce power settling. After recovery or freeze, reduce gross weight to 19,000 and temperature to 15°. (Notify student.)

b. Establish normal flight.

8. Call up malfunction that will lead to single engine operation: Lube Pump Shaft (.803/.804), engine fire (.815/.816), or immediate loss of oil pressure (.807/.808) and high oil temp (.811/.812).

9. Single Engine Malfunction Analysis:

a. Enter malfunction selected
b. Single engine checklist.

10. Single Engine Operations:

a. Landing clearance for Mayport
b. Landing Checklist
c. Single engine missed approach
d. Single engine landing
e. Reset to final approach if additional landing practice required.

11. Single Engine Malfunction Takeoff/Abort. Call up .839 or .840 for flameout.

a. Brief for takeoff
b. Complete checklists and request takeoff
c. Begin takeoff
d. Enter malfunction.

12. After aborted takeoff, freeze, clear malfunction and reset for another takeoff at Mayport. Practice a minimum of 3 Normal Takeoffs and Landings.

13. Main Gear Box Malfunction. Call up Transmission Malfunction (.776 to .789); identify malfunction given on grade card.

a. Enter malfunction, after completion of required action and completion of checklist

b. Clear malfunction.

14. Tail Rotor Control Loss. Call up tail rotor control cable loss (.798).

Complete recovery with landing.

15. Autorotations. Practice autorotations to ground at Mayport; at least one should be induced by malfunctions such as dual engine failure (.839 and .840). Use IC 17 for reset to 800.

16. Instrument Takeoff and Departure.

a. Pre-Takeoff and Takeoff Checklists

b. IFR Mayport to NAS Jacksonville for TACAN Approach to NAS Jacksonville.

(1) "Mayport Ground Control, ALPHA ROMEO_____, IFR to Navy Jax, request clearance."

(2) "ALPHA ROMEO _____ is cleared to Navy Jacksonville as filed, maintain 3,000. Climb runway heading to 1,000, right turn to 240°, climb to 3,000. Contact Jacksonville Departure Control on 322.4, Squawk 0402. Readback."

(3) Readback

(4) "Readback correct. Contact Mayport Tower on 265.8 when ready for takeoff."

17. Takeoff:

a. "Mayport Tower, ALPHA ROMEO _____ ready for takeoff IFR to Navy Jax."

b. "ALPHA ROMEO _____ winds 220/10 knots, cleared to lift; begin Squawk, contact Jacksonville Departure on 322.4."

18. After Takeoff:

a. Contact Jacksonville Departure

(1) "Jacksonville Departure, Navy Copter ALPHA ROMEO _____, off Mayport maintaining runway heading."

(2) "ALPHA ROMEO _____ Jacksonville Departure, radar contact, turn right heading 240°, maintain 3,000."

(3) "ALPHA ROMEO ___."

b. Post-Takeoff Checklist.

19. En route discuss communications failures.

20. Terminal Procedures:

a. "ALPHA ROMEO _____ Jacksonville Departure, contact Jacksonville Approach on 284.6. Over."

b. "Jacksonville Approach, ALPHA ROMEO _____ at 3,000."

(1) "ALPHA ROMEO _____ Jacksonville Approach, cleared to MANDARIN via radar vectors, maintain 3,000, expect further clearance at _____."

(2) "ALPHA ROMEO _____."

(3) "ALPHA ROMEO _____, JAX Approach, Navy JAX weather 500 overcast, 1 mile visibility, wind 180/10, altimeter 29.92. Landing Runway 9."

c. Vector student to MANDARIN, check entry into holding pattern, time and procedures, wind corrections and preparation for a TACAN Approach. Landing Checklist.

(1) "ALPHA ROMEO _____ cleared for TACAN 9 to Navy JAX, report leaving MANDARIN and 3,000."

(2) "Jacksonville Approach, ALPHA ROMEO _____, leaving MANDARIN and out of 3000."

(3) At 6 mile arc, "ALPHA ROMEO _____, contact Navy JAX RADAR on frequency 374.8."

(4) "ALPHA ROMEO _____."

(5) "Navy JAX RADAR, ALPHA ROMEO _____."

(6) "ALPHA ROMEO _____, Navy JAX RADAR, Radar contact _________ miles, report 5 mile DME."

(7) "ALPHA ROMEO _____."

(8) "Navy JAX RADAR, ALPHA ROMEO _____, at 5 mi DME inbound."

(9) "ALPHA ROMEO _____, Navy JAX RADAR, continue approach, expect further clearance at 3 miles."

(10) At 3 miles, "ALPHA ROMEO _____, you are cleared to land, wind 180/10."

(11) "ALPHA ROMEO _____."

21. Instructor. At minimums do not call field in sight; have student execute missed approach.

Missed approach

a. "Navy JAX RADAR, ALPHA ROMEO _____, executing missed approach, request ASR approach to Navy JAX."

b. "ALPHA ROMEO _____, contact Jacksonville Approach this frequency."

c. Acknowledge

d. "Jacksonville Approach, ALPHA ROMEO _____, missed approach to Navy Jax request ASR approach."

e. "ALPHA ROMEO _____, turn right, climb to 1,600 on the 185 radial of Navy Jacksonville TACAN." Instructor vector for base leg to Runway 27 then:

f. "ALPHA ROMEO _____, JAX Approach, contact Navy Jax Radar this frequency for ASR approach."

g. "Navy JAX RADAR, ALPHA ROMEO _____."

22. Instructor. Direct ASR Approach in the following manner. Bring up JAX Approach Map for vectors to final and then GCA Map for Runway 27. Instructor will be required to issue commands as steering commands for an ASR are not issued by computer.

a. "ALPHA ROMEO ____, Radar contact ____ miles ____ of Navy JAX."

b. "This will be a surveillance approach to Runway 27. What are your landing intentions?"

c. "Navy JAX GCA, ALPHA ROMEO ____, this will be a final landing."

(1) "ALPHA ROMEO ____, Navy Jacksonville weather ceiling 500 overcast, 1 mile visibility, wind 180/10, altimeter 29.92."

(2) "ALPHA ROMEO ____, your missed approach procedure is climb and maintain 1,600, 1 mile west of Navy JAX TACAN turn left heading 170°."

d. On downwind or base leg, call for landing checklist.

"ALPHA ROMEO ____, perform landing checklist."

e. After turn on final

(1) "ALPHA ROMEO ____ this is your final controller, wheels should be down. Over."

(2) Acknowledge wheels down and locked and request recommended altitudes during the approach.

f. At 6-1/3 miles issue

(1) "ALPHA ROMEO ____ 6-1/3 miles from runway, prepare to descend in 1 mile, minimum descent altitude 480. Report runway in sight."

(2) "Five miles from runway, your altitude should be 1,520."

g. Issue altitude information in accordance with the following at

4 miles - 1,220
3 miles - 920
2 miles - 620

h. As required, "Heading _____, _____ miles from runway." At least once each mile, "Altitude should be _____."

i. On course or slightly left/right of course, and trend information as appropriate.

j. At 2½ miles, "_____ miles from runway, wind _____ at _____, cleared to land."

k. "1 mile from runway, take over visually; if runway/runway lights/approach lights not in sight, execute missed approach. Over."

23. Upon completion of ASR approach and Run on landing, clear aircraft to shutdown in present position.

"ALPHA ROMEO _____, cleared to shutdown in present position. Winds 240/8."

24. After landing checklist:

Engine Fire No. 1 on ground (.815)

a. Enter .815
b. Fire extinguisher circuit breaker (.973)
c. Enter .973.

25. Simulator Shutdown. Perform the following:

a. Freeze--ON
b. Motion Switch--Pressed, light extinguished
c. Lower Ramp--DOWN light illuminated
d. Unlatch and raise safety bar. Stow in up position.

APPENDIX B

PROCEDURE USED TO DEVELOP PROPOSED OPERATIONAL SYLLABI

APPROACH

The approach used in selecting a design for the proposed operational syllabi and the process used to develop the syllabi are described in this appendix.

A syllabus designed to assure that all students will have achieved proficiency upon completion of a specified number of flights is neither cost nor training effective. The most efficient or effective syllabus would terminate training on each task in each stage as the student demonstrates proficiency. This demands a self-paced curriculum that is difficult to schedule and monitor and almost precludes pairing of students in the simulator. The alternative recommended to HS-1 is a syllabus designed to ensure that the average student will complete training in the scheduled number of periods. Training would continue for the small number of students requiring additional training.

SYLLABI DEVELOPMENT. Development of operational syllabi was facilitated by having the experimental syllabi and task performance data already stored in a computer disk file. An iterative process was used to restructure the experimental syllabi into proposed operational syllabi. Each task trained in each medium was examined by task trials required to achieve proficiency and to determine the effectiveness of the medium for training the task. If the task was undertrained, additional practice was scheduled; if overtrained, the practice was reduced. Training for tasks that had little or no transfer to the next higher medium was reduced or removed from the syllabus for that medium. Subsystem tasks were combined as performance data indicated students achieved proficiency in these tasks (e.g., flex drive failures, compressor stall, oil pressure system failures were combined into a single task, Engine Malfunction Analysis, in later training sessions). As each task was examined, the experimental syllabi were modified. Training sessions were added or deleted as required. Summaries of tasks trained by medium were then updated to display when and where the task was presented. At the conclusion of this process the computer was used to print out new syllabus grade cards for each medium.

The proposed syllabi were then examined on a task-by-task and session-by-session basis with HS-1 subject matter experts to ensure the proper order of presentation and that appropriate opportunities for practice were provided. After modification, the syllabi were sent to HS-1 for further review and approval.

Table B-1 shows a comparison of the Experimental Group Syllabi and the proposed Operational Syllabi.

TABLE B-1. EXPERIMENTAL AND PROPOSED OPERATIONAL SYLLABI SEQUENCE AND NUMBER OF TRAINING PERIODS

Training Medium Sequence	Experimental Group N=15	Proposed Operational Syllabi
	A STAGE	
Procedures Trainer	7/P*	6/7/P
Flight Simulator	7/P	6/P
Aircraft	4/P	6/P
	B STAGE	
Flight Simulator	6/P	6/P
Aircraft	4/P	5/P

*P = proficiency. Training in each medium continued until proficiency was demonstrated.

The syllabi recommended to HS-1 include a 6/7 session CPT syllabus, a six period A stage simulator syllabus, a six period A stage flight syllabus followed by a 6 period B stage simulator syllabus and a five period B stage flight syllabus. A night familiarization flight included in the experimental B stage flight syllabus was moved to A stage and one additional A stage flight added. Two B stage flights were added to the three mission oriented periods in B stage for a total of five B stage flights.

Figures 5 and 6 from section III have been reproduced here as figures B-1 and B-2 for reference. The proposed A stage syllabus includes five A stage day flights plus the night familiarization flight moved from B stage to A stage. With this syllabus, approximately 60 to 65 percent of the first tour students should complete A stage in the scheduled (see figure B-1) flights. With the proposed five B stage flights devoted to mission oriented tasks, it is expected that approximately 70 to 75 percent of the first-tour students will complete the B stage syllabus in five flights (see figure B-2).

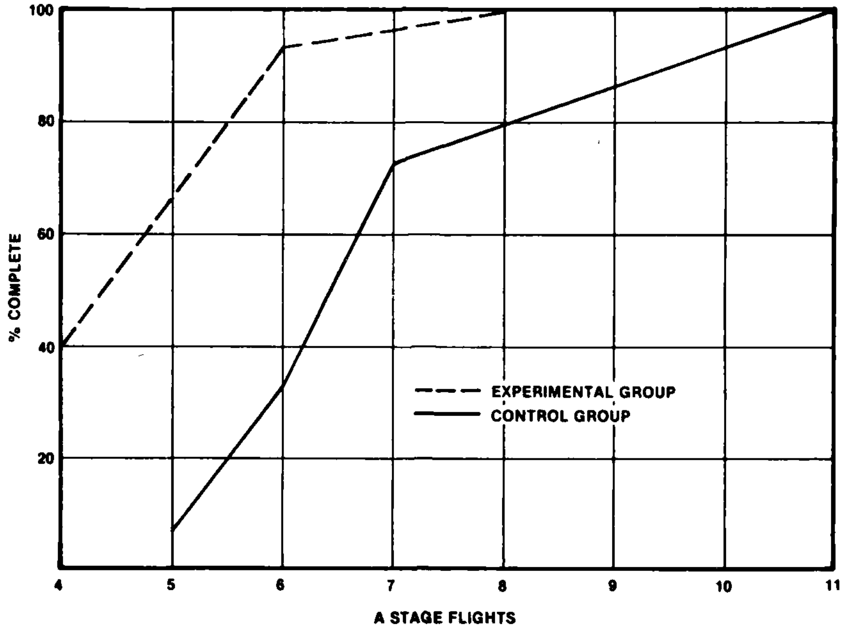


Figure B-1. A Stage Cumulative Completion by Flights

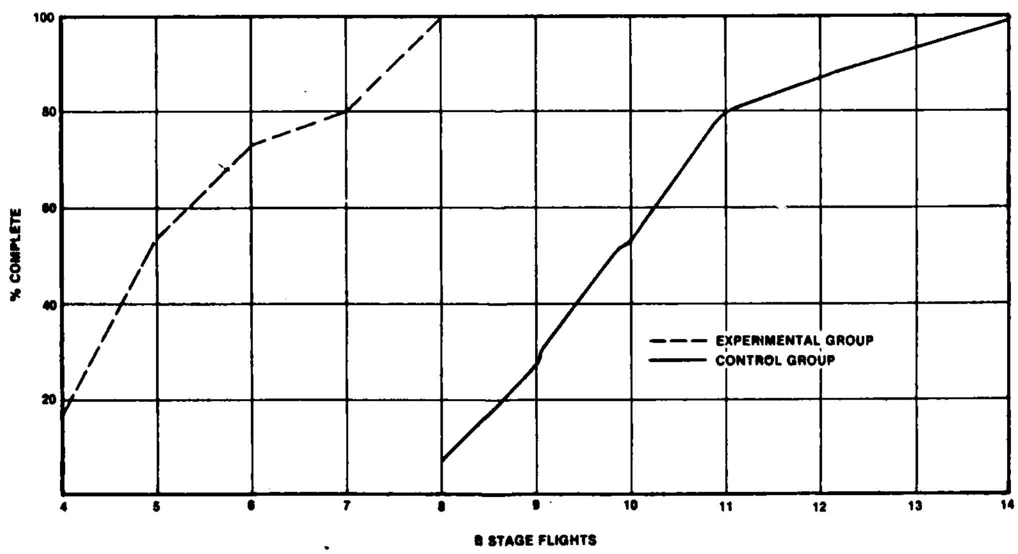


Figure B-2. B Stage Cumulative Completion by Flights

The number of A stage simulator flights was reduced from 7 to 6. The period removed was concerned with airways instrument navigation and approach procedures. It was recommended that the period be scheduled in connection with NATOPS qualification and the instrument ground school. Emphasis on certain tasks was changed in the B stage simulator syllabus; several were removed, but no periods were deleted because of the high transfer of training demonstrated for mission-related tasks.

Annex 1 contains a listing of tasks included in the proposed CPT, simulator and flight syllabi. Annex 2 provides a matrix identifying where each task is presented by medium. Annex 3 provides grade sheets for each syllabus period by medium. All are stored in TAEG disk files and can be modified easily as the new syllabus is debugged. The grade sheets are printed by the computer and then photographically processed to 5" X 8" cards to fit on the instructor knee board.

