Hard-Learned Lessons

TEXT BY J. GARY TRICHTER . ILLUSTRATION BY KEN STEACY

T WAS A cool September Saturday morning at Houston's Hobby Airport when the Raytheon line personnel towed my Hispano Aviacion Casa Saeta twin-engine jet fighter/trainer to the ramp. The CAVU weather could not have been better for giving rides to some deserving friends. At 8 a.m., having strapped a parachute on my first backseater and buckling him in, I taxied to Runway 22 for a southeast departure to Galveston.

The wind was out of 130 at 6 knots. The tower cleared us for takeoff and told us to climb to 2000 feet and turn to a heading of 150 degrees. I throttled up, and we quickly reached Vr. The maingear followed the nosegear off the pavement. As the gear retracted into the wells at 300 feet in our climb, the controller called out words that no pilot ever wants to hear: "Saeta four hotel alpha, you are trailing an awful lot of smoke."

I had already started a left bank toward 150 degrees as the controller finished her warning. My first thought was that I must have accidentally bumped on the smoke toggle switch, but that glimmer of hope disappeared when I saw that it was in the OFF position. By now, I had climbed to 500 feet and was on a heading of 150. My scan indicated that the oil pressures and engine temperatures were still in the green. I remembered the old cliché: "Where there's smoke, there's fire" and said to myself, "Look for the fire and land now."

I saw no fire, but there was, indeed, a lot of smoke coming out of the right side of the engine cowling. The smoke was being swept under the wing. Continuing my scan as I throttled back, I still saw no fire indications on my gauges. The fire detection light was off, and I could not determine from the gauges which engine was causing the problem. I rechecked the "fire" light by depressing it again, and it worked just as it had during my preflight.

"Tower," I said, "Saeta four hotel alpha is requesting an immediate return to Hobby." The controller responded with "Four hotel alpha, you're cleared to land on 22."

Now Hobby has several runways: 17/35, 4/22, 12L/30R (7600 feet long) and 12R/30L (9000 feet long). Although I'm

no rocket scientist, I knew three things. First, I knew that I needed to get the fire out and land immediately. Second, since I was on a 150-degree heading, it was a lot smarter and quicker to land on either Runway 30R or 30L than it would be on 22. And third, I knew that in most landing emergencies, pilots either undershoot or overshoot the runway—I did not want to join that pilot fraternity.

Hatching a Plan

I radioed the tower, saying, "I want runway 30L." I thought I could protect myself from the undershoot by landing one-third down the runway and protect from the overshoot by landing on 30L, the long runway. The controller's response surprised me: "Four hotel alpha, are you declaring an emergency because you are not cleared for 30L?" I thought, "Wow! I'm still smoking; I've got a probable fire. Can she really think I want to stay airborne to practice my skywriting?" Not fearing paperwork, I transmitted in no uncertain terms: "Tower, I'm declaring an emergency, and I want 30L!"

I was already turning either a short base for 30L or a downwind for 22, if the long-and-close runway (30L) was unsafe for any reason. Like music to my ears, the controller—now sounding like an angel—announced that I owned 30L. "Four hotel alpha, you're cleared for 30L." "Roger that," I responded. I began reviewing emergency procedures as we descended through 300 feet: engines shut down, fuel off, gear down and locked, and flaps down. The fact that I remained calm and kept telling myself to fly the plane and not get distracted would have made every flight instructor I ever had proud.

This was my first experience as a glider pilot, and I found the lack of the familiar turbine engine sound a bit unnerving. I was particularly happy that I had chosen the long runway, because there was a tailwind and because I was a little hot on my approach, but neither would be a problem with 9000 feet of runway. As we reached 250 feet, I calculated that we were right on the money for our landing spot, approximately 2000 feet down 30L. I began to concentrate on not overshooting the end of 30L.

