

Setting and Maintaining the Defence Standard for Continuing Airworthiness across Europe

Baines Simmons is a long-standing partner to the EDA, providing technical guidance, advice and expertise to assist with the drafting of the European Military Airworthiness Requirements, (EMARs), bringing our understanding of the intent of EASA's civilian airworthiness regulations, best practice and procedures for the management of continuing airworthiness into the military context.

Our regulatory consultants, led by Director Bob Simmons, have been instrumental in supporting the EDA's Task Force 3 with the development of EMAR 66, and M - which sets the standards for the management of Continuing Airworthiness for military aircraft across the EDA's 27 participating Member States. It is regarded by many as defence global best-practice, providing the key to improve the management of fleet continuing airworthiness. The Requirement will ultimately help military air forces effectively manage aircraft safety, improve operational fleet reliability and availability as well as reduce maintenance costs. Our partnership with the EDA has allowed us to inform the development of the defence airworthiness system, positively affecting the airworthiness of military aircraft operated across the participating EDA Member States and other nations for decades to come.

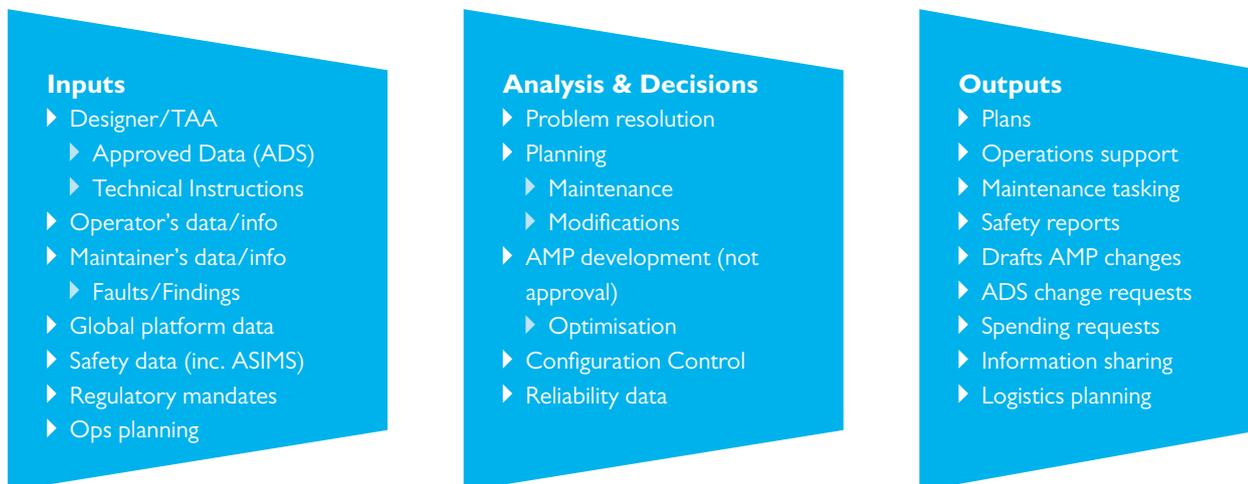
Moving your CAMO from Compliance to Performance

CAMO - the 'heartbeat' of performing Airworthiness

Baines Simmons has long championed the potential benefits of 'intelligent' continuing airworthiness management and has helped evolve new approaches to advance Defence CAMO performance in order to achieve the following outcomes:

- ▶ Improved aircraft reliability, availability and readiness: Improved reliability, resulting in greater availability and improved readiness to respond and support operations and the maintenance of trained and skilled crew. Furthermore there is reduced investment in the assets required to ensure aircraft availability, increased proportion of aircraft ready to go, therefore reducing costs and getting more out of less
- ▶ Reduced costs: Elimination of ineffective maintenance, reduced costs associated with error, reduced logistical support needs (spares, tooling, manpower and equipment) and reduced costs associated with aircraft procurement
- ▶ Increased aircraft asset value: More efficient and effective through life care resulting in increased aircraft asset value.
- ▶ Reduced maintenance and man-power costs: Reduced maintenance workload as aircraft become more reliable

How should a PERFORMING CAMO work?



CAMO PERFORMANCE: Key self-assessment questions

How well can you answer these top CAMO questions?

