SHORT CHECKLIST

Non-Approved Checklist ✈ Refer to POH

BEFORE ENGINE START	
N = additional items required for NIGHT flight	
Fuel & Oil Caps / Drains	SECURED
Documents & Checklist	ON BOARD – NOTAMS, Wx. M&B calculation
Seat Position & Belts	SET
Passenger Briefing	PERFORMED
Parking Brake	SET
Hobbs-Metter	NOTE
Flight Controls	CHECK
Fuel Selector	Select LOWEST Tank Select RIGHT Tank if BOTH Tanks are FULL
Circuit Breakers (**N**)	ALL IN
Instruments Lights (**N**)	OFF
NAV Lights (**N**)	ON
Landing Lights (**N**)	OFF
STROBE Lights (**N**)	ON
Avionics Master	OFF
Throttle Friction	SET
Throttle	Exercise then IDLE
Carb Heat	OFF
Choke	As required
Master Sw. (**N**)	ON – Check GEN light & Min. **10.5** V
Fuel Pump	ON – Check Noise & Pressure
Torch (**N**)	On Board - NIGHT flight only
ENGINE START	
Propellor Area	CLEAR – Call '**CLEAR PROP**'
Magnetos	START then BOTH
Oil Pressure	CHECK rising within 10s - Max Cold Value 7 bar
Generator (**N**)	ON – Check Ammeter GREEN, Voltmeter > **14** V
Engine Instruments	CHECK
Choke	OFF
Power	1,000 RPM
Fuel Pump	OFF
Fuel Pressure	CHECK – Min. **2.2** PSI

BEFORE TAXI	
Avionics Master (**N**)	ON
Comms & NAV (**N**)	SET
ATIS	OBTAIN
Altimeter	SET
Instruments	CHECK – Align DI with Compass
Transponder (**N**)	STBY
Flaps	CHECK & Set T/O
Trim (both sides)	CHECK & Set
TAXI	
ATC Clearance	OBTAINED
Landing Light (**N**)	ON
Brakes	CHECK
Flight instruments	CHECK
POWER CHECKS	
Fuel Selector	CHANGE TANK
Engine Instruments	CHECK GREEN
Generator Light (**N**)	CHECK OFF
Fuel Pump	ON
Power	**1640** RPM
Magnetos	CHECK L+R - Max drop **130** RPM / Max Difference **50**
Carb Heat	CHECK **100** RPM drop
Vacuum	CHECK
Flaps	Check T/O
Trim	Check Neutral
Seat Belts	FASTENED
Canopy	CLOSED & LOCKED
Flight Plan (**N**)	OPEN
BEFORE TAKE OFF (at Hold Point)	
Departure Briefing	PERFORMED
Carb Heat	OFF
Fuel Pump	ON
Landing Light (**N**)	ON
Transponder (**N**)	ALT
ATC Clearance	OBTAINED
Approach Path	CHECK CLEAR
Compass	CHECK ALIGNED
AFTER TAKE OFF	
Fuel Pump	OFF
Landing Lights (**N**)	OFF
Flaps	UP

CRUISE	
Fuel	CHECK
Radio	CHECK
Engine	CHECK
Directional Indicator	CHECK
Altimeter	CHECK
APPROACH	
Approach Briefing	Completed
Fuel Pump	ON
Landing Lights (**N**)	ON
Parking Brake	OFF
Flaps	As required
Carb Heat	As required *Note: Carb Heat only required in Icing Conditions i.e. Visible moisture (clouds, rain, fog) and Temp. < +10°C*
LANDING - SHORT FINAL	
Carb Heat	OFF
Flaps	Set LAND

AFTER LANDING	
Power	1,000 RPM
Flaps	UP
Fuel Pump	OFF
Transponder (**N**)	STBY
Flight Plan (**N**)	CLOSE
SHUTDOWN	
Parking Brake	ON
Avionics Master	OFF
Landing Lights	OFF
Navigation Lights	OFF
Magnetos	After 1 Min – OFF
Strobe Light	OFF
Master & Generator	OFF
Hobbs Meter	NOTE
SECURING	
Aircraft Documents	FILLED IN
Chocks	ON
Parking Brake	OFF
Pitot & Static	COVERED
Control Locks	SET
Tie Downs	SECURED
Canopy	CLOSED & LOCKED
Aircraft Cover	ON

