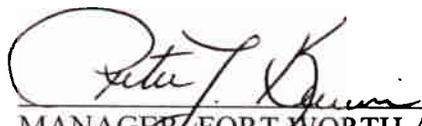
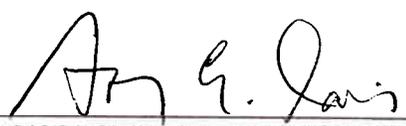
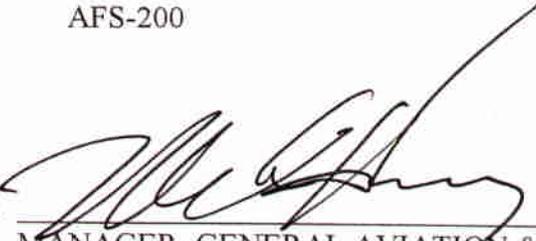


FLIGHT STANDARDIZATION BOARD  
EUROCOPTER FRANCE EC-155B  
DUAL PILOT IFR, SINGLE PILOT VFR

APPROVED:  01-29-01  
EDWARD L. HINCH, CHAIRMAN DATE

CONCUR:  1/30/01  
MANAGER, FORT WORTH AIRCRAFT DATE  
EVALUATION GROUP, FTW AEG

CONCUR:  3/23/01  
MANAGER, AIR TRANSPORTATION DIVISION, DATE  
AFS-200

CONCUR:  3-9-1  
MANAGER, GENERAL AVIATION & DATE  
AND COMMERCIAL DIVISION, AFS-800

EUROCOPTER EC-155B  
PART I

1. Purpose and applicability

The purpose of this report is to insure complete coverage and documentation of all Flight Standards responsibility regarding the type certification of the Eurocopter EC-155B, a five bladed, multiengine turbine powered, 13 passenger, Transport Category Helicopter.

This aircraft is presently DGAC certificated under JAR 29 Transport Category B, and is approved for Day and Night VFR and IFR, non-icing conditions, (dual pilot IFR, single pilot VFR.) This aircraft is being presented for U.S. Certification, Transport Category A, as a derivative of the Eurocopter AS-365N3.

This aircraft is capable of being utilized for scheduled Commuter Operations and On-demand Operations under Part 135, pilot training under Part 61, and Private carriage under Part 91. Other possible uses include operations under Part 137, and Part 133.

2. Pilot Type Rating Requirements

Specific guidance for requiring an aircraft to require a type rating through the aircraft type certification process has not been developed, therefore, the Flight Standardization Board has determined that a type rating for the EC-155B would not be appropriate at this time.

3. Master Common Requirements (MCR's)

N/A

4. Master Differences Requirements (MDR's)

N/A

5. Acceptable Operator Difference requirements table

N/A

6. FSB Specifications for Training

The Flight Standardization Board requires aircraft type-specific training on this aircraft under the provisions of 61.31(h) due to the complexity of the pilot displays and controls, avionics/navigation and flight control systems. Training that is equivalent in all aspects to the training provided by Eurocopter France will fulfill the pilot training requirements under 61.31(h) and 135.345 (a) & (b).

7. FSB Specifications for Checking

Flight checks are conducted in accordance with the instruction, guidance, and requirements contained in the appropriate Practical Test Standards and supplemented by guidance in FAA Orders 8700.1, 8400.10 and/or 8710.3.

8. FSB Specifications for Currency

There are no variants for the EC-155B, therefore all checks required by 14 CFR Part 135 or Part 61 must be accomplished in make and model.

9. Aircraft regulatory compliance checklist

N/A

10. FSB Specifications for Devices and Simulators

Advisory Circular 120-63 outlines specifications for Helicopter simulators. Criteria for flight training devices has not yet been developed.

11. Application of FSB Report

All Operators

12. Alternate means of compliance

N/A

13. Miscellaneous

**EUROCOPTER EC-155B  
PART II**

1.0 Background: During the period June 25 through July 15, 2000 a Flight Standardization Board was convened in Marignane, France to evaluate the Eurocopter EC-155B.

2.0 FSB Composition:

Chairman – Edward L. Hinch, Operations Inspector, Fort Worth Aircraft Evaluation Group.

Board Member – William H. Wallace, National Resource Specialist, Rotorcraft Operations, Headquarters, AFS 800

Board Member - Johnny W. Phillips, Operations Inspector, Alliance Flight Standards District Office, Ft. Worth, TX.

