F-22A ACCIDENT INVESTIGATION REPORT RELEASED

LANGLEY AIR FORCE BASE, Va. – An F-22A was damaged after experiencing an overheat condition in the auxiliary power unit exhaust bay on October 30, 2020, at Nellis Air Force Base, Nevada.

The aircraft involved was assigned to the 422d Test and Evaluation Squadron, Nellis Air Force Base, Nevada, 53d Wing, headquartered at Eglin Air Force Base, Florida. The aircraft was maintained by the 757th Aircraft Maintenance Squadron, 57th Wing, Nellis Air Force Base, Nevada.

Two days prior to the accident, the APU mixing exhaust duct was removed so the aircraft could undergo troubleshooting for a modification. However, applicable circuit breakers were not collared and proper warnings were not applied to the aircraft or its digital forms as required by the technical order.

On the day of the mishap, the aircraft’s APU Emergency-Off Switch was incorrectly set to “Normal.” A maintenance member used the APU in order to defuel the aircraft, not recognizing that the APU mixing exhaust duct needed to be installed before the unit could be used. Once the APU was started, hot exhaust gas flowed directly into the exhaust bay rather than being diverted out of the aircraft. With smoke emanating from the exhaust bay, the maintenance member selected the wrong course of action by making an improper attempt to run diagnostics and review fault-reporting codes. This prolonged the duration of the overheat condition. Another maintenance member in the vicinity then shut down the APU manually.
The Accident Investigation Board president found that the cause of the mishap was improper maintenance procedures resulting in the start of the APU while the unit’s mixing exhaust duct was removed. The AIB president also found four factors that substantially contributed to the accident: (1) the culture of the mishap unit, including limited use of circuit breaker collars and inconsistent use of warnings; (2) the design of test instrumentation on the aircraft which obscured access to applicable circuit breakers; (3) the extensive nature of the aircraft’s modification; and (4) the distractions caused by several non-standard events scheduled on the day of the mishap.

The estimated cost to replace damaged parts and repair the aircraft is valued at $2,690,000.

For more information, contact Air Combat Command Public Affairs at (757) 764-5007 or via e-mail at accpa.operations@us.af.mil.