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The Flight Planning guide is designed to help you in the planning and conduct of your flight. The guide was developed with the assistance of operators and pilots nationwide. For comments and suggestions on improving this guide, contact:

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Plan your route thoroughly and carry current charts and documents. Always check ERSA, NOTAMs and the weather before you fly.

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Using this flight planning guide

This guide is designed to help you understand the importance of *planning* and how it integrates with your in-flight situational awareness and decision-making. It's not a nuts-and-bolts guide to the details of flight planning; you would have learnt that at the ab-initio stage.

Flight planning is critical—no matter the type of flight.

Flight planning involves consideration of the straightforward elements of a flight, such as how much fuel to carry, what radio frequencies to use—but it also involves anticipating the unusual and preparing a course of action should it occur.

This involves consideration of alternate routes and destinations, or a planned deviation should clearance to enter controlled airspace not be issued. It extends to preparation of emergency equipment, which can range from life rafts and vests to a toiletries kit, which in its own small way can reduce the psychological pressure to fly through bad weather to reach the comforts of the destination. Considering all of this is easier to do on the ground than in the air. There is also the decision about whether to take off at all. Many factors contribute to this decision but planning tools, such as the personal minimums checklists included in this flight planning kit, can help you make this decision.

This guide addresses the three levels of flight planning (the straightforward elements, unusual situations and whether to go) and their application over eight stages of flight. Reading, reflecting on, comprehending and using it will make any pilot safer.



Why planning still matters in an age of technology

flight 📮

With seamless technology integrating your route, weight and balance, aircraft performance and documentation, planning may seem a bit old-fashioned; not as necessary or urgent as it once was.

But planning is important for the same reason it has always been, because it constructs a four-dimensional picture of the flight in your mind. The benefit of planning is not that you have a schedule you can follow at all costs, but that the act of planning builds this picture of your flight in your head.

Electronic flight bag (EFB) software has made the job of pilots easier. Software packages, running on tablets and smartphones, bring together a range of tools formerly only available to airline pilots.

They are a go-to solution to simple, easy navigation. As long as it is carrying enough charge, doesn't overheat, is mounted legally, doesn't end up with a smashed screen or decides to malfunction.

Additionally, your knowledge of how to use the system, its limitations and the difficulty of programming it inflight is not to be underestimated—and is a prime example of the importance of planning.

It's therefore important to make sure you're not just blindly following your EFB's directions. Keep your heads up, keep your eyes out of the cockpit and keep the 'V' in VFR.

GPS, while amazing, is not perfect. Errors can occur from outdated data, or from the inaccurate press of a finger entering it.

To rely on EFB technology with no backup and no plan in your head, is ultimately dangerous. Used correctly, your EFB/global positioning system (GPS) is a marvellous aid to situational awareness; used wrongly, it destroys it.



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Planning—the eight phases of flight

Stories have a beginning, middle and end; for operational purposes, flights are a little more complicated—but not much. There are eight phases in every flight for every aircraft, whether a weight-shift trike or a large RPT airliner. Each phase has its own significance in flight planning, and each must be managed successfully for the success of the entire flight.

These phases are:

1	planning
2	pre-flight
3	pre-departure
4	post-departure or climb
5	en route
6	pre-approach or descent
7	approach and
8	landing.

The flight begins when we start to think about and investigate the weather Robert N. Buck



Planning involves making the decisions and calculations about where the flight will go, what route to follow, what the weather is at the departure aerodrome, destination and along the route, how much fuel to carry, and how this will affect how many passengers and bags, or how much freight, can be taken. Planning should also include making plans for diversions, delays or emergencies. Alternate destinations and routes would be part of this, as would arrangements for accommodation should the return flight be delayed.

Pre-flight involves inspection of the aircraft and analysis of whether any faults or conditions found on it will affect the flight plan. It also involves analysing the pilot in the same way—are you fit to fly today?

Pre-departure involves checking the operation of the aircraft and setting its systems up for take-off and climb.

Post-departure involves configuring the aircraft for cruise flight and commencing navigation procedures and checks, all while avoiding other air traffic and flying accurately on your outbound route.

