SOFEMA
AVIATION SERVICES

Strengthening the CAMO–AMO Interface

Steve Bentley FRAeS CEO of Sofema Aviation Services & Sofema Online offers an insight into a number of challenges sitting between the CAMO & AMO

At its core, the CAMO–AMO relationship is about bridging the gap between planning and execution. Both are essential to keep aircraft safe and airworthy. Neither side can succeed alone – a perfectly planned maintenance schedule means nothing if not executed well, and a perfectly carried out maintenance task is useless if not correctly planned or documented. By recognizing this interdependence, CAMOs and AMOs can move from a contractual mindset to a collaborative mindset.

Introduction

Whilst Continuing Airworthiness Management Organisations (CAMOs) and Approved Maintenance Organisations (AMOs) form a synergy of two halves, heavy maintenance is often outsourced on a project-by-project (tender) basis, leading to weak or non-continuous CAMO–AMO relationships.

Here we consider current and ongoing challenges in this dynamic, including aircraft transitions, Supplemental Type Certificate (STC) modifications, and high-pressure maintenance events.

To take the opportunity to consider best practices for effective collaboration (e.g. service level agreements, integrated control centers) and provides actionable insights to improve CAMO–AMO synergy.

How strong is the CAMO – AMO Relationship?

It is common for airlines and asset owners to outsource heavy maintenance tasks to third-party AMOs through competitive tenders. While cost-effective, this practice often means the CAMO–AMO relationship is short-term and transactional, rather than a long-term partnership.

- In theory, the division is clear: *"CAMO is the head; AMO are the hands"* guiding and executing the work respectively, In practice, especially under tight deadlines or complex projects, these lines can blur, leading to confusion and inefficiencies
- The CAMO manages what *needs* to be done and ensures airworthiness compliance, while the AMO figures out *how* to do it and performs the hands-on work. Clear contracts and mutual understanding should align these roles, but in one-off projects the alignment often isn't fully achieved.

The Tender-Based Heavy Maintenance Paradigm - When heavy maintenance is outsourced via tender, the CAMO–AMO relationship can often be ad hoc and fragmented.

Each project might involve a different maintenance provider, limiting the continuity of understanding that develops through repeated collaboration.

The challenges inherent in this paradigm include:

- **Limited Familiarity:** The CAMO and chosen AMO may have little prior experience working together. Procedures, software systems, and company cultures might differ significantly, requiring a steep learning curve each time.
    - If not proactively managed, "variance in procedures and communication protocols" between organizations can lead to misunderstandings or mistakes.
- **Transactional Mindset:** A tender often emphasizes cost and turnaround time, potentially at the expense of relationship-building. With a fixed-price contract and tight schedule, each side might focus narrowly on its deliverables.
    - This can discourage the open communication needed to handle unexpected issues, as parties may fear cost implications or blame.
- **Weak Pre-Project Integration:** Unlike an in-house maintenance team or a long-term partner, a one-off AMO might not be involved early in the planning.
    - Key details (like required tooling, anticipated problem areas from past experience, or desired quality outcomes) may not be fully understood until the aircraft arrives at the facility, reducing efficiency.

The following sections explore how these dynamics play out across various scenarios, and what lessons can be learned.

Aircraft Transitions and Redeliveries - One of the most challenging scenarios for CAMO–AMO collaboration is an aircraft transition – for example, when a leased aircraft is being returned to the lessor (redelivered) or transferred to a new operator.

- These projects combine all the worst stressors:
    - hard deadlines dictated by lease return dates
    - New deployment schedules,
    - Extensive maintenance and modification work scopes,
    - Incomplete or fragmented & missing records inherited from the previous operation.

Note - The CAMO–AMO divide may be written in regulation, but during high-pressure projects like aircraft transitions, the success of the operation depends not on staying in silos, but on crossing boundaries smartly and transparently.

- Blurred lines aren't inherently bad — it's the undocumented, unspoken, and unagreed blurs that create problems.

