



2008 AIN product support survey

INSIDE

- 2008 ratings..... p. 35
- what have you done for me lately?..... p. 36
- in their own words..... p. 40

PART 1 | AIRCRAFT

The highest overall rating for jets again goes to Gulfstream. Mitsubishi takes the top spot among turboprops and Bell leads in the helicopter category.

by Matt Thurber

During the past few years as the dollar has weakened against non-U.S. currencies, sales of business jets, turboprops and helicopters outside the U.S. have burgeoned. Most aircraft manufacturers report that non-U.S. sales are greater than the traditional 30 to 40 percent of total sales number, and many are now selling more aircraft

outside the U.S. than to U.S. customers.

For manufacturers, growing sales, both in the U.S. and abroad, present an immense challenge: how to support so many aircraft owners and operators and how to deliver support to operators with airplanes based in countries that have little or no general aviation infrastructure. Cessna, for example,



JOHN T. LEWIS

recently sold its first jet in Kosovo. Where will that jet be serviced? Fortunately, distances in Europe are relatively short and that Citation owner will have plenty of nearby choices, but what about operators in India, Russia and China? Will manufacturers be able to provide the needed services cost-effectively and at levels of quality high enough to encourage repeat buying?

These are questions that manufacturers are already grappling with, and it's clear that they are not waiting for their backlogs to turn into deliveries before paving the way for product support all over the world. Manufacturers also aren't waiting for airplanes to enter service before figuring out how to support them. Most begin the after-sale service planning process well before the first piece of metal or composite fabric is cut on a new design. Upon launch of a new aircraft, every manufacturer already has a product support strategy in place, including new entrants such as Honda Aircraft, which imported Honda automotive Acura luxury brand marketing leader Doug Danuser to manage HondaJet support.

Product support is a tricky business. Both the after-sale support and a customer is unlikely to be back for future purchases. The customer base is so varied that manufacturers have to offer many ways of interacting with service and support personnel and

providers. A newly formed flight department operating a new Learjet, for example, has support needs completely different from those of the buyer of a well worn, decades-old Learjet 25, or a fleet operator.

Manufacturers that deliver hundreds of aircraft beyond the country of manufacture have to take into account customs delays when shipping parts to customers in other countries. Many have addressed this problem by building local parts warehouses around the world, but this adds more overhead to parts costs, a significant issue for aircraft owners and operators.

Business aircraft buyers all want as much availability as possible, otherwise what value is there in owning an aircraft? But they also want reasonable costs of operation, and manufacturers have to balance customer desires against the expense of delivering after-sale service. To that end, most expand their service capability by adding authorized service centers instead of building factory-owned service centers. Of course, this brings its own set of difficulties, especially how to create a consistent level of service between factory-owned and independent authorized service facilities.

Finally, manufacturers of aircraft face a unique conundrum: aircraft last a long time

Continues on page 36

Report continues on next page

Overall Average Ratings of New and Older Aircraft Combined (in order of 2008 ratings)

The chart below illustrates the overall average rating of each manufacturer when the newer and older aircraft scores are combined. This provides OEMs and readers a glimpse of a manufacturer's overall support ratings for all its products. The chart is broken down by jets and turboprops, as the level of service and support can vary widely between the two segments.

	Overall Average 2008	Overall Average 2007	Percentage Change
JETS			
GULFSTREAM (G100 THROUGH G200, GIV THROUGH G550)	8.21	8.16	0.55%
GULFSTREAM (GII, GIII)	7.71	7.64	0.99%
CESSNA (CITATION)	7.64	7.59	0.71%
SABRELINER	7.62	6.19	22.95%
BOEING (BBJ/737)	7.47	7.91	-5.46%
DASSAULT (FALCON)	7.43	7.40	0.45%
HAWKER BEECHCRAFT (PREMIER I/IA, DIAMOND, BEECHJET 400/400A, HAWKER 400XP)	7.26	7.34	-1.16%
HAWKER BEECHCRAFT (HAWKER)	7.01	6.86	2.23%
BOMBARDIER (CHALLENGER)	6.97	6.96	0.13%
EMBRAER (LEGACY 600)	6.82	7.20	-5.16%
BOMBARDIER (LEARJET)	6.81	6.18	10.22%
BOMBARDIER (GLOBAL EXPRESS/XRS, GLOBAL 5000)	6.56	6.62	-0.79%
IAI (ASTRA, WESTWIND)	6.46	6.22	3.76%
TURBOPROPS			
MITSUBISHI (MU-2, SOLITAIRE, MARQUISE)	9.17	N/A	N/A
PILATUS (PC-12)	7.56	7.45	1.48%
HAWKER BEECHCRAFT (KING AIR)	7.16	7.13	0.42%
PIPER (CHEYENNE)	5.96	5.78	3.16%

Compiled by Jane Campbell with data provided by Forecast International of Newtown, Conn. Bold indicates highest number in each category.

Source: AIN 2008 Product Support Survey

2008 RATINGS

Aircraft are listed in the order of their 2008 overall averages.

	Overall Avg 2008	Overall Avg 2007	Percentage Change	Auth. Service Centers	Factory Service Centers	Parts Availability	Cost of Parts	AOG Response	Warranty Fulfillment	Technical Manuals	Technical Reps	Overall Aircraft Reliability
NEWER BUSINESS JETS												
GULFSTREAM (G100 THROUGH G200, GIV THROUGH G550)	8.21	8.16	0.76%	7.86	8.11	8.22	6.55	8.62	8.73	8.20	8.70	8.85
CESSNA (CITATION)	7.88	7.74	1.72%	7.67	7.74	8.21	6.59	8.21	8.10	7.78	7.87	8.60
DASSAULT (FALCON)	7.64	7.64	0.10%	7.63	7.12	7.86	6.16	7.90	8.13	7.41	7.99	8.47
BOEING (BBJ/737)	7.47	7.91	-5.46%	7.00	6.56	7.64	6.35	7.74	7.20	8.00	7.43	8.80
HAWKER BEECHCRAFT (PREMIER I/II, DIAMOND, BEECHJET 400/400A, HAWKER 400XP)	7.36	7.80	-5.66%	7.38	7.25	6.98	5.79	7.21	8.11	7.64	8.46	7.46
HAWKER BEECHCRAFT (HAWKER)	7.09	7.28	-2.66%	7.06	7.22	6.89	6.08	6.73	7.39	6.91	7.19	8.32
BOMBARDIER (CHALLENGER)	7.07	7.11	-0.52%	7.00	6.81	6.41	5.77	6.53	7.45	7.37	7.73	8.45
BOMBARDIER (LEARJET)	6.93	6.23	11.27%	6.88	6.67	6.54	5.31	7.03	6.80	7.27	8.00	7.80
EMBRAER (LEGACY 600)	6.82	7.20	-5.16%	6.67	6.59	5.97	5.88	6.73	6.39	6.73	7.97	8.45
BOMBARDIER (GLOBAL EXPRESS/XRS, GLOBAL 5000)	6.56	6.62	-0.79%	7.05	6.46	5.66	5.07	6.07	6.74	7.03	7.75	7.28
OLDER BUSINESS JETS												
GULFSTREAM (G100 THROUGH G200, GIV THROUGH G550)	8.15	8.19	-0.60%	7.67	7.69	8.54	6.11	8.58	8.02	8.42	8.84	9.17
GULFSTREAM (GII, GIII)	7.71	7.64	0.99%	7.63	7.36	7.86	6.10	8.12	7.27	8.04	8.23	8.65
SABRELINER	7.62	6.19	22.95%	8.18	7.23	7.48	6.56	8.13	6.75	7.17	7.96	8.84
CESSNA (CITATION)	7.26	7.36	-1.24%	7.21	7.32	7.44	6.11	7.45	6.88	7.41	7.41	7.99
DASSAULT (FALCON)	7.13	7.11	0.35%	7.48	6.16	7.37	5.57	7.19	7.36	7.05	7.36	8.44
HAWKER BEECHCRAFT (PREMIER I/II, DIAMOND, BEECHJET 400/400A, HAWKER 400XP)	7.12	6.93	2.76%	7.27	7.46	6.83	5.34	7.00	7.15	7.52	7.70	7.81
HAWKER BEECHCRAFT (HAWKER)	6.90	6.16	12.11%	7.22	6.93	6.76	5.80	6.85	6.34	6.97	7.32	7.76
BOMBARDIER (CHALLENGER)	6.85	6.73	1.79%	7.05	6.48	6.47	5.32	6.80	6.39	7.13	7.80	8.01
BOMBARDIER (LEARJET)	6.61	6.11	8.16%	6.83	6.13	6.58	5.62	6.53	5.92	6.99	6.59	8.01
IAI (ASTRA, WESTWIND)	6.49	6.27	3.42%	7.00	4.74	6.96	5.16	6.87	6.06	6.48	6.81	7.85
NEWER TURBOPROPS												
PILATUS (PC-12)	7.37	7.47	-1.33%	7.24	7.00	7.32	6.44	7.25	7.39	7.63	7.70	8.32
HAWKER BEECHCRAFT (KING AIR)	7.23	7.28	-0.77%	7.02	6.81	7.43	5.73	7.20	7.39	7.74	7.29	8.35
OLDER TURBOPROPS												
MITSUBISHI (MU-2, SOLITAIRE, MARQUISE)	9.17	N/A	N/A	9.27	9.49	9.25	8.12	9.38	9.09	8.94	9.32	9.64
HAWKER BEECHCRAFT (KING AIR)	7.14	7.07	0.89%	7.26	6.75	7.21	5.67	7.22	7.01	7.46	7.42	8.11
CESSNA (CONQUEST)	6.61	5.88	12.39%	7.38	6.54	6.29	6.00	6.09	5.22	6.92	6.27	8.07
PIPER (CHEYENNE)	5.96	5.97	3.60%	6.88	4.00	5.82	5.41	6.05	4.50	5.75	6.06	7.82
HELICOPTERS												
BELL	6.94	7.31	-5.05%	6.94	7.39	6.59	5.66	6.55	6.55	7.35	7.76	7.65
MD	6.78	6.69	1.26%	6.63	6.29	6.84	5.74	7.12	5.75	6.74	7.59	8.21
SIKORSKY	6.45	6.59	-2.21%	6.51	6.36	5.59	4.93	6.17	6.43	6.93	7.53	7.48
AGUSTA	6.13	5.84	4.97%	6.48	6.30	5.79	4.86	6.22	6.70	6.07	6.11	6.96
EUROCOPTER	5.86	6.23	-5.90%	6.00	5.80	5.13	4.75	5.57	5.80	5.58	6.61	7.47

