

## General Aviation

### Overview

General aviation refers to all non-military and non-scheduled commercial flight; however, for the purposes of this report, general aviation aircraft will be limited to business jets, turboprops, and piston fixed-wing airplanes. Global general aviation (GA) manufacturers shipped 1,950<sup>1</sup> units in 2011, the third straight year of decline. The overall picture for U.S. manufacturers was somewhat brighter, with U.S. manufacturers' share rising slightly to 67 percent. Total shipments by U.S. firms were actually up 54 units due to small increases at several companies. There is a significant amount of uncertainty about the prospects for the industry over the short and medium term, as another economic shock could disrupt whatever stability exists at the moment.

The diversification of general aviation customers slowed, with North America representing at least 50 percent of all deliveries for all three GA market segments. In 2010, Asia-Pacific was the second largest region for turbo-prop deliveries; in 2011, the region was also the second largest region for piston aircraft. Europe's market share declined in all three segments, likely reflecting the economic woes of the eurozone.

### General Aviation Manufacturers

#### U.S. Manufacturers

American Champion  
Boeing Business Jets  
Cessna Aircraft Company  
Cirrus Design Corporation  
Emivest Aerospace Corp  
Gulfstream  
Hawker Beechcraft  
Liberty Aerospace  
Maule Air Incorporated  
Mooney Aircraft  
Quest Aircraft Company  
Piper Aircraft, Inc.

#### Non-U.S. Manufacturers

Airbus (EU)  
Bombardier (Canada)  
Dassault Falcon Jet (France)  
Diamond Aircraft (Canada/Austria)  
Embraer (Brazil)  
GippsAero (Australia)  
Pacific Aerospace Ltd (New Zealand)  
Piaggio (Italy)  
Pilatus (Switzerland)  
Socata (France)

### Trends

For 2011, global shipments were down 3.4 percent from 2010, and billings were flat. Though the news was negative, the decline was significantly better than last year, when shipments were down 11.4 percent. Furthermore, most of the decline was in one segment of the industry:

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<sup>1</sup> All shipments and billings data is taken from the General Aviation Manufacturers Association (GAMA). For the current year, fourth quarter information for Hawker Beechcraft was not available at the time GAMA's original report was published; for those who wish to consult the original data source, make sure that shipments for Hawker Beechcraft are as follows: 52 business jets, 92 turboprops, and 54 piston aircraft.

- piston aircraft (3 units fewer=flat)
- turboprops (7 units fewer=down 1.9 percent)
- business jets (60 units fewer=down 7.86 percent)

The stabilization of the piston market is encouraging because piston sales are a leading indicator for the rest of the industry—a recovery in the less-expensive piston market tends to mean that a recovery in the rest of the industry will follow. However, while the statistics seem to be flattening out, the financial health of many GA manufacturers companies is still in question. Most publically, Hawker Beechcraft Corporation (HBC) has filed for Chapter 11. Piper discontinued its plans to develop a light jet and Diamond Aircraft came close to doing the same until being bought by a Dubai-based investment firm in late 2011. In addition, general economic growth and corporate profits are significant factors contributing to demand for GA aircraft. Uncertainty about the future of U.S. and global economic growth make it difficult to predict what will happen in the industry over the next several years.

*Figure 1: Top GA Manufacturers by Segment*

<i>Business Jets</i>			<i>Turboprops</i>			<i>Pistons</i>		
<b>Company</b>	<b>Units 2011</b>	<b>Units 2008</b>	<b>Company</b>	<b>Units 2011</b>	<b>Units 2008</b>	<b>Company</b>	<b>Units 2011</b>	<b>Units 2008</b>
Cessna	183	466	Cessna	93	101	Cirrus	255	549
Bombardier	182	245	Pilatus	69	84	Cessna	245	733
Gulfstream	107	156	HBC	55	172	Diamond	182	308
Embraer	99	38	SOCATA	38	60	Piper	104	216
Dassault	63	72	Piper	32	52	American	29	54
Falcon Jet			Piaggio	14	30	Champion		
HBC	30	160				HBC	28	103

The U.S. manufacturers’ share of worldwide shipments grew slightly in 2011, from 66 percent in 2010 to 67 percent in 2011.<sup>2</sup> This is only the second time since 2001 that the market share for U.S. manufactured aircraft has increased. Changes in U.S. companies’ market share are most closely tied to the business jet market segment. In 2009, the decline in U.S. companies’ market share was due mostly to the loss of Eclipse Aviation, which stopped manufacturing light jets in late 2008. In 2010, it declined due to cutbacks at Cessna, a division of Textron and gains at Brazilian-based Embraer. 2011, however, saw a reversal of this trend—moderate production increases at Cessna and Gulfstream along with production decreases at Embraer and Dassault led to a better showing overall for U.S. business jet manufacturing (Bombardier also shipped more aircraft in 2011 but the increase was evenly divided between the United States and Canada and so did not affect market share).