Pressure and Surprises: Ultimately Tasks are complex and dynamic. During transitions, both sides encounter unplanned snags – missing logbook entries, undisclosed damages, or last-minute scope changes to meet redelivery conditions.

Shared Responsibility: Ultimately, neither party can wash its hands of the outcome. If something is overlooked, both will be impacted.

- This shared responsibility requires a level of alignment and cooperation beyond what any contract can stipulate.
- In reality, success relies on effective collaboration: "High-pressure projects require more than just following procedures
    - They demand alignment, mutual support, and the willingness to take responsibility when the manual falls short."

Key Takeaways:

- If roles are not clearly defined and trust is lacking when a transition project kicks off, both sides may end up firefighting and duplicating efforts.
- Best practices here include engaging the maintenance provider early (even during the bidding phase) to review records and anticipate technical issues, establishing a joint project management office or regular coordination meetings, and assigning dedicated liaisons (e.g. a CAMO technical representative on-site at the AMO hangar).
- By front-loading communication and defining who handles which aspects of unexpected problems, the team can avoid the conflicting "grey zone" where everyone and no one is in charge.

Managing STCs and Major Modifications

Heavy maintenance visits often coincide with major modifications or repairs to the aircraft. These can range from cabin refurbishments and avionics upgrades to structural repairs or the incorporation of Supplemental Type Certificates (STCs) for new equipment.

Managing STC projects adds another layer of complexity to the CAMO–AMO relationship because a third player – the design organization (Part 21 J approval) – is usually involved.

To manage STCs and mods smoothly, a tri-party collaboration is often needed: CAMO, AMO, and design organization. Best practices include holding pre-check meetings dedicated to mod planning, verifying all required parts and data are on hand before the heavy check begins, and using an agreed process for design changes

Challenges in this arena include:

- **Coordination of Engineering Data:** The CAMO is typically responsible for obtaining and accepting the design data (STC or repair scheme) and ensuring it fits into the aircraft's continuing airworthiness context (correct revision, impact on maintenance program, etc.).
    - The AMO must use data and understand it well enough to perform the modification correctly.
    - If communication is weak, the maintenance provider might proceed with outdated instructions or without clarifications, leading to rework.
    - Delays from the design side (e.g. an STC not delivered on time) can stall the maintenance – here the CAMO must mediate, but the AMO's schedule is directly impacted.

    - **Capability Considerations:** Not all AMOs are Conversant with all types of modifications. The CAMO should verify that the chosen AMO has the required experience to implement the STC or major repair

        - If a special procedure is needed (for example, the AMO might need a one-time approval or use a subcontractor for a particular task), this must be arranged well in advance.
        - A breakdown in these arrangements reflects a CAMO planning shortfall and can result in last-minute scrambles that strain the working relationship.

    - **Integrated Planning:** Ideally, modification tasks should be integrated into the overall maintenance work package with clear references to the design documents and any special instructions.
        - The CAMO's work scope would list the STC tasks alongside routine maintenance, and the AMO's planners would schedule them appropriately.
        - CAMOs may issue their own engineering orders or task cards for the STC work to ensure nothing is missed (The AMO ultimately must use approved data to perform the work)

Practitioner Insight: Steven Bentley, a former CAMO Quality Manager, highlights that effective maintenance control involves understanding Part 21 design changes and integrating them into maintenance oversight.

A Maintenance Control Centre (MCC) – typically part of the CAMO's structure – can play a liaison role in this respect: "Technical Engineering understanding [of] Part 21 Subpart G & J functions (technical management of major mods (STC) & repairs) [is essential]" for those overseeing maintenance projects

- The CAMO team (or MCC) should have enough engineering expertise to support and supervise STC implementations, ensuring the AMO has what it needs and that any deviations or issues are quickly resolved through the proper design channels.

