

Practical Considerations in Aircraft Appraisals for Busy Practitioners

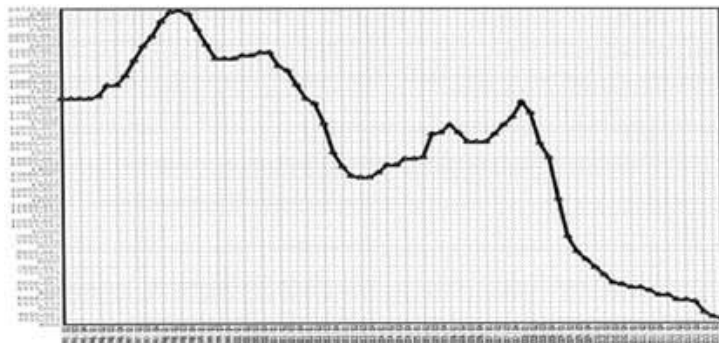
By Ron Herold

Sustaining Member Ronald L. Herold is a member of the National Aircraft Appraiser Association (NAAA) and has achieved the status of Senior Certified Appraiser with USPAP (Uniform Standards of Professional Appraisal Practice) Endorsement, the highest obtainable. He has logged over 3,000 hours in 37 years of general aviation flying, and holds a Commercial certificate in land and sea aircraft, a Flight Instructor certificate for single and multiengine land aircraft and Instrument Flight Instructor certification. He also has a PhD in Electrical Engineering from Carnegie Mellon and an MS in Computer Science from Rutgers. Ron provided valuable input in the development of our upgraded website and has flown his Aztec in several Spot Landing Events.

The practice of aviation law, many believe, is a shrinking segment of the legal landscape. In this new environment, considerable time may pass before you need an aircraft appraisal in your practice, but it's a bit like the proverbial parachute: when you need one, you need one. To that end, appraisers bring a focused, professional and non-emotional view of airplanes as products and can provide not only an experienced assessment, but a jaundiced eye out for a wide variety of pitfalls. In this article, which tracks the presentation I was privileged to give at the Summer 2015 Meeting in Watkins Glen, I will discuss some of the situations in which an appraiser can provide valuable support for your practice and your clients.

The Overall Aircraft Market

Market conditions have changed, clearly, and sometimes in pronounced ways. The days of aircraft losing some value at initial sale and then retaining a substantial value or even increasing in value are gone. The graph of the 1988 G-IV from 1988 to 2012 is typical of larger corporate aircraft. The initial increase in value is due to short term market demand for the new product.



The graphs are not as kind for current-production, small propeller-driven aircraft. The days of purchasing an aircraft and expecting to make money on a leaseback to the FBO are gone. While there can be short-term depreciation benefits to a leaseback, there is no way to obtain a reasonable business return. If there were, flight schools would not want leasebacks as they would make that income from flight school-owned aircraft.

And, sadly, since the 2008 financial unpleasantness, the market has been even worse. “How do you catch a falling knife?” describes the market trend and dilemma. Another factor working against value has been the need for significant avionics upgrades such as ADS-B and RVSM in older aircraft. Many are simply not worth upgrading and will fade from the marketplace (and the flight line). Nor is export the answer; China won’t accept aircraft into their registration that are over ten years old.

These realities can create traps for the unwary client. Finding a “bargain” aircraft like a Hawker 700 for, say, \$400,000 seems like a bargain considering its original \$7 million price tag -- until the first \$500,000 inspection. The cost to maintain the Hawker doesn’t depreciate like the aircraft has. As for any aging, complex machine, the costs of maintenance will increase over time. Spending \$500,000 on a maintenance event for a \$400,000 aircraft is shocking for those who aren’t knowledgeable. Not to mention, you have to deal with the ravenous appetite for fuel of an older airplane.

As an aviation-savvy lawyer, you're quite aware of these market realities and probably won't need an appraiser unless you're trying to help a client dig his or her way out of a deal they'd never have gotten into had they come to you in the first place. So, what are some other troublesome areas where an appraiser can be helpful to you?

Fraud

One treacherous area is aircraft that aren't what they seem, or are claimed, to be. Airplanes that are fraudulent – and for this purpose, I mean aircraft mis-perceived by the buyer or misrepresented by the seller -- are not common, but they do exist. The following is an example.

What was the name of the first aircraft carrier? It was a dirigible, not a waterborne vessel, that was the first operational carrier of aircraft. In particular, the dirigible Akron (15 September 1931) and the Macon (11 March 1933) were used to carry, launch and retrieve aircraft. These massive airships did as much as 87 knots and were the primitive precursors of the modern nuclear-powered floating airbases that project military power wherever they are sent.

