

# Asset Insight

## Quarterly Market Report

Business Jet & Turboprop Aircraft – July 2016



**Asset Insight, LLC**

Asset Optimization Solutions  
Valuations • Audits • Analytics • Consulting

### Record High Aircraft Quality, and Record Low Asking Prices, Mark Extraordinary Buyer's Market

Welcome to the July 2016 issue of the Asset Insight Market Report, a quarterly publication from Asset Insight, LLC. This quarter's report analyzed values for every production year of every modern make/model Business Class aircraft, and our June 30 maintenance analytics covered 91 fixed-wing models and 1,965 aircraft listed "for sale."

#### ➤ **Future Value Trend and Customer Demand**

Selling prices fell for the fifteenth consecutive quarter. Based on the number of aircraft for sale this quarter, and their average time on the market, buyers are being very selective and are low-price driven, while many sellers are unwilling to drop prices to meet market demand.

#### ➤ **Buyers and Sellers Pricing Expectations Continue to Get Further Apart**

In Q2 2016, actual selling prices across the market continued to fall and closings required sellers to move even further away from their initial listing prices. This trend is now well established and there is no evidence that it will improve in the near future, leaving inventory high and sellers understandably nervous.

#### ➤ **Asset Quality Rating**

This past quarter, aircraft listed for sale marked the highest quality rating since we began tracking Asset Quality Ratings, in January 2013. The high quality of the for-sale inventory, coupled with the low selling prices, provides unique value opportunities for buyers – along with ongoing challenges for sellers.

#### ➤ **Maintenance Exposure**

Average Maintenance Exposure, the accrued or embedded cost of future scheduled maintenance, increased/worsened from last quarter's 12-month best figure of \$1.422 million. However, this quarter's indicator is still marginally better than the \$1.456 million historical average.

#### ➤ **Maintenance Exposure to Ask Price Ratio ("ETP Ratio")**

The market's Maintenance Exposure to Ask Price Ratio has been fairly consistent during the first half of 2016, and represents a considerable improvement over the 2015 mid-year figure. Sellers continue to encounter headwinds due to buyers' expectations for low prices caused, in part, by the increased maintenance exposure and, on average, aircraft are spending more time on the market. *We consider any ETP Ratio over 40% to represent excessive Exposure in relation to Ask Price and Q2 2016 ETP Ratio is 54% – an improvement from the mid-year 2015 ETP Ratio of 67.2%.*

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## Large Jets

### Future Value Trend (“eTrend™”) and Current Market Demand

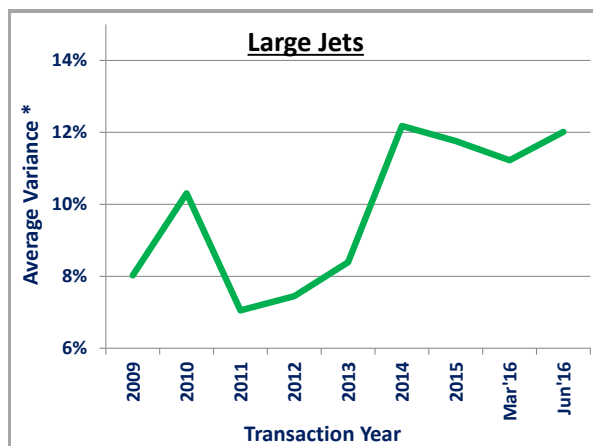
- **eTrend™** information is designed to provide a general view of how aircraft prices are currently trending, and the effect this is likely to have on average transaction values 90 days hence.
- **Current Market Demand** for each Make/Model represents an objective view based on that Make/Model’s Average Days on Market and the percentage of that Model’s fleet listed for sale.

Aircraft Make/Model	eTrend™	Current Market Demand*
	90-day Value Trend Average Gain/(Loss)	
<b>Bombardier</b>		
Challenger 600	(\$4,500)	★★★★☆
Challenger 601-1A	(\$48,000)	★★★☆☆
Challenger 601-3A	(\$46,000)	★★★★☆
Challenger 601-3R	(\$28,500)	★★★★☆
Challenger 604	(\$357,000)	★★★★☆
Challenger 605	(\$794,000)	★★★★☆
Challenger 650	(\$250,000)	★★★★☆
Challenger 850	(\$207,500)	★★★☆☆
Global 5000	(\$693,500)	★★★★☆
Global 6000	(\$1,299,000)	★★★★☆
Global Express	(\$1,307,000)	★★★★☆
Global Express XRS	(\$913,500)	★★★★☆
<b>Dassault</b>		
Falcon 7X	(\$872,500)	★★★★☆
Falcon 900A	(\$152,500)	★★★★☆
Falcon 900B	(\$443,000)	★★★★☆
Falcon 900C	(\$559,500)	★★★★☆
Falcon 900DX	(\$1,179,500)	★★★★☆
Falcon 900EX	(\$518,000)	★★★★☆
Falcon 900EXeasy	(\$1,156,500)	★★★☆☆
Falcon 900LX	(\$715,500)	★★★★☆
Falcon 2000	(\$231,500)	★★★★☆

Aircraft Make/Model	eTrend™	Current Market Demand*
	90-day Value Trend Average Gain/(Loss)	
<b>Dassault</b>		
Falcon 2000DX	(\$257,000)	★★★★☆
Falcon 2000EX Easy	(\$1,296,000)	★★★★☆
Falcon 2000LX	(\$1,026,500)	★★★★☆
Falcon 2000S	(\$375,000)	★★★★☆
<b>Embraer</b>		
Embraer Legacy 600	(\$1,043,500)	★★★★☆
Embraer Legacy 650	(\$2,245,500)	★★★☆☆
Linneage 1000	(\$885,500)	★★★☆☆
<b>Gulfstream</b>		
Gulfstream G300	(\$250,000)	★★★★☆
Gulfstream G350	(\$697,500)	★★★★☆
Gulfstream G400	(\$557,500)	★★★★☆
Gulfstream G450	(\$2,618,000)	★★★★☆
Gulfstream G500	(\$677,500)	★★★★☆
Gulfstream G550	(\$1,271,500)	★★★★☆
Gulfstream G650	(\$5,173,500)	★★★★☆
Gulfstream G650ER	(\$3,860,500)	★★★★☆
Gulfstream G-III	(\$67,500)	★★★☆☆
Gulfstream G-IV	(\$275,500)	★★★★☆
Gulfstream G-IVSP	(\$286,500)	★★★★☆
Gulfstream G-V	(\$621,500)	★★★★☆

