

## ***USAF TEST PILOT SCHOOL DEVELOPS SYSTEMS-TEST TRAINING SORTIES USING F-16 VISTA***

**By John Minor, USAFTPS/ED**

The USAF Test Pilot School recently completed a major milestone towards enhancing the Systems Test Phase of its student training curriculum. Last week, TPS staff members flew three electro-optical (EO) curriculum development flights on the F-16 VISTA aircraft carrying two Maverick training missiles: a TGM-65B Television (TV) Maverick under the left wing and a TGM-65D Infrared (IR) Maverick under the right wing.

Both missiles provide the aircrew with a cockpit image of the terrain and targets within the missiles field-of-view. The TV Maverick creates a black and white image similar to what would be made by a TV camera or home camcorder. The IR Maverick is different. It senses the small temperature differences between a target and its background which are radiated as infrared heat energy, and creates a "TV-like" image based on these radiated energy differences.

Lt Col Tom Buter, Technical Director of the Test Pilot School flew the final development flight with Major Andrew Thurling, TPS Deputy Director of Plans and Programs, and evaluated the ability of the F-16 VISTA carrying Mavericks to provide the desired training.

"The primary purpose of the EO sortie is to allow student test pilots, test navigators, and flight test engineers to observe in flight the differences between using visible and infrared sensors for acquiring and attacking ground targets", said Buter.

Major Thurling added "Operationally there are situations where one sensor will have a tactical advantage over the other, so they're employed differently in terms of time of day, attack angle, etc. The ultimate role of flight test is to determine if these sensors are suitable for a particular mission. So it's very important for the tester to understand what types of targets, approach angles, sun conditions, and weather conditions the sensor should be tested in so that they can be evaluated properly."



**Lt. Col. Tom Buter (front cockpit) and Instructor Pilot Major Andrew Thurling (rear cockpit) prepare to take the F-16 VISTA aircraft out on a curriculum development sortie for the USAF Test Pilot School**



**Lt. Col. Tom Buter gets fitted for the Helmet Mounted Display by Veridian VISTA Technician Dave Smith prior to an F-16 VISTA curriculum development flight**

Flying against such targets as the Boron Radar, the Searles Railroad Tunnel, vehicles on highway 395, and the Mojave Cement Plant, Buter and Thurling were able to verify that the F-16 VISTA will be an excellent student training platform.

“We used to fly the EO sortie on a B Model F-16”, said Major Thurling. He added “What VISTA adds to this sortie is advanced avionics integration (Block 40) which allow the missile line of sight to be slaved to other aircraft sensors, plus some other unique systems the students probably have never been exposed to: a Helmet Mounted Display (HMD) and a Voice Recognition System (VRS).” Lt. Col. Buter added “This sortie is another in a series of VISTA-based events aimed at improving our systems training. We see the VISTA as the cornerstone of our effort at TPS to provide students with integrated systems test training relevant to programs such as the Joint Strike Fighter.”

The VISTA is a unique, cutting edge training platform. It gives the USAF Test Pilot School with the capability to provide 21<sup>st</sup> century flight test training for the USAF’s future test and evaluation professionals.