The **En route** phase can feel more relaxed compared with the workload at the beginning and end of a flight. But it still requires attention to be paid to navigation, weather developments, fuel management and consumption, and traffic avoidance.

flight

Pre-approach involves slowing the aircraft from cruise speed, flying a stable and accurate descent, obtaining automatic terminal information service (ATIS) or automatic weather information service (AWIS) information, making appropriate radio calls on the aerodrome or area frequency, and configuring the aircraft for approach and landing.

Approach involves sighting the aerodrome, flying in the aerodrome circuit, communication with ATC or other traffic, assessing aerodrome and wind conditions by visual inspection, and stabilising the aircraft for landing.

Landing involves placing the aircraft onto the runway, vacating it, configuring the aircraft and safely taxiing and shutting down.

There is also one more thing to consider, which is to **review** the flight, or what can be learned from it.



Personal minimums

Over a century of aviation there have been tens, if not hundreds, of thousands of words of advice written for pilots. Yet crashes continue. The personal minimums approach is a way of transforming these words of advice into a practical tool a pilot can use.

> I stood ... somewhat in awe, anxiously awaiting to see how this man, whom no weather could stop, would handle it. Imagine my surprise when he turned to the despatcher and said, "It's no good. I cancel!" Robert N. Buck

Most pilots encounter the concept of minimums in terms of weather. There are specific values for ceiling and visibility. For example, for VFR pilots, the alternate minima for an aerodrome are a ceiling of 1500ft and a visibility of 8km. If ceiling and visibility are less than these alternate minima at your destination, you must plan for an alternate.

But for a newly-licensed or low-hour pilot, it may be unwise to approach these minimums. You would be better advised to set more conservative limits and fly to them. Four areas are often used to consider personal minimums.

They are

- » **p**ilot,
- » aircraft,
- » environment and
- » external pressures,

which are often shortened to the acronym **PAVE**.

The advantage of using a personal minimums checklist is that it is thorough and neutral.

The scheme presented here is in two parts: a self-assessment checklist generates inputs for a PAVE checklist. The PAVE checklist is divided into four sections—a marginal item in two or more sections is a red flag that tells you not to attempt this flight right now.

There are also adjustment factors that you put into your PAVE calculation to compensate for special circumstances.

These suggested adjustment factors are just that—a suggestion. If your flying experience is limited, or if you do not fly very often, you might want to double these values.

In addition, if your situation involves more than one special condition from the checklist included in this kit, you will probably want to add the adjustment factor for each one.

Refer to the personal minimums checklist contained in your kit.

For example, suppose you are planning a night cross-country to an unfamiliar airport, departing after a full workday. If you decide to make this trip—or you might decide that it is safest to wait until the next day—the chart suggests that you should raise your baseline personal minimums by adding at least 1000ft feet to your ceiling value; 2km to visibility, and 300m to required runway length.

Of course, the more you fly, the more practised you will be, and the better you will become. Establishing personal minimums is not a once-and-for-all exercise. With time and experience, you may be able to modify your personal minimums to match your growing skill and judgement.

If, for instance, your personal minimums call for daytime visibility of at least 10km and you have solid experience flying in those conditions, you might consider lowering the visibility value to 8km for your next flight.

> You've got to ask yourself one question: Do I feel lucky? Well, do ya, punk?

A man's got to know his limitations Clint Eastwood

There are two important cautions:

fight

1 Never shift your personal minimums to a lower value for a specific flight. Changing personal minimums 'on the go' defeats the purpose of having them in the first place. The time to consider adjustment is when you are not under any pressure to fly, and when you have the time and objectivity to think honestly about your skill, performance, and comfort level during the last few flights.

2 If you shift one variable, keep all others constant. For example, if your goal is to lower your baseline personal minimums for visibility, don't try to lower the ceiling, wind, or other values at the same time. Likewise, do not push the baseline if there are special conditions (an unfamiliar aircraft, pilot fatigue) present for this flight. You might find it helpful to talk through both your newlyestablished personal minimums and any plans to raise them with a qualified and experienced instructor.

