

AVIATION MARKET RESEARCH, STRATEGY, AND FORECASTING

Pilatus PC-12: Value Continuity and Resilience In the Face of Marketplace Headwinds

<u>Synopsis:</u> Despite the marketplace disruptions of COVID-19, Pilatus Aircraft continues to perform - and outperform - in its market segments. With more than 1,800 aircraft ever-delivered worldwide, the company's PC-12 single-engine turboprop is a stellar example of superior design and continuous improvement. With 27 years of production history, the PC-12 has proven to be a resilient design with limited direct competition and unmatched value retention over time. It remains a benchmark in the business and general aviation industry, offering assurance to aircraft owners, operators, and other stakeholders seeking superior value for their investments.

Renowned worldwide as craftsmen of the highest quality time pieces, the Swiss have emerged as leaders in the design and engineering of high-performance business and general aviation (B&GA) aircraft. Stans, Switzerland-based Pilatus Aircraft Ltd. today offers both the PC-12 single-engine turboprop and twin-turbofan PC-24 models, with a customer base spanning 60 countries and territories. The company will deliver it's 2,000th pressurized turbine B&GA aircraft to a customer sometime in 2022, an impressive achievement given that the original PC-12 only entered service in 1994.

Despite the marketplace and supply chain challenges introduced as a consequence of the COVID-19 pandemic, Pilatus was alone amongst B&GA aircraft original equipment manufacturers (OEMs) in closing out the year 2020 without experiencing lower customer delivery volumes. While industry shipments fell by ~20% year-over-year in 2020, Pilatus managed to deliver 82 PC-12 turboprops and 41 PC-24 jets, essentially unchanged year-over-year (YOY) from 83 PC-12s and 40 PC-24s in 2019. This is a testament to the quality, reliability, high performance, and versatility of Pilatus aircraft and the company's reputation for superior customer service. This is not to say that 2020 was without its challenges, for sure, which included travel restrictions, production furloughs, and supply chain disruptions, across all corners of the industry.



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Based on our prior analyses and continuing to this day, we have been able to consistently determine that Pilatus aircraft retain their value long after factory delivery, a situation that has not changed despite the gyrations of the marketplace in the coronavirus era. Led by the venerable PC-12, residual value retention is a consistent hallmark of the Pilatus Aircraft brand that delivers direct benefits to aircraft owners / operators, equipment financiers and lessors, and other stakeholders. Existing and prospective customers are wise to include value retention as a key consideration in their aircraft evaluation and selection process, in addition to the more traditional decision criteria of mission capability, cabin size, payload range, speed, and runway performance.

In the world of transportation equipment, asset depreciation is a fact of life, and aircraft are no exception. While the impacts of the COVID-19 pandemic continue to be felt in most sectors of the civil aviation market, the B&GA segment has fared much better than commercial aviation in weathering the worst impacts of the pandemic-induced storm. Various industry indicators, including aircraft utilization, pre-owned retail sales and leases, inventory-for-sale, and new aircraft deliveries suggest that the turboprop and light jet segments of the B&GA market have performed as well or better than the broader market to date. Amongst this group of aircraft, the Pilatus PC-12 continues to distinguish itself as an aircraft that occupies a unique market niche, combining the power, durability, and proven reliability of the Pratt & Whitney Canada PT6 engine with renowned Swiss engineering and manufacturing quality. With missions averaging ~250 nautical miles / 463 km worldwide over the past 12 months, the PC-12 is ideally suited to the broad array of short- to medium-range missions (including passenger, cargo, combi, utility, and specialized applications) that are at the core of the B&GA market.