ANNEX 1 TO APPENDIX B
TASK LISTING

Task ID Table

No	ID	Description	Alpha	Beta	Lower	Upper
1	AC100	PRE-FLIGHT	10	10	31	80
2	AC200	POST-FLIGHT	10	10	50	98
3	AD100	NORMAL START	10	10	13	84
4	AD101	BATTERY START DEMO	10	10	27	84
5	AD200	BLADE SPREAD	10	10	20	84
6	AD300	SYSTEMS CHECK	10	10	08	84
7	AE100	NO. 2 ENGINE START	10	10	13	90
8	AE200	ROTOR ENGAGEMENT	10	10	50	90
9	AF100	TAXI CHECKLIST	10	10	40	96
10	AF200	TAXI	10	10	50	96
11	AF300	PRE-TAKEOFF CHECKLIST	10	10	50	96
12	AG100	SHUTDOWN CHECKLIST	10	10	27	98
13	AG200	ROTOR DISENGAGEMENT	10	10	27	98
14	AG300	BLADE FOLD	10	10	20	98
15	AG400	NO. 1 ENGINE SECURE	10	10	33	98
16	AH100	LSE SIGNALS	10	10	50	89
17	AH200	PRE-FLIGHT PLANNING	10	10	50	89
18	BA100	TAKEOFF CHECKLIST	10	10	27	94
19	BA200	POST TAKEOFF CHECKLIST	10	10	47	94
20	BA300	BEFORE LANDING CHECKLIST	10	10	33	94
21	BA400	AFTER LANDING CHECKLIST	10	10	27	94
22	BA500	NORMAL PROCDRS CHECKLISTS	10	10	50	94
23	BB100	INSTRUMENT DEPARTURE	10	10	50	94
24	BC200	UNUSUAL ATTITUDES	10	10	50	86
25	BC300	SPEED CHANGES	10	10	50	86
26	BC400	STEEP TURNS	10	10	20	86
27	BC500	CLIMB/DESCEND TIMED TURNS	10	10	20	86
28	BC600	AIRWAYS NAVIGATION	10	10	50	86
29	BC700	LEVEL TURNS	10	10	50	86
30	BC701	BEEPER TRIM OFF FLIGHT	10	10	50	86
31	BD100	BAR ALT & BEEPER TRIM USE	10	10	50	80
32	BD200	D MODE DEMO	10	10	50	80
33	BD300	DOPPLER DEMO	10	10	50	80
34	BE100	NORMAL TAKEOFF	10	10	13	92
35	BE200	RUNNING TAKEOFF	10	10	20	92
36	BE202	NO HOVER LANDING DEMO	10	10	50	92
37	BE300	INSTRUMENT TAKEOFF	10	10	20	92
38	BE401	ADF APPROACH	10	10	50	92
39	BE402	TACAN APPROACH	10	10	50	92
40	BE403	GCA APPROACH	10	10	50	92

Task ID Table

No	ID	Description	Alpha	Beta	Lower	Upper
41	BE404	ASR APPROACH	10	10	50	92
42	BE405	NO GYRO APPROACH	10	10	50	92
43	BE406	MIRROR APPROACH	10	10	50	92
44	BE407	PARTIAL PANEL	10	10	17	92
45	BE408	HOLDING	10	10	50	92
46	BE409	MISSED APPROACH	10	10	50	92
47	BE500	NORMAL LANDING	10	10	07	92
48	BE600	RUN ON LANDING	10	10	50	92
49	BE700	NORMAL APPROACH	10	10	50	92
50	BF100	PAD WORK	10	10	50	96
51	BF200	NIGHT PAD WORK	10	10	50	96
52	BG100	COURSE RULES	10	10	50	83
53	BG201	BASIC INSTRUMENTS	10	10	50	83
54	BG400	COMMUNICATIONS	10	10	50	83
55	BG401	CLEARANCES	10	10	50	83
56	BG500	NIGHT LIGHTING PROCDRS	10	10	50	83
57	BG600	NIGHT AREA CHECKOUT	10	10	50	80
58	BG700	FLOOD/HOVER/LANDING LT USE	10	10	50	80
59	CA100	AUTOROTATION	10	10	50	60
60	CB100	SINGLE ENG APPR/LAND RUNWAY	10	10	50	90
61	CB300	SINGLE ENG APPR/LAND PAD	10	10	50	90
62	CB500	SINGLE ENGINE WAVEOFF	10	10	50	90
63	CB600	SINGLE ENG TAKEOFF ABORT	10	10	50	90
64	CC100	AUX OFF LANDING	10	10	50	92
65	CD100	ASE OFF TAKEOFF	10	10	50	96
66	CD300	ASE OFF LANDING	10	10	50	96
67	CE100	ASE OFF FLIGHT	10	10	50	74
68	CE200	AUX/PRIMARY OFF FLIGHT	10	10	50	74
69	CE300	MANUAL THROTTLE	10	10	50	74
70	CE600	EMERGENCY PROCDRS CHECKLISTS	10	10	50	90
71	CF100	FUSELAGE FIRE	10	10	50	67
72	DA200	COUPLER DOPPLER/ TACNAV TEST	10	10	50	93
73	DA300	PRE-DIP CHECKLIST	10	10	50	93
74	DA500	SONAR DEPLOY VOICE PROCDRS	10	10	50	93
75	DA600	SPECIAL PROCDRS CHECKLISTS	10	10	50	90
76	DB100	AUTO APPR PILOT PROCDRS	10	10	50	98
77	DB200	AUTO APPR RAD ALT PROCDRS	10	10	50	98
78	DB300	COUPLED HVR DEPART PROCDRS	10	10	50	98
79	DB400	CPLD APPR WAVEOFF PROCDRS	10	10	50	98
80	DC100	ALT APPR PILOT PROCDRS	10	10	50	86

Task ID Table

No	ID	Description	Alpha	Beta	Lower	Upper
81	DC200	CPLD APPR CPLT/VOICE PROCDRS	10	10	50	86
82	DD100	MANUAL CLIMB OUT (VFR)/(IFR)	10	10	50	86
83	DE100	FREESTREAM RECOVERY	10	10	50	77
84	DE200	SONAR RAISE MALFUNCTIONS	10	10	50	77
85	DE300	DOPPLER FAILURE	10	10	50	77
86	DE400	BOTTOMED DOME	10	10	50	77
87	DE800	COUPLER FAILURE	10	10	50	77
88	DE912	BEEPER TRIM FAILURE	10	10	50	77
89	DE916	BAR ALT FAILURE	10	10	50	77
90	DE938	RADAR ALTIMETER FAILURE	10	10	50	77
91	DF100	USE OF CABLE ALTITUDE	10	10	50	86
92	DF200	MANUAL CABLE ANGLE HOVER	10	10	50	86
93	DG200	LOW LEVEL ASE OFF	10	10	50	77
94	DG300	COUPLER CRUISE	10	10	50	77
95	EA200	DIP TO DIP/PT TO PT NAV	10	10	50	93
96	EA300	SAR SEARCH	10	10	50	93
97	EA400	SAR MANUAL APPROACH	10	10	50	93
98	EA500	WINDLINE SAR PILOT PROCDRS	10	10	50	93
99	EA501	WINDLINE SAR COPILOT PROCDRS	10	10	50	93
100	EC100	VFR SWIMMER DEPLOYMENT	10	10	50	88
101	ED100	VERBAL CONTROL POSITIONING	10	10	50	82
102	FA750	ELECTRICAL MALFUNCTION	10	10	50	80
103	FA751	GENERATOR FAILURE	10	10	50	80
104	FA756	ELECTRICAL FIRE	10	10	50	80
105	FA973	FIRE EXTINGUISHER C.B.	10	10	50	80
106	FA998	RAWS FAILURE C.B.	10	10	50	80
107	FB878	ASE MALFUNCTIONS	10	10	50	80
108	FC775	TRANSMISSION SYS MALF'S	10	10	50	80
109	FC776	MGB LOW PRESS/HIGH TEMP	10	10	50	80
110	FC777	IMMED LOSS TRANS OIL PRESS	10	10	50	80
111	FC778	MGB SECONDARY OIL PUMP FAIL	10	10	50	80
112	FC779	Q SYSTEM-MALFUNCTION	10	10	50	80
113	FC780	TAIL-TAKEOFF LIGHT ONLY	10	10	50	80
114	FC781	TAIL TAKEOFF FAILURE	10	10	50	80
115	FC782	MAIN TRANSMISSION CHIP LIGHT	10	10	50	80
116	FC783	INTER/TAIL GEARBOX CHIP LT	10	10	50	80
117	FC785	MGB OIL PRESS CAUTION LIGHT	10	10	50	80
118	FC786	TRANSMISSION OIL OVERHEAT	10	10	50	80
119	FC788	MGB MASSIVE OIL LOSS	10	10	50	80
120	FC863	Q SYSTEM-1 NEEDLE, 1 GAGE	10	10	50	80

Task ID Table

No	ID	Description	Alpha	Beta	Lower	Upper
121	FC864	Q SYSTEM-2 NEEDLES, 1 GAGE	10	10	50	80
122	FC865	Q SYSTEM-1 NEEDLE, 2 GAGES	10	10	50	80
123	FC866	Q SYSTEM-2 NEEDLES, 2 GAGES	10	10	50	80
124	FD800	ENGINE MALFUNCTION ANALYSIS	10	10	50	80
125	FD803	LUBE PUMP SHAFT FAILURE	10	10	50	80
126	FD805	ENG GRADUAL OIL PRESS LOSS	10	10	50	80
127	FD807	ENG IMMED OIL PRESS LOSS	10	10	50	80
128	FD811	ENGINE OIL TEMP HIGH	10	10	50	80
129	FD813	ENG OIL PRESS FLUCTUATIONS	10	10	50	80
130	FD815	ENGINE FIRE	10	10	50	80
131	FD817	POST SHUTDOWN FIRE	10	10	50	80
132	FD819	HOT START	10	10	50	80
133	FD821	WARM START	10	10	50	80
134	FD823	STARTER HANGUP	10	10	50	80
135	FD833	T5 MALFUNCTION	10	10	50	80
136	FD835	COMPRESSOR STALL	10	10	50	80
137	FD837	NG SIGNAL LOSS	10	10	50	80
138	FD839	AXIAL SHAFT FAIL	10	10	50	80
139	FD841	FLEX SHAFT FAILURE	10	10	50	80
140	FD843	P-3 SIGNAL LOSS OR LEAK	10	10	50	80
141	FD845	FUEL CONTROL CONTAMINATION	10	10	50	80
142	FD851	HIGH SPEED SHAFT FAILURE	10	10	50	80
143	FD857	NG TACH FAILURE	10	10	50	80
144	FE700	ROTARY RUDDER MALFUNCTIONS	10	10	50	80
145	FE798	TAIL RTR CONTROL CABLE LOSS	10	10	50	80
146	FE799	TAIL RTR DRIVE SHAFT FAILURE	10	10	50	80
147	FF700	FUEL SYSTEM MALFUNCTIONS	10	10	50	80
148	FF763	FUEL FILTER BYPASS	10	10	50	80
149	FG760	HYDRAULIC SYS MALFUNCTIONS	10	10	50	80
150	FG768	AUX HYD PUMP FAILURE	10	10	50	80
151	FG769	PRI HYD PUMP FAILURE	10	10	50	80
152	FG770	UTILITY HYD PUMP FAILURE	10	10	50	80
153	FG773	1000 PSI HYD PRESS SW FAIL	10	10	50	80
154	FG793	LANDING GEAR MALFUNCTIONS	10	10	50	80
155	FG907	SERVO MALFUNCTIONS	10	10	50	80
156	FH102	DUAL ENGINE WATER LANDING	10	10	50	80
157	FH104	DUAL ENGINE WATER TAKEOFF	10	10	50	80
158	FH105	SINGLE ENGINE WATER LANDING	10	10	50	80
159	FH106	SINGLE ENGINE WATER TAKEOFF	10	10	50	80
160	FI700	MAIN ROTOR SYS MALFUNCTIONS	10	10	50	80

Task ID Table

No	ID	Description	Alpha	Beta	Lower	Upper
161	FI771	MANUAL ROTOR BRAKE FAILURE	10	10	50	80
162	FI772	ROTOR BRAKE CAUTION LIGHT	10	10	50	80
163	FI795	BLADE DAMPNER FAILURE	10	10	50	80
164	FJ100	POWER SETTLING	10	10	50	80
165	FJ200	BLADE STALL	10	10	50	80
166	FJ501	MAD DEPLOYMENT DEMO	10	10	50	80
167	FJ800	CUT GUN IN 10' HOVER DEMO	10	10	50	80
168	FK900	INSTRUMENT/COMM/NAV FAILURES	10	10	50	80
169	FK917	VGI OFF FLAG (PILOT)	10	10	50	80
170	FK927	AHRS TUMBLE	10	10	50	80
171	FK939	TACAN AZIMUTH & DME FAILURE	10	10	50	80
172	FK940	TACAN DME FAILURE	10	10	50	80
173	FK941	UHF NO 1 RECEIVER FAILURE	10	10	50	80
174	FK943	UHF NO 1 TRANSMITTER FAILURE	10	10	50	80

ANNEX 2 TO APPENDIX B

MATRIX OF TASKS TRAINED, BY MEDIUM

Task / Grade Card X-REF

Task ID	Grade Cards									
AC100-]	AF1	AF2	AF3	AF4	AF5X	E1				
AC200-]	AF1	AF2	AF3	AF4	AF5X	E1	E2			
AD100-]	AW0	AW1	AW2	AW5	ASF1	ASF2	ASF6	AF1	AF2	AF3	AF4
	AF5X	EW1	E2	ISF1							
AD101-]	AW1										
AD200-]	AW1	AW2	AW5	ASF1	ASF2	ASF6	AF1	AF2	AF3	AF4	AF5X
	EW1	E2									
AD300-]	AW1	AW2	AW3	AW4	ASF1	ASF2	ASF6	AF1	AF2	AF3	AF4
	AF5X	BSF2	BSF5	BSF6	EW1	E1	E2	ISF1			
AE100-]	AW1	AW2	AW3	AW4	ASF1	ASF2	ASF6	AF1	AF2	AF3	AF4
	AF5X	BSF6	EW1	E1	E2	ISF1					
AE200-]	AW1	AW2	AW3	ASF1	ASF2	ASF6	AF1	AF2	AF3	AF4	AF5X
	BSF6	EW1	E2	ISF1							
AF100-]	AW1	AW2									
AF200-]	ASF1	ASF2	AF1	AF2	AF3	AF4	AF5X	E1	E2		
AF300-]	AW1	AW2	AW3								
AG100-]	AW1	AW2	AW3	EW1	E2						
AG200-]	AW1	AW2	AW3	ASF1	ASF2	ASF3	ASF4	ASF5	ASF6	EW1	E2
AG300-]	AW1	AW2	AW3	ASF5	ASF6	EW1	ESF2	E2			
AG400-]	AW1	AW2	AW3	ASF1	ASF2	ASF6	EW1	E2			
AH100-]	AF1	AF2	AF3	AF4	AF5X	AF6N	BF3N	E2			
AH200-]	ISF1										
BA100-]	AW1	AW2	AW3	AW4							
BA200-]	AW1	AW2	AW3	AW5							
BA300-]	AW1	AW2	AW3								
BA400-]	AW1	AW2	AW3								
BA500-]	AW4	AW5	AW6X	AW7X	ASF1	ASF2	ASF3	ASF4	ASF5	ASF6	AF1
	AF2	AF3	AF4	AF5X	AF6N	BSF1	BSF2	BSF3	BSF4	BSF5	BSF6
	BF1	BF2	BF3N	BF4	BF5X	ESF1	ESF2	E1	E2	ISF1	
BB100-]	ASF3	ASF4	BSF1	BSF3	ISF1						
BC200-]	ASF1	ASF6	AF1	BSF6							
BC300-]	ASF1	AF1									
BC400-]	ASF1	ASF2	ASF6	AF3							
BC500-]	ASF1	ASF2	AF1	BSF1							
BC600-]	ISF1										
BC700-]	ASF1										
BC701-]	ASF1	BSF2									
BD100-]	ASF1	AF1									
BD200-]	ASF1										
BD300-]	ASF1										
BE100-]	ASF3	AF1	AF4	AF5X	AF6N	BF1	E1	E2			
BE200-]	ASF3	ASF4	ASF5	ASF6	AF2	AF4	AF5X	ESF1	ESF2	E1	E2