Key Takeaways: The CAMO should also ensure that the AMO's staff are aware of any special instructions (through training or briefings)

  - When both organizations treat a modification not as an isolated contract deliverable but as a shared goal for the aircraft's future operation, the chances of a successful outcome rise significantly.
  -

High-Pressure Maintenance Events (AOG and Quick Turnarounds)

Not all maintenance challenges come with long lead times or project plans; sometimes the need is immediate. Aircraft on Ground (AOG) situations or urgent defect rectifications test the CAMO–AMO relationship in different ways.

In urgent maintenance scenarios, speed and clarity are critical. Effective CAMO–AMO collaboration depends on pre-established contingency plans, including clear Service Level Agreements (SLAs), defined escalation contacts, and decision-making protocols.

These frameworks help avoid confusion and ensure rapid, compliant responses — even during AOG events. Relying solely on ad-hoc interaction risks errors and delays, especially without a foundation of mutual trust

Challenges here include:

- **Real-Time Coordination:** In an AOG event (e.g. an aircraft stuck at a remote airport with a technical issue), the CAMO must coordinate with an available AMO (perhaps a local one via AOG support contract) to diagnose and fix the problem.
- **Communication breakdowns** can lead to wasted time – for example, if the AMO is unsure about a technical authorization and has to chase the CAMO for approval, or if the CAMO doesn't provide timely troubleshooting data.

- **Operational Stress and Decision-Making:** High-pressure maintenance often requires on-the-spot decisions – such as whether to defer a defect, rob a part from another aircraft, or perform a temporary repair.
    - These decisions straddle operations and maintenance. The CAMO usually has authority to support deferrals or coordinate ferry flights, while the AMO certifies the actual work done.
    - While the CAMO is responsible for managing continuing airworthiness and providing guidance — for example, confirming whether a defect is deferrable under the MEL — the certifying engineer at the AMO holds ultimate authority when it comes to releasing the aircraft.
    - If the CAMO approves a deferral but the engineer is not satisfied with the condition or documentation, the engineer can and must refuse to sign the Certificate of Release to Service (CRS).
    - In such cases, the final accountability for the release decision lies with the certifying staff.
    - Regulatory frameworks make this clear: the engineer's signature represents the aircraft's compliance with applicable requirements and readiness for safe operation, regardless of external pressure.

- **Maintenance Control Centre (MCC) Integration:** Many operators use an MCC as the nerve center during high-pressure events. The MCC, which is effectively part of the CAMO, interfaces with the Operations Control Centre and with the AMOs to manage AOG recovery and short-notice maintenance
    - An integrated MCC can significantly improve outcomes by having joint procedures and direct contacts established.
    - In smaller organizations, MCC duties might simply be handled by CAMO staff on-call, which makes having pre-agreed communication protocols with maintenance providers even more important.

Variances in Procedures, Standards, and Communication Protocols

Every aviation organization has its own set of procedures and standards, documented in expositions and manuals.

- When a CAMO and an AMO come together for a project, these internal rules can clash or simply diverge in subtle ways.

- Additionally, communication norms (frequency of meetings, reporting formats, language nuances) may differ. If not addressed, these variances act like sand in the gears of the collaboration:

- **Procedural Misalignment:** Procedural misalignment between CAMO and AMO can lead to serious compliance issues, especially when operator-specific processes—such as deferred defect management—are not understood or followed by the AMO.
    - Differences between the CAME and MOE, such as the use of specific tools or documentation systems, may result in an invalid release to service if not properly aligned.
    - EASA emphasizes that CAMOs must ensure AMO certifying staff are adequately trained on relevant CAMO procedures to avoid such risks. Without this cross-training, misunderstandings and potential rework are inevitable.

- **Standards and Quality Culture:** Differences in task interpretation between CAMO and AMO can lead to misaligned expectations, especially when CAMO standards exceed basic regulatory requirements due to internal or lessor-driven policies.
    - If expectations aren't clearly communicated, this can result in audit findings or disputes over work quality. Service Level Agreements (SLAs) are essential for bridging this gap, helping to define quality standards, documentation requirements, and specific deliverables to ensure both parties are aligned.

