



OPERATIONAL EVALUATION REPORT

SIKORSKY AIRCRAFT CORPORATION

S-92A

GRUPO DE AVALIAÇÃO DE AERONAVES – GAA

BRAZILIAN AIRCRAFT EVALUATION GROUP

AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL

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Table of Contents

REVISION CONTROL.....	2
APPROVAL.....	3
TABLE OF CONTENTS	4
1 GENERAL.....	5
1.1 EVALUATION TEAM	5
ACRONYMS.....	6
2 INTRODUCTION.....	8
2.1 BACKGROUND	8
2.2 OBJECTIVE.....	8
2.3 PURPOSE.....	8
2.4 APPLICABILITY	9
2.5 CANCELATION	9
3 PILOT TYPE RATING	10
4 MASTER DIFFERENCE REQUIREMENTS (MDR)	10
5 OPERATOR DIFFERENCE REQUIREMENTS (ODR)	10
6 SPECIFICATIONS FOR TRAINING, CHECKING AND CURRENCY	11
6.1 AIRMEN MINIMUM EXPERIENCE FOR INITIAL FLIGHT TRAINING	11
6.2 TRAINING AREA OF SPECIAL EMPHASIS (TASE).....	11
7 SPECIFICATIONS FOR DEVICES AND SIMULATORS	14
8 COMPLIANCE TO RBHA 91 AND RBAC 135	14
9 TECHNICAL PUBLICATIONS.....	14
9.1 MASTER MINIMUM EQUIPMENT LIST - MMEL	14
9.2 ROTORCRAFT FLIGHT MANUAL - RFM.....	14
APPENDIX 1 FLIGHT TRAINING PIC/SIC FLIGHT TRAINING S-92A HELICOPTER MANEUVERS AND PROCEDURES TABLES	15
APPENDIX 2 SAMPLE TRAINING PROGRAM S-92A	19

1 General

1.1 Evaluation Team

1.1.1. First issue team member

Name	Task	Organization
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Acronyms

- AFCS – Automatic Flight Control System
- AFM – Aircraft Flight Manual
- AOE – All Engines Operating
- APCP – Auto Pilot Control Panel
- ATR – Additional Type Rating
- ATT – Attitude Retention Mode
- EASA – European Aviation Safety Agency
- FAA – Federal Aviation Administration
- FADEC – Full Authority Digital Engine Control
- FD – Flight Director
- FFS – Full Flight Simulator
- FLIR – Forward-looking infrared sensor
- FNPT – Flight and Navigation Procedures Training
- FSB – Flight Standardization Board
- FSTD – Flight Simulator Training Device
- FTD – Flight Training Device
- GA – Go Around
- GAA – *Grupo de Avaliação de Aeronaves* (Brazilian Aircraft Evaluation Group)
- IAC – *Instrução de Aviação Civil* (Civil Aviation Instruction)
- IAS – Indicated Airspeed
- IESI – Integrated Electronic Standby Instrument
- IS – *Instrução Suplementar* (Supplementar Instruction)
- IFR – Instrument Flight Rules
- ITR – Initial Type Rating
- ILS – Instrument Landing System
- ITT – Interstage Turbine Temperature
- MDR – Master Difference Requirements
- MEL – Minimum Equipment List
- MFD – Multi Function Display
- MMEL – Master Minimum Equipment List
- OEB – Operational Evaluation Board
- ODR – Operational Difference Requirements
- OEI – One Engine Inoperative
- OSD – Operational Suitability Data
- OTD – Other Training Device
- PF – Pilot Flying
- PFD – Primary Flight Display
- PLI – Power Limiter Indicator

- POI – Principal Operations Inspector
- RBAC – Regulamento Brasileiro de Aviação Civil
- RBHA – Regulamento Brasileiro de Homologação Aeronáutica
- RFM – Rotorcraft Flight Manual
- SAR – Search and Rescue
- SAS – Stability Augmentation System
- TBD – To Be Defined
- TAWS - Terrain awareness and warning system
- TCAS - Traffic collision avoidance system
- TCDS – Type Certificate Data Sheet
- V/S – Vertical Speed
- WCA – Warning Caution Advisory

2 Introduction

2.1 Background

This evaluation was conducted by documentation analysis using the information provided by the manufacturer and the determinations of the FSB Report, original version, issued by the FAA on July 22nd, 2015.

