

## EC–NZS – Aircraft Checklist

SPEED		VIAS	REMARKS
V <sub>NE</sub>	Never Exceed Speed	<b>142</b>	Never exceed this speed in any operation
V <sub>NO</sub>	Maximum Structural Cruising Speed	<b>114</b>	Never exceed this speed unless in smooth air, and then only with caution
V <sub>A</sub>	Manoeuvring Speed	<b>100</b>	Do NOT make full or abrupt control manoeuvres above this speed because under certain conditions the aircraft may be overstressed by full control movement.
V <sub>FE</sub>	Maximum Flap Extended Speed	<b>FULL</b> <b>69</b>	Never exceed this speed for indicated flap setting
		<b>T.O.</b> <b>101</b>	
V <sub>R</sub>	Rotation speed	<b>42</b>	Speed at which the aircraft rotates about the lateral axis during takeoff
V <sub>OBS</sub>	Obstacle Speed	<b>52</b>	Speed at which the aircraft flies over a 15m obstacle during takeoff or landing
V <sub>X</sub>	Best Angle-of-Climb Speed	<b>56</b>	Speed which results in the greatest gain in altitude in a given distance
V <sub>Y</sub>	Best Rate-of-Climb Speed	<b>66</b>	Speed which results in the greatest gain in altitude in a given time
V <sub>IAP</sub>	Initial Approach Speed	<b>66</b>	Flaps at T/O (15°) – Abeam touchdown point
V <sub>APP</sub>	Final Approach Speed / Optimal touchdown V	<b>51</b>	Set LAND Flap (40°) – On Final Leg.
V <sub>S1</sub>	Stalling Speed	Flap UP <b>41</b>	Bank angle 0°
V <sub>S0</sub>		Flap TO <b>38</b>	
V <sub>S1</sub>		Flap LAND <b>33</b>	

### LIMITATIONS

MAXIMUM CROSSWIND (KTS)	<b>22</b>	Maximum for training flights	<b>15</b>
MAXIMUM MASS (KGs)	Take-Off: <b>620</b>	Landing: <b>620</b>	Baggage: <b>20</b>

### CABIN INSPECTION

(Items with **N** are additional items for Night VFR flights)

Aircraft Documents	ARC, C of A, Noise, Radio, AFM
– Mass and Balance	– Calculate and check within limits
Safety Belts	Check condition, attachment, free from controls
– Baggage	– FAK, Hammer, ELT, FE, Baggage secured
Parking Brake	SET
– Magnetos	– <b>OFF</b>
Aircraft Keys	Check <b>OUT</b>
– Avionics Master Switch	– Check <b>OFF</b>
Torch ( <b>N</b> )	Test
– Master Switch	– <b>ON</b> (check generator light and ammeter)
Voltmeter & Ammeter	10 – 12 V and red indication respectively
– Day/Night Switch	– Set as required
Instrument Lights ( <b>N</b> )	Test
– Dome Light ( <b>N</b> )	– Test
Pitot Heat ( <b>N</b> )	Check pitot cover removed, check operation, set to <b>OFF</b>

<b>CABIN INSPECTION</b> (Items with <b>N</b> only for Night VFR flights)	
Stall Warning	Check acoustic operation
– Strobe Lights switch	– Set <b>ON</b> , check operation, set to <b>OFF</b>
Landing Light	Check operation, set to <b>OFF</b>
– Navigation Light	– Check operation, set to <b>OFF</b>
Fuel quantity	Check indication, compare with actual quantity
– Master Switch	– Set to <b>OFF</b>
Alternate static port	Check <b>CLOSED</b>
– Fuel Selector	– Select tank with lowest quantity / <b>LEFT</b>
Additional Equipment	For night flights more than 30 minutes away from suitable landing area, a hand-held VHF radio transceiver shall be carried on board.

### **EXTERNAL INSPECTION - PERFORM**

#### **BEFORE ENGINE START**

Flight Preparation	Completed (Flt plan, fuel calculation, refuelling)
– Commander Briefing	– Perform
Seat position & belts	Adjust
– Flight Controls	– Operate, check full and free movement
Fuel Selector Valve	Select lowest quantity tank. If both full, select <b>LEFT</b> .
– Circuit Breakers	– Check <b>ALL IN</b> (Right and Left side panels)
Instrument Lights	Check <b>OFF</b>
– Navigation light	– <b>ON</b>
Landing Light	<b>OFF</b>
– Strobe light	– <b>ON</b>
Avionics Master Switch	<b>OFF</b>
– Throttle	– Adjust friction, check <b>IDLE</b>
Choke	As required
– Master Switch	– <b>ON</b> , check GEN light On and Voltage (min. <b>10.5 V</b> )
Electric Fuel Pump	On, check pump noise and fuel pressure
– Canopy	– Closed and Locked

#### **ENGINE START**

Propeller area	Check <b>CLEAR</b> - Announce
– Magnetos	– <b>BOTH</b>
Magnetos	<b>START</b>
– Oil Pressure	– Check rising within 10 sec (max cold value 7 bar)
Generator Switch	Set <b>ON</b> , check Ammeter “green”, Voltmeter >14V
– Engine Instruments	– Check
Choke	Check <b>OFF</b>
– Propeller RPM	– Set 1000 – 1100 RPM
Electric Fuel Pump	<b>OFF</b>
– Fuel Pressure	– Check (minimum <b>2.2 psi</b> )

#### **AFTER ENGINE START**

Avionics Master Switch	<b>ON</b> , Radios <b>ON</b> , radio & instruments check
– Flap control	– Cycle fully extended, then set to <b>T/O</b>
Trim Control	Check from both controls, check trim disconnects, set <b>N</b>
– Altimeter	– <b>SET QNH</b>
Direction Indicator	Set in accordance with the magnetic indicator

