Research Memorandum 76-2

AIRCREW TASK ANALYSIS AND TRAINING OBJECTIVES FOR NAP-OF-THE-EARTH FLIGHT

Charles A. Gainer
U.S. Army Research Institute for the Behavioral and Social Sciences

and

Dennis J. Sullivan
Anacapa Sciences, Inc.

HUMAN ADAPTABILITY AND ORGANIZATIONAL EFFECTIVENESS TECHNICAL AREA

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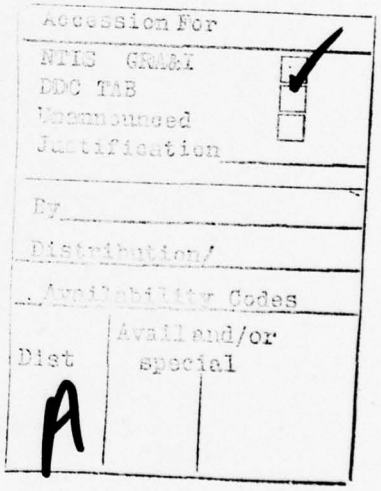

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10 Charles A. Gainer[1]
U.S. Army Research Institute for the Behavioral and Social Sciences

and

Dennis J. Sullivan
Anacapa Sciences, Inc.

Halim Ozkaptan, Work Unit Leader

Submitted by:
Aaron Hyman, Chief
Human Adaptability and Organizational Effectiveness Technical Area

12 194

11 February 1976

Approved by:

Joseph Zeidner, Director
Organizations and Systems
Research Laboratory

J. E. Uhlaner, Technical Director
U.S. Army Research Institute for
the Behavioral and Social Sciences

[1]Previously with Anacapa Sciences, Incorporated.

AIRCREW TASK ANALYSIS AND TRAINING OBJECTIVES FOR NAP-OF-THE-EARTH FLIGHT

CONTENTS

AIRCREW TASK ANALYSIS AND TRAINING OBJECTIVES FOR NAP-OF-THE-EARTH FLIGHT

The purpose of this study was to assist the Army in identifying and developing potential improvements in nap-of-the-earth (NOE) training at the entry and unit levels. To accomplish this purpose, statements of NOE training objectives were derived, based on a detailed analysis of mission requirements and aircrew tasks, and the most promising methods of improving training to meet those objectives were identified. Part I of this study, published as an ARI Research Report, describes the technical approach and methods of the study, the results obtained, and the conclusions and recommendations. As part of the project, a detailed analysis of the functions and tasks required of Army helicopter crews in NOE operations was performed to provide the essential data base for identifying training requirements, and these detailed task descriptions were analyzed to derive specifications of the training objectives that would have to be met to achieve aircrew proficiency in NOE operations. The results are documented in ~~this report~~ Part II of the study. Although the task analysis was performed as a means to the specific ends of this project, the results constitute a significant general contribution to the literature on helicopter aircrew performance and will be useful in several other research applications.

TASK ANALYSIS

The aircrew tasks were specified and organized according to the mission phase and segment in which the tasks normally are performed and according to the function that is accomplished by a given set of tasks. Each task is stated in a standard verb-object-modifier form, followed by a brief description of the actions that are required in performing it. Any controls or displays that must be operated or used in performing the task are identified, and the possible control settings or adjustments are listed. The outcome or effect of the task is described in terms of the subsystem response. Each task is classified according to whether it is performed as a continuous activity or as a discrete action. The type of stimulus input to the operator performing the task is listed, and the type of sensory feedback that allows him to determine the adequacy of his response is identified. The possible decision options that the operator can take as a result of the stimulus input and feedback are identified and listed. The criticality of the task performance is rated in terms of whether or not successful performance is vital to the primary mission objective and whether or not the task must be performed at a precisely constrained moment or sequence in time. Finally, the accuracy requirements or other standards of performance effectiveness are specified where such criteria are meaningful and could be determined.

The contingency performance requirements are specified and organized in a different format. Each set of performance requirements is organized according to the source of the emergency, such as a blade strike or a particular type of system failure. Listed first are all of the available cues that can alert the pilot to the presence and nature of the contingency event. These cues are classified by the sensory process (visual, auditory, kinesthetic, etc.) that discerns them and are numbered in order of precedence. The decision options open to the pilot are listed, including any diagnostic decisions he may have to make. The principal considerations that must be taken into account are listed for each option or diagnosis. Finally, the perceptual and motor response requirements are specified. These are the things that the pilot must perceive and do to recognize the presence and nature of the contingency and to deal with it.

TASK ANALYSIS

MISSION PHASE PREFLIGHT SEGMENT: MISSION PLANNING

FUNCTION RECEIVE BRIEFING

SEGMENT MISSION PLANNING

SUBSYSTEM N/A

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	DISPLAY TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. ACQUIRE	INFORMATION	SITUATION	RECEIVES SITUATION INFORMATION RELATIVE TO: ENEMY POSITION, STRENGTH, ETC. FRIENDLY POSITION, STRENGTH, ETC. ATTACHMENTS AND DETACHMENTS	MAPS/CHARTS	N/A	N/A	D	✓	✓		VISUAL, MAPS CHARTS AURAL, BRIEFING OFFICER	N/A	2	N/A*	MUST UNDERSTAND AND CORRECTLY INTERPRET SITUATION INFORMATION TO PERFORM MISSION SUCCESSFULLY
2. ACQUIRE	INFORMATION	MISSION	RECEIVES MISSION INFORMATION, I.E., RECON RECON (WITH ENGAGEMENT) ESCORT TROOP SUPPORT MEDIVAC ANTI-ARMOR CONUS NAV AERIAL ARTY	MAPS/CHARTS	N/A	N/A	D	✓	✓		VISUAL, MAPS CHARTS AURAL, BRIEFING OFFICER	N/A	2	N/A	MUST UNDERSTAND AND CORRECTLY INTERPRET MISSION INFORMATION TO PERFORM MISSION SUCCESSFULLY
3. ACQUIRE	INFORMATION	MISSION EXECUTION	RECEIVES INFORMATION AND DIRECTION ON HOW MISSION IS TO BE PERFORMED	MAPS/CHARTS	N/A	N/A	D	✓	✓		VISUAL, MAPS CHARTS AURAL, BRIEFING OFFICER	N/A	2	N/A	MUST UNDERSTAND AND CORRECTLY INTERPRET MISSION INFORMATION TO PERFORM MISSION SUCCESSFULLY
4. ACQUIRE	INFORMATION	COMMAND AND SIGNAL	RECEIVES INFORMATION AND DIRECTION RELATIVE TO: SOI CALL SIGNS RADIO FREQUENCIES CHANGE OF COMMAND	SOI	N/A	N/A	D	✓	✓		AURAL BY BRIEFING OFFICER VISUAL--SOI	N/A	2	N/A	FAILURE TO UNDERSTAND AND CORRECTLY INTERPRET INFORMATION COULD RESULT IN MISSION FAILURE
5. ACQUIRE	INFORMATION	ADMINISTRATIVE AND LOGISTICS	RECEIVES INFORMATION AND DIRECTION RELATIVE TO: FUEL, ARMAMENT LOCATIONS MAINTENANCE REQUIREMENTS WEATHER PREDICTION	MAPS/CHARTS	N/A	N/A	D	✓	✓		VISUAL, MAPS CHARTS AURAL, BRIEFING OFFICER	N/A	2	N/A	FAILURE TO UNDERSTAND AND CORRECTLY INTERPRET INFORMATION COULD RESULT IN MISSION FAILURE

*IT IS ASSUMED THAT THE PILOT/COPILOT WILL RECEIVE ALL INFORMATION WHICH IS PRESENTED DURING THE BRIEFING.

TASK ANALYSIS

MISSION PHASE: PREFLIGHT
FUNCTION: SELECT MAPS

SEGMENT: MISSION PLANNING
SUBSYSTEM: MAPS

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. LOCATE	SHEETS	MAPS	LOCATE IN BASE OPNS OR BRIEFING ROOM THE MAPS WHICH WILL BE AVAILABLE TO MISSION PLANNING	MAPSHEETS	NONE	N/A	D	✓			BRIEFING ORDER		2	N/A	PILOT AND NAVIGATOR ASSEMBLE THE MAPS WHICH COVER THE AREA OF OPERATION
2. CHOOSE	MAPS	PLANNING	SELECT THOSE TYPES OF MAPS WHICH WILL BEST BE USED IN PLANNING	MAPS	SCALES TYPES QUANTITY	N/A	D	✓			BRIEFING ORDER	SCALES TYPES QUANTITY	2	N/A	A. CHOOSE RELIEF MAPS TO AID IN TERRAIN INTERPRETATION B. LARGE SCALE MAPS FOR GENERAL OVERVIEW OF TERRAIN AND OVERALL SITUATION C. SMALL SCALE MAPS FOR PLANNING ROUTE AND SELECTING MANEUVER AREA D. AERIAL PHOTO E. FLIGHT HAZARDS
3. CHOOSE	MAPS	INFLIGHT	SELECT THOSE MAP SCALES AND TYPES WHICH WILL BE USED EASIEST IN COCKPIT	MAPS	SCALES TYPES QUANTITY	N/A	D	✓			BRIEFING ORDER	SCALES TYPES QUANTITY	2	N/A	NAVIGATOR SHOULD USE MAPS WHICH HE CAN SEE AND HANDLE EASILY IN THE COCKPIT

TASK ANALYSIS

MISSION PHASE PREFLIGHT
SEGMENT MISSION PLANNING
FUNCTION PERFORM MAP STUDY TO ANALYZE TERRAIN
SUBSYSTEM MAPS/CHARTS

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. SCAN	MAPS		GENERAL OVERVIEW: FRIENDLY AREAS, HOSTILE AREAS, ARTY UNITS	MAP	NONE	N/A	D	✓			BRIEFING ORDER	NONE	2	N/A	
2. PLOT	LOCATIONS		IDENTIFIES AND NOTATES FRIENDLY POSITIONS, ENEMY LOCATIONS, ARTY POSITIONS, AVOID AREAS	MAP	NONE	N/A	D	✓			BRIEFING ORDER	NONE	2	ACCURATE TO THE NEAREST SIX DIGIT COORDINATE	PLOTTED COORDINATES BELOW SPECIFIED ACCURACY MAY RESULT IN FAILURE OF MISSION OBJECTIVE
3. SELECT	SITES	AMBUSH	DETERMINES POSSIBLE AMBUSH SITES	MAP	NONE	N/A	D	✓			BRIEFING ORDER	RIDGES, CONCEALMENT	2	ACCURATE TO THE NEAREST SIX DIGIT COORDINATE	PLOTTED COORDINATES BELOW SPECIFIED ACCURACY MAY RESULT IN FAILURE OF MISSION OBJECTIVE
4. EVALUATE	MAP	SYMBOL	STUDY TERRAIN FEATURES NOTE FLIGHT HAZARDS CHECK RELATIVE ALTITUDES INTERPRET CONTOUR LINES VISUALIZE HORIZONTAL PICTURE	MAP	NONE	N/A	D	✓			BRIEFING ORDER	NONE	2	N/A	MISINTERPRETATION OR ERRONEOUS INTERPRETATION OF MAP SYMBOLS, CONTOUR LINES, ETC. MAY RESULT IN FAILURE OF MISSION OBJECTIVE

TASK ANALYSIS

MISSION PHASE PREFLIGHT

SEGMENT MISSION PLANNING

FUNCTION DETERMINE ROUTE OF FLIGHT AND CHECKPOINTS

SUBSYSTEM

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	SYSTEM STATUS	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. DETERMINE	ROUTE	FLIGHT	SELECT BEST COURSE IN TERMS OF: EASE OF NAVIGATION--CHECKPOINTS FAMILIAR TERRAIN MASKING ABILITY SHORTEST ROUTE TERRAIN FEATURES FORCED LANDING AREAS AVOIDANCE OF FRIENDLY ARTY	MAP	NONE	N/A	D	✓			BRIEFING ORDER	SEE OPERATOR ACTION	2	TIME: ±60 SEC. OF ETA (CP TO CP) NAV. NEAREST SIX DIGIT COORDINATE HEADING ±5° OF THAT DESIRED	PLOTTED COORDINATES BELOW SPECIFIED ACCURACY MAY RESULT IN FAILURE OF MISSION OBJECTIVE
2. SELECT	CHECKPOINT		SELECT CHECKPOINTS IN TERMS OF: EASY TO LOCATE PROMINENT TERRAIN FEATURES MAN-MADE FEATURES EASY TO IDENTIFY DETERMINE PROXIMITY AND QUANTITY	MAP	NONE	N/A	D	✓			BRIEFING ORDER	SEE OPERATOR ACTION	2	TIME: ±60 SEC. OF ETA (CP TO CP) NAV. NEAREST SIX DIGIT COORDINATE HEADING ±5° OF THAT DESIRED	PLOTTED COORDINATES BELOW SPECIFIED ACCURACY MAY RESULT IN FAILURE OF MISSION OBJECTIVE

TASK ANALYSIS

MISSION PHASE PREFLIGHT

FUNCTION DETERMINE MANEUVER (BATTLE) AREA

SEGMENT MISSION PLANNING

SUBSYSTEM

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. DETERMINE	AREA	MANEUVER (BATTLE)	SELECT BOUNDARY, ROUTES, AND METHOD OF OPERATION, I.E., SLOW HOVER: QUICK DASH	MAP	NONE	N/A	D	✓			BRIEFING ORDER	SEE OPERATOR ACTION	2	N/A	PLOTTED COORDINATES BELOW SPECIFIED ACCURACY MAY RESULT IN FAILURE OF MISSION OBJECTIVE

TASK ANALYSIS

MISSION PHASE PREFLIGHT

FUNCTION SELECT ATTACK POSITION

SEGMENT MISSION PLANNING

SUBSYSTEM

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. SELECT	POSITION	ATTACK	PLAN POSITION TO AFFORD MASKING ABILITY, SUITABLE LANDING AREA, AND WITH CONSIDERATION FOR DISTANCE FROM FEBA (BATTLE AREA), AND FRIENDLY POSITIONS	MAP	NONE	N/A	D	✓			BRIEFING ORDER	SEE OPERATOR ACTION	2	TIME: +60 SEC OF ETA (CP TO CP) NAV. NEAREST SIX DIGIT COORDINATE HEADING ±5° OF THAT DESIRED	PLOTTED COORDINATES BELOW SPECIFIED ACCURACY MAY RESULT IN FAILURE OF MISSION OBJECTIVE

TASK ANALYSIS

MISSION PHASE PREFLIGHT SEGMENT: MISSION PLANNING
FUNCTION SELECT AERIAL OBSERVATION POSITIONS (AOP--SCO[illegible]

SEGMENT MISSION PLANNING
SUBSYSTEM

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. SELECT	MAP		SELECT MAP DEPICTING ENGAGEMENT AREA	MAP	N/A	N/A	D	✓			VISUALLY INSPECT MAPS	N/A	2	N/A	FAILURE TO SELECT CORRECT MAP MAY LEAD TO MISSION FAILURE
2. PLOT	POSITIONS	ENEMY FRIENDLY ARMOR ARTILLERY	LOCATES AND IDENTIFIES POSITIONS OF PERSONNEL, EQUIPMENT, ARTILLERY OF ENEMY AND FRIENDLY FORCES	MAP	N/A	N/A	D	✓			MAP OF ENGAGEMENT AREA	WHICH UNITS TO PLOT	2	ACCURATE TO THE NEAREST SIX DIGIT COORDINATE	CORRECT IDENTIFICATION AND LOCATION OF ALL FORCES, ARMAMENT, ETC. ESSENTIAL TO MISSION SUCCESS
3. EVALUATE	POSITION	ENEMY FRIENDLY ARMOR ARTILLERY	DETERMINES MOST EFFECTIVE AERIAL OBSERVATION POSITION BASED ON EVALUATION OF TACTICAL SITUATION	MAP	N/A	N/A	D	✓			MAP OF ENGAGEMENT AREA	N/A	2		EFFECTIVE EVALUATION REQUIRED TO SELECT BEST AERIAL OBSERVATION POSITION
4. PLOT	POSITIONS	AERIAL OBSERVATION	SELECTS COURSE TO AND COORDINATES OF FIRING POSITION	MAP	N/A	N/A	D	✓			MAP OF ENGAGEMENT AREA	N/A	2	ACCURATE TO THE NEAREST SIX DIGIT COORDINATE	INCORRECT PLOT OF AERIAL OBSERVATION POSITION WILL LEAD TO MISSION DEGRADATION OR FAILURE

TASK ANALYSIS

MISSION PHASE PREFLIGHT
FUNCTION SELECT AERIAL FIRING POSITION (GUNSHIP)

SEGMENT MISSION PLANNING
SUBSYSTEM

TASK				CONTROL			TASK TYPE	FEEDBACK			STIMULUS	OPERATOR	CRIT.	ACCURACY	COMMENTS
VERB	OBJECT	MODIFIER	OPERATOR ACTION	NAME	OPTIONS	EQUIPMENT RESP.		V	A	OTHER	INPUT	DECISION OPTIONS	RESP.	REQUIRED	
1. SELECT	MAP		SELECT MAP DEPICTING ENGAGEMENT AREA	MAP	N/A	N/A	D	✓			VISUALLY INSPECT MAPS	N/A	2	N/A	FAILURE TO SELECT CORRECT MAP MAY LEAD TO MISSION FAILURE
2. PLOT	POSITIONS	ENEMY FRIENDLY ARMOR ARTILLERY	LOCATES AND IDENTIFIES POSITIONS OF PERSONNEL, EQUIPMENT, ARTILLERY OF ENEMY AND FRIENDLY FORCES	MAP	N/A	N/A	D	✓			MAP OF ENGAGEMENT AREA	WHICH UNITS TO PLOT	2	ACCURATE TO THE NEAREST SIX DIGIT COORDINATE	CORRECT IDENTIFICATION AND LOCATION OF ALL FORCES, ARMAMENT, ETC. ESSENTIAL TO MISSION SUCCESS
3. EVALUATE	POSITIONS	ENEMY FRIENDLY ARMOR ARTILLERY	DETERMINES MOST EFFECTIVE AERIAL FIRING POSITION BASED ON EVALUATION OF TACTICAL SITUATION	MAP	N/A	N/A	D	✓			MAP OF ENGAGEMENT AREA	N/A	2	YES	EFFECTIVE EVALUATION REQUIRED TO SELECT BEST AERIAL FIRING POSITION
4. PLOT	POSITIONS	AERIAL FIRING	SELECTS COURSE TO AND COORDINATES OF FIRING POSITION	MAP	N/A	N/A	D	✓			MAP OF ENGAGEMENT AREA	N/A	2	ACCURATE TO THE NEAREST SIX DIGIT COORDINATE	INCORRECT PLOT OF FIRING POSITION WILL LEAD TO MISSION DEGRADATION OR FAILURE

TASK ANALYSIS

MISSION PHASE: PREFLIGHT
FUNCTION: SELECT LANDING ZONE (UTILITY)

SEGMENT: MISSION PLANNING
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. SELECT	ZONE	LANDING	VISUALLY CHECK MAP AND SELECT LANDING ZONES	MAP	N/A	N/A	D	✓			BRIEFING ORDER	SEE COMMENTS		+50 METERS	CHECK: SIZE OF LZ, MASKING ABILITY OF ENTRY AND EXIT ROUTES, OBSTACLES TO LANDING, OBSTACLES IN APPROACH PATH
2. PLOT	ZONE	LANDING	IDENTIFY AND NOTE POSITIONS ON MAP	MAP	N/A	N/A	D	✓			BRIEFING ORDER				

TASK ANALYSIS

MISSION PHASE PREFLIGHT SEGMENT: MISSION PLANNING

FUNCTION SELECT ENTRY ROUTE

SEGMENT MISSION PLANNING

SUBSYSTEM

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. SELECT	MAP		SELECTS APPROPRIATE MAP DEPICTING ENGAGEMENT AREA	MAP	N/A	N/A	D	✓			VISUAL INSPECTION OF MAPS	N/A	2	N/A	FAILURE TO SELECT CORRECT MAP MAY RESULT IN MISSION FAILURE
2. PLOT	ROUTE	ENTRY	PLOTS POSSIBLE COURSES OF ENTRY INTO ENGAGEMENT AREA AND SELECTS MOST EFFECTIVE ROUTE. BASE SELECTION ON EASE OF NAVIGATION, MASKING ABILITY, SHORTEST ROUTE, TERRAIN FEATURES, FORCE LANDING AREAS, ARTILLERY POSITIONS, AND CHECKPOINTS	MAP	N/A	N/A	D	✓			MAP OF ENGAGEMENT AREA	SEE OPERATOR ACTIONS	2	ACCURATE TO THE NEAREST SIX DIGIT COORDINATE TIME ±30 SEC.	FAILURE TO SELECT EFFECTIVE ENTRY ROUTE MAY RESULT IN MISSION DEGRADATION OR FAILURE

TASK ANALYSIS

MISSION PHASE PREFLIGHT SEGMENT: MISSION PLANNING
FUNCTION SELECT EXIT ROUTE

SEGMENT MISSION PLANNING
SUBSYSTEM

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. SELECT	MAP		SELECTS APPROPRIATE MAP DEPICTING ENGAGEMENT AREA	MAP	N/A	N/A	D	✓			VISUAL INSPECTION OF MAPS	N/A	2	N/A	FAILURE TO SELECT CORRECT MAP MAY LEAD TO MISSION FAILURE
2. PLOT	ROUTE	EXIT	DETERMINES POSSIBLE EXIT ROUTES AND PLOTS SELECTED ROUTE. BASE SELECTION ON EASE OF NAVIGATION, MASKING ABILITY, SHORTEST ROUTE, TERRAIN FEATURES, FORCE LANDING AREAS, AND FRIENDLY POSITION	MAP	N/A	N/A	D	✓			MAP OF ENGAGEMENT AREA		2	ACCURATE TO THE NEAREST SIX DIGIT COORDINATE	FAILURE TO SELECT AND PLOT EFFECTIVE EXIT ROUTE MAY LEAD TO MISSION DEGRADATION OR FAILURE

TASK ANALYSIS

MISSION PHASE PREFLIGHT SEGMENT: MISSION PLANNING

FUNCTION DETERMINE MAXIMUM FLIGHT ALTITUDE

SEGMENT MISSION PLANNING

SUBSYSTEM

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. SELECT	MAPS	FLIGHT ROUTE	SELECT MAPS DEPICTING PROPOSED FLIGHT ROUTE FROM BASE TO ENGAGEMENT AREA AND RETURN	MAPS	N/A	N/A	D				VISUAL INSPECTION OF MAPS	N/A	2	N/A	MUST SELECT CORRECT MAPS OF PROPOSED FLIGHT PATH
2. CHECK	ELEVATION	TERRAIN	NOTES TERRAIN ELEVATION VARIANTS OVER FLIGHT PATH	MAP	N/A	N/A	D				VISUAL INSPECTION OF MAPS	N/A	2	±10'	MUST CORRECTLY DETECT AND IDENTIFY VARIATIONS IN TERRAIN ELEVATION OVER FLIGHT PATH
3. DETERMINE	ALTITUDES	FLIGHT PATH	DETERMINES MAXIMUM ALTITUDES FOR EACH LEG OF THE FLIGHT PATH SPOT ELEVATION CONTOUR INTERVAL TERRAIN ELEVATION OBSTACLE CLEARANCE TYPE VEGETATION	MAP	N/A	N/A	D				VISUAL INSPECTION OF MAPS	NOE LOW LEVEL HIGH ALTITUDE	2	±10' ±50'	INCORRECT SOLUTION TO FLIGHT PATH ALTITUDES COULD LEAD TO IMPACT OF AIRCRAFT WITH OBSTACLES OR UNMASKING OF AIRCRAFT

TASK ANALYSIS

MISSION PHASE PREFLIGHT SEGMENT: MISSION PLANNING
FUNCTION DETERMINE AIRSPEED

SEGMENT MISSION PLANNING
SUBSYSTEM

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. SELECT	MAP	FLIGHT PATH	REFERS TO MAP DEPICTING FLIGHT PATH OF MISSION	MAP	N/A	N/A	D	✓			FLIGHT PATH MAP	N.A	2	N/A	MUST SELECT CORRECT MAP DEPICTING *FLIGHT PATH OF MISSION*
2. PLOT	DISTANCES	FLIGHT PATH LEGS	DETERMINE DISTANCE OF EACH LEG AND TOTAL FROM BASE TO ENGAGEMENT AREA AND RETURN	MAP	N/A	N/A	D	✓			FLIGHT PATH MAP	N/A	2	ACCURATE TO THE NEAREST SIX DIGIT COORDINATE 100 METERS	INCORRECT PLOT MAY RESULT IN MISSION DEGRADATION
3. CHECK	ELEVATION	TERRAIN	NOTE TERRAIN FEATURES AFFECTING AIRSPEED, CONTOUR INTERVAL, AND SPOT ELEVATIONS	MAP	N/A	N/A	D	✓			FLIGHT PATH MAP	N/A	2	±10' ELEVATION	MUST DETECT, IDENTIFY AND EVALUATE TERRAIN FEATURES AFFECTING AIRSPEED
4. CHECK	REPORTS	WEATHER	NOTE WEATHER CONDITIONS AFFECTING AIRSPEED	REPORT	N/A	N/A	D	✓			WEATHER REPORT	N/A	2	N/A	MUST CORRECTLY IDENTIFY AND EVALUATE WEATHER CONDITIONS THAT AFFECT AIRSPEED
5. DETERMINE	GROSS WEIGHT	AIRCRAFT	DETERMINE GROSS WEIGHT OF HELICOPTER AS APPLICABLE TO AIRSPEED	CHARTS	N/A	N/A	D	✓			HELOCOPTER, ARMAMENT, FUEL, WEIGH, INFORMATION	N/A	2	±100 LBS	MUST CALCULATE WEIGHT ACCURATELY TO OBTAIN VALID AIRSPEED DETERMINATION
6. CHECK	TIME	MISSION	REFER TO BRIEFING FOR TIME CONSTRAINTS OF MISSION	OPORD BRIEFING	N/A	N/A	D	✓			BRIEFING	N/A	2	±60 SECS. OF ETA	MUST CORRECTLY IDENTIFY ETA'S
7. CHECK	PERFORMANCE DATA	AIRCRAFT	REFER TO AIRCRAFT PERFORMANCE DATA UNDER MISSION CONDITIONS ABOVE	REPORTS	N/A	N/A	D	✓			AIRCRAFT PERFORMANCE DATA REPORTS	N/A	2	GO-NO GO	MUST CORRECTLY IDENTIFY AND EVALUATE AIRCRAFT PERFORMANCE DATA UNDER MISSION CONSTRAINTS
8. CALCULATE	AIRSPEED	AIRCRAFT	UTILIZING THE INFORMATION GATHERED IN (1) THROUGH (7), CALCULATE REQUIRED AIRSPEED FOR MISSION	COMPUTER PLOTTER	N/A	N/A	D	✓			DATA FROM (1) THROUGH (7) ABOVE	N/A	2	±5 KTS	MUST BE ABLE TO CORRELATE INFORMATION RELEVANT TO AIRSPEED AND MAKE ACCURATE DETERMINATION BASED ON THESE DATA

TASK ANALYSIS

MISSION PHASE: PREFLIGHT
FUNCTION: CALCULATE ESTIMATES

SEGMENT: MISSION PLANNING
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. CALCULATE	TIME	DEPARTURE	CALCULATE DEPARTURE TIME BASED ON: BRIEFING, PLANNING AIRCRAFT PREPARATION PREFLIGHT CHECKOUT	N/A	N/A	N/A	D	✓			BRIEFING, PLANNING INFORMATION	N/A	2		DEPARTURE TIME MUST BE EARLY ENOUGH TO COMPLETE MISSION IN PRESCRIBED TIME FRAME
2. CALCULATE	TIME	ENROUTE	COMPUTE ENROUTE TIME BASED ON DISTANCE AND AIRSPEED TO EACH CHECKPOINT	MAPS COMPUTER	N/A	N/A	D	✓			VISUAL INSPECTION OF MAPS	N/A	2	±30 SECS. OF ETA TO EACH CHECK-POINT	TOTAL ENROUTE TIME MUST ALLOW FOR ARRIVAL AT MISSION ENGAGEMENT LOCATION WITHIN ±60 SECS. OF ETA TO THIS POINT
3. CALCULATE	TIME	EACH CHECKPOINT	COMPUTE ENROUTE TIME BASED ON DISTANCE AND AIRSPEED TO EACH CHECKPOINT	MAPS COMPUTER	N/A	N/A	D	✓			VISUAL INSPECTION OF MAPS	N/A	2	±30 SECS. OF ETA TO EACH CHECK-POINT	TOTAL ENROUTE TIME MUST ALLOW FOR ARRIVAL AT MISSION ENGAGEMENT LOCATION WITHIN ±60 SECS. OF ETA TO THIS POINT
4. CHECK	TIME	MISSION ENGAGEMENT POINT ARRIVAL	VERIFY THAT ESTIMATES OF DEPARTURE AND ENROUTE TIMES RESULT IN ARRIVAL AT MISSION ENGAGEMENT POINT AT REQUIRED TIME	MAPS	N/A	N/A	D	✓			VISUAL INSPECTION OF MAPS	N/A	2	±30 SECS. OF ETA	TOTAL ENROUTE TIME MUST ALLOW FOR ARRIVAL AT MISSION ENGAGEMENT LOCATION WITHIN ±60 SECS. OF ETA TO THIS POINT

TASK ANALYSIS

MISSION PHASE PREFLIGHT SEGMENT: MISSION PLANNING
FUNCTION DETERMINE FUEL REQUIREMENT

SEGMENT MISSION PLANNING
SUBSYSTEM

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. CHECK	MAP	FLIGHT PATH	REFER TO MAP(S) DEPICTING PROPOSED FLIGHT PATH	MAP	N/A	N/A	D	✓			FLIGHT PATH MAP (VISUAL)	N/A	2	N/A	MUST SELECT CORRECT MAP AND IDENTIFY FLIGHT PATH
2. CALCULATE	DISTANCE	TOTAL	CALCULATE DISTANCE LEGS BETWEEN CHECKPOINTS AND DETERMINE TOTAL DISTANCE COVERED BY MISSION	MAP	N/A	N/A	D	✓			VISUAL (FLIGHT PATH MAP)	N/A	2	ACCURATE TO THE NEAREST SIX DIGIT COORDINATE	MUST ACCURATELY CALCULATE DISTANCE BETWEEN CHECKPOINTS AND TOTAL DISTANCES
3. CHECK	REPORTS	WEATHER	REVIEW WEATHER DATA FOR CONDITIONS AFFECTING FUEL CONSUMPTION	REPORT	N/A	N/A	D	✓			VISUAL (WEATHER REPORT)	N/A	2	N/A	MUST RECOGNIZE AND EVALUATE WEATHER CONDITIONS AFFECTING FUEL CONSUMPTION
4. CHECK	MAP	FLIGHT PATH	REVIEW FLIGHT PLAN AND NOTE CONSTRAINTS OF ALTITUDE, AIRSPEED, AND TIME THAT CORRELATE TO FUEL CONSUMPTION	MAP	N/A	N/A	D	✓			VISUAL (MAP)	N/A	2	N/A	MUST EVALUATE ALTITUDE AND AIRSPEED CONDITIONS AND THEIR EFFECT ON FUEL CONSUMPTION
5. CALCULATE	FUEL	REQUIREMENTS	BASED ON ABOVE DATA AND ENGINE PERFORMANCE SPECIFICATIONS, DETERMINE: MINIMUM FUEL NEEDED RESERVE FUEL MAXIMUM FUEL ALLOWABLE	CHART	N/A	N/A	D	✓			VISUAL (ENGINE PERFORMANCE DATA)	USE COMPUTER PERFORMANCE CHART EDUCATED GUESS?	2	FUEL REQUIRED PLUS 30 MINUTE RESERVE	MUST INTEGRATE FACTORS OF DISTANCE, WEIGHT, AIRSPEED, WEATHER, AND ENGINE PERFORMANCE AND THEIR RELATION TO FUEL CONSUMPTION

TASK ANALYSIS

MISSION PHASE PREFLIGHT SEGMENT: MISSION PLANNING
FUNCTION SELECT ARMAMENT

SEGMENT MISSION PLANNING
SUBSYSTEM

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. REVIEW	OBJECTIVE	MISSION	IDENTIFY TARGETS, POTENTIAL TARGETS, ENEMY AND FRIENDLY FORCE DEPLOYMENT	N/A	N/A	N/A	D	✓			BRIEFING DATA (VISUAL)	N/A	2	N/A	MUST DETECT, IDENTIFY AND EVALUATE TACTICAL SITUATION FROM MAP DISPLAYS AND VERBAL INFORMATION
2. SELECT	TARGETS	MISSION	DETERMINE PRIMARY AND SECONDARY TARGETS	MAP OPORD	N/A	N/A	D	✓			MAP (VISUAL)		2	ACCURATE TO THE NEAREST SIX DIGIT COORDINATE	MUST IDENTIFY AND DETERMINE LOCATION OF TARGET(S)
3. SELECT	ARMAMENT	OFFENSIVE	DETERMINE MOST EFFECTIVE ARMAMENT AGAINST SELECTED TARGETS	CHART TARGET DATA	N/A	N/A	D	✓			ARMAMENT LIST (VISUAL)	ROCKETS, MISSILES, SMALL ARMS--CHOOSE FROM TYPES OF ARMAMENT AVAILABLE	2		MUST EVALUATE TARGET DEFENSE CAPABILITY AND SELECT MOST EFFECTIVE OFFENSIVE ARMAMENT
4. DETERMINE	THREAT(S)	ENEMY	IDENTIFY POTENTIAL ENEMY THREAT(S) AND NATURE OF THREAT(S)	MAP	N/A	N/A	D	✓			MAP (VISUAL)	AMBUSH ARMOR PERSONNEL ARTILLERY	2	ACCURATE TO THE NEAREST SIX DIGIT COORDINATE	MUST IDENTIFY AND DETERMINE LOCATION OF THREAT
5. SELECT	ARMAMENT	DEFENSIVE	DETERMINE MOST EFFECTIVE ARMAMENT(S) TO COUNTER THREAT(S)	CHART	N/A	N/A	D	✓			ARMAMENT LIST (VISUAL)	ROCKETS, MISSILES, SMALL ARMS--CHOOSE FROM TYPES OF ARMAMENT AVAILABLE	2		MUST EVALUATE THREAT OFFENSIVE CAPABILITY AND SELECT MOST EFFECTIVE DEFENSIVE ARMAMENT

TASK ANALYSIS

MISSION PHASE PREFLIGHT SEGMENT: MISSION PLANNING
FUNCTION CHECK WEATHER

SEGMENT MISSION PLANNING
SUBSYSTEM

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. OBTAIN	MAPS	WEATHER	ACQUIRE MOST RECENT WEATHER MAPS	MAP	N/A	N/A	D	✓			VISUAL (MAP)	N/A	2		MUST SELECT PERTINENT MAPS
2. REVIEW	MAPS	WEATHER	READ MAPS TO DETECT AND EVALUATE WEATHER FACTORS AFFECTING MISSION	MAP	N/A	N/A	D	✓			VISUAL (MAP)	TIME EFFECTIVE HIGH ALTITUDE LOW ALTITUDE	2		MUST DETECT, IDENTIFY, AND EVALUATE WEATHER MAP DATA
3. RECEIVE	BRIEFING	WEATHER	ATTEND WEATHER BRIEFING BY AIR FORCE WEATHER OFFICE AND FORWARD AREA OPERATIONS CENTER	MAP	N/A	N/A	D	✓	✓		AUDITORY (BRIEFING) VISUAL (MAP)	N/A	2		MUST UNDERSTAND AND EVALUATE WEATHER DATA PRESENTED
4. COMPLETE	FORM	175-1		REPORT	N/A	N/A	D	✓			VISUAL (REPORT FORM)	N/A	2		MUST RECORD DATA

TASK ANALYSIS

MISSION PHASE: PREFLIGHT SEGMENT: MISSION PLANNING
FUNCTION: CALCULATE WEIGHT AND BALANCE (UTILITY)

SEGMENT: MISSION PLANNING
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. CHECK	INSTRUCTIONS	WEIGHT AND BALANCE	REFER TO TABLES GIVING WEIGHT/ MOMENT INFORMATION	WEIGHT AND MOMENT INSTRUCTIONS	N/A	N/A	D	✓			CHART	N/A	3	N/A	MUST LOCATE CORRECT SHEETS
2. COMPUTE	WEIGHT	TAKEOFF AND ANTICIPATED LANDING	USING WEIGHT AND MOMENT TABLES, COMPUTE WEIGHT AND BALANCE OF AIRCRAFT	WEIGHT AND MOMENT INSTRUCTIONS FORM AND RECORD	N/A	N/A	D	✓				N/A	3	±10 LBS	MUST MANUALLY COMPUTE WEIGHT AND MOMENT DATA ACCURATELY
3. CHECK	LIMITS	LOADING	ASCERTAIN THAT LOADING LIMITS AND CG LOCATION ARE WITHIN AIRCRAFT LIMITATIONS	AIRCRAFT SPECIFICATIONS	N/A	N/A	D	✓				N/A	3	WITHIN TOLERANCE	COMPARISON OF DERIVED WEIGHT AND BALANCE AND AIRCRAFT LIMITATIONS VALUES MUST BE WITHIN AIRCRAFT TOLERANCE
4. COMPLETE	FORM	WEIGHT AND BALANCE	FILL OUT AND FILE WEIGHT AND BALANCE REPORT	WEIGHT AND BALANCE REPORT	N/A	N/A	D	✓				N/A	3		COMPLETED FORM MUST ACCURATELY REFLECT AIRCRAFT CONDITION IN TERMS OF WEIGHT AND BALANCE

TASK ANALYSIS

MISSION PHASE: PREFLIGHT SEGMENT: MISSION PLANNING
FUNCTION: FILE FLIGHT PLAN

SEGMENT: MISSION PLANNING
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. OBTAIN	FORM	FLIGHT PLAN	OBTAIN APPROPRIATE FLIGHT PLAN FORM	FLIGHT PLAN FORM	N/A	N/A	D	✓			VISUAL	N/A	3	N/A	SELECT APPROPRIATE FLIGHT PLAN FORM
2. COMPLETE	FORM	FLIGHT PLAN	ENTER FLIGHT PLAN DATA AS REQUIRED	FLIGHT PLAN FORM	N/A	N/A	D	✓			VISUAL	N/A	3	N/A	ENTER FLIGHT PLAN DATA RELATIVE TO COURSE, TIMES, ETC.
3. DISTRIBUTE	FORM	FLIGHT PLAN	FILE AND/OR DISTRIBUTE FLIGHT PLAN FORM AS REQUIRED	FLIGHT PLAN FORM	N/A	N/A	D	✓			VISUAL	N/A	3	N/A	FILE/DISTRIBUTE FLIGHT PLAN FORM

TASK ANALYSIS

MISSION PHASE PREFLIGHT SEGMENT: MISSION COORDINATION
FUNCTION BRIEF CREW

SEGMENT MISSION COORDINATION
SUBSYSTEM

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. DESCRIBE	ROUTE	FLIGHT	DESCRIBE GENERAL ENTRY/EXIT PATHS FROM BASE TO ENGAGEMENT AREA AND RETURN	MAPS	N/A	N/A	D		✓		N/A	N/A	3		
2. IDENTIFY	CALL SIGNS AND FREQUENCIES	RADIO	DESIGNATE RADIO CALL SIGNS AND FREQUENCIES TO BE USED DURING MISSION	REPORTS SOI	N/A	N/A	D	✓	✓		N/A	N/A	3		IDENTIFICATION OF CORRECT FREQUENCIES AND CALL SIGNS NECESSARY TO PREVENT MISSION DEGRADATION OR FAILURE
3. DESCRIBE	FEATURES	TERRAIN	IDENTIFY OBSTACLES, VEGETATION, ELEVATIONS, AND GENERAL FEATURES OF TERRAIN TO BE FLOWN OVER	MAPS	N/A	N/A	D	✓	✓		N/A	N/A	3		MUST IDENTIFY TERRAIN FEATURES AFFECTING FLIGHT AND MISSION PERFORMANCE
4. IDENTIFY	CHECKPOINTS		DESCRIBE LOCATION AND FEATURES OF CHECKPOINTS	MAPS/CHARTS	N/A	N/A	D		✓		N/A	N/A	3		MUST IDENTIFY TERRAIN FEATURES AFFECTING FLIGHT AND MISSION PERFORMANCE
5. IDENTIFY	PROBLEMS	POSSIBLE	DESCRIBE POTENTIAL PROBLEMS RELATED TO MISSION	N/A	N/A	N/A	D		✓		N/A	SELECT	3		IDENTIFICATION OF POTENTIAL PROBLEMS NECESSARY TO FORMULATE CONTINGENCY PLANS
6. DESIGNATE	DUTIES	FLIGHT	DISTINGUISH FLIGHT DUTIES FOR CREW MEMBERS									CHAIN OF COMMAND NAVIGATION DUTIES PILOT DUTIES	3		IDENTIFICATION AND ALLOCATION OF DUTIES REQUIRED TO PRECLUDE OPERATIONAL OMISSIONS AND DEGRADATION/FAILURE OF MISSION

TASK ANALYSIS

MISSION PHASE PREFLIGHT SEGMENT: MISSION COORDINATION
FUNCTION BRIEF PASSENGERS (UTILITY)

SEGMENT MISSION COORDINATION
SUBSYSTEM

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TIME	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. DESCRIBE	PLAN	FLIGHT	DESCRIBE GENERAL FLIGHT PLAN TO INFORM PASSENGERS OF DURATION, ALTITUDES, ETC.	MAP	N/A	N/A	D	✓			N/A	N/A	3		NONE
2. DESCRIBE	PROCEDURE	EMERGENCY	INFORM PASSENGERS OF ACTIONS, DUTIES, PROCEDURES IN THE EVENT OF AN AIRCRAFT EMERGENCY	CHECKLIST	N/A	N/A	D	✓			N/A	N/A	3		IDENTIFICATION OF ACTIONS/PROCEDURES IN EVENT OF EMERGENCY MAY PREVENT DEATH/INJURY AND/OR POSSIBLE LOSS OF AIRCRAFT
3. DESCRIBE	PROCEDURE	AIRCRAFT ENTRY/ EXIT	DESCRIBE REQUIRED PROCEDURES FOR AIRCRAFT ENTRY/EXIT. DANGERS OF ROTORS, ETC.	CHECKLIST	N/A	N/A	D	✓			N/A	N/A	3		DESCRIPTION OF SAFE ENTRY/EXIT FROM AIRCRAFT MAY PREVENT PASSENGER INJURY
4. DESCRIBE	CONSTRAINTS	PASSENGER	DESCRIBE PASSENGER CONSTRAINTS RELATIVE TO MOVEMENT, SMOKING, BEHAVIOR WHILE IN THE AIRCRAFT	SOP	N/A	N/A	D	✓			N/A	N/A	3		IDENTIFICATION OF PASSENGER CONSTRAINTS MAY PREVENT INADVERTENT AIRCRAFT DAMAGE OR LOSS BY PASSENGER ACTION/ BEHAVIOR

TASK ANALYSIS

MISSION PHASE PREFLIGHT
FUNCTION BEFORE EXTERIOR CHECK PAGE 1 OF 2

SEGMENT PREFLIGHT
SUBSYSTEM AIRCRAFT

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. CHECK	STORES	EXTERNAL	CHECK GROUND SAFETY PINS BULLET CATCHER	ROCKET PODS TURRET	N/A	N/A	D	✓		TACTILE	CHECKLIST	SAFETY PINS IN-OUT BULLET CATCHER ON-OFF	3		CRITICAL TO SAFETY OF PERSONNEL/ EQUIPMENT DURING CHECKOUT
2. CHECK	SWITCH	BATTERY	CHECK BATTERY SWITCH IS IN "OFF" POSITION	SWITCH	ON-OFF	ON--BATTERY POWER TO EQUIPMENT OFF--REMOVE BATTERY POWER TO EQUIPMENT	D	✓			CHECKLIST SWITCH POSITION	SWITCH POSITION ON-OFF	3		MUST BE IN CORRECT POSITION TO PRECLUDE INADVERTENT ENERGIZING OF EQUIPMENT TO AN UNSAFE CONDITION
3. CHECK	SWITCH	INVERTER	CHECK INVERTER SWITCH(S) IN "OFF" POSITION	SWITCH	SPARE - ON OFF MAIN - ON	SELECTS MAIN OR SPARE INVERTER; OR SHUTS OFF POWER TO INVERTERS	D	✓			CHECKLIST SWITCH POSITION	SWITCH POSITION ON-OFF	3		MUST BE IN CORRECT POSITION TO PRECLUDE INADVERTENT ENERGIZING OF EQUIPMENT TO AN UNSAFE CONDITION
4. CHECK	SELECTOR SWITCH	NON-ESSENTIAL BUS	CHECK SELECTOR SWITCH IS IN "NORMAL" POSITION	SWITCH	MANUAL - ON NORMAL - ON	SELECTS AUTOMATIC OR MANUAL POWER CONTROL TO BUS	D	✓			CHECKLIST SWITCH POSITION	SWITCH POSITION "MANUAL" OR "NORMAL"	3		MUST BE IN CORRECT POSITION TO PRECLUDE INADVERTENT ENERGIZING OF EQUIPMENT TO AN UNSAFE CONDITION
5. CHECK	CIRCUIT BREAKER	AIRCRAFT WEAPONS SIGHT	CHECK CIRCUIT BREAKER IS IN "OUT" POSITION	CIRCUIT BREAKER	IN-OUT	COMPLETES POWER CIRCUIT OPENS POWER CIRCUIT	D	✓			CHECKLIST CONTROL POSITION	CONTROL POSITION IN OR OUT	3		MUST BE IN CORRECT POSITION TO PRECLUDE INADVERTENT ENERGIZING OF EQUIPMENT TO AN UNSAFE CONDITION
6. CHECK	SWITCH	WING STORES INBOARD-OUTBOARD	CHECK SWITCH IS IN "OFF" POSITION	SWITCH	INBOARD OFF OUTBOARD	SELECTS STORES POSITION	D	✓			CHECKLIST SWITCH POSITION	SWITCH POSITION INBOARD-OUTBOARD-OFF	3		MUST BE IN CORRECT POSITION TO PRECLUDE INADVERTENT ENERGIZING OF EQUIPMENT TO AN UNSAFE CONDITION
7. CHECK	SWITCH	MASTER ARM	CHECK SWITCH IS IN "OFF" POSITION	SWITCH	OFF SAFE ARM		D	✓			CHECKLIST SWITCH POSITION	SWITCH POSITION	3		MUST BE IN CORRECT POSITION TO PRECLUDE INADVERTENT ENERGIZING OF EQUIPMENT TO AN UNSAFE CONDITION
8. CHECK	FORMS AND PUBLICATIONS		VISUALLY CHECK LOG BOOK	LOG BOOK			D	✓			CHECKLIST	N/A	3		

Continued on next page

TASK ANALYSIS

MISSION PHASE: PREFLIGHT
FUNCTION: BEFORE EXTERIOR CHECK
PAGE 2 OF 2

SEGMENT: PREFLIGHT
SUBSYSTEM: AIRCRAFT

TASK				CONTROL				FEEDBACK							
VERB	OBJECT	MODIFIER	OPERATOR ACTION	NAME	OPTIONS	EQUIPMENT RESP	TASK TYPE	V	A	OTHER	STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP	ACCURACY REQUIRED	COMMENTS
9. POSITION	SWITCH	BATTERY	POSITION BATTERY SWITCH TO "ON"	SWITCH	OFF/ON	POWER TO SYSTEMS	D	✓		TACTILE	CHECKLIST				
10. POSITION	SWITCH	INVERTER	POSITION INVERTER SWITCH TO STANDBY	SWITCH	OFF/MAIN/ STANDBY	POWER TO INVERTER	D	✓		TACTILE	CHECKLIST				
11. READ	GUAGE	FUEL	READ FUEL QUANTITY ON GUAGE	GUAGE	0-1800 LBS	INDICATES FUEL QUANTITY	D	✓			CHECKLIST				
12. POSITION	SWITCH	BATTERY	OFF	SWITCH	OFF/ON	POWER TO SYSTEMS	D	✓		TACTILE	CHECKLIST				
13. POSITION	SWITCH	INVERTER	OFF	SWITCH	OFF/MAIN/ STANDBY	POWER TO INVERTER	D	✓		TACTILE	CHECKLIST				

TASK ANALYSIS

MISSION PHASE PREFLIGHT SEGMENT: AIRCRAFT PREFLIGHT
FUNCTION EXTERIOR CHECK RIGHT SIDE AH-1G

SEGMENT AIRCRAFT PREFLIGHT
SUBSYSTEM

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. CHECK	CANOPY AND HATCH	AIRCRAFT	VISUALLY INSPECT FOR CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		VISUAL INSPECTION MUST BE DETAILED ENOUGH TO DETECT AND IDENTIFY EXTERNAL EQUIPMENT DEFICIENCIES THAT WOULD DEGRADE MISSION PERFORMANCE AND/OR BE A SAFETY HAZARD TO PERSONNEL OR EQUIPMENT
2. CHECK	ANTENNAS	AIRCRAFT	VISUALLY INSPECT FOR CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
3. CHECK	ROTORBLADE	FORWARD MAIN	VISUALLY INSPECT FOR CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
4. CHECK	PORT	STATIC	VISUALLY INSPECT FOR CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
5. CHECK	BAY	AMMUNITION	HYDRAULIC LINES, ELECT CANNON PLUGS	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
6. CHECK	QUANTITY	FUEL		N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
7. CHECK	COMPARTMENT	HYDRAULIC	HYDRAULIC MODULES, HYDRAULIC LINES, ECU, FUEL PRESS SENSORS	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
8. CHECK	GEAR	LANDING	VISUAL INSPECTION CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
9. CHECK	WING	AIRCRAFT	VISUAL INSPECTION CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
10. CHECK	STORES	WING	VISUAL INSPECTION CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
11. CHECK	SUMP	FUEL	DRAIN FUEL	SUMP DRAIN	OPEN CLOSED	HOLDS FUEL RELEASES FUEL	D	✓		TACTILE	CHECKLIST	N/A	3		"
12. CHECK	TRANSMISSION	LOWER AREA	HYDRAULIC, OIL, FUEL, ELECT. LINES, ACCUMULATOR, CONTROLS, SAFETIES	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
13. CHECK	SCREEN	ENGINE	VISUAL INSPECTION CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
14. CHECK	TRANSMISSION	RIGHT	VISUAL INSPECTION CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
15. CHECK	ACCESS	PYLON	ANTENNAS, ENGINE OIL	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
16. CHECK	SWASH PLATE	AIRCRAFT	CHECK CONTROL TUBES AND SAFETIES, ROTOR HEAD	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
17. CHECK	CHAMBER	PLENUM	VISUAL INSPECTION CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
18. CHECK	ENGINE	RIGHT	VISUAL INSPECTION CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
19. CHECK	FUSELAGE	RIGHT SIDE	VISUAL INSPECTION CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
20. CHECK	TAIL PIPE	ENGINE	VISUAL INSPECTION CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
21. CHECK	COMPARTMENT	BATTERY	TAIL ROTOR SERVO, ATTACH BOLTS BATTERY, C/B, RELAYS	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
22. CHECK	ELEVATOR	SYNCHRONIZED	VISUAL INSPECTION CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
23. CHECK	GEAR BOX	42 DEGREE	VISUAL INSPECTION CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
24. CHECK	FIN	VERTICAL	VISUAL INSPECTION CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
25. CHECK	GEAR BOX	90 DEGREE	VISUAL INSPECTION CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"

TASK ANALYSIS

MISSION PHASE PREFLIGHT SEGMENT: AIRCRAFT PREFLIGHT
FUNCTION EXTERIOR CHECK LEFT SIDE AH-1G

SEGMENT AIRCRAFT PREFLIGHT
SUBSYSTEM

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. CHECK	ROTOR	TAIL	VISUALLY INSPECT FOR CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		VISUAL INSPECTION MUST BE DETAILED ENOUGH TO DETECT AND IDENTIFY EXTERNAL EQUIPMENT DEFICIENCIES THAT WOULD DEGRADE MISSION PERFORMANCE AND/OR BE A SAFETY HAZARD TO PERSONNEL OR EQUIPMENT
2. CHECK	BLADE	AFT MAIN	VISUALLY INSPECT FOR CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
3. CHECK	DRIVE SHAFT	TAIL ROTOR	VISUALLY INSPECT FOR CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
4. CHECK	ELEVATOR	SYNC LEFT	VISUALLY INSPECT FOR CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
5. CHECK	TAIL BOOM	AIRCRAFT	VISUALLY INSPECT FOR CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
6. CHECK	COOLER	OIL	VISUALLY INSPECT FOR CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
7. CHECK	SCREEN	ENGINE	VISUALLY INSPECT FOR CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
8. CHECK	FILTER	FUEL	DRAIN FUEL	FUEL FILTER	OPEN CLOSED	HOLD DRAIN	D	✓		TACTILE	CHECKLIST	N/A	3		"
9. CHECK	ENGINE	LEFT	VISUALLY INSPECT FOR CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
10. CHECK	CHAMBER	PLENUM	VISUALLY INSPECT FOR CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
11. CHECK	TRANSMISSION	LEFT	VISUALLY INSPECT FOR CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
12. CHECK	PYLON	LEFT	CONTROL TUBES, ROTOR HEAD	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
13. CHECK	BEACON	AIRCRAFT	VISUALLY INSPECT FOR CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
14. CHECK	WING	AIRCRAFT LEFT	VISUALLY INSPECT FOR CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
15. CHECK	STORES	WING	VISUALLY INSPECT FOR CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
16. CHECK	GEAR	LANDING	VISUALLY INSPECT FOR CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
17. CHECK	COMPARTMENT	HYDRAULIC	MODULES, LINES, OIL	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
18. CHECK	FUSELAGE	AIRCRAFT LEFT	VISUALLY INSPECT FOR CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
19. CHECK	PORT	STATIC	VISUALLY INSPECT FOR CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
20. CHECK	CANOPY	AIRCRAFT	VISUALLY INSPECT FOR CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
21. CHECK	BAY	AMMUNITION LEFT	VISUALLY INSPECT FOR CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
22. CHECK	LIGHT	LANDING	VISUALLY INSPECT FOR CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
23. CHECK	TURRET	AIRCRAFT	VISUALLY INSPECT FOR CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
24. CHECK	NOSE	AIRCRAFT	VISUALLY INSPECT FOR CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"
25. CHECK	TUBE	PITOT	VISUALLY INSPECT FOR CONDITION	N/A	N/A	N/A	D	✓	✓	TACTILE	CHECKLIST	N/A	3		"

TASK ANALYSIS

MISSION PHASE: PREFLIGHT SEGMENT: AIRCRAFT PREFLIGHT
FUNCTION: ARMAMENT CHECK AH-1

SEGMENT: EXTERNAL CHECKOUT
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK DESCRIPTION	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. CHECK	ARMAMENT	TYPE	VISUALLY INSPECT ARMAMENT TO ASCERTAIN TYPE IS COMPATIBLE TO MISSION REQUIREMENTS	WING STORES	N/A	N/A	D	✓			BRIEFING REPORT	N/A	3		MUST CORRECTLY IDENTIFY ARMAMENT TYPE AND QUANTITY IS SUFFICIENT TO MEET MISSION REQUIREMENTS
2. CHECK	ARMAMENT	QUANTITY	VISUALLY INSPECT AND DETERMINE SUFFICIENT QUANTITY TO MEET MISSION REQUIREMENTS	WING STORES	N/A	N/A	D	✓			BRIEFING REPORT	N/A	3		MUST CORRECTLY IDENTIFY ARMAMENT TYPE AND QUANTITY IS SUFFICIENT TO MEET MISSION REQUIREMENTS

