SPECIAL FEATURE

Adaptive Capacity and the Flight Safety Five for GA Pilots

Your lovely flight is starting to be not-so lovely. Weather is starting to creep in. The cockpit has gone quiet. What next?

By Mark Greenfield | *20 October 2026*

You are thirty miles from home and the weather is becoming less inviting. The cloud is lower than forecast, your passenger has gone quiet and the radio seems determined to interrupt every useful thought. You are still flying accurately, still legal and still expecting to get home. You are also working considerably harder than you were twenty minutes ago.

Nothing has failed. There has been no dramatic emergency, and you could probably explain each decision you have made. Yet the comfortable sense of having time to think has disappeared. You are dealing with whatever arrives next, while the question of whether you should still be going this way keeps getting postponed.

That is a moment worth recognising. It may offer a better opportunity to prevent an accident than anything you could do once the situation becomes unmistakably serious. The aeroplane can remain under control while the pilot's ability to manage what comes next is already being stretched.

But I also want to know when an ordinary flight starts demanding more than the pilot can comfortably give it.

Hmm... where did all this cloud come from? Wasn't on the forecast... I think

I use the term ‘Adaptive Capacity’ to describe the mental reserve that allows us to recognise change, update our understanding and apply our knowledge, skills and judgement as circumstances evolve. It is a practical way of looking at pilot performance, rather than a quantity we can measure on a cockpit gauge. It draws together familiar concerns about workload, attention and decision-making without replacing them. The practical question is not simply how busy you are, but whether you can still notice change and adapt your plan.

Experience helps us preserve that reserve, but it does not make it unlimited. Nor do we all have the same amount available every day. Poor sleep, unfamiliar equipment, uncertainty about the weather and pressure to get home can make a familiar flight unexpectedly demanding. Aircraft design, training, procedures and support from other people also influence how much we have left to work with.

For the GA pilot, this matters because there is often nobody in the other seat to share the flying or challenge a decision. We can become so busy making the current plan work that we stop considering whether it remains sensible. Trying harder may keep things together briefly while allowing the underlying situation to deteriorate.

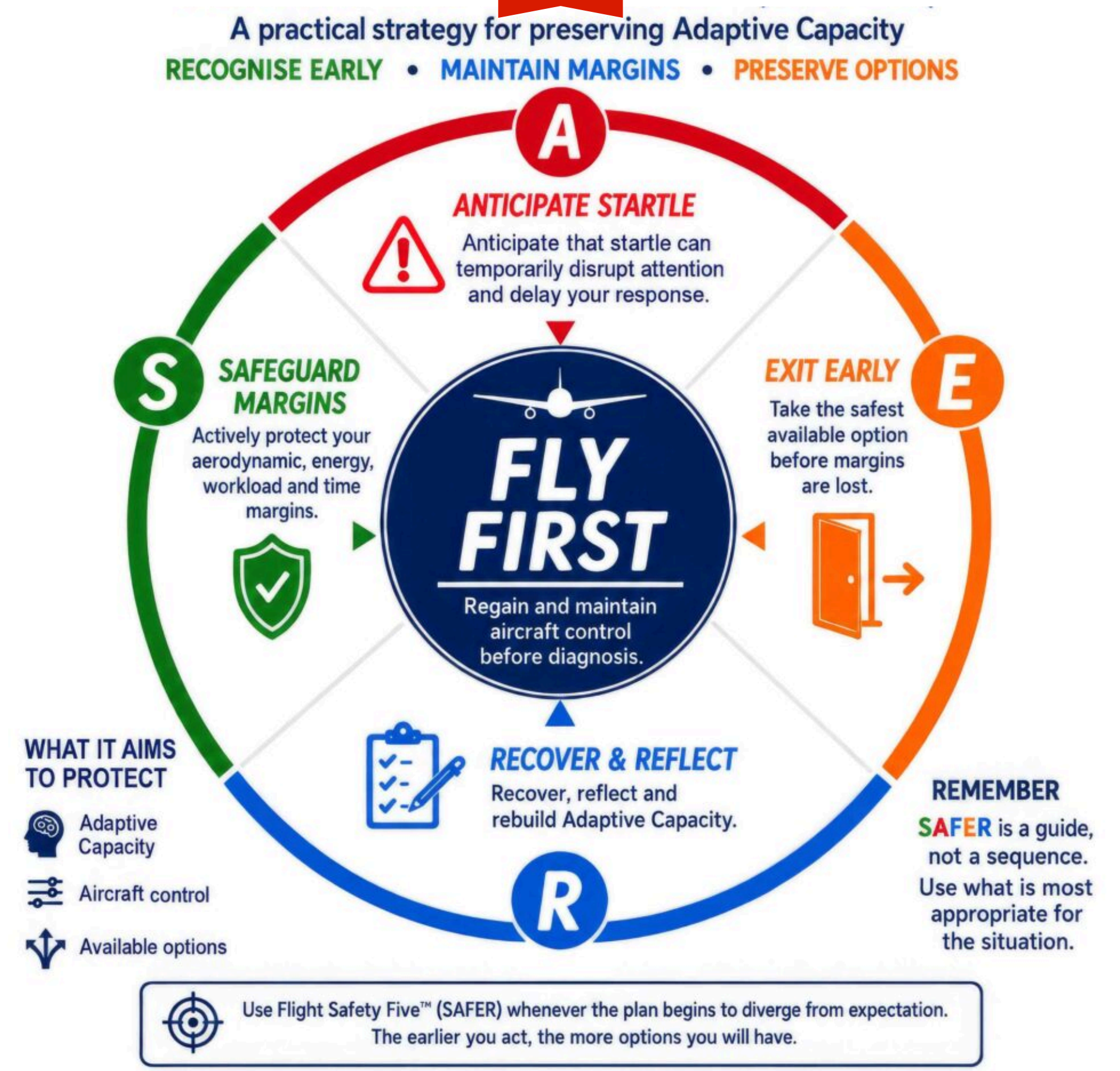
There is also a trap in treating every successful flight as evidence that our approach was sound. Sometimes a good result depended on considerable effort compensating for avoidable difficulties.