Once you have done all the thinking required to establish your personal minimums, you need to stick to them. That will sometimes be difficult when the flight is important to you, or when you are staring into the faces of your disappointed passengers.

This is when personal minimums become especially valuable. They give you pre-established hard numbers that can make it a lot easier to make a smart no-go or divert decision, rather than a vague sense that you can 'probably' deal with the conditions. A written set of personal minimums also gives you a way of explaining tough decisions to passengers, or those waiting for you. 8 | Flight Planning

Planning

To plan is to think through a situation before it happens.

- » You think about what you need to accomplish
- » You think about the steps required to get there
- » You think about obstacles that might stop you from reaching your goal
- » You think about what can go wrong.

The benefit of planning is that you see all of these with a new clarity because you've taken the time to think about them.

> Plans are nothing, planning is everything General Dwight D. Eisenhower



Viewed this way, a flight plan becomes more than just a timetable and itinerary. It is the story of your flight from point of origin to destination, telling in advance the different factors that will affect how safely and efficiently you will make the journey. These are better considered on the ground than in the air. Composing and filing a thorough flight plan and notifying flight details are your first line of defence. The more you do down here the less you'll have to do up there, particularly if something unusual happens.



It's important to tell every part of the story. That's why you should use standard flight plan forms. That way you won't leave out an important detail. You can download Airservices flight notification form at www.airservicesaustralia.com/flightbriefing/flight-notification-form/ or use the notepad included in this kit.

You already know that there are many factors to consider when you're flight planning, such as fuel consumption, air temperature, winds and weather. Notices to airmen (NOTAMs) will have details of temporary airspace changes, aerodrome changes and other things you will need to be aware of.

When you're planning, you should also consider the airspace you will be flying through or near, and how it will affect your flight. You can find out about these topics from the Airservices National Aeronautical Information Processing System (NAIPS). Its website has details and facilities for:

- » Pre-flight briefing and update
- » Location briefing
- » Area briefing
- » MET forecasts, briefings and charts
- » Flight notification
- » SARtime notification
- » First light/last light
- » GPS RAIM



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You no longer have to lodge details about tracks, headings, true air and ground speeds or time intervals for your flight plan. You still have to prepare a flight and fuel plan for your flight.



Calculating those 'old-fashioned' details adds a layer of thoroughness to your flight plan, which might show up shortcomings. Better to find out now than later. Besides, the combination of flight-planning software and up-to-date information from NAIPS makes working out these details much less tedious than it used to be. By all means crunch the numbers on your computer, but never forget the basic principles and formulas. They will be useful to know if you need to recalculate in flight. A calculator and a pencil, pad or the optional kneeboard will be useful then, too.

SARTIME minus 5

Set your mobile phone or watch alarm for **5 minutes** before your nominated SARTIME, so you have a reminder to cancel SARTIME.



As Airservices says: 'The methodology used by individual pilots to prepare their plans is a matter of choice, but good aviation practice and common sense dictate that a careful plan is the key to a good flight.'

A factor not covered by NAIPS is the aircraft you will be flying. You may well be familiar with it, but, regardless, you should have accurate fuel, performance and weight/balance data for the type of aircraft you are going to fly.

This planning time is when you should collect the necessary documents for the flight:

- » pilot's licence
- » medical certificate
- » pilot's operating handbook (POH).



Fuel is a major element of flight planning. You are required to have sufficient fuel on board for the planned flight. This is achieved by using the most accurate fuel consumption data available and by considering the operating conditions of the flight when planning. You must land with your final reserve fuel intact. For a day VFR aeroplane this is 30 minutes of fuel and for a day VFR helicopter it is 20 minutes.

Not all of the factors that increase fuel consumption for a planned flight can be foreseen. For some operations a contingency fuel reserve is required. Even if you are not required to carry a contingency fuel reserve, CASA recommends that pilots carry an amount of extra fuel to have a margin available to deal with unplanned occurrences. One method is to apply a contingency fuel reserve. Feel free to carry more if you can do so and stay within weight and balance restrictions for your aircraft. It's called planning.

