

Aircraft Appraisal Expert Witness: Damaged Aircraft and Diminution in Value

Keith M. Bransky, ASA, NSCA

DIMINUTION IN VALUE DEFINED

It is commonly accepted that if you have two aircraft sitting side-by-side that are identical in every way except that one has a history of damage, the aircraft with damage will command a lower price. This difference in value between a damaged aircraft and an identical undamaged one is referred to as the diminution in value.

EARLY APPRAISAL IS CRUCIAL

As a professional aircraft appraiser, I am often contacted by attorneys representing a client whose aircraft has suffered damage that potentially involves a diminution in value claim. Usually by the time I am contacted, either the aircraft is already at a maintenance facility undergoing the necessary repairs or it has already been fully repaired and returned to an airworthy condition. In most cases the insurance company has either already paid or agreed to pay the repair bill in accordance with the insured's policy. However, most insurance policies written for aircraft hull damage normally do not cover any associated diminution in value (this coverage is available separately). When the insured realizes they will not be reimbursed for the diminution in value suffered, they retain counsel to explore their options for recovery.

MOST AIRCRAFT DAMAGE OCCURS ON THE GROUND

Although it might be assumed that damage events only occur to an aircraft while in flight, almost all of the diminution in value cases I have been involved with were aircraft damaged during movement on the ground or when the aircraft was stationary. A majority these cases involved aircraft that were being pulled by ground personnel with tractors (known as "tugs"). The repositioning of aircraft too often results in wingtips hitting hangar doors or other aircraft (especially in crowded hangars), aircraft tails striking overhead obstacles, wings striking light poles, hangar walls, etc. These seemingly minor impacts at walking speed can result in serious damage and expensive repairs.

CASE EXAMPLE 1

I was involved in a case where a Gulfstream G-IV (a large corporate jet) was being towed to a new parking spot. As it was being towed, the aircraft accidentally became disconnected from the towing tractor. The ground personnel immediately realized this and tried to stop the aircraft, but the taxiway was on a slight downhill incline and the aircraft slowly rolled forward and collided with the tractor that had been pulling it. Although it impacted the tractor at barely 1 MPH, the inertia of the slow moving aircraft on the sharp corners of the tractor resulted in multiple punctures to the fuselage and right wing. The end result was a multi-million dollar repair at the Gulfstream factory and an aircraft that was out of service for many months. I became involved in the case when the aircraft owner made a diminution in value claim against the Fixed Base Operator that was towing the aircraft when the damage occurred.

DIMINUTION IN VALUE NOT FORMULA DRIVEN

While damage to an aircraft is a serious matter it must be approached logically, especially as it relates to diminution in value. Contrary to conventional wisdom, diminution in value from damage cannot be accomplished by simply applying a universal percentage deduction of 10% or 20%, or by looking up a number on a chart; there are too many factors to consider. In fact, The Aircraft Bluebook price guide no longer includes damage deduction charts and instead advises the reader to engage “an experienced appraiser” when assessing the fair market value of a damaged aircraft.

COMMON FACTORS AIRCRAFT APPRAISERS CONSIDER

Just like snowflakes, no two damage events are the exactly the same. However, when determining the amount of value diminution suffered by a damaged aircraft, there are some common factors the appraiser must consider and reconcile. These factors include:

- The type and extent of the damage.
- The method and quality of repair.
- How long ago the damage occurred.
- How the repair was recorded in the aircraft’s maintenance logbooks.
- The sales market for the aircraft type that suffered the damage.

Let’s examine these factors further:

Type and Extent of Damage: Understanding the type and extent of damage is the first step in determining the amount (if any) of diminution in value. Aircraft damage can range from a superficial dent in a non-structural area to major damage requiring extensive repair on structural portions of the airframe. Methods used to determine the level of damage are often neither obvious nor clear-cut and can require the review of highly technical repair documents. Engaging an appraiser with an aircraft maintenance background is helpful in these situations. In general, the more invasive the repair, the greater the diminution. Sometimes a little detective work is required to determine the exact cause of damage, especially when a logbook entry is vague or incomplete. In these cases, cross-checking the aircraft in the NTSB aviation accident database can often assist in providing a clearer picture of the damage history.

Method and Quality of a Repair: The quality of the repair to a damaged aircraft is the next factor to consider. Was the repair done at a manufacturer’s repair facility to factory standards using new replacement parts or was it done by a part-time aircraft mechanic working out of a converted delivery truck? By the way, I have seen fine work done by independent mechanics, but the market generally places greatest value on a repair done at a manufacturer’s repair facility. Note: aircraft maintenance facilities can vary in repair expertise and work quality (see Case Example 2).