Recently an aircraft was about to be purchased by a museum for inclusion in their collection. Their interest in the particular aircraft was due to the museum's location in Hangar One on Moffett Field, where dirigibles had been constructed and repaired. The museum founder had located an original Fleet aircraft that he believed was one of the original dirigible-launched aircraft. He had seen a recent picture of this aircraft with the launch/capture hook installed and

concluded that it was a perfect fit for his museum collection. If authenticated, it would be worth a substantial purchase price. I was retained to determine whether the Fleet was what it appeared to be.

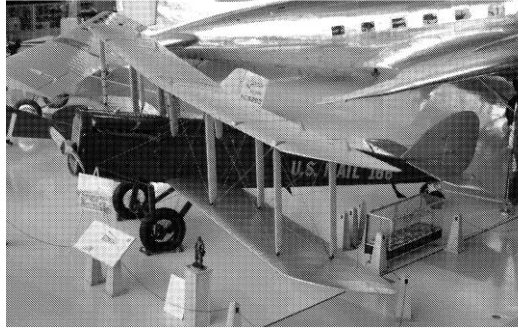
Through close work with the Navy, I was able to show that the aircraft he thought this Fleet to be had actually been destroyed at the end of its useful life by the Navy. My research included copies of the original Bureau (BUNO) card for the aircraft he thought he was acquiring; it didn't match the one he was about to buy. I was able to complete the appraisal of this similar Fleet aircraft so that the purchase decision could be based on the subject aircraft's true identity and history.

Emotion caused our would-be museum curator to be overly excited about his Fleet find.



What other situations can call for a professional appraisal? In another matter, I found myself involved in a case where an antique and supposedly valuable aircraft was used for collateral in support of fuel deliveries for a museum's fleet of operational aircraft. When the museum went belly-up (no doubt a legal term), the fuel vendor wanted to sell that aircraft to recover what was owed.

The original appraisal of the aircraft completed on behalf of the museum had resulted in a \$2.0 million valuation. That number, in itself, is very suspicious to a professional, as there are very few antique aircraft worth that much. This appraised value was assigned by an appraiser in what appeared to me to have been a wave of the proverbial magic wand. During my review of his appraisal I could find no basis for his number except his say-so. During negotiations between the fuel vendor and the museum, a second appraisal was submitted and the aircraft was suddenly valued at \$700,000. I was retained to do another appraisal; my valuation was quite different.



The aircraft at issue was originally manufactured as a De Havilland DH-4. These were built by the thousands during World War I under license from De Havilland; in fact, it appeared that this example was actually constructed by Fisher Body (more closely associated with General Motors). More than 9,500 of this model were built. After the war, some of these DH-4s became mail planes. While this aircraft looked close to its origins, in reality it had been re-manufactured as an ET-4. Paul Mantz, the famous Hollywood aircraft stunt pilot, and Ed Tallmadge, who was part of the Hollywood film community, had rebuilt this aircraft to use for their purposes in the movies. The aircraft was placed in the Experimental category and not its original category. (I suspect that it might have been used by Jimmie Stewart sitting in the front for a film while being flown by Paul Mantz from the rear as they didn't have dual controls.)

In reality, then, this aircraft might have had some lineage back to De Havilland, but in no reasonable way could it be considered an original De Havilland DH-4. Quite frankly, this aircraft might have some noteworthy history as an ET-4 and could be of particular value to a Hollywood collector or studio, but it was *not* a classic De Havilland. The attorneys were so notified of this reality and provided with an estimate of what the aircraft was worth. They settled their case accordingly.

"Historic" or "Unique" doesn't mean "Valuable"

The maxim above is true in many fields, and definitely so with aircraft. For example, let's look at the T-33. It was a 1940's military jet trainer; there are not many left. That could be, in part, because they burn 400 gallons per hour, which might well discourage the average collecting flier. I recently completed an appraisal of a T-33. The aircraft was not as pristine as is the one shown below.



T-33s range in value from about \$50,000 to \$130,000 (2015). Manufactured and used in both the US and Canada, Canadian examples are considered more valuable for a reason that could just as easily have happened in the US as opposed to Canada: the Canadian government decided to extend the life of their T-33s as trainers by spending about \$2.0 million each in reworking and upgrades. As soon as that was done, the Canadian Government changed its mind and sold their T-33s, known in the market as CT-33s, as military surplus. Hence a Canadian CT-33 is most likely to have had \$2.0 million of relatively recent rework, while a US-made version could be 'factory new' from the 1940s. Another reason the CT-33s are more valuable is the inclusion of a Rolls Royce NENE-10 engine instead of the original Allison engine. The NENE 10 had about a 10% advantage over the Allison.