Even in the digital age, flight planning is a skill, and one that gets better with practice. Your first few flight plans may seem like those dreaded school or uni assignments that seemed to go on forever. Persist. Eventually you will be able to gather and use the information needed for efficient flight planning in a short time, particularly if you fly commercially. Do it often and you will do it well.

- >> Planning makes the flight easier
- >> Standard forms make planning easier
- >>> Planning becomes easier with practice



Pre-flight

'Kick the tyres and light the fires' was the old jet pilot's joke about pre-flight inspection. While in the past that may have been a somewhat acceptable pre-flight for an aircraft, and with the useful feature of an ejection seat, it is a long way from the disciplined inspection required for even the most basic flying machine.

If planning is the foundation for decisionmaking then information is the foundation of planning. All of your previous planning for this flight has been with information provided to you. In the pre-flight inspection you must gather that information yourself.

It's not this guide's place to go into the details of the pre-flight inspection. Most pilots have performed hundreds; one for every flight,



one would hope. In general terms it's a combination of observation, methodical scan of the entire aircraft, and type knowledge. It helps to have a slightly suspicious mind, where any leak or stain is considered guilty until proven innocent or harmless.

It is better to be looked over than overlooked Mae West

From time to time, the process fails and pilots take off with control locks or pitot covers in place. Those flights are short and very unpleasant, even if they don't end up in a crash.

Often the culprit is interruption, which leads to an incomplete check. A ground-level version of the sterile cockpit convention used on large flight decks can reduce the likelihood of distraction. It is important, but it is not always easy to recognise when interruption or distraction has occurred. The procedure is then to recommence your check and inspection from the last known completed item, or, if in doubt 'from the top'. Be consistent about where you start your check from, and in which direction you go around the aircraft—that way you'll be more accurate and better able to deal with interruptions.

The other point old hands make about the pre-flight inspection is that it begins 100m from the aeroplane as you walk towards it. Like a work of art, you only see the whole picture when looking from a distance. A deflated tyre is hard to spot in isolation; often it makes itself apparent from a wing-low stance, which you can't see when you're up close.

There's another, equally important component of flight needing a pre-flight check—you.

The best defence against temptation is a contingency plan.

The best way to avoid temptation is to prepare a contingency plan. How badly do you need to be at your destination at a certain time? The cynical old adage, 'if you've time to spare go by air' has a core of truth that refers to the effects of weather on VFR flights. If you absolutely have to be there on time, be prepared to drive, or buy an airline ticket.

The US Aircraft Owners and Pilots Association (AOPA) cautions against the mission mentality.

Mission is a military term, AOPA says. 'It implies failure, defeat and (possibly) death if a task is not completed successfully. As civilian pilots, we take "trips" or "flights" not missions. The real danger comes not from failing to get where we're going, but from getting into a mission mindset when the rewards don't justify the risks.' The power of man has grown in every sphere, except over himself Winston Churchill

But how does a human being put a value on those risks? External risks are perceived through psychological lenses, which may make them seem larger or smaller. These lenses can include the pilot's self-image, pride, perceived skill and the expectations of others to take off or land on time and at the planned destination. But you can look at the situation through a different lens—that of the personal minimums checklist. By assigning an appropriate value to each risk factor you can make the go or stay decision—or have it made for you—regardless of your hopes, your fears, or the uninformed expectations of those with you.

- Establish a standard operating procedure for your pre-flight check
- >> Check yourself as well
- Beware the mission mindset

Pre-departure

Although we talk of flight planning, there's a lot that has to be prepared for on the ground. Your flight doesn't start when the aeroplane rotates, but as soon as the engine comes to life.

Things that have to be planned for in this phase include stowing yourself, your passengers and any equipment in the cockpit, starting the aeroplane, checking its systems, configuring it for take-off and making it safely to the correct end of the runway.

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Preparation, I have often said, is rightly two-thirds of any venture Amelia Earhart Don't forget to brief your passengers before the flight.

While airline pilots may sometimes refer to them disparagingly as self-loading cargo, passengers can be a very useful resource for the VFR pilot. Passengers can be most useful as an extra set of eyes, leaving you more time and energy for your main job of flying the aeroplane.