<b>TAXI</b>	
Taxi Clearance	Obtain
–Landing Light	–As required
Brakes	Check
–Steering	–Check
Flight Instruments	Set and Check
<b>ENGINE POWER CHECKS</b>	
Parking Brake	<b>ON</b>
–Fuel Selector Valve	–Change tank
Engine Instruments	Check within limits (Oil T&P, Coolant T, Fuel P, Gen. It)
–Electric Fuel Pump	–Set <b>ON</b> , check pressure
Propeller RPM	Set <b>1640</b>
–Ignition magnetos test	–Check – max drop <b>130</b> , Max difference <b>50</b>
Carburettor Heat test	Check <b>100</b> rpm drop
–Fuel Quantity	–Check
Propeller RPM	Set <b>1000 – 1100</b> RPM
–Fuel Pump	– <b>OFF</b>
Fuel Selector Valve	If both tanks are full select <b>LEFT</b>
–Flight Controls	–Check full & free movement
Flaps & Pitch Trim	Check T/O & Neutral
–Seat belts	–Check fastened
Canopy	Check closed & locked
–ATC clearance	–Obtain, Set Transponder
<b>BEFORE TAKE-OFF</b>	
Departure Briefing	Perform
– Take off Clearance	– Obtain
Approach Path	Check Clear
– Parking Brake	– <b>OFF</b>
Carburettor Heat	<b>OFF</b>
– Electric Fuel Pump	– <b>ON</b>
Landing Light	<b>ON</b>
– Runway Entry	– Check correct entry point
Runway Alignment	Check compass & DI. Check wind direction
<b>TAKE-OFF</b>	
Throttle	As required – Consider Reduced Power Take-Off
–Engine instruments	–Check
Air Speed Indicator	Check speed increasing
–Rotation speed	– $V_R = 42$ KIAS
Climb Speed	$V_Y = 66$ KIAS
–Brakes	–Apply to stop wheel spinning
<b>AFTER TAKE-OFF / CLIMB – POWER REDUCTION @ 300 ft AGL</b>	
Follow <b>A-P-T</b> = Climb Attitude, reduce Power (flap retraction), then Trim	
Climb Speed	<b>75</b> KIAS
–Propeller RPM	–Reduce <b>2000</b> RPM
Flaps	Retract - (above flap retraction speed <b>50</b> KIAS)
–Trim	–Adjust
Fuel Pump	<b>OFF</b> – Check Pressure in green
–Landing Light	– <b>OFF</b>

<b>CRUISE</b> (at TOC and every 15 minutes)	
Follow A-P-T = Attitude, Power then Trim	
<b>F</b> - Fuel	Check Pressure & Quantity
<b>R</b> - Radios	–Check correct frequency
<b>E</b> - Engine	Oil T&P, Coolant temp, Carb Heat check Temps: Max CHT: 135°C, Max CT: 120°C Min/Max Oil: 50°-130° C Oil normal operating range (approx.) 90°-110°C
<b>D</b> - Directional Indicator	–Check – Align
<b>A</b> - Altimeter	Check correct regional QNH setting, MSA
<b>Note:</b> Fuel tank change	Fuel pump <b>ON</b> Fuel Selector Valve Switch to other tank Fuel pump <b>OFF</b> , check pressure
<b>DESCENT &amp; APPROACH</b>	
Cruise Checks	Perform
–Fuel Pump	– <b>ON</b>
Carburettor Heat	As required, then check <b>OFF</b>
–Descent Profile	–Adjust power to 75 KIAS and 300 FPM
On Downwind leg	Speed <b>70</b> KIAS, Flaps T/O (15 <sup>0</sup> ), Landing Light <b>ON</b>
–On Final leg	– Speed <b>55</b> KIAS, Flaps LAND (40 <sup>0</sup> ), Touchdown <b>51</b> KIAS –In gusty conditions add 5 kts to V <sub>APP</sub> .
<b>Note:</b> For training flights	Flaps UP Idg: Downwind and V <sub>APP</sub> Spd <b>75</b> KIAS Flaps T/O Idg: Downwind and V <sub>APP</sub> Spd <b>70</b> KIAS Flaps LAND Idg: Downwind Spd. <b>70</b> KIAS, V <sub>APP</sub> Spd <b>60</b> KIAS
<b>GO AROUND</b>	
Throttle	<b>FULL</b>
–Flaps	–Set to <b>T/O</b>
Speed	<b>66</b> KIAS
<b>AFTER LANDING</b>	
Propeller RPM	Set <b>1000</b> RPM
–Landing Light	–As required
Flaps	<b>UP</b>
–Transponder	–Set as required
Fuel Pump	<b>OFF</b> – Check Pressure
<b>PARKING</b>	
Parking Brake	Set <b>ON</b>
–All electrical equipment	– <b>OFF</b> ( <b>except</b> strobe light)
Magnetos	<b>OFF</b> (ensure cooling period completed) <b>Reduce RPM</b>
–Strobe Light	– <b>OFF</b>
Master & GEN. switch	<b>OFF</b>
–Fuel Selector Valve	– <b>OFF</b>
Parking Brake	When chocks & tie-downs in place set <b>OFF</b>
–Canopy	–Close
Flight Document / ATL	Complete (Block times, PIC, note any technical defects)
<b>AIRCRAFT SECURING</b>	
Pitot & Static tubes	Cover
–Canopy	–Lock
A/C cover	Install

# EMERGENCY PROCEDURES

In case of emergency, the pilot should act as follows, in this order:

1. **Aviate** – Fly the aircraft. Keep control of the aeroplane
2. **Navigate** – Know where you are; where you should be; where the terrain / obstacles are.
3. **Communicate** – If time permits and conditions allow, inform Air Traffic Control (ATC). Declare May-Day / Pan-Pan on **121.5**
4. **Manage the problem** - Analyse the situation. Apply the pertinent procedure