Task / Grade Card X-REF

Task ID	Grade Cards										
BE202-]	AF2										
BE300-]	ASF1	ASF2	ASF4	ASF5	ASF6	AF3	BSF1	BSF3	BF2	BF3N	ESF2
	ISF1										
BE401-]	ASF3	BSF1	ISF1								
BE402-]	ASF3	ASF4	AF1	AF6N	BSF1	BSF3	BSF4	BF2	ESF1	ISF1	
BE403-]	ASF2	AF2	AF6N	BSF1	BSF2	BSF3	BF1	BF3N	ISF1		
BE404-]	ASF4										
BE405-]	ASF2	AF6N									
BE406-]	AF6N										
BE407-]	ASF1	ASF2	BSF1	BSF6							
BE4C -]	ASF3	ISF1									
BE409-]	ASF2	ASF3	ASF4	BSF1	ISF1						
BE500-]	ASF1	ASF2	ASF3	ASF5	AF1	AF2	AF4	AF5X	AF6N	BF1	ESF2
	E1	E2									
BE600-]	ASF3	ASF4	ASF5	ASF6	AF1	AF3	AF4	AF5X	BF2	BF3N	ESF2
	E1	E2									
BE700-]	ASF1	ASF2	ASF5	AF1	AF2	AF4	AF5X	AF6N	BF1	ESF2	E1
	E2										
BF100-]	AF1	AF2									
BF200-]	AF6N										
BG100-]	AF1										
BG201-]	BSF2	BSF6									
BG400-]	ASF1	ASF2	ASF3	ASF4	BSF1	ISF1					
BG401-]	ISF1										
BG500-]	AF6N	BSF1	BSF3	BF3N							
BG600-]	AF6N										
BG700-]	AF6N	BF3N									
CA100-]	ASF4	ASF5	ASF6	AF2	AF3	AF4	AF5X	BSF1	BSF4	BSF5	BF1
	BF4	ESF1	ESF2	E1	E2						
CB100-]	ASF3	ASF4	ASF5	ASF6	AF2	AF4	AF5X	ESF1	ESF2	E1	E2
CB300-]	AF3										
CB500-]	ASF4	ASF5	ASF6	AF2	AF3	AF4	AF5X	ESF1	ESF2	E1	E2
CB600-]	ASF4	ASF5	ASF6	AF2	AF3	AF4	AF5X	ESF2	E1	E2	
CC100-]	ASF3	ASF5	ASF6	AF3	AF4	AF5X	ESF2	E1	E2		
CD100-]	ASF3	ASF5	ASF6	AF2	AF4	AF5X	AF6N	E1	E2		
CD300-]	ASF3	ASF5	ASF6	AF2	AF4	AF5X	AF6N	ESF2	E1	E2	
CE100-]	ASF2										
CE200-]	ASF2	ASF5	ASF6	AF2	ESF1	ESF2	E1	E2			
CE300-]	AW2	AW3	AW4	AW6X	AW7X	ASF3	ASF5	ASF6	BSF3	ESF1	ESF2
	E1	E2									
CE600-]	AW2	AW3	AW4	AW5	AW6X	AW7X	ASF2	ASF3	ASF4	ASF5	ASF6
	AF2	AF3	AF4	AF5X	BSF1	BSF2	BSF3	BSF4	BSF5	BSF6	BF1
	BF2	BF4	BF5X	EW1	ESF1	ESF2	E1	E2	ISF1		

Task / Grade Card X-REF

Task ID	Grade Cards									
CF100-]	BSF4									
DA200-]	BSF1	BSF3	BSF4	BF1	BF2	BF3N				
DA300-]	BSF1	BSF2	BSF3	BSF5	BF1	BF2	E1			
DA500-]	BSF2	BSF3	BSF6	BF1	BF2	BF3N	BF5X	ESF1	E1	
DA600-]	BSF2	BSF3	BSF4	BSF5	BSF6	BF1	BF2	BF3N	BF4	BF5X	ESF1
	E1										
DB100-]	BSF1	BSF2	BSF3	BSF4	BSF5	BSF6	BF1	BF2	BF3N	BF4	BF5X
	ESF1	E1									
DB200-]	BSF2	BSF3	BSF4	BSF5	BSF6	BF1	BF5X	E1			
DB300-]	BSF1	BSF2	BSF3	BSF4	BSF5	BSF6	BF1	BF2	BF3N	BF4	BF5X
	E1										
DB400-]	BSF2	BSF3	BSF4	BF1	BF5X						
DC100-]	BSF2	BSF3	BSF4	BSF5	BSF6	BF2	BF3N	BF4	BF5X	ESF1	E1
DC200-]	BSF2	BSF3	BSF4	BSF5	BSF6	BF2	BF3N	BF4	BF5X	E1	
DD100-]	BSF5	BSF6	BF2	BF4	ESF1						
DE100-]	BSF2	BSF3	BSF4	BSF5	BSF6	BF1	BF2	BF4	BF5X	ESF1	E1
DE200-]	BSF3	BSF4	BSF5	BSF6	BF4	BF5X	ESF1	E1			
DE300-]	BSF3	BSF4	BSF6	BF4	BF5X	ESF1	E1				
DE400-]	BSF3	BSF5									
DE800-]	BSF4	BSF5	BSF6	ESF1							
DE912-]	ASF1	BSF2	BSF5	BSF6	BF4	E1					
DE916-]	BSF5										
DE938-]	BSF3	BSF5	BSF6	BF2	BF4	BF5X	ESF1	E1			
DF100-]	BSF3	BSF5	BSF6	BF1	BF2	BF4	ESF1				
DF200-]	BSF4	BSF5	BSF6	BF1	BF2	BF4					
DG200-]	BSF1	BSF2	BF1	BF5X							
DG300-]	BSF1										
EA200-]	BSF2	BSF3	BSF4	BSF5	BSF6	BF1	BF2	BF4	BF5X		
EA300-]	BSF3	BSF4	BSF6	BF2	BF3N	BF4	BF5X	ESF1	E1		
EA400-]	BF2	BF4	BF5X	E1							
EA500-]	BSF4	BSF5	BSF6	BF2	BF3N	BF4	BF5X	ESF1	E1		
EA501-]	BSF4	BSF5	BSF6	BF2	BF3N						
EC100-]	BF2	BF4	BF5X	E1							
ED100-]	BF2	BF4	BF5X								
FA750-]	AW5	AW6X	AW7X	ASF6	BSF4	BSF6	BF5X	ESF1	ESF2	E1	ISF1
FA751-]	ASF2	BSF3	BSF5	BF4	EW1						
FA756-]	ASF2	BSF3	EW1								
FA973-]	ASF4	BSF2									
FA998-]	BSF1										
FB878-]	AW5	AW6X	AW7X	ASF2	ASF3	ASF6	AF2	AF5X	BSF2	BSF3	BSF4
	BSF5	BSF6	BF2	BF4	BF5X	EW1	ESF1	ESF2	E1		

Task / Grade Card X-REF

Task ID	Grade Cards										
FC775-]	ASF4	ASF5	ASF6	BSF2	BSF4	BSF6	ESF1	ESF2			
FC776-]	AW4	AW5									
FC777-]	AW4	AW5									
FC778-]	AW4										
FC779-]	AW6X	AW7X									
FC780-]	AW2	AW4	AW5	AW6X	AW7X	ASF5					
FC781-]	AW4	AW5	AW6X	AW7X	EW1						
FC782-]	AW4	AW5	EW1								
FC783-]	AW5	AW6X	AW7X	EW1							
FC785-]	AW5										
FC786-]	AW4										
FC788-]	AW4	AW5	EW1								
FC863-]	AW4	AW5	EW1								
FC864-]	AW4										
FC865-]	AW4	AW5									
FC866-]	AW4										
FD800-]	ASF4	ASF5	ASF6	AF2	AF3	AF4	AF5X	BSF2	BSF3	BSF4	BSF5
	BSF6	BF4	BF5X	ESF1	ESF2	E1	E2	ISF1			
FD803-]	AW2	AW3	AW5	AW6X	AW7X	ASF2					
FD805-]	ASF3										
FD807-]	AW2	AW3	AW6X	AW7X	EW1						
FD811-]	AW3	AW6X	AW7X								
FD813-]	AW3	AW6X	AW7X	EW1							
FD815-]	AW2	AW3	AW5	AW6X	AW7X	ASF2	ASF3	ASF5	EW1		
FD817-]	AW2	AW4	AW6X	AW7X	ASF2	EW1					
FD819-]	AW2	AW3	AW4	EW1							
FD821-]	AW5										
FD823-]	AW3	AW4									
FD833-]	AW3	AW6X	AW7X								
FD835-]	AW3	AW6X	AW7X	ASF3							
FD837-]	AW3	AW6X	AW7X	ASF3							
FD839-]	AW2	AW6X	AW7X	ASF3							
FD841-]	AW2	AW3	AW4	AW5	AW6X	AW7X	ASF2	ASF3	EW1		
FD843-]	AW2	AW3	AW5	AW6X	AW7X	ASF3	EW1				
FD845-]	AW2	AW3	AW5	AW6X	AW7X	ASF3	EW1				
FD851-]	AW3	AW6X	AW7X	ASF2	ASF5						
FD857-]	AW3	AW6X	AW7X								
FE700-]	ASF6	ESF1	ESF2								
FE798-]	ASF4	ASF5	BSF1	BSF4	BSF5						
FE799-]	ASF5	BSF1	BSF4								
FF700-]	ASF6	ESF1	ESF2								
FF763-]	AW3	AW6X	AW7X	ASF3	ASF5	EW1					
FG760-]	ASF6	BSF6	ESF1	ESF2	ISF1						

Task / Grade Card X-REF

Task ID	Grade Cards							
FG768-]	AW4	AW5	AW6X	AW7X	ASF3	EW1		
FG769-]	AW4	AW5	AW6X	AW7X	ASF5	BSF1	EW1	
FG770-]	AW4	AW5	AW6X	AW7X	BSF1	BSF4	EW1	
FG773-]	AW4	AW6X	AW7X					
FG793-]	AW4	AW5	AW6X	AW7X				
FG907-]	ASF2	ASF3	ASF5	AF2	AF3	AF4	AF5X	BSF4
FH102-]	BSF2							
FH104-]	BSF2							
FH105-]	BSF4	BSF5	ESF2					
FH106-]	BSF4	BSF5	ESF2					
FI700-]	ESF1	ESF2						
FI771-]	AW3	AW6X	AW7X	ASF3	BSF1	EW1		
FI772-]	AW2	AW5	AW6X	AW7X	ASF2	ASF4	ASF5	EW1
FI795-]	ASF2	ASF4	ASF5					
FJ100-]	ASF4	ESF2						
FJ200-]	ASF4							
FJ501-]	BF1							
FJ800-]	AF3							
FK900-]	ASF6	BSF4	BSF6	ESF1	ESF2	ISF1		
FK917-]	ASF2							
FK927-]	BSF1							
FK939-]	ASF3							
FK940-]	BSF2							
FK941-]								
FK943-]								

ANNEX 3 TO APPENDIX B

SYLLABUS GRADE SHEETS FOR CPT, SIMULATOR, AND AIRCRAFT

HS 1 (TAEG) FORM REV 02 (25 JUN 82)

AW1

FRP:______________ COMPLETE? YES

INSTRUCTOR:______________ NO (M S O)

DATE:___/___/___ PILOT TIME:__________

MM DD YY HH:MM ELAPSED

COPILOT TIME:__________ NAME:__________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
AD100	NORMAL START					
AD101	BATTERY START DEMO					
AD200	BLADE SPREAD					
AD300	SYSTEMS CHECK					
AE100	NO. 2 ENGINE START					
AE200	ROTOR ENGAGEMENT					
AF100	TAXI CHECKLIST					
AF300	PRE-TAKEOFF CHECKLIST					
BA100	TAKEOFF CHECKLIST					
BA200	POST TAKEOFF CHECKLIST					
BA300	BEFORE LANDING CHECKLIST					
BA400	AFTER LANDING CHECKLIST					
AG100	SHUTDOWN CHECKLIST					
AG200	ROTOR DISENGAGEMENT					
AG300	BLADE FOLD					
AG400	NO. 1 ENGINE SECURE					

HS 1 (TAEG) TRAINING FORM REV. 4 (11 DEC 80) AW-1

SIDE 2

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY

	QUALIFIED	COND QUALIFIED	UNQUALIFIED
COCKPIT PROCEDURE			
PREPARATION			
HEADWORK			
DISCUSS: STARTER LIMITATIONS			
ENGINE LIMITATIONS ON START			
SPECIAL CHECKLISTS			
SYSTEMS KNOWLEDGE:			

RADIOS, NAVIGATION AND ARMAMENT SYSTEM

TASK CODE	TASK COMMENTS

INSTRUCTOR SIGNATURE

TRAINING OFFICER REVIEW

SIGNATURE

HS 1 (TAEG) FORM REV 01 (03 MAR 82)

AW2

FRP: ________ COMPLETE? YES

INSTRUCTOR: ________ NO (M S O)

DATE: / / PILOT TIME: ________

COPILOT TIME: ________ NAME: ________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
FD819	HOT START					
FD817	POST SHUTDOWN FIRE					
FD839	AXIAL SHAFT FAIL					
FD841	FLEX SHAFT FAILURE					
AD100	NORMAL START					
AD200	BLADE SPREAD					
AD300	SYSTEMS CHECK					
AE100	NO. 2 ENGINE START					
FD807	ENG IMMED OIL PRESS LOSS					
AE200	ROTOR ENGAGEMENT					
FI772	ROTOR BRAKE CAUTION LIGHT					
FC780	TAIL-TAKEOFF LIGHT ONLY					
AF100	TAXI CHECKLIST					
AF300	PRE-TAKEOFF CHECKLIST					
BA100	TAKEOFF CHECKLIST					
BA200	POST TAKEOFF CHECKLIST					
FD815	ENGINE FIRE					
FD803	LUBE PUMP SHAFT FAILURE					
FD843	P-3 SIGNAL LOSS OR LEAK					
CE300	MANUAL THROTTLE					
FD845	FUEL CONTROL CONTAMINATION					
BA300	BEFORE LANDING CHECKLIST					
BA400	AFTER LANDING CHECKLIST					
AG100	SHUTDOWN CHECKLIST					
AG200	ROTOR DISENGAGEMENT					
AG300	BLADE FOLD					
AG400	NO. 1 ENGINE SECURE					
CE600	EMERGENCY PROCDRS CHECKLISTS					