- **Communication Protocols:** Poorly defined communication protocols can create significant friction between CAMO and AMO teams.
    - Differing expectations—such as how often progress updates are provided—can lead to misunderstandings, with one side feeling uninformed and the other feeling micromanaged.
    - International factors like language barriers and time zone gaps can further complicate coordination.

Note - To avoid these issues, effective partnerships should establish clear communication plans, including scheduled updates, shared tracking tools, and designated points of contact.

Successful Mitigation Strategies

- Many successful CAMO–AMO collaborations use a Joint Procedures Manual (JPM) or similar agreement that explicitly spells out how the two parties will work together.

- The JPM can cover everything from technical procedures (like how to handle MEL items or changes to the work scope) to administrative matters (points of contact, report formats, meeting schedules).
    - It essentially merges relevant parts of the CAMO's and AMO's manuals for the duration of the project.
- Do not overlook the importance of the maintenance contract with embedded service standards.
- The contract not only covers legalities and scope but can append specific working arrangements.
    - Adhering to such guidelines, a contract might require that "in the event the AMO needs to release an aircraft under MEL, the applicable procedure from the CAMO's manual is to be adhered to" (thereby legally binding the AMO to follow the CAMO's protocol in certain scenarios.)
- Regular coordination meetings (daily calls during heavy maintenance, weekly reviews for long-term fleet maintenance, etc.) should be established to iron out any small discrepancies before they become big problems.
- Even if it seems redundant, having both CAMO and AMO confirm their understanding of an unusual task or requirement in a meeting can prevent errors.
    - Over time, these interactions also build personal rapport, which improves information flow.
    - The goal of CAMO–AMO collaboration is to create a *shared environment* for the duration of the maintenance event.

Seeking to Avoid Conflict

Blurred lines are often a symptom of inadequate planning or communication. The best remedy is prevention: clarify roles in a written agreement, and rehearse some "what-if" scenarios together to see who would do what.

During the project, if anyone feels a task or decision is drifting into a grey area, they should speak up immediately and resolve who owns it.

- When roles and responsibilities between CAMO and AMO are not clearly defined, it creates opportunities for errors, miscommunication, and the denial of accountability.

  - In such cases, regulatory authorities will typically hold the operator—and by extension, the CAMO—responsible for any lapses in airworthiness, regardless of internal disagreements.
  - Ambiguity at the interface often leads to delays, operational inefficiencies, and disputes over who was responsible for specific actions or decisions, ultimately increasing both risk and cost.

- While each side has primary areas of responsibility, a mindset of "shared accountability" can actually help avoid things falling through the cracks – as long as it doesn't devolve into "someone else will handle it."

  - Shared accountability means both CAMO and AMO staff feel responsible for the overall success of the maintenance event, not just their slice of it.
  - They are willing to go above and beyond their formal role when necessary, but also alert the other side and document when they do so.

Regulatory Interpretations and Authority Expectations

Friction between CAMO and AMO often stems from differing interpretations of regulatory requirements. While both operate under strict frameworks (such as EASA Part-CAMO and Part-145), their obligations and perspectives vary.

- CAMOs prioritize compliance, documentation, and oversight of continuing airworthiness, whereas AMOs focus on the practical execution of maintenance tasks in line with regulatory approvals.
- These differing lenses can lead to disagreements—particularly in grey areas like ambiguous Airworthiness Directives—unless clarified through shared understanding of the applicable rules and guidance material.

Authority Expectations: Regardless of internal interpretations, the competent authority's expectations ultimately rule. In an outsourced maintenance scenario, the authority (e.g. EASA or the national CAA) expects the CAMO to maintain ultimate control.

- EASA Part-M and Part-CAMO rules explicitly state the operator/CAMO must ensure all maintenance is performed by appropriately approved organizations and must have contracts in place to outline responsibilities
- The CA also expects the CAMO to exercise oversight, typically via audits of the AMO From the authority's point of view, a weak relationship is not an excuse for non-

compliance; if an aircraft is released with un-met requirements or incorrect maintenance, the operator's airworthiness team will be held to account.