One of your first acts, either just before or just after starting, will be to listen to the ATIS—the automatic terminal information service. This is a final layer of detail being added to your flight plan. Now you know which runway you will use and what the local weather is—does this new information change anything significant in your plan?





This is also your first formal encounter with checklists in the flight (although you might have used one for the pre-flight inspection). They're not just for flying schools or beginners, and using one in no way implies you're mentally feeble. Just the opposite it indicates you're operating to the same standard as the military and airlines.

Checklists can be used in two ways in a single-pilot aircraft. You can perform the actions from memory and check them against the lists afterwards. Or you can go through them line by line.

Once the after-start checklist is done your journey begins—now you are the pilot in command. The best way to measure your time in command is not your wristwatch but with the hour meter, commonly called the VDO or Hobbs meter. The newer digital types have a stopwatch readout that gives exact time from start-up, making fuel calculation more precise if you use them rather than your watch.

The trip to the runway threshold is a journey in itself, and needs planning, particularly at complex aerodromes such as Archerfield, Bankstown, Jandakot, Moorabbin and Parafield.

Prior to taxi, plan your expected taxi route and ensure you know what the aerodrome signs, marking and lights mean. Comply with any ATC clearances and don't forget that you need a specific clearance from ATC to enter, cross or backtrack on any runway during your taxi.



With a reasonable idea of where you are and where you're going on the aerodrome you'll have time to notice how the flight instruments are responding—instruments indicating movement about the yaw axis should move freely during taxi, and the attitude indicator should show any changes in pitch. Indeed some schools teach this as a formal checklist.

Where possible, you should carry out your pre-take-off checks in a run-up bay. A taxi clearance to a particular runway holding point entitles you to conduct your pre-take-off checks using an en-route run-up bay.

»	Use checklists
>>	Make passengers useful
>>	Plan your taxi
»	If in doubt, stop clear of the runway, and ask ATC for help

Take-off and post-departure

Take-off is a particularly active phase of flight. What this implies is that if anything unusual happens you'll need to have a plan because you'll be too busy to make up a response on the spot.

The variables you will face include traffic, weather and aircraft performance.

In addition to flying the aircraft, you will have to keep an eye out for other aircraft and simultaneously ensure that you don't become a problem for them by diverting from your planned track.

You need to keep a constant watch on the weather. For local conditions over and near the runway, your eyes may be all you have at a remote aerodrome. Look out for wind variations and also bear in mind that as temperature increases aircraft performance decreases.

And, although it seems obvious; if you're flying from a bush strip with any sort of question mark over its length or surface you'll need to have used your aircraft's performance chart to plan whether with you, your fuel, passengers and baggage aboard, can make it off the ground safely.

Aircraft performance is usually interpreted in terms of the great bogey: engine failure after take-off (EFATO), but you might encounter other surprises—weight and balance upsets, a locked control. In any of these cases you'd want to land again quickly but would not want to make the 'dead man's turn' back to the runway, running out of airspeed, altitude and options. A few minutes with a map before departure could familiarise you with possible landing areas near the runway. You may only save a few seconds of decision time, but in this context they might be precious seconds.





Once you're off the ground, your challenge becomes to fly the departure procedure accurately. You will also have to 'clean-up' your aircraft for the next phase of flight, retracting flaps, adjusting power settings and leaning the mixture. This could be a big job, or a small one; depending on what type you are flying. Use a checklist regardless; it's faster. That way you will spend less time head down in a phase of flight that demands a head-up approach, looking out of the cockpit to spot other traffic and keep yourself on track.

- Spring-load your reactions by having plans prepared for emergencies
- Include runway condition in your take-off plan
- Be familiar with departure procedures and routes



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En route

The bustle of take-off and climb-out is over. Now you have time to admire the scenery not for long, of course. There's a more important task: reviewing your plan.

There are two basic questions: are you where you want to be? and, is the aircraft doing as you expect it to do?

If the answer to either of these questions is no, then it may be time to modify your plan, or adopt a new one, which will, in all probability, be a variant of the plan you worked out in relative leisure when you were on the ground.