HS 1 (TAEG) TRAINING FORM REV.4(3) DEC80AW-2

SIDE 2

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY

COCKPIT PROCEDURE				
PREPARATION				
HEADWORK				
DISCUSS: Land As Soon As Practicable				
Land As Soon As Possible				
Land Immediately				
Airspeed Limitations				

SYSTEMS KNOWLEDGE: Engines

TASK CODE	TASK COMMENTS

INSTRUCTOR SIGNATURE	TRAINING OFFICER REVIEW SIGNATURE

HS 1 (TAEG) FORM REV 01 (03 MAR 82)

AW3

FRP:______________ COMPLETE? YES

INSTRUCTOR:______________ NO (M S O)

DATE: / / PILOT TIME:______________

COPILOT TIME:______________ NAME:______________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
FD819	HOT START					
FD823	STARTER HANGUP					
AD300	SYSTEMS CHECK					
AE100	NO. 2 ENGINE START					
FD807	ENG IMMED OIL PRESS LOSS					
FD841	FLEX SHAFT FAILURE					
AE200	ROTOR ENGAGEMENT					
AF300	PRE-TAKEOFF CHECKLIST					
BA100	TAKEOFF CHECKLIST					
BA200	POST TAKEOFF CHECKLIST					
FD815	ENGINE FIRE					
FD857	NG TACH FAILURE					
FD837	NG SIGNAL LOSS					
FD835	COMPRESSOR STALL					
FD833	T5 MALFUNCTION					
FD811	ENGINE OIL TEMP HIGH					
FD813	ENG OIL PRESS FLUCTUATIONS					
FD803	LUBE PUMP SHAFT FAILURE					
FD851	HIGH SPEED SHAFT FAILURE					
FD843	P-3 SIGNAL LOSS OR LEAK					
CE300	MANUAL THROTTLE					
FD845	FUEL CONTROL CONTAMINATION					
FF763	FUEL FILTER BYPASS					
BA300	BEFORE LANDING CHECKLIST					
BA400	AFTER LANDING CHECKLIST					
AG100	SHUTDOWN CHECKLIST					
FI771	MANUAL ROTOR BRAKE FAILURE					
AG200	ROTOR DISENGAGEMENT					
AG300	BLADE FOLD					
AG400	NO. 1 ENGINE SECURE					
CE600	EMERGENCY PROCDRS CHECKLISTS					

HS 1 (TAEG) TRAINING FORM REV. 4 (18 Aug 80) AW-3
SIDE 2

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY
COCKPIT PROCEDURE					
PREPARATION					
HEADWORK					
DISCUSS					
SYSTEMS KNOWLEDGE:					

TASK CODE	TASK COMMENTS

INSTRUCTOR SIGNATURE	TRAINING OFFICER REVIEW SIGNATURE

HS 1 (TAEG) FORM REV 02 (04 MAR 82)

AW4

FRP:________ COMPLETE? YES

INSTRUCTOR:________ NO (M S O)

DATE: / / PILOT TIME:________

COPILOT TIME:________ NAME:________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
FD823	STARTER HANGUP					
FD819	HOT START					
AD300	SYSTEMS CHECK					
FG773	1000 PSI HYD PRESS SW FAIL					
AE100	NO. 2 ENGINE START					
FC780	TAIL-TAKEOFF LIGHT ONLY					
BA100	TAKEOFF CHECKLIST					
FD841	FLEX SHAFT FAILURE					
CE300	MANUAL THROTTLE					
FC782	MAIN TRANSMISSION CHIP LIGHT					
FC777	IMMED LOSS TRANS OIL PRESS					
FC786	TRANSMISSION OIL OVERHEAT					
FC776	MGB LOW PRESS/HIGH TEMP					
FC778	MGB SECONDARY OIL PUMP FAIL					
FC788	MGB MASSIVE OIL LOSS					
FC781	TAIL TAKEOFF FAILURE					
FC863	Q SYSTEM-1 NEEDLE, 1 GAGE					
FC864	Q SYSTEM-2 NEEDLES, 1 GAGE					
FC865	Q SYSTEM-1 NEEDLE, 2 GAGES					
FC866	Q SYSTEM-2 NEEDLES, 2 GAGES					
FG769	PRI HYD PUMP FAILURE					
FG768	AUX HYD PUMP FAILURE					
FG770	UTILITY HYD PUMP FAILURE					
FG793	LANDING GEAR MALFUNCTIONS					
FD817	POST SHUTDOWN FIRE					
BA500	NORMAL PROCDRS CHECKLISTS					
CE600	EMERGENCY PROCDRS CHECKLISTS					

HS I (TAEG) TRAINING FORM REV. 3 (3-80) AW-4

SIDE 2

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY

COCKPIT PROCEDURE

PREPARATION

HEADWORK

DISCUSS: SMOKE AND FUMES ELIMINATION

HEATER FIRE

SYSTEMS KNOWLEDGE: FLIGHT CONTROLS, HYDRAULICS

TASK CODE	TASK COMMENTS

INSTRUCTOR SIGNATURE

TRAINING OFFICER REVIEW

SIGNATURE

HS 1 (TAEG) FORM REV 01 (03 MAR 82)

AW5

FRP: ____________ COMPLETE? YES

INSTRUCTOR: ____________ NO (M S O)

DATE: / / PILOT TIME: ____________

COPILOT TIME: ____________ NAME: ____________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
FD821	WARM START					
AD100	NORMAL START					
AD200	BLADE SPREAD					
BA200	POST TAKEOFF CHECKLIST					
FD815	ENGINE FIRE					
FD803	LUBE PUMP SHAFT FAILURE					
FD841	FLEX SHAFT FAILURE					
FD843	P-3 SIGNAL LOSS OR LEAK					
FD845	FUEL CONTROL CONTAMINATION					
FC782	MAIN TRANSMISSION CHIP LIGHT					
FC777	IMMED LOSS TRANS OIL PRESS					
FC776	MGB LOW PRESS/HIGH TEMP					
FC788	MGB MASSIVE OIL LOSS					
FC783	INTER/TAIL GEARBOX CHIP LT					
FC785	MGB OIL PRESS CAUTION LIGHT					
FC781	TAIL TAKEOFF FAILURE					
FC780	TAIL-TAKEOFF LIGHT ONLY					
FC863	Q SYSTEM-1 NEEDLE, 1 GAGE					
FC865	Q SYSTEM-1 NEEDLE, 2 GAGES					
FI772	ROTOR BRAKE CAUTION LIGHT					
FG769	PRI HYD PUMP FAILURE					
FG768	AUX HYD PUMP FAILURE					
FG770	UTILITY HYD PUMP FAILURE					
FG793	LANDING GEAR MALFUNCTIONS					
FB878	ASE MALFUNCTIONS					
FA750	ELECTRICAL MALFUNCTION					
BA500	NORMAL PROCDRS CHECKLISTS					
CE600	EMERGENCY PROCDRS CHECKLISTS					

HS 1 (TAEG) TRAINING FORM REV. 3 (3-80) AW-5

SIDE 2

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY

COCKPIT PROCEDURE				
PREPARATION				
HEADWORK				
DISCUSS: ELECTRICAL FIRE				
AIRFRAME FIRE				
TAIL ROTOR MALFUNCTIONS				
SYSTEMS KNOWLEDGE: ELECTRICAL SYSTEM				

TASK CODE	TASK COMMENTS

	TRAINING OFFICER REVIEW
INSTRUCTOR SIGNATURE	SIGNATURE

HS 1 (TAEG) FORM REV 01 (09 MAR 82)

AW6X

FRP:____________ COMPLETE? YES

INSTRUCTOR:____________ NO (M S O)

DATE: / / PILOT TIME:____________

COPILOT TIME:____________ NAME:____________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
FG773	1000 PSI HYD PRESS SW FAIL					
FD839	AXIAL SHAFT FAIL					
FD807	ENG IMMED OIL PRESS LOSS					
FD815	ENGINE FIRE					
FD857	NG TACH FAILURE					
FD837	NG SIGNAL LOSS					
FD835	COMPRESSOR STALL					
FD833	T5 MALFUNCTION					
FD811	ENGINE OIL TEMP HIGH					
FD813	ENG OIL PRESS FLUCTUATIONS					
FD803	LUBE PUMP SHAFT FAILURE					
FD851	HIGH SPEED SHAFT FAILURE					
FD841	FLEX SHAFT FAILURE					
FD843	P-3 SIGNAL LOSS OR LEAK					
CE300	MANUAL THROTTLE					
FD845	FUEL CONTROL CONTAMINATION					
FF763	FUEL FILTER BYPASS					
FD817	POST SHUTDOWN FIRE					
FC783	INTER/TAIL GEARBOX CHIP LT					
FC781	TAIL TAKEOFF FAILURE					
FC780	TAIL-TAKEOFF LIGHT ONLY					
FC779	Q SYSTEM-MALFUNCTION					
FI772	ROTOR BRAKE CAUTION LIGHT					
FI771	MANUAL ROTOR BRAKE FAILURE					
FG769	PRI HYD PUMP FAILURE					
FG768	AUX HYD PUMP FAILURE					
FG770	UTILITY HYD PUMP FAILURE					
FG793	LANDING GEAR MALFUNCTIONS					
FB878	ASE MALFUNCTIONS					
FA750	ELECTRICAL MALFUNCTION					
BA500	NORMAL PROCDRS CHECKLISTS					
CE600	EMERGENCY PROCDRS CHECKLISTS					

HS 1 (TAEG) TRAINING FORM REV.3 (3-80) AW-6X

SIDE 2

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY

	QUALIFIED	COND QUALIFIED	UNQUALIFIED
COCKPIT PROCEDURE			
PREPARATION			
HEADWORK			
DISCUSS: POWER SETTLING			
SETTLING WITH POWER			
BLADE STALL			
DYNAMIC TIPOVER			
SYSTEMS KNOWLEDGE: GENERAL			

TASK CODE	TASK COMMENTS

INSTRUCTOR SIGNATURE	TRAINING OFFICER REVIEW SIGNATURE

HS 1 (TAEG) FORM REV 01 (09 MAR 82)

AW7X

FRP:__________ COMPLETE? YES

INSTRUCTOR:__________ NO (M S O)

DATE: / / PILOT TIME:__________

COPILOT TIME:__________ NAME:__________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
FG773	1000 PSI HYD PRESS SW FAIL					
FD839	AXIAL SHAFT FAIL					
FD807	ENG IMMED OIL PRESS LOSS					
FD815	ENGINE FIRE					
FD857	NG TACH FAILURE					
FD837	NG SIGNAL LOSS					
FD835	COMPRESSOR STALL					
FD833	T5 MALFUNCTION					
FD811	ENGINE OIL TEMP HIGH					
FD813	ENG OIL PRESS FLUCTUATIONS					
FD803	LUBE PUMP SHAFT FAILURE					
FD851	HIGH SPEED SHAFT FAILURE					
FD841	FLEX SHAFT FAILURE					
FD843	P-3 SIGNAL LOSS OR LEAK					
CE300	MANUAL THROTTLE					
FD845	FUEL CONTROL CONTAMINATION					
FF763	FUEL FILTER BYPASS					
FD817	POST SHUTDOWN FIRE					
FC783	INTER/TAIL GEARBOX CHIP LT					
FC781	TAIL TAKEOFF FAILURE					
FC780	TAIL-TAKEOFF LIGHT ONLY					
FC779	Q SYSTEM-MALFUNCTION					
FI772	ROTOR BRAKE CAUTION LIGHT					
FI771	MANUAL ROTOR BRAKE FAILURE					
FG769	PRI HYD PUMP FAILURE					
FG768	AUX HYD PUMP FAILURE					
FG770	UTILITY HYD PUMP FAILURE					
FG793	LANDING GEAR MALFUNCTIONS					
FB878	ASE MALFUNCTIONS					
FA750	ELECTRICAL MALFUNCTION					
BA500	NORMAL PROCDRS CHECKLISTS					
CE600	EMERGENCY PROCDRS CHECKLISTS					

HS 1 (TAEG) TRAINING FORM REV. 3 (3-80) AW-7X

SIDE 2

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY

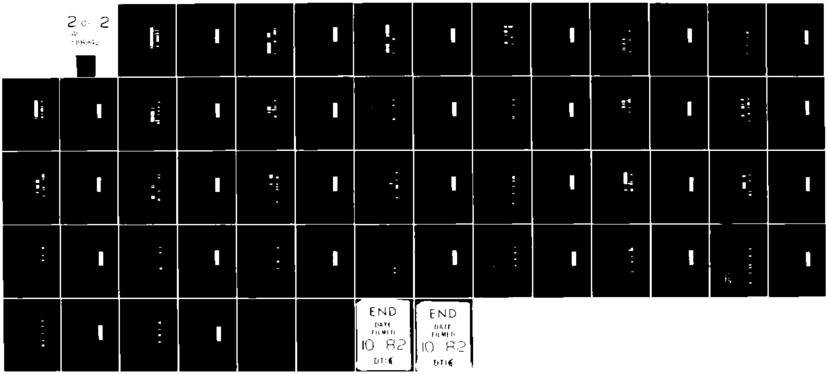
	QUALIFIED	COND QUALIFIED	UNQUALIFIED
COCKPIT PROCEDURE			
PREPARATION			
HEADWORK			
DISCUSS:			
SYSTEMS KNOWLEDGE: GENERAL			

TASK CODE	TASK COMMENTS

INSTRUCTOR SIGNATURE

TRAINING OFFICER REVIEW

AD-A118 942 TRAINING ANALYSIS AND EVALUATION GROUP (NAVY) ORLANDO FL F/G 5/9
AN ASSESSMENT OF THE TRAINING EFFECTIVENESS OF DEVICE 2F64C FOR--ETC(U)
JUL 82 R F BROWNING, W C MCDANIEL, P G SCOTT
UNCLASSIFIED TAEG-TR-127 NL



HS 1 (TAEG) FORM REV 02 (04 MAR 82)

ASF1

FRP:__________ COMPLETE? YES

INSTRUCTOR:__________ NO (M S O)

DATE: / / PILOT TIME:__________

COPILOT TIME:__________ NAME:__________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
AD100	NORMAL START					
AD200	BLADE SPREAD					
AD300	SYSTEMS CHECK					
BD200	D MODE DEMO					
AE100	NO. 2 ENGINE START					
AE200	ROTOR ENGAGEMENT					
AF200	TAXI					
BD300	DOPPLER DEMO					
BE300	INSTRUMENT TAKEOFF					
BC300	SPEED CHANGES					
BC700	LEVEL TURNS					
BD100	BAR ALT & BEEPER TRIM USE					
BC701	BEEPER TRIM OFF FLIGHT					
BC400	STEEP TURNS					
BC200	UNUSUAL ATTITUDES					
BC500	CLIMB/DESCEND TIMED TURNS					
BE407	PARTIAL PANEL					
BE700	NORMAL APPROACH					
BE500	NORMAL LANDING					
AG200	ROTOR DISENGAGEMENT					
AG400	NO. 1 ENGINE SECURE					
BG400	COMMUNICATIONS					
BA500	NORMAL PROCDRS CHECKLISTS					
DE912	BEEPER TRIM FAILURE					

