Keeping Asset Values Safe with Well Organized Records

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Around the globe almost the half of the world's fleets operate under lease so that operators can benefit from adding aircraft to their fleets for a desired period without taking the risk of aircraft ownership. However, these leasing transactions also cause some challenges for all involved parties due to Aircraft and Record Delivery-Re-delivery conditions. Therefore, both the lessor and lessee need to be extremely careful to save asset values and keep the transaction within the planned budget. To highlight these problem areas during aircraft transition periods from an engineering point of view, I have written a series of articles about Aircraft Transition Management. The article below is the first of the series and it is related to the issue of Records that are necessary during aircraft deliveries. With the second article I will concentrate on the major showstoppers of lease transitions and then with the third, I will try to highlight the importance of project management as it impacts the success of the delivery/redelivery of an aircraft.

We are all certainly going through difficult times now due to COVID-19. The Aviation Industry is one of the most affected sectors that has felt the full impact due to the lock down and travel restrictions. In addition to leisure travel, also business travel was almost not possible at all during the last months. As a result, the way to meet and make decisions, conduct training, reviews etc. was to transfer these types of activities to the virtual environment. Most companies have reacted very quickly by shifting all possible activities to the virtual environment to keep the business going. Meetings, Seminars, Conferences, which normally took place face to face, have been held on virtual platforms such as Zoom, MS Teams, Skype etc. Most of the Approved Training Organizations (ATOs) have also changed their systems to support distance learning either as live on-line sessions or as online web-based training to continue providing services to their customers. Even though most Aviation Authorities weren't inclined to conduct distance learning during the pre-COVID-19 era, they have pivoted quickly in support of these kinds of solutions and have been able to provide the necessary approvals after reviewing the training concepts which have allowed ATOs to continue their business during the lockdown period. In the last months we have seen that these precautionary transitions are working quite well, and I assume also after the COVID-19 pandemic most of these COVID-19 solutions will be a standard for the new normal. It means whenever possible, travel will be avoided and meetings, reviews, training will be performed virtually. I am quite sure that some companies will change their work operations to support remote work, with flexibility to allow at least a partial home office and on-site working arrangement, continuing the approach which many companies have adopted in the midst of the pandemic.

During these changes we have also seen the importance of digitalization of Aircraft Records is. An aircraft without its properly maintained technical records is valueless and cannot be operated or remarketed. When considering an aircraft as an asset, the asset value consists of approximately 70% based on Records and 30% the airframe, engine etc. This means that a lack of records causes a drastically drop in asset value and makes it hard to remarket or operate the aircraft. Therefore, from the point view of an aircraft owner, the back to birth availability and legibility of the records are a very important aspect to consider during the lease term, including lease in or lease return phases within the entire lifecycle of an asset.

The leasing companies need to know the status of their asset and this is where the records play a major role. Mostly during delivery, midterm, redelivery, or repossession periods the records need to be reviewed by professionals so that the leasing companies know what the gap is. To perform these reviews, leasing companies assign either their inhouse Inspectors, contracted agencies, or independent consultants. Nevertheless, due to travel restrictions, it has been very difficult to send qualified Record Inspectors to the locations where the Aircraft Records are archived. These difficulties resulted in the fact that aircraft
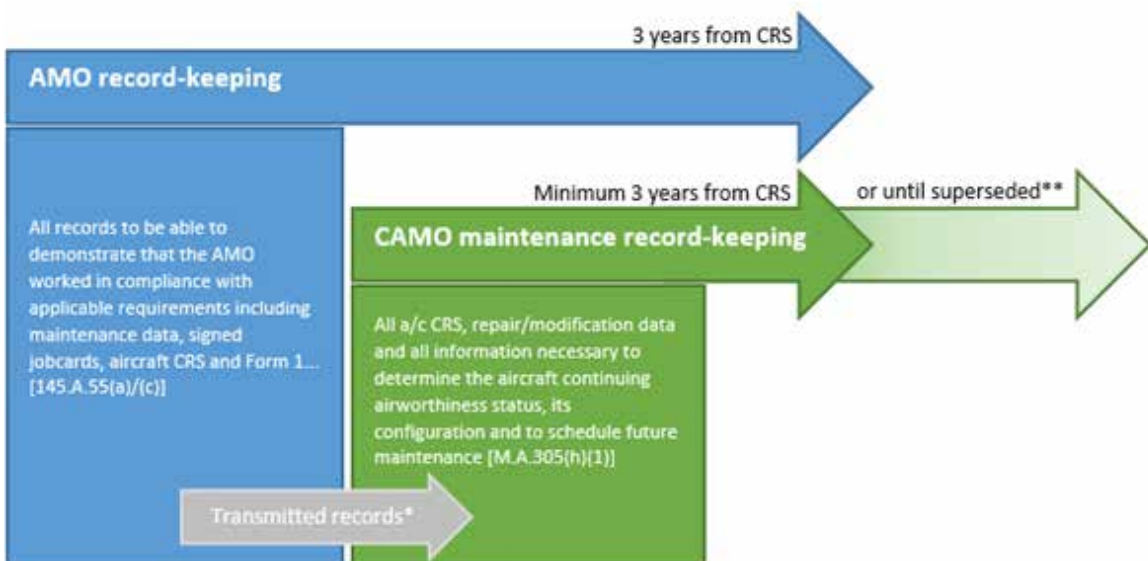
*: Transmitted records are a subset of AMO maintenance records provided to the CAMO. Certain transmitted records do not need to be kept as a record by the CAMO such as EASA Form 1 for a component with no scheduled maintenance task selected and not subject to AD or modification/repair.

