By LCdr. Don Pagel

A Lesson in Teamwork

It was a typical Florida summer morning at NAS North Whiting Field—clear skies and unrestricted visibility. We were a formation flight of two that began with a brief on relative-motion techniques and formation procedures. Our view of the mission was positive, the instructors were experienced, and the students were as eager as the sky was blue. Little did we know our lesson of the day would not be in section parade but in resource management and teamwork.

After taxi and run-up, flight lead reported outbound to squadron operations, where a senior-standardization pilot stood flight-duty officer (FDO). The winds were from the west as our section of two T-34Cs took off on runway 32.

When the lead pilot retracted his landing gear, a bolt linking the left inboard-gear door and left main-gear downlock sheared because of stress fatigue. The left inboard-gear door hung open on its hinge, with the landing gear in its uplocks. Our wingman, the designated section leader and senior formation-standardization pilot, advised us of the protruding door via our discrete air-to-air VHF frequency at the same time our inboard gear-

Photo by Matthew J. Thomas
Photo-composite by Allan Amen

door light illuminated in the cockpit. The lead aircraft coordinated a climb with the tower controller to hold over the airport at 2,500 feet. We resisted the temptation to delve into the systems, and instead, concentrated on flying the aircraft to the emergency-orbit pattern. Once established, I passed the controls to a calm and collected student copilot.

We followed the procedures for the inboard gear-door light and landing-gear inspection. An airborne check showed damage to the left main-gear downlock as well as the inboard-gear door. Realizing this was a compound malfunction and not specifically addressed in the flight manual, the wingman suggested manually extending the landing gear extension, instead of using the normal electrical method the NATOPS procedure directs. When the copilot hand-cranked down the gear and disclosed an unsafe-down indication, we realized it would be a long day. Our wingman confirmed the unsafe left mainmount.

With time on our side, we decided to take advantage of the experienced FDO and notified the chain of command of the ensuing unsafe-gear landing on UHF. We kept the tower informed on the VHF frequency, but they also monitored our UHF squadron frequency, allowing them to listen to the maintenance discussions. The flight read through the unsafe-landing-gear checklist. The FDO assembled a troubleshooting team of instructors and had the airframe and quality assurance shops on the phone. Before throwing any switches, we consulted with the professionals on the ground.

The wingman described the visible damage, while lead relayed the cockpit indications. The airframe technicians concluded that the fore-and-aft braces were down and locked and advocated a gear-down landing. They felt there was a high probability of a successful rollout as long as side loads were minimized. The instructors agreed, which boosted our confidence. I elected to leave the gear in its present condition and land using the unsafe-main-gear checklist. The tiger team of instructors and maintenance personnel evaluated each step of the emergency procedure to determine how it applied to the existing damage. With time still on our side and 2+30 hours of fuel to burn before landing, our risk management discussion continued: over-full flap or no flap, engine or no engine, electrical power or not, and crosswind considerations for side-loading effects.

I told the tower our intention to land at NAS South Whiting Field, our landing time, and our estimated fuel remaining. The north-tower controllers gave this information to the emergency fire, rescue and medical personnel, and coordinated the handoff with south tower.

As the pieces fell into place perfectly below us, we noticed the morning crosswinds increasing and assessed the risk of landing with greater side loads or less fuel. Runways 23 and 32 were available and both were 6,000 feet in length. The winds varied from 270 to 290 degrees, at 10 knots. Side loads would adversely affect the left-main gear. After weighing the crosswind effects on touchdown versus landing rollout, and then practicing approaches to each runway, we elected to use runway 23.

Practice approaches in the actual landing configuration were essential. The procedure prepares the crew for evacuation after landing by opening the canopy, requiring the use of oxygen masks, and securing the engine after touchdown. We simulated the latter by having the copilot touch the fuel-control switch when directed. The high humidity of the gulf-coast air initially obscured all glass gauges, but they cleared by the second practice run, when the cockpit temperature had equalized with the morning heat.

As the winds grew stronger, we decided it was time to test our theory and requested a full-stop landing. As practiced at flare altitude, the copilot secured the engine. The aircraft accelerated as the propeller feathered and floated in ground effect for 2,000 feet. The plane touched down on the right side of the runway (the good main-gear side) but, to our surprise, maintained a 60-knot groundspeed. We applied symmetrical braking to decelerate but also to avoid side loading.

The aircraft stopped on all three wheels with 500 feet of runway remaining. The crash crew pinned the main-landing gear, and we returned to maintenance control to fill out the paperwork. The aircraft returned to service in two days.

I want to focus attention on the people behind the scenes. As a customer that day, I received total professional support from my shipmates. I could not have picked a better team. Aircrew-coordination-training skills were apparent in the air and on the ground. Our two students got a lesson in resource management and teamwork, which they will depend on in the fleet.

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