

Pilot Safety

Award of Distinction

1 Lt Mayfield was Mongol 2 as the wingman on an F-16 Mission Qualification Training sortie. It was 1Lt Mayfield's third sortie at Hill AFB after arriving from the RTU at Luke AFB. Preflight, ground ops, taxi, and takeoff were all normal. While repositioning for a follow-on Basic Flight Maneuver (BFM) engagement, 1Lt Mayfield smelled a strange odor and noticed some smoke in the cockpit. He immediately selected 100 percent oxygen and called for termination to investigate the problem. After informing his flight lead, 1Lt Mayfield took the lead and began a turn towards the nearest divert field. During the climb towards Michael AAF, 1Lt Mayfield got a master caution light and an indication of low engine oil quantity. Realizing the severity of this engine malfunction, 1Lt Mayfield continued the climb to get to a 1:1 glide ratio at Michael AAF. 1Lt Mayfield ran all the associated checklists and began an immediate descent for a potential flameout landing. The oil pressure indicated between 5 and 10 pounds per square inch (psi), well below the acceptable limits. During the

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descent to the runway, 1Lt Mayfield entered the weather at approximately 17,000' MSL and broke out at 13,000' MSL. Once clear of the weather and with the runway now in sight, 1Lt Mayfield got a warning light for the extremely low oil pressure. Realizing that the engine might quit at any point now, he displayed outstanding airmanship by bleeding off excess energy and lowering the landing gear on short final. With a safe landing gear indication, 1Lt Mayfield executed a textbook alternate entry flameout landing, putting the aircraft safely on the deck about 1,500' down the runway. The aircraft was safely stopped on the runway with 4,000' remaining and was then shut down in accordance with the checklist guidance. Maintenance analysis revealed that the engine was on the verge of failing at any moment due to the excessive loss of oil. 1Lt Mayfield displayed superior situational awareness and phenomenal airmanship in dealing with this extremely serious emergency. His quick analysis and actions prevented further damage or loss of a valuable Air Force asset and possibly the loss of life.



Weapons Safety

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This consummate professional's positive attitude has had a profound effect on the success of ACC's premier Air-to-Ground Weapon System Evaluation Program (A/G WSEP). He is personally responsible for the safe execution of weapons loading conducted during all A/G WSEP assessments. TSgt Nightingale has astounded senior leadership by showcasing his vast technical knowledge of precision-guided munitions (PGM). During an intricate weapons post-load inspection of the recently fielded Wind Corrected Munitions Dispenser (WCMD) TSgt Nightingale noticed weapons load crew checklist fuse setting procedures did not match basic technical order (TO) guidance. Realizing procedures from the TO were the governing directive, he immediately halted all loading operations and contacted MAJCOM munitions managers and WCMD special programs office directors for further guidance. All parties concurred on his findings and immediately issued an Urgent Interim Operational Supplement amending all loading checklists Air Force wide. This serious oversight would have had catastrophic results if

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not identified. In a separate instance, his sheer attention to detail prevented yet another disastrous situation when he discovered several fin retaining bolts untorqued on two BDU-56 full-scale munitions. Again, he stopped the task, directed appropriate corrective actions, and ensured training deficiencies were not the cause of the incident. TSgt Nightingale's talents extend far beyond his PGM knowledge. His rare inquisitive nature led to an assessment of all programmable ground radios used by WSEP and evaluated transient personnel. This extensive review revealed nonexistent ground emergency frequencies. These frequencies are an Air Force requirement for anyone working on the flight line, especially deployed maintainers not familiar with Eglin AFB's diverse environment. His discovery fixed an essential link between emergency responders and participating maintainers. His actions also prompted mandatory quarterly inspections for all communication equipment. TSgt Nightingale's unparalleled approach to all aspects of performance and impeccable safety-first attitude are paramount in the 86 FWS' sustained superior safety record.