> It is possible to fly without motors, but not without knowledge and skill Wilbur Wright

The old adage 'plan to fly, then fly the plan' is a little simplistic. Once your wheels (or skids) are off the ground, you are in a continuous decision-making cycle where you compare the plan to reality. If your plan and 'reality' differ, you have no choice. You must change your plan: you can't change reality.

But even your improvisations should have a foundation of planning. Should you have to divert to an alternate destination, it's basic planning to have its aerodrome frequency written down, or stored in your comms unit.

However, a truly continuous decision-making cycle is a lot to ask of any pilot. Human beings are not very good at continually monitoring situations in which most of the time, little happens. Our minds tend to wander, typically after about 15 minutes. This is a well-known principle of psychology, called the 'vigilance decrement'.





flight

Therefore taking this vigilance decrement into account means it's better to set up a schedule or pattern for in-flight tasks, to alternate between scanning flight instruments, engine instruments, navigation and assessing what weather you can see from the pilot's seat. Schedule this cycle before and after each frequency or direction change, or every five or ten minutes.

And, remember: you always have the option of asking air traffic control (ATC) for help. ATC would rather assist with a small problem than have to fix a big one.

Make time in the cycle for a brief moment of relaxation. Really bad events—an engine failure, for example—will make themselves readily apparent. You won't have to worry about missing them. For the remainder, a frequent, structured and scheduled scan is a better method for discovering insidious failures than continually staring wide-eyed at the panel.

Your enemy is not relaxation but complacency. Too many accident reports start with words to the effect of: 'Suddenly I realised I was lost' or 'without warning the engine stopped.' Monitoring fuel or maps could have stopped these confessions being written.

>>	Maximise your performance as a pilot
	by relaxing

- Review your plan
- Set up a schedule for monitoring your aircraft, communications and navigation

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Pre-approach

Pre-approach, also known as approach review, or top of descent, is the time for housekeeping in a typical flight.

After the relaxed, but alert, cruise it is time to get busy again. There is QNH to be obtained, local traffic to be considered, arrival radio frequencies to be selected, radio calls to be made, a cabin to be prepared, an engine to be managed, and passengers to be briefed.

Your on-the-ground planning will have worked out an appropriate point to begin descending,

CTAF operations

Recommended calls in all circumstances

Situation	Broadcast
The pilot intends to take off	Immediately before, or during, taxi-ing
The pilot is inbound to an aerodrome	10 nm or earlier from the aerodrome based on aircraft performance and pilot workload, with an estimated time of arrival
The pilot intends to fly through the vicinity of, but not land at, a non-controlled aerodrome	10 nm or earlier from the aerodrome based on aircraft performance and pilot workload, with an estimated time of arrival

Recommended calls dependent on traffic

Situation	Broadcast
The pilot intends to enter a runway	Immediately before entering the runway
The pilot is ready to join the circuit	Immediately before joining the circuit
The pilot intends to make a straight-in- approach	On final approach at, not less than 3 nm from the threshold
The pilot intends to join on base leg	Prior to joining base leg
The aircraft is clear of the active runway(s)	Once outside the runway strip

More information on radio procedures in non-controlled airspace is available in the resource booklet *Be heard, be seen, be safe*.

based on the approach profile you select to fly. The ATIS or AVVIS provide valuable information with which you may evaluate your plan. As in cruise flight, compare your situation with your plan. Weather, wind, runway and associated traffic are all variable. Your pre-approach planning should take each of these variables into account, and you should use each of them to re-evaluate your planned point of descent, your intended type of approach and your choice of landing runway.



This comparison is particularly critical if you are about to descend, for reasons which should be obvious. The combination of low altitude and being even slightly lost can mean a sudden impact: with ground, wires or, in the case of a busy airport, another aircraft.

Your familiarity with the aircraft and the route will have some bearing on when you should begin your top-of-descent checks. As a rule of thumb, if you are unfamiliar with either, then plan to begin the checks earlier.