<b>A</b>	<b>ENGINE FAILURE</b> A-1 Engine Failure During Take-Off Run A-2 Engine Failure Immediately After Take-Off A-3 Engine Failures During Flight A-3-1 Low Fuel Pressure A-3-2 Oil Pressure Limits Exceedance A-3-3 High Oil Temperature A-3-4 CT Limit Exceedance
<b>B</b>	<b>ENGINE SECURING</b>
<b>C</b>	<b>AEROPLANE EVACUATION</b>
<b>D</b>	<b>LANDING EMERGENCY</b> D-1 Forced Landing Without Engine Power D-2 Power-On Forced Landing D-3 Landing With A Flat Nose Tire D-4 Landing With A Flat Main Tire
<b>E</b>	<b>SMOKE AND FIRE</b> E-1 Engine Fire On The Ground E-2 Engine Fire During Take-Off E-3 Engine Fire In-Flight E-4 Cabin Fire / Electrical Smoke In-Cabin During Flight E-5 Electrical Smoke / Fire In-Cabin On The Ground
<b>F</b>	<b>IN-FLIGHT ENGINE RESTART</b>
<b>G</b>	<b>AEROPLANE ALERTS</b> G-1 Electric Power System Malfunction – GEN. Warning Light G-2 Electric Fuel Pump Failure G-3 Trim System Failure G-4 Instruments Lights Failure G-5 Static Port Failure
<b>H</b>	<b>RECOVERY FROM UNINTENTIONAL SPIN</b>
<b>I</b>	<b>UNINTENTIONAL FLIGHT INTO ICING CONDITIONS</b>



**A ENGINE FAILURE**

**A-1 ENGINE FAILURE DURING TAKE-OFF RUN**

- |                   |                             |
|-------------------|-----------------------------|
| 1. Throttle ..... | <b>IDLE (full out)</b>      |
| 2. Rudder .....   | <b>Keep heading control</b> |
| 3. Brakes .....   | <b>Apply as necessary</b>   |

When safely stopped:

- |                                      |     |
|--------------------------------------|-----|
| 4. Magnetos .....                    | OFF |
| 5. Fuel selector valve .....         | OFF |
| 6. Electric fuel pump .....          | OFF |
| 7. Generator & Master switches ..... | OFF |

**A-2 ENGINE FAILURE IMMEDIATELY AFTER TAKE-OFF**

- |  |                            |
|--|----------------------------|
| 1. Speed .....                                 | <b>Keep minimum 51 kts</b> |
| <b>2. Find a suitable place to land safely</b> |                            |

Plan to land immediately straight ahead with only small changes in directions not exceeding 45° to the left or 45° to the right.

- |                       |                    |
|-----------------------|--------------------|
| <b>3. Flaps .....</b> | <b>As required</b> |
|-----------------------|--------------------|

Stall speed increases with bank angle and longitudinal load factor. Acoustic stall warning will in any case provide a correct anticipated clue of incipient stall.

At or right before touch down:

- |   |                        |
|---|------------------------|
| <b>4. Throttle .....</b>                        | <b>IDLE (Full out)</b> |
| <b>5. Magnetos .....</b>                        | <b>OFF</b>             |
| <b>6. Fuel selector valve .....</b>             | <b>OFF</b>             |
| <b>7. Electric fuel pump .....</b>              | <b>OFF</b>             |
| <b>8. Generator &amp; Master switches .....</b> | <b>OFF</b>             |

A single engine aircraft take-off should always be preceded by a thorough take off emergency pilot self-briefing. Decision to try an engine emergency restart right after take-off should be taken only if environmental situation requires it: pilot shall never ignore the priority of attentively follow an immediate emergency landing. After possible mechanical engine seizure, fire or a major propeller damage, engine restart attempt is not recommended.

**A-3 ENGINE FAILURE DURING FLIGHT**

**A-3-1 LOW FUEL PRESSURE**

If the fuel pressure indicator falls below the **2.2 psi (0.15 bar)**

- |  |                                     |
|--|-------------------------------------|
| 1. Electric fuel pump .....            | <b>ON</b>                           |
| 2. Fuel selector valve .....           | <b>Change the fuel feeding tank</b> |
| 3. Check both fuel quantity indicators |                                     |

If fuel pressure does not build up:

- 4. Land as soon as possible**

If engine stops:

- 5. Land as soon as possible applying forced landing procedure**

**A ENGINE FAILURE****A-3-2 OIL PRESSURE LIMIT EXCEEDANCE**

If oil pressure exceeds upper limit (**7 bar**)

- |   |   |
|---|---|
| 1. Throttle lever .....                 | REDUCE engine power as practical<br>Within limits |
| 2. Oil Pressure and Oil Temp check .... |   |
| 3. <b>Land as soon as practical</b>     |   |

If oil pressure is under the lower limit (**0.8 bar**)

- |                                     |                          |
|-------------------------------------|--------------------------|
| 1. Throttle lever .....             | REDUCE Minimum practical |
| 2. <b>Land as soon as practical</b> |                          |

If oil pressure continues to decrease

3. **Land as soon as possible applying forced landing procedure**

**A-3-3 HIGH OIL TEMPERATURE**

If oil pressure is low refer to A-3-2. If oil pressure is within limits

- |                         |                          |
|-------------------------|--------------------------|
| 1. Throttle lever ..... | REDUCE Minimum practical |
|-------------------------|--------------------------|

If oil temperature does NOT decrease

- |                   |          |
|-------------------|----------|
| 2. Airspeed ..... | INCREASE |
|-------------------|----------|

If oil temperature does not come back within limits, the thermostatic valve regulating the oil flow to the heat exchangers, could be damaged or an oil leakage can be present in the oil supply line.

3. **Land as soon as practical**

If engine roughness, vibrations, erratic behaviour, or high CT is detected:

4. **Land as soon as possible applying forced landing procedure**

**A-3-4 CT LIMIT EXCEEDANCE**

If CT is above 120<sup>o</sup> C:

- |                                     |                          |
|-------------------------------------|--------------------------|
| 1. Throttle Lever .....             | REDUCE Minimum practical |
| 2. <b>Land as soon as practical</b> |                          |

If CT continues to rise and engine shows roughness or power loss:

3. **Land as soon as possible applying forced landing procedure**

**B ENGINE SECURING**

Following procedure is applicable to shut-down the engine in flight:

- |                                    |             |
|------------------------------------|-------------|
| 1. <b>Throttle Lever</b> .....     | <b>IDLE</b> |
| 2. <b>Magnetos</b> .....           | <b>OFF</b>  |
| 3. <b>Fuel Selector</b> .....      | <b>OFF</b>  |
| 4. <b>Electric fuel pump</b> ..... | <b>OFF</b>  |
| 5. <b>Generator switch</b> .....   | <b>OFF</b>  |