*Excludes new production aircraft entering service during 2016*

### Used Aircraft Ask Price vs. Transaction Price Spread



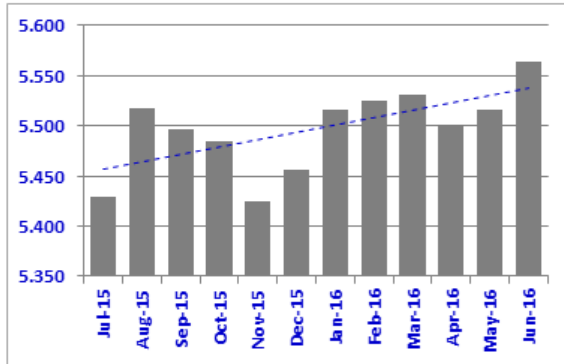
#### Large Jets – Analysis

After some stability between listing and actual selling prices during the first quarter, selling prices are once again falling, while many sellers are not willing to lower their list price to match what the market is now willing to pay.

\* Average Variance based on a Sample Set considering the Ask Price against the Transactional Price

## Large Jets

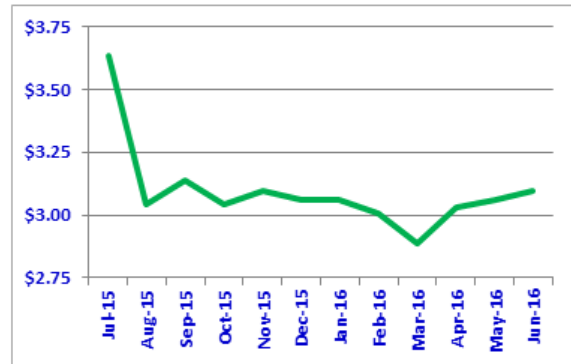
**Asset Quality Rating**  
 Scale -2.500 to 10.000



**Asset Quality Rating Key**

Outstanding	Excellent	Very Good	Good	Average	Below Average
5.500 or Greater	5.250 to 5.499	5.000 to 5.249	4.750 to 4.999	4.500 to 4.749	Less than 4.500

**Maintenance Exposure\***  
 (\$ Mil)

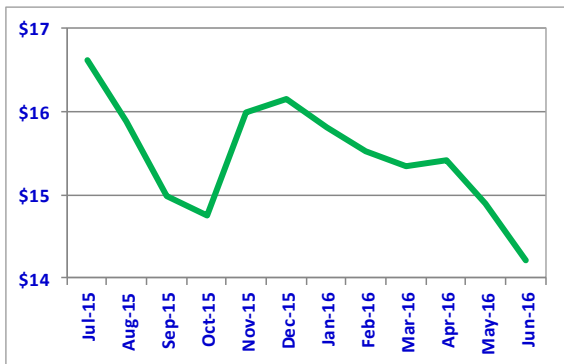


**Maintenance Exposure – Reference Points**

12-month Figures \$ Millions			Historical Figures \$ Millions	
Worst	Average	Best	Worst	Best
\$3.634	\$3.096	\$2.885	\$3.763	\$2.575

\* The accrued cost of future scheduled maintenance

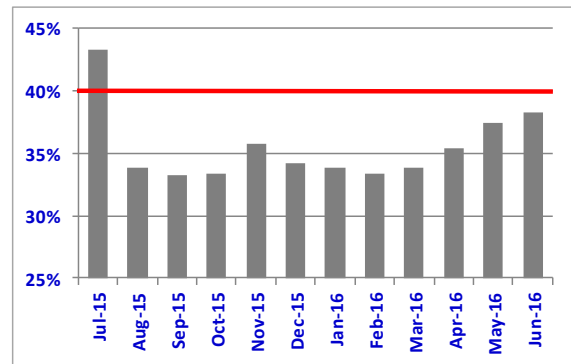
**Average Ask Price**  
 (\$ Mil)



**Average Ask Price – Reference Points**

12-month Figures \$ Millions			Historical Figures \$ Millions	
Highest	Average	Lowest	Highest	Lowest
\$16.61	\$15.47	\$14.22	\$16.61	\$13.13

**Maintenance Exposure to Ask Price Ratio**  
 ("ETP Ratio")



**Importance of the ETP Ratio**

- As the ETP Ratio decreases, the aircraft's "value" increases (in relation to its Ask Price)
- Aircraft whose ETP Ratio is above 40% are burdened, on average, with excessive Maintenance Exposure

**Maintenance Exposure to Ask Price Ratio ("ETP Ratio") & Days on Market**

Model	ETP Ratio	Days on Market	Model	ETP Ratio	Days on Market	Model	ETP Ratio	Days on Market
<b>Boeing</b>			<b>Dassault</b>			<b>Embraer</b>		
Boeing BBJ	6.5%	621	F900LX	3.7%	330	Embraer Legacy 600	26.9%	323
<b>Bombardier</b>			F2000LX	8.0%	269	<b>Gulfstream</b>		
CL-605	10.2%	222	F900EX EASy	12.9%	662	G650	1.5%	181
Global XRS	23.1%	281	Falcon2000EX Easy	15.1%	178	G 450	12.4%	219
CL-604	31.3%	347	F900DX	18.6%	188	G550	18.9%	221
Global 5000	34.0%	289	F900EX	23.2%	343	<b>GV</b>	<b>43.2%</b>	<b>275</b>
<b>Global Express</b>	<b>61.4%</b>	<b>295</b>	F900B	31.0%	391	<b>GIV-SP</b>	<b>56.6%</b>	<b>314</b>
CL-601-3R	80.2%	452	<b>Falcon 2000</b>	<b>52.8%</b>	<b>135</b>	<b>GIV-SP (MSG3)</b>	<b>59.8%</b>	<b>250</b>
CL-601-3A	123.7%	387				<b>GIV</b>	<b>125.8%</b>	<b>555</b>
CL-601-1A	225.7%	N/A						