Compiled by Jane Campbell with data provided by Forecast International of Newtown, Conn.

† Less than 10 years old
†† More than 10 years old

Bold Type indicates highest rating in each category.



HOW THE SURVEY WAS ADMINISTERED

AIN's 2008 Product Support Survey offered 13,552 subscribers the opportunity to rate the service and support they receive from manufacturer support operations and factory-authorized independent service centers. Readers were asked to rate their aircraft, engines and avionics in nine categories. On the one-to-10 scale, one is inadequate and 10 is excellent. To be listed in the results, a manufacturer had to garner at least 15 ratings; some aircraft types/manufacturers no longer have enough aircraft flying to generate sufficient responses to make the survey statistically useful. The aircraft results are published in this issue, while the avionics report will be featured in September and engines in October. The Product Support Survey was conceived by AIN editors and developed and administered by aerospace research firm Forecast International of Newtown, Conn.

The following are the nine ratings categories, including explanations of the key points that survey participants were asked to consider when submitting their opinions:

- **Authorized Service Centers**—cost estimates vs. actual, on-time performance, scheduling ease, service experience.
- **Factory Service Centers**—same as above.
- **Parts Availability**—in stock vs. back order, shipping time.
- **Cost of Parts**—value for price paid.
- **AOG Response**—speed, accuracy, cost.
- **Warranty Fulfillment**—ease of paperwork, extent of coverage.

- **Technical Manuals**—ease of use, formats available, timeliness of updating.
- **Technical Reps**—response time, knowledge, effectiveness.
- **Overall Product Reliability**—how the product's overall reliability and quality stack up against the competition's.

Of the 13,552 subscribers invited to participate this year, 1,394 returned their surveys either by submitting information online or by filling out paper ballots. This is the third year that AIN and Forecast International have administered the Product Support Survey electronically, with participants inputting ratings via a Forecast International Web site. Only 29 paper ballots were submitted for the 2008 Product Support Survey.

The return rate for the 2008 Product Support Survey was 10.28 percent, up slightly from last year's 10 percent, although the number of ratings for the aircraft segment did drop to 3,029 in 2008 compared with 3,263 in 2007.

As always, more people visited the survey Web site than completed the survey, and AIN always welcomes feedback about how the survey can be improved to make participants' task easier. According to comments submitted by participants, survey takers generally found the survey enjoyable and easy to complete and appreciated the opportunity to provide feedback about their product support experiences. "I feel the manufacturers need this," wrote one senior maintenance technician.

"Some don't like it, but the industry is better for it as they strive to improve. It is a rating by the customer; what better information on how they are doing can you get?"

Survey respondents also questioned whether the manufacturers pay attention to the results. At AIN, we receive a lot of feedback from manufacturers and are certain that they take the survey seriously. One director of maintenance, however, regrets having allowed his name to be used with a comment that he made on a previous survey, writing this year, "The last time my name was published with an other-than-favorable comment, [the manufacturer] being described contacted my boss to complain about my comment rather than contacting me about ways to improve." It should be emphasized again here that neither AIN nor Forecast International shares any of the survey returns with manufacturers. Despite persistent pressure from the OEMs to release more information than we publish, we strictly honor the confidentiality pledge we make to respondents on the survey invitation.

The switch to online surveying over the past three years has delivered outstanding results, saved tons of paper and made the survey and analysis process much more efficient. While the trend toward online surveying will continue, one flight department manager wished for a return to the good old days. "I hate online," he wrote, "but there was no envelope so I endured."
—M.T.



2008 AIN product support survey

Continued from page 34

and every owner expects service to be available as long as he owns the aircraft. Manufacturers have taken different approaches to this problem. Some, such as Mitsubishi, which built the last MU-2 turboprop in 1986, continue to support every airplane made and have pledged to do so until there are none left. Others are trying their best but face considerable challenges. For example, Piper Aircraft lost a lot of tooling used to make Cheyenne turboprop parts in hurricanes and floods, making product support of these airplanes that much more

last year the Brazilian manufacturer scored higher than Bombardier. And for the 2008 survey, Bombardier Global support swapped places with Learjet support for the bottom of the rankings. The problems that had the biggest impact on results for Global support, according to readers, are parts availability, cost of parts and AOG response. Bombardier was rated highly for Global authorized service centers, technical manuals, tech reps and overall reliability.

Boeing's **BBJ** division moved to fourth place from last year's second, followed by



In this year's product support survey, as in last year's, Gulfstream took the number-one spot for support of both newer jets, such as the G550, above, and older jets.

difficult and expensive. Bombardier offers its Classic service for older aircraft, with new fees for product support, which is one way for a manufacturer to ensure that support continues for aging airframes.

Top-rated Jet Manufacturers

This year's lineup of jet manufacturer product support changed somewhat from last year, but is topped again by **Gulfstream** for both new (less than 10 years old) and older models. This is Gulfstream's sixth year with an overall average atop those lists. **Cessna** ranked second for its Citation support, and third was **Dassault Falcon Jet**. Last year the two companies ranked fourth and fifth, respectively.

Gulfstream received ratings above 8.00 in seven of nine categories; the nearest to that performance was Cessna, with four 8.00-pluses in the new jets field. The seven top-rated areas for Gulfstream were factory service centers, parts availability, AOG response, warranty fulfillment, technical manuals, technical reps and overall aircraft reliability. Gulfstream's lowest rankings were for cost of parts and authorized service centers. Parts availability, AOG response, warranty fulfillment and overall aircraft reliability received the highest rankings from Citation operators.

This year, **Embraer** dropped behind Bombardier's Challenger and Learjet, where

Hawker Beechcraft's smaller jets (Premier I/A, Diamond, Beechjet 400/400A, Hawker 400XP) then the midsize Hawkers. Bombardier's Challenger and Learjet landed in 7th and 8th place, followed by Embraer and Bombardier's long-range Globals.