In case more detailed information is required, refer to the FSB Report mentioned above.

2.2 Objective

This report presents ANAC collection of results obtained from the operational evaluation of Sikorsky helicopter model S-92A.

2.3 Purpose

The purpose of this report is to:

- a. Define the pilot type rating assigned for the S-92A helicopter;
- b. Define the requirements for training, checking and currency applicable to flight crew for the S-92A, and functionalities;
- c. Provide the Master Differences Requirements (MDR) for crews requiring differences qualification for mixed-fleet-flying;
- d. Provide an acceptable Operator Differences Requirements (ODR); and
- e. Describe the required Flight Simulation Training Device (FSTD) for crew training, checking and currency.

2.4 Applicability

This report is applicable to:

- a. Brazilian operators of the helicopter identified as S-92A in the ANAC TCDS ER-2009T08-03 who operate under RBHA 91 and RBAC 135 rules;
- b. Approved Training Organizations certified under RBAC 142 (Type Rating Training Organizations - TRTO);
- c. Civil Aviation Inspectors (INSPAC) related to safety oversight of S-92A helicopter;
- d. ANAC Principal Operations Inspectors (POIs) of S-92A operators.

2.5 Cancellation

Not applicable.

3 Pilot Type Rating

The specific pilot type rating assigned to the S-92A helicopter is designated "SK92".

Airmen who wish to pursue any specific type rating must comply with the requirements established on subparagraph 61.213(a)(1) of RBAC 61.

The GAA recommends the update of ANAC type rating list (Instrução Suplementar – IS 61-004) with the following information:

Table 1 - Pilot Type Rating

XIV – Type Rating (Helicopter) – Multi Engine Operation (Turboshaft)				
Manufacturer	Helicopter		RMK	Type Rating
	Model	Name		ANAC
Sikorsky	S-92A	-	-	SK92

4 Master Difference Requirements (MDR)

Reserved for future related aircraft.

5 Operator Difference Requirements (ODR)

Reserved for future related aircraft.

6 Specifications for Training, Checking and Currency

Specifications for training, checking and currency are detailed on the FAA FSB Report mentioned above.

A footprint of the pilot initial training is presented in Appendices 1 and 2.

6.1 Airmen Minimum Experience for Initial Flight Training

The provisions of this section apply to programs for airmen who have experience in RBHA 91 or RBAC135 operations of multi-engine, turbine rotorcraft equipped with integrated autopilot flight management systems, and integrated avionics displays. For airmen not having this experience, additional requirements may be appropriate as determined by the POI and/or GAA. Training must include the subjects and maneuvers listed in the Areas of Special Emphasis of this report (6.2). All training and checking must be conducted in accordance with RFM recommended procedures and maneuvers.

6.2 Training Area of Special Emphasis (TASE)

The following areas of emphasis should be addressed during ground and flight training:

- **Engine Indication Caution Advisory System (EICAS)** discipline and messaging function are critical because of the large amount of information available through the EICAS and the need of the flight crew to use it without being excessively distracted.
- **Health Utilization Monitoring System (HUMS)** Messages are depicted on any MFD displays using the health key.
- **Primary Flight Displays (PFD's)**. Altitude, airspeed, and vertical speed are presented on round analog scale format. Additionally a reduced set of engine parameters is displayed on the left of outboard PFD's. Pilots need to be able to understand the information presented on these displays. Pilots transitioning from traditional round dial basic "T" instruments may require additional training and instrument scan practice to gain proficiency in manually flying by reference to the PFD. Recognition of reversionary modes and display failures and appropriate corrective action to be taken must be addressed.

