

Air Force Needs More Focused Metrics and a Risk-Based Mitigation Plan to Improve Sustainment

GAO-26-109154

June 2026

A report to the Committee on Armed Services, House of Representatives

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What GAO Found

The Air Force's metrics for aircraft availability and mission capability do not provide a complete picture of the KC-135 and KC-46A tanker fleet's ability to meet its primary refueling mission. The tanker fleet did not meet the Air Force's availability and capability standards from fiscal year 2019 through fiscal year 2025, but these metrics do not specifically account for the aircraft's ability to meet the primary refueling mission. The Air Force also calculates a "fully mission capable" (FMC) rate to measure the fleet's ability to meet all its missions, which decreased substantially during that 7-year period. According to Air Force officials, while FMC is a clear indicator of an aircraft's ability to meet its primary refueling mission, it excludes non-FMC aircraft that may be able to meet the refueling mission but not other missions. Without metrics and standards focused on the aerial refueling mission specifically, the Air Force risks not having a clear understanding of the fleet's ability to meet key operational requirements.

Air Force officials identified sustainment risks for the KC-135 and KC-46A fleets, but the Air Force has not comprehensively assessed these risks or developed a plan to mitigate them. The sustainment risks included shortages of critical parts and skilled maintainers and infrastructure limitations. The Air Force has taken some actions to address these risks, including identifying alternative sources for parts and upgrading infrastructure. However, conducting a comprehensive assessment of risks associated with sustaining the fleet and developing a mitigation plan to address these risks based on their likelihood or impact would help the Air Force target scarce resources to areas of greatest risk and enhance the health of the aerial refueling tanker fleet.

Aerial Refueling Tanker Sustainment Risks



Parts availability and supply chain limitations

Aerial refueling tankers experience frequent part failures, and supply chain networks are inadequate to ensure availability of replacement parts in a timely manner.



Workforce challenges

Shortages of skilled personnel and quality concerns affect sustainment of aerial refueling tankers.



Infrastructure and environmental factors

Lack of necessary infrastructure, such as hangar space, complicates efforts to sustain aerial refueling tankers. Lack of indoor space results in aircraft kept outdoors for longer periods of time and becoming more susceptible to corrosion.



Access to technical manuals and data

Boeing designed KC-46A technical manuals that maintainers need based on civilian- rather than military-use aircraft. Additionally, Air Force maintenance personnel cannot readily access the technical data that contractors own.

Source: GAO analysis of Air Force information; GAO (icons). | GAO-26-109154

Why GAO Did This Study

The Air Force's aerial refueling tanker fleet—capable of transferring fuel from airborne tankers to aircraft while in flight—is the largest in the world and plays a critical role in air mobility operations.

House Report 118-529, accompanying a bill for the National Defense Authorization Act for Fiscal Year 2025, included a provision for GAO to assess the Air Force's refueling capabilities and sustainment of the aerial refueling fleet. Among other objectives, this GAO report addresses the extent to which the fleet meets the Air Force's current and future needs, and the extent to which the Air Force has assessed risks and developed mitigation plans associated with sustaining the KC-135 and KC-46A aerial refueling aircraft.

GAO reviewed Air Force data on the composition and performance of the aerial refueling fleet, reviewed agency documentation, contacted 16 units across 11 bases, and interviewed relevant Department of Defense and Air Force officials. This is a public version of a sensitive report GAO issued in May 2026. This version omits information DOD deemed to be Controlled Unclassified Information.

What GAO Recommends

GAO made four recommendations, including that the Air Force use metrics and standards that specifically assess the aerial refueling tanker fleet's ability to meet its primary refueling mission; conduct a comprehensive assessment of sustainment risks associated with the aerial refueling tanker fleet; and develop a mitigation plan based on the results of that assessment. The Air Force concurred with GAO's recommendations.