# OPERATIONAL EVALUATION REPORT

## BELL HELICOPTERS

## BELL 429

### GRUPO DE AVALIAÇÃO DE AERONAVES – GAA

BRAZILIAN AIRCRAFT EVALUATION GROUP

AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL

RIO DE JANEIRO, BRAZIL

REVISION 4 – APRIL 23RD, 2016

# Revision Control

| REVISION | DATE | HIGHLIGHTS OF CHANGE |
|---|---|---|
| Original | February 10th, 2011 | Original report |
| 1 | September 22nd, 2011 | Type rating designator adjustment |
| 2 | January 9th, 2015 | Changes on the pilot prerequisites for initial type rating training |
| 3 | June 6th, 2015 | Training information added |
| 4 | April 23rd, 2016 | Pilot rating determination according to RBAC 61 EMD 06 |
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# Approval

**Audir Mendes de Assunção Filho**
Training Organizations Certification Branch
Department of Flight Standards

## Table of Contents

# 1. EVALUATION TEAM

## 1.1. Original Report

| Name | Task | Organization |
|---|---|---|
| Halyson Henrique se Souza Valadão | BAEG 429 focal point | ANAC |
| André Marques Caetano | Acting Aircraft and Flight Simulator Evaluation Manager | ANAC |
| Reynaldo José dos Santos | Evaluator pilot | ANAC |

## 1.2. Revision 1

| Name | Task | Organization |
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| Halyson Henrique se Souza Valadão | BAEG 429 focal point | ANAC |
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## 1.3. Revision 2

| Name | Task | Organization |
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| André Marques Caetano | Aircraft Operational Evaluation Coordinator | ANAC |

## 1.4. Revision 3

| Name | Task | Organization |
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| André Marques Caetano | Aircraft Operational Evaluation Coordinator | ANAC |

## 1.5. Revision 4

| Name | Task | Organization |
|---|---|---|
| André Marques Caetano | Aircraft Operational Evaluation Coordinator | ANAC |

## 2. PILOT RATING

According to the RBAC 61 Amendment 06, Bell model 429 requires a multi engine helicopter class rating.

## 3. PILOT TRAINING

To be eligible for enrollment, candidate pilot must hold a **helicopter pilot license**.

The proposed syllabus for Bell 429 helicopter includes 20 hours of ground training and 8 hours of flight training, which is divided in a 4-hour FTD procedure training and a 4-hour flight time. The syllabus assessed during the operational evaluation (2010) considered the tasks "running landing" and "IFR approach without the use of autopilot". However, in recent contact with Bell Helicopters Training Management, ANAC was informed that the mentioned tasks were removed from the syllabus.

Pilots holding a helicopter instrument rating (IFRH) may request the Bell 429 IFR transition training.

## 4. COMPLIANCE TO RBHA 91 AND RBAC 135

No pending items were detected in Bell 429 compliance checklists. Operators shall observe the Brazilian Regulations before ordering an aircraft. There are some items not included in the standard aircraft configuration that may be necessary, according to the operation.

## 5. SPECIAL OPERATIONS

Emergency Medical Services (EMS) and Helicopter External Loads Operations are not part of the Type Certification of the Aircraft in Brazil. A revision of the Operational Evaluation will be necessary if a Supplementary Type Certificate is requested.

## 6. OPERATIONAL DOCUMENTATION

The BAEG – Bell 429 recommends the adoption of Canadian Civil Aviation Authority MMEL. This publication shall be used as a basis for the Operator's MEL.

The Rotorcraft Flight Manual (RFM) must have the Supplement for Brazilian Registered Helicopters. This supplement presents some limitations regarding CNS/ATM and placards.

## 7. FLIGHT SIMULATION TRAINING DEVICES (FSTD)

If there is no qualified Flight Training Device (FTD) or Full Flight Simulator (FFS) for flight training, the flight procedures training must be done in the aircraft.

All FSTD used in pilot training shall be qualified by ANAC.

## 8. OPERATIONAL ISSUES

### 8.1. Category A Operations

Bell 429 is certified for Category A operations. Procedures, limitations and performance shall be observed in the respective Flight Manual Supplement.

## 8.2. Dual Control and 3rd Display Unit (DU)

Due to single pilot certification of Bell 429 aircraft, the standard helicopter configuration has the Flight Controls installed only in the right side of the cockpit. Also, it has two Display Units, one in the center and one in the right of the control panel.

The Dual Control configuration and the 3rd Display Unit are available as optional items, for those who plan to operate in a dual pilot configuration. Operators under RBHA 91 or RBAC 135 shall observe necessity of these equipments for dual pilot operations.

## 8.3. One Engine Inoperative (OEI) Training Mode

The system supports an OEI training mode that allows the pilot to experience helicopter operation and displays similar to an actual OEI event.

OEI training mode requires either the pilot's right display unit is set to composite (COMP) format or the optional left display is set to either full EICAS or COMP format. This ensures actual engine information remains displayed during training. Simulated training displays are always presented on the center display unit. OEI training mode is invoked by setting the OEI TRNG switch on the instrument panel eyebrow to either the 1 or 2 position. This selects the simulated failed engine. The switch is magnetically held in place for the duration of OEI training.

Upon initiation of OEI training, the annunciation OEI TRNG appears to the left of the center display PSI to indicate simulated training data is being displayed. The ECU's control the power output from the two engines to behave as if the power were coming from a single engine. On the center display, the simulated failed engine grays out and the indications decay to a value of 0% for NG, NP and Q, and to 400°C for MGT. The remaining engine shows a simulated increase in power to compensate for the simulated failed engine. For the duration of training mode, the center display continues to show information as if all the power were coming from a single engine.

## 8.4. Observer Seat

Due to single pilot certification of Bell 429, the left seat in the cockpit may be used as an observer seat during checkrides. In some cases, the forward passenger seats can be used for these purposes.

Fig. 1 – Standard Configuration

Fig. 2 – Club Seat Configuration