TASK ANALYSIS

MISSION PHASE PREFLIGHT SEGMENT: AIRCRAFT PREFLIGHT
FUNCTION PILOT INTERIOR CHECK (AH-1) PAGE 1 OF 2

SEGMENT INTERIOR CHECK PILOT
SUBSYSTEM

	TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP.	ACCURACY REQUIRED	COMMENTS
	VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1.	CHECK	CANOPY	OPEN	VISUALLY INSPECT AND ACTUATE CONTROL AS REQUIRED	HANDLE	OPEN-SECURE	OPENS-LATCHES	D	✓			CHECKLIST	OPEN-LATCH	3		MUST LATCH TO PREVENT LOSS IN FLIGHT
2.	SECURE	EQUIPMENT	LOOSE	"	N/A	N/A	N/A	D	✓			CHECKLIST	N/A	3		MUST SECURE TO PREVENT LOSS IN FLIGHT
3.	ADJUST	PEDALS	AFT ROTOR	"	PEDALS	IN-OUT	POSITIONS TO SELECTED LOCATION	D	✓		TACTILE	PEDAL POSITION	IN-OUT	3		MUST ADJUST TO GIVE FULL CONTROL IN FLIGHT
4.	ADJUST	SEAT	AIRCRAFT	"	SEAT	UP/DOWN	POSITIONS TO SELECTED LOCATION	D	✓		TACTILE	SEAT POSITION	UP-DOWN	3		MUST ADJUST TO GIVE FULL CONTROL IN FLIGHT
5.	ADJUST	BELT	SAFETY	"	BELT	SNUG-LOOSE	POSITIONS AS ADJUSTED	D	✓		TACTILE	BELT POSITION	SNUG-LOOSE	3		MUST ADJUST TO GIVE FULL CONTROL IN FLIGHT
6.	CHECK	CANOPY JETTISON	SECURE	"	HANDLE	UN/SECURE	OPENS/LATCHES	D	✓			CHECKLIST	UN/SECURE	3		MUST SECURE TO PREVENT LOSS IN FLIGHT
7.	CHECK	CYCLIC CONTROL	POSITION	"	CYCLIC	FORE/AFT-LEFT/RIGHT	MOVES IN DIRECTION OF FORCE	D	✓		TACTILE	CONTROL POSITION	FORE/AFT, LEFT/RIGHT	3		MUST HAVE FREE MOVEMENT
8.	CHECK	COLLECTIVE CONTROL	POSITION	"	COLLECTIVE	UP-DOWN	MOVES IN DIRECTION OF FORCE	D	✓		TACTILE	CONTROL POSITION	UP-DOWN	3		MUST HAVE FREE MOVEMENT
9.	ADJUST	THROTTLE FRICTION	OFF	"	FRICTION	TIGHT-LOOSE	INCREASE/DECREASE FRICTION	D	✓		TACTILE	CONTROL POSITION	TIGHT-LOOSE	3		
10.	CHECK	SWITCH, SEARCH-LIGHT	OFF	"	SWITCH	ON-OFF	LIGHT ON/OFF	D	✓		TACTILE	SWITCH POSITION	ON-OFF	3		OFF TO PREVENT POWER DRAIN
11.	CHECK	AIRCRAFT CIRCUIT BREAKER	IN	"	CIRCUIT BREAKER	IN-OUT	CIRCUIT ON-OFF	D	✓		TACTILE	SWITCH POSITION	IN-OUT	3		
12.	CHECK	BATTERY SWITCH	OFF	"	SWITCH	ON-OFF	POWER ON-OFF	D	✓		TACTILE	SWITCH POSITION	ON-OFF	3		OFF TO PREVENT INADVERTENT EQUIPMENT ACTUATION
13.	CHECK	GENERATOR SWITCH	OFF	"	SWITCH	ON-OFF	POWER ON-OFF	D	✓		TACTILE	SWITCH POSITION	ON-OFF	3		OFF TO PREVENT INADVERTENT EQUIPMENT ACTUATION
14.	CHECK	INVERTER SWITCH	OFF	"	SWITCH	ON-OFF/STANDBY	POWER ON-OFF	D	✓		TACTILE	SWITCH POSITION	ON/OFF/STANDBY	3		OFF TO PREVENT INADVERTENT EQUIPMENT ACTUATION
15.	CHECK	NON ESSENTIAL BUS	NORMAL	"	SWITCH	NORMAL/MANUAL	POWER ON-OFF	D	✓		TACTILE	SWITCH POSITION	NORMAL/MANUAL	3		NORMAL TO PREVENT INADVERTENT EQUIPMENT ACTUATION
16.	CHECK	ENGINE AIR SWITCH	SCREEN	"	SWITCH	SCREEN/BYPASS/DE-ICE		D	✓		TACTILE	SWITCH POSITION	SCREEN/BYPASS/DE-ICE	3		
17.	CHECK	FORCE TRIM SWITCH	ON	"	SWITCH	ON-OFF	ACTIVATE FORCE GRADIENT	D	✓		TACTILE	SWITCH POSITION	ON-OFF	3		
18.	CHECK	FUEL SWITCH	OFF	"	SWITCH	ON-OFF	OPEN/CLOSE FUEL VALVE	D	✓		TACTILE	SWITCH POSITION	ON-OFF	3		OFF TO PREVENT FIRE HAZARD
19.	CHECK	ENGINE OIL BYPASS	AS DESIRED	"	SWITCH	AUTO/OFF	METERS OIL FLOW THROUGH HEATER	D	✓		TACTILE	SELECT POSITION	AUTO/OFF	3		UNIT SOP AUTO
20.	CHECK	GOVERNOR SWITCH	AUTO	"	SWITCH	AUTO-EMERGENCY		D	✓		TACTILE	SWITCH POSITION	AUTO/AMERGENCY	3		
21.	CHECK	TEMPERATURE	FREE AIR	"	INDICATOR	N/A	DISPLAY TEMPERATURE	D	✓			CHECKLIST	N/A	3		CORRECT INTERPRETATION NECESSARY FOR REQUIRED ENGINE PERFORMANCE
22.	CHECK	SCAS POWER	OFF	"	SWITCH	ON-OFF	ACTIVATE/DEACTIVATE	D	✓		TACTILE	SWITCH POSITION	ON-OFF	3		OFF TO PREVENT EQUIPMENT ACTUATION
23.	ADJUST	ICS	AS DESIRED	"	SWITCH	CHANNELS	OPENS CHANNEL SELECT	D	✓		TACTILE	SWITCH POSITION	SELECT CHANNEL	3		SELECT CORRECT CHANNEL
24.	CHECK	INSTRUMENTS	INDICATIONS	"	INDICATORS	N/A	DISPLAY READINGS	D	✓			CHECKLIST	N/A	3		CORRECT INTERPRETATION NECESSARY TO MISSION SUCCESS
25.	SET	ALTIMETER	AS REQUIRED	"	ALTIMETER	0 TO ___ FEET	DISPLAY SET ALTITUDE	D	✓			ALTITUDE DISPLAY		3		CORRECT SET NECESSARY TO MISSION SUCCESS

Continued on next page

TASK ANALYSIS

MISSION PHASE: PREFLIGHT SEGMENT: AIRCRAFT PREFLIGHT
FUNCTION: PILOT INTERIOR CHECK (AH-1) PAGE 2 OF 2

SEGMENT: INTERIOR CHECK PILOT
SUBSYSTEM:

TASK				CONTROL			TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
	VERB	OBJECT	MODIFIER	OPERATOR ACTION	NAME	OPTIONS	EQUIPMENT RESP.		V	A	OTHER					
26.	SET	RMI	ADF POSITION	*VISUALLY INSPECT AND ACTUATE CONTROL AS REQUIRED*	*SWITCH*	*ADF/VOR*	*ACTIVATE CHANNEL SELECTOR*	D	✓			*RMI DISPLAY*	ADF/VOR	3		CORRECT SET NECESSARY TO MISSION SUCCESS
27.	CHECK	EMERGENCY COLLECTIVE HYDRAULIC	OFF	"	SWITCH	ON-OFF	ACCUMULATION-OFF	D	✓		TACTILE	SWITCH POSITION	ON-OFF	3		OFF TO PREVENT EQUIPMENT ACTUATION
28.	CHECK	WING STORES JETTISON	OFF	"	SWITCH	ON-OFF	ARMS-SECURES JETTISON	D	✓		TACTILE	SWITCH POSITION	ON-OFF	3		OFF TO PREVENT EQUIPMENT ACTUATION
29.	CHECK	COMPASS SLAVE SWITCH	MAGNETIC	"	SWITCH	DG-MAG		D	✓		TACTILE	SWITCH POSITION	DG - MAG	3		
30.	SET	CLOCK		"	CLOCK	TIME	DISPLAYS TIME	D	✓			TIME DISPLAY	0000-2400	3		MUST SET CORRECT TIME FOR MISSION SUCCESS
31.	SET	WEAPONS SELECT	BOTH	"	SWITCH	LT, RT, BOTH	SELECTS WEAPONS	D	✓		TACTILE	SWITCH POSITION	LT, RT, BOTH	3		MUST SELECT APPROPRIATE WEAPON FOR MISSION SUCCESS
32.	SET	MASTER ARM SWITCH	OFF	"	SWITCH	ARM/SAFE/OFF	ARM/DISARM WEAPONS	D	✓		TACTILE	SWITCH POSITION	ARM/SAFE/OFF	3		OFF TO PREVENT WEAPON FIRING
33.	SET	GUN/PILOT CONT. SWITCH	AS DESIRED	"	SWITCH	GUNNER/PILOT	SELECT WEAR FIRE POSITION	D	✓		TACTILE	SWITCH POSITION	GUNNER/PILOT	3		
34.	SET	POINT/AREA SWITCH	AS DESIRED	"	SWITCH	POINT/AREA	TURRET OSCILLATION	D	✓		TACTILE	SWITCH POSITION	POINT/AREA	3		
35.	SET	WING STORES JETTISON	BOTH	"	SWITCH	OUT/IN/BOTH	SELECT JETTISON MODE	D	✓		TACTILE	SWITCH POSITION	OUT/IN/BOTH	3		ASSURE ALL WEAPON JETTISON IN EMERGENCY
36.	SET	ROCKET PAIR SELECTOR	ONE	"	SWITCH	1, 2, 4, 7, 19	SELECT ROCKETS TO BE FIRED	D	✓		TACTILE	SWITCH POSITION	1, 2, 4, 7, 19	3		
37.	SET	WING STORES ARM	OFF	"	SWITCH	OFF/IN/OUT	ARMS/SECURES WING STORES	D	✓		TACTILE	SWITCH POSITION	OFF/IN/OUT	3		OFF TO PREVENT WEAPON FIRING
38.	CHECK	FM RADIO	OFF AND SET	"	FM RADIO	ON-OFF; SET	DISPLAY ON-OFF FREQUENCY	D	✓			CHECKLIST	ON/OFF - SET	3		MUST ADJUST TO CORRECT FREQUENCIES
39.	CHECK	PITOT HEAT SWITCH	OFF	"	SWITCH	ON-OFF	HEAT ON-OFF	D	✓		TACTILE	SWITCH POSITION	ON/OFF	3		FAILURE TO ACTUATE ON WHEN REQUIRED COULD RESULT IN INSTRUMENT ERROR OR NON RECORD
40.	CHECK	RAIN REMOVAL SWITCH	OFF	"	SWITCH	OFF/RR/ECM	ACTIVATES ECM	D	✓		TACTILE	SWITCH POSITION	OFF/RR/ECM	3		
41.	PULL	CONTROL	HEAT OR VENT	"	HANDLE	PUSH/PULL	OPEN/CLOSE	D	✓		TACTILE	SWITCH POSITION	PUSH/PULL	3		
42.	ADJUST	VENTS	AS DESIRED	"	HANDLE	PUSH/PULL	OPEN/CLOSE	D	✓		TACILE	SWITCH POSITION	FULL OPEN/CLOSED	3		
43.	CHECK	UHF RADIO	OFF AND SET	OFF/T/R/T/RG/ADF PRESET/MAN/GD	UHF RADIO	ON-OFF; SET PLUS	DISPLAY ON/OFF, FREQUENCY	D	✓			CHECKLIST	ON/OFF - SET	3		MUST ADJUST TO CORRECT FREQUENCIES
44.	CHECK	TRANSPONDER	OFF AND SET	VISUALLY CHECK, SET AND/OR ADJUST CONTROL AS REQUIRED	SWITCH	ON-OFF; SET	DISPLAY ON/OFF, FREQUENCY	D	✓			CHECKLIST	ON/OFF - SET	3		MUST ADJUST TO CORRECT FREQUENCIES
45.	CHECK	ADF	OFF	"	SWITCH	OFF/ADF/ANT	DISPLAY ON/OFF, FREQUENCY	D	✓		TACTILE	SWITCH POSITION	ON/OFF	3		
46.	ADJUST	INSTRUMENT LIGHTS	AS DESIRED	"	ROTARY	BRIGHT/DIM	VARIABLE BRIGHTNESS	D	✓			VISUAL DISPLAY	FULL BRIGHT TO OFF	3		
47.	ADJUST	CONSOLE LIGHTS	AS DESIRED	"	ROTARY	BRIGHT/DIM	VARIABLE BRIGHTNESS	D	✓			VISUAL DISPLAY	FULL BRIGHT TO OFF	3		
48.	CHECK	BEACON LIGHT	OFF	"	SWITCH	ON-OFF	LIGHT ON/OFF	D	✓		TACTILE	SWITCH POSITION	ON/OFF	3		
49.	SELECT	POSITION LIGHTS SWITCH	AS DESIRED	"	SWITCH			D	✓		TACILE	SWITCH POSITION	ON/OFF - SELECT	3		
50.	CHECK	DC CIRCUIT BREAKER	IN	"	SWITCH	IN-OUT	CIRCUIT OPEN/CLOSED	D	✓		TACTILE	SWITCH POSITION	IN/OUT	3		
51.	ACTUATE	COCKPIT LIGHT	OFF	"	SWITCH	ON-OFF	LIGHT ON/OFF	D	✓		TACTILE	SWITCH POSITION	ON/OFF	3		

TASK ANALYSIS

MISSION PHASE PREFLIGHT
SEGMENT AIRCRAFT PREFLIGHT
FUNCTION COPILOT INTERIOR CHECK (AH-1) PAGE 1 OF 2
SUBSYSTEM

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	CRIT RESP	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. CHECK	CANOPY HATCH	OPEN	VISUALLY CHECK, SET AND/OR ADJUST AS NECESSARY	HANDLE	OPEN/CLOSE	OPEN/SECURE HATCH	D	✓			CHECKLIST	OPEN/CLOSE	3		CHECKLIST ITEMS ARE MADE TO ASSURE FLIGHT READINESS OF AIRCRAFT AND/OR IN PREPARATION TO ACTIVATE AIRCRAFT SYSTEMS
2. CHECK	LOOSE EQUIPMENT	STOWED	"	N/A	N/A	N/A	D	✓			CHECKLIST	N/A	3		"
3. ADJUST	PEDALS	AFT ROTOR	"	PEDALS	IN/OUT	MOVE TO SELECT POSITION	D	✓		TACTILE	POSITION, CHECKLIST	ADJUST "IN" OR "OUT"	2		"
4. ADJUST	BELTS	SAFETY AND SHOULDER HARNESS	"	BELTS	LOOSE, SNUG	MOVE TO SELECT POSITION	D	✓		TACTILE	POSITION, CHECKLIST	ADJUST SNUG/LOOSE	3		"
5. CHECK	SHOULDER HARNESS	LOCK/UNLOCK	"	LOCK	OPEN/CLOSE	MOVE TO SELECT POSITION	D	✓		TACTILE	POSITION, CHECKLIST	LOCK/UNLOCK	3		"
6. CHECK	HANDLE	CANOPY JETTISON	"	HANDLE	OPEN/SECURE	SECURE/OPEN CANOPY	D	✓			POSITION, CHECKLIST	ENABLE/SECURE	3		"
7. CHECK	POWER	ELECTRIC	"	SWITCH	ON/OFF	ENGAGE POWER	D	✓		TACTILE	SWITCH POSITION	POWER ON/OFF	3		"
8. CHECK	ENGINE AIR	SCREEN	"	SWITCH	AIR/SCREEN/DE-ICE	SCREEN OPEN/CLOSED BLEED AIR OPEN/CLOSED	D	✓		TACTILE	SWITCH POSITION	BYPASS/SCREEN/DE-ICE	3		"
9. CHECK	FORCE TRIM	ON	"	SWITCH	ON/OFF	ACTIVATE FORCE TRIM	D	✓		TACTILE	SWITCH POSITION	ON/OFF	3		"
10. CHECK	INSTRUMENT LIGHTS	OFF	"	SWITCH	ON/OFF	INSTRUMENT LIGHTS OFF	D	✓		TACTILE	SWITCH POSITION	INSTRUMENT LIGHTS ON/OFF	3		"
11. CHECK	GOVERNOR	AUTO	"	SWITCH	AUTO/EMERGENCY	ENABLE/DISABLE GOVERNOR	D	✓		TACTILE	SWITCH POSITION	AUTO/EMERGENCY	3		"
12. CHECK	IDLE STOP RELEASE	OFF	"	SWITCH	ON/OFF		D	✓		TACTILE	SWITCH POSITION	ON/OFF	3		"
13. ADJUST	VENTS	AS DESIRED	"	HANDLE	FULL OPEN/CLOSE	ADJUST AIR FLOW	D	✓		TACTILE	SWITCH POSITION	AMOUNT OF AIR FLOW	3		"
14. CHECK	COMPASS	STANDBY	"	INDICATOR		MAG HEADING	D	✓			IND. DISPLAY	N/A	3		"
15. CHECK	EMERGENCY COLLECTIVE HYDRAULIC	OFF	"	SWITCH	ON/OFF	CHARGE HYDRAULIC ACCN.	D	✓		TACTILE	SWITCH POSITION	ON/OFF HYDRAULIC POWER	3		"
16. CHECK	EMERGENCY JETTISON	OFF, COVERED	"	SWITCH	ON/OFF	ENABLE/SECURE JETTISON	D	✓		TACTILE	SWITCH POSITION	ENABLE/SECURE	3		"
17. CHECK	ICS	AS DESIRED	"	SWITCH	SELECT	ENABLE SELECT CHANNELS	D	✓		TACTILE	SWITCH POSITION	SELECT CHANNELS	3		"
18. CHECK	VHF RADIO	OFF AND SET	"	SWITCH, DIAL	ON/OFF - SELECT	ENABLE SELECT FREQUENCY	D	✓			SWITCH POSITION	SELECT FREQUENCIES	3		"
19. CHECK	INSTRUMENTS	STATIC IND., MARKINGS	"	INDICATORS	SCALE RANGE	N/A	D	✓			IND. DISPLAY	N/A	3		"
20. SET	ALTIMETER		"	INDICATOR	SCALE RANGE	ALT READOUT	D	✓			IND. DISPLAY	N/A	3		"
21. ADJUST	MIRROR		"	MIRROR	ADJ. RANGE	N/A	D	✓			POSITION	RANGE OF VIEW	3		"
22. STOW	SIGHT		"	SIGHT	STOW/UNSTOW	N/A	D	✓		TACTILE	POSITION	STOW/UNSTOW	3		"
23. CHECK	GIMBAL LOCKS	SECURED	"	LOCK	ENGAGE/DISENGAGE	ENABLE MOVEMENT	D	✓		TACTILE	POSITION	LOCK/UNLOCK	3		"
24. CHECK	GR. SAFETY LEVER	SECURED	"	LEVER	ENGAGE/OPEN	ENABLE MOVEMENT	D	✓		TACTILE	POSITION	ENGAGE/OPEN	3		"

Continued on next page

TASK ANALYSIS

MISSION PHASE PREFLIGHT
FUNCTION COPILOT INTERIOR CHECK (AH-1) PAGE 2 OF 2

SEGMENT AIRCRAFT PREFLIGHT
SUBSYSTEM

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
25. CHECK	SUNSHIELD	SECURED	VISUALLY CHECK, SET AND/OR ADJUST AS NECESSARY	SHIELD	UP/DOWN	N/A	D	✓			POSITION	UP/DOWN	3		CHECKLIST ITEMS ARE MADE TO ASSURE FLIGHT READINESS OF AIRCRAFT AND/OR IN PREPARATION TO ACTIVATE AIRCRAFT SYSTEM
26. CHECK	WEAPONS SELECTOR SWITCH	AS DESIRED	"	SWITCH	SELECT	ENABLE SELECT WEAPON	D	✓		TACTILE	SWITCH POSITION	SELECT WEAPON	3		
27. ADJUST	KNOB (1200)	RANGE CONTROL	"	KNOB	RANGE SCALE	ENABLE SELECT RANGE	D	✓			SWITCH POSITION	RANGE SCALE	3		"
28. ADJUST	FILAMENT SELECTOR SWITCH	AS DESIRED	"	SWITCH	#1, #2	SELECT FILAMENT	D	✓			SWITCH POSITION	#1, #2	3		"
29. ADJUST	RETICLE INTEN. CON.	AS DESIRED	"	DIAL	INTENSITY RANGE	VARIES BRIGHTNESS	D	✓			IND. DISPLAY	SELECT INTENSITY LEVEL	3		"
30. ADJUST	COMP. SWITCH	AS DESIRED	"	SWITCH	IN/OUT	RG COMPENSATION	D	✓			SWITCH POSITION	IN/OUT	3		"
31. CHECK	PILOT O/R SWITCH	OFF	"	SWITCH	ON/OFF	ENABLE PILOT/COPILOT	D	✓		TACTILE	SWITCH POSITION	SELECT PILOT/COPILOT COUNTER	3		"
32. SELECT	WEAPON CLEAR/ UNCLEAR	AS DESIRED	"	SWITCH	CLEAR/UNLCEAR	ENABLE SELECT FUNCTION	D	✓		TACTILE	SWITCH POSITION	CLEAR/UNCLEAR	3		"
33. CHECK	WING STORE SELECTOR	OFF	"	SWITCH	OFF/IN/OUT	ENABLE SWLECT WEAPON	D	✓		TACTILE	SWITCH POSITION	OFF/IN/OUTBOARD	3		"
34. SELECT	POINT/AREA SWITCH	AS DESIRED	"	SWITCH	POINT/AREA	ENABLE SELECT FUNCTION	D	✓		TACTILE	SWITCH POSITION	POINT/AREA	3		"
35. SELECT	AMMUNITION FIRE OUT	AS DESIRED	"	SWITCH	ON/OFF	ENABLE SELECT FUNCTION	D	✓		TACTILE	SWITCH POSITION	ON/OFF	3		"
36. CHECK	CYCLIC FIRE TRIGGER	OPEN COVERED	"	TRIGGER	ON/OFF/COVER DOWN	ENABLE SELECT FUNCTION	D	✓		TACTILE	SWITCH POSITION	ENABLE/SECURE FIRING	3		"
37. CHECK	KNIFE	BREAKOUT	"	N/A	N/A	N/A	D	✓			CHECKLIST	N/A	3		"
38. CHECK	JETTISON SYSTEM	CANOPY	"	SWITCH	ENGAGE/SECURE	ENABLE SELECT FUNCTION	D	✓		TACTILE	SWITCH POSITION	ENABLE/SECURE	3		"
39. CHECK	LIGHT	COCKPIT	"	SWITCH	ON/OFF	ENABLE SELECT FUNCTION	D	✓		TACTILE	SWITCH POSITION	LIGHT ON/OFF	3		"
40. SET	COUNTER	AMMUNITION	"	DIAL	0% - 100%	DISPLAYS SETTING	D	✓			DIAL DISPLAY	RANGE OF COUNTER	3		"

TASK ANALYSIS

MISSION PHASE PREFLIGHT
FUNCTION START ENGINE PAGE 1 OF 2

SEGMENT SYSTEMS CHECKS
SUBSYSTEM

TASK				CONTROL			TASK TYPE	FEEDBACK			STIMULUS	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER	OPERATOR ACTION	NAME	OPTIONS	EQUIPMENT RESP.		V	A	OTHER	INPUT				
1. POSITION	SWITCH	BATTERY	POSITION SWITCH ON	SWITCH	OFF/ON	ENABLE BATTERY POWER	D	✓		TACTILE	CHECKLIST SWITCH POSITION	ON/OFF	1		
2. CHECK	VOLTMETER	READING	VERIFY BATTERY POWER 22VDC (MIN)	INDICATOR	15-24	DISPLAYS VOLTAGE VALUE	D	✓			CHECKLIST INDICATOR READ	N/A	1	ABOVE 22 VOLTS	ERROR MAY RESULT IN SYSTEM MALFUNCTION
3. POSITION	SWITCH	RPM AUDIO	POSITION SWITCH TO "OFF"	SWITCH	OFF/ON	AUDIO OFF/ON	D	✓			CHECKLIST SWITCH POSITION	ON/OFF	1		NOISE WILL ALSO CAUSE REACTION
4. POSITION	SWITCH	CHIP DETECTOR	SWITCH TO "TEST"	SWITCH	NORMAL/TEST	LIGHT ON	D	✓			CHECKLIST SWITCH POSITION		1		
5. POSITION	SWITCH	GOVERNOR RPM	POSITION SWITCH TO "DECREASE" FOR 10 SECONDS	SWITCH	INCR/DECR/ NORMAL	INC/DEC/HOLD	D	✓			CHECKLIST SWITCH POSITION	INCREASE/DECREASE OR RELEASE	1	± 0 SECONDS	
6. POSITION	THROTTLE		SET THROTTLE TO FLIGHT IDLE	THROTTLE	OPEN/CLOSED/ IDLE	INCREASE ENGINE POWER	D	✓		TACTILE	CHECKLIST SWITCH POSITION	CLOSE TO FULL OPEN TO FLIGHT IDLE	1		ERROR MAY RESULT IN SYSTEM DAMAGE
7. POSITION	SWITCH	FUEL	POSITION SWITCH TO ON	SWITCH	ON/OFF	ENABLE FUEL FLOW	D	✓			CHECKLIST SWITCH POSITION	ON/OFF	1		ERROR MAY RESULT IN SYSTEM DAMAGE
8. CHECK	LIGHT	MASTER CAUTION	LIGHT TEST ON, OFF	INDICATOR	ON/OFF/TEST	DISPLAY	D	✓			CHECKLIST SWITCH POSITION	TEST ON/OFF	3/1		ERROR MAY RESULT IN SYSTEM DAMAGE
9. CHECK	LIGHT	RPM WARNING	LIGHT TEST ON, OFF	INDICATOR	ON/OFF	DISPLAY	D	✓			CHECKLIST SWITCH POSITION	N/A	3		ERROR MAY RESULT IN SYSTEM DAMAGE
10. CHECK	PANEL	CAUTION	CHECK FOR 10 LIGHTS, RESET	INDICATOR	ON/OFF/TEST	DISPLAY	D	✓			CHECKLIST SWITCH POSITION	N/A	3/1		ERROR MAY RESULT IN SYSTEM DAMAGE
11. CHECK	ROTOR BLADES	CLEAR	VISUALLY CHECK FOR OBSTRUCTIONS	N/A	N/A	N/A	D	✓			CHECKLIST	N/A	3		ERROR MAY RESULT IN DAMAGE TO BLADES AND/OR PERSONNEL INJURY
12. CHECK	READING	VOLTMETER	VISUALLY CHECK 22 VDC (MIN)	VOLTMETER	15-24	DISPLAY	D	✓			CHECKLIST	N/A			
13. ENERGIZE	TRIGGER	START	DEPRESS START TRIGGER	TRIGGER	ON/OFF	ENABLE ENGINE STARTER	D	✓		TACTILE	CHECKLIST SWITCH POSITION	ENGAGE/DISENGAGE	1		
14. MONITOR	TEMPERATURE	EGT	OBSERVE TEMPERATURE BUILDUP	INDICATOR	0° - 1000°	DISPLAY ENGINE GAS TEMPERATURE	D	✓			CHECKLIST DISPLAY		1		ERROR MAY RESULT IN ENGINE DAMAGE
15. MONITOR	RPM	NG	OBSERVE RPM BUILDUP	INDICATOR	0% - 100%	DISPLAY NG RPM	D	✓			CHECKLIST DISPLAY		1		ERROR MAY RESULT IN ENGINE DAMAGE
16. MONITOR	VOLTMETER	READING	15 VDC MIN	INDICATOR	15 - 30	DISPLAY VOLTAGE VALUE	D	✓			CHECKLIST DISPLAY		1		ERROR MAY RESULT IN ENGINE DAMAGE
17. CHECK	CLOCK		OBSERVE	CLOCK			D	✓							
19. CHECK	BLADE	MAIN ROTOR	OBSERVE ROTATION	N/A	N/A	N/A	D	✓			CHECKLIST	N/A	3		ERROR MAY RESULT IN DAMAGE TO BLADES AND/OR PERSONNEL INJURY
19. POSITION	CONTROL	COLLECTIVE	POSITION CONTROL FULL DOWN--20%	COLLECTIVE	UP-DOWN	POSITION MR BLADES (TORQUE)	D	✓		TACTILE	CHECKLIST, CONT. POSITION	UP-DOWN	1		ERROR MAY RESULT IN DAMAGE TO BLADES AND/OR PERSONNEL INJURY
20. POSITION	CONTROL	CYCLIC	"CENTER" CYCLIC CONTROL--20%	CYCLIC	FORE/AFT-LEFT/ RIGHT	POSITION ROTOR ATTITUDE	D	✓		TACTILE	CHECKLIST, CONT. POSITION	FORE/AFT-LEFT/RIGHT	1		ERROR MAY RESULT IN DAMAGE TO BLADES AND/OR PERSONNEL INJURY
21. DE-ENERGIZE	TRIGGER	STARTER	RELEASE STARTER AT 40% N	TRIGGER	ON/OFF	SECURE ENGINE STARTER	D	✓		TACTILE	CHECKLIST CONT. POSITION	ENGAGE/DISENGAGE	1		ERROR MAY RESULT IN ENGINE DAMAGE
22. POSITION	SWITCH	GENERATOR	POSITION SWITCH TO ON	SWITCH	ON/OFF	ENABLE GENERATOR	D	✓			CHECKLIST CONT. POSITION	ON/OFF	1		ERROR MAY RESULT IN SYSTEM MALFUNCTION
23. POSITION	SWITCH	INVERTER	POSITION SWITCH TO MAIN	SWITCH	MAIN/OFF/ STANDBY	ENABLE INVERTER	D	✓			CHECKLIST CONT. POSITION	MAIN/OFF/STANDBY	1		ERROR MAY RESULT IN SYSTEM MALFUNCTION
24. CHECK	OIL PRESSURE	ENGINE AND TRANSMISSION	OBSERVE PRESSURE AND TEMPERATURE RISING	INDICATOR	E T 25-100, 50-93°	DISPLAY OIL PRESSURE	D	✓			CHECKLIST DISPLAY	N/A	1		ERROR MAY RESULT IN ENGINE DAMAGE

Continued on next page

TASK ANALYSIS

MISSION PHASE PREFLIGHT
FUNCTION START ENGINE PAGE 2 OF 2

SEGMENT SYSTEMS CHECKS
SUBSYSTEM

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
25. CHECK	OIL TEMPERATURE			INDICATOR	E T 30-70, -100"	DISPLAY OIL TEMPERATURE	D	✓			CHECKLIST DISPLAY				
26. CHECK	INSTRUMENTS	ALL	VISUAL CHECK FOR ALL INSTRUMENTS OPERATIONAL	INDICATOR(S)		DISPLAY	D	✓			CHECKLIST DISPLAY(S)	N/A	3		
27. POSITION	THROTTLE	ENGINE	SET THROTTLE TO "ENGINE IDLE"	THROTTLE	FULL OPEN/ CLOSE FLT IDLE	ENABLE ENGINE POWER	D			TACTILE	CHECKLIST CONT. POSITION	CLOSE TO FULL OPEN	1		ERROR MAY RESULT IN ENGINE DAMAGE
28. CHECK	RPM	NG	OBSERVE INCREASE IN RPM	INDICATOR	0 - 6800	DISPLAY NG RPM	D	✓			CHECKLIST DISPLAY	N/A	1		ERROR MAY RESULT IN ENGINE DAMAGE
29. CHECK	RPM	NP	OBSERVE INCREASE IN RPM	INDICATOR	0 - 100%	DISPLAY NP RPM	D	✓			CHECKLIST DISPLAY	N/A	1		ERROR MAY RESULT IN ENGINE DAMAGE
30. CHECK	OIL PRESSURE AND TEMPERATURE	ENGINE AND TRANSMISSION	OBSERVE PRESSURE AND TEMPERATURE RISE	INDICATOR		DISPLAY OIL PRESSURE AND TEMPERATURE	D	✓			CHECKLIST DISPLAY	N/A	1		ERROR MAY RESULT IN ENGINE DAMAGE
31. CHECK	PRESSURE	FUEL	OBSERVE PRESSURE IN TOLERANCE	INDICATOR	5 - 30 PSI	DISPLAY FUEL PRESSURE	D	✓			CHECKLIST DISPLAY	N/A	1		ERROR MAY RESULT IN ENGINE DAMAGE
32. CHECK	PANEL	MASTER CAUTION	CHECK FOR LIGHTS OFF	INDICATOR	ON/OFF	DISPLAY CAUTION LIGHTS	D	✓			CHECKLIST DISPLAY	N/A	3		ERROR MAY RESULT IN ENGINE DAMAGE
33. CHECK	LIGHT	MASTER CAUTION	CHECK FOR LIGHT OFF	INDICATOR	ON/OFF	DISPLAY MASTER LIGHT	D	✓			CHECKLIST DISPLAY	N/A	3		ERROR MAY RESULT IN ENGINE DAMAGE

TASK ANALYSIS

MISSION PHASE PREFLIGHT
FUNCTION PERFORM ENGINE RUN-UP

SEGMENT SYSTEMS CHECKS
SUBSYSTEM ENGINE

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. POSITION	THROTTLE	ENGINE	ADVANCE THROTTLE FULL OPEN	THROTTLE	FULL OPEN/ CLOSED 5000 ± 50 RPM	INCR/DECR ENGINE POWER	D	✓		TACTILE	CHECKLIST, NP, CONT POSITION	FULL OPEN/CLOSE	1		
2. MONITOR	INSTRUMENTS	ENGINE	OBSERVE ENGINE OIL PRESSURE, TEMPERATURE, AND RPM	INDICATOR(S)		DISPLAY READING(S)	D	✓			CHECKLIST	ACCEPTABLE RANGE	1		READ AND INTERPRET ACCURATELY TO DETECT OUT-OF-TOLERANCE CONDITIONS BEFORE ENGINE MALFUNCTION/DAMAGE
3. CHECK	INDICATOR	TORQUE	OBSERVE VALUE IN TOLERANCE	INDICATOR(S)	20 PSI	DISPLAY TORQUE READING	D	✓			CHECKLIST	ACCEPTABLE RANGE	1		"
4. CHECK	INDICATOR	RPM	OBSERVE VALUE IN TOLERANCE	INDICATOR(S)	85% N	DISPLAY RPM READING	D	✓			CHECKLIST	ACCEPTABLE RANGE	1		"
5. ADJUST	RPM	GOVERNOR	SET INCR. TO FULL THEN 6600	SWITCH	INCR/DECR/ NORMAL 6700 ± 50	SET GOVERNOR RPM	D	✓			CHECKLIST INDIC. DISPLAY	INCREASE/DECREASE	1		ERROR MAY RESULT IN ENGINE MALFUNCTION
6. CHECK	LIGHT	RPM WARNING	OBSERVE LIGHT OFF	LIGHT	ON/OFF	IND. RPM OVER SETTING	D	✓			CHECKLIST, INDIC. DISPLAY	ACCEPTABLE RANGE	1		ERROR MAY RESULT IN ENGINE MALFUNCTION
7. CHECK	RPM	AUDIO					D		✓		CHECKLIST INDIC. DISPLAY	ACCEPTABLE RANGE	3		ERROR MAY RESULT IN ENGINE MALFUNCTION
8. CHECK	INDICATOR	N1	OBSERVE IN TOLERANCE	INDICATOR	85%	DISPLAY GAS PROD. RPM	D	✓			CHECKLIST INDIC. DISPLAY	ACCEPTABLE RANGE	1		READ AND INTERPRET ACCURATELY TO DETECT OUT-OF-TOLERANCE CONDITIONS BEFORE ENGINE MALFUNCTION/DAMAGE
9. CHECK	INDICATOR	N2	OBSERVE IN TOLERANCE	INDICATOR	0-6700 ± 50	DISPLAY POWER PROD. RPM	D	✓			CHECKLIST INDIC. DISPLAY	ACCEPTABLE RANGE	1		"
10. CHECK	INDICATOR	EGT	OBSERVE IN TOLERANCE	INDICATOR	<610°	DISPLAY ENGINE GAS TEMPERATURE	D	✓			CHECKLIST INDIC. DISPLAY	ACCEPTABLE RANGE	1		"
11. CHECK	INDICATOR	ENGINE OIL PRESSURE	OBSERVE IN TOLERANCE	INDICATOR	00-100 PSI	DISPLAY ENGINE OIL PRESSURE	D	✓			CHECKLIST INDIC. DISPLAY	ACCEPTABLE RANGE	1		"
12. CHECK	INDICATOR	ENGINE OIL TEMPERATURE	OBSERVE IN TOLERANCE	INDICATOR	<93°	DISPLAY ENGINE OIL TEMPERATURE	D	✓			CHECKLIST INDIC. DISPLAY	ACCEPTABLE RANGE	1		"
13. CHECK	INDICATOR	TRANSMISSION OIL PRESSURE	OBSERVE IN TOLERANCE	INDICATOR	40-60 PSI	DISPLAY TRANSMISSION OIL PRESSURE	D	✓			CHECKLIST INDIC. DISPLAY	ACCEPTABLE RANGE	1		"
14. CHECK	INDICATOR	TRANSMISSION OIL TEMPERATURE	OBSERVE IN TOLERANCE	INDICATOR	<110°	DISPLAY TRANSMISSION OIL TEMPERATURE	D	✓			CHECKLIST INDIC. DISPLAY	ACCEPTABLE RANGE	1		"
15. CHECK	INDICATOR	VOLTMETER	OBSERVE IN TOLERANCE	INDICATOR	28 VDC	DISPLAY DC VOLTAGE VALUE	D	✓			CHECKLIST INDIC. DISPLAY	ACCEPTABLE RANGE	1		
16. CHECK	INDICATOR	FUEL PRESSURE	OBSERVE IN TOLERANCE	INDICATOR	5-30	DISPLAY FUEL PRESSURE	D	✓			CHECKLIST INDIC. DISPLAY	ACCEPTABLE RANGE	1		

TASK ANALYSIS

MISSION PHASE: PREFLIGHT
FUNCTION: ELECTRICAL SYSTEM CHECKS

SEGMENT: SYSTEMS CHECKS
SUBSYSTEM: ELECTRICAL

TASK			OPERATOR ACTION	CONTROL/DISPLAY		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. CHECK	INDICATOR	VOLTMETER	OBSERVE INDICATOR IS IN TOLERANCE	INDICATOR	28 VDC	DISPLAYS VOLTAGE VALUE	D	✓			CHECKLIST, INDICATOR	ACCEPTABLE RANGE	3	± .5	READ AND INTERPRET CORRECTLY TO DETECT OUT-OF-TOLERANCE CONDITIONS BEFORE ENGINE MALFUNCTION/DAMAGE
2. POSITION	SWITCH	GENERATOR	ACTUATE SWITCH TO "OFF"	SWITCH	ON/OFF/RESET	SECURES ELECTRICAL POWER	D	✓			CHECKLIST, CONT. POSITION	ON/OFF	1		NONE
3. CHECK	INDICATOR	MASTER CAUTION	CHECK ON RESET INDICATOR	INDICATOR	ON/OFF	DISPLAYS CAUTION LIGHT	D	✓			CHECKLIST, INDICATOR	LIGHT ON/OFF	1		ERROR MAY RESULT IN ENGINE MALFUNCTION
4. CHECK	PANEL	CAUTION	OBSERVE GENERATOR LIGHT ON	INDICATORS	ON/OFF	DISPLAYS CAUTION LIGHTS	D	✓			CHECKLIST, INDICATOR	LIGHTS ON/OFF	1		ERROR MAY RESULT IN ENGINE MALFUNCTION
5. CHECK	PANEL	CAUTION	OBSERVE AFT FUEL BOOST LIGHT ON	INDICATORS	ON/OFF	DISPLAYS CAUTION LIGHT	D	✓			CHECKLIST, INDICATOR	LITES ON/OFF	1		ERROR MAY RESULT IN ENGINE MALFUNCTION
6. POSITION	SWITCH	NON-ESSENTIAL BUS	SET SWITCH TO "MANUAL"	SWITCH	MANUAL/NORMAL	ENABLES MANUAL MODE	D	✓			CHECKLIST, CONT. POSITION	MANUAL/NORMAL	1		ERROR MAY RESULT IN ENGINE MALFUNCTION
7. CHECK	INDICATORS	PRESSURE	OBSERVE POINTER(S) DEFLECTION	INDICATORS	N/A	POINTER DEFLECTION	D	✓			CHECKLIST, CONT. POSITION	DID POINTER DEFLECTION OCCUR	1		ERROR MAY RESULT IN ENGINE MALFUNCTION
8. CHECK	PANEL	MASTER CAUTION	OBSERVE AFT FUEL BOOST LIGHT OFF	INDICATORS	ON/OFF	DISPLAYS CAUTION LIGHT(S) OFF	D	✓			CHECKLIST, INDICATOR	LIGHTS ON/OFF	1		ERROR MAY RESULT IN ENGINE MALFUNCTION
9. POSITION	SWITCH	GENERATOR	ACTUATE SWITCH TO "ON"	SWITCH	ON/OFF/RESET	ELECTRICAL POWER	D	✓			CHECKLIST, CONT. POSITION	OFF/ON/RESET	1		ERROR MAY RESULT IN ENGINE MALFUNCTION
10. POSITION	SWITCH	NON-ESSENTIAL BUS	SET SWITCH TO "NORMA	SWITCH	MANUAL/NORMAL	ENABLES NORMAL MODE	D	✓			CHECKLIST, CONT. POSITION	MANUAL/NORMAL	1		ERROR MAY RESULT IN ENGINE MALFUNCTION
11. POSITION	SWITCH	INVERTER	SET TO OFF	SWITCH	MAIN/OFF/ STANDBY	SECURES INVERT POWER	D	✓			CHECKLIST, CONT. POSITION	MAIN/OFF/STANDBY	1		ERROR MAY RESULT IN ENGINE MALFUNCTION
12. CHECK	INDICATOR	MASTER CAUTION	OBSERVE LIGHT "ON" AND RESET	INDICATOR	ON/OFF	DISPLAYS MC LIGHTS	D	✓			CHECKLIST, INDICATOR	LIGHT ON/OFF	1		ERROR MAY RESULT IN ENGINE MALFUNCTION
13. CHECK	PANEL	CAUTION	OBSERVE LIGHT(S) "ON"	INDICATORS	ON/OFF	DISPLAYS LIGHTS ON	D	✓			CHECKLIST, INDICATOR	LIGHTS ON/OFF	1		ERROR MAY RESULT IN ENGINE MALFUNCTION
14. CHECK	INDICATORS	PRESSURE	OBSERVER POINTERS AT ZERO	INDICATORS	PRESSURE RANGE	DISPLAYS POINTERS AT ZERO	D	✓			CHECKLIST, INDICATOR	"0" TO FULL RANGE	1		ERROR MAY RESULT IN ENGINE MALFUNCTION
15. POSITION	SWITCH	INVERTER	SET TO "STANDBY"	SWITCH	MAIN/OFF/ STANDBY	ENABLES STANDBY INVERT.	D	✓			CHECKLIST, CONT. POSITION	MAIN/OFF/STANDBY	1		ERROR MAY RESULT IN ENGINE MALFUNCTION
16. CHECK	PANEL	MASTER CAUTION	OBSERVE LIGHT(S) "OFF"	INDICATORS	ON/OFF	DISPLAY MC LIGHTS OFF	D	✓			CHECKLIST, INDICATOR	LIGHTS ON/OFF	1		ERROR MAY RESULT IN ENGINE MALFUNCTION
17. CHECK	INDICATORS	PRESSURE	OBSERVE READINGS	INDICATORS	PRESS RANGE	DISPLAY PRESS READING	D	✓			CHECKLIST, INDICATOR	"0" TO FULL RANGE	1		ERROR MAY RESULT IN ENGINE MALFUNCTION
18. POSITION	SWITCH	INVERTER	SET TO "MAIN"	SWITCH	MAIN/OFF/ STANDBY	ENABLES MAIN MODE	D	✓			CHECKLIST, CONT. POSITION	MAIN/OFF/STANDBY	1		ERROR MAY RESULT IN ENGINE MALFUNCTION
19. CHECK	INDICATORS	PRESSURE	OBSERVE NORMAL READINGS	INDICATORS	PRESS RANGE	DISPLAY PRESS READING	D	✓			CHECKLIST, INDICATOR	"0" TO FULL RANGE	1		ERROR MAY RESULT IN ENGINE MALFUNCTION
20. CHECK	PANEL	MASTER CAUTION	LIGHTS "OFF"	INDICATORS	ON/OFF	DISPLAY LIGHTS OFF	D	✓			CHECKLIST, INDICATOR	ON/OFF	1		ERROR MAY RESULT IN ENGINE MALFUNCTION

TASK ANALYSIS

MISSION PHASE PREFLIGHT
FUNCTION CHECK NAVIGATION SYSTEM

SEGMENT SYSTEMS CHECKS
SUBSYSTEM NAVIGATION

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. SET	DESIGNATED FREQUENCY	VOR	TUNE THE DESIGNATED FREQUENCY	KNOB	FREQUENCY RANGE	TUNES SELECTED FREQUENCY	D	✓			CHECKLIST, FREQUENCY TABLE, CONT. POSITION	FREQUENCY RANGE	1		MUST TUNE IN CORRECT FREQUENCY
2. DETECT	TONE	IDENTIFICATION	LISTEN FOR IDENTIFICATION TONE	EARPHONE	TONE RANGE	TRANSMITS TONE	D		✓		"	N/A	1		MUST IDENTIFY CORRECT SIGNAL
3. CHECK	FLAG	OFF	OBSERVE DISAPPEARANCE OF THE OFF FLAG	INDICATOR	VISIBLE/NOT VISIBLE	FLAG APPEARS/DISAPPEARS	D	✓			CHECKLIST, INDICATOR POSITION	VISIBLE/NOT VISIBLE	1		DETECT AND IDENTIFY CORRECT FLAG POSITION
4. SET	ARROW	COURSE	SET 0° AND 180°	INDICATOR	"0°" OR "180°"	ARROW MOVES TO SELECTED VALUE	D	✓			CHECKLIST, INDICATOR POSITION	ZERO OR 180°	1		CORRECT SETTING VITAL TO NAVIGATION
5. CHECK	ARROW	INDICATION	OBSERVE "TO" OR "FROM"	INDICATOR	"TO" OR "FROM"	DISPLAYS DIREDCTION	D	✓			CHECKLIST, INDICATOR POSITION	"TO" OR "FROM	1		CORRECT IDENTIFICATION VITAL TO NAVIGATION
6. CHECK	NEEDLE	DEVIATION	OBSERVE NEEDLE CENTER WITHIN ± 2°	INDICATOR	INDICATOR RANGE	DISPLAYS NEEDLE POSITION	D	✓			CHECKLIST, INDICATOR POSITION	TOLERANCE RANGE	1	± 2 DEGREES	CORRECT SETTING VITAL TO NAVIGATION
7. SET	VOLUME KNOB	ADF	TURN VOLUME TO DESIRED LEVEL	KNOB	LOUD/SOFT	TRANSMITS SELECTED VOLUME	D	✓	✓		CHECKLIST, INDICATOR POSITION, VOLUME LEVEL	AUDIO LEVEL	1		MUST IDENTIFY CORRECT SIGNAL
8. SELECT	FREQUENCY	BAND	SELECT BAND THAT CORRESPONDS TO SENDING BEACON FREQUENCE	DIAL	FREQUENCY RANGE	TUNES SELECTED FREQUENCY	D	✓			CHECKLIST, INDICATOR POSITION	FREQUENCY RANGE	1		CORRECT SETTING VITAL TO NAVIGATION
9. ADJUST	CRANK	TUNING	TUNE TO SELECTED FREQUENCY	CRANK	FREQUENCY RANGE	TUNES SELECTED FREQUENCY	D	✓			CHECKLIST, INDICATOR POSITION	FREQUENCY RANGE	1		CORRECT SETTING VITAL TO NAVIGATION
10. DETECT	CONE	IDENTIFICATION	ADJUST TO STRONGEST SIGNAL	TONE	AUDIO LEVEL	TRANSMITS TONE	D	✓	✓		CHECKLIST CONT. POSITION, AUDIO TONE	AUDIO LEVEL	1		MUST IDENTIFY CORRECT SIGNAL
11. ADJUST	CRANK	TUNING	ADJUST FOR MAXIMUM DEFLECTION ON TUNING METER	INDICATOR	INSTR. RANGE	DISPLAYS POINTER DISPLACEMENT	D	✓			CHECKLIST, INDICATOR POSITION	DEFLECTION RANGE	1		CORRECT SETTING VITAL TO NAVIGATION
12. ADJUST	KNOB	VOLUME	SET FOR DESIRED LEVEL	KNOB	AUDIO RANGE	TRANSMITS TONE VOLUME	D	✓	✓		CHECKLIST CONT. POSITION AUDIO TONE	AUDIO LEVEL	1		NONE
13. CHECK	INDICATOR	ADF	DETERMINE DEGREES LEFT OR RIGHT BETWEEN BEACON AND A/C HEADING	INDICATOR	SCALE RANGE	DISPLAYS NEEDLE DISPLACEMENT	D	✓			CHECKLIST, INDICATOR POSITION	SCALE RANGE	1		CORRECT SETTING VITAL TO NAVIGATION

TASK ANALYSIS

MISSION PHASE: PREFLIGHT
FUNCTION: FUEL SYSTEM CHECK

SEGMENT: SYSTEMS CHECKS
SUBSYSTEM: FUEL SYSTEM

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. CHECK	PRESSURE	FUEL	NOTES FUEL PRESSURE	INDICATOR	PRESS RANGE	DISPLAY FUEL PRESSURE	D	✓			CHECKLIST, INDICATOR DISPLAY	SCALE RANGE	1		
2. DISENGAGE	CIRCUIT BREAKER	FWD FUEL BOOST PUMP	PULL CIRCUIT BREAKER OUT	SWITCH	ENGAGE/ DISENGAGE	ENABLE/SECURE ELECTRIC POWER	D	✓		TACTILE	CHECKLIST CONT. POSITION	IN/OUT	1		
3. CHECK	PRESSURE	FUEL	OBSERVE FUEL PRESSURE ZERO	INDICATOR	PRESS RANGE	DISPLAY FUEL PRESSURE	D	✓			CHECKLIST, INDICATOR DISPLAY	SCALE RANGE	1		
4. CHECK	LIGHT	MASTER CAUTION	OBSERVE LIGHT "ON", RESET	INDICATOR	ON/OFF	DISPLAY CAUTION LIGHT ON	D	✓			CHECKLIST, INDICATOR DISPLAY	ON/OFF	1		
5. CHECK	LIGHT	MC PANEL	OBSERVE LIGHT "ON"	INDICATOR	ON/OFF	DISPLAY CAUTION LIGHT ON	D	✓			CHECKLIST, INDICATOR DISPLAY	ON/OFF	1		
6. DISENGAGE	CIRCUIT BREAKER	AFT FUEL BOOST	PULL CIRCUIT BREAKER OUT	SWITCH	ENGAGE/ DISENGAGE	ENABLE/SECURE ELECTRIC POWER	D	✓		TACTILE	CHECKLIST CONT. POSITION	IN/OUT	1		
7. CHECK	PRESSURE	FUEL	OBSERVE FUEL PRESSURE ZERO	INDICATOR	PRESS RANGE	DISPLAY FUEL PRESSURE	D	✓			CHECKLIST, INDICATOR DISPLAY	SCALE RANGE	1		
8. CHECK	LIGHT	MASTER CAUTION	OBSERVE LGIHT "ON", RESET	INDICATOR	ON/OFF	DISPLAY MC LIGHT "ON"	D	✓			CHECKLIST, INDICATOR DISPLAY	ON/OFF	1		
9. CHECK	LIGHT	MC PANEL	OBSERVE LIGHT "ON"	INDICATOR	ON/OFF	DISPLAY PANEL CAUTION LIGHT "ON"	D	✓			CHECKLIST, INDICATOR DISPLAY	ON/OFF	1		
10. MONITOR	INSTRUMENTS		OPERATE SYSTEM AS IS FOR ONE MINUTE	INDICATOR	SCALE RANGE	DISPLAY PRESSURES	D	✓			CHECKLIST, INDICATOR DISPLAY	SCALE RANGE	1		
11. ENGAGE	CIRCUIT BREAKER	FORWARD FUEL BOOST	PUSH C/B IN	SWITCH	ENGAGE/ DISENGAGE	ENABLE ELECTRICAL POWER	D	✓		TACTILE	CHECKLIST CONT. POSITION	IN/OUT	1		
12. CHECK	PRESSURE	FUEL	OBSERVE PRESSURE READING	INDICATOR	PRESS RANGE	DISPLAY FUEL PRESSURE	D	✓			CHECKLIST, INDICATOR DISPLAY	SCALE RANGE	1		
13. CHECK	LIGHT	MC PANEL	OBSERVE LIGHT OUT	INDICATOR	ON/OFF	DISPLAY MC PANEL LIGHT OFF	D	✓			CHECKLIST, INDICATOR DISPLAY	ON/OFF	1		
14. ENGAGE	CIRCUIT BREAKER	AFT FUEL BOOST	PUSH C/B IN	SWITCH	ENGAGE/ DISENGAGE	ENABLE ELECTRICAL POWER	D	✓		TACTILE	CHECKLIST CONT. POSITION	IN/OUT	1		
15. CHECK	PRESSURE	FUEL	OBSERVE PRESSURE READING	INDICATOR	PRESS RANGE	DISPLAY FUEL PRESSURE	D	✓			CHECKLIST, INDICATOR DISPLAY	SCALE RANGE	1		
16. CHECK	LIGHT	MC PANEL	OBSERVE LIGHT OUT	INDICATOR	ON/OFF	DISPLAY MC PANEL LIGHT OFF	D	✓			CHECKLIST, INDICATOR DISPLAY	ON/OFF	1		
17. ACTIVATE	TEST BUTTON	FUEL QUANTITY	OBSERVE	SWITCH	ON/OFF	DISPLAY FUEL QUANTITY	D	✓			CHECKLIST, INDICATOR DISPLAY	SCALE RANGE	1		

TASK ANALYSIS

MISSION PHASE PREFLIGHT
FUNCTION CHECK COMMUNICATIONS SYSTEMS

SEGMENT SYSTEM CHECK
SUBSYSTEM COMMUNICATIONS

TASK				CONTROL			TASK TYPE	FEEDBACK				STIMULUS	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER	OPERATOR ACTION	NAME	OPTIONS	EQUIPMENT RESP.		V	A		OTHER	INPUT				
TRANSMIT																
1. SELECT	TRANSMITTER	RADIO	CHECK R/T POWER ON (VISUAL)	SWITCH	ON/OFF	ACTIVATE POWER SUPPLY	D	✓				R/T	ON/OFF	1		MUST SELECT APPROPRIATE RADIO
2. ADJUST	FREQUENCY	RADIO	TUNE TO DESIRED FREQUENCY	DIAL	FREQUENCY R.G.	ENABLES FREQUENCY SELECTION	D	✓			TACTILE	R/T	FREQUENCY RG	1		MUST TUNE CORRECT FREQUENCY
3. SELECT	CHANNEL	RADIO	SELECT SWITCH POSITION ON ICS	ICS	FM, UHF, VHF, INT.	OPENS CHANNEL SELECTED	D	✓			TACTILE	ICS	FM, UHF, VHF, INT	1		MUST SELECT APPROPRIATE RADIO
4. KEY	MICROPHONE	TRANSMITTER	DEPRESS AND HOLD SWITCH	SWITCH	OFF/INT/RADIO	OPENS CHANNEL SELECTED	D	✓			TACTILE	MICROPHONE	OFF/INT/RADIO	1		
5. TRANSMIT	MESSAGE/REPORT		SEND RADIO MESSAGE	MICROPHONE		TRANSMITS	D	✓					CONTENT OF MESSAGE	1		
6. RELEASE	MICROPHONE	TRANSMITTER	RELEASE MICROPHONE SWITCH	SWITCH	OFF/INT/RADIO	DISENGAGE RADIO TRANS.	D	✓				SWITCH	OFF/INT/RADIO	1		
RECEIVE																
7. SELECT	RECEIVER	RADIO	CHECK R/T POWER ON (VISUAL)													
8. ADJUST	FREQUENCY	RADIO	TUNE TO DESIRED FREQUENCY													
9. SELECT	CHANNEL	RADIO	SELECT SWITCH POSITION ON ICS													
10. RECEIVE	MESSAGE	RADIO	LISTEN TO MESSAGE	HEADSET	ON/OFF	OPEN REC. CHANNEL	D	✓	✓		TACTILE		ON/OFF			

TASK ANALYSIS

MISSION PHASE: PREFLIGHT
FUNCTION: CHECK FLIGHT CONTROLS

SEGMENT: SYSTEMS CHECKS
SUBSYSTEM: FLIGHT CONTROLS

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. CHECK	SWITCH	FORCE TRIM	CHECKS THAT FORCE TRIM IS ON	FORCE TRIM SWITCH	ON-OFF	ENABLES FORCE TRIM SYSTEM	D	✓		TACTILE	CHECKLIST, CONTROL POSITION	SWITCH POSITION ON-OFF	1		MUST IDENTIFY AND ACTUATE CONTROL TO CORRECT POSITION TO ACCOMPLISH SYSTEM CHECK
2. CHECK	GRADIENTS	FORCE	CHECKS CYCLIC CONTROL, PEDALS FOR ACTION	CYCLIC, PEDALS	FULL CONTROL MOVEMENT	ENABLES CONTROLS IN "FORCE TRIM" MODE	D	✓		TACTILE	"	FULL RANGE OF CONTROL MOVEMENTS	1		"
3. CHECK	INTERRUPT	CYCLIC	VERIFY CYCLIC INTERRUPT BUTTON OPERATION	CYCLIC, BUTTON	ON/OFF	ENABLES FORCE TRIM SYSTEM	D	✓		TACTILE	"	DEPRESS, OFF	1		"
4. CHECK	CONTROLS	FLIGHT	VERIFY FORCE GRADIENT RELEASED	FLIGHT CONTROLS	ON/OFF	PEDALS, CYCLIC	D	✓		TACTILE	"	ON/OFF			
5. ACTUATE	SWITCH	FORCE TRIM	TRIME FORCE FROM SWITCH "OFF"	FORCE TRIM SWITCH	ON/OFF	DISENGAGES FORCE TRIM SYSTEM	D	✓		TACTILE	"	SWITCH POSITION ON-OFF	1		"
6. CHECK	CONTROL	CYCLIC	ACTUATE CYCLIC TO CHECK ROTOR	CYCLIC	FORE/AFT-RIGHT/LEFT	TIHS MAIN ROTOR IN DIRECTION OF APPLIED FORCE	D	✓		TACTILE	"	FULL RANGE OF CONTROL MOVEMENTS	1		"
7. CHECK	PEDALS	AFT ROTOR CONTROL	ACTUATE PEDALS TO CHECK AFT ROTOR BLADE MOVEMENT	PEDALS	IN/OUT-LEFT/RIGHT	"	D	✓		TACTILE	"	FULL RANGE OF CONTROL MOVEMENTS	1		"
8. POSITION	CONTROL	CYCLIC	CENTER CYCLIC CONTROL	CYCLIC	FORE/AFT-LEFT/RIGHT	"	D	✓		TACTILE	"	IS CYCLIC CENTERED	1		"
9. POSITION	PEDALS	AFT ROTOR CONTROL	CENTER PEDALS	PEDALS	IN/OUT-LEFT/RIGHT	"	D	✓		TACTILE	"	ARE PEDALS CENTERED	1		"
10. POSITION	CONTROL	COLLECTIVE	ACTUATE COLLECTIVE TO FULL DOWN	COLLECTIVE	UP/DOWN	"	D	✓		TACTILE	"	COLLECTIVE FULL DOWN	1		"