SPEEDS

		CIRCUIT	BASE	FINAL
Vr	**50** KIAS	Flaps UP (0)	**75** KIAS	**65** KIAS
Vx	**56** KIAS	Flaps T/O	**65** KIAS	**60** KIAS
Vy	**66** KIAS	Flaps FULL	**65** KIAS	**55** KIAS
Vg	**69** KIAS			

FLY SAFELY

SPEED LIMITATION			KIAS	REMARKS
V_{NE}	Never Exceed Speed		**142**	Maximum speed for all operations
V_{NO}	Maximum Structural Cruising Speed		**114**	Never exceed this speed unless in smooth air, and then only with caution
V_A	Design Manoeuvring Speed		**100**	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_{FE}	Maximum Flap Extended Speed	**FULL**	**69**	Do NOT exceed this speed for indicated flap setting
		T.O.	**101**	
V_R	Rotation speed		**42**	Minimum Speed at which the aircraft rotates about the lateral axis during take-off
V_{OBS}	Obstacle Speed		**52**	Speed at which the aircraft flies over a 15m obstacle during take-off or landing
V_X	Best Angle-of-Climb Speed		**56**	Speed which results in the greatest gain in altitude in a given distance
V_Y	Best Rate-of-Climb Speed		**66**	Speed which results in the greatest gain in altitude in a given time
V_G	Best Glide Speed		**69**	Speed for Maximum Gliding Distance
V_{IAP}	Initial Approach Speed		**66**	Set Flaps T/O (15^0) – Abeam touchdown point
V_{APP}	Final Approach Speed / Optimal touchdown V		**51**	Set LAND Flap (40°) – On Final Leg
V_{S1}	Stall Speed	Flap UP	**41**	Bank angle 0^o
V_{S0}		Flap TO	**38**	
V_{S1}		Flap LAND	**33**	

LIMITATIONS + RESTRICTIONS					
Max X-wind (Kts)	**22** Kts	**Max X-wind for Student**	**15** Kts	Empty Weight:	**380** kg
MTOW MLW	**620** kg	**Max Baggage Allowance**	**20** kg	**Useful Load**	**240** kg
Manoeuvres NOT approved	No Aerobatics No Spinning No Turns exceeding angle of bank (AOB) 60^0 Limit load factor could be exceeded by moving abruptly flight controls in excess of VA maneuvering speed 100 K_{IAS}				
APPROVED Manoeuvres	Turns in which the AOB does NOT exceed 60^0 Stalls Lazy Eights (Max 100 K_{IAS}) Chandelles (Max 114 K_{IAS})				

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

Technical Specifications

Day & Night VFR. Avoid icing conditions.

Fuel / Endurance / Range

Indicator	Fuel Quantity (Litres)
0	**0.5**
1/4	**15** (+3/-3)
1/2	**25** (+3/-3)
3/4	**35** (+3/-3)
4/4 FULL	**50** (+3/-3)

Fuel Consumption: **17** liters/hour or **4.5** gal/hr.
Fuel tank capacity: **100** liters (26 US 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 (1,051 km)

Calculate Fuel Weight

In flight planning, to calculate the weight of AvGAS 100 LL, use standard Specific Gravity (SG) **0.72**
For example, if the TECNAM P2002-JF has FULL tanks i.e. 100 liters:
- 100 liters AvGAS x SG **0.72** = **72** Kgs (at ISA +15^0 C)

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 Operating Altitude / Practical Ceiling: **14,000** ft (AFM)
Fly EPT Spain restriction: Max **10,000** ft AMSL (due Hypoxia)

Rate of Climb: **874** ft/min (4.4 m/sec)
Take Off Distance: 1296 ft (**392**m) Take Off Run: 777 ft (**237**m)
Landing Distance: 1056 ft (**322**m) Landing Run: 538 ft (**164** m)