- **Full Authority Digital Engine Control (FADEC).** An operational understanding of the FADEC, its relationship to the collective pitch indicator, and the power indicating modes in AEO and OEI operations is required, for both training mode and actual OEI operations.
- **Torque Indicating System (TQS)** displays engine and transmission parameters in a relative scale indicating a percent of available power. The TQS cannot be used as a ITT, or Ng gage. The TQS indicator displays multiple limitations during AEO and OEI operations. The pilot must be proficient in the interpretation of this instrument.
- **Cyclic and Collective control grip switches.** There are ten switches on the cyclic control, and eleven switches on the collective. These switches control multiple aircraft systems including the AFCS Trim Release, Flight Director, Auto Pilot, OEI select switch, Hover, and Go-Around commands. Proficiency in the use of these switches is essential.
- **Display Control Panel** uses pushbuttons with integral light bars, and rotary selector knobs. Pilots should have an understanding of the switch position and system configuration as it relates to whether the light bar is illuminated or not. This understanding is required for both normal and abnormal system operation.
- **Mode Select Panel (Flight Director).** An understanding of the various lateral and vertical modes and the ability to select and arm the modes during different phases of flight is essential. Integrated use of the Autopilot and Flight Management System is critical.
- **All the combinations FMS and Ground Based navigation** information must be understood to safely and reliably operate the aircraft during instrument approaches, including the use of vertical navigation functions.
- **Rockwell Collins Avionics Management System (AMS)** integrated flight management system. Programing of navigational information must be understood to safely and reliably operate the aircraft during instrument approaches, including the use of vertical navigation functions.
- **Optional WX Radar, FLIR, TCAS and TAWS inputs.** (If installed.)

- **Optional Gross Weight Extension** modification kit increasing gross weight to 27,700 pounds gross weight with appropriate and RFM supplement number 14. (If installed.)
- **Optional Combined Passenger / Cargo Configuration**, required crew training, and RFM supplement Number 12. (If installed.)
- **Optional Search and Rescue** required crew training, navigational equipment, appropriate AFCS software, RFM Supplement's number 04 Search and Rescue Automatic Flight Control System, and Supplement's number 02 Dual Rescue Hoist. (If installed.)
- **Optional Automated Rig Approach System**, required crew training, appropriate navigational equipment software, and AFCS systems, and RFM Supplement number 36.
- **Knowledge of emergency procedure for dual engine failure during cruise.** At cruise power settings, and relatively high angles of attack in the main rotor blades a sudden loss of power in both engines can produce rapid main rotor (Nr) decay. This can result in excessive coning, destabilization of the rotor system, and subsequent loss of control. This condition is possible in all multiengine helicopters and historically has resulted in catastrophic hull loss. (If installed.)
- **Knowledge of aircraft performance determination** should be emphasized.
- **CRM and CFIT procedures**

7 Specifications for devices and simulators

An ANAC approved level C and D may be used to complete the required training, testing, and checking tasks for the SK-92 type rating.

Any FTD must be equivalent to installed equipment operational in the aircraft. Proficient pilot use of the Rockwell Collins (FMS) is critical to operation of the avionics system.

8 Compliance to RBHA 91 and RBAC 135

No Compliance Checklists were provided by the manufacturer.

9 Technical Publications

9.1 Master Minimum Equipment List - MMEL

The S-92A MMEL approved by the FAA shall be used by Brazilian operators as a basis for developing their MEL. These documents are available at the FAA website, through the link <http://fsims.faa.gov/PICDetail.aspx?docId=M%20S-92A%20R2>.

9.2 Rotorcraft Flight Manual - RFM

The S-92A RFM approved by GGCP/SAR shall be used by Brazilian operators as a basis for developing their Operator Rotorcraft Operations Manual.

