Part One | Aircraft

As the result of a 10-percent survey return rate (which experts consider statistically significant) and partly because we have improved our survey methodology, this year's report contains more depth, including the addition of several OEMs to the ratings list. These changes notwithstanding, for the fourth consecutive year readers gave Gulfstream the highest marks for both newer business jets (less than 10 years old) and older business jets (10 years or older).

In addition, readers placed OEM customer service of Gulfstream, Cessna and the Beechcraft series—now supported by Gulfstream—second behind Gulfstream for support of its older GVs and GVIs.

Boeing, which appears in the first place, distanced Raytheon for its Hawker 400XP and Beech Premier for a second-place finish among newer business jet manufacturers. Boeing also edged out Cessna for second place in the overall rating for combined scores (where appropriate) of both newer and older business jets. AIN received responses from operators of 48 Boeing Business Jets, more than half the number of BBJs in service.

Cessna retained its third-place standing among newer business jets but dropped from second to third position among older business jets, behind new entry GDAS. The overall score of support for older Gulfstreams and AAV jets resulted in a 21.69-percent increase in overall average rating over last year. GDAS took over support of the Gulf and Cessna and Boeing in January and 50 percent of respondents for the first time as a five-star product-support provider.

Dassault logged the greatest percentage increase in the overall average among newer business jet OEMs; but the French manufacturer did not move up the ratings ladder and retained its fourth-place position. The overall average rankings for support of Dassault’s older business jets (behind GDAS) in the combined newer and older overall average rankings. Raytheon had mixed and perhaps the most surprising results. In the category of newer business jets, the company’s overall average rating for support of Beechjets, Hawker 400XP and Premiers dropped 1.5 percent from last year’s survey, helping to pull down this OEM’s product support standing from second among newer business jets last year to fifth position this year ahead of Dassault and ahead of its own support for the Hawker 800/850/1000 series.

According to survey results, overall support for the Hawker 800/850/1000 series improved more than 4 points, but the higher score of new entry Boeing served to elevate Raytheon from fifth to sixth place among newer business jets. Further, a 0.1-point decrease in support of older Hawkers and the higher rating of new entry GDAS conspired to ease Raytheon from third place among older business jets to fifth and eighth positions.

The overall ranking for customer support of older Diamonds and Beechjets landed Raytheon in the fourth position tied with Dassault, for support of older business jets. But the OEM slipped from third to seventh among the combined newer and older aircraft ratings—again partly due to the higher ratings of new entries Boeing and GDAS. Embraer also dropped a couple of positions—from sixth last year to 10th this year among the newer business jets (despite an overall ranking improvement), and from fourth to sixth when compared to the combined overall scores of manufacturers that must support both newer and older airplanes.

Bombardier was the only other jet OEM to have an overall score this year that decreased from last year among manufacturers of newer business jets. For example, the overall rating for support of newer Learjets and Globals decreased 4.75 and 1.28 points, respectively. This contributed to Bombardier’s remaining at the bottom of the product support ratings. Further, the overall score this year for support of newer Challengers increased 2.65 points, but that didn’t do anything to elevate the Bombardier Challenger from its seventh overall position among the newer jets. What’s more, Bombardier slipped from fifth to seventh place for its overall support of Challengers.

If not for new entry Sabreliner, Bombardier would have kept its last-place position when comparing the scores of combined newer and older business jets.

New entry Sabreliner received the lowest overall rating among all business jet OEMs—5.58.

Mitsubishi, Pilatus Still Reign

In the older turboprop category, Mitsubishi retained its lead position despite the fact that its overall average rating decreased from 8.76 last year to 7.87 this year. The overall rating for newer Pilatus PC-12s also dropped (from 8.11 to 7.19) year over year, but the Swiss manufacturer still held the number-one position among newer turboprops and the number two slot for ratings of combined newer and older airplanes.

Cessna got edged out again this time from third to fourth in place with the turboprop segment and from fourth to fifth place in the combined newer and older segment—partly because of its decreased overall score and partly because of the higher score of new entry Twin Commander Aircraft (TCAC). The overall rating of 6.27 for support of Twin Commanders propels placed TCAC in fourth position among older turboprops and in fourth position among newer and older manufacturers combined.

As it has in past surveys, Piper rated last for its support of Cheyenns. However, the company’s score improved by more than 25 percent year over year.

The Return of Rotorcraft

A statistically invalid response from helicopter operators last year prevented a report on this segment of the industry in AIN’s 2005 Product Support Survey. Such is not the case this year. Operators of nearly 350 rotorcraft submitted surveys, ranking Bell in first place and MBB in last place. Aerospace and MBB are supported by Eurocopter but were graded separately in this report to show the difference in support levels that readers say the French-German company provides to its newer aircraft (rated under Eurocopter) and the two other aircraft models (Aerospatiale and MBB) for which it is responsible.

The operators of Eurocopter-built aircraft rated OEM support better than did the operators of the older aircraft that were built before their respective OEMs merged.
The intent of the annual AIN Product Support Survey is to give readers as highly accurate and complete a picture as possible of how well the OEMs and their authorized service facilities provide customer support.

