

**EXECUTIVE SUMMARY
UNITED STATES AIR FORCE
AIRCRAFT ACCIDENT INVESTIGATION**

**VC-25A, TN 92-9000
BOEING GLOBAL SUPPORT SERVICES, SAN ANTONIO, TEXAS
1-10 APRIL 2016**

Between 1 and 10 April 2016, at the Boeing plant located in Port San Antonio, Texas, three Boeing mechanics supplied and used contaminated tools, parts, components, a regulator, and an unauthorized cleaning procedure while performing oxygen system leak checks on the mishap aircraft (MA), a VC-25A, Tail Number (TN) 92-9000, assigned to the Presidential Airlift Squadron, Andrews Air Force Base, Maryland. The three Boeing mechanics were supporting the heavy maintenance contract between the United States Air Force and Boeing.

To prevent a fire hazard, the VC-25A Aircraft Maintenance Manual (AMM) requires all tools and components used on the MA's oxygen systems to be "oxygen clean" so contaminants do not exceed specified levels prior to oxygen system maintenance.

In preparing to conduct oxygen system leak checks, a Boeing mechanic, Mishap Mechanic 1 (MM1), supplied non-oxygen clean parts, components, and a cleaning solution to another Boeing mechanic, Mishap Mechanic 2 (MM2), for use on the MA's oxygen system. Another Boeing mechanic, Mishap Mechanic 3 (MM3), assisted MM2 in locating contaminated parts and components, then assisted MM2 by using the cleaning solution in an unauthorized procedure in an attempt to sanitize these parts, components, and a regulator MM2 assembled. MM2 then connected these parts, components, and the regulator to the MA's oxygen system.

Upon finding a non-oxygen clean regulator connected to the MA, Boeing tested the regulator and contamination was found. To date, the cost to remediate the known contamination of the oxygen system is over \$4 million, which was paid for by Boeing. There were no injuries as a result of the mishap.

The Board President found by a preponderance of evidence MM1, MM2, and MM3 caused the mishap by supplying and using non-oxygen clean tools, parts, components, a regulator, and an unauthorized cleaning procedure while performing oxygen system leak checks on the MA in violation of required procedures.

The Board President found by a preponderance of evidence three factors substantially contributed to the mishap. First, MM2 failed to observe explicit warnings concerning cleanliness while performing tasks on the MA's oxygen system. Second, Boeing failed to exercise adequate oversight over the timeliness and quality of maintenance being performed on the MA. Lastly, MM1, MM2, and MM3 failed to absorb or retain oxygen system training and failed to apply cleanliness procedures while performing oxygen system maintenance.

Under 10 U.S.C. § 2254(d) the opinion of the accident investigator as to the cause of, or the factors contributing to, the accident set forth in the accident investigation report, if any, may not be considered as evidence in any civil or criminal proceeding arising from the accident, nor may such information be considered an admission of liability of the United States or by any person referred to in those conclusions or statements.