APPENDIX 1

Flight Training PIC/SIC Flight Training S-92A Helicopter Maneuvers and Procedures Tables

The events, which must be accomplished during flight training, are listed in the maneuvers and procedures tables in this section. These tables also contain the acceptable flight training equipment (Full Flight Simulators (FFS), Flight Training Device (FTD), or aircraft), which may be used for any training event. An “X” indicates that the specified FFS or FTD has been qualified for that event without further consideration or approval. An “A” indicates that a lower level device or simulator may be used for procedural training if that device has the necessary systems representations and functions for training on the event. These systems representations and functions exceed the basic requirements for that level device or simulator; therefore, an “A” indicates that the device or simulator must be evaluated and approved for each particular event. Any maneuver or procedure permitted in a specific level of FFS or FTD may also be conducted in a higher level of FFS, FTD, or the aircraft itself (provided the event can safely be accomplished in the aircraft). Certain training events within the tables are preceded with a box ([]). If the operator is authorized (or required) to conduct these maneuvers by Operations Specifications (OpSpecs) (for example, a circling approach), P.O.I. should check the appropriate box to indicate these events must be included in the training curriculum. Certain optional training events indicated by a pound sign (#) in the maneuvers and the regulations or OpSpecs does not specifically require procedures tables. Many of these optional training events, however, are often included in an operator’s flight training curriculums and should be conducted in a properly qualified device or simulator.

FLIGHT PHASE	TRAINING EVENT	REMARK	FTD LEVEL				SIM LEVEL			A C F T
			4	5	6	7	B	C	D	
PREPARATION	Visual Inspection	Pictorial	-	-	-	-	-	-	-	X
	Before Taxi Procedures		A	A	A	A	A	X	X	X
	Performance Limitations		A	A	A	A	A	X	X	X
SURFACE OPERATION	Starting		A	A	A	A	A	X	X	X
	Rotor Engagement		A	A	A	A	A	X	X	X
	Taxiing		A	A	A	A	A	X	X	X
	Lift-to-Hover IGE/OGE (M)		A	A	A	A	A	X	X	X
	Hover Turns IGE/OGE		A	A	A	A	A	X	X	X
	Sideward/Rearward Hovering		A	A	A	A	A	X	X	X
	Slope Operations		A	A	A	A	A	X	X	X
	Liftoff		A	A	A	A	A	X	X	X
TAKEOFF	Normal		A	A	A	A	A	X	X	X
	Instrument		A	A	A	A	A	X	X	X
	Obstacle Clearance		A	A	A	A	A	X	X	X
	Running (High Altitude)		A	A	A	A	A	X	X	X
	Crosswind		A	A	A	A	A	X	X	X
	Category "A"		A	A	A	A	A	X	X	X
	Category "A" With Powerplant Failure Before CDP		A	A	A	A	A	X	X	X
	Category "A" With Powerplant Failure After CDP		A	A	A	A	A	X	X	X
	Rejected Takeoff		A	A	A	A	A	X	X	X
CLIMB	Normal		A	A	A	A	A	X	X	X
	Best Rate		A	A	A	A	A	X	X	X
	Best Angle		A	A	A	A	A	X	X	X
	Powerplant Shutdown and Restart	Enroute	A	A	A	A	A	X	X	-
DESCENT	Normal		A	A	A	A	A	X	X	X
	Maximum Rate		A	A	A	A	A	X	X	X
	Autorotative Glide		A	A	A	A	A	X	X	X