HS 1 (TAEG) TRAINING FORM REV.02 (13 MAY 82) ASF-1

SIDE 2

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY

COCKPIT PROCEDURE				
PREPARATION				
HEADWORK				
DISCUSS USE OF BEEPER TRIM				
RECOVERY FROM UNUSUAL ATTITUDES				
COURSE RULES				
MAYPORT 1A DEPARTURE				
MAYPORT 1 DEPARTURE				
JAX 1 DEPARTURE				
SYSTEMS KNOWLEDGE: ICS/RADIOS/NAV EQUIPMENT				

TASK CODE	TASK COMMENTS

	TRAINING OFFICER REVIEW
INSTRUCTOR SIGNATURE	SIGNATURE

HS 1 (TAEG) FORM REV 01 (04 MAR 82)

ASF2

FRP:________ COMPLETE? YES

INSTRUCTOR:________ NO (M S O)

DATE: / / PILOT TIME:________

COPILOT TIME:________ NAME:________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
AD100	NORMAL START					
AD200	BLADE SPREAD					
AD300	SYSTEMS CHECK					
AE100	NO. 2 ENGINE START					
AE200	ROTOR ENGAGEMENT					
AF200	TAXI					
BE300	INSTRUMENT TAKEOFF					
BC400	STEEP TURNS					
BC500	CLIMB/DESCEND TIMED TURNS					
BE407	PARTIAL PANEL					
CE100	ASE OFF FLIGHT					
CE200	AUX/PRIMARY OFF FLIGHT					
BE403	GCA APPROACH					
BE405	NO GYRO APPROACH					
BE409	MISSED APPROACH					
BE700	NORMAL APPROACH					
BE500	NORMAL LANDING					
AG200	ROTOR DISENGAGEMENT					
AG400	NO. 1 ENGINE SECURE					
BG400	COMMUNICATIONS					
BA500	NORMAL PROCDRS CHECKLISTS					
FD851	HIGH SPEED SHAFT FAILURE					
FD815	ENGINE FIRE					
FD841	FLEX SHAFT FAILURE					
FD803	LUBE PUMP SHAFT FAILURE					
FI772	ROTOR BRAKE CAUTION LIGHT					
FI795	BLADE DAMPNER FAILURE					
FK917	VGI OFF FLAG (PILOT)					
FA751	GENERATOR FAILURE					
FA756	ELECTRICAL FIRE					
FB878	ASE MALFUNCTIONS					
FG907	SERVO MALFUNCTIONS					
FD817	POST SHUTDOWN FIRE					
CE600	EMERGENCY PROCDRS CHECKLISTS					

HS 1 (TAEG) TRAINING FORM REV. 01 (04 MAR 82) ASF-2

SIDE 2

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY

COCKPIT PROCEDURE				
PREPARATION				
HEADWORK				
DISCUSS GCA PROCEDURES				
MISSED APPROACH PROCEDURES				
RADIO COMMUNICATIONS				
SYSTEMS KNOWLEDGE:				

TASK CODE	TASK COMMENTS

INSTRUCTOR SIGNATURE

TRAINING OFFICER REVIEW

SIGNATURE

HS 1 (TAEG) FORM REV 01 (04 MAR 82)

ASF3

FRP:______________ COMPLETE? YES

INSTRUCTOR:______________ NO (M S O)

DATE: / / PILOT TIME:______________

COPILOT TIME:______________ NAME:______________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
BF200	RUNNING TAKEOFF					
BB100	INSTRUMENT DEPARTURE					
BE402	TACAN APPROACH					
BE600	RUN ON LANDING					
CD300	ASE OFF LANDING					
CD100	ASE OFF TAKEOFF					
CC100	AUX OFF LANDING					
CE300	MANUAL THROTTLE					
BE408	HOLDING					
BE401	ADF APPROACH					
BE409	MISSED APPROACH					
CB100	SINGLE ENG APPR/LAND RUNWAY					
BE100	NORMAL TAKEOFF					
BE500	NORMAL LANDING					
AG200	ROTOR DISENGAGEMENT					
BG400	COMMUNICATIONS					
BA500	NORMAL PROCDRS CHECKLISTS					
FD815	ENGINE FIRE					
FB878	ASE MALFUNCTIONS					
FG907	SERVO MALFUNCTIONS					
FD841	FLEX SHAFT FAILURE					
FD843	P-3 SIGNAL LOSS OR LEAK					
FK939	TACAN AZIMUTH & DME FAILURE					
FD837	NG SIGNAL LOSS					
FI771	MANUAL ROTOR BRAKE FAILURE					
FF763	FUEL FILTER BYPASS					
FD845	FUEL CONTROL CONTAMINATION					
FG768	AUX HYD PUMP FAILURE					
FD805	ENG GRADUAL OIL PRESS LOSS					
FD835	COMPRESSOR STALL					
FD839	AXIAL SHAFT FAIL					
CE600	EMERGENCY PROCDRS CHECKLISTS					

HS 1 (TAEG) TRAINING FORM REV. 1(31 DEC 80) ASF - 3

SIDE 2

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY
COCKPIT PROCEDURE					
PREPARATION					
HEADWORK					
DISCUSS	INSTRUMENT PROCEDURES				
	HOVER PERFORMANCE				
SYSTEMS KNOWLEDGE:	AUX/PRI HYDRAULIC SYSTEMS, HARDOVERS AND ENGINE MALFUNCTIONS/EMERGENCIES				

TASK CODE	TASK COMMENTS

	TRAINING OFFICER REVIEW
INSTRUCTOR SIGNATURE	SIGNATURE

HS 1 (TAEG) FORM REV 01 (04 MAR 82)

ASF4

FRP:____________ COMPLETE? YES

INSTRUCTOR:____________ NO (M S O)

DATE: / / PILOT TIME:____________

COPILOT TIME:____________ NAME:____________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
BE200	RUNNING TAKEOFF					
BB100	INSTRUMENT DEPARTURE					
FJ200	BLADE STALL					
FJ100	POWER SETTLING					
BE402	TACAN APPROACH					
BE409	MISSED APPROACH					
CB100	SINGLE ENG APPR/LAND RUNWAY					
CB500	SINGLE ENGINE WAVEOFF					
CB600	SINGLE ENG TAKEOFF ABORT					
CA100	AUTOROTATION					
BE600	RUN ON LANDING					
BE300	INSTRUMENT TAKEOFF					
BE404	ASR APPROACH					
AG200	ROTOR DISENGAGEMENT					
BG400	COMMUNICATIONS					
BA500	NORMAL PROCDRS CHECKLISTS					
FD800	ENGINE MALFUNCTION ANALYSIS					
FI772	ROTOR BRAKE CAUTION LIGHT					
FI795	BLADE DAMPNER FAILURE					
FC775	TRANSMISSION SYS MALF'S					
FE798	TAIL RTR CONTROL CABLE LOSS					
FA973	FIRE EXTINGUISHER C.B.					
CE600	EMERGENCY PROCDRS CHECKLISTS					

HS 1 (TAEG) TRAINING FORM REV. 01 (04 MAR 82) ASF-4

SIDE 2

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY

	QUALIFIED	COND QUALIFIED	UNQUALIFIED
COCKPIT PROCEDURE			
PREPARATION			
HEADWORK			
DISCUSS SINGLE ENGINE OPERATIONS			
TAIL ROTOR MALFUNCTIONS			
SYSTEMS KNOWLEDGE:			

TASK CODE	TASK COMMENTS

INSTRUCTOR SIGNATURE

TRAINING OFFICER REVIEW

SIGNATURE

HS 1 (TAEG) FORM REV 01 (04 MAR 82)

ASF5

FRP: ______________ COMPLETE? YES

INSTRUCTOR: ______________ NO (M S O)

DATE: / / PILOT TIME: ______________

COPILOT TIME: ______________ NAME: ______________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
BE200	RUNNING TAKEOFF					
BE300	INSTRUMENT TAKEOFF					
CB600	SINGLE ENG TAKEOFF ABORT					
CE300	MANUAL THROTTLE					
CD300	ASE OFF LANDING					
CD100	ASE OFF TAKEOFF					
CE200	AUX/PRIMARY OFF FLIGHT					
CC100	AUX OFF LANDING					
CB100	SINGLE ENG APPR/LAND RUNWAY					
CB500	SINGLE ENGINE WAVEOFF					
CA100	AUTOROTATION					
BE700	NORMAL APPROACH					
BE500	NORMAL LANDING					
BE600	RUN ON LANDING					
AG200	ROTOR DISENGAGEMENT					
AG300	BLADE FOLD					
BA500	NORMAL PROCDRS CHECKLISTS					
FD851	HIGH SPEED SHAFT FAILURE					
FD815	ENGINE FIRE					
FD800	ENGINE MALFUNCTION ANALYSIS					
FC780	TAIL-TAKEOFF LIGHT ONLY					
FC775	TRANSMISSION SYS MALF'S					
FI772	ROTOR BRAKE CAUTION LIGHT					
FI795	BLADE DAMPNER FAILURE					
FE798	TAIL RTR CONTROL CABLE LOSS					
FE799	TAIL RTR DRIVE SHAFT FAILURE					
FF763	FUEL FILTER BYPASS					
FG769	PRI HYD PUMP FAILURE					
FG907	SERVO MALFUNCTIONS					
CE600	EMERGENCY PROCDRS CHECKLISTS					

HS 1 (TAEG) TRAINING FORM REV.1(16 JUNE 80) ASF-5

SIDE 2

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY

COCKPIT PROCEDURE				
PREPARATION				
HEADWORK				
DISCUSS APPROACH PROCEDURES				
COMMUNICATIONS FAILURES				

SYSTEMS KNOWLEDGE:

ELECTRICAL SYSTEM

UTILITY HYDRAULIC SYSTEM

TASK CODE	TASK COMMENTS

INSTRUCTOR SIGNATURE

TRAINING OFFICER REVIEW

SIGNATURE

HS 1 (TAEG) FORM REV 01 (04 MAR 82)

ASF6X

FRP:______________ COMPLETE? YES

INSTRUCTOR:______________ NO (M S O)

DATE: / / PILOT TIME:______________

COPILOT TIME:______________ NAME:______________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
AD100	NORMAL START					
AD200	BLADE SPREAD					
AD300	SYSTEMS CHECK					
AE100	NO. 2 ENGINE START					
AE200	ROTOR ENGAGEMENT					
BE200	RUNNING TAKEOFF					
BE300	INSTRUMENT TAKEOFF					
BC200	UNUSUAL ATTITUDES					
BC400	STEEP TURNS					
CD300	ASE OFF LANDING					
CD100	ASE OFF TAKEOFF					
CB600	SINGLE ENG TAKEOFF ABORT					
CE300	MANUAL THROTTLE					
CE200	AUX/PRIMARY OFF FLIGHT					
CC100	AUX OFF LANDING					
CB100	SINGLE ENG APPR/LAND RUNWAY					
CB500	SINGLE ENGINE WAVEOFF					
CA100	AUTOROTATION					
BE600	RUN ON LANDING					
AG200	ROTOR DISENGAGEMENT					
AG300	BLADE FOLD					
AG400	NO. 1 ENGINE SECURE					
BA500	NORMAL PROCDRS CHECKLISTS					
FA750	ELECTRICAL MALFUNCTION					
FB878	ASE MALFUNCTIONS					
FC775	TRANSMISSION SYS MALF'S					
FD800	ENGINE MALFUNCTION ANALYSIS					
FE700	ROTARY RUDDER MALFUNCTIONS					
FF700	FUEL SYSTEM MALFUNCTIONS					
FG760	HYDRAULIC SYS MALFUNCTIONS					
FK900	INSTRUMENT/COMM/NAV FAILURES					
CE600	EMERGENCY PROCDRS CHECKLISTS					

HS 1 (TAEG) TRAINING FORM REV. 01 (04 MAR 82) ASF-6X

SIDE 2

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY
COCKPIT PROCEDURE					
PREPARATION					
HEADWORK					
DISCUSS	LAND AS SOON AS PRACTICABLE, POSSIBLE, IMMEDIATELY				
	100 KNOT AUTOROTATION				
SYSTEMS KNOWLEDGE: GENERAL					

TASK CODE	TASK COMMENTS

	TRAINING OFFICER REVIEW
INSTRUCTOR SIGNATURE	SIGNATURE

HS 1 (TAEG) FORM REV 02 (04 MAR 82)

AF1

FRP:______________ COMPLETE? YES

INSTRUCTOR:______________ NO (M S O)

DATE: / / PILOT TIME:______________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
AC100	PRE-FLIGHT					
AH100	LSE SIGNALS					
AD100	NORMAL START					
AD200	BLADE SPREAD					
AD300	SYSTEMS CHECK					
AE100	NO. 2 ENGINE START					
AE200	ROTOR ENGAGEMENT					
AF200	TAXI					
BE100	NORMAL TAKEOFF					
BC300	SPEED CHANGES					
BC500	CLIMB/DESCEND TIMED TURNS					
BC200	UNUSUAL ATTITUDES					
BD100	BAR ALT & BEEPER TRIM USE					
BE700	NORMAL APPROACH					
BE500	NORMAL LANDING					
BF100	PAD WORK					
BE402	TACAN APPROACH					
BE600	RUN ON LANDING					
BG100	COURSE RULES					
BA500	NORMAL PROCDRS CHECKLISTS					
AC200	POST-FLIGHT					

NS 1 (TAEG) TRAINING FORM REV. 1 (29 JULY 80) AF-1

SIDE 2

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY
COCKPIT PROCEDURE					
PREPARATION					
HEADWORK					
DISCUSS					
POST SHUTDOWN FIRE					
PRESSURE INSTRUMENTS					
FIRES					
LANDING GEAR FAILURES					
SYSTEMS KNOWLEDGE:					

TASK CODE	TASK COMMENTS

	TRAINING OFFICER REVIEW
INSTRUCTOR SIGNATURE	SIGNATURE

HS 1 (TAEG) FORM REV 01 (04 MAR 82)

AF2

FRP:________ COMPLETE? YES

INSTRUCTOR:________ NO (M S O)

DATE: / / PILOT TIME:________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
AC100	PRE-FLIGHT					
AH100	LSE SIGNALS					
AD100	NORMAL START					
AD200	BLADE SPREAD					
AD300	SYSTEMS CHECK					
AE100	NO. 2 ENGINE START					
AE200	ROTOR ENGAGEMENT					
AF200	TAXI					
BE200	RUNNING TAKEOFF					
BE700	NORMAL APPROACH					
BE500	NORMAL LANDING					
BF100	PAD WORK					
CD300	ASE OFF LANDING					
CD100	ASE OFF TAKEOFF					
FG907	SERVO MALFUNCTIONS					
CE200	AUX/PRIMARY OFF FLIGHT					
CB600	SINGLE ENG TAKEOFF ABORT					
FD800	ENGINE MALFUNCTION ANALYSIS					
CB100	SINGLE ENG APPR/LAND RUNWAY					
CB500	SINGLE ENGINE WAVEOFF					
CA100	AUTOROTATION					
BE403	GCA APPROACH					
BE202	NO HOVER LANDING DEMO					
FB878	ASE MALFUNCTIONS					
BA500	NORMAL PROCDRS CHECKLISTS					
CE600	EMERGENCY PROCDRS CHECKLISTS					
AC200	POST-FLIGHT					

