

## **Flight Summary Report: AVE 2004 Mission, Test Flight #2, 26 Oct 04**

**Aircrew:** Bill Ehrenstrom and Brian Barnett

**Duration:** 5.5 hrs

**Takeoff:** 11:21

**Gear Up:** 11:21, 16:00

**Gear Down:** 15:56, 16:42

**Landing:** 16:50

### **Flight Profile:**

- We took off at 11:21, and by 11:55 at FL 560, we were maybe flying over some very thin cirrus. It looked like there was cirrus to the right of the aircraft, but not the left.
- At 12:09, the autopilot put us in a 45-degree bank and dropped the nose. Bill pulled abruptly back on the stick, and the aircraft vibrated very forcefully for a couple of seconds as it returned to straight and level flight. The cockpit G-meter showed that we had seen just over 2 G's peak.
- By 12:17 we were still flying over a scattered/broken layer down low, and the very thin cirrus layer up high. The cirrus was not visible around the aircraft (looking down), but could be seen on edge all around the aircraft out toward the horizon.
- At 12:42, FL 591, the cirrus layer was slightly thicker (more opaque).
- By 13:00, we were at FL 593, still over the thin cirrus layer, and there was a solid lower cloud deck.
- We arrived at Point A (southern point) at 1:19, which was 26 minutes ahead of schedule. We turned north on the satellite track, flew for 10 minutes, then turned south for 10 minutes, and hit Point A at 1:45. During the turn it was apparent that just west of the Aura track there was a low-level cloud deck, and just east it dissipated and was clear to the ocean.
- At 14:00, satellite overpass time, we were at FL 600 and continuing to fly straight and level over a thin cirrus layer, and the edge of a low broken layer.
- By 14:05, the low clouds dissipated until it there were no low clouds, just the high thin cirrus.
- At 14:15 we were at Point B, and started our spiral down over clear ocean water (except for the high cirrus layer).
- At 14:18, we leveled off at FL 550 and flew straight and level for 1 minute. We then continued the spiral down.
- At 14:23, we leveled off at FL 500 and flew straight and level for 1 minute. We then continued the spiral down.
- We encountered the top of the cirrus layer at ~FL 490. Again, it was so thin it was not visible around the aircraft, just on the horizon. By 14:27, the cirrus had visually thickened to the point of being milky around the aircraft (though the ocean was still clearly visible).
- We leveled off at FL 450, and flew straight and level for 1 minute. We then continued the spiral down. We came out the bottom of the cirrus layer at ~ FL 435.
- We leveled off at FL 410 at 14:32, and then started a spiral back up at 14:33. We were back above the cirrus layer by 14:39, at FL 490.
- As we flew to Point C, we started to fly over a low broken layer again at 15:00 at FL 600.
- We arrived at Point C at 15:05 and turned west toward Houston.

- We started our descent from FL 600 at 15:56. We had been flying over the high cirrus and the low broken layer from Point C up to this point.
- At 16:04, FL 450, we potentially passed through some very thin scattered cirrus.
- We then landed at 16:50.

### **Instrument Issues:**

- At 11:27, SP2 fail light flashed at ~2 Hz for 5 seconds, then came on solid. At 11:31, SP2 – OFF. At 11:34, SP2 – ON and fail light went out.
- At 11:40, I noticed the SP2 fail light was on, but did not see if it flashed when it came on. At 11:42, SP2 – OFF. At 11:45, SP2 – ON and fail light went out.
- At 11:48, SP2 fail light flashed at ~2 Hz for 2 seconds, then came on solid. At 11:50, the SP2 fail light self-extinguished without any input from me and did not fail the rest of the flight.
- At 14:27, I turned the CPL Laser – OFF, due to the cirrus cloud we were flying in. When we got underneath the cloud layer, I turned CPL Laser – ON at 14:31.
- Going back up through the cirrus layer, I turned CPL Laser – OFF at 14:33, and then back on above the cloud at 14:39.
- At 16:05, SHIS Sound fail light came on. At 16:06, SHIS Sound – OFF, wait 10 seconds, then SHIS Sound – ON and light went out.
- At 16:08, SHIS Sound fail light came on. At 16:08, SHIS Sound – OFF, wait 10 seconds, then SHIS Sound – ON and light went out.
- At 16:11, SHIS Sound fail light came on. At 16:11, SHIS Sound – OFF, wait 10 seconds, then SHIS Sound – ON and light went out.
- At 16:13, SHIS Sound fail light came on and it was left ON for the remainder of flight.
- CAFS Lower radiometer was not operated the entire flight.