**: by new information equivalent in scope and detail

Record keeping and Transmitted Records from AMO to CAMO (Credit: EASA Website)

leasing companies tried to find local people where possible or let the records be reviewed remotely if they were digitalized already. Record reviews are being increasingly conducted remotely, which saves travel and accommodation costs and reduces risks, due to the flexibility of assigning the job to a specialist.

If we examine the Record keeping requirements, we need to consider two aspects: keeping up Airworthiness (Regulatory Requirement) and maintaining and protecting asset value (Contractual Requirement).

The record keeping requirements of an aircraft

and its components to demonstrate continuing airworthiness are described within the regulations of the FAA, EASA or local Aviation Authorities. These are mandatory requirements to keep an aircraft flying and carrying passengers and freight, which is the core business of an operator. Therefore, most of operators focus only on the Regulatory requirements since it is of paramount importance in order to legally operate the aircraft safely and verify that it is airworthy. However, these regulatory requirements differ from contractual (lease contracts) requirements, which in addition to continuing Airworthiness,

they also consider the Asset value.

The authority requirements taking care of keeping the aircraft airworthy and within regulations clearly written which records and how long they need to be kept for demonstrating the airworthiness of an aircraft.

For example, as per EASA regulations Part M a CAMO (Continuing Airworthiness Management Organization) must retain the detailed maintenance records until they are superseded by new information, but not less than 3 years. It means that when a Maintenance task is repeatedly performed on the aircraft

or its components and the previous completion was older than three years the previous scheduled Maintenance task completion Records can be eliminated.

Another example is the transmitted records from an AMO (Approved Maintenance Organization) to a CAMO (Continuing Airworthiness Management Organization). According to the EASA Rules a CAMO does not need to keep certain transmitted records from an AMO such as the EASA Form 1 for a component with no scheduled maintenance task selected and not subject to AD (Airworthiness Directive)

or modification/repair.

Nevertheless, this is not sufficient for an asset owner. The asset owner needs the full traceability of the records and therefore during the operation of a leased aircraft it is strongly recommended that all maintenance records are kept, all records that were produced during the time of operation.

A well organized and safe archive system is important for the Operator to satisfy the authority requirements during audits but also it is an important indicator for a lessor to see how professional the operator is. This will ease the process of lease return or Mid-Term inspections and saves a lot of unnecessary costs. Even though the authorities are not yet stipulating the digitalization of aircraft maintenance records, it is highly recommended to have secure access of the records anytime and from anywhere. This will allow the Operator to archive the originals in a remote archive and save costs due to the lower property rentals compared to the nearby airports. The professionally digitalized records with OCR (Optical Character Recognition) and necessary attribution and document classification makes the search for any document much easier without any dependence on location.

A well-organized Aircraft Records Archive

These digital Records can be uploaded to a cloud-based server so that all the required records can be found easily with a document management program without any need to physically locate hard copies in dusty archive boxes. With this possibility the parties during a lease transaction can investigate the records independently and raise concerns which need to be corrected and communicate through the document management system to close outstanding issues to satisfy the parties.

Another important aspect is to prepare a proper delivery record folder structure so called "delivery bible". In the past, many operators and lessors had their own delivery folder structure and understanding about the records and record conditions to be delivered during a lease transaction. These differences made the work complex, since each time the working parties needed to fight with different structures which caused unnecessary discussions about the preparation or provision of the records. Time was also often wasted searching for a document in the wrong section, coupled with misunderstanding of some terminologies etc.

Since the 1980s aircraft operating leases have grown significantly from about 5% to almost half of all aircraft worldwide. The higher amount of leased aircraft causes more resource effort involved in transferring the aircraft and the records from the lessor
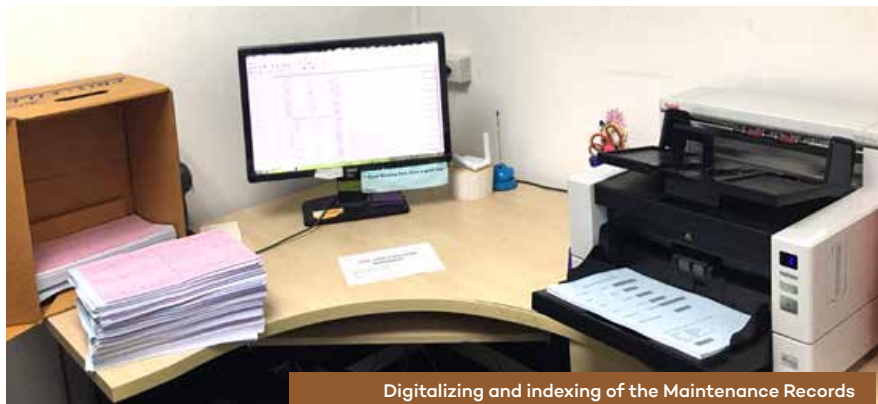
Digitalizing and indexing of the Maintenance Records