**C AEROPLANE EVACUATION**

With the engine secured and propeller stopped (if practical):

- |  |                               |
|--|-------------------------------|
| 1. <b>Parking brake</b> .....  | <b>ON</b>                     |
| 2. <b>Seat belts</b> .....   | <b>Unstrap completely</b>     |
| 3. <b>Headphones</b> .....   | <b>REMOVE</b>                 |
| 4. <b>Canopy</b> .....   | <b>OPEN</b>                   |
| 5. <b>If canopy is locked or doesn't slide</b>                                   | <b>BREAK using the hammer</b> |
| 6. <b>Escape away from flames / hot engine compartment / spilling fuel tanks</b> |                               |

**D LANDING EMERGENCY****D-1 FORCED LANDING WITHOUT ENGINE POWER**

- |  |                |
|--|----------------|
| 1. Flap .....  | UP             |
| 2. Airspeed .....  | <b>69</b> KIAS |
| 3. Find a suitable place to land safely, plan to approach it upwind. |                |
| 4. Fuel selector valve .....   | OFF            |
| 5. Electric fuel pump .....  | OFF            |
| 6. Magnetos .....  | OFF            |
| 7. Safety belts .....  | Tighten        |
| 8. Canopy locks .....  | CHECK LOCKED   |

When certain to land

- |                                       |              |
|---------------------------------------|--------------|
| 9. Flaps .....                        | As necessary |
| 10. Generator & Master switches ..... | OFF          |

Glide ratio is 12:8. Therefore, in zero wind conditions for every 1000 ft Above Ground Level (AGL) it is possible to cover approx. 2 NM (4 km).

**D-2 POWER-ON FORCED LANDING (PFL)**

- |  |                |
|--|----------------|
| 1. Airspeed .....  | <b>69</b> KIAS |
| 2. Flap .....  | UP             |
| 3. Locate the most suitable terrain for emergency landing, plan to approach it upwind. |                |
| 4. Safety belts .....  | Tighten        |
| 5. Canopy locks .....  | CHECK LOCKED   |

When certain to land, right before touch down

- |                                       |              |
|---------------------------------------|--------------|
| 6. Flaps .....                        | As necessary |
| 7. Fuel selector valve .....          | OFF          |
| 8. Electric fuel pump .....           | OFF          |
| 9. Magnetos .....                     | OFF          |
| 10. Generator & Master switches ..... | OFF          |



**D LANDING EMERGENCY****D-3 LANDING WITH A FLAT NOSE TIRE**

- |   |          |
|---|----------|
| 1. Pre-Landing checklist .....  | Complete |
| 2. Flaps .....  | Land     |
| 3. Land and maintain aircraft NOSE HIGH attitude as long as possible. |          |

As aircraft stops

- |                              |         |
|------------------------------|---------|
| 4. Engine securing .....     | Perform |
| 5. Airplane evacuation ..... | Perform |

**D-4 LANDING WITH A FLAT MAIN TIRE**

- |   |          |
|---|----------|
| 1. Pre-Landing checklist .....  | Complete |
| 2. Flaps .....  | Land     |
| 3. Land the aeroplane on the side of the runway opposite to the defective tire to compensate the change in direction which is to be expected during final roll out. |          |
| 4. Touchdown with the GOOD TIRE FIRST and hold aircraft with the flat tire off the ground as long as possible by means of aileron and rudder control.               |          |

As aircraft stops

- |                              |         |
|------------------------------|---------|
| 5. Engine securing .....     | Perform |
| 6. Airplane evacuation ..... | Perform |

**E SMOKE AND FIRE****E-1 ENGINE FIRE ON THE GROUND**

- |                                      |                       |
|--------------------------------------|-----------------------|
| 1. Fuel selector .....               | OFF                   |
| 2. Electric fuel pump .....          | OFF                   |
| 3. Magnetos .....                    | OFF                   |
| 4. Throttle lever .....              | FULL POWER            |
| 5. Cabin heat .....                  | OFF                   |
| 6. Generator & Master switches ..... | OFF                   |
| 7. Parking brake .....               | ENGAGED               |
| 8. Aircraft Evacuation .....         | Carry out immediately |

**E-5 ELECTRICAL SMOKE / FIRE IN CABIN ON THE GROUND**

- |                              |                       |
|------------------------------|-----------------------|
| 1. Generator Switch .....    | OFF                   |
| 2. Throttle lever .....      | IDLE                  |
| 3. Magnetos .....            | ALL OFF               |
| 4. Fuel selector valve ..... | OFF                   |
| 5. MASTER Switch .....       | OFF                   |
| 6. Aircraft Evacuation ..... | Carry out immediately |



**E SMOKE AND FIRE**

**E-2 ENGINE FIRE DURING TAKEOFF**

- BEFORE ROTATION: ABORT TAKE OFF

- |                         |                      |
|-------------------------|----------------------|
| 1. Throttle lever ..... | IDLE                 |
| 2. Rudder .....         | Keep heading control |
| 3. Brakes .....         | As required          |

With aircraft under control

- |                                      |                       |
|--------------------------------------|-----------------------|
| 1. Fuel selector .....               | OFF                   |
| 2. Electric fuel pump .....          | OFF                   |
| 3. Magnetos .....                    | OFF                   |
| 4. Cabin heat .....                  | OFF                   |
| 5. Generator & Master switches ..... | OFF                   |
| 6. Parking brake .....               | ENGAGED               |
| 7. Aircraft Evacuation .....         | Carry out immediately |

**E-3 ENGINE FIRE IN-FLIGHT**

- |                              |                               |
|------------------------------|-------------------------------|
| 1. Cabin heating .....       | OFF                           |
| 2. Fuel selector valve ..... | OFF                           |
| 3. Electric fuel pump .....  | OFF                           |
| 4. Throttle .....            | FULL FORWARD until Eng. stops |
| 5. Magnetos .....            | OFF                           |
| 6. Cabin vents .....         | OPEN                          |

Do NOT attempt an engine restart

- Land as soon as possible applying forced landing procedure

**E-4 CABIN FIRE / ELECTRICAL SMOKE IN CABIN DURING FLIGHT**

- |                        |                    |
|------------------------|--------------------|
| 1. Cabin heating ..... | OFF                |
| 2. Cabin vents .....   | OFF                |
| 3. Canopy .....        | OPEN, if necessary |
4. Try to choke the fire. Direct the fire extinguisher towards the flame base.

