

Airmanship – Decisions



Previous articles in this series have discussed a model of airmanship that can be described using the catch-phrase 'Detect – Determine – Decide – Discipline – Do'. This article considers the third aspect of the model, Decide.

Decisions

Decisions are things we are making all the time, in all facets of our life. Some are conscious, after much deliberation – “Do I buy the red car or the white one?” and a surprising number actually occur without any real conscious effort on our part – “Do I put the flap down now, or in a few seconds?” One study into decision making by car drivers indicated that they were often required to make decisions at the rate of up to seven per second! Some of these decisions might have been conscious – “Do I take the motorway or the back road?” – but most would likely be of the involuntary kind, relating to the actual handling of the car – speed up, slow down, change gear and so on.

Aviation and driving have a lot of similarities when it comes to decision making, so it is fair to assume that pilots must be working at least as hard as drivers. That is a lot of decision making!

This article will focus on the conscious decisions that we make relating to the overall conduct of a flight.

In essence, decision making is all about choice. You are presented with a number of options in any given situation, and you have to make a decision about which option you are going to take. A number of factors will determine which choice you make in any given situation, including time pressure, your own degree of risk aversion, your familiarity with the situation, and perhaps most importantly, the way in which you look at the options available to you.

Time Pressure

As a general rule, the more time you have to consider a given decision, the greater the chances are that you will make the correct one. A hasty or impulsive decision-making process may lead you to overlook some crucial information, or you may not have time to think through the consequences of your actions. Taking time to make a good decision is different from procrastinating, or failing to make a decision at all. People are more likely to procrastinate when choices are perceived to

have a similar result, with no one choice being clearly better than another. Failure to make a decision at all, when you know you need to make one, is often a sign of a lack of confidence in your decision-making ability. Taking the time to think through major decisions, and ensuring you collect all the relevant information, and think about all the possible consequences, is a sign of a good decision-making process. Procrastination, or failure to make decisions at all, is not.

In aviation, it is often a good idea to have made decisions and contingency plans well before the actual flight or event.

One example is the takeoff, where it should normally be possible to determine in advance what the 'go/no-go' criteria would be. For instance, in a light twin, the pilot should decide in advance that if an engine fails before a given speed, height or configuration is obtained, the takeoff must be aborted.

Personal minimums are another classic case of decision making in advance – “If the cloud base ahead drops below 1500 feet or visibility below five kilometres, then I will turn back”. By making such decisions in advance, your response when things go bad should be automatic, and will be more likely to result in a successful outcome.

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Risk Management

In a dynamic environment like aviation, risk is ever present. The decisions we make are often skewed by the amount of risk we are prepared to accept. As an example, suppose a flight from point A to point B can be flown by one of two routes. The first route is quicker, but takes you over inhospitable terrain. The second route has good terrain for a precautionary or forced landing, but will take longer. Which route do you follow? Your answer will depend on your assessment of the relative risk, and your own degree of risk aversion.

Here's another risk assessment to consider. Most pilots of light single-engine aircraft don't really like flying over water that

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much – sometimes it is inevitable, but you do have choices. Suppose you are going to fly from New Plymouth to Hokitika. You can fly down the coast to Paraparaumu, then take the shortest distance across Cook Strait to the Brothers Islands. Alternatively, you could fly to Wanganui then launch off to Nelson, avoiding all that controlled airspace around Wellington. Or, you could take the straight-line route (easy when you've got GPS!) and set off from Cape Egmont for Farewell Spit. Which would you opt for?

Another aspect of risk management is our perception of gain. We know that some 500 people are killed on the roads each year, yet most of us are happy to drive anywhere, anytime. This is mostly because we have decided that the benefits of mobility outweigh the risks inherent in driving. If every second trip by road was likely to result in a crash, you would probably think a bit more about whether a given trip was really worth it!

When it comes to flying, we pilots have decided that the risks in aviation are usually outweighed by the benefits we get from the freedom of flight. If we deem a particular flight or manoeuvre to be too risky, then hopefully we won't do it. This is, however, where the insidious factor of perceived gain or loss comes into play. A common human trait is a general unwillingness to easily give up what we perceive as a gain, or accept a loss, if we think we can avoid it.

Consider a cross-country flight in marginal weather. If you decide to get airborne and 'have a go' and manage to get a long way down track, you are more likely to be reluctant to turn back if the weather turns really bad. This is because you have already started the flight, and by turning back you have lost the gains you made towards your destination. You have also likely had to pay out for the flight, so it is a financial loss as well. In those circumstances, facing a certain loss, people are more likely to take a greater risk than they would normally accept. The fact that they are risking a possible catastrophic loss (a crash in bad weather) tends to get lost in the decision-making process. That is the way human nature works. If you are aware of this, then you can reduce its effect, by avoiding putting yourself in such situations in the first place. If you decide not to get airborne and wait it out, you are likely to be happier with your decision, and have avoided the subtle pressure to continue.

Another potentially hazardous human trait is that when we have made a decision we often tend to stick with it, even when subsequent events show that it was not the right thing to do. This may be another manifestation of the gain and loss phenomenon. We have invested in a decision, so to change it is seen as a loss on our part. That may be fine for our ego, but doesn't look good in an accident report. If you have made a wrong decision, and this becomes obvious, then don't persevere with it out of pig-headedness. Make a new decision.

Familiarity

Our perception of risk is also skewed by our familiarity with what we do. The more often you do something, with a successful outcome, the happier you are with it, and the less risky it seems. It probably is getting less risky, because you now have some experience in coping with whatever you are doing, but the perception of risk reduces even more than that justified by our experience level. This is where complacency can creep in.

Once again, consider the case of a flight in marginal weather. If you have done the same flight before, and got away with it, you are more likely to try it again. The previous flight(s) in bad

weather may well have given you more experience to cope with it, but your perception of the risk has been reduced by familiarity. This can be fatal.

Asking the Right Question

Another trait that is nearly universal among pilots is that we tend to be very goal or task-oriented people. Being Kiwis exacerbates this, because we often tend to have a very 'can-do' attitude. This is great for getting things done, but it also has the downside of leading to a mindset of 'How do I do this?' when perhaps a more appropriate question might be 'Should I be doing this?'

Let us once again consider our cross-country flight in bad weather. For many of us, the fact that the weather is making life more difficult is merely compounding the technical problem of how to get the job done. That is fine up to a point, **but** we should never lose sight of the ultimate question – "Should I be trying to do this? Is it a good idea?"

The message is, when faced with a difficult or risky task, don't just ask 'how?' but also ask 'why?'



Summary

- Take the time you need to make decisions – don't be impulsive.
- Make sure you have considered all the relevant factors.
- Don't procrastinate – if you have to make a decision do so. Waiting and hoping is not an option.
- Do as much planning and decision making before commencing a flight as you can.
- Consider all the risks. Don't let familiarity dull your perception of risk.
- Be prepared to cut your losses.
- If you have made a wrong decision, admit it and change it.
- Always remember to ask yourself "Why am I doing this?" as well as "How do I do this?"
- Always take the safest course of action. ■