NEWSLETTER

THE FAA MAY HAVE OVERLOOKED AN IMPORTANT REGULATION (STANDARD)?

§ 25.867 Fire protection: other components.

(a) Surfaces to the rear of the nacelles, within one nacelle diameter of the nacelle centerline, must be at least fire resistant. (I estimate this would be approximately 10 feet either side of each engine.)

(b) Paragraph (a) of this section does not apply to tail surfaces to the rear of the nacelles that could not be readily affected by heat, flames, or sparks coming from a designated fire zone or engine compartment of any nacelle.

[Amdt. 25-23, 35 FR 5676, Apr. 8, 1970]

NOTE: CFRP —the composites used in the 787 are not FIRE RESISTANT AND MAY BURST INTO FLAMES WITHIN A MINUTE OR TWO AFTER BEING EXPOSED TO A FLAME. I estimate the 787 has more than 50,000 pounds of flammable EPOXY resins that can SOFTEN, MELT and BURN . . . . Sorta screws-up the FAIL SAFE Concept of § 25.571 Damage tolerance and fatigue evaluation of structure. Go to tatsco.com *and download the AUSTRALIAN GRANT REPORT.* On document page 10 (sheet 18) you will find paragraph 4.1.2, Aircraft Structural Composites: time-to-ignition. By the way*§ 25.867* MAY HAVE BEEN THE RESULT OF A June 28, 1965 707 wing fire after take-off from San Francisco.

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Pan American's Flight 843 waited at the end of the main runway at San Francisco's International International Airport for takeoff to Honolulu. Aboard the Boeing 707 was a full complement of 143 passengers, a crew of ten, two tons of cargo and 13,384 gal. of fuel. At the controls, First Officer Fred Miller, 47, went through the pre-takeoff checklist with Captain Charles Kimes, 44, a freckled, sandy-haired veteran of 16,000 flying hours who had elected to let Miller handle the takeoff. Finally, the airport tower radioed: "Clipper 843 cleared for takeoff." Thirty-five seconds later, the 266,631-lb. plane was airborne, rocketing over busy Bayshore Freeway, which borders the north end of the airport, and climbing toward a break in the hunchbacked hills of the San Francisco peninsula—and the open Pacific beyond. At that instant Flight 843 became a nightmare.

In the cockpit, Captain Kimes felt "a severe shudder," accompanied by the muffled roar of an explosion. His eyes swept the instrument panel in front of him, stopped at the altimeter, which showed 700 ft. and climbing. At the same moment, Flight Engineer Fitch Robertson called out: "We have lost power on No. 4," meaning the right outboard engine of the plane's four fan jets. As Kimes reached for his controls, the huge jet yawed wildly to the right. A fire-alarm bell sounded, and a red warning light flashed on the instrument panel, indicating that No. 4 engine was on fire.

"Mayday! Mayday!" "I've got it," Kimes called as he took over the contols. Miller, reacting automatically as a result of hundreds of simulated emergency sessions, punched a button under the flashing red light, releasing fire-extinguishing chemicals into No. 4 engine. Meanwhile, Kimes was desperately trying to keep the plane level.

Then for the first time since the emergency began seconds before, Miller was able to look out at the right wing. The end of the wing was engulfed in white fire that curled upward in a ghastly comber, spitting fragments of molten metal into the air. What Miller could not see, because his view was blocked by the inboard engine, was even more chilling. No. 4 engine had dropped off, ripping a hole in the wing skin and puncturing the wing tip tank, igniting its 70 gal. of kerosene. One-third of its 83-ft. right wing was gone. Aerodynamically, Flight 843 should already have crashed.

Hearing Miller's report that "the outer-wing tank has blown," Kimes called the San Francisco tower. "Clipper 843. Mayday! Mayday! We got problems with power here." No answer. Kimes called again, more insistently. The tower heard this time, told him that other planes in the area were holding, and that he was "cleared to land on any runway."

On the ground, hundreds had seen the explosion and fire that shook the plane as it climbed off the runway. Rancher Deloss Wilder, who had put his newlywed daughter and son-in-law aboard for a Hawaiian honeymoon, watched the takeoff in horror. "Fire broke out," he said. "Things started falling off—the engine, the wing tip. The plane was still on fire when it disappeared through the pass. I thought it had gone down. It was a terrible thing. The wing just

kept getting shorter." Miraculously, neither the engine nor the wing section struck anyone on the ground. The engine landed in a San Bruno carpentry shop, narrowly missing three workers; the burning 27-ft. by 6-ft. piece of wing fell in the yard of a South San Francisco house.

"Enough Trouble Already." "In an emergency in an airplane," Captain Kimes said later, "the worst thing you can do is make quick decisions unless you have to." For a moment the thought of ditching in the Pacific crossed his mind. But by this time he was maintaining altitude at nearly 1,200 ft. and, as he recalled, "I figured we had enough trouble already without risking a dunking."

Resisting the temptation to turn immediately back to San Francisco International, Kimes decided to head instead for Travis Air Force Base, some 40 miles to the southwest, which had a longer runway (11,000 ft. v. 9,700 ft. at San Francisco International). As gently as possible, he put the plane into a right turn and headed inland over Golden Gate Bridge. For the first time since takeoff ("I waited until I was fairly sure we could stay in the air"), Kimes spoke to his passengers over the plane's intercom system. Said he: "We have a minor problem, ladies and gentlemen. Well, maybe it's not so minor."

