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part135 notice to comment

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hi katherine fm old "Dog" Brenneman, instrument procedures guru and author of the book "the instrument departure"--im glad to see that a review of part 135 is on the horizon--it's long overdue--as a matter of fact, many regs and philosophies are in for review i hope--aviation is a scientific discipline and as such we should always question our ways--after all, columbus didnt believe the earth was flat did he now----so lets look at one significant point--the concept (and faa advice) of a takeoff in which a multi-engine aircraft suffers one engine failure is totally in contradiction to current terps thinking. many aircraft used for part 135 dont even have this concept addressed by reg! just rabbits' feet and Rosaries are used. The terps folks at afs 420 have just decided that the 48 ft/nm is an insufficient buffer over terrain and have established a new system of a 24% buffer to increase the supposed safety factor, and on the other hand, the advisory circular on engine out performance only gives 35 feet ANYWHERE of obstacle clearance. And part 135 only regulates a few certain aircraft to this 35 foot value. For example, when a part 135 beech baron loses an engine on takeoff or thereafter, only aircraft control is emphasized by the faa , and the ability to continue on an instrument departure relative to terrain under the power of one engine is totally not addressed. climb gradients on one engine as they relate to the specific departure are not examined on any check ride or are they pre-computed by pilots. Thus the outcome of such an event is pure luck. PART 135 SHOULD SPECIFY SOME VALUE (for aircraft operated under IMC), BE IT SMALL, OF OBSTACLE CLEARANCE (with engine failure) AS RELATED TO THE PUBLISHED GRADIENT OF ANY DEPARTURE. if departures require 24% obstacle clearance for all engines operating, then some % should be required for flight with one engine inop. perhaps 10% would be a good value because pilots aren't good with math and 10% is easy to figure. for example: a specific departure calls for a 350 ft/nm climb gradient. then, the part 135 aircraft (if imc) must make good this 350ft/nm gradient with all engines operating and also make good a 315 ft/nm gradient (350-35) in the event of engine failure. if the aircraft is unable to achieve any of these gradients, then the wx minimums for the departure must be used for takeoff (wx mins are published with climb gradients for those aircraft unable to achieve the gradient.) this concept should be applied to ALL 135 aircraft, not just a few like in 135.381. granted, a part 135 piper apache is not very compatible with this concept in arizona in the summer, but most aircraft will get an increased safety factor and pilots will be required to know more about the departure scenarios. therefore, because the minimum climb gradient is 200 ft/nm, all part 135

aircraft must be able to do (200-20=180 ft/nm) on an IMC departure in an engine out scenario. many 135 takeoffs are not under actual IMC due to the fact that probably many 135 ops are vfr only so the impact will be minimal in the actual world of flying. just look at it this way, (part 121 may use the same 35 feet anywhere concept) you're riding on delta to a faa convention, and somewhere shortly after rotate one of the engines compressor stalls. you're in IMC and now u have to have absolute faith that the pilots will fly the aircraft exactly on airspeed and that the charts were perfect for this aircraft and that all assumed weights used to compute the limiting weight were correct and yada yada yada. check history. Murphy generally crashes an aircraft just below the limiting terrain in these cases. the most unusual was Allegheny airlines where the aircraft hit so close to the ridge line that it actually slid up and over the top and down the backside.

the concept of a buffer over terrain must be applied consistently no matter how many engines are working when operating in IMC--and if the terpsters require a % for all engines operating, then the same thought only follows Vulcan logic when operating with one engine out, even though we may accept a reduced buffer in emergency conditions.

hope these thoughts help--old dog over n out don't call me shirley