3.0 Eurocopter submitted no proposals for training and there are no Aircraft Evaluation Group issue papers.

4.0 Type Ratings and Crew Qualification Tests, and FSB Determinations: Aircraft-type specific training is required for this aircraft under the provisions of 61.31(h) due to the complexity of the pilot displays and controls, avionics/navigation and flight control systems. Aircraft systems and flight training must be conducted in accordance with Eurocopter France's training program.

5.0 Public Meeting Record and Resolution Of Comments: N/A

6.0 Summary and Conclusions: Each board member completed 8 days of ground school on the aircraft and systems prior to flying. The maneuvers required by the Practical Test Standards for Airline Transport Pilot and Aircraft Type Rating for helicopters were evaluated during 9 hours and 10 minutes of flight. Each board member concurs in determining the requirement for aircraft type-specific training to be established for this aircraft

Although this aircraft is being certificated as a derivative of the Eurocopter France, AS-365N3, the basic fuselage is entirely new. The newly designed rotorhead is an all-metal "Sphreflex" and incorporates a single piece rotor mast and hub, and five composite blades. The antitorque system is a "Fenestron" utilizing composite blades.

The cockpit configuration contains an entirely new avionics/display system consisting of Sextant EFIS primary flight and navigation displays, a two screen Vehicle and Engine Management Display (VEMD) and a Caution Advisory Display (CAD). The CAD also displays fuel quantity, system status and flow. The primary power depiction is derived from the engine parameters, which are electronically monitored and the critical engine limit is displayed on a "FLI", first limit indicator. The two VEMD modules simultaneously compute the FLI for the two engines from the N1, TRQ, and TOT parameters. The FLI pointer always indicates the parameter with the closet value to a limitation. The engines are normally aligned at N1 and this provides the possibility of remaining within all limits. When the limiting parameter is Torque, the FLI pointer represents the engine at the highest torque. If there is an inconsistency of engine torque, a precautionary landing without hovering is required by Flight Manual procedures. In the event of

an engine failure, engine power is initially governed to the 30 second limit and then the pilot must select a lower limit through the use of an OEI High/Low or OEI Continuous push button located on the collective.

The advanced dual digital SFIM flight control system does not incorporate a Flight Director and the pilot must monitor raw data. The autopilot must be manually reconfigured by the pilot in the event of a failure of one of the computers. The pilot must continuously monitor and control all flight/navigation parameters through the use of the following:

- a. Flight control display system (FCDS) – a general system that provides visual information necessary for flight control and navigation management on two EFIS screens.
- b. Vehicle engine multifunction display (VEMD) and its related Caution and Advisory Display (CAD). The VEMD utilizes 2 screens and 10 push buttons. The CAD front panel contains one panel with 5 push buttons.
- c. Instrument control panel (ICP) – controls channel.
- d. Reconfiguration control unit –for reconfiguration of the FCDS in the event of equipment failure.
- e. Pilot cyclic stick grip – the grip includes eleven (11) switches/push buttons, which include control of the stability augmentation system (SAS) and autopilot, artificial feel release, beep/autopilot coupling, and caution light acknowledgment.
- f. Pilot collective pitch lever grip – the grip includes eleven (11) switches/push buttons that control, among other things, the OEI low or continuous OEI power setting of the fuel control unit (FCU), collective beep trim, auto pilot release, and go-around control.

Flight checks are to be conducted in accordance with the instruction, guidance, and requirements contained in the Airline Transport Pilot and/or Type Rating Practical Test Standards and supplemented by guidance in FAA Orders 8700.1, 8400.10 and/or 8710.3.

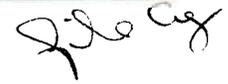
There are no variants for the EC-155B, therefore, all checks required by 14 CFR Part 135 or Part 61 must be accomplished in make and model.

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**9.1. Ground Instruction**

9.1.1. Course Structure: The table below shows the different types of training proposed according to the experience of the candidate holding a valid type qualification for the given variant.