HS 1 (TAEG) TRAINING FORM REV.01 (4 MAR 82) AF-2

SIDE 2

QUALIFIED

COND QUALIFIED

UNQUALIFIED

NUMBER TRIALS/ PROFICIENCY

TASK CODE

COCKPIT PROCEDURE

PREPARATION

HEADWORK

DISCUSS SINGLE ENGINE OPERATION

ASE/PRI/AUX OFF FLIGHT

BLADE STALL

POWER SETTLING

SYSTEMS KNOWLEDGE:

TASK CODE	TASK COMMENTS

INSTRUCTOR SIGNATURE

TRAINING OFFICER REVIEW

SIGNATURE

HS 1 (TAEG) FORM REV 01 (04 MAR 82)

AF3

FRP:__________ COMPLETE? YES

INSTRUCTOR:__________ NO (M S O)

DATE: / / PILOT TIME:__________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
AC100	PRE-FLIGHT					
AH100	LSE SIGNALS					
AD100	NORMAL START					
AD200	BLADE SPREAD					
AD300	SYSTEMS CHECK					
AE100	NO. 2 ENGINE START					
AE200	ROTOR ENGAGEMENT					
AF200	TAXI					
BE300	INSTRUMENT TAKEOFF					
BC400	STEEP TURNS					
CC100	AUX OFF LANDING					
FJ800	CUT GUN IN 10' HOVER DEMO					
CB600	SINGLE ENG TAKEOFF ABORT					
FD800	ENGINE MALFUNCTION ANALYSIS					
CB300	SINGLE ENG APPR/LAND PAD					
CB500	SINGLE ENGINE WAVEOFF					
CA100	AUTOROTATION					
BE600	RUN ON LANDING					
BA500	NORMAL PROCDRS CHECKLISTS					
CE600	EMERGENCY PROCDRS CHECKLISTS					
FG907	SERVO MALFUNCTIONS					
AC200	POST-FLIGHT					

HS 1 (TAEG) TRAINING FORM REV. 01 (4 MARCH 1982) AF-3

SIDE 2

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY

COCKPIT PROCEDURE

PREPARATION

HEADWORK

DISCUSS DYNAMIC TIP OVER

SYSTEMS KNOWLEDGE:

TASK CODE	TASK COMMENTS

INSTRUCTOR SIGNATURE

TRAINING OFFICER REVIEW

SIGNATURE

HS 1 (TAEG) FORM REV 01 (04 MAR 82)

AF4

FRP: ____________ COMPLETE? YES

INSTRUCTOR: ____________ NO (M S O)

DATE: / / PILOT TIME: ____________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
AC100	PRE-FLIGHT					
AH100	LSE SIGNALS					
AD100	NORMAL START					
AD200	BLADE SPREAD					
AD300	SYSTEMS CHECK					
AE100	NO. 2 ENGINE START					
AE200	ROTOR ENGAGEMENT					
AF200	TAXI					
BE100	NORMAL TAKEOFF					
BE700	NORMAL APPROACH					
BE500	NORMAL LANDING					
BE200	RUNNING TAKEOFF					
BE600	RUN ON LANDING					
CD100	ASE OFF TAKEOFF					
CD300	ASE OFF LANDING					
FG907	SERVO MALFUNCTIONS					
CC100	AUX OFF LANDING					
CB600	SINGLE ENG TAKEOFF ABORT					
FD800	ENGINE MALFUNCTION ANALYSIS					
CB100	SINGLE ENG APPR/LAND RUNWAY					
CB500	SINGLE ENGINE WAVEOFF					
CA100	AUTOROTATION					
BA500	NORMAL PROCDRS CHECKLISTS					
CE600	EMERGENCY PROCDRS CHECKLISTS					
AC200	POST-FLIGHT					

HS 1 (TAEG) TRAINING FORM REV. 01 (04 MAR 82) AF-4

SIDE 2

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY

	QUALIFIED	COND QUALIFIED	UNQUALIFIED
COCKPIT PROCEDURE			
PREPARATION			
HEADWORK			
DISCUSS SERVO MALFUNCTIONS			
ASE MALFUNCTIONS			
SYSTEMS KNOWLEDGE:			

TASK CODE	TASK COMMENTS

	TRAINING OFFICER REVIEW
INSTRUCTOR SIGNATURE	SIGNATURE

HS 1 (TAEG) FORM REV 01 (04 MAR 82)

AF5X

FRP:________________ COMPLETE? YES

INSTRUCTOR:________________ NO (M S O)

DATE: / / PILOT TIME:________________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
AC100	PRE-FLIGHT					
AH100	LSE SIGNALS					
AD100	NORMAL START					
AD200	BLADE SPREAD					
AD300	SYSTEMS CHECK					
AE100	NO. 2 ENGINE START					
AE200	ROTOR ENGAGEMENT					
AF200	TAXI					
BE100	NORMAL TAKEOFF					
BE700	NORMAL APPROACH					
BE500	NORMAL LANDING					
BE200	RUNNING TAKEOFF					
BE600	RUN ON LANDING					
CD100	ASE OFF TAKEOFF					
CD300	ASE OFF LANDING					
CC100	AUX OFF LANDING					
CB600	SINGLE ENG TAKEOFF ABORT					
CB100	SINGLE ENG APPR/LAND RUNWAY					
CB500	SINGLE ENGINE WAVEOFF					
CA100	AUTOROTATION					
BA500	NORMAL PROCDRS CHECKLISTS					
AC200	POST-FLIGHT					
CE600	EMERGENCY PROCDRS CHECKLISTS					
FD800	ENGINE MALFUNCTION ANALYSIS					
FG907	SERVO MALFUNCTIONS					
FB878	ASE MALFUNCTIONS					

HS 1 (TAEG) TRAINING FORM REV.01 (04 MAR 82) AF-5X

SIDE 2

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY

	QUALIFIED	COND QUALIFIED	UNQUALIFIED
COCKPIT PROCEDURE			
PREPARATION			
HEADWORK			
DISCUSS			
SYSTEMS KNOWLEDGE:			

TASK CODE	TASK COMMENTS

	TRAINING OFFICER REVIEW
INSTRUCTOR SIGNATURE	SIGNATURE

HS 1 (TAEG) FORM REV 01 (04 MAR 82)

AF6N

FRP: ________ COMPLETE? YES

INSTRUCTOR: ________ NO (M S O)

DATE: / / PILOT TIME: ________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
AH100	LSE SIGNALS					
BG600	NIGHT AREA CHECKOUT					
BG700	FLOOD/HOVER/LANDING LT USE					
BG500	NIGHT LIGHTING PROCDRS					
BE100	NORMAL TAKEOFF					
BE405	NO GYRO APPROACH					
BE402	TACAN APPROACH					
BE403	GCA APPROACH					
BE406	MIRROR APPROACH					
BF200	NIGHT PAD WORK					
CD100	ASE OFF TAKEOFF					
CD300	ASE OFF LANDING					
BE700	NORMAL APPROACH					
BE500	NORMAL LANDING					
BA500	NORMAL PROCDRS CHECKLISTS					

HS 1 (TAEG) TRAINING FORM REV. 01 (04 MAR 82) AF-6N

SIDE 2

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY

		QUALIFIED	COND QUALIFIED	UNQUALIFIED
COCKPIT PROCEDURE				
PREPARATION				
HEADWORK				
DISCUSS	NIGHT LSE SIGNALS			
	NIGHT LAGHTING PROCEDURES			
	NIGHT OPERATIONS			
SYSTEMS KNOWLEDGE:				

TASK CODE	TASK COMMENTS

	TRAINING OFFICER REVIEW
INSTRUCTOR SIGNATURE	SIGNATURE

HS 1 (TAEG) FORM REV 03 (29 MAR 82)

BSF1

FRP:____________ COMPLETE? YES

INSTRUCTOR:____________ NO (M S O)

DATE: __/__/__ PILOT TIME:____________

MM DD YY HH:MM ELAPSED

COPILOT TIME:____________ NAME:____________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
BG500	NIGHT LIGHTING PROCDRS					
DA200	COUPLER DOPPLER/ TACNAV TEST					
BE300	INSTRUMENT TAKEOFF					
BB100	INSTRUMENT DEPARTURE					
DG200	LOW LEVEL ASE OFF					
BC500	CLIMB/DESCEND TIMED TURNS					
DA300	PRE-DIP CHECKLIST					
BE407	PARTIAL PANEL					
DB100	AUTO APPR PILOT PROCDRS					
DB300	COUPLED HVR DEPART PROCDRS					
DG300	COUPLER CRUISE					
BE401	ADF APPROACH					
BE409	MISSED APPROACH					
BE402	TACAN APPROACH					
BE403	GCA APPROACH					
CA100	AUTOROTATION					
BG400	COMMUNICATIONS					
BA500	NORMAL PROCDRS CHECKLISTS					
FK927	AHRS TUMBLE					
FA998	RAWS FAILURE C.B.					
FG770	UTILITY HYD PUMP FAILURE					
FE798	TAIL RTR CONTROL CABLE LOSS					
FE799	TAIL RTR DRIVE SHAFT FAILURE					
FI771	MANUAL ROTOR BRAKE FAILURE					
FG769	PRI HYD PUMP FAILURE					
CE600	EMERGENCY PROCDRS CHECKLISTS					

HS 1 (TAEG) TRAINING FORM REV. 02 (11 MAR 82) BSF1

SIDE 2

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY
BASIC INSTRUMENTS					
COCKPIT PROCEDURE					
PREPARATION					
HEADWORK					
DISCUSS	BASIC AIRWORK				
	CHECKLISTS				
	AUTO APPROACH PROCEDURES				
	HOVER DEPARTURE PROCEDURES				
SYSTEMS KNOWLEDGE:	ASE, PRIMARY AND UTILITY HYDRAULIC SYSTEMS.				

TASK CODE	TASK COMMENTS

	TRAINING OFFICER REVIEW
INSTRUCTOR SIGNATURE	SIGNATURE

HS 1 (TAEG) FORM REV 04 (30 MAR 82)

BSF2

FRP:__________ COMPLETE? YES

INSTRUCTOR:__________ NO (M S O)

DATE:___/___/___ PILOT TIME:__________

MM DD YY HH:MM ELAPSED

COPILOT TIME:__________ NAME:__________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
AD300	SYSTEMS CHECK					
BG201	BASIC INSTRUMENTS					
BC701	BEEPER TRIM OFF FLIGHT					
DG200	LOW LEVEL ASE OFF					
DA300	PRE-DIP CHECKLIST					
DB100	AUTO APPR PILOT PROCDRS					
DA600	SPECIAL PROCDRS CHECKLISTS					
DA500	SONAR DEPLOY VOICE PROCDRS					
EA200	DIP TO DIP/PT TO PT NAV					
DC100	ALT APPR PILOT PROCDRS					
DB200	AUTO APPR RAD ALT PROCDRS					
DB400	CPLD APPR WAVEOFF PROCDRS					
DB300	COUPLED HVR DEPART PROCDRS					
DC200	CPLD APPR CPLT/VOICE PROCDRS					
DE100	FREESTREAM RECOVERY					
FH102	DUAL ENGINE WATER LANDING					
FH104	DUAL ENGINE WATER TAKEOFF					
BE403	GCA APPROACH					
BA500	NORMAL PROCDRS CHECKLISTS					
FD800	ENGINE MALFUNCTION ANALYSIS					
FB878	ASE MALFUNCTIONS					
FK940	TACAN DME FAILURE					
FA973	FIRE EXTINGUISHER C.B.					
DE912	BEEPER TRIM FAILURE					
FC775	TRANSMISSION SYS MALF'S					
CE600	EMERGENCY PROCDRS CHECKLISTS					

HS 1 (TAEG) TRAINING FORM REV. 02 (11 MAR 82) BSF2

SIDE 2

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY
BASIC INSTRUMENTS					
COCKPIT PROCEDURE					
PREPARATION					
HEADWORK					
DISCUSS	ALTERNATE APPROACHES				
	FREESTREAM RECOVERY				
	WATER LANDINGS				
SYSTEMS KNOWLEDGE: ASE AND COUPLER					

TASK CODE	TASK COMMENTS

INSTRUCTOR SIGNATURE

TRAINING OFFICER REVIEW

SIGNATURE

HS 1 (TAEG) FORM REV 03 (30 MAR 82)

BSF3

FRP:________________ COMPLETE? YES

INSTRUCTOR:________________ NO (M S D)

DATE:___/___/___ PILOT TIME:________

MM DD YY HH:MM ELAPSED

COPILOT TIME:________ NAME:________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
DA200	COUPLER DOPPLER/ TACNAV TEST					
BG500	NIGHT LIGHTING PROCDRS					
BE300	INSTRUMENT TAKEOFF					
BB100	INSTRUMENT DEPARTURE					
DA300	PRE-DIP CHECKLIST					
DB100	AUTO APPR PILOT PROCDRS					
DB200	AUTO APPR RAD ALT PROCDRS					
DB400	CPLD APPR WAVEOFF PROCDRS					
DC100	ALT APPR PILOT PROCDRS					
DC200	CPLD APPR CPLT/VOICE PROCDRS					
DB300	COUPLED HVR DEPART PROCDRS					
EA200	DIP TO DIP/PT TO PT NAV					
DA500	SONAR DEPLOY VOICE PROCDRS					
DF100	USE OF CABLE ALTITUDE					
DE100	FREESTREAM RECOVERY					
EA300	SAR SEARCH					
BE402	TACAN APPROACH					
BE403	GCA APPROACH					
CE300	MANUAL THROTTLE					
BA500	NORMAL PROCDRS CHECKLISTS					
FD800	ENGINE MALFUNCTION ANALYSIS					
FA756	ELECTRICAL FIRE					
FB878	ASE MALFUNCTIONS					
DE938	RADAR ALTIMETER FAILURE					
FA751	GENERATOR FAILURE					
DE300	DOPPLER FAILURE					
DE200	SONAR RAISE MALFUNCTIONS					
DE400	BOTTOMED DOME					
CE600	EMERGENCY PROCDRS CHECKLISTS					
DA600	SPECIAL PROCDRS CHECKLISTS					

HS 1 (TAEG) TRAINING FORM REV. 02 (11 MAR 82) BSF3

SIDE 2

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY

BASIC INSTRUMENTS

COCKPIT PROCEDURE

PREPARATION

HEADWORK

DISCUSS SAR SEARCH

SONAR RAISE MALFUNCTIONS

SYSTEMS KNOWLEDGE: DUAL GENERATOR FAILURE

TASK CODE	TASK COMMENTS

INSTRUCTOR SIGNATURE

TRAINING OFFICER REVIEW

SIGNATURE

HS 1 (TAEG) FORM REV 03 (31 MAR 82)

BSF4

FRP:________ COMPLETE? YES

INSTRUCTOR:________ NO (M S O)

