RECREATIONAL AVIATION AUSTRALIA

APPENDIX 5

3 Axis Briefings

PRE-FLIGHT INSPECTION: 3 AXIS

RECREATIONAL AVIATION AUSTRALIA

1. AIM

To determine the airworthiness of the aircraft for flight based on regulatory and operational requirements.

2. APPLICATION

Before first flight of the day and any command flight.

5. AIRMANSHIP AND HUMAN FACTORS

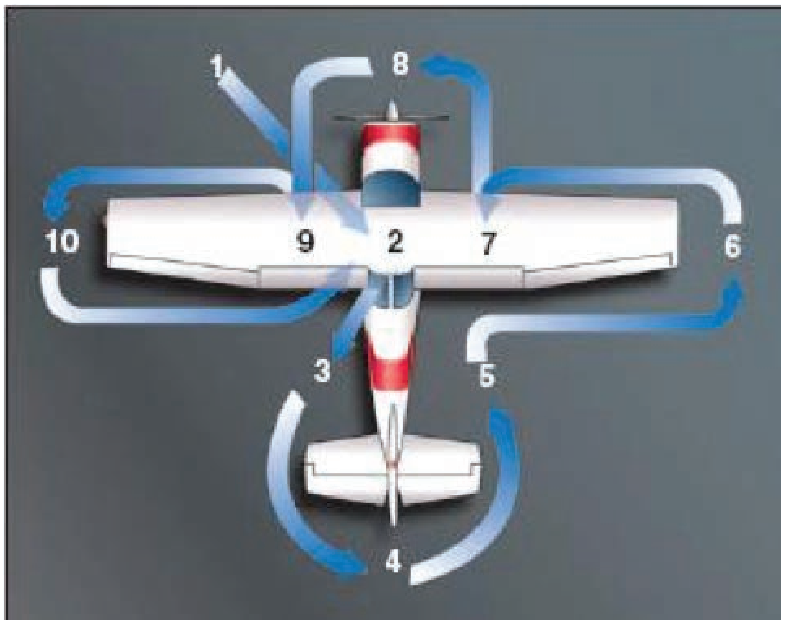
- Assume something is wrong with the aircraft TEM
- Focus on task without distractions SA
- Seek assistance or confirmation if required ADM
- Perform inspection methodically and consistently TEM
- Familiarise with aircraft type and known watch items CRM

3. UNDERPINNING THEORY

Aim: The pre-flight inspection is a mandatory function to be carried out by the command pilot in order to determine the airworthiness of the aircraft for the intended flight. The aircraft POH is the reference document or the RAAus Technical Manual if no POH exists.

- Each inspection element can be assessed using a short acronym of 3 C's:
- **Correct** operation and assembly,
- **Condition** - determined as airworthy
- **Change** in condition or integrity from known standard

- CAR 1998 Schedule 5
- CAR 42B and CAAP
- Aircraft Flight & Maintenance Manuals
- RAAus Operations and Technical Manuals.

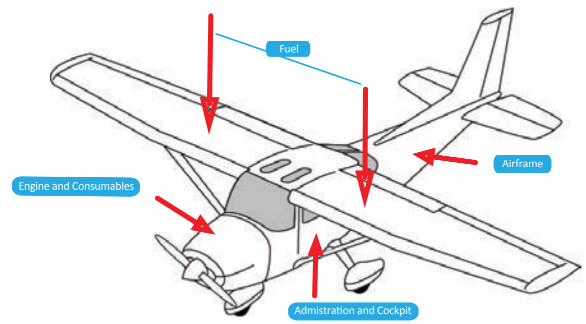


Pre-flight should follow a consistant flow process example above from aircraft POH

4. PRE-FLIGHT EXERCISE

- Review POH, Maintenance Record and flight authorisation sheets
- Determine administrative compliance to fly via MR and RAAus requirements
- Ensure the aircraft is secured in suitable place for inspection/refuelling
- Determine in what sequence fuelling or pre-flight is to take place

A: Administration:	Appropriate aircraft documents checked, maintenance record, flight record, registration, known AD's and SB's
C: Cockpit:	Remove locks, confirm switches OFF
E: Engine & Consumables:	Fuel, Oil, coolants hydraulics etc. Fuel checked for quantity, colour, contamination, clarity and odour
A: Airframe:	Metal composites, and fabric all have different unique requirements for checking
A: Authorisation:	Complete any Administration required



6. OUTCOMES AND EXPECTATIONS

- Pilot understands relevant maintenance privileges
- Understands and identifies all appropriate systems pertinent to aircraft
- Pilot can determine and confirm aircraft serviceability including W&B for flight

EFFECTS OF CONTROLS - 3 AXIS

RECREATIONAL AVIATION AUSTRALIA

1. AIM

To operate the primary and ancillary controls in flight and on the ground and feel and understand the primary, secondary, and further effects they have on the aircraft.