We've Got Company

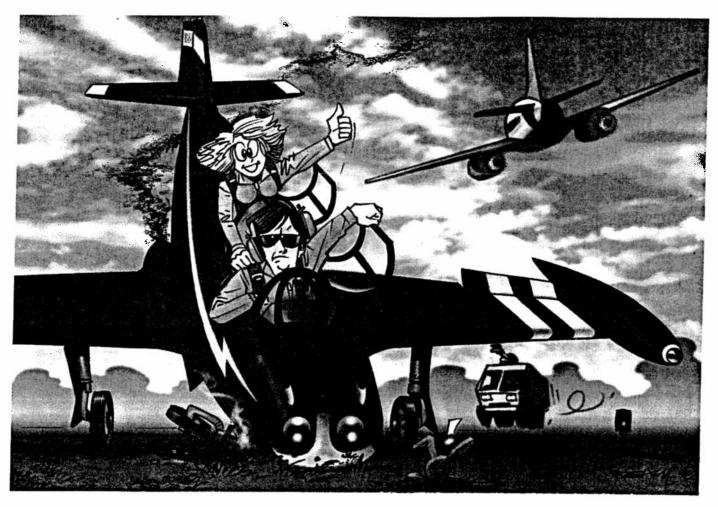
Looking down to the far end of the runway, my heart skipped a beat as I saw the unexpected: a commercial Boeing 737 jet landing on 12R. (That's in the opposite direction on the same runway, for the directionally impaired.) It was only 20 feet off the deck and about to touch down when I queried the tower about my ownership of the runway. Realizing the error in not rerouting the Boeing due to the emergency, the controller immediately transmitted to it, "Go around and abort to the right! Abort to the right!"

Those few seconds seemed like an eternity. I jokingly thought to myself that machine guns or missiles would be nice to have now and that this was a terrible time to be a glider pilot. It was clear that it was the end of the line for me and my backseater, as well as for those on board the 737—unless either I or the Boeing crew ended this accidental game of chicken.

Then, it happened! The 737 throttled up just as its mainwheels touched down in a burst of smoke. It slowly climbed as it sidestepped to the right. That flight crew handled the situation well, and in my opinion, the airline was lucky to have them. Clearly, emergency training does pay off.

As the 737 continued its climb, I felt my heart skip another beat, because I remembered that the big iron had generated wake turbulence on the goaround. Even with the Boeing gone, there was danger lurking ahead. I was only 150 feet above the ground and made the decision that it would be safer to lower the nose, pick up speed and sidestep to Runway 30R (the short one), rather than enter the invisible horizontal tornadoes that waited ahead.

The plan seemed to work as we touched down beyond the numbers on 30R, but the Saeta had come in hot, and the end of the runway was approaching fast. I applied the brakes and kept us on centerline as I tried to stop. We were still rolling at about 15 knots when the plane entered the grass and I entered the fraternity of overshoot pilots. I pulled the stick back as I had been trained to do for soft fields. We bounced through the unleveled grass. It took approximately 200 feet to finally stop.



Within seconds of the nose hitting the ground, I had the engines, fuel and electrical off, but not before I heard my backseater say, "Cool! This is great!"

Evacuation and Realization

Upon stopping, I told the tower we were OK and that we were abandoning the aircraft in case of a fire. I turned off the battery master as I heard the fire and rescue units moving toward us. It was good to hear their engines roaring near after not hearing mine for a while. As I stood on the wing opening my backseater's rear canopy, I felt stupid for forgetting to jettison the canopies during the emergency so we could evacuate more quickly.

I still saw no indications of fire or apparent damage to the Saeta and realized we were very lucky. In fact, that is exactly what the fire and rescue crews, the city marshal, my mechanic and the FAA all said. My backseater said it was the greatest adventure of his life; he was ready to go up again as soon as the plane was repaired. I told him we were through for the day and that after I finished the paperwork, I would buy him a beer.

A subsequent inspection by my A&P revealed that an oil line to the right engine had ruptured and allowed oil to

spill on the outside of the burner can, causing it to act like a smoke pump. My quick throttling back and shutdown prevented any engine damage. I later (before the beer) went to the tower to personally thank the controller for her help.

The FAA paperwork was a breeze. They said I did just fine. My mechanic did a thorough inspection of the Saeta, including a gear swing, and found no problems. The jet was declared airworthy again after the oil line was changed. My mechanic was incorrect in thinking the plane was now airworthy—but there's more to that story. I also made it a point to make friends with the fire and rescue crews and to personally thank them. Little did I know that I would see them again in two weeks. At least we were already friends!

Here We Go-Again

With the exception of the smoke soot to be cleaned off, the plane was unscratched. My A&P said I'd be good to go after some high-speed taxis. Everything looked and felt good as the

Saeta accelerated to 60 knots on the taxi test. It wasn't until I throttled back and started to apply brakes that I felt a "tremor in the Force." The nose began to shake violently. This was not the first time I had experienced this type of shaking. It happened before in a Cessna 172 and a Beechcraft Bonanza 35 when the shimmy dampers were low on hydraulic fluid. Indeed, it had even happened some months before in my Saeta due to leaky shimmy damper seals. My mechanic's words mirrored my thoughts when he said he believed the shaking was the result of a shimmy damper that had worn out over time and needed replacing.

