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The Professionals

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The pilot had completed the high altitude portion of a functional check flight in an F-105 and had descended to FL 230 in order to accomplish the rudder stop and the trailing edge flaps blow-up checks. When the flaps did not blow-up (retract) by the required airspeed, he reduced power and initiated a level off.

Suddenly there was a loud crack and the aircraft snapped abruptly and violently to the left. The pilot applied full right aileron, right rudder, and aft stick in an effort to regain control. However, when the aircraft had accelerated through 275 knots during the check, the rudder stop had automatically engaged, limiting rudder travel to only 8 degrees, and it was not enough to counteract the roll.

The aircraft entered a second snap to the left, rolling at about the same rate as the first. As the aircraft came upright through the second roll, the pilot applied considerable forward stick and extended the speed brakes. The Thud continued to roll, but at a slower rate, having lost a few knots of airspeed.



Realizing that he must further reduce airspeed in order to obtain full rudder travel, the pilot used the limited rudder available plus aileron and pitch control to "play" the rate of roll to his advantage.

Two rolls later enough airspeed was lost so that the rudder stops disengaged and full rudder travel was obtained. The use of the extra rudder enabled the pilot to stop the uncontrolled roll rate and bring the aircraft under control.

He completed a controllability check and determined that he could land the airplane. A well planned and executed straight-in approach and landing was accomplished despite a fifteen knot crosswind.

Investigation after landing revealed that the left outboard trailing edge flap support and screwjack had failed causing the aircraft to experience an immediate full split flap condition.

The pilot's calm appraisal of an extremely hazardous situation combined with his exceptional pilot ability demonstrate clearly a professional in action.



Less than two months after graduation from Undergraduate Pilot Training the pilot was accomplishing his first transition solo flight as part of his Phase I training in an F-104.

While at the top of a Lazy 8 he noticed that the nose of the aircraft continued to rise despite forward stick pressure. He immediately reduced airspeed and succeeded in lowering the nose but found that only one and one-half inches of forward stick travel were available and that both normal and auxiliary trim actuating systems were inoperative.

With the assistance of an IP in a chase aircraft, the pilot evaluated the situation and determined that the airplane was controllable in the landing configuration. Despite the restricted stick movement and only seven hours of F-104 time, he executed a flawless approach and landing. Subsequent investigation found that a stabilizer push rod had become disconnected in flight resulting in restricted stick movement.

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The quality of judgment displayed by the pilot demonstrates yet another professional in action.



The A-37 was returning to home station after a student cross country flight. When the landing gear was lowered during an ADF approach, the two mains came down and locked but the nose gear would not extend.

The IP took control of the aircraft, declared an emergency, and continued his approach while requesting RSU officer to check the position of the gear on a y. The RSU officer confirmed that the nose gear was only partially extended.

The IP then left the traffic pattern and tried all emergency gear lowering procedures, including applying both positive and negative G to the airplane . . . to no avail.

Fuel became a factor and the surface winds were approaching the maximum recommended for a crosswind landing.

The IP decided to make one last attempt to get the nose gear down by bouncing the aircraft on a touch-and-go landing. Meanwhile, he called for foam on a shorter alternate runway which eliminated the need to close the primary runway and afforded a better wind advantage for landing.

The touch-and-go failed to bring the nose gear to the safe position. The IP elected to land with the speed brake extended, using it as support for the nose of the airplane. A strip of foam just slightly wider than the speed brake was applied to the shorter runway.

The IP flew a precision pattern, touched down and fully lowered the nose into the foam. In spite of the gusty crosswind, the IP maintained perfect directional control and brought the aircraft to a stop with the nose still in the foam strip. The aircraft sustained only slight damage to the speed brake.

Outstanding airmanship, perfect ground crew reaction, coordination . . . all attributes of the professional.

During a GCI (ground controlled intercept) mission in a T-33 the pilots had just completed their first offensive attack and were in the process of making a spacing turn. The pilot in the back seat was flying the aircraft. During the turn he advanced the throttle from 82 percent to military power. The aircraft started to vibrate and the engine produced a loud rumbling noise.

The throttle was retarded to idle, then advanced again. Throttle advancement past 70 percent caused aircraft vibration and abnormal engine noise. Selecting the gangstart switch eliminated the indications only for several seconds and subsequent throttle advancement beyond 70 percent produced an overheat light accompanied by more severe vibration.

The pilots declared an emergency and requested radar vectors for a precautionary landing. At this time the slave gyro began to give erroneous indications so approach control was notified that a no-gyro approach would be required.

Maintaining optimum glide speed the pilots acquired the field visually at four miles. Final landing configuration was delayed because of the limited power available. Descent was initiated at approximately three miles and the gear was lowered and half flaps selected.

At this point the front seat pilot took control of the aircraft because of his better vantage point. He established a 20 knot high airspeed and a slightly steeper than normal glide path. As the aircraft approached the field boundary he selected full flaps. At this time the engine vibration increased drastically and the engine seized. The front seat pilot maintained precise aircraft control, shut down the engine and touched down for a perfect landing. Investigation after landing discovered materiel failure of the turbine resulting in oil loss and subsequent engine seizure.