1	Are you confident that everyone involved with your platform's CAMO and maintenance activities understand their role, responsibilities and their Continuing Airworthiness objectives?
2	Does your CAMO formally and collectively (relevant multiple stakeholders) review platform Continuing Airworthiness data?
3	Are your top three Continuing Airworthiness risks known and is responsibility for their mitigation/resolution appropriately owned?
4	Is your CAMO ensuring the continuous improvement of platform reliability/availability?
5	Does your CAMO ensure that maintenance organisations are correctly maintaining your aircraft, thereby contributing to high levels of availability?
6	Is your Platform Maintenance Programme effective? (meeting the maintenance needs of the aircraft, in terms of safety and availability in a cost effective way)
7	Does your CAMO routinely collaborate with aircrew, the MTCH and contractors on Continuing Airworthiness matters?
8	Do your CAMO's Continuing Airworthiness decisions formally consider Human Factors?
9	Does your CAMO formally share and learn from other CAMO / industry / global fleet experience?
10	Are your platform's aircrew actively involved with the management of Continuing Airworthiness and the CAMO involved in Operational decisions?
11	Is your 'Operator' constantly aware of Continuing Airworthiness issues and risks on your aircraft?
12	Are you confident that you continuously know your aircraft's level of compliance with applicable approved standards?
13	Does your CAMO have the competence to effectively investigate Continuing Airworthiness failures and initiate appropriate corrective action?
14	Does your CAMO effectively motivate approved data changes where necessary to improve platform Continuing Airworthiness?
15	Does your CAMO consider Flight Operations in your Continuing Airworthiness decision-making, along with individual aircraft deferred faults and limitations?

Understanding Defence CAMO performance

Keys to performance

- ▶ Compliance to CAMO requirements – through-life sustainment of aircraft military type certificate/safety case and continuous improvement of airworthiness / platform safety
- ▶ Quality assurance (compliance monitoring) - clearer demonstration of performance to defined standards as outlined in the CAME
- ▶ Human Factors & Error Management – setting up maintenance engineers to work smarter and more efficiently, harvesting a culture of continuous learning from an airworthiness perspective
- ▶ Proactive risk management capability – improved ‘Total Safety’ through closer integration and management of equipment with human, organisation and environment safety risks (bottom of the airworthiness iceberg)
- ▶ Effective CAMO leadership – Having a clear CAMO vision, strategies and KPI's, and an engaged team
- ▶ Managed CAMO competence - ability and skills to manage a performing CAMO and engage more effectively with other stakeholders
- ▶ Virtual team working – through engaging maintenance organisations to contribute to the management of continuing airworthiness
- ▶ Improved analysis of data relating to aircraft behaviour – through building closer teamwork, and alignment and integration of softer airworthiness and environmental intelligence
- ▶ Establishing a proactive Continuing Airworthiness culture - winning hearts and minds to encourage a positive culture of reporting and continuous learning
- ▶ Improved assurance of strategic airworthiness strategies - A programme of assurance engagement to give confidence to the ‘Operator’ that CAMO is performing by meeting defined strategic objectives and key performance indicators

Specialist expertise in Defence Aviation Regulations, Compliance and Safety Management

Over recent years, as trusted safety partners to European military regulatory organisations including the UK's Military Aviation Authority (MAA), the European Defence Agency (EDA) and military units including the Swedish and UK Armed Forces (Royal Navy; British Army; Royal Air Force (RAF), and Defence Equipment and Support (DE&S)) we have been privileged to be at the forefront of many of the major safety and airworthiness changes that have taken place in the world of Defence Aviation.

Our safety culture expertise was recognised in The Nimrod Review: Haddon-Cave Report 2009 which highlighted the need for safety management, culture and systems change in the Armed Forces. This continues today with our work alongside the Military Aviation Authority (MAA) in helping to implement their Defence Aviation Error Management System (DAEMS) – a significant aviation safety improvement project which will see many thousands of aviation specialist personnel trained in safety culture and error management which, as a result of cultural change, will have a major impact on saving lives.

Baines Simmons has also been highly influential in the implementation of the Military Airworthiness Review (MARC), MRP Part 145 and CAMO approval regulations through its long-standing engagement with the UK MAA to provide advice and guidance relating to the development and implementation of Continuing Airworthiness Regulations. We have also fulfilled a regulatory oversight role for the MAA, conducting independent

compliance audits relating to MRP Part 145 approval.

