

Air Force Actions Needed to Improve Major Modernization and Sustainment Efforts

GAO-26-109272

July 2026

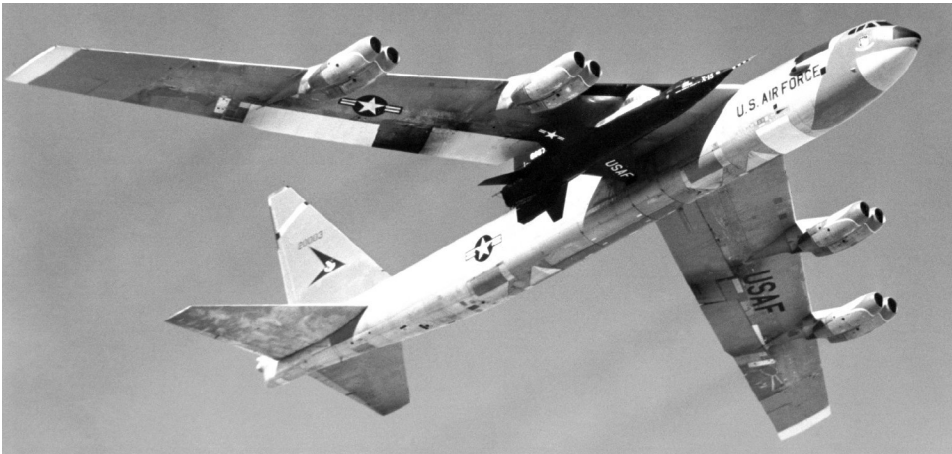
A report to congressional committees

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What GAO Found

Ten of the 13 B-52 modernizations are experiencing cost, schedule, or performance challenges. The Air Force's most expensive B-52 modernization effort, the Commercial Engine Replacement Program (CERP) will likely continue to face significant challenges as the Air Force plans to begin production with little to no developmental flight testing. While the Air Force analyzed and accepted increased risks from this approach in 2023, since then CERP costs increased by about \$3 billion and initial operational capability was delayed more than 15 months. Department of Defense (DOD) policy states cost estimates should consider risk and include an analysis that identifies and evaluates alternative courses of action that may reduce cost and risk. Reassessing these risks would better inform decision-makers as they consider when to begin production.

B-52 Transporting an X-15 Rocket Research Aircraft in 1959



Source: National Aeronautics and Space Administration. | GAO-26-109272

In addition, as the Air Force develops its 13 modernizations, it is not consistently using digital engineering tools that provide decision-makers real-time data to assess overall performance allowing them to make timely and well-informed decisions. DOD issued guidance in 2023 stating programs in development should incorporate digital tools, such as digital twins, when it's practical, beneficial, and affordable. The Air Force has not assessed the potential use of digital engineering on all B-52 modernizations. As a result, the Air Force may be missing opportunities to take advantage of efficiencies that digital engineering can provide, including avoiding future sustainment and supportability challenges.

The Air Force conducts planned maintenance on B-52s at a repair depot about every 4 years and has developed analyses to ensure it has sufficient capacity to perform planned modernization. However, the current maintenance plans assume that the Air Force will complete CERP and install new engines on time and do not account for risks from further schedule delays. B-52 maintenance is already struggling with finding sufficient parts for the current engines. Without planning for the possibility of engine delays from CERP, the Air Force risks falling behind on planned B-52 maintenance, which could impact readiness.

Why GAO Did This Study

The B-52 bomber is an aircraft capable of performing conventional and nuclear missions. The B-52 was originally introduced in 1955 with a projected lifespan of 20 years. The Air Force has since extended the aircraft's lifespan through 2050. To maintain the B-52's strategic edge, the Air Force is projected to spend an estimated \$21 billion for modernizations including new engines, radar, and communications.

A Senate report included a provision for GAO to assess B-52 modernization. This report addresses, among other things, the extent to which (1) B-52 modernizations are meeting their cost, schedule, and performance goals, and (2) the Air Force has developed plans to ensure sufficient depot capacity for the modernizations. This is a public version of a sensitive report issued in July 2026. DOD deemed some schedule and mission capable information sensitive, and GAO omitted it from this report.

To conduct this review, GAO evaluated Air Force acquisition and sustainment documentation. GAO conducted site visits to the B-52 program office, depot, and logistics center. GAO also analyzed data and interviewed officials on depot performance, spare part and support equipment needs, and B-52 availability.

What GAO Recommends

GAO is making six recommendations to the Air Force to improve planning and management for the B-52. These include recommending the Air Force delay the CERP production decision until the program office conducts an analysis to understand the associated risks; assess the benefits of using digital engineering; and update sustainment plans to account for potential delays. The Air Force partially concurred with GAO's recommendation about the CERP production decision and fully concurred with the rest.