FLIGHT PHASE	TRAINING EVENT	REMARK	FTD LEVEL				SIM LEVEL			A C F T
			4	5	6	7	B	C	D	
APPROACHES	VFR Procedures Normal		A	A	A	A	A	X	X	X
	Obstacle Clearance		A	A	A	A	A	X	X	X
	High Altitude		A	A	A	A	A	X	X	X
	Elevated Landing Site		A	A	A	A	A	X	X	X
	With Degraded Control Augmentation		A	A	A	A	A	X	X	X
	Balked Landing		A	A	A	A	A	X	X	X
	IFR Precision Approaches ILS/Normal		A	A	A	A	A	X	X	X
	ILS/One-Engine Inoperative		A	A	A	A	A	X	X	X
	[] PAR/Normal		A	A	A	A	A	X	X	X
	[] PAR/One-Engine Inoperative #		A	A	A	A	A	X	X	X
	IFR Non-precision Approaches (M) NDB/Normal		A	A	A	A	A	X	X	X
	VOR/Normal		A	A	A	A	A	X	X	X
	[] LOC & LOC Backcourse Procedures		A	A	A	A	A	X	X	X
	[] SDF/LDA Procedures		A	A	A	A	A	X	X	X
	[] ASR Procedures		A	A	A	A	A	X	X	X
	[] RNAV Procedures		A	A	A	A	A	X	X	X
	[] Automated Rig Approach		A	A	A	A	A	X	X	X
	[] Search And Rescue Apch.		A	A	A	A	A	A	A	A
	[] Circling Approach (Simulator must be qualified for training/checking on the circling maneuver)		A	A	A	A	A	X	X	X
	Missed Approaches From Precision Approach		A	A	A	A	A	X	X	X
	From Non-precision Approach		A	A	A	A	A	X	X	X
NOTE: At least one MAP must be a complete approved procedure.		A	A	A	A	A	X	X	X	
With Powerplant Failure (Applies to all missed approaches)		A	A	A	A	A	X	X	X	

FLIGHT PHASE	TRAINING EVENT	REMARK	FTD LEVEL				SIM LEVEL			A C F T
			4	5	6	7	B	C	D	
LANDINGS	Normal		A	A	A	A	A	X	X	X
	Emergency-to-the-water SEA	Ditching	-	-	-	-	-	X	X	-
	[] Category “A”		A	A	A	A	A	X	X	X
	[] Category “A” With Powerplant Failure after LDP		A	A	A	A	A	X	X	X
	Crosswind		A	A	A	A	A	X	X	X
	From Precision Instrument Approach		A	A	A	A	A	X	X	X
	From a Precision Approach With at Least 50 percent Power Deficiency		A	A	A	A	A	X	X	X
With Degraded Control Augmentation		A	A	A	A	A	X	X	X	
AFTER LANDING	Taxi		A	A	A	A	A	X	X	X
	Parking		A	A	A	A	A	X	X	X
	Stopping the Rotors		A	A	A	A	A	X	X	X
	Emergency Evacuation		A	A	A	A	A	X	X	X
UNPREPARED SITE OPERATIONS	Confined Areas		A	A	A	A	A	X	X	X
	Pinnacles		A	A	A	A	A	X	X	X
	Ridgelines		A	A	A	A	A	X	X	X
	Hoisting / SAR Operations		A	A	A	A	A	X	X	X
OTHER FLIGHT PROCEDURES DURING ANY AIRBORNE PHASE	Holding		A	A	A	A	A	X	X	X
	Ice Accumulation on Airframe		A	A	A	A	A	X	X	-
	Air Hazard Avoidance		A	A	A	A	A	X	X	X
	Inadvertent IMC Recovery		A	A	A	A	A	X	X	X

APPENDIX 2

Sample Training Program S-92A

CURRICULUM SEGMENT OUTLINE

As part of an approved training program, an operator may use many methods when conducting helicopter ground training, including classroom instruction, pictures, videotape, ground-training devices, computer-based instruction, and static helicopter training.

The ground training curriculum segment outline is comprised of the following subject areas: General Operational Subjects, Aircraft Systems and Systems Integration. Additional subjects may be required under RBAC 135.

General Operational Subjects

The portion of ground training referred to as "General Operational Subjects" includes instruction in:

- A. Weight and Balance
- B. Performance
- C. Flight Planning
- D. Approved Rotorcraft Flight Manual/Rotorcraft Operating Manual (As Appropriate)
- E. Crew Resource Management (CRM)

Aircraft Systems

The training modules presented in the aircraft systems subject area consists of a breakdown of the various systems of the S-92A. These modules may be taught in any sequence, however all modules must be covered.