TASK ANALYSIS

MISSION PHASE PREFLIGHT
FUNCTION CHECK HYDRAULIC SYSTEM

SEGMENT SYSTEMS CHECKS
SUBSYSTEM HYDRAULIC

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. CHECK	SWITCH	FORCE TRIM	CHECK THAT SWITCH IS "OFF"	FORCE TRIM SWITCH	ON-OFF	ENABLES FORCE TRIM SYSTEM	D	✓		TACTILE	CHECKLIST, CONTROL POSITION	SWITCH ON-OFF	1		MUST IDENTIFY AND ACTUATE CONTROL TO CORRECT POSITION TO ACCOMPLISH SYSTEM CHECK
2. POSITION	TEST SWITCH		ACTUATE SWITCH TO NO. 1 HOLD	SWITCH	1, 2, BOTH	DISABLE UNTESTED SYSTEM	D	✓		TACTILE	CHECKLIST CONTROL POSITION	SWITCH 1, 2, BOTH			
3. CHECK	LIGHT	MASTER CAUTION	VISUALLY CHECK FOR LIGHT	LIGHT	ON, OFF	DISPLAYS LIGHT	D	✓			CHECKLIST CONTROL POSITION				
4. CHECK	LIGHT	HYDRAULIC NO. 2	VISUALLY CHECK FOR LIGHT	LIGHT	ON, OFF	DISPLAYS LIGHT	D	✓			CHECKLIST CONTROL POSITION				
5. POSITION	SWITCH	MASTER CAUTION	RESET MASTER CAUTION	SWITCH	ON/OFF	EXTINGUISH LIGHT	D	✓		TACTILE	CHECKLIST CONTROL POSITION	RESET			
6. CHECK	CONTROL	CYCLIC	CHECK THAT CYCLIC IS FREE MOVING	CYCLIC	LEFT, RIGHT, FORE, AFT	CHAGES PITCH ATT.	D	✓		TACTILE	CHECKLIST CONTROL POSITION	LEFT, RIGHT, FORE, AFT			
7. CHECK	PEDALS	AFT ROTOR	CHECK THAT PEDALS ARE FREE	PEDALS	LEFT, RIGHT	TRIM ADJUSTMENT	D	✓		TACTILE	CHECKLIST CONTROL POSITION	LEFT, RIGHT			
8. CHECK	CONTROL	COLLECTIVE	CHECK THAT COLLECTIVE IS FREE	COLLECTIVE	UP, DOWN	TORQUE ADJUSTMENT	D	✓		TACTILE	CHECKLIST CONTROL POSITION	UP, DOWN			
9. RELEASE	TEST SWITCH		TEST SWITCH TO BOTH	SWITCH	1, 2, BOTH	DISABLE UNTESTED SYSTEM	D	✓		TACTILE	CHECKLIST CONTROL POSITION	1, 2, BOTH			
10. POSITION	TEST SWITCH		ACTUATE SWITCH TO NO. 2 HOLD	SWITCH	1, 2, BOTH	DISABLE UNTESTED SYSTEM	D			TACTILE	CHECKLIST CONTROL POSITION	1, 2, BOTH			
11. CHECK	LIGHT	MASTER CAUTION	VISUALLY CHECK FOR LIGHT	LIGHT	ON, OFF	DISPLAYS LIGHT	D				CHECKLIST CONTROL POSITION	ON, OFF	1		
12. CHECK	LIGHT	HYDRAULIC NO. 1	VISUALLY CHECK FOR LIGHT	LIGHT	ON, OFF	DISPLAYS LIGHT	D				CHECKLIST CONTROL POSITION				
13. POSITION	SWITCH	MASTER CAUTION	RESET MASTER CAUTION	SWITCH	ON/OFF	EXTINGUISH LIGHT	D	✓		TACTILE	CHECKLIST CONTROL POSITION	RESET	1		
14. CHECK	CONTROL	CYCLIC	CHECK THAT CYCLIC IS FREE	CYCLIC	LEFT, RIGHT FORE, AFT	CHANGES PITCH ATT.	D	✓		TACTILE	CHECKLIST CONTROL POSITION	LEFT/RIGHT-FORE/AFT	1		
15. CHECK	PEDALS	AFT ROTOR	CHECK THAT PEDALS ARE STIFF BUT MOVEABLE	PEDALS	LEFT, RIGHT	TRIM ADJUSTMENT	D	✓		TACTILE	CHECKLIST CONTROL POSITION	LEFT, RIGHT	1		
16. CHECK	CONTROL	COLLECTIVE	CHECK THAT COLLECTIVE IS FREE	COLLECTIVE	UP, DOWN	TORQUE ADJUSTMENT	D	✓		TACTILE	CHECKLIST CONTROL POSITION	UP, DOWN	1		
17. RELEASE	TEST SWITCH			SWITCH	1, 2, BOTH	DISABLE UNTESTED SYSTEM	D	✓		TACTILE	CHECKLIST CONTROL POSITION	1, 2, BOTH	1		
18. CHECK	LIGHT	MASTER CAUTION	VISUAL CHECK OF LIGHT OFF	LIGHT	ON, OFF	DISPLAYS LIGHT	D	✓			CHECKLIST CONTROL POSITION	ON, OFF	1		
19. CHECK	PANEL	CAUTION	VISUAL CHECK OF LIGHT OFF	LIGHT	ON, OFF	DISPLAYS LIGHT	D	✓			CHECKLIST CONTROL POSITION	ON, OFF	1		
20. POSITION	SWITCH	FORCE TRIM	ACTUATE SWITCH ON	SWITCH	ON, OFF	ACTIVATES FORCE TRIM	D	✓		TACTILE	CHECKLIST CONTROL POSITION	ON, OFF	1		

TASK ANALYSIS

MISSION PHASE: PREFLIGHT
FUNCTION: CHECK LIGHTS (NIGHT MISSION)

SEGMENT: SYSTEMS CHECKS
SUBSYSTEM: LIGHTS

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. CHECK	LIGHTS	INSTRUMENT	ACTUATE INSTRUMENT LIGHT CONTROL ON-OFF, DIM-BRIGHT	SWITCH KNOB	ON/OFF DIM-BRIGHT	ENABLE LIGHT CIRCUIT AND LIGHT INTENSITY	D	✓		TACTILE	CHECKLIST, CONTROL POSITION	ON-OFF AND INTENSITY LEVEL	3		MUST IDENTIFY AND ACTUATE CONTROL TO CORRECT POSITION TO ACCOMPLISH SYSTEM CHECKS
2. CHECK	LIGHTS	CONSOLE	ACTUATE CONSOLE LIGHT CONTROL ON-OFF, DIM-BRIGHT	SWITCH KNOB	ON/OFF DIM-BRIGHT	ENABLE LIGHT CIRCUIT AND LIGHT INTENSITY	D	✓		TACTILE	CHECKLIST, CONTROL POSITION	ON-OFF AND INTENSITY LEVEL	3		"
3. CHECK	LIGHTS	COCKPIT	ACTUATE COCKPIT LIGHT CONTROL NORMAL/RED, ON-OFF	SWITCH KNOB	ON/OFF DIM-BRIGHT	ENABLE LIGHT CIRCUIT AND LIGHT INTENSITY	D	✓		TACTILE	CHECKLIST, CONTROL POSITION	ON-OFF AND INTENSITY LEVEL	3		"
4. CHECK	LIGHTS	EXTERIOR	ACTUATE EXTERIOR LIGHT CONTROLS ON-OFF	TOGGLE	ON/OFF	ENABLE LIGHT CIRCUIT	D	✓		TACTILE	CHECKLIST, CONTROL POSITION	SWITCH ON-OFF	3		"
5. CHECK	LIGHTS	LANDING	ACTUATL LANDING LIGHT CONTROL ON-OFF	TUGGLE	ON/OFF	ENABLE LIGHT CIRCUIT	D	✓		TACTILE	CHECKLIST, CONTROL POSITION	SWITCH ON-OFF	3		"
6. SET	LIGHT	LANDING	SET POSITION OF LANDING LIGHT	KNOB	UP, DOWN, LEFT, RIGHT	ADJUST POSITION OF LANDING LIGHTS	D	✓			CHECKLIST, CONTROL POSITION	LEFT, RIGHT, UP, DOWN	3		"

TASK ANALYSIS

MISSION PHASE PREFLIGHT
FUNCTION SCAS CHECK (AH-1)

SEGMENT SYSTEMS CHECKS
SUBSYSTEM SCAS

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	DISPLAY TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. POSITION	SWITCH	SCAS	TURN SCAS ON	SWITCH	ON/OFF	ENABLE POWER TO SCAS	D	✓		TACTILE	CHECKLIST CONTROL POSITION	OFF/ON	1		CORRECT SWITCH POSITION NECESSARY TO SYSTEM OPERATION
2. CHECK	LIGHTS	NO-GO	OBSERVE NO-GO LIGHTS ON	INDICATOR	ON/OFF	DISPLAY SCAS CONDITION	D	✓			CHECKLIST INDICATOR DISPLAY	DISPLAY ON/OFF	1		DETECTION AND CORRECT IDENTIFICATION REQUIRED FOR SATISFACTORY SYSTEM OPERATION.
3. CHECK	LIGHTS	NO-GO	OBSERVE NO-GO LIGHTS OFF	INDICATOR	ON/OFF	DISPLAY SCAS CONDITION	D	✓			"	DISPLAY ON/OFF	1		"
4. OBSERVE	TIPPATH PLANE	ROTOR	VISUALLY CHECK ROTOR FOR NO DEFLECTION/DEFLECTION	TPP	DEFLECTION/ NO DEFLECTION		D	✓			TPP	N/A			
5. HOLD	CONTROL	CYCLIC	FEEL CYCLIC FEEDBACK	CYCLIC	DEFLECTION/ NO DEFLECTION		D	✓		TACTILE	CONTROL POSITION				
6. ENGAGE	SWITH	PITCH CONTROL	TURN CONTROL ON	SWITCH	ENGAGE/ DISENGAGE	ENABLE POWER TO PITCH CONTROL	D	✓		TACTILE	CHECKLIST CONTROL POSITION	ENGAGE, DISENGAGE ONE OF 3 CONTROLS	1		CORRECT SWITCH POSITION NECESSARY TO SYSTEM OPERATION
7. ENGAGE	SWITCH	ROLL CONTROL	TURN CONTROL ON	SWITCH	ENGAGE/ DISENGAGE	ENABLE POWER TO ROLL CONTROL	D	✓		TACTILE	"	ENGAGE/DISENGAGE ONE OF 3 CONTROLS	1		"
8. OBSERVE	TIPPATH PLANE	ROTOR	VISUALLY CHECK ROTOR FOR NO DEFLECTION/DEFLECTION	TPP	DEFLECTION/ NO DEFLECTION		D	✓			TPP	N/A			
9. HOLD	CONTROL	CYCLIC	FEEL CYCLIC FEEDBACK	CYCLIC	DEFLECTION/ NO DEFLECTION		D	✓		TACTILE	CONTROL POSITION				
10. ENGAGE	SWITCH	YAW	TURN CONTROL ON	SWITCH	ENGAGE/ DISENGAGE	ENABLE POWER TO YAW CONTROL	D	✓		TACTILE	CHECKLIST CONTROL POSITION	ENGAGE/DISENGAGE ONE OF 3 CONTROLS	1		CORRECT SWITCH POSITION NECESSARY TO SYSTEM OPERATION
11. FEEL	PEDALS	AFT ROTOR	FEEL PEDAL FEEDBACK	PEDALS	DEFLECTION/ NO DEFLECTION		D	✓		TACTILE	PEDALS				
12. GUNNER DISENGAGE	CONTROLS	SCAS	TURN PITCH, ROLL, YAW CONTROLS OFF	SWITCH	ENGAGE/ DISENGAGE	SECURE POWER TO ATTITUDE CONTROLS	D	✓		TACTILE	CHECKLIST CONTROL POSITION	ENGAGE/DISENGAGE 3 CONTROLS	1		"
13. CHECK	LIGHTS	NO-GO	OBSERVE NO-GO LIGHTS ON	INDICATOR	ON/OFF	DISPLAY SCAS CONDITION	D	✓			"	DISPLAY ON/OFF	1		DETECTION AND CORRECT IDENTIFICATION REQUIRED FOR SATISFACTORY SYSTEM OPERATION
14. CHECK	LIGHTS	NO-GO	OBSERVE NO-GO LIGHTS OFF	INDICATOR	ON/OFF	DISPLAY SCAS CONDITION	D	✓			"	DISPLAY ON/OFF	1		"
15. RE-ENGAGE	CONTROLS	SCAS	TURN PITCH, ROLL, YAW CONTROLS ON	SWITCH	ENGAGE/ DISENGAGE	ENABLE POWER TO ATTITUDE CONTROL	D	✓		TACTILE	"	ENGAGE/DISENGAGE 3 CONTROLS	1		CORRECT SWITCH POSITION NECESSARY TO SYSTEM OPERATION
16. CHECK	LIGHTS	NO-GO	OBSERVE NO-GO LIGHTS OFF	INDICATOR	ON/OFF	DISPLAY SCAS CONDITION	D	✓			CHECKLIST, INDICATOR DISPLAY	DISPLAY ON/OFF	1		DETECTION AND CORRECT IDENTIFICATION REQUIRED FOR SATISFACTORY SYSTEM OPERATION
17. PILOT DISENGAGE	CONTROL	SCAS	PITCH, ROLL, YAW												
18. RE-ENGAGE	CONTROLS	SCAS	PITCH, ROLL, YAW												

TASK ANALYSIS

MISSION PHASE: PREFLIGHT
FUNCTION: CHECK DE-ICE SYSTEM

SEGMENT: SYSTEM CHECKS
SUBSYSTEM: DE-ICE

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	SEQ SPEC	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. POSITION	SWITCH	ENGINE AIR	TURN SWITCH TO "BYPASS"	SWITCH	BYPASS, DE-ICE SCREEN	OPENS AIR SCREENS	D	✓		TACTILE	CHECKLIST, CONTROL POSITION	BYPASS DE-ICE SCREEN	3		MUST IDENTIFY AND ACTUATE CONTROL TO CORRECT POSITION TO ACCOMPLISH SYSTEM CHECKS
2. CHECK	SCREENS		VISUALLY CHECK POSITION OF ENGINE AIR SCREENS	SCREENS	OPEN, CLOSED	OPENS AIR SCREENS	D	✓			SWITCH POSITION CHECKLIST	OPEN, CLOSED	3		"
3. POSITION	SWITCH	ENGINE AIR	TURN SWITCH TO DE-ICE	SWITCH	BYPASS, DE-ICE SCREEN	OPENS BLEED AIR LINES	D	✓		TACTILE	SWITCH POSITION CHECKLIST	BYPASS DE-ICE SCREEN	3		"
4. CHECK	EGT		VISUAL CHECK OF GAGE FOR RISE IN EGT	EGT GAGE	SCALE RANGE	DISPLAYS EGT	D	✓			DISPLAY	SCALE RANGE	3		"
5. POSITION	SWITCH	ENGINE AIR	TURN SWITCH TO "SCREEN"	SWITCH	BYPASS, DE-ICE SCREEN	OPENS SCREENS, BLEED AIR LINES	D	✓		TACTILE	SWITCH POSITION	BYPASS DE-ICE SCREEN	3		"
6. CHECK	SCREENS		VISUAL CHECK OF SCREENS	SCREENS	OPEN, CLOSED		D	✓			SCREENS	OPEN, CLOSED	3		"
7. CHECK	EGT		VISUAL CHECK OF EGT GAGE FOR DECREASE	GAGE	SCALE RANGE	DISPLAYS EGT	D	✓			DISPLAY	SCALE RANGE	3		"

TASK ANALYSIS

MISSION PHASE: PREFLIGHT
FUNCTION: CHECK ECU (AH-1)

SEGMENT: SYSTEM CHECKS
SUBSYSTEM: ECU

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. SELECT	SWITCH	ECU	TURN ECU ON	SWITCH, TOGGLE	RAIN REMOVAL OFF ECU	ENABLES ECU	D	✓		TACTILE	CHECKLIST, CONTROL POSITION	ACTUATE CONTROL ON OR OFF	3		MUST IDENTIFY AND ACTUATE CONTROL TO CORRECT POSITION TO ACCOMPLISH SYSTEM CHECK
2. SET	SWITCH	TEMPERATURE CONTROL	SET TEMPERATURE CONTROL TO "COLD"	SWITCH, ROTARY	COLD TO HOT	ADJUSTS TO SELECTED TEMPERATURE	D	✓		TACTILE	"	SELECT TEMPERATURE FROM COLD TO HOT	3		"
3. CHECK	TEMPERATURE	EGT	VERIFY EGT RISE	TEMPERATURE DISPLAY	SCALE RANGE	DISPLAYS SYSTEM TEMPERATURE	D	✓			CHECKLIST INSTR. DISPLAY	TEMPERATURE IN REQUIRED RANGE	3		MUST IDENTIFY AND INTERPRET DISPLAY CORRECTLY TO ACCOMPLISH SYSTEM CHECK
4. CHECK	AIR	COOLING	CHECK FOR COOLING AIR FROM VENTS	VENT	OPEN, CLOSE	ALLOW AIR FLOW	D	✓		TACTILE	AIR	TEMPERATURE IN REQUIRED RANGE	3		
5. SET	SWITCH	TEMPERATURE CONTROL	SET TEMPERATURE CONTROL TO "HOT"	SWITCH, ROTARY	COLD TO HOT	ADJUSTS TO SELECTED TEMPERATURE	D	✓		TACTILE	CHECKLIST, CONTROL POSITION	SELECT TEMPERATURE FROM COLD TO HOT	3		MUST IDENTIFY AND ACTUATE CONTROL TO CORRECT POSITION TO ACCOMPLISH SYSTEM CHECK
6. CHECK	AIR	HEATING	CHECK FOR HOT AIR	VENT	OPEN, CLOSE	ALLOW AIR FLOW	D	✓			AIR	TEMPERATURE IN REQUIRED RANGE	3		
7. SELECT	SWITCH	ECU	TURN ECU OFF	SWITCH, TOGGLE	ON-OFF	SECURES ECU	D	✓		TACTILE	CHECKLIST, CONTROL POSITION	ACTUATE CONTROL ON OR OFF	3		MUST IDENTIFY AND ACTUATE CONTROL TO CORRECT POSITION TO ACCOMPLISH SYSTEM CHECK

TASK ANALYSIS

MISSION PHASE: PREFLIGHT
FUNCTION: CHECK PITOT HEATER

SEGMENT: SYSTEMS CHECKS
SUBSYSTEM: PITOT HEATER

TASK			OPERATOR ACTION	CONTROL /DISPLAY		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. SELECT	SWITCH	PITOT HEATER	TURN SWITCH "ON"	SWITCH, TOGGLE	ON-OFF	ENABLES PITOT HEATER	D	✓		TACTILE	CHECKLIST, CONTROL POSITION	ACTUATE SWITCH ON-OFF	3		MUST IDENTIFY AND ACTUATE CONTROL TO CORRECT POSITION TO ACCOMPLISH SYSTEM CHECK
2. CHECK	GAUGE	AMMETER	VISUAL CHECK FOR INCREASE LOAD ON METER	INDICATOR	SCALE RANGE	DISPLAYS AMMETER VALUE	D	✓			CHECKLIST, DISPLAY INDICATOR	IN TOLERANCE	3		MUST IDENTIFY AND INTERPRET DISPLAY CORRECTLY TO ACCOMPLISH SYSTEM CHECK
3. CHECK	COMPASS	STANDBY	OBSERVE SWING OF STANDBY COMPASS	INDICATOR	SCALE RANGE	DISPLAYS DIRECTION READING	D	✓			CHECKLIST, DISPLAY INDICATOR	IN TOLERANCE	3		MUST IDENTIFY AND INTERPRET DISPLAY CORRECTLY TO ACCOMPLISH SYSTEM CHECK
4. SELECT	SWITCH	PITOT HEATER	TURN SWITCH OFF	SWITCH, TOGGLE	ON-OFF	SECURES PITOT HEATER	D	✓		TACTILE	CHECKLIST, CONTROL POSITION	ACTUATE SWITCH ON-OFF	3		MUST IDENTIFY AND ACTUATE CONTROL TO CORRECT POSITION TO ACCOMPLISH SYSTEM CHECK

TASK ANALYSIS

MISSION PHASE: PREFLIGHT
FUNCTION: CHECK COCKPIT CONSOLES

SEGMENT: SYSTEMS CHECKS
SUBSYSTEM: CONSOLE

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. CHECK	SWITCHES	COCKPIT	VERIFY THAT ALL COCKPIT SWITCHES ARE IN THE REQUIRED POSITION	SWITCH, TOGGLE AND ROTARY	ON-OFF, SCALE RANGE	ENABLES SYTEMS SELECTED "ON" SECURES SYSTEMS SELECTED "OFF"	D	✓		TACTILE	CHECKLIST, CONTROL POSITION	SWITCHES SET AS DESIRED	1		MUST LOCATE, IDENTIFY AND INTERPRET CONTROL POSITIONS CORRECTLY TO ACCOMPLISH SYSTEM CHECKS
				AC CIRCUIT BREAKERS COLLECTIVE CONTROL HEAD ELECTRICAL POWER ENGINE PANEL SCAS FM RADIO UHF RADIO ARMAMENT PANEL AUF TRANSPONDER LIGHTS DC CIRCUIT BREAKERS											

TASK ANALYSIS

MISSION PHASE PREFLIGHT
FUNCTION CHECK INSTRUMENTS

SEGMENT SYSTEM CHECKOUT
SUBSYSTEM INSTRUMENT DISPLAYS

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. CHECK	RPM	ROTOR	VERIFIES IN TOLERANCE READING	INDICATOR	SCALE RANGE	DISPLAYS ROTOR SPEED	D	✓			CHECKLIST INDICATOR DISPLAY	IN TOLERANCE READING	1	± 25	MUST IDENTIFY AND INTERPRET DISPLAY CORRECTLY TO ACCOMPLISH SYSTEM CHECKS
2. CHECK	RPM	ENGINE	VERIFIES IN TOLERANCE READING	INDICATOR	SCALE RANGE	DISPLAYS ENGINE SPEED	D	✓			"	IN TOLERANCE READING	1	± 25	"
3. CHECK	PRESSURE	ENGINE OIL	VERIFIES IN TOLERANCE READING	INDICATOR	SCALE RANGE	DISPLAYS OIL PRESSURE	D	✓			"	IN TOLERANCE READING	1	± 3	"
4. CHECK	TEMPERATURE	ENGINE OIL	VERIFIES IN TOLERANCE READING	INDICATOR	SCALE RANGE	DISPLAYS TEMPERATURE	D	✓			"	IN TOLERANCE READING	1	± 5	"
5. CHECK	PRESSURE	TRANSMISSION OIL	VERIFIES IN TOLERANCE READING	INDICATOR	SCALE RANGE	DISPLAYS TRANSMISSION OIL PRESSURE	D	✓			"	IN TOLERANCE READING	1	± 3	"
6. CHECK	TEMPERATURE	TRANSMISSION OIL	VERIFIES IN TOLERANCE READING	INDICATOR	SCALE RANGE	DISPLAYS TRANSMISSION OIL TEMPERATURE	D	✓			"	IN TOLERANCE READING	1	± 5	"
7. CHECK	PRESSURE	FUEL	VERIFIES IN TOLERANCE READING	INDICATOR	SCALE RANGE	DISPLAYS FUEL PRESSURE	D	✓			"	IN TOLERANCE READING	1	± 1	"
8. CHECK	TORQUEMETER		VERIFIES IN TOLERANCE READING	INDICATOR	SCALE RANGE	DISPLAYS TORQUE	D	✓			"	IN TOLERANCE READING	1	± 2	"
9. CHECK	TEMPERATURE	EGT	VERIFIES IN TOLERANCE READING	INDICATOR	SCALE RANGE	DISPLAYS TEMPERATURE EGT	D	✓			"	IN TOLERANCE READING	1	± 5	"
10. CHECK	RPM	No (N_1)	VERIFIES IN TOLERANCE READING	INDICATOR	SCALE RANGE	DISPLAYS No RMP	D	✓			"	IN TOLERANCE READING	1	± 1	"
11. CHECK	ALTIMETER		CHECK READING	INDICATOR	SCALE RANGE	DISPLAYS ALTITUDE	D	✓			"	IN TOLERANCE READING	1	± 10	"
12. CHECK	INDICATOR	ATTITUDE	VERIFY IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAYS ATTITUDE	D	✓			"				
13. CHECK	AIRSPEED		VERIFY ZERO	INDICATOR	SCALE RANGE	DISPLAYS AIRSPEED	D	✓			"	IN TOLERANCE READING	1	± 5	"
14. CHECK	VSI		VERIFY ZERO	INDICATOR	SCALE RANGE	DISPLAYS VERTICAL SPEED	D	✓			"	IN TOLERANCE READING	1	± 50	"

TASK ANALYSIS

MISSION PHASE PREFLIGHT

SEGMENT SYSTEMS CHECKS

FUNCTION CHECK PASSENGERS

SUBSYSTEM

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. CHECK	PASSENGERS		VISUALLY CHECK FOR CORRECT NUMBER OF PASSENGERS ON BOARD				D	✓							PILOT MUST BE AWARE OF NUMBER OF PASSENGERS AND THEIR LOCATION IN AIRCRAFT TO AVOID CG PROBLEMS AND GROSS WEIGHT PROBLEMS
2. CHECK	SECURITY	PASSENGERS	PILOT AND CREW CHIEF CHECK THAT PASSENGERS ARE SEATED AND USE SEAT BELTS				D	✓							

TASK ANALYSIS

MISSION PHASE: DEPARTURE
FUNCTION: DEPARTURE CLEARANCE COMMUNICATIONS

SEGMENT: HOVER
SUBSYSTEM: COMMUNICATIONS

TASK				CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER	OPERATOR ACTION	NAME	OPTIONS			V	A	OTHER					
1. SELECT	RADIO		CALL ATC FACILITY FOR DEPARTURE INSTRUCTIONS	SWITCH	UHF, VHF, FM	ENABLES SELECTED RADIO	D	✓		TACTILE	CONTROL POSITION, CHECKLIST	CHOICE OF UHF, VHF OR FM RADIO	3		MUST SELECT APPROPRIATE RADIO
2. RECORD	INSTRUCTIONS	DEPARTURE	COPY ATC DEPARTURE INSTRUCTIONS	FLIGHT LOG	N/A	N/A	D	✓		TACTILE	CHECKLIST	REPORT CONTENT	3		MUST ACCURATELY RECORD DEPARTURE INSTRUCTIONS

TASK ANALYSIS

MISSION PHASE: DEPARTURE
SEGMENT: HOVER
FUNCTION: COMPLETE PRE-HOVER CHECK
SUBSYSTEM: INSTRUMENTS AND CONSOLE

TASK				CONTROL			TASK TYPE	FEEDBACK			STIMULUS	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER	OPERATOR ACTION	NAME	OPTIONS	EQUIPMENT RESP		V	A	OTHER	INPUT				
1. CHECK	RPM	N_G; N_R	CHECKS THAT ENGINE RPM IS IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAY RPM VALUE	D	✓			INDICATOR, CHECKLIST	IN TOLERANCE CONDITION	1	6600 ± 50	MUST DETECT AND CORRECTLY INTERPRET DISPLAY TO IDENTIFY POSSIBLE ENGINE MALFUNCTION
2. CHECK	RPM	ROTOR	CHECKS THAT ROTOR RPM IS IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAY RPM VALUE	D	✓			INDICATOR, CHECKLIST	IN TOLERANCE CONDITION	1	294 - 324	"
3. CHECK	LIGHT	MASTER CAUTION	VERIFY MASTER CAUTION LIGHT IS OFF	INDICATOR	ON-OFF	DISPLAYS OUT-OF-TOLERANCE CONDITION	D	✓			INDICATOR, CHECKLIST	LIGHT IS ON OR OFF	1		"
4. CHECK	PANEL	CAUTION LIGHT	VERIFY ALL CAUTION LIGHTS ARE OFF	INDICATOR	ON-OFF	DISPLAYS OUT-OF-TOLERANCE CONDITION	D	✓			INDICATOR, CHECKLIST	LIGHTS ARE ON OR OFF	1		"
5. CHECK	TEMPERATURES	ENGINE	VERIFY ENGINE TEMPERATURES ARE IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAY TEMPERATURE VALUES	D	✓			INDICATOR, CHECKLIST	IN TOLERANCE CONDITION	1	< 93°	"
6. CHECK	PRESSURE	ENGINE	VERIFY ENGINE PRESSURES ARE IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAY PRESSURE VALUES	D	✓			INDICATOR, CHECKLIST	IN TOLERANCE CONDITION	1	80 - 100 PSI	"
7. CHECK	TEMPERATURE	TRANSMISSION	VERIFY TRANSMISSION TEMPERATURE IS IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAY TEMPERATURE VALUES	D	✓			INDICATOR, CHECKLIST	IN TOLERANCE CONDITION	1	< 110°	"
8. CHECK	PRESSURE	TRANSMISSION	VERIFY TRANSMISSION PRESSURE IS IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAY PRESSURE VALUES	D	✓			INDICATOR, CHECKLIST	IN TOLERANCE CONDITION	1	40 - 60 PSI	"
9. CHECK	QUANTITY	FUEL	ASCERTAIN SUFFICIENT FUEL IS ABOARD	INDICATOR	SCALE RANGE	DISPLAY FUEL QUANTITY	D	✓			INDICATOR, CHECKLIST	IN TOLERANCE CONDITION	1		"
10. CHECK	PRESSURE	FUEL	VERIFY FUEL PRESSURE IS IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAY PRESSURE VALUE	D	✓			INDICATOR, CHECKLIST	IN TOLERANCE CONDITION	1	5 - 30 PSI	"
11. CHECK	SCAS		CHECK SAS IS "ON"	INDICATOR	ON-OFF	ENABLES SYSTEM	D	✓		TACTILE	CONTROL POSITION, CHECKLIST	EQUIPMENT IS ON OR OFF	1		"
12. CHECK	FORCE TRIM		CHECK FORCE TRIM IS "OFF"	INDICATOR	ON-OFF		D	✓		TACTILE	CONTROL POSITION, CHECKLIST	EQUIPMENT IS ON OR OFF	1		"
13. CHECK	PANEL	ARMAMENT	CHECK PANEL IS SECURE	INDICATOR	LIGHTED/UN-LIGHTED	DISPLAYS ARMAMENT STATUS	D	✓		TACTILE	CONTROL POSITION, INDICATOR, CHECKLIST	LIGHTS, CONTROLS ARE ON OR OFF	1		"
14. CHECK	PANEL	ECU	CHECK SWITCH IS "OFF"	INDICATOR	ON-OFF	DISPLAYS ENVIRONMENT SYSTEM STATUS	D	✓		TACTILE	CONTROL POSITION, INDICATOR, CHECKLIST	LIGHTS, CONTROLS ARE ON OR OFF	1		"
15. CHECK	TORQUE		VERIFY TORQUE VALUE IS IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAYS TORQUE VALUE	D	✓			INDICATOR, CHECKLIST	IN TOLERANCE CONDITION	1	0 - 50	"
16. CHECK	LIGHT	BEACON	CHECK BEACON LIGHT IN "ON"	INDICATOR	ON-OFF	DISPLAYS A/C EXTERNAL LIGHTS	D	✓			INDICATOR, CHECKLIST	IN TOLERANCE CONDITION	1		"

TASK ANALYSIS

MISSION PHASE: DEPARTURE
FUNCTION: HOVER AIRCRAFT

SEGMENT: HOVER
SUBSYSTEM: FLIGHT CONTROLS

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. CHECK	AREA CLEAR		VERIFIES NO OBSTRUCTIONS IN A/C HOVER AREA	N/A	N/A	N/A	C	✓			CHECKLIST, AREA OBSTRUCTIONS	SUFFICIENT CLEARANCE FOR HOVER	2		MUST DETECT AND EVALUATE TERRAIN FEATURES THAT PRESENT A POTENTIAL HAZARD TO HOVER
2. SELECT	CONTROL	CYCLIC	POSITION CYCLIC TO NEUTRAL	CYCLIC	FORE/AFT; LEFT/RIGHT	ADJUSTS MAIN ROTOR ATTITUDE IN DIRECTION OF APPLIED FORCE (LEVEL)		✓		TACTILE	CONTROL POSITION A/C ATTITUDE	CONTROL MOVEMENT TO ACHIEVE NEUTRAL POSITION	1		MUST MANIPULATE CONTROL WITH SUFFICIENT PRECISION TO ACHIEVE REQUIRED A/C ATTITUDE
3. POSITION	CONTROL	COLLECTIVE	INCREASE COLLECTIVE	COLLECTIVE	UP-DOWN	ADJUST MAIN ROTOR BLADE ANGLE IN DIRECTION OF APPLIED FORCE (LEVEL)	C	✓		TACTILE	CONTROL POSITION A/C ATTITUDE	CONTROL MOVEMENT TO ACHIEVE LIFT MOVEMENT	1		MUST MANIPULATE CONTROL WITH SUFFICIENT PRECISION TO ACHIEVE REQUIRED A/C ATTITUDE
4. POSITION	PEDALS	ANTI-TORQUE	MAINTAIN HEADING	ANTI-TORQUE PEDALS	IN-OUT	ADJUSTS AFT ROTOR BLADES IN DIRECTION OF APPLIED FORCE	C	✓		TACTILE	CONTROL POSITION A/C ATTITUDE	CONTROL MOVEMENT TO ACHIEVE A/C HEADING	1		"
5. ADJUST	CONTROL	CYCLIC	STABILIZE AIRCRAFT	CYCLIC	FORE/AFT, LEFT/RIGHT	ADJUSTS MAIN ROTOR ATTITUDE IN DIRECTION OF APPLIED FORCE (LEVEL)	C	✓		TACTILE	CONTROL POSITION A/C ATTITUDE	CONTROL MOVEMENT TO STABILIZE A/C	1	3 FT. ± 1	"
6. ADJUST	CONTROL	COLLECTIVE	STABILIZE AIRCRAFT	COLLECTIVE	UP-DOWN	ADJUST MAIN ROTOR BLADE ANGLE IN DIRECTION OF APPLIED FORCE (LEVEL)	C	✓		TACTILE	CONTROL POSITION A/C ATTITUDE	CONTROL MOVEMENT TO STABILIZE A/C	1	3 FT. ± 1	"
7. MAINTAIN	HEADING	AIRCRAFT	STABILIZE AIRCRAFT	ANTI-TORQUE PEDALS	IN-OUT	ADJUSTS AFT ROTOR BLADES IN DIRECTION OF APPLIED FORCE	C	✓		TACTILE	CONTROL POSITION A/C ATTITUDE	CONTROL MOVEMENT TO STABILIZE A/C	1	± 5°	"
8. MONITOR	TEMPERATURES	ENGINE	VERIFY TEMPERATURE IN TOLERANCE	INDICATORS	SCALE RANGE	DISPLAYS TEMPERATURE VALUES	C	✓			INDICATOR DISPLAY	TEMPERATURE IN TOLERANCE	1		MUST DETECT AND EVALUATE INDICATOR READINGS ACCURATELY TO DETERMINE POSSIBLE ENGINE MALFUNCTION
9. MONITOR	TEMPERATURES	TRANSMISSION	VERIFY TEMPERATURE IN TOLERANCE	INDICATORS	SCALE RANGE	DISPLAYS TEMPERATURE VALUES	C	✓			INDICATOR DISPLAY	TEMPERATURE IN TOLERANCE	1		MUST DETECT AND EVALUATE INDICATOR READINGS ACCURATELY TO DETERMINE POSSIBLE ENGINE MALFUNCTION
10. MONITOR	PRESSURE	TRANSMISSION	VERIFY PRESSURE IN TOLERANCE	INDICATORS	SCALE RANGE	DISPLAYS PRESSURE VALUES	C	✓			INDICATOR DISPLAY	PRESSURE IN TOLERANCE	1		"
11. MONITOR	PRESSURE	ENGINE	VERIFY PRESSURE IN TOLERANCE	INDICATORS	SCALE RANGE	DISPLAYS PRESSURE VALUES	C	✓			INDICATOR DISPLAY	PRESSURE IN TOLERANCE	1		"
12. MONITOR	TORQUE	ENGINE	VERIFY TORQUE IN TOLERANCE	INDICATORS	SCALE RANGE	DISPLAYS TORQUE VALUES	C	✓			INDICATOR DISPLAY	TORQUE IN TOLERANCE	1		"
13. OBSERVE	INSTRUCTIONS	GROUND GUIDE	ADJUST A/C ATTITUDE IN ACCORDANCE WITH GUIDE'S INSTRUCTIONS	N/A	N/A	N/A	C	✓			GROUND GUIDE	N/A	1		MUST DETECT INSTRUCTIVE SIGNALS AND INTERPRET CORRECTLY TO AVOID POSSIBLE DAMAGE TO A/C

TASK ANALYSIS

MISSION PHASE: DEPARTURE
FUNCTION: HOVER/TAXI

SEGMENT: HOVER
SUBSYSTEM: FLIGHT CONTROLS

TASK			OPERATOR ACTION	CONTROL/DISPLAY		EQUIPMENT RESP.	DCM RESP.	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. ADJUST	CONTROL	CYCLIC	POSITION CYCLE AS REQUIRED TO HOVER/TAXI TO TAKEOFF AREA	CYCLIC	FORE/AFT; LEFT/RIGHT	MAIN ROTOR TILTS IN DIRECTION OF APPLIED FORCE (PITCH ATTITUDE)	C	✓		TACTILE	CONTROL POSITION A/C ATTITUDE	AMOUNT/DIRECTION OF CONTROL MOVEMENT	1		MUST MANIPULATE CONTROL WITH SUFFICIENT PRECISION TO ACHIEVE REQUIRED A/C ATTITUDE/DIRECTION
2. ADJUST	CONTROL	COLLECTIVE	POSITION COLLECTIVE TO MAINTAIN 3 FT. HOVER	COLLECTIVE	UP-DOWN	MAIN ROTOR BLADES TILT IN DIRECTION OF APPLIED FOR (A TORQUE)	C	✓		TACTILE	"	AMOUNT/DIRECTION OF CONTROL MOVEMENT	1	3 FT. ± 1	"
3. ADJUST	PEDALS	ANTI-TORQUE	MAINTAIN A/C HEADING	PEDALS	IN-OUT	AFT ROTOR BLADES TILT IN DIRECTION OF APPLIED FORCE (A/C HEADING)	C	✓		TACTILE	"	AMOUNT/DIRECTION OF CONTROL MOVEMENT	1	± 5°	"
4. MONITOR	CLEARANCE	AIRCRAFT	OBSERVE TERRAIN TO MAINTAIN A/C CLEARANCE	N/A	N/A	N/A	C	✓			TERRAIN, A/C ATTITUDE	DEGREE OF GROUND/AREA CLEARANCE	1		MUST DETECT AND EVALUATE TERRAIN FEATURES THAT ARE POSSIBLE HAZARD TO AIRCRAFT
5. MONITOR	TEMPERATURE	ENGINE	VERIFY ENGINE TEMPERATURE IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAY ENGINE TEMPERATURE VALUES	C	✓			INDICATOR DISPLAY	IN TOLERANCE CONDITION	1		MUST DETECT AND EVALUATE READINGS ACCURATELY TO IDENTIFY POSSIBLE ENGINE MALFUNCTIONS
6. MONITOR	PRESSURE	ENGINE	VERIFY ENGINE PRESSURE IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAY ENGINE PRESSURE	C	✓			INDICATOR DISPLAY	IN TOLERANCE CONDITION	1		"
7. MONITOR	TORQUE	ROTOR	VERIFY ROTOR TORQUE IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAY ROTOR TORQUE VALUES	C	✓			INDICATOR DISPLAY	IN TOLERANCE CONDITION	1		"
8. MONITOR	TEMPERATURE	TRANSMISSION	VERIFY TRANSMISSION TEMPERATURE IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAY TRANSMISSION TEMPERATURE VALUES	C	✓			INDICATOR DISPLAY	IN TOLERANCE CONDITION	1		"
9. MONITOR	PRESSURE	TRANSMISSION	VERIFY TRANSMISSION PRESSURE IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAY TRANSMISSION PRESSURE VALUES	C	✓			INDICATOR DISPLAY	IN TOLERANCE CONDITION	1		"
								EACH MOVEMENT OF A CONTROL IS A DISCRETE TASK; HOWEVER, HOVERING AND MONITORING ARE CONTINUOUS TASKS THROUGHOUT THIS SECTION							

TASK ANALYSIS

MISSION PHASE: DEPARTURE
FUNCTION: CHECK FLIGHT INSTRUMENTS

SEGMENT: HOVER
SUBSYSTEM: INSTRUMENTS

TASK			OPERATOR ACTION	CONTROL/DISPLAY		EQUIPMENT RESP	TASK	FEEDBACK				STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER						
1. CHECK	INDICATOR	TURN NEEDLE	VERIFY NEEDLE MOVES IN CORRECT DIRECTION	INDICATOR	RIGHT-LEFT	DISPLAYS DIRECTION OF A/C TURN	D	✓				DISPLAY READING	CORRECT POINTER MOVEMENT	1		MUST DETECT AND EVALUATE READINGS ACCURATELY TO IDENTIFY POTENTIAL ENGINE/EQUIPMENT MALFUNCTIONS
2. CHECK	INDICATOR	HEADING	VERIFY CORRECT OPERATION	INDICATOR	0 - 360°	DISPLAYS COURSE IN DEGREES	D	✓				DISPLAY READING	HEADING DIRECTION	1		"
3. CHECK	INDICATOR	SLIP	VERIFY CORRECT OPERATION	INDICATOR		DISPLAYS TRIM SETTING	D	✓				DISPLAY READING		1		"
4. CHECK	INDICATOR	VERTICAL SITUATION	VERIFY CORRECT OPERATION	INDICATOR		DISPLAYS A/C VERTICAL ATTITUDE	D	✓				DISPLAY READING	STABLE ATTITUDE UP AND DOWN	1		"
5. CHECK	INDICATOR	ALTIMETER	VERIFY CORRECT SETTING	INDICATOR	HEIGHT SCALE	DISPLAYS A/C HEIGHT	D	✓				DISPLAY READING	SUFFICIENT ALTITUDE	1		"
6. CHECK	INDICATOR	ATTITUDE	VERIFY CORRECT OPERATION	INDICATOR	NOSE HIGH, LOW LEFT, RIGHT	DISPLAYS A/C ATTITUDE	D	✓				DISPLAY READING	STABLE ATTITUDE UP AND DOWN	1		"
7. CHECK	INDICATOR	AIR SPEED	VERIFY CORRECT OPERATION	INDICATOR	SCALE RANGE	DISPLAYS A/C AIR SPEED	D	✓				DISPLAY READING	AIR SPEED IN TOLERANCE	1		"
8. CHECK	INDICATOR	TORQUE METER	VERIFY IN-TOLERANCE READING	INDICATOR	SCALE RANGE	DISPLAYS ROTOR TORQUE	D	✓				DISPLAY READING	TORQUE IN TOLERANCE	1		"
9. CHECK	COMPASS	STANDBY	VERIFY CORRECT OPERATION	INDICATOR	0 - 360°	DISPLAYS DIRECTION	D	✓				DISPLAY READING	HEADING DIRECTION	1		"

TASK ANALYSIS

MISSION PHASE: DEPARTURE
FUNCTION: CHECK ENGINE INSTRUMENTS

SEGMENT: HOVER
SUBSYSTEM: INSTRUMENTS

TASK				CONTROL /DISPLAY				FEEDBACK					OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER	OPERATOR ACTION	NAME	OPTIONS	EQUIPMENT RESP.	TASK TYPE	V	A	OTHER	STIMULUS INPUT					
1. CHECK	RPM	N_G AND N_P ROTOR	CHECK N_G AND N_G FOR IN TOLERANCE CONDITION	INDICATOR	SCALE RANGE	DISPLAY ENGINE RPM DISPLAY ROTOR RPM	D	✓			CHECKLIST, INDICATOR READING		IN TOLERANCE CONDITION	1		MUST DETECT AND EVALUATE INDICATOR READINGS ACCURATELY TO IDENTIFY POTENTIAL ENGINE MALFUNCTIONS
2. CHECK	PRESSURE	ENGINE OIL	CHECK PRESSURE FOR IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAY ENGINE OIL PRESSURE	D	✓			CHECKLIST, INDICATOR READING		IN TOLERANCE CONDITION	1	80 - 100	"
3. CHECK	TEMPERATURE	ENGINE OIL	CHECK TEMPERATURE FOR IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAY ENGINE TEMPERATURE	D	✓			CHECKLIST, INDICATOR READING		IN TOLERANCE CONDITION	1	< 93°	"
4. CHECK	PRESSURE	TRANSMISSION OIL	CHECK PRESSURE FOR IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAY TRANSMISSION OIL PRESSURE	D	✓			CHECKLIST, INDICATOR READING		IN TOLERANCE CONDITION	1	40 - 60	"
5. CHECK	TEMPERATURE	TRANSMISSION OIL	CHECK TEMPERATURE FOR IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAY TRANSMISSION TEMPERATURE	D	✓			CHECKLIST, INDICATOR READING		IN TOLERANCE CONDITON	1	< 110°	"
6. CHECK	QUANTITY	FUEL	CHECK QUANTITY FOR IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAY FUEL QUANTITY	D	✓			CHECKLIST, INDICATOR READING		IN TOLERANCE CONDITION	1		"
7. CHECK	PRESSURE	FUEL	CHECK PRESSURE FOR IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAY FUEL PRESSURE	D	✓			CHECKLIST, INDICATOR READING		IN TOLERANCE CONDITION	1	5 - 30	"
8. CHECK	CORRELATION	INSTRUMENT	PILOT AND COPILOT COMPARE INSTRUMENT READINGS	INDICATOR	SCALE RANGE											

TASK ANALYSIS

MISSION PHASE: DEPARTURE
FUNCTION: CHECK FLIGHT CONTROLS

SEGMENT: PRE-TAKEOFF CHECKS
SUBSYSTEM: FLIGHT CONTROLS

TASK			OPERATOR ACTION	CONTROL /DISPLAY		EQUIPMENT RESP	TASK LOAD	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. CHECK	CONTROL	CYCLIC	ACTUATE CONTROL FOR FREEDOM OF MOVEMENT AND RESPONSE	CYCLIC	FORE/AFT; LEFT/RIGHT	ROTOR TILTS IN DIRECTION OF APPLIED FORCE (ATTITUDE)	D	✓		TACTILE	CONTOL POSITION A/C ATTITUDE	CONTROL IN TOLERANCE	1		MUST DETECT AND EVALUATE CONTROL RESPONSE FOR SATISFACTORY PERFORMANCE
2. CHECK	CONTROL	COLLECTIVE	ACTUATE CONTROL FOR FREEDOM OF MOVEMENT	COLLECTIVE	UP-DOWN	ROTOR BLADES TILT IN DIRECTION OF APPLIED FORCE (TORQUE)	D	✓		TACTILE	"	CONTROL IN TOLERANCE	1		"
3. CHECK	PEDALS	ANTI-TORQUE	ACTUATE CONTROL FOR FREEDOM OF MOVEMENT	ANTI-TORQUE PEDALS	IN-OUT; LEFT-RIGHT	AFT ROTOR BLADES TILT IN DIRECTION OF APPLIED FORCE (HEADING)	D	✓		TACTILE	"	CONTROL IN TOLERANCE	1		"
4. CHECK	CONTROL	THROTTLE	ACTUATE CONTROL FOR FREEDOM OF MOVEMENT	THROTTLE	FUEL OPEN/ CLOSED		D	✓		TACTILE	"	CONTROL IN TOLERANCE	1		"

TASK ANALYSIS

MISSION PHASE: DEPARTURE
FUNCTION: MULTI-SHIP JOIN UP

SEGMENT: HOVER
SUBSYSTEM: AIRCRAFT/FLIGHT CONTROLS

TASK			OPERATOR ACTION	CONTROL /DISPLAY		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. RECEIVE	INSTRUCTIONS	JOIN UP	RECEIVES AND ACKNOWLEDGES JOIN UP LOCATION AND ORDER	RADIO	TRANSMIT/ RECEIVE	TRANSMITS MESSAGE	D		✓		MESSAGE CONTENT	TRANSMIT, RECEIVE	3		MUST RECEIVE AND UNDERSTAND RADIO INSTRUCTIONS TO AVOID POTENTIAL COLLISION
2. OBSERVE	LOCATION	JOIN UP	OBSERVE AREA AND LOCATION OF OTHER AIRCRAFT	N/A	N/A	N/A	D	✓			AIRSPACE, OTHER AIRCRAFT	SAFE AIRSPACE	1		MUST DETECT AND EVALUATE OBJECTS WITHIN THE AIRSPACE POSING A POTENTIAL HAZARD TO THE A/C
3. DETERMINE	POSITION	AIRCRAFT	DETERMINE WHEN AND WHERE AIRCRAFT WILL REPOSITION WITHIN FORMATION	N/A	N/A	N/A	D	✓			AIRSPACE, OTHER AIRCRAFT	A/C POSITION IN FORMATION IN TOLERANCE	3		MUST PREDICT AND EVALUATE A/C POSITION ACCURATELY TO AVOID POSSIBLE COLLISION
4. REPOSITION	AIRCRAFT		ADJUST FLIGHT CONTROLS, HOVER/ TAXI TO FORMATION JOIN UP LOCATION	FLIGHT CONTROLS	CONTROL RANGE	CHANGE A/C HEADING, SPEED, ALTITUDE AND ATTITUDE	C	✓		TACTILE	CONTROL POSITION, AIRSPACE	A/C CONTROLS IN TOLERANCE	1		MUST ACTUATE A/C CONTROLS CORRECTLY TO ACHIEVE DESIRED FLIGHT PATH

TASK ANALYSIS

MISSION PHASE: DEPARTURE
FUNCTION: COMMUNICATIONS UNIT OPERATIONS/TOWER

SEGMENT: TAKEOFF
SUBSYSTEM: COMMUNICATIONS

TASK			OPERATOR ACTION	CONTROL /DISPLAY		EQUIPMENT RESP.	DSK MSE TT	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. SELECT	RADIO		SWITCH ON DESIRED RADIO	SWITCH	UHF; VHF; FM	ENABLES SELECTED RADIO	D	✓		TACTILE	CONTROL POSITION, CHECKLIST	SELECT UHF; VHF OR FM	2		MUST SELECT APPROPRIATE RADIO
2. SELECT	FREQUENCY	RADIO	TUNE IN CORRECT FREQUENCY	KNOB	FREQUENCY RANGE	ENABLES SELECTED FREQUENCY	D	✓		TACTILE	CONTROL POSITION, CHECKLIST	SELECT FROM FREQUENCY RANGE	2		MUST SELECT APPROPRIATE FREQUENCY
3. REPORT	TIME	DEPARTURE	CALL IN ETD	MICROPHONE	N/A	TRANSMITS MESSAGE	D		✓		CHECKLIST	MESSAGE CONTENT	2		MUST CLEARLY AND ACCURATELY TRANSMIT MESSAGES
4. REPORT	STATUS	TAKEOFF	CALL TOWER, READY FOR TAKEOFF	MICROPHONE	N/A	TRANSMITS MESSAGE	D		✓		CHECKLIST	MESSAGE CONTENT	2		MUST CLEARLY AND ACCURATELY TRANSMIT MESSAGES

TASK ANALYSIS

MISSION PHASE: DEPARTURE
FUNCTION: PRE-TAKEOFF CHECK

SEGMENT: TAKEOFF
SUBSYSTEM: INSTRUMENTS AND CONSOLE

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	DISPLAY TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. STABILIZE	AIRCRAFT		ADJUST CYCLIC, COLLECTIVE, PEDALS TO MAINTAIN STABLE 3 FT. HOVER	FLIGHT	PITCH, ROLL AND YAW	ADJUST AIRCRAFT ATTITUDE, ALTITUDE AND HEADING	C	✓		TACTILE	CONTROL PITCH ATTITUDE	CYCLIC, COLLECTIVE, PEDALS	1		
2. CHECK	POWER	HOVER	CHECK TORQUE AND N_1 GAUGES AND NOTE POWER REQUIRED TO HOVER	TORQUE METER N_1 GAUGE	0 - 50 PSI 0 - 100%	DISPLAYS	D	✓				IN TOLERANCE	1		
3. CHECK	DUAL TACH		VISUALLY CHECK EACH INSTRUMENT/ PANEL AND CALL OUT CHECK TO CO-PILOT FOR VERIFICATION	TACH		DISPLAYS	D	✓			GAUGE	IN TOLERANCE	1		
4. CHECK	LIGHT	MASTER CAUTION	"	LIGHTS	ON/OFF	DISPLAYS	D	✓			LIGHT	ON/OFF	1		
5. CHECK	LIGHT	CAUTION PANEL	"	LIGHTS	ON/OFF	DISPLAYS	D	✓			LIGHT	ON/OFF	1		
6. CHECK	TEMPERATURE	ENGINE, TRANSMISSION	"	GAUGE	IN TOLERANCE OUT TOLERANCE	DISPLAYS	D	✓			GAUGE	IN TOLERANCE	1		
7. CHECK	PRESSURE	ENGINE, TRANSMISSION	"	GAUGE	"	DISPLAYS	D	✓			GAUGE	IN TOLERANCE	1		
8. CHECK	PRESSURE	FUEL	"	GAUGE	"	DISPLAYS	D	✓			GAUGE	IN TOLERANCE	1		
9. CHECK	QUANTITY	FUEL	"	GAUGE	"	DISPLAYS	D	✓			GAUGE	IN TOLERANCE	1		
10. CHECK	SCAS		"	SWITCH	ON/OFF	ACTIVATES POWER TO SYSTEM	D	✓			SWITCH	ON/OFF	1		
11. CHECK	FORCE TRIM		"	SWITCH	ON/OFF	ACTIVATES POWER TO SYSTEM	D	✓			SWITCH	ON/OFF	1		
12. CHECK	ARMAMENT PANEL		"	SWITCH	ON/OFF	ACTIVATES POWER TO SYSTEM	D	✓			SWITCH	ON/OFF	1		
13. CHECK	BEACON	ROTATING		SWITCH	ON/OFF	ACTIVATES POWER TO SYSTEM	D	✓			SWITCH	ON/OFF	1		
14. CHECK	INSTRUMENTS	FLIGHT	VISUALLY CHECK FLIGHT INSTRUMENTS TO INSURE PROPER OPERATION	GAUGES	IN/OUT OF TOLERANCE	DISPLAYS	D	✓			GAUGES	IN TOLERANCE	1		
15. CHECK	CLEARANCE	AIRSPACE		N/A	N/A	N/A	C	✓			SURROUNDING AREA	AREA CLEAR/UNCLEAR	1		

TASK ANALYSIS

MISSION PHASE DEPARTURE

SEGMENT TAKEOFF

FUNCTION MONITOR INSTRUMENTS/AIRSPACE FOR TAKEOFF

SUBSYSTEM

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. MONITOR	AIRSPACE		OBSERVE FOR A/C CLEARANCE AND OBSTACLES, OTHER AIRCRAFT, ETC.	N/A	N/A	N/A	C	✓			TERRAIN/AIRSPACE	TERRAIN/AIRSPACE CLEARANCE	1		MUST DETECT AND EVALUATE TERRAIN FEATURES FOR POSSIBLE HAZARD TO A/C
2. MONITOR	INSTRUMENTS	ENGINE, TRANSMISSION, FLIGHT	VISUALLY SCAN INSTRUMENT PANEL, CHECK INSTRUMENT WITHIN GREEN ARC	INSTRUMENTS	IN/OUT TOLERANCE	DISPLAYS	C	✓			GAUGES		1		