Past surveys were done entirely on paper via mail and faxes. This method proved satisfactory, but this year we decided to conduct the survey electronically via the Web and e-mail. To help us do this properly we contracted with Networkx, Conoco-Phillips Forecast International, a 32-year-old provider of data for the aerospace industry.

With Forecast International’s assistance, AIN designed an electronic survey form similar to a paper form we mailed or faxed to those few readers we could not contact by e-mail. Those receiving a “paper” survey were invited to go to a specific Web site to complete the survey online.

As in the past, we asked readers to apply values from 1 to 9 in nine separate categories, with less than 2.5 defined as “inadequate” performance, 5.0 representing “average” performance and 8.5 to 9 designated “excellent.”

We also asked for comments in each of the categories. To help focus the responses, here were the key points we asked respondents to consider within each rating category:

Authorized/Facility Service Center: Cost-estimation versus actual, on-time performance, scheduling ease, overall service experience.

Parts Availability: In stock versus back order, shipping time, paperwork.

Cost of Parts—value for price paid.

AOG Response—speed, accuracy, cost.

Warranty Fulfillment—ease of paperwork, extent of coverage.

Tech Manuals—ease of use, formats available, timeliness of updating.

Tech Reps—response time, knowledge, effectiveness of visits.

Overall Product Reliability—How the product’s overall reliability and quality measured up to your expectations and the provider’s promises.

More than 10,000 AIN subscribers were selected to take the survey. Indicating our decision to take the process electronically, we received a 10 percent response, by far the highest of any AIN product support survey. The more than 1,600 respondents operate a total of 3,485 aircraft. In addition to the numerical rating, virtually all respondents provided at least one comment.

The data provided by AIN readers and “crunched” by Forecast International is so voluminous that to provide a quality report on each of the main product segments—aircraft, engines and avionics—it is necessary to split them into separate articles. We believe that by doing this we can present the complete and qualitative analysis that the survey results deserve.

With that in mind, this month’s article will cover survey results pertaining solely to airplanes and helicopters. Survey results for turboprop, turboprop/turbojet and turboprop/asbestos engines will be the subject of an article in the September issue. And in an October article we will deal with the survey results for avionics.

Because some aircraft models date back as far as 40 years, aircraft age can be a significant factor in ratings. This year, as in the past, we’ve separated aircraft into two segments—“newer” (less than 10 years) and “older” (10 years or older). In some cases, a particular manufacturer’s (such as Raytheon and Bombardier) aircraft are separated into multiple groupings to reflect possible differences in the level of support for aircraft models acquired through acquisitions and mergers over the years.

Gulfstream Aerospace no longer has product-support responsibility for Gills and Gibbs, factory support for these aircraft having transferred to Gulfstream sibling General Dynamics Aviation Services on January 1.

The change addresses operators’ concern that their Gills and Gibbs sometimes take a back seat when competing with newer models for maintenance attention at Gulfstream’s factory-owned service facilities. GDAS is already responsible for supporting the WestwindII/Ascent fleet.

Finally, our readers are a vocal and critical group when it comes to product support. In most cases, the top three ranked companies received overall average scores in the 7.00- to 7.07-range, while the bottom three ranked companies earned overall average scores between 4.86 and 6.47. Mitsubishi received the highest score in a single category—6.67 for technical reps. —G.E.
In their own words

AUTHORIZED SERVICE CENTERS

The chief pilot for a Wilson, N.C., flight department that operates a Citation 550 wrote: "Citation service centers are the worst [sic] at inaccurate prices and inaccurate downtimes. How do these places stay in business treating people and airplanes the way they do? Most everything they have ‘fixed’ has had to be repaired somewhere else."

The chief of maintenance for a company in Blue Grass, Iowa, that flies a Citation V said: "Authorized service centers appear to have same expertise as factory centers and will do the same job for a better price."

Maintenance technician Michael Hudgin of Swagelok Flight Operations, Highland Heights, Ohio, who maintains a Challenger 601-3A, stated: "General Dynamics [Aviation Services] in Appleton, Wis., is high on my list of service facilities that have the capability to do a job not far off the original quote. Excellent people to work with."

Midcoast Aviation got two thumbs up for Challenger work from two Midwest companies, as well as a Falcon operator, although the Falcon operator, a large charter/management company, believes "Dassault needs to authorize more" facilities. This operator also believes some facilities are "quite good" for the Global Express, "but some are lacking in willingness, ability and concern for product support," particularly in overseas operations.

Midcoast also got a good word from maintenance manager Bob Bauer for a Global Express operated by United Technologies. Midcoast is the "best in class for facilities and personnel. A pleasure to do business with."

Duncan Aviation received praise from several operators of Learjets, Citations, Challengers and Hawks. But not from an aviation manager for a Citation VII operation: "Duncan’s strength is in the large inspections. They are weak on troubleshooting systems. Not impressed by the recent paint job."

A senior captain for a Midwest operator of a King Air wrote: "Ellijet Aviation at Des Moines International Airport maintains the King Air and does a very acceptable job. Parts seem to be becoming harder to come by, but Ellijet Aviation seems to always find what we need, although often at a steep price. They also have experienced mechanics that know King Airs and are very good at getting us in at a moment’s notice."