2. APPLICATION

- Control grip & feel
- Cockpit layout/adjustments
- Demonstrate/Practice sequence
- Visual flight focus outside cockpit
- Introduction of pre/post flight actions

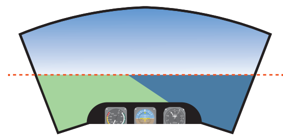
5. AIRMANSHIP AND HUMAN FACTORS

- Control handover process - CRM “I have control / you have control”, “follow me through”
- VFR - see and be seen
- Clock code, relative height / distance
- Horizon is main reference
- Land features
- Limitations on lookout - SA
- Limitations of memory
- More comfortable with practice /workload
- Uncoordinated lesson by nature
- Demonstration / practice process - CRM
- Self assessment - I.M.S.A.F.E

4. FLIGHT EXERCISE

On the Ground

- Control speed with throttle and brakes
- One hand on control column and other on throttle
- Dual controls fitted
- Power - controls movement
- Brakes - control slowing / stop
- Pedals - control steering



In the air

Attitude flying is achieved by referencing nose and wings to the horizon

Axis	Control	Input		Primary Effect		Secondary/Further	Use
Lateral	Elevator	Control Column	forward rearward	Pitch	down up	–	Attitude and Airspeed
Longitudinal	Aileron	Control Column	right left	Roll	right left	Slip - Yaw	Direction
Normal	Rudder	Rudder Pedals	left right	Yaw	left right	Skid - Roll	Balance

Airspeed

- Increased airspeed - firmer control feel & response rate, less movement needed
- Decreased airspeed - reduced control feel & response rate, more movement needed

Slipstream

- Increased power → increased slipstream
- Increased flow over elevator → more effective control
- Affects vertical surfaces → yaw
- Effect balanced with rudder

Power

- Power decrease → nose pitches down / yaws right
- Power increase→ nose pitches up / yaws left
- Must balance with rudder

Trim

- To relieve the pressure
- If holding back pressure - trim backwards
- If holding forward pressure - trim forwards

Flap

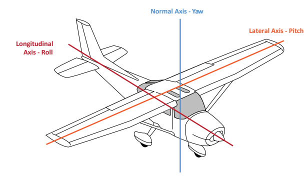
- Extending flap → increase in lift and drag → pitch change - trim change required
- Retracting flap → decrease in lift and drag → pitch change - aircraft will sink

3. UNDERPINNING THEORY

Lift

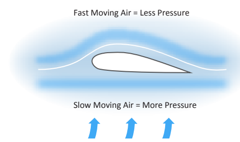
- As air flows over the wing, increased speed above the wing results in reduced pressure = Lift
- Lift can be altered by changing the shape of the wing, the angle of attack, and the airspeed

Aeroplane Axes



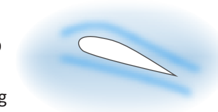
Primary Controls

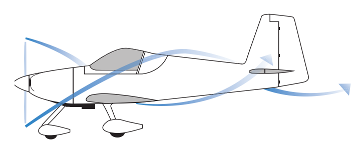
- Elevator pitches aircraft - changing attitude
- Aileron rolls aircraft - changing direction
- Rudder yaws aircraft - balanced flight
- Slipstream affects the rudder and elevator



Ancillary Controls

- Trim tabs provide a force to hold primary controls
- Flap changes shape of wing, increases lift, drag, and L/D ratio - changes pitch trim change required
- Carburettor heat assists in preventing and reducing icing in the fuel delivery system





6. OUTCOMES AND EXPECTATIONS

- Student identifies and understands control actions and responses.
- Can identify and reference the horizon correctly.
- Is comfortable in the airborne environment.

STRAIGHT AND LEVEL - 3 AXIS

1. AIM

To establish and maintain straight and level flight, at a constant airspeed, constant altitude, in a constant direction, and in balance.
To regain straight and level flight.
To maintain straight and level flight at selected airspeeds or power settings.

