Thirty-five Years at the Outer Marker

Training on the 707 and DC-8

After many years of slow climbing, stubborn starting, vibrating, shimmying, smoking, oil dripping, oil streaked propeller aircraft, what a delight the new jet liners were.

Even on the coldest days, getting the jet engines running was about as difficult as striking a match and tossing it into a bucket of kerosene. On the ground and in flight the quiet and smoothness in the cockpit was uncanny and during starts it was almost impossible for a cockpit crew to determine that an engine was running without instrument reference. When ready to take off you simply pushed the throttle forward and went, which was very simple powerplant operation after so many years of juggling manifold pressures, cylinder pressure gauges, engine rpms, cylinder head temperatures, propeller pitch, etc.

The jetliner's climb profiles and climb rates were nothing sort of incredible and could be likened to lighting the fuse on a rocket. Very often after a night flight when we had been training at Grumman Field near the east end of Long Island, our final takeoff for home at Idlewild Airport, about 60 miles west, would be to the southeast away from home and at very light gross weights. A gentle bank after liftoff then climb at maximum angle of climb speeds with rated thrust would produce very fast climb rates. At completion of a 180-degree turn, our course reversed and headed west for home, we could easily have reached 12,000 to 14,000 feet. From there the throttles would then be closed and the airplane quietly glided back to our base field, the evening challenge being to effect the entire glide home and touchdown on the runway without once touching the throttles. Few people believe that the 707 glides like an old seagull!

In February of 1959, along with a flight engineer, I was positioned at London to conduct pilot training on a layover aircraft that arrived each midnight after an Atlantic crossing from New York. The airplane was

by Holland "Dutch" Redfield

scheduled for return to New York early the next morning.

So it could be prepared for the scheduled return flight, it was necessary that the airplane, when trained, be returned to London maintenance crews by 5 a.m. Even if the eastbound flight from New York arrived on time, with off-loading, fueling, etc., we would be fortunate if we got underway with our training by 1:00 o'clock in the morning.

Captain Jim O'Neal at that time was Assistant Chief Pilot, Training and my boss. When I departed New York for my London assignment Jim's instructions to me were, "We need these pilots badly. Get out there and train and no matter what, weather or anything else, you are to get that airplane back on the blocks in London in time for its morning departure, you hear?"

London weather in the wintertime is notoriously poor. With only a few months experience on the airplane myself, my first takeoff for night training was at 2:00 a.m. in very poor visibility with my student, Jack Mattis, who had never been at the controls of a 707 before. When Jack rotated the airplane to liftoff attitude the cockpit itself was quickly in the fog and we were "on instruments," although the main landing gear trucks were still rolling down the runway. Between Jack's unfamiliarity with the airplane necessitating some coaching by me, and my unfamiliarity with London area and some coaching by him, the two of us had a handful of airplane and area navigation for the first several minutes following liftoff.

Our plan was to each night train in the Shannon, Ireland, area and in a short while we were overhead doing air work exercises, stalls, emergency descents, and practicing Dutch roll recoveries in the moonlight on top of a beautiful cloud cover. Later we descended into the Shannon airport traffic pattern for ILS and landing training. This was a typical training flight on nights that the airplane arrived from New York in time for us to fly.

Returning one very early morning from Shannon we were advised via radio by Pan American's London dispatch office that London weather was 1,000 yards. A short while later the visibility was 800 yards, then 600. As we began our straight in approach to land, we were given a report of 400 yards.

This was considerably below scheduled airline weather minimums for the 707 at that time and although it was policy for Pan American training aircraft to adhere to line schedule minimums, it was not mandatory. Remembering Jim's stern words about getting the airplane back in time to meet the morning schedule, "No matter what!" a decision was made to try an approach and execute a go-around should nothing be seen. To my students I did suggest that perhaps I should fly this one and take the blame if we missed and had to return to Shannon.

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The early model 707s were equipped with a Flight Director instrument that beautifully assisted the pilot in tracking the instrument landing system localizer beam to the runway. However, its computer tracked the descending glide path beam very loosely and because of this it was accepted technique, while modifications were in progress, to fly an ILS approach using the Flight Director for localizer tracking only, while flying raw data glideslope as displayed on the ILS indicator.

There was no wind and the early morning damp air was stable and very smooth, so flying the approach in this manner was not difficult. The first airport lights that we saw were the side lights along the edge of the runway that bloomed into view simultaneously with the runway threshold lights streaking beneath the nose. We closed the throttles and landed with a thump.

Today, approaches with 1200 feet runway visual range, and less are commonplace, but we all gulped a few times that dawn morning as we slowly descended through the mists of London to the unseen airport.

Returning from Shannon another early morning, we were being vectored around the field for a right turn onto the London ILS, for a landing to the west. As usual, early morning visibility was again marginal at the time the ground based radar controller gave us our final vector to the localizer beam and cleared us to make our approach.

As we neared the glideslope my student asked for gear down and the landing gear handle was placed in the down position. At this time, Jack Cross, our flight engineer, called out, "Hey, you guys, we've just lost our primary system hydraulic fluid!"

Because of the failure in the hydraulic system, the landing gear and wing flaps were only partially extended. The control tower was apprised of our problem and we requested a wide 360 degree turn to provide time to manually lock into place the dangling nose and main landing gears. Engineer Cross quickly obtained the landing gear hand crank from its stowage place, opened the access plates in the flight deck floor and never before, or since, have I been witness to a 707 landing

gear manually extended so quickly.

