SENSOR-OPERATOR TRAINERS SEE THEIR WAY THROUGH

By Elizabeth Malloy

If the RQ-4 Global Hawk is a flying smartphone, capable of capturing images and receiving intelligence, then its sensor operator commands the touchscreen.

Northrop Grumman lead sensor operator instructor/evaluator Dustin Umberger (left) takes Staff Sgt. David Jattan through a training exercise.

Photo courtesy of the U.S. Air Force

But tasked with managing highly advanced radar and imaging technology 60,000 feet in the air, this long-endurance unmanned aircraft system involves much more than a swipe or click.

That's where sensor-operator training comes in. Recognizing its importance, Northrop Grumman envisions Global Hawk sensor training eventually taking place through realistic flight simulators to alleviate teaching challenges.

Right now, the Global Hawk sensor-operator trainers are a small but dedicated team of Northrop Grumman employees at Beale Air Force Base, Calif., and Grand Forks Air Force Base, N.D., who teach in the classroom and in hands-on situations.

"Sensor operators do not have a routine schedule," explained Lacie Schroeder, senior sensor operator and a lead instructor/evaluator for Northrop Grumman. "Their schedules consist of providing academics to students, training students on flight events and working with the Air Force on schedules, training matters, syllabus development, training material development and much more."

The training has been devised by the U.S. Air Force and Northrop Grumman team. One disadvantage is that currently there are no simulators for Global Hawk sensor operators. There is a part task-trainer computer terminal for the Multi-INT (multi-intelligence) model, but it doesn't produce the same feedback and scenario creation as a full-scale simulator.

Hands-on lessons must be conducted during life-like missions inside a Mission Control Element—the narrow metal module where the pilot and trained sensor operator sit.

Staff Sgt. David Jattan (far left) and Northrop Grumman lead sensor operator instructor/evaluator Dustin Umberger (right) oversee a sensor training exercise with Staff Sgt. Hook.

Photo courtesy of the U.S. Air Force

"Sometimes there's a student pilot with an instructor, a pilot evaluator, a student sensor operator with an instructor, and then the on-duty pilot and pilot operator, all in there," said Tim Fallon, Global Hawk operations manager, who works as a sensor trainer at Beale Air Force Base. "It gets full in there pretty quick."

In addition to cramped quarters, there are other challenging factors. "Instructors have to pay close attention to mission details and ensure the student is following all procedures, but still teach at the same time," Schroeder explained. This means students essentially can't make mistakes, which are often the best teaching tool.

"Plus," she said, "pilots are often trained on the same flight as sensor operators. Because of this, it can be a challenge to teach system performance, detailed sensor operator tasks and good crew resource management with a trainee pilot."

However, Northrop Grumman's sensor-operator trainers have learned how to compensate to provide the best training available for the Air Force. Many, like Schroeder and Fallon, worked as Global Hawk sensor operators themselves while in the Air Force, so they know what the job entails.

"We participate in study halls, help the local squadrons with their annual evaluation requirements, provide technical expertise and advice when needed, and fly an ever-changing schedule," Schroeder said. "One day we might fly at night and the next, during the day. We are at the liberty of the flight schedule, and all sensor operators flex their personal lives to ensure we accomplish training events for students as needed."

"Simulators can provide all the contingencies you could run into in a safe environment," Fallon said. "In the real world, there are dangers and stringent mission delivery requirements."