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ACTIONABLE INTELLIGENCE FOR BUSINESS AVIATION



**Aircraft Registration for Private
& Commercial Operations**

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THIS MONTH

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**Buying a Jet? Costs you may
not Have Considered**

**Comparison: Dassault Falcon
900LX vs Embraer Legacy 650**

**Seven Ways to Maximize Cabin
Refurbishment Dollars**



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Get the Most from Your Onsite Airplane Audit

Why do you need an onsite audit/inspection for your business jet?
How will it help establish a true value for the aircraft? Jeremy Cox elaborates on the intricacies...

There are a multitude of reasons why an appraiser is engaged to perform an on-site inspection and audit, providing an assessment of your aircraft's current status and condition. These include:

- Fair Market Value Appraisal;
- Diminution;
- Pre-purchase/Pre-acquisition;
- Pre-lease/During-lease/Exit;
- To satisfy investors;
- To satisfy a bank or finance institution that their asset is not being misused/mistreated.
- **The FAA's definition of 'Audit' is:** A systematic process for obtaining information and data, evaluating it objectively to determine the extent to which defined criteria are fulfilled.
- **The FAA's definition for an 'Inspection' is:** Activity to identify and assess operating conditions in accordance with a set of prescribed standards.

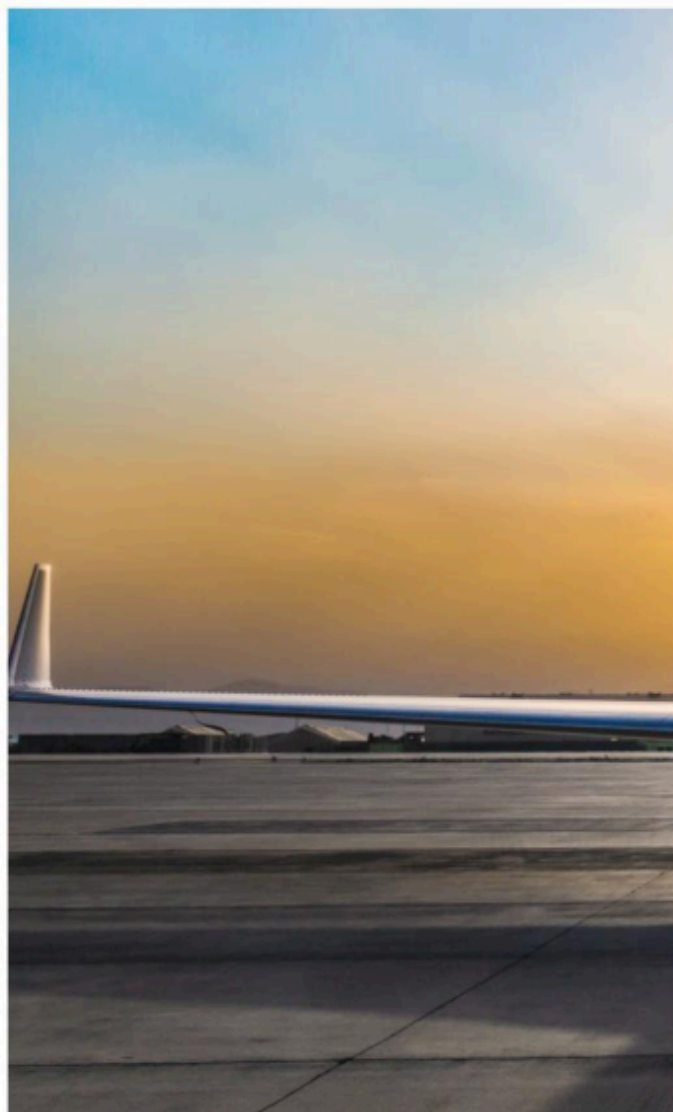
From an appraisers' perspective the on-site inspection/audit is a combination of both FAA definitions, with the understanding that an appraiser is not acting as a policeman. They're there only to observe and assess the condition and status of an aircraft so that a determination of value can be accomplished.

An 'Appraisal Audit' is accomplished specifically as an assessment for value.

Audits: What are the Differences?

There's a significant difference between the accuracy of a report that's based on an on-site inspection/audit, versus a desktop audit where the appraiser never physically inspects the aircraft.

Extraordinary assumptions are 'part of the course' for appraisers (these are assignment-specific assumptions regarding uncertain information used in an analysis which, if found to be false, could alter the appraiser's opinion or conclusions). But they are minimized when the appraiser gets to see the subject aircraft with their own eyes.





Another difference often encountered by an appraiser is when they're engaged to perform an inspection/audit on a fleet of aircraft versus a single subject aircraft. Fleet appraisals often require sampling, and extraordinary assumptions are inevitably made because many of the aircraft are simply not available for inspection within a reasonable amount of time.

The Importance of a Baseline

Before arriving on-site, appraisers need to establish a 'baseline', centered on the subject aircraft's year model, hours and cycles. Recent specifications highlighting avionics, upgrades, major inspection dates/hours/cycles as well as paint and interior dates also help develop the baseline.

Onsite, however, the appraiser can quickly determine if the aircraft is above or below the baseline. The most effective way is to perform a survey of the current operating fleet and then extrapolate average hours per annum to

determine what the baseline hours or cycles should be, as well as the expected standard equipment.