AIRCRAFT LEASING MANAGEMENT

Figure: IATA Guidance Document Structure as per lease life cycle
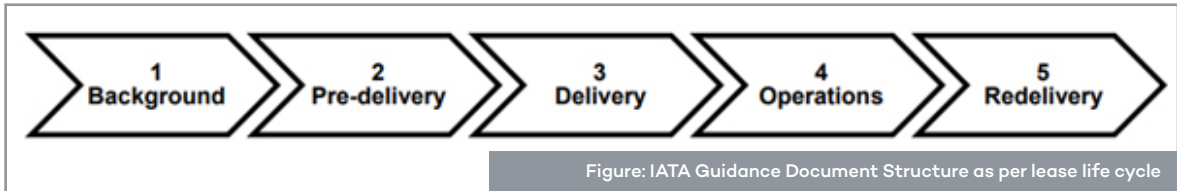
to the operator and vice versa. This has caused a unique challenge for airlines in addition to their normal Operation. These 'back-office' operational challenges are a result of different perspectives and expectations of lessor and lessees. The complexity and tight schedules of the Lease transactions often catch the operators unprepared and therefore it is important for operators to understand what difficulties must be overcome and how to avoid time consuming and costly pitfalls. Since there are no uniform rules or guidelines existing for engaging aircraft leases, the International Air Transport Association (IATA) has taken the initiative and provided the Document "Guidance Material and best practices for Aircraft Leases" in February 2014 for IATA Airline members and other interested parties. Since then this Guideline has been improved and the IATA published the 4th Edition of Guidance Material and Best Practices for Aircraft Leases on May 2017. This Guideline helps all lease involved parties especially the engineers, technical Representatives

from leasing companies, to understand lease related issues during the aircraft lease life cycle. It describes important subjects from a broad practical perspective, considering technical, regulatory, legal, and commercial aspects. Sections 1 to 5 describe lease life cycle related issues and knowhow in chronological order as seen in the figure below. The IATA recommends a process of continual review to ensure lease compliance throughout the leasing life cycle.

The Annexes of the Document provide all parties with very helpful Information/Checklists/ Templates that ensure a common understanding during an aircraft lease transaction. The most important Annex which is related to the subject of this article is Annex 2 where the typical Delivery/ Redelivery Records Folder Structure is given. Every lease agreement and the delivery/redelivery requirement will be different, and as a result the list of documentation will be different, but these differences can be adjusted by adding or removing items to or from the given structure.

Preparing the records as per this structure and considering the guidance material will ease the process of the records review and helps to reduce the time required to check the Delivery/Redelivery Records and save time and costs.

Finally, I would like to highlight that in addition to knowhow and understanding and aircraft lease issues, the most important thing by far is to make sure you have a well-prepared action plan supported by good project management practices to be successful during lease transactions.

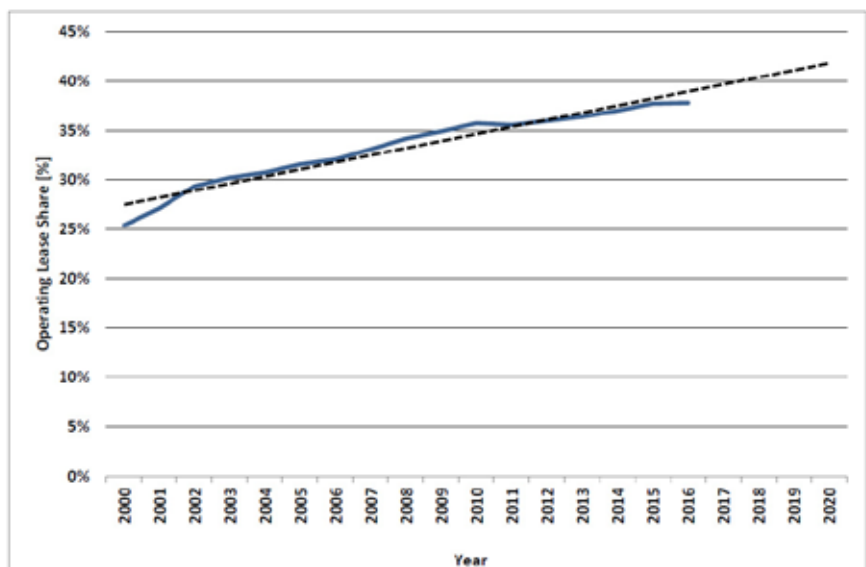***Never forget "If you fail to plan, you are planning to fail! (Benjamin Franklin)"***

Figure 2. Share of Worldwide Fleet under an Operating Lease (Ascend, 2017)