



M.E.S.A. for Contest Flying

By Ron Ridenour, Soaring Safety Foundation Trustee

In the May 2023 issue of SOARING magazine I wrote a Safety Program article about the concept of a "Minimum Enroute Safe Altitude" (MESA). This is the altitude that a pilot should shift gears from searching for lift to preparing for landing. This article can be found on the Soaringsafety.org website - click on the Additional Resources tab then > SSF resources > SOARING reprints.

On April 2, 2026 I was participating in the 20M Nationals. The day ended under a solid overcast sky with little or no lift to be found within a radius of about 20 miles from the finish cylinder. Only one participant finished above the minimum finish altitude of 980 AGL at 2 miles from the field. Six other participants finished below that altitude, the highest was 838 AGL and the lowest was 405 AGL to a straight in landing at the airport. The one contestant who finished at 405 AGL still 2 miles from the airport and landed in a field about ¼ mile from the finish airport. He related at the pilots meeting the next morning that he thought he might land in the trees before a field appeared and he was able to land safely. Eight others, myself included, started our motors while on final glide. One pilot started his engine at 1360 AGL, a safe enough altitude but was over unlandable terrain. The other 7 pilots started their motors between 794 AGL and 456 AGL. Some were over landable fields and others were not. I began the starting sequence at about 700 AGL and was under power and climbing at 456 AGL. I was about 1.5 miles from an airport which was my 'out' if the engine didn't start. My sink rate with the engine extended but not running is about 250 ft/min, it would have been a marginal glide to my 'out' field. In hindsight, that was not a great decision on my part. I should have started my motor at about 1000 AGL as I was on downwind to that same field, but I didn't, I was still looking for lift down to 700 AGL. I want to thank a fellow racing pilot for the analysis of the flight recordings that day. For me it was very enlightening!

Fortunately, for all the pilots involved there were no accidents and no injuries but were those decisions a necessary and reasonable risk to take? For some maybe yes, for others maybe no. Since it was scored as a devalued day I don't believe it had much effect on the scores for the day.

So what is the take away from this experience? I didn't follow my own personal MESA rules of starting my engine at 1000 AGL while over or near a landable field. That was not a good decision on my part. This is not an isolated event. Analysis of contest accidents over the years, posted by the rules committee on the SSA website, reveals that many off-field landings are preceded by desperate low altitude thermaling attempts and poor patterns.

So I ask the question, is there a way that we can assist all contestants to make better decisions?

In May this year we had a Region 7 contest in Albert Lea, MN. The Contest Manager (CM) and Competition Director (CD) agreed to set a MESA altitude during the contest. It was necessary to also coordinate this concept with the Scorer, who agreed to evaluate each trace for encroachment below the MESA altitude. The current contest rules allow the CD to declare any airspace as "Closed Airspace". The MESA applies only while enroute after a valid start is made. Basically, if a contestant goes below the MESA altitude while on course his/her flight is considered to have landed out at that point and scored accordingly. The pilot then has the option to continue their flight or land and get a retrieve. It bears emphasis that the rule is not intended to substitute for the pilot's decision-making authority and responsibility. It does not tell the pilot what to do. Land, thermal out, start an engine, it's up to the pilot. The rule merely removes the points incentive for low-altitude thermaling.





During the required pilots meeting a discussion with the contestants was made. It was decided to set the MESA altitude at 2100' MSL (800'-1000' above the average terrain over the course) and the Finish altitude at 2300' MSL. This allows for finishing 200' low and not incurring a "landout" before the finish cylinder is crossed. This forces the pilots to fly more conservatively especially when nearing the MESA altitude. Also, there is no incentive to thermal at a low altitude and evens the playing field for all contestants. Yes, you can't win the race by thermaling over the proverbial teacup, but someone else can't beat you by doing that either. The CD, CM and I made a presentation about using a MESA before the competition started and it was generally accepted.

The Region 7 contest ended up being only 2 days of competition with only 12 competitors. On the first day all the competitors finished the task. On the last day we had a few landouts. One at an airport, one in a field and one who returned to the home airport after getting to the first turnpoint. I interviewed a few of the contestants and asked how the MESA did or did not affect their flying. Their response was that it forced them to fly more conservatively when they were near the MESA altitude and made the decision easy about landing out after they went below the MESA altitude. I know that I was within 300' of the MESA on day 2 and found a thermal. I was near an airport and was ready to start my engine if needed. Overall, I would say it was a successful trial.

I know there are some problems with the MESA concept, such as how to handle flying in mountainous terrain and flying on the ridge. These situations will require special considerations in order to create a safe environment to help pilots to make safe decisions.

I think that this concept needs some more testing during contests. We can start over relatively flat terrain that is found in the Midwest. We could also experiment with mountainous terrain by setting a MESA that is 1000 AGL higher than the floor of the valley at the base of the mountain. While flying on the ridge, the 1000 AGL over the valley floor probably won't work so we need to come up with a better idea.

I think it may be difficult for some pilots to get comfortable with this concept, but as we get an increase in our situational awareness we will be able to better accommodate this change for safety.

I know that a few pilots within the competition community are beginning to support the MESA concept and I hope that we can gain momentum and begin to move in that directions for a safer soaring community for all that want to participate.