

# Fix Elusive As Another F-35 Pilot Reports Trouble Breathing

*Aviation Week*

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*A pilot from the 61st Fighter Squadron at Luke Air Force Base, Ariz., parks his F-35 Lightning II on the flight line of the Kentucky Air National Guard Base in Louisville, Ky., April 20, 2017.*

*USAF*

Another F-35 pilot reported hypoxia-like symptoms this month at Luke AFB, Arizona, as a team of government and industry experts remain stumped by the recent spate of similar incidents there.

An instructor pilot from the 56th Fighter Wing at Luke noticed he was lightheaded and short of breath during a local training flight on July 10, according to spokeswoman Maj. Becky Heyse. The pilot activated his backup oxygen system and returned to base safely, she said.

Initial indications are that this event was different than the previous five so-called physiological episodes in May and June at Luke, which caused the Air Force to temporarily suspend flight operations at that base. The investigation into those incidents is still ongoing, but the pilots returned to flight June 21 with temporary restrictions. The pilots are not permitted to fly above 25,000 feet.

A post-flight analysis of the July 10 incident indicated the symptoms were due to a faulty valve on the pilot's mask, Heyse said. After the valve was replaced, the pilot flew again without any incident.

"We are classifying it as a physiological event but we are under the working assumption that it had to do with the irregularity on the valve on the mask, whereas the other five we had we have no idea still," Heyse said.

The action team established by the F-35 Joint Program Office (JPO) on May 26 to look into the issue still has not identified a root cause for any one of the recent incidents. However, the program office is following a "standard, disciplined process to better characterize each

episode," which in turn will help "better characterize the potential causal factor areas," according to JPO spokeswoman Brandi Schiff.

One potential factor the JPO is investigating is the quality of the bleed air supplied to Honeywell's Onboard Oxygen Generation System (Obogs) by the Pratt & Whitney F135 engine. The team has tested the air quality from all of the affected aircraft at Luke for possible contaminants, Schiff said. The program office is currently working with the Air Force Research Laboratory to do a more extensive air quality evaluation at Luke and potentially across the fleet, she added.

Longer term, the JPO is working to accelerate the maturation of several existing sensor technologies to sense contaminants on the aircraft during flight, Schiff said.

Schiff declined a request from Aviation Week to provide a detailed list of possible root causes the team is currently investigating.

The program office also is taking steps to refine the Obogs oxygen concentration algorithm, which meters the appropriate oxygen concentration of the air being supplied to pilots at various altitudes (as humans ascend and the air thins, they need more oxygen to breathe properly). However, this may be a bandaid solution, as there is no indication that delivered concentration was a contributor to any of the recent events.