When determining the quality of a repair, questions to be asked include:

- Were damaged components repaired, or were they completely removed and replaced with new? Example: If a damaged flight control such as a rudder was completely replaced with new instead of repaired, there is often no diminution in value.
- Is the completed repair externally visible? Examples: Was an area of damaged skin patched or completely replaced? Does the paint on the repaired area perfectly match the rest of the aircraft?
- Was the repair to “factory new standards” or to “field standards?”
- Does the repair require any special recurring inspections related specifically to the repair?

CASE EXAMPLE 2

I appraised a Cessna Citation (a small corporate jet) for diminution in value after its rudder skin had been replaced by a FAA Certificated Repair Station. The repair to the tail was so poorly done that the edges at the bottom of the rudder skin did not align perfectly. This is unacceptable and resulted in an increased diminution in value.

How Long Ago the Damage Occurred: As a general rule, the more recent the damage the greater the effect on diminution. As an aircraft damage repair ages it becomes “seasoned.” The longer that time elapses after a repair, the less impact it has on value. Eventually with the passage of enough time, certain types of damage history no longer have a material effect on value.

How the Damage Repair was Recorded in the Maintenance Records: How the damage repair was recorded in the maintenance records can have a significant effect on the amount of value diminution. For example, was a FAA 337 Form filed? A 337 Form is a “Major Repair & Alteration Form.” Once a 337 Form is submitted to the FAA, the aircraft has a permanent public record of a major repair that is easily accessible to a potential buyer. However, while an aircraft mechanic is required to submit a 337 Form to the FAA whenever a repair is performed on damage that meets the FAA’s criteria of a major repair, a FAA Certificated Repair Station is not required to submit a 337 Form for the same major repair per [FAR 43 Appendix B \(b\)](#). In these instances, cross-checking other sources can often provide additional information about a damage repair that was recorded in an aircraft’s maintenance records (see Case Example 3).

CASE EXAMPLE 3

I was appraising a Beechcraft King Air (a twin-engine turboprop) when a particular maintenance entry in the logbook caught my eye. Buried deep in the entry was a line that indicated two skin panels had been replaced and repainted. No reason for these skin replacements was given (nor was that information required) and no 337 Forms had been filed as a FAA Certificated Repair Station had performed the work. All I had were the part numbers of the two skin panels and a rather clinical description of the repair itself. Checking the part numbers with Beechcraft, I learned that the replacement skins were installed on the underside of the aircraft. As I dug into the situation further, I learned that during the same time

period, both propellers had been sent in for overhaul and both engines had been removed for inspection. I now surmised this was either a gear-up landing or some type of structural failure. Additional investigation revealed that the nose gear had collapsed after a component failure. I have seen a number of similar situations during my 22+ years of appraising aircraft. In most cases, what was not entered into the logbooks often screamed louder to me than what was entered and prompted me to dig deeper.

The Sales Market for the Damaged Aircraft Type: This is another important factor that must be considered. If the current sales market for a particular aircraft type is strong and active, the effect of damage history can be mitigated significantly. In fact, in a hot market, certain types of damage history might be completely overlooked as they relate to value. Conversely, in a slow sales market where many aircraft of a particular type are available for purchase, that same damage history will become a major negotiating point and have a larger negative effect on value. Additionally, for retrospective appraisals (appraisals done on a date in the past) the diminution analysis must be done in the context of the sales market as it existed in the past on the effective date of the appraisal. Lastly, the marketplace is almost always less accepting of damage history on certain classes of aircraft. For example, the stigma of damage is far greater to a corporate jet than it is to a single-engine Cessna trainer aircraft.

CONCLUSION

I have given a broad overview of the main factors that a professional aircraft appraiser considers when appraising a damaged aircraft involved in a diminution in value case. Attorneys aren't expected to be valuation experts nor are they expected to be aviation experts. As an aircraft appraiser, educating my attorney clients about the subtleties of both disciplines is one of the most important services I can provide.

ABOUT THE AUTHOR

[Keith M Bransky, ASA, NSCA](#) is president of Jet Appraisal Corporation, www.AircraftAppraisal.com and provides aircraft appraisal, expert witness, and consulting services on almost all aircraft types. He can be reached at: keith@AircraftAppraisal.com or at 404-921-3767