## Medium Jets

### Future Value Trend (“eTrend™”) and Current Market Demand

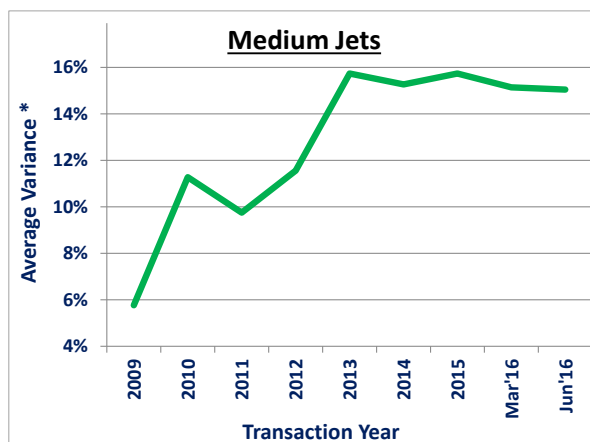
- **eTrend™** information is designed to provide a general view of how aircraft prices are currently trending, and the effect this is likely to have on average transaction values 90 days hence.
- **Current Market Demand** for each Make/Model represents an objective view based on that Make/Model’s Average Days on Market and the percentage of that Model’s fleet listed for sale.

Aircraft Make/Model	eTrend™	Current Market Demand*
	90-day Value Trend Average Gain/(Loss)	
<b>Bombardier</b>		
Challenger 300	(\$278,000)	★★★★☆
Challenger 350	(\$1,701,500)	★★★★☆
Lear 40	(\$220,500)	★★★★☆
Lear 40XR	(\$81,000)	★★★★☆
Lear 45	(\$324,500)	★★★★☆
Lear 45XR	(\$333,500)	★★★★☆
Lear 55	(\$86,500)	★★★★☆
Lear 60	(\$45,500)	★★★★☆
Lear 60SE	(\$274,500)	★★★★☆
Lear 60XR	(\$280,000)	★★★★☆
Lear 70	(\$460,000)	★★★★☆
Lear 75	(\$399,500)	★★★★☆
<b>Cessna</b>		
Citation Excel	(\$33,000)	★★★★☆
Citation Sovereign	(\$281,500)	★★★★☆
Citation Sovereign +	(\$364,500)	★★★★☆
Citation Ultra	(\$66,000)	★★★★☆
Citation X	(\$66,000)	★★★★☆
Citation X+	(\$926,500)	★★★★☆
Citation XLS+	(\$220,000)	★★★★☆
Citation XLS	(\$229,000)	★★★★☆

Aircraft Make/Model	eTrend™	Current Market Demand*
	90-day Value Trend Average Gain/(Loss)	
<b>Embraer</b>		
Embraer 500	(\$197,000)	★★★★☆
<b>Dassault</b>		
Falcon 50	(\$137,000)	★★★★☆
Falcon 50EX	(\$342,500)	★★★★☆
<b>Gulfstream</b>		
Gulfstream G100	(\$34,000)	★★★★☆
Gulfstream G150	(\$1,038,500)	★★★★☆
Gulfstream G200	(\$358,000)	★★★★☆
Gulfstream G280	(\$1,136,000)	★★★★☆
<b>Hawker Beechcraft</b>		
Hawker 700A	(\$4,500)	★★☆☆☆
Hawker 750	(\$151,000)	★★★★☆
Hawker 800A	(\$122,000)	★★★★☆
Hawker 800XP	(\$205,000)	★★★★☆
Hawker 800XPi	(\$60,000)	★★★★☆
Hawker 850XP	(\$18,000)	★★★★☆
Hawker 900XP	(\$202,000)	★★★★☆
Hawker 1000	(\$74,000)	★★★★☆
Hawker 4000	(\$203,000)	★★★★☆

*Excludes new production aircraft entering service during 2016*

### Used Aircraft Ask Price vs. Transaction Price Spread



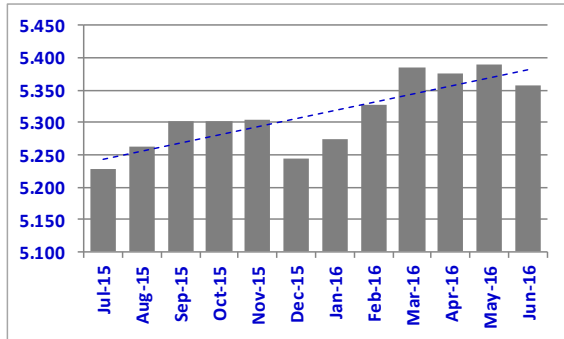
#### Medium Jets – Analysis

Actual selling prices for Medium Jets moved closer to listing prices during the second quarter – something prices also did during the first quarter – which is very good news for Sellers.

