

Helicopters: A Different Type of Asset

SHARON DESFOR

When does a capital asset not look like one? When it's also a commodity.

Helicopters fit neatly into this “not-category.” On the one hand, they are subject to federal legislation under the Title 14 of the Code of Federal Regulations, which requires federal oversight under the Federal Aviation Administration. They are also subject to manufacturers’ interests by way of limitations on flight usage and on parts manufacturing. On the other hand, they enjoy a worldwide free market with a supply and demand relationship, a 3-year backlog on new production, and \$90+ per barrel oil, all driving the need for helicopter services through the roof. What’s an appraiser to do?

Understanding the Asset

Arguably the most famous definition of a helicopter is “an assembly of forty thousand loose pieces, flying more or less in formation.” Outside of the wry humor of this definition, the concept itself actually has a profound implication in the residual life and value of a helicopter. A pressurized fixed-wing airplane expands and contracts each time it changes altitude, fatiguing the airframe with every flight. A helicopter is non-pressurized and so bears none of the hallmarks of

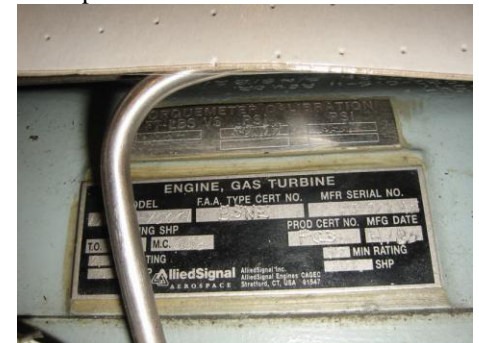
airframe fatigue. Since it’s literally just a frame with components attached, it has *no fixed economic useful life*.

Economic Useful Life

In the June 2005 issue of *Rotorbreeze*, one manufacturer made it explicit. “Bell Helicopter designs and builds commercial aircraft airframes specifically with no need for a scheduled or finite retirement life, either in calendar time or in accumulated flight hours... by operating the aircraft in accordance with the Bell-approved maintenance and overhaul recommendations, complying with the applicable bulletins recommended by Bell, and using only parts and processes acceptable to Bell.” Put simply, as long as an operator can get parts for his helicopter, and he maintains it according to the approved maintenance manual, he can continue to fly it indefinitely.

But if there’s no Economic Useful Life restriction, how does an appraiser determine the physical deterioration of a helicopter? Given a specific helicopter, the most important determinant of value is the *components’ time since overhaul or since new (TSO/TSN)*. This includes the dynamic components such as engines,

transmissions, swashplate, main- and tail-rotor blades, driveshafts, and flight controls; the major airframe inspection; and consideration of whether any of the helicopter’s components are on a Power by the Hour (PBH) contract. PBH is essentially a prepaid maintenance agreement in which the operator sends the manufacturer a fixed hourly payment, and the manufacturer provides all overhauls and replacement parts. Because it includes scheduled maintenance, it is far more than an insurance contract, and carries far more weight when valuing the helicopter.



Other items that need to be considered are the helicopter’s mission and registration, equipment and avionics, major repairs and alterations (Forms 337), Supplemental Type Certificates, and compliance with application airworthiness directives and service bulletins. Most appraisers will take into account the helicopter’s age and total airframe time, but only as an indicator of general usage and condition. Also considered are the machine’s “cosmetic” condition for the paint, glass, and interior, in comparison to similar helicopters in the field.

All this information can be gleaned from the helicopter and its flight and maintenance logbooks, its component’s historical records (“hard cards”), its Certificate of Airworthiness and Certificate of Registration. This year’s winner of the Excellence in Communication award from the Helicopter Association International, Barry D. Desfor, has a pointed quip on this topic: “If the weight of the records doesn’t equal the weight of the helicopter, it’s obviously not airworthy.”





