GLOBAL MX

ASSET PURCHASE REVIEWS
BOMBARDIER BUSINESS JETS

YOUR ON-CALL AIRCRAFT MAINTENANCE PARTNER

EXECUTIVE SUMMARY

This research report provides cost estimates for Asset Purchase Reviews (APR) for various Bombardier business jet models. The report examines standard inspection methodologies, available service providers, and provides estimated costs based on industry labor rates and inspection tiers.

INTRODUCTION TO ASSET PURCHASE REVIEWS

An Asset Purchase Review (APR) is a critical step in the aircraft acquisition process. This inspection has two primary components: aircraft records inspection and physical aircraft inspection. For potential buyers of high-value assets like Bombardier business jets, these inspections are essential to identify any underlying issues that could result in significant unforeseen expenses.

Industry experts strongly recommend conducting these inspections regardless of the aircraft's current maintenance status. Even if an aircraft has recently undergone an annual inspection, skipping an asset purchase review could lead to substantial financial consequences. According to one report, skipping a pre-buy inspection could potentially cost the buyer millions of dollars in unforeseen issues, particularly with sophisticated aircraft like Bombardiers.

BOMBARDIER BUSINESS JET

ASSET PURCHASE REVIEW WORK SCOPE & CHECKLIST

INTRODUCTION

An Asset Purchase Review (APR) is a critical element in the acquisition of a Bombardier business jet, designed to reveal any potential issues with the aircraft before finalizing the purchase. Global MX, LLC offers various levels of inspection depth ranging from basic to comprehensive. This presents a structured four-tier work scope and checklist for conducting asset purchase reviews on Bombardier business jets, with each tier representing an increasing level of thoroughness and detail.

The work scope is designed to align with industry standards while accommodating varying degrees of buyer concerns and investment protection needs. Each tier provides descriptions of the inspection items to be accomplished along with estimated labor hours required, allowing potential purchasers to select the inspection level that best suits their requirements and risk tolerance.

ASSET PURCHASE REVIEWS OVERVIEW

An asset purchase review for a Bombardier jet typically consists of two main components:

- Aircraft Records Inspection: A thorough examination of all documentation and logbooks to verify compliance with regulatory requirements and maintenance histories.
- Physical Aircraft Inspection: A hands-on assessment of the aircraft's condition, including all systems, components, and structures.

The inspection is typically conducted after a purchase agreement has been signed, with the agreement outlining responsibility for rectifying discrepancies found during the inspection. Standard practice is for sellers to be responsible for airworthiness and operational issues, while cosmetic items are typically the buyer's responsibility.

A comprehensive asset purchase review for a Bombardier business jet can take between 15-28 days to complete, including discovery, rectification of discrepancies, and return to service. This timeline may vary based on the inspection tier selected and any unforeseen issues discovered during the process.

FOUR-TIER
INSPECTION WORK SCOPE

TIER 1: LITE INSPECTION

The Lite Inspection tier provides a fundamental assessment of the aircraft's condition and records. It's designed to identify obvious issues and establish a general understanding of the aircraft's history and current state.

AIRCRAFT RECORDS REVIEW DETAILS

This involves examining the aircraft's maintenance logbooks to verify completeness and accuracy. Specific attention is paid to compliance with Airworthiness Directives (ADs), which are mandatory safety requirements issued by aviation authorities. The review ensures that all required maintenance has been performed within the specified timeframes.

EXTERIOR VISUAL INSPECTION DETAILS

Technicians perform a visual inspection of the fuselage exterior for signs of corrosion, lightning strike damage, hail damage, evidence of loose fasteners, and missing paint. This inspection focuses on readily visible issues without removing panels or components.

BASIC INTERIOR CHECK DETAILS

This involves inspecting safety equipment including seat belts, emergency exits, and other required emergency equipment to ensure they are present, functional, and within service life.