Larry Richards, aviation manager for a southern-based operator of a Falcon 10 and Falcon 20, said: "Landmark is good. Premier Aviation in Alton, Ill., blows everyone else away in service and technical expertise with respect to Falcons."

Joel Felker, director of maintenance for a southern-based operator of a Falcon 8, stated: "Ground support from several authorized service centers around the states. Two stand out—Jet Aviation PBI is excellent. Garrett [now Landmark] at LAX is good also." David Fortin, chief pilot for Shinn Enterprises, Oklahoma City: "General Dynamics Aviation Services in Dallas has been a pleasure to work with on our Gulfstream IV, its mechanics seem to be very experienced, and its pricing is very competitive with other shops." Mark Gardner, a Gulfstream G200 operator and aircraft manager for charter/management firm Executive Jet Management in Fort Worth, Texas, voiced essentially the same opinion.

"General Dynamics [Aviation Services], Las Vegas, good overall service," wrote the chief pilot for a Midwest operator of a Gulfstream IV. "A little slow on parts delivery, but excellent technicians. However, a GIV operator based in the northwest had a different opinion: GDAS in Las Vegas, he wrote, "brings the average way down for service centers. No problems anywhere else." Juergen Wiese, aviation department manager for a European-based operation that flies a Hawker 800XP: "Jet Aviation Zurich did a fantastic job of keeping our aircraft in perfect flying condition during the somewhat lengthy sales process. Jet Aviation Basel is doing great on the Falcon 2000EX EASY."

Ken Hall, director of operations for Ahern Rentals, wrote: "Premier Air Center, ALN, completed the RVS and TAWS compliance on Citation 525-0341. Their quote was 27 percent below the cost of a bid from a factory service center. Shop completion standards were excellent. All work was completed on schedule and on budget, adhering to the quote precisely. All personnel from sales, engineering, maintenance and administration were very cordial and highly professional.

"In the past, I have been reluctant to venture outside the factory-owned service center network for major maintenance. Premier Air Center has changed my perception. Lower cost does not necessarily mean lower quality. I would highly recommend Premier Air Center, and I will continue to utilize their services for future maintenance."

QUALITY FACTORY SERVICE CENTERS

Two Challenger operators wrote about their negative experiences with Bombardier’s factory service centers. Doug Gordon, director of maintenance for Citgo in Memphis, which operates a 601-3A, said: "I have lost my confidence in dealing with most of the factory service centers."

The director of aviation and chief pilot for a Colorado-based company said about his 601: "I would not recommend [Bombardier] Tucson to anyone. They are unprepared and very arrogant. Wichita didn’t seem up to par either." Capt. C. Dauber flies a Challenger 601-3A for a West Coast company: "The BASS Service Center in Tucson has experienced a decline in availability of parts and personnel over the past several years. The effect on performance has been to slide from an outstanding service center five or six years ago to barely adequate. Our feeling is that this is a result of management activity in Montreal rather than the local team."

The director of aviation for a Learjet and Challenger 600-operators, a Midwest-based industry wrote: "Factory service centers are consistently higher priced than authorized centers and rarely complete jobs on time. Billing is always difficult, requires a lot of time to dig through and get it right."

The chief rotary-wing pilot for a U.S.-based operation of an international charter/management firm had this to say about Agusta A109 factory support: "overbooked, not enough technicians, unable to supply service in a timely manner. Lacking in quality control."

William Howell, v-p and director of maintenance for a financial institution, said: "all Cessna factory service centers are very good."

Jay Jacobs, chief pilot for BeechJet operator Swing Plane Aviation in Ballarat, Victoria, Australia, said: "M7 Aerospace in San Antonio is the factory-authorized service center for the more than 750 Fairchild and Swearingen Metroliners and Metroliners still flying. The number of responses from Metro and Merlin operators, however, did not meet our threshold for inclusion in this year’s survey."

Continued on page 24
What Have They Done For You Lately?

In response to a request by AIN, aircraft manufacturers submitted what they considered to be recent and significant product-support developments at their respective companies. (Bell, Bombardier, Eurocopter, Piper and Sikorsky did not respond.)

Boeing
- BBJ regional field rep added in Kuala Lumpur, Malaysia.
- Jet Aviation in Dubai and Singapore appointed BBJ service centers.
- More part numbers added to spares exchange pool program.

Cessna
- Expanded service center capacity by more than 40 percent, including construction of a 443,000-sq-ft service center in Wichita that can hold more than 100 Citations simultaneously.
- By year-end will have increased its number of field service engineers by more than 60 percent since 2004.
- Introduced the Sovereign with an MS93 maintenance program. In April received FAA approval for MS93 for the Citation X, and it expects FAA approval for an MS93 program for the XL and XLS by early next year.

Dassault Falcon Jet
- Established 98-percent spares availability level. Parts service life guaranteed to TBO. AOG service averages two-hour “pick-to-ship.”
- Launched “Reliability Plus,” a program aimed at enhancing dispatch reliability.
- Increased number of field service reps and customer service managers by 33 percent over the last five years.

Gulfstream
- More than 1,000 Gulfstream operators use CMMt in online maintenance tracking service, which is also applicable to non-Gulfstream aircraft.
- Relocated portions of spares inventory to strategic locations in U.S. The company is also seeking overseas locations for parts distributors.