If poor preparation, awkward equipment or unrealistic expectations repeatedly leave us stretched, the answer includes changing those conditions. Asking the pilot to become ever better at coping leaves the source of the demand untouched. We should make the next flight easier to manage wherever we reasonably can.

Losing the light as well as encountering weather

One useful warning is a shrinking planning horizon. Earlier, you were considering the arrival, the weather beyond the next ridge and your diversion options. Now you are concentrating on the next radio call or the next line on the tablet. Your scan may narrow, small tasks take longer and another interruption feels disproportionately unwelcome.

These are prompts to reassess, not a diagnostic checklist. The difficulty is that recognising our own deterioration also takes mental capacity, so self-awareness alone is an unreliable defence. Decisions made beforehand, such as a firm weather limit or a fuel point for diversion, can provide a trigger when our judgement is under pressure.



Flight Safety Five

The Flight Safety Five™ is my practical response to that problem. Remembered as SAFER, it means Safeguard Margins, Anticipate Startle, Fly First, Exit Early, and Recover and Reflect. It supports aircraft procedures and checklists by helping protect the capacity we need to use them. The circumstances determine which element matters most; it is not a rigid sequence to work through during an emergency.

Safeguard Margins begins with a familiar idea: give yourself room. Fuel, height, airspeed appropriate to the circumstances, distance from weather and time before nightfall all influence your options. Aerodynamic margins matter too: pulling harder in a tightening turn can bring the wing closer to its critical angle of attack even when the airspeed looks reassuring.

Those margins also affect how much thinking the next decision will require. Choosing an alternative airfield with plenty of fuel remaining is a different proposition from having the same discussion with the gauges approaching empty.

difficult choices deserves attention while changing it is still easy. Margins buy thinking time, and thinking time helps us protect the remaining margins.

Anticipate Startle means preparing for the possibility that you will react like a human being. Surprise occurs when events do not fit your expectation. Startle is a rapid, sometimes reflexive response to a sudden stimulus. They are distinct and either can occur without the other, but both can complicate our response, particularly when uncertainty and stress are involved.

A short, realistic briefing reduces the amount of new thinking required at a demanding moment. Before departure, rehearse the immediate priorities for an engine problem in the aircraft you are flying. Before arrival, consider what would make you discontinue the approach. You cannot predict every event, but you can give yourself a practised starting point and make a change of plan less mentally expensive.

Fly First becomes especially relevant when a problem captures our attention. An engine coughs and our eyes move towards the instruments; a navigation display misbehaves and we become fascinated by the screen. Investigating feels productive, but the aeroplane still needs flying. An initially manageable problem can acquire a second problem when aircraft control or flightpath monitoring suffers.

“Fly first. Diagnose second” is how I put it to students. Establish or maintain control using the appropriate aircraft procedure, protect the flightpath and create whatever thinking space the circumstances allow. That may mean deferring a non-essential task or telling the radio that you are busy. A stable aeroplane gives you a better chance of understanding the problem than one quietly departing from the flightpath you intended.

Exit Early

Exit Early is often the element we understand most readily and find hardest to apply. We are almost home, almost on the ground or almost certain the weather will improve. Each additional minute feels like a small commitment, but it can consume fuel, daylight, distance from trouble and the availability of a convenient alternative. Eventually, the choice we postponed becomes much less attractive.

A go-around, diversion or decision to land somewhere suitable can interrupt that process while you still have options. Make the trigger specific enough to act upon, rather than relying on a vague promise to reconsider if things get worse.

For example: ‘If continuing requires me to descend below my preselected minimum altitude for this route, I will divert while a safe alternative remains available.”

Before flight, agree suitable approach stability criteria and a go-around decision point with your instructor if you have not already established them. If those criteria are not met at that point, go around.