

Abnormal Occurrences on the Checkride and Beyond

Tony Condon, DPE

In the Practical Test Standards under the Launches and Landings Area of Operation, there is a task titled Abnormal Occurrences which applies to the type of launch procedure being used. For Aerotow, the applicant is expected to show knowledge of and demonstrate during flight abnormal occurrences, such as: towplane power loss during takeoff, towline break, towplane power failure at altitude, and glider release failure. A dual failure of the glider and towplane is also included, but noted that it will be evaluated on the oral exam only and not demonstrated on the flight.

Normally the examiner on the test will simulate a failure by pulling the tow release at some point after liftoff. Keep a few things in mind here. First, the Examiner will not pull the release unless they know you are in a position to make a safe landing! Second, the Examiner probably spent a lot of time on the oral exam and before takeoff discussing your plan in the event of a tow failure. They are expecting you to follow your plan!

Students – Did your instructor train you to handle any possible occurrence on takeoff? Instructors – Are you making sure your students are prepared and capable to deal with a failure at any point during the takeoff from the beginning of the takeoff roll until release?

Most of the focus in training in this area is focused on the 200 ft turn around and downwind landing. However, the examiner may be just as interested in your ability to safely handle the glider after a failure just after liftoff with a landing straight ahead on the remaining runway. Alternatively, they may want to see how you deal with a failure at a medium altitude around 5-600 feet which could require an abbreviated pattern or landing on a different runway or area of your airport.

There is nothing magical about 200 feet AGL. The Practical Test Standards make no mention of it. The FAA wants you to be able to handle a failure at any point!

Many of the pre-takeoff emergency briefings that I hear go something like this: “After liftoff I’ll land straight ahead, moving to the right to clear the towplane. Below 200 feet I’ll land within 30 degrees of the runway in the best available field. Above 200 feet I’ll turn around and land downwind. Above 400 feet I’ll make an abbreviated pattern and land straight into the wind”

Many applicants, and their instructors, are locked into the turnaround. The accident record reflects this, with many examples of pilots turning back too low and coming to grief. I campaign that the turnaround is only an *option* above 200 ft if conditions allow and it is often not the best option. Your first consideration is the quality of the off airport options off the end of the runway. If there are no good options, then the runway is your best option. Now – imagine the following scenario: A strong towplane, a cool day, a 15-20 knot wind straight down the runway. These are not that uncommon of a combination in the middle of the country especially during October – April off season training times or springtime soaring days.

It is very common in these conditions that the towplane has the glider up to 300 feet agl by the end of a typical ½ mile long runway at a glider club. Turning around and landing would require some very aggressive flying to safely have the glider stopped before overrunning the downwind end of the field. What about the other gliders parked there or the stand of trees at the end? Would you rather risk going

off the end of the runway with a tailwind or make a slow landing into the wind off field? These are the kind of judgement calls the examiner wants to see you able to consider.

I've given a lot of glider instruction in windy Kansas. We fly Schweizer gliders. We have a ridiculously long runway with plenty of space to overrun on a downwind return if needed. I still don't advocate turning around if the wind is more than 15 knots. We have really good off field options off either end. I will admit I'm more comfortable than most with around 70 off airport landings under my belt but I think that it's the safest option, especially off a shorter runway or a runway without a good overrun option.

I encourage you to shift your thinking beyond the rote briefing that your CFIG has taught you and dig into the details more deeply. Your best option will change on each flying day depending on the weather and surface conditions. Think critically about the options you face before each takeoff and you'll enjoy a long career as a safe pilot. Instructors – We need to teach this subject better. This will require a lot of ground school discussing potential options at different phases of the takeoff. Perhaps a session on your clubs Condor Simulator exploring different choices is in order? Make sure to include a variety of tow failures in your training. Your students will be much better for it in the end.