Continued from page 22

but the service reps are thieves. [They are] constantly making errors that are always in their favor!” A Northeast operator of a Beechjet 400A claims the San Antonio factory service center “never meets the deadline.”

The manager of flight operations for a company that flies a Learjet 60 had this to say about Bombardier Wichita: “This center is very good; however, its sense of urgency is low until it is ready for you to leave. We had an instance where a master cable was caught under a fluid line, and we were so ready to move us out of the hangar, they were slow to troubleshoot the problem.”

Ken Hall, director of operations who flies the Citation 525 and S9ISP for Ahern Rental: “Sacramento Cessna Citation Service Center—flawless. Always on schedule and highly professional. Cost can be uncomfortably high for major events, but we always leave on deadline with no remaining discrepancies.”

I spent three weeks in a CCSC and never met the management above the lead man running my job.”

David Vegh, line captain for a southwestern-based Citation 560XL operator, said: “All but one center has been terrible in completing the checks on time. More than once we have delivered the crew to pick up the aircraft at the time we were told only to have them wait for several hours and as long as a day-and-a-half. Very frustrating. And it is frequent.”

Paul Hanrote, captain at a southern base for an international charter/management firm: “Cessna Citation Service Centers are by far the best OEM service centers for any of the light and medium jets. Nonetheless, there is always room for better quality in nearly all areas. It is a shame that General Dynamics sold Cessna to Textron. It’s fun to imagine what the aviation world would look like if Gulfstream and Cessna had been paired.”

Roger Lipham, director of operations for an upper Midwest company: “If I were rating the MKE Citation Service Center, they would rate 9+ across the board. As for ICT, 5 at best. Accounting/invoicing for work completed rates 1. Over five years of using the facility, with visits for minor items to Phase 1-5 and engine Check 3s, we have yet to receive an invoice that was without problems. The overcharges were properly credited but only after multiple phone calls for each.”

Chief pilot Ephraim Ingalls of a West Coast company wrote: “Turbonova engine factory repair experience has been completely unsatisfactory, with two engines returned to Turbonova four times for rework after in-flight failure. Customer support reps from Turbonova fail to return calls and to follow up on agreed-upon agendas and procedures.”

From the manager of aircraft maintenance for a recreational vehicle manufacturer: “Factory Hawker service centers do a pretty good job most of the time.”

Director of maintenance for a southern-based service company: “Factory service centers vary widely in their abilities. Citation appears a little better than Raytheon, but both (in our region) are lacking in customer service, timeliness and communication. Once either aircraft is dropped off for work, it takes a lot of effort on our part to determine when the aircraft will be ready.”

Both companies have shown evidence of rushing through the authorized work, failure to properly identify a problem and unnecessary repair.

“With the race for the parts, I’ve had some work done by the Citation service center in the Carolinas. They were not only on time and communicated all problems but kept me in the loop throughout. The work was very good, and they beat their estimated time by several days.”

Alex Goodwin, chief of maintenance for a UK-based Gulfstream G550 operation, had this to say: “[I] only use Savannah facility. All my experiences have been generally good. GAC lets itself down with parts supply sometimes. Having a UK-registered plane is sometimes also a problem because the company’s return-to-service personnel aren’t quite up to speed with EASA. But then who is?”

PARTS AVAILABILITY

Doug Gordon, director of maintenance for Challenger 601-3R operator Pitsco of Memphis, had this to say about parts availability at Bombardier: “You would think that Bombardier would know what parts they do or do not have in stock, that are high failure items and that are in high demand, and stock accordingly. Being forced to purchase parts from Bombardier’s competition when I am on Smart Parts is not a good thing.”

The chief of maintenance for an international electronics concern that operates Challenger wrote: “No availability issues on either aircraft; however, parts reliability out of the Smart Parts system for a 601 has been very poor, often requiring several components to get one good one.”

An aviation manager with TAG Aviation said this regarding its Global Express: “Strange, but items that you would think would be hard to get seem to come through in a timely manner, but parts that are more subject to failure we have difficulty getting.”

A maintenance technician for a

Continued on page 26
Northeast-based flight department wrote: "Gulfstream Express parts availability for 2005 was pitiful at best. Don't sell aircraft you can't support." The director of aviation for a Midwest manufacturer that operates a Learjet wrote: "Bombardier is trying hard to rectify parts shortages. It is saying the right things and apparently putting a lot of resources into this problem. This has been a long-time problem that can't be fixed overnight, but we are seeing progress."

The manager of flight operations for a company that operates a Learjet 60 said: "It seems that since the Bombardier parts center has moved to Chicago (our home base), the parts are not any more easily available. The parts are always in the computer as available, but when the parts center people go to the shelf, the parts are not there." From the director of maintenance for a Southern-based flight department that has a Learjet 45: "Continuous problems with lack of stock, particularly T/R harnesses, flight-control cables, vendors out of business." Chief pilot Efraim Ingals of a West Coast company had this to say: "I think Eurocopter goes out of its way to destroy parts en route to the customer. The shipping containers are terrible." Carl Fagerberg, lead mechanic for the operator of a large fleet of helicopters and airplanes, wrote: "AS 350B2 and B3 airframe parts availability is pretty good. Engine parts are a different story for Turbomeca EC 135P2 great service so far, new model less than two years in service." Christopher Peacock, deputy technical manager for an Asia-based operator, wrote: "Boeing has excellent AOG parts support. Bell parts support is slow and MDH parts support is limited." Regarding its Falcon 20, a multinational charter/management company had this to say: "Only remanufactured parts available. Exceptionally poor quality control on rebuilt parts. We usually go through at least one rebuilt unit to get one that works."