\* Average Variance based on a Sample Set considering the Ask Price against the Transactional Price

## Medium Jets

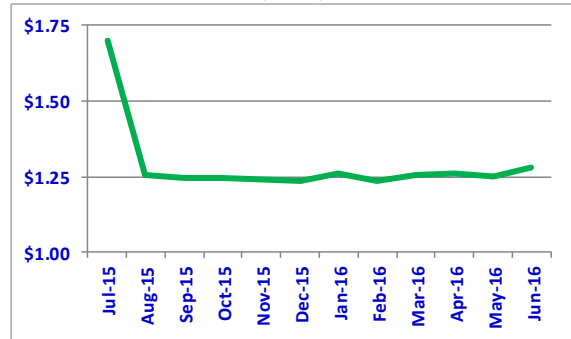
**Asset Quality Rating**  
 Scale -2.500 to 10.000



**Asset Quality Rating Key**

Outstanding	Excellent	Very Good	Good	Average	Below Average
5.500 or Greater	5.250 to 5.499	5.000 to 5.249	4.750 to 4.999	4.500 to 4.749	Less than 4.500

**Maintenance Exposure\***  
 (\$ Mil)

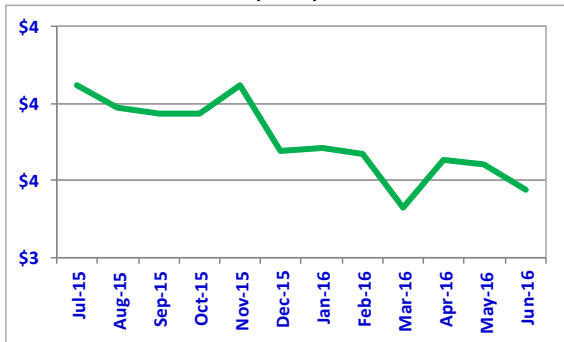


**Maintenance Exposure – Reference Points**

12-month Figures \$ Millions			Historical Figures \$ Millions	
Worst	Average	Best	Worst	Best
\$1.702	\$1.289	\$1.235	\$1.702	\$0.854

\* The accrued cost of future scheduled maintenance

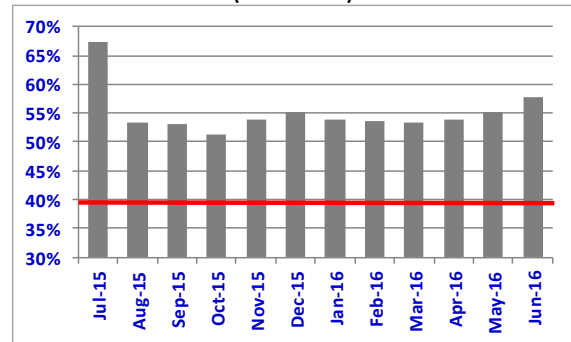
**Average Ask Price**  
 (\$ Mil)



**Average Ask Price – Reference Points**

12-month Figures \$ Millions			Historical Figures \$ Millions	
Highest	Average	Lowest	Highest	Lowest
\$3.81	\$3.63	\$3.41	\$4.80	\$3.39

**Maintenance Exposure to Ask Price Ratio**  
 ("ETP Ratio")



**Importance of the ETP Ratio**

- As the ETP Ratio *decreases*, the aircraft's "value" increases (in relation to its Ask Price)
- Aircraft whose ETP Ratio is above 40% are burdened, on average, with excessive Maintenance Exposure

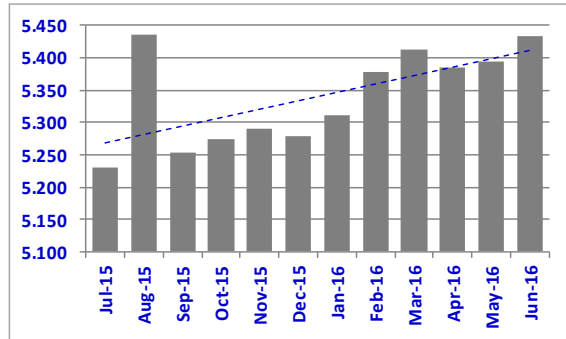
**Maintenance Exposure to Ask Price Ratio ("ETP Ratio") & Days on Market**

Model	ETP Ratio	Days on Market	Model	ETP Ratio	Days on Market	Model	ETP Ratio	Days on Market
<b>Bombardier</b>			<b>Cessna</b>			<b>Gulfstream</b>		
Challenger 300	18.2%	161	Citation Sovereign 680	13.4%	240	<b>G-100</b>	67.0%	149
Learjet 60XR	27.8%	446	Citation XLS	21.7%	182	<b>Hawker</b>		
Learjet 45XR	42.5%	316	Citation X (MSG3)	39.9%	261	Hawker 900XP	18.1%	245
Learjet 45	49.8%	385	Citation Excel 560XL	42.4%	204	Hawker 400XP	30.0%	263
Learjet 45 w/APU	51.7%	372	<b>Dassault</b>			Hawker 800XP	49.9%	437
Learjet 60	89.2%	403	Falcon 50EX	21.3%	249	Hawker Beechjet 400A	55.6%	350
Learjet 55C	96.2%	847	Falcon 50	72.3%	531	Hawker Beechjet 400	63.3%	561
Learjet 55	185.4%	483	<b>Gulfstream</b>			Hawker 1000A	76.5%	634
<b>Cessna</b>			G-150	12.3%	176	Hawker 800A	105.9%	497
Citation XLS+ (MSG3)	12.1%	183	G-200	37.7%	309			



## Small Jets

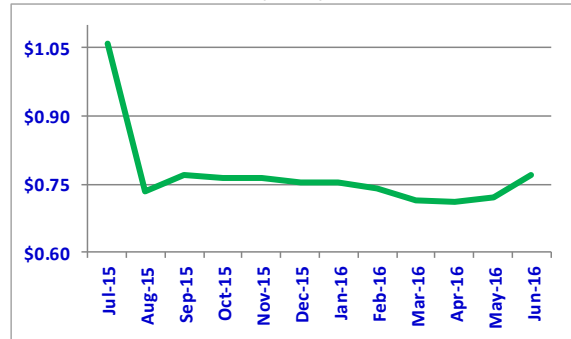
### Asset Quality Rating Scale -2.500 to 10.000



#### Asset Quality Rating Key

Outstanding	Excellent	Very Good	Good	Average	Below Average
5.500 or Greater	5.250 to 5.499	5.000 to 5.249	4.750 to 4.999	4.500 to 4.749	Less than 4.500