2. APPLICATION

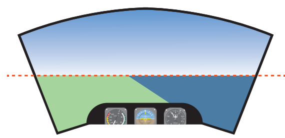
- Smooth throttle movements
- Coordination of controls
- Elevator (pitch) controls attitude
- Power controls climb / descent

5. AIRMANSHIP AND HUMAN FACTORS

- Lookout - SA - method for scanning, training area boundaries, maintaining visual horizon
- "I have control / you have control"
- Scan - work cycle
- Threat referencing - CLOCKCODE Principle
- Blind Spots

4. FLIGHT EXERCISE

- Horizon
- Demonstrate stability
- Power setting
- Attitude for level



Establishing Straight and Level

Attitude elevator - set attitude
Power set to maintain level

aileron wings level
rudder in balance

attitude
relative to horizon
no yaw - stand on the ball

Trim to relieve pressure - hands off

Maintaining Straight and Level

Lookout **ahead**
Attitude **reference position**
Instruments - to confirm - not set
- Altimeter and RPM checked every time
- O he ti s rum n nts en ad gauges, less frequently

Regaining Straight and Level

- Attitude to set airspeed / power setting correct
- Attitude confirmed
- Wings level and balance ball centered
- Reset power (as required)
- A P T

Straight and Level at Different Airspeeds

- Attitude controls airspeed
- Inverse relationship between power / attitude
- Power changes must be balanced with rudder
- Manage secondary effects and balance

Power + Attitude = Performance

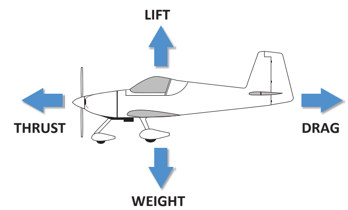
Performance	Mid	Low	High
Power	Cruise	Reduced	Higher
Attitude	Normal	Higher	Lower
Airspeed	80-90 knots	60 knots	110 knots

3. UNDERPINNING THEORY

- The horizon is the line where the land or sea meets the sky
- All references use the aircrafts attitude to the horizon
- Concepts of aerodynamic stability and relevance to flight.

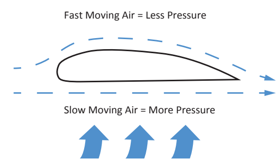
The Four Forces

- Lift, Weight, Thrust, Drag
- Equilibrium when Lift = Weight and Thrust = Drag
- Forces don't act through the same point → moment arms → couple
- Lift and Weight couples balanced by tailplane force
- Changes in Thrust → pitch changes



Lift

- Air over the wing accelerates compared to air passing under the wing
- $L = C_L \frac{1}{2} \rho V^2 S$
- L = Angle of attack × Airspeed
- Angle of attack altered with elevator



Performance

Power + Attitude = Performance

PWR+ $\frac{\text{IAS}}{\text{A of A}}$ =P

6. OUTCOMES AND EXPECTATIONS

- Student understands use of primary controls to maintain S&L flight
- Student configures aircraft correctly for any required performance
- Student recognises and corrects deviation with appropriate scan & work cycle
- Competencies +/- 150 ft, +/-5kts, +/- 10 degrees
- Effective use of CLOCKCODE and See & Avoid

RECREATIONAL AVIATION AUSTRALIA

CLIMBING AND DESCENDING - 3 AXIS

1. AIM

To climb or descend the aircraft to a pre-determined height, at a rate and airspeed appropriate for the nominated phase of flight.

2. APPLICATION

- For use in all phases of flight to change the altitude of the aircraft
- Appropriate climb/descent angles for phase of flight
- VFR - conditions considered
- Minimum and maximum heights

5. AIRMANSHIP AND HUMAN FACTORS

- Lookout and situational awareness SA - monitor for changes in level
- Blind spots managed during climb or descent
- Horizon remains primary reference
- Pre-plan required performance
- Understanding vestibular system and pressure equalisation
- Monitoring and management of temps & pressures
- Smooth throttle movements
- Carb heat HOT for descent

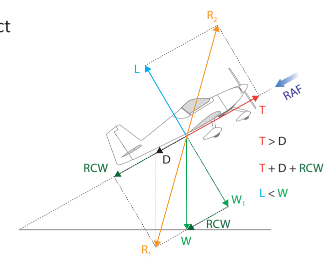
3. UNDERPINNING THEORY

Changing power settings is the primary method for creating required force to climb or descend the aircraft.

