ORM Corner

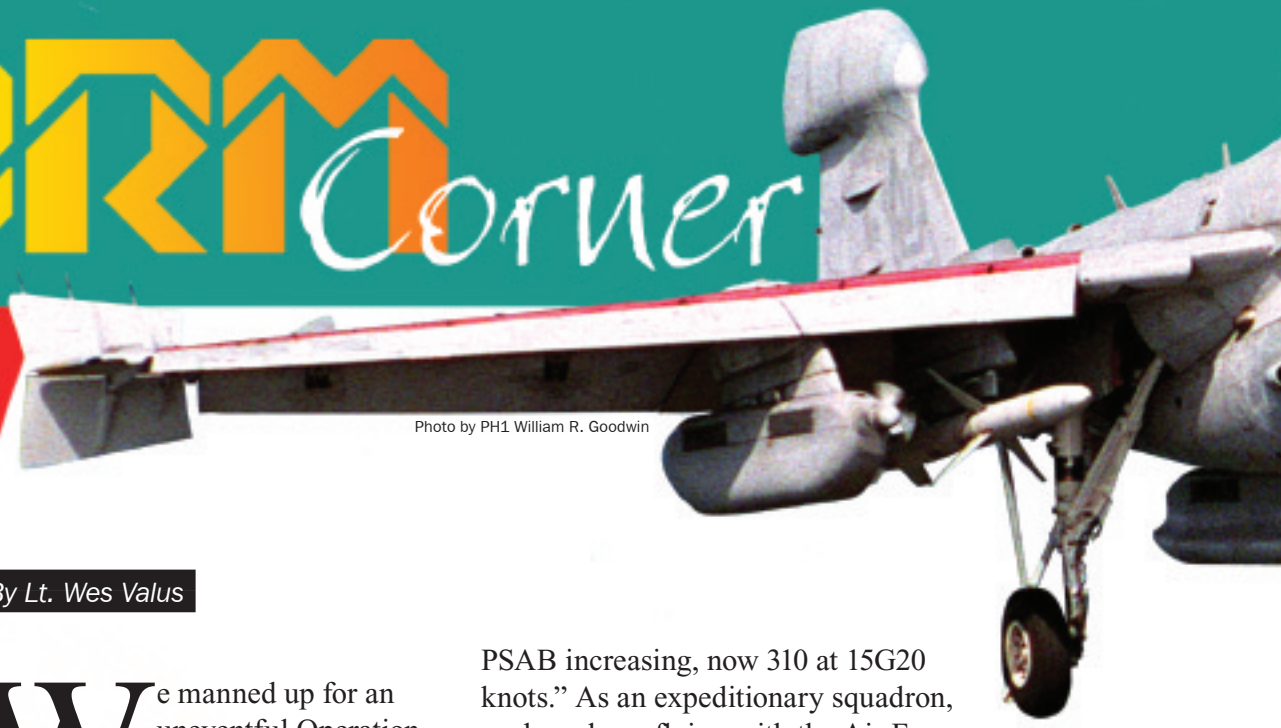

Photo by PH1 William R. Goodwin

Breaking Out

By Lt. Wes Valus

We manned up for an uneventful Operation Southern Watch mission—that was the plan. My crew was operating from the picturesque Prince Sultan Air Base (PSAB) in the Kingdom of Saudi Arabia. Our squadron was well into the first month of a three-month deployment, and this was my second trip to PSAB for combat ops. I had over 1,500 flight hours and felt comfortable with all the local flight operations. I also, for the most part, enjoyed the flying.

The hop began routinely: standard briefing, standard weather of severe clear with light winds, and my standard crew. I just was happy as a lark to once again take to the skies on a fine day in defense of freedom. The overall plan was simple: Take off, fly north up the corridor to the tanker, get gas, enter the box (the southern no-fly zone), exit the box, get some RTB gas, and land at PSAB.

The flight progressed as briefed with no problems, and, before I knew it, we were exiting the box and needing gas. As we joined on the British KC-1 tanker, we heard a 99 PIREP call, "Winds at PSAB increasing, now 310 at 15G20 knots." As an expeditionary squadron, we have been flying with the Air Force for a while, and they do a good job of keeping the package informed of any changing weather conditions at PSAB (our destination).

