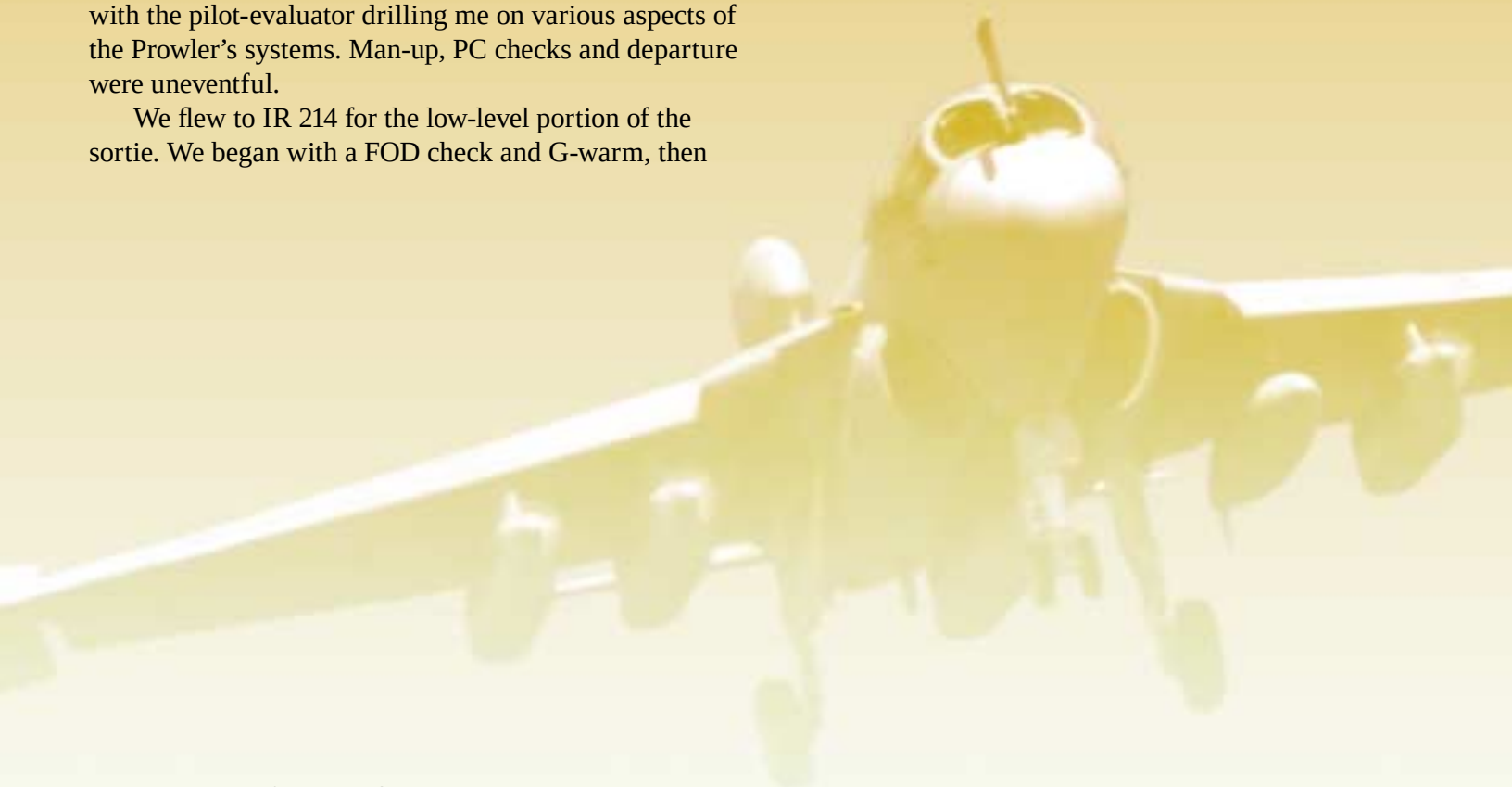
NATOPS Doesn't Cover This

By Maj. David L. Ortolani, USAF

It was a typical detachment for the Prowler RAG in El Centro—lots of flying to get the required student Xs we couldn't get at Whidbey because of the weather. I tried hard to finish the syllabus in order to join my new squadron for the deployment to Operation Northern Watch. They were leaving at the end of the week. I had only a couple of hops left, and one of those was my NATOPS check, which was scheduled that morning.