The passengers, many of whom had seen the 6,083-lb. outboard engine drop off, already knew that the problem was not so minor. Their first inkling of trouble came right after takeoff when someone yelled: "Look, the wing is on fire!" Mrs. William Richmond, who was filming the takeoff from her right-window seat over the wing, kept right on shooting as the wing erupted in flames. A few rows behind her, James Krick aimed his still camera at the disintegrating wing. Others were not so calm. The four-and six-year-old daughters of Kaleo Schroder, a Richmond, Calif., schoolteacher, burst into frightened tears. Two older women became hysterical. Minoru Fujioka, a civilian worker at Pearl Harbor who was on the way home after enrolling his son in the Air Force Academy, prayed "for the first time in my life."

For the most part, though, the passengers displayed an amazing presence of mind. Martin Myers, a retired oil-company employee from Media, Pa., who was on a tour with fellow Lions Club members, found himself so impressed by Captain Kimes's calm-voiced announcement that he switched on his portable tape recorder, caught Second Officer Max Webb's emergency-landing instructions to the passengers: ". . . If we use the chutes, please stay calm. Remember, you will sit down to go out the chute. Don't panic . . . When we do land, and if it is a rough landing—which is a possibility—please lean forward in your seats. You grab your ankles and stay down, or put your arms under your knees. Move as far forward as you possibly can. Do not move until we tell you what we're going to do . . ."

"Masterful Feat." In the cockpit, Kimes was nursing the crippled plane closer to Travis. As he approached the airbase, he discovered that the hydraulic system had failed and that the landing gear would not lower automatically. Now down to an altitude of only 700 ft., Kimes made a wide, climbing circle while Engineer Robertson and Second Officer Webb cranked the wheels down manually. Then Robertson crawled down through a hatch in the cockpit floor to insert a pin in the nose wheel to guard against its collapsing—a required procedure when hydraulic pressure fails.

On his final approach, Kimes saw a whirlwind at the end of the runway, right in his glide path and carrying enough turbulence to threaten the crippled jet. With a final burst of power he maneuvered around it, got back on course, and landed smoothly. As the plane rolled to a stop, gasoline seeping from cracks under the right wing, the passengers burst into applause, then scrambled out through emergency escape chutes. Twenty-five minutes had elapsed since takeoff.

Next day, with what could only be described as understatement, the Federal Aviation Agency presented Kimes and his crew with the FAA's Exceptional Service medal for a "masterful feat of airmanship."

MARK GOODRICH - AVIATOR EXTRAORDINAIRE AND AERONAUTICAL ENGINEER recently stated "Aerodynamically, structurally and operationally, aircraft are subject to the 'laws' of physics - if this were not true, they would be known as the 'good ideas' of physics".

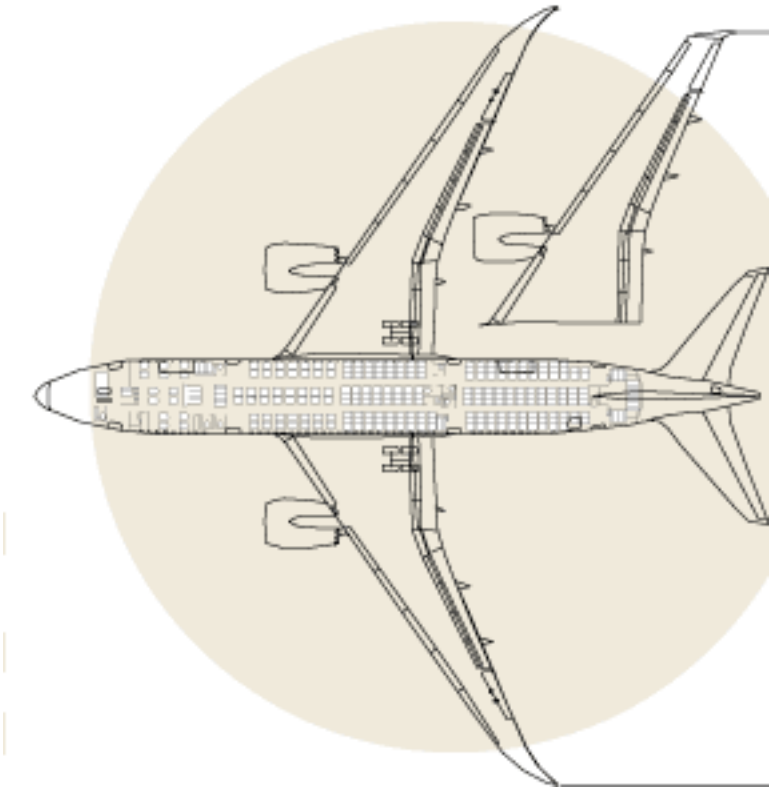
I add to that, These Laws cannot be Amended, Appealed or Revised. They may not be satisfied with Alternate or Equivalent Means of Compliance. There can be no Exceptions or Exemptions. Failure to comply with these Laws may be Harmful to your health, Damage to your property and could result in Death!

A QUESTION FOR YOU . . . . WILL THE MHI COMPOSITE WING CANCELLATION HAVE AN IMPACT ON THE 787's WING? DON'T BE SURPRISED!

NEXT ISSUE WE WILL REVISIT THE EARLY HISTORY OF THE COMET AIRLINER

ATTACHMENT to 9 December NLT

REFERENCE FAR § 25.867 FIRE PROTECTION



NOTE ALMOST ALL OF NACELLE IS FORWARD OF WING LEADING

CFRP B-2 BOMBER BURNING