



“Aviate, Navigate, & Communicate”

By Maj Jeff Olesen, Beale AFB, Calif.

In life support that morning, I was going through the routine of donning the space suit required to fly my U-2. My thoughts were on the departure out of Prince Sultan Air Base (PSAB) — specifically my flight timing to certain points where I would meet up with an AWACS and a package of fighters. This type of timing can sometimes be a tricky thing with the Deuce.

At altitude the plane is flown in a narrow window, a few knots between overspeed (bye-bye tail section) and stall (hello ground). With such a small air-speed window to work with, speeding up and slowing down aren't options I could use to make my flight timing work. So, as I donned my suit, I was thinking of the geometry I might use on departure and how I could adjust my in-flight orbits if that became necessary.

Once the space helmet was closed up and tested, I mentally reviewed the aircraft's takeoff emergency procedures (EPs) while sucking up 100 percent oxygen. At the jet a short time later, I'm stuffed in and hooked up by our physiological experts. While I awaited takeoff, I could feel the heat of the desert even though I was in a “controlled cooling environment.” While the last checks were completed, I reflected on my preflight briefing concerning the unlikely event that I might have to divert. For this mission I had briefed a

choice of fields in a nearby country — none of which I had been to. So it was with great confidence that I threw the throttle to full power and headed up for 70,000 feet.

Along my flight path, it was a clear day and I could see a couple of the divert fields I'd briefed earlier. I gave them little thought other than what type chow hall they had, and wondered if they served ice cream. My timing to the mission area was spot on and I checked in with all players when I arrived.

One of the great things about the U-2 engine for high flights is that the pilot places the throttle to full power on takeoff and leaves it there until he/she is ready to descend hours later. However, 3 hours into this sortie the engine began a series of un-commanded “rollbacks” in which the rpm would decrease momentarily to a mid-power setting, and then increase back to full power. It was instantly clear to me that my mission was over.

I began a turn back towards PSAB and followed tech order guidance by reaching over to place the engine mode switch

from primary to secondary. This is the proven solution to fix most engine anomalies. Changing this switch takes the computer brain out of the picture and puts the engine in an almost pure mechanical mode.

When the switch hit secondary mode, the engine immediately began to grind and vibrate with incredible violence. The vibrations shook me so hard that I could no longer see clearly. The master caution light and the horn were going off and I (*despite the blurriness*) could see engine instruments quickly unwinding toward zero. The plane was off autopilot (*did I do that?*), and without really giving it conscious thought, my hand felt for that switch again and placed it back to primary.

Instantly, the vibrations ceased, but I was back to my original problem as the rollbacks continued. Home seemed an especially good idea now, and I acquired a direct heading back to PSAB. En route, the rollbacks became progressively more pronounced and more frequent,