Although subject to strict rules and regulations that govern international aircraft design and certification, aircraft manufacturers differ considerably in the way they approach design, engineering, manufacturing, supply chain management, sales and marketing, and customer service. While value is often seen as residing in the eyes of the beholder, aircraft simply have different pedigrees. As with most asset classes, aircraft that offer unique capabilities and that occupy "sweet spots" in the market can and will typically command a price and valuation premium, whether when sold factory-new or as a well-maintained pre-owned model. In our experience, aircraft manufacturers that consistently deliver on their promises and are disciplined regarding new product development, product enhancements, production rates, and



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new aircraft price discounting will be rewarded with stronger brand reputations, higher customer loyalty, and steadier pipelines of repeat sales and referrals. As a privately-owned business with a track record of solid financial performance and self-funded capital investment, Pilatus Aircraft is clearly amongst the industry's leaders in a variety of key performance indicators that are a foundation of the company's competitive advantage. Fast approaching a combined fleet of 2,000 PC-12 turboprops and PC-24 twin jets, Pilatus Aircraft has emerged as one of the premier OEMs in the B&GA industry. The company's operational and financial performance throughout an unprecedented global health crisis has demonstrated resilience, adaptability, and versatility, characteristics of an organization that is positioned to accelerate and outperform the overall B&GA market again in 2021.

For those considering the purchase of or investment in a Pilatus PC-12 aircraft, we offer the following assessment of the state of today's market, specifically addressing the market value of the PC-12 over time relative to other aircraft in the pressurized turboprop and very light jet segments.



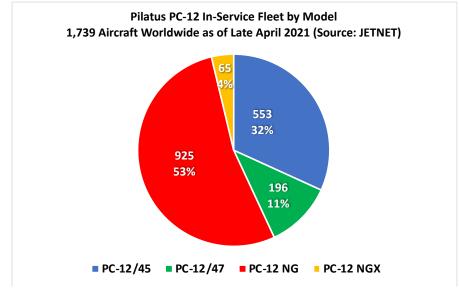


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THE PILATUS PC-12 MARKET

In 1989, Pilatus Aircraft of Stans, Switzerland announced its intention to enter the business and general aviation market with the single-engine turboprop PC-12. The Pratt & Whitney Canada PT6-powered PC-12 first flew in 1991, and was certified by Swiss and U.S. FAA authorities in 1994, with initial customer deliveries beginning that same year. As of late April 2021, there were 1,739 PC-12s in operation worldwide, based in 60 countries and territories. Approximately 93% of the PC-12 fleet is wholly owned, while the remaining 7% is in shared and fractional ownership-type programs. By base location, North America (USA and Canada) accounts for 68% of the worldwide Pilatus PC-12 fleet, followed by Europe (14%), Asia Pacific (7%), Latin America & Caribbean (6%), and Africa (4%). Seventeen percent of all business turboprops in service in Europe – and 13% in North America – are PC-12s, higher than in any other major region of the world.

Beginning with the PC-12/45 in 1995, the PC-12 fleet has grown over time to include four main models. The 2nd major iteration of the PC-12 design - the PC-12 NG – has so far proven to be the most successful of the family, with 924 aircraft in service accounting for more than half of the worldwide fleet. NG production ended in early 2020, with the NGX following in sequence in May 2020. As of late April 2021, JETNET counted 65 PC-12 NGX aircraft in the world fleet, based in 15 countries across five continents.





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Initial deliveries of the PC-12 NG began in 2008, featuring a more powerful 1,200-shp PT6A-67P engine, Honeywell Primus Apex flat panel glass flight deck with SmartView Synthetic Vision capability, enhanced aerodynamics, and higher speeds. Subsequent PC-12 NG enhancements have included the incorporation of electro-mechanical landing gear (e-Gear), an additional 5-knots of speed (increasing maximum cruise speed to 285 KTAS / 528 km/hour at FL 220), 10% better time-to-climb to cruise altitude, and lower cabin noise and vibration levels, enabled by a Hartzell 5-bladed graphite composite propeller and a series of drag-reducing aerodynamic improvements. In 2016, Pilatus upgraded the PC-12 NG to include an all-new entry door, Primus Apex Build 10 avionics software for additional ease of single-pilot operations, additional range to 1,617 nm / 2,995 km with 4 passengers at high-speed cruise with NBAA IFR reserves, and interior improvements.