- Power: Primary control for aircraft height change
- Elevator: Sets airspeed and angle of climb/descent
- Rudder: Balance to control changes due slipstream effect
- Amount of available power determines ultimate climb performance, Vx, Vy

Climbing

- Aircraft is in equilibrium when climbing
- Lift is not increased
- T must be greater than D
- Rate of climb (climb performance) depends on excess power available



Climb Performance

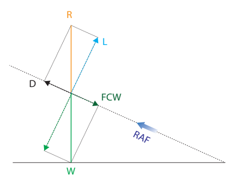
Power More power, better climb performance
Altitude Limits the performance
Weight ↑ weight - ↓ rate of climb
Flap ↑ drag - ↓ rate of climb
Wind Affects climb angle and distance covered

Climb Configurations

Performance	Power	Attitude
Best RoC	Full	_____ kts
Best AoC	Full	_____ kts
Cruise	> Cruise	_____kts
Recommended		_____ kts

Descending

- Aircraft is in equilibrium when descending
- Airspeed maintained by lowering nose attitude
- FCW balances D



Descent Performance

Power Controls rate of descent
L/D ratio Efficiency of wing, steepness of glide
Weight ↑ weight ↑ FCW - ↑ glide speed
Flap Needs ↑ FCW to balance D - ↑ rate of descent
Wind Affects descent angle and range

Descent Configurations

Performance	Power	Attitude
Glide	Idle	_____ kts
Powered		_____ kts
Cruise		_____kts

4. FLIGHT EXERCISE

Climbing

Entry

Lookout Above / Around
Power Full power, balance
Attitude Climb attitude, wings level, balance
Trim To maintain attitude
Airspeed Controlled with attitude

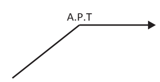
Maintaining

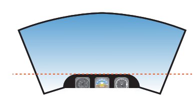
Lookout
Attitude
Instruments

Change - check - hold - trim

Exit

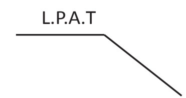
Attitude Select and hold S+L attitude, adjust as speed increases, balance
Power Wait for aircraft to accelerate, then set cruise power, balance
Trim To hold S+L attitude





Descending

Entry



Lookout Below/Around
Power Carb heat HOT, throttle, balance
Attitude Hold S+L attitude until glide speed, then set glide attitude (high performance) to
Trim Maintain attitude

Airspeed = _____ RoD = _____
Airspeed controlled with attitude

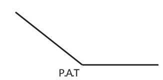
Maintaining

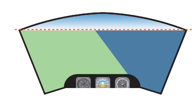
Lookout
Attitude
Instruments

Change - check - hold - trim

Exit

Power Carb heat COLD, increase power to cruise, balance
Attitude Simultaneously set to S+L, balance
Trim To hold S+L attitude





6. OUTCOMES AND EXPECTATIONS

- Correct sequence of actions and control through a range of climb and descent scenarios and configurations
- Recognition of errors and appropriate corrections applied
- Required standards: Heading +/- 10 degrees, Nominated height +/- 100ft Airspeed +/- 5 kt, aircraft balanced for all exercises

RECREATIONAL AVIATION AUSTRALIA

TURNING - 3 AXIS

RECREATIONAL AVIATION AUSTRALIA

1. AIM

To roll the aircraft to a predetermined Angle of Bank (AOB), whilst maintaining the required performance and balance for level, climbing or descending flight to any predetermined heading.

2. APPLICATION

For use in all phases of flight to change the aircraft heading.

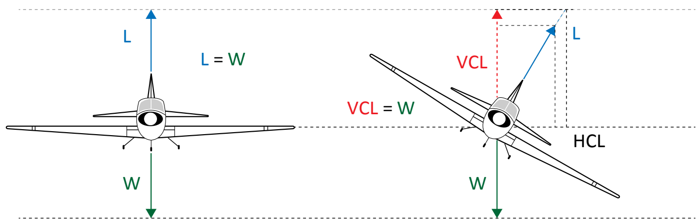
5. AIRMANSHIP AND HUMAN FACTORS

- Lookout - Situational Awareness SA
- Appropriate bank angles for phase of flight
- Blind spots in turn
- Horizon remains primary reference
- Understanding vestibular system and balance
- Banked horizon reference different in turn (side by side seating)

3. UNDERPINNING THEORY

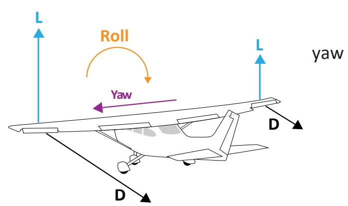
Banking the aircraft is the primary method for creating a force towards the turning direction.