In the overall average for 2008, Gulfstream was the only jet manufacturer to earn a rating above 8 (8.22). The rest of the rankings occupy a range from 6.56 (Bombardier Global) to 7.88 (Cessna Citation). The biggest change percentage-wise belonged to Bombardier's Learjet support, which leaped 11.27 percent over last year to 6.93. Contributing to Learjet's big leap this year were improved ratings for factory service centers, parts availability, cost of parts, AOG response, technical information, tech reps and overall aircraft reliability.

On the negative side, the largest drop was for Hawker Beechcraft's lighter jets, down 5.66 percent to 7.36. Operators clearly do not like Hawker Beechcraft's cost of parts for these jets, and the low 5.79 rating—down from last year's 6.35—dragged down what otherwise would have been a higher overall average.

Newer Turboprops

The rankings in this category have not changed, and **Pilatus** and its PC-12 topped the 2008 survey, followed closely by Hawker Beechcraft's **King Air** support. Both Pilatus's and Hawker Beechcraft's overall averages dropped slightly but not significantly, with Pilatus down to 7.37

Continues on page 38

What Have You Done For Me Lately?

AIN asked manufacturers to detail changes and improvements to their product support efforts during the past year. While **AIN** made repeated efforts to gather input from all of the manufacturers whose products are covered by this year's Product Support Survey, some did not provide any information. AgustaWestland, Boeing and MD Helicopters did not respond this year.

BELL HELICOPTER

- All new Bells will come with SkyBooks maintenance-tracking software free during warranty period.
- Improved same-day fill rate to 62 percent from 50 percent and AOG rate to 90 percent from 85 percent using new warehouse management tools.
- Implemented Bell achievement rating system to help ensure consistency of service among service centers.

BOMBARDIER

- Added 14 authorized service centers to worldwide network.
- Implemented mobile repair party teams at Bombardier-owned service centers.
- Developing standardized independent survey to evaluate service levels at Bombardier-owned facilities and authorized service facilities.

CESSNA AIRCRAFT

- Established centrally managed inventory system for Cessna-owned Citation service centers that makes parts available and accessible by all facilities.
- Implemented customer-first initiative in North American service centers, where customers have a point person for all service issues and to assist with local arrangements such as hotels, rental cars and so on.
- Perfected Citation classic support program, focusing on maintenance issues on out-of-production aircraft.

DASSAULT FALCON JET

- Harmonizing customer support in eastern and western hemispheres by creating new worldwide organization lead by Jacques Chauvet, new senior v-p for worldwide customer service.
- Three centers in Teterboro, N.J.; Boise, Idaho; and St. Cloud, France working together to provide 24/7 assistance worldwide.
- Testing system to download maintenance data from aircraft via Internet for quick troubleshooting to help customers get back in the air faster.

EMBRAER

- Expanded to three factory-owned and 26 authorized service centers, adding four factory-owned and 12 authorized centers this year.
- Reduced Legacy 600 maintenance costs by 18 percent with new maintenance planning guide.
- Recorded 350-percent growth in skilled personnel in executive jet support organization.

EUROCOPTER

- Improved parts tracking, especially rotor blade quotes and technical reports.
- Created customer service center to support

operators in Europe and improve responsiveness to customers in the Americas.

- Improved spares distribution system with new forecasting, key logistics manager as focal point for customer and logistics field reps to assist customers.

GULFSTREAM AEROSPACE

- First phase of new factory-owned service center opened in Savannah, Ga. Hired nearly 550 new technicians in past 18 months.
- Expanding authorized service center partnerships around the world.
- PlaneConnect top-of-descent datalinked maintenance data download system is helping make "incredible saves." Work on next-gen PlaneConnect is under way.

HAWKER BEECHCRAFT

- Divested FBO division to focus on maintenance services, reliability and customer satisfaction.
- Enrolled 500th airplane in Support Plus program and continued adding improvements in warranty and support programs.
- Continued investments in Web delivery of technical publications and Rapid parts distribution system.

PILATUS AIRCRAFT

- Authorized service centers can now access all Web-based maintenance manuals free of charge.
- Implemented E-bulletins to provide information on upgrades, special programs and technical issues to service centers.

PIPER AIRCRAFT

- Implemented enhanced delivery program, where every customer meets a member of the customer service department during delivery at the Vero Beach, Fla. facility or during training at SimCom in Orlando.
- Re-instituted monthly stocking order, which moves more parts to Piper dealers and reduces customer downtime.
- Quarterly contact system added as follow-on to enhanced delivery.

SABRELINER

- Engaged outside firm to conduct regular customer satisfaction surveys.
- Added parts manufacturing capability, which helps reduce prices and increase quality.
- Studying two major upgrades at request of Sabreliner 65 owner/operators, one cockpit-related and the other engine-related.

SIKORSKY

- Re-branded entire aftermarket organization as Sikorsky Aerospace Services and further solidified its mission to provide tip-to-tail service for aircraft owners and operators worldwide.
- Conducted a comprehensive end-to-end customer survey to determine what customers want and how to meet all of those needs.
- Committed to training field service representatives in the areas of most need. The training is with respect to the new equipment being delivered to more than 30 military and commercial customers located at 63 different sites around the world.



2008 AIN product support survey

Continued from page 36

from 7.47 last year and Hawker Beechcraft to 7.23 from 7.28. The PC-12's highest score was in the overall aircraft reliability category, and operators also ranked Pilatus high in the technical reps category and relatively high in cost of parts.

AIN didn't receive enough responses to include two popular turboprop manufacturers, Piper with its single-engine Meridian and EADS Socata's TBM series. Single-engine turboprops are one of the most efficient ways to fly, and sales numbers reflect buyers' appreciation of their airplanes' utility. However, these owners/operators either

in the old jet field both claimed higher overall ratings this year, with the lighter jets gaining 2.76 percent and midsize Hawkers up 12.11 percent. The two categories were in sixth and seventh place, behind Dassault Falcon Jet in fifth. Areas of strength for the Hawkers were overall aircraft reliability, technical reps, technical manuals and factory service centers. Dassault rated much higher in overall aircraft reliability and scored well in the other categories with the exception of cost of parts.

Bombardier's Learjet support also enjoyed a ratings uptick, with an overall



Bell Helicopter landed in the top spot among helicopter manufacturers, with an overall rating of 6.94, down 5 percent from last year's rating of 7.31.

chose not to fill out AIN's product support survey or did not receive the invitation.

Older Jets

Gulfstream's support for its older jets continues to rate highly with AIN readers. The GIV and GV slipped slightly to 8.15 from an 8.19 overall average, and the GII and GIII support, provided mainly by General Dynamics Aviation Services in the U.S., climbed this year to 7.71 from 7.64 last year. According to survey participants, overall reliability is Gulfstream's strongest suit for the GIV/V, with technical reps, technical manuals, warranty fulfillment, AOG response and parts availability the high points. For the GII/III, AOG response, technical manuals, technical reps and overall aircraft reliability all received ranks of more than 8.00.

The big jump this year was Sabreliner's move to third place; the company continues to provide extraordinarily strong support for a fleet of jets that went out of production in 1981. Sabreliner's overall average grew 22.95 percent in the older jets field to 7.62, up from 6.19 in 2007. All Sabreliner categories were rated higher this year than last year, with most up more than 1.00 but authorized service centers up almost 3.00.

Hawker Beechcraft's two jet categories

average of 6.61, up 8.16 percent from last year, but still in second-to-last place in the older jet field. IAI's support for its older jets, including the Westwind (which General Dynamics Aviation Services no longer supports), filled the last position.

Older Turboprops

The older turboprops are a tough bunch because so many of them have been out of production for such a long time. Cessna Conquests didn't receive enough ratings to qualify for listing in this year's survey, and Piper's Cheyennes received just enough to be listed.

Owners and operators of Mitsubishi MU-2s responded enthusiastically this year and boosted the Japanese company's support to the 9.17 level, a high rating, especially for an out-of-production airplane. The MU-2 received 9.00-plus ratings in seven categories, with technical manuals and cost of parts the only categories in the 8.00 range but still quite high, especially the cost of parts category as compared to other manufacturers. Clearly Mitsubishi's strategy of continuing to provide full support to the remaining MU-2 fleet is keeping owners happy. The support that Mitsubishi provides consists not only of a Mitsubishi Heavy Industries America-owned service center and a strong network of authorized service cen-

Pilatus held on to the top spot for support of newer turboprops.



ters, but also pilot and maintenance training, parts supply, ongoing product improvements, biennial safety seminars and a recently enacted special FAR for mandatory flight training (which Mitsubishi fully supported).