TASK ANALYSIS

MISSION PHASE: DEPARTURE
FUNCTION: AIRCRAFT TAKEOFF

SEGMENT: TAKEOFF
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL /DISPLAY		EQUIPMENT RESP.	SEQ SYS	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. ADJUST	CONTROL	COLLECTIVE	ADJUST POWER FOR TAKEOFF	COLLECTIVE	UP-DOWN	TILT MAIN ROTOR BLADE IN DIRECTION OF APPLIED FORCE	D	✓		TACTILE	CONTROL POSITION	AMOUNT AND DIRECTION OF CONTROL MOVEMENT	1		MUST ADJUST CONTROLS WITH SUFFICIENT PRECISION TO ACHIEVE REQUIRED A/C RESPONSE
2. CHECK	TORQUE METER		VERIFY IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAYS ENGINE TORQUE VALUE	D	✓			INDICATOR READING	IN TOLERANCE RANGE	1		MUST DETECT AND EVALUATE READINGS TO IDENTIFY POTENTIAL ENGINE/EQUIPMENT MALFUNCTIONS
3. CHECK	RPM	N_R	VERIFY IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAYS PER CENT RPM	D	✓			INDICATOR READING	IN TOLERANCE RANGE	1		"
4. CHECK	RPM	TACHOMETER	VERIFY IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAYS ENGINE RPM DISPLAYS ROTOR RPM	D	✓			INDICATOR READING	IN TOLERANCE RANGE	1		"
5. ADJUST	CONTROL	CYCLIC	ADJUST ATTITUDE FOR TAKEOFF	CYCLIC	FORE/AFT; LEFT/RIGHT	TILT MAIN ROTOR IN DIRECTION OF APPLIED FORCE (PITCH ATTITUDE)	D	✓		TACTILE	CONTROL POSITION	AMOUNT AND DIRECTION OF CONTROL MOVEMENT	1		MUST ADJUST CONTROLS WITH SUFFICIENT PRECISION TO ACHIEVE REQUIRED A/C RESPONSE
6. CHECK	INDICATOR	ATTITUDE	VERIFY A/C ATTITUDE	INDICATOR	SCALE RANGE	DISPLAYS A/C ATTITUDE	D	✓			INDICATOR READING	IN TOLERANCE RANGE	1		MUST DETECT AND EVALUATE READINGS TO IDENTIFY POTENTIAL ENGINE/EQUIPMENT MALFUNCTIONS
7. CHECK	ATTITUDE	PITCH	VERIFY A/C ATTITUDE	TIP PATH PLANE & HORIZON	SCALE RANGE	DISPLAYS A/C ATTITUDE	D	✓			INDICATOR READING	N/A	1		MUST DETECT AND EVALUATE TERRAIN FOR PROPER ATTITUDE
8. ADJUST	PEDALS	ANTI-TORQUE	ADJUST LEFT OR RIGHT PEDAL AS REQUIRED	PEDALS	IN-OUT/ LEFT-RIGHT	TILT AFT ROTOR BLADES IN DIRECTION OF APPLIED FORCE (TRIM)	D	✓		TACTILE	CONTROL POSITION	AMOUNT AND DIRECTION OF CONTROL MOVEMENT	1		MUST ADJUST CONTROLS WITH SUFFICIENT PRECISION TO ACHIEVE REQUIRED A/C RESPONSE
9. CHECK	INDICATOR	HEADING	VERIFY A/C ATTITUDE	INDICATOR	SCALE RANGE	DISPLAY A/C HEADING	D	✓			INDICATOR READING	IN TOLERANCE RANGE	1		MUST DETECT AND EVALUATE READINGS TO IDENTIFY POTENTIAL ENGINE/EQUIPMENT MALFUNCTIONS
10. CHECK	TRIM BALL		ADJUST LEFT OR RIGHT PEDALS AS REQUIRED	INDICATOR		DISPLAY A/C ATTITUDE	D	✓			INDICATOR READING	IN TOLERANCE RANGE	1		"
11. CHECK	OUTSIDE REFERENCE		OBSERVE OUTSIDE REFERENCE POINT	TIP PATH PLANE & HORIZON	SCALE RANGE	DISPLAYS A/C ATTITUDE	C	✓			TERRAIN	TERRAIN CLEARANCE	1		MUST DETECT AND EVALUATE TERRAIN FEATURES FOR POSSIBLE HAZARD TO A/C
12. MONITOR	AIRSPACE		OBSERVE FOR A/C CLEARANCE AND OBSTACLES, OTHER AIRCRAFT, ETC.	N/A	N/A	N/A	C	✓			TERRAIN/AIRSPACE	TERRAIN/AIRSPACE CLEARANCE	1		"
13. MONITOR (SEE 2, 3, 4, 6, 9, 10, ABOVE)	INSTRUMENTS	ENGINE, TRANSMISSION, FLIGHT	VISUALLY SCAN INSTRUMENT PANEL, CHECK INSTRUMENT WITHIN GREEN ARC	INSTRUMENTS	IN TOLERANCE OUT TOLERANCE	DISPLAYS	C	✓			GAUGES		1		

TASK ANALYSIS

MISSION PHASE: DEPARTURE
FUNCTION: CLIMBOUT

SEGMENT: CLIMBOUT
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. ADJUST	CONTROL	COLLECTIVE	ADJUST POWER FOR CLIMBOUT	COLLECTIVE	UP-DOWN	TILT MAIN ROTOR BLADE IN DIRECTION OF APPLIED FORCE	D	✓		TACTILE	CONTROL POSITION	AMOUNT AND DIRECTION OF CONTROL MOVEMENT	1		MUST ADJUST CONTROLS WITH SUFFICIENT PRECISION TO ACHIEVE REQUIRED A/C RESPONSE
2. CHECK	TORQUE METER		VERIFY IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAYS ENGINE TORQUE VALUE	D	✓			INDICATOR READING	IN TOLERANCE RANGE	1		MUST DETECT AND EVALUATE READINGS TO IDENTIFY POTENTIAL ENGINE/EQUIPMENT MALFUNCTIONS
3. CHECK	RPM	N_1	VERIFY IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAYS PER CENT RPM	D	✓			INDICATOR READING	IN TOLERANCE RANGE	1		"
4. CHECK	RPM	TACHOMETER	VERIFY IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAYS ENGINE RPM DISPLAYS ROTOR RPM	D	✓			INDICATOR READING	IN TOLERANCE RANGE	1		"
5. ADJUST	CONTROL	CYCLIC	ADJUST ATTITUDE FOR CLIMBOUT	CYCLIC	FORE/AFT; LEFT/RIGHT	TILT MAIN ROTOR IN DIRECTION OF APPLIED FORCE (PITCH ATTITUDE)	D	✓		TACTILE	CONTROL POSITION	AMOUNT AND DIRECTION OF CONTROL MOVEMENT	1		MUST ADJUST CONTROLS WITH SUFFICIENT PRECISION TO ACHIEVE REQUIRED A/C RESPONSE
6. CHECK	INDICATOR	ATTITUDE	VERIFY A/C ATTITUDE	INDICATOR	SCALE RANGE	DISPLAYS A/C ATTITUDE	D	✓			INDICATOR READING	IN TOLERANCE RANGE	1		MUST DETECT AND EVALUATE READINGS TO IDENTIFY POTENTIAL ENGINE/EQUIPMENT MALFUNCTIONS
7. CHECK	ATTITUDE	PITCH	VERIFY A/C ATTITUDE	TIP PATH PLANE & HORIZON	SCALE RANGE	DISPLAYS A/C ATTITUDE	D	✓			INDICATOR READING	N/A	1		MUST DETECT AND EVALUATE TERRAIN FOR PROPER ATTITUDE
8. ADJUST	PEDALS	ANTI-TORQUE	ADJUST LEFT OR RIGHT PEDAL AS REQUIRED	PEDALS	IN-OUT/ LEFT-RIGHT	TILT AFT ROTOR BLADES IN DIRECTION OF APPLIED FORCE (TRIM)	D	✓		TACTILE	CONTROL POSITION	AMOUNT AND DIRECTION OF CONTROL MOVEMENT	1		MUST ADJUST CONTROLS WITH SUFFICIENT PRECISION TO ACHIEVE REQUIRED A/C RESPONSE
9. CHECK	INDICATOR	HEADING	VERIFY A/C ATTITUDE	INDICATOR	SCALE RANGE	DISPLAY A/C HEADING	D	✓			INDICATOR READING	IN TOLERANCE RANGE	1		MUST DETECT AND EVALUATE READINGS TO IDENTIFY POTENTIAL ENGINE/EQUIPMENT MALFUNCTIONS
10. CHECK	TRIM BALL		ADJUST LEFT OR RIGHT PEDALS AS REQUIRED	INDICATOR		DISPLAY A/C ATTITUDE	D	✓			INDICATOR READING	IN TOLERANCE RANGE	1		"
11. CHECK	OUTSIDE REFERENCE		OBSERVE OUTSIDE REFERENCE POINT	TIP PATH PLANE & HORIZON	SCALE RANGE	DISPLAYS A/C ATTITUDE	C	✓			TERRAIN	TERRAIN CLEARANCE	1		MUST DETECT AND EVALUATE TERRAIN FEATURES FOR POSSIBLE HAZARD TO A/C
12. MONITOR	AIRSPACE		OBSERVE FOR A/C CLEARANCE AND OBSTACLES, OTHER AIRCRAFT, ETC.	N/A	N/A	n/A	C	✓			TERRAIN/AIRSPACE	TERRAIN/AIRSPACE CLEARANCE	1		"
13. MONITOR (SEE 2, 3, 4, 5, 9, 10, ABOVE)	INSTRUMENTS	ENGINE, TRANSMISSION, FLIGHT	VISUALLY SCAN INSTRUMENT PANEL, CHECK INSTRUMENT WITHIN GREEN ARC	*INSTRUMENTS*	*IN TOLERANCE OUT TOLERANCE*	*DISPLAYS*	C	✓			*GAUGES*		1		

TASK ANALYSIS

MISSION PHASE: DEPARTURE
FUNCTION: NORMAL CRUISE
SEGMENT: LEVEL OFF
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. ADJUST	CONTROL	COLLECTIVE	ADJUST POWER FOR NORMAL CRUISE	COLLECTIVE	UP-DOWN	TILT MAIN ROTOR BLADE IN DIRECTION OF APPLIED FORCE	D	✓		TACTILE	CONTROL POSITION	AMOUNT AND DIRECTION OF CONTROL MOVEMENT	1		MUST ADJUST CONTROLS WITH SUFFICIENT PRECISION TO ACHIEVE REQUIRED A/C RESPONSE
2. CHECK	TORQUE METER		VERIFY IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAYS ENGINE TORQUE VALUE	D	✓			INDICATOR READING	IN TOLERANCE RANGE	1		MUST DETECT AND EVALUATE READINGS TO IDENTIFY POTENTIAL ENGINE/EQUIPMENT MALFUNCTIONS
3. CHECK	RPM	N_1	VERIFY IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAYS PER CENT RPM	D	✓			INDICATOR READING	IN TOLERANCE RANGE	1		"
4. CHECK	RPM	TACHOMETER	VERIFY IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAYS ENGINE RPM DISPLAYS ROTOR RPM	D	✓			INDICATOR READING	IN TOLERANCE RANGE	1		"
5. ADJUST	CONTROL	CYCLIC	ADJUST ATTITUDE FOR NORMAL CRUISE	CYCLIC	FORE/AFT; LEFT/RIGHT	TILT MAIN ROTOR IN DIRECTION OF APPLIED FORCE (PITCH ATTITUDE)	D	✓		TACTILE	CONTROL POSITION	AMOUNT AND DIRECTION OF CONTROL MOVEMENT	1		MUST ADJUST CONTROLS WITH SUFFICIENT PRECISION TO ACHIEVE REQUIRED A/C RESPONSE
6. CHECK	INDICATOR	ATTITUDE	VERIFY A/C ATTITUDE	INDICATOR	SCALE RANGE	DISPLAYS A/C ATTITUDE	D	✓			INDICATOR READING	IN TOLERANCE RANGE	1		MUST DETECT AND EVALUATE READINGS TO IDENTIFY POTENTIAL ENGIEN/EQUIPMENT MALFUNCTIONS
7. CHECK	ATTITUDE	PITCH	VERIFY A/C ATTITUDE	TIP PATH PLANE & HORIZON	SCALE RANGE	DISPLAYS A/C ATTITUDE	D	✓			INDICATOR READING	N/A	1		MUST DETECT AND EVALUATE TERRAIN FOR PROPER ATTITUDE
8. ADJUST	PEDALS	ANTI-TORQUE	ADJUST LEFT OR RIGHT PEDAL AS REQUIRED	PEDALS	IN-OUT/ LEFT-RIGHT	TILT AFT ROTOR BLADES IN DIRECTION OF APPLIED FORCE (TRIM)	D	✓		TACTILE	CONTROL POSITION	AMOUNT AND DIRECTION OF CONTROL MOVEMENT	1		MUST ADJUST CONTROLS WITH SUFFICIENT PRECISION TO ACHIEVE REQUIRED A/C RESPONSE
9. CHECK	INDICATOR	HEADING	VERIFY A/C ATTITUDE	INDICATOR	SCALE RANGE	DISPLAY A/C HEADING	D	✓			INDICATOR READING	IN TOLERANCE RANGE	1		MUST DETECT AND EVALUATE READINGS TO IDENTIFY POTENTIAL ENGINE/EQUIPMENT MALFUNCTIONS
10. CHECK	TRIM BALL		ADJUST LEFT OR RIGHT PEDALS AS REQUIRED	INDICATOR		DISPLAY A/C ATTITUDE	D	✓			INDICATOR READING	IN TOLERANCE RANGE	1		"
11. CHECK	OUTSIDE REFERENCE		OBSERVE OUTSIDE REFERENCE POINT	TIP PATH PATH & HORIZON	SCALE RANGE	DISPLAYS S/C ATTITUDE	D	✓			TERRAIN	TERRAIN CLEARANCE	1		MUST DETECT AND EVALUATE TERRAIN FEATURES FOR POSSIBLE HAZARD TO A/C
12. MONITOR	AIRSPACE		OBSERVE FOR A/C CLEARANCE AND OBSTACLES, OTHER AIRCRAFT, ETC.	N/A	N/A	N/A	C	✓			TERRAIN/AIRSPACE	TERRAIN/AIRSPACE CLEARANCE	1		"
13. MONITOR (SEE 2, 3, 4, 5, 9, 10, ABOVE)	INSTRUMENTS	ENGINE, TRANS-MISSION, FLIGHT	VISUALLY SCAN INSTRUMENT PANEL, CHECK INSTRUMENT WITHIN GREEN ARC	INSTRUMENTS	IN TOLERANCE OUT TOLERANCE	DISPLAYS	C	✓			GAUGES		1		

TASK ANALYSIS

MISSION PHASE: DEPARTURE
FUNCTION: MONITOR INSTRUMENTS AND AIRSPACE (CROSS CHECKS)

SEGMENT: LEVEL OFF
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	FEEDBACK				STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS		DISCRETE	V	A	OTHER					
1. CHECK	INDICATOR	TORQUE METER	VISUALLY OBSERVE READING ON INDICATED GAUGE	TORQUE METER	0 - 50	DISPLAYS TORQUE (POWER) BEING USED	C	✓			GAUGE, COLLECTIVE POSITION	INCREASE, DECREASE	2	± 2	MUST DETECT, IDENTIFY AND EVALUATE INSTRUMENT DISPLAYS AND CONTROL POSITIONS ACCURATELY TO ASSESS A/C OPERATION AND MAINTAIN SAFE FLIGHT
2. CHECK	TACHOMETER	N_1	"	N_1 TACH	0 - 100%	DISPLAYS PER CENT RPM	C	✓			"	INCREASE, DECREASE	2	± 1	"
3. CHECK	GAUGE	EGT	"	EGT	0 - 1000°	DISPLAYS TEMPERATURE	C	✓			"		2	±15	"
4. CHECK	INDICATOR	DUAL TACH	"	DUAL TACH		DISPLAYS ROTOR RPM DISPLAYS ENGINE RPM	C	✓			GAUGE		2	±25	"
5. CHECK	INDICATOR	AIRSPEED	"	AIRSPEED INDICATOR	0 - 190 KTS	DISPLAYS INDICATED AIR-SPEED	C	✓			GAUGE		2	± 5	"
6. CHECK	ALTIMETER, VSI		"	ALTIMETER VSI	RANGE CLIMB, DESCENT	DISPLAYS ALTITUDE, RATE OF CLIMB	C	✓			GAUGE	INCREASE, DECREASE TORQUE	2	±50	"
7. CHECK	INDICATOR	RADIO MAG	"	RMI	0 - 360°	DISPLAYS AIRCRAFT HEADING	C	✓			GAUGE		2	± 5°	"
8. REPEAT STEPS 1, 2, and 3													2	± 1	"
9. CHECK	INDICATOR	FUEL PRESSURE	"	FUEL PRESSURE	5 - 30	DISPLAYS FUEL PRESSURE	C	✓			GAUGE		2	±25	"
10. CHECK	INDICATOR	FUEL QUANTITY	"	QUANTITY		DISPLAYS FUEL QUANTITY	C	✓			GAUGE		2	± 3	"
11. CHECK	INDICATOR	TRANSMISSION OIL PRESSURE	"	OIL PRESSURE	0 - 100	DISPLAYS OIL PRESSURE	C	✓			GAUGE		2	± 3	"
12. CHECK	INDICATOR	ENGINE OIL PRESSURE	"	OIL PRESSURE	0 - 100	DISPLAYS OIL PRESSURE	C	✓			GAUGE		2	± 5	"
13. CHECK	INDICATOR	TRANSMISSSION OIL TEMPERATURE	"	OIL TEMPERA-TURE		DISPLAYS OIL TEMPERATURE	C	✓			GAUGE		2	± 5	"
14. CHECK	INDICATOR	ENGINE OIL TEMPERATURE	"	OIL TEMPERA-TURE		DISPLAYS OIL TEMPERATURE	C	✓			GAUGE		2		"
15. ADJUST	CONTROLS	FLIGHT	ADJUST CYCLIC, COLLECTIVE AND PEDAL AS NECESSARY TO MAINTAIN DESIRED FLIGHT ATTITUDE	FLIGHT		DETERMINES AIRCRAFT ATTITUDE	C	✓		TACTILE	INSTRUMENTS & OUTSIDE REF.	CHANGE OR HOLD CONSTANT	2		"
16. MONITOR	AIRSPACE		OBSERVE A/C CLEARANCE AND OBSTACLE AVOIDANCE	N/A							TERRAIN, AIR-SPACE	TERRAIN, AIRSPACE			

NOTE: THOSE INSTRUMENTS CHECKED MOST OFTEN ARE:
1. TORQUE
2. DUAL TACH
3. EGT
4. N_1

TASK ANALYSIS

MISSION PHASE: DEPARTURE
FUNCTION: COMMUNICATIONS (DEPARTURE CONTROL)

SEGMENT: LEVEL OFF
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL /DISPLAY		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. SELECT	RADIO		SWITCH ON DESIRED RADIO	SELECTOR SWITCH	UHF; VHF; FM	ENABLES SELECTED RADIO	D	✓		TACTILE	CONTROL POSITION	SELECT UHF; VHF OR FM	1		MUST SELECT APPROPRIATE RADIO FOR MESSAGE TRANSMISSSION
2. ADJUST	FREQUENCY	RADIO	TUNE IN APPROPRIATE FREQUENCY	ROTARY SWITCH	FREQUENCY BAND	ENABLES SELECTED FREQUENCY	D	✓		TACTILE	CONTROL POSITION	SELECT FREQUENCY BAND	1		MUST SELECT CORRECT FREQUENCY FOR MESSAGE TRANSMISSION
3. TRANSMIT	MESSAGE		INFORM TOWER CLEAR OF TRAFFIC AREA	N/A	N/A	N/A	D		✓			MESSAGE CONTENT	1		MUST TRANSMIT MESSAGE CLEARLY AND ACCURATELY
4. ADJUST	FREQUENCY	RADIO	CHANGE TO OPERATIONAL FREQUENCY	ROTARY SWITCH	FREQUENCY BAND	ENABLES SELECTED FREQUENCY	D	✓		TACTILE	CONTROL POSITION				
5. TRANSMIT	MESSAGE		INFORM BASE OPERATIONS OF TAKEOFF TIME	N/A	N/A	N/A	D		✓						
6. ADJUST	FREQUENCY	RADIO	CHANGE TO ARTY ADVISORY FREQUENCY	ROTARY SWITCH	FREQUENCY BAND	ENABLES SELECTED FREQUENCY	D	✓		TACTILE	CONTROL POSITION				

TASK ANALYSIS

MISSION PHASE: DEPARTURE
SEGMENT: LEVEL OFF
FUNCTION: PERFORM LEVEL OFF CHECK/ACTIVATE ECU
SUBSYSTEM: INSTRUMENTS AND CONSOLE

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. CHECK	ATTITUDE INDICATOR		ARE WINGS LEVEL	INDICATOR		DISPLAY A/C ATTITUDE	D	✓			CHECKLIST, INDICATOR READING	IN TOLERANCE CONDITION	1		MUST DETECT AND EVALUATE READINGS TO IDENTIFY POTENTIAL ENGINE/EQUIPMENT MALFUNCTIONS
2. CHECK	ALTIMETER, VSI		VERIFY NO CHANGE	INDICATOR		DISPLAY A/C ALTITUDE	D	✓			"	IN TOLERANCE CONDITION	1		"
3. CHECK	NEEDLE, BALL	TURN, TRIM	NEEDLE UP, BALL CENTERED	INDICATOR		DISPLAY A/C ATTITUDE	D	✓				IN TOLERANCE			
4. CHECK	HEADING INDICATOR		CONSTANT, CHECK FOR NO CHANGE	INDICATOR		DISPLAY A/C DIRECTION	D	✓			"	IN TOLERANCE CONDITION	1		"
5. CHECK	ENGINE TACH, ROTOR		VERIFY 6600 RPM	INDICATOR	SCALE RANGE	DISPLAY ENGINE/ROTOR RPM	D	✓			"	IN TOLERANCE CONDITION	1		"
6. CHECK	INSTRUMENTS		VERIFY "GREEN RANGE"	INDICATOR	SCALE RANGE	DISPLAY A/C CONDITIONS	D	✓			"	IN TOLERANCE CONDITION	1		"
7. CHECK	CAUTION/WARNING LIGHTS		VERIFY ALL LIGHTS OUT	INDICATOR	ON-OFF	DISPLAY CAUTION/WARNING LIGHTS	D	✓			"	IN TOLERANCE CONDITION	1		"
8. CHECK	CONSOLE SWITCHES		VERIFY IN CORRECT POSITION	SWITCHES	ON-OFF	ENABLE A/C SYSTEMS	D	✓		TACTILE	CHECKLIST, CONTROL POSITION	ON-OFF	1		MUST DETECT AND EVALUATE SWITCH POSITIONS IN TERMS OF A/C SAFETY, CONTROLLABILITY AND MISSION REQUIREMENTS
9. CHECK	ARMAMENT PANEL		VERIFY IN "SAFE" CONDITION	SWITCHES/ INDICATORS	N/A	N/A	D	✓		TACTILE	"	ON-OFF, IN TOLERANCE CONDITION	1		MUST DETECT AND EVALUATE READINGS TO IDENTIFY POTENTIAL ENGINE/EQUIPMENT MALFUNCTION AND DETECT AND EVALUATE SWITCH POSITIONS IN TERMS OF A/C SAFETY, CONTROLLABILITY AND MISSION REQUIREMENTS
10. ACTUATE	SELECTOR SWITCH	ECU	TURN ECU ON	SWITCH	ON-OFF	ENABLE ECU	D	✓		TACTILE	"	ON-OFF	1		MUST DETECT AND EVALUATE SWITCH POSITIONS IN TERMS OF A/C SAFETY, CONTROLLABILITY AND MISSION REQUIREMENTS
11. ADJUST	TEMPERATURE	ECU	SELECT TEMPERATURE CONTROL	SWITCH	RANGE	ADJUST TEMPERATURE	D	✓		TACTILE	"	ADJUST RANGE	1		"

TASK ANALYSIS

MISSION PHASE EN-ROUTE Page 1 of 2
FUNCTION MONITOR/ADJUST AIRSPEED

SEGMENT CRUISE NOE Page 1 of 2
SUBSYSTEM FLIGHT CONTROL/DISPLAY

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TASK			OPERATOR ACTION	CONTROL/DISPLAY		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. ADJUST	CONTROL	COLLECTIVE	ACTUATE COLLECTIVE CONTROL TO ATTAIN DESIRED BLADE PITCH ANGLE TO CORRESPOND TO DESIRED AIRSPEED	COLLECTIVE CONTROL	UP-DOWN	ALTERS PITCH OF ROTOR BLADES TO CONFORM TO DIRECTION OF APPLIED FORCE (I.E. UP-DOWN) (TORQUE OR POWER)	C	✓			VISUAL (EXTERNAL) AIRSPEED INDICATOR, TORQUE METER, ALTIMETER	MAY ACTUATE CONTROL UP OR DOWN	1	MAINTAIN AIRSPEED TO WITHIN ± 5K IAS OF REQUIRED IAS	MUST ACTUATE CONTROL IN APPROPRIATE DIRECTION TO ACHIEVE DESIRED AIRSPEED AND PREVENT POSSIBLE LOSS OF CONTROL WITH GROUND OR OBSTACLES
2. ADJUST	CONTROL	CYCLIC	ACTUATE CYCLIC CONTROL TO ATTAIN DESIRED ROTOR ANGLE TO CORRESPOND TO DESIRED IAS	CYCLIC CONTROL	FORE-AFT (LEFT-RIGHT)	ALTERS ROTOR ATTITUDE TO CONFORM TO DIRECTION OF APPLIED FORCE PITCH ATTITUDE CHANGE	C	✓			VISUAL PITCH ATTITUDE (EXTERNAL) AIRSPEED INDICATOR	MAY ACTUATE CONTROL FORE-AFT AND LEFT-RIGHT	1	MAINTAIN AIRSPEED TO WITHIN ± 5K IAS OF REQUIRED IAS	"
3. MONITOR	INDICATOR	AIRSPEED	OBSERVE AIRSPEED INDICATOR TO VERIFY A/C IS TRAVELING AT DESIRED VELOCITY	AIRSPEED INDICATOR	N/A	TRANSMITS INDICATION OF A/C VELOCITY RELATIVE TO THE GROUND	C	✓			VISUAL (EXTERNAL) AIRSPEED INDICATOR	N/A	2	MUST READ AIRSPEED TO WITHIN ± 5K	MUST DETECT AND INTERPRET AIRSPEED INDICATOR CORRECTLY TO MAINTAIN/ ADJUST TO DESIRED AIRSPEED
4. MONITOR	SPEED	GROUND	OBSERVE RATE OF TERRAIN PASSAGE	N/A	N/A	N/A	C	✓			TERRAIN				
5. MONITOR	INDICATOR	ALTIMETER	OBSERVE ALTIMETER TO CORRELATE AIRPSEED TO ALTITUDE	ALTIMETER	N/A	TRANSMITS INDICATION OF A/C HEIGHT FROM GROUND	C	✓			VISUAL (EXTERNAL) ALTIMETER READING	N/A	2	MUST READ TO WITHIN ± 10	MUST DETECT AND INTERPRET ALTIMETER INDICATOR CORRECTLY TO AVOID A/C CONTACT WITH GROUND AND ESTABLISH/ MAINTAIN DESIRED ALTITUDE AS REQUIRED BY MISSION
6. ADJUST	PEDALS	AFT ROTOR	ACTUATE APPROPRIATE PEDAL(S) TO ACHIEVE DESIRED A/C HEADING (TRIM)	AFT ROTOR PEDALS	LEFT-IN-OUT RIGHT-IN-OUT	ALTERS PITCH OF REAR ROTOR BLADES TO OFFSET MAIN ROTOR TORQUE AND STEER HELO	C	✓			VISUAL (EXTERNAL) ATTITUDE INDICATOR (TRIM)	MAY ACTUATE EITHER OR BOTH PEDALS IN OR OUT	1	TRIM BALL CENTERED	MUST ACTUATE PEDALS APPROPRIATELY TO MAINTAIN REQUIRED HEADING AND ATTITUDE OF HELO
7. MONITOR	INDICATOR	PITCH ATTITUDE	OBSERVE INDICATOR TO ASCERTAIN A/C IS IN DESIRED PITCH ATTITUDE	PITCH ATTITUDE	N/A	TRANSMITS VISUAL INDICATION OF A/C PITCH ATTITUDE	C	✓			VISUAL (EXTERNAL) PITCH ATTITUDE INDICATOR	N/A	2		MUST DETECT AND INTERPRET INDICATOR CORRECTLY TO ADJUST/MAINTAIN A/C ATTITUDE WITH RESPECT TO MISSION REQUIREMENTS
8. MONITOR	ATTITUDE	PITCH	OBSERVE TIP PATH PLANE	ROTOR TIP		N/A					HORIZON				

Continued on next page

TASK ANALYSIS

MISSION PHASE EN-ROUTE Page 2 of 2
FUNCTION MONITOR/ADJUST AIRSPEED

SEGMENT CRUISE NOE Page 2 of 2
SUBSYSTEM FLIGHT CONTROL/DISPLAY

Page 2 of 2

TASK			OPERATOR ACTION	CONTROL/DISPLAY		EQUIPMENT RESP	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
9. MONITOR	INDICATOR	N_1	OBSERVE INDICATOR TO ASCERTAIN TURBINE SPEED IS APPROPRIATE TO DESIRED AIRSPEED	N_1 INDICATOR	0 - 100%	TRANSMITS VISUAL INDICATION OF A/C TURBINE SPEED	C	✓			TURBINE SPEED INDICATOR (N_1)	N/A	2		MUST DETECT AND INTERPRET INDICATOR CORRECTLY TO ADJUST/MAINTAIN POWER REQUIREMENTS TO MEET AIRSPEED NEEDS
10. MONITOR	INDICATOR	TORQUE	OBSERVE INDICATOR TO ASCERTAIN TORQUE SETTING IS APPROPRIATE TO AIRSPEED	TORQUE METER	0 - 50	INCREASE/DECREASE POWER	C	✓			COLLECTIVE				

TASK ANALYSIS

MISSION PHASE: EN-ROUTE
SEGMENT: CRUISE NOE
FUNCTION: MONITOR/ADJUST ALTITUDE
SUBSYSTEM: FLIGHT CONTROL

TASK			OPERATOR ACTION	CONTROL /DISPLAY		EQUIPMENT RESP	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. ADJUST	CONTROL	COLLECTIVE	ACTUATE CONTROL TO ACHIEVE MAIN ROTOR BLADE PITCH ATTITUDE REQUIRED FOR DESIRED ALTITUDE	COLLECTIVE CONTROL	UP-DOWN	TILTS MAIN ROTOR BLADE ANGLE IN DIRECTION OF APPLIED FORCE (PITCH) (TORQUE)	D	✓			VISUAL (EXTERNAL) ALTIMETER	MAY ACTUATE CONTROL UP OR DOWN, INCREASE/ DECREASE TORQUE	1		MUST ACTUATE CONTROL APPROPRIATE TO ACHIEVE DESIRED ALTITUDE AND AVOID A/C IMPACT WITH OBSTACLES OR THE GROUND
2. MONITOR	AIRSPACE		OBSERVE: 1) TERRAIN AND AIRSPACE AROUND HELO TO IDENTIFY POTENTIAL FLIGHT HAZARDS AND REMAIN BELOW SURROUNDING TERRAIN FEATURES FOR MASKING EFFECT; 2) OTHER AIRCRAFT; 3) BIRDS	NONE	N/A	N/A	C	✓			EXTERNAL VISUAL	NONE	1		MUST DETECT, IDENTIFY AND EVALUATE AIRSPACE AND TERRAIN OBJECTS AND FEATURES THAT COULD BECOME POTENTIAL FLIGHT HAZARDS AND/OR UNMASK THE AIRCRAFT
3. MONITOR	ALTIMETER		MONITOR A/C ALTIMETER	ALTIMETER DISPLAY	N/A	ALTIMETER DISPLAY FLUCTUATES IN ACCORDANCE WITH ALTITUDE CHANGE	D	✓			ALTIMETER DISPLAY	NONE	2		MUST DETECT AND INTERPRET DISPLAY CORRECTLY TO PRECLUDE IMPACT OF A/C WITH GROUND
4. ADJUST	PEDALS	AFT ROTOR	ACTUATE APPROPRIATE PEDALS TO ACHIEVE A/C HEADING AND TRIM	AFT ROTOR PEDALS	LEFT: IN-OUT RIGHT: IN-OUT	ALTERS PITCH OF AFT ROTOR (TRIM)	D	✓			VISUAL (EXTERNAL) HEADING INDICATOR ATTITUDE INDICATOR, BALL & NEEDLE	MAY ACTUATE EITHER PEDAL IN OR OUT	1		MUST ACTUATE PEDALS APPROPRIATELY TO MAINTAIN/CORRECT A/C HEADING AND TRIM

TASK ANALYSIS

MISSION PHASE EN-ROUTE
FUNCTION ADJUST/MONITOR HEADING

SEGMENT CRUISE NOE
SUBSYSTEM

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	SCAN TASK	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. POSITION	CYCLIC	CONTROL	ACTUATES CONTROL TO KEEP A/C ON DESIRED COURSE	CYCLIC	FORE/AFT; RIGHT/LEFT	TILTS MAIN ROTOR IN DIRECTION OF APPLIED FORCE	D	✓		TACTILE	HEADING INDICATOR CONTROL POSITION VISUAL OBSERV.	POSITION CONTROL (FORE/AFT) OR RIGHT/LEFT	1	± 5°	MUST ACTUATE CONTROL IN APPROPRIATE DIRECTION TO MAINTAIN CONTROL OF A/C AND AVOID CONTACT WITH OBSTACLES
2. POSITION	PEDALS	AFT ROTOR	ACTUATES CONTROLS TO KEEP A/C NOSE ON COURSE	PEDAL(S)	RIGHT/LEFT IN/OUT	TILTS AFT ROTOR BLADE IN DIRECTION OF APPLIED FORCE (TRIM)	D	✓		TACTILE	"	POSITION CONTROLS IN OR OUT, RIGHT OR LEFT PEDAL	1	BALL CENTERED	"
3. MONITOR	INDICATOR	HEADING	OBSERVE INDICATOR TO DETERMINE HEADING	INDICATOR	SCALE RANGE	DISPLAYS A/C HEADING	D	✓			INDICATOR DISPLAY	RANGE OF A/C HEADING SCALE	1		MUST DETECT AND ACCURATELY INTERPRET INDICATOR TO MAINTAIN DESIRED COURSE.
4. MONITOR	AIRSPACE		OBSERVES TERRAIN, OBSTACLES, ETC.	N/A	N/A	N/A	D	✓			AIRSPACE	N/A	2		MUST DETECT AND INTERPRET VISUAL OBSTACLES TO AVOID IMPACT OF A/C WITH THESE OBSTACLES
5. MAINTAIN	COURSE	DESIRED	OBSERVES TERRAIN, OBSTACLES, ETC.	N/A	N/A	N/A	D	✓			HEADING INDICATOR CONTROL POSITION VISUAL OBSERV.	POSITION CONTROL (FORE/AFT) OR RIGHT/LEFT	1	± 5°	MUST ACTUATE CONTROL IN APPROPRIATE DIRECTION TO MAINTAIN CONTROL OF A/C AND AVOID CONTACT WITH OBSTACLES

TASK ANALYSIS

MISSION PHASE: EN-ROUTE
FUNCTION: MONITOR INSTRUMENTS (CROSS CHECK)

SEGMENT: CRUISE NOE
SUBSYSTEM: INSTRUMENTS

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. CHECK	INDICATOR	TORQUE METER	VISUALLY OBSERVE READING ON INDICATED GAUGE	TORQUE METER	0 - 50	DISPLAYS TORQUE (POWER) BEING USED	C	✓			GAUGE, COLLECTIVE POSITION	INCREASE, DECREASE		± 2	MUST DETECT, IDENTIFY AND EVALUATE INSTRUMENT DISPLAYS AND CONTROL POSITIONS ACCURATELY TO ASSESS A/C OPERATION AND MAINTAIN SAFE FLIGHT
2. CHECK	TACHOMETER	N_1	"	N_1 TACH	0 - 100%	DISPLAYS PERCENT RPM	C	✓			"	INCREASE, DECREASE		± 1	
3. CHECK	GAUGE	EGT	"	EGT GAUGE	0 - 1000°	DISPLAYS TEMPERATURE	C	✓			"			± 15	"
4. CHECK	INDICATOR	DUAL TACH	"	DUAL TACH		DISPLAYS ROTOR RPM DISPLAYS ENGINE RPM	C	✓			GAUGE			± 25	"
5. CHECK	INDICATOR	AIRSPEED	"	AIRSPEED INDICATOR	0 - 190 KTS	DISPLAYS INDICATED AIRSPEED	C	✓			GAUGE			± 5	"
6. CHECK	ALTIMETER, VSI		"	ALTIMETER VSI	RANGE CLIMB, DESCENT	DISPLAYS ALTITUDE DISPLAYS RATE OF CLIMB	C	✓			GAUGE	INCREASE, DECREASE TORQUE, LOWER, RAISE PITCH ATTITUDE		± 50	"
7. CHECK	INDICATOR	RADIO MAG	"	RMI	0 - 360°	DISPLAYS AIRCRAFT HEADING	C	✓			GAUGE			± 5	"
8. CHECK	INDICATOR	FUEL PRESSURE	"	FUEL PRESSURE	5 - 30	DISPLAYS FUEL PRESSURE	C	✓			GAUGE			± 1	"
9. CHECK	INDICATOR	FUEL QUANTITY	"	QUANTITY		DISPLAYS FUEL QUANTITY	C	✓			GAUGE			± 25	"
10. CHECK	INDICATOR	TRANSMISSION OIL PRESSURE	"	OIL PRESSURE	0 - 100	DISPLAYS OIL PRESSURE	C	✓			GAUGE			± 3	"
11. CHECK	INDICATOR	ENGINE OIL PRESSURE	"	OIL PRESSURE	0 - 100	DISPLAYS OIL PRESSURE	C	✓			GAUGE			± 3	"
12. CHECK	INDICATOR	TRANSMISSION OIL TEMPERATURE	"	OIL TEMPERATURE		DISPLAYS OIL TEMPERATURE	C	✓			GAUGE			± 5	"
13. CHECK	INDICATOR	ENGINE OIL TEMPERATURE	"	OIL TEMPERATURE		DISPLAYS OIL TEMPERATURE	C	✓			GAUGE			± 5	"
14. ADJUST	CONTROLS	FLIGHT	ADJUST CYCLIC, COLLECTIVE AND PEDAL AS NECESSARY TO MAINTAIN DESIRED FLIGHT ATTITUDE	FLIGHT		DETERMINES AIRCRAFT ATTITUDE	C	✓		TACTILE	INSTRUMENTS & OUTSIDE REFERENCE	CHANGE OR HOLD CONSTANT			"
15. MONITOR	AIRSPACE		OBSERVE A/C CLEARANCE AND OBSTACLE AVOIDANCE	N/A							TERRAIN, AIRSPACE	TERRAIN, AIRSPACE			"

TASK ANALYSIS

MISSION PHASE: ENROUTE
SEGMENT: CRUISE NOE
FUNCTION: MONITOR AIRSPACE
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. MONITOR	AIRSPACE		CHECK AREA AROUND A/C AND TERRAIN FOR POSSIBLE FLIGHT HAZARDS	N/A	N/A	N/A	C	✓			AIRSPACE, TERRAIN	HAZARDS TO FLIGHT	1		MUST DETECT, IDENTIFY AND EVALUATE TERRAIN FEATURES AND/OR AIRSPACE OBJECTS THAT HAVE POTENTIAL IMPACT ON THE FLIGHT PATH AND/OR MISSION OBJECTIVES

TASK ANALYSIS

MISSION PHASE EN-ROUTE
FUNCTION MAINTAIN MASK

SEGMENT CRUISE NOE
SUBSYSTEM

TASK			OPERATOR ACTION	CONTROL/DISPLAY		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. ADJUST	ALTITUDE	AIRCRAFT	KEEPS A/C ABOVE OBSTACLES, FOLLOWS TERRAIN FEATURES, REMAINS BELOW SURROUNDING TERRAIN BY POSITIONING COLLECTIVE, PEDALS, CYCLIC CONTROLS AS REQUIRED	COLLECTIVE	UP-DOWN	TILT MAIN ROTOR BLADES IN DIRECTION OF APPLIED FORCE	C	✓		TACTILE	VISUAL OBSERVATION OF AIRSPACE, INDICATORS	DIRECTION OF APPLIED FORCE TO COLLECTIVE CONTROL	1		CORRECT CONTROL ADJUSTMENTS MUST BE MADE TO AVOID IMPACT OF A/C WITH OBSTACLES. LEAD ALL MANEUVERS WITH COLLECTIVE
2. ADJUST	AIRSPEED	AIRCRAFT	VARIES AIRSPEED AS REQUIRED FOR SAFE FLIGHT PATH BY ADJUSTING COLLECTIVE PITCH, CYCLIC AND PEDALS	PEDAL(S)	RIGHT, IN-OUT LEFT, IN-OUT	ADJUSTS TAIL ROTOR BLADES TO GIVE DIRECTIONAL STABILITY (TRIM)	C	✓		TACTILE	"	DIRECTION OF APPLIED FORCE TO RIGHT OR LEFT PEDAL	1		"
3. ADJUST	ATTITUDE	AIRCRAFT	ADJUSTS CYCLIC CONTROL AS REQUIRED TO MANEUVER AND MAINTAIN MASKED CONDITION	CYCLIC	FORE/AFT, LEFT, RIGHT	TILTS MAIN ROTOR IN DIRECTION OF APPLIED FORCE	C	✓		TACTILE	"	DIRECTION OF APPLIED FORCE TO CYCLIC CONTROL	1		"

TASK ANALYSIS

MISSION PHASE EN-ROUTE

FUNCTION MAINTAIN OBSTACLE CLEARANCE

SEGMENT CRUISE NOE

SUBSYSTEM FLIGHT CONTROL

TASK				CONTROL			TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER	OPERATOR ACTION	NAME	OPTIONS	EQUIPMENT RESP		V	A	OTHER					
1. MONITOR	CLEARANCE	ROTOR BLADE	VISUAL OBSERVATION OF MAIN ROTOR BLADES IN REFERENCE TO CLEARANCE WITH SURROUNDING TERRAIN AND OBSTACLES	BLADES	N/A	N/A	C	✓		PERCEIVED	OBSTACLES IN FLIGHT PATH	N/A	2		MUST JUDGE CLEARANCES ACCURATELY ENOUGH TO PREVENT IMPACT OF ROTOR BLADES WITH OBSTACLES
2. MONITOR	CLEARANCE	SKIDS	VISUAL OBSERVATION OF SKIDS IN REFERENCE TO CLEARANCE WITH TERRAIN AND OBSTACLES	SKIDS	N/A	N/A	C	✓			OBSTACLES IN FLIGHT PATH	N/A	2		MUST JUDGE CLEARANCES ACCURATELY ENOUGH TO PREVENT IMPACT OF SKIDS WITH OBSTACLES
3. OBSERVE	OBSTACLES		IDENTIFY APPROACHING OBSTACLES AND DETERMINE AVOIDANCE CLEARANCES REQUIRED	N/A	N/A	N/A	C	✓			OBSTACLES IN FLIGHT PATH	N/A	2		MUST JUDGE SIZE AND SHAPE OF APPROACHING OBSTACLES WITH SUFFICIENT DECISION TO DETERMINE REQUIRED CLEARANCE BETWEEN A/C AND OBSTACLE
4. MONITOR	ATTITUDE	TAIL	MONITOR PITCH ATTITUDE TO DETECT AND AVOID TAIL LOW CONDITION	ATTITUDE INDICATOR	N/A	TRANSMITS INFORMATION RELATIVE TO A/C ATTITUDE	D	✓			1) PITCH ATTITUDE 2) ATTITUDE INDICATOR POSITION	N/A	2		MUST DETECT CHANGES IN A/C ATTITUDE RESULTING IN A "TAIL LOW" ATTITUDE
				PITCH ATTITUDE		"	D	✓							
5. ADJUST	CONTROL	COLLECTIVE PITCH	ACTUATES COLLECTIVE PITCH CONTROL TO ALTER A/C ALTITUDE AND PROVIDE OBSTACLE CLEARANCE	COLLECTIVE PITCH CONTROL	UP-DOWN	CHANGES MAIN ROTOR BLADE PITCH ANGLE IN DIRECTION OF APPLIED FORCE (TORQUE)	D	✓			1) EXTERNAL VISUAL 2) ALTIMETER INDICATION	MAY ACTUATE CONTROL UP OR DOWN	1		MUST ACTUATE CONTROL IN APPROPRIATE DIRECTION AND TO NECESSARY DEGREE TO ACHIEVE A/C ALTITUDE SUFFICIENT TO CLEAR OBSTACLES

TASK ANALYSIS

MISSION PHASE EN-ROUTE
SEGMENT CRUISE NOE
FUNCTION MONITOR OBSTACLE CLEARANCE
SUBSYSTEM

TASK			OPERATOR ACTION	CONTROL /DISPLAY		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	* COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. COMMUNICATE	WARNING	OBSTACLE	VERBALLY TRANSMIT WARNING OF CHANGING TERRAIN ELEVATION	N/A	N/A	N/A	C	✓			VISUAL TERRAIN FEATURES	N/A	2		MUST CLEARLY AND ACCURATELY VERBALLY TRANSMIT TERRAIN CHANGE DETAILS
2. COMMUNICATE	WARNING	VEGETATION	VERBALLY TRANSMIT WARNING OF CHANGE IN TERRAIN VEGETATION	N/A	N/A	N/A	C	✓			VISUAL TERRAIN FEATURES	N/A	2		MUST CLEARLY AND ACCURATELY VERBALLY TRANSMIT TERRAIN CHANGE DETAILS
3. MONITOR	AIRSPACE		SCAN AIRSPACE TO DETECT AND IDENTIFY POTENTIAL FLIGHT HAZARDS AND/OR CONDITIONS REQUIRING MODIFICATION OF A/C FLIGHT PATH, SPEED, ALTITUDE	N/A	N/A	N/A	C	✓			VISUAL TERRAIN FEATURES	N/A	2		MUST DETECT AND IDENTIFY FACTORS IN THE A/C AIRSPACE THAT REQUIRE CHANGES TO THE A/C FLIGHT PATH, SPEED AND/OR ALTITUDE

TASK ANALYSIS

MISSION PHASE: EN-ROUTE
FUNCTION: DETERMINE POSITION

SEGMENT: CRUISE NOE
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL/DISPLAY		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. DETERMINE	INTERSECTION	KNOWN POINTS	OBSERVES LOCATION OF TWO KNOWN POINTS	N/A	N/A	N/A	D	✓			TERRAIN	N/A	1		MUST DETECT AND IDENTIFY CHECKPOINTS
2. CHECK	POINT	BENEATH AIRCRAFT	OBSERVE POINT BENEATH AIRCRAFT	N/A	N/A	N/A	D	✓			TERRAIN	N/A	1		NONE
3. ESTIMATE	DISTANCE	FROM KNOWN POINTS	ESTIMATE DISTANCES	N/A	N/A	N/A	D	✓			TERRAIN	N/A	1		MUST ACCURATELY ESTIMATE DISTANCES
4. ESTIMATE	TIME	FROM KNOWN POINT	ESTIMATE TIME	N/A	N/A	N/A	D	✓			TERRAIN	N/A	1		MUST ACCURATELY ESTIMATE TIME
5. IDENTIFY	FEATURES	MAP & TERRAIN	CORRELATE MAP & TERRAIN FEATURES	MAP	TERRAIN	DISPLAYS TERRAIN	D	✓			MAP, TERRAIN	MAP SCALE	1		MUST SELECT MAP OF APPROPRIATE SCALE TO GIVE ACCURATE POSITION COORDINATES
6. VERIFY	CHECKPOINTS		OBSERVES MAP & TERRAIN	MAP	TERRAIN	DISPLAYS TERRAIN	D	✓			MAP, TERRAIN	N/A	1		MUST DETECT AND IDENTIFY CHECKPOINTS
7. IDENTIFY	POSITION	AIRCRAFT	DETERMINE AIRCRAFT POSITION	N/A	N/A	N/A	D	✓			MAP, TERRAIN	N/A	1		MUST IDENTIFY A/C POSITION ACCURATELY

TASK ANALYSIS

MISSION PHASE EN-ROUTE
FUNCTION PERFORM INTERSECTION
SEGMENT CRUISE NOE
SUBSYSTEM

TASK			OPERATOR ACTION	CONTROL/DISPLAY		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. SELECT	LOCATIONS	MAP	PICKS TWO OR MORE TERRAIN FEATURES	MAP	MAP SCALE	N/A	D	✓			MAP	MAP SCALE	1	ACCURATE TO SIX DIGITS	MUST DETECT AND IDENTIFY APPROPRIATE TERRAIN FEATURES
2. DETERMINE	DIRECTION	LOCATIONS	DETERMINE DIRECTION OF FEATURES FROM A/C (MAG COMPASS OR RMI)	MAP	MAP SCALE	N/A	D	✓			MAP	MAP SCALE	1		MUST IDENTIFY CORRECT DIRECTION
3. ESTIMATE	DISTANCE	LOCATION	ESTIMATE DISTANCE TO EACH FEATURE	MAP	MAP SCALE	N/A	D	✓			MAP	MAP SCALE	1		NONE
4. PERFORM	INTERSECT	LOCATION LINE	INTERSECT FEATURE DIRECTION LINES WITH A/C	MAP	MAP SCALE	DISPLAYS INTERSECTING LINES	D	✓			MAP	N/A	1	ACCURATE TO SIX DIGITS	MUST DETECT AND IDENTIFY POINTS OF ORIGIN
5. DETERMINE	POSITION	AIRCRAFT	NOTES INTERSECTION POINT	MAP	MAP SCALE	N/A	D	✓			MAP	MAP SCALE	1	ACCURATE TO SIX DIGITS	MUST DETECT AND IDENTIFY INTERSECTION POINT
6. VERIFY	CHECKPOINTS		VERIFY BY OBSERVATION OF AREA AND TERRAIN FEATURES	MAP	MAP SCALE	N/A	D	✓			TERRAIN FEATURES	MAP SCALE	1		MUST DETECT AND IDENTIFY TERRAIN FEATURES WITH RELATION TO INTERSECT POINT

TASK ANALYSIS

MISSION PHASE EN-ROUTE
FUNCTION USE BARRIERS

SEGMENT CRUISE NOE
SUBSYSTEM

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. DETERMINE	PROXIMITY	CHECKPOINT	OBSERVE AIRCRAFT LOCATION AS APPROACHING CHECKPOINT	N/A			D	✓			TERRAIN, MAP		1		LOCATION OF AIRCRAFT MUST BE IN VICINITY OF CHECKPOINT AND/OR BARRIER
2. VERIFY	COURSE		VERIFY AIRCRAFT ON CORRECT COURSE AS PLOTTED ON MAP	MAP			D	✓			TERRAIN, MAP	ON COURSE/OFF COURSE	1		
3. OBSERVE	BARRIER		OBSERVE AND DETERMINE LOCATION OF TERRAIN FEATURE CHOSEN AS BARRIER IN RESPECT TO AIRCRAFT LOCATION	TERRAIN			D	✓			TERRAIN, MAP		1		
4. LOCATE	CHECKPOINT		WITH AID OF COURSE AND BARRIER, DETERMINE LOCATION OF CHECKPOINT	MAP, TERRAIN			D	✓			TERRAIN, MAP	ON COURSE/OFF COURSE			

TASK ANALYSIS

MISSION PHASE: EN-ROUTE
FUNCTION: INTERPRET TERRAIN

SEGMENT: CRUISE NOE
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL /DISPLAY		EQUIPMENT RESP.	DISPLAY CODE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. DETECT	FEATURES	TERRAIN	RELATES TERRAIN FEATURES TO MAP CONTOURS AND CHECKPOINTS	MAP	MAP SCALE	DISPLAYS TERRAIN	D	✓			TERRAIN, AIRSPACE MAP	MAP SCALE	1		MUST DETECT AND IDENTIFY CORRELATING MAP AND ACTUAL TERRAIN FEATURES
2. INTERPRET	FEATURES	TERRAIN	NOTES PROMINENT FEATURES IN RELATION TO CHECKPOINTS	N/A	N/A	N/A	C	✓			TERRAIN	N/A	1		MUST DETECT AND IDENTIFY FLIGHT PATH SIGNIFICANT TERRAIN FEATURES
3. MONITOR	TERRAIN		CONSTANT OBSERVATION FOR CHECKPOINTS, OBSTACLES	N/A	N/A	N/A	C	✓			TERRAIN	N/A	1		MUST DETECT AND IDENTIFY FLIGHT PATH SIGNIFICANT TERRAIN FEATURES

TASK ANALYSIS

MISSION PHASE EN-ROUTE
FUNCTION CREW COORDINATION

SEGMENT CRUISE NAV
SUBSYSTEM

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	MOVE TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. DISCUSS	TERRAIN	VISIBLE	PILOT/COPILOT DISCUSS THEIR POSITION RELATIVE TO SURROUNDING TERRAIN, CHECKPOINTS, OBSTACLES	N/A	N/A	N/A	C	✓	✓		TERRAIN MAPS	ON COURSE/OFF COURSE			
2. DISCUSS	CHECKPOINTS		COPILOT/NAVIGATOR ADVISES PILOT OF PROXIMITY TO CHECKPOINT WHILE GIVING DESCRIPTION OF TERRAIN	N/A	N/A	N/A	C	✓	✓						
3. DISCUSS	COURSE CHANGES		NAVIGATOR/COPILOT ADVISES PILOT OF NEW COURSE AND TYPE TERRAIN TO EXPECT AFTER EACH CHECKPOINT	N/A	N/A	N/A	C	✓	✓		CHECKPOINTS TERRAIN				

TASK ANALYSIS

MISSION PHASE: EN-ROUTE
FUNCTION: COMMUNICATE - CLEARANCE, POSITION

SEGMENT: CRUISE NOE
SUBSYSTEM: COMMUNICATIONS

TASK			OPERATOR ACTION	CONTROL /DISPLAY		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. SELECT	RADIO		SWITCHES TO RADIO SELECTED	SWITCH	FM, UHF, VHF	ENABLES RADIO TRANSMIT/ RECEIVE	D	✓		TACTILE	IC PANEL, RADIO(S) SWITCH POSITION	FM, UHF, VHF	1		MUST IDENTIFY AND SELECT APPROPRIATE RADIO
2. ADJUST	FREQUENCY	RADIO	TUNE IN DESIRED FREQUENCY	DIAL	FREQUENCY RANGE	ENABLES SELECT FREQUENCY	D	✓		TACTILE	IC PANEL, DIAL POSITION	FREQUENCY RANGE	1		MUST IDENTIFY AND TUNE IN CORRECT FREQUENCY
3. TRANSMIT	POSITION		SEND GRID COORDINATES, LANDMARKS, ETC.	MICROPHONE	N/A	TRANSMITS MESSAGE	D		✓		MAP, TERRAIN	MESSAGE CONTENT	1		MUST TRANSMIT ACCURATE POSITION INFORMATION
4. TRANSMIT	REQUEST	ARTY CLEARANCE	REQUEST CLEARANCE AND HAZARD INFORMATION TO DESTINATION	MICROPHONE	N/A	TRANSMITS MESSAGE	D		✓		SOP	MESSAGE CONTENT	1		NONE
5. RECEIVE	ADVISORY	ARTY	RECEIVE INFORMATION RELATIVE TO POSSIBLE FLIGHT HAZARDS, ETC.	HEADSET	N/A	TRANSMITS MESSAGE	D		✓		SOP	N/A	1		NONE

TASK ANALYSIS

MISSION PHASE: ENGAGEMENT
FUNCTION: MANEUVER INTO AOP

SEGMENT: MANEUVER
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. MAINTAIN	COURSE	SELECTED	NAVIGATE ON COURSE SELECTED TO AOP	MAP	MAP SCALE	DISPLAY TERRAIN	D	✓			MAP TERRAIN	MAP SCALE	1	ACCURATE TO SIX DIGIT COORDINATE	MUST DETECT AND IDENTIFY FLIGHT PATH TO AOP
2. MAINTAIN	MASK		ADJUST A/C FOR MINIMUM ALTITUDE OVER TERRAIN	N/A	N/A	N/A	C	✓			TERRAIN, A/C FLIGHT CONTROLS	N/A	1		MUST MAINTAIN A/C CONTROL AND ALTITUDE TO PREVENT IMPACT WITH OBSTACLES
3. MONITOR	OBSTACLES	FLIGHT PATH	VISUALLY INSPECT AIRSPACE IN FLIGHT PATH	N/A	N/A	N/A	C	✓			TERRAIN	N/A	1		MUST DETECT AND IDENTIFY FLIGHT PATH OBSTACLES
4. CHECK	WIND		OBSERVE WATER, TREES, WEATHER REPORT, FEEL	N/A	N/A	N/A	D	✓			TERRAIN	N/A	1		EXPERIENCE WILL AID IN CORRECT CALCULATION
5. SELECT	PATH	APPROACH	DETERMINE APPROACH DIRECTION	N/A	N/A	N/A	D	✓			TERRAIN	N/A	1		MUST DETECT AND IDENTIFY FLIGHT PATH OBSTACLES
6. SELECT	POINT	TERMINATION	DETERMINE HOVER SPOT	N/A	N/A	N/A	D	✓			TERRAIN	N/A	1		"
7. EVALUATE	SIZE	HOVER POINT	ASCERTAIN HOVER CLEARANCE	N/A	N/A	N/A	D	✓			TERRAIN	N/A	1		"
8. MAINTAIN	HOVER	STABLE	HOVER AIRCRAFT USING CYCLIC, PEDALS, COLLECTIVE	FLIGHT		DETERMINE AIRCRAFT POSITION/OPERATION	C	✓			AIRCRAFT POSITION AND ATTITUDE	ADJUST FLIGHT CONTROLS	1		"