Both pilots working together assessed the situation and took the correct action resulting in another demonstration of true professionalism.



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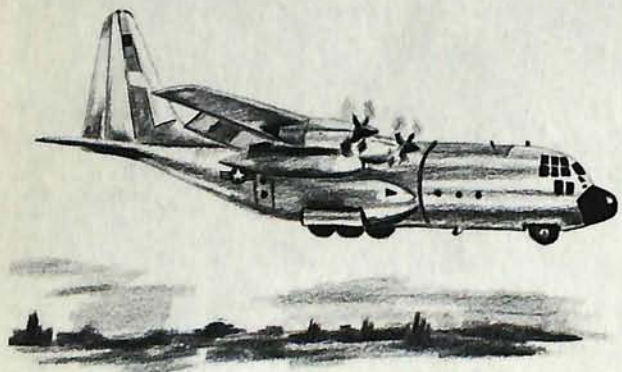


While towing an aircraft from the wash rack to the flight line parking area, the crew chief noticed an object lying in the path of the aircraft. Realizing the potential hazard, he stopped the towing operation to retrieve the object.

Upon examination he recognized the object to be a retaining pin from the afterburner flame holder of an F-4. He immediately notified the maintenance expediter of a possible unsatisfactory condition on one of the aircraft. Flying was temporarily suspended while an inspection was made on all assigned aircraft for the missing retaining pin.

Assisting in the inspection the crew chief found the aircraft which was missing this vital pin. Discovery and correction of this discrepancy prevented the possibility of an afterburner flame holder coming apart during the next flight with possibly disastrous results.

Again . . . the actions of a professional.



The C-130 crew filed an IFR clearance from a South American base to a destination in Panama. Aircraft response was normal during the takeoff roll and at lift off slightly more than normal pressure on the control column was necessary to achieve elevator response, but not to the degree to cause concern. After lift off and during climb, progressively greater physical force was required for elevator movement until finally no nose-up or nose-down elevator movement was possible. A level flight attitude was established using trim at 3500 feet MSL and the crew declared an emergency. The aircraft commander sent the flight engineer back to the cargo compartment to make a visual inspection of the boost package components. There were no leaks or apparent malfunctions. The crew then performed a series of controllability checks to determine the best configuration for landing. During the checks the control column not only required excessive pressure to effect elevator movement but pushed back against any force applied. The pilot set up a long final approach and used power and elevator trim to control the rate of descent. Touchdown was normal. Later investigation by a team dispatched from home base discovered a malfunctioning elevator cable tension regulator.

Calm actions, thorough appraisal of the situation, outstanding crew performance . . . call them professionals.



During the turn to range downwind following the third strafe pass the pilots in the F-4 heard and felt a series of

explosions, followed immediately by dense smoke in the cockpit, numerous lights flashing on the telilight panel, and erroneous command inputs to the flight control system. The aircraft commander ordered the rear seat pilot to eject because of intense heat and heavy smoke in the rear cockpit. The ejection was successful.

The pilot then made one short radio transmission declaring an emergency and turned off both generators. A wingman joined up and observed smoke and occasional flames in the rear cockpit. The airspeed indicator in the stricken F-4 went to zero and the pilot used hand signals to indicate to his wingman his desire to land on the wing.

During RTB the aircraft continued to receive strange inputs to the flight control system. Although the situation was disconcerting, the airplane was controllable. He lowered the tail hook, indicating that an approach-end engagement was necessary, then lowered the gear and flaps using the emergency systems. A successful approach-end arrestment was made using the BAK-12. Subsequent investigation revealed a malfunction of the connectors in the AC power control box, resulting in a fire in the rear cockpit.

The calm actions of the pilot plus the superb coordination of the wingman and ground personnel demonstrate once again . . . professionals in action.

The mission in the A-7 included air refueling followed by ACM (Aerial Combat Maneuvers). The refueling went as planned and the ACM portion of the mission was begun. After the first ACM engagement, as the aircraft was climbing through FL 260 the master caution and low oil lights illuminated, and the pilot noted the oil pressure at zero. The pilot immediately retarded the throttle to 75 percent RPM and initiated a straight in descent and approach while declaring an emergency. Three miles out on final he lowered gear and flaps and slowly advanced the throttle to 80 percent RPM where it remained until touchdown. After touchdown, when the throttle was retarded to idle, the engine flamed out. Total time from warning light to engine seizure was five minutes. By promptly identifying the malfunction and taking positive and immediate action the pilot saved a valuable airplane.

Split second timing, positive and decisive action . . . traits of the professionals.

These are vivid illustrations of professionals in action. There are others . . . lots of them:

- The ops clerk typing out the flight orders.
- The supply man researching a needed part.
- The radio man bench checking an R/T unit.
- The engine man replacing a turbine.
- The . . . What's your job?

