



Photo by Airman 1st Class Stephen Collier

We own the night

Night vision goggles give Flying Knights the upper hand in combat

by Airman 1st Class Stephen Collier
49th Fighter Wing Public Affairs

From snipers and forward observers in the Vietnam War to combat units and fighter aircraft for the Global War on Terror, night vision devices have played an important part in defeating enemies in the second half of the twentieth century and beyond. And now the 9th Fighter Squadron is making use of this technology.

Night vision technology is giving the 9th Fighter Squadron an edge not only in future combat operations said Capt. John Gonzales, 9th FS scheduling chief, but an increase in situational awareness as well as laying the groundwork for new tactics in the F-117A Nighthawk.

“Night vision goggles, or NVGs, provide us with an enhancement of night operations,” Captain Gonzales said. “This can

help in different situations from avoiding bad weather such as thunderstorms and lightning strikes to refueling at night. Because you can see more, the safety aspect has increased.”

According to Lt. Col. Ward Juedeman, 9th FS commander, the F-117A is ideally suited for NVG use.

“From our primary nighttime mission to the cockpit design and layout, this aircraft lends itself to NVG incorporation,” Colonel Juedeman said. “Unfortunately, we are one of the last fighter aircraft to make use of NVG technology, but we are moving to catch up with the rest of the combat air forces.”

A concept that began in the late 1940s, night vision technology was developed as an infrared tool on sniper scopes but was deemed ineffective because of the large batteries needed to power the scope. U.S. Army research throughout the

1950s and early ‘60s led to the development of the Starlight Scope, a telescope-sized device that was later modified to what is used in the Nighthawk today.

As development in night vision spanned over 40 years, the Air Force also took time to integrate the technology into combat aircraft. The F-117 began its combat career in late 1989 with Operation Just Cause where night vision was being incorporated into special operations aircraft. Yet, the Nighthawk would not make use of the technology until now said Capt. Cameron Pringle, 9th Fighter Squadron Alpha flight commander.

“It took a while for the Air Force to fully realize the benefits of NVGs, especially for the F-117,” Captain Pringle said. “Because of the costs for night vision, we had to prove its usefulness through testing. The infrared on the jet gives you a great way to



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Airman 1st Class Ryan Arrigo, 9th Fighter Squadron life support technician, cleans the Electronic Night Visual System 9 goggles before a flight. The ENVS-9 is commonly referred to as night vision goggles, or NVGs.

see what’s in front of the jet, but the NVGs allow you to see what’s to the side of the jet. You can better predict your movement if you know what’s around you.”

Captain Gonzales added that the rest of the Nighthawk community was being integrated with NVGs right now.

“The 9th is the first squadron to be totally integrated with NVGs,” Captain Gonzales said. “We will use the technology in future engagements.”

Captain Gonzales said he felt more comfortable flying with NVGs than without them.

“The increased situational awareness and being able to know what’s going on around me makes me feel safer,” he said. “Our pilots are grateful for the increased safety NVGs give them. Even with the advancement of NVGs, pilots still remember that they’re only an extra sensor to help us fly. That added safety gives us the chance to perform our jobs better, keeping the Nighthawk a first-strike weapon for years to come.”



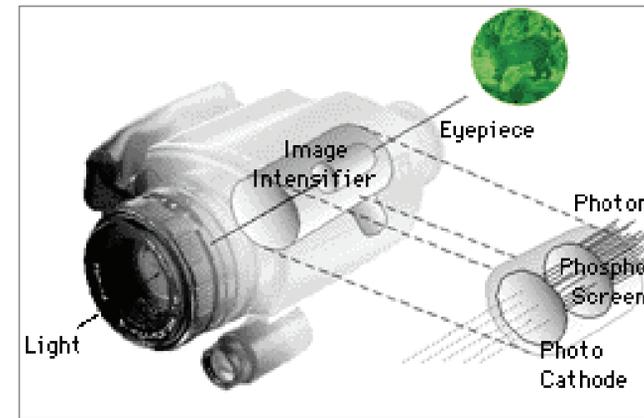
Courtesy photo

During flight, night vision goggles give off a greenish-fluorescent shade as an image passes through a phosphorous screen. Here, a F-15E flies over head with the moon in the background.



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Capt. John Gonzales, 9th Fighter Squadron scheduling chief, reviews instrumentation with his night vision goggles in the upright position. NVGs make use of a holding bracket to support them during daylight operations or when a pilot has no need for them.



www.night-vision-goggles.com/product_applications.html#how

When looking through night vision goggles, light enters the through an objective lens and strikes a photo cathode that has a high-energy charge from a power supply. The energy charge then accelerates across a vacuum inside the image intensifier and strikes a phosphor screen, which acts as a television screen, where the image is then focused. The eyepiece magnifies the image, allowing the user to see clearly.

Capt. John Gonzales, 9th Fighter Squadron scheduling chief, stands ready with his night vision goggles.