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UNTIL RELEASED BY THE
HOUSE ARMED SERVICES COMMITTEE
SUBCOMMITTEE ON READINESS

STATEMENT OF

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AIR FORCE VICE CHIEF OF STAFF

BEFORE THE

HOUSE ARMED SERVICES COMMITTEE SUBCOMMITTEE ON READINESS

ON LEARNING FROM AND PREVENTING FUTURE TRAINING MISHAPS

MARCH 23, 2021

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INTRODUCTION

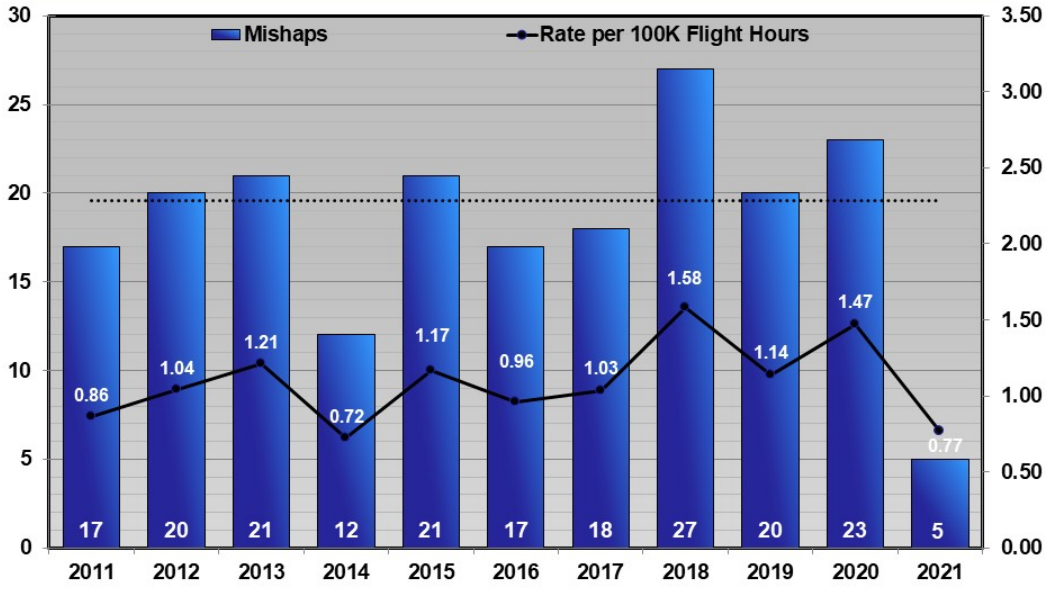
Chairman Garamendi, Ranking Member Lamborn and distinguished members of the subcommittee, on behalf of Acting Secretary of the Air Force, the Honorable John P. Roth, and the Chief of Staff of the Air Force, General Charles Q. Brown, Jr., thank you for the opportunity to provide an update on this important issue and for your continued support and advocacy of our most important resource – our Airmen. We remain committed to ensuring those Airmen entrusted to our care are provided as safe and effective a training environment as possible while we prepare them to fly, fight – and win – in the most competitive landscape seen in generations.

MISHAP SUMMARY

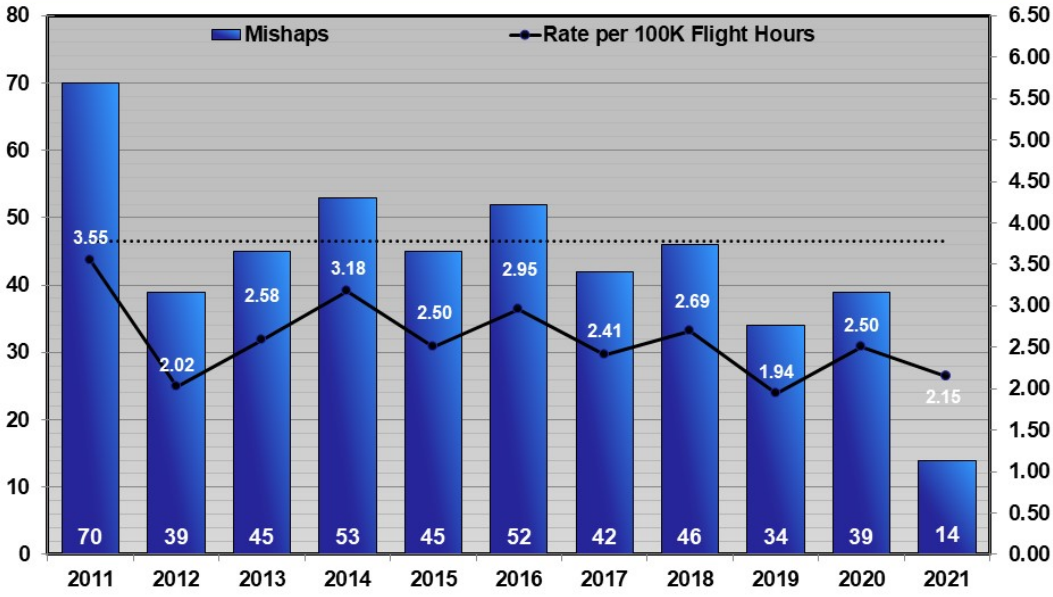
Since the last safety-focused briefing to this subcommittee in June 2018, the Air Force has had over 1,200 Class C or higher aviation mishaps, including 10 which resulted in the tragic loss of an Airman during training. While our current manned aviation Class A mishap rate per flight hour is 47% lower than FY18 and the overall aviation fatality rate is down 41% in FY21 compared to FY18, we recognize that one avoidable mishap is still too many.