DATE:__/__/__ PILOT TIME:________

MM DD YY HH:MM ELAPSED

COPILOT TIME:________ NAME:________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
DA200	COUPLER DOPPLER/ TACNAV TEST					
EA300	SAR SEARCH					
EA500	WINDLINE SAR PILOT PROCDRS					
EA501	WINDLINE SAR COPILOT PROCDRS					
FH105	SINGLE ENGINE WATER LANDING					
FH106	SINGLE ENGINE WATER TAKEOFF					
DB100	AUTO APPR PILOT PROCDRS					
DB200	AUTO APPR RAD ALT PROCDRS					
DB400	CPLD APPR WAVEOFF PROCDRS					
DE100	FREESTREAM RECOVERY					
DC100	ALT APPR PILOT PROCDRS					
DC200	CPLD APPR CPLT/VOICE PROCDRS					
DF200	MANUAL CABLE ANGLE HOVER					
DB300	COUPLED HVR DEPART PROCDRS					
EA200	DIP TO DIP/PT TO PT NAV					
DA600	SPECIAL PROCDRS CHECKLISTS					
BE402	TACAN APPROACH					
CA100	AUTOROTATION					
BA500	NORMAL PROCDRS CHECKLISTS					
FD800	ENGINE MALFUNCTION ANALYSIS					
FE799	TAIL RTR DRIVE SHAFT FAILURE					
FG907	SERVO MALFUNCTIONS					
CF100	FUSELAGE FIRE					
FA750	ELECTRICAL MALFUNCTION					
DE200	SONAR RAISE MALFUNCTIONS					
FB878	ASE MALFUNCTIONS					
DE800	COUPLER FAILURE					
FG770	UTILITY HYD PUMP FAILURE					
FE798	TAIL RTR CONTROL CABLE LOSS					
FK900	INSTRUMENT/COMM/NAV FAILURES					
DE300	DOPPLER FAILURE					
FC775	TRANSMISSION SYS MALF'S					
CE600	EMERGENCY PROCDRS CHECKLISTS					

HS 1 (TAEG) TRAINING FORM REV. 02 (11 MAR 82) BSF4

SIDE 2

TASK CODE		QUALIFIED	COMB QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY
BASIC INSTRUMENTS					
COCKPIT PROCEDURE					
PREPARATION					
HEADWORK					
DISCUSS	WINDLINE SAR PROCEDURES				
	SINGLE ENGINE WATER LANDING/TAKEOFF				
SYSTEMS KNOWLEDGE:					

TASK CODE	TASK COMMENTS

	TRAINING OFFICER REVIEW
INSTRUCTOR SIGNATURE	SIGNATURE

HS 1 (TAEG) FORM REV 03 (31 MAR 82)

BSF5

FRP:____________ COMPLETE? YES

INSTRUCTOR:____________ NO (M S O)

DATE:___/___/___ PILOT TIME:____________

MM DD YY HH:MM ELAPSED

COPILOT TIME:____________ NAME:____________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
AD300	SYSTEMS CHECK					
DA300	PRE-DIP CHECKLIST					
DB100	AUTO APPR PILOT PROCDRS					
DC200	CPLD APPR CPLT/VOICE PROCDRS					
DB200	AUTO APPR RAD ALT PROCDRS					
DB300	COUPLED HVR DEPART PROCDRS					
DE100	FREESTREAM RECOVERY					
DF100	USE OF CABLE ALTITUDE					
DC100	ALT APPR PILOT PROCDRS					
DF200	MANUAL CABLE ANGLE HOVER					
EA200	DIP TO DIP/PT TO PT NAV					
EA500	WINDLINE SAR PILOT PROCDRS					
EA501	WINDLINE SAR COPILOT PROCDRS					
DD100	MANUAL CLIMB OUT (VFR)/(IFR)					
CA100	AUTOROTATION					
FH105	SINGLE ENGINE WATER LANDING					
FH106	SINGLE ENGINE WATER TAKEOFF					
BA500	NORMAL PROCDRS CHECKLISTS					
DA600	SPECIAL PROCDRS CHECKLISTS					
FB878	ASE MALFUNCTIONS					
DE912	BEEPER TRIM FAILURE					
DE938	RADAR ALTIMETER FAILURE					
DE800	COUPLER FAILURE					
DE200	SONAR RAISE MALFUNCTIONS					
DE400	BOTTOMED DOME					
FA751	GENERATOR FAILURE					
DE916	BAR ALT FAILURE					
FE798	TAIL RTR CONTROL CABLE LOSS					
FD800	ENGINE MALFUNCTION ANALYSIS					
CE600	EMERGENCY PROCDRS CHECKLISTS					

HS 1 (TAEG) TRAINING FORM REV. 02 (11 MAR 82) BSF5

SIDE 2

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY
BASIC INSTRUMENTS					
COCKPIT PROCEDURE					
PREPARATION					
HEADWORK					
DISCUSS	MANUAL CLIMBOUT (VFR)/(IFR)				
SYSTEMS KNOWLEDGE:					

TASK CODE	TASK COMMENTS

INSTRUCTOR SIGNATURE	TRAINING OFFICER REVIEW SIGNATURE

HS 1 (TAEG) FORM REV 03 (01 APR 82)

BSF6X

FRP:________________ COMPLETE? YES

INSTRUCTOR:________________ NO (M S O)

DATE:___/___/___ PILOT TIME:________________

MM DD YY HH:MM ELAPSED

COPILOT TIME:________________ NAME:________________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
AD300	SYSTEMS CHECK					
AE100	NO. 2 ENGINE START					
AE200	ROTOR ENGAGEMENT					
BG201	BASIC INSTRUMENTS					
BE407	PARTIAL PANEL					
BC200	UNUSUAL ATTITUDES					
DB100	AUTO APPR PILOT PROCDRS					
DB200	AUTO APPR RAD ALT PROCDRS					
DA600	SPECIAL PROCDRS CHECKLISTS					
DB300	COUPLED HVR DEPART PROCDRS					
DC100	ALT APPR PILOT PROCDRS					
DC200	CPLD APPR CPLT/VOICE PROCDRS					
DA500	SONAR DEPLOY VOICE PROCDRS					
DF100	USE OF CABLE ALTITUDE					
DF200	MANUAL CABLE ANGLE HOVER					
DE100	FREESTREAM RECOVERY					
EA200	DIP TO DIP/PT TO PT NAV					
EA300	SAR SEARCH					
EA500	WINDLINE SAR PILOT PROCDRS					
EA501	WINDLINE SAR COPILOT PROCDRS					
DD100	MANUAL CLIMB OUT (VFR)/(IFR)					
FD800	ENGINE MALFUNCTION ANALYSIS					
BA500	NORMAL PROCDRS CHECKLISTS					
FB878	ASE MALFUNCTIONS					
DE300	DOPPLER FAILURE					
DE912	BEEPER TRIM FAILURE					
FA750	ELECTRICAL MALFUNCTION					
DE938	RADAR ALTIMETER FAILURE					
DE800	COUPLER FAILURE					
DE200	SONAR RAISE MALFUNCTIONS					
FG760	HYDRAULIC SYS MALFUNCTIONS					
FC775	TRANSMISSION SYS MALF'S					
FK900	INSTRUMENT/COMM/NAV FAILURES					
CE600	EMERGENCY PROCDRS CHECKLISTS					

HS 1 (TAEG) TRAINING FORM REV. 02 (11 MAR 82) BSF6X

SIDE 2

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY

	QUALIFIED	COND QUALIFIED	UNQUALIFIED
BASIC INSTRUMENTS			
COCKPIT PROCEDURE			
PREPARATION			
HEADWORK			
DISCUSS			
SYSTEMS KNOWLEDGE:			

TASK CODE	TASK COMMENTS

	TRAINING OFFICER REVIEW
INSTRUCTOR SIGNATURE	SIGNATURE

HS 1 (TAEG) FORM REV 02 (11 MAR 82)

BF1

FRP: ______________ COMPLETE? YES

INSTRUCTOR: ______________ NO (M S O)

DATE: / / PILOT TIME: ______________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
DA200	TACNAV/COUPLER DOPPLER TEST					
BE100	NORMAL TAKEOFF					
DA300	PRE-DIP CHECKLIST					
DB100	AUTO APPR PILOT PROCDRS					
DB400	CPLD APPR WAVEOFF PROCDRS					
DB200	AUTO APPR RAD ALT PROCDRS					
DB300	COUPLED HVR DEPART PROCDRS					
DA500	SONAR DEPLOY VOICE PROCDRS					
EA200	DIP TO DIP/PT TO PT NAV					
DF100	USE OF CABLE ALTITUDE					
DF200	MANUAL CABLE ANGLE HOVER					
DE100	FREESTREAM RECOVERY					
FJ501	MAD DEPLOYMENT DEMO					
DG200	LOW LEVEL ASE OFF					
CA100	AUTOROTATION					
BE403	GCA APPROACH					
BE700	NORMAL APPROACH					
BE500	NORMAL LANDING					
BA500	NORMAL PROCDRS CHECKLISTS					
DA600	SPECIAL PROCDRS CHECKLISTS					
CE600	EMERGENCY PROCDRS CHECKLISTS					

HS 1 (TAEG) TRAINING FORM REV. 02 (11 MAR 82) BF1

SIDE 2

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY
BASIC INSTRUMENTS					
COCKPIT PROCEDURE					
PREPARATION					
HEADWORK					
DISCUSS	AUTO APPROACH PROCEDURES				
	HOVER DEPARTURE PROCEDURES				
	FREESTREAM RECOVERY				
SYSTEMS KNOWLEDGE:					

TASK CODE	TASK COMMENTS

INSTRUCTOR SIGNATURE

TRAINING OFFICER REVIEW

SIGNATURE

HS 1 (TAEG) FORM REV 02 (11 MAR 82)

BF2

FRP:____________ COMPLETE? YES

INSTRUCTOR:____________ NO (M S O)

DATE: / / PILOT TIME:____________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
DA200	TACNAV/COUPLER DOPPLER TEST					
BE300	INSTRUMENT TAKEOFF					
DA300	PRE-DIP CHECKLIST					
DC100	ALT APPR PILOT PROCDRS					
DC200	CPLD APPR CPLT/VOICE PROCDRS					
DA500	SONAR DEPLOY VOICE PROCDRS					
DB300	COUPLED HVR DEPART PROCDRS					
EA200	DIP TO DIP/PT TO PT NAV					
DF100	USE OF CABLE ALTITUDE					
DF200	MANUAL CABLE ANGLE HOVER					
DE100	FREESTREAM RECOVERY					
EA300	SAR SEARCH					
EA500	WINDLINE SAR PILOT PROCDRS					
EA501	WINDLINE SAR COPILOT PROCDRS					
EA400	SAR MANUAL APPROACH					
EC100	VFR SWIMMER DEPLOYMENT					
ED100	VERBAL CONTROL POSITIONING					
DD100	MANUAL CLIMB OUT (VFR)/(IFR)					
DB100	AUTO APPR PILOT PROCDRS					
BE402	TACAN APPROACH					
BE600	RUN ON LANDING					
BA500	NORMAL PROCDRS CHECKLISTS					
FB878	ASE MALFUNCTIONS					
DE938	RADAR ALTIMETER FAILURE					
CE600	EMERGENCY PROCDRS CHECKLISTS					
DA600	SPECIAL PROCDRS CHECKLISTS					

HS 1 (TAEG) TRAINING FORM REV. 02 (11 MAR 82) BF2

SIDE 2

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY

		QUALIFIED	COND QUALIFIED	UNQUALIFIED
BASIC INSTRUMENTS				
COCKPIT PROCEDURE				
PREPARATION				
HEADWORK				
DISCUSS	ALTERNATE APPROACH PROCEDURES			
	WINDLINE SAR PROCEDURES			
	VERBAL CONTROL POSITIONING			
SYSTEMS KNOWLEDGE:				

TASK CODE	TASK COMMENTS

	TRAINING OFFICER REVIEW
INSTRUCTOR SIGNATURE	SIGNATURE

HS 1 (TAEG) FORM REV 02 (11 MAR 82)

BF3N

FRP:________________ COMPLETE? YES

INSTRUCTOR:________________ NO (M S O)

DATE: / / PILOT TIME:________________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
DA200	TACNAV/COUPLER DOPPLER TEST					
BG500	NIGHT LIGHTING PROCDRS					
AH100	LSE SIGNALS					
BE300	INSTRUMENT TAKEOFF					
DB100	AUTO APPR PILOT PROCDRS					
DB300	COUPLED HVR DEPART PROCDRS					
DC100	ALT APPR PILOT PROCDRS					
DC200	CPLD APPR CPLT/VOICE PROCDRS					
DA500	SONAR DEPLOY VOICE PROCDRS					
EA300	SAR SEARCH					
BG700	FLOOD/HOVER/LANDING LT USE					
EA500	WINDLINE SAR PILOT PROCDRS					
EA501	WINDLINE SAR COPILOT PROCDRS					
BE403	GCA APPROACH					
BE600	RUN ON LANDING					
BA500	NORMAL PROCDRS CHECKLISTS					
DA600	SPECIAL PROCDRS CHECKLISTS					

HS 1 (TAEG) TRAINING FORM REV. 02 (11 MAR 82) BF3N

SIDE 2

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY

BASIC INSTRUMENTS				
COCKPIT PROCEDURE				
PREPARATION				
HEADWORK				
DISCUSS NIGHT AUTO/ALT APPROACH PROCEDURES				
NIGHT SAR OPERATIONS				
SYSTEMS KNOWLEDGE:				

TASK CODE	TASK COMMENTS

INSTRUCTOR SIGNATURE

TRAINING OFFICER REVIEW

SIGNATURE

HS 1 (TAEG) FORM REV 02 (11 MAR 82)

BF4

FRP:____________ COMPLETE? YES

INSTRUCTOR:____________ NO (M S O)

DATE: / / PILOT TIME:____________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
DA600	SPECIAL PROCDRS CHECKLISTS					
DB100	AUTO APPR PILOT PROCDRS					
DB300	COUPLED HVR DEPART PROCDRS					
DC100	ALT APPR PILOT PROCDRS					
DC200	CPLD APPR CPLT/VOICE PROCDRS					
DF100	USE OF CABLE ALTITUDE					
DF200	MANUAL CABLE ANGLE HOVER					
EA200	DIP TO DIP/PT TO PT NAV					
DE300	DOPPLER FAILURE					
DE938	RADAR ALTIMETER FAILURE					
FB878	ASE MALFUNCTIONS					
DE100	FREESTREAM RECOVERY					
FA751	GENERATOR FAILURE					
DE912	BEEPER TRIM FAILURE					
DE200	SONAR RAISE MALFUNCTIONS					
EA300	SAR SEARCH					
EA500	WINDLINE SAR PILOT PROCDRS					
EA400	SAR MANUAL APPROACH					
EC100	VFR SWIMMER DEPLOYMENT					
ED100	VERBAL CONTROL POSITIONING					
DD100	MANUAL CLIMB OUT (VFR)/(IFR)					
CA100	AUTOROTATION					
FD800	ENGINE MALFUNCTION ANALYSIS					
BA500	NORMAL PROCDRS CHECKLISTS					
CE600	EMERGENCY PROCDRS CHECKLISTS					

HS 1 (TAEG) TRAINING FORM REV.02 (11 MAR 82) BF4

SIDE 2

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY
BASIC INSTRUMENTS					
COCKPIT PROCEDURE					
PREPARATION					
HEADWORK					
DISCUSS	NATOPS LIMITATIONS				
	HUNG MAD BIRD				
	MAD REELING MACHINE MALFUNCTIONS				
SYSTEMS KNOWLEDGE:					

TASK CODE	TASK COMMENTS

INSTRUCTOR SIGNATURE

TRAINING OFFICER REVIEW

SIGNATURE

HS 1 (TAEG) FORM REV 02 (11 MAR 82)

BF5X

FRP:____________ COMPLETE? YES

INSTRUCTOR:____________ NO (M S O)