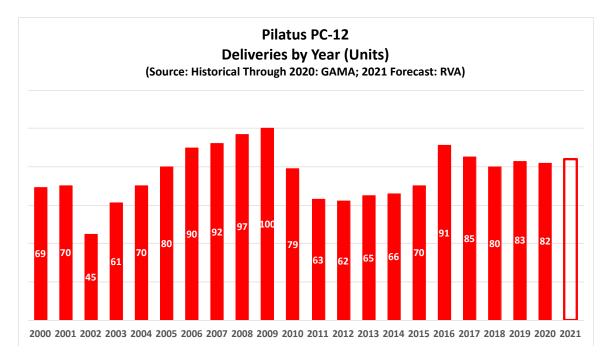
The PC-12 NGX was publicly announced and FAA / EASA certified in 2019, with initial customer deliveries beginning in May 2020. In comparison with the PC-12 NG, the PC-12 NGX features the new Pratt & Whitney PT6E-67XP engine with time between overhaul (TBO) increased 43% to 5,000 hours, an increase in high-speed cruise to 290 KTAS, updated avionics with touchscreen and cursor controls, autothrottle, FADEC, single power lever, low-speed propeller mode to enable a quieter cabin, 10% larger cabin windows, and an all-new interior with LED lighting and new air distribution system.

Amongst OEMs with at least 1,500 aircraft in operation, Pilatus has experienced the fastest fleet growth in the business aircraft industry over the past 10 years, expanding at a 5.3% compound annual growth rate (CAGR) worldwide. Notably, this is more than 3x faster than the overall market, which grew at 1.7% CAGR for the business jet fleet and 1.6% CAGR for business turboprops. In a testament to the PC-12's market attractiveness and to Pilatus Aircraft's operations and supplier management expertise, there were 82 new factory deliveries of PC-12s in 2020, virtually unchanged year-over-year (YOY) despite the COVID-19 pandemic and its many disruptive impacts on air travel, factory operations, and production supply chains. The PC-12 delivery performance contrasted with that of the overall industry, which delivered 20% fewer new pressurized turboprops in 2020 YOY.



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Our current forecast is that Pilatus Aircraft will deliver 84 new PC-12 turboprops in 2021, buoyed by strong interest in the PC-12 NGX model and supported by Pilatus' solid order backlog. Despite some nagging supplier quality issues that face all OEMs across the industry, Pilatus Aircraft's 2020 Annual Report, issued in mid-April 2021, indicated that the company was experiencing "solid market demand" and had already succeeded in selling its entire 2021 production lot of PC-12 and PC-24 twin jets.



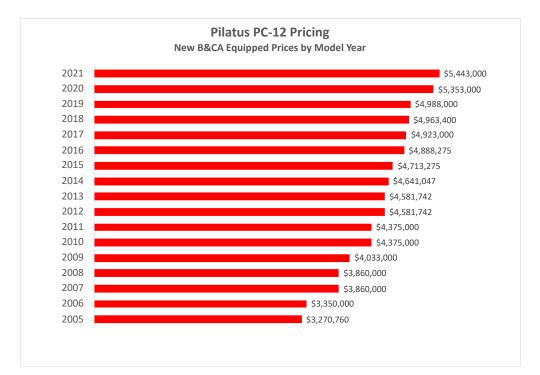
A reflection of the growing worldwide acceptance of the PC-12 as a safe, reliable, and value-retaining aircraft is the fact that the model accounted for 26% of total new pressurized business turboprop deliveries 10 years ago, and fully 36% in 2020. We believe that Pilatus's CAPEX, R&D, and facility investments in Switzerland and at subsidiaries in Broomfield, Colorado, USA (Pilatus Business Aircraft Ltd.) and Adelaide, Australia (Pilatus Australia Pty Ltd.) position the company for steady growth in the years ahead.