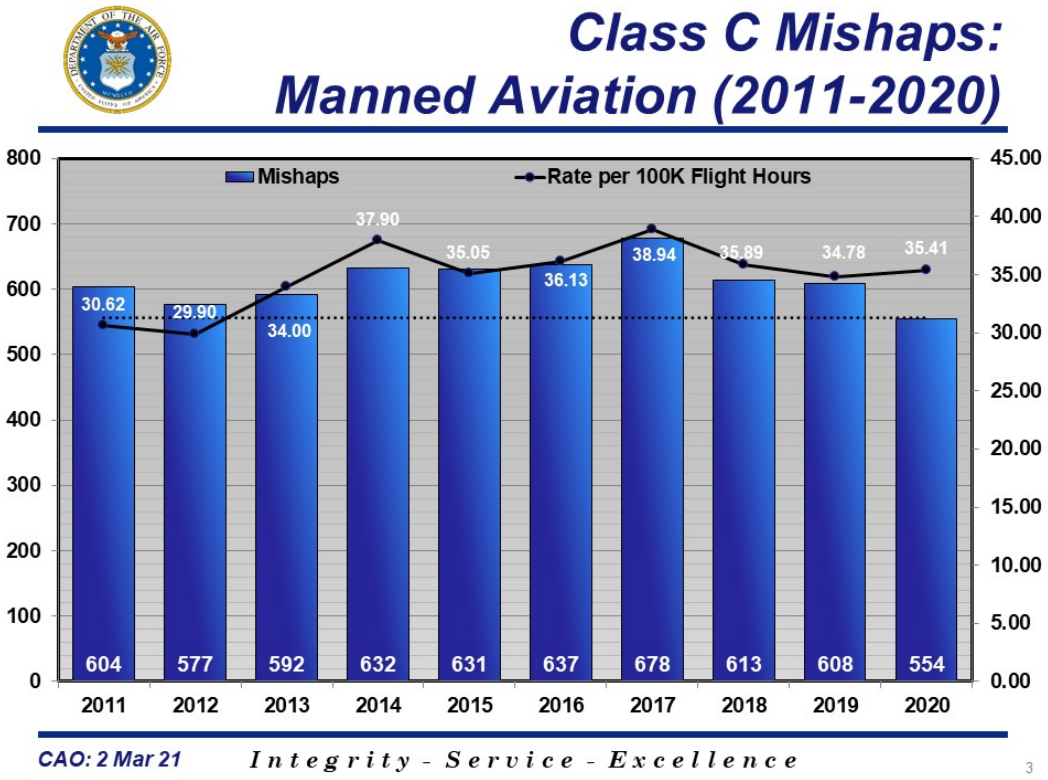
Since 2018, we also had two ground Class A training fatalities, both of which were Airmen from our Special Warfare community. While we do not believe we have a systemic issue in ground safety, we nevertheless remain closely engaged with our sister services to ensure we fully understand and can leverage their lessons learned, mitigation efforts, and best practices to help prevent unfortunate events such as tactical vehicle rollovers.

Class A Mishaps: Manned Aviation



Class B Mishaps: Manned Aviation





SAFETY ASSESSMENT AND MISHAP PREVENTION PROCESS

Our goal is to prevent mishaps before they occur. From stepping into their first jet at Undergraduate Pilot Training to gaining proficiency once assigned to operational units, we recognize there is inherent risk in Air Force training. We view it as our duty to understand these risks and to establish the right safeguards to mitigate them wherever possible. Our risk mitigation and safety processes are designed with proactive mishap identification and prevention at their core.

