NASA Armstrong Flight Research Center

G-III Support Aircraft Purchase Requirements

19 Aug 2015

1.0 Base Requirement

- 1.1 Gulfstream III (G-III) business jet aircraft in FAA certified, flyable condition
  - 1.1.1 Aircraft shall be flyable under FAA Part 91 certification with no restrictions (e.g., no single flight ferry permit)
  - 1.1.2 Aircraft shall be equipped with a 300 Amp Transformer Rectifier (TR) per ASC 111.
- 1.2 All engines, Auxiliary Power Unit, avionics, flight control, and interior systems shall be installed and operational.
- 1.3 Aircraft shall be equipped with engine hush kits to meet FAA Stage 3 or higher (more stringent) noise requirements.
- 1.4 Aircraft usage shall not exceed
  - 1.4.1 15,000 flight hours total since new
  - 1.4.2 7,500 ground-air-ground cycles since new
- 1.5 Aircraft shall be equipped with extended fuel capacity and increased weight limitation per Gulfstream ASC 30 and ASC 70
- 1.6 Cabin interior shall be equipped to seat at least 7 passengers

2.0 Avionics System

- 2.1 Installed avionics shall be capable of achieving RNP 0.3 or less. (e.g., RNP 0.1)
- 2.2 Aircraft shall be Reduced Vertical Separation Minimum (RVSM) certified
- 2.3 Installed avionics shall be Automatic Dependent Surveillance – Broadcast Out (ADS-B Out) ready.
- 2.4 Installed avionics shall include the following or equivalent:
  - 2.4.1 VHF radios will have 8.33 kHz frequency spacing capability
  - 2.4.2 Aircraft Instrument Landing System (ILS) shall be FM immune
  - 2.4.3 Operational weather radar system
  - 2.4.4 Mode S Transponder w/Flight ID
  - 2.4.5 Operational TCAS W/ Mod 7 capability
  - 2.4.6 Dual HF radios with SELCAL
  - 2.4.7 Two operational Inertial Navigation Units (INS or IRS)
  - 2.4.8 An operable EGPWS with rev 218-218 or later

3.0 Engines

- 3.1 Installed engines shall be Rolls Royce Spey Mark 511-8
- 3.2 All mandatory engine service bulletins shall have been complied with
- 3.3 Engines shall have at least 2.5 years remaining prior to next calendar driven mid-life inspection or overhaul date
- 3.4 Engines shall have at least 1,500 hours remaining prior to next operating hour driven mid-life inspection or overhaul

3.5 Engines shall be enrolled and up-to-date in the Gulfstream Computer Maintenance Program

3.6 Engines shall be equipped with continuous (air-start) ignition capability per ASC 278

4.0 Condition

4.1 Exterior paint and finish shall be in good condition with no obvious peeling, chips, dents, or other damage beyond normal usage wear around latches, doors, moving surfaces, etc.

4.2 Interior systems and appliances shall be clean and in working order

4.3 Interior paint and finish shall be clean and in good condition with no obvious cracks, dents, tears, scratches, disrepair, or other damage beyond a limited amount of normal usage wear.

5.0 Maintenance Status

5.1 No overdue maintenance and airworthiness directives for the aircraft type and installed systems.

5.2 All applicable yet non-overdue maintenance and airworthiness directives for the aircraft type and installed systems are at least 12 months or 10%, whichever is less, from reaching due date or time limits

5.3 Life limited components shall have at least 20% life remaining before inspection or replacement is required.

5.4 The aircraft shall be enrolled and up-to-date in the Gulfstream continuing maintenance program

6.0 Deliverable Data Package

6.1 All operators and maintenance manuals shall be provided for the aircraft and installed equipment

6.2 Maintenance records documenting compliance actions for all airworthiness directives and manufacturer maintenance directives issued for the G-III type aircraft.

6.3 Maintenance records documenting accomplishment of the inspections and repair actions associated with the most recent accomplishment of the various calendar, hour and cycle based inspections

6.4 All maintenance records documenting the last 3 years of all maintenance and repair activity on the aircraft.

6.5 All wiring diagrams from original outfitting to any mod that has been performed

6.6 All records to be provided in a legible form either as hard-copies or electronically in PDF format. Legible copies are acceptable.

7.0 Pre-award Inspection

7.1 NASA shall be allowed to perform a pre-award inspection of the aircraft and its maintenance records to verify that the aircraft equipment, condition, and maintenance records comply with the requirements in the preceding sections.

7.2 NASA representatives may include up to 6 (total) NASA employees and NASA contractor personnel responsible for operation and maintenance of NASA aircraft stationed at the Armstrong Flight Research Center.

7.3 NASA's inspection of the aircraft will require access to:

7.3.1 Cockpit

7.3.2 Cabin

7.3.3 Galley
7.3.4 Lavatory
7.3.5 Cargo hold
7.3.6 Landing gear & landing gear doors and wells
7.3.7 Vertical and horizontal tail
7.3.8 Wings
7.3.9 Weather Radar
7.3.10 Interior of all service access panels
7.3.11 Exercising of the control surfaces, flaps, and spoilers
7.3.12 An engine run not-to-exceed 1 hour

7.4 NASA's inspection of aircraft and engine maintenance records will require access to:

7.4.1 Aircraft log books (or up-to-date copies) at NASA AFRC for up to 1 week prior to on-site inspection.

7.4.2 On-line access to the offered aircraft Gulfstream CMP records from NASA AFRC for one person for up to 1 week prior to on-site inspection

7.4.3 Records documenting compliance with manufacturer maintenance directives/service bulletins

7.4.4 Records documenting compliance with FAA Airworthiness Directives

7.4.5 All maintenance records and pilot maintenance write-ups for the years 2013, 2014, and 2015

7.5 NASA, at its discretion and expense, may request that a certified maintenance and repair station perform a pre-sale inspection at the aircraft's current location.