**If smoke persists:**

- |                                      |     |
|--------------------------------------|-----|
| 1. Generator & Master switches ..... | OFF |
|--------------------------------------|-----|
2. Land as soon as possible and evacuate the aircraft

If the MASTER SWITCH is set to OFF, consider that FLAP extension and PITCH TRIM operation would NOT be possible.



**F IN-FLIGHT ENGINE RESTART**

After a mechanical engine seizure, fire or a major propeller damage engine restart is not recommended. It is preferred to restart the engine at an altitude below 4000 ft AGL and at the suggested speed of **69 KIAS** or more

- |                                  |                              |
|----------------------------------|------------------------------|
| 1. Carburettor heat .....        | ON if required               |
| 2. Electric fuel pump .....      | ON                           |
| 3. Fuel quantity indicator ..... | CHECK                        |
| 4. Fuel selector .....           | Change the fuel feeding tank |
| 5. Magnetos .....                | BOTH                         |
| 6. Magnetos .....                | START                        |
| 7. Throttle lever .....          | SET as required              |

After engine restart, if practical, moderate propeller RPM and throttle increase to allow OIL and CHT/CT temperatures for stabilizing in the green arcs. If the fuel quantity in the tank which feeds the stopped engine is low, select the opposite side fuel tank by means of the fuel selector.

In case of unsuccessful engine restart:

- |  |                                    |
|--|------------------------------------|
| 1. Engine .....  | SECURE (see Engine Securing proc.) |
| 2. <b>Land as soon as possible applying forced landing procedure</b> |                                    |

**G AEROPLANE ALERTS**

**G-1 ELECTRIC POWER SYSTEM MALFUNCTION  
– GEN. WARNING LIGHT ALT ILLUMINATES**

**Note:** Generator light may illuminate for a faulty alternator or when voltage is above 16V, in this case the over-voltage sensor automatically shuts down the alternator. The battery is capable of supplying the electrical system for at least 35 minutes to complete flight in emergency conditions, with normal flight electric loads including operation of flap and trim.

- |  |     |
|--|-----|
| 1. Generator Switch & Master Switch ...  | OFF |
| 2. Generator Switch & Master Switch .... | ON  |

If generator warning light ALT stays displayed:

- |  |  |
|--|--|
| 1. Generator Switch .....                  | OFF  |
| 2. Non-essential electrical equipment .... | OFF  |
| 3. Radio Calls .....                       | Reduce to the strictly necessary                   |
| 4. Five minutes before landing .....       | Pitot Heat OFF                                     |
| 5. Limit the landing light use .....       | Turn the light ON maximum 5 minutes before landing |

**G-2 ELECTRIC FUEL PUMP FAILURE**

If the electric fuel pump light is OFF the reasons can be: (a) Electric fuel pump not electrically fed OR (b) Light inoperative. Apply the following procedure:

- |                                    |              |
|------------------------------------|--------------|
| 1. Electric fuel pump switch ..... | OFF, then ON |
| 2. Fuel pressure .....             | Check rising |

If the pressure doesn't build up:

- |  |  |
|--|--|
| 1. <b>Land as soon as possible, monitoring fuel pressure</b> |  |
|--|--|



**G AEROPLANE ALERTS**

**G-3 TRIM SYSTEM FAILURE - Locked Control**

Should trim control be inoperative, act as follows:

- |  |                            |
|--|----------------------------|
| 1. Breakers .....  | Check                      |
| 2. Trim switch LH/RH .....   | Check for correct position |
| 3. Speed: adjust to control aircraft without excessive stick force |                            |
| <b>4. Land aircraft as soon as possible</b>                        |                            |

Runaway: In the event of runaway, act as follows:

- Trim disconnect switch ..... OFF
- Speed: ..... adjust to control aircraft without excessive stick force
- Land aircraft as soon as possible**

**G-4 INSTRUMENT LIGHTS FAILURE**

In the event of failures affecting the instrument lights, if required apply the following:

Dome Light: ..... ON

**G-5 STATIC PORT FAILURE**

In case of static port failure, the alternate static port in the cabin (pedestal, right side) must be activated. In this case apply the following procedure:

- |                                |                        |
|--------------------------------|------------------------|
| 1. Cabin ventilation .....     | OFF (hot and cold air) |
| 2. Alternate static port ..... | OPEN                   |
| 3. Continue the mission .....  |                        |

**H RECOVERY FROM UNINTENTIONAL SPIN**

If unintentional spin occurs, the following recovery procedure should be used:

- |                            |   |
|----------------------------|---|
| 1. Throttle .....          | <b>IDLE (full out option)</b>   |
| 2. Rudder .....            | <b>Full, in the opposite direction of the spin</b>  |
| 3. Stick .....             | <b>Centralise and hold neutral</b>  |
| <b>As the spin stops:</b>  |   |
| 4. Rudder .....            | <b>SET NEUTRAL</b>  |
| 5. Airplane attitude ..... | <b>Smoothly recover averting speeds in excess of V<sub>NE</sub> and maximum load factor (n= +3.8)</b> |
| 6. Throttle .....          | <b>Readjust to restore engine power</b>   |