James Tuck, general manager at US Steel: "Gulfstream G450 parts are not up to the excellent past performance of Gulfstream." The captain for a Midwest-based company wrote: "The age of the Gulfstream II is beginning to have a greater effect on parts availability each year."

The chief of maintenance for a Northeast company said: "Gulfstream does not support in-service aircraft with parts. They use the parts just-in-time approach, which works in the factory but not in the field. We lose valuable days every inspection waiting for parts."

Tim McCarthy, director of maintenance for RCR Air in Lexington, N.C., from Raytheon is cochairman. The chief pilot for a Virginia operation said: "B300 parts are through the roof. Marcus Brunninger, captain at an European company, wrote: "All Falcon parts are expensive."

Of the BBJ, one director of maintenance wrote: "BBJ parts are extremely high. Limited vendors to get parts from; usually have to get all parts from Boeing."

An aviation maintenance technician for a large consumer services company had this to say: "Bombardier's cost of parts is considerably higher than other vendors. But they have you stuck in your Smart Parts contract so all you can do is complain."

An international electronics firm took issue with Bombardier's parts program: "Smart Parts for the Challenger 601 is convenient but way over-priced. Can often find better parts at less than half the cost at other locations. As an example, Smart Parts quoted over $200,000 for all new PCUs, but we were able to get exchange units from PPU manufacturer for less than $8,000."

Paul Hansrock, Citation Encore captain at an international charter/management operation, wrote: "The cost of parts is less annoying than the reliability. Cassena does not effectively track for rogue parts. One large fleet operator began tracking R&P's of individual parts and found that Cassena had sent the same part up to 17 times, only to have the rogue fail every time in a very short amount of time. Every time the offending item returned, the paperwork stated the thing had been bench checked and ops checked OK. This is not isolated and requires calls for prompt action in Wichita."

From a Falcon operator: "Dassault is making efforts to listen to the customers' requests about parts pricing. Dassault has asked customers to tell it other vendors' prices and they listen. When possible Dassault tries to change pricing. It has also in the last year or so informed operators when prices on model-specific parts have been lowered. We are willing to pay a slightly higher price for the..."
Embraer’s standing for support of the Legacy 600 improved this year, due to its better marks and Raytheon’s worse marks.

As Time Goes By

How old an aircraft is and how much it is used are factors in how much product support is required and how costly that support is going to be in both dollars and downtime. This chart shows the average age of the fleet and annual hourly usage of the respondents’ aircraft. For that portion of the total fleet, the average age for the most business jet models is more than five years (beyond typical new-aircraft warranty periods) and most are in the air more than 500 hours a year.

<table>
<thead>
<tr>
<th>Aircraft</th>
<th>Average Age (Years)</th>
<th>Average Annual Hourly Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asra/Westwind</td>
<td>22.34</td>
<td>641.27</td>
</tr>
<tr>
<td>BBJ/777</td>
<td>7.97</td>
<td>729.97</td>
</tr>
<tr>
<td>Swedjet/Hawker 400XP</td>
<td>8.29</td>
<td>546.62</td>
</tr>
<tr>
<td>Challenger</td>
<td>9.25</td>
<td>617.86</td>
</tr>
<tr>
<td>Citation</td>
<td>10.56</td>
<td>437.27</td>
</tr>
<tr>
<td>Falcon</td>
<td>12.11</td>
<td>564.78</td>
</tr>
<tr>
<td>Gulfstream</td>
<td>9.13</td>
<td>575.62</td>
</tr>
<tr>
<td>Hawker</td>
<td>10.54</td>
<td>503.08</td>
</tr>
<tr>
<td>Learjet6</td>
<td>11.86</td>
<td>555.78</td>
</tr>
<tr>
<td>Legacy 600</td>
<td>3.54</td>
<td>738.56</td>
</tr>
<tr>
<td>Premier</td>
<td>2.14</td>
<td>247.85</td>
</tr>
<tr>
<td>Sahriller</td>
<td>25.78</td>
<td>306.66</td>
</tr>
</tbody>
</table>

1 Includes private, charter and fractional usage.  
2 Does not include Learjet 20 series.

higher level of customer support, and knowing that Dassault will find ways to help keep its product flying.

An international charter/management operation said this about its Falcon 20: “Some components priced three times higher than the exact same part from Cessna Citation parts department.” The same operator’s comments on Global Express parts: “Wow, [Bombardier] thinks an awful lot of its parts.”

Citation CJ2 operator: “The airplane is covered under Proparts so parts pricing has usually never been an issue. For example, our coffee pot broke around the lid and a replacement was $3,000 with the old core returned. I would not have been happy about that if we weren’t on Proparts. $3,000 for a coffee pot is absurd.”

