

# Preventing Improper Maintenance in Naval Aviation



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# Preventing Improper Maintenance

**A**ircraft maintenance is critical to naval aviation operations, ensuring safety and operational effectiveness. Proper maintenance practices are crucial for keeping aircraft in optimal condition and preventing accidents. Conversely, improper maintenance can have severe consequences, including equipment failures and loss of life. The U.S. Navy and Marine Corps have implemented several measures to perform maintenance tasks correctly and safely.

## Consequences of Improper Maintenance

The primary consequence of improper maintenance on aircraft is compromised safety. Aviation inherently carries risks, and deviations from prescribed maintenance procedures increase the likelihood of accidents and mishaps. From mechanical failures to structural deficiencies, improper maintenance can lead to catastrophic outcomes, endangering lives and damaging ground assets.

## Examples of Improper Maintenance

- **Hazardous Materials (HAZMAT):** Mismanagement of hazardous materials during maintenance, such as using the incorrect types of grease or failing to adhere to storage and disposal protocols, can lead to significant safety risks.
- **Skipping Steps:** Omitting critical inspection steps, such as not checking turbine blades for cracks or damage during an engine inspection, can result in vital component failures, endangering the aircraft and its occupants.
- **Incorrect Tool Use:** Employing inappropriate tools, such as using a wrench that is too large or too small for a specific bolt, can cause stripped or damaged bolt heads, compromising the maintenance task and aircraft safety.

## Measures to Prevent Improper Maintenance

- **Training Program:** Establish comprehensive maintenance training programs that cover specific maintenance procedures, safety protocols and equipment use, with regular updates and certifications.
- **Standard Operating Procedures (SOP):** Develop and maintain detailed SOPs for all maintenance tasks, ensuring they are reviewed regularly and updated.
- **Quality Assurance (QA) Inspections:** Perform routine QA inspections to verify compliance with SOPs and safety regulations, utilizing checklists and audits to address deviations.
- **Supervisor Oversight:** Ensure experienced and competent supervisors oversee maintenance activities, providing guidance and ensuring all tasks are performed accurately.
- **Technology Utilization:** Adopt relevant maintenance management software to monitor maintenance activities, schedule inspections and maintain records.
- **Continuous Improvement:** Be a learning organization by fostering an environment where feedback is encouraged, integrating lessons learned into future training and SOPs, and continuously reviewing procedures.

## Preventing Improper Maintenance

- Safety Culture: Cultivate a safety-oriented culture within the maintenance team, emphasizing strict adherence to procedures and open communication about safety concerns.
- Resource Allocation: Guarantee access to necessary tools, equipment and sufficient staffing to prevent fatigue and ensure timely completion of maintenance tasks.
- Incident Reporting and Investigation: Implement a system for reporting and investigating maintenance errors or incidents to prevent future occurrences.
- Collaboration: Promote teamwork between maintenance personnel, supervisors and maintenance control to enhance the maintenance process and tackle technical challenges.

Preventing improper maintenance in Navy and Marine Corps aviation is a multifaceted endeavor that necessitates a blend of training, procedural oversight, technology use and a robust safety culture. By diligently implementing these strategies, the Navy and Marine Corps can maintain their aircraft to the highest standards, ensuring both safety and effectiveness in their operations.

As naval aviation maintenance personnel continue to play a crucial role in maintaining operational readiness, their commitment to wearing proper PPE demonstrates their unwavering dedication to safety, excellence and mission success in challenging operational environments.



*Cover: Aviation Electronics Technician Airman Antonio DeJesus, left, and Aviation Electronics Technician 2nd Class Diego Olvera, both assigned to Patrol Squadron (VP) 47, the "Golden Swordsmen", perform maintenance on a P-8A Poseidon in a hangar at Naval Air Station Whidbey Island (NASWI), Feb. 21, 2024. (U.S. Navy Photo by Mass Communication Specialist 1st Class William Sykes)*