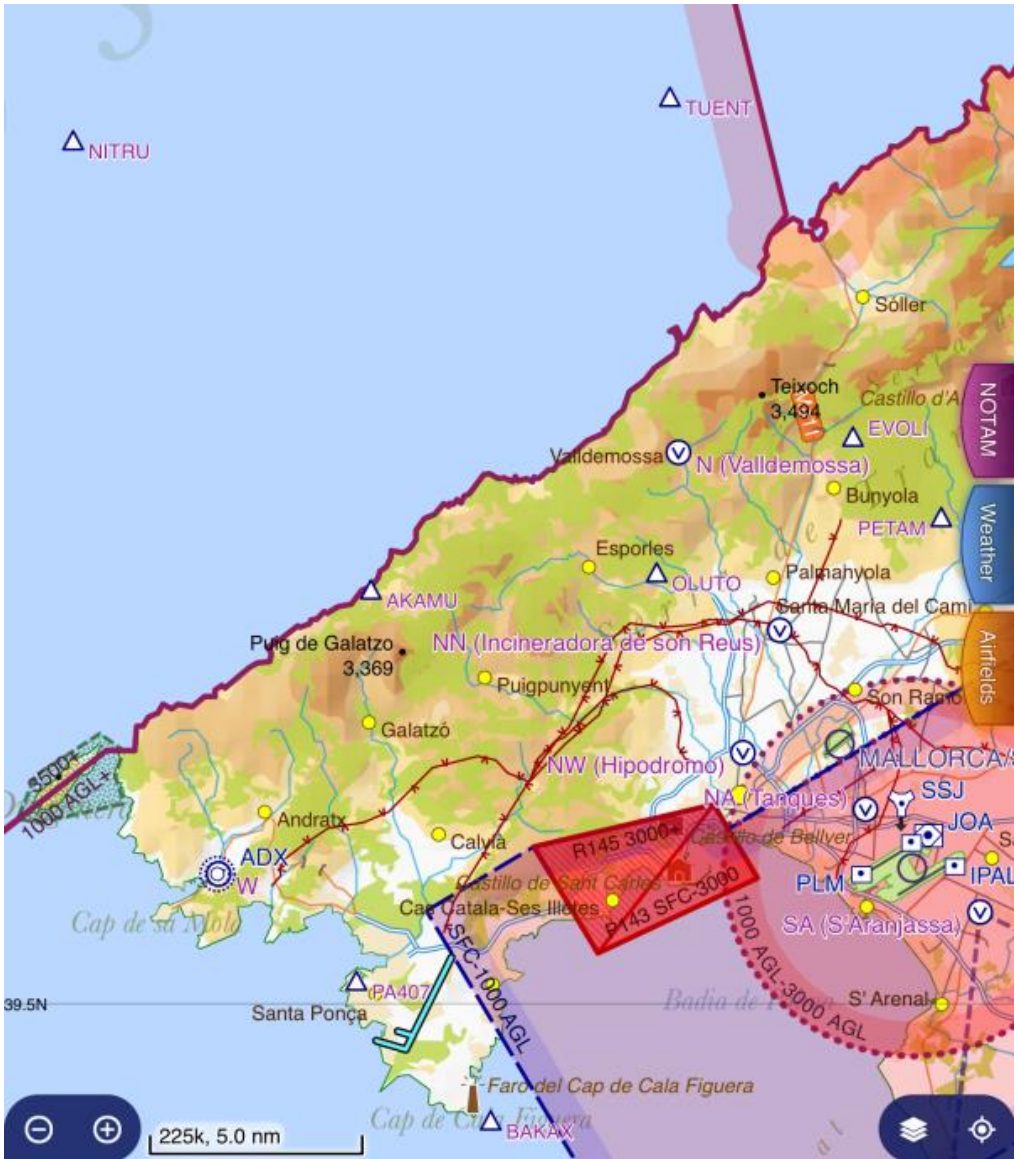
Keep full rudder against rotation until spin has stopped. One complete turn and recovery takes around 500 feet.

**I UNINTENTIONAL FLIGHT INTO ICING CONDITIONS**

Carburettor ice is possible when flying at LOW engine RPM in visible moisture (visibility less than 5 km, vicinity of fog, mist, clouds, rain, snow or hail) and OAT <10°C. Airbox carb. heater is designed to help prevent carburettor ice, less effectively functions as a de-icing system.

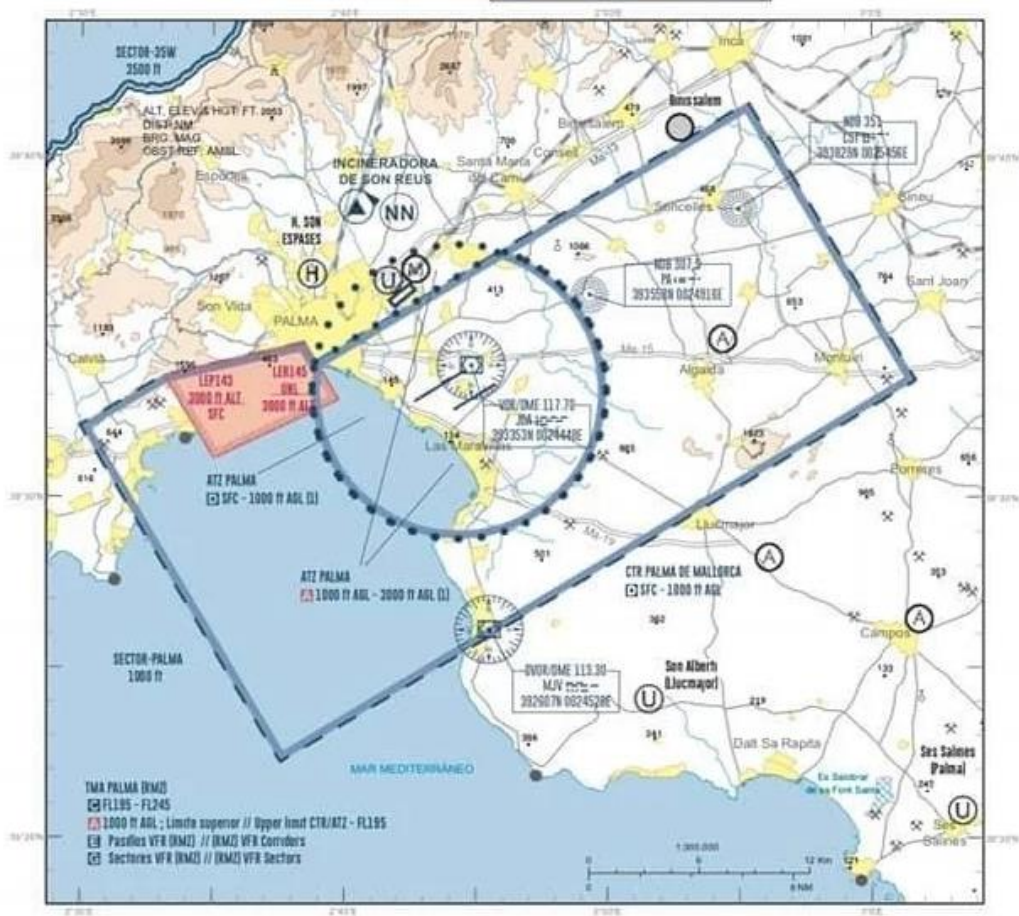
- Carburettor Heating ..... ON
- Immediately fly away from icing conditions (changing altitude and direction of flight, out of clouds, visible moisture, precipitations)
- Control surfaces ..... Continue to move to maintain their movability
- Propeller speed ..... Increase RPM
- Cabin heat ..... ON