At the other end of the spectrum are Piper's Cheyenne turboprops, not built since 1985. The Cheyenne overall rating climbed this year to 5.96, up from last year's 5.78. The highest rating given to the Cheyennes was for overall aircraft reliability, a 7.82. Piper doesn't own any factory service centers for the Cheyenne and lost many of its Cheyenne tooling fixtures in hurricanes that affected its Florida factories, so parts support for these older turboprops is a challenge.

Piper's approach to the Cheyenne fleet seems to reflect the low ratings for Cheyenne support; we could find no reference to Cheyenne support on Piper's Web site, and a spokesman told AIN, "Piper produced more than 1,000 Cheyennes between 1974 and 1985. In some cases, those aircraft are over 30 years old. We both know the stories related to both lost and destroyed tooling, but the reality is how long are we expected to support aircraft from a parts standpoint?" Cheyenne technical publications are available from Piper's publications supplier, Avantext.

Last year the Mitsubishi MU-2 did not garner enough responses to be included. This year operators were especially vocal, giving high praise to the support they receive for an out-of-production airplane.

factory service centers and cost of parts but dropped in all other categories, most significantly overall aircraft reliability, warranty fulfillment and AOG response time.

Compared with last year, MD Helicopters saw big gains in parts availability and AOG response and smaller improvements in cost of parts, technical reps and overall aircraft reliability. Areas that declined

The following OEMs did not garner the required 15 responses to be included:

- Airbus
- Eclipse
- Enstrom
- Fairchild
- Lockheed
- Piaggio
- Rockwell
- Socata
- Schweizer

Helicopters

The rankings for the top three helicopter manufacturers are the same this year, with Bell Helicopter again in first place, followed by MD Helicopters and Sikorsky in second and third places, respectively. Only two helicopter manufacturers saw overall ratings increases, MD Helicopters, which climbed 1.26 percent to 6.78 from 6.69, and AgustaWestland, to 6.13 from 5.84. Bell dropped 5.05 percent, Sikorsky 2.21 percent and Eurocopter, moving to last place in a swap with AgustaWestland, slid the most at 5.9 percent.

In the 2008 survey, Bell improved in

for MD Helicopters include authorized service centers, factory service centers and warranty fulfillment.

Sikorsky declined in almost all categories this year, except for technical manuals and overall aircraft reliability. Eurocopter scored higher in overall aircraft reliability, but its average was dragged down by low scores for technical manuals, warranty fulfillment, AOG response, cost of parts, parts availability and factory service centers. For AgustaWestland, cost of parts and parts availability were weak categories.

Operators of Enstrom and Schweizer turbine helicopters did not submit enough responses for the manufacturers to qualify for inclusion in this year's report.

The results of the avionics and engines surveys will be published in AIN's September and October issues, respectively.

Report continues on page 40





2008 AIN product support survey

Continued from page 38

In Their Own Words

AIN readers who responded to the AIN 2008 Product Support Survey took advantage of the opportunity to express their opinions about the products they fly and maintain, the manufacturers they work with and the service organizations that take care of their aircraft. The aircraft operated by the respondents run the gamut from corporate airplanes and helicopters, including many from the early days of business aviation. Respondents from all over the world underscore the rapid growth of business aviation outside the U.S. And when it comes to the nine categories covered by the survey, respondents submitted thousands of comments. Aviation is a tight-knit community, and in recognition of the care that participants in this industry must take with their careers, survey takers were offered the opportunity to give permission for their name and/or company name to be used with their comments. AIN will not reveal company names or respondent names where anonymity was requested.

In analyzing the comments, we selected those that offer information that manufacturers, service providers and readers might find informative and useful. Cost of parts, for example, is a perennial low ranking for every manufacturer, and manufacturers do take these and other comments seriously. We have made every attempt to present a balanced view with the comments in the hope that where manufacturers deserve praise, they are recognized, and where they could learn from customer feedback, they are offered information that can help them improve their products and services.

AUTHORIZED SERVICE CENTERS

Bell Helicopter operators are generally happy with the quality of non-factory-owned service centers, although chief pilot Enrique Bougeois complained that his company never received a refund for unused time on TT straps. "Three times a [request for] refund has been submitted with no answer," he wrote. One operator commented, "Bell treats its service centers as if they are part of the family," and another lauded a "very good network of qualified service centers."

Chris Barkley, chief pilot of **BBJ** operator Tutor-Saliba, praised an interior completion by Standard Aero's Associated Air Center. "On time and on budget," he wrote.

Many **Bombardier** operators praised authorized service centers such as Duncan Aviation, Jet Aviation, Midcoast Aviation and Penta Aviation. "Duncan provided nosegear service that Bombardier could not do," wrote Williams Sonoma aviation department manager Ron Freswick about the company's **Challenger 601-3R**.

One **Challenger 300** operator worried that "Midcoast seems to be over capacity."

Two **Challenger 300** operators said there aren't enough authorized service centers. While Bombardier expends a lot of effort vetting and monitoring its authorized service center network, a **Challenger 601-3R** operator explained, "The apparent lack of control by the [manufacturer] over the authorized service centers causes me to shy away from visiting these facilities."

Learjet operators listed a large variety of facilities they were happy with, including Lider Taxi Aereo ("best in Brazil"), Haggan

Aviation ("a good experience"), SpectraJet ("superb and exceptionally skilled"), Stevens Aviation ("perhaps the best anywhere"), Duncan Aviation ("always first class, outstanding"), Chantilly Air ("they are great"), JetCorp ("very good response") and Reliable Jet ("we have been pretty happy").

Cessna Citation operators also cited a number of facilities that deliver excellent service, including Premier Air Center/West Star Aviation, Stevens Aviation, Aeroperpersonal, Jet Aviation, Yingling Aviation and Corporate Air.

An **Ultra** operator noted that Premier Air Center/West Star Aviation's Dallas facility provided "very poor service."

Authorized service center Premier Aircraft can upgrade customers' Falcon 50s to the 50Dash4, giving the older airplane more speed and range.



A **Brazilian Citation VII** operator complained that "TAM is a shame in technical support."

Falcon operators spoke highly of Western Aircraft in Boise, Idaho, and Duncan Aviation's Lincoln, Neb. facility. Cindy Potash, chief pilot at **Falcon 100** operator Rafael Vinoly Architects, found problems with Landmark Aviation (now Standard Aero) in Springfield, Ill.: "Workmanship, average; paint, average or below for what they charge; interior refurbishment, below [average]; and billing horrible." Another Falcon operator praised Standard Aero Springfield, which "wrote the book on the 20-5, but a lot of the people that wrote it have left."

While most Falcon operators that mentioned Western Aircraft praised the company, a **2000EX** operator wrote that Western has scheduling difficulties and sometimes this operator needs to use non-authorized Falcon maintainers "with extensive Falcon knowledge to get quality work done."

"The best authorized service center for us has been Duncan in Lincoln," wrote Jorge Lara, flight operations director of **Falcon 50** operator Corbantrade, in Quito, Ecuador.

Gulfstream work in the U.S. is done by factory-owned service centers; Pentastar Aviation in Waterford, Mich., is the only authorized service center. Outside the U.S., however, most facilities are authorized; Gulfstream owns a maintenance base at London Luton. "Pentastar Aviation is by far one of the best, if not the top facility I have ever used for Gulfstream and Rolls-Royce maintenance," said Ken Brickett, director of maintenance for **GIV-SP** operator

Authorized service centers, such as West Star Aviation, give operators an alternative to factory service centers.

Paraffin Air. A **GV** operator commented, "Pentastar will work with the FAA to give the customer what they want."

While Jet Aviation Basel provides "excellent support," according to **G450** director of maintenance William Roethke, another **GIV** operator said, "Jet Aviation Dubai technicians are not fully trained or qualified."

A **Beechjet 400** operator had this suggestion for the Hawker Beechcraft authorized service center network: "They should share a common database with factory centers regarding maintenance history."

Duncan Aviation, said **Hawker 1000** maintenance scheduler Mike Sleightholme at Australia-based Boston LHF, is an "overall great company."