TASK ANALYSIS

MISSION PHASE ENGAGEMENT

SEGMENT MANEUVER

FUNCTION POP-UP MANEUVER

SUBSYSTEM

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. ADJUST	CONTROL	COLLECTIVE	INCREASE POWER TO GAIN ALTITUDE	COLLECTIVE	INCREASE/ DECREASE	ADJUSTS ENGINE POWER IN DIRECTION OF CONTROL MOVEMENT	C	✓		TACTILE	ENGINE INDICATORS, CONTROL POSITION	AMOUNT OF INCREASE	1		MUST ADJUST TO SUFFICIENT VALUE TO ACHIEVE RAPID LIFT
2. ADJUST	PEDALS	AFT ROTOR	MAINTAIN HEADING CONTROL	PEDALS	LEFT/RIGHT, IN/OUT	ADJUSTS TAIL ROTOR TO MAINTAIN HEADING	C	✓		TACTILE	"	DEGREE, DIRECTION AND SPECIFIC PEDAL ACTUATION	1		MUST ADJUST TO MAINTAIN CONTROL AND HEADING OF AIRCRAFT
3. ADJUST	ATTITUDE	AIRCRAFT	POSITION AIRCRAFT SO OBSERVER CAN VISUALLY SCAN TARGET AREA	CYCLIC	LEFT/RIGHT FORWARD/AFT	ADJUSTS A/C ATTITUDE	C	✓		TACTILE	"	DEGREE, DIRECTION AND SPECIFIC PEDAL ACTUATION	1		"
4. MAINTAIN	CLEARANCE	OBSTACLE	CONTROL AIRCRAFT MOVEMENT	AIRCRAFT CONTROLS	CONTROL RANGE	AIRCRAFT ATTITUDE, ALTITUDE, HEADING AND AIRSPEED AS INPUT	C	✓			"	CONTROL RANGE	1		"
5. PERFORM	MANEUVER	POP-UP	RAISE AIRCRAFT TO TARGET OBSERVATION HEIGHT	AIRCRAFT CONTROLS	CONTROL RANGE	AIRCRAFT ATTITUDE, ALTITUDE, HEADING AND AIRSPEED AS INPUT	C	✓			"	CONTROL RANGE	1		"

TASK ANALYSIS

MISSION PHASE: ENGAGEMENT
FUNCTION: MASK MANEUVER

SEGMENT: MANEUVER
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP	TASK	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. CHECK	TACH	DAUL	OBSERVE IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAYS RPM	C	✓			INDICATOR DISPLAY	IN TOLERANCE CONDITION	1	6600 ± 50	MUST DETECT AND EVALUATE SYSTEM CONDITION CORRECTLY
2. CHECK	LIGHTS	CAUTION/WARNING	OBSERVE CAUTION/WARNING LIGHTS OFF	INDICATOR	ON/OFF	DISPLAYS CAUTION/ WARNING CONDITION	C	✓			INDICATOR DISPLAY	LIGHTS ON/OFF	1		"
3. CHECK	INSTRUMENTS	ENGINE	OBSERVE IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAYS A/C CONDITION PARAMETERS	C	✓			INDICATOR DISPLAY	IN TOLERANCE CONDITION	1	IN TOLERANCE	"
4. CHECK	FUEL	QUANTITY	NOTE REMAINING FUEL	INDICATOR	SCALE RANGE	DISPLAYS FUEL QUANTITY	C	✓			INDICATOR DISPLAY	IN TOLERANCE CONDITION	1		"
5. CHECK	SWITCH	FORCE TRIM	IN DESIRED POSITION	SWITCH	ON/OFF	ENABLES FORCE TRIM	C	✓		TACTILE	CONTROL POSITION	CONTROL ON/OFF	1		"
6. CHECK	SWITCH	ECU	IN DESIRED POSITION	SWITCH	ON/OFF	ENABLES ECU	C	✓		TACTILE	CONTROL POSITION	CONTROL ON/OFF	1		"
7. CHECK	INDICATORS	POWER (TORQUE)	OBSERVE IN TOLERANCE	INDICATORS	SCALE RANGE	DISPLAYS SYSTEM CONDITION	C	✓			INDICATOR DISPLAY	IN TOLERANCE CONDITON	1	0 - 50	"
8. CHECK	CLEARANCE	OBSTACLE	OBSERVE CLEAR AREA FOR DROP	N/A	N/A	N/A	C	✓			TERRAIN	CLEAR/OBSTACLES	1		MUST DETECT AND EVALUATE TERRAIN FOR OBSTACLES TO CLEAR DROP
9. ADJUST	LEVER	COLLECTIVE	INCREASE/DECREASE COLLECTIVE AS REQUIRED TO MAINTAIN AIRCRAFT IN DEFILATE POSITION	FLIGHT CONTROL	CONTROL RANGE	A/C REACTS TO CONTROL MOVEMENT	C	✓		TACTILE	INDICATORS, CONTROL POSITION TERRAIN	RANGE OF CONTROL MOVEMENT	1		MUST CONTROL AIRCRAFT TO ACHIEVE A DEFILATE POSITION
10. ADJUST	LEVER	CYCLIC	ADJUST CYCLIC AS ABOVE	FLIGHT CONTROL	"	"	C	✓		TACTILE	"	RANGE OF CONTROL MOVEMENT	1		"
11. ADJUST	PEDALS	ANTI-TORQUE	MAINTAIN TRIM	FLIGHT CONTROL	"	"	C	✓		TACTILE	"	RANGE OF CONTROL MOVEMENT	1		"

TASK ANALYSIS

MISSION PHASE: ENGAGEMENT
FUNCTION: PERFORM EVADE-DROP/REPORT

SEGMENT: MANEUVERS
SUBSYSTEM: AIRCRAFT

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. CHECK	CLEARANCE	OBSTACLE	OBSERVE AREA OF INTENDED FLIGHT PATH FOR OBSTACLES	N/A	N/A	N/A	D	✓			TERRAIN	N/A	1		MUST DETECT AND EVALUATE POSSIBLE FLIGHT PATH OBSTACLES
2. ADJUST	CONTROL	COLLECTIVE	LOWER COLLECTIVE CONTROL	COLLECTIVE	UP-DOWN	VARIES MAIN BLADE PITCH IN DIRECTION OF ACTIVATION	D	✓		TACTILE	CONTROL POSITION GROUND CLEARANCE	DEGREE OF CONTROL MOVEMENT	1		MUST CORRECTLY ADJUST CONTROLS TO MAINTAIN AIRCRAFT CONTROL
3. ADJUST	CONTROL	PEDALS	MAINTAIN AIRCRAFT TRIM	PEDAL(S)	IN/OUT, RIGHT/LEFT	MAINTAINS AIRCRAFT HEADING	D	✓		TACTILE	CONTROL POSITION GROUND CLEARANCE	DEGREE OF CONTROL MOVEMENT	1		"
4. ADJUST	CONTROL	CYCLIC	MAINTAIN AIRCRAFT ATTITUDE	CYCLIC	FORE/AFT, LEFT/RIGHT	MAINTAINS AIRCRAFT ATTITUDE	D	✓		TACTILE	CONTROL POSITION GROUND CLEARANCE	DEGREE OF CONTROL MOVEMENT	1		"
5. MONITOR	RATE	DESCENT	OBSERVE TERRAIN CLEARANCE	N/A	N/A	N/A	D	✓			TERRAIN, GROUND CLEARANCE	N/A	1		MUST DETECT AND EVALUATE POSSIBLE FLIGHT PATH OBSTACLES
6. ASSESS	CONDITION	MASK	VERIFY CLEARANCE OF THREATENING ENVIRONMENT	N/A	N/A	N/A	C	✓			TERRAIN, GROUND CLEARANCE	N/A	1		MUST EVALUATE MASK CONDITION CORRECTLY TO AVOID ENEMY DETECTION
7. ADJUST	CONTROLS	AIRCRAFT	MAINTAIN AIRCRAFT AT STABLE HOVER	CONTROLS	CONTROLS RANGE	ADJUSTS/MAINTAINS AIRCRAFT CONDITON	D	✓		TACTILE	CONTROL POSITION TERRAIN	DEGREE OF CONTROL MOVEMENT	1		MUST CORRECTLY ADJUST CONTROLS TO MAINTAIN AIRCRAFT CONTROL
8. CHECK	INSTRUMENTS	ENGINE	SCAN INSTRUMENTS FOR IN TOLERANCE RANGES	INDICATORS	SCALE RANGE	DISPLAY AIRCRAFT ENGINE CONDITIONS	D	✓			INDICATOR DISPLAYS	IN TOLERANCE RANGE	1		MUST DETECT AND EVALUATE INDICATOR READING CORRECTLY TO ASSURE IN TOLERANCE OPERATION
9. REPORT	DETECTION	ENEMY	TRANSMIT REPORT OF ENEMY THREAT AND EVASIVE ACTION	RADIO	UHF; VHF; FM	TRANSMITS MESSAGE	D	✓	✓		SOP	MESSAGE CONTENT	1		MUST CLEARLY AND ACCURATELY TRANSMIT THREAT DATA

TASK ANALYSIS

MISSION PHASE: ENGAGEMENT
FUNCTION: PERFORM EVADE DASH

SEGMENT: MANEUVERS
SUBSYSTEM: AIRCRAFT

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYP.	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. CHECK	CLEARANCE	OBSTACLE	OBSERVE AREA OF INTENDED FLIGHT FOR OBSTACLES	N/A		N/A	D	✓			TERRAIN	N/A			MUST DETECT AND EVALUATE POSSIBLE FLIGHT PATH OBSTACLES
2. ADJUST	CONTROL	COLLECTIVE	ADJUST COLLECTIVE AS REQUIRED TO MAINTAIN OR CHANGE ALTITUDE AS REQUIRED	COLLECTIVE	UP/DOWN	VARIES MAIN BLADE PITCH (TORQUE)	D	✓		TACTILE	CONTROL POSITION GROUND CLEARANCE	DEGREE OF CONTROL MOVEMENTS	1		MUST CORRECTLY ADJUST CONTROLS TO MAINTAIN AIRCRAFT CONTROL
3. ADJUST	CONTROL	PEDALS	MAINTAINS AIRCRAFT TRIM	PEDALS	LEFT/RIGHT	MAINTAINS AIRCRAFT HEADING	D	✓		TACTILE	CONTROL POSITION GROUND CLEARANCE	DEGREE OF CONTROL MOVEMENTS	1		MUST CORRECTLY ADJUST CONTROLS TO MAINTAIN AIRCRAFT CONTROL
4. ADJUST	CONTROL	CYCLIC	ADJUST CYCLIC CONTROL TO MANEUVER AIRCRAFT TO POSITION AWAY FROM ENEMY THREAT LATERALLY TO HIDE OR LATERAL DROP TO HIDE	CYCLIC	FORE/AFT, LEFT/RIGHT	VARIES AIRCRAFT PITCH ATTITUDE	D	✓		TACTILE	CONTROL POSITION GROUND CLEARANCE	DEGREE OF CONTROL MOVEMENTS	1		MUST CORRECTLY ADJUST CONTROLS TO MAINTAIN AIRCRAFT CONTROL AND TO EVADE ENEMY DETECTION
5. ASSESS	CONDITION	MASK	VERIFY CLEAR OF THREAT	N/A			D	✓			TERRAIN, GROUND CLEARANCE	N/A	1		MUST EVALUATE MASK CONDITION CORRECTLY TO AVOID ENEMY DETECTION

TASK ANALYSIS

MISSION PHASE: ENGAGEMENT
FUNCTION: PERFORM LZ RECON (UTILITY)
SEGMENT: MANEUVER
SUBSYSTEM:

TASK				CONTROL			TASK TYPE	FEEDBACK						
VERB	OBJECT	MODIFIER	OPERATOR ACTION	NAME	OPTIONS	EQUIPMENT RESP		V	A	OTHER	STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
1. EVALUATE	SIZE	LANDING ZONE	DETERMINE LONG AXIS OF AREA ESTIMATE TOTAL SIZE OF AREA				D	✓			TERRAIN	LAND, GO AROUND	2		
2. EVALUATE	OBSTACLES		OBSERVE AND NOTE LOCATION, SIZE, TYPE AND NUMBER OF OBSTACLES TO APPROACH				D	✓				LAND, GO AROUND	2		
3. NOTE	DIRECTION	WIND	DETERMINE VELOCITY AND DIRECTION OF WIND				D	✓			WATER, TREES, AIRCRAFT				
4. SELECT	DIRECTION	APPROACH	CHOSE APPROACH DIRECTION INTO LANDING ZONE				D	✓			WIND, FORCE LANDING AREAS, HT. OF OBSTACLE, LONG AXIS	LANDING DIRECTION	2		
5. DETERMINE	APPROACH		SELECT LOW LEVEL OVERHEAD APPROACH					✓				TYPE OF APPROACH	2		
6. PERFORM	CHECK	PRE-LANDING	CHECK INSTRUMENTS	GAUGES	SCALE RANGE	DISPLAYS		✓							

TASK ANALYSIS

MISSION PHASE ENGAGEMENT
FUNCTION PERFORM LANDING (UTILITY)

SEGMENT MANEUVER
SUBSYSTEM

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. INTERCEPT	COURSE	APPROACH	MANEUVER AIRCRAFT TO FOLLOW SELECTED COURSE	FLIGHT		DETERMINES ATTITUDE OF AIRCRAFT	D	✓			MAP, COURSE LINE TERRAIN HEADING INDICATOR		1		
2. ADJUST	CONTROL	COLLECTIVE	LOWER COLLECTIVE PITCH TO INITIATE DESCENT	COLLECTIVE	UP/DOWN	CHANGE TORQUE (POWER)	D	✓		TACTILE		AMOUNT AND DIRECTION OF MOVEMENT	1		INITIAL ADJUSTMENT MUST BE ENOUGH TO CHANGE MODE OF FLIGHT FROM CRUISE TO APPROACH. POSITIVE REDUCTION IN POWER TO INITIATE DESCENT AND DEFINITE AFT MOVEMENT OF CYCLIC TO INITIATE DECELERATION
3. ADJUST	CONTROL	CYCLIC	INCREASE AFT CYCLIC TO INITIATE DECELERATION	CYCLIC	FORE/AFT, LEFT/RIGHT	CHANGE PITCH ATTITUDE	D	✓		TACTILE		AMOUNT AND DIRECTION OF MOVEMENT	1		
4. ADJUST	PEDALS	ANTI-TORQUE	INCREASE RIGHT PEDAL TO COMPENSATE FOR TORQUE	PEDAL	LEFT/RIGHT	TRIMS AIRCRAFT	D	✓		TACTILE	TRIM BALL TORQUE SETTING	AMOUNT AND DIRECTION OF MOVEMENT	1		
5. MAINTAIN	CLEARANCE	OBSTACLE	ADJUST ALTITUDE DURING THE DESCENT SO AS TO STAY ABOVE ANY OBSTACLES IN FLIGHT PATH				C	✓					1		
6. MONITOR	INSTRUMENTS	ENGINE, FLIGHT	CROSS CHECK OF BOTH ENGINE AND FLIGHT INSTRUMENTS THROUGHOUT FLIGHT	ENGINE, TRANSMISSION, FUEL AND FLIGHT	IN/NOT IN TOLERANCE	DISPLAYS STATUS	C	✓					1		
7. ADJUST	CONTROL	COLLECTIVE	INCREASE OR DECREASE COLLECTIVE PITCH AS REQUIRED TO MAINTAIN A CONSTANT ANGLE OF APPROACH ON SELECTED PATH TO POINT OF INTENDED LANDING	COLLECTIVE	INCREASE/ DECREASE	ADJUST POWER (TORQUE)	D	✓		TACTILE	CONTROL POSITION	AMOUNT AND DIRECTION OF CONTROL MOVEMENT	1		SHOULD BE MINOR ADJUSTMENTS AND SHOULD BE KEPT TO A MINIMUM DURING ANY APPROACH
8. ADJUST	CONTROL	CYCLIC	INCREASE AFT CYCLIC TO OBTAIN A CONSTANT DECELERATION TO ARRIVE AT POINT OF INTENDED LANDING AT ZERO AIR SPEED	CYCLIC	LEFT/RIGHT FORE/AFT	ADJUST PITCH ATTITUDE	D	✓		TACTILE	CONTROL POSITION	AMOUNT AND DIRECTION OF CONTROL MOVEMENT	1		
9. ADJUST	PEDALS	ANTI-TORQUE	ADJUST PEDAL POSITION IN CONJUNCTION WITH COLLECTIVE TO MAINTAIN DESIRED HEADING AND TRIM	PEDALS	LEFT/RIGHT	ADJUST TRIM OF AIRCRAFT	D	✓		TACTILE	CONTROL POSITION	AMOUNT AND DIRECTION OF CONTROL MOVEMENT	1		
10. EVALUATE	APPROACH		DETERMINE IF LANDING IS POSSIBLE OR IF GO AROUND WILL BE NECESSARY	N/A		N/A	D	✓			SPEED, ANGLE, RATE OF DESCENT	CONTINUE/GO AROUND	1		
11. EVALUATE	TERRAIN		DETERMINE IF LANDING IS POSSIBLE OR IF GO AROUND WILL BE NECESSARY	N/A		N/A	D	✓			TERRAIN, OBSTACLES	CONTINUE/GO AROUND	1		

TASK ANALYSIS

MISSION PHASE ENGAGEMENT (UTILITY)
FUNCTION TERMINATE LANDING
SEGMENT MANEUVER
SUBSYSTEM

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. SELECT	POINT	TOUCHDOWN	OBSERVE THAT POINT AT WHICH AIRCRAFT WILL LAND	N/A	N/A	N/A	D	✓			TERRAIN	TOUCHDOWN POINT			
2. ADJUST	CONTROL	COLLECTIVE	INCREASE COLLECTIVE PITCH TO SLOW DESCENT AND STOP AIRCRAFT AT 3 FT. HOVER	COLLECTIVE	INCREASE/ DECREASE	ADJUST TORQUE (POWER)	D	✓		TACTILE	CONTROL POSITION	INCREASE/DECREASE			
3. ADJUST	CONTROL	CYCLIC	ADJUST CYCLIC TO CHANGE PITCH ATTITUDE TO THAT WHICH WILL LEVEL AIRCRAFT TO STOP FORWARD MOTION	CYCLIC	LEFT/RIGHT FORE/AFT	ADJUST PITCH ATTITUDE, DIRECTION OF FLIGHT	D	✓		TACTILE	CONTROL POSITION	LEFT/RIGHT, FORE/AFT			
4. ADJUST	PEDALS	ANTI-TORQUE	INCREASE LEFT PEDAL TO COMPENSATE FOR INCREASE IN TORQUE, THEN ADJUST PEDALS AS NECESSARY TO MAINTAIN CONSTANT HEADING	PEDALS	LEFT/RIGHT	ADJUST AIRCRAFT TRIM	D	✓		TACTILE	CONTROL POSITION	LEFT/RIGHT			
5. CHECK	INSTRUMENTS	ENGINE AND ROTOR	OBSERVE INTRUMENTS IN GREEN ARC	TACH, TORQUE N_1, EGT	0 - 6600, 0-50, 0 - 100%, 0 - 1000°	DISPLAYS ASSOCIATED EQUIPMENT STATUS	D	✓			GAUGES CHECKLIST	IN/NOT IN TOLERANCE			
6. STABILIZE	AIRCRAFT		MAINTAIN AIRCRAFT AT 3 FEET HOVER, CONSTANT HEADING	FLIGHT		CHANGES AIRCRAFT ATTITUDE	C	✓		TACTILE	PITCH ATTITUDE				
7. MONITOR	CLEARANCE	AREA	OBSERVE CLEARANCE OF ROTOR BLADES AND AIRCRAFT FROM ANY OBSTACLES	N/A	N/A	N/A	C	✓			TERRAIN				

TASK ANALYSIS

MISSION PHASE ENGAGEMENT (UTILITY)
FUNCTION DEPART LANDING ZONE

SEGMENT MANEUVER
SUBSYSTEM

TASK			OPERATOR ACTION	CONTROL/DISPLAY		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. CHECK	PASSENGERS		CHECK PASSENGERS ON OR OFF, AS APPROPRIATE					✓							
2. ADJUST	CONTROL	COLLECTIVE	ADJUST POWER FOR TAKEOFF	COLLECTIVE	UP-DOWN	TILT MAIN ROTOR BLADE IN DIRECTION OF APPLIED FORCE	D	✓		TACTILE	CONTROL POSITION	AMOUNT AND DIRECTION OF CONTROL MOVEMENT	1		MUST ADJUST CONTROLS WITH SUFFICIENT PRECISION TO ACHIEVE REQUIRED A/C RESPONSE
3. CHECK	TORQUE METER		VERIFY IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAYS ENGINE TORQUE VALUE	D	✓			INDICATOR READING	IN TOLERANCE RANGE	1		MUST DETECT AND EVALUATE READINGS TO IDENTIFY POTENTIAL ENGINE/EQUIPMENT MALFUNCTIONS
4. CHECK	RPM	N_1	VERIFY IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAYS PER CENT RPM	D	✓			INDICATOR READING	IN TOLERANCE RANGE	1		"
5. CHECK	RPM	TACHOMETER	VERIFY IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAYS ENGINE/ROTOR RPM	D	✓			INDICATOR READING	IN TOLERANCE RANGE	1		"
6. ADJUST	CONTROL	CYCLIC	ADJUST ATTITUDE FOR TAKEOFF	CYCLIC	FORE/AFT: LEFT/RIGHT	TILT MAIN ROTOR IN DIRECTION OF APPLIED FORCE (PITCH ATTITUDE)	D	✓		TACTILE	CONTROL POSITION	AMOUNT AND DIRECTION OF CONTROL MOVEMENT	1		MUST ADJUST CONTROLS WITH SUFFICIENT PRECISION TO ACHIEVE REQUIRED A/C RESPONSE
7. CHECK	INDICATOR	ATTITUDE	VERIFY AIRCRAFT ATTITUDE	INDICATOR	SCALE RANGE	DISPLAYS A/C ATTITUDE	D	✓			INDICATOR READING	IN TOLERANCE RANGE	1		MUST DETECT AND EVALUATE READINGS TO IDENTIFY POTENTIAL ENGINE/EQUIPMENT MALFUNCTIONS
8. CHECK	ATTITUDE	PITCH	VERIFY AIRCRAFT ATTITUDE	TIP PATH PLANE & HORIZON	SCALE RANGE	DISPLAYS A/C ATTITUDE	D	✓			INDICATOR READING	N/A	1		MUST DETECT AND EVALUATE TERRAIN FOR PROPER ATTITUDE
9. ADJUST	PEDALS	ANTI-TORQUE	ADJUST LEFT OR RIGHT PEDAL AS REQUIRED	PEDALS	IN-OUT/ LEFT-RIGHT	TILT AFT ROTOR BLADES IN DIRECTION OF APPLIED FORCE (TRIM)	D	✓		TACTILE	CONTROL POSITION	AMOUNT AND DIRECTION OF CONTROL MOVEMENT	1		MUST ADJUST CONTROLS WITH SUFFICIENT PRECISION TO ACHIEVE REQUIRED A/C RESPONSE
10. CHECK	INDICATOR	HEADING	VERIFY AIRCRAFT ATTITUDE	INDICATOR	SCALE RANGE	DISPLAY A/C HEADING	D	✓			INDICATOR READING	IN TOLERANCE RANGE	1		MUST DETECT AND EVALUATE READINGS TO IDENTIFY POTENTIAL ENGINE/EQUIPMENT MALFUNCTIONS
11. CHECK	TRIM BALL		ADJUST LEFT OR RIGHT PEDALS AS REQUIRED	INDICATOR		DISPLAY A/C ATTITUDE	D	✓			INDICATOR READING	IN TOLERANCE RANGE	1		"
12. CHECK	OUTSIDE REFERENCE		OBSERVE OUTSIDE REFERENCE POINT	TIP PATH PLANE & HORIZON	SCALE RANGE	DISPLAYS A/C ATTITUDE	C	✓			TERRAIN	TERRAIN CLEARANCE	1		MUST DETECT AND EVALUATE TERRAIN FEATURES FOR POSSIBLE HAZARD TO A/C
13. MONITOR	AIRSPACE		OBSERVE FOR AIRCRAFT CLEARANCE AND OBSTACLES, OTHER AIRCRAFT, ETC.	N/A	N/A	N/A	C	✓			TERRAIN/AIRSPACE	TERRAIN/AIRSPACE CLEARANCE	1		"
14. MONITOR (SEE 2, 3, 4, 6, 9, 10 ABOVE)	INSTRUMENTS	ENGINE, TRANSMISSION, FLIGHT	VISUALLY SCAN INSTRUMENT PANEL, CHECK INSTRUMENT WITHIN GREEN ARC	INSTRUMENTS	IN/OUT TOLERANCE	DISPLAYS	C	✓			GAUGES		1		

TASK ANALYSIS

MISSION PHASE: ENGAGEMENT
FUNCTION: COMMUNICATE SUPPORTED UNIT

SEGMENT: PRE-ATTACK
SUBSYSTEM: COMMUNICATIONS

TASK			OPERATOR ACTION	CONTROL/DISPLAY		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. SELECT	RADIO		SWITCH TO SELECTED RADIO	SWITCH	FM; UHF; VHF	ENABLES SELECT RADIO	D	✓		TACTILE	IC PANEL SWITCH POSITION	FM; UHF; VHF	1		MUST SELECT APPROPRIATE RADIO
2. ADJUST	FREQUENCY	RADIO	TUNE TO DESIRED FREQUENCY	DIAL	FREQUENCY RANGE	ENABLES SELECT FREQUENCY	D	✓		TACTILE	IC PANEL DIAL POSITION	FREQUENCY RANGE	1		MUST TUNE IN CORRECT FREQUENCY
3. TRANSMIT	REPORT	POSITION	SEND POSITION DATA TO S-3	MICROPHONE	N/A	TRANSMITS MESSAGE	D		✓		SOP	MESSAGE CONTENT	1		MUST GIVE ACCURATE POSITION DATA
4. RECEIVE	INSTRUCTIONS	SPECIAL	LISTEN TO INSTRUCTIONS	HEADSET	N/A	TRANSMITS MESSAGE	D		✓		SOP	N/A	1		MUST UNDERSTAND AND CORRECTLY INTERPRET INFORMATION
5. SELECT	RADIO		SWITCH TO SELECTED RADIO	SWITCH	FM; UHF; VHF	ENABLES SELECT RADIO	D	✓		TACTILE	IC PANEL SWITCH POSITION	UHF; VHF; FM	1		MUST SELECT APPROPRIATE RADIO
6. ADJUST	FREQUENCY	RADIO	TUNE TO DESIRED FREQUENCY	DIAL	FREQUENCY RANGE	ENABLES SELECT FREQUENCY	D	✓		TACTILE	IC PANEL DIAL POSITION	FREQUENCY RANGE	1		MUST TUNE IN CORRECT FREQUENCY
7. TRANSMIT	CALL SIGN		IDENTIFY TO SUPPORTED UNIT	MICROPHONE	N/A	TRANSMITS MESSAGE	D		✓		SOP	MESSAGE CONTENT	1		MUST GIVE CORRECT INFORMATION
8. RECEIVE	INFORMATION	BRIEFING	GET THREAT BRIEFING, EXACT FRIENDLY LOCATIONS, POSSIBLE AOP AND AVOIDANCE AREAS	HEADSET	N/A	TRANSMITS MESSAGE	D		✓		SOP	N/A	1		MUST UNDERSTAND AND CORRECTLY INTERPRET INFORMATION

TASK ANALYSIS

MISSION PHASE: ENGAGEMENT
FUNCTION: ARRIVAL ATTACK POSITION

SEGMENT: PRE-ATTACK
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	VIS	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. VERIFY	CHECKPOINT		OBSERVE MAP AND TERRAIN	MAP	MAP SCALE	DISPLAY TERRAIN	D		✓		MAP, TERRAIN FEATURES	MAP SCALE	1	ACCURATE TO SIX DIGIT COORDINATE	MUST DETECT AND IDENTIFY CHECKPOINT
2. ESTIMATE	TIME	AOP ARRIVAL	CORRELATE DISTANCE, AIRSPEED	INDICATOR, MAP	INDICATOR RANGE, MAP SCALE	DISPLAY AIRSPEED AND DISTANCE	D		✓		INDICATOR POSITION, MAP	INDICATOR SCALE RANGE, MAP SCALE	1		MUST DETECT AND INTERPRET INDICATOR READING AND MAP COORDINATES
3. MAINTAIN	MASK		FOLLOW TERRAIN AT MINIMUM ALTITUDE	N/A	N/A	N/A	C		✓		TERRAIN	N/A	1		MUST MAINTAIN MINIMUM CLEARANCE OVER OBSTACLES TO AVOID RADAR DETECTION
4. CHECK	INSTRUMENTS	AIRCRAFT	ASCERTAIN ALL SYSTEMS NORMAL	INDICATORS	SCALE RANGES	DISPLAY AIRCRAFT STATUS	D		✓		INDICATOR READING	INDICATOR SCALE RANGES	1		MUST DETECT AND INTERPRET INDICATOR READING QUICKLY AND ACCURATELY

TASK ANALYSIS

MISSION PHASE: ENGAGEMENT
FUNCTION: PERFORM HOVER CHECK/HOVER/LAND

SEGMENT: PRE-ATTACK
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP	SCHEDULED?	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. CHECK	RPM	N_G AND N_D	OBSERVE ENGINE RPM IN TOLERANCE	INDICATOR	SCALE RANGE 6600	DISPLAY RPM	D	✓			INDICATOR, CHECKLIST	IN TOLERANCE RANGE	1	6600 ± 50	MUST DETECT AND INTERPRET INDICATOR READINGS CORRECTLY
2. CHECK	LIGHTS	CAUTION AND WARNING	OBSERVE ALL CAUTION/WARNING LIGHTS ARE OUT	INDICATOR	ON/OFF	DISPLAY WARNING/CAUTION	D	✓			INDICATOR, CHECKLIST	LIGHTS ON/OFF	1		MUST DETECT AND INTERPRET INDICATOR READINGS CORRECTLY
3. CHECK	INSTRUMENTS	ENGINE AND TRANSMISSION	OBSERVE PRESSURE, TEMPERATURE, TORQUE INSTRUMENTS RECORD IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAY PRESSURE, TEMPERATURE, TORQUE	D	✓			INDICATOR, CHECKLIST	IN TOLERANCE RANGE	1		MUST DETECT AND INTERPRET INDICATOR READINGS CORRECTLY
4. CHECK	INDICATOR	FUEL	NOTE FUEL QUANTITY REMAINING	INDICATOR	SCALE RANGE	DISPLAY FUEL QUANTITY	D	✓			INDICATOR, CHECKLIST	IN TOLERANCE RANGE	1		MUST DETECT AND INTERPRET INDICATOR READINGS CORRECTLY
5. CHECK	SWITCH	FORCE TRIM	IN DESIRED POSITION (OFF)	SWITCH	ON/OFF		D	✓		TACTILE	CHECKLIST, CONTROL POSITION	ON/OFF	1		NONE
6. CHECK	SWITCH	ECU	IN DESIRED POSITION	SWITCH	ON/OFF	CONDITION COCKPIT ENVIRONMENT	D	✓		TACTILE	CHECKLIST, CONTROL POSITION	ON/OFF	1		NONE
7. CHECK	SYSTEM	POWER	OBSERVE ALL ENGINE/TRANSMISSION/ ROTOR PARAMETERS IN TOLERANCE	INDICATORS: TORQUE EGT RPM	SCALE RANGES	DISPLAY ENGINE, TRANSMISSION, ROTOR CONDITION	C	✓			INDICATOR, CHECKLIST	IN TOLERANCE RANGE	1		MUST DETECT AND INTERPRET INDICATOR READINGS ACCURATELY
8. PERFORM	OPERATION	HOVER	HOVER THE AIRCRAFT	AIRCRAFT FLIGHT CONTROLS	CONTROL RANGE	AIRCRAFT GOES INTO HOVER MODE	C	✓		TACTILE	INDICATORS, TERRAIN, CONTROLS	CONTROL RANGE	1		MUST CONTROL ATTITUDE AND ALTITUDE OF AIRCRAFT AND PREVENT IMPACT WITH GROUND OR OBSTACLES

TASK ANALYSIS

MISSION PHASE: ENGAGEMENT
FUNCTION: ACTIVATE WEAPONS SYSTEM

SEGMENT: PRE-ATTACK
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. ACTUATE	CIRCUIT BREAKER	WEAPONS SYSTEM	PUSH CIRCUIT BREAKER "IN"	CIRCUIT BREAKER	IN-OUT	ENABLES WEAPONS SYSTEM ELECTRICAL CIRCUITS	D	✓		TACTILE	CHECKLIST, CONTROL POSITION	CIRCUIT BREAKER IN-OUT	1		MUST IDENTIFY AND SELECT THE CORRECT CONTROL POSITION TO ASSURE WEAPONS SYSTEM ACTIVATION
2. ACTUATE	SWITCH	MASTER ARM	SELECT SWITCH TO "ARM"	SWITCH, TOGGLE	SAFE, ARM, OFF	ENABLES WEAPON SYSTEM	D	✓		TACTILE	CHECKLIST, CONTROL POSITION	CONTROL SAFE, ARM, OFF	1		"
3. CHECK	LIGHT	ARM	OBSERVE ARM LIGHT ON PANEL	LIGHT	ON/OFF		D	✓		TACTILE	CHECKLIST, CONTROL POSITION	CHECK ON/OFF	1		
4. SELECT	SWITCH	WEAPONS SELECT	TURN SELECTOR SWITCH TO DESIRED WEAPONS SYSTEM	SWITCH, ROTARY	ON-BOARD WEAPON SYSTEMS	ENABLES SELECTED WEAPON SYSTEM	D	✓		TACTILE	CHECKLIST, CONTROL POSITION	CHOICE OF ON BOARD WEAPONS SYSTEM	1		MUST IDENTIFY AND SELECT THE CORRECT CONTROL POSITION TO ASSURE WEAPONS SYSTEM ACTIVATION
5. POSITION	SIGHT	WEAPONS	UNSTOW SIGHT AS REQUIRED	SIGHT	ADJUSTMENT RANGE	SIGHT MOVES TO ADJUSTED POSITION	D	✓		TACTILE	CHECKLIST, CONTROL POSITION	ADJUST TO COMFORT	1		"
6. ACTUATE	SWITCH	POWER	TURN POWER SWITCH "ON"	SWITCH, TOGGLE	ON-OFF	ENABLE SIGHT POWER	D	✓		TACTILE	CHECKLIST, CONTROL POSITION	POWER ON-OFF	1		"
7. CHECK	RETICLE	SIGHT	OBSERVE LIGHT RETICLE IN SIGHT	RETICLE	ON/OFF		D	✓			LIGHT	LIGHT ON/OFF	1		THE ILLUMINATED RETICLE IS A CHECK THAT WEAPONS SYSTEM IS ACTIVATED

TASK ANALYSIS

MISSION PHASE: ENGAGEMENT
FUNCTION: VERIFY POSITION/ROUTE/CONFIRM AOP

SEGMENT: PRE-ATTACK
SUBSYSTEM:

TASK				CONTROL			TASK TYPE	FEEDBACK			STIMULUS	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER	OPERATOR ACTION	NAME	OPTIONS	EQUIPMENT RESP		V	A	OTHER	INPUT				
1. CONFIRM	POSITION	AERIAL OBSERVATION	CORRELATE VISUAL CHECK OF AOP AREA WITH THAT PLOTTED ON MAP AND AFFIRM FAMILIARITY WITH TERRAIN	MAP	MAP SCALE	DISPLAYS TERRAIN	D	✓			MAP, TERRAIN	MAP SCALE	1	ACCURATE TO SIX DIGIT COORDINATE	MUST CORRELATE VISUAL AND GRAPHIC DATA ACCURATELY
2. VERIFY	ROUTE	ENTRY	CORRELATE VISUAL CHECK OF ROUTE OF ENTRY WITH THAT PLOTTED ON MAP	MAP	MAP SCALE	DISPLAYS TERRAIN	D	✓			MAP, TERRAIN	MAP SCALE	1	ACCURATE TO SIX DIGIT COORDINATE	MUST CORRELATE VISUAL AND GRAPHIC DATA ACCURATELY
3. VERIFY	ROUTE	EXIT	CORRELATE VISUAL CHECK OF EXIT ROUTE WITH THAT PLOTTED ON MAP	MAP	MAP SCALE	DISPLAYS TERRAIN	D	✓			MAP, TERRAIN	MAP SCALE	1	ACCURATE TO SIX DIGIT COORDINATE	MUST CORRELATE VISUAL AND GRAPHIC DATA ACCURATELY

TASK ANALYSIS

MISSION PHASE: ENGAGEMENT
FUNCTION: MANEUVER INTO AOP

SEGMENT: MANEUVER
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL /DISPLAY		EQUIPMENT RESP.	DISPLAY TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. MAINTAIN	COURSE	SELECTED	NAVIGATE ON COURSE SELECTED TO AOP	MAP	MAP SCALE	DISPLAY TERRAIN	D	✓			MAP TERRAIN	MAP SCALE	1	ACCURATE TO SIX DIGIT COORDINATE	MUST DETECT AND IDENTIFY FLIGHT PATH TO AOP
2. MAINTAIN	MASK		ADJUST A/C FOR MINIMUM ALTITUDE OVER TERRAIN	N/A	N/A	N/A	C	✓			TERRAIN, A/C FLIGHT CONTROLS	N/A	1		MUST MAINTAIN A/C CONTROL AND ALTITUDE TO PREVENT IMPACT WITH OBSTACLES
3. MONITOR	OBSTACLES	FLIGHT PATH	VISUALLY INSPECT AIRSPACE IN FLIGHT PATH	N/A	N/A	N/A	C	✓			TERRAIN	N/A	1		MUST DETECT AND IDENTIFY FLIGHT PATH OBSTACLES
4. CHECK	WIND		OBSERVE WATER, TREES, WEATHER REPORT, FEEL	N/A	N/A	N/A	D	✓			TERRAIN	N/A	1		EXPERIENCE WILL AID IN CORRECT CALCULATION
5. SELECT	PATH	APPROACH	DETERMINE APPROACH DIRECTION	N/A	N/A	N/A	D	✓			TERRAIN	N/A	1		MUST DETECT AND IDENTIFY FLIGHT PATH OBSTACLES
6. SELECT	POINT	TERMINATION	DETERMINE HOVER SPOT	N/A	N/A	N/A	D	✓			TERRAIN	N/A	1		"
7. EVALUATE	SIZE	HOVER POINT	ASCERTAIN HOVER CLEARANCE	N/A	N/A	N/A	D	✓			TERRAIN	N/A	1		"
8. MAINTAIN	HOVER	STABLE	HOVER AIRCRAFT USING CYCLIC, PEDALS, COLLECTIVE	FLIGHT		DETERMINE AIRCRAFT POSITION/OPERATION	C	✓			AIRCRAFT POSITION AND ATTITUDE	ADJUST FLIGHT CONTROLS	1		

TASK ANALYSIS

MISSION PHASE: ENGAGEMENT
SEGMENT: PRE-ATTACK
FUNCTION: COMMUNICATION POSITION - AOP (SEE COMMUNICATION)
SUBSYSTEM:

TASK				CONTROL			TASK LVL	FEEDBACK			STIMULUS	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER	OPERATOR ACTION	NAME	OPTIONS	EQUIPMENT RESP		V	A	OTHER	INPUT				
1. SELECT	FM		SWITCH TO DESIRED RADIO	SWITCH	UHF, FM, VHF, INT	ENABLES SELECTED RADIO	D	✓		TACTILE	IC PANEL, SWITCH POSITION	UHF; VHF; FM, INT	1		MUST SELECT APPROPRIATE RADIO
2. ACTIVATE	MICROPHONE		DEPRESS AND HOLD SWITCH	SWITCH	OPEN/CLOSED	ENABLES SLECT CHANNEL	D	✓		TACTILE	SWITCH	NORMAL OPEN/CLOSED	1		
3. TRANSMIT	REPORT	POSITION	SEND AOP REPORT	MICROPHONE	N/A	TRANSMITS MESSAGE	D		✓		SOP	MESSAGE CONTENT	1		NONE
4. RELEASE	MICROPHONE														

TASK ANALYSIS

MISSION PHASE: ENGAGEMENT
SEGMENT: PRE-ATTACK
FUNCTION: HOVER AND CHECK INSTRUMENTS
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. CHECK	AREA CLEAR		VERIFIES NO OBSTRUCTIONS IN A/C HOVER AREA	N/A	N/A	N/A	C	✓			CHECKLIST, AREA OBSTRUCTIONS	SUFFICIENT CLEARANCE FOR HOVER	2		MUST DETECT AND EVALUATE TERRAIN FEATURES THAT PRESENT A POTENTIAL HAZARD TO HOVER
2. SELECT	CONTROL	CYCLIC	POSITION CYCLIC TO NEUTRAL	CYCLIC	FORE/AFT; LEFT/RIGHT	ADJUSTS MAIN ROTOR ATTITUDE IN DIRECTION OF APPLIED FORCE (LEVEL)	D	✓		TACTILE	CONTROL POSITION A/C ATTITUDE	CONTROL MOVEMENT TO ACHIEVE NEUTRAL POSITION	1		MUST MANIPULATE CONTROL WITH SUFFICIENT PRECISION TO ACHIEVE REQUIRED A/C ATTITUDE
3. POSITION	CONTROL	COLLECTIVE	INCREASE COLLECTIVE	COLLECTIVE	UP-DOWN	ADJUST MAIN ROTOR BLADE ANGLE IN DIRECTION OF APPLIED FORCE (LEVEL)	C	✓		TACTILE	CONTROL POSITION A/C ATTITUDE	CONTROL MOVEMENT TO ACHIEVE LIFT MOVEMENT	1		MUST MANIPULATE CONTROL WITH SUFFICIENT PRECISION TO ACHIEVE REQUIRED A/C ATTITUDE
4. POSITION	PEDALS	ANTI-TORQUE	MAINTAIN HEADING	ANTI-TORQUE PEDALS	IN-OUT	ADJUSTS AFT ROTOR BLADES IN DIRECTION OF APPLIED FORCE	C	✓		TACTILE	CONTROL POSITION A/C ATTITUDE	CONTROL MOVEMENT TO ACHIEVE A/C HEADING	1		"
5. ADJUST	CONTROL	CYCLIC	STABILIZE AIRCRAFT	CYCLIC	FORE/AFT; LEFT/RIGHT	ADJUSTS MAIN ROTOR ATTITUDE IN DIRECTION OF APPLIED FORCE (LEVEL)	C	✓		TACTILE	CONTROL POSITION A/C ATTITUDE	CONTROL MOVEMENT TO STABILIZE A/C	1	3 FT. ± 1	"
6. ADJUST	CONTROL	COLLECTIVE	STABILIZE AIRCRAFT	COLLECTIVE	UP-DOWN	ADJUST MAIN ROTOR BLADE ANGLE IN DIRECTION OF APPLIED FORCE (LEVEL)	C	✓		TACTILE	CONTROL POSITION A/C ATTITUDE	CONTROL MOVEMENT TO STABILIZE A/C	1	3 FT. ± 1	"
7. MAINTAIN	HEADING	AIRCRAFT	STABILIZE AIRCRAFT	ANTI-TORQUE PEDALS	IN-OUT	ADJUSTS AFT ROTOR BLADES IN DIRECTION OF APPLIED FORCE	C	✓		TACTILE	CONTROL POSITION A/C ATTITUDE	CONTROL MOVEMENT TO STABILIZE A/C	1	± 5°	"
8. MONITOR	TEMPERATURES	ENGINE	VERIFY TEMPERATURE IN TOLERANCE	INDICATORS	SCALE RANGE	DISPLAYS TEMPERATURE VALUES	C	✓			INDICATOR DISPLAY	TEMPERATURE IN TOLERANCE	1		MUST DETECT AND EVALUATE INDICATOR READINGS ACCURATELY TO DETERMINE POSSIBLE ENGINE MALFUNCTION
9. MONITOR	TEMPERATURES	TRANSMISSION	VERIFY TEMPERATURE IN TOLERANCE	INDICATORS	SCALE RANGE	DISPLAYS TEMPERATURE VALUES	C	✓			INDICATOR DISPLAY	TEMPERATURE IN TOLERANCE	1		MUST DETECT AND EVALUATE INDICATOR READINGS ACCURATELY TO DETERMINE POSSIBLE ENGINE MALFUNCTION
10. MONITOR	PRESSURE	TRANSMISSION	VERIFY PRESSURE IN TOLERANCE	INDICATORS	SCALE RANGE	DISPLAYS PRESSURE VALUES	C	✓			INDICATOR DISPLAY	PRESSURE IN TOLERANCE	1		"
11. MONITOR	PRESSURE	ENGINE	VERIFY PRESSURE IN TOLERANCE	INDICATORS	SCALE RANGE	DISPLAYS PRESSURE VALUES	C	✓			INDICATOR DISPLAY	PRESSURE IN TOLERANCE	1		"
12. MONITOR	TORQUE	ENGINE	VERIFY TORQUE IN TOLERANCE	INDICATORS	SCALE RANGE	DISPLAYS TORQUE VALUES	C	✓			INDICATOR DISPLAY	TORQUE IN TOLERANCE	1		"
13. OBSERVE	INSTRUCTIONS	GROUND GUIDE	ADJUST A/C ATTITUDE IN ACCORDANCE WITH GUIDE'S INSTRUCTIONS	N/A	N/A	N/A	C	✓			GROUND GUIDE	N/A	1		MUST DETECT INSTRUCTIVE SIGNALS AND INTERPRET CORRECTLY TO AVOID POSSIBLE DAMAGE TO A/C

TASK ANALYSIS

MISSION PHASE: ENGAGEMENT - TROOP SUPPORT
SEGMENT: PRE-ATTACK
FUNCTION: PERFORM VISUAL OBSERVATION (RECON)
SUBSYSTEM:

TASK				CONTROL			TASK TYPE	FEEDBACK			STIMULUS	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER	OPERATOR ACTION	NAME	OPTIONS	EQUIPMENT RESP		V	A	OTHER	INPUT				
1. SELECT	AREA	SEARCH	DETERMINE LIMITS OF THE RECONNED SECTOR	N/A	N/A	N/A	D	✓			TERRAIN	SIZE OF SECTOR	1		
2. SCAN	AREA	SEARCH	VISUALLY OBSERVE SELECTED AREA FOR DATA GATHERING	N/A	N/A	N/A	D	✓			TERRAIN (OPORD)	N/A	1		
3. OBTAIN	INFORMATION	APPROPRIATE	NOTES THAT INFORMATION APPLICABLE TO MISSION	N/A	N/A	N/A	D	✓			TERRAIN MOVEMENT TRAILS	N/A	1		THE INFORMATION NOTED BY THE OBSERVER WILL BE A FUNCTION OF HIS RECON EXPERIENCE AND KNOWLEDGE OF THE AREA. a) RECENT CHANGES, b) TRAILS, STREAMS, c) HEAVY VEGETATION, d) MOVEMENT
4. MAINTAIN	ORIENTATION	DIRECTIONAL	OBSERVER AND PILOT MUST ALWAYS BE AWARE OF THEIR DIRECTION AND MOVEMENT IN RESPECT TO THE GROUND FORCE	N/A	N/A	N/A	C	✓			TERRAIN FEATURES MAG HEADING DIRECTION & DISTANCE TRAVELED.		1		
5. DETECT	ACTIVITY	ENEMY	OBSERVES MOVEMENT OR OBJECTS OF ENEMY	N/A	N/A	N/A	D	✓			RADIO COMM		1		
6. MAINTAIN	CONTACT	ENEMY	CONTINUE OBSERVATION	N/A	N/A		C	✓					1		
7. AVOID	DETECTION	ENEMY	REMAIN WITHIN COVER AND CONCEALMENT THAT IS AVAILABLE	N/A	N/A	N/A		✓			TERRAIN VEGETATION		1		
8. PROVIDE	WARNING		COMMUNICATE: REPORT ENEMY LOCATION, SIZE, ACTIVITY TO SUPPORTED UNIT	RADIO	UHF, VHF, FM	TRANSMITS MESSAGE	D	✓			SOP	MESSAGE CONTENT	1		
9. PROVIDE	SPACE	MANEUVER	MANEUVER AIRCRAFT FAR ENOUGH AWAY FROM GROUND TROOPS TO PROVIDE AREA FOR THEIR MANEUVER ACTIONS												REMAIN CLOSE ENOUGH TO PROVIDE PERTINENT DATA

TASK ANALYSIS

MISSION PHASE: ENGAGEMENT
SEGMENT: TARGET ACQUISITION
FUNCTION: RECEIVE TARGET DATA (SEE COMMUNICATIONS)
SUBSYSTEM: COMMUNICATION

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP	FEEDBACK				STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS		TASK	V	A	OTHER					
1. SELECT	RADIO		SWITCH ON RADIO DESIRED	SWITCH	UHF, VHF, FM	ENABLES SELECT RADIO	D	✓		TACTILE	IC PANEL, CONTROL POSITION	UHF, VHF, FM	1		MUST SELECT APPROPRIATE RADIO
2. ADJUST	FREQUENCY	RADIO	TUNE IN PROPER FREQUENCY	DIAL	FREQUENCY RANGE	ENABLES SELECT FREQUENCY	D	✓			IC PANEL, FREQUENCY DIAL	FREQUENCY RANGE	1		MUST TUNE IN CORRECT FREQUENCY
3. RECEIVE	DATA	TARGET	RECEIVES TARGET DISTANCE, DIRECTION, GRID COORDINATES, REFERENCE POINT	HEADSET	N/A	TRANSMITS MESSAGE	D		✓		SOP (VOICE)	N/A	1		MUST UNDERSTAND AND CORRECTLY INTERPRET DATA
4. PLOT	DATA	TARGET	PLOT AND LOCATE TARGET ON MAP	MAP	SCALE RANGE	DISPLAYS TERRAIN	D	✓		TACTILE	TARGET DATA	N/A	1	ACCURATE TO SIX DIGIT COORDINATE	MUST DEPICT (PLOT) TARGET ACCURATELY
5. DETERMINE	AREA	TARGET	GENERALLY ORIENT TOWARD TARGET LOCATION	MAP AIRCRAFT			D	✓			TARGET DATA		1		

TASK ANALYSIS

MISSION PHASE: ENGAGEMENT
FUNCTION: POP-UP MANEUVER
SEGMENT: TARGET ACQUISITION
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. ADJUST	CONTROL	COLLECTIVE	INCREASE POWER TO GAIN ALTITUDE	COLLECTIVE	INCREASE/ DECREASE	ADJUSTS ENGINE POWER IN DIRECTION OF CONTROL MOVEMENT	C	✓		TACTILE	ENGINE INDICATORS, CONTROL POSITION	AMOUNT OF INCREASE	1		MUST ADJUST TO SUFFICIENT VALUE TO ACHIEVE RAPID LIFT
2. ADJUST	PEDALS	AFT ROTOR	MAINTAIN HEADING CONTROL	PEDALS	LEFT/RIGHT, IN/OUT	ADJUSTS TAIL ROTOR TO MAINTAIN HEADING	C	✓		TACTILE	"	DEGREE, DIRECTION AND SPECIFIC PEDAL ACTUATION	1		MUST ADJUST TO MAINTAIN CONTROL AND HEADING OF AIRCRAFT
3. ADJUST	ATTITUDE	AIRCRAFT	POSITION AIRCRAFT SO OBSERVER CAN VISUALLY SCAN TARGET AREA	CYCLIC	LEFT/RIGHT FORWARD/AFT	ADJUSTS CYCLIC	C	✓		TACTILE	"	DEGREE, DIRECTION AND SPECIFIC PEDAL ACTUATION	1		"
4. MAINTAIN	CLEARANCE	OBSTACLE	CONTROL AIRCRAFT MOVEMENT	AIRCRAFT CONTROLS	CONTROL RANGE	AIRCRAFT ATTITUDE, ALTITUDE, HEADING AND AIRSPEED AS INPUT	C	✓			"	CONTROL RANGE	1		"
5. PERFORM	MANEUVER	POP-UP	RAISE AIRCRAFT TO TARGET OBSERVATION HEIGHT	AIRCRAFT CONTROLS	CONTROL RANGE	AIRCRAFT ATTITUDE, ALTITUDE, HEADING AND AIRSPEED AS INPUT	C	✓			"	CONTROL RANGE	1		"

TASK ANALYSIS

MISSION PHASE: ENGAGEMENT
FUNCTION: TARGET ACQUISITION

SEGMENT: PERFORM VISUAL SEARCH
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. SCAN	AREA	TARGET	VISUALLY SCAN FOR RANGE, USING SECTOR SEARCH METHOD	N/A	N/A	N/A	D	✓			TERRAIN, TARGET	N/A	1		MUST RAPIDLY SCAN TARGET AREA
2. DETECT	TARGET		SPOT TARGET BY EYEBALL	N/A	N/A	N/A	D	✓			TARGET	N/A	1		NONE
3. IDENTIFY	TARGET		IDENTIFY CORRECT TARGET	N/A	N/A	N/A	D	✓			TARGET	N/A	1		MUST CORRECTLY IDENTIFY STIMULUS AS TARGET
4. PLOT	LOCATION	TARGET	LOCATE TARGET ON MAP BY COORDINATE METHOD	MAP	SCALE RANGE	DISPLAYS TERRAIN	D	✓			MAP, TARGET, TERRAIN	N/A	1	APPROX. ACCURATE TO SIX DIGIT COORDINATE	MUST CLEARLY AND ACCURATELY REPORT TARGET POSITION

TASK ANALYSIS

MISSION PHASE ENGAGEMENT
FUNCTION MASK MANEUVER

SEGMENT TARGET ACQUISITION
SUBSYSTEM

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. CHECK	TACH	DUEL	OBSERVE IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAYS RPM	C	✓			INDICATOR DISPLAY	IN TOLERANCE CONDITION	1	6600 ± 50	MUST DETECT AND EVALUATE SYSTEM CONDITION CORRECTLY
2. CHECK	LIGHTS	CAUTION/WARNING	OBSERVE CAUTION/WARNING LIGHTS OFF	INDICATOR	ON/OFF	DISPLAYS CAUTION/ WARNING CONDITION	C	✓			INDICATOR DISPLAY	LIGHTS ON/OFF	1		"
3. CHECK	INSTRUMENTS	ENGINE	OBSERVE IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAYS A/C CONDITION PARAMETERS	C	✓			INDICATOR DISPLAY	IN TOLERANCE CONDITION	1	IN TOLERANCE	"
4. CHECK	FUEL	QUANTITY	NOTE REMAINING FUEL	INDICATOR	SCALE RANGE	DISPLAYS FUEL QUANTITY	C	✓			INDICATOR DISPLAY	IN TOLERANCE CONDITION	1		"
5. CHECK	SWITCH	FORCE TRIM	IN DESIRED POSITION	SWITCH	ON/OFF	ENABLES FORCE TRIM	C	✓		TACTILE	CONTROL POSITION	CONTROL ON/OFF	1		"
6. CHECK	SWITCH	ECU	IN DESIRED POSITION	SWITCH	ON/OFF	ENABLES ECU	C	✓		TACTILE	CONTROL POSITION	CONTROL ON/OFF	1		"
7. CHECK	INDICATORS	POWER (TORQUE)	OBSERVE IN TOLERANCE	INDICATORS	SCALE RANGE	DISPLAYS SYSTEM CONDITION	C	✓			INDICATOR DISPLAY	IN TOLERANCE CONDITION	1	0 - 50	"
8. CHECK	CLEARANCE	OBSTACLE	OBSERVE CLEAR AREA FOR DROP	N/A	N/A	N/A	C	✓			TERRAIN	CLEAR/OBSTACLES	1		MUST DETECT AND EVALUATE TERRAIN FOR OBSTACLES TO CLEAR DROP
9. ADJUST	LEVER	COLLECTIVE	INCREASE/DECREASE COLLECTIVE AS REQUIRED TO MAINTAIN AIRCRAFT DEFILATE POSITION	FLIGHT CONTROL	CONTROL RANGE	A/C REACTS TO CONTROL MOVEMENT	C	✓		TACTILE	INDICATORS, CONTROL POSITION TERRAIN	RANGE OF CONTROL MOVEMENT	1		MUST CONTROL AIRCRAFT TO ACHIEVE DEFILATE POSITION
10. ADJUST	LEVER	CYCLIC	ADJUST CYCLIC AS ABOVE	FLIGHT CONTROL	"	"	C	✓		TACTILE	"	RANGE OF CONTROL MOVEMENT	1		"
11. ADJUST	PEDALS	ANTI-TORQUE	MAINTAIN TRIM	FLIGHT CONTROL	"	"	C	✓		TACTILE	"	RANGE OF CONTROL MOVEMENT	1		"

