

Maintenance planning - are you doing it properly?



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In our many engagements with both large and small CAMOs and maintenance organisations, a recurring theme that has emerged has been terms of reference for planners.

What does planning 'properly' mean to you? What does it mean to your industry peers and how aligned is your understanding with theirs?

EASA Part-CAMO.A.315 states that for every aircraft managed, the CAMO shall, amongst other items, "...ensure that any maintenance is carried out properly...". The "soft law" (the Guidance Materials and Acceptable Means of Compliance) supports this by stating that a CAMO "...should be satisfied before the intended flight that all required maintenance has been properly carried out."

EASA Part-145, 145.A.40 requires Equipment and Tools for 'proper inspection', and again in 145.A.50, Certification of maintenance uses the word 'properly' in the context of verifying that all maintenance ordered has been 'properly' carried out. There are numerous other examples.

As we can see, this word is used extensively in EASA regulations yet there is scant further information regarding what is expected for these areas. In our experience, it is precisely this open interpretation of 'properly' that has led to confusion among continuing airworthiness staff, especially planners, which has the detrimental effect of reduced effectiveness and, in some cases, unwitting non-compliance.

EASA introduced the CAMO function to the aviation industry almost 20 years ago and is now quite mature in many ways, however, it is still a maturing concept with regulation at the task and organisation level, but little at the functional level around key activities/roles. In our many engagements with both large and small CAMOs and maintenance organisations, a recurring theme that has emerged has been terms of reference for planners. Organisations not only give their planners varying job titles: production planners, technical planners, maintenance planners, planning engineers, task planners etc., there appears to be different responsibilities ascribed to these roles.

Therefore, production planning in one organisation can look entirely different to another. This is often compounded by the relationship between the CAMO and the AMO organisations. Where lines of responsibilities aren't clear, we have often seen stand-alone CAMOs rely too heavily on their contracted maintenance organisations to carry out the work that is their responsibility. In contrast, combined CAMO/AMO organisations rarely segregate the differing responsibilities, which can lead to inefficiencies.

So, is there a right way? What does 'properly' mean then?

As is the case with the vast majority of the EASA regulations, the way they are written defines no "right way". More so, the expectation is on the organisation to understand the intent of the regulation and interpret and integrate the requirements into their own specific organisational structure. The Oxford English dictionary defines 'properly' as 'Correctly or Satisfactorily'. It goes on to then say 'appropriate for the circumstances', or 'suitable'. These types of subjective words are very common in our regulatory framework, very deliberately, in order to allow the organisation to put the specifics around the requirements. If we bring this in to the Continuing Airworthiness arena, what can it mean? Fundamentally, it must mean that the maintenance of aircraft is conducted correctly or satisfactorily, as efficiently as possible whilst always remaining on the correct side of the safety line. In other words, being 'in-compliance' with the prescribed regulations, and considering the safety hazards, leading to Safety Risk Management, as the Accountable Manager commits.

In order to achieve this compliance of all applicable regulations, organisations utilise coordinated and competent planning teams. Such planning teams will have the necessary knowledge to take the Maintenance Data provided, which describes 'what' needs to be done and produces job cards detailing 'how' it's to be done, staging the work in a manner which suits the business AND the maintenance organisation, clearly describing the expectations of the maintenance staff using those job cards and provides for the necessary accountability

for each stage of the maintenance being performed. The aim being to provide a system that delivers on the expectation that everything produced is "Planning for the avoidance of maintenance error".

However, therein lies a problem. There are no industry standards outlining what a coordinated and competent planning team needs to look like. Historically planning staff only have peers to learn and gain experience from, which has led to inconsistent approaches and incomplete understanding.

I suggest that the answer we seek is within the regulations. EASA is leading the industry into the Performance Based Environment, looking for performance in compliance and, as the 'Management System' has been introduced to Continuing Airworthiness environment as Part-CAMO, specifically CAMO.A.200, we have already a way of structuring our organisations and aligning our management systems. This has introduced us to terminology, such as Establish, Implement and Maintain, specifically around a management system, but which are also relevant in terms of personnel competencies. Although the "Establish, Implement and Maintain" language is not explicitly used in CAMO.A.305, similar language is used by saying "the organisation shall establish and control the competency of personnel". The word 'control' is used in place of 'implement and maintain', but the intent is the same. In fact CAMO.A.305 and the associated soft law lay out extensive requirements around staff competencies, to enable "proper" planning. Coupling this with a deeper understanding of the regulations' intent will allow the development of internal processes and procedures that will make the required efficiencies and safety enhancements.