A **Hawker 800-series** operator cited Midcoast Aviation as having "the most mature and experienced organization."

"AeroBaires is an excellent service center," wrote another **800-series** operator, "especially under South American standards."

Opinion was more split among operators of Hawker Beechcraft turboprops. "Several of the authorized service centers have failed to meet the standard set by Hawker Beechcraft in terms of quality of work performed," wrote Frank Bernhard, managing principal and executive vice president flight operations for a **King Air 200** operator.

A **King Air 300** operator said, "They are more part changers than troubleshooters."

Jeff Muntis, chief pilot for a Las Vegas **King Air 350** operator, likes authorized service centers better than factory service centers, adding, "We've had the very best luck with Woodland Aviation in Woodland, Calif."

In one of the few comments received about Westwind support, one operator said that "Trimec Aviation [Fort Worth, Texas] has been extremely helpful in maintaining our aircraft."

Mitsubishi MU-2 operators were unanimous in their satisfaction with the support they receive from factory-authorized service centers. "Their advice and assistance are first-class," wrote Mid Coast Air Charter president Earle Martin.

"I used Winner Aviation [Vienna, Ohio] for my recent 100 and 200 inspection. It was done on time and they always called

Continues on page 42



2008 AIN product support survey

Continued from page 40

to let me know what was going on," said MU-2 operator Bruce Abel.

Pilatus PC-12 operators also were effusive about the service they received: "Both Aviation Sales [Englewood, Colo.] and Epps Aviation [Atlanta] are great service centers to work with," said chief pilot Loren Hofer. "Western Aircraft [Boise, Idaho]: Great work on time," said another PC-12 operator.

The go-to maintenance shop for Piper Cheyennes is clearly Cheyenne Air Service in Washington, Pa. "Cheyenne Air Service is outstanding," said Cheyenne 400LS pilot Craig Joubert.

Sikorsky S-76 pilot safety manager Thomas Corrigan is happy with Associated Aircraft Group of Wappingers Falls, N.Y. Associated's John Landi, he said, "is the S-76 man."

FACTORY SERVICE CENTERS

When it comes to factory-owned service, Bell Helicopter offers "reasonable technical support," according to captain James Roland, "but rotor blade shops poor."

"Edwards and Associates [owned by Bell] is one of the best facilities we have worked with," said chief pilot Allen Lambert.

A Challenger 300 operator expressed positive views about Bombardier's Tucson, Ariz. service center. "The Tucson center does a great job," the operator wrote.

The factory service centers "work well on aircraft, but Dallas is badly lacking. East Coast centers are spooled up much better," explained a Challenger 300 operator.

While one Challenger 601-3A operator said that Bombardier's Hartford, Conn. facility "comes through for us when we're tight on schedule," another 604/605 operator said that "Hartford is so disconnected they are not even a consideration." Still another wrote, "Very sloppy work."

"[Bombardier's] Dallas [facility] has always met or exceeded our expectation

with timely deliveries," said head of aviation operation C. Fortmann, who operates a Challenger 604/605.

Oakland, Calif.-based Williams Sonoma has switched service providers, according to aviation department manager Ron Freswick. "The Dallas service center has gone from good to horrible," he wrote.

For Global Express/XRS operator Jet Aviation, however, manager of maintenance Robert Kleinschmidt said, "Bombardier Aviation Services Dallas always does a great job for us."

"We have been using the Hartford service center for six years now," wrote technician Ronald Earl at Global/XRS operator Citigroup Corporate Aviation, "and the quality of service has been surprisingly consistent."

Don Maclean, who works for Global XRS operator Barnes and Noble, wrote, "[Hartford has] had such a loss of experienced techs that we choose not to go there. We decided to give [Bombardier] Fort Lauderdale a try and they did a fantastic job."

Learjet operators expressed a variety of opinions about Bombardier-owned service centers. "Support for AOG situations from the [Bombardier] facilities has been outstanding," said Tom Robinson, district chief of maintenance for Learjet 45/45XR operator Midwest Aviation in Portland, Ore.

"Knowledge of legacy Learjet models seems to be declining," wrote one concerned Learjet 35A operator. "Recent trip to Wichita provided inadequate service."

But Learjet 40/40XR director of operations Roger Lipcamon found "the Wichita service center has improved in reliability and quality considerably over the last 12 months."

"Hartford service center does a great job," said another Learjet 45/45XR operator. "Wichita service center poor to average."

"Pathetic!" complained a Learjet 45/45XR operator. "The apathy and dismal attitude of the service center employees and technicians is depressing.... We will not return to a Bombardier service center if



another option is available."

Bombardier's Dallas and Fort Lauderdale facilities, said Learjet 45/45XR chief pilot Glen Hicks, "do a very good job at meeting timelines and objectives."

Some Cessna Citation operators expressed concern about Cessna's planned shutdown of the Long Beach, Calif. service center and relocation to a new facility in Mesa, Ariz. Wysky Investments chief pilot Les Briggs wrote, "Disappointed at Citation having little future presence in Southern California with the impending closure of Long Beach service center."

"[Sacramento] service center does an excellent job of listening to customers' needs and designing a repair solution to meet the mission," said Frank Bernhard, managing principal and executive vice president flight operations for a Bravo operator.

"Orlando, Fla. is the best place to go. Wichita is terrible," wrote Boyd Roberts, line captain for another Bravo operator. Also praising Orlando was Eddie Yell, aviation department manager for Boyd Aviation, in Clayton, Ala.: "Excellent service in all categories."

A Citation VII operator had this to say: "Wichita Citation service center: we always have a good response with a very good mechanic crew chief... The problem they always have is lack of enough knowledgeable people and shift communication trouble."

One Citation X operator commented, "Everything was good except updating the maintenance logs," while another wrote, "Nit-picky and they do not like to have to complete certificate holders' required paperwork and sometimes refuse to do so."

A West Coast-based Falcon 2000EX operator is disappointed that Dassault Falcon Jet has only two factory service centers in the U.S.—in Little Rock, Ark., and Wilmington, Del.

John Alexander, senior aircraft technician for a 900EX operator, said, "Dassault is finally realizing the importance of factory service centers to the overall customer support experience."

One Embraer Legacy 600 operator said, "Additional new factory service centers will be of great help." Embraer's U.S. service center is located in Nashville, Tenn., and at that facility, said a Legacy 600 operator, "service is good."

According to Pfizer manager of maintenance Greg Hamelink, Embraer is "experienced on aircraft, but not great with corporate customers. Still has airline mentality."

Lufthansa Bombardier Aviation Services, a joint venture between Lufthansa and Bombardier, extends the reach of Bombardier Business Aviation Services beyond North America.

A Eurocopter operator said, "The factory service center in Texas could do much more if they could get the support from France."

Executive Jet Management aircraft manager Mark Gardner commented, "Our G150 has been a bit unusual as far as the problems we have but [Gulfstream Dallas] has stepped up to the plate."

A less happy G150 operator said, "The service center at Dallas is very slow and the maintenance technicians have inadequate knowledge of the aircraft systems."

Director of maintenance William Roethke said, "Gulfstream Savannah—outstanding customer service, excellent technical ability of technical staff."

A G500 operator said, "The Appleton facility is a great service center," but added, "Long Beach Gulfstream facility is terrible with customer support."

"Gulfstream Luton (UK) refused to work on aircraft when AOG for HF radios," reported an international G550 operator. Michael Magnani, director of maintenance for G550 operator Central Management Services, commented, "By far, the worst care our airplane ever receives is at a service center."

A GV operator wrote, "The Long Beach service center is a disaster."

"Our relationship with [Hawker Beechcraft] in Tampa, Fla., has been outstanding," wrote Hawker 800A chief pilot Brian Safran.

A King Air 350 operator wrote, "I've not enjoyed working with the factory service centers."

A King Air B200 operator had this to say about Hawker Beechcraft factory-owned service centers: "Bad experience nearly every time, typically due to inability to keep customer informed."

Commenting about Mitsubishi Heavy Industries America's ownership of MU-2 service center Intercontinental Jet in Tulsa, Okla., chief pilot William Jackson said, "Mitsubishi... is supporting the MU-2 with a factory service center. What other manufacturer in the history of aviation has done anything like that?"

Said MU-2 owner Tim Cappelli, "This organization always has the answers and the fixes."

Sabreliner operators were as enthusiastic.