Training is a career-long affair for our aircrew. Consequently, our safety system applies to Airmen throughout their full continuum of service from the schoolhouse to the operational unit. All levels of command maintain a safety focus, and as with any aviation mishap that occurs in the Air Force, we fully investigate all training mishaps to determine the root cause and to develop recommendations to prevent similar occurrences in the future, whether it involves an

initial student or a fully-qualified mission crewmember. These recommendations have led to adjustments, such as the elimination of unnecessary training events that operational units no longer require. They also often result in modifications to aircraft, such as the installation of the Automatic Ground Collision Avoidance System (Auto GCAS) in many of our current fighters, which was developed due to recommendations from several past fatal mishaps in legacy fighters caused by an incapacitated pilot. To date, we have had 11 confirmed Auto GCAS "saves" with the F-16 and F-22.

Additionally, we proactively employ a range of safety programs in our commands to identify and mitigate hazards well before a mishap occurs. These include the Military Flight Operations Quality Assurance program, an aircraft performance data monitoring and analysis system similar to the one used in commercial industry, and the Airman Safety Action Program, a system that allows any Airman to confidentially identify hazards across the Air Force to encourage more reporting. These systemic measures are augmented by unit safety culture assessments and targeted safety reviews to help identify specific hazards for our commanders. Proactively gathering the right information so our commanders can take proper actions before a mishap occurs is always our goal.

We strive to prevent mishaps, but when they do occur we are committed to learning how to prevent similar occurrences in the future. The Air Force has robust post-mishap analysis programs that include assignment of trained safety officers to investigate every reportable mishap. Recommendations from all Safety Investigation Boards are managed by Hazard Review Boards at every command. Investigation recommendations are always managed until closure. This process is designed to provide robust oversight of all safety incidents and ensure we are promoting the culture and processes that allow us to fully capitalize on lessons learned.

OPPORTUNITIES TO IMPROVE AIR FORCE SAFETY

The recently released December 2020 National Commission on Military Aviation Safety (NCMAS) report identifies several key recommendations that we believe provide ripe opportunities to create safer training and operational environments for our aircrew. This report is consistent with findings from the Air Force's 2018 Operational Safety Review – a Chief of Staff of the Air Force-directed one-day safety stand-down for all operations and maintenance personnel to assess the status of our safety programs. We have already begun implementing many of these recommendations and are currently collaborating with both the Office of the Secretary of Defense and our sister services to fully capitalize on the Commission's insights. Key recommendations are as follows:

Sustain Investment in the Flying Hour Program

The Commission rightfully highlighted sufficient flight time as "the lifeblood of military aviation safety and readiness," with studies demonstrating a direct relationship between career flight hours and increased pilot mishap causal factors. We share the Commission's view and see sustained investment in the flying hour program and its supporting activities as absolutely necessary to ensure aviation safety and readiness; however, we would note that the specific NCMAS recommendation to fund flying hours to FY10 levels which would represent a 10% increase over FY21 levels is not currently executable. The Air Force's 2021 aircraft inventory and end-strength are not the same as 2010. We do not possess the same number/type of aircraft and the associated maintenance personnel. We would be unable to execute a program 10% percent larger than the current flying hour program with today's force structure and global commitments. Additionally, the flying hour program has experienced under execution from

FY18 to FY20. To minimize the discrepancy between flying hours programmed and actual execution, the Air Force conducted an Executability Study to inform the budget and to optimize the flying hour program.

The Air Force continues to carefully manage the execution of the flying hour program and look for additional opportunities to maximize its utilization of the flying hours programmed within the budget and within the bounds of available aircrew and aircraft. Our most significant limitations to growing the flying hour program are enduring overseas commitments, protracted maintenance on legacy airframes, diversion of aircraft into modernization pipelines, and shortfalls in maintenance manning – all of which reduce aircraft availability with which to train.

Reinforce the Aviation Supply System

Securing flying hours to maintain aircrew proficiency is only effective if the Air Force has aircraft available to fly. The Commission rightfully highlights that systemic strains in aviation supply systems "creates aircraft availability issues that hinder pilots from getting their required flight hours." It noted endemic challenges of supply chain visibility, erosion of the industrial base to support sustainment of legacy aircraft, and parts reliability as driving the constant need for cannibalization of other aircraft, forced use of shortcuts, and fielding aircraft with numerous deferred parts.

The Air Force has embarked on a number of initiatives to improve supply chain performance and resiliency as well as maintenance effectiveness to drive higher aircraft availability rates. For example, we have fundamentally changed how we procure spare parts to improve our cash flow that allows us to increase the depth of inventory for parts that do not fail often but cause significant down time when they do. We have established consortiums to allow

vendors who normally would not contract with the Air Force become suppliers, reducing the number of sole/single source suppliers and improving supply chain resilience.