### Maintenance Exposure\* (\$ Mil)

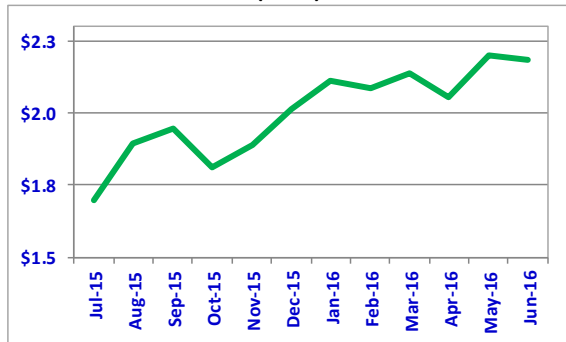


#### Maintenance Exposure – Reference Points

12-month Figures \$ Millions			Historical Figures \$ Millions	
Worst	Average	Best	Worst	Best
\$1.059	\$0.771	\$0.710	\$1.069	\$0.573

\* The accrued cost of future scheduled maintenance

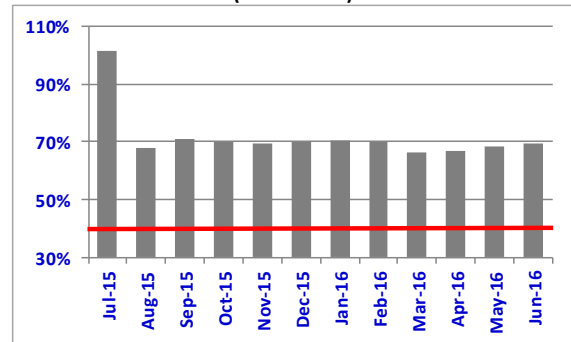
### Average Ask Price (\$ Mil)



#### Average Ask Price – Reference Points

12-month Figures \$ Millions			Historical Figures \$ Millions	
Highest	Average	Lowest	Highest	Lowest
\$2.20	\$2.00	\$1.70	\$2.21	\$1.70

### Maintenance Exposure to Ask Price Ratio ("ETP Ratio")



#### Importance of the ETP Ratio

- As the ETP Ratio *decreases*, the aircraft's "value" increases (in relation to its Ask Price)
- Aircraft whose ETP Ratio is above 40% are burdened, on average, with excessive Maintenance Exposure

### Maintenance Exposure to Ask Price Ratio ("ETP Ratio") & Days on Market

Model	ETP Ratio	Days on Market	Model	ETP Ratio	Days on Market	Model	ETP Ratio	Days on Market
<b>Beechcraft</b>			<b>Cessna</b>			<b>Cessna</b>		
Premier 1A	37.6%	204	Citation CJ2+ 525A	15.8%	280	Citation V 560	74.9%	213
Premier 1	54.7%	351	Citation Encore	24.6%	355	Citation II	126.4%	583
<b>Bombardier</b>			Citation Mustang 510	24.9%	268	Citation ISP	126.9%	490
Learjet 31	121.3%	1106	Citation CJ2	28.4%	444	<b>Dassault</b>		
Learjet 35A	186.0%	907	Citation CJ1+	33.9%	748	Falcon 20-5	186.0%	882
<b>Cessna</b>			Citation Bravo	51.3%	295	<b>Embraer</b>		
Citation CJ4 525C	3.8%	137	Citation V Ultra	59.0%	522	Phenom 300	7.7%	234
Citation CJ3	13.1%	201	Citation VI	65.4%	482	Phenom 100	24.1%	231



## Turboprops

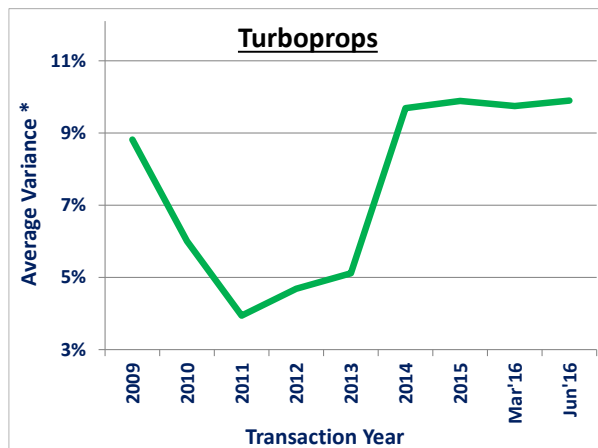
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Aircraft Make/Model	eTrend™	Current Market Demand*
	90-day Value Trend Average Gain/(Loss)	
<b>Cessna</b>		
208 Caravan (2001+)	(\$17,000)	★★★★☆
208 Caravan (2008+)	(\$32,500)	★★★★☆
208B Grand Caravan (2001+)	(\$25,000)	★★★★☆
208B Grand Caravan (2008+)	N/A	★★★★☆
<b>Beech</b>		
King Air 350 (1990-2009)	(\$68,000)	★★★★☆
King Air 350i	(\$194,000)	★★★★☆
<b>Piaggio</b>		
Piaggio Avanti P180 II	(\$152,000)	★★★☆☆
<b>Pilatus</b>		
Pilatus PC-12 41 and 45	(\$191,000)	★★★★☆
Pilatus PC-12 47	(\$44,000)	★★★★☆
Pilatus PC-12-47E NG	(\$31,000)	★★★★☆
<b>Socata</b>		
Socata 700A TBM	(\$39,000)	★★★★☆
Socata 700B TBM	(\$38,750)	★★★★☆
Socata Pack TBM 850	(\$107,000)	★★★★☆

*Excludes new production aircraft entering service during 2016*

### Used Aircraft Ask Price vs. Transaction Price Spread



#### Turboprops – Analysis

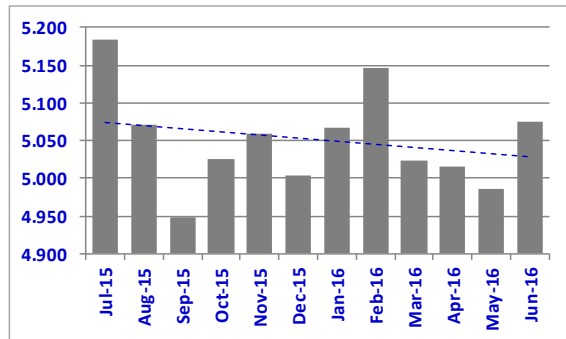
The differential between listing and actual selling price has remained consistent for Turboprops. Should inventory continue to build, we anticipate a slight increase in differential between these two value data points.