The aviation manager for a West Coast Gulfstream 200 operator wrote: “Nav light bulbs, $426 each. Outrageous.”

A pilot for a Midwestern company that flies a Hawker 1000: “$28,000 for a windshield? I’m in the wrong business.”

Tim McQuain director of maintenance for RCR Air of Lexington, N.C., which operates a Hawker 700, wrote: “When Raytheon started pulling discounts from the service centers, our discounts went away as well. This way Rapid can sell more parts. The operator absorbs the cost difference. I am just glad we operate only one each of these aircraft and not three, like our Embraer 126s.”

The director of maintenance for an Indiana company had this to say about the cost of parts for business aircraft: “I believe there will always be complaints about the cost of parts. I try to remind myself that the components on a corporate aircraft are usually produced in fairly small lots, as compared to an aircraft with high production rates such as the 737 or a mass-produced automobile. However, you’re still paying for the same research and development costs, certification costs, tooling and manufacturing costs, and the ever-growing cost of liability... there’s just less production to dilute [cost] over.”

**AOG Response**

The director of aviation for a large manufacturer said: “Although Bombardier understands that AOG response is critical to customer satisfaction, there is still a lack of responsiveness from the ‘front line.’ The passion to do it better needs to shift down through the organization and hasn’t quite made it from the leadership to all of the front-line people who deal with customers.”

The line captain for a multinational foods supplier wrote: “Cessna AOG response is good. Gulfstream AOG response is excellent with the AOG aircraft it uses.” Gulfstream has dedicated a G100 to respond with parts and technicians for AOG situations.

The vice president and director of maintenance for a U.S.-based financial institution wrote: “Dassault and Learjet are the worst when it comes to AOG performance. Gulfstream is the best so far.”

Alex Goodwins, chief of maintenance for a UK-based operation, is satisfied with Gulfstream support “whether it be technical assistance or parts. If they have the part we can sometimes get it more quickly from Savannah than Europe. Also with the use of its response plane, Gulfstream is really trying to help its customers. Technical services, a 24-hour help center, is really helpful and the staff are very knowledgeable.”

Michael Huddin, maintenance technician at Swagelok Flight Operations, Highland Heights, Ohio, wrote: “Challenger 601-3A part(s) ship out slow at times. Proper documentation with parts has been an issue.”

Doug Gordon, director of maintenance for Challenger 601-3R operator Pittco of Memphis, said: “It’s a ‘good thing we don’t fly much, otherwise I’d have to stock a spare airplane. Chicago warehouse was a poor location, due to delays caused by weather when trying to get parts shipped out.”

An aviation manager with TAG Aviation, which flies the Global Express, wrote that the topic was “a tough one to discuss since we just had an AOG situation in Japan. Got pretty good response from Montreal but they were still confused as to whether they sent the part and whether it was the right one. Doesn’t bolster our confidence.”

A representative of an international supplier of office equipment said, “Gulfstream really shines. Bombardier should be ashamed of itself.”

Captain Barry Newsham, Newsham Holding, flying the Hawker 800B: AOG “poor. Recently AOG 11 days with transponder problem and seven days with engine problem.” On the flip side, the manager of aircraft maintenance at a Midwest-based recreational vehicle concern wrote, “Hawker AOG response is excellent.”

Tim McQuain of RCR Air, which operates Raytheon aircraft, said: “AOG good if it’s during working hours. Never met a Beech 200 tech rep in 30 years. Only seen Hawker 700 rep once in five years of ownership. I remember the days I would get a visit from a rep about twice a year. Even once a year would be OK. The one visit I did get was about 10 minutes long. [The rep] had more people to see in as little time as possible. I also remember when the reps knew your aircraft and its brief history. Those were the days.”

Per Landeck, chief pilot for Yates Petroleum, Artesia, N.M., operating the King Air 350, wrote of Raytheon: Continued on page 30
AOG is "absolutely fantastic. Much better than most."

The chief pilot for a Midwestern firm that has a Learjet 25G had this to say: "Aircraft AOG for 30 days waiting for throttle cable. When part was delivered to Learjet, they lost the paperwork."

The director of corporate aviation of a southwest-based industry wrote: "Gulfstream [General Dynamics Aviation Services] has done a very good job of supporting its Windward stepchild. It is an improvement over [1AE]." But for the Challenger 601: "Let's say Bombardier's idea and my idea of the urgency of AOG are two different things."

**WARRANTY FULFILLMENT**

Of the Citation Brave, Boyd Roberts, line captain for a Texas-based company, said: "Cessna was OK on the warranty, but every time we went in for warranty work, they had to run the engines for its pre-work checklist and burn precious fuel. Not in for engine problems, might I add."

Ken Hall, director of operations for AernRentals, operating the Citation 501, 525, and 5060XL, wrote: "Warranty fulfillment is in perfect agreement with Cessna's contractual obligations. Factory and service center personnel are knowledgeable of those obligations and always perform as agreed. The warranty system is very well organized, and the documentation burden is minimal. Great warranty service."