The duty runway was 35, and the winds were well within the Prowler crosswind limits. I decided to take an extra 1,000 pounds "just for good luck." As I said that over the ICS, I knew I'd just officially jinxed the flight. Small delays were possible because the crosswinds had affected other aircraft. The gas was available, so why not get the extra? We topped off with 13,000 pounds, instead of the normal 12,000 pounds for RTB.

After tanking, we entered the return corridor. About 15 minutes later, we received another 99 PIREP call, "Winds at PSAB increasing 310 at 20G25, with brownout conditions in effect, visibility as low as one-half mile."

Desert weather has its own set of phenomena and characteristics. You know strong winds can kick up the sand and dust, causing visibility to deteriorate rapidly. *Shamal* is the indigenous word that describes the rapid onset of winds in the desert and the ensuing dust storm.

We were about 20 minutes from the field, so we put the jet on the blades and began conserving gas. My ECMO 1 and I knew we would be relegated to a boring ILS, as the VMC 500-knot-force-protection arrival was not in the cards. As we progressed in and completed our approach brief, all was in order. Soon, we would be on deck and headed poolside for a little sun and fun (yes, they do have a nice pool on base—Air Force and all that).

Our jet was toward the end of the package-recovery

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of about 20 tacticals and three tankers. We were following a section of F-16s, which were turning final for the ILS. As we descended, we could see a large brownout area about 20 miles from the field. We then entered IMC at 8,000 feet. ECMO 1 and I reviewed the approach one last time and began to discuss the published missed-approach instructions. The pilot of the lead F-16 (in front of us), who did not have the field in sight, executed a missed approach on the ILS and asked for the missed-approach instructions. As ATC read the instructions to him, we confirmed they were the same as the published instructions, and we would go with those if needed.

We then were vectored to a 13-mile final, and, at 250 knots, IMC 3,100 feet, with 6,800 pounds of fuel, I dropped the gear and flaps for landing. As the jet slowed, passing 220 knots, we waited for the all-important horizontal stabilizer to shift to the extended-throws position for landing. The EA-6B horizontal stabilizer must shift to this position upon flap extension to provide adequate pitch authority for flight in the landing configuration. The aircraft will not fly below 200 knots with the stabilizer not shifted, and it is one of those EPs that can kill you in a hurry.

My mental time clock told me the stab was late in beginning its normal shift. I double-checked the slats (leading edge flaps), and they were on the move as normal; the gear was moving, as well. I thought, "Hmm, this is strange." Because we were well past the normal time for the shift, I padlocked the stabilizer indicator. At 210 knots, we still were without a shift. I waited as long as I could tolerate, then added power and executed the NATOPS procedures for this malfunction (maintain airspeed above 200 knots). I added power and began the missed approach. As we climbed to 5,000 feet, per the published missed approach, the Dash 2 F-16 pilot, like his lead, also went missed approach when neither had the field in sight.

I couldn't figure out what had caused our problem. Flying the jet IMC and scanning the engine instruments, I discovered our combined hydraulics, the primary system, had failed. The Prowler normally has an associated master-caution warning light with a hydraulic system failure, but the light didn't work, and we had no warning. As I scanned the cockpit, we had three-down-and-locked, slats out, the flaps had not moved, and the stabilizer still had not shifted.

We were climbing to 5,000 feet on the final-approach course at 10 DME. We declared an emergency and told ATC we needed holding airspace to troubleshoot a configuration problem. ATC cleared us at 5,000 feet to the east of the field and said to hold on the 090R for 15 miles.

We quickly divided up the responsibilities in the cockpit. I grabbed the ATC radio, ECMO 1 broke out the PCL and had our base radio, ECMO 3 called the Air Force supervisor of flying to arrange the short-field arrestment, and ECMO 2 backed up my airwork. As we got into the checklist, we diagnosed the problem as a combined-hydraulic failure. Because we didn't know what had caused the primary-hydraulic system to fail, we began the checklist.

We were stuck in the worst configuration for landing a Prowler. The drag associated with this configuration, was causing us to burn huge amounts of fuel. We could not raise the gear, and the landing-gear doors were stuck open, creating additional drag. To maintain a safe airspeed of 220 knots and 10 units AOA, I had to set 5,000 pounds per side.

Our current fuel state was 5,000 pounds. Using some quick aviator math, I knew we had about 20 minutes of useable fuel remaining. We were well below our dirty bingo of 7.0 to Dhahran, our primary divert 200 miles away.