TASK ANALYSIS

MISSION PHASE: ENGAGEMENT
FUNCTION: ATTACK TARGET

SEGMENT: WEAPONS DELIVERY
SUBSYSTEM: WEAPONS

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. ACQUIRE	TARGET		ACQUIRE AND TRACK TARGET WITH WEAPON TRACKING SYSTEM	SIGHT			D	✓			SIGHT, TARGET	TARGET TYPE	1		
2. SELECT	ARMAMENT		ACTUATE WEAPON SYSTEM SELECTED FOR TARGET	WEAPONS CONTROL PANEL		SELECT WEAPON	D	✓		TACTILE	CONTROL PANEL, CHECKLIST	WEAPONS TYPE	1		
3. TRACK	TARGET		TRACK TARGET WITH WEAPON TRACKING SYSTEM	SIGHT			D	✓			SIGHT		1		
4. FIRE	ARMAMENT		FIRE SELECTED WEAPON AT TARGET	TRIGGER			D	✓		TACTILE	TRIGGER		1		
5. TRACK	WEAPON		MONITOR WEAPON FLIGHT TO TARGET	SIGHT			D	✓			SIGHT		1		
6. ADJUST	FLIGHT PATH	WEAPON	INPUT FLIGHT PATH CORRECTIONS TO WEAPON IF NEEDED AND IF POSSIBLE	SIGHT			D	✓		TACTILE	FLIGHT PATH OF WEAPON	ON TARGET/OFF TARGET	1		
7. OBSERVE	IMPACT	WEAPON	NOTE HIT OR MISS	SIGHT			D	✓			TARGET	HIT/MISS	1		
8. ASSESS	DAMAGE	TARGET	EVALUATE TARGET DAMAGE	N/A			D	✓			TARGET	DESTROYED/DAMAGED/ MISSED	1		
9. REPORT	DAMAGE	TARGET	TRANSMIT TARGET DAMAGE ASSESSMENT	RADIO			D		✓		SOP		1		

TASK ANALYSIS

MISSION PHASE ENGAGEMENT Page 1 of 2
FUNCTION HOVER/FIRE

SEGMENT WEAPONS DELIVERY Page 1 of 2
SUBSYSTEM

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TASK				CONTROL				FEEDBACK						
VERB	OBJECT	MODIFIER	OPERATOR ACTION	NAME	OPTIONS	EQUIPMENT RESP	TASK TYPE	V	A	OTHER	STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
1. CHECK	AREA CLEAR		VERIFIES NO OBSTRUCTIONS IN A/C HOVER AREA	N/A	N/A	N/A	C	✓			CHECKLIST, AREA OBSTRUCTIONS	SUFFICIENT CLEARANCE FOR HOVER	2		MUST DETECT AND EVALUATE TERRAIN FEATURES THAT PRESENT A POTENTIAL HAZARD TO HOVER
2. SELECT	CONTROL	CYCLIC	POSITION CYCLIC TO NEUTRAL	CYCLIC	FORE/AFT; LEFT/RIGHT	ADJUSTS MAIN ROTOR ATTITUDE IN DIRECTION OF APPLIED FORCE (LEVEL)	D	✓		TACTILE	CONTROL POSITION A/C ATTITUDE	CONTROL MOVEMENT TO ACHIEVE NEUTRAL POSITION	1		MUST MANIPULATE CONTROL WITH SUFFICIENT PRECISION TO ACHIEVE REQUIRED A/C ATTITUDE
3. POSITION	CONTROL	COLLECTIVE	INCREASE COLLECTIVE	COLLECTIVE	UP-DOWN	ADJUST MAIN ROTOR BLADE ANGLE IN DIRECTION OF APPLIED FORCE (LEVEL)	C	✓		TACTILE	CONTROL POSITION A/C ATTITUDE	CONTROL MOVEMENT TO ACHIEVE LIFT MOVEMENT	1		MUST MANIPULATE CONTROL WITH SUFFICIENT PRECISION TO ACHIEVE REQUIRED A/C ATTITUDE
4. POSITION	PEDALS	ANTI-TORQUE	MAINTAIN HEADING	ANTI-TORQUE PEDALS	IN-OUT	ADJUSTS AFT ROTOR BLADES IN DIRECTION OF APPLIED FORCE	C	✓		TACTILE	CONTROL POSITION A/C ATTITUDE	CONTROL MOVEMENT TO ACHIEVE A/C HEADING	1		
5. MONITOR	TEMPERATURES	ENGINE	VERIFY TEMPERATURE IN TOLERANCE	INDICATORS	SCALE RANGE	DISPLAYS TEMPERATURE VALUES	C	✓			INDICATOR DISPLAY	TEMPERATURE IN TOLERANCE	1 1		MUST DETECT AND EVALUATE INDICATOR READINGS ACCURATELY TO DETERMINE POSSIBLE ENGINE MALFUNCTION
6. MONITOR	TEMPERATURES	TRANSMISSION	VERIFY TEMPERATURE IN TOLERANCE	INDICATORS	SCALE RANGE	DISPLAYS TEMPERATURE VALUES	C	✓			INDICATOR DISPLAY	TEMPERATURE IN TOLERANCE	1		
7. MONITOR	PRESSURE	TRANSMISSION	VERIFY PRESSURE IN TOLERANCE	INDICATORS	SCALE RANGE	DISPLAYS PRESSURE VALUES	C	✓			INDICATOR DISPLAY	PRESSURE IN TOLERANCE	1		
8. MONITOR	PRESSURE	ENGINE	VERIFY PRESSURE IN TOLERANCE	INDICATORS	SCALE RANGE	DISPLAYS PRESSURE VALUES	C	✓			INDICATOR DISPLAY	PRESSURE IN TOLERANCE	1		
9. MONITOR	TORQUE	ENGINE	VERIFY TORQUE IN TOLERANCE	INDICATORS	SCALE RANGE	DISPLAYS TORQUE VALUES	C	✓			INDICATOR DISPLAY	TORQUE IN TOLERANCE	1		
10. ACQUIRE	TARGET		ACQUIRE AND TRACK TARGET WITH WEAPON TRACKING SYSTEM	SIGHT			D	✓			SIGHT, TARGET	TARGET TYPE			
11. SELECT	ARMAMENT		ACTUATE WEAPON SYSTEM SELECTED FOR TARGET	WEAPONS CONTROL PANEL		SELECT WEAPON	D	✓		TACTILE	CONTROL PANEL	WEAPONS TYPE			
12. TRACK	TARGET		TRACK TARGET WITH WEAPON TRACKING SYSTEM	SIGHT			D	✓			SIGHT				
13. FIRE	ARMAMENT		FIRE SELECTED WEAPON AT TARGET	TRIGGER			D	✓		TACTILE	TRIGGER				
14. TRACK	WEAPON		MONITOR WEAPON FLIGHT TO TARGET	SIGHT			D	✓			SIGHT	ON TARGET/OFF TARGET			
15. ADJUST	FLIGHT PATH	WEAPON	INPUT FLIGHT PATH CORRECTIONS TO WEAPON IF NEEDED AND IF POSSIBLE	SIGHT			D	✓		TACTILE	FLIGHT PATH OF WEAPON				
16. OBSERVE	IMPACT	WEAPON	NOTE HIT OR MISS	SIGHT			D	✓			TARGET	HIT/MISS			

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TASK ANALYSIS

MISSION PHASE ENGAGEMENT Page 2 of 2
FUNCTION HOVER/FIRE

SEGMENT WEAPONS DELIVERY Page 2 of 2
SUBSYSTEM

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TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
17. ASSESS	DAMAGE	TARGET	EVALUATE TARGET DAMAGE	N/A			D	✓			TARGET	DESTROYED/DAMAGED/ MISSED			
18. REPORT	DAMAGE	TARGET	TRANSMIT TARGET DAMAGE ASSESS-MENT	RADIO	UHF, VHF, FM	TRANSMITS MESSAGE	D		✓		SOP				

TASK ANALYSIS

MISSION PHASE ENGAGEMENT Page 1 of 2
FUNCTION RUNNING FIRE

SEGMENT WEAPONS DELIVERY Page 1 of 2
SUBSYSTEM

TASK				CONTROL				FEEDBACK						
VERB	OBJECT	MODIFIER	OPERATOR ACTION	NAME	OPTIONS	EQUIPMENT RESP	TASK TYPE	V	A	OTHER	STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
1. ADJUST	LEVER	CYCLIC	ADJUST CYCLIC CONTROL AS REQUIRED TO MAINTAIN PITCH ATTITUDE FOR DESIRED AIRSPEED AND VISIBILITY	FLIGHT	LEFT/RIGHT FORE/AFT	CHANGE AIRCRAFT HEADING AND PITCH ATTITUDE	C	✓		TACTILE	CONTROL POSITION	LEFT/RIGHT, FORE/AFT	2		
2. ADJUST	LEVER	COLLECTIVE	ADJUST COLLECTIVE PITCH TO MAINTAIN OR CHANGE ATTITUDE AS REQUIRED BY VEGETATION, TERRAIN AND ENEMY SITUATION	FLIGHT	UP/DOWN	CHANGE TORQUE	C	✓		TACTILE	CONTROL POSITION	UP/DOWN	2		
3. ADJUST	PEDALS	ANTI-TORQUE	ADJUST PEDALS AS REQUIRED FOR TRIM AND HEADING CONTROL	FLIGHT	LEFT/RIGHT	CHANGES AIRCRAFT HEADING	C	✓		TACTILE	CONTROL POSITION	LEFT/RIGHT	2		
4. MAINTAIN	CLEARANCE	OBSTACLE	ADJUST FLIGHT CONTROLS AND MONITOR AREA AS REQUIRED TO MAINTAIN SUFFICIENT CLEARANCE	FLIGHT	AMOUNT OF ADJUSTMENT	CHANGE AIRCRAFT ATTITUDE	C	✓			OBSTACLES		2		
5. MONITOR	INSTRUMENTS	FLIGHT, ENGINE	OBSERVE INSTRUMENTS AS TIME PERMITS	INSTRUMENTS	IN/OUT OF TOLERANCE	DISPLAYS CONDITION	C	✓			GAUGES	IN TOLERANCE	2		
6. DETERMINE	POINT	BRAKE OFF	DETERMINE A POINT AT WHICH AIRCRAFT MANEUVER (BREAK AWAY OR MASK) MUST BEGIN	N/A	N/A	N/A	D	✓			TERRAIN TARGET		2		
7. ACQUIRE	TARGET		ACQUIRE AND TRACK TARGET WITH WEAPON TRACKING SYSTEM	SIGHT			D	✓			SIGHT, TARGET	TARGET TYPE	2		
8. SELECT	ARMAMENT		ACTUATE WEAPON SYSTEM SELECTED FOR TARGET	WEAPONS CONTROL PANEL		SELECT WEAPON	D	✓		TACTILE	CONTROL PANEL CHECKLIST	WEAPONS TYPE	2		

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TASK ANALYSIS

MISSION PHASE ENGAGEMENT
FUNCTION RUNNING FIRE Page 2 of 2

SEGMENT WEAPONS DELIVERY Page 2 of 2
SUBSYSTEM

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
9. TRACK	TARGET		TRACK TARGET WITH WEAPON TRACKING SYSTEM	SIGHT		FIRES WEAPON	D	✓			SIGHT		2		
10. FIRE	ARMAMENT		FIRE SELECTED WEAPON AT TARGET	TRIGGER			D	✓		TACTILE	TRIGGER		2		
11. TRACK	WEAPON		MONITOR WEAPON FLIGHT TO TARGET	SIGHT		AIMS WEAPON	D	✓			SIGHT		2		
12. ADJUST	FLIGHT PATH	WEAPON	INPUT FLIGHT PATH CORRECTIONS TO WEAPON IF NEEDED AND IF POSSIBLE	SIGHT			D	✓		TACTILE	FLIGHT PATH OF WEAPON	ON/OFF TARGET	2		
13. OBSERVE	IMPACT	WEAPON	NOTE HIT OR MISS	SIGHT			D	✓			TARGET	HIT/MISS	2		
14. ASSESS	DAMAGE	TARGET	EVALUATE TARGET DAMAGE	N/A			D	✓			TARGET	DESTROYED/DAMAGED/ MISSED	2		
15. REPORT	DAMAGE	TARGET	TRANSMIT TARGET DAMAGE ASSESS-MENT	RADIO		TRANSMITS MESSAGE	D		✓		SOP		2		

TASK ANALYSIS

MISSION PHASE: ENGAGEMENT
FUNCTION: MASK MANEUVER

SEGMENT: WEAPONS DELIVERY
SUBSYSTEM: AIRCRAFT

TASK				CONTROL			TASK TYPE	FEEDBACK						
VERB	OBJECT	MODIFIER	OPERATOR ACTION	NAME	OPTIONS	EQUIPMENT RESP		V	A	OTHER	STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
1. CHECK	TACH	DUEL	OBSERVE IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAYS RPM	C	✓			INDICATOR DISPLAY	IN TOLERANCE CONDITION	1	6600 ± 50	MUST DETECT AND EVALUATE SYSTEM CONDITION CORRECTLY
2. CHECK	LIGHTS	CAUTION/WARNING	OBSERVE CAUTION/WARNING LIGHTS OFF	INDICATOR	ON/OFF	DISPLAYS CAUTION/ WARNING CONDITION	C	✓			INDICATOR DISPLAY	LIGHTS ON/OFF 1	1		"
3. CHECK	INSTRUMENTS	ENGINE	OBSERVE IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAYS A/C CONDITION PARAMETERS	C	✓			INDICATOR DISPLAY	IN TOLERANCE CONDITON	1	IN TOLERANCE	"
4. CHECK	FUEL	QUANTITY	NOTE REMAINING FUEL	INDICATOR	SCALE RANGE	DISPLAYS FUEL QUANTITY	D	✓			INDICATOR DISPLAY	IN TOLERANCE CONDITION	1		"
5. CHECK	SWITCH	FORCE TRIM	IN DESIRED POSITION	SWITCH	ON/OFF	ENABLES FORCE TRIM	C	✓		TACTILE	CONTROL POSITION	CONTROL ON/OFF	1		"
6. CHECK	SWITCH	ECU	IN DESIRED POSITION	SWITCH	ON/OFF	ENABLES ECU	C	✓		TACTILE	CONTROL POSITION	CONTROL ON/OFF	1		"
7. CHECK	INDICATORS	POWER (TORQUE)	OBSERVE IN TOLERANCE	INDICATORS	SCALE RANGE	DISPLAYS SYSTEM CONDITION	C	✓			INDICATOR DISPLAY	IN TOLERANCE CONDITION	1	0 - 50	"
8. CHECK	CLEARANCE	OBSTACLE	OBSERVE CLEAR AREA FOR DROP	N/A	N/A	N/A	C	✓			TERRAIN	CLEAR/OBSTACLES	1		MUST DETECT AND EVALUATE TERRAIN FOR OBSTACLES TO CLEAR DROP
9. ADJUST	LEVER	COLLECTIVE	INCREASE/DECREASE COLLECTIVE AS REQUIRED TO MAINTAIN AIRCRAFT IN DEFILADE POSITION	FLIGHT CONTROLS	CONTROL RANGE	A/C REACTS TO CONTROL MOVEMENTS	C	✓		TACTILE	INDICATORS, CONTROL POSITION TERRAIN	RANGE OF CONTROL MOVEMENT	1		MUST CONTROL A/C TO ACHIEVE A DEFILADE POSITION
10. ADJUST	LEVER	CYCLIC	ADJUST CYCLIC AS REQUIRED TO MAINTAIN IN DEFILADE POSITION	FLIGHT CONTROLS	CONTROL RANGE	A/C REACTS TO CONTROL MOVEMENTS	C	✓		TACTILE	INDICATORS CONTROL POSITION TERRAIN	RANGE OF CONTROL MOVEMENT	1		"
11. ADJUST	PEDALS	ANTI-TORQUE	MAINTAIN TRIM	FLIGHT CONTROLS	CONTROL RANGE	A/C REACTS TO CONTROL MOVEMENTS	C	✓		TACTILE	INDICATORS, CONTROL POSITION TERRAIN	RANGE OF CONTROL MOVEMENT	1		"

TASK ANALYSIS

MISSION PHASE: ENGAGEMENT
FUNCTION: RECEIVE ENEMY DETECTION

SEGMENT: ENEMY DETECTION
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. OBSERVE	MUZZLE FLASH		SEES MUZZLE FLASH FROM TARGET AREA	N/A	N/A	N/A	D	✓			MUZZLE FLASH	N/A	1		MUST DETECT AND IDENTIFY THREAT
2. EVALUATE	THREAT		DETERMINE ENEMY ACTION IS AGAINST OWN AIRCRAFT	N/A	N/A	N/A	D	✓			TARGET	THREAT/NO THREAT	1		MUST CORRECTLY EVALUATE THREAT
3. DETERMINE	MANEUVER	EVASIVE	SELECT EVASIVE MODE	N/A	N/A	N/A	D	✓			TARGET, TERRAIN, A/C MODE	EVASIVE DASH OR DROP	1		MUST CORRECTLY EVALUATE OPTION(S)

TASK ANALYSIS

MISSION PHASE: ENGAGEMENT
FUNCTION: RECEIVE HIT/ASSESS DAMAGE

SEGMENT: WEAPONS DELIVERY
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL/DISPLAY		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. OBSERVE	FLASH	MUZZLE	OBSERVE FLASH FROM ENEMY WEAPONS	N/A	N/A	N/A	D	✓			FLASH, SMOKE	EXTENT OF DAMAGE TO A/C	1		MUST DETECT AND EVALUATE THREAT TO AIRCRAFT AND/OR MISSION QUICKLY AND ACCURATELY
2. DETERMINE	HIT	AIRCRAFT	HEARS, FEELS IMPACT OF ENEMY WEAPONS ON AIRCRAFT FUSELAGE	N/A	N/A	N/A	D	✓	✓	TACTILE	NOISE, AIRCRAFT JOLT, FLASH	HOW SERIOUS IS THREAT TO AIRCRAFT	1		
3. ASSESS	DAMAGE	AIRCRAFT	CHECK FLIGHT CONTROLS CHECK ENGINE INSTRUMENTS CHECK FLIGHT INSTRUMENTS	FLIGHT CONTROLS INSTRUMENTS	DISPLAY, CONTROL RANGE	AIRCRAFT FLIGHT ATTITUDE DISPLAYS STATUS	D	✓		TACTILE	INSTRUMENT DISPLAY CONTROL RESPONSE	AIRCRAFT OPERATION IN TOLERANCE	1		PILOT MUST IMMEDIATELY RECOGNIZE THAT THE AIRCRAFT HAS SUSTAINED SOME DAMAGE. A QUICK CHECK OF ALL INSTRUMENTS AND FEELING IN FLIGHT CONTROLS TO DETERMINE IF AIRCRAFT WILL MAINTAIN FLIGHT
4. DETERMINE	SEVERITY	DAMAGE	EVALUATE OBSERVATIONS OF STEP 3	N/A	N/A	N/A	D	✓			AIRFRAME, AIRCRAFT SKIN CONDITION	AIRCRAFT OPERATION IN TOLERANCE	1		
5. DETERMINE	AIRWORTHINESS	AIRCRAFT	DETERMINE NEXT ACTION, I.E. LAND, RETURN TO BASE, ETC.	N/A	N/A	N/A	D	✓	✓	TACTILE	NOISE CONTROL VIBRATIONS	AIRCRAFT OPERATION IN TOLERANCE	1		1. MINOR DAMAGE - AIRCRAFT HANDLES AS IF NO DAMAGE HAD OCCURED (FLY) 2. MAJOR DAMAGE - TO FLIGHT CONTROLS OR AIRFRAME (LAND) 3. MAJOR DAMAGE - AUTO ROTATE

TASK ANALYSIS

MISSION PHASE ENGAGEMENT
FUNCTION EVADE DASH/DROP

SEGMENT MANEUVERS
SUBSYSTEM AIRCRAFT

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. CHECK	CLEARANCE	OBSTACLE	OBSERVE AREA OF INTENDED FLIGHT PATH FOR OBSTACLES	N/A	N/A	N/A	D	✓			TERRAIN	N/A	1		MUST DETECT AND EVALUATE POSSIBLE FLIGHT PATH DATA
2. ADJUST	CONTROL	COLLECTIVE	LOWER COLLECTIVE CONTROL	COLLECTIVE	UP-DOWN	VARIES MAIN BLADE PITCH IN DIRECTION OF ACTUATION	D	✓		TACTILE	CONTROL POSITION GROUND CLEARANCE	DEGREE OF CONTROL MOVEMENT	1		MUST CORRECTLY ADJUST CONTROLS TO MAINTAIN AIRCRAFT CONTROL
3. ADJUST	CONTROL	PEDALS	MAINTAIN AIRCRAFT TRIM	PEDAL(S)	IN/OUT RIGHT/LEFT	MAINTAINS A/C HEADING	D	✓		TACTILE	"	DEGREE OF CONTROL MOVEMENT	1		"
4. ADJUST	CONTROL	CYCLIC	MAINTAIN AIRCRAFT ATTITUDE	CYCLIC	FORE/AFT LEFT/RIGHT	MAINTAINS A/C ATTITUDE	D	✓		TACTILE	"	DEGREE OF CONTROL MOVEMENT	1		"
5. MONITOR	RATE	DESCENT	OBSERVE TERRAIN CLEARANCE	N/A	N/A	N/A	D	✓			TERRAIN, GROUND CLEARANCE	N/A	1		MUST DETECT AND EVALUATE POSSIBLE FLIGHT PATH DATA
6. ASSESS	CONDITION	MASK	VERIFY CLEAR OF THREAT ENVIRONMENT	N/A	N/A	N/A	C	✓			"	N/A	1		MUST EVALUATE MASK CONDITION CORRECTLY TO AVOID ENEMY DETECTION
7. ADJUST	CONTROLS	AIRCRAFT	MAINTAIN AIRCRAFT AT STABLE HOVER	CONTROLS	CONTROLS RANGE	ADJUSTS/MAINTAINS AIRCRAFT CONDITION	D	✓			CONTROL POSITION TERRAIN	DEGREE OF CONTROL MOVEMENT	1		MUST CORRECTLY ADJUST CONTROLS TO MAINTAIN AIRCRAFT CONTROL
8. CHECK	INSTRUMENTS	ENGINE	SCAN INSTRUMENTS FOR TOLERANCE RANGES	INDICATORS	SCALE RANGE	DISPLAY A/C ENGINE CONDITION	D	✓			INDICATOR DISPLAYS	IN TOLERANCE RANGE	1		MUST DETECT AND EVALUATE INDICATOR READING CORRECTLY TO ASSURE IN TOLERANCE OPERATION
9. REPORT	DETECTION	ENEMY	TRANSMIT REPORT OF ENEMY THREAT AND EVASIVE ACTION	RADIO	UHF, VHF, FM	TRANSMITS MESSAGE	D	✓			SOP	MESSAGE CONTENT	1		MUST CLEARLY AND ACCURATELY TRANSMIT THREAT DATA
10. CHECK	CLEARANCE	OBSTACLE	OBSERVE AREA OF INTENDED FLIGHT FOR OBSTACLES	N/A		N/A	D	✓			TERRAIN	N/A			MUST DETECT AND EVALUATE POSSIBLE FLIGHT PATH OBSTACLES
11. ADJUST	CONTROL	COLLECTIVE	ADJUST COLLECTIVE AS REQUIRED TO MAINTAIN OR CHANGE ALTITUDE AS REQUIRED	COLLECTIVE	UP/DOWN	VARIES MAIN BLADE PITCH (TORQUE)	D	✓		TACTILE	CONTROL POSITION GROUND CLEARANCE	DEGREE OF CONTROL MOVEMENTS	1		MUST CORRECTLY ADJUST CONTROLS TO MAINTAIN AIRCRAFT CONTROL
12. ADJUST	CONTROL	PEDALS	MAINTAIN AIRCRAFT TRIM	PEDALS	LEFT/RIGHT	MAINTAINS A/C HEADING	D	✓		TACTILE	"	DEGREE OF CONTROL MOVEMENT	1		"
13. ADJUST	CONTROL	CYCLIC	ADJUST CYCLIC CONTROL TO MANEUVER AIRCRAFT TO POSITION AWAY FROM ENEMY THREAT LATERALLY TO HIDE OR LATERAL DROP TO HIDE	CYCLIC	FORE/AFT LEFT/RIGHT	VARIES AIRCRAFT PITCH ATTITUDE	D	✓		TACTILE	"	DEGREE OF CONTROL MOVEMENT	1		MUST CORRECTLY ADJUST CONTROLS TO MAINTAIN AIRCRAFT CONTROL AND TO EVADE ENEMY DETECTION
14. ASSESS	CONDITION	MASK	VERIFY CLEAR OF THREAT	N/A			D	✓			TERRAIN GROUND CLEARANCE	N/A	1		MUST EVALUATE MASK CONDITION CORRECTLY TO AVOID ENEMY DETECTION

TASK ANALYSIS

MISSION PHASE ENGAGEMENT
FUNCTION COMMUNICATIONS - REPORT ENEMY DETECTION

SEGMENT ENEMY DETECTIONS
SUBSYSTEM COMMUNICATIONS

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	DISPLAY TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. REPORT	DETECTION	ENEMY	TRANSMIT REPORT OF ENEMY THREAT AND EVASIVE ACTION	RADIO	UHF, VHF, FM	TRANSMITS MESSAGE	D		✓		SOP	MESSAGE CONTENT	1		MUST CLEARLY AND ACCURATELY TRANSMIT THREAT DATA

TASK ANALYSIS

MISSION PHASE: ENGAGEMENT
FUNCTION: MANEUVER TO NEW AOP

SEGMENT: ENEMY DETECTION
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL/DISPLAY		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. MAINTAIN	COURSE	SELECTED	NAVIGATE ON COURSE SELECTED TO AOP	MAP	MAP SCALE	DISPLAY TERRAIN	D	✓			MAP TERRAIN	MAP SCALE	1	ACCURATE TO SIX DIGIT CORRDINATE	MUST DETECT AND IDENTIFY FLIGHT PATH TO AOP
2. MAINTAIN	MASK		ADJUST AIRCRAFT FOR MINIMUM ALTITUDE OVER TERRAIN	N/A	N/A	N/A	C	✓			TERRAIN, A/C FLIGHT CONTROLS	N/A	1		MUST MAINTAIN A/C CONTROL AND ALTITUDE TO PREVENT IMPACT WITH OBSTACLES
3. MONITOR	OBSTACLES	FLIGHT PATH	VISUALLY INSPECT AIRSPACE IN FLIGHT PATH	N/A	N/A	N/A	C	✓			TERRAIN	N/A	1		MUST DETECT AND IDENTIFY FLIGHT PATH OBSTACLES
4. CHECK		WIND DIRECTION	OBSERVE WATER, TREES, WEATHER REPORT AIRCRAFT FEEL	N/A	N/A	N/A	D	✓			TERRAIN	N/A	1		"
5. SELECT	PATH	APPROACH	DETERMINE APPROACH DIRECTION	N/A	N/A	N/A	D	✓			TERRAIN	N/A	1		"
6. SELECT	POINT	TERMINATION	DETERMINE HOVER SPOT	N/A	N/A	N/A	D	✓			TERRAIN	N/A	1		"
7. EVALUATE	SIZE	HOVER POINT	ASCERTAIN HOVER CLEARANCE	N/A	N/A	N/A	D	✓			TERRAIN				
8. MAINTAIN	HOVER	STABLE	HOVER AIRCRAFT USING CYCLIC, PEDALS, COLLECTIVE	FLIGHT		DETERMINE AIRCRAFT POSITION/OPERATION	C	✓			AIRCRAFT POSITION AND ATTITUDE	ADJUST FLIGHT CONTROLS	1		

TASK ANALYSIS

MISSION PHASE: RETURN TO BASE
FUNCTION: NAVIGATE NOE
SEGMENT: DEPART MANEUVER AREA
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL/DISPLAY		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. RECEIVE	INSTRUCTION		RECEIVES MESSAGE TO DEPART THE MANEUVER AREA AND RETURN TO BASE	RADIO	UHF, VHF, FM	TRANSMITS MESSAGE	D					N/A	1		MUST RECEIVE AND UNDERSTAND MESSAGE CORRECTLY TO PREVENT POSSIBLE A/C LOSS
2. VERIFY	ROUTE	EXIT	DETERMINE EXIT ROUTE IS OPEN	MAP	MAP SCALE	DISPLAYS TERRAIN	D				MAP, TERRAIN	MAP SCALE	1		MUST CORRELATE AND EVALUATE MAP AND ACTUAL LOCATION, TERRAIN, ETC. ACCURATELY
3. CHECK	POSITION	PRESENT	LOCATE PRESENT POSITION ON MAP	MAP	MAP SCALE	DISPLAYS TERRAIN	D				MAP, TERRAIN	MAP SCALE	1		
4. PLOT	FLIGHT PATH	EXIT	DETERMINE FLIGHT PATH DOWN EXIT CORRIDOR	MAP	MAP SCALE	DISPLAYS TERRAIN	D			TACTILE	MAP, TERRAIN	MAP SCALE	1	ACCURATE TO NEAREST 6 DIGIT COORDINATE	MUST DETECT AND IDENTIFY TERRAIN FEATURES CORRECTLY
5. CHECK	TERRAIN		NOTE OBSTACLES IN FLIGHT PATH	MAP	MAP SCALE	DISPLAYS TERRAIN	D				MAP, TERRAIN	MAP SCALE	1		
6. PERFORM	FLIGHT	NOE	FLY EXIT ROUTE NOE	A/C CONTROLS	CONTROLS RANGE	ALTERS A/C ATTITUDE, ALTITUDE, AIRSPEED AND HEADING	D			TACTILE	CONTROLS POSITION TERRAIN	CONTROLS RANGE	1		MUST CORRECTLY ACTUATE CONTROLS TO MAINTAIN AIRCRAFT CONTROL
7. MAINTAIN	MASK		MAINTAIN MINIMUM ALTITUDE OVER TERRAIN	N/A	N/A	N/A	C				TERRAIN	N/A	1		MUST IDENTIFY AND EVALUATE TERRAIN FEATURES THAT WILL RESULT IN MAXIMUM CONCEALMENT FOR AIRCRAFT
8. MONITOR	OBSTACLES	FLIGHT PATH	OBSERVE TERRAIN AND AIRSPACETTO CLEAR/AVOID OBSTACLES	N/A	N/A	N/A	C				TERRAIN	N/A	1		MUST DETECT AND IDENTIFY OBSTACLES THAT PRESENT A DANGER IN THE FLIGHT PATH
9. SELECT	SWITCH	ARMAMENT	SET ARMAMENT SELECT SWITCH TO "SAFE" UPON DEPARTING MANEUVER AREA	SWITCH	OFF/SAFE/ARM	WEAPONS SYSTEM SAFE	D				SOP	OFF/SAFE/ARM			
10. POSITION	CYCLIC	CONTROL	ACTUATES CONTROL TO KEEP A/C ON DESIRED COURSE	CYCLIC	FORE/AFT RIGHT/LEFT	TILTS MAIN ROTOR IN DIRECTION OF APPLIED FORCE	D			TACTILE	HEADING INDIC. CONTROL POSITION VISUAL OBSERV.	POSITION CONTROL	1	± 5°	MUST ACTUATE CONTROL IN APPROPRIATE DIRECTION TO MAINTAIN CONTROL OF A/C AND AVOID CONTACT WITH OBSTACLES
11. POSITION	PEDALS	AFT ROTOR	ACTUATES CONTROLS TO KEEP A/C NOSE ON COURSE	PEDAL(S)	RIGHT/LEFT IN/OUT	TILTS AFT ROTOR BLADES IN DIRECTION OF APPLIED FORCE (TILT)	D			TACTILE	HEADING INDIC. CONTROL POSITION VISUAL OBSERV.	POSITION CONTROLS IN OR OUT, RIGHT OR LEFT PEDAL	1	BALL CENTERED	
12. MONITOR	INDICATOR	HEADING	OBSERVE INDICATOR TO DETERMINE HEADING	INDICATOR	SCALE RANGE	DISPLAYS A/C HEADING	D				INDICATOR DISPLAY	RANGE OF A/C HEADING SCALE	1		MUST DETECT AND ACCURATELY INTERPRET INDICATOR TO MAINTAIN DESIRED COURSE
13. MONITOR	AIRSPACE		OBSERVES TERRAIN, OBSTACLES, ETC.	N/A	N/A	N/A	D				AIRSPACE	N/A	2		MUST DETECT AND INTERPRET VISUAL OBSTACLES TO AVOID IMPACT OF A/C WITH THESE OBSTACLES
14. MAINTAIN	COURSE	DESIRED	OBSERVES TERRAIN, OBSTACLES, ETC.	N/A	N/A	N/A	D				HEADING INDIC. CONTROL POSITION VISUAL OBSERV.	POSITION CONTROL FORE/AFT RIGHT/LEFT			

TASK ANALYSIS

MISSION PHASE: RETURN TO BASE
SEGMENT: DEPART MANEUVER AREA
FUNCTION: DETERMINE FLIGHT ROUTE (IF NOT DONE DURING PRE-FLIGHT)
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
DETERMINE	POSITION	DEPARTURE	LOCATE PRESENT POSITION INTERSECTION METHOD	MAP	MAP SCALE	DISPLAYS TERRAIN	D				MAP	MAP SCALE	1	ACCURATE TO NEAREST 6 DIGIT COORDINATE	MUST DETECT, IDENTIFY AND EVALUATE TERRAIN FEATURES CORRECTLY
SELECT	COURSE	FLIGHT	DETERMINE BEST COURSE IN TERMS OF: EASE OF NAVIGATION, FORCE LANDING AREAS, MASKING ABILITY, SHORTEST ROUTE	MAP	MAP SCALE	DISPLAYS TERRAIN	D				MAP	MAP SCALE	1	"	MUST DETECT, IDENTIFY AND EVALUATE TERRAIN FEATURES CORRECTLY
SELECT	CHECKPOINTS		LOCATE CHECKPOINTS THAT ARE: EASY TO LOCATE, PROMINENT TERRAIN FEATURES, EASY TO IDENTIFY (STAND OUT), ADEQUATE IN NUMBER, IN PROXIMITY TO EACH OTHER	MAP	MAP SCALE	DISPLAYS TERRAIN	D				MAP	MAP SCALE	1	"	"
PLOT	COURSE		PLOT COURSE ON MAP	MAP	MAP SCALE	DISPLAYS TERRAIN	D				MAP	MAP SCALE	1	"	"

TASK ANALYSIS

MISSION PHASE: RETURN TO BASE — Page 1 of 2
FUNCTION: MONITOR/ADJUST AIRSPEED

SEGMENT: CRUISE NOE — Page 1 of 2
SUBSYSTEM: FLIGHT CONTROL/DISPLAY

Page 1 of 2

TASK			OPERATOR ACTION	CONTROL/DISPLAY		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. ADJUST	CONTROL	COLLECTIVE	ACTUATE COLLECTIVE CONTROL TO ATTAIN DESIRED BLADE PITCH ANGLE TO CORRESPOND TO DESIRED AIRSPEED	COLLECTIVE CONTROL	UP-DOWN	ALTERS PITCH OF ROTOR BLADES TO CONFORM TO DIRECTION OF APPLIED FORCE (I.E. UP-DOWN) (TORQUE OR POWER)	C	✓			VISUAL (EXTERNAL) AIRSPEED INDICATOR, TORQUE METER, ALTIMETER	MAY ACTUATE CONTROL UP OR DOWN	1	MAINTAIN AIRSPEED TO WITHIN + 5K IAS OF REQUIRED IAS	MUST ACTUATE CONTROL IN APPROPRIATE DIRECTION TO ACHIEVE DESIRED AIRSPEED AND PREVENT POSSIBLE LOSS OF CONTROL WITH GROUND OR OBSTACLES
2. ADJUST	CONTROL	CYCLIC	ACTUATE CYCLIC CONTROL TO ATTAIN DESIRED ROTOR ANGLE TO CORRESPOND TO DESIRED IAS	CYCLIC CONTROL	FORE-AFT (LEFT-RIGHT)	ALTERS ROTOR ATTITUDE TO CONFORM TO DIRECTION OF APPLIED FORCE PITCH ATTITUDE CHANGE	C	✓			VISUAL PITCH ATTITUDE (EXTERNAL) AIRSPEED INDICATOR	MAY ACTUATE CONTROL FORE-AFT AND LEFT-RIGHT	1	MAINTAIN AIRSPEED TO WITHIN + 5K IAS OF REQUIRED IAS	
3. MONITOR	INDICATOR	AIRSPEED	OBSERVE AIRSPEED INDICATOR TO VERIFY A/C IS TRAVELING AT DESIRED VELOCITY	AIRSPEED INDICATOR	N/A	TRANSMITS INDICATION OF A/C VELOCITY RELATIVE TO THE GROUND	C	✓			VISUAL (EXTERNAL) AIRSPEED INDICATOR	N/A	2	MUST READ AIRSPEED TO WITHIN + 5K	MUST DETECT AND INTERPRET AIRSPEED INDICATOR CORRECTLY TO MAINTAIN/ ADJUST TO DESIRED AIRSPEED
4. MONITOR	SPEED	GROUND	OBSERVE RATE OF TERRAIN PASSAGE	N/A	N/A	N/A	C	✓			TERRAIN				
5. MONITOR	INDICATOR	ALTIMETER	OBSERVE ALTIMETER TO CORRELATE AIRPSEED TO ALTITUDE	ALTIMETER	N/A	TRANSMITS INDICATION OF A/C HEIGHT FROM GROUND	C	✓			VISUAL (EXTERNAL) ALTIMETER READING	N/A	2	MUST READ TO WITHIN + 10	MUST DETECT AND INTERPRET ALTIMETER INDICATOR CORRECTLY TO AVOID A/C CONTACT WITH GROUND AND ESTABLISH/ MAINTAIN DESIRED ALTITUDE AS REQUIRED BY MISSION
6. ADJUST	PEDALS	AFT ROTOR	ACTUATE APPROPRIATE PEDAL(S) TO ACHIEVE DESIRED A/C HEADING (TRIM)	AFT ROTOR PEDALS	LEFT-IN-OUT RIGHT-IN-OUT	ALTERS PITCH OF REAR ROTOR BLADES TO OFFSET MAIN ROTOR TORQUE AND STEER HELO	C	✓			VISUAL (EXTERNAL) ATTITUDE INDICATOR (TRIM)	MAY ACTUATE EITHER OR BOTH PEDALS IN OR OUT	1	TRIM BALL CENTERED	MUST ACTUATE PEDALS APPROPRIATELY TO MAINTAIN REQUIRED HEADING AND ATTITUDE OF HELO
7. MONITOR	INDICATOR	PITCH ATTITUDE	OBSERVE INDICATOR TO ASCERTAIN A/C IS IN DESIRED PITCH ATTITUDE	PITCH ATTITUDE	N/A	TRANSMITS VISUAL INDICATION OF A/C PITCH ATTITUDE	C	✓			VISUAL (EXTERNAL) PITCH ATTITUDE INDICATOR	N/A	2		MUST DETECT AND INTERPRET INDICATOR CORRECTLY TO ADJUST/MAINTAIN A/C ATTITUDE WITH RESPECT TO MISSION REQUIREMENTS
8. MONITOR	ATTITUDE	PITCH	OBSERVE TIP PATH PLANE	ROTOR TIP		N/A					HORIZON				

Continued on next page

TASK ANALYSIS

MISSION PHASE RETURN TO BASE Page 2 of 2
FUNCTION MONITOR/ADJUST AIRSPEED

SEGMENT CRUISE NOE Page 2 of 2
SUBSYSTEM FLIGHT CONTROL/DISPLAY

TASK			OPERATOR ACTION	CONTROL/DISPLAY		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
9. MONITOR	INDICATOR	N_1	OBSERVE INDICATOR TO ASCERTAIN TURBINE SPEED IS APPROPRIATE TO DESIRED AIRSPEED	N_1 INDICATOR	0 - 100%	TRANSMITS VISUAL INDICATION OF A/C TURBINE SPEED	C	✓			TURBINE SPEED INDICATOR (N_1)	N/A	2		MUST DETECT AND INTERPRET INDICATOR CORRECTLY TO ADJUST/MAINTAIN POWER REQUIREMENTS TO MEET AIRSPEED NEEDS
10. MONITOR	INDICATOR	TORQUE	OBSERVE INDICATOR TO ASCERTAIN TORQUE SETTING IS APPROPRIATE TO AIRSPEED	TORQUE METER	0 - 50	INCREASE/DECREASE POWER	C	✓			COLLECTIVE				

TASK ANALYSIS

MISSION PHASE: RETURN TO BASE
FUNCTION: MONITOR/ADJUST ALTITUDE

SEGMENT: CRUISE NOE
SUBSYSTEM: FLIGHT CONTROL

TASK			OPERATOR ACTION	CONTROL/DISPLAY		EQUIPMENT RESP	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. ADJUST	CONTROL	COLLECTIVE	ACTUATE CONTROL TO ACHIEVE MAIN ROTOR BLADE PITCH ATTITUDE REQUIRED FOR DESIRED ALTITUDE	COLLECTIVE CONTROL	UP-DOWN	TILTS MAIN ROTOR BLADE ANGLE IN DIRECTION OF APPLIED FORCE (PITCH) (TORQUE)	D	✓			VISUAL (EXTERNAL) ALTIMETER	MAY ACTUATE CONTROL UP OR DOWN, INCREASE/DECREASE TORQUE	1		MUST ACTUATE CONTROL APPROPRIATE TO ACHIEVE DESIRED ALTITUDE AND AVOID A/C IMPACT WITH OBSTACLES OR THE GROUND
2. MONITOR	AIRSPACE		OBSERVE: 1) TERRAIN AND AIRSPACE AROUND HELO TO IDENTIFY POTENTIAL FLIGHT HAZARDS AND REMAIN BELOW SURROUNDING TERRAIN FEATURES FOR MASKING EFFECT; 2) OTHER AIRCRAFT; 3) BIRDS	NONE	N/A	N/A	C	✓			EXTERNAL VISUAL	NONE	1		MUST DETECT, IDENTIFY AND EVALUATE AIRSPACE AND TERRAIN OBJECTS AND FEATURES THAT COULD BECOME POTENTIAL FLIGHT HAZARDS AND/OR UNMASK THE AIRCRAFT
3. MONITOR	ALTIMETER		MONITOR A/C ALTIMETER	ALTIMETER DISPLAY	N/A	ALTIMETER DISPLAY FLUCTUATES IN ACCORD-	D	✓			ALTIMETER DISPLAY	NONE	2		MUST DETECT AND INTERPRET DISPLAY CORRECTLY TO PRECLUDE IMPACT OF A/C WITH GROUND
4. ADJUST	PEDALS	AFT ROTOR	ACTUATE APPROPRIATE PEDALS TO ACHIEVE A/C HEADING AND TRIM	AFT ROTOR PEDALS	LEFT: IN-OUT RIGHT: IN-OUT	ALTERS PITCH OF AFT ROTOR (TRIM)	D	✓			VISUAL (EXTERNAL) HEADING INDICATOR ATTITUDE INDICATOR, BALL & NEEDLE	MAY ACTUATE EITHER PEDAL IN OR OUT	1		MUST ACTUATE PEDALS APPROPRIATELY TO MAINTAIN/CORRECT A/C HEADING AND TRIM

TASK ANALYSIS

MISSION PHASE: RETURN TO BASE
FUNCTION: ADJUST/MONITOR HEADING

SEGMENT: CRUISE NOE
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. POSITION	CYCLIC	CONTROL	ACTUATES CONTROL TO KEEP A/C ON DESIRED COURSE	CYCLIC	FORE/AFT; RIGHT/LEFT	TILTS MAIN ROTOR IN DIRECTION OF APPLIED FORCE	D	✓		TACTILE	HEADING INDICATOR CONTROL POSITION VISUAL OBSERV.	POSITION CONTROL (FORE/AFT) OR RIGHT/LEFT	1	± 5°	MUST ACTUATE CONTROL IN APPROPRIATE DIRECTION TO MAINTAIN CONTROL OF A/C AND AVOID CONTACT WITH OBSTACLES
2. POSITION	PEDALS	AFT ROTOR	ACTUATES CONTROLS TO KEEP A/C NOSE ON COURSE	PEDAL(S)	RIGHT/LEFT IN/OUT	TILTS AFT ROTOR BLADE IN DIRECTION OF APPLIED FORCE (TRIM)	D	✓		TACTILE	"	POSITION CONTROLS IN OR OUT, RIGHT OR LEFT PEDAL	1	BALL CENTERED	
3. MONITOR	INDICATOR	HEADING	OBSERVE INDICATOR TO DETERMINE HEADING	INDICATOR	SCALE RANGE	DISPLAYS A/C HEADING	D	✓			INDICATOR DISPLAY	RANGE OF A/C HEADING SCALE	1		MUST DETECT AND ACCURATELY INTERPRET INDICATOR TO MAINTAIN DESIRED COURSE.
4. MONITOR	AIRSPACE		OBSERVES TERRAIN, OBSTACLES, ETC.	N/A	N/A	N/A	D	✓			AIRSPACE	N/A	2		MUST DETECT AND INTERPRET VISUAL OBSTACLES TO AVOID IMPACT OF A/C WITH THESE OBSTACLES
5. MAINTAIN	COURSE	DESIRED	OBSERVES TERRAIN, OBSTACLES, ETC.	N/A	N/A	N/A	D	✓			HEADING INDICATOR CONTROL POSITION VISUAL OBSERV.	POSITION CONTROL (FORE/AFT) OR RIGHT/LEFT	1	± 5°	MUST ACTUATE CONTROL IN APPROPRIATE DIRECTION TO MAINTAIN CONTROL OF A/C AND AVOID CONTACT WITH OBSTACLES

TASK ANALYSIS

MISSION PHASE: RETURN TO BASE
FUNCTION: MONITOR INSTRUMENTS (CROSS CHECK)

SEGMENT: CRUISE NOE
SUBSYSTEM: INSTRUMENTS

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. CHECK	INDICATOR	TORQUE METER	VISUALLY OBSERVE READING ON INDICATED GAUGE	TORQUE METER	0 - 50	DISPLAYS TORQUE (POWER) BEING USED	C	✓			GAUGE, COLLECTIVE POSITION	INCREASE, DECREASE		± 2	MUST DETECT, IDENTIFY AND EVALUATE INSTRUMENT DISPLAYS AND CONTROL POSITIONS ACCURATELY TO ASSESS A/C OPERATION AND MAINTAIN SAFE FLIGHT
2. CHECK	TACHOMETER	N_1	"	N_1 TACH	0 - 100%	DISPLAYS PERCENT RPM	C	✓			"	INCREASE, DECREASE		± 1	"
3. CHECK	GAUGE	EGT	"	EGT GAUGE	0 - 1000°	DISPLAYS TEMPERATURE	C	✓			"			± 15	"
4. CHECK	INDICATOR	DUAL TACH	"	DUAL TACH		DISPLAYS ROTOR RPM DISPLAYS ENGINE RPM	C	✓			GAUGE			± 25	"
5. CHECK	INDICATOR	AIRSPEED	"	AIRSPEED INDICATOR	0 - 190 KTS	DISPLAYS INDICATED AIRSPEED	C	✓			GAUGE			± 5	"
6. CHECK	ALTIMETER, VSI		"	ALTIMETER VSI	RANGE CLIMB, DESCENT	DISPLAYS ALTITUDE DISPLAYS RATE OF CLIMB	C	✓			GAUGE	INCREASE, DECREASE TORQUE; LOWER, RAISE PITCH ATTITUDE		± 50	"
7. CHECK	INDICATOR	RADIO MAG	"	RMI	0 - 360°	DISPLAYS AIRCRAFT HEADING	C	✓			GAUGE			± 5	"
8. CHECK	INDICATOR	FUEL PRESSURE	"	FUEL PRESSURE	5 - 30	DISPLAYS FUEL PRESSURE	C	✓			GAUGE			± 1	"
9. CHECK	INDICATOR	FUEL QUANTITY	"	QUANTITY		DISPLAYS FUEL QUANTITY	C	✓			GAUGE			± 25	"
10. CHECK	INDICATOR	TRANSMISSION OIL PRESSURE	"	OIL PRESSURE	0 - 100	DISPLAYS OIL PRESSURE	C	✓			GAUGE			± 3	"
11. CHECK	INDICATOR	ENGINE OIL PRESSURE	"	OIL PRESSURE	0 - 100	DISPLAYS OIL PRESSURE	C	✓			GAUGE			± 3	"
12. CHECK	INDICATOR	TRANSMISSION OIL TEMPERATURE	"	OIL TEMPERATURE		DISPLAYS OIL TEMPERATURE	C	✓			GAUGE			± 5	"
13. CHECK	INDICATOR	ENGINE OIL TEMPERATURE	"	OIL TEMPERATURE		DISPLAYS OIL TEMPERATURE	C	✓			GAUGE			± 5	"
14. ADJUST	CONTROLS	FLIGHT	ADJUST CYCLIC, COLLECTIVE AND PEDAL AS NECESSARY TO MAINTAIN DESIRED FLIGHT ATTITUDE	FLIGHT		DETERMINES AIRCRAFT ATTITUDE	C	✓		TACTILE	INSTRUMENTS & OUTSIDE REFERENCE	CHANGE OR HOLD CONSTANT			"
15. MONITOR	AIRSPACE		OBSERVE A/C CLEARANCE AND OBSTACLE AVOIDANCE	N/A							TERRAIN, AIRSPACE	TERRAIN, AIRSPACE			"

TASK ANALYSIS

MISSION PHASE RETURN TO BASE
FUNCTION MONITOR AIRSPACE

SEGMENT CRUISE NOE
SUBSYSTEM

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. MONITOR	AIRSPACE		CHECK AREA AROUND A/C AND TERRAIN FOR POSSIBLE FLIGHT HAZARDS	N/A	N/A	N/A	C	✓			AIRSPACE, TERRAIN	HAZARDS TO FLIGHT	1		MUST DETECT, IDENTIFY AND EVALUATE TERRAIN FEATURES AND/OR AIRSPACE OBJECTS THAT HAVE POTENTIAL IMPACT ON THE FLIGHT PATH AND/OR MISSION OBJECTIVES

TASK ANALYSIS

MISSION PHASE: RETURN TO BASE
FUNCTION: MAINTAIN MASK
SEGMENT: CRUISE NOE
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL/DISPLAY		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. ADJUST	ALTITUDE	AIRCRAFT	KEEPS A/C ABOVE OBSTACLES, FOLLOWS TERRAIN FEATURES, REMAINS BELOW SURROUNDING TERRAIN BY POSITIONING COLLECTIVE, PEDALS, CYCLIC CONTROLS AS REQUIRED	COLLECTIVE	UP-DOWN	TILT MAIN ROTOR BLADES IN DIRECTION OF APPLIED FORCE	C	✓		TACTILE	VISUAL OBSERVATION OF AIRSPACE, INDICATORS	DIRECTION OF APPLIED FORCE TO COLLECTIVE CONTROL	1		CORRECT CONTROL ADJUSTMENTS MUST BE MADE TO AVOID IMPACT OF A/C WITH OBSTACLES. LEAD ALL MANEUVERS WITH COLLECTIVE
2. ADJUST	AIRSPEED	AIRCRAFT	VARIES AIRSPEED AS REQUIRED FOR SAFE FLIGHT PATH BY ADJUSTING COLLECTIVE PITCH, CYCLIC AND PEDALS	PEDAL(S)	RIGHT, IN-OUT LEFT, IN-OUT	ADJUSTS TAIL ROTOR BLADES TO GIVE DIRECTIONAL STABILITY (TRIM)	C	✓		TACTILE	"	DIRECTION OF APPLIED FORCE TO RIGHT OR LEFT PEDAL	1		"
3. ADJUST	ATTITUDE	AIRCRAFT	ADJUSTS CYCLIC CONTROL AS REQUIRED TO MANEUVER AND MAINTAIN MASKED CONDITION	CYCLIC	FORE/AFT, LEFT, RIGHT	TILTS MAIN ROTOR IN DIRECTION OF APPLIED FORCE	C	✓		TACTILE	"	DIRECTION OF APPLIED FORCE TO CYCLIC CONTROL	1		"

TASK ANALYSIS

MISSION PHASE: RETURN TO BASE
FUNCTION: MAINTAIN OBSTACLE CLEARANCE

SEGMENT: CRUISE NOE
SUBSYSTEM: FLIGHT CONTROL

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. MONITOR	CLEARANCE	ROTOR BLADE	VISUAL OBSERVATION OF MAIN ROTOR BLADES IN REFERENCE TO CLEARANCE WITH SURROUNDING TERRAIN AND OBSTACLES	BLADES	N/A	N/A	C	✓		PERCEIVED	OBSTACLES IN FLIGHT PATH	N/A	2		MUST JUDGE CLEARANCES ACCURATELY ENOUGH TO PREVENT IMPACT OF ROTOR BLADES WITH OBSTACLES
2. MONITOR	CLEARANCE	SKIDS	VISUAL OBSERVATION OF SKIDS IN REFERENCE TO CLEARANCE WITH TERRAIN AND OBSTACLES	SKIDS	N/A	N/A	C	✓			OBSTACLES IN FLIGHT PATH	N/A	2		MUST JUDGE CLEARANCES ACCURATELY ENOUGH TO PREVENT IMPACT OF SKIDS WITH OBSTACLES
3. OBSERVE	OBSTACLES		IDENTIFY APPROACHING OBSTACLES AND DETERMINE AVOIDANCE CLEARANCES REQUIRED	N/A	N/A	N/A	C	✓			OBSTACLES IN FLIGHT PATH	N/A	2		MUST JUDGE SIZE AND SHAPE OF APPROACHING OBSTACLES WITH SUFFICIENT DECISION TO DETERMINE REQUIRED CLEARANCE BETWEEN A/C AND OBSTACLE
4. MONITOR	ATTITUDE	TAIL	MONITOR PITCH ATTITUDE TO DETECT AND AVOID TAIL LOW CONDITION	ATTITUDE INDICATOR PITCH ATTITUDE	N/A "	TRANSMITS INFORMATION RELATIVE TO A/C ATTITUDE "	D D	✓ ✓			1) PITCH ATTITUDE 2) ATTITUDE INDICATOR POSITION	N/A	2		MUST DETECT CHANGES IN A/C ATTITUDE RESULTING IN A TAIL LOW ATTITUDE
5. ADJUST	CONTROL	COLLECTIVE PITCH	ACTUATES COLLECTIVE PITCH CONTROL TO ALTER A/C ALTITUDE AND PROVIDE OBSTACLE CLEARANCE	COLLECTIVE PITCH CONTROL	UP-DOWN	CHANGES MAIN ROTOR BLADE PITCH ANGLE IN DIRECTION OF APPLIED FORCE (TORQUE)	D	✓			1) EXTERNAL VISUAL 2) ALTIMETER INDICATION	MAY ACTUATE CONTROL UP OR DOWN	1		MUST ACTUATE CONTROL IN APPROPRIATE DIRECTION AND TO NECESSARY DEGREE TO ACHIEVE A/C ALTITUDE SUFFICIENT TO CLEAR OBSTACLES

TASK ANALYSIS

MISSION PHASE: RETURN TO BASE
FUNCTION: MONITOR OBSTACLE CLEARANCE
SEGMENT: CRUISE NOE
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL/DISPLAY		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. COMMUNICATE	WARNING	OBSTACLE	VERBALLY TRANSMIT WARNING OF CHANGING TERRAIN ELEVATION	N/A	N/A	N/A	C	✓			VISUAL TERRAIN FEATURES	N/A	2		MUST CLEARLY AND ACCURATELY VERBALLY TRANSMIT TERRAIN CHANGE DETAILS
2. COMMUNICATE	WARNING	VEGETATION	VERBALLY TRANSMIT WARNING OF CHANGE IN TERRAIN VEGETATION	N/A	N/A	N/A	C	✓			VISUAL TERRAIN FEATURES	N/A	2		MUST CLEARLY AND ACCURATELY VERBALLY TRANSMIT TERRAIN CHANGE DETAILS
3. MONITOR	AIRSPACE		SCAN AIRSPACE TO DETECT AND IDENTIFY POTENTIAL FLIGHT HAZARDS AND/OR CONDITIONS REQUIRING MODIFICATION OF A/C FLIGHT PATH, SPEED, ALTITUDE	N/A	N/A	N/A	C	✓			VISUAL TERRAIN FEATURES	N/A	2		MUST DETECT AND IDENTIFY FACTORS IN THE A/C AIRSPACE THAT REQUIRE CHANGES TO THE A/C FLIGHT PATH, SPEED AND/OR ALTITUDE