EXPANDED CHECKLIST

Non-Approved Checklist ✈ Refer to POH

CABIN INSPECTION	
N = additional items required for NIGHT VFR flight	
Aircraft Documents	C of Reg, C of A / ARC, Noise, Radio, Insurance, AFM
Mass and Balance	Calculate W&B, check within limits
Safety Belts	Check condition, attachment, free from controls
Baggage	First Aid Kit (FAK), Hammer, ELT, Fire Extinguisher (FE), Baggage secured
Parking Brake	SET
Magnetos	OFF
Aircraft Keys	Check OUT
Avionics Master Switch	Check OFF
Master Switch (**N**)	ON - Check Generator light and Ammeter
Voltmeter & Ammeter (**N**)	10–12 V and Red indication respectively
Day / Night Switch (**N**)	Set as required
Instrument Lights (**N**)	Test
Dome Light (**N**)	Test
Pitot Heat (**N**)	Check Pitot Cover removed, check operation, Set to OFF
Stall Warning	Check acoustic operation
Strobe Lights switch (**N**)	Set ON, check operation, set to OFF
Landing Light (**N**)	Check operation, set to OFF
Navigation Light (**N**)	Check operation, set to OFF
Fuel quantity	Check indication, compare with actual quantity
Master Switch (**N**)	Set to OFF
Alternate Static Sort (**N**)	Check CLOSED
Fuel Selector Valve	Select tank with lowest quantity / LEFT
NIGHT VFR flight – Additional items to be carried on board	
Hand-held VHF Radio Transceiver (**N**)	Test For NIGHT flights more than 30 minutes away from airport, a Hand-held VHF Radio Transceiver shall be carried on board.
Torch (**N**)	Test

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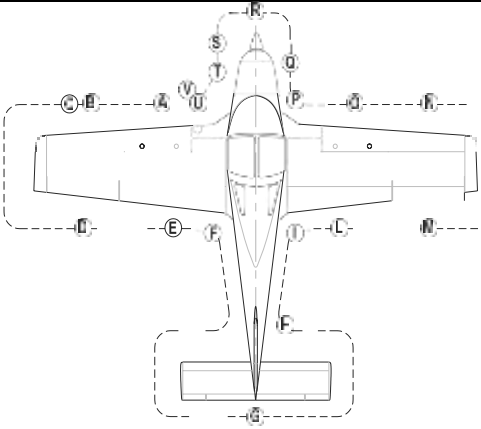
EXTERNAL INSPECTION	
A – Left Fuel Filler Cap	Visually check Fuel Levels - Drain via drainage valve - Check for contaminants + water
B – Pitot Tube (N)	Remove protection cover, check unobstructed and static vent clear.
C – Left side Leading Edge	Visual inspection
D – Left Aileron	Check trim tab & hinges: free of play / friction Check fuel tank vent unobstructed
E – Left Flap	Check hinges
F – Left Main Gear	Check inflation, tyre condition & alignment
G – Horizontal Tail & Trim tab	Check free of play, friction
H – Vertical Tail, Rudder, Trim	Check free of play, friction
I – Right Main Gear	Check inflation, tyre condition & alignment
L – Right Flap	Check hinges
M – Right Aileron	Check trim tab & hinges: free of play / friction Check fuel tank vent unobstructed
N – Right Side Leading Edge	Visual inspection
O – Right Fuel Filler Cap	Visually check Fuel Levels - Drain via drainage valve - Check for contaminants + water
P – Engine Fuel Drain	Drain fuel, check for contaminants / water Check Gascolator drain valve is **CLOSED** Gascolator drain valve must NOT be left OPEN
Q – Nose Wheel & Strut	Check inflation, condition (no visible cracks) & shock absorber disc condition
R – Propellor & Spinner	Check for nicks, cracks, dents. Check fixing and lack of play between blades & hub
S – Engine Cowling	Check both sides, No foreign objects, lose connections L – Check coolant level (between min & max) R – Check oil level: open filler cap, **KEY OUT**, turn propellor by hand approximately 10-15 times until x3 audible gurgles of air is heard. Prior to long flights oil should be added to Max. - **Oil** Min **2.55**l, Max **3.0**l
T – Engine Cowling	Close ensuring cam locks properly aligned
U – Lights (N)	Check Landing, NAV & Strobe lights, Stall Warner
V – General	Remove and stow chocks, gust lock & tie downs