The flight and maintenance logbooks are the records of a particular airframe or engine. They record every minute of flight time, every component change, every overhaul and inspection related to that particular airframe or engine. The hard cards are the flight and maintenance records for each individual component. Every serial-numbered component has a hard card that follows it throughout its life, from birth to death, regardless of what helicopter the component is installed in at any given moment. Components move frequently from inventory to airframe, and from one airframe to another. It's far faster to remove a component and replace it with a fresh one than to take a helicopter out of service while waiting weeks for an inspection or overhaul. This is as true of a small component such as a hydraulic servo as it is of a large one such as an engine. With so many component changes occurring at any time during a helicopter's operation, individual records are required for every component as well as for the helicopter itself.

These required records are absolutely critical to the operation of a helicopter and its resale value. Any FAA inspector can shut down the helicopter at any time if he requests a record that does not exist or is inaccurate. Questionable records could do more than shut down the helicopter, they could shut down an entire operation. Clean, detailed, accurate records are a point in favor of a helicopter at its time of resale.

The Helicopter Resale Market

What drives the helicopter market?

By far the largest driver of the helicopter market is offshore oil support. While not on a par with jets or business aircraft, the

offshore operators fly far more than any other helicopter operators. For example, in the Gulf of Mexico, in an area only 125,000 square miles, there are 650 helicopters, supporting over 5000 platforms, and making 7500 trips per day. This comprises 2.1 million operations per year, carrying 2.6 million passengers per year in 380,000 flight hours. The North Sea fields even more helicopter operations. An average offshore helicopter flies 1000 hours per year. When you consider that each helicopter requires several hours of maintenance for each hour of flight time, that's an extraordinary effort.

The oil industry is stretching farther and farther, to big rigs 150 miles offshore. To make these trips, helicopter operators are buying ever-larger helicopters with long-range fuel reserves, sophisticated electronic cockpits, and large payloads. These operators are moving away from short-range machines costing one to five million dollars that can carry 6-10 people, and into medium twins that cost up to eighteen million dollars and can carry up to 20 passengers.

Another significant market is Emergency Medical Services. The EMS sector alone uses over a thousand helicopters ranging from million dollar single-turbine machines that barely fit a single stretcher up to six-million-dollar medium twins that can carry up to 5 patients at a time, or can instead be fit with a flying emergency room. A new, rapidly growing segment is Search and

Rescue. SAR contracts are typically for ten- to twenty-million-dollar medium- to heavy twins with enough power to lift a great deal of sophisticated mission equipment including glass cockpits, icing conditions equipment, life rafts, Doppler auto-hover, rescue hoists and winches, emergency flotation gear, rappelling devices, and crews of 5 or more.

Other popular uses for helicopters include Electronic News Gathering, firefighting, construction, logging, aerial patrol, executive transport, mining, seismic survey and support, sightseeing, fish spotting, ranching, and agricultural spraying. These markets all play a role in determining marketability and therefore value as well, although none to the same extent as offshore oil support.

Cross-border transactions

The helicopter market is, and has been for decades, international in scope. A typical helicopter buyer thinks nothing of hopping on a flight to Singapore or Brazil to examine a helicopter he's considering for purchase. The costs to import a helicopter into a different country are inexpensive relative to the helicopter's value, usually around \$50,000 for the freight and certification into the new country. Because purchasers have always looked for the helicopter that meets their needs anywhere in the world; a practical international market has come about in reality. And while not a usual factor, in a "hot" market such as we have today, helicopters occasionally become



commodities, reselling purely on their resale potential and commanding significant premiums just for the privilege of an early position on the factory's assembly line. Operations, as well, are international in scope. There are multi-national operators fulfilling contracts in multiple countries, both with units registered in each individual country as well as helicopters crossing borders to perform specific jobs. The demand exists for these cross-border operations, but in today's environment it is difficult to manage such operations due to restrictions written into their lease and finance contracts.