FUNCTIONAL CHECK OF LIGHTS DETAILS

Verification that all interior and exterior lighting systems operate properly, including navigation lights, anti-collision lights, landing lights, taxi lights, and cabin illumination.

TIER 2: BASIC INSPECTION

The Basic Inspection builds upon the Lite Inspection and adds more detailed examinations of critical systems and components. This tier is suitable for buyers seeking a moderate level of scrutiny without the time and expense of a comprehensive inspection.

EXTENDED RECORDS REVIEW DETAILS

This more detailed review examines compliance with Service Bulletins (SBs), which are manufacturer-recommended maintenance or improvement actions. The review also includes a thorough examination of the maintenance history to identify any patterns of recurring issues or inconsistencies.

DETAILED AIRFRAME INSPECTION DETAILS

Technicians conduct a more thorough inspection of the airframe, focusing on areas prone to issues such as windows, doors, and access panels.

BASIC ENGINE CHECK DETAILS

Visual inspection of engines to identify any evidence of fluid leaks, external damage, or abnormal conditions. This includes checking for oil leaks, fuel stains, and signs of overheating or other distress.

AVIONICS SYSTEM CHECK DETAILS

Functional testing of primary avionics systems to ensure proper operation. This includes communication and navigation equipment, flight management systems, and other critical electronics.

TIER 3: STANDARD INSPECTION

The Comprehensive Inspection provides a thorough evaluation of all major aircraft systems and includes more invasive inspections than the previous tiers. This level is recommended for buyers who want significant assurance regarding the aircraft's condition and potential future maintenance needs.

THOROUGH RECORDS ANALYSIS DETAILS

This in-depth analysis confirms that all aircraft modifications and repairs have been properly documented with the appropriate FAA forms (such as Form 337 for major alterations or repairs). It also involves cross-checking the equipment list against the current aircraft configuration to ensure accuracy.

COMPLETE AIRFRAME INSPECTION DETAILS

This inspection includes removing access panels to conduct detailed inspections of the airframe structure. Technicians look for corrosion, cracks, and other forms of damage that might not be visible during exterior examinations. This includes checking landing gear, brakes, axles, bearings, and wheel assemblies for wear, corrosion, and leakage.

ENGINE HEALTH CHECK DETAILS

Beyond visual inspection, this check includes an engine power run to verify performance meets specifications. Engine trend data is analyzed to identify potential issues before they become serious problems.

FULL AVIONICS SYSTEMS TEST DETAILS

Comprehensive testing of all avionics systems, including primary and backup instruments, to ensure proper operation under various conditions. This includes checking all electronic displays for chips, scratches, or cracks, and inspecting antennas for erosion, cracks, missing sealant, and corroded fasteners.

INTERIOR DETAILED CHECK DETAILS

A thorough inspection of the cabin interior, including entertainment systems, galley equipment, seats, and upholstery. This also includes functional testing of all interior systems and a detailed lavatory corrosion inspection.

TIER 4: PREMIUM INSPECTION

The Premium Inspection represents the most thorough evaluation possible. This tier includes advanced diagnostic testing, structural examinations, and comprehensive system evaluations to provide the highest level of confidence in the aircraft's condition.

FULL RECORDS & CONDITION SURVEY DETAILS

This is the most comprehensive documentation review possible, examining every aspect of the aircraft's records. It includes forensic examination of logbooks to identify what might not be in the records, rather than simply confirming what is present. This review ensures all regulatory compliance is properly documented and verifies the complete history of the aircraft.

COMPLETE STRUCTURAL INSPECTION DETAILS

Advanced non-destructive testing (NDT) is performed on critical structural components to detect any hidden flaws or damage. This may include ultrasonic testing, eddy current inspections, or other specialized techniques to evaluate the integrity of key structural elements.

ADVANCED ENGINE INSPECTION DETAILS

A borescope inspection involves inserting a specialized optical device into the engine to visually inspect internal components without disassembly. This allows technicians to assess the condition of turbine blades, combustion chambers, and other internal engine components that cannot be viewed externally.