Note Competent Authorities typically see in Black & White – means they WILL assign accountability clearly to one side and this is usually the CAMO/operator.

Safety Management System Considerations Regulatory Changes and SMS: Part-CAMO, require CAMOs to implement Safety Management Systems (SMS), reinforcing their responsibility to actively manage risks—including those linked to contracted AMOs. This shift emphasizes ongoing oversight, safety data sharing, and error reporting between CAMO and AMO, rather than a hands-off, contract-only approach.

As a result, regulators are raising expectations for integrated safety practices and will increasingly scrutinize how CAMOs ensure the compliance and safety performance of their maintenance partners.

Bi-lateral Considerations : When CAMOs and AMOs operate under different regulatory jurisdictions—such as an EASA CAMO working with an FAA-approved AMO—aligning interpretations becomes more challenging.

- It's essential that contracts clearly define which regulations take precedence, typically those of the aircraft's state of registry.
- CAMOs should proactively communicate any national-specific requirements and share relevant regulatory guidance to ensure compliance. Joint audits and open dialogue with authorities can help clarify expectations and resolve differences.
- Ultimately, collaboration should be built on a shared understanding of applicable rules, supported by strong contractual and oversight mechanisms to prevent regulatory conflicts.

Note - The regulator essentially wants to see that the CAMO is in control of maintenance: that is the non-negotiable expectation. How the CAMO achieves that – whether by tight processes, frequent audits, or choosing to work only with certain trusted AMOs – is up to the organization, but it will influence how smooth or fraught the relationship is.

Systemic Inefficiencies from Structural and Cultural Disconnects

Beyond the immediate operational issues, there are deeper systemic inefficiencies that arise when CAMOs and AMOs are structurally separated organizations.

These inefficiencies stem from misaligned incentives, organizational silos, and differing corporate cultures:

- **Misaligned Incentives:** Financial and scheduling pressures can pit CAMO objectives against AMO objectives. For instance, a third-party AMO doing a heavy check on a fixed price will aim to complete the job within the budgeted man-hours.
- Financial incentives might be to finish on time (or early) and minimize any additional work that isn't paid.
    - The CAMO, focused on airworthiness and long-term asset value, has an incentive to find and fix any potential issue now (especially in a lease return) to avoid future problems.
    - This can lead to friction – the CAMO may push for "while you're in there, please also do X," whereas the AMO might resist unless formally added (and paid) via contract amendment.
    - If their relationship is weak, this easily degenerates into confrontation, with each citing the contract: the CAMO insisting the contract scope includes compliance with all requirements (thus any needed fix must be done), and the AMO saying it only agreed to what was listed (and anything more will cost extra or extend TAT).
    - Such standoffs waste time and erode trust, clearly an inefficiency when the teams should be jointly focusing on the aircraft.

Avoid Duplicated Efforts: When CAMO and AMO don't operate in unison, they may end up duplicating work. A classic example is audits and inspections – the CAMO might feel compelled to verify the AMO's work by sending its own inspectors or repeatedly checking tasks, essentially doing a mini "audit" on top of the AMO's quality control.

- Meanwhile, the AMO's staff might be filling out both their own internal forms and additional CAMO-specific paperwork for the same task.
- Some duplication is unavoidable to meet regulatory needs (the CAMO must review the completed work package, and the AMO must retain records of maintenance performed), but when taken to excess due to lack of trust, it consumes resources on both sides.

Cultural Differences: Organizational culture plays a big role. CAMO personnel (e.g. airworthiness engineers, planners) often have an office culture, focusing on documentation, long-term planning, and interfacing with regulatory authorities and owners. AMO personnel (e.g. licensed engineers, technicians, planners on the hangar floor) have a hands-on, problem-solving culture, focusing on meeting immediate targets like task cards completed and aircraft released.