Aircrew Safety

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Maj Edward Presley, 1Lt Brian Ranaudo, Capt Robert Olson, and Capt Michael Gerney, call sign "Tiger 41," were lead of a two-ship B-1 continuation training mission performing simulated interdiction missions for the 37th Bomb Squadron in the Powder River Military Operations Area (MOA). During air refueling, the crew noted decreasing hydraulic fluid quantity on hydraulic system number four. The wingman was asked if they saw any trailing fluid, with a negative response. Shortly thereafter, the number four hydraulic system failed from fluid loss. A disconnect was initiated from the tanker, and the crew elected to return to Ellsworth AFB for recovery of a relatively minor emergency. During the subsequent Return to Base (RTB), there was an electrical transient that caused most cockpit instrumentation to momentarily fall off line. The number four generator failed, causing the System Integration Panel (SIP) to trip bus tie number two and the number four load contactor. The SIP should have closed bus number two after the generator was taken off line, but failed to do

Maj Edward R. Presley, Capts Robert N. Olson, Michael S. Gerney, and 1Lt Brian M. Ranaudo, 28th Bomb Wing, Ellsworth AFB, South Dakota

so. This resulted in a loss of power to AC electrical buses three and four, and a loss of about half of the AC-powered equipment on the aircraft. Per the checklist, flaps and anti-skid braking should have worked; however, when an attempt was made to lower the flaps for landing, two of the three flap channels failed and the remaining flap channel by itself could not extend the flaps. The anti-skid system was also found to be inoperative although it was apparently unrelated to the other malfunctions. The crew elected to dump 70,000 lbs of fuel over the designated weapons jettison area, approximately 30 miles north of the base. A no-flap approach was flown with a 220,000 lb gross weight, flying at 198 knots indicated airspeed. Due to the inoperative anti-skid system, braking was applied and released several times during rollout to prevent brakes from locking up, and to keep the tires rolling. The aircraft stopped with 1,000' remaining on the runway with no hot brakes or blown tires. The aircrew's superior airmanship, astounding systems knowledge, and strong situational awareness exhibited throughout this in-flight emergency helped in safely recovering a \$280 million Air Force asset and the lives of everyone on board.



Unit Safety

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The 23rd Maintenance Squadron (MXS) Aircraft Inspection Section averted catastrophic damage and possible injury, resulting from improper maintenance actions accomplished by Depot on A-10 aircraft, 78-0674. During the "initial look" phase inspection, a 23 MXS phase crew identified over 90 discrepancies needing repair — the average amount of discrepancies typically found on an aircraft during a phase inspection is 25. One of the more notable discrepancies occurred due to improperly installed aluminum slat actuator mount brackets. TCTO 1269 specifically requires replacement of all aluminum brackets; steel and aluminum may not be mixed. 23 MXS Phase also recommended the replacement of aluminum nose and main landing gear up-lock brackets with steel ones. A faulty bracket could have caused the landing gear to remain up and locked if jammed. 23 MXS also noticed that slat actuator mount brackets contained unauthorized hardware on all four mounts, in violation of T.O. 1A-10A-3-1; improper hardware could have led to faulty slat and slat actuator operations during flight. Additionally, the right flight control roll crank rod was not properly secured; this could

23rd Maintenance Sqn., 23rd Fighter Group, Pope AFB, North Carolina

have caused uncommanded roll inputs and conceivable loss of aircraft control. Further inspection by the 43 MXS Fuel Shop revealed a leaking fuel boost pump and loose wing root attach bolts from weapons stations 5, 6, and 7. Also noted were hydraulic lines going to the left landing gear brake which were chaffing on the wheel pod bracket. Lastly, multiple foreign objects were found throughout the wing: line caps, castellated nuts, washers, and cotter pins. The 23 MXS-Phase section put in 96 hours of fuel maintenance and 48 hours of follow-on maintenance to make this aircraft airworthy again. The results of this inspection were quickly up-channeled from 23 FG QA and 23 FG Safety to Depot, where repair procedures were reviewed and revised to prevent future mishaps with A-10 aircraft.