The main issue, obviously, is mitigation of the lender's/lessor's risk in allowing the helicopter to operate in multiple countries. Better regulations around the world, reciprocal agreements between the U.S. FAA and the civil aviation authorities of other countries, and treaties such as the Cape Town Convention and Aircraft Protocol, combined with the reputation of a high-quality operator, are all necessary when a lender or lessor is requested to permit cross-border operations across multiple countries.

Lender Comfort

Lenders and lessors, in turn, have their own set of responsibilities, whether the finance contract is restricted to one country or many. The lender needs to make sure his title is perfected, regardless of the country the helicopter is registered in or the countries it may operate in. He needs to track the asset quality on a regular basis. These means setting up *and following through* on a methodology and cost accommodation to monitor assets, including frequent appraisals. The lender should logically include the examination of the assets on a regular basis, whether setting up the inspection themselves or hiring an inspector or appraiser to do it for

them. Because helicopters work in the field, away from convenient international airports, the lender's representative needs to visit the helicopter in the field (whether that's the jungle, the oil fields, or the construction site) in order to verify the maintenance and upkeep that will preserve and enhance the value of the unit.

Residual Values

In addition to the current asset value, lessors in particular are hungry for supportable residual projections. While a crystal ball would certainly come in handy, appraisers are generally stuck with past history and a strong knowledge of current and historical resale trends.

While every appraiser has his own approach to examining history in order to project future values, a fairly normal approach from a Blue Book's perspective would look something like this:

- Begin by obtaining sales pricing data from owners and operators, lenders and lessors, resellers, brokers and original equipment manufacturers worldwide and compiling them into the Blue Book.
- Assemble several decades' worth of Blue Book values into a further database of historical pricing.
- Adjust the historical data for inflation to current dollars.
- Perform one set of calculations comparing the 2007-dollar values to both current and trended historical replacement cost.
- Perform another set of calculations comparing the current Blue Book values to current replacement cost new (RCN).
- Compare the two sets of figures for reliability and feasibility and assess the results in light of historical and economic trends.
- Apply the resulting percentages to the (trended) RCN for the

appropriate year of manufacture of the helicopter.

- Factor anticipated inflation into the results as defined by the lessor or lender.

Regulations

There are a three new(er) regulations and one major recent treaty that factor into a helicopter valuation: the new IRS guidelines for a "Qualified Appraiser," which may require the appraiser to acquire additional accreditations and/or continuing education units; FAS 157, which created a new definition of Fair Value which can't help but impact appraisers' and lenders' outlook on Fair Market Value and which was discussed extensively in the July-August issue of Valuation Strategies; and the forthcoming FASB/IASB revamp of FAS 13/IAS 17, which will redefine risk and reward lease accounting. Once the framework for the FAS 13 replacement is agreed to in principle, appraisers are likely to be inundated with requests for residual value analyses so that lessors can comply with the likely on-balance-sheet structure.

The recent treaty that factors into the value equation is the Cape Town Convention.

The Cape Town Convention

The Convention on International Interests in Mobile Equipment and Aircraft Protocol (the Cape Town Convention), which took effect in March 2006, has added yet another wrinkle to the way lenders, buyers, and sellers register their interests in aircraft in many countries. The Cape Town Convention was designed to create an international legal framework for the four main issues facing security interests in mobile assets: creating, prioritizing, and enforcing security interests, and the jurisdictional rules that govern them. The Convention has two main benefits. The first is the International Registry for the Aircraft Protocol. The other is the treaty itself. Each ratifying country is essentially agreeing to subordinate its own legal framework for ownership in favor of the agreed-upon legal framework in the Cape Town Convention, subject to various optional declarations adopted by each country.