On the other hand, this from a chief pilot for an upper Midwest flight department that operates a Citation CJ1 and XLS: Cessna "warranty paperwork is lengthy and cumbersome."

The director of maintenance for a Midwest firm flying the Challenger 600/604 wrote: "Bombardier did a poor job of informing the customer of warranty issues, and SBs are written poorly so that timelines are misunderstood."

An aviation maintenance technician for a Northeast flight department said: "We are often charged by Bombardier for items that should be under warranty. Each bill must be scrutinized to ensure proper billing. Minutes of wasted time often go into correcting billing errors."

William Howell, v-p and director of aircraft maintenance for a financial institution, wrote: "Bombardier has to be forced to go back to its vendors on items that should be warranty without question. Nordam and APC are the worst suppliers."

An aircraft maintenance manager with a large Midwest company had this to say: "Learjet [Bombardier] is pretty fair with us. When I contest warranty coverage issues they are reasonable. I think the existing Learjet 60 warranty is ambiguous. I would like the coverage to be five years (the long way on the airframe)."

Juergen Wiese, aviation department manager for a European-based operation: "Dassault is excellent in fulfilling warranty requests."

Paul Birkey, manager of aircraft maintenance for a Midwest firm and a Gulfstream V operator, wrote: "Gulfstream has elected to charge for some Customer Bulletin if the aircraft is out of warranty. A Customer Bulletin could cover an important issue that wasn't manufactured correctly in the first place. Now we the customers get to pay for that."

A line captain for a Hawker 800 operator said that warranty coverage is "poor." But chief pilot Roger Brant of Taylor Companies, Mich., also a Hawker 800B operator, said Raytheon warranty coverage is "superior."

The chief pilot on a King Air 350 for a Nevada-based flight department had this to say about Raytheon: "Very flaky. We usually have to fight with Raytheon to get things covered under warranty. Sometimes it's something that may be borderline, but other times it's an obvious warranty issue and they try to slip it by us and we're fighting against it. Not a good way to do business."

The director of maintenance for a Southeast-based company wrote: "Raytheon warranty is horrible to deal with. They need to get their online programs in tune with today's technology and train their people to operate them. Lately, it has been a little better, but they seem reluctant to forge ahead."

"Citation warranty is better, but Cessna lacks internal coordination. Why can one of their departments tell me what part and serial number I have in the aircraft, and then the next department call and fax me for verification of the same?"

**TECHNICAL REPS**

Survey respondents were outspoken about the quality of the OEMs' technical representatives. Ken Hall, director of operations for AernRentals, wrote: "Our Citation 525 and 560XL technical reps have maintained a close relationship with our flight department. They visit our operation approximately every six months and have proved to be very knowledgeable and professional. Tech reps are available 24/7/365, and they have assisted in preventing schedule interruptions, even in remote areas."

A Citation 560XL pilot for Pinnacle Aviation Management in Scottsdale, Ariz., commented: "Tech reps have been slightly disappointing. Our private maintenance staff for our aircraft knows more than our regional tech reps and do not call on them on a regular basis because they know that they won't get the proper answer to their difficulty."

The chief pilot for a West Coast-based financial institution said: "Citation X team doesn't seem to have the depth of experience to respond quickly to questions. It needs to keep better database info for reference. With..."
enough referrals to other shop folks, an answer can usually be found.”

The line captain for a food giant had this to say: “Just heard from a Cessna rep first time in five years. Gulfstream rep is great—he visits regularly.”

The director of maintenance for a South- east-based corporation wrote: “Citation factory tech reps are pretty good but disconnected from the field. It seems they get ground information much later than the field reps. Raytheon tech support is slightly better. Neither is capable of 24/7, as advertised. Sometimes you get one that specializes in avionics answering the phone after hours when you need an airborne person.”

Russ Erickson, chief pilot for a West Coast Beech Premier 1 operator, commented: “The tech reps have been the best. They call me to check on the aircraft periodically.”

Crag Kimno, director of maintenance for a Midwest firm that operates the Westwind Astra, wrote: “Gulfstream is the best. They go way over the top to find a solution to your problem.”

Dennis Carrigan, owner-operator of Danair, had this to say: “I think Gulfstream has orphaned the Westwind.”

Airplane manager for a Midwest company: “Gulfstream tech rep Mark Solomon does an outstanding job.”

An aviation manager for an international charter/management firm TAG Aviation: “Disappointed [with Bombardier]. We had a problem in Japan recently and tech rep was contacted. However, he had a trip out of the country in a couple of days and wouldn’t be able to help us. He didn’t offer any alternatives for assistance. This didn’t sit well with us or our owner, as he is ordering a second Jet [G280]. We are now wondering whether an airplane called “Global” can actually make it around the globe if manufacturer reps can’t assist us.”

Patrick Dye, pilot/manager for a Western-based Challenger 300 operator, commented: “John Stoller is the best field service rep I have ever met. He sets a new standard for all others.”

Roger Seeley, director of operations for an upper Midwest company that operates a Learjet, said that his field service rep is “the best I’ve seen in more than 20 years of flying.”

The manager of flight operations for a Learjet 60 operator commented: “We have some very good and knowledgeable reps to help us. For example, Bob Newhouse.”