TASK ANALYSIS

MISSION PHASE: RETURN TO BASE
SEGMENT: CRUISE NAV
FUNCTION: DETERMINE POSITION
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL/DISPLAY		EQUIPMENT RESP	FEEDBACK				STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS		KEY STRK	V	A	OTHER					
1. DETERMINE	INTERSECTION	KNOWN POINTS	OBSERVES LOCATION OF TWO KNOWN POINTS	N/A	N/A	N/A	D	✓			TERRAIN	N/A	1		MUST DETECT AND IDENTIFY CHECKPOINTS
2. CHECK	POINT	BENEATH AIRCRAFT	OBSERVE POINT BENEATH AIRCRAFT	N/A	N/A	N/A	D	✓			TERRAIN	N/A	1		NONE
3. ESTIMATE	DISTANCE	FROM KNOWN POINTS	ESTIMATE DISTANCES	N/A	N/A	N/A	D	✓			TERRAIN	N/A	1		MUST ACCURATELY ESTIMATE DISTANCES
4. ESTIMATE	TIME	FROM KNOWN POINT	ESTIMATE TIME	N/A	N/A	N/A	D	✓			TERRAIN	N/A	1		MUST ACCURATELY ESTIMATE TIME
5. IDENTIFY	FEATURES	MAP & TERRAIN	CORRELATE MAP & TERRAIN FEATURES	MAP	TERRAIN	DISPLAYS TERRAIN	D	✓			MAP, TERRAIN	MAP SCALE	1		MUST SELECT MAP OF APPROPRIATE SCALE TO GIVE ACCURATE POSITION COORDINATES
6. VERIFY	CHECKPOINTS		OBSERVES MAP & TERRAIN	MAP	TERRAIN	DISPLAYS TERRAIN	D	✓			MAP, TERRAIN	N/A	1		MUST DETECT AND IDENTIFY CHECKPOINTS
7. IDENTIFY	POSITION	AIRCRAFT	DETERMINE AIRCRAFT POSITION	N/A	N/A	N/A	D	✓			MAP, TERRAIN	N/A	1		MUST IDENTIFY A/C POSITION ACCURATELY

TASK ANALYSIS

MISSION PHASE: RETURN TO BASE
FUNCTION: PERFORM INTERSECTION

SEGMENT: CRUISE, NOE
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL/DISPLAY		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. SELECT	LOCATIONS	MAP	PICKS TWO OR MORE TERRAIN FEATURES	MAP	MAP SCALE	N/A	D	✓			MAP	MAP SCALE	1	ACCURATE TO SIX DIGITS	MUST DETECT AND IDENTIFY APPROPRIATE TERRAIN FEATURES
2. DETERMINE	DIRECTION	LOCATIONS	DETERMINE DIRECTION OF FEATURES FROM A/C (MAG COMPASS OR RMI)	MAP	MAP SCALE	N/A	D	✓			MAP	MAP SCALE	1		MUST IDENTIFY CORRECT DIRECTION
3. ESTIMATE	DISTANCE	LOCATION	ESTIMATE DISTANCE TO EACH FEATURE	MAP	MAP SCALE	N/A	D	✓			MAP	MAP SCALE	1		NONE
4. PERFORM	INTERSECT	LOCATION LINE	INTERSECT FEATURE DIRECTION LINES WITH A/C	MAP	MAP SCALE	DISPLAYS INTERSECTING LINES	D	✓			MAP	N/A	1	ACCURATE TO SIX DIGITS	MUST DETECT AND IDENTIFY POINTS OF ORIGIN
5. DETERMINE	POSITION	AIRCRAFT	NOTES INTERSECTION POINT	MAP	MAP SCALE	N/A	D	✓			MAP	MAP SCALE	1	ACCURATE TO SIX DIGITS	MUST DETECT AND IDENTIFY INTERSECTION POINT
6. VERIFY	CHECKPOINTS		VERIFY BY OBSERVATION OF AREA AND TERRAIN FEATURES	MAP	MAP SCALE	N/A	D	✓			TERRAIN FEATURES	MAP SCALE	1		MUST DETECT AND IDENTIFY TERRAIN FEATURES WITH RELATION TO INTERSECT POINT

TASK ANALYSIS

MISSION PHASE RETURN TO BASE
FUNCTION USE BARRIERS

SEGMENT CRUISE NOE
SUBSYSTEM

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. DETERMINE	PROXIMITY	CHECKPOINT	OBSERVE AIRCRAFT LOCATION AS APPROACHING CHECKPOINT	N/A			D	✓			TERRAIN, MAP		1		LOCATION OF AIRCRAFT MUST BE IN VICINITY OF CHECKPOINT AND/OR BARRIER
2. VERIFY	COURSE		VERIFY AIRCRAFT ON CORRECT COURSE AS PLOTTED ON MAP	MAP			D	✓			TERRAIN, MAP	ON COURSE/OFF COURSE	1		
3. OBSERVE	BARRIER		OBSERVE AND DETERMINE LOCATION OF TERRAIN FEATURE CHOSEN AS BARRIER IN RESPECT TO AIRCRAFT LOCATION	TERRAIN			D	✓			TERRAIN, MAP		1		
4. LOCATE	CHECKPOINT		WITH AID OF COURSE AND BARRIER, DETERMINE LOCATION OF CHECKPOINT	MAP, TERRAIN			D	✓			TERRAIN, MAP	ON COURSE/OFF COURSE			

TASK ANALYSIS

MISSION PHASE RETURN TO BASE
FUNCTION INTERPRET TERRAIN

SEGMENT CRUISE NOE
SUBSYSTEM

TASK			OPERATOR ACTION	CONTROL /DISPLAY		EQUIPMENT RESP	TASK	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. DETECT	FEATURES	TERRAIN	RELATES TERRAIN FEATURES TO MAP CONTOURS AND CHECKPOINTS	MAP	MAP SCALE	DISPLAYS TERRAIN	D	✓			TERRAIN, AIRSPACE MAP	MAP SCALE	1		MUST DETECT AND IDENTIFY CORRELATING MAP AND ACTUAL TERRAIN FEATURES
2. INTERPRET	FEATURES	TERRAIN	NOTES PROMINENT FEATURES IN RELATION TO CHECKPOINTS	N/A	N/A	N/A	C	✓			TERRAIN	N/A	1		MUST DETECT AND IDENTIFY FLIGHT PATH SIGNIFICANT TERRAIN FEATURES
3. MONITOR	TERRAIN		CONSTANT OBSERVATION FOR CHECK-POINTS, OBSTACLES	N/A	N/A	N/A	C	✓			TERRAIN	N/A	1		MUST DETECT AND IDENTIFY FLIGHT PATH SIGNIFICANT TERRAIN FEATURES

TASK ANALYSIS

MISSION PHASE: RETURN TO BASE
FUNCTION: CREW COORDINATION
SEGMENT: CRUISE NOE
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. DISCUSS	TERRAIN	VISIBLE	PILOT/COPILOT DISCUSS THEIR POSITION RELATIVE TO SURROUNDING TERRAIN, CHECKPOINTS, OBSTACLES	N/A	N/A	N/A	C	✓	✓		TERRAIN MAPS	ON COURSE/OFF COURSE			
2. DISCUSS	CHECKPOINTS		COPILOT/NAVIGATOR ADVISES PILOT OF PROXIMITY TO CHECKPOINT WHILE GIVING DESCRIPTION OF TERRAIN	N/A	N/A	N/A	C	✓	✓						
3. DISCUSS	COURSE CHANGES		NAVIGATOR/COPILOT ADVISES PILOT OF NEW COURSE AND TYPE TERRAIN TO EXPECT AFTER EACH CHECKPOINT	N/A	N/A	N/A	C	✓	✓		CHECKPOINTS TERRAIN				

TASK ANALYSIS

MISSION PHASE: RETURN TO BASE
FUNCTION: COMMUNICATE - CLEARANCE, POSITION

SEGMENT: CRUISE NOE
SUBSYSTEM: COMMUNICATIONS

TASK			OPERATOR ACTION	CONTROL/DISPLAY		EQUIPMENT RESP.	MSG	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. SELECT	RADIO		SWITCHES TO RADIO SELECTED	SWITCH	FM, UHF, VHF	ENABLES RADIO TRANSMIT/RECEIVE	D	✓		TACTILE	IC PANEL, RADIO/S. SWITCH POSITION	FM, UHF, VHF	1		MUST IDENTIFY AND SELECT APPROPRIATE RADIO
2. ADJUST	FREQUENCY	RADIO	TUNE IN DESIRED FREQUENCY	DIAL	FREQUENCY RANGE	ENABLES SELECT FREQUENCY	D	✓		TACTILE	IC PANEL, DIAL POSITION	FREQUENCY RANGE	1		MUST IDENTIFY AND TUNE IN CORRECT FREQUENCY
3. TRANSMIT	POSITION		SEND GRID COORDINATES, LANDMARKS, ETC.	MICROPHONE	N/A	TRANSMITS MESSAGE	D		✓		MAP, TERRAIN	MESSAGE CONTENT	1		MUST TRANSMIT ACCURATE POSITION INFORMATION
4. TRANSMIT	REQUEST	ARTY CLEARANCE	REQUEST CLEARANCE AND HAZARD INFORMATION TO DESTINATION	MICROPHONE	N/A	TRANSMITS MESSAGE	D		✓		SOP	MESSAGE CONTENT	1		NONE
5. RECEIVE	ADVISORY	ARTY	RECEIVE INFORMATION RELATIVE TO POSSIBLE FLIGHT HAZARDS, ETC.	HEADSET	N/A	TRANSMITS MESSAGE	D		✓		SOP	N/A	1		NONE

TASK ANALYSIS

MISSION PHASE: TERMINATION
FUNCTION: PRE-LANDING CHECK

SEGMENT: APPROACH
SUBSYSTEM:

TASK				CONTROL			TASK TYPE	FEEDBACK			STIMULUS	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER	OPERATOR ACTION	NAME	OPTIONS	EQUIPMENT RESP.		V	A	OTHER	INPUT				
1. CHECK	DUAL TACH		VISUALLY CHECK EACH INSTRUMENT/ PANEL AND CALL OUT CHCK TO COPILOT FOR VERIFICATION	TACHOMETER		DISPLAYS	D	✓			GAUGE	IN TOLERANCE	3		
2. CHECK	LIGHT	MASTER CAUTION	"	LIGHTS	ON/OFF	DISPLAYS	D	✓			LIGHT	ON/OFF	3		
3. CHECK	LIGHT	CAUTION PANEL	"	LIGHTS	ON/OFF	DISPLAYS	D	✓			LIGHT	ON/OFF	3		
4. CHECK	TEMPERATURE	ENGINE, TRANSMISSION	"	GAUGE	IN/OUT OF TOLERANCE	DISPLAYS	D	✓			GAUGE	IN TOLERANCE	3		
5. CHECK	PRESSURE	ENGINE, TRANSMISSION	"	GAUGE	IN/OUT OF TOLERANCE	DISPLAYS	D	✓			GAUGE	IN TOLERANCE	3		
6. CHECK	PRESSURE	FUEL	"	GAUGE	IN/OUT OF TOLERANCE	DISPLAYS	D	✓			GAUGE	IN TOLERANCE	3		
7. CHECK	QUANTITY	FUEL	"	GAUGE	IN/OUT OF TOLERANCE	DISPLAYS	D	✓			GAUGE	IN TOLERANCE	3		
8. CHECK	SCAS		"	SWITCH	ON/OFF	ACTIVATES POWER TO SYSTEM	D	✓			SWITCH	ON/OFF	3		
9. CHECK	FORCE TRIM		"	SWITCH	ON/OFF	ACTIVATES POWER TO SYSTEM	D	✓			SWITCH	ON/OFF	3		
10. CHECK	ARMAMENT PANEL		"	SWITCH	ON/OFF	ACTIVATES POWER TO SYSTEM	D	✓			SWITCH	ON/OFF	3		
11. CHECK	BEACON	ROTATING	"	SWITCH	ON/OFF	ACTIVATES POWER TO SYSTEM	D	✓			SWITCH	ON/OFF	3		
12. CHECK	INSTRUMENTS	FLIGHT	VISUALLY CHECK FLIGHT INSTRU-MENTS TO INSURE PROPER OPERATION	GAUGES	IN/OUT OF TOLERANCE	DISPLAYS	D	✓			GAUGES	IN TOLERANCE	3		
13. CHECK	CLEARANCE	AIRSPACE		N/A	N/A	N/A	D	✓			SURROUNDING AREA	AREA CLEAR/UNCLEAR	3		

TASK ANALYSIS

MISSION PHASE: TERMINATION
FUNCTION: PERFORM LANDING

SEGMENT: APPROACH
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. INTERCEPT	COURSE	APPROACH	MANUEVER AIRCRAFT TO FOLLOW SELECTED COURSE	FLIGHT		DETERMINES ATTITUDE OF AIRCRAFT	D	✓			MAP, COURSE LINE, TERRAIN, HEADING INDICATOR				
2. ADJUST	CONTROL	COLLECTIVE	LOWER COLLECTIVE PITCH TO INITIATE DESCENT	COLLECTIVE	UP, DOWN	CHANGE TORQUE (POWER)	D	✓		TACTILE		AMOUNT AND DIRECTION OF MOVEMENT	1		INITIAL ADJUSTMENT MUST BE ENOUGH TO CHANGE THE MODE OF FLIGHT FROM CRUISE TO APPROACH. A POSITIVE REDUCTION IN POWER TO INITIATE DESCENT AND A DEFINITE
3. ADJUST	CONTROL	CYCLIC	INCREASE AFT CYCLIC TO INITIATE DECELERATION	CYCLIC	FORE/AFT LEFT/RIGHT	CHANGE PITCH ATTITUDE	D	✓		TACTILE		AMOUNT AND DIRECTION OF MOVEMENT	1		AFT MOVEMENT OF CYCLIC TO INITIATE DECELERATION
4. ADJUST	PEDALS	ANTI-TORQUE	INCREASE RIGHT PEDAL TO COMPENSATE FOR TORQUE	PEDAL	LEFT/RIGHT	TRIMS AIRCRAFT	D	✓		TACTILE	TRIM BALL TORQUE SETTING	AMOUNT AND DIRECTION OF MOVEMENT	1		
5. MAINTAIN	CLEARANCE	OBSTACLE	ADJUST ALTITUDE DURING DESCENT SO AS TO STAY ABOVE ANY OBSTACLES IN FLIGHT PATH								TERRAIN	ANGLE OF APPROACH	1		
6. MONITOR	INSTRUMENTS	ENGINE , FLIGHT	CROSS CHECK OF BOTH ENGINE AND FLIGHT INSTRUMENTS THROUGHOUT FLIGHT	ENGINE, TRANSMISSION, FUEL & FLIGHT	IN/NOT IN TOLERANCE	DISPLAYS SYSTEM CONDITION		✓					1		
7. ADJUST	CONTROL	COLLECTIVE	INCREASE OR DECREASE COLLECTIVE PITCH AS REQUIRED TO MAINTAIN A CONSTANT ANGLE OF APPROACH ON SELECTED PATH TO POINT OF INTENDED LANDING	COLLECTIVE	INCREASE/ DECREASE	ADJUST POWER (TORQUE)	D	✓		TACTILE	CONTROL POSITION	AMOUNT AND DIRECTION OF CONTROL MOVEMENT	1 1		THESE SHOULD BE MINOR ADJUSTMENTS AND DURING ANY APPROACH SHOULD BE KEPT TO A MINIMUM
8. ADJUST	CONTROL	CYCLIC	INCREASE AFT CYCLIC TO OBTAIN A CONSTANT DECELERATION TO ARRIVE AT POINT OF INTENDED LANDING AT ZERO AIRSPEED	CYCLIC	LEFT/RIGHT FORE/AFT	ADJUST PITCH ATTITUDE	D	✓		TACTILE	CONTROL POSITION	AMOUNT AND DIRECTION OF CONTROL MOVEMENT	1 1		
9. ADJUST	PEDALS	ANTI-TORQUE	ADJUST PEDAL POSITION IN CONJUNCTION WITH COLLECTIVE TO MAINTAIN DESIRED HEADING AND TRIM	PEDALS	LEFT, RIGHT	ADJUST TRIM OF AIRCRAFT	D	✓		TACTILE	CONTROL POSITION	AMOUNT AND DIRECTION OF CONTROL MOVEMENT	1		
10. EVALUATE	APPROACH		DETERMINE IF LANDING POSSIBLE OR IF GO AROUND WILL BE NECESSARY	N/A		N/A	D	✓			SPEED, ANGLE, RATE OF DESCENT	CONTINUE/GO AROUND	1		
11. EVALUATE	TERRAIN			N/A		N/A	D	✓			TERRAIN, OBSTACLES	CONTINUE/GO AROUND	1		

TASK ANALYSIS

MISSION PHASE TERMINATION
FUNCTION TERMINATE LANDING (HOVER)
SEGMENT APPROACH
SUBSYSTEM

TASK: VERB	TASK: OBJECT	TASK: MODIFIER	OPERATOR ACTION	CONTROL: NAME	CONTROL: OPTIONS	EQUIPMENT RESP.	TASK TYPE	FEEDBACK: V	FEEDBACK: A	FEEDBACK: OTHER	STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT. RESP.	ACCURACY REQUIRED	COMMENTS
1. SELECT	POINT	TOUCHDOWN	OBSERVE THAT POINT AT WHICH AIRCRAFT WILL LAND	N/A	N/A	N/A	D	✓			TERRAIN	TOUCHDOWN POINT	1		
2. ADJUST	CONTROL	COLLECTIVE	INCREASE COLLECTIVE PITCH TO SLOW DESCENT AND STOP AIRCRAFT AT 3 FOOT HOVER	COLLECTIVE	INCREASE/ DECREASE	ADJUST TORQUE (POWER)	D	✓		TACTILE	CONTROL POSITION	INCREASE/DECREASE	1		
3. ADJUST	CONTROL	CYCLIC	ADJUST CYCLIC TO CHANGE PITCH ATTITUDE TO THAT WHICH WILL LEVEL AIRCRAFT TO STOP FORWARD MOTION	CYCLIC	LEFT/RIGHT FORE/AFT	ADJUST PITCH ATTITUDE -DIRECTION OF FLIGHT	D	✓		TACTILE	CONTROL POSITION	LEFT/RIGHT FORE/AFT	1		
4. ADJUST	PEDALS	ANTI-TORQUE	INCREASE LEFT PEDAL TO COMPENSATE FOR INCREASE IN TORQUE, THEN ADJUST PEDALS AS NECESSARY TO MAINTAIN CONSTANT HEADING	PEDALS	LEFT/RIGHT	ADJUST AIRCRAFT TRIM	D	✓		TACTILE	CONTROL POSITION	LEFT/RIGHT	1	± 5°	
5. CHECK	INSTRUMENTS	ENGINE & ROTOR	OBSERVE INSTRUMENT IN GREEN ARC	TACHOMETER TORQUE N_1 EGT	0 - 6600 0-50 0 - 100% 0 - 1000°	DISPLAYS, ASSOCIATED EQUIPMENT STATUS	D	✓			GAUGES CHECKLIST	IN TOLERANCE/NOT IN TOLERANCE	1		
6. STABILIZE	AIRCRAFT		MAINTAIN ARCRAFT AT 3 FOOT HOVER, CONSTANT HEADING	FLIGHT		CHANGES AIRCRAFT ATTITUDE	C	✓		TACTILE	PITCH ATTITUDE		1	± 1 FT.	
7. MONITOR	CLEARANCE	AREA	OBSERVE CLEARANCE OF ROTOR BLADES AND AIRCRAFT FROM ANY OBSTACLES	N/A	N/A	N/A	C	✓			TERRAIN		1		

TASK ANALYSIS

MISSION PHASE: TERMINATION
FUNCTION: HOVER/TAXI

SEGMENT: HOVER
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP	TASK LOAD	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. ADJUST	CONTROL	CYCLIC	POSITION CYCLE AS REQUIRED TO HOVER/TAXI TO LANDING AREA	CYCLIC	FORE/AFT LEFT/RIGHT	MAIN ROTOR TILTS IN DIRECTION OF APPLIED FORCE (PITCH ATTITUDE)	C*	✓		TACTILE	CONTROL POSITION A/C ATTITUDE	AMOUNT/DIRECTION OF CONTROL MOVEMENT	1		MUST MANIPULATE CONTROL WITH SUFFICIENT PRECISION TO ACHIEVE REQUIRED AIRCRAFT ATTITUDE/DIRECTION
2. ADJUST	CONTROL	COLLECTIVE	POSITION COLLECTIVE TO MAINTAIN 3 FOOT HOVER	COLLECTIVE	UP, DOWN	MAIN ROTOR BLADES TILT IN DIRECTION OF APPLIED FORCE (Δ TORQUE)	C*	✓		TACTILE	CONTROL POSITION A/C ATTITUDE	AMOUNT/DIRECTION OF CONTROL MOVEMENT	1	3 FT ± 1	"
3. ADJUST	PEDALS	ANTI-TORQUE	MAINTAIN AIRCRAFT HEADING	PEDALS	IN/OUT	AFT ROTOR BLADES TILT IN DIRECTION OF APPLIED FORCE (A/C HEADING)	C*	✓		TACTILE	CONTROL POSITION A/C ATTITUDE	AMOUNT/DIRECTION OF CONTROL MOVEMENT	1	± 5°	"
4. MONITOR	CLEARANCE	AIRCRAFT	OBSERVE TERRAIN TO MAINTAIN AIRCRAFT CLEARANCE	N/A	N/A	N/A	C*	✓			TERRAIN, AIRCRAFT ATTITUDE	DEGREE OF GROUND/AREA CLEARANCE	1		MUST DETECT AND EVALUATE TERRAIN FEATURES THAT ARE POSSIBLE HAZARD TO AIRCRAFT
5. MONITOR	TEMPERATURE	ENGINE	VERIFY ENGINE TEMPERATURE IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAY ENGINE TEMPERATURE VALUES	C*	✓			INDICATOR DISPLAY	IN TOLERANCE CONDITION	1		MUST DETECT AND EVALUATE READINGS ACCURATELY TO IDENTIFY POSSIBLE ENGINE MALFUNCTIONS
6. MONITOR	PRESSURE	ENGINE	VERIFY ENGINE PRESSURE IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAY ENGINE PRESSURE	C*	✓			INDICATOR DISPLAY	IN TOLERANCE CONDITION			"
7. MONITOR	TORQUE	ROTOR	VERIFY ENGINE ROTOR TORQUE IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAY ROTOR TORQUE VALUES	C*	✓			INDICATOR DISPLAY	IN TOLERANCE CONDITION	1		"
8. MONITOR	TEMPERATURE	TRANSMISSION	VERIFY TRANSMISSION TEMPERATURE IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAY TRANSMISSION TEMPERATURE VALUES	C*	✓			INDICATOR DISPLAY	IN TOLERANCE CONDITION	1		"
9. MONITOR	PRESSURE	TRANSMISSION	VERIFY TRANSMISSION PRESSURE IN TOLERANCE	INDICATOR	SCALE RANGE	DISPLAY TRANSMISSION PRESSURE VALUES	C*	✓			INDICATOR DISPLAY	IN TOLERANCE CONDITION	1		"
				* EACH MOVEMENT OF A CONTROL IS A DISCREET TASK; HOWEVER, HOVERING AND MONITORING ARE CONTINUOUS TASKS THROUGHOUT THIS SECTION											

TASK ANALYSIS

MISSION PHASE: TERMINATION
FUNCTION: HOT REFUEL

SEGMENT: HOVER
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP	DEC TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
1. ACTIVATE	SWITCH	FORCE TRIM	SWITCH FOR TRIM TO "ON" POSITION	SWITCH	OFF/ON	ACTIVATES FORCE GRADIENTS	D	✓		TACTILE	CHECKLIST CONTROL POSITION	FORCE TRIM ON/OFF	1		MUST ACTUATE CONTROL CORRECTLY TO ACHIEVE DESIRED SYSTEM RESPONSE
2. ACTIVATE	THROTTLE		REDUCE THROTTLE TO FLIGHT IDLE POSITION	THROTTLE	OPEN, FLIGHT IDLE, CLOSED	INCREASE/DECREASE ENGINE AND ROTOR RPM	D	✓		TACTILE	CHECKLIST CONTROL POSITION	THROTTLE POSITION	1		"
3. OPEN	CANOPY	COCKPIT	INSURE CANOPY DOORS OPEN AND SECURE	DOOR LATCH	OPEN/CLOSED	OPEN DOOR	D	✓		TACTILE	CHECKLIST CONTROL POSITION	CANOPY POSITION	1		"
4. ADJUST	CYCLIC		CENTER CYCLIC	CYCLIC	FORE/AFT, LEFT/RIGHT	PITCH ATTITUDE OF AIRCRAFT, TRIM	D	✓		TACTILE	CHECKLIST CONTROL POSITION	CONTROL POSITION	1		"
5. ADJUST	PEDALS		CENTER PEDALS	PEDALS	LEFT/RIGHT	PITCH ATTITUDE OF AIRCRAFT, TRIM	D	✓		TACTILE	CHECKLIST CONTROL POSITION				
6. ADJUST	COLLECTIVE		CHECK FULL DOWN	COLLECTIVE	UP/DOWN	PITCH ATTITUDE OF AIRCRAFT, TRIM	D	✓		TACTILE	CHECKLIST CONTROL POSITION				
7. MONITOR	INSTRUMENTS	ENGINE, TRANSMISSION	OBSERVE GAUGES	ENGINE TRANSMISSION	SCALE RANGE	DISPLAYS CONDITION OF RELATED SYSTEM	C	✓			CHECKLIST INSTRUMENT DISPLAYS	IN TOLERANCE READINGS	1		MUST DETECT, IDENTIFY AND EVALUATE DISPLAY INFORMATION CORRECTLY TO MAINTAIN SAFE AIRCRAFT OPERATION
8. MONITOR	PROCESS	REFUELING	OBSERVE ACTIONS AND INSURE SAFE OPERATION	N/A			C	✓			FUELING OPERATION	SAFE/UNSAFE OPERATION	1		MUST EVALUATE OPERATION IN TERMS OF AIRCRAFT SAFETY CORRECTLY
9. ACTIVATE	THROTTLE		INCREASE THROTTLE TO FULL RPM	THROTTLE	OPEN, FLIGHT IDLE, CLOSED	INCREASE/DECREASE ENGINE & ROTOR RPM	D	✓		TACTILE	CHECKLIST CONTROL POSITION	CONTROL POSITION	1		MUST ACTUATE CONTROL CORRECTLY TO ACHIEVE DESIRED SYSTEM RESPONSE
10. CLOSE	DOOR	CANOPY	INSURE CANOPY DOOR CLOSED AND LOCKED	DOOR LATCH	OPEN/CLOSED	OPEN DOOR	D	✓		TACTILE	CHECKLIST CONTROL POSITION	CANOPY POSITION	1		MUST ACTUATE CONTROL CORRECTLY TO ACHIEVE DESIRED SYSTEM RESPONSE
11. REPOSITION	AIRCRAFT		HOVER/TAXI AIRCRAFT TO PARKING SLOT	FLIGHT CONTROLS			D	✓		TACTILE	CHECKLIST CONTROL POSITION	CONTROL POSITION	1		MUST ACTUATE CONTROL CORRECTLY TO ACHIEVE DESIRED SYSTEM RESPONSE

TASK ANALYSIS

MISSION PHASE: TERMINATION
FUNCTION: AIRCRAFT SHUTDOWN

SEGMENT: POST FLIGHT
SUBSYSTEM:

TASK				CONTROL				FEEDBACK						
	VERB	OBJECT	MODIFIER	OPERATOR ACTION	NAME	OPTIONS	EQUIPMENT RESP.	TASK TIME	V	A	OTHER	STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
1.	REDUCE	LEVER	COLLECTIVE	PLACE COLLECTIVE IN THE FULL "DOWN" POSITION	COLLECTIVE	UP, DOWN	TORQUE ADJUSTMENT	D	✓		TACTILE	CHECKLIST CONTROL POSITION	UP, DOWN	1		MUST ACTUATE CONTROL CORRECTLY TO ACHIEVE DESIRED SYSTEM RESPONSE
2.	ACTIVATE	SWITCH	FORCE TRIM	SELECT FORCE TRIM TO "ON" POSITION	FORCE TRIM	ON, OFF	ACTIVATES FORCE TRIM GRADIENT	D	✓		TACTILE	CHECKLIST CONTROL POSITION	OFF/ON	1		"
3.	ADJUST	CYCLIC		CENTER CONTROLS TO NEUTRAL	CYCLIC	FORE/AFT LEFT/RIGHT	ADJUST PITCH ATTITUDE	D	✓		TACTILE	CHECKLIST CONTROL POSITION	FORE/AFT LEFT/RIGHT	1		"
4.	ADJUST	PEDALS		CENTER CONTROLS TO NEUTRAL	PEDALS	LEFT, RIGHT	TRIM	D	✓		TACTILE	CHECKLIST CONTROL POSITION	LEFT, RIGHT	1		"
5.	ACTIVATE	SWITCH	SCAS	SELECT "OFF" POSITION	SCAS	ON, OFF	ACTIVATES SYSTEMS	D	✓		TACTILE	CHECKLIST CONTROL POSITION	ON/OFF	1		"
6.	ACTIVATE	GOVERNOR	RPM	DECREASE GOVERNOR SWITCH TO MINIMUM	GOVERNOR	INCREASE/ DECREASE	INCREASE/DECREASE RPM	D	✓		TACTILE	CHECKLIST CONTROL POSITION	INCREASE/DECREASE/ NORMAL	1		"
7.	ACTIVATE	THROTTLE	ENGINE	REDUCE THROTTLE TO "ENGINE IDLE"	THROTTLE	OPEN, CLOSED, ENGINE IDLE	CHANGE ENGINE, ROTOR RPM	D	✓		TACTILE	CHECKLIST CONTROL POSITION	OPEN, CLOSED, IDLE	1		"
8.	ACTIVATE	SWITCH	LOW RPM AUDIO	SELECT "OFF" POSITION	SWITCH	ON, OFF	ACTIVATES LOW RPM RADIO	D	✓		TACTILE	CHECKLIST CONTROL POSITION	ON, OFF	1		"
9.	CHECK	INSTRUMENTS	ENGINE, TRANSMISSION	OBSERVE INDICATIONS ON INSTRUMENTS FOR DECREASE AS APPROPRIATE	GAUGES	SCALE	DISPLAYS CONDITION	D	✓			AUDIO SOUND CHECKLIST INSTR DISPLAY	IN TOLERANCE READINGS	1		MUST DETECT AND INTERPRET DISPLAY READINGS CORRECTLY TO IDENTIFY SYSTEM REACTION AND/OR MALFUNCTION
10.	ALLOW	COOL DOWN	ENGINE	ALLOW ENGINE IDLE FOR TWO MINUTES	N/A					✓			N/A	1		
11.	ACTIVATE	SWITCHES	RADIOS, NAV AIDS, LIGHTS	SELECT "OFF" POSITION FOR NON-ESSENTIAL EQUIPMENT	SWITCH	ON, OFF	ACTIVATES SYSTEMS	D	✓		TACTILE	CHECKLIST CONTROL POSITION	ON/OFF	1		MUST ACTUATE CONTROL CORRECTLY TO ACHIEVE DESIRED SYSTEM RESPONSE
12.	ACTIVATE	SWITCH	FLIGHT IDLE STOP	DEPRESS FLIGHT IDLE RELEASE BUTTON AND CLOSE THROTTLE	BUTTON	ON, OFF	ACTIVATES SYSTEMS	D	✓		TACTILE	CHECKLIST CONTROL POSITION	ON/OFF	1		"
13.	ACTIVATE	THROTTLE			THROTTLE	OPEN, CLOSED, IDLE	ACTIVATES SYSTEMS	D	✓		TACTILE	CHECKLIST CONTROL POSITION	OPEN/CLOSED/IDLE	1		"
14.	ACTIVATE	SWITCH	FUEL	SELECT "OFF" POSITION FOR FUEL SWITCH	SWITCH	ON, OFF	ACTIVATES SYSTEMS	D	✓		TACTILE	CHECKLIST CONTROL POSITION	ON/OFF	1		"
15.	ACTIVATE	SWITCH	INVERTERS	SELECT "OFF" POSITION	SWITCH	ON, OFF	ACTIVATES SYSTEMS	D	✓		TACTILE	CHECKLIST CONTROL POSITION	ON/OFF/STANDBY	1		"
16.	ACTIVATE	SWITCH	GENERATOR	SELECT "OFF" POSITION	SWITCH	ON, OFF	ACTIVATES SYSTEMS	D	✓		TACTILE	CHECKLIST CONTROL POSITION	IN TOLERANCE READINGS	1		MUST DETECT AND INTERPRET DISPLAY READINGS CORRECTLY TO IDENTIFY SYSTEM REACTION AND/OR MALFUNCTION
17.	MONITOR	GAUGES	ENGINE, TRANSMISSION	OBSERVE GAUGES FOR NORMAL COAST DOWN	GAUGES	SCALES	DISPLAYS SYSTEM CONDITION	C	✓			CHECKLIST INSTRUMENT DISPLAY				

TASK ANALYSIS

MISSION PHASE: TERMINATION
FUNCTION: PERFORM AIRCRAFT POST FLIGHT CHECK

SEGMENT: POST FLIGHT
SUBSYSTEM:

TASK				CONTROL			TASK TYPE	FEEDBACK			STIMULUS				
VERB	OBJECT	MODIFIER	OPERATOR ACTION	NAME	OPTIONS	EQUIPMENT RESP		V	A	OTHER	INPUT	OPERATOR DECISION OPTIONS	CRIT RESP	ACCURACY REQUIRED	COMMENTS
1. CHECK	SWITCHES	ELECTRICAL	CHECK ALL ELECTRICAL SWITCHES IN THE "OFF" POSITION	SWITCHES	ON/OFF	SECURE ELECTRICAL SYSTEM	D	✓		TACTILE	CHECKLIST CONTROL POSITION	ON/OFF	3		MUST IDENTIFY CONTROL POSITIONS CORRECTLY TO ACHIEVE DESIRED SYSTEM RESPONSE
2. CHECK	FUSELAGE	AIRCRAFT	INSPECT FUSELAGE FOR ANY EXTERIOR DAMAGE	AIRCRAFT	N/A	N/A	D	✓			CHECKLIST	CONDITION IN TOLERANCE	3		MUST DETECT AND EVALUATE AIRCRAFT CONDITION ACCURATLY TO DETERMINE FLIGHT STATUS
3. CHECK	SYSTEMS	ROTOR	INSPECT ROTOR SYSTEMS FOR UNUSUAL SIGNS OF WEAR, OIL LEAKS, ETC.	BLADE GEAR BOXES DRIVE SHAFT	N/A	N/A	D	✓		TACTILE	CHECKLIST COMPONENT CONDITION	CONDITION IN TOLERANCE	3		MUST DETECT AND EVALUATE AIRCRAFT CONDITION ACCURATELY TO DETERMINE FLIGHT STATUS
4. CHECK	ENGINE		INSPECT SEALS, LINES, FLUID LEVELS, ETC.	TRANSMISSION	N/A	N/A	D	✓		TACTILE	CHECKLIST COMPONENT CONDITION	FLUIDS FULL, LOW	3		MUST DETECT AND EVALUATE AIRCRAFT CONDITION ACCURATELY TO DETERMINE FLIGHT STATUS
5. CHECK	TRANSMISSION		INSPECT SEALS, LINES, FLUID LEVELS, ETC.	LOGBOOK	N/A	N/A	D	✓		TACTILE	LOGBOOK	CONDITION IN TOLERANCE	3		MUST DETECT AND EVALUATE AIRCRAFT CONDITION ACCURATELY TO DETERMINE FLIGHT STATUS
6. COMPLETE	ENTRY	LOGBOOK	ENTER CONDITION OF AIRCRAFT AND SYSTEM IN LOGBOOK									RECORD CONTENT	3		MUST RECORD DETAILED, ACCURATE DESCRIPTION OF AIRCRAFT CONDITION

TASK ANALYSIS

MISSION PHASE: TERMINATION
SEGMENT: POST FLIGHT
FUNCTION: FILE AFTER-ACTION REPORT (DEBRIEF)
SUBSYSTEM:

TASK			OPERATOR ACTION	CONTROL		EQUIPMENT RESP.	TASK TYPE	FEEDBACK			STIMULUS INPUT	OPERATOR DECISION OPTIONS	CRIT RESP.	ACCURACY REQUIRED	COMMENTS
VERB	OBJECT	MODIFIER		NAME	OPTIONS			V	A	OTHER					
COMPLETE	FORM	AFTER-ACTION	WRITE IN ENTRIES ON AFTER-ACTION SHEET AS APPLICABLE	N/A	N/A	N/A	D	✓		TACTILE	AFTER-ACTION FORM	ENTRY CONTENT	3		MUST CLEARLY AND ACCURATELY DESCRIBE REQUIRED INFORMATION
RELATE	INFORMATION		EXPLAIN PERTINENT INFORMATION TO OPNS OFFICER, INTELLIGENCE OFFICER	N/A	N/A	N/A	D		✓		DEBRIEFING	VERBAL CONTENT	3		ENEMY POSITION, NUMBER, ACTIVITY
PLOT	DATA		PLOT ON INTELLIGENCE MAP INFORMATION ESSENTIAL TO TACTICAL OPERATIONS	MAP	N/A	DISPLAYS SITUATION	D	✓		TACTILE	MAP	N/A	3	ACCURATE TO NEAREST 6 DIGIT COORDINATE	TERRAIN: VEGETATION, ROADS, FLIGHT HAZARDS, LANDING ZONES CURRENT WEATHER

CONTINGENCY: RECOVER FROM SPATIAL DISORIENTATION

AVAILABLE CUES				DECISION OPTIONS	COMMENTS	RESPONSES	
VISUAL	AUDITORY/OLFACTORY	TACTILE/PROPRIOCEPTIVE	KINESTHETIC			PERCEPTUAL	MOTOR
TERRAIN FEATURES NOT CORRELATING TO THOSE ON MAP. ETA HAS PASSED. DIRECTION OF FLIGHT DIFFERENT FROM THAT PLOTTED.	NONE	NONE	NONE	(1) STOP, REORIENT, CONTINUE.	THE PARTICULAR SITUATION WILL DICTATE WHICH OF THESE OPTIONS WILL BE BEST AND EASIEST.	SELECT OPTION #1	PERFORM HOVER OR LANDING. VISUALLY OBSERVE AND IDENTIFY TERRAIN FEATURES.
						CORRELATE OBSERVED TERRAIN FEATURES WITH THOSE ON MAP.	
						DETERMINE LOCATION OF AIRCRAFT	PERFORM INTERSECTION, IDENTIFY AREA BENEATH AND AROUND AIRCRAFT
						SELECT FLIGHT ROUTE TO NEXT CHECKPOINT.	PLOT CHECKPOINT AND ROUTE (COURSE) ON MAP. MANEUVER AIRCRAFT ON SELECTED ROUTE.
						VERIFY ARRIVAL AT DESIRED CHECKPOINT.	CONTINUE ON ROUTE.
				(2) TURN AROUND AND RETURN TO LAST KNOWN LOCATION.		SELECT OPTION #2	EXECUTE TURN AND MANEUVER AIRCRAFT BACK ON PATH PREVIOUSLY FLOWN.
							VISUALLY OBSERVE AND IDENTIFY TERRAIN FEATURES
						CORRELATE FEATURES WITH THOSE ON MAP	ARRIVE AT LAST KNOWN CHECKPOINT OR FAMILIAR TERRAIN FEATURE.
						DETERMINE AIRCRAFT LOCATION.	OBSERVE ORIGINAL FLIGHT ROUTE AND MANEUVER AIRCRAFT ON DESIRED ROUTE.
				(3) CONTINUE, AND REORIENT.		SELECT OPTION #3	MANEUVER AIRCRAFT. VISUALLY OBSERVE AND IDENTIFY TERRAIN.
						CORRELATE OBSERVED FEATURES WITH THOSE ON MAP.	IDENTIFY ROUTE OF FLIGHT OF AIRCRAFT.
						DETERMINE LOCATION OF AIRCRAFT.	IDENTIFY LOCATION OF AIRCRAFT.
						SELECT ROUTE TO ORIGINALLY DESIRED CHECKPOINT.	PLOT ROUTE TO CHECKPOINT.
							MANEUVER AIRCRAFT ON NEW ROUTE.
						DETERMINE ARRIVAL AT ORIGINALLY DESIRED CHECKPOINT.	CONTINUE ON ROUTE.

CONTINGENCY: ENGINE FAILURE

AVAILABLE CUES			
VISUAL	AUDITORY/OLFACTORY	TACTILE/PROPRIOCEPTIVE	KINESTHETIC
2 RPM LIGHT ON 2 ENGINE RPM LOW 2 ROTOR RPM LOW 4 N_1 RPM LOW 3 TORQUE LOW 4 EGT HIGH/LOW	1 LOW RPM AUDIO ON 5 ENGINE NOISE DECREASE 6 ROTOR NOISE DECREASE	7 SLOPPY CONTROL RESPONSE	5 AIRCRAFT YAWS LEFT AIRCRAFT DESCENT 5 ENGINE VIBRATION DECREASE

DECISION OPTIONS	COMMENTS	RESPONSES	
		PERCEPTUAL	MOTOR
(1) DIAGNOSIS AS ENGINE FAILURE AND PERFORM AUTOROTATION.	THE PILOT MUST LEARN TO DISTINGUISH THE CUES WHICH WILL LEAD TO CORRECT DIAGNOSIS. INCORRECT DIAGNOSIS AND REACTION WILL LEAD TO CRASH.	RECOGNIZE ENGINE FAILURE. DETERMINE AIRCRAFT ATTITUDE. SELECT PITCH ATTITUDE DESIRED. DETERMINE TOUCHDOWN POINT. DETERMINE FLARE OR NO FLARE REQUIRED. SELECT PITCH-PULL ALTITUDE. EVALUATE TOUCHDOWN CRITERIA.	LOWER COLLECTIVE PITCH. INCREASE RIGHT PEDAL. ADJUST OR MAINTAIN PITCH ATTITUDE. OBSERVE LANDING AREA AND TOUCHDOWN POINT. OBSERVE RATE OF CLOSURE AND RATE OF DESCENT. ADJUST OR MAINTAIN PITCH ATTITUDE (FLARE). INCREASE COLLECTIVE PITCH TO SLOW RATE OF DESCENT AND GROUND SPEED (INITIAL). ADJUST OR MAINTAIN PITCH ATTITUDE (LEVEL). ADJUST COLLECTIVE PITCH TO CUSHION TOUCHDOWN. ADJUST PEDALS TO MAINTAIN DESIRED HEADING.

CONTINGENCY: SHORT SHAFT FAILURE

AVAILABLE CUES				DECISION OPTIONS	COMMENTS	RESPONSES	
VISUAL	AUDITORY/OLFACTORY	TACTILE/PROPRIOCEPTIVE	KINESTHETIC			PERCEPTUAL	MOTOR
4 RPM LIGHT ON 2 ENGINE RPM HIGH 3 ROTOR RPM LOW 7 N_1 RPM HIGH 7 TORQUE LOW 7 EGT HIGH	5 LOW RPM AUDIO ON 1 ENGINE NOISE INCREASE 8 ROTOR NOISE DECREASE	9. SLOPPY CONTROL RESPONSE	6 AIRCRAFT YAWS LEFT 10 AIRCRAFT DESCENT	(1) SHORT SHAFT FAILURE	THE CUES AVAILABLE FOR (1) AND (2) ARE VERY SIMILAR, THE DIFFERENCES BEING:	RECOGNIZE SHORT SHAFT FAILURE	PERFORM AUTOROTATION
				(2) HIGH SIDE GOVERNOR FAILURE	VISUAL -- ROTOR RPM TORQUE AUDITORY -- LOW RPM AUDIO ON ROTOR NOISE DECREASE TACTILE INPUT KINESTHETIC -- YAW LEFT	DIAGNOSE AS HIGH SIDE GOVERNOR FAILURE	ADJUST THROTTLE TO ENGINE IDLE. INCREASE COLLECTIVE PITCH. OBSERVE ROTOR RPM DECREASE.
						RECOGNIZE SHORT SHAFT FAILURE	PERFORM AUTOROTATION

CONTINGENCY: HIGH SIDE GOVERNOR FAILURE

AVAILABLE CUES				DECISION OPTIONS	COMMENTS	RESPONSES	
VISUAL	AUDITORY/OLFACTORY	TACTILE/PROPRIOCEPTIVE	KINESTHETIC			PERCEPTUAL	MOTOR
2 RPM LIGHT ON 2 ENGINE RPM HIGH 2 ROTOR RPM HIGH 4 N_1 RPM HIGH 3 TORQUE HIGH 4 EGT HIGH	1 ENGINE NOISE INCREASE 1 ROTOR NOISE INCREASE	NONE	5 AIRCRAFT VIBRATION INCREASE 5 AIRCRAFT YAW RIGHT	(1) HIGH SIDE GOVERNOR FAILURE (2) SHORT SHAFT FAILURE	THE CUES AVAILABLE FOR (1) AND (2) ARE VERY SIMILAR. THE DIFFERENCE BEING: VISUAL--ROTOR RPM TORQUE AUDITORY--LOW RPM AUDIO OFF ROTOR NOISE INCREASE NO TACTILE INPUT KINESTHETIC--YAW RIGHT	RECOGNIZE HIGH SIDE GOVERNOR FAILURE. DETERMINE RPM DESIRED. SELECT TORQUE SETTING. SELECT FLIGHT ALTITUDE. SELECT FLIGHT ROUTE.	INCREASE COLLECTIVE PITCH TO RETARD ROTOR AND ENGINE RPM BUILDUP. ADJUST THROTTLE TO GAIN MANUAL CONTROL OF RPM. ADJUST COLLECTIVE PITCH AND THROTTLE AS REQUIRED TO MAINTAIN DESIRED SETTINGS. OBSERVE DUAL TACH FOR RPM. MANEUVER AIRCRAFT TO DESIRED LOCATION. ADJUST FLIGHT CONTROLS TO MAINTAIN SELECTED ATTITUDE.

CONTINGENCY: LOW SIDE GOVERNOR FAILURE

AVAILABLE CUES			
VISUAL	AUDITORY/OLFACTORY	TACTILE/PROPRIOCEPTIVE	KINESTHETIC
2 RPM LIGHT ON	1 LOW RPM AUDIO ON	6 SLOPPY CONTROL RESPONSE	4 AIRCRAFT YAWS LEFT
2 ENGINE RPM LOW	3 ENGINE NOISE		5 AIRCRAFT DESCENT
2 ROTOR RPM LOW			
4 N_1 RPM NORMAL			
4 TORQUE			
4 EGT			

DECISION OPTIONS	COMMENTS	RESPONSES	
		PERCEPTUAL	MOTOR
(1) LOW SIDE GOVERNOR FAILURE.	CUES AVAILABLE IN (1), (2), AND (3) ARE VERY SIMILAR. IN A LOW SIDE GOVERNOR FAILURE, N_1 IS THE DISTINGUISHING FEATURE.	RECOGNIZE LOW SIDE GOVERNOR FAILURE	LOWER COLLECTIVE PITCH TO MAINTAIN ROTOR RPM. ADJUST THROTTLE TO GAIN MANUAL CONTROL OF RPM
	DURING NOE FLIGHT, TIME MAY NOT PERMIT AN ANALYSIS TO DETERMINE BETWEEN THE TYPE OF FAILURE.	SELECT PITCH ATTITUDE FOR MINIMUM RATE OF DESCENT.	ADJUST CYCLIC TO DESIRED POSITION. OBSERVE AIRSPEED, RPM, AND OBSTACLE CLEARANCE. SWITCH GOVERNOR SWITCH TO EMERGENCY POSITION.
		DETERMINE RPM FOR "NORMAL" FLIGHT OPERATIONS.	INCREASE THROTTLE AND COLLECTIVE TO RE-ESTABLISH "NORMAL" FLIGHT ATTITUDE.
(2) ENGINE FAILURE		DIAGNOSIS AS ENGINE FAILURE.	PERFORM AUTOROTATION.
(3) INLET GUIDE VANES CLOSED		DIAGNOSE FAILURE	ADJUST COLLECTIVE TO MAINTAIN RPM
		SELECT LANDING ZONE	SEARCH AREA FOR SAFE LANDING ZONE
			PERFORM LANDING

CONTINGENCY: INLET GUIDES VANE CLOSED

AVAILABLE CUES				DECISION OPTIONS	COMMENTS	RESPONSES	
VISUAL	AUDITORY/OLFACTORY	TACTILE/PROPRIOCEPTIVE	KINESTHETIC			PERCEPTUAL	MOTOR
2 TORQUE METER 25 PSI MAXIMUM 1 ROTOR RPM LOW 1 ENGINE RPM LOW 2 N_1 NORMAL 2 EGT HIGH			3 AIRCRAFT DESCENT	(1) INLET GUIDE VANES CLOSED. (2) LOW SIDE GOVERNOR FAILURE. (3) ENGINE FAILURE.	TORQUE AND N_1 SHOULD BE THE KEY CUES IN DETECTING THIS TYPE OF FAILURE.	DIAGNOSE FAILURE SELECT LANDING ZONE.	ADJUST COLLECTIVE TO MAINTAIN RPM. SEARCH AREA FOR SAFE LANDING ZONE. PERFORM LANDING.

CONTINGENCY: TAIL ROTOR FAILURE

AVAILABLE CUES			
VISUAL	AUDITORY/OLFACTORY	TACTILE/PROPRIOCEPTIVE	KINESTHETIC
3 AIRCRAFT HEADING 4 TRIM BALL (ABOVE 30 KTS) 4 NOSE LOW ATTITUDE	1 POSSIBLE NOISE FROM FAILURE	1 PEDALS JAMMED 1 PEDALS FREE MOVING	2 AIRCRAFT YAW 2 AIRCRAFT ROTATION 2 AIRCRAFT ROLL 2 AIRCRAFT PITCH ATTITUDE

DECISION OPTIONS	COMMENTS	RESPONSES	
		PERCEPTUAL	MOTOR
(1) LAND IMMEDIATELY	(1A) COMPLETE LOSS OF TAIL ROTOR THRUST (HOVER AND IN FLIGHT) LOSS OF TAIL ROTOR COMPONENTS (HOVER AND IN FLIGHT) LOSS OF TAIL ROTOR PITCH CONTROL (HOVER)	(1A) RECOGNIZE TAIL ROTOR FAILURE. DETERMINE PITCH ATTITUDE REQUIRED. EVALUATE LANDING ZONE. SELECT PITCH-PULL ALTITUDE. EVALUATE TOUCHDOWN CRITERIA.	REDUCE THROTTLE TO ENGINE IDLE. ADJUST OR MAINTAIN PITCH ATTITUDE. ADJUST COLLECTIVE PITCH TO MAINTAIN ROTOR RPM. OBSERVE ROTOR RPM. OBSERVE RATE OF DESCENT AND RATE OF CLOSURE. INCREASE COLLECTIVE PITCH. ADJUST OR MAINTAIN PITCH ATTITUDE (AIRCRAFT LEVEL).
A) PERFORM AUTOROTATION			
B) PERFORM POWER ON APPROACH	(1B) JAMMED TAIL ROTOR PITCH CONTROL (HOVER)	(1B) RECOGNIZE TAIL ROTOR FAILURE. SELECT LANDING ZONE.	ADJUST COLLECTIVE AND THROTTLE TO ADJUST/MAINTAIN ALTITUDE AND HEADING CONTROL.
		DETERMINE TORQUE SETTING AND RPM REQUIRED TO MAINTAIN HEADING CONTROL.	ADJUST CYCLIC TO MANEUVER AIRCRAFT TO LANDING ZONE.
		SELECT TOUCHDOWN POINT.	ADJUST THROTTLE AND COLLECTIVE TO ACCOMPLISH LANDING.
(2) RETURN TO BASE PERFORM POWER ON APPROACH	(2) LOSS OF TAIL ROTOR PITCH CONTROL (IN FLIGHT) A) PEDALS JAMMED B) PEDALS FREE MOVING	(2) RECOGNIZE TAIL ROTOR FAILURE.	OBSERVE TORQUE SETTING. OBSERVE AIRSPEED.
		DETERMINE TORQUE SETTING AND AIRSPEED REQUIRED FOR LEAST AGGRAVATED CONDITION.	ADJUST COLLECTIVE PITCH AND CYCLIC TO DESIRED SETTINGS.
		SELECT FLIGHT ROUTE.	MANEUVER AIRCRAFT TO LANDING ZONE (RUNWAY). PERFORM LANDING [SEE (1B).]