Notwithstanding these differences, the C/T-33s are definitely old airplanes with little or no collector value. There is currently one T-33 and one CT-33 listed on a major broker's web site. They have been listed there for over two years. That alone tells you something about the market.

If age doesn't necessarily mean value, what about exclusivity? At one point in our US history, there were over 1,200 manufacturers that made pianos. Why? Try taking a piano in a covered wagon. Pianos were made locally. Sometimes, I think there were also that many aircraft manufacturers. The Williams serial #1 is available for sale; there was no #2. It was made by Col. Walter A. Williams while he was in high school prior to 1937. The young Williams became a decorated WWII pilot who commanded a B-17 squadron and subsequently ran a supply depot until his retirement. Below is a picture of his creation in its current, unrestored condition – a condition from which it will never recover (pun!).



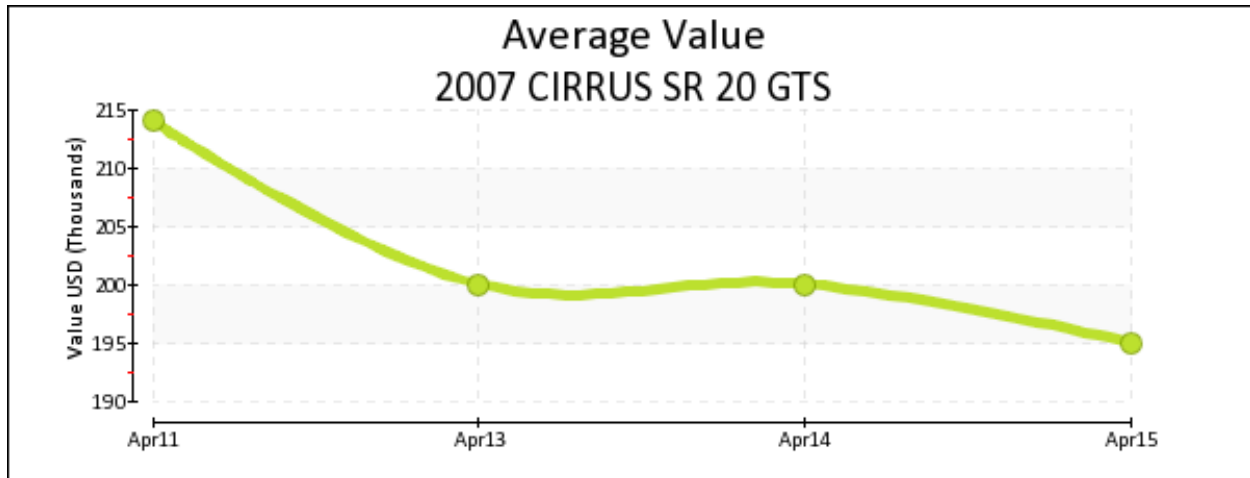
Unfortunately, the plane that he designed and partially built in high school does not have as much historical significance or value as his service to this country did.

The takeaway: just because it is old, or rare, doesn't mean there is a market for it. Without a market, an aircraft of any age has no value.

Insurance and Diminution of Value

Since appraisers are not directly involved in personal injury or liability claims, we look at insurance from an aircraft hull point of view. Within that purview lie the realms of correctly insuring an aircraft hull, and claims for diminution of value. Let's look at these two.

Correctly insuring an aircraft hull is an ongoing issue that should be reviewed yearly. Below is the market value of an 'average' (whatever that is) 2007 Cirrus SR 20 GTS from April of 2011 until April 2015. The downward trend is quite clear.



Following that trend is important and here is why. Unlike motor vehicles, insurance on aircraft hulls is for a specific amount, or “stated value.” In case of total loss, the insurance company will pay you that contracted-for amount (I know firsthand – been there, done that). If you choose to keep your Cirrus insured with the same carrier from 2011 until 2015 and don’t adjust the value downward over time, your insurance company will most likely accept (and charge for) the higher amount you request.

A high insured value can be a two-edged sword, however. When you file a claim for that Cirrus, most insurance companies will total your aircraft when the cost to repair the damage reaches about 70% of the hull’s insured value. Their reasons are strictly economic; they will net the smallest loss at about 70% as they sell the hull for scrap and pay you the insured value. However, if you insure the airplane for too much, the insurance company will repair it because it would be more expensive to scrap the hull and pay off your overstated value than it is to repair the aircraft. In reality, you may want the airplane scrapped because it was damaged so badly. But since you have it over-insured, you will likely get back a repaired airplane many, many months later that often times has little of the original aircraft components left. By contrast, if you undervalue your aircraft hull, the insurance company will total the aircraft and recover most of their payout when you might have preferred to have it repaired. Hence, insuring hull values correctly is important.