Pilatus Aircraft ended 2020 with a firm order backlog of 1,704 CHF million (\$U.S. 1.815 billion), representing a healthy multiple of 1.53-times sales across Pilatus' B&GA and government / military trainer business units.



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The following chart provides details on PC-12 equipped list prices by model year from 2005 to the present. These are published annually by <u>Business & Commercial Aviation</u> magazine in their *Purchase Planning Handbook (PPH)*, a standard reference in the business aviation industry. Reflecting Pilatus' policy of consistently refreshing its product line, these list prices reflect different versions of the PC-12, including the introduction of PC-12 NG in 2008 and PC-12 NGX in 2020. While year-over-year PC-12 price inflation has tended to be modest, step changes in equipped list prices are typically associated with the introduction of new versions of the model, in line with industry practices. The PC-12's new equipped list price has increased ~19% over the past 10 years, reflecting continuous product enhancements of the PC-12 NG and the introduction of the PC-12 NGX.

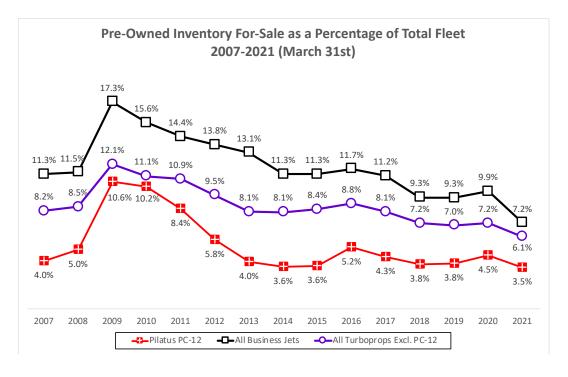




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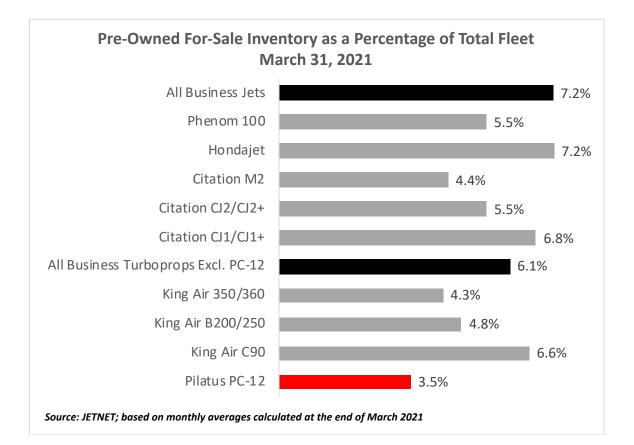
The percentage of the business aircraft fleet that is available for sale tends to fluctuate with overall business cycles, with higher inventory during periods of recession. This was certainly the case in 2008/2009 in the buildup to and aftermath of the Global Financial Crisis, when for-sale inventory spiked quickly and remain at an elevated rate for the next several years. Inventory for sale returned to pre-recession levels in 2013 for the PC-12 and for business turboprops more generally, and in 2014 for business jets.

The COVID-19-induced global recession in 2020 initially encouraged some aircraft owners to put their aircraft on the market, at precisely the same time as transaction activity froze almost completely in April / May, creating short-term havoc, and temporarily uncertain valuations. A late-year surge in pre-owned sales combined with fewer aircraft being placed on the market has brought us to today's situation of very limited inventory, in fact lower than at any time as measured by industry databases like JETNET. This is particularly the case with the PC-12. Of the 58 PC-12 aircraft listed as for sale on JETNET in late April 2020, just 19 were delivered new in the prior 10 years. This is significantly lower than the competition, a situation that bodes well for stronger transaction pricing and aircraft valuations going forward.