CONTINGENCY: COMPRESSOR STALL/POWER SURGE

AVAILABLE CUES			
VISUAL	AUDITORY/OLFACTORY	TACTILE/PROPRIOCEPTIVE	KINESTHETIC
4 EGT HIGH	1 CHANGE IN ENGINE NOISE	NONE	2 UNUSUAL AIRCRAFT VIBRATION
3 TORQUE FLUCTUATION	1 LOUD BANG		2 AIRFRAME SHUDDER
4 N_1 FLUCTUATION	1 ENGINE RUMBLE		2 AIRCRAFT YAW
3 POSSIBLE FLUCTUATION IN ENGINE RPM			

DECISION OPTIONS	COMMENTS	RESPONSES	
		PERCEPTUAL	MOTOR
(1) LAND IMMEDIATELY	IN THE EVENT OF A POWER SURGE OR COMPRESSOR STALL THE BEST PROBABLE OPTION IS TO LAND AS SOON AS PRACTICAL, AT THE NEAREST SAFE LANDING AREA. THIS DECISION WILL HAVE TO BE BASED ON THE SEVERITY OF THE STALL (SURGE)		
A) PERFORM AUTOROTATION	1A) ENTERING AUTOROTATION IS PROBABLY THE WORST OPTION AND SHOULD BE USED ONLY AS A LAST RESORT		
B) PERFORM POWER ON APPROACH		RECOGNIZE POWER SURGE	MONITOR ENGINE INSTRUMENTS
		SELECT OPTION (1B)	ADJUST COLLECTIVE AND THROTTLE TO GAIN MANUAL CONTROL OF RPM
		SELECT A SAFE LANDING AREA AND APPROACH PATH	ADJUST FLIGHT CONTROL SO AS TO MANEUVER AIRCRAFT ON APPROACH PATH AND LANDING
		RECOGNIZE COMPRESSOR STALL	REDUCE POWER SETTING IF POSSIBLE
		SELECT OPTION (1B)	MONITOR ENGINE INSTRUMENTS
		SELECT A SAFE LANDING ARE AND APPROACH PATH	ADJUST FLIGHT CONTROLS AND PERFORM LANDING
(2) RETURN TO BASE PERFORM POWER ON APPROACH		RECOGNIZE COMPRESSOR STALL OR POWER SURGE	
		SELECT OPTION (2)	ADJUST FLIGHT CONTROLS TO MAINTAIN SELECTED ALTITUDE, ATTITUDE, AIRSPEED
		DETERMINE ATTITUDE	MONITOR ENGINE INSTRUMENTS
		DETERMINE AIRSPEED	
		SELECT FLIGHT ROUTE	

CONTINGENCY: AIRCRAFT FIRE

AVAILABLE CUES				DECISION OPTIONS	COMMENTS	RESPONSES	
VISUAL	AUDITORY/OLFACTORY	TACTILE/PROPRIOCEPTIVE	KINESTHETIC			PERCEPTUAL	MOTOR
1 SMOKE 1 FLAMES 1 FIRE WARNING LIGHT (UH-1 ONLY)	1 FLAMES CAN BE HEARD 1 SMELL SMOKE 1 SMELL BURNING COMPONENT 1 RADIO WARNING FROM OTHER AIRCRAFT	NONE	NONE	LAND IMMEDIATELY		RECOGNIZE AIRCRAFT FIRE SELECT LANDING ZONE AND APPROACH PATH	SEARCH AREA FOR NEAREST SAFE LANDING ZONE MONITOR INSTRUMENTS PERFORM LANDING

CONTINGENCY: COCKPIT SMOKE, FIRE OR FUMES

AVAILABLE CUES				DECISION OPTIONS	COMMENTS	RESPONSES	
VISUAL	AUDITORY/OLFACTORY	TACTILE/PROPRIOCEPTIVE	KINESTHETIC			PERCEPTUAL	MOTOR
1 SMOKE 1 FLAMES 1 SPARK	1 SMELL SMOKE 1 SMELL BURNING COMPONENTS 1 SMELL FUMES 1 FLAMES CAN BE HEARD 1 ARCING CAN BE HEARD	NONE	NONE	ELIMINATE SMOKE LAND IMMEDIATELY	IF SMOKE IS HINDERING VISIBILITY, THE ELIMINATION OF SMOKE BECOMES FIRST PRIORITY	RECOGNIZE HAZARD DUE TO SMOKE/FUMES SELECT APPROPRIATE AIRSPEED SELECT LANDING ZONE	OPEN WINDOWS, DOORS AND VENTS ADJUST FLIGHT CONTROLS TO MAINTAIN SELECTED AIRSPEED AND SIDESLIP PERFORM LANDING

CONTINGENCY: BLADE STRIKE

AVAILABLE CUES			
VISUAL	AUDITORY/OLFACTORY	TACTILE/PROPRIOCEPTIVE	KINESTHETIC
3 SEE BLADE HIT OBSTACLE	3 HEAR IMPACT	1 KICK BACK IN FLIGHT CONTROL	2 AIRCRAFT VIBRATION 2 AIRCRAFT BUMP

DECISION OPTIONS	COMMENTS	RESPONSES	
		PERCEPTUAL	MOTOR
(1) LAND IMMEDIATELY	DECISION WILL BE BASED ON SEVERITY OF AIRCRAFT VIBRATION	DETERMINE SEVERE VIBRATION	ADJUST FLIGHT CONTROLS TO MAINTAIN POSITIVE CONTROL OF AIRCRAFT
		SELECT OPTION (1)	SEARCH AREA FOR SAFE LANDING ZONE
		SELECT LANDING ZONE	CHECK INSTRUMENTS
			PERFORM LANDING
(2) RETURN TO BASE		DETERMINE MINOR STRIKE	
		SELECT OPTION (2)	
		SELECT AIRSPEED, ALTITUDE, FLIGHT ROUTE	MANEUVER AIRCRAFT
			PERFORM LANDING

CONTINGENCY: SLUGGISH FLIGHT CONTROLS

AVAILABLE CUES				DECISION OPTIONS	COMMENTS	RESPONSES	
VISUAL	AUDITORY/OLFACTORY	TACTILE/PROPRIOCEPTIVE	KINESTHETIC			PERCEPTUAL	MOTOR
NONE	1 UNUSUAL NOISE WHEN FLIGHT CONTROL IS MOVED	1 STIFFNESS OR BINDING IN FLIGHT CONTROLS	2 UNUSUAL RESPONSE OF AIRCRAFT TO FLIGHT CONTROL INPUT		THE PILOT WILL HAVE TO JUDGE THE SEVERITY OF THE MALFUNCTION AND SELECT FROM OPTIONS AVAILABLE	DETERMINE MALFUNCTION OF FLIGHT CONTROLS	
						EVALUATE SEVERITY OF MALFUNCTION	
				(1) LAND IMMEDIATELY		SELECT OPTION (1)	SEARCH AREA FOR SAFE LANDING ZONE
						SELECT LANDING ZONE	PERFORM LANDING
				(2) RETURN TO BASE		SELECT OPTION (2)	
						SELECT ALTITUDES, AIRSPEED, AND FLIGHT ROUTE	MANEUVER AIRCRAFT
							PERFORM LANDING

CONTINGENCY: HYDRAULIC SYSTEM FAILURE

AVAILABLE CUES			
VISUAL	AUDITORY/OLFACTORY	TACTILE/PROPRIOCEPTIVE	KINESTHETIC
OH58 & UH-1			
2 MASTER CAUTION LIGHT ON 2 HYDRAULIC PRESSURE LIGHT ON	1 HYDRAULIC SERVOS WILL POSSIBLY MAKE NOISE	3 FLIGHT CONTROLS WILL BECOME STIFF 3 EXCESSIVE FEEDBACK IN FLIGHT CONTROLS	NONE
AH-1			
2 HYDRAULIC #1 LIGHT ON 2 MASTER CAUTION ON	1 HYDRAULIC SERVOS WILL POSSIBLY MAKE NOISE 1 TURRET MAY OSCILATE MAKING NOISE	3 PEDALS BECOME STIFF	
2 HYDRAULIC LIGHT #2 ON 2 MASTER CAUTION ON	1 HYDRAULIC SERVOS WILL POSSIBLY MAKE NOISE	3 CYCLIC STIFF 3 COLLECTIVE STIFF	
2 HYDRAULIC #1 AND #2 LIGHTS ON 2 MASTER CAUTION ON	1 HYDRAULIC SERVOS WILL POSSIBLY MAKE NOISE	3 FLIGHT CONTROLS WILL HAVE EXCESSIVE FEEDBACK AND BECOME STIFF	

DECISION OPTIONS	COMMENTS	RESPONSES	
		PERCEPTUAL	MOTOR
RETURN TO BASE	THE OH58 AIRCRAFT CAN BE FLOWN WITHOUT HYDRAULIC ASSIST THE UH-1 SHOULD BE FLOWN BACK TO A RUNWAY AND A RUNNING LANDING ACCOMPLISHED	RECOGNIZE HYDRAULIC FAILURE DETERMINE FLIGHT ALTITUDE, AIRSPEED AND ROUTE	ADJUST FLIGHT CONTROLS TO MAINTAIN SELECTED ATTITUDE CHECK FOR FAILURE OF HYDRAULIC POWER SWITCH IF POWER NOT RESTORED, HYDRAULIC POWER SWITCH OFF PERFORM RUNNING LANDING
		AH-1 SYSTEM #1 SELECT AIRSPEED, ALTITUDE AND FLIGHT ROUTE	CHECK EMERGENCY COLLECTIVE HYDRAULIC SWITCH OFF DISENGAGE YAW SCAS AIRCRAFT WEAPONS SIGHT CIRCUIT BREAKER OUT CHECK HYDRAULIC POWER CIRCUIT BREAKER
		AH-1 SYSTEM #2 SELECT AIRSPEED, ALTITUDE AND FLIGHT ROUTE	CHECK EMERGENCY COLLECTIVE HYDRAULIC SWITCH OFF DISENGAGE ROLL AND PITCH SCAS AIRCRAFT WEAPONS SIGHT CIRCUIT BREAKER OUT CHECK HYDRAULIC POWER CIRCUIT BREAKER
		AH-1 SYSTEM #1 AND #2 SELECT AIRSPEED, ALTITUDE AND FLIGHT ROUTE	ADJUST FLIGHT CONTROLS TO MAINTAIN SELECTED ATTITUDE CHECK EMERGENCY COLLECTIVE HYDRAULIC OFF DISENGAGE SCAS PERFORM RUNNING LANDING

CONTINGENCY: CHIP DETECTOR

AVAILABLE CUES				DECISION OPTIONS	COMMENTS	RESPONSES	
VISUAL	AUDITORY/OLFACTORY	TACTILE/PROPRIOCEPTIVE	KINESTHETIC			PERCEPTUAL	MOTOR
1 MASTER CAUTION LIGHT ON	NONE			(1) LAND IMMEDIATELY	THE CHOICE WILL DEPEND UPON DISTANCE TO BASE AND PILOT'S EXPERIENCE	RECOGNIZE CHIP DETECTOR	
2 CHIP DETECTOR LIGHT ON		(UH1) TRANS/ROTOR SWITCH				SELECT LANDING AREA	PERFORM LANDING
3 (AH-1) CHIP DETECTOR QUADRANT LIGHT		(AH-1) QUADRANT LIGHT				DETERMINE CHIP LOCATION	
				(2) RETURN TO BASE		RECOGNIZE CHIP DETECTOR	
						DETERMINE CHIP LOCATION	DEPRESS CHIP TEST SWITCH (UH-1)
							DEPRESS CHIP QUADRANT LIGHT (AH-1)
						SELECT FLIGHT PATH TO BASE	MANEUVER AIRCRAFT TO BASE AND PERFORM LANDING

CONTINGENCY: DC GENERATOR FAILURE

AVAILABLE CUES				DECISION OPTIONS	COMMENTS	RESPONSES	
VISUAL	AUDITORY/OLFACTORY	TACTILE/PROPRIOCEPTIVE	KINESTHETIC			PERCEPTUAL	MOTOR
1 MASTER CAUTION 2 DC GENERATOR *LIGHT* 3 ELECTRICAL INSTRUMENTS	4 SCAS CHANNELS DISENGAGEMENT (AH1G ONLY)	NONE	4 SCAS INOPERATIVE (AH1G ONLY)	UH-1			
				(1) SELECT STANDBY GENERATOR	THE STANDBY GENERATOR IN THE UH-1 IS SUFFICIENT TO ALLOW MISSION COMPLETION	RECOGNIZE GENERATOR FAILURE	RESET MASTER CAUTION LIGHT
						DETERMINE STANDBY GENERATOR OPERATING	CHECK INSTRUMENTS
				(2) ATTEMPT RESET OF MAIN GENERATOR	WHEN TIME AND ALTITUDE PERMIT		CHECK CIRCUIT BREAKERS IN
							GENERATOR SWITCH TO RESET, ON
						DETERMINE MAIN GENERATOR OPERATING	CHECK CAUTION LIGHT OFF
							IF GENERATOR NOT RECOVERED, SWITCH OFF
				OH58 AND AH1G			
							SHUT OFF NON-ESSENTIAL SYSTEMS
				ATTEMPT RESET OF MAIN GENERATOR	AIRCRAFT SYSTEMS WILL RUN OFF BATTERY POWER BUT WILL DRAIN BATTERY VERY QUICKLY; THEREFORE LANDING AND SHUTDOWN IS NECESSARY		CHECK CIRCUIT BREAKERS IN
							RESET GENERATOR SWITCH THEN BACK TO ON
							CHECK CAUTION PANEL LIGHT OFF: CONTINUE LIGHT ON: GENERATOR SWITCH OFF
							ELECTRICAL SWITCHES OFF
				LAND AS SOON AS PRACTICAL		SELECT SAFE LANDING AREA	PERFORM LANDING

CONTINGENCY: CLOGGED FUEL FILTER

AVAILABLE CUES				DECISION OPTIONS	COMMENTS	RESPONSES	
VISUAL	AUDITORY/OLFACTORY	TACTILE/PROPRIOCEPTIVE	KINESTHETIC			PERCEPTUAL	MOTOR
1 MASTER CAUTION 2 FUEL FILTER LIGHT 3 FUEL PRESSURE GAUGE	NONE	NONE	4 POSSIBLE CHANGE IN ENGINE PERFORMANCE	LAND AS SOON AS PRACTICAL	THE FUEL FILTER BYPASS LIGHT INDICATES CONTAMINATED FUEL BEING PUMPED FROM THE FUEL CELL. AS MUCH AS 30 MINUTES MAY PASS BEFORE FILTER IS ACTUALLY BYPASSED. HOWEVER, ENGINE MALFUNCTION OR FLAMEOUT MAY OCCUR AT ANY TIME	RECOGNIZE FUEL CONTAMINATION EVALUATE EFFECT ON ENGINE PERFORMANCE SELECT SAFE LANDING AREA	CHECK ENGINE INSTRUMENTS MONITOR ENGINE PERFORMANCE PERFORM LANDING

CONTINGENCY: ENGINE OIL BYPASS LIGHT

AVAILABLE CUES			
VISUAL	AUDITORY/OLFACTORY	TACTILE/PROPRIOCEPTIVE	KINESTHETIC
1 MASTER CAUTION LIGHT ON 2 ENGINE OIL BY-PASS LIGHT ON 3 ENGINE OIL PRESSURE GAUGE READS LOW 2 ENGINE OIL PRESSURE LIGHTS ON 3 ENGINE OIL TEMPERATURE GAUGE READS HIGH	NONE	NONE	NONE

DECISION OPTIONS	COMMENTS	RESPONSES	
		PERCEPTUAL	MOTOR
(1) RETURN TO BASE	CHECK ENGINE OIL BYPASS SWITCH POSITION	DETERMINE WHETHER IMMEDIATE LANDING IS REQUIRED	CHECK ENGINE OIL TEMPERATURE CHECK ENGINE OIL PRESSURE
		SELECT OPTION (1)	RESET MASTER CAUTION LIGHT
		SELECT AIRSPEED, ALTITUDE AND FLIGHT PATH	
			MANEUVER AIRCRAFT ALONG SELECTED ROUTE
(2) LAND IMMEDIATELY		SELECT OPTION (2)	
			SEARCH AREA FOR LANDING ZONE
		SELECT LANDING ZONE	PERFORM LANDING

CONTINGENCY: TRANSMISSION OIL BYPASS (AH-1 ONLY)

AVAILABLE CUES				DECISION OPTIONS	COMMENTS	RESPONSES	
VISUAL	AUDITORY/OLFACTORY	TACTILE/PROPRIOCEPTIVE	KINESTHETIC			PERCEPTUAL	MOTOR
1 MASTER CAUTION LIGHT ON	NONE	NONE	NONE	(1) RETURN TO BASE	ENGINE POWER SHOULD BE MAINTAINED AT ALL TIMES. DO NOT ENTER AUTO-ROTATION		CHECK TRANSMISSION OIL TEMPERATURE
2 TRANSMISSION OIL BYPASS LIGHT ON							CHECK TRANSMISSION OIL PRESSURE
3 TRANSMISSION OIL PRESSURE OUT OF TOLERANCE						SELECT OPTION (1)	RESET MASTER CAUTION
3 TRANSMISSION OIL TEMPERATURE OUT OF TOLERANCE						SELECT AIRSPEED, ALTITUDE AND FLIGHT ROUTE	
							MANEUVER AIRCRAFT ON SELECTED ROUTE
							CHECK TRANSMISSION OIL TEMPERATURE
							CHECK TRANSMISSION OIL PRESSURE
				(2) LAND IMMEDIATELY		SELECT OPTION (2)	SEARCH AREA FOR SAFE LANDING ZONE
						SELECT LANDING ZONE	PERFORM LANDING

CONTINGENCY: AIRCRAFT INVERTER FAILURE

AVAILABLE CUES			
VISUAL	AUDITORY/OLFACTORY	TACTILE/PROPRIOCEPTIVE	KINESTHETIC
2 MASTER CAUTION 3 AIRCRAFT INVERTER LIGHT 1 PRESSURE INSTRUMENTS	4 SCAS CHANNELS DISENGAGE (AH-1G)	NONE	4 SCAS INOPERATIVE (AH-1G)

DECISION OPTIONS	COMMENTS	RESPONSES	
		PERCEPTUAL	MOTOR
(1) SWITCH TO STANDBY	STANDBY INVERTER IS SUFFICIENT FOR MISSION COMPLETION. RESETTING OF THE MAIN INVERTER CAN BE TRIED AFTER GAINING ALTITUDE OR LANDING	SELECT OPTION (1)	PLACE INVERTER IN SWITCH IN STANDBY POSITION WHEN ALTITUDE AND TIME PERMIT: RE-ENGAGE SCAS
(2) ATTEMPT RESET OF MAIN INVERTER		SELECT OPTION (2)	CHECK MAIN INVERTER CIRCUIT BREAKER. RECYCLE PLACE INVERTER SWITCH TO MAIN
		DETERMINE MAIN INVERTER OPERATING	CAUTION LIGHT OFF IF NOT RECOVERED, SWITCH TO STANDBY

CONTINGENCY: SINGLE ELEMENT ENGINE FUEL PUMP							
AVAILABLE CUES				DECISION OPTIONS	COMMENTS	RESPONSES	
VISUAL	AUDITORY/OLFACTORY	TACTILE/PROPRIOCEPTIVE	KINESTHETIC			PERCEPTUAL	MOTOR
1 MASTER CAUTION LIGHT ON 2 ENGINE FUEL PUMP LIGHT ON	NONE	NONE	NONE	LAND IMMEDIATELY	A SINGLE ELEMENT FAILURE WILL ILLUMINATE THE CAUTION LIGHT. THE PILOT SHOULD BE PREPARED SINCE A FAILURE OF THE SECOND ELEMENT WILL RESULT IN ENGINE FAILURE	SELECT LANDING ZONE BE PREPARED FOR ENGINE FAILURE	SEARCH AREA FOR SAFE LANDING ZONE ADJUST FLIGHT CONTROLS AND PERFORM LANDING

CONTINGENCY: FUEL BOOST PUMP FAILURE

AVAILABLE CUES				DECISION OPTIONS	COMMENTS	RESPONSES	
VISUAL	AUDITORY/OLFACTORY	TACTILE/PROPRIOCEPTIVE	KINESTHETIC			PERCEPTUAL	MOTOR
1 MASTER CAUTION 2 BOOST PUMP LIGHT 3 FUEL PRESSURE GAUGE	NONE	NONE	NONE	(1) CONTINUE FLIGHT	WITH A SINGLE BOOST PUMP FAILURE, AIRCRAFT WILL OPERATE NORMALLY	(1) SELECT OPTION 1	RESET MASTER CAUTION LIGHT MONITOR FUEL PRESSURE
				(2) RETURN TO BASE	IF BOTH BOOST PUMPS FAIL, AIRCRAFT SHOULD BE FLOWN BACK TO BASE	(2) SELECT OPTION 2 SELECT AIRSPEED, ALTITUDE AND FLIGHT ROUTE	IF POSSIBLE, ADJUST FLIGHT CONTROLS TO MAINTAIN BELOW 4600 PRESSURE ALTITUDE MANEUVER TO BASE

CONTINGENCY: SCAS FAILURE (HARDOVER) (AH-1 ONLY)

AVAILABLE CUES				DECISION OPTIONS	COMMENTS	RESPONSES	
VISUAL	AUDITORY/OLFACTORY	TACTILE/PROPRIOCEPTIVE	KINESTHETIC			PERCEPTUAL	MOTOR
1 CHANGE IN PITCH ATTITUDE	NONE	2 FEEDBACK IN FLIGHT CONTROL	2 UNUSUAL FLIGHT CONTROL POSITION	(1) RETURN TO BASE	THE AH-1 CAN BE FLOWN WITHOUT SCAS BUT CONTROL FEEL IS SOMEWHAT AWKWARD	(1) SELECT OPTION 1 DETERMINE AFFECTED SCAS CHANNEL/CHANNELS SELECT APPROPRIATE AIRSPEED, ALTITUDE, ROUTE	ADJUST FLIGHT CONTROLS TO REGAIN STABLE FLIGHT CONDITION DISENGAGE SCAS CHANNELS/CHANNEL MANEUVER AIRCRAFT AND PERFORM LANDING
				(2) CONTINUE			

CONTINGENCY: ENGINE ICING (AIR SCREENS)

AVAILABLE CUES				DECISION OPTIONS	COMMENTS	RESPONSES	
VISUAL	AUDITORY/OLFACTORY	TACTILE/PROPRIOCEPTIVE	KINESTHETIC			PERCEPTUAL	MOTOR
1 MASTER CAUTION LIGHT ON 2 ENGINE INLET AIR (COBRA) 2 ENGINE ICE LIGHT ON (UH-1) 3 CREW MAY SEE BUILD-UP OF ICE 3 INCREASE TORQUE NECESSARY 3 EGT HIGH 3 POWER AVILABLE LOW	NONE	NONE	NONE	(1) (AH-1) OPEN AIR SCREEN MONITOR ENGINE PERFORMANCE (2) (UH-1) (OH-58) LAND IMMEDIATELY	UNLESS THE SHIP HAS BEEN PREPARED FOR COLD WEATHER OPERATIONS (THE PARTICLE SEPARATOR REMOVED), THERE IS NOT MUCH THAT CAN BE DONE IF ICE STARTS TO ACCUMULATE ON THE SEPARATOR	(1) AH-1 DETERMINE IF CONTINUED FLIGHT IS POSSIBLE (2) DETERMINE THAT FLIGHT IS IMPOSSIBLE SELECT LANDING AREA	PLACE SCREEN SWITCH TO BYPASS MONITOR ENGINE INSTRUMENTS MONITOR ENGINE INSTRUMENTS ADJUST FLIGHT CONTROLS SO AS TO REMAIN WITHIN LIMITS OF AIRCRAFT CHARACTERISTICS PERFORM APPROACH AND LANDING

TRAINING OBJECTIVES

The detailed specifications of aircrew task requirements and contingency performance requirements provided the data base for identifying the training objectives that would have to be met to achieve aircrew proficiency in NOE operations. Each aircrew task and contingency performance requirement was examined in terms of its uniqueness to NOE operations or the degree to which it is performed differently at NOE altitudes than at higher altitudes. For each NOE-relevant task that was identified, the end product or outcome behavior was defined which would demonstrate an aviator's capability to perform that task. When quantitative criteria of the adequacy of performance could be identified, these were noted as potential standards for performance assessment.

These descriptions of end-product performance capabilities are the training objectives. They are listed in the mission phase/segment/function format so that they can be related to the task-analysis data from which they were derived.

The lists of training objectives, along with the task-analysis data, were delivered to operational units at Fort Ord, Fort Bragg, Fort Knox, and Fort Hood and to NOE flight instructors at the Army Aviation School at Fort Rucker. They reviewed both sets of data and verified the accuracy and relevance of almost all of the items in the lists of objectives. They suggested several changes and a few additions, which have been incorporated into the final lists.

NOE TRAINING OBJECTIVES

OBJECTIVES		*PERFORMANCE CRITERIA*
A.	PREFLIGHT	
A.1	*MISSION PLANNING*	
A.1.1	*Receive Briefing*	
A.1.1.1	The aviator will be able to understand and execute a standard mission order.	Correct performance of mission defined in the briefing.
A.1.1.2	The aviator will be able to identify the local sources of all information used in the preparation of a standard mission order.	
A.1.1.3	The aviator will state the definition and purpose of NOE flight as it applies to his unit's mission and the aircraft/ground units he is (will be) assigned to operate with.	
A.1.1.4	The aviator will prepare a usable mission order when presented with the following data: • Intelligence reports • Reconnaissance reports • Appropriate maps and charts • Disposition of friendly forces • Command and signal information • Administrative and logistics information.	Mission order must contain all information required to allow another aviator to successfully perform the mission called out by the mission order.
A.1.2	*Select Maps*	
	The aviator will be able to identify, select, and obtain the map product(s) appropriate to the mission to be flown.	The aviator will be able to list the types of map products available and describe the information which can best be gathered from each type.
A.1.2.1	The aviator will identify the map products suitable for use in planning and executing NOE missions.	

OBJECTIVES		*PERFORMANCE CRITERIA*
A.1.2.2	The aviator will be able to obtain or locate the current hazard map(s) for the area(s) in which he will be operating.	
A.1.2.3	The aviator will be able to determine the currency of available map products.	
A.1.3	*Map Interpretation*	
A.1.3.1	The aviator will identify and interpret contour lines and those map symbols representing geographic and noticeable cultural features of particular use in conducting NOE operations.	Ninety percent accurate interpretation on an objective written examination.
A.1.3.2	The aviator will describe the cartographic conventions used to depict typical geographic and cultural features on 1:50,000-scale topographic maps.	
A.1.3.3	The aviator will demonstrate that he can interpret the coding systems used on tactical maps to plan integrated ground and air operations.	Ninety percent correct recognition and interpretation of codes on an objective written examination.
A.1.3.4	Given the eight-digit coordinates of a point, the aviator will demonstrate that he can locate that point on a 1:50,000-scale map.	Location: ±50 meters of specified point.
A.1.3.4.1	Given the eight-digit coordinates of a point and a 1:50,000-scale map, the aviator will describe the geographic or cultural features in the vicinity of that point that he would expect to observe while approaching that point at NOE altitudes.	Eighty percent accuracy.
A.1.3.5	Given the latitude and longitude of a point, the aviator will be able to locate that point on the appropriate maps and will be able to describe that location in six-digit coordinates	Location: ±100 meters.

OBJECTIVES		*PERFORMANCE CRITERIA*
A.1.3.6	Given a reconnaissance photograph of a geographic feature or checkpoint, the aviator will be able to locate that feature on a 1:50,000-scale map.	Ninety percent correct identification of feature's location.
A.1.3.7	Given the eight-digit coordinates of a point, an appropriate chart, and a selection of reconnaissance photographs, the aviator will locate the point on the chart and select the reconnaissance photograph(s) of that point.	Location: ±50 meters. Ninety percent correct in photograph selection.
A.1.4	*Receive Weather Briefing*	
	The aviator will list those aspects of *local* weather that have a direct affect on NOE flight and tactical mission accomplishment.	
A.1.5	*Flight Planning*	
A.1.5.1	Given a mission order or field order and current maps of the area of operations, the aviator will determine a flight corridor that satisfies the requirements of a mission at NOE altitudes.	
A.1.5.1.1	Given a current map and a preplotted course, the aviator will select and plot the location of checkpoints he believes will be visible during NOE flight along that route.	IP verification during a flight over the course at NOE altitudes.
A.1.5.2	Given a properly prepared mission order, the aviator will select a route, select checkpoints, and plot a flight corridor and checkpoints on a 1:50,000-scale map using the following as a basis for selection: • Ease of navigation • Shortest route • Maximum masking against radar/visual detection • Location of friendly units • Avoidance of friendly artillery • Location of known enemy units • Familiar terrain • Hazards.	

OBJECTIVES		*PERFORMANCE CRITERIA*
A.1.5.3	The aviator will identify and plot alternative routes or segments that would be used to meet each of the criteria listed in A.1.5.2.	
A.1.5.4	Given a standard field order or a mission order and the appropriate maps, the aviator will plot the locations of the following: • Friendly positions • Enemy locations • Friendly artillery positions • Impact areas • Avoid areas • Obstacles that would affect NOE flight.	Point locations within 100 meters; areas within 200 meters.
A.1.5.5	Given the appropriate maps and the location and composition of a suspected enemy force, the aviator will plot the following: • Logical location for FARPs for the specified type of mission • Maneuver area • Possible attack positions • Possible OP/firing positions • Alternate routes into and out of the attack and OP/firing positions • Location of possible landing zones along the flight corridor • Possible anti-helicopter ambush positions. (As the aviator's proficiency increases, he should be encouraged to balance his navigation requirements against the security implications of profusely annotated maps falling into enemy hands.)	

OBJECTIVES	*PERFORMANCE CRITERIA*
A.1.6 *Determine Maximum Flight Altitude*	
Given an operations order, a current map with his own or a preplanned flight route, and intelligence estimates as to the nature of the opposition forces, the aviator will be able to describe the enemy weapons systems he would probably encounter and the impact of those weapons systems on the conduct/flight route of the proposed mission.	IP comparison of selected course/altitudes against those expected on the basis of available information.
A.1.7 *Calculate Estimates*	
A.1.7.1 Given the information resulting from A.1.4.2 above, the aviator will calculate ETAs for each checkpoint and for the total flight.	
A.1.7.2 The aviator will fly the mission developed under A.1.5.2 and will attempt to maintain the ETAs calculated in A.1.7.1. As required during the flight, the aviator will adjust his ETAs to compensate for weather, visibility, terrain, and changes in mission requirements.	ETAs ±three minutes, with allowances made for enroute ETA changes.
A.1.8 *Determine Fuel Requirement*	
A.1.8.1 From the mission order, the flight route plotted on the chart, and other available data, the aviator will calculate the total distance and total time to be covered during the mission.	
A.1.8.2 Based on the above, and the performance specification for his helicopter, the aviator will compute maximum fuel allowable, minimum fuel required, and the required location of FARP.	
A.1.9 *File Flight Plan*	
The aviator will prepare and file a properly executed flight plan which complies with all local regulations pertaining to NOE flights.	IP will determine that all unit SOPs, base SOPs, and FAA regulations have been complied with in the preparation and filing of the flight plan.

OBJECTIVES		*PERFORMANCE CRITERIA*
A.2	*MISSION COORDINATION*	
A.2.1	*Brief Crew* Given a standard mission order, flight plan, and appropriate maps, the pilot will brief the crew members on the mission and will cover at least the following: • Entry and exit routes • CEOI in effect • Radio call signs and frequencies • Checkpoints/terrain features • Possible problems • Crew duties • Emergency procedures • Mission function • Enemy situation • Friendly situation • Escape and evasion procedures.	
A.2.2	*Brief Passengers* The aviator will describe the briefing that would be provided to passengers to be carried during an NOE mission.	
A.3	*AIRCRAFT PREFLIGHT* The aviator will perform all preflight checks and inspections required for his aircraft.	
A.4	*SYSTEM CHECKS* The aviator will perform all system checks in accordance with the aircraft -10 and checklists. Particular attention will be given to: • Power available • Power required for hover • Flight control response • Normal instrument readings.	
B.	DEPARTURE	
B.1	*HOVER*	
B.1.1	The aviator will demonstrate his ability to hover the aircraft in a stable mode into the wind, crosswind, and downwind.	Downwind hover in winds up to 15 knots.

OBJECTIVES	*PERFORMANCE CRITERIA*
B.1.2 The aviator will demonstrate his ability to conduct a hover check both in and out of ground effect.	
B.2 *TAKEOFF*	
B.2.1 The aviator will demonstrate his ability to perform a maximum performance takeoff.	
B.2.2 The aviator will demonstrate his ability to perform a confined area takeoff.	
B.2.3 The aviator will demonstrate his ability to perform a downwind takeoff.	
C. ENROUTE	
C.1 *MONITOR/ADJUST AIRSPEED*	
C.1.1 The aviator will demonstrate his ability to accurately navigate within the airspeed envelope that his assigned aircraft and mission require during NOE flight.	Continuous knowledge of relative position ±100 meters during NOE flight at airspeeds assigned by the Instructor Pilot.
C.1.2 The aviator will demonstrate his ability to adjust his airspeed at NOE altitudes to the terrain conditions of the area he is operating in.	
C.2 *MONITOR/ADJUST ALTITUDE*	
The aviator will be able to select, adjust, and maintain the aircraft at a prescribed altitude above the terrain.	As close to earth's surface as terrain features and vegetation allow, and as low as the tactical situation requires.
C.2.1 The aviator will be able to list the altitude restrictions applicable to NOE operations in his aircraft.	
C.2.2 The aviator will identify the types of terrain obstacles/flight hazards common to the environment in which he is/will be flying and will be able to describe the action to be taken to clear these obstacles.	

OBJECTIVES		*PERFORMANCE CRITERIA*
C.2.3	The aviator will describe the limits and accuracy of the altitude sensing systems in his aircraft and describe the procedure for checking those systems prior to flight (including radar altimeter if installed).	
C.2.4	The aviator will be able to describe the external visual cues to be used in maintaining his aircraft at NOE altitudes in mountainous terrain, rolling hills, and flat lands.	
C.2.5	The aviator will be able to execute a quick stop into the wind without changing altitude.	Quick stops will terminate in a hover and will not result in the aircraft rising above the terrain features being used for masking.
C.2.6	The aviator will be able to execute a downwind quick stop without changing altitude.	
C.2.7	The aviator will describe the procedures/techniques to be employed to prevent his aircraft from being subjected to zero g or negative g forces.	
C.2.8	The aviator will describe the conditions under which divergent roll can occur in his assigned aircraft and what the effects can be. He will describe corrective actions to be applied to prevent/cure the occurrence of this condition.	
C.3	*MONITOR/ADJUST HEADING*	
C.3.1	The aviator will demonstrate that he can select and maintain an appropriate ground track, from a chart or from verbal commands, while operating NOE.	
C.3.2	The aviator will demonstrate that he can navigate a preplanned route while operating NOE and taking maximum advantage of available cover from geographic, vegetation, or cultural features.	Checkpoint location ±50 meters.

OBJECTIVES	*PERFORMANCE CRITERIA*
C.4 *MONITOR INSTRUMENTS* The aviator will check flight instruments for appropriate indications.	All items checked. All conditions reported accurately.
C.5 *FLIGHT SAFETY* The aviator must demonstrate his ability to detect and identify possible flight hazards around his aircraft.	
C.5.1 The aviator will fly a route selected by the IP/check pilot and identify all flight hazards occurring along his line of flight. He will communicate the nature and location of all these hazards to the IP and will adjust aircraft speed, heading, and/or altitude to avoid these hazards.	Hazard clearance procedures in accordance with applicable safety procedures, tactics, and aircraft performance parameters.
C.5.2 The aviator will describe the cues to common hazards (wires, etc.) in the area he will be flying.	
C.5.3 The aviator will be able to detect other aircraft (friendly/enemy) in the NOE environment and perform maneuvers required to avoid collision/engagement.	
C.6 *MAINTAIN MASK* The aviator will demonstrate his ability to execute a preplanned NOE mission without exposing his aircraft to radar and/or visual detection (see D.5.1).	
C.6.1 Given a preplanned flight plotted on a 1:50,000-scale map, the aviator will be able to identify and describe the features that will be able to provide masking for his aircraft during each segment of the flight.	
C.6.1.1 Given a preplanned flight plotted on a 1:50,000-scale map, the aviator will be able to identify possible anti-helicopter ambush sites along his proposed flight path.	

OBJECTIVES		*PERFORMANCE CRITERIA*
C.6.1.2	The aviator will describe how to use vegetation for physical and color masking during NOE flight.	
C.6.2	While in flight, the aviator will identify terrain features that will mask his aircraft from visual and/ or radar detection, given probable location of observer or radar unit.	
C.6.2.1	The aviator will verbally describe the characteristics of the surrounding terrain that are masking his aircraft from visual/ radar detection.	
C.6.3	The aviator will adjust aircraft altitude, airspeed, and heading to maintain masking while flying a given area.	Aircraft masked from radar/ visual detection while in flight. Exposure to ground observers for less than ten seconds.
C.7 & C.8	*MONITOR/MAINTAIN OBSTACLE CLEARANCE*	
C.7.1	The aviator will describe the current operational and safety regulations governing obstacle clearance for the area he is operating in.	
C.7.2	The aviator will demonstrate the prescribed clearances and obstacle avoidance in his helicopter, while flying in proximity to preselected obstacles.	Vertical and horizontal clearances in accordance with the operational and safety regulations in force.
C.7.3	The aviator will demonstrate confined area hovering, takeoffs, and landings.	Vertical and horizontal clearances in accordance with the operational and safety regulations in force.
C.7.4	The aviator will describe and demonstrate the proper crew coordination and procedures to be used during enroute flight.	

OBJECTIVES		*PERFORMANCE CRITERIA*
C.7.5	While in flight, the aviator will verbally identify or acknowledge the location of all potential flight hazards in proximity to his line of flight.	±50 meters of intended flight path.
C.9	*DETERMINE POSITION* The aviator will demonstrate his ability to determine his position at all times during the NOE missions he is required to perform.	
C.9.1	While in flight, the aviator will be able to locate and identify prominent visible terrain features on his map.	Position of terrain features on the map within 100 meters.
C.9.2	While in flight, the aviator will be able to estimate his distance and bearing from an observed terrain feature.	
C.9.3	While in the aircraft, the aviator will be able to plot a location line intersection.	Position of aircraft in six-digit coordinates of indicated position.
C.9.4	The aviator will successfully locate and identify 100% of all preplanned checkpoints while flying NOE.	Correlation of planned route checkpoints against those identified in flight with 100% accuracy.
C.9.5	When provided with an enroute flight plan change, the aviator will be able to select a route to meet the changed mission requirements and successfully navigate that route within the constraints imposed by the new mission requirements.	
C.9.5.1	At any time during an NOE mission, the aviator will be able to locate his position by visual reference or intersection.	Position of aircraft marked on the map ±100 meters of indicated position.
C.9.5.2	The aviator will select the best route to his new destination. The selected course must answer the specific mission requirements associated with the mission change order.	

OBJECTIVES		*PERFORMANCE CRITERIA*
C.9.6	The aviator will demonstrate his ability to recognize when he is disoriented and will be able to recover from that disorientation.	Recognition of deviation from preplanned route by an unknown amount.
C.9.7	The aviator will demonstrate the procedures for bringing his aircraft back onto his planned route or plotting a new course from his present position to his destination.	
C.9.7.1	The aviator will locate his position through visual reference, intersection, or barrier search.	Position ±50 meters.
C.9.7.2	The aviator will be able to identify barrier features and locate them on his map.	
C.9.7.3	The aviator will perform a location line intersection to determine his position (with respect to the barriers).	Position ±50 meters.
C.9.7.4	The aviator will be able to locate and identify a checkpoint close to his aircraft position which is identifiable on his map.	Checkpoint to map correlation = ±50 meters.
C.9.7.5	The aviator will plot a course from this checkpoint to the next checkpoint on his original course or to his destination (see C.9.5).	
C.9.7.6	The aviator will be able to recognize his disorientation, perform 180° turn, and return to last known location or checkpoint.	Aviator should not exceed .5 kilometer deviation from preplanned route.
C.10	*INTERPRET TERRAIN* The aviator will be able to interpret the nature and characteristics of terrain viewed at NOE altitudes in terms of his mission requirements; specifically he must be able to identify and relate prominent terrain features to preselected checkpoints and cartographic features on the maps and charts he is being trained with.	

OBJECTIVES	*PERFORMANCE CRITERIA*
C.10.1 The aviator will be able to list the: • geographic, • vegetation, • hydrographic, and • cultural features that are expected to be of the most use while navigating NOE in the area of operations.	
C.10.2 The aviator, while in flight at NOE altitudes, will be able to correctly identify geographical features and correlate them with the cartographic representations on his 1:50,000-scale map.	
C.10.3 The aviator will demonstrate that he can read and interpret the categories of aerial photography that his assigned mission(s) require.	
C.10.4 The aviator will demonstrate his ability to prepare the type of hand-drawn maps that his assigned mission(s) require.	
C.11 *CREW COORDINATION* The aviator will demonstrate and maintain a system of crew coordination to be utilized during all NOE flights.	In accordance with local SOPs.
C.11.1 The pilot will brief the copilot/navigator, observer, and/or crew chief on their responsibilities during NOE operations. The communications discipline and procedures to be used will be stated.	
C.11.2 Crew members will establish a continuous dialogue on position, flight path, checkpoints, surrounding terrain, enemy activity, and obstacles.	Standard phraseology for terrain features must be adopted between crew members.
C.11.3 Crew members will advise the pilot of all required course changes and will describe the type of terrain/checkpoints to be expected.	

OBJECTIVES	*PERFORMANCE CRITERIA*
C.11.4 Copilot/navigator will be responsible for radio monitoring and assist in instrument crosschecks.	
C.12 *COMMUNICATE POSITION AND CLEARANCE INFORMATION*	
The aviator will demonstrate the procedures for communicating position information and requesting clearance and hazard information while enroute.	In accordance with CEOI in effect.
C.12.1 The aviator will list the data elements that compose a tactical position report.	One-hundred percent accuracy.
C.12.2 The aviator will request an artillery clearance in accordance with local procedures.	One-hundred percent accuracy.
C.12.3 The aviator will list the information to be contained in artillery and TAC air advisories.	One-hundred percent accuracy.
C.12.4 Given a chart of the area of operations and an artillery advisory message, the aviator will be able to plot the location of impact areas, and gun target lines.	
C.12.5 The aviator will demonstrate that he can handle his assigned flight tasks (aircraft control/navigation) and handle the communication load expected during his assigned missions.	Safe, accurate performance of assigned duties. Completion of mission.
D. ENGAGEMENT	
D.1 *MANEUVERS*	
The aviator will demonstrate his ability to perform all of the listed maneuvers in a proficient and safe manner. The emphasis in all of these maneuvers will be on positive control of the aircraft.	
D.1.1 *Manuever into OP*	
D.1.1.1 Given a map of the area of operations, the aviator will be able to locate/select several possible OPs.	Position located on map, identified by six-digit coordinates.

OBJECTIVES		*PERFORMANCE CRITERIA*
D.1.1.2	The aviator will plot a course to the selected OP.	
D.1.1.3	The aviator will navigate the selected course to the OP (see C)	
D.1.1.4	The aviator will visually locate the position of the OP.	OP location ±50 meters.
D.1.1.5	The aviator will select an approach path to the OP. The pilot will verbally describe the approach direction and the route to be flown.	The selected path should offer maximum protection from enemy observation.
D.1.1.6	The aviator will be able to estimate the wind direction and force in the OP area.	Wind direction ±45 degrees; gusty vs steady.
D.1.1.7	The aviator will demonstrate his ability to estimate the size of a hover "hole" and to hover his aircraft in a confined area.	Hover aircraft in a confined area with a blade tip clearance of 10 feet.
D.1.1.7.1	The aviator will hover the aircraft in the OP	Stable hover at selected altitude.
D.1.2	*Unmasking Maneuver* The aviator will be able to describe the nature of the unmasking maneuver, its purpose, and the steps required for its performance.	
D.1.2.1	The aviator will demonstrate unmasking while positioned at least two rotor diameters from a masking feature.	IP assessment: • Maneuver should be performed smoothly with the aircraft ascending and descending vertically. • Aircraft drift should be as close to zero as possible. • Aircraft should rise to an altitude just sufficient for the pilot/observer to establish a line of sight to the target area.
D.1.2.2	The aviator will demonstrate unmasking while positioned within one rotor diameter from masking features.	(Same as D.1.2.1.)

OBJECTIVES		*PERFORMANCE CRITERIA*
D.1.2.3	The aviator will hover aircraft in a stable mode.	Heading: ±5°; Altitude: IP assessment.
D.1.3	*Mask Maneuver* The aviator will be able to describe the nature of the mask maneuver, its purpose, and the steps required for its performance.	
D.1.3.1	The aviator will describe and perform all required instrument checks prior to descending.	Pilot must check: • Tach • Warning lights • Engine instruments • Fuel quantity • Force-trim switch • Torque
D.1.3.2	The aviator will select an appropriate position to demonstrate the masking maneuver.	Selected position must provide masking for aircraft and conform to the safety regulations in force.
D.1.3.3	The aviator will move the aircraft into the masked position.	Aircraft is masked from point(s) of visual and radar detection as designated by IP.
D.1.3.3.1	The aviator will adjust the antitorque pedals to maintain directional heading, check rate of descent, obstacle clearance, and mask provided.	
D.1.4	*Evasive Maneuvers*	
D.1.4.1	The aviator will describe the nature of the evade-drop maneuver, its purpose, and the steps required for its performance.	
D.1.4.1.1	The aviator will demonstrate the evade-drop maneuver while operating NOE.	At the instructor's command, the pilot will position the aircraft as low as possible and place some masking feature between his aircraft and the indicated threat. Applicable safety regulations will be considered and flight obstacles must be avoided. Rate of descent should not exceed 200 feet per minute.

OBJECTIVES	*PERFORMANCE CRITERIA*
D.1.4.2 The aviator will describe the nature of the evade-dash maneuver, its purpose, and the steps required for its performance.	
D.1.4.2.1 The aviator will demonstrate the evade-dash maneuver while operating NOE.	At the instructor's command, the pilot will perform a high-speed dash in an indicated or selected direction while maintaining NOE altitude. Applicable safety regulations will be considered and flight obstacles must be avoided.
D.1.5 *Select and Move to New OP* (see D.1.1)	
D.2 *PRE-ATTACK*	
The aviator will demonstrate his ability to rapidly and accurately perform all of the procedural checks and maneuvers listed below. The emphasis in all of these objectives is accuracy in the procedural checks and positive control of the aircraft during all maneuvers.	
D.2.1 The aviator will demonstrate the correct procedures for contacting the types of units he will be expected to support in his assignment/area of operations (see C.12).	Communications procedures will be in accordance with present CEOI.
D.2.2 The aviator will locate the selected attack/observation position.	
D.2.2.1 The aviator will plot the location of his attack/observation position.	Location of OP coordinates ±50 meters.
D.2.2.2 The aviator will visually identify the OP or checkpoint.	Location of OP/checkpoint ±50 meters.
D.2.2.3 The aviator will select a route into and out of the OP.	Route selected must provide maximum masking from some indicated source of detection.

OBJECTIVES		*PERFORMANCE CRITERIA*
G.6	*COMPRESSOR STALL*	
G.6.1	The aviator will list the symptoms/ cues that indicate a compressor stall condition exists/has occurred. Due to the momentary nature of most compressor stalls, the aviator must learn to discriminate between those that are momentary and those that will/have resulted in an engine failure.	
G.6.2	The aviator will demonstrate the steps to be taken to correct for compressor stalls.	
G.7	*TAIL ROTOR FAILURES*	
G.7.1	The aviator will identify the symptoms/ cues that indicate a tail rotor failure has occurred.	
G.7.2	The aviator will demonstrate the procedures to be executed to bring the aircraft under control after a tail rotor failure at low altitude/ high airspeed and low altitude/low airspeed.	
G.7.3	Given photographs of several areas typical of the local region where NOE missions are conducted, the aviator will indicate where they would try to land the helicopter after a tail rotor failure.	
G.8	*SHORT SHAFT FAILURE*	
G.8.1	The aviator will identify the cues that indicate a short shaft failure has occurred.	
G.8.2	(See G.3.)	
G.9	*ENGINE FIRE/ELECTRICAL FIRE/FUEL FUMES*	Each of these contingencies/ emergencies can and will occur during NOE operations. By their nature, and by the nature of the possible responses that the aviator can make to them, the training objectives for these contingencies/
G.10	*DC GENERATOR FAILURE*	
G.11	*CLOGGED FUEL FILTER*	
G.12	*CHIP DETECTOR LIGHT ON*	
G.13	*STICKY FLIGHT CONTROLS*	

OBJECTIVES		*PERFORMANCE CRITERIA*

D.2.3	The pilot will perform a hover check prior to entering the OP (see B.1.2).	During training, hover checks will be practiced at several altitudes (e.g., 25 feet, 10 feet, five feet); in practice, the hover check will be made at the altitude to be maintained in the OP.
		IP assessment:
		• All items checked, all conditions reported accurately
		• During checks, aircraft must be hovered correctly and held stable
		  • altitude ±2 feet
		  • heading ±5°.

D.2.4	The aviator will demonstrate the procedures for activating and arming the weapons system(s) aboard his aircraft.	Procedure 100% correct with no omissions. Applicable range, exercise, or operational safety procedure must be followed.
D.2.5	*Landing Zone (LZ) Reconnaissance* The aviator will describe and demonstrate a landing zone reconnaissance.	
D.2.5.1	The aviator will estimate the length and width of the LZ.	Length and width dimensions ±20%.
D.2.5.2	The aviator will note the location, size, type, and number of obstacles in the LZ.	
D.2.5.3	The aviator will note the direction and nature of the wind.	Direction ±45 degrees; gusty vs steady winds.
D.2.5.4	The aviator will note the approach direction for the LZ.	
D.2.5.5	The aviator will select touchdown point and departure route.	

OBJECTIVES		*PERFORMANCE CRITERIA*
D.3	*TARGET ACQUISITION*	
D.3.1	*Receive Target Data*	
	The aviator will demonstrate his proficiency in operating the communications equipment installed in his aircraft and his ability to record and interpret target data.	Communications procedures in accordance with current CEOI.
D.3.2	*Perform Observation Maneuver(s)*	
	The aviator will demonstrate the maneuvers used during observation missions.	IP assessment.
D.3.3	*Perform Visual Reconnaissance*	
	The aviator will describe and demonstrate an area search reconnaissance.	
D.3.3.1	The aviator will be able to plot the limits of the search area on his map.	±50 meters.
D.3.3.2	The aviator will describe and demonstrate the flight pattern to be flown over a designated area.	Search area visible.
D.3.3.3	The pilot/observer/copilot team when conducting an area search at NOE altitudes over unfamiliar terrain, will detect, identify and report all aggressor activities and objects.	Location: ±100 meters; size; activity; direction of movement.
D.3.3.5	The aviator will avoid enemy detection while conducting an area search against aggressor forces.	IP assessment; ground observer reports.
D.3.3.6	The aviator will prepare a written area reconnaissance report.	
D.4	*WEAPONS DELIVERY*	
D.4.1	*Attack Target*	
	The aviator will describe the procedures and tactics to be employed in attacking point and area targets with the weapons aboard his aircraft.	Arming procedures--100% with no omissions. Maneuver altitudes ±10 feet

OBJECTIVES		*PERFORMANCE CRITERIA*
D.4.1 cont.	On a helicopter firing range, the aviator will demonstrate the procedures and maneuvers employed in attacking point and area targets.	Select direction of attack, demonstrate hovering fire.
D.4.1.1	Acquire target.	
D.4.1.1.1	The aviator will demonstrate the procedures required to activate the weapon tracking/sight system(s) aboard his aircraft.	One-hundred percent accuracy, no omissions.
D.4.1.1.2	The aviator will demonstrate that he can visually acquire moving and stationary targets with the sight/tracking system installed in his aircraft. The aviator will demonstrate this at a hover and during forward flight.	IP assessment.
D.4.1.2	Select armament.	
D.4.1.2.1	The aviator will describe the capabilities of armament system(s) aboard his aircraft and other aircraft assigned to his unit.	Maximum range; maximum effective range; ammunition types available.
D.4.1.2.2	The aviator will describe the weapons to be used against various types of point and area targets.	
D.4.1.2.3	The aviator will demonstrate the procedures required to activate the weapon system(s) aboard his aircraft, and to select specific weapons or weapon mixes.	One-hundred percent accuracy, no omissions.
D.4.1.3	Track target.	
	The aviator will demonstrate his ability to track an acquired target with the weapon-tracking system installed aboard his aircraft.	
D.4.1.4	Fire weapon(s).	
	The aviator will demonstrate the procedures required to fire the weapon(s) aboard his aircraft.	One-hundred percent accuracy, no omissions.

OBJECTIVES		*PERFORMANCE CRITERIA*
D.4.1.4.1	On a properly supervised helicopter firing range, the aviator will fire selected weapons against point and area targets (see D.4.2).	Must equal or exceed local range standards for accuracy.
D.4.1.4.2	The aviator will adjust the aircraft flight path to bring/hold the weapon system on target.	
D.4.1.5	Report target damage.	
	The aviator will prepare/transmit a target damage assessment message.	In accordance with the local CEOI and SOP.
D.4.2	*Attack Maneuvers*	
	The aviator will demonstrate the procedures to be followed in executing each of the following engagement maneuvers.	
D.4.2.1	Hover/mask cresting fire.	
D.4.2.1.1	On a properly supervised helicopter firing range, the aviator will position his aircraft with a suitable mask/terrain feature between the aircraft and target.	
D.4.2.1.2	Upon receipt of a fire order/range clearance, the aviator will unmask and fire the selected weapon (see D.4.1.4).	Height above masking feature should be just enough to allow target acquisition and safe weapons firing.
D.4.2.1.3	The aviator will mask the aircraft and move to the next firing position or off the range.	
D.4.2.2	Running fire.	
D.4.2.2.1	On a properly supervised helicopter firing range, the aviator will fly toward the target at the specified airspeed and altitude.	
D.4.2.2.2	After crossing the firing line, the aviator will fire the selected weapon(s) against the targets that are visible.	

OBJECTIVES		*PERFORMANCE CRITERIA*
D.4.2.2.3	During the firing run, the aviator will adjust aircraft attitude, speed, and direction to bring or hold the weapon system on target.	
D.4.2.2.4	The aviator will report target damage.	
D.4.2.3	Attack patterns and formations.	
	The aviator will describe and demonstrate the performance required of lead and wing during the following maneuvers.	IP assessment.
D.4.2.3.1	The aviator will describe and demonstrate a properly executed racetrack pattern against a designated target location. The aviator will indicate the firing points and disengagement points of the pattern.	
D.4.2.3.2	The aviator will describe and demonstrate a properly executed figure-eight pattern against a designated target location. The aviator will indicate the firing points and disengagement points of the pattern.	
D.4.2.4	The aviator will describe how to apply suppressive fire while operating NOE.	
D.4.2.5	The aviator will describe and demonstrate the procedures for designating and handing-off targets with the systems available on his aircraft.	One-hundred percent accuracy, no omissions.
D.4.2.6	The aviator will describe the conditions under which an engagement would be broken off and will demonstrate the procedures and maneuvers to be employed in breaking off his assigned mission.	
D.5	*ENEMY DETECTION*	
D.5.1	*Receive Enemy Detection*	

OBJECTIVES	*PERFORMANCE CRITERIA*
D.5.1 cont. The aviator will be able to describe the threat that he will face in a mid-intensity conflict. He should be knowledgeable concerning both the threat force makeup (personnel and equipment) and its fire power capabilities.	
D.5.1.1 The aviator will be able to describe the visual cues and/or auditory cues that will provide indications that his helicopter has been detected.	
D.5.1.2 The aviator will describe and demonstrate the evasive maneuvers to be used against the various threats that can be expected in a mid-intensity conflict.	
D.5.2 *Receive Hit*	
D.5.2.1 The aviator will describe the typical visual and/or auditory cues that indicate the helicopter has sustained damage from enemy fire.	IP assessment.
D.5.2.2 The aviator will describe the checks to be made to determine the extent of aircraft damage after taking a hit.	
D.5.2.3 The aviator will describe conditions under which they would: • autorotate • land immediately • continue mission • return to base.	
E. RETURN TO BASE	
E.1 *DETERMINE ROUTE OF FLIGHT* (see A.1.4, A.1.5, and A.1.6)	
E.2 *NAVIGATE NOE* (see C)	
E.3 *NOE FLIGHT* (see C)	

OBJECTIVES	*PERFORMANCE CRITERIA*
F. TERMINATION	
F.1 *PERFORM PRE-LANDING CHECK*	
F.2 *PERFORM LANDING*	
F.2.1 The aviator will demonstrate that he can properly and safely land the aircraft under normal operating conditions.	
F.2.2 The aviator will demonstrate that he can properly and safely execute a running landing.	
F.2.3 The aviator will demonstrate that he can properly and safely execute a downwind landing in winds up to 15 knots.	
F.3 *POST FLIGHT*	
F.3.1 The aviator will demonstrate the proper procedure for performing "hot refuel" operations for his assigned aircraft.	To be performed in accordance with applicable SOPs and safety regulations.
F.3.2 *Aircraft Post Flight* The aviator will perform a thorough post-flight inspection with particular emphasis given to: • Main rotor and tail rotor blades • Rotor blade attaching points • Gearbox condition and mounting points • Stress panels • Skids and belly of aircraft	
F.3.3 The aviator will demonstrate the preparation of the debriefing materials required for his assigned mission(s).	
G. CONTINGENCIES	
G.1 *EMERGENCY PROCEDURES* The aviator will list those emergencies which are the most critical during NOE operations and missions and indicate the action to be taken in the event these emergencies occur while the aircraft is being operated NOE.	

OBJECTIVES	*PERFORMANCE CRITERIA*
G.2 *RECOVER FROM DISORIENTATION* (see C.9, C.10, and C.11)	
G.3 *ENGINE FAILURE*	
G.3.1 The aviator will identify the symptoms/cues that indicate that an engine failure has occurred. The symptoms/cues will be listed in the order in which they could be expected to occur.	
G.3.2 The aviator will demonstrate the procedures to be taken to correct for the engine failure, or to control the aircraft without power.	
G.3.3 The aviator will demonstrate successful autorotations under the following conditions: • Low altitude, low airspeed • High hover • Low altitude, high airspeed • Hover	The specific altitudes and airspeeds at which autorotations will be trained will be determined by local safety regulations.
G.3.4 The aviator will be able to describe the effects of variations in aircraft attitude, altitude, and speed on autorotation performance in NOE work.	
G.3.5 The aviator will describe the procedures to be followed in those situations where a successful autorotation is highly unlikely.	
G.3.6 Given photographs of several areas typical of the local areas where NOE missions are conducted, the aviator will indicate where they would try to place the helicopter in the event of an engine failure.	
G.4 *LOW SIDE GOVERNOR FAILURE* (see G.3)	
G.5 *ENGINE DRIVEN FUEL PUMP FAILURE* (see G.3)	

OBJECTIVES	*PERFORMANCE CRITERIA*
G.6 *COMPRESSOR STALL*	
G.6.1 The aviator will list the symptoms/ cues that indicate a compressor stall condition exists/has occurred. Due to the momentary nature of most compressor stalls, the aviator must learn to discriminate between those that are momentary and those that will/have resulted in an engine failure.	
G.6.2 The aviator will demonstrate the steps to be taken to correct for compressor stalls.	
G.7 *TAIL ROTOR FAILURES*	
G.7.1 The aviator will identify the symptoms/ cues that indicate a tail rotor failure has occurred.	
G.7.2 The aviator will demonstrate the procedures to be executed to bring the aircraft under control after a tail rotor failure at low altitude/ high airspeed and low altitude/low airspeed.	
G.7.3 Given photographs of several areas typical of the local region where NOE missions are conducted, the aviator will indicate where they would try to land the helicopter after a tail rotor failure.	
G.8 *SHORT SHAFT FAILURE*	
G.8.1 The aviator will identify the cues that indicate a short shaft failure has occurred.	
G.8.2 (See G.3.)	
G.9 *ENGINE FIRE/ELECTRICAL FIRE/FUEL FUMES*	Each of these contingencies/ emergencies can and will occur during NOE operations. By their nature, and by the nature of the possible responses that the aviator can make to them, the training objectives for these contingencies/
G.10 *DC GENERATOR FAILURE*	
G.11 *CLOGGED FUEL FILTER*	
G.12 *CHIP DETECTOR LIGHT ON*	
G.13 *STICKY FLIGHT CONTROLS*	

OBJECTIVES	*PERFORMANCE CRITERIA*
G.14 *ENGINE/TRANSMISSION OIL BYPASS LIGHT ON*	emergencies would be identical to the objectives to be met in training for helicopter flight at altitude. It should be stressed that the difference is the very short response times that the aviator will have to deal with emergencies while operating NOE. This shortened response time necessitates becoming extremely familiar with the symptoms leading to or associated with these contingencies/emergencies. *The key is quick and accurate diagnosis.*
G.15 *HIGH SIDE GOVERNOR FAILURE*	
G.16 *INLET GUIDE VANES CLOSED*	
G.17 *TAIL ROTOR, FIXED PITCH*	
G.18 *SCAS HARDOVER*	
G.19 *HYDRAULIC FAILURE*	
G.20 *LOSS OF COMMUNICATIONS*	
G.21 *AC INVERTER FAILURE*	
G.22 *BOOST PUMP FAILURE*	
G.23 *AIRSCREEN ICING*	
G.24 *LOSS OF INSTRUMENTS*	
G.25 *BLADE STRIKE*	
G.25.1 The aviator will list the radius or diameter of the rotor disc; and when presented with visual representations of real world obstacle clearance situations, will be able to judge whether or not the helicopter can safely pass that obstacle.	
G.25.2 The aviator will describe and demonstrate the proper techniques for approaching, judging, and passing between, under, or around the following classes of obstacles: • Wires • Trees • Buildings.	IP assessment. No blade strikes. Clearances and procedures called out by local regulations will be adhered to at all times. Local procedures regarding blade strike procedures and reporting will be covered in detail.
G.25.3 The aviator will describe the procedures to be employed to minimize aircraft damage if a wire/tree strike is imminent and cannot be avoided.	

OBJECTIVES *PERFORMANCE CRITERIA*

G.25.4 The aviator will demonstrate that he recognizes the level of vibration that indicates an immediate landing is required.

G.25.5 The aviator will recognize the amount of blade strike damage that would:
- Allow the aircraft to be flown to base
- Require patching prior to flight
- Be too severe to be flown without major repair/replacement.

G.26 *PSYCHO-PHYSIOLOGICAL FACTORS*

The aviator will be able to describe the various psychological and physiological problems he can encounter during NOE operations in his assigned missions. He will list some procedures that can be employed to aid in combating adverse psychological and physiological effects of NOE operations.