Three days later, with a replacement shimmy damper on the nosestrut, we performed another high-speed taxi. The ground test was much better, but we still had a little vibration. My first thought was that we needed to reservice the shimmy damper with hydraulic fluid under pressure to remove any remaining air. With that done, I thought, as in a

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AIRBORNE ADVENTURES

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variation of the '60s rock-and-roll song, there would be "no more shaking going on." The mechanics concurred and reserviced the damper while I rescheduled my friends' rides for the following Saturday morning. Regrettably, I did not do another high-speed taxi check.

One More Try

Saturday brought another perfect CAVU day. On arrival at the airport, I saw that the Raytheon line personnel had already towed the jet trainer to the ramp. During my meticulous preflight, I confirmed that everything was in order and that oil and fuel were sufficient for the scheduled aerobatic ride. My first backseater, a 29-year-old woman, was a first-time small-plane rider who was very anxious to join the upside-down club.

Remembering my recent emergency, I provided an extensive crew briefing not only about our planned flight, but also about our procedures if a "what if" should occur. I strapped my backseater in, got a clearance and taxied to our runway. The tower gave us the go and we were off.

The flight to Galveston's coastline was both beautiful and unremarkable. We did a series of rolls, loops and half-Cubans that any airshow crowd would have applauded. We flew for about 30 minutes before heading back to the airport. Houston Approach passed us off to Hobby Tower, and we were cleared to land on Runway 4.

The Saeta crossed the numbers at 85 knots. The mains touched down at 80 knots. It was a greaser! I held the nose off until about 70 knots, and upon letting it down, all hell broke loose. It was the worst shaking I had ever experienced. "That shimmy damper is gonna ruin my day," I thought. I quickly pulled the stick back to get the nose in the air again and used aerodynamic braking for as long as the wings would continue to generate lift. At about 45 knots, the nose came down by itself, and the airplane earthquake started again in all its fury. I estimated it was at least a 6.0 on the Richter scale. We had approximately 4000 feet of runway left as I gingerly applied brakes to try to get through the shaking.

Then, it happened. Another emergency! The nosegear collapsed, and the jet fell to the runway pavement. I had no time to declare an emergency, nor did I think about it. All I could think to do was to control the airplane until I could come to a complete stop and to try to take steps to prevent a fire. The nose, scraping down the runway, created an awful sound and a shower of sparks you

would expect to see at a July 4th fireworks celebration.

Again, just like with the overrun emergency, my training paid off. Within seconds of the nose hitting the ground, I had the engines, fuel and electrical off, but not before I heard my backseater say, "Cool! This is great!" Oddly, having not flown in a small plane before, she at first thought this was a normal landing. The few seconds we scraped along felt like an eternity. I must have hit the brakes 50 times to keep us close to centerline. Everything remained in slow motion until the Saeta came to rest about 500 feet from where it had taken it on the chin.

I saw no sign of a fire, but I did hear the fire and rescue trucks coming. Never in my wildest dreams did I expect to see them again so soon. My first thought was to get out and attend to my passenger. She was uninjured and smiling as I unbuckled her seatbelts, unplugged her helmet headset and helped her out. We were 75 feet away from the plane by the time our rescuers arrived. Recognizing me from the previous emergency and observing that we were OK, the fire chief exclaimed, "Next time you decide to fly, how about giving us some advance notice so we can be ready for you?"

In the End

Once again, the paperwork was a breeze, and the FAA was understanding. helpful and forgiving. The incident was followed by both good and bad news. The good news was that my passenger immediately asked when we could fly again (she's one of those no-fear people), we were alive and well, the Saeta was partially insured and I got the chance to see my fire department friends again. The bad news was that the plane was not well, only partially insured and was subsequently totaled by the insurance company.

Examination and analysis of the damage provided evidence that the culprit may not have been the shimmy damper at all but was, instead, a crack at one of the attachment points for the nosestrut to the fuselage. It was this crack that probably allowed the strut to shake so violently, causing the attachment point to break free, causing the nosewheel to turn 90 degrees to the left, causing the collapse and finally causing the strut to freely bang up the area between the engines and total them.

I've learned a lot from these two emergencies, and I hope that I have passed those lessons on to you. The Saeta has been replaced by a North American Trojan, a T-28C, and my friends have all had uneventful rideswithout meeting my fire department friends.

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