Galaxy Aerospace

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## 1.0 Introduction

1.1 This Quality Assurance Notices is to address

i. The development of an aircraft similarity matrix and grouping based on the guidance in Para 2.2.3.4 of CAGM 1801 to comply with the requirements of Para 5.3 (d) of CAAM CAD 8601 which requires certifying staffs to be involved in at least six (6) months experience of actual relevant aircraft or component maintenance experience in any consecutive two (2) years period.

1.2 General

i. For category B1 and B2 for every aircraft included in the authorisation the experience should be on that particular aircraft or on a similar aircraft within the same licence (sub)category. Two aircraft can be considered to be similar when they have similar technology, construction and comparable systems, which means equally equipped with the following (as applicable to the licence category):
   a. Propulsion systems (piston, turboprop, turbofan, turboshaft, jet-engine or push propellers); and
   b. Flight control systems (only mechanical controls, hydro-mechanically powered controls or electro-mechanically powered controls); and
   c. Avionic systems (analogue systems or digital systems); and
   d. Structure (manufactured of metal, composite or wood).

ii. This QAN only serves as a guidance and shall not supercede or contradict any requirement from the authority or organisation.

## 2.0 Objective

i. Due to the complexity of GAM CAAM Part-145 AMO scope of approval which includes a range of aircraft types and the varied input of aircraft coming into GAM AMO for maintenance, an aircraft similarity grouping is developed to address the compliance of Para 5.3 (d) of CAAM CAD 8601.

ii. This QAN is issued as a guidance for all relevant Certifying Staff.