The Air Force has also leaned forward to bring maintenance best practices from the commercial sector to bear on our flight lines, capitalizing on theory of constraints and predictive maintenance to enhance our repair processes and turn unscheduled maintenance into scheduled maintenance, improving efficiency and effectiveness. We further continue to push the envelope on advanced manufacturing techniques at depots and flight lines to increase our supply responsiveness to maintenance needs. Finally, we spend over $2.5B per year on sustaining engineering, essentially redesigning parts for better reliability and maintainability, which ultimately reduces demand for spare parts when they fail less frequently.

Provide the Aviation Community More Bandwidth to Train

The Commission highlighted that many of our Airmen serve in "a chronic state of fatigue," due to long-term enduring combat taskings, lack of commensurate force structure, and growing requirements to train to meet next generation threats, which directly impacts safety. Moreover, the Commission found that "forcing aviators and maintainers to undertake additional administrative duties interrupt their primary aviation tasks and contribute to fatigue and burnout." These collateral duties come at the cost of bandwidth required to focus on maintaining the proficiency required to operate safely.

These findings are consistent with our own internal analysis and reflect the broad sentiments of our operational units. Over the last several years, we have placed significant focus on reducing administrative tasks and ancillary training for our personnel, especially aircrew, to give them more time to focus on mission-related training and upgrades. As an example, from

2016 to 2020, we added over 1,800 administrative support personnel to our squadrons and eliminated 46 additional duties to increase the time available for aircrew and maintenance personnel to focus on their mission. We continue to monitor this critical population and look for opportunities to optimize their limited bandwidth to those tasks that most directly improve combat readiness, proficiency, and safety.

Expand Access to High Quality Simulators

While quantity of training is important, so is quality. One key mechanism we have at our disposal to increase the quality of training is the use of modern flight and maintenance simulators. We strongly concur with the Commission's observation that while modern simulators are "effective mediums for teaching core skills, enhancing mission techniques, practicing emergency procedures, and providing orientation to specialized operational skills," they are "a supplement or enhancement, not a replacement, for actual flight training." The Commission found that while useful, much of the simulation ecosystem remained inadequate and in some cases, created negative training. Outdated and out-of-service simulators, particularly for legacy aircraft, were highlighted as a key issue that should be addressed.

Internal Air Force reviews noted similar concerns, recognizing that many legacy simulators run on now-obsolete operating platforms with some requiring unsupported hardware to operate. These simulators no longer meet the needs of our force which must train to operate in increasingly complex threat environments. The Air Force is currently pursuing mitigation options including migrating weapon systems to a common platform that will ease maintenance, concurrency, and cybersecurity concerns. Additionally, the Air Force has initiated a program for

a common synthetic training environment to replace the proprietary, stove-piped, legacy environments with an environment accessible to all weapon systems.

We are also testing virtual, augmented, and mixed reality technologies both in our undergraduate pilot and maintenance training pipelines. This technology differs from traditional approaches in that it enables students a much more immersive training experience, which significantly increases the quality of their training. Moreover, because students require less direct instructor support, they are able to more readily tailor their training to address their unique gaps and work asynchronously, accelerating the training process. We are exploring opportunities to scale the use of this technology as part of our broader training strategy and are committed to doing so with a keen eye toward flying safety risk.

Retain Seasoned Operators to Grow the Next Generation

Finally, we would offer that one of the most valuable safeguards against mishaps remains the strong presence of seasoned aviation professionals in our line units. While the Services' challenges in retaining seasoned aircrew before the onset of COVID-19 is generally well understood, it is important to also acknowledge the significant challenges in retaining experienced maintainers as well. The Commission is correct to note that the "steady declines in maintainer experience negatively affect readiness and safety," and draw attention to the decrease of more than 50 percent in average years of experience for 5-levels which serve as the Air Force's first-line trainers and leaders.

The Air Force is leveraging a mix of tools to retain as much seasoned talent as we can, particularly during this critical time as we increase accessions of new pilots and maintainers to right size the force. We continue to target production of 1,500 new pilots per year by FY24 and

since FY17, have added over 4,000 maintainers to our operational units. We are also looking hard at creative ways to utilize the manpower we do have more efficiently, including merging several maintainer sub-disciplines to create a more agile workforce that is able to meet sortie demand with less manpower.

CLOSING

In closing, let me reiterate that preventing mishaps remains a top priority for our Air Force. The Air Force has made significant strides in reducing training mishaps over recent decades; however, we understand this is an on-going endeavor, and we must continually address emerging hazards with new training programs and aircraft. As discussed, we are undergoing a review of our aviation training syllabus to ensure we have the most effective and safest training possible. We know that risk is inherent in our aviation training and we must continue to proactively identify and then eliminate or mitigate hazards to the fullest extent.

Thank you for your time. We look forward to working with this sub-committee and our Joint partners to deliver the safe and effective training environment our Airmen deserve.