IN-DEPTH AVIONICS & ELECTRICAL SYSTEM REVIEW DETAILS

This comprehensive diagnostic review evaluates all avionics and electrical systems using specialized test equipment. It includes checking system integration, software versions, and troubleshooting any intermittent issues.

FULL CABIN & INTERIOR REVIEW DETAILS

A complete inspection of all cabin systems and components, including detailed operational checks of every system. This includes entertainment systems, lighting, environmental controls, cabin pressurization, and all other amenities.

SYSTEM FLUID ANALYSIS DETAILS

Laboratory analysis of hydraulic fluids, engine oil, and other system fluids to identify contaminants, wear metals, or other indicators of potential system problems.

TEST FLIGHT DETAILS

A comprehensive test flight to verify aircraft performance, handling characteristics, and proper operation of all systems in actual flight conditions. This flight confirms that the aircraft performs as expected and that all systems function correctly during normal operation.

MODEL-SPECIFIC CONSIDERATIONS

LEGACY

- Older Bombardier models have more extensive service history. While specific pricing information for these models is not readily available, their inspections may involve unique considerations:
  - Older aircraft typically require more thorough examinations of aging components
  - Parts availability may affect inspection costs
  - Historical documentation may be more extensive and require additional review time

MID-GENERATION

- These models might have inspection costs somewhat higher than the legacy models due to more sophisticated systems:
  - More complex avionics systems require specialized testing
  - More digital records management may affect the records review process
  - Systems are generally more integrated than in legacy models

LATEST GENERATION

- For the latest generation of Bombardier aircraft, inspection costs are likely to be at the higher end of the spectrum:
  - The most advanced technology requires specialized knowledge and tools
  - More extensive digital systems necessitate specialized diagnostic equipment
  - These aircraft represent significantly higher investment value, potentially justifying more thorough inspections

VALUE PROPOSITION

OF ASSET PURCHASE REVIEWS

The cost of an asset purchase review should be considered in relation to the value of the aircraft and the potential risks of skipping this crucial step. According to multiple sources, a comprehensive inspection can identify issues that might otherwise cost millions to address after purchase.

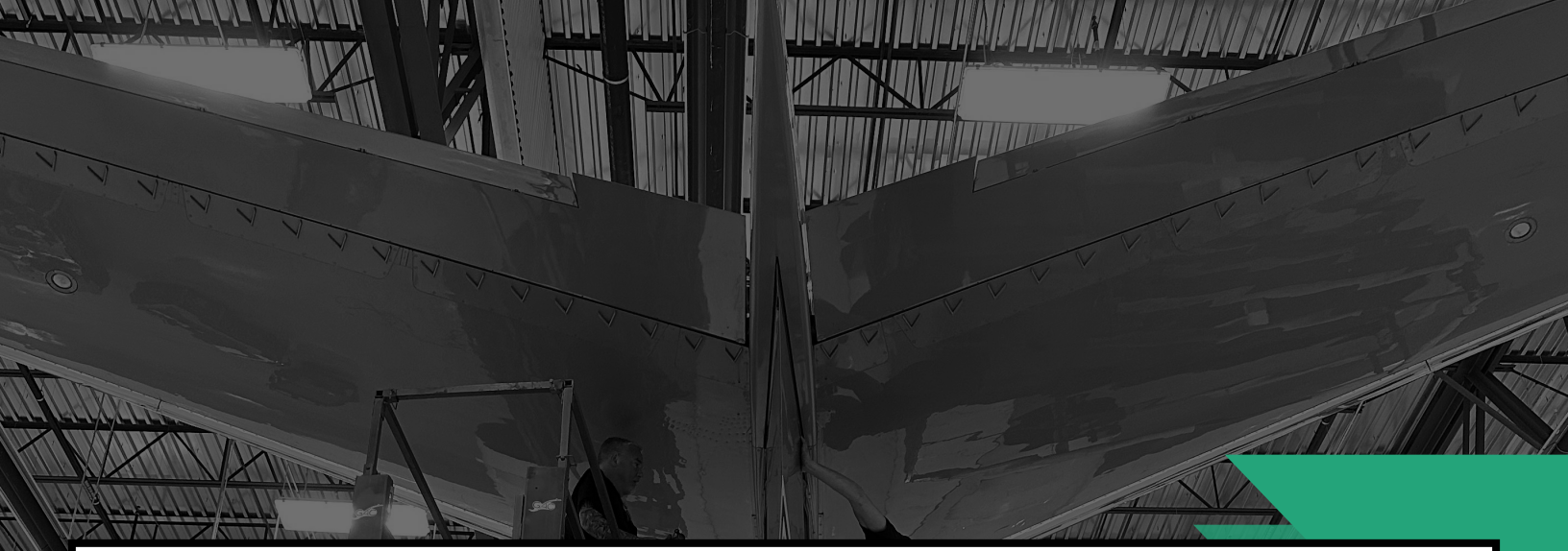
One example from a general aviation context notes that skipping a pre-buy inspection resulted in over $12,000 in unexpected costs. Given the significantly higher value of Bombardier business jets, the potential financial risk of skipping a proper inspection would be considerably greater.