Rating an Aircraft

Virtually all 'subjectivity' is eliminated and replaced by 'objectivity' when a conditional rating system is utilized in the inspection of a subject aircraft. There are many different grading systems in use today (I use MS Excel to average my final rating for each area that my system covers).

For inspection/audit engagements for banks, leasing companies, investors and taxing entities it's necessary to verify serial numbers of the 'high-value' components.

Note: Even if the appraiser has the necessary maintenance certificates to make a logbook entry for the opening/closing of inspection covers and/or cowlings, involvement in the release for return to service of the subject aircraft may constitute a conflict of interest.





"If the purpose of the inspection/audit is a part of an aircraft acquisition, it's important for your onsite appraiser to obtain an accurate representation."

Ultimately, you as the owner/operator should arrange for the aircraft to be opened and closed for the appraiser to record serial numbers.

What Will the Appraiser Look At?

Once the walk-around is complete it's time to appraise the cockpit and peruse the Airplane Flight Manual (AFM) and Weight & Balance Manual (if separate). The AFM will usually include the following:

- The equipment list;
- Copies of FAA 337s and occasionally 8110-3s;
- Flight Manual Supplements;
- The most recent weight and balance report;
- Superseded weight and balance reports.

In my experience the Equipment List is rarely accurate as additional equipment and upgraded equipment items are added to the aircraft but not recorded. As an aircraft ages, receives upgrades, and/or has multiple changes of ownership, the needed data ends up requiring a potpourri of sources to be reviewed.

Once an appraiser's engagement letter has been signed, the Airworthiness and Registration records can be ordered from the FAA. Again, it's rare for these to include everything. As an example, an FAA 337 in the onsite aircraft records won't be held on file in Oklahoma City if somebody overseeing the onsite records failed to send it...

A conscientious appraiser will also take very detailed photos of the instrument panels, side panels, circuit breaker panels, overhead panels and center console which can be matched up against what the paperwork claims.

When equipment lists and maintenance entries are incomplete, it may be necessary to resort to an

internet search of the equipment to confirm whether the images are identical to the equipment in the photos, thus providing identities, model numbers, and features.

Color-Matching the Interior

No matter how hard you try, getting the lighting right for the photography of your aircraft is virtually impossible where the accurate representation of the colors of the leathers and fabrics is concerned.

If the purpose of the inspection/audit is a part of an aircraft acquisition, it's important for your onsite appraiser to obtain an accurate representation.

Tools do exist, including the SwatchMate Color Capturing Cube – a portable device that captures the color of any surface. Using Bluetooth, this can send the color data to a smartphone or into Photoshop, providing a digital color image that can be pasted directly into the report.

What Will the Logbooks Reveal?

When performing the logbook inspection, your auditor should be looking for hidden issues just as much as for the dates and times of expected events. With the logbooks arranged in chronological order, the auditor should begin with airframe books, recording the start/end date, start/end hours, start/end cycles of each logbook — ensuring no gaps exist.

If long gaps are discovered between required inspections and maintenance (per the maintenance program specifications), these must be included in the report and factored for any impact on value.

Gaps are relatively simple to find for lighter aircraft (i.e. <12,500lbs) as annual inspections are required. As size increases so [usually] do the complexities of its maintenance program, making it



imperative that you have an intimate knowledge of the maintenance/inspection schedule for the subject aircraft so you can be sure to identify if an event has been flown-through or missed entirely.

What to do About Damage History...

When damage history is found or suspected as an entry within the logbooks, it's essential for the auditor to have a discussion with the owner/operator and the repair agency that performed the work about the extent of the damage, and specific details of the necessary repairs performed.

Photographs from the damage event (immediately after it happened, during repair, and immediately prior to painting) will be invaluable to the appraiser.

Moreover, these conversations will make it possible to predict how this damage will fare in the future from value, durability or maintainability perspectives.

How About the Maintenance Service Program?

Knowledge of what maintenance service program the subject aircraft is enrolled on is also essential in determining market value.

Is the aircraft enrolled on an 'Operator Specific AAIP' or Extension Program? And what is required to remove the aircraft from the program for ownership to transfer smoothly to another operator?

Many a sales transaction has fallen apart because the authorization letter from the manufacturer to allow operation of an engine for a specific number of hours past its TBO interval can't be transferred to another owner/operator. In such

cases, an overhaul becomes necessary, ultimately killing the deal. Onsite inspection/audits can help you to avoid such situations.

Older Engines? What's the Real Value?

Engine Service Programs for older powerplants have increasingly lost favor among operators, dramatically increasing the importance of an accurate audit of the engine logbooks.

Today it's critical for your onsite auditor to build a detailed spreadsheet of all Life Limited Parts (LLPs) within the engines being appraised. This will help ascertain their actual value in the absence of an engine service plan.

What Not to Overlook...

Finally, it's vital to be specific with your chosen appraiser when arranging for an onsite audit/inspection. What will and will not be included with the aircraft if the evaluation is required prior to placing it on the market?

The often-missed items can include headsets, EFBs, spare wheels, tires, brakes, carpets, rug-runners, covers, etc. And how about the tow-bars, ground service equipment, galley service items and restraining nets? Be sure to let your auditor know before their onsite visit.

In Summary

Ultimately, the benefits of having an onsite audit/inspection should be clear. There's a minimum level of service you can expect from a well-qualified auditor who, given the necessary information and a clear communication, will ensure you receive a bespoke, accurate value for your aircraft whenever you need it. ■

More information from <https://jetvaluesjeremy.com/>

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