In case of ice formation on wing leading edge, stall speed would increase



**CARTA DE APROXIMACIÓN  
VISUAL / VAC - OACI**
**ELEV AD  
153  
VAR 1°E (2020)**

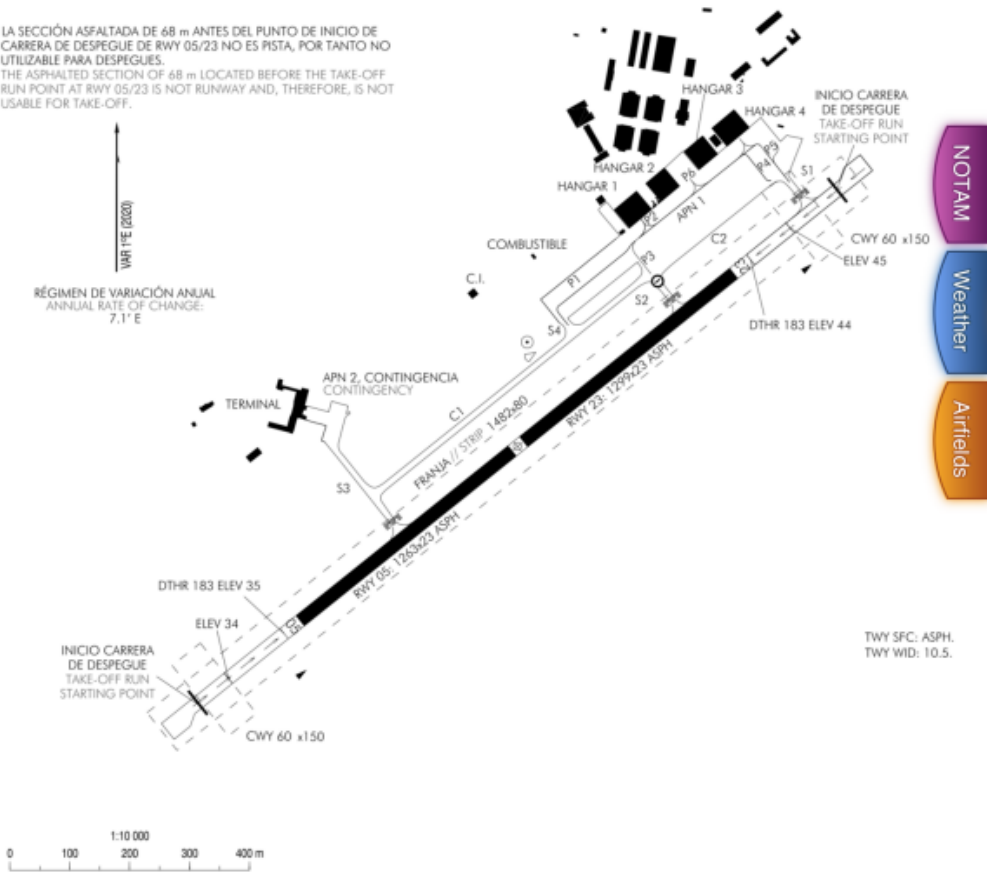
<b>AD SIN ATS SON BONET RADIO OPS PALMA</b>	<b>123.500 130.250</b>
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**MALLORCA/Son Bonet  
LESB**


(1) LA SECCIÓN ASFALTADA DE 68 m ANTES DEL PUNTO DE INICIO DE CARRERA DE DESPEGUE DE RWY 05/23 NO ES PISTA, POR TANTO NO UTILIZABLE PARA DESPEGUE.  
 THE ASPHALTED SECTION OF 68 m LOCATED BEFORE THE TAKE-OFF RUN POINT AT RWY 05/23 IS NOT RUNWAY AND, THEREFORE, IS NOT USABLE FOR TAKE-OFF.



RÉGIMEN DE VARIACIÓN ANUAL  
 ANNUAL RATE OF CHANGE:  
 7.1' E



**Palma CTA ATC Telephone**

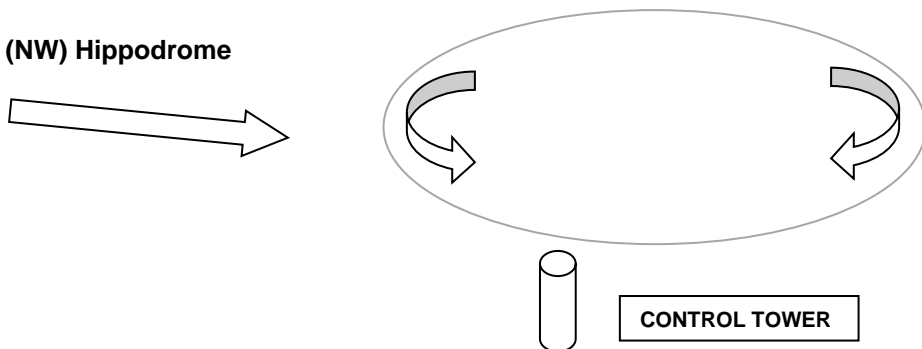
**+34 (0) 971 78 92 86**

## SON BONET RADIO FAILURE PROCEDURE

**A/C OPERATING NORTH-WEST OF SON BONET AIRFIELD:**

1. Set transponder to **7600**. Arrive over **NW (Hipodromo)** maintaining last assigned altitude. Find out runway in use by observing the windsock and aerodrome traffic.
2. Descend to **1000** ft AGL and continue orbiting abeam the Control Tower.
3. Look out for light signals from the Control Tower.

