



JACK ATLEY

Enduring design

The Gulfstream G-IV is one of Gulfstream Aerospace's most successful designs to date. While borrowing heavily from its immediate predecessor, the Gulfstream G-III, the Gulfstream G-IV was nevertheless a distinct machine in its own right when it first entered service in 1987. **Benn Marks** explains.

WHAT DELINEATED THE G-IV from the smaller G-III when it first appeared in the late 1980s was a sharp looking, solidly built jet that packed a new, more aerodynamically efficient wing design, an increased span tailplane, plus, significantly, two advanced Rolls-Royce Tay engines instead of the older Rolls-Royce Spey variant; features that enabled it to cut quickly and cleanly through the air like a hot knife through butter.

In fact, the G-IV set numerous class world records shortly after its introduction into service and holds the distinction of being the first business jet to come with a full glass cockpit. Bristling with leading edge technology and capable of flying fast and covering some pretty hefty distances (over 4,000nm depending on payload and atmospheric conditions), the large-cabin heavy jet also packed a seriously spacious and comfortable cabin, earning it high praise from operators and passengers.

With such good specs, a range of top-end clients snatched it up. These included many of the world's leading executive charter operators, plus a healthy number of military and government users around the world too. A quick search in Australasia will reveal that JetCity, an operator based at Essendon Airport in Victoria, has a G-IV on its books. The company has operated the jet for the past five

years, using it for both private executive and corporate group charters. And with its 10-passenger seating capacity, the well-regarded aircraft travels both near and far, as JetCity senior pilot Captain Darryl Newman explains.

"The G-IV is operated for the owner and for charter flights for various people and companies and the aircraft is used for both domestic and overseas charters, with the majority of flights originating from Essendon Airport, particularly the ones for the owner. However, we pick up passengers and commence charters from other airports around Australia too," Newman said.

"Bearing in mind that the aircraft type is now 40-odd years old, and was a world beater when it was released, it still does a very good job. There are current aircraft that will go much further and carry more people, but they are also vastly more expensive than the G-IV. More passenger seats are always handy, but we carry 10 passengers and a cabin attendant. I guess we miss the odd charter due to our seat numbers but not too many."

The G-IV sits atop JetCity's impressive flight line, which includes a Cessna Citation X, two Learjet 45XRs, two Learjet 35s, plus one Learjet 36 and is frequently used for overseas charters. With 10 passengers, two crew (plus a flight steward) the G-IV can comfortably



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fly Essendon (Airport) — Fiji nonstop; Essendon — Bali non-stop; Essendon — Jakarta non-stop, plus any number of city-pair destinations that fall within a 3,500nm radius.

For passengers flying on-board the intercontinental American jet, there's plenty to like. Because the G-IV falls under the large-cabin heavy jet category, most passengers can board the aircraft and walk easily through its stand-up cabin without stooping; it is 6.1 feet high, 45.1 feet long and 7.3 feet wide. So, there's plenty of room inside for some nice amenities, such as a full galley (opposite the air-stairs) that includes a microwave, normal oven, coffee making machine and two ice drawers, plus a full-sized stand-up lavatory located at the rear of the cabin. The 10 passenger seats are also oversized and plush, so guests can dine or work (using foldaway tables) or recline and sleep as they see fit. Some operators have configured their G-IVs to carry up to 13 passengers. The G-IV is also equipped with a large 169 cubic foot rear baggage compartment that can hold up to 10 standard suitcases.

Understandably, the G-IV is considered a relatively valuable company asset with what it can bring to the table. Considering JetCity specialises in, among other things, luxury domestic and international travel and aircraft charter, the G-IV fits right in. In fact, many G-IV charters will see the aircraft zipping over to Fiji, Vanuatu, Samoa and New Zealand, and up to Singapore, Indonesia and Thailand, plus a bit further north to Hong Kong and Mainland China. On such flights the ability to offer solid and reliable performance, coupled with top-notch passenger amenities is highly prized.

"The passengers like the G-IV's cabin very much. It's spacious, light, quiet, and with the Gulfstream big passenger cabin windows, everyone has a good view of what is going on below them. The cabin on our G-IV was completely refurbished not too long ago, so it's much like a new aircraft inside," Newman says. "Modern aircraft are more economical to operate, there is no doubt about that, but some of the later model competitor aircraft in the same category are also vastly more expensive to purchase, so it's horses for courses. Cruise speed varies very little across the spectrum of corporate jets. Our G-IV can seat up to 10 passengers, plus it has a good baggage capacity. We have a good galley and can offer an excellent meal and beverage service. We can also go up to 45,000 feet, which might not put you above a good tropical thunderstorm, but it will certainly get you above a lot of other nasty weather systems," he adds.

The senior company line pilot is also happy to brag about some of the G-IV's appealing performance specs, making it quite clear the Gulfstream jet is not just about good looks. On a good day

Newman says the G-IV can zip along at a handy cruise speed of 465 knots (890 km/h), allowing it to cross off an Essendon Airport — Sydney (Kingsford Smith) Airport sector (464nm) in approximately 1.1 hours (a time which is contingent upon air traffic along the route. An Essendon Airport to Darwin International Airport hop (1,694nm) can be completed in about 4.2 hours, with the return trip done in approximately 3.5 hours (a headwind on the way up and a tailwind on the way down accounting for the differences in time aloft between the two legs).

On typical charters however, the G-IV's most fuel-efficient cruising altitudes hover around the 41,000-43,000 feet mark, with the fuel burn rate rising if it's required to cruise at 40,000 feet or below. However, at sea level, the powerful jet can take off in just over 1,600 metres at an MTOW of 73,200 lbs; although, Newman says that figure ramps up to 1,900 metres if the temp is 35 degrees or above (the G-IV can land in just over 1,000 metres).

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The power for such performance is provided by two large, relative-fuel-efficient Rolls-Royce Mk 611-8 engines (in the 13,850lb thrust range), giving the aircraft its awesome brawn. Its brain power on the other hand consists of a flightdeck packing a Honeywell SPZ-8000 EFIS avionics suite that is comprised of six colour CRT displays that enable the pilots to confidently fly, navigate and operate the aircraft and its systems with ease. And like many of Gulfstream's other notable jet designs, the G-IV has a T-tail, two rear-mounted engines, a broad yet sleek wing with winglets, trailing link undercarriage, plus very large signature oval windows lining its fuselage (six per side); these allow large amounts of natural light to flood the cabin.

However, while Newman concedes the G-IV is certainly not the newest kid on the block, with certain systems lagging ever so slightly behind 21st century designs, it's still nevertheless a very capable machine, and one he's happy to fly.

"The aircraft is fine to fly, much like most other corporate jets of its size. It has no vices and I would say control inputs are pretty much the same as other corporate jets. It also has a good safety record," he said. "The engines are tried and proven in numerous airline and charter aircraft, and the basic engine core is the same as some military types. By modern standards its cockpit is a mixture of the old and the new as were all jets of its era. It was in fact the first jet to be fitted with six screens, before Boeing did, but not everything comes up on the screens. You need to keep on top of what is going on in the cockpit. But that said, it's a nice jet, the passengers like it, and it does the job we require it to do." →