- These differing mindsets can lead to friction – the AMO might perceive the CAMO as "paperwork people" who don't appreciate practical realities, while the CAMO might view the AMO as sometimes taking practical shortcuts that could compromise documentation or long-term requirements.
- Without efforts to bridge this gap, a subtle "us vs. them" attitude can persist. This may manifest in something as simple as communication tone: an AMO report noting an issue might be very factual and blunt, which a CAMO person behind a desk might misread as rude or non-cooperative, and vice versa with an overly formal CAMO request being misread by maintenance staff.

Strategies to Reduce Systemic Disconnects:

Structural and cultural disconnects are not intractable, however ignoring them carries a cost in efficiency.

A conscious strategy is needed to simulate the "one team" feeling that naturally exists in integrated organizations.

When CAMO and AMO personnel begin to see themselves as partners with a shared mission (keeping the aircraft safe, compliant, and on schedule), rather than adversaries in a contractual tug-of-war, the improvements in efficiency and quality follow suit. Consider the following:

- Power-by-the-hour or performance-based contracts for maintenance, where the AMO has a stake in the aircraft's reliable performance after release, not just finishing the job.
- If both CAMO and AMO gain from on-time, quality completion (and perhaps share the pain of delays via penalties or bonuses), they are more likely to pull in the same direction.
- Whenever possible, use shared digital platforms. If confidentiality or IT barriers prevent using one system, at least set up data exchange pipelines (for instance, the AMO uploads daily completed task data that the CAMO can import into its database).
    - Modern maintenance management software typically allows creating guest accounts or portals for customers to view progress.
    - By seeing the same information, duplication can be eliminated.

Training Gaps and Organizational Silos

- **CAMO Staff Training:** CAMO engineers and planners are well-versed in regulations, reliability analysis, and planning tools, but may have limited practical maintenance experience.
    - CAMO staff may lack awareness of the practical challenges mechanics face, leading to unrealistic planning—for example, scheduling tasks based solely on estimated durations without considering access or sequencing conflicts.
    - This can result in inefficient work packages and frustration for the AMO. Cross-training CAMO personnel in basic maintenance practices, such as through job shadowing or workshops, can improve planning accuracy and foster better communication with maintenance teams.

- **AMO Staff Training:** AMO staff are well-trained in technical execution but may lack understanding of the broader continuing airworthiness requirements, leading to undervaluing documentation or procedural details.
    - Without this context, critical elements—like data formats or required signatures—can be overlooked, risking regulatory non-compliance or lease return issues.
    - Providing AMO personnel, especially certifying staff and supervisors, with basic training on CAMO responsibilities fosters a shared understanding and improves cooperation by highlighting the importance of accurate records and regulatory alignment.

- **Organizational Silos:** Organizational silos between CAMO and AMO can exist even within the same company and are often more pronounced between separate entities with different management structures and priorities. To overcome this, structured inter-organizational processes—such as joint post-project reviews—are essential.
    - These debriefs allow both sides to share lessons learned, improving future collaboration and reducing repeated mistakes. Without such feedback loops, learning remains isolated, limiting overall improvement and mutual understanding

- **Knowledge Management:** To ensure consistent and efficient maintenance outcomes, CAMOs and AMOs should implement a shared knowledge management system.
    - This should capture lessons learned, approved repairs, and solutions to recurring technical issues across projects.

- For example, if a non-standard but effective repair method is developed during a heavy check, it must be documented and made accessible for future use. Without this, subsequent teams risk repeating effort or missing proven fixes. Maintaining a common knowledge base promotes continuity, reduces downtime, and supports smarter decision-making across the fleet.

How to Close Training Gaps:

Investing in joint training and breaking organizational silos is a long-term play that yields fewer misunderstandings and a more agile partnership. It turns "the other side" into colleagues with a shared mission of safe, compliant aircraft.

Given the rapid turnover of staff in aviation maintenance (a current challenge with aging workforce and shortages), such practices also help maintain continuity of knowledge even when personnel change – the relationship protocols outlast individuals.

