

How Avionics & Engine Programs Affect FMV

Whitepaper by David Fisher

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Aircraft value is shaped by many technical and market variables, but two of the most influential—yet often misunderstood—are **avionics** and **engine programs**. For accountants involved in financial reporting, depreciation planning, audits, and transaction support, understanding how these factors affect fair market value (FMV) is essential. With more than 40 years of appraisal experience, I help CPAs interpret these value drivers through clear, independent, USPAP-compliant aircraft valuations

Below are the core considerations every accountant should understand.

1. Avionics Modernization Drives Significant FMV Changes

Modern avionics directly affect marketability, safety, compliance, and future operating cost. Buyers—and the market—place a premium on aircraft equipped with current, supported systems.

Key avionics value drivers include:

Glass Cockpit Upgrades

Systems like Garmin G1000/NXi, Pro Line Fusion, and advanced digital panels significantly increase desirability and FMV. These upgrades improve situational awareness, reliability, and long-term support, often adding six-figure value.

ADS-B, WAAS/LPV Capability

Compliance with mandated navigation and surveillance requirements is non-negotiable. Aircraft lacking these features may require costly upgrades or be limited in airspace access, reducing FMV.

Connectivity & Cabin Technology

Wi-Fi systems, cabin management upgrades, and modern entertainment features have become strong differentiators—especially in business aircraft—and influence resale value.

OEM-Supported vs. Legacy Systems

Older avionics suites may be unsupported, making replacement or repair costly or impractical. Unsupported systems can sharply reduce FMV, even if the aircraft is mechanically sound. Bottom line: Avionics often impact FMV more than age or total time, and can shift value by hundreds of thousands of dollars.

2. Engine Programs Are One of the Most Powerful FMV Drivers

Engine programs (MSP, TAP, JSSI, etc.) are widely recognized as major influencers of aircraft value because they reduce risk and stabilize future maintenance costs. They also provide buyers with predictable budgeting, which increases confidence during transactions and often shortens time on market. In many cases, aircraft enrolled in comprehensive engine programs command significantly higher resale prices compared to similar aircraft without coverage.

Why Engine Programs Increase Value

- Predictable operating and overhaul costs
- Increased buyer confidence
- Stronger resale performance
- Fewer surprises during pre-buy inspections

Aircraft on programs often command much higher FMV due to reduced risk exposure.

Why Non-Enrolled Aircraft Lose Value

- Higher cash-flow uncertainty
- Potentially expensive overhaul obligations
- Lower lender and buyer confidence
- Greater perceived risk during transactions

The FMV difference between an enrolled and non-enrolled aircraft can be substantial—often exceeding hundreds of thousands of dollars depending on aircraft type.

What Accountants Need to Review

- Program enrollment status
- Transferability of benefits
- Coverage scope (full, partial, supplemental)
- Accrued maintenance reserves
- Upcoming engine events

These factors may impact basis, depreciation, impairment testing, and acquisition planning.

3. Avionics + Engine Programs Combine to Influence FMV More Than Depreciation Models Suggest

Depreciation schedules rarely reflect true market behavior. Avionics upgrades and engine program enrollment often explain large gaps between book value and FMV.

Common accounting scenarios affected include:

- Basis and depreciation adjustments
- Bonus depreciation planning
- 1031 exchange valuation support
- Impairment testing
- Gain or loss recognition on sale
- Audit documentation for FMV

For accountants, understanding these value drivers is critical to accurate reporting and compliance.

The Bottom Line

Avionics and engine programs are two of the most influential factors in determining aircraft value—far more impactful than age alone. Modernization, compliance, and predictable engine maintenance costs strongly shape FMV, affecting everything from depreciation schedules to tax planning and audit defensibility.

My role is to support accounting professionals with independent, USPAP-compliant valuations that help you:

- Ensure accurate FMV for financial statements
- Support depreciation and basis calculations
- Strengthen audit documentation
- Reduce valuation uncertainty and compliance risk
- Guide clients through purchases, sales, and exchanges

If you're reviewing a client's aircraft and need valuation clarity, I'm here to help.



David Fisher

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Sr. Accredited Appraiser with the American Society of Appraisers (ASA).

All appraisal reports are USPAP compliant.

[Book a FREE consultation today!](#)

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