Continues on page 44

A technician studies aircraft data at Gulfstream's London Luton facility.





2008 AIN product support survey

Continued from page 42

"Extremely good," said a **Sabre 60** operator. "All personnel are outstanding," said James Foster, aviation manager for Houston-based **Sabre 65** operator Susman.

An **S-76** operator wrote this about Sikorsky's company-owned Keystone Helicopter facility in Coatesville, Pa.: "Very knowledgeable about S-76; responsive to our concerns."

PARTS AVAILABILITY

"Very difficult to get parts in the U.S.," reported American Operations general manager Demetrio Foadelli about his experience with **AgustaWestland**.

One **Bell Helicopter** operator wrote that parts availability is "excellent, just about everything normally required is in stock and surprises are taken care of in a timely manner." But another operator said, "It is not unusual for there to be no supply of items with mandatory retirement lives."

Challenger 300 operators are concerned about parts availability. "There are very limited parts for the Challenger 300," wrote an operator, "like generators and generator control units."

"Insufficient parts in Europe, which extends to all AOG situations," said another **Challenger 300** operator.

"Given the age of our airplanes," said a **Challenger 601-3R** operator, "Bombardier does a pretty good job, although it is getting tougher."

"Bombardier fails to stock enough of the high-failure items," wrote another **601-3R** operator.

For a **Challenger 800/850ER** operator, "Parts could be better. There are many more in numbers of this type aircraft [CRJs] versus standard Challengers; however, Bombardier 90 percent of the time indicates no stock or never sold this part before; no sales history."

Some **Global Express** operators are having problems with parts availability, but Jet Aviation captain Kevin Van Splunder said, "Most parts were available or available within a day or two...never grounded."

"Parts has not gotten much better," said another **Global** operator. "I just don't think they care."

A **Learjet 31** operator said, "Parts are getting scarce."

Parts availability, said **Learjet 55** pilot Keith Knodt, "seems to be OK most of the time but sometimes parts are not available at all."

"Almost impossible to get parts," wrote **Learjet 55** chief pilot Louis Colombo.

A **Cessna Citation X** operator said that parts availability has been "excellent."

The operator of a **Citation II/HSP/SII** reports a vastly different experience. "Cessna never has the parts and they take two months to make and get them to us," wrote

a **Citation** operator.

Citation III chief pilot Patrick Kapsa said parts availability "is starting to be an issue with a legacy aircraft."

Conquest operators are facing problems obtaining parts. "Cessna seems to want to phase out older aircraft," said one **Conquest II** operator. Another wrote, "Very bad. New [supplemental inspection document], Cessna was not ready again for the demand."

"Dassault has improved immensely its parts in stock," commented Corbantrade flight operations director Jorge Lara. "Still, there are some parts that take a while to obtain, and they are found in France or at some other place, but they will do their best to provide it to you."

A **2000EX** operator expressed this concern: "Dassault is in desperate need of a West Coast parts facility."

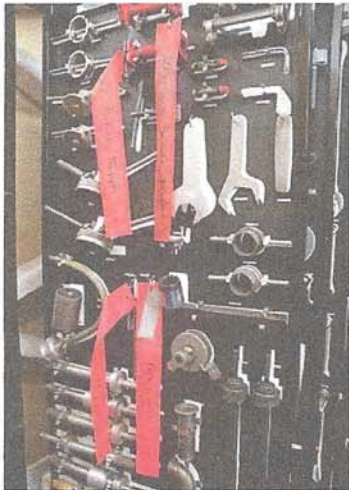
"Seems sufficient," according to a **2000EX** operator, "although the list of parts in rework/redevelopment is extensive."

While Pfizer manager of aircraft maintenance Greg Hamelink is happy about Embraer **Legacy 600** parts availability, he said the downside is that parts distribution is located at only one facility, in Fort Lauderdale, Fla.

Other **Legacy 600** operators were more critical. One wrote, "Poor, often takes a long time to reach the aircraft." Another commented, "Very bad, especially when it comes to service bulletin kits/parts."

Eurocopter operators had much more to say about parts availability than other survey categories. "Excellent around the world and getting better in the U.S.," wrote one operator.

"Poor," said another operator, "especially with a current in-production model, still cannot get parts." "Slow boat from France for all unstocked parts, which



Bombardier's warehouse near Frankfurt Airport is designed to expedite parts distribution in Europe, Asia and the Middle East.

[means] most of my orders."

According to Air Methods pilot Cecil Harris, Eurocopter parts availability is "horrible."

R. Rose, chief pilot for a **Gulfstream G100** operator, said that, "Having parts in Dallas is a bonus. Getting support for unique parts from Israel is poor at best."

"Gulfstream has a great spares department," according to a **GIV-SP** operator. "If they don't have a part in stock they will find it and get it to you overnight."

Other operators complained that Gulfstream parts are harder to obtain from distant spares depots. "Seems like most parts are coming from Savannah or Memphis," wrote David Bass, director of maintenance for **G550** operator Skybird Aviation. "This drives up the cost of shipping parts versus if they had stock in Long Beach."

"All stock available in Savannah," said **G550** chief of maintenance Alex Goodwins. "Problem: London Luton still does not carry enough!"

Most commenters noted an improvement in Hawker Beechcraft parts availability, although one **Premier I/IA** operator said, "Poor availability of parts for an aircraft currently in production."

"Much better than they were in previous years," said a **Hawker 800-series** operator.

Scott Sonnkab, manager of flight operations for **King Air 300** operator Alliance Laundry Systems in Oshkosh, Wis., said, "For the most part, parts are readily available."

"Parts for earlier models getting hard to find," said a **B200C** operator.

Mitsubishi MU-2 owner/operator Jim Paige said, "Fantastic for an aircraft that's 23 years out of production."

"I have never had a parts problem in the last five years of ownership," said owner/operator Tim Cappelli.

Pilatus PC-12 parts are "usually available within 24 hours," according to chief pilot Loren Hofer.

Chris Wegener, manager of flight operations for **PC-12** operator MRV Services, said, "Common items such as generators are not kept in stock. This adds time to an unscheduled maintenance issue."

Piper Cheyenne parts are difficult to find, according to two operators, but according to Air Partners chief pilot Royce Riggs, "Most are available."

Sabreliner operators also are concerned about dwindling parts stocks. "Parts are becoming hard to get sometimes," said a **Sabre 65** operator.

Sikorsky parts availability, said one operator, is "terrible." Another reported that Sikorsky is "slow to respond for parts for AOG." And one operator said, "Some older S-76B components require hunting around to locate spares."

COST OF PARTS

Parts prices have always been an issue for aircraft operators, and there was no shortage of comments about this subject.

AgustaWestland operators said, "In euros and expensive" and "the cost is 25 percent more than list price."

Among the comments from Bell operators were, "Very pricey," and "cost is getting prohibitive."

Operators of the **Boeing Business Jet** gave mixed responses. One labeled the company's cost of parts "high," while another called it "reasonable."

Operators of Bombardier's entire line of aircraft made similar comments about the cost of parts. One **Challenger 300** operator wrote, "Just when you think you have it under control, you are charged \$8,000 for a \$2,000 window shade." Another complained, "Several times (even though we are under Smart Parts), we have found that Bombardier has charged three to four times the amount we can pay for the identical part through a third party."

A **Challenger 601-3R** operator had this to say: "Cost of parts from the [manufacturer] is outrageous." The operator of a **Challenger 604/605** wrote, "Overall, the cost of parts seems to be reasonable."

According to the operator of a **Learjet 31A**, "Many parts are reasonable but many are not. For example, yoke escutcheon is \$850; this is a plastic plate with the Learjet logo printed on it." "Would pay more if we were certain that we could get good parts," wrote the operator of a **Learjet 36A**.

The operator of a **Citation 500** wrote, "Easy and cheap to get," while a **Citation XLS** operator commented, "While the cost of parts is relatively low, Cessna does keep a tight hold on the parts and it is difficult to find certain parts outside Cessna."

The operator of a **Citation X** perhaps summed up the attitude of operators of all different models. "We can complain all we want, but they are what they are."

A **Falcon 2000** operator noted, "Expensive, good value and closely in line with the industry." A **Falcon 20-5** operator commented, "Overpriced in many areas."

