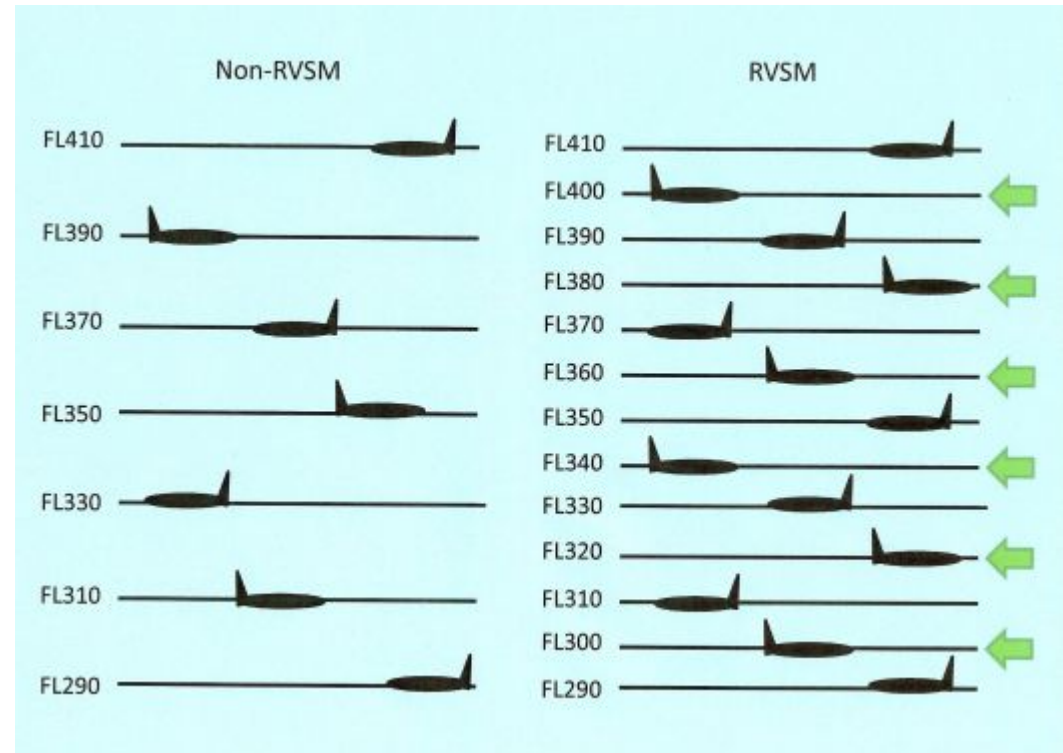




NASA RVSM Certification Process High Level Overview

**17-19 October, 2017
2017 ASE Workshop
FAA Tech Center, Atlantic City**

- Reduced Vertical Separation Minimum (RVSM)
- RVSM reduces standard separation between FL290 and FL410 from 2000 feet to 1000 feet
- NASA Public Use aircraft (non-RVSM) are allowed access to RVSM airspace on workload permitting basis only





NASA Airworthiness Process

- ◉ NASA is US Government Federal Agency, often operates as “public use” instead of civil aircraft.
 - Civil when carrying passengers
 - “State aircraft” when flying internationally
 - ◉ NASA’s airworthiness self-approval stems from the Space Act of 1958
 - Each NASA Center has an engineering technical authority that oversees airworthiness
 - Independent peer review consisting of engineering design and hazard/risk analysis
 - Airworthiness approval through Center Director authorized delegate
 - ◉ RVSM Airworthiness and Operational approval process
 - Uses FAA AC 91-85 RVSM Authorization of Aircraft and Operators as process to follow
 - NASA Requirements documents include:
 - Aircraft performance and equipment requirements
 - Continued airworthiness maintenance requirements
 - Operational procedures and training requirements
 - Height monitoring compliance
 - Final approval by Center Airworthiness Review Process
-

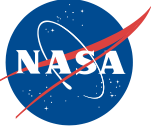


⦿ Initial RVSM Certification Height Monitoring

- EGMU Height monitoring flights
- Trailing cone
 - SSEC development

⦿ Continued Monitoring

- 12 month ground checks
- AGHME site over flights
- 24 month height monitoring EGMU flights



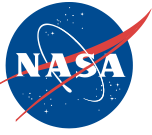
- ◉ NASA Department of Defense (DoD)-based aircraft such as the T-38(N) have operated under a memorandum of understanding between the Federal Aviation Administration (FAA) and the DoD regarding RVSM
 - Single altimetry system on T-38(N)
- ◉ RVSM NASA Aircraft carrying external payloads
 - Engineering assessment required, may result in:
 - Additional testing required for flight in RVSM airspace
 - Restricted envelope
 - Or non-RVSM operation

- ◉ AGHME (Aircraft Geometric Height Measuring Element) Process for NASA aircraft
 - Which database with NASA aircraft reside in
 - Process for providing NASA with agency aircraft information on a monthly basis
- ◉ NASA RVSM Certification notification to international RMAs



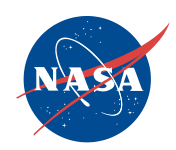
1st T-38 RVSM Flight February 1, 2016





T-38 RVSM Monitoring Flight using E2GMU





T-38 (N)s flying over Houston





N992NA GIII – RVSM Certified





N95NA GV – RVSM Certified





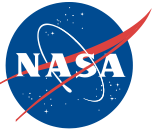
N525NA Dassault Fanjet Falcon 20G – RVSM Certified





SOFIA – RVSM Certified





DC8 – RVSM Certified