- Ailerons are primary control to turn the aircraft
- Rudder for balance to overcome adverse yaw
- Elevator maintains height in the turn
- Adverse yaw explained
- Stall Speed increases in turning flight due to increased “loading”



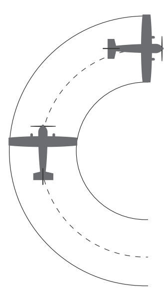
Adverse Yaw

- ↑ L on upgoing wing, also means ↑ D yawing away from turn
- Rudder to balance yaw as ailerons deflected - then neutral



Over Banking

- Outer wing travels further, more L, creates increased rolling force
- Avoid tendency to hold off bank with aileron



Performance

- When climbing and turning, angle of bank must be considered (recommend maximum 15 degrees)

4. FLIGHT EXERCISE

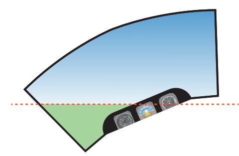
Adverse Yaw

- Demonstration only

Entry

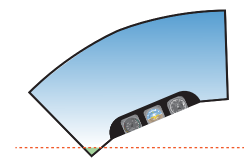
Medium Level Turn

- From S+L
- Lookout
- Roll with aileron to 30° AoB
- Balance with rudder
- Backpressure to maintain altitude - ↑



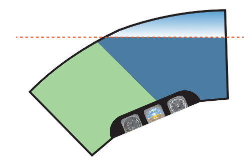
Climbing Turn

- Establish in climb
- Lookout
- Roll with aileron to set AoB
- Balance with rudder
- Hold backpressure to maintain climb airspeed



Descending Turn

- Establish in descent
- Lookout
- Roll with aileron to set AoB
- Balance with rudder
- Maintain backpressure to descent airspeed



In Turn

- Lookout - ALWAYS before turning
- Ailerons for Roll
- Rudder for Balance
- Elevator to maintain lift (power as required for steep turns)
- Turn maintenance, types of turns

Exit

- Look for reference point
- Anticipate rollout by reducing the angle of bank
- Roll wings level
- Balance with rudder
- Relax backpressure
- Reset S+L attitude
- Check **PAT**

6. OUTCOMES AND EXPECTATIONS

- Correct sequence and control through a range of bank angles up to 60 degrees and in all configurations
- Recognition of errors and appropriate corrections applied
- Required standards: Heading +/- 10 degrees, Height +/- 100 ft, Airspeed +/- 5 kts, Balanced

STALLING - 3 AXIS

1. AIM

To identify the situations where the aircraft is likely to stall and recognise pre-stall symptoms. When stalled adopt the appropriate recovery actions for minimum height loss.

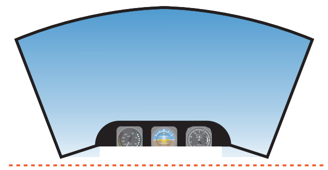
2. APPLICATION

Any phase of flight where critical A of A is exceeded.

5. AIRMANSHIP AND HUMAN FACTORS

- Lookout - Situational Awareness SA
- Counterintuitive responses and fear TEM
- Mismanagement and distraction SA
- Recognition of loss of primary control functions
- Limitations in identifying sink rate (Vestibular)
- Adherence to personal minimums and airspeed management

4. FLIGHT EXERCISE



Entry

- **HASELL check (Minimum height I.A.W. RAAus Operations Manual)**
- Adopt slow flight to identify symptoms and reduced control
- Recognition of the stall point in various configurations
- Practice and develop recovery actions for min height loss in stall including any “incipient” rotation
- Demonstration and understanding of developing conditions due to mishandling of controls or lack of recognition
- Practice and recognition of pre-stall scenarios and appropriate actions
- Carb heat HOT
- Close throttle
- Keep straight with rudder
- Maintain altitude with backpressure

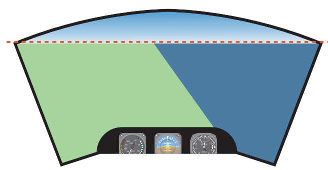
Symptoms

- Low and decreasing airspeed
- Possible high nose altitude
- Less effective controls - higher stick forces
- Stall warning - if fitted
- Buffet (turbulent air from wing striking tailplane)
- Control column will be fully back - no further control movement, past stall stick position
- High sink rate often undetected

At the stall

- Aircraft sinks and nose pitches down
- If aircraft yaws/rolls correct with opposite rudder only - do not use ailerons

Recovery



- Unstall wing
- Check forward with control column to reduce angle of attack
- Do not use ailerons, maintain heading with rudder only
- Aircraft will descend
- Recover to S+L with PAT

To Minimise Height Loss - max of 100 ft

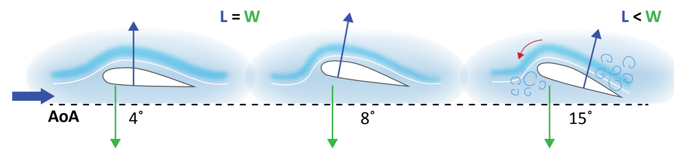
- **Power + Attitude = Performance**
- Unstall, as above, check forward
- Apply full power - balance with rudder
- Raise nose to the horizon to reduce sink
- Lowering attitude assists acceleration
- Regain height and S+L