Of the **Embraer Legacy 600**, an operator had this to say, "Higher than Cessna, but not out of line for other heavy aircraft."

Comments about the cost of **Eurocopter** parts ran the gamut from "the most expensive on the market," to "fair and reasonable."

A **G100** operator wrote, "Parts cost has gone up 300 percent on some items since Gulfstream bought Galaxy."

Continues on page 46



Continued from page 44

2008 AIN product support survey

The operator of a **G500** commented, "Cost of ground support equipment is absolutely out of control and crazy," while another **G550** operator noted, "The price of the parts is astronomical."

A **GIV-SP** operator had a different take, writing, "Most parts deliver good value for the money spent."

Hawker Beechcraft operators

were not so understanding. One **King Air 300** operator wrote, "Parts costs are insane," while the operator of a **Hawker 800** series complained, "Totally outrageous."

Mitsubishi MU-2 operators seemed satisfied with the cost of parts. "I've found the cost of MU-2 parts to be reasonable," wrote one.

Of the **Pilatus PC-12**, opera-



Parts availability remains an issue for AIM readers, who do not want to have to wait for parts to be delivered.

tors had this to say about cost of parts: "excellent," "expensive," and "euro exchange rate is getting worse every day."

Operators of the **Piper Cheyenne** were split on the cost of parts, with responses ranging from "average" to "very, very overpriced."

A **Sabreliner** operator asked, "What would you expect from an aircraft no longer in production for a number of years?"

Regarding the cost of parts for **Sikorskys**, operator responses ran the gamut from "prices are increasing like crazy" to "reasonable."

AOG RESPONSE

A Brazilian **AgustaWestland** operator reported that AOG response is "good and fast."

"AOG works," said Hillcrest Aircraft assistant chief pilot Stuart Taft about **Bell Helicopter**, "but takes some persistence."

"Very poor," reported another.

Four respondents were happy with **Bombardier Challenger/Global** AOG response, but one said, "Poor at best!"

While director of operations Roger Lipcamon had three **Learjet 40/40XR** AOG situations during the past year, "and all were handled great," Steven Reed, chief pilot for **Learjet 60/60XR** operator Bretford Manufacturing, wrote, "We have experienced five AOG situations and none has gone well."

Cessna Citation operators have mostly had great success with AOGs, but one Brazilian **Citation VII** operator said, "They say, 'one week,' and I assure you, it's at least one month or more."

Dassault Falcon also received high marks for AOG. One **Falcon 50** operator wrote, "No better to be found anywhere in the world." But another **Falcon 50** operator commented, "We have been disappointed by the Falcon attitude in response to an AOG situation."

One **Eurocopter** operator reported "exceptional attention to the customer's needs." But others complained about "horrible" and

Continues on page 48



2008 AIN product support survey



Continued from page 46

“non-existent” AOG responses. “An AOG shipment can take up to seven days,” wrote lead mechanic Don Crawford.

Gulfstream operators praised the company’s AOG response. “Gulfstream is an outstanding company when it comes to responding to an AOG,” said Richard Stoullil, chief pilot for G200 operator Hormel Foods.

A Hawker 800-series operator wrote: “Broke down and waited eight hours to get a response.”

Another 800-series operator reported a different experience, writing, “We ordered a part AOG and Hawker Beechcraft was willing to generate their own flight to keep us going.”

Mitsubishi MU-2 owner Greg Mink wrote, “Outstanding support for AOG.”

A PC-12 operator and a Sabreliner 60 operator used one word to summarize their manufacturers’ AOG response: “Excellent.”

One word also sufficed for a Sikorsky operator’s opinion: “terrible.”

WARRANTY FULFILLMENT

“Warranty work is absolutely shoddy,” pilot for Yates Petroleum of Artesia, N.M., which operates a Premier I/IA wrote, “Overall excellent; however, they can be a bit picky.”

A King Air 200 operator said, “Difficult to navigate their system.”

Chris Wegener, manager of flight operations for Pilatus PC-12 operator MRV Services, wrote, “If a problem exists with a part and Pilatus cannot duplicate the problem on a bench check then they will not cover the part.”

“At or above industry standard,” said a Sabreliner operator.

“Have to watch the transactions—lots of errors,” reported a Sikorsky operator.

TECHNICAL MANUALS

“Well written, clear and easy to use,” wrote an AgustaWestland operator, while another said, “very poor, need update.”

“One of the best in the industry,” wrote chief pilot Enrique Bougeois of Bell Helicopter. Another Bell operator

can troubleshoot and fix problems with the manuals even without MU-2 experience.”

Piper Cheyenne I/IXL pilot Jerry Burgerderfer reported that “Piper has no support in manuals or supplements” for his airplane.

TECHNICAL REPS

Operators were highly complimentary of technical reps from AgustaWestland, Airbus, Bell Helicopter, Boeing, Bombardier Learjet, Embraer, Mitsubishi, Sabreliner and Sikorsky. Other manufacturers received some pointed criticism, although it wasn’t all negative.

One Challenger operator wrote that tech reps for this airplane “seem to func-

“reasonable” and “excellent” warranty fulfillment, one Legacy 600 operator said that the company’s “biggest problem so far, [is that it] doesn’t have a true way of claiming warranty claims.”

Two Eurocopter operators had split opinions: “Extremely good, but be prepared for paperwork,” wrote one. “Everything is argued to a ridiculous extent,” said another.

Gulfstream received high marks in warranty fulfillment from operators, although one G550 operator said, “Sometimes I have to really have some serious discussions for Gulfstream to see my way.”

For the most part, Hawker Beechcraft operators are happy with the company’s warranty fulfillment. Per Landeck, chief pilot for Yates Petroleum of Artesia, N.M., which operates a Premier I/IA wrote, “Overall excellent; however, they can be a bit picky.”

A King Air 200 operator said, “Difficult to navigate their system.”

Chris Wegener, manager of flight operations for Pilatus PC-12 operator MRV Services, wrote, “If a problem exists with a part and Pilatus cannot duplicate the problem on a bench check then they will not cover the part.”

Robert Terrell, chief pilot and safety director for Eurocopter operator LifeFlight/Rescue Air One, wrote, “Technical manuals are improving slowly since Aerospatiale days.”

“The DVD is easy to update,” said another Eurocopter operator.

Gulfstream operators did not reach a consensus on technical manuals. “Online access to the manuals is very helpful,” reported G200 maintenance supervisor Charles Morgan. But a G150 operator said, “This is an area that needs a lot of work.”

Michael Magnani, director of maintenance for Central Management Services of Camarillo, Calif., praised the G550 manuals: “The best...takes all of the mystery out of what you’re supposed to do and how you’re supposed to do it.”

A GV operator noted that the manuals have “many errors and omissions.”

A Hawker 800-series operator said that

Several operators commented about the tech reps at Gulfstream. Comments included, “Very knowledgeable, but overworked with too many airplanes,” and “always there when you need them.”

A GII/IIT operator wrote, “Tech rep wants nothing to do with older aircraft.”

“Our local Gulfstream rep makes the other manufacturer reps look bad. Here just enough, but not too much,” commented one GIII operator.

“Willing to spend whatever time it takes to meet our needs. Excellent knowledge of the aircraft and systems,” said one Hawker Beechcraft 800 series operator of his technical reps.

Another took a different tack, “Tired of

the Cesview program is very good,” said Encore/Encore+ chief pilot Ben Bagnall.

A Citation V operator, however, said, “The Cesview program is fairly easy to use, but there seem to be a lot of problems with the graphics and printing.”

A Falcon 2000 operator commented that the manuals contain “No procedures for certain items. Some procedures poorly written.”

“Unfortunately, Dassault maintenance manuals are not as good as they can be,” said a Falcon 50 operator, “and expensive.”

Jorge Lara, flight operations director of Falcon 50 operator Corbantrade in Quito, Ecuador, said, “Now all manuals are on DVD, which is great.”

An Embraer Legacy 600 operator commented, “Very good when revised in a timely manner.”

Robert Terrell, chief pilot and safety director for Eurocopter operator LifeFlight/Rescue Air One, wrote, “Technical manuals are improving slowly since Aerospatiale days.”

“The DVD is easy to update,” said another operator. “If you should know the airplane some yourself or they will lead you down the wrong path at times,” wrote one Citation CJ3 operator. Another commented, “Always available to me and if they can’t find an answer, won’t shelve the concern until it is resolved.”

