

Flight Standardization Board  
EUROCOPTER EC225LP  
Transport Category

APPROVED: Edward L. Hinch 5-30-08  
Edward L. Hinch, Chairman DATE

CONCUR: Mark E. Fletcher 5-30-08  
Mark E. Fletcher, Manager DATE  
Fort Worth Aircraft Evaluation Group

CONCUR: [Signature] 6/12/08  
MANAGER, DATE  
Air Transportation Division AFS-200

CONCUR: [Signature] 6/11/08  
MANAGER, DATE  
General Aviation & Commercial Division  
AFS-800

**EUROCOPTER EC225LP**  
**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 EC225LP, a five bladed, multiengine turbine powered, Transport Category Helicopter.

The EC225LP aircraft is presently certificated by the French DGAC under JAR 29 Transport Category A/B, and is approved for Day and Night VFR and IFR in limited icing conditions. This aircraft is being presented for U.S. Certification, Transport Category A/B, as a derivative of the Eurocopter AS-332L2. A major note of difference is the increased gross weight to above 20,000 pounds. The Certification requirements of Federal Aviation Regulations Part 29.1 required this aircraft to be certificated in Category A, and allowed it to be certificated Category B with a 9 or less passenger configuration. Each category has different operating limitations and must be observed by the operator. This gross weight requires the aircraft to be primarily certificated and operated in "Category A" when configured with more than 9 passenger seats.

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

A new Pilot Type Rating Designation EC225LP has been established for this aircraft.

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 applicant must meet the training requirements of 61.57(b) for addition of the EC225LP type rating to an Airline Transport Pilot Certificate or the training required by FAR 61.63(d) for addition of the EC225LP type rating to any other grade of certificate.

For 14 CFR Part 135 Air Carrier operations, training shall be conducted under 14 CFR Part 135.321 in accordance with their approved training programs.

7. FSB Specifications for Checking

Flight checks are 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 8900.1 and/or 8710.3.

8. FSB Specifications for Currency

Currency shall be maintained in accordance with 14 CFR Part 61.57 and 61.58 and CFR Part 135.245 and 135.247.

9. Aircraft regulatory compliance checklist

N/A

10. FSB Specifications for Devices and Simulators

Advisory Circular 120-63 outlines specifications for Helicopter simulators.

11. Application of FSB Report

All Operators

12. Alternate means of compliance

N/A

13. Miscellaneous - N/A

EUROCOPTER EC225LP  
PART II

1.0 Background: During the period January 22, 2008 through April 28, 2008, a Flight Standardization Board was convened in Grand Prairie, Texas to evaluate the Eurocopter EC225LP. An initial Ground School was attended in Mariagane, France during October 15 through 26 2007. This initial ground school did not meet U.S. Pilot Initial Type Rating standards due to unresolved certification issues regarding Category A and Category B. The certification issues were resolved and the ground school and flight was completed on April 28, 2008 in Grand Prairie, Texas.

2.0 FSB Composition:

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

Board Member – Angelo Spelios, Operations Inspector, Fort Worth Aircraft Evaluation Group

Board Member - Steven Sorich, Operations Inspector, Alliance Flight Standards District Office, Ft. Worth, TX.

Board Member - Jeff Trang, Flight Test Pilot, ASW-111 Regulations and Policy Group, Fort Worth, Texas

Observer - Del Livingston, Vice President of Training and Operations, American Eurocopter, Grand Prairie, Texas

Observer - Bruce Webb, Chief Pilot, American Eurocopter, Grand Prairie, Texas

3.0 There are no outstanding Aircraft Evaluation Group issue papers.

4.0 Type Ratings and Crew Qualification Tests, and FSB Determinations: A new type rating designation of EC225LP has been designated for this aircraft due to the complexity of the pilot displays and controls, advanced avionics/navigation and advanced flight control systems.

5.0 Summary and Conclusions: Each board member completed 13 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 Helicopter were evaluated during 15 hours of flight. Each Board member concurs in determining the requirement for a new Type Rating to be established for this aircraft

Although this aircraft is being certificated as a derivative of the Eurocopter France AS-332L2, the basic fuselage is entirely new and incorporates new Makila 2A turbine engines. The newly designed rotorhead is an all-metal "Sphereflex" and incorporates a single piece rotor mast and hub, and five composite blades. The antitorque system is 4 bladed utilizing composite blades.

The cockpit configuration contains an entirely new avionics/display system consisting of four flight and navigation displays, and a two screen Vehicle Monitoring System (VMS).

The display system is composed of four multifunction display units (MFDs) and four processing units. The processing units perform the symbol generation and data concentration functions. The MFDs display the symbols and images generated by the processing unit and send the commands entered by the pilot or copilot via the screen keys back to the processing unit. The outer right and left MFD are dedicated to the Flight and Navigation Display (FND) format. The display format on the inner MFDs is selectable by the crew.

The main function of the VMS is to process and display the Engine parameters, vehicle parameters and the outside air temperature and performance weight. The VMS is composed of a duplex Aircraft Management Computer and two Electronic Instrument Displays (EID). This system is connected and monitors the Engine sensors, Vehicle sensors, FADEC, Reconfiguration Control Unit (RCU), Air Data Computer, Flight Management System (FMS) and Flight Display System. Eleven operating modes are accessible through the VMS, six in flight and five on the ground. The primary power depiction is displayed on a first limit indicator (FLI). The FLI pointer always indicates the parameter with the closest value to a limitation and is displayed on the 'Flight and Navigation Display'. Each Aircraft Management Computer lane receives the "global NI/TOT" limit margin and computes the global margin in equivalent collective pitch indications. The two AMC lanes crosscheck the collective pitch margins and send this value to the FND. The FND uses the collective pitch "CLP margins" and its collective pitch value to define the limit positions depiction on the FLI scale. 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 Digital Automatic Flight Control System (AFCS) provides automatic flight control in four axes of helicopter control; roll, yaw, pitch and collective. It operates in basic (stabilization) modes and in upper modes (coupling). The AFCS computes parameters of the flight envelope such as: VNE, VTOSS, and Vy. This information is displayed on the FND on the indicated air speed scale. Additionally, the pilot can manually compute VTOSS and set it on the air speed scale.

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 Order 8900.1 and/or 8710.3.