

## "Emergency Plan...Check"

By Bill Palmer

When you get to the "Emergencies" item in your pre-takeoff checklist are you taking into consideration the conditions of the day? Ask yourself, "What makes this takeoff unique?" What threats are waiting to catch you off guard?

As discussed in the May 2022 column, the airlines have a safety record arguably 40 times better than general aviation. The airlines teach Threat and Error Management, which in a nutshell is trying to identify parts of the operation that may pose a threat, and then figure out how to mitigate that risk. These threats might include external factors like weather, terrain, a complex departure, and internal ones like fatigue and unfamiliarity. The identification of these threats helps us to be ready for them. We can often apply mitigations by altering the plan or being prepared to execute a predetermined emergency procedure.

When evaluating the threats, consider any identifiable factors. That way when something goes wrong you already have a plan that you just need to execute.

Items to consider include wind (and resulting tailwind landing vs. slower groundspeed landing), alternate fields available, the condition of those fields, calculated approach speed for the return (carrying ballast today?), and if it's a high or low powered tow plane. Consider the towplane's power, glider weight, and ambient conditions. A heavily loaded glider has a very different climb gradient than a SGS 1-26 behind a much more powerful ag-plane. How will the towplane's performance affect your decision to turn around? In a shallow climb, by the time you get to 200 feet will you be too far away to make it back and need some other landing area? If a turnaround is called for, consider the wind so you already know which way to go.

A steep climb (e.g., strong headwind with a high-powered towplane) risks a situation where an immediate turn around risks an overshoot. That may require continuing ahead for a few seconds to gain more room and lose a little altitude before returning.

Sure, we've all heard the briefing "below 200 feet I'll land ahead, above 200 feet I'll turn around." Really? Today? We're taking off with a headwind pushing 20 knots! The land-ahead field is going to be usable for much longer and will yield a very low touchdown groundspeed, turning around at 200 feet from closer in will give us less room to stop with almost 3 times the groundspeed (and the resulting 9 times greater kinetic energy to dissipate!).

Is there livestock, farm equipment, or big rolls of hay out in that alternate field that wasn't there last week? Is there a fence between you and your emergency field? How much room does today's glider take to stop? I can stop a high-winged SGS-2-33 with a nose skid a lot shorter than I can my long-low-winged ASG29 (plus ground effect differences) - especially if it's got 300 lbs of water that I can't get rid of instantly. Besides, I'd rather not have to dig my fiberglass nose into the ground with hard braking. When I'm looking at that emergency field I have to take today's stopping distance into account.

So, have your emergency plan consider the situation today. It may be quite different than the same glider on the same runway behind the same towplane as yesterday. What are the threats? What are the mitigations?

Let's consider them now and not wait until you hear the BANG of an unexpected rope break or see the towplane rock its wings at 75 feet.

Fly safe!

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