## 3.0 Aircraft Similarity Matrix and Grouping

| STRUCTURE AND SYSTEM CATEGORY | AIRCRAFT TYPE AND VARIATION | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **AW139 with PW PT6C-67C engines** | **AW189 with CT7-2E1 engines** | **A109 E with Canada PW206C engines** | **EC120B with Arrius 2F engines** | **AS350B2 with Arriel 1D1 engine** | **AS350B3 with Arriel 2B/2B1/2D engine** | **AS355F2 with 250-C20F engines** | **AS355N with Arrius 1A engines** | **AS365N3 with Arriel 2C engines** | **EC155B with Arriel 2C1 engines** | **EC155B1 with Arriel 2C2 engines** | **R44 with O-540-F1B5 engine** | **R44 II with IO-540-AE1A5 engine** | **R66 with 250-C300/A1 engine** | **Bell 429 with PWC PW207D series engines** | **Beechcraft King Air model B300 with PT6A-60A engines** |
| **Manufacturer** | Leonardo | Leonardo | Leonardo | Airbus Helicopter | Airbus Helicopter | Airbus Helicopter | Airbus Helicopter | Airbus Helicopter | Airbus Helicopter | Airbus Helicopter | Airbus Helicopter | Robinson Helicopter | Robinson Helicopter | Robinson Helicopter | Bell Textron Canada | Textron Aviation Inc |
| **Propulsion** | FADEC, Turboshaft | FADEC, Turboshaft | FADEC, Turboshaft | Turboshaft, Non-FADEC | Turboshaft, Non-FADEC | FADEC, Turboshaft | Turboshaft, Non-FADEC | Turboshaft, FADEC | FADEC, Turboshaft | FADEC, Turboshaft | FADEC, Turboshaft | six cylinder, direct drive, horizontally opposed, air cooled engines | six cylinder, direct drive, horizontally opposed, air cooled engines | Turboshaft, Non-FADEC | FADEC, Turboshaft | Turboprop, Non-FADEC |
| **Flight Control** | Control rods, bellcranks, hydraulic servoactuator (3 Servoactuator for main rotor) | Control rods, bellcranks, hydraulic servoactuator (3 Servoactuator for main rotor) | Collective, cyclic and tail rotor pitch controls are rigid, servo-assisted type. Levers, bellcranks, supports, fixed and adjustable control tubes | 1 flight control set assisted by 3 main rotor servo units for the main rotor | 3 main rotor hydraulic servo units, 1 tail rotor hydraulic servo unit and a load compensator | 3 main rotor hydraulic servo units, 1 tail rotor hydraulic servo unit and a load compensator | 3 main rotor hydraulic servo units, 1 tail rotor hydraulic servo unit and a load compensator | 3 main rotor hydraulic servo units, 1 tail rotor hydraulic servo unit and a load compensator | 1 flight control system, fitted with 3 dual-chamber/dual-body main servo-units (on cyclic and collective pitch channels) and 1 dual-chamber/dual-body rear servo-unit (on tail rotor pitch control channel) | 1 flight control system, fitted with 3 dual-chamber/dual-body main servo-units (on cyclic and collective pitch channels) and 1 dual-chamber/dual-body rear servo-unit (on tail rotor pitch control channel) | 1 flight control system, fitted with 3 dual-chamber/dual-body main servo-units (on cyclic and collective pitch channels) and 1 dual-chamber/dual-body rear servo-unit (on tail rotor pitch control channel) | Primary flight controls actuated through push pull tubes and bellcranks. Hydraulic flight control optional | Primary flight controls actuated through push pull tubes and bellcranks. Hydraulic flight control optional | Primary flight controls actuated through push pull tubes and bellcranks. | The flying controls use conventional mechanical controls that are hydraulically boosted. The boosted controls are powered by four hydraulic servo actuators. Each servo actuator is pressurised by two independent hydraulic systems. | All flight controls with the exception of flaps (electric motor-driven gearbox) are cable operated, manually controlled through cable-bell crank systems |
| **Avionic** | EFIS | EFIS, | Analogue | Analogue with VEMD | Analogue with VEMD | Analogue with VEMD | Analogue with VEMD | Analogue with VEMD | EFIS | EFIS | EFIS | Analogue | Analogue | EFIS | EFIS | Analogue |
| **Structure** | Aluminium alloy | Aluminium alloy | Aluminium alloy | Aluminium alloy | Aluminium alloy | Aluminium alloy | Aluminium alloy | Aluminium alloy | Aluminium alloy | Aluminium alloy | Aluminium alloy | Primary fuselage is wleded steel tubing and riveted aluminium sheet. Tailcone is monocoque structure. Fibreglass and thermoplastics used in secondary cabin structure and various ducts and fairings. | Primary fuselage is wleded steel tubing and riveted aluminium sheet. Tailcone is monocoque structure. Fibreglass and thermoplastics used in secondary cabin structure and various ducts and fairings. | Primary fuselage is wleded steel tubing and riveted aluminium sheet. Tailcone is monocoque structure. Fibreglass and thermoplastics used in secondary cabin structure and various ducts and fairings. | . Machined alloy airframe with single piece machined roof beams, lift frames, cabin keel beams and nose beams; carbon fiber composite side-bodies, belly panels, nose skins, floor panels, decks and engine cowls | Fuselage is semimonocoque construction consists of frames, stringers, bulkheads, keels enclosed with aluminium skin |
| **GROUPING** | **A** | **A** | **C** | **D** | **D** | **B** | **D** | **B** | **A** | **A** | **A** | **E** | **E** | **F** | **A** | **G** |

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| **GROUP A** | i. AW139 with PW PT6C-67C engines<br>ii. AW189 with CT7-2E1 engines<br>iii. AS365N3 with Arriel 2C engines<br>iv. EC155B with Arriel 2C1 engines<br>v. EC155B1 with Arriel 2C2 engines<br>vi. Bell 429 with PWC PW207D series engine |
| **GROUP B** | i. AS350B3 with Arriel 2B/2B1/2D engine<br>ii. AS355N with Arrius 1A engines |
| **GROUP C** | i. A109 E with Canada PW206C engines |
| **GROUP D** | i. EC120B with Arrius 2F engines<br>ii. AS350B2 with Arriel 1D1 engine<br>iii. AS355F2 with 250-C20F engines |
| **GROUP E** | i. R44 with O-540-F1B5 engine<br>ii. R44 II with IO-540-AE1A5 engine |
| **GROUP F** | i. R66 with 250-C300/A1 engine |
| **GROUP G** | i. Beechcraft King Air model B300 with PT6A-60A engines |

## 4.0 Responsibilities

i. The Aircraft Similarity Matrix and Grouping shall be reviewed by the Quality Assurance Manager and Engineering Manager. Upon completion of the review, this QAN shall be revised to reflect the changes (if any).

## 5.0 Reference

i. CAAM CAD 8601
ii. CAAM CAD 1801
iii. CAAM CAGM 1801
iv. MOE Part 3.4 - Certifying Staff Qualifications and Training Procedures