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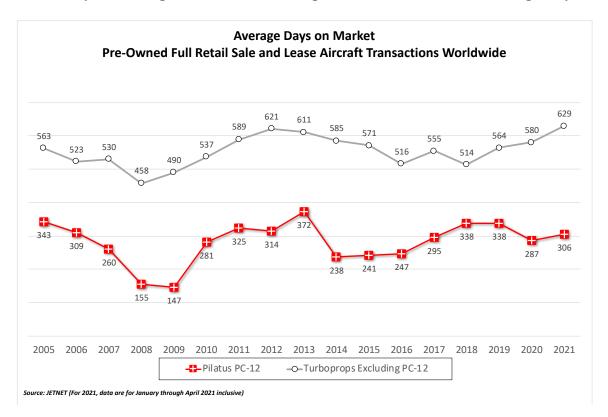


ROLLAND VINCENT ASSOCIATES, LLC 6009 W. Parker Road, Suite 149-112, Plano, Texas 75093 USA Tel: 972-439-2069 (U.S. Central Time) e-mail: rvincent@rollandvincent.com www.rollandvincent.com



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An analysis of pre-owned turboprop retail sales and lease transactions since 2005 reveals that PC-12 aircraft have sold 49% more quickly than the turboprop competition. In the midst of the COVID-19 crisis throughout 2020, pre-owned PC-12 days-on-market actually fell 15% YOY while other turboprop models languished, collectively remaining about 10 months longer on the market before finding a buyer.



Well-maintained, low-time aircraft continue to be in strong demand across all market segments in busines and general aviation, but very few of these most desired models are available for sale today. After 26 years of service, the PC-12 has continually succeeded in attracting and retaining an almost cult-like following amongst B&GA owners / operators, and within the aircraft finance, dealer / broker, and appraisal communities. Customer loyalty to Pilatus is very high based on on-going surveys conducted by JETNET iQ on brand awareness, brand quality, and future purchase intentions.



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PILATUS PC-12 VALUE RETENTION

Based on our on-going analyses, the PC-12 stands out amongst its competition in retaining its market value over time. Value retention is proving to be resilient in the face of marketplace headwinds and the buffeting effects of COVID-19. The relatively few PC-12 aircraft that are sold in pre-owned markets are distinguished by their ability to command prices that are consistently amongst the highest in the industry relative to what the original buyer of a new aircraft paid. This is a testament to the PC-12's quality, reliability, and unique features and capabilities. Pilatus Aircraft has a well-deserved reputation for doing what it does very well and adheres to policies that include internal funding of product development, disciplined production rate planning and execution, and limited discounting of new aircraft. This profitable formula provides upside for key stakeholders, and is the foundation for residual value retention, providing aircraft buyers of both new and pre-owned Pilatus PC-12s with peace of mind that they have made a wise investment decision.

In the following pages, we provide an assessment of actual pre-owned PC-12 transaction prices as recorded by JETNET and review the latest pre-owned retail prices from the Spring 2021 edition of *Aircraft Bluebook*.

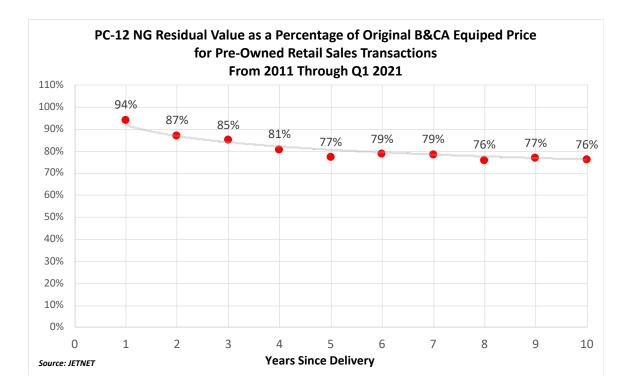




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As one of the leading aircraft market database providers, JETNET captures actual serial number-specific transaction prices for pre-owned models wherever possible. Although the transaction values database is relatively small, it is growing and provides rich insights into the actual prices being paid by retail customers.

