# Introduction

In this Practical Work, a series of questions and exercises related to the contents taught in the subject are presented. The objective is for students to assimilate some main concepts and practice searching for information related to each question, just as it should be done in real life. The evaluation of the practical work will be comprehensive. That is, the overall content of the Practical Work will be evaluated in an integrated manner.

# Exercises

a) The aircraft LV-FRH, manufactured in January 2017, was accepted by AR in January 2024 under an operational lease contract for 120 months. It is agreed with the Lessor to pay maintenance reserves for the 8-year Structural Fuselage Inspection (USD 4,000/month) and Landing Gear Overhaul (USD 2,000/month) (2024 prices, with both values subject to a 3% annual escalation every January of the contract, rounded to two decimal places). The 8-year Structural Fuselage Inspection event will occur in January 2026 and the Landing Gear Overhaul event in January 2028. Calculate the accumulated maintenance reserves as of the dates of the respective events (calculate until Dec/25 and Dec/27 inclusive).

b) It is also agreed with the lessor an additional contribution to the maintenance reserves for the use of the aircraft before this contract. In case the event cost exceeds the maintenance reserve pool, these additional contributions can also be used (but not to a greater extent than the accumulated maintenance reserve recoveries and additional contributions exceed the event cost). The maximum additional contribution agreement is for the number of months from the manufacture to the acceptance of the aircraft, at 2024 value without escalations. Calculate the maximum additional contributions for both events (from Jan/17 to Dec/23 inclusive).

c) The event costs are as follows:

* 8-year Structural Fuselage Inspection: $500,000
* Landing Gear Overhaul: $200,000

Assuming the costs are 100% recoverable from maintenance reserves, calculate the maintenance reserve recoveries and additional contributions from the Lessor if applicable.

Remember: (Reserve Recovery = MIN (Event cost, (Accumulated RM + Additional Contribution)) RTA Total Recovery

d) The AIRBUS A330 MSN 9999 aircraft is in the delivery process from the Lessor to an operator. You are part of the Aircraft Transition Team and are in charge of the delivery and incorporation process into the fleet. Using the "MSN 9999 - Delivery and Return Conditions" and "LV-UTN Marketing Specs" files as a reference, resolve the following situations:

d.1. Evaluate and compare the Delivery and Return conditions. Identify the main differences and analyze in which cases a condition could be unfavorable for you as the operator.

d.2. In the Delivery conditions, certain minimum remaining life conditions are established for various components (Components; Engines; Landing Gears, Wheels and Brakes, and APU). The daily utilization in your fleet for the A330 is 10.5 Flight Hours. Analyze these conditions and identify which could be the most restrictive condition for operation once the aircraft has been incorporated.

d.3. Identify the flammability conditions under which the aircraft will be delivered. Based on this, identify the regulatory requirement of the RAAC that applies in this case to verify compliance with this condition.

d.4. Once the aircraft has been imported, you will need to manage the Conformity Inspection process for the issuance of the Original Standard Airworthiness Certificate. The RAAC issued by the ANAC indicates the requirements that must be met for an aircraft to be eligible for the issuance of this certificate. Identify, list, and briefly describe the requirements that apply to the aircraft in question according to its condition and category. Also, analyze these requirements and describe in each case how the agreed Delivery conditions ensure compliance. (Guide: Are the requirements directly enforceable to the Lessor? Are the conditions derived from the agreed conditions? Are they processes that consider the delivery conditions but require broader management by the operator?)

d.5. Compare the agreed delivery conditions of the aircraft against the current description data of the aircraft. Perform an analysis regarding the situation of the following components/topics and determine if the aircraft complies with the delivery conditions and/or if any action needs to be required from the Lessor to ensure compliance:

* Airframe: Condition regarding major inspection/structural check, its remaining life, and next due date;
* Engines: Performance Restoration and LLP status;
* Landing Gear: Situation regarding its overhaul, remaining life, and due dates.

**Bibliography and Support Documentation**

* MSN 9999 – Delivery and Return Conditions (PDF Support)
* LV-UTN Marketing Specs (PDF Support)
* Argentine Civil Aviation Regulations (RAAC)