Grampaw Pettibone

Shackled Tomcat

The squadron LSO/pilot departed the outlying field LSO shack at 1920 to hustle back to the squadron for his turn at field carrier landing practice (FCLP). He arrived in the squadron area at 1945, talked briefly with the squadron duty officer (SDO) and then reviewed his assigned aircraft logbook. His departure to the flight line was delayed briefly while he borrowed an oxygen mask from the SDO. His personal mask was in the shop for repair. He then manned a waiting "hot switch" aircraft which had just returned from the FCLP pattern.

At 2005, with takeoff checks completed, the F-14 crew executed a zone 5, no-flap takeoff. Once airborne, the pilot retracted the landing gear and immediately noted "unsafe" barber poles on both main landing gear indicators, along with a "safe-up" nose gear indication, a gear transition light and "wheels" warning light. The pilot reduced power, lowered the landing gear and observed all three gear indicating "safe-down-and-locked" gear transition and wheels warning light extinguished.

The crew assessed the situation and elected to proceed to the outlying field with landing gear extended to complete the FCLP mission. After executing 11 field carrier touch-and-go landings, the F-14 departed the pattern with a VFR recovery at home base. En route, the pilot, with the concurrence of the NFO, raised the landing gear handle in an attempt to trouble shoot the previously observed landing gear discrepancy. With the gear handle up, they observed a "safe up" on the nose and left main gear, an "unsafe" barber pole right main gear, and a gear transition light. The pilot then lowered the gear handle, obtaining a "safe-down-and-locked" nose and right main gear, with an "unsafe"

barber pole on the left main gear.

The troubled *Tomcat* crew discussed the Natops procedure for an unsafe main gear with a gear transition light. The pilot again raised the gear and observed the same indication as before. Upon relowering the gear, they felt the bi-directional hydraulic pump engage and observed the same "unsafe" left main gear. Shortly thereafter, the hydraulic warning light illuminated with 2,100 psi showing on the combined hydraulic gauge. The pressure held at 2,100 psi for approximately one minute, then dropped to zero, at which time the pilot secured the bi-directional pump.

At five nautical miles south of the field, the pilot declared an emergency and executed a rendezvous on a near-by F-4 *Phantom*. The F-4 pilot verified that the left main gear was up and the gear door was closed.

The F-14 pilot next initiated emergency gear extension procedures and was successful in lowering the left main gear. The F-4 crew verified that the gear now appeared "down and locked." However, the cockpit gauge still indicated "unsafe" with an associated flashing "wheels" warning light.

Accelerating to 280 knots, the F-14 pilot applied 2.5 positive Gs and yawed the aircraft in an effort to force, unsuccessfully, a safe-gear-down indication. He then extended the hook and positioned the aircraft for a short field arrested landing, choosing not to wait for an LSO to arrive at the runway.

The aircraft touched down at optimum airspeed, landing 300-400 feet short of the arresting gear. The

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port main landing gear collapsed approximately two seconds after touchdown. The hook failed to engage the arresting gear cable.

The aircraft skidded for 2,500 feet as the pilot held full right lateral stick and right rudder to maintain directional control. As the speed slowed to 90 knots, the aircraft veered off the left side of the runway and came to rest midway between the two parallel runways. The crew ejected as the aircraft departed the runway at the 8,000-foot remaining mark.

Grampaw Pettibone says,

Great limping leg irons! A two-legged aluminum *Tomcat* sliding across 2,500 feet of rough concrete is more painful than the old turpentine and corncob treatment given four-legged fuzzy felines down on the farm. It is certainly more expensive and, in the latter case, only the cat gets a pain in the fanny.

As you might have guessed, this crew's problem resulted from failure to remove the landing gear downlocks before takeoff. Several possible factors contributed to this. First, it seems to me that the pilot had inadequate time to prepare for preflight and flight. Secondly, two unqualified plane captains were assigned to launch the aircraft. The trainee assigned to remove the downlocks was working his first night "hot-switch" launch. He was unfamiliar with procedures and failed to pull the downlocks. The more experienced plane captain failed to check the trainee. The pilot was busy adjusting the borrowed oxygen mask and overlooked the downlock removal. The NFO did not check for downlock removal. No final checker was assigned.

Up to this point, at least four people had actively contributed to setting up this mishap. These four do not include an undetermined number of operations and maintenance supervisors who may also have contributed.

Had the crew returned to base upon getting a "safe-gear-down-and-locked" indication, they may have lost the night mission but they would have saved the day! The decision to raise the gear after the touch-and-go landing resulted in the port main gear downlock swivel/shuttle valve being ripped off by the detached downlock clamp, and resulted in hydraulic failure.

Established Natops procedures are, in part, a result of lessons learned by others' painful mistakes or misfortunes. One lesson relearned here — to leave the gear down once you get it down — has just added another expensive chapter to our book. The printing cost of this lesson came in at slightly less than $1 million and, unfortunately, we are unable to buy the copyrights that prohibit future reproduction without our consent.