> Nothing gives one person so much advantage over another as to remain always cool and unruffled under all circumstances Thomas Jefferson

You will make your first radio call to your intended destination about now (approaching the relevant VFR approach point for a controlled aerodrome or 10 nm or earlier from a non-controlled aerodrome). If it is a controlled aerodrome that conversation will be formal, and predictable in structure. For a non-controlled aerodrome be prepared to make the time for a more informal negotiation with other aircraft which may be nearby.



flight

It seems like stating the obvious but descent planning becomes more important in larger and higher-performance aircraft. It's arguably the critical flight phase for those flying truly heavy metal. Airbus says approximately 70 per cent of rushed and unstable approaches involve 'an inadequate management of the descent-and-approach profile and/or an incorrect management of energy level.' In other words the problem begins at the top.

Anything with a single propeller and piston engine is a lot easier to adjust for speed and height on approach than a heavy jet, but just because your aeroplane has the ability to operate above and below a stable descent profile doesn't make doing so a good idea. A stable approach is a good idea in any aircraft, whether it be a powered trike or a Zeppelin. Set it up right, save yourself a lot of unnecessary work and be a safer, more professional pilot.

Commence your approach according to aircraft type and experience

>> A stable approach begins here

Approach/landing

The timeworn instructor's saying that a good landing follows a good approach is a cliché because it's true. Every landing is unique, yet all landings are similar.

Your planning cycle in this phase of flight is becoming short. Action now swiftly follows plan. You only have to consider things that could happen over the few minutes you have remaining in the air.

This phase of flight is tightly defined. You are on a rigidly-defined path doing predictable things: flying the circuit, completing your checks, putting the flaps down.

If not, something's gone wrong with your planning and/or execution. The point of flight planning has been to get you to this point in one piece and to this phase of flight without a backlog of cockpit tasks.

So most of what you do in landing follows not only the flight plan, but also a script that is similar for every landing. There are two main variables: wind and traffic. The actual unusual situation you encounter will vary—crosswind, windshear, traffic on the runway, or in the circuit perhaps—but it will generally involve one of these two. Knowing this, you can plan what your response would be. It's that spring-loaded concept again.



Escalation of commitment, commonly known as press-on-itis, is one of your worst enemies during the approach stage; you are so close to, yet so far from, successfully completing your flight. There's a way to fly around this trap: your planning should incorporate pre-determined points of the approach where you consciously decide whether to continue, and a known course of action in the event that a go-around is necessary.



In short, you should be asking yourself 'should I continue the approach? and 'should I land?' These remain open questions until the point when your speed is under control on the runway.



Once the wheels are on the runway and the aeroplane is under control, it's time for the after-landing and shutdown checks. It's an adage among instructors that these checks are the hardest for students and low-hour pilots to remember and perform after the accumulated concentration and fatigue of the flight. It's yet another reason to have these checks written down on a list. In the last seconds of your flight as you taxi for shutdown and tie-down, the planning cycle shortens to a few seconds. Similar to planning your taxi to the departure runway, ensure you plan your taxi from the landing runway to the tie-down point. Accidents can, and do happen with aircraft taxiing after landing. This is what the saying 'keeping your mind ahead of the aircraft' means.

Finally the prop stops and the silence echoes as you remove the vice-like 'domes' from your ears. But it's not quite over. One more critical task remains: to review the flight.

- >> Have responses ready
- >> Keep an open mind about going round
- >> Keep planning until the engine stops on the apron



Review

The engine stops and cool air again swirls past your ears in the roaring silence as you remove the headphones. You run through a final checklist and, if you're leaving the aeroplane for any significant time, secure and tie it down.

YOU CANCEL SARTIME

Your hundred-dollar hamburger beckons, or perhaps the aero club bar is looking good. But there's one thing left to do: review the flight while it's fresh in your mind.

How much of it went to plan? Did you have a back-up plan for the aspects that departed from 'the script'? Did you feel in control of the situation at all times, or were there moments

FURTHER INFORMATION

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of doubt and vulnerability? What did you do well and what could you have done better? Did you have all the equipment you needed?

Use your paper and kneeboard one more time to answer these questions in as brief, or as long, a form as necessary. Some pilots keep a diary of their flights—this is good practice. Then enjoy your hamburger, because you've already started to plan your next flight.





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