Performing Under Perceived Pressure in Aviation Maintenance



By Senior Chief Aviation Machinist's Mate Anil Ramdeen Naval Safety Command



PERCEIVED PRESSURE



U.S. Navy Aviation Machinist's Mate 3rd Class Anthony Avilatorques the flex-coupling of an MH-60S Sea Hawk helicopter in the hangar bay aboard the aircraft carrier USS Nimitz (CVN 68) April 5, 2023. (U.S. Navy photo by Mass Communication Specialist 3rd Class Caylen McCutcheon)

Perceived pressure refers to a subjective sense of urgency and stress experienced by maintenance personnel when faced with tight schedules, operational demands or external factors such as leadership direction or priorities that may influence maintainers' decision-making and workflow. Working under perceived pressure in aviation maintenance can introduce a range of challenges that may impact the quality, safety and overall effectiveness of maintenance tasks. These challenges can seriously affect an organization where precision and accuracy are paramount. Here are some potential issues that may arise when working under perceived pressure in aviation maintenance:

- Reduced Attention to Detail: Under pressure, technicians may be more prone to overlooking small details or skipping procedural steps. This pressure can lead to errors such as improperly secured components, missed inspections, inaccurate measurements and skipped steps (especially notes, cautions and warnings), all of which can compromise aircraft safety and reliability of the aircraft.
- Impaired Decision-Making: Pressure can impair cognitive function and lead to rushed decision-making. Technicians might opt for quick solutions without thoroughly assessing the

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situation or considering potential long-term implications. This factor can result in suboptimal decisions that compromise safety.

- **Communication Breakdowns:** Effective communication is crucial in aviation maintenance, especially when coordinating with team members, aircrew and other stakeholders. Perceived pressure can hinder clear communication, leading to misunderstandings, misinterpretations and missed instructions.
- Increased Stress and Fatigue: Working under pressure can elevate stress levels, which, if not managed, can contribute to mental fatigue and burnout. Fatigued technicians are likelier to make mistakes, experience reduced cognitive function and have diminished reaction times.
- **Tunnel Vision:** Pressure can create a phenomenon known as "tunnel vision," where technicians become excessively focused on a single task or problem to the detriment of other critical aspects. Tunnel vision can result in overlooking broader safety concerns or interconnected issues.
- Inadequate Time for Problem-Solving: Complex maintenance issues may require careful analysis and problem-solving. Perceived pressure can limit the time for thorough troubleshooting, leading to rushed solutions that might not fully address the underlying problem.
- Noncompliance with Procedures: Adhering to established procedures is vital to ensure consistent and safe outcomes in aviation maintenance. Under pressure, technicians might be tempted to take shortcuts or deviate from established procedures to save time, potentially compromising safety and quality. The enforcement of aviation maintenance standards heavily relies on adherence to technical manuals, aiming to guarantee safety and uniformity. In high-pressure situations, technicians may unintentionally depart from these manuals, potentially resulting in compliance problems that lead to negative career and operational consequences. In the high-stakes world of aviation maintenance, the risks associated with working under perceived pressure are significant. It's crucial for organizations to recognize these challenges and implement strategies to mitigate their impact, fostering an environment where technicians can perform at their best while upholding the highest standards of safety and quality.
- *Increased Risk of Human Error:* Pressure can increase the likelihood of human errors, even among highly skilled professionals. These errors can include miscalculations, misinterpretations or misalignments that can have cascading effects on the overall maintenance process.
- **Negative Impact on Well-Being:** Perceived pressure can have personal consequences on technicians' well-being, leading to stress-related health issues, decreased job satisfaction and reduced overall morale. This impact can create a cycle where decreased well-being further exacerbates pressure-related challenges.
- Loss of Confidence: If a technician makes mistakes under perceived pressure, it can lead to a loss of confidence in their abilities. This loss of self-assurance may persist well after the pressure subsides, affecting their performance with subsequent tasks.

On the following page, you will find some suggested strategies for excelling under perceived pressure.

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- Training and Preparation: Robust training programs are the foundation of successful aviation maintenance operations. When technicians are thoroughly trained and well-prepared, their confidence levels rise, reducing the impact of perceived pressure. Practicing simulated scenarios and emergency situations during training can help technicians develop the skills, exposure and composure needed to handle high-pressure situations. Before the evolution, a quick but detailed brief should focus the team on the mission. Although briefing may seem to be a "waste of time," history has shown otherwise. Training programs must emphasize plan, brief, execute and debrief in all evolutions.



U.S. Navy Aviation Machinist's Mate 3rd Class Trevor Martina, blossoms a variable exhaust nozzle for inspection aboard the aircraft carrier USS Nimitz (CVN 68). (U.S. Navy photo by Mass Communication Specialist 2nd Class Caitlin Flynn)

- Checklists and Procedures: Standard operating procedures and comprehensive checklists are invaluable tools for technicians and safe-for-flight personnel working under pressure. These documents provide a structured approach to tasks, reducing the cognitive load and ensuring that critical steps are not missed, even in stressful circumstances.
- **Debriefing and Continuous Improvement:** A debriefing session can provide valuable insights after completing a maintenance task under pressure. Analyzing what went well and what could be improved allows teams to enhance their processes and adapt to future challenges more effectively.
- Focus on Effective and Efficient Mission Accomplishment: Effective mission accomplishment should always be the primary goal of any evolution. We learned long ago that hurting people or damaging equipment slows and sometimes even stops evolutions, the opposite of effective mission accomplishment. The awareness of how your work directly impacts mission accomplishment and the associated safety of your teammates should motivate you to rise above perceived pressure and prioritize by-the-book maintenance.

Aviation maintenance organizations play a pivotal role in mitigating the impact of perceived pressure on technicians. Supportive management, well-defined processes, adequate resource allocation and a culture that encourages open and direct communication are all essential elements that foster an environment where technicians can excel under pressure.

Leadership must support by-the-book maintenance at the safest pace for the technicians performing the tasks, and each technician should know their own safest pace and adhere to it. DO NOT LET PERCEIVED OR REAL PRESSURE GET TO YOU! DO NOT COMPROMISE ON YOUR PROFESSIONALISM; LIVES AND ESSENTIAL EQUIPMENT ARE AT STAKE.

Cover: U.S. Navy Aviation Structural Mechanic 2nd Class Samuel Swanson measures stab hinge pushes aboard the aircraft carrier USS Nimitz (CVN 68) April 5, 2023. (U.S. Navy photo by Mass Communication Specialist 2nd Class Joseph Calabrese)