- A. Aircraft General
- B. Lighting
- C. Master Warning System/Caution Advisory Module
- D. Electrical
- E. Fuel
- F. Powerplant
- G. Ice and Rain Protection
- H. Fire Protection

- I. Powertrain
- J. Main Rotor
- K. Tail Rotor
- L. Hydraulics
- M. Landing Gear and Brakes
- N. Flight Controls
- O. Integrated Automatic Flight Control System
- P. Avionics Rockwell Collins Flight Management System
- Q. Environmental
- R. Rotor Ice Protection System (If Equipped)
- S. Health Usage Monitoring System (HUMS)
- T. Kits and Accessories
- U. Optional Dual Rescue Hoist
- V. System Review, Examination, and Critique

Systems Integration

The training modules presented in the Systems Integration subject area provides the pilots/crews with instruction on aircraft systems interrelationships with respect to normal, malfunctions, and emergency procedures. Pilots will be introduced to, and will have exercises in, the elements of Crew Resource Management as part of the integration process, including but not limited to such elements as: Situational Awareness, the Error Chain, Synergy, Crew Concept, Workload Assessment, and Time Management. Pilots will become familiar with the cockpit layout, checklists, maneuvers, and procedures. Lessons are normally conducted in a cockpit procedures mockup, Graphic Flight Simulator (GFS), cockpit procedures trainer, flight training device, or full flight simulator.

- A. Systems Integration Module No. 1- Aircraft Checklists/Normal Procedures/ Rockwell Collins FMS Cockpit/CRM
- B. Systems Integration Module No. 2 - Normal Procedures/ Rockwell/Collins FMS Cockpit
- C. Systems Integration Module No. 3 - Normal Procedures/Abnormal Procedures/Emergency Procedures
- D. Systems Integration Module No. 4 - Normal Procedures/Abnormal Procedures/Emergency Procedures
- E. Systems Integration Module No. 5 - Normal Procedures/Abnormal Procedures/Emergency Procedures

TRAINING MODULE OUTLINES

General Operational Subjects Modules

- A. Weight and Balance Module
 - 1. General Principles and Methods of Weight and Balance Determination
 - 2. Operations
 - 3. Limitations
- B. Performance Module
 - 1. Use of Charts, Tables, Tabulated Data, and Other Related Material
 - 2. Performance Problems, Normal, Abnormal, and Emergency Conditions
 - 3. Performance Limiting Factors such as Ambient Temperature, Runway Contamination, etc.
- C. Flight Planning Module
 - 1. Flight Planning Charts, Such as Fuel Consumption Charts
 - 2. Operations
 - 3. Limitations
- D. Approved Rotorcraft Flight Manual/Rotorcraft Operating Manual Module (As Appropriate)
 - 1. Applicability and Description of the RFM
 - 2. Normal, Abnormal, and Emergency Procedures Sections
 - 3. Limitations Section
 - 4. Maneuvers and Procedures Section
 - 5. General Performance Section
 - 6. Systems Description
 - 7. Appendices, Bulletins and Supplements
- E. Crew Resource Management (CRM) Module
 - 1. Situational Awareness and the Error Chain
 - 2. Stress
 - 3. Communications
 - 4. Synergy and Crew Concept
 - 5. Workload Management
 - 6. Decision Making
 - 7. Advanced/Automated Cockpit