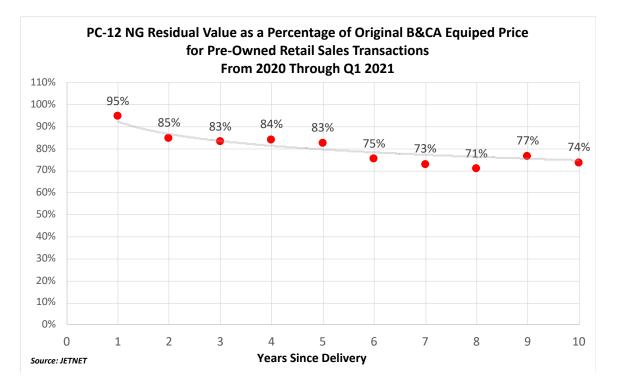
We analyzed a total of 105 pre-owned PC-12 NG transactions in the JETNET values database over a period from 2011 through March 2021 and compared these prices to that model year's original equipped price as presented in the *Business & Commercial Aviation (B&CA) Purchase Planning Handbook*. Results are presented in the graph below. All price points are in then-year U.S. Dollars and are not adjusted for inflation. The flatness of the curve after Year 5 from initial delivery is apparent and establishes a benchmark against which most other aircraft models struggle to compete. An implied 10-year residual value of 76-77% is simply unmatched by any direct competitor, based on our review of available databases.





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Focusing the same assessment just on recent transactions involving the PC-12 NG in the COVID-19 era yielded similar conclusions. Of the 36 PC-12 NG transactions in 2020 and year-to-date in 2021 for which JETNET has captured actual transaction prices, the range of residual values lies within a band of 71-77%, an impressive performance in an unprecedented period of marketplace disruption and opaqueness.

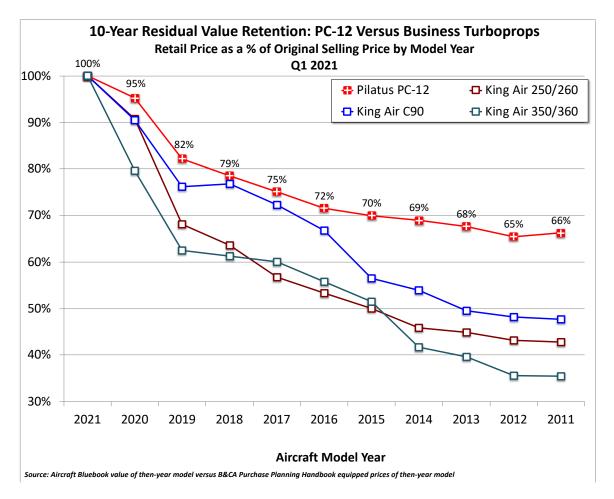


In our opinion, prospective buyers, lenders, lessors, and other stakeholders should take note of the strong residual value performance of the PC-12. Pre-owned inventory levels are currently at all-time lows, and new production deliveries are likely to remain relatively flat for the next 1-2 years as aircraft supply chains are repaired, new orders are taken, and production rates are eventually accelerated. In the near term, very low inventory, stable new factory deliveries, and a rebound in new orders – conditions evident in today's business aircraft marketplace – bode well for stronger market valuations. While recent aircraft price guides like <u>Aircraft Bluebook</u> and <u>Vref</u> have applied mark-to-market adjustments across all B&GA models to reflect the suddenness of COVID-19, we believe that these value estimates are lagging and out-of-date indicators of the uncertain market conditions of last year.