Operators of Dassault Falcons had mixed reactions to the company’s tech reps. One operator of a Falcon 2000 wrote, “Field service reps have come out at all hours and met the aircraft.”

An operator of a Falcon 50 commented, “We have been disappointed with the knowledge level of the help desk...Usually we are forced to figure out the solution to our problem with little or no help from them.”

“I hit a bird and damaged the slat,” wrote one Falcon 50EX operator. “Without even seeing the aircraft, the Atlanta tech rep called me and told me that the aircraft was safe to fly. When Dassault engineering people saw pictures of the dent they issued a statement of no technical objections with limitations on flying the aircraft. The tech rep obviously didn’t have a clue.”

“Pitiful warranty policies. The warranty department does about anything they can to keep from paying a warranty claim.”

Cessna Citation operators expressed near-unanimous satisfaction with Cessna’s warranty fulfillment, although one Sovereign operator noted. “Too many parts have a short warranty period and have proved unreliable.”

A Falcon 900EX operator’s one-word comment of “lousy” was balanced by four other operators who praised Dassault Falcon Jet’s warranty fulfillment as “smooth and painless” and “never had any problem getting warranty issues resolved.”

While operators credited Embraer with

To address AOG issues, Gulfstream has dedicated a G100 to fly parts to the customer’s location.

tion more as a claims adjuster (say ‘no first’) versus an advocate.” Another commented, “Overall the tech reps do a great job in spite of Bombardier’s decision to call us classic and charge us extra for being long-term supporters of the Challenger.”

Another wrote, “Customer support field service reps still the best part of Bombardier to deal with.”

Comments about Cessna’s technical reps ran the gamut. One Citation XLS operator wrote, “Technical reps are good, but are spread too thin.”

“You should know the airplane some yourself or they will lead you down the wrong path at times,” wrote one Citation CJ3 operator. Another commented, “Always available to me and if they can’t find an answer, won’t shelve the concern until it is resolved.”

Operators of Dassault Falcons had mixed reactions to the company’s tech reps. One operator of a Falcon 2000 wrote, “Field

wrote, “Outstanding support for AOG.”

A PC-12 operator and a Sabreliner 60 operator used one word to summarize their manufacturers’ AOG response: “Excellent.”

One word also sufficed for a Sikorsky operator’s opinion: “terrible.”

WARRANTY FULFILLMENT

“Warranty work is absolutely shoddy,” wrote a Challenger 300 operator. “We filled out the warranty paperwork, our last factory service visit, it got back as denied...They pretty much assume that we won’t fight it and pay for warranty work that is covered by their warranty.”

“Average,” according to a Citation 300 operator. “They continue to have problematic failure items with problematic failure items (i.e. delamination of windows).” “Most of the time,” said a Challenger 604/605 operator.

Learjet operators also reported problems. “The ongoing windshear

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While operators credited Embraer with

bin accessory structure complex and intricate characteristics, the five-train reliabilities whole resource to be Robert Terrell, chief

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10

neering. "I'd get back with you after talking to factory."

Another noted, "Well versed for most projects, but lack the hands-on shortcuts that the guys out on the floor know."

Nothing is more important to an operator than overall aircraft reliability, and survey respondents clearly expressed any issues they found.

Carvin Wzardowicz of the company's Learjet 45/45XR. "Between the lack of parts and the problems, it is hard to complete trips."

Many Cessna Citation operators report excellent reliability. "The XLS has got to be the most reliable and easiest aircraft to maintain," said one operator.

"The Citation Ultra has proved itself to be a workhorse with the highest degree of reliability," said another.

"We have had a variety of issues with

cheap plastic trim, intermittent electronic problems and an attitude that things should be replaced rather than troubleshoot individual systems."

"Dispatch reliability in even the worst conditions has been 100 percent for us on our AS-350B2," said another.

"Despite fragile fixtures, and unnecessary electrical systems, excellent engine and allow the aircraft to be quite reliable," said

2008 Product

...wrong," said another
... "forever breaking

Support Survey

...some systems (air conditioning/
...ental/pressurization) are weak

...and I operators lauded the old
...bility. "The Westwind I is not
...st simple and reliable," wrote
...Lawrence Tierney, of HMV Avia-
...ountville, Tenn.

...manager Russ Reilly said this of
...ny's MD Helicopters: "We get
...-percent serviceability per week.
...ctical/avionics problems."

...f the Mitsubishi MU-2 operators
...mented mentioned reliability
..."The MU-2," said one operator,
...he best aircraft I've ever owned."
..."MU-2 is incredibly reliable," said
...ey, president of Kinsey, Troxel,
...Walborsky & Bradley. "Mit-
...support of an out-of-production
...fantastic."

...base pilot Roger Rudduck said
...atus PC-12 his organization op-
...fantastic." But another operator,
...rices, has experienced reliability
...according to manager of flight
... Chris Wegener. "Our current
...s had more maintenance issues
...t six months than the previous
...l in four years," he said.

...Riggs, chief pilot of Piper
...H operator Air Partners, said
...e is "very dependable."

...r Cheyenne II operator com-
...t the "The Cheyenne II seems to
...then-fix-it bird."

...two Sabreliner operators wrote
...ad "good" regarding their jets"
...one explained. "If we had to
...this airplane every day of the
...would be in some difficulty."

...a Sikorsky operator said that
...helicopters "set the standard for
...opter industry," albeit without
...g his particular model. Another
...rote, "S-76, good to very good;
..."

Winners

...to complete the 2008 Product
...arded to three randomly selected
...players with Bose QuietComfort 2

The winners are Ed
Cregan, chief pilot for
Castlelands Construction in
Cork, Ireland; Dr. Ken Wolf,
CEO/chief pilot, Wolf Eye
Associates in Lewiston,
Maine; and Ken Brickett,
director of maintenance at
Paraffin Air in Windsor
Locks, Conn.



...ment system is very unchangeable.
"If the aircraft didn't have the Rockwell
Collins cabin entertainment system it would
be a pretty good aircraft," wrote Scott Olan,
director of maintenance for Global 5000
operator Flight Management Services.

Technician Ronald Earl at Global/XRS
operator Citigroup Corporate Aviation said,
"The efficiency of the Global 5000 I

...spid things g
Eurocopter operat



Continued from preceding page

pilot and safety director for Eurocopter
operator LifeFlight/Rescue Air One.

A Gulfstream G150 operator said,
"Potential issues have been thwarted by
superior in-house maintenance department."

"Reliability of aircraft is very poor,"
wrote another G150 operator.

"Excellent...one of the best improve-
ment stories in corporate aviation," said a
G200 operator.

"[It] seems like there is always some kind
of little issue with the aircraft," said G200
maintenance supervisor Charles Morgan.
"Typically some kind of intermittent prob-
lem that can't be duplicated on the ground."

Reliability of large-cabin Gulfstreams
was more prevalent in operators' comments
and neatly summed up by Brett Moreland,
assistant chief pilot for GIV-SP operator
First Flight, who wrote, "We constantly go
to the Diplomatic Republic of the Congo. I
wouldn't be very comfortable going in any
aircraft other than a Gulfstream."

"This G550 is my 13th brand-new Gulf-
stream in over 27 years as an operator and it
is, by far, the best and most reliable one yet,"
said Michael Magnani, director of mainte-
nance for Central Management Services.

A Hawker 800-series operator said its
airplane "just keeps on tickin'."

But two Premier I/IA operators had
some reservations. "Average at best," said
one. "Would like to see an overall empha-
sis on reliability. The airplane is fantastic.
Certain vendor parts are not."

Robert Long, director of flight opera-
tions/chief pilot for Paragon Flite, said, "In
the first six months, the airplane had six
system failures that required diversions to
maintenance."

King Air operators like the airplane's re-
liability, but some experienced systems
problems. "Air conditioning is worthless,"
wrote Dale Bryan, director of aviation for
King Air 350 operator Blue Cross Blue
Shield of Tennessee.

"A workhorse," said a B200 operator.

iPod and Bose Headphone V

This year, as an incentive to encourage readers
Support Survey, AIN editors chose an exciting new prize. A
survey takers are Apple iPod Classic (80-GB) portable medi-
noise-canceling headphones.



Ed Cregan



Dr. Ken Wolf



Ken Brickett