- **Joint Training Sessions:** Organize training that involves both CAMO and AMO participants. For example, a workshop on "Effective Aircraft Redelivery" where both sides role-play scenarios. This not only imparts knowledge but also humanizes the other group.
- **Documentation and Guides:** Develop a quick-reference guide for each other (Such reference sheets can form part of the contract or JPM).
- **MCC/MOC Teamwork:** Training considerations for MCC staff include understanding the maintenance organization's capabilities and limitations in real time making them bilingual in CAMO and AMO "languages".

Best Practices for CAMO–AMO Collaboration:

It is important to recognise that the contract is not a substitute for trust, but it institutionalizes good practices. EASA provides guidance in AMC material about what to include, emphasizing that the contract is "vital for demonstrating compliance" and should address responsibility, locations, sub-contracting, parts supply, and data – in short, all details of how the work will be done By spelling things out, you remove ambiguity that often causes later conflict.

- **Robust Contracts with Service Level Agreements (SLAs) :** A well-drafted maintenance contract is the foundation of expectations. Beyond the legal boilerplate, it should specify performance and communication standards that bind both parties:
- **Scope and Standards:** Clearly delineate the scope of work, including reference to the maintenance program tasks, modifications, and records requirements. Include

quality standards (e.g. no deferred defects at redelivery unless agreed by CAMO) and documentation standards (e.g. use of specific forms, software).

- **Turnaround Time and Milestones:** Define key milestones (input, inspections, critical path items, functional tests, handover). Attach SLAs for each: e.g. discrepancies found during inspection will be reported within 24 hours to CAMO; CAMO will decide on each within 24 hours of report.
- **Communication Protocol:** As part of the contract or an annex, detail how parties will communicate. For instance, "weekly progress meetings will be held with minutes shared to both teams; daily email status updates required during final week of check." Point out a chain of command for resolving conflicts (e.g. project manager level, then senior management).
- **Penalty/Bonus Clauses:** To align incentives, consider bonuses for early or on-budget completion and penalties for delays clearly attributable to the maintenance provider.

Note - Some contracts also have penalties for lapses in quality (e.g. if an aircraft is delivered with significant snags that should have been resolved). These must be fair and agreed, but they focus both sides on not just finishing, but finishing right.

- **Joint Procedures Manual (JPM):** Refer to or include a JPM as discussed. The contract can state that both parties will abide by the processes in the JPM for the project. This effectively makes the JPM enforceable.

Early Engagement and Joint Planning - Before the heavy maintenance begins (often even before the contract is signed), engage in joint planning sessions:

- **Pre-maintenance Meeting:** Bring CAMO planners, engineers, and the AMO's production planners and project leaders together (physically or virtually) to walk through the drafted work pack.
    - Identify any unclear items, any resource or tooling issues, and long-lead parts. Discuss likely findings (what might show up during inspection) and how they'll be handled.
    - This meeting sets a collaborative tone from the start – it's much easier to work with someone on a problem if you've met them and solved a smaller problem together already.
- **Technical Records Preparation:** If it's a transition, have a record review session. The CAMO can share known record discrepancies or areas of concern with the AMO, so the AMO can plan tasks to reconcile records during the maintenance.
    - Conversely, the AMO can inform the CAMO what paperwork they will supply and if they foresee any difficulties with the provided records.

- **Align on MODs/STCs:** If modifications are in scope, have a dedicated discussion with the design organization present if possible.
    - This is effectively a project within a project and needs its own timeline that dovetails with the overall check.
    - Develop a mini-plan for the STC work (e.g. when the design documents will arrive, who will approve them, how embodiment will be certified and verified).

- **Logistics and On-Site Support:** The presence of on-site representatives is mandatory for effective oversight and coordination during major maintenance events. CAMOs must assign a technical representative with clearly defined authority, and if applicable, coordinate the involvement of lessor or owner-appointed inspectors.
    - These roles should be planned and communicated well in advance, with the AMO fully informed and prepared to provide access, workspace, and support.
    - Unannounced visits or unclear expectations can disrupt workflows and create unnecessary friction—advance planning ensures alignment, transparency, and smoother project execution.