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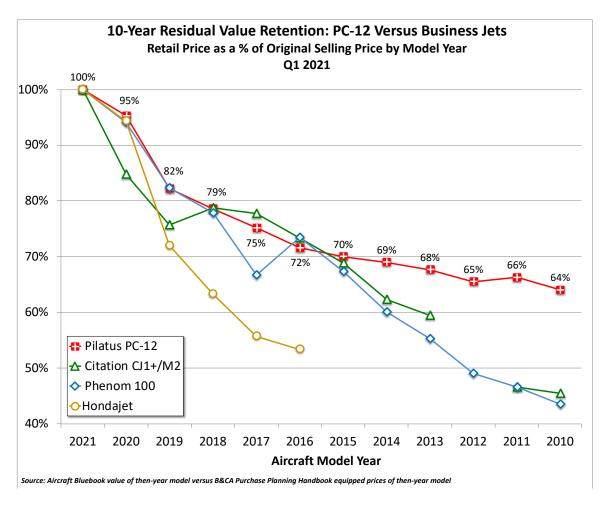
We base the following analyses on retail prices as published in the most recent edition of <u>Aircraft Bluebook</u> (dated Spring 2021) in comparison with equipped list prices for new aircraft models from Business & Commercial Aviation (B&CA)'s <u>Purchase Planning Handbook</u>. As was the case with prior research we have conducted on this topic, the PC-12 once again consistently leads the competition in retaining value over time (see chart below). While the absolute percentages are somewhat lower than we had calculated in 2018 (reflecting what we believe are temporary COVID-19 related markdowns in the Aircraft Bluebook), the relative positioning of the PC-12 versus its closest competition remains unchanged and market-leading by a wide margin.





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An assessment of the PC-12 relative to a number of Very Light Jet models reveals a similar pattern of residual value retention, with the PC-12 distinguishing itself as a clear value retention leader throughout the ownership cycle. This is particularly the case after Year 5 from factory delivery. Over the longer run, the PC-12's proven dispatch reliability, durability, and operational versatility – and lest we forget the smartly-designed cargo door, unimproved runway capability, superior payload range performance, and direct operating cost advantages – open a world of commercial possibilities for 2nd and 3rd owners. Whether deployed as an air ambulance, cargo and small package carrier, or in air tours and passenger airliner roles, the PC-12 continues to be a smart and profitable choice for customers with some of the market's most demanding missions, regardless of geography.





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THE BOTTOM LINE

While all forms of transportation equipment are depreciating assets, the Pilatus PC-12 has proven to be resilient in today's dynamic marketplace. The PC-12 continues to consistently outperform the competition in retaining market value. This is a testament to the aircraft itself - renowned Swiss design, engineering, and product quality - as well as discipline and consistency at Pilatus in aligning aircraft production rates with demand, limiting new aircraft discounts, and investing in continuous product development. The PC-12's unique residual value proposition is both resilient and enduring. A benchmark with a unique value proposition in the business and general aviation industry, the Pilatus PC-12 provides peace of mind and residual value assurance to aircraft owners, operators, financiers, and other stakeholders.



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DATA SOURCES

<u>Pre-Owned Retail Transaction Prices:</u> Aircraft Bluebook – Spring 2021 edition, Vol. 21-01

Note: Aircraft Bluebook retail prices by aircraft model year represent market averages in \$U.S. as reported by dealers, lenders, buyers and sellers during the previous quarter. Retail prices assume typical annual utilization (about 300 hours per aircraft per year), no damage history, original and complete maintenance logbooks, mid-life engines and maintenance inspections, and owner / operator compliance with all mandatory service bulletins and airworthiness directives.

<u>New Aircraft Deliveries:</u> General Aviation Manufacturers Association (GAMA)

<u>New Original Equipped List Prices:</u> Business & Commercial Aviation (B&CA) Purchase Planning Handbook

<u>Fleet, Pre-Owned Inventory For Sale, Days-on-Market, and Retail Transaction Prices:</u> JETNET – April 2021

PREPARED BY:



Rolland Vincent President, Rolland Vincent Associates, LLC 6009 W. Parker Road, Suite 149-112, Plano, Texas 75093 USA Tel: 972-439-2069 (U.S. Central Time) e-mail: rvincent@rollandvincent.com www.rollandvincent.com

April/May 2021

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