But what about owners who are dissatisfied with the range of values an insurance company will allow for a given make/model/year and want their aircraft insured for a higher amount? With a properly documented appraisal of the specific aircraft, this can be accomplished.

Diminution of value claims against insurance companies are, in my experience, the claims insurance companies like the least. In some instances, diminution claims have been written out of hull policies. Where it is in play, diminution is not particularly difficult to compute for a qualified appraiser. But it is a moving target and there are some tradeoffs involved.

In the example below, an FBO's line service lost control of a King Air and brought the airplane to a stop using a tow cart for brakes – notice the bent propellor.



Damage to the right nacelle and propeller was really not that monetarily significant, given that it was a King Air. The owner's first decision was a question of repairing the existing parts or replacing the bent parts with new. Straightening and repairing the existing sheet metal would take 155 days. Waiting time for new replacement parts from Beech was 462 days. Since the policy didn't include the use of a replacement aircraft during the repair, the owner chose the 155-day solution.

The engine required a teardown and replacement of the number 6 bearing (remember Pratt & Whitney engines are in the airplane "backwards" so the number 6 bearing is really the forward, thrust bearing). This teardown was fairly standard and a new number 6 (thrust) bearing was installed as a precaution. No significant damage was found to have occurred to the engine.

Upon completion, the owner wanted to file a diminution claim. When damaged in 2014, this 1998 aircraft had only 1266 airframe hours. This is extremely low usage for its age. In addition, this was the "Jaguar Edition" (green and gold like a Jaguar automobile); unfortunately this didn't add any value because it proved not to be popular with the buying public in 1998 and even less so when the accident occurred. It didn't add value.

For diminution claims, it is the age of the aircraft, not the hours flown, that is the primary determinant of the loss of value due to damage history. As the aircraft fleet ages, a certain percentage of them are going to be damaged and the deduction for damage history is going to be a smaller number because there will be fewer No Damage History (NDH) aircraft available in the marketplace. Thus, the diminution of value for this 1998 aircraft was about \$50,000. Had it been a 2010 aircraft, that loss of value would have been about \$100,000; once again, it's the age of the aircraft and not the airframe hours.

Now, projecting ten years out when the aircraft might be sold, the deduction for the damage history might be only a few thousand dollars. Recovering the \$50,000 diminution of value claim now and suffering only a small damage deduction in the future has a great deal of appeal for an insured – and obviously less so for the insurer.

While the method of writing up the logbook entry shouldn't affect the diminution calculation, this entry was particularly clever, stating a "non-running contact with tow tractor" as the reason for the repair. In fact, this entry might go totally unnoticed by someone doing a cursory review of the logs. Unfortunately, the paint work on this repair was a mis-match and one's eyes were immediately attracted to the repaired area, totally negating the artful logbook entry.

When a significant repair has to be performed on an aircraft, getting the appraiser to view the aircraft before it is touched, when it is fully disassembled, and again after it is reconstructed can save significantly on the loss of value that is going to occur, both from the fact that there has been an event and the quality of the repair. This is because over a period of time, the difference in value between two identical aircraft, where one has been repaired and one has not, becomes smaller. This is due to the fact that the repair has aged (hopefully well) and therefore been time-tested, representing less of a risk to the new owner. In addition, with the accumulation of time since the damage event and the fact that more of the fleet is damaged, the appraisal damage deduction becomes a smaller value.

Licensure

While real estate appraisers, for example, are licensed through their state of practice, aircraft appraisers have no formal state licensing requirements. The unsurprising result is that aircraft appraisers can vary widely in their qualifications. I have been in court where opposing counsel provided the airport owner as an aircraft appraisal expert witness. (Fortunately, the judge refused to concur on that status.) Aircraft brokers are often presented as experts in aircraft valuation. That can occur even when they are part of the transaction. An appraiser has to be independent of the transaction.

After the real estate debacle of the 1980s, the Appraisal Standards Board of the Appraisal Foundation developed a set of guidelines for appraisal practice. The original set of guidelines was released in 1987 and is updated as needed, most recently 2016. The guidelines are called the Uniform Standards of Professional Appraisal Practice (USPAP) and the most qualified of aircraft appraisers have studied and apply their craft using these guidelines. The National Aircraft Appraisers Association (NAAA) presents the curriculum to become USPAP qualified and an appraiser needs to take the USPAP course every three years to keep that accreditation. While all states require this accreditation for real estate appraisers, none do for aircraft appraisals.