INSPECTION IMPORTANCE

Asset purchase reviews are a critical component of the aircraft acquisition process, providing essential information about the condition and history of the aircraft. The four-tier work scope outlined in this report offers a structured approach to conducting these inspections on Bombardier business jets, allowing buyers to select the level of detail appropriate for their needs and risk tolerance.

It is recommended that asset purchase reviews be conducted at an MRO that has specific expertise with Bombardier aircraft.

When properly executed, a asset purchase review helps ensure that the buyer makes an informed decision and that any airworthiness issues are addressed before the transaction is completed. This not only protects the buyer's investment but also contributes to the ongoing safety and reliability of the aircraft.



SUMMARY OF TIERS

TIER 1	TIER 2	TIER 3	TIER 4
LITE	BASIC	STANDARD	PREMIUM
VISUAL INSPECTION & RECORDS REVIEW	ENHANCED INSPECTION & BASIC SYSTEMS TESTING	COMPREHENSIVE INSPECTION WITH DETAILED TESTING	COMPLETE AIRCRAFT EVALUATION WITH INVASIVE TESTING
15-25 HOURS	50-70 HOURS	150-200 HOURS	300-500 HOURS
5 WORKING DAYS	8 WORKING DAYS	13 WORKING DAYS	16 WORKING DAYS*

**Note: Total duration for Tier 4 inspections would typically be longer (21-28 days total) when including rectification time for any discrepancies found. The 10-15 day estimate is for the inspection only.*

TIER 1: LITE

VISUAL INSPECTION
(15-25 HOURS), 5 WORKING DAYS

DOCUMENTATION REVIEW (4-6 HOURS)
- Airworthiness certificate verification
- Registration documentation review
- Maintenance records review (last 3 years)
- AD compliance verification
- Service bulletin status review

EXTERNAL VISUAL INSPECTION (6-8 HOURS)
- General airframe condition assessment
- Control surfaces inspection
- Landing gear visual inspection
- Windows and windshield inspection
- Antenna and sensor inspection

BASIC SYSTEMS CHECK (5-11 HOURS)
- Basic flight control movement check
- Landing gear operation check
- Emergency exit operation verification
- Basic avionics power-up test
- Cabin pressurization visual inspection

TIER 2: BASIC

ENHANCED INSPECTION
(50-70 HOURS), 8 WORKING DAYS

Includes all Tier 1 items plus:

DETAILED SYSTEMS ANALYSIS (20-25 HOURS)
- Full flight control rigging check
- Hydraulic system pressure tests
- Electrical system load analysis
- Fuel system inspection
- APU operational check