Recovery at Onset

- Normal situation - when not training
- Recover at stall warning / buffet
- Height loss - 50 ft maximum

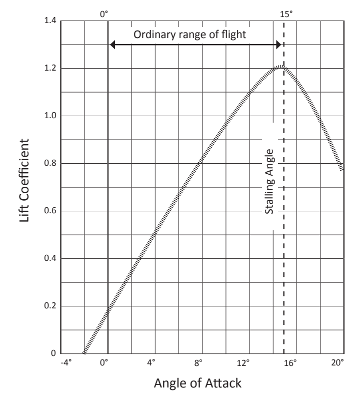
3. UNDERPINNING THEORY

- L = Angle of Attack x Airspeed
- Smooth airflow over the wing breaks down and becomes turbulent
- Breaks away from upper surface, aircraft sinks, nose pitches down



At the stall

- When the wing stalls there is a ↓ in L and large ↑ in D
- Aircraft sinks, C of P moves rearwards →pitch down
- Stalls result from exceeding critical Angle of Attack
- The elevator controls the A of A of wing
- Lift/Drag curve
- Airspeeds are referenced in POH in relation to stalling
- Stall Speed increases in turning flight due to increased “loading”



6. OUTCOMES AND EXPECTATIONS

- Define the stalled condition
- Developed recognition of all pre-stall symptoms in flight
- Pilot can state likely scenarios where stalling may occur
- Apply timely and appropriate corrective actions
- **Required recovery standards:** Height loss <200 ft, Heading maintenance +/- 10 degrees, Airspeed within V_a/V_{fe}

RECREATIONAL AVIATION AUSTRALIA

CIRCUITS - 3 AXIS AND WEIGHTSHIFT (B)

RECREATIONAL AVIATION AUSTRALIA

1. AIM

To combine all practiced phases of flight in a standard format including take off, approach and landing in accordance with recognised circuit procedures.

2. APPLICATION

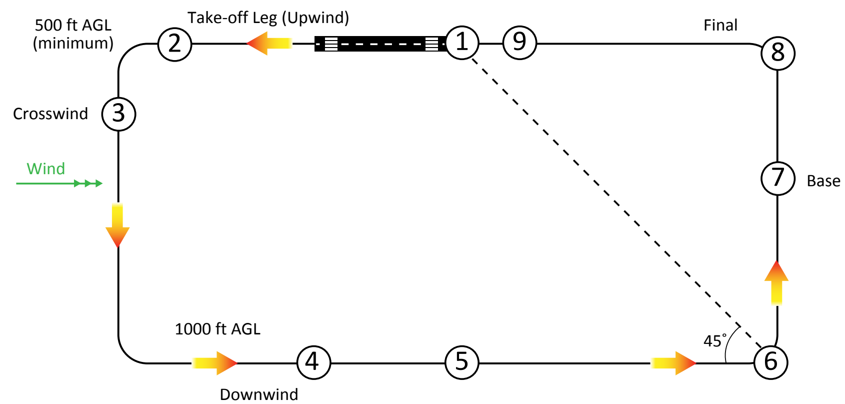
For use when operating at aerodromes for arrival, departure and standard traffic flow around a preselected runway.

3. UNDERPINNING THEORY

- Circuit conventions based on ICAO standards and outlined in CAR 166C
- Use of standard traffic pattern within the manoeuvring area of a landing area
- Circuits should be conducted on the most into wind runway unless conducting cross wind operations
- CAR 166C and CAAP 166-1(X) provide requirements and guidance for operations at non-controlled aerodromes including use of radio for "alerted see and avoid"
- Reference RAAus Syllabus of Flight Training 1.02 Circuits

4. FLIGHT EXERCISE

1. Takeoff	• Reference points and line up checks	• Keep straight
2. Climb out	• Separation • After takeoff checks	• T.O.S.S. • Turn at 500'ft AGL
3. Crosswind	• Tracking and lookout	
4. Downwind	• Positioning	• Checks
5. Aircraft configuration	• Possible to reconfigure aircraft depending on performance	
6. Base turn	• Lookout • Reference point • Carb heat as required	• Positioning • Flap set as required • Turn
7. Base leg	• Track • Attitude controls airspeed	• Flap set as required • Power controls descent rate
8. Final	• Anticipate turn 500' ft AGL • Short final alignment • Power to control aim point	• Attitude controls airspeed • Reference aiming point • Carb heat as required
9. Landing	• Glide approach OR powered approach (power as required) • Touch down on main wheels • Let nosewheel settle • After landing checks - clear of runway	• Look ahead towards end of runway • Progressively increase back pressure to control sink • Keep straight