Integrated Maintenance Control and Communication

During execution, maintain tight communication loops:

- **Daily Stand-ups:** Many successful heavy maintenance projects implement a daily "stand-up meeting" concept.
    - Each morning (or shift change), key CAMO and AMO people quickly sync on progress, issues, and plan for the day. This might include reviewing any new discrepancies found and agreement on next steps.

- **Shared Digital Platform:** Use of a collaborative IT platform (even something simple like a shared cloud folder or a project management tool) can keep everyone on the same page.

- **Issue Escalation:** Decide how to escalate critical issues. If a serious airworthiness issue is found (e.g. corrosion in a critical area), the AMO should know whom to contact in the CAMO immediately (beyond the on-site rep, maybe the head of CAMO engineering) and the CAMO should know how the AMO's internal escalation works (maybe the AMO quality manager gets involved).

Continuous Oversight and Quality Assurance - Oversight is not about mistrust; it's about verification and continuous improvement:

- **CAMO Audits:** As required by regulation, the CAMO should audit the AMO – but do it smartly.
    - Instead of a generic audit, target it to the project's needs. Continue with sampling audits during the check focusing on how well interfaces are working
- **On-Site Supervision vs. Trust:** Having a CAMO rep on-site is a common practice for high-value projects.
    - This person isn't there to redo inspections, but to observe and facilitate.
- **Quality Feedback Loop:** AMOs are required to maintain an internal compliance and quality system under Part-145, and this function should be actively integrated into the CAMO–AMO working relationship.
    - CAMOs should regularly share audit findings, observations, or concerns with the AMO's quality department to support internal corrective actions and continuous improvement.
    - In turn, the AMO should provide relevant internal audit outcomes or safety reports related to the project.
    - This two-way transparency transforms the relationship from a transactional arrangement into a collaborative quality partnership, strengthening compliance, safety, and trust.

Actionable Insights: To improve CAMO–AMO relationships going forward, the following actions are recommended:

- **Establish Clear Interfaces:** Don't assume the interface will "figure itself out." Develop formal interface documentation (JPM, contact lists, etc.) for each partnership or project.
    - Review and update these documents after each project, capturing lessons learned.
- **Invest in Relationships:**
    - If you're a CAMO, consider a strategic approach to selecting AMOs – form long-term partnerships where feasible and treat your providers as an extension of your organization.

  - If you're an AMO, engage with CAMO clients beyond the transaction – offer debriefs, ask for feedback, and show willingness to adapt to their needs. This will make you a preferred provider, not just a one-time vendor.

- **Enhance Communication:** Utilize technology (shared platforms, regular video calls, etc.) to keep information flowing.
  - Also, encourage a culture where no question is too small – it's far better an AMO asks "just to be sure" about a requirement than to assume and err.
  - Likewise, CAMO staff should feel free to ask how a task is progressing rather than waiting in silence.
  - Promote a "no surprises" policy: both sides proactively communicate issues as soon as they are known.

- **Upskill and Cross-Train:** Address training gaps by cross-pollinating expertise. A little investment in training now can prevent costly missteps later.
- **Leverage Regulatory Frameworks:** Use the authority's requirements as a guide to structure the relationship.
  - Since CAMOs must audit AMOs, turn that into a positive collaboration rather than a tick-box exercise.
  - Similarly, use the requirement of the contract as an audit tool.

- **Continuous Improvement:** After each maintenance event, hold a retrospective meeting between CAMO and AMO.
  - Identify any process improvements for next time.

Next Steps

Sofema Aviation Services (www.sassofia.com) and Sofema Online (www.sofemaonline.com) provide classroom, Webinar & Online CAMO & AMO Training – please see the websites or email team@sassofia.com