As we again turned onto the ILS course the second student, who was occupying the cockpit jump seat directly behind the captain's position volunteered for practice to operate the emergency flap extension switches on the overhead panel for the flying student.

When we started down the glideslope, full flap was requested but our assistant quickly became confused in the operation of the two flap switches and in short order had the inboard wing flaps extending and the outboards stationary, which produced a strong pitch up tendency. Then, as he hastily attempted to correct the switching error, he next had the inboard wing flaps retracting and the outboards extending, which resulted in a strong pitch down tendency.

Though experience is a good teacher, the weather was rapidly deteriorating and the asymmetrical and changing flap positions were having a powerful effect on longitudinal pitch trim making control of the airplane and flying the glideslope beam difficult. The student attempting to fly the ILS was having considerable trouble so I finally suggested our neophyte flap operator leave the flaps were they were. After a minor speed adjustment we landed the airplane trimmed for the unorthodox flap configuration that we had.

Without hydraulics we were able to just clear the active runway but it was then necessary to get towed back to the ramp because of dissipated brake pressure and no nosewheel steering. The airplane was several hours late for its westbound departure from London that morning.

Not long after Pan American put the Boeing 707s into service they also put a much smaller fleet of Douglas DC-8s to work. It wasn't until six years following my 707 qualification that I was to also qualify on and be in a position to pilot train on the airplane.

A long-time associate, Dick Patterson, had been an instructor and check pilot on the DC-8 since the airplane's onset with Pan American. Upon completion of ground school the two of us flew Eastern Airlines to Miami where Pan Am DC-8 equipment was more available and here Dick gave me my training and checked me out on the airplane.

Following six years of daily activities on the 707, perhaps I was a bit prejudiced, but anxious to find out a few things about the airplane. The DC-8 cockpit was far roomier and the airplane's low level handling characteristics were, in my view, much better than the 707. Although less economical to operate, its unfanned pure jet engines gave the airplane outstanding performance at

low levels and it was a delight to fly.

A few experiments alone with the airplane revealed it to be every bit as susceptible to high yaw snap and Dutch roll as was the 707. Unless he had some previous 707 experience, a typical DC-8 pilot did not seem to recognize a Dutch roll when he saw one, nor did he know how to stop one once triggered. I never could find out why the Pan Am training department did not train to Dutch roll with the DC-8. It was, however, a great airplane that established a very impressive safety record with Pan American and other airlines.

The department's newly appointed Assistant Chief Pilot, Training, John Walker, was later assigned to me for his DC-8 transition training from the 707. My work must have pleased him because not long afterward John appointed me Chief Training Captain for Pan American's New York base and the responsibility was savored for the next 11 years until retirement.

A very strange thing was seen aboard a Pan Am DC-8 training flight one night. It was being operated by Pan Am Instructor check pilot Ed Martin; alongside of whom I worked for many years.

The DC-8 was being trained at Grumman Aircraft's Peconic airport near eastern Long Island on a moonlit night in late summer. The captain trainee, Emery Martin, had just completed his periodic flight check and was aft in the main cabin resting. The First Officer, Claire Getz, was seated behind the vision obscuring hood in place between the copilot's position and the plane's windshield. As the aircraft was passing over the south shore of Long Island, northeast bound on the ILS system, a strange and bright orange light was noted a considerable distance ahead, low and moving northwestward from a position above the town of Riverhead lying to the east of the airport.

Shortly after noting the light, the flight was contacted by the control tower with a request that they discontinue their approach to runway 5 that was now in progress and instead circle to runway 32, due to unidentified traffic that the tower had observed crossing the field to the northwest where it had reversed its course and was not headed back toward the field.

In conformance to the tower's request, at 800 feet the DC-8's obscuring instrument hood was lowered, then a right turn made off the ILS course so as to enter a close-in downwind leg for runway 32, circling south of the airport at low altitude for a landing to the northwest.

As the trainer was being rolled out of its base leg turn and the wings leveled for the short remaining descent to the runway, the crew noted something very strange just southeast of the airport's boundary headed directly toward them at about 400 feet and to the DC-8's left. As the mysterious thing neared, then passed below, Ed Martin from his left pilot's seat was in a position to look straight down on whatever it was, seeing a disc-like shape resembling two huge turtle shells with their connecting edges welded together. It shone silvery metallic in the moonlight and emanating from many ports around the craft's circumference were nozzle-like blue flamed lights flickering about its outer periphery in sequenced theatre marquee fashion. Although viewed in the moonlight it appeared at least 100 feet in diameter and seemed moving at a speed of about 100 to 150 knots as it passed below.

The mysterious craft passed beneath the DC-8's wing then disappeared to the southeast back toward Riverhead town where it had been first seen. The Pan Am trainer continued its approach and it wasn't until the landing roll was nearly completed that the crew seemed to come to with each excitedly asking the other, "My gosh, did you see what I saw?" Then the control tower operator called as the DC-8 was clearing the runway and a two-way very excited conversation also ensued on what he too had seen from his position in the tower.

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It later developed that on the same night and at about the same time there were several "strange flying object" reports from nearby communities and the next day's newspapers were full of it. All reported the same bright orange light shining downward from the craft's underneath and the flashing, flickering outer periphery lights.

The next afternoon Martin was scheduled for a flight which was to again take place at Grumman Field and prior to departure Ed called Grumman Tower to make the usual check on field conditions, approach facilities, etc. In the process he mentioned his participation in the previous evening's strange happening. Immediately an iron curtain seemed to drop. Grumman Field is a U.S. Navy facility.