- Lookout - ALWAYS prior to conducting manoeuvres in vicinity of aerodrome
- Assessment of appropriate runway and taxiing/holding points
- Take-off considerations: performance and emergencies
- Circuits broken down into basic flight manoeuvres
- Demonstration of full standard circuit
- Progressive introduction of all circuit tasks relative to workload
- Aircraft configurations and pre-landing checks
- Descent profile management and the landing phase
- Modification of circuit for conditions/ traffic

5. AIRMANSHIP AND HUMAN FACTORS

- Lookout and situational awareness SA
- Appropriate climb/descent profiles for each leg of circuit
- Management of flight sequences while multi-tasking SA, CRM
- Reference attitudes, and runway positioning SA
- Monitoring and management of circuit and aircraft operation TEM
- Right of way and circuit rules

6. OUTCOMES AND EXPECTATIONS

- Correct application of controls and decisions through the range of sequences in the circuit
- Recognition of errors and appropriate corrections applied
- Awareness and appropriate actions for corrections required in circuit
- Reference RAAus Radio Operator Syllabus 2.04 and CAR 166C for radio use
- Required standards: Heading +/- 5 degrees, Nominated Height +/- 50 ft, Airspeed +/- 5 kt, aircraft balanced for all manoeuvres

ENGINE FAILURES: AFTER TAKE-OFF AND IN CIRCUIT (EFATO, EFIC)

RECREATIONAL
AVIATION AUSTRALIA

1. AIM

To be able to plan and execute an appropriate range of actions based on an engine failure emergency at any point in the circuit area.

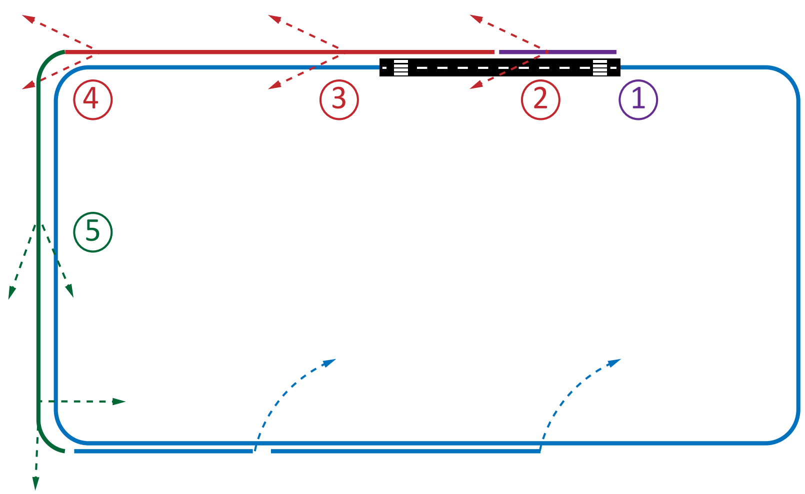
2. APPLICATION

Full or partial failures or other circuit emergencies that require immediate actions to ensure safest possible outcomes.

3. UNDERPINNING THEORY

1. **Ground Roll.** Abort take-off at pre-determined "rejection point" power to idle, control direction
2. **On take-off with runway remaining .** Lower nose to best glide attitude. Power to idle, land on remaining runway or within 10 degrees of heading. Emergency braking as required
3. **On upwind climb.** Lower nose to best glide attitude, land straight ahead or best option within 30 degrees of heading only. DO NOT ATTEMPT turn back
4. **On crosswind climb.** Lower nose to best glide attitude, options only within 30 degree of heading or alternate runway if possible. DO NOT ATTEMPT turn back
5. **Approaching circuit height.** Modified circuit or alternate landing options, manage energy to achieve best glide speed, configure aircraft and plan for landing 1/3 into the available landing area. Broadcast emergency only if time allows

NOTES: 1. In all cases maintain safe airspeed 2. Rehearse a pre-take-off safety brief 3. Use appropriate height loss techniques - flap, sideslip, slipping turns to prevent overshoot. 4. Never attempt to "stretch the glide". Reset aiming point if approach misjudged.