Through our long-standing partnership with the EDA, we have provided specialist advice and guidance for the drafting of the new military requirements, culminating in support for the drafting of EMAR-M and helping to set standards for the management of Continuing Airworthiness for military aircraft in Europe for many years to come.

How we can help

Over the years we have developed world-leading technical capability and understanding of the intent of the military and civil CAMO regulations. We fully understand the CAMO environment and what is required to achieve performance and offer a unique combination of strategic improvement and technical CAMO experience and expertise.

In preparation for when European defence organisations start to implement Continuing Airworthiness Management Organisation (CAMO) rules for military aircraft types, we have developed a number of defence-focussed training courses and consulting services which are designed to help personnel from defence organisations and their supplier companies develop their competence and skills in core areas of safety, airworthiness and quality management.

Training courses and Workshop Programmes

- ▶ EMAR Introduction and EMAR-M Differences Overview
- ▶ EMAR Introduction and EMAR-145 Overview
- ▶ EMAR Introduction and EMAR-21 Subparts G/J Essentials Overview
- ▶ Continuing Airworthiness Management Skills for a Defence CAMO
- ▶ Part 145 & Part M refresher workshops
- ▶ Successful Management of OEM Safety Assessments and Operator Safety Cases
- ▶ Understanding Maintenance Programme Principles
- ▶ Managing Continuing Airworthiness Regulations within the UK MAE
- ▶ MRP Part 145 - Successfully Applying the Maintenance Regulation
- ▶ MAOS Regulations – Management Responsibilities
- ▶ MAOS - Continuing Airworthiness Engineering within the UK MAE

In addition, we offer a wide range of safety risk management, regulatory compliance, Human Factors & Error Management and Quality Assurance/Compliance Monitoring Training courses and programmes. Please contact us for further details.

Our team

Bob Simmons

Director, Aviation Regulations and Compliance

Bob is a co-founder of Baines Simmons. He is a creative and technical aviation safety expert who brings his passion, experience and problem-solving strengths to bear across a wide spectrum of client aviation safety-related subjects. He provides insightful strategic and technical leadership support to our civil and military clients' regulatory and airworthiness engagements.

David Innes

Continuing Airworthiness and Civil Aviation Regulations

David adds enormous technical value to clients through his 30 years' experience in a range of airworthiness-related roles in the civil air transport industry. David specialises in Airworthiness Management Reviews and diagnostic surveys and assists clients to effectively interpret and adopt the practical application of airworthiness-related regulatory requirements and safety and quality management principles. In addition to his consulting experience, David also designs and delivers regulatory and technical training courses to high acclaim to clients in the military and civil sectors, including to the Australian Defence Force, Boeing, Qinetiq, TAG Farnborough Engineering, B/E Aerospace and a number of European Aviation Authorities.

Scott Vaughan

Initial and Continuing Airworthiness, Certification and Safety Management

Scott's expert initial and continuing airworthiness advice and guidance is highly praised by clients for its clarity, objectivity and technical accuracy. Drawing on his practical experience in

aircraft certification, maintenance and test flying in both civil and military domains, Scott is skilled in integrating safety management approaches efficiently and effectively and is highly experienced in establishing organisational processes, procedures and structures to support a wide range of certification activities. Clients include acting as interim quality manager for SERCO and KBR.

Duane Kritzinger

Initial Airworthiness and Part 21 J/G

Duane practices in the fields of Aircraft Certification and System Safety Engineering. His significant safety expertise lies in his ability to differentiate and integrate the military and civil aircraft safety approaches to deliver value-added input. His certifications skills cover the military and civil aviation domains, assisting in the certification of products/parts/appliances and the establishment of organisational process and structures to support such activities.

Kevin Hopwood

Defence Aviation Regulations, UK MAOS and European EMAR programmes

Kevin is an exceptionally experienced consultant with detailed knowledge of the military requirements. This experience includes being a member of the joint industry and UK MoD working group that militarised then integrated the EASA Part 145 requirements into the UK Military Air Environment as Mil Part 145 (now MRP Part 145). Kevin has provided both MRP 145 and MRP Subpart G training and consultancy to a number of organisations including some of the largest in the global defence industry, including AgustaWestland, Babcock International Defence Systems, BAE Systems, Boeing UK Military, Serco, Vector Aerospace plus the UK Military Aviation Authority.