

# 559<sup>th</sup> SOFTWARE MAINTENANCE SQUADRON

## MISSION

## LINEAGE

559<sup>th</sup> Software Maintenance Squadron

## STATIONS

Tinker AFB, OK

## ASSIGNMENTS

## COMMANDERS

## HONORS

Service Streamers

Campaign Streamers

Armed Forces Expeditionary Streamers

Decorations

## EMBLEM

## EMBLEM SIGNIFICANCE

## MOTTO

## NICKNAME

## OPERATIONS

1/19/2012 The 559th Software Maintenance Squadron has thought and produced outside the box. Squadron engineers recently created a B-2 Spirit Test Program Set software that will be used and maintained at Tinker. The first customer sell-off occurred Jan. 10.

The B-2 Versatile Depot Automated Test System, or VDATS, allows base electronic engineers

to write, update and fix software issues just feet from where it will be used by the 76th Commodities Maintenance Group.

"We are the first group on Tinker to deliver a test program set for the VDATS," said Brad Coleman, 559th SMXS supervisor and project manager for the B-2 VDATS Test Program Set Development effort. "Warner-Robins Air Logistics Center, Ga., has already delivered some, but no one at Tinker had. The point of this is the Air Force has chosen to standardize testers in order to consolidate and maintain them organically. By standardizing on the VDATS, the AF will see many benefits, a few of which are reduced maintenance/calibration equipment requirements, common operator/developer training standards, easier transition from contractor to organic repair, and consolidated testing tools across the centers. All of which should provide reduced life cycle costs to maintain and repair avionics items as well as test equipment."

The VDATS test program set is an \$82-million effort that was started in November 2010. Since then, 77 test program sets have been initiated and are managed by 63 engineer developers. An additional 63 test program sets are planned to be completed by November 2016.

Running on the VDATS, the software strategically tests the B-2 avionics boxes. When a problem is indicated and the ground crew is notified, the avionics box will be removed from the aircraft and replaced with a functioning box. The ground crew will deliver the problem avionics box to technicians who will run the test program set on the box to determine the trouble points. Once found, they will remove the affected circuit card and run it on a different test program set to find the failed components. The test program set will instruct the technician with directions on what specifically needs to be done. Once the component is fixed, the box is ready to be put in an aircraft.

On Jan. 10, the first test program set was delivered to the B-2 TPS program manager. "This is a very complex and rewarding program," said Brad Smith, B-2 TPS program manager with the Oklahoma City Air Logistics Center Aerospace Sustainment Directorate's Combat Systems Sustainment Division. "It affects so many different areas of the B-2 and Tinker. This new VDAT will help Tinker support the avionics repair for years to come."

Electronic engineers write the VDATS software using VDATS Integrated Programming Environment and Reports system, or VIPER, which automatically generates the engineer's commands into the "C" programming language. "VIPER is certainly unique," Mr. Coleman said. "We created VIPER ourselves in house and it's a concept in our test program set world that is quite revolutionary. The other ALCs, Marines, Navy and Army are really interested in it and we're engaging with them in meetings to distribute this and make it a Department of Defense-wide tool."

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Air Force Order of Battle

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#### Sources

Air Force Historical Research Agency. U.S. Air Force. Maxwell AFB, AL.

Air Force News. Air Force Public Affairs Agency.