It all began according to plan. The brief went well, with the pilot-evaluator drilling me on various aspects of the Prowler's systems. Man-up, PC checks and departure were uneventful.

We flew to IR 214 for the low-level portion of the sortie. We began with a FOD check and G-warm, then



descended to 800 feet for the first leg. So far so good, and I enjoyed the low-level. After the turn to the second leg, we climbed to 1,500 AGL to practice a level-S maneuver: a hard right turn, followed by a hard left turn. Again, everything was normal. Then it got interesting. On our second hard right turn, at 430 knots, we heard and felt two distinct thumps, similar to engine chugs. I thought we had taken a bird. The aircraft began an uncommanded slow roll, farther right, over-banking past 90 degrees.

As I looked to see what was happening on the pilot side of the cockpit, I noticed he had both hands on the control stick. He said, "I can't move the stick." OK, so this isn't going to be a normal NATOPS check.

Finally, with full left rudder input, the pilot was able to right the aircraft and climb. I began to breathe again. I switched the squawk to 7700, called L.A. Center on guard, and declared an emergency. Center heard us, but we couldn't hear Center, so we finally switched to Yuma Approach and declared an emergency.

We climbed off the low-level. To maintain wings level, we had to use rudder and differential thrust. I looked across the cockpit and noticed we had lost our combined hydraulic system, and the stability-augmentation system had disconnected. We pointed the jet toward Yuma and executed the checklist for flight-control malfunction, but it didn't help. We needed to do controllability checks to find out what we had and didn't have. I called Yuma and asked to be cleared into the R2301W area to troubleshoot.

Once established in the area at 15,000 feet, we began the control checks. Full left stick deflection gave us no roll or flaperon movement. Right stick deflection gave us about one inch of flaperon movement and a corresponding right roll that only could be countered with rudder and some differential thrust. We had no problems with pitch or rudder control.

Fortunately, there was an F-14 working the area at the time we declared the emergency. They stayed in the area to help any way they could. We asked them to give us a good once-over; they joined on our right wing and saw no obvious damage. At this point, Yuma launched their SAR helo. I was glad to hear that, as I was 90 percent sure we were going to eject.

We discussed how we should configure for landing. We talked about a no-flap, no-slat approach, so we could keep our current configuration. However, we did not know how that would affect our controllability. The problem is that no-flap, no-slat approaches are less stable laterally than a normally configured approach, and we already were as unstable as we wanted to get.

We finally decided on a normally configured approach. We stabilized at 15,000 feet, dumped cabin pressure, dirtied-up, and electrically lowered the flaps and slats. We would use the emergency blow-down system for the gear. After dirty-up, we did a few more controllability checks and discovered the same situation. No left flaperon available, very little right flaperon, with the corresponding roll stopped with rudder and thrust.

We decided the best way to approach Yuma was with a large, sweeping left turn, so we wouldn't need to roll right for any reason. We set up for a 30-mile, sweeping left final for the trap. The Tomcat and SAR helo followed us the entire way. The approach went fine.

Then, on short final, at 150 feet, an uncommanded roll to the right began. The pilot couldn't stop the roll until we were about 20 degrees, right wing down. He had to use heavy rudder and differential thrust. The aircraft touched down 500 feet short of the arresting gear, still about 5 to 10 degrees right wing down. We rolled into the wire and stopped. I never have been so happy to be on the ground.

The pilot couldn't stop the roll until we were about 20 degrees, right wing down.

I've often thought about that event. We were confronted with an emergency situation that was not covered in NATOPS. As it turned out, the left flaperon-actuator pack had blown apart. What saved us that day and allowed us to bring the jet back to fly another day was, first of all, outstanding stick work by the pilot. Second, though, it was the ability to apply the knowledge of the jet's systems in a situation that doesn't have a simple, cut-and-dried EP checklist. That hop was the most interesting checkride I've ever had.

Maj. Ortolani flies with VAQ-133.