But an aircraft maintenance manager with the same company said: “Mostly helpful, but it’s frustrating to me that they [tech reps] don’t have a lot of documented history regarding operational problems with the Learjet 60.”

“You call the help desk and it says, ‘Never heard of that before.’ We can’t be the only operator having these problems. There has to be a better way to collect information and have it available to the operators.”


The director of maintenance for a Midwest company said: “Dassault Falcon Jet field service is quite simply top-notch. A direct reflection of all of the hard work John Loh has put into the Dassault field service organization.”

John Loh, previously manager of field service, in May was named director of technical support for Dassault Falcon Jet—Ed.

An aircraft technician for a Midwest-based Falcon operator wrote: “Charles Bolger goes out of his way to offer as much assistance as needed to fix the problem.”

Chief pilot Ephraim Ingals of a West Coast company: “Eurocopter reps are marginally more available than Turbomeca reps.”

The director of maintenance for a Canadian company had this to say about the overall reliability of the aircraft he operates: “All the types [we operate] work well, even the Global Express aircraft. The Gulfstream IV in particular is always breaking. We spend 75 percent of our working and repair time on interior upgrades.”

C. Dauber, Challenger 601-3A captain for a Southeast operation: “Outstanding [reliability]. In more than 17 years with this airplane we have experienced about six delayed or canceled flights, none of them while on the road.”

Darrin Zawicz, a NetJets Citation X line captain, wrote: “Obviously you folks don’t have a lot of experience with the Citation X. Otherwise you’d have backup tickets booked on the airplanes for every flight.” He did not elaborate. However, the chief pilot for a firm that has a maintenance operation that runs a Citation X said the airplane’s overall reliability is “very good. Have missed only about four flights in four years for maintenance. A few were delayed but not completed.”

Paul Hansrote, a Citation Encore captain at an international charter/management operation, wrote: “We have experienced a large number of scrubbed trips for a new aircraft. Problems lasted well beyond the first 300 hours and first year of operation. Problem areas were seen in all the major systems. Quality was clearly not what it should be.”

The maintenance supervisor for a multinational charter/management company commented: “Falcon 2001S is reliable when it flies a lot, but has ‘issues’ intermittently when it sits. Getting concerned about having aircraft grounded for extended periods due to parts availability.”

Capt. Jeff Felters, who flies the Falcon 20 for USA Jet Airlines, said: “Reliability would be much better if there were parts available.”

Representative for a large charter/management company commented: “Falcon 900B dispatch reliability above 99 percent. Falcon 900EX dispatch reliability below 95 percent.”

A Canadian company that operates Falcon s wrote: “[Our] Falcon 900B has been bulletproof! Excellent reliability. [Our] Falcon 900EX has been mostly reliable but has experienced two nicad battery failures, engine control system problems, in an engine failure related to seal problems.”

“The Honeywell electronics seem to still have bugs. The aircraft cabin temp control is unreliable and the cockpit temp control must sometimes be run in manual. We have experienced false aft compartment fire warnings. Dispatch reliability year to date is 92 percent. Our current and previous 900B models were always 99 percent or better.”

The pilot for a North- east aircraft operation commented: “Dispatch reliability for the Gulfstream IV has been 97 percent.”

The president and CEO of an aviation services company noted: “GIV-SP and GIV dispatch reliability over several companies operating these aircraft is excellent—99-plus percent.”

The aviation manager for a West Coast-based corporation said: “Gulfstream G200 reliability completely unacceptable. S/N 37 problems with Gulfstream originate from ‘nut’ in row 20. The maintenance folks are quite good.”

Large charter/management operation: “Global Express overall has been pretty reliable. Success of aircraft is largely due to our maintenance supervisor’s extensive knowledge of the aircraft. Would hate to rely solely on manufacturer for timely assistance and knowledge.”

A West Coast-based charter/management company had this to say about the aircraft in its fleet: “Global Express is getting better. I hear the later serial number aircraft are great. Falcons are very reliable. The 900 seems to have more maintenance issues than the 2000. The 200 doesn’t break that often.”

A Hawker 1000 pilot for a Midwest flight department commented: “Fortunately it’s a Hawker and it’s built like a tank. Unfortunately when it breaks it’s hard to get fixed.”

The chief pilot for a Western company that operates a King Air 350 wrote that the overall reliability is “not good. Our airplane is only 18 months old and we’ve had seven fuel indicator failures, numerous avionics issues and approximately 400 to 500 leaking rivets that caused our paint to ‘pop off’ at that many separate rivet locations. We love the safety and the capability of the King Air 350, but Raytheon has some very serious quality-control issues that need to be addressed immediately.”

The senior pilot for a Midwest firm noted: “King Air has had a 99.9-percent dispatch rate, with nothing major keeping us from taking a flight. Citation has kept us home only two or three times for malfunctions over a four-year period.”

A chief pilot who flies a Learjet 25G said: “Fortunately the Learjet is as reliable as Bombardier/Learjet [support] is unreliable.”

The aircraft maintenance manager for a large Midwest company commented: “We have operated two Learjet 60s for close to five years. The aircraft reliability has been very disappointing and frustrating at times. The basic design of the aircraft creates situations that make maintenance difficult and time consuming. When you couple the