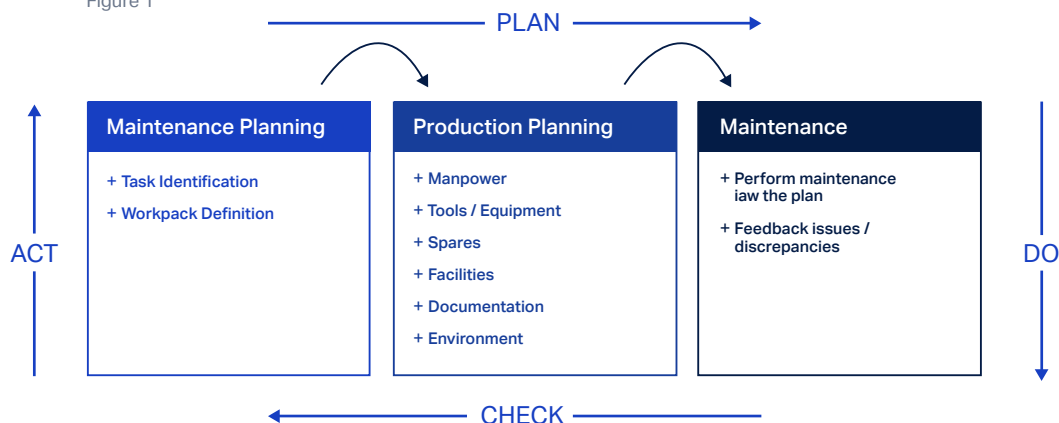
When we look holistically across the whole planning process (as shown in Figure 1 below), we can start to identify key areas of responsibility and within those, some fundamental required competencies, irrespective how you and your organisation are set up. Awareness of the distinct Part-CAMO and Part-145 functions and crucially how they integrate with each other is vital to developing a seamless process that ensures that your continuing airworthiness management delivers on the safety and business efficiency deliverables. Where each organisation draws the line in responsibilities is flexible, as long as they fulfil their interpretation of the intent of the compliance framework they are in.

Understanding and managing competencies and developing a shared view of what planning 'properly' looks like in your own organisations is key to unlocking the commercial and operational benefits these functions can deliver. Contracting between CAMO and AMOs can become more transparent when we can define the specific responsibilities between the two planning teams. A well-understood and defined intent will enable the optimum contract to be defined, which will not only mitigate against unknowing non-compliance but also secure potentially greater efficiencies. Equally, it is the foundation for building internal procedures that

define the split in responsibilities for the combined organisations. By defining these responsibilities, it becomes easier to be clear about who is responsible, for example, for the availability of Technical Data, the upkeep of the maintenance data in terms of availability and how it is kept current as well as what information needs to be provided for Airworthiness Directives (ADs) and Service Bulletins (SBs). Possessing clearly defined responsibilities should also aid the correct behaviours of pre-input meetings and ongoing day-to-day communications, ensuring the right questions are addressed to the owners of the issue, e.g. how are the materials supplied, consumables and notables; who supplies them, etc. It is when these responsibilities are not clearly understood that problems are sure to arise.

Key point to note here is that understanding your regulatory frameworks does not necessarily mean that planners need to be siloed into either Part-CAMO or Part-145 activities. In a multiple approved organisation, it is absolutely possible that a planner can work under both Part-CAMO and Part-145 whilst performing differing functions. Arguably, this could help eliminate any barriers between sections, which can enable swifter decision-making. In stand-alone CAMOs, this is still possible, but will need careful contract considerations.

Figure 1



To conclude, in line with EASA's forward-looking performance-based approach, organisations have to take responsibility to ensure that they have both systems and competent people to deliver their planning outputs. What exact form this needs to take is not prescribed, as the regulation leaves organisations with the opportunity to organise themselves as is fit for the size and complexity of their operations.

How you make sure you have organisational competence to fully explore the intent of the regulations therefore is key. The decisions that you make around your management system and the competence that your teams must develop are reliant on this understanding. Building your foundations on the management system, progression to having a higher performing planning team therefore becomes much more within sight, ultimately enabling you to feel more confident that your maintenance is being planned 'properly' and therefore performed 'properly'.

About the Author

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Paul is an experienced Airworthiness Management consultant and uses his wide-ranging technical, diagnostic and commercial skills to assist clients with continuing airworthiness performance improvement. With an aviation career spanning over 30 years, with a significant portion in managerial roles in Airworthiness, Quality and Safety, Paul draws upon his practical experience gained from working with world-leading airlines to small independent private aviation companies. His experience covers fixed wing aircraft from Pipers and Cessnas to Boeing and Airbus as well as rotorcraft from Robinsons to Dauphins.

Career background and experience: Technical airworthiness consulting skills gained from experience across a wide variety of types ranging from general aviation, private/business aviation and CMPA commercial operations across the globe. Managerial consulting skills, demonstrated through his enormous wealth of knowledge gained from holding management positions in disciplines such as Planning, Inventory, Quality Assurance and Continuing Airworthiness.

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