\* Average Variance based on a Sample Set considering the Ask Price against the Transactional Price



## Turboprops

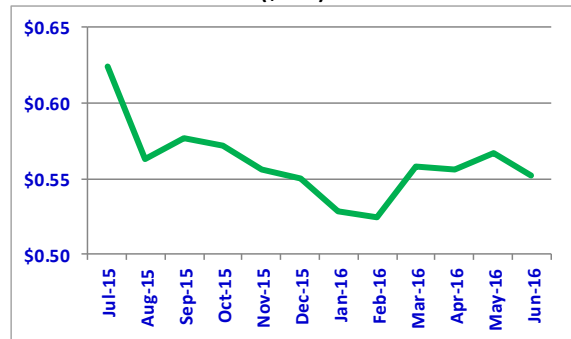
### Asset Quality Rating Scale -2.500 to 10.000



#### Asset Quality Rating Key

Outstanding	Excellent	Very Good	Good	Average	Below Average
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### Maintenance Exposure\* (\$ Mil)

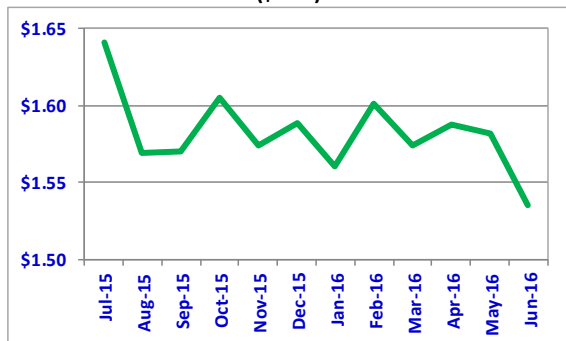


#### Maintenance Exposure – Reference Points

12-month Figures \$ Millions			Historical Figures \$ Millions	
Worst	Average	Best	Worst	Best
\$0.624	\$0.561	\$0.524	\$0.697	\$0.436

\* The accrued cost of future scheduled maintenance

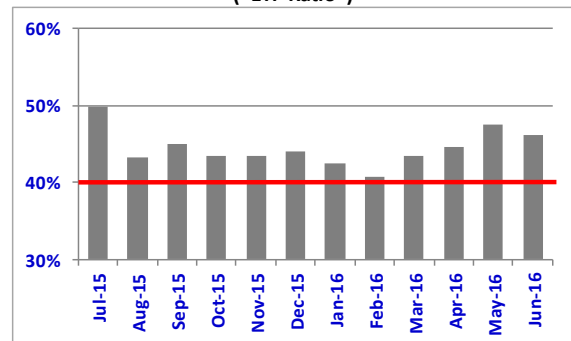
### Average Ask Price (\$ Mil)



#### Average Ask Price – Reference Points

12-month Figures \$ Millions			Historical Figures \$ Millions	
Highest	Average	Lowest	Highest	Lowest
\$1.64	\$1.58	\$1.53	\$1.97	\$1.46

### Maintenance Exposure to Ask Price Ratio ("ETP Ratio")



#### Importance of the ETP Ratio

- As the ETP Ratio *decreases*, the aircraft's "value" increases (in relation to its Ask Price)
- Aircraft whose ETP Ratio is above 40% are burdened, on average, with excessive Maintenance Exposure

### Maintenance Exposure to Ask Price Ratio ("ETP Ratio") & Days on Market

Model	ETP Ratio	Days on Market	Model	ETP Ratio	Days on Market	Model	ETP Ratio	Days on Market
<b>Beechcraft</b>			<b>Beechcraft</b>			<b>Pilatus</b>		
KingAir 350 - Post-2000	24.8%	285	KingAir C90	101.3%	765	Pilatus PC-12	13.2%	262
KingAir B-200 - Post-2000	28.3%	320	Beech B-1900C	134.9%	570	<b>Piper</b>		
KingAir 350 - Pre-2001	29.3%	251	<b>Piaggio</b>			Piper Meridian	20.9%	255
KingAir B-200 - Pre-2001	44.9%	319	Piaggio P-180 II	26.2%	311			
KingAir 300	65.5%	349	Piaggio P-180	76.5%	608			

## Aircraft analyzed – maintenance analytics

Following is a list of the aircraft models researched to produce this Market Report’s maintenance analytics:

<u>Large Jets</u>	<u>Medium Jets</u>	<u>Small Jets</u>	<u>Turboprops</u>
<b>Beechcraft-Hawker:</b>			
	• Beechjet 400	• Premier 1	• King Air C90
	• Beechjet 400A	• Premier 1A	• King Air B-200
	• Hawker 400XP		• King Air 300
	• Hawker 800A		• King Air 350
	• Hawker 800XP		• B-1900C
	• Hawker 900XP		
	• Hawker 1000A		
<b>Boeing:</b>			
	• BBJ		
<b>Bombardier:</b>			
• CL-601-1A; 3A; -3R; -SE	• Challenger 300	• Learjet 31	
• CL-604	• Learjet 45; 45 w/APU	• Learjet 35A	
• CL-605	• Learjet 45XR		
• Global 5000	• Learjet 55-55A		
• Global Express	• Learjet 55C		
• Global XRS	• Learjet 60		
	• Learjet 60XR		
<b>Cessna:</b>			
	• Citation Sovereign	• Citation CJ1+	
	• Citation VI	• Citation CJ2	
	• Citation X (MSG3)	• Citation CJ3	
	• Citation XLS; XLS (MSG3)	• Citation Bravo	
	• Citation XLS+ (MSG3)	• Citation Encore	
		• Citation I-SP	
		• Citation II	
		• Citation Mustang	
		• Citation V; Citation V Ultra	
<b>Dassault Falcon Jet:</b>			
• F2000	• Falcon 20-5		
• F2000EX; F2000EX Easy	• Falcon 50		
• F2000DX; F2000LX	• Falcon 50EX		
• F900; F900B; F900C			
• F900EX; F900EX Easy			
• F900DX; F900LX			
<b>Embraer:</b>			
• Legacy 600		• Phenom 100	
		• Phenom 300	
<b>Gulfstream:</b>			
• G-IV	• G-100		
• GIV-SP & GIV-SP (MSG3)	• G-150		
• GV	• G-200		
• G350			
• G450			
• G550			
<b>Piaggio:</b>			
			• P-180; P180 II
<b>Pilatus:</b>			
			• PC-12
<b>Piper:</b>			
			• Malibu Meridian

## Analysis Methodology – Maintenance Analytics

Asset Insight, LLC has developed a proprietary **Asset Grading System Process**™ (AGSP) that objectively evaluates assets relative to their Optimal Maintenance Condition and provides an easy-to-understand, uniform, yet robust, set of data that can be acted upon, on a timely basis, to protect and/or enhance an asset's financial performance.

The AGSP is based on patented algorithms analyzing current age, the hours and cycles on an aircraft's Major Sectors – airframe, engine(s), propeller(s), APU, paint, and interior – as well as the cost to repair or replace parts with no defined life. The AGSP derives an index (the "**Asset Insight Index**") providing an objective measure of an aircraft's current maintenance status and its related Financial Exposure going forward – that is, the financial liability accrued with respect to future scheduled maintenance events.

The Asset Insight Index is comprised of three factors that evaluate two aspects of an aircraft's maintenance, its **Asset Quality Rating** and its **Maintenance Exposure Value**. The Asset Quality Rating is computed by averaging the aircraft's **Maintenance Rating** and **Financial Rating**, while the Maintenance Exposure Value measures an aircraft's accrued / consumed financial liability with respect to future scheduled maintenance events, presenting such information in financial terms.

## Asset Quality Rating and the Factors Comprising the "Asset Insight Index"

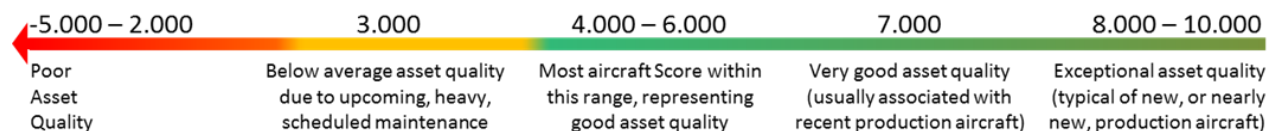
### ① Asset Quality Rating

The Asset Quality Rating allows any aircraft's maintenance status to be directly compared to any other aircraft's maintenance status, by virtue of the Asset Insight standardized scale. The Asset Quality Rating is computed by averaging the aircraft's Maintenance Rating ("ATC Score") and Financial Rating ("ATFC Score") – explained in the following two sections – and is based on a scale ranging from -2.500 to 10.000, the latter reflecting a newly produced aircraft (see scale below).



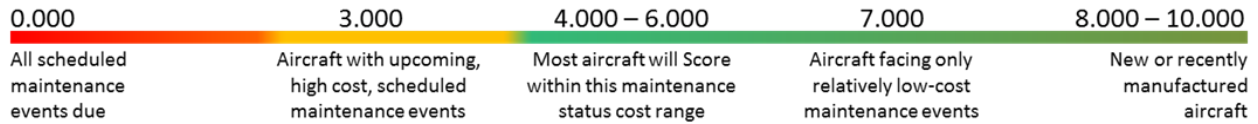
### **Maintenance Rating – Asset Technical Condition Score ("ATC Score")**

The "Asset Technical Condition Score" ("ATC Score") utilizes the Asset Grading System Process (Patent Pending) developed by Asset Insight, Inc. to objectively evaluate and grade an aircraft's maintenance status, on a standardized scale, relative to its Optimal Maintenance Condition (achieved on the day it came off the production line), utilizing the aircraft's (standard/typical) Scheduled Maintenance Program. The ATC Score is based on a scale ranging from -5.000 to 10.000, the latter reflecting a newly produced aircraft (see scale below).



**② Financial Rating – Asset Technical Financial Condition Score (“ATFC Score”)**

The “Asset Technical Financial Condition Score” (“ATFC Score”) evaluates and grades the Aircraft’s financial rating relative to its Optimal Maintenance Condition based on the Aircraft’s ATC Score (see Maintenance Rating above). The ATFC Score is based on a scale from 0.000 to 10.000, the latter reflecting a newly produced aircraft (see scale below).



To score each aircraft make/model, the average cost for completing each maintenance event comprising the ATC Maintenance Program is determined. Having compiled the aircraft’s maintenance history, the time (calendar, flight hours or cycles) accumulated toward each individual scheduled/anticipated maintenance event is used to determine the aircraft’s ATFC Score.

The Financial Rating (ATFC Score) differs from the Maintenance Rating (ATC Score). While the ATC Score evaluates and grades an aircraft’s maintenance status relative to its Optimal Maintenance Condition, the ATFC Score grades an aircraft’s financial condition relative to its Optimal Maintenance Condition, meaning the ATFC Score is weighted by the estimated cost to complete each maintenance event. Accordingly, the Maintenance Rating is likely to differ from the Financial Rating.