5. AIRMANSHIP AND HUMAN FACTORS

- Pre-planning TEM
- Immediate actions based on suitable options ADM
- Constant assessment of options SA
- Discipline and resist turn back - HF fear & auto responses)

4. FLIGHT EXERCISE

- BEFORE LINE UP/TAKE OFF: Pre take off safety brief
- Demonstration and practice EF at various points identified in brief
- Development of "SAFE GLIDE" assessments
- Introduction and practice of height management techniques
- Focus on key tasks

6. OUTCOMES AND EXPECTATIONS

- Student understands likely scenarios and immediate actions required in EF scenarios
- Effective strategies adopted for range of emergencies including safety briefs
- Student demonstrates appropriate disciplines in airspeed management and decision making in a range of engine failure and emergency situations
- Student can determine and execute a suitable landing or appropriate final glide based on any presented EF scenario
- Competencies: Airspeed management +5/-0kts. Nominated landing point (safe stopping distance)

MODIFIED CIRCUITS AND MISSED APPROACHES: 3 AXIS AND WEIGHTSHIFT (B)

RECREATIONAL AVIATION AUSTRALIA

1. AIM

For the student to identify scenarios where a modified circuit or missed approach needs to be made and safely conduct the modified procedures with reference to aircraft management, published procedures and airmanship.

2. APPLICATION

For use where alterations or discontinuation of a standard circuit pattern is required for traffic separation or where any doubt exists regarding the safety of continuing any circuit leg or final approach.

5. AIRMANSHIP AND HUMAN FACTORS

- Lookout and situational awareness SA
- Decision making in rejecting take-off and landings ADM
- Management of flight sequences while multi-tasking SA, CRM
- Reference attitudes, and runway for positioning SA
- Monitoring and management of circuit and aircraft operation TEM
- Right of way and circuit rules

3. UNDERPINNING THEORY

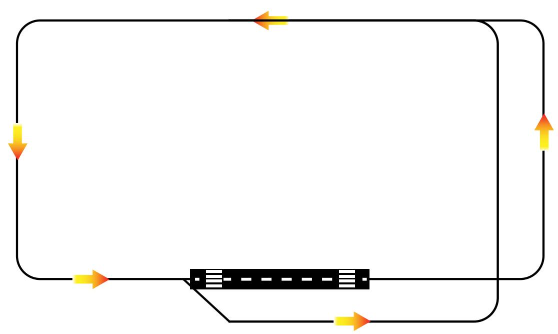
Touch and Go • Skill development and practice of landing phase	**Low Level Circuit** • To expedite landing or where environmental or mechanical hazards exist. 500 ft AGL minimums as per regulations. PPR where required from AD OPR
Stop and Go • Allows full reconfiguration and full take off technique	**Wind Gradient** • Reducing wind velocity close to ground from mechanical disturbances due to friction with surrounding air
Missed Approach • ("Go Round") Overshoot of aiming point, hazards or unstabilised approach. Energy management, aircraft control (secondary & further effects)	**Wind Shear** • Sudden change in windspeed and/or direction. Effect on airspeed, controllability, and sink rate near the ground
Varied Circuit Speeds • Application of level flight at various airspeeds within manoeuvring range for separation and aircraft configuration requirements	**Wake Turbulence** • Disturbed air created by a wings production lift. Wingtip vortices create turbulence. Greatest at high angles of attack and behind taking off or landing aircraft. 600M separation minima's. May require a planned missed approach Reference RAAus Syllabus of Flight Training 1.01/1.02 Elements 8 & 10

2. OUTCOMES AND EXPECTATIONS

- Correct application of controls and decisions through the range of sequences in the circuit
- Recognition of errors and appropriate corrections applied
- Awareness and appropriate actions for corrections required in circuit
- Reference RAAus Operations Manual, CAR 166C and VFRG
- **Required standards:** Heading +/- 5 degrees, Nominated height +/- 50 ft, Airspeed +5/-0 kt, aircraft balanced for all manoeuvres. Decision making to satisfaction of instructor.

4. FLIGHT EXERCISE

Touch and Go landings • Review of rejection points. Minimum obstacle clearance. Runway alignment, suitable aircraft configurations	
Stop and Go landings • Practice reconfiguration, aircraft control and changing controllability	
Missed approaches • Aircraft configurations and pre-landing checks • Decision points for aborted approaches • Maintaining safe climb airspeed and attitude • Aircraft reconfiguration practice and managing secondary effects • Repositioning aircraft for effective SA • Safe re-joining	**Circuit arrival, departure, and re-joining** • Departure from all legs of circuit and re-join • Arrival to join any circuit leg and considerations understood • Modification of circuit for conditions/traffic • Alerted See & Avoid with radio as required



Missed approach path