**(NW) Hippodrome**

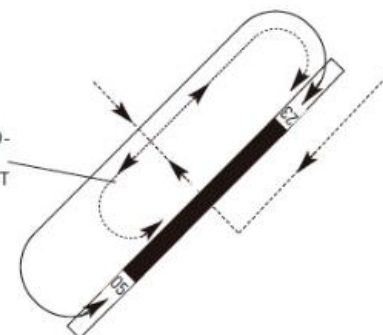


4. Rock the wings as acknowledgement for observing the signal, if after receiving:
  - **GREEN FLASHES**: Return for landing right downwind 23 or left downwind 05.
  - **STEADY GREEN**: Cleared to land.
  - **STEADY RED**: Continue circling abeam the Control Tower and observe light signals.

CIRCUITO DE TRÁNSITO DE AD.

AD TRAFFIC CIRCUIT.

CIRCUITO DE AERÓ-  
DROMO PARA ULM  
AERODROME CIRCUIT  
FOR ULM





## Technical Specifications

Day & Night VFR. Avoid icing conditions. No aerobatics. No spinning.

### Fuel / Endurance / Range

Fuel Consumption: **17** liters/hour or **4.5** gal/hr.

Fuel tank capacity: **100** liters (26 UK Gal)

- 1 tank each wing, each tank: 50 Liters (13.2 US/G)

Approved Fuel: **MOGAS or AVGAS**

- leaded, unleaded, AVGAS 100LL or Ethanol 10

Max Range: **568** NM (1502 km)

### Oil / Lubricants

Minimum recommended Oil level for Takeoff: **2.5** liters

Max Oil consumption: **0.1** liters/hour

Max Oil capacity: 3.0 liters

Min Oil capacity: 2.0 liters

Oil used for ROTAX 912 S2 engine: **Aeroshell Oil Sport Plus 4**

### Powerplant

ROTAX 912 S2, 100 hp (75 kW) at 5,800 RPM

### Performance - Fixed Pitch Propellor

Max cruise speed: **122** KIAS (140 mph, 226 km/h)

Stall speed (Flaps Up): **41** KIAS (76 km/h)

Max Operating Altitude / Practical Ceiling: **14,000** ft

- Fly EPT Spain restriction: Max **10,000** ft AMSL

Rate of Climb: **874** ft/min (4.4 m/sec)

Take Off Distance: 1296 ft (392m)    Take Off Run: 777 ft (237m)

Landing Distance: 1056 ft (322m)    Landing Run: 538 ft (164 m)

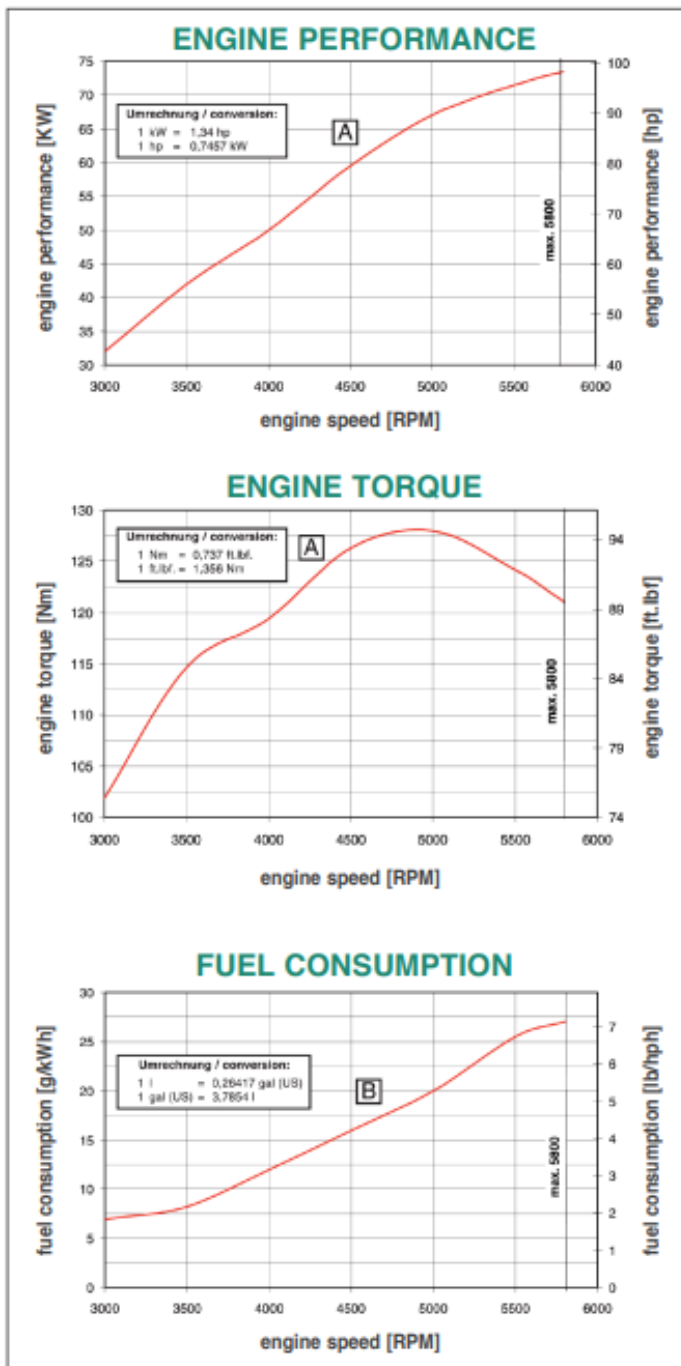
Max Takeoff Weight (MTOW): **620** kgs (1367 lb.)

Empty Weight: **380** kg (838 lb.)

Baggage allowance: **20** kg

Useful Load: **240** kg

All estimated performance data are based on aeroplane weights at MTOW; standard atmospheric conditions; level, hard surface, dry runways, no wind.



## PERFORMANCE GRAPHS