For example, if an aircraft had only two maintenance components, and if one component was three-quarters of the way toward its overhaul while the second was one-quarter of the way toward its overhaul, their combined ATC Score would be 5.000, based on the following calculation: (75% + 25%) / 2 X Perfect Score (10.000) = 5.000.

However, if the first of these components has an overhaul cost of \$1,000, while the second has an overhaul cost of \$10,000, their combined ATFC Score would be 2.955 (see below).

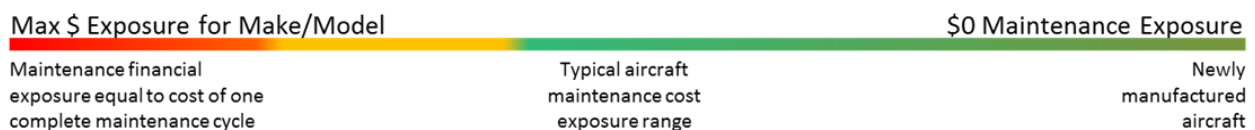
	<u>Remaining Useful Life</u>	<u>Overhaul Cost</u>	<u>Remaining Financial Value</u>
Component #1	75%	\$1,000	\$750
Component #2	25%	\$10,000	\$2,500
		<u>\$11,000</u>	<u>\$3,250</u>

**ATFC Score Calculation Methodology**

Aircraft’s Financial Ratio (\$3,250 / \$11,000) X Perfect Score (10.000) = 2.955

**Maintenance Exposure – Asset Technical Financial Exposure Value (“ATFE Value”)**

The “Asset Technical Financial Exposure Value” (“ATFE Value”) measures the aircraft’s financial exposure based on its maintenance condition – the liability accrued / consumed with respect to future scheduled maintenance events – and presents this information in financial terms, as follows:



To derive an aircraft's ATFE Value, the estimated cost for completing each event comprising the ATC Maintenance Program has been established. Having compiled an aircraft's maintenance history, the time (flight hours, landings/cycles, and/or calendar period) accumulated toward each individual scheduled/anticipated maintenance event is used to compute the dollar liability accrued toward that event, with the ATFE Value representing the total accrued liability toward future maintenance events.

## Used Aircraft Ask Price vs. Transactional Price Spread

Detailed analytics are used to determine the ask price of an aircraft and its bid/ask spreads, including, but not limited to, items such as market supply, demand, saturation, aircraft age, competition, utility, damage, economics, financing, trade, exclusivity, compulsion to sell, buyer / seller market strength, etc.

## Future Value Trend (“eTrend™”) and Current Market Demand

eTrend™ information is displayed by Make/Model and is intended to provide a general view of how aircraft prices are currently trending and the effect this is likely to have on average transaction values 90 days hence. Current Market Demand for each Make/Model is an objective view based on that Make/Model's Average Days on Market and the percentage of that Model's fleet listed for sale. All figures **EXCLUDE** new production aircraft entering service during 2016.

## Ask Price vs. Asset Exposure to Ask Price Ratio (“ETP Ratio”) Graph

The graph displays the relationship between each aircraft group's “Asset Exposure to Ask Price” Ratio (the ATFE Value divided by the Average Ask Price) and the Average Ask Price. In general, as aircraft Ask Prices rise, the Ratio should decrease – all other factors being equal. However, the Ratio's relationship to Ask Price is not an absolute inverse correlation. Aircraft with a greater or lesser maintenance-related Financial Exposure, but with the same Ask Price, may replace aircraft listed “for sale” during any given month. Accordingly, it is possible for both the Ratio and the Ask Price lines to move in the same direction.

## Asset Exposure to Ask Price Ratio (“ETP Ratio”)

The Asset Exposure to Ask Price Ratio (“ETP Ratio”) is calculated by dividing the aircraft's ATFE Value (the financial liability accrued with respect to future scheduled maintenance events) by its Ask Price. Accordingly, as the ETP Ratio decreases, the aircraft's “value” increases (in relation to its Ask Price). Aircraft whose ETP Ratio is 40% or greater are believed to have accrued an excessive level of maintenance Asset Exposure (ATFE Value) in relation to their Ask Price. ETP Ratios are only available in cases where a statistically significant sample of aircraft Ask Price and maintenance status can be derived for a specific Make / Model.

## ETP Ratio vs. Average Days on Market

The graph plots each aircraft make model displayed on the list (below the graph) based on information obtained from Amstat ([www.amstatcorp.com](http://www.amstatcorp.com)) and Asset Insight's research/analytics. Any models perceived to be “outliers” (e.g., aircraft whose ETP Ratio exceeded 200%) were excluded.

## General Information

Asset Insight, LLC ([www.assetinsightinc.com](http://www.assetinsightinc.com)) provides asset evaluation and financial optimization services. The company's "Asset Grading System Standard" (Patent Pending), and related analyses, provides the ability to translate the asset's technical condition into easy-to-understand, actionable financial information. Asset Insight is independent of any manufacturer, appraisal firm, financial services firm, or technical services facility, enabling it to provide an unbiased view of an asset's condition with respect to its technical status and related financial exposure. The company is managed by business, technical and financial professionals with significant experience in aviation asset management.

This Analysis is not intended to represent a technical evaluation of any Aircraft. Further, the reader, or any party using information contained in this Report, should recognize that this Report is limited in scope, and that discrepant conditions may exist in the analyzed aircraft that were not known by Asset Insight, LLC.

The Asset Insight Index and its ATC Score, ATFC Score, and ATFE Value components are based upon the aircraft maintenance condition information reviewed by Asset Insight, LLC as of a certain date. Running an analysis on any aircraft utilizing a different date, revised maintenance data and/or utilization figures will likely generate different results.

**Asset Insight, LLC makes no representation concerning the value or condition of any aircraft. Additionally, Asset Insight, LLC does not warrant the accuracy of the information obtained by Asset Insight, LLC that has been used to produce this Report.**

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