<sup>2</sup> For the purposes of this report, market share for U.S. manufacturers refers only to aircraft manufactured in the United States. Thus, foreign-made products (such as the Cessna Skycatcher) are not included. Likewise, U.S. manufactured products of foreign-owned manufacturers (such as Cirrus or Bombardier) are included.

A notable trend not captured in the data is the activity of the Chinese. Chinese firms have acquired or invested in several American general aviation aircraft firms, including Epic Air (mostly kit aircraft with one certified turbo-prop), Teledyne Continental (engines), and Cirrus (aircraft). In the past, Chinese firms have looked at acquiring Grob (Germany), Piper<sup>3</sup>, and Emivest<sup>4</sup>. In addition, Cessna manufactures the Skycatcher light sport aircraft in China (the delivery figure for the Skycatcher is not included in the industry data discussed above, but the aircraft represented 24 percent of all Cessna deliveries for 2011). After reorganizing its aerospace industry in 2008, China announced its interest in entering the general aviation industry and has sought to do so by acquiring foreign firms and encouraging foreign firms to set up production facilities in China. AVIC, China's main state-owned aerospace firm, believes that including foreign firms will help Chinese aircraft more easily gain certification in the west, where most general aviation aircraft are sold. In late March 2012, Cessna and Hawker Beechcraft announced that they are in discussions to form joint ventures to produce business jets in China; Embraer has been trying to convert its existing regional jet assembly line in Harbin into a business jet assembly line.

### Outlook

Forecasting at this point remains uncertain. Industry experts are trying to interject optimism into their predictions, but there is no consensus on when overall shipments will begin to recover and to what degree.

*Figure 2: Fixed-wing Turbine Corporate Aircraft Fleet by Region, 2009-2011<sup>5,6,7</sup>*

Region	2009	2010	2011	% change 09-11
North America	18,531	18,585	18,877	1.9%
Europe	3,712	3,835	3,906	5.2%
Latin America	2,955	3,311	3,578	21.1%
Pacific Rim	825	917	968	17.3%
Africa	754	805	818	8.5%
Middle East	403	453	474	17.6%
South Asia	229	258	274	19.7%

<sup>3</sup> Leithen Francis. "Buying its way to the top?" *Flight International*. Oct 20-26, 2009.

<sup>4</sup> Molly McMillan. "Chinese buying spree creates some frustration." *The Wichita Eagle*. March 22, 2011. <http://www.kansas.com/2011/03/22/1773873/ese-buying-sprees-creates-some.html>

<sup>5</sup> Statistics describe the installed fleet in each region. Sarsfield, Kate. "Business Aviation Census: Global Fleets Buoyant but Traditional Markets Suffer." October 11, 2009. <http://www.flightglobal.com/articles/2009/10/11/333296/business-aviation-census-global-fleets-buoyant-but-traditional-markets-suffer.html>

<sup>6</sup> Sarsfield, Kate. "Rough but Ready: Business Aircraft Census 2010." October 11, 2010. <http://www.flightglobal.com/articles/2010/10/11/348248/rough-but-ready-business-aircraft-census-2010.html>

<sup>7</sup> Sarsfield, Kate. "Business aircraft census 2011." October 5, 2012. <http://www.flightglobal.com/news/articles/business-aircraft-census-2011-362709/>

North America is still the biggest market for GA aircraft (see above). The market is not growing quickly, but in 2011, North American operators added more units to the fleet than operators in any other region. This increase jibes with GAMA data showing that the number of new aircraft received by North American customers grew in 2011 (see below<sup>8</sup>). Latin American operators added the second highest number of units to the fleet, and the Latin American fleet had the highest 2-year growth rate. This statistic does not align with the GAMA regional shipments data, suggesting that Latin American customers may have added a significant number of used aircraft in addition to new aircraft. Asia's fleet is also growing rapidly and Asian customers took a larger share of global deliveries in 2011 than they did in 2010. However, the growth in Asia's market share for receiving new aircraft shipments does not make up for losses in other regions. Indeed, Asia's growth seems to be coming as a result of declines in other regions rather than because of a significant increase in shipments to Asia.

*Figure 3: Regional deliveries of all GA aircraft, 2008-2011*

<b>Region</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
North America	2457	1260	955	1059
Europe	780	511	394	294
Latin America	315	182	240	208
Asia	252	200	271	282
Middle East/Africa	165	117	156	107

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<sup>8</sup> The figure below translates GAMA market share percentages into numbers of aircraft; the original data can be found in the revised 2011 General Aviation Airplane Shipment Report, located on GAMA's website.