DATE: / / PILOT TIME:____________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
DA600	SPECIAL PROCDRS CHECKLISTS					
DB100	AUTO APPR PILOT PROCDRS					
DB200	AUTO APPR RAD ALT PROCDRS					
DB400	CPLD APPR WAVEOFF PROCDRS					
DB300	COUPLED HVR DEPART PROCDRS					
DC100	ALT APPR PILOT PROCDRS					
DA500	SONAR DEPLOY VOICE PROCDRS					
DC200	CPLD APPR CPLT/VOICE PROCDRS					
EA200	DIP TO DIP/PT TO PT NAV					
DE100	FREESTREAM RECOVERY					
EA300	SAR SEARCH					
EA500	WINDLINE SAR PILOT PROCDRS					
EA400	SAR MANUAL APPROACH					
EC100	VFR SWIMMER DEPLOYMENT					
ED100	VERBAL CONTROL POSITIONING					
DG200	LOW LEVEL ASE OFF					
BA500	NORMAL PROCDRS CHECKLISTS					
FD800	ENGINE MALFUNCTION ANALYSIS					
DE200	SONAR RAISE MALFUNCTIONS					
FB878	ASE MALFUNCTIONS					
DE938	RADAR ALTIMETER FAILURE					
DE300	DOPPLER FAILURE					
FA750	ELECTRICAL MALFUNCTION					
CE600	EMERGENCY PROCDRS CHECKLISTS					

HS 1 (TAEG) TRAINING FORM REV. 02 (11 MAR 82) BF5X

SIDE 2

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY

	QUALIFIED	COND QUALIFIED	UNQUALIFIED
BASIC INSTRUMENTS			
COCKPIT PROCEDURE			
PREPARATION			
HEADWORK			
DISCUSS			
SYSTEMS KNOWLEDGE:			

TASK CODE	TASK COMMENTS

INSTRUCTOR SIGNATURE

TRAINING OFFICER REVIEW

SIGNATURE

HS 1 (TAEG) FORM REV 02 (11 MAR 82)

EW1

FRP:________ COMPLETE? YES

INSTRUCTOR:________ NO (M S O)

DATE: / / PILOT TIME:________

COPILOT TIME:________ NAME:________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
AD100	NORMAL START					
FD819	HOT START					
AD200	BLADE SPREAD					
AD300	SYSTEMS CHECK					
AE100	NO. 2 ENGINE START					
AE200	ROTOR ENGAGEMENT					
FI772	ROTOR BRAKE CAUTION LIGHT					
FA751	GENERATOR FAILURE					
FA756	ELECTRICAL FIRE					
FB878	ASE MALFUNCTIONS					
FC782	MAIN TRANSMISSION CHIP LIGHT					
FC788	MGB MASSIVE OIL LOSS					
FC781	TAIL TAKEOFF FAILURE					
FC863	Q SYSTEM-1 NEEDLE, 1 GAGE					
FD815	ENGINE FIRE					
FD841	FLEX SHAFT FAILURE					
FD813	ENG OIL PRESS FLUCTUATIONS					
FD807	ENG IMMED OIL PRESS LOSS					
FD843	P-3 SIGNAL LOSS OR LEAK					
FC783	INTER/TAIL GEARBOX CHIP LT					
FF763	FUEL FILTER BYPASS					
FD845	FUEL CONTROL CONTAMINATION					
FG769	PRI HYD PUMP FAILURE					
FG768	AUX HYD PUMP FAILURE					
FG770	UTILITY HYD PUMP FAILURE					
FI771	MANUAL ROTOR BRAKE FAILURE					
AG100	SHUTDOWN CHECKLIST					
AG200	ROTOR DISENGAGEMENT					
AG400	NO. 1 ENGINE SECURE					
FD817	POST SHUTDOWN FIRE					
AG300	BLADE FOLD					
CE600	EMERGENCY PROCDRS CHECKLISTS					

HS 1 (TAEG) TRAINING FORM REV. 02 (11 MAR 82) EW1

SIDE 2

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY
BASIC INSTRUMENTS					
COCKPIT PROCEDURE					
PREPARATION					
HEADWORK					
DISCUSS					
SYSTEMS KNOWLEDGE:					

TASK CODE	TASK COMMENTS

	TRAINING OFFICER REVIEW
INSTRUCTOR SIGNATURE	SIGNATURE

HS 1 (TAEG) FORM REV 02 (11 MAR 82)

ESF1

FRP:________________ COMPLETE? YES

INSTRUCTOR:________________ NO (M S O)

DATE:__/__/__ PILOT TIME:________________

COPILOT TIME:________________ NAME:________________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
BA500	NORMAL PROCDRS CHECKLISTS					
BE200	RUNNING TAKEOFF					
FD800	ENGINE MALFUNCTION ANALYSIS					
CE300	MANUAL THROTTLE					
CB100	SINGLE ENG APPR/LAND RUNWAY					
CB500	SINGLE ENGINE WAVEOFF					
CE200	AUX/PRIMARY OFF FLIGHT					
BE402	TACAN APPROACH					
CA100	AUTOROTATION					
DB100	AUTO APPR PILOT PROCDRS					
DC100	ALT APPR PILOT PROCDRS					
DA500	SONAR DEPLOY VOICE PROCDRS					
DF100	USE OF CABLE ALTITUDE					
DA600	SPECIAL PROCDRS CHECKLISTS					
DE300	DOPPLER FAILURE					
DE938	RADAR ALTIMETER FAILURE					
DE100	FREESTREAM RECOVERY					
EA300	SAR SEARCH					
EA500	WINDLINE SAR PILOT PROCDRS					
DD100	MANUAL CLIMB OUT (VFR)/(IFR)					
CE600	EMERGENCY PROCDRS CHECKLISTS					
DE200	SONAR RAISE MALFUNCTIONS					
DE800	COUPLER FAILURE					
FA750	ELECTRICAL MALFUNCTION					
FB878	ASE MALFUNCTIONS					
FC775	TRANSMISSION SYS MALF'S					
FD800	ENGINE MALFUNCTION ANALYSIS					
FE700	ROTARY RUDDER MALFUNCTIONS					
FF700	FUEL SYSTEM MALFUNCTIONS					
FG760	HYDRAULIC SYS MALFUNCTIONS					
FI700	MAIN ROTOR SYS MALFUNCTIONS					
FK900	INSTRUMENT/COMM/NAV FAILURES					

HS 1 (TAEG) TRAINING FORM REV. 02 (11 MAR 82) ESF1

SIDE 2

QUALIFIED | COND QUALIFIED | UNQUALIFIED | NUMBER TRIALS/ PROFICIENCY

TASK CODE

BASIC INSTRUMENTS

COCKPIT PROCEDURE

PREPARATION

HEADWORK

DISCUSS

SYSTEMS KNOWLEDGE:

TASK CODE	TASK COMMENTS

INSTRUCTOR SIGNATURE

TRAINING OFFICER REVIEW

SIGNATURE

HS 1 (TAEG) FORM REV 02 (11 MAR 82)

ESF2

FRP:________________ COMPLETE? YES

INSTRUCTOR:________________ NO (M S O)

DATE: / / PILOT TIME:________________

COPILOT TIME:__________ NAME:________________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
BE200	RUNNING TAKEOFF					
FH105	SINGLE ENGINE WATER LANDING					
FH106	SINGLE ENGINE WATER TAKEOFF					
FJ100	POWER SETTLING					
BE300	INSTRUMENT TAKEOFF					
BE700	NORMAL APPROACH					
BE500	NORMAL LANDING					
CD300	ASE OFF LANDING					
CB600	SINGLE ENG TAKEOFF ABORT					
CE300	MANUAL THROTTLE					
CE200	AUX/PRIMARY OFF FLIGHT					
CC100	AUX OFF LANDING					
CB100	SINGLE ENG APPR/LAND RUNWAY					
CB500	SINGLE ENGINE WAVEOFF					
CA100	AUTOROTATION					
BE600	RUN ON LANDING					
BA500	NORMAL PROCDRS CHECKLISTS					
AG300	BLADE FOLD					
FA750	ELECTRICAL MALFUNCTION					
FB878	ASE MALFUNCTIONS					
FC775	TRANSMISSION SYS MALF'S					
FD800	ENGINE MALFUNCTION ANALYSIS					
FE700	ROTARY RUDDER MALFUNCTIONS					
FF700	FUEL SYSTEM MALFUNCTIONS					
FG760	HYDRAULIC SYS MALFUNCTIONS					
FI700	MAIN ROTOR SYS MALFUNCTIONS					
FK900	INSTRUMENT/COMM/NAV FAILURES					
CE600	EMERGENCY PROCDRS CHECKLISTS					

HS 1 (TAEG) TRAINING FORM REV. 02 (11 MAR 82) ESF2

SIDE 2

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY
BASIC INSTRUMENTS					
COCKPIT PROCEDURE					
PREPARATION					
HEADWORK					
DISCUSS					
SYSTEMS KNOWLEDGE:					

TASK CODE	TASK COMMENTS

INSTRUCTOR SIGNATURE

TRAINING OFFICER REVIEW

SIGNATURE

HS 1 (TAEG) FORM REV 02 (11 MAR 82)

E1

FRP:______________________ COMPLETE? YES

INSTRUCTOR:______________________ NO (M S O)

DATE: / / PILOT TIME:______________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
AC100	PRE-FLIGHT					
AD300	SYSTEMS CHECK					
AE100	NO. 2 ENGINE START					
AF200	TAXI					
BE100	NORMAL TAKEOFF					
BE700	NORMAL APPROACH					
BE500	NORMAL LANDING					
BE200	RUNNING TAKEOFF					
BE600	RUN ON LANDING					
CD100	ASE OFF TAKEOFF					
CD300	ASE OFF LANDING					
CE200	AUX/PRIMARY OFF FLIGHT					
CC100	AUX OFF LANDING					
CB600	SINGLE ENG TAKEOFF ABORT					
FD800	ENGINE MALFUNCTION ANALYSIS					
CE300	MANUAL THROTTLE					
FD800	ENGINE MALFUNCTION ANALYSIS					
CB100	SINGLE ENG APPR/LAND RUNWAY					
CB500	SINGLE ENGINE WAVEOFF					
CA100	AUTOROTATION					
AC200	POST-FLIGHT					
DA300	PRE-DIP CHECKLIST					
DB100	AUTO APPR PILOT PROCDRS					
DB200	AUTO APPR RAD ALT PROCDRS					
DA600	SPECIAL PROCDRS CHECKLISTS					
DB300	COUPLED HVR DEPART PROCDRS					
DC100	ALT APPR PILOT PROCDRS					
DC200	CPLD APPR CPLT/VOICE PROCDRS					
DA500	SONAR DEPLOY VOICE PROCDRS					
DE100	FREESTREAM RECOVERY					
BA500	NORMAL PROCDRS CHECKLISTS					
DE300	DOPPLER FAILURE					
DE938	RADAR ALTIMETER FAILURE					
FB878	ASE MALFUNCTIONS					
FA750	ELECTRICAL MALFUNCTION					
DE912	BEEPER TRIM FAILURE					
DE200	SONAR RAISE MALFUNCTIONS					
EA300	SAR SEARCH					
EA500	WINDLINE SAR PILOT PROCDRS					
EA400	SAR MANUAL APPROACH					
EC100	VFR SWIMMER DEPLOYMENT					
CE600	EMERGENCY PROCDRS CHECKLISTS					

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SIDE 2

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY

BASIC INSTRUMENTS			
COCKPIT PROCEDURE			
PREPARATION			
HEADWORK			
DISCUSS			
SYSTEMS KNOWLEDGE:			

TASK CODE	TASK COMMENTS

INSTRUCTOR SIGNATURE	TRAINING OFFICER REVIEW SIGNATURE

HS 1 (TAEG) FORM REV 02 (11 MAR 82)

E2

FRP:________ COMPLETE? YES

INSTRUCTOR:________ NO (M S O)

DATE: / / PILOT TIME:________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
AH100	LSE SIGNALS					
AD100	NORMAL START					
AD200	BLADE SPREAD					
AD300	SYSTEMS CHECK					
AE100	NO. 2 ENGINE START					
AE200	ROTOR ENGAGEMENT					
AF200	TAXI					
BE100	NORMAL TAKEOFF					
BE700	NORMAL APPROACH					
BE500	NORMAL LANDING					
BE200	RUNNING TAKEOFF					
BE600	RUN ON LANDING					
CD100	ASE OFF TAKEOFF					
CD300	ASE OFF LANDING					
CE200	AUX/PRIMARY OFF FLIGHT					
CC100	AUX OFF LANDING					
CB600	SINGLE ENG TAKEOFF ABORT					
FD800	ENGINE MALFUNCTION ANALYSIS					
CE300	MANUAL THROTTLE					
CB100	SINGLE ENG APPR/LAND RUNWAY					
CB500	SINGLE ENGINE WAVEOFF					
CA100	AUTOROTATION					
AG100	SHUTDOWN CHECKLIST					
AG200	ROTOR DISENGAGEMENT					
AG300	BLADE FOLD					
AG400	NO. 1 ENGINE SECURE					
AC200	POST-FLIGHT					
BA500	NORMAL PROCDRS CHECKLISTS					
CE600	EMERGENCY PROCDRS CHECKLISTS					

NS 1 (TAEG) TRAINING FORM REV. 02 (11 MAR 82) E2

SIDE 2

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY

BASIC INSTRUMENTS				
COCKPIT PROCEDURE				
PREPARATION				
HEADWORK				
DISCUSS				
SYSTEMS KNOWLEDGE:				

TASK CODE	TASK COMMENTS

	TRAINING OFFICER REVIEW
INSTRUCTOR SIGNATURE	SIGNATURE

HS 1 (TAEG) FORM REV 02 (11 MAR 82)

ISF1

FRP:______________ COMPLETE? YES

INSTRUCTOR:______________ NO (M S O)

DATE: / / PILOT TIME:______________

TASK	DESCRIPTION	QUALIFIED	COND QUAL	UNQUAL	DICUSS, INTRO, NOT OBS	TRIALS
AH200	PRE-FLIGHT PLANNING					
BG401	CLEARANCES					
AD100	NORMAL START					
AD300	SYSTEMS CHECK					
AE100	NO. 2 ENGINE START					
AE200	ROTOR ENGAGEMENT					
BE300	INSTRUMENT TAKEOFF					
BB100	INSTRUMENT DEPARTURE					
BC600	AIRWAYS NAVIGATION					
BE408	HOLDING					
BE402	TACAN APPROACH					
BE401	ADF APPROACH					
BE403	GCA APPROACH					
BE409	MISSED APPROACH					
RA500	NORMAL PROCDRS CHECKLISTS					
BG400	COMMUNICATIONS					
FG760	HYDRAULIC SYS MALFUNCTIONS					
FK941	UHF NO 1 RECEIVER FAILURE					
FK943	UHF NO 1 TRANSMITTER FAILURE					
FA750	ELECTRICAL MALFUNCTION					
FK917	VGI OFF FLAG (PILOT)					
FD800	ENGINE MALFUNCTION ANALYSIS					
CE600	EMERGENCY PROCDRS CHECKLISTS					

NS 1 (TAEG) TRAINING FORM REV. 02 (11 MAR 82) ISF1

SIDE 2

TASK CODE		QUALIFIED	COND QUALIFIED	UNQUALIFIED	NUMBER TRIALS/ PROFICIENCY
BASIC INSTRUMENTS					
COCKPIT PROCEDURE					
PREPARATION					
HEADWORK					
DISCUSS					
SYSTEMS KNOWLEDGE:					

TASK CODE	TASK COMMENTS

INSTRUCTOR SIGNATURE

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Technical Report 127

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