As a non-attorney I leave it to you to determine in your jurisdiction the qualifications needed for an aircraft appraiser, but I can observe that there appears to be no USPAP requirement for

testifying as an expert aircraft appraisal witness or for providing appraisals. I have done many aircraft appraisals for divorces that never end up in court, which is my ultimate goal. In addition to experience in the field, I believe that having a USPAP accreditation would hold weight with those evaluating either the appraisal or the potential expert witness in judicial matters.

Tax Deductions for Donation

Certification has a bearing on another potential area where you might need an appraiser. Many aircraft are being donated to qualified museums and the owners are filing tax paperwork for a tax deduction. The information for Charitable Contributions is found in IRS Tax Topic 506 (<https://www.irs.gov/taxtopics/tc506.html>) and the form filed to claim the deduction is Form 8283, Noncash Charitable Contribution (<https://www.irs.gov/pub/irs-pdf/f8283.pdf>). Part III of Form 8283 is where the appraiser signs in support of the charitable donation's value. There are only a few airplane appraisers that are willing to sign these forms as there is a risk involved that the IRS might come back at the appraiser as well as the taxpayer for the deduction. Having signed a number of these (three aircraft now hanging in the Smithsonian and additional aircraft in other museums that were all tax-deductible donations), I offer a few words for your consideration with the caveat that I am NOT a tax professional and as such suggest anyone contemplating a tax-deductible donation contact an appropriate tax professional.

While the state governments do not require USPAP for aircraft appraisals, the federal government does require the appraiser to be USPAP-qualified to sign Form 8283. Leave it to the Feds (this time, at least!) to establish a reasonable standard. For the tax deduction to be taken, the appraisal must be done for the year of the donation. The appraisal should include all the USPAP elements.

Having done appraisal reviews on behalf of the IRS, I can unequivocally state that the single most important part of any appraisal submitted to the IRS in support of a tax deduction is the way in which it is written. It must be written from the ground up in a way that can be understood by the IRS. The experience gained during my appraisal review on behalf of the IRS for the GlobalFlyer (https://en.wikipedia.org/wiki/Virgin_Atantic_GlobalFlyer) tax deduction for the estate of Steve Fossett (https://en.wikipedia.org/wiki/Steve_Fossett) was not so much a review of the value put forth for the GlobalFlyer, but the methodology by which that value was obtained.

On a side note, I get calls all too often for donations where the aircraft has been used commercially and is fully depreciated. The owner then wants to donate it and take a tax deduction. With a depreciated basis of zero, I am not sure how to accomplish this. If done, I would think that the value of the appraisal donation would be ordinary income recapture up to the purchase price. A rather clever methodology that I understand works is to sell the aircraft to an unrelated corporation and then have them donate it. Of course, I would suspect the original owner has to pay tax on the recapture of the depreciation and if the sale price was

reasonable (possibly substantiated by an appraisal), the purchasing corporation could take the full tax deduction upon donation. I have seen this used where corporations want to permanently attach their name to an aircraft in a museum display; again, a tax professional should be consulted for these situations.

A final note of interest is that most museums of significant popularity, like the Smithsonian, will never guarantee that they will display the donation. They accept it and then decide if they are going to store it, display it permanently or rotate it as part of an exhibition. The Smithsonian will flat out reject donations that specify anything about displaying the aircraft.

A quick note on the appraised values of donations. Like the rest of the aircraft market, they are going down – significantly down -- in value. The reason is the market is flooded with people who want to donate. Flooding a market depreciates value. The reason for the flood is that these donations are being made by older folk (I resemble that remark!) whose kids don't want their old airplanes (probably because there are no iPads in them) and we as an older population are losing our medicals.

Finally, as an appraiser, I know many of the curators for air museums and can often be of help in getting an aircraft placed.

Conclusion

Valuing aircraft is one eventual product of an appraisal. However, a qualified aircraft appraiser can provide a host of services that include validation of the aircraft; market analysis and understanding; insurance and diminution of value support; and non-cash charitable donations. While not covered in this article, appraisers can provide not only valuation for both the purchaser and seller in a normal business transaction, but also buyer-agency in support of locating the correct aircraft for a mission at the right price.

I hope this quick overview of the field will be of assistance to you in your practice and in your own aircraft ownership. If I can ever be of assistance, don't hesitate to contact me.