

Aircraft Jacking Hazards: The Risks of Using Aircraft Jacks Beyond Inspection Dates



By Gunnery Sgt. Alex Thomason
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The Role of Aircraft Jacks in Military Aviation

Inspection Protocols and Standards

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AIRCRAFT JACKING HAZARDS

Hazards of Using Aircraft Jacks Beyond Inspection Dates

Continuing to use an uncertified jack may seem expedient, but the associated hazards are serious:

- **Structural Failure:** Prolonged use without inspection may allow cracks, weakened welds, or metal fatigue to go unnoticed. These flaws can lead to collapse under load, risking aircraft damage and injury to personnel.
- **Hydraulic System Failure:** Hydraulic seals and fluids degrade over time, particularly under exposure to temperature fluctuations and moisture. Failing to maintain or inspect these components can cause pressure loss and sudden jack failure.
- **Incorrect Load Handling:** Over time, jacks may lose their rated load-bearing capacity. Without regular inspections, this loss goes undetected, increasing the risk of overloading and catastrophic failure.
- **Environmental Impact:** Aircraft jacks exposed to salt air or high humidity corrode more rapidly. Improper storage, such as leaving jacks outside or uncovered, exacerbates deterioration. These effects are difficult to identify without routine inspection.
- **Safety of Ground Personnel:** This is the most critical concern. Jack failure can result in severe injuries or fatalities. A collapse endangers every crew member working around or beneath the aircraft.

Adhering to Maintenance Protocols

Risk can be minimized through disciplined adherence to established procedures:

- **Conduct Timely Inspections:** Perform inspections at the required intervals and document them accurately. Never assume a jack is serviceable without confirmation.
- **Immediately Remove Defective Jacks:** Remove any jack from service that fails inspection or shows signs of damage. Do not attempt unauthorized field repairs; return the jack to the designated repair authority.
- **Ensure Ground Crew Training:** Personnel should understand jack operation, load limitations and know the warning signs of mechanical failure. Routine training and safety drills reinforce these practices.
- **Properly Store and Maintain:** Protect jacks from environmental exposure. Store them indoors whenever possible, cover hydraulic fittings and maintain cleanliness to extend service life and reliability.

Why Inspections Matter

Aircraft jacks may not be high-profile tools, but they are essential to the safe execution of flight line operations. Overlooking an inspection or using a compromised jack can turn a routine task into a life-threatening incident. Every skipped inspection introduces unnecessary risk. As aviation professionals, our responsibility is to follow procedures, protect lives and uphold mission readiness. If a jack is overdue for inspection, it must not be used. No exceptions.

Before using any aircraft jack, confirm it is inspected, certified and safe. If you cannot answer with confidence, stop the job and seek clarification. For platform-specific guidance, consult the appropriate maintenance publications and NAVAIR technical manuals.

Cover: Aviation Support Equipment Technician 3rd Class Christopher Zeruto, assigned to USS Iwo Jima (LHD 7), watches for movement of a hydraulic aircraft jack to see if extra weight needs to be applied during a maintenance check while underway March 14, 2025. (U.S. Navy photo by Mass Communication Specialist 2nd Class Joseph T. Miller)

Facing page: A U.S. Navy aviation support equipment technician inspects a jack aboard USS Harry S Truman (CVN 75) in the U.S. Central Command area of responsibility April 1, 2025. (Official U.S. Navy photo)