



THE QS3 HUSHKIT



THE QTA HUSHKIT



# Gulfstream GIII:

It's Still a Great Workhorse! by Geoff Gray

**T**he upcoming Part 36 noise restrictions placed on all Stage 2 aircraft by the FAA and EASA due to take effect on January 1, 2016, will render all GII and

GIII aircraft un-flyable in the US, Canada, and most of the countries in Europe. This is a sad state of affairs, especially as these aircraft have been flying under the 75,000 lbs GTOW exemption for years. Coupled with this announcement, the operators of these aircraft saw an immediate drop in the value of their aircraft.

The options available to make these aircraft Stage 3 compliant are offered by two noise suppression companies, Quiet Technology Aerospace in Opa-Locka, Florida, and Hubbard Aviation Technologies in St Paul, Minnesota. The Quiet Technology system is called the QTA and the Hubbard

Aviation Technologies system is called the QS3. The question for those operators wishing to keep their aircraft is, 'Which one of these hush-kits do I buy?' Hopefully, this article can aid in that decision-making progress.

Quiet Technology was able to get the QTA to the marketplace first and have had success selling over 75 kits. Unfortunately, Hubbard Aviation was late in comparison and did not get their final Supplemental Type Certification until late November 2008. The economic recession has subsequently impacted their ability to make sales.

Hopefully for both companies the FAA announcement in February 2012 has already prompted operators to start evaluating the two systems. As the deadline approaches, more customers should materialize for both companies and there should be plenty of available business. The key for logistical plan-

ning is to schedule the installation sooner rather than later. Operators should look at this as an opportunity to enhance the resale value of their aircraft.

## THE PROS AND CONS

The three areas the FAA uses to evaluate Part 36 noise are approach, sideline and flyover. The Hubbard QS3 is well designed. It is more than 30% quieter on the exterior than the QTA. It is also significantly quieter in the cabin during cruise flight, and 70% quieter during landing when the reversers are deployed.

The Rolls-Royce Spey engine (which both the GIII and GII utilize) was originally designed for the BAC 1-11 using cascade style thrust-reversers. Hubbard has incorporated that design into the QS3 system, allowing for less engine power to accomplish the same

reverse stopping force as the QTA. The added benefit of this design is that there is less wear and tear on the engine and structural vibration on the empennage.

During translation to reverse thrust, the QTA ejector slides down a carriageway to allow the clamshell doors to deploy, and is not aesthetically pleasing. This movement does require periodic inspections of the carriageway and associated linkage. These inspections can be easily co-ordinated with regularly scheduled maintenance. There is no movement with the QS3 ejector.

The QTA system is easier to install, and the average time to finish the installation is approximately 10 days. The QTA team of experts is available to travel to wherever your aircraft is located. In contrast, the QS3 installation can be accomplished at any FAR Part 145 repair station or at Hubbard's Van Nuys, California facility and takes approximately 30 days. The QS3 installation represents a significant downtime, and is more inconvenient in comparison to the QTA. Operators who select the QS3 should try to plan their installation during regularly scheduled heavy maintenance to minimize the negative effects of the downtime.

## COST AND VERDICT

The pricing for these two systems is representative of the research, development and completed product package that both companies have invested in time, manpower, and equipment. The QS3 is approximately 20-25% more expensive than the QTA. This additional cost is reflected in the new QS3 thrust reverser system. There are no overhaul requirements for the QS3 reversers, just on-condition visual inspections. This represents a substantial savings in inspection and overhaul costs over the QTA system over time.

In the opinion of Jet Consultations, the QS3 design is more static as far as the ejector is concerned, and the reverser cascade system is more efficient. In addition, the QS3 has an overall much quieter noise footprint.

The QTA serves its purpose, it meets the necessary Part 36 noise standards and is less expensive to install. There were some early teething troubles related to the carriageway that the ejector slides down and associated linkage, and this required a redesign. These problems were resolved, and over the last two years QTA reports no major in-service problems.

Jet Consultations recommends that operators considering these two systems should review the applicable website for more in depth information. The sales people at both organizations are very pleasant and easy to speak with. Jet Consultations is available for further guidance on this topic, and may be contacted at [info@Jetconsultations.com](mailto:info@Jetconsultations.com).