Systems Modules

- A. Aircraft General Module
 - 1. General
 - a. Aircraft Contents of RFM

- b. Training Manuals
 - c. Equipment and Furnishings
 - d. Emergency Equipment
 - 2. Structures
 - 3. Operating Limitations
 - 4. Instrument Markings
 - a. Engines
 - b. Miscellaneous Cockpit Instruments
 - 5. Aircraft Walk Around
 - a. Use Appropriate Visual, ACPS or Available Aircraft
- B. Lighting Module
 - 1. General
 - 2. Operations
 - 3. Limitations
 - 4. Abnormal and Emergency Procedure
- C. Master Warning / Caution Advisory System Module
 - 1. General
 - 2. Operations
 - 3. Limitations
 - 4. Abnormal and Emergency Procedures
- D. Electrical Module
 - 1. General
 - a. System Description
 - b. AC Power
 - c. DC Power
 - d. Annunciators
 - 2. Operations
 - 3. Limitations
 - 4. Abnormal and Emergency Procedures
 - 5. Operations
 - 6. Limitations
 - 7. Abnormal and Emergency Procedures
- E. Auxiliary Power Unit
 - 1. General
 - a. System Description
 - b. Controls and Components
 - c. Indicators/Indications
 - d. Annunciators
 - 2. Operations
 - 3. Limitations
 - 4. Abnormal and Emergency Procedures
- F. Powerplant Module

1. General
 - a. System Description
 - b. Controls and Components
 - c. Indicators/Indications
 - d. Annunciators
 2. Operations
 3. Limitations
 4. Abnormal and Emergency Procedures
- G. Ice and Rain Protection Module
1. General
 2. Operations
 3. Limitations
 4. Abnormal and Emergency Procedures
- H. Fire Protection Module
1. Engine Fire Detection
 - a. General
 - b. Operations
 2. Engine Fire Extinguishing
 - a. General
 - b. Operations
 - c. Limitations
 - d. Abnormal and Emergency Operations
 3. Portable Fire Extinguisher
 4. Location
 5. Preflight
- I. Powertrain Module
1. General
 - a. System Description
 - b. Controls and Components
 - c. Annunciators
 2. Operations
 3. Limitations
 4. Abnormal and Emergency Procedures
- J. Main Rotor Module
1. General
 - a. System Description
 - b. Controls and Components
 2. Operations
 3. Limitations
 4. Abnormal and Emergency Procedures
 5. Abnormal and Emergency Procedures
- K. Tail Rotor Module

1. General
 - a. System Description
 - b. Controls and Components
 2. Operations
 3. Limitations
 4. Abnormal and Emergency Procedures
- L. Hydraulics Module
1. General
 2. Operations
 3. Limitations
 4. Abnormal and Emergency Procedures
- M. Landing Gear and Brakes Module
1. General
 2. Landing Gear
 3. Brakes
 4. Annunciators
 5. Servicing
 6. Operations
 7. Limitations
 8. Abnormal and Emergency Procedures
- N. Flight Controls Module
1. General
 2. System Description
 3. Controls and Components
 4. Indicators/Indications
 5. Annunciators
 6. Operations
 7. Limitations
 8. Abnormal and Emergency Procedures
- O. Digital Automatic Flight Control System (DAFCS) Module
1. General
 - a. System Description
 - b. Controls and Components
 - c. Annunciators
 - d. Servicing
 2. Operations
 3. Limitations
 4. Abnormal and Emergency Procedures
- P. Avionics Module
1. Rockwell/Collins FMS
 2. Multi-Functional Displays (MFD)
 3. Primary Flight Displays (PFD)

4. General
 - a. System Description
 - b. Controls and Components
 - c. Annunciators
 - d. Servicing
5. Operations/Limitations
6. Abnormal and Emergency Procedures
- Q. Environmental Module
 1. General
 - a. System Description
 - b. Controls and Components
 - c. Annunciators
 - d. Servicing
 2. Operations
 3. Limitations
 4. Abnormal and Emergency Procedures
 5. Abnormal and Emergency Procedures
- R. Health Usage Monitoring System
 1. General
 2. Operations
 3. Limitations
 4. Abnormal and Emergency Procedures
- S. Kits and Accessories Module (Floats/Rescue Hoist/Cargo Hook - as equipped)
 - a. General
 - b. System Description
 - c. Controls and Components
 - d. Annunciators
 - e. Servicing
 2. Operations
 3. Limitations
 4. Abnormal and Emergency Procedures
- T. Systems Review, Examination and Critique Module
 1. Written Examination with a Passing Grade of 80%, corrected to 100%.