INTERIOR INSPECTION (15-20 HOURS)
- Detailed cabin inspection
- Emergency equipment verification
- Seat mechanism testing
- Cabinet and galley inspection
- Lavatory system check

ENHANCED DOCUMENTATION REVIEW (15-25 HOURS)
- Complete maintenance history review
- Component life status review
- Modification status verification
- Weight and balance verification
- Flight log analysis

TIER 3: STANDARD

COMPREHENSIVE INSPECTION
(150-200 HOURS), 13 WORKING DAYS

Includes all Tier 1 & 2 items plus:

ADVANCED SYSTEMS TESTING (40-50 HOURS)
- Complete avionics functional test
- Environmental control system testing
- Full hydraulic system analysis
- Electrical system detailed testing
- Fuel system contamination check

ENGINE ANALYSIS (40-50 HOURS)
- Engine borescope inspection
- Engine trend monitoring review
- Engine parameter analysis
- Oil analysis
- Hot section video inspection

STRUCTURAL INSPECTION (70-100 HOURS)
- Detailed airframe inspection
- Corrosion inspection
- Wing attachment point inspection
- Landing gear well inspection
- Composite structure analysis

TIER 4: PREMIUM

COMPLETE EVALUATION
(300-500 HOURS), 16 WORKING DAYS

Includes all Tier 1, 2 & 3 items plus:

ADVANCED ENGINE ANALYSIS (100-150 HOURS)
- Complete engine performance test
- Full engine diagnostic testing
- Fuel control unit testing
- Engine accessory inspection
- Vibration analysis

DETAILED STRUCTURAL ANALYSIS (100-150 HOURS)
- NDT testing of critical areas
- Detailed corrosion mapping
- Internal structure inspection
- Flight control detailed inspection
- Stress point analysis

COMPLETE SYSTEMS EVALUATION (100-200 HOURS)
- Full avionics certification testing
- Complete hydraulic system teardown inspection
- Electrical system component testing
- Fuel system component removal/inspection
- Landing gear teardown inspection

NOTES AND CONSIDERATIONS

1. Labor hours are approximate and may vary based on:
   A. Aircraft age and condition
   B. Specific Bombardier model
   C. Maintenance history
   D. Findings during inspection
2. Additional costs may include:
   A. Specialized equipment rental
   B. Required replacement parts
   C. Third-party testing services
   D. Engineering consultation
3. Recommendations:
   A. Tier 1: Suitable for preliminary evaluation or aircraft coming or post major inspections
   B. Tier 2: Recommended minimum for aircraft >5 years old
   C. Tier 3: Recommended for aircraft >10 years old
   D. Tier 4: Recommended for aircraft >15 years old or with uncertain history

SUMMARY TABLE

Tier	Total Hours	Primary Focus	Recommended for
1	15 - 25	BASIC VISUAL AND RECORDS	INITIAL EVALUATION
2	50 - 70	ENHANCED SYSTEMS CHECK	LOW-TIME AIRCRAFT
3	150 - 200	COMPREHENSIVE TESTING	MID-LIFE AIRCRAFT
4	300 - 500	COMPLETE EVALUATION	HIGH-TIME AIRCRAFT

CUSTOMIZED TO FIT YOUR NEEDS

All additional items or services outside the initial scope of work will be charged based on time and materials. This ensures flexibility to accommodate any changes or extra requests. Additionally, the inspection process can be fully customized to meet each customer's specific wants and needs, ensuring that all requirements are thoroughly addressed in a way that aligns with individual preferences and priorities.

CONCLUSION

This tiered inspection checklist provides maintenance teams with a comprehensive framework for evaluating Bombardier business jets prior to purchase. The system's progressive nature allows for flexibility in depth inspection based on customer requirements, budget constraints, and aircraft age or condition. By following this structured approach, maintenance teams can ensure all critical aspects of the aircraft are thoroughly examined, providing potential buyers with the information needed to make informed purchasing decisions.

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