Qualification Held	Types of Training		
	QT1	QT2	QT3
None	✓		
SA 365/365N	✓	✓	✓
<b>Variant</b>			
SA 365 N2		✓	
SA 365 N3			✓

**9.1.2. Summary of Ground Training**

		Types of Training	QT1	QT2	QT3
		Total training time	56h00	27h00	21h00
		<b>Total training time (with test)</b>	<b>58h00</b>	<b>29h00</b>	<b>23h00</b>
<b>Sessions</b>					
1. <i>Introduction to aircraft, structure, drive shafts, rotors and equipment, normal and abnormal operation of systems</i>			37h00	15h00	09h00
Objectives	-To acquire general technical knowledge. -To identify and locate the monitoring equipment with a view to utilization in normal and abnormal operating conditions.				
2. <i>Limitations</i>			02h00	01h00	01h00
Objectives	-To know and identify the operating limits of the helicopter with a view to utilization in normal and abnormal operating conditions.				
3. <i>Performance, preparation and flight monitoring</i>			02h00	01h00	01h00
Objectives	-To know, analyze and use the statutory and additional performance chapters of the helicopter with a view to utilization in normal and abnormal operating conditions.				
4. <i>Weight and balance, application</i>			02h00	01h00	01h00
Objectives	-To know and apply the charts with a view to analyzing loading proposals. -To calculate the weight and balance of an aircraft in operation.				





TRTO

TRAINING PROGRAMS  
Single Pilot QT - EC 155 B  
Detailed Program

EI 050-18-155

Part 2

Section 9

Page 3

Date 11/2000

**9.2. Simulator Instruction**

*Reserved.*

**9.3. Flight Instruction**

		<b>Types of Training</b>	<b>QT1</b>	<b>QT2</b>	<b>QT3</b>
		<b>Total Training Time (without flight test)</b>	<b>08h30</b>	<b>06h15</b>	<b>04h00</b>
		<b>Sessions</b>			
<b>1. Familiarization</b>			1h15	N/A	N/A
<b>Subject</b>	-Displays - flight controls - helicopter responses - normal take-off and landing procedures. -CPDS/FCDS environment. -Use of symbology.				
<b>Key Points</b>	-Reminder of twin-engine helicopter operation. -Normal procedures. -AP contribution. -Display "window open" concept. -Taxiing.				
<b>2. Systems</b>			1h15	1h15	1h15
<b>Subject</b>	-Normal operations: method for using system aids. -AP: insist on synchro mode which defers classic use of trim release mode of versions known to date - efficiency of beep – trim. <i>(attitude-1°/beep&gt;40kt).</i> -System failures: reconfiguration procedures.				
<b>Key Points</b>	-Display "window open" concept. -To be helped and not replaced. -General procedure: special cases.				
<b>3. Procedures (N-1)</b>			1h00	1h00	N/A
<b>Subject</b>	-Class III operationI. <i>(conditions in which the failure of an engine imposes interruption of the flight).</i> -Normal procedures and with simulated failure of one engine. -Use of training mode.				
<b>Key Points</b>	-Automatic limitation of NG / control of NR. -Min. speed to ensure power margin.				

Flight Instruction Cont'd				
Sessions		QT1	QT2	QT3
4. <i>Procedures (N-1)</i>		0h45	0h45	N/A
<b>Subject</b>	-Performance class II operation. -Normal procedures and with simulated failure of one engine. -Systems. -Reconfiguration procedures.			
<b>Key Points</b>	-Defined point of path. -Automatic limitation of Ng / control of Nr. -Use of OEI limits according to the path.			
5. <i>Various Touch-downs</i>		1h15	N/A	N/A
<b>Subject</b>	-Various touch-downs. -Familiarization with options. -Emergency procedures.			
<b>Key Points</b>	-Choice of type of operation according to touch-down. -Defined point of path.			
6. <i>Procedures (N-1)</i>		1h15	1h15	0h45
<b>Subject</b>	-Performance class I operation. -Normal procedures and with simulated failure of one engine. -Indications. -Major control failure.			
<b>Key Points</b>	-Common points between the different (AEO) procedures and between the (AEO) and (OEI) procedures. -Determination of decision points - corresponding indications. -Pilot reaction - corresponding indications.			
7. <i>Nav (VFR or *IFR)</i>		1h45	2h00	2h00
<b>Subject</b>	-VFR or *IFR regime flight profile navigation -Use of functions provided by the systems. -Flight management in degraded situation. -Monitoring of engine health.			
<i>(*) Candidates complying with FCL 2.185 conditions</i>				
<b>Key Points</b>	-Cooperation between pilot and systems. -Systematically provide redundancies.			
8. <b>PF FINAL TEST</b> ( <i>according to appendix 3 of JAR FCL 2.240</i> )		1h30		