There are four main features of the treaty: 1) the criteria for *creating* an "international interest" (a security agreement, title reservation agreement, or



PROTOCOL

TO THE CONVENTION ON INTERNATIONAL INTERESTS IN MOBILE EQUIPMENT ON MATTERS SPECIFIC TO AIRCRAFT EQUIPMENT

THE STATES PARTIES TO THIS PROTOCOL,

CONSIDERING it necessary to implement the *Convention on International Interests in Mobile Equipment* (hereinafter referred to as "the Convention") as it relates to aircraft equipment, in the light of the purposes set out in the preamble to the Convention,

MINDFUL of the need to adapt the Convention to meet the particular requirements of aircraft finance and to extend the sphere of application of the Convention to include contracts of sale of aircraft equipment,

MINDFUL of the principles and objectives of the *Convention on International Civil Aviation*, signed at Chicago on 7 December 1944,

HAVE AGREED upon the following provisions relating to aircraft equipment:

leasing agreement); 2) a first-to-file **priority** rule based on the International Registry; 3) the default **remedies** for creditors and quiet possession rights for debtors; and 4) the **jurisdictional rules**.

Imagine that, pre-Cape Town, a commercial bank in the US extended a loan on a helicopter into a country with a very different legal system than our own. If the borrower defaulted on the contract and the lender needed to repossess the asset, he was subject to the laws of the borrower's country as regards his rights to repossess. Yes, he had a contract, but he also knew that if things went badly he was going to have trouble getting the asset back without a great deal of time and money.

Under the Cape Town Convention, if the asset is registered in one of the ratifying countries, the lender or lessor will have clearly stated rights and remedies under the treaty. No repossession is ever simple, but it's certainly easier when the lender's/lessor's remedies aren't illegal by the standards of the country from which he's repossessing!

The rights of the creditor when the debtor is in default on an aircraft now include deregistering the aircraft and arranging its export, taking possession or control of the aircraft, selling or granting a lease in the aircraft, and collecting or receiving income or profits from the use or management of the aircraft.

The benefits of legal recourse to the lessor or lender seem fairly obvious. What are the benefits to the lessee or borrower? The economic theory is that if

it is safer to lend or lease into other countries, then it will become more desirable to do so, which will in turn give easier credit access (and theoretically lower credit cost) to borrowers and lessees around the world. There is no evidence yet of these benefits developing, but there is hope that they should appear when the number of countries ratifying the convention passes a saturation point, particularly those capital-rich countries who might indeed lend or lease across borders.

Like the Uniform Commercial Code, the Aircraft International Registry (IR) is the listing of security interests on collateral involved in secure transactions. However, the Aircraft IR lists only one security interest for each asset. The interest listed is the first-to-file, not necessarily the primary lienholder. Interests registered with the Aircraft IR have legal priority over unregistered interests. Pre-existing interests are not applicable.

To date, machinery appraisers have not historically run a title search on the assets they appraise. The Cape Town Convention and its International Registry raise the question of whether appraisers will wish to add title searches to their research.

Conclusion

A helicopter is a fascinating but quirky asset, not exactly like airplanes, ships, yellow iron, or any other machinery. Although it bears much commonality with airplanes, it has several different

properties. The more utilitarian viewpoint of its buyers makes it less vulnerable to wear-and-tear deductions from the value. The vast number of components, each with a separate maintenance schedule, makes careful, line-by-line component analysis a requirement. The different market sectors, utilizing their individual requirements to determine their "ideal" helicopter, combine with the pressure-cooker of today's high demand and low supply to create a complex web of betterments and detriments to a helicopter's value. And the maze of federal codes and agencies, regulations and treaties, insists upon a deeper-than-skin-layer analysis of consequences of potential acquisitions and potential uses in a variety of different countries and cultures. Understanding the helicopter and its resale market, its function in the world and the needs of its operators, and the needs and requirements of the lenders and lessors who bring life to this small industry, are all critical aspects to a viable determination of this odd little machine's value.



Sharon Desfor, ASA, is president of HeliValue\$, Inc., (www.helivalues.com) publisher of **The Official Helicopter Blue Book®** and the only full-time helicopter appraisal service in the world. Ms. Desfor is also Vice Chair of the Leasing and Financing Subcommittee of the Helicopter Association International.