BEFORE ENGINE START	** PARKING BRAKE ON **
Flight Preparation	Completed (Flt Plan, Fuel calculation, refuelling)
Passenger 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 LEFT
Circuit Breakers (**N**)	Check ALL IN (Right and Left side panels)
Instrument Lights (**N**)	OFF
Navigation light (**N**)	ON
Landing Light (**N**)	OFF
Strobe light (**N**)	ON
Avionics Master Switch	OFF
Throttle	Adjust friction, Exercise, check IDLE
Choke	As required, FULL if cold start
Master Switch (**N**)	ON, check GEN light ON and Voltage (Min. **10.5** V)
Electric Fuel Pump	ON, check pump noise and fuel pressure

ENGINE START	
Propeller Area	Check **CLEAR** – Announce '**CLEAR PROP**'
Magnetos	START then BOTH
Oil Pressure	Check rising within 10 sec (max cold value 7 bar)
Generator Switch (**N**)	Set **ON**, check Ammeter "Green" - Voltmeter > **14**V
Engine Instruments	Check
Choke	OFF
Propeller RPM	Set **1000 – 1100** RPM
Electric Fuel Pump	OFF
Fuel Pressure	Check - Minimum **2.2** PSI

AFTER ENGINE START	
Avionics Master Switch (**N**)	ON
Comms & NAV (**N**)	SET
ATIS	OBTAIN
Instruments	CHECK – Align DI with Compass
Transponder (**N**)	ON
Flap control	Cycle fully extended, Set to **T/O**
Trim control	Check from both controls, check trim disconnects, set **N**
Altimeter	SET QNH
Direction Indicator (DI)	Set in accordance with the magnetic indicator
TAXI	
Taxi Clearance	Obtain
Landing Light (**N**)	ON
Brakes	Check
Steering	Check
Flight Instruments	Set and check

Lights SOP:

On ground (Moving) > Landing light ON

In-flight > In-Circuit > Landing light ON. Out of Circuit > Landing light OFF

ENGINE POWER CHECKS	
Parking Brake	ON
Fuel Selector Valve	Change tank to fullest tank (Always Change)
Engine Instruments	Check within limits: Oil, T&P, Coolant Temp, Fuel Pressure, GEN ALT light
Electric Fuel Pump	Set ON, check pressure
Propeller RPM	Set **1640** RPM
Ignition Magnetos test	Check – Max drop **130**, Max difference **50**
Carburettor Heat test	Check **100** RPM drop
Fuel Quantity	Check
Propeller RPM	Set **1000 – 1100** RPM
Fuel Pump	**OFF**
Flight Controls	Check full & free movement
Flaps & Pitch Trim	Check T/O & Neutral
Seat Belts	Check fastened
Canopy	Check closed & locked
ATC clearance (**N**)	Obtain
Transponder (**N**)	Set
BEFORE TAKE-OFF	**** AT HOLDING POINT ****
Departure & Commanders Briefing	Perform
CANOPY	Confirm Locked
Carburettor Heat	OFF
Electric Fuel Pump	ON
Runway Entry	Check correct entry point
Approach Path	Check CLEAR - Radio call
Landing Light (**N**)	ON
Transponder (**N**)	ALT
Runway Alignment	Check Compass & DI. Check wind direction
TAKE-OFF	
Throttle	FULL > Min **2100** RPM (+/ 100)
Engine instruments	Check T's & P's Green
Air Speed Indicator	Check speed increasing. Call '**AIRSPEED ALIVE**'
Rotation speed	V_R = **50** K_{IAS}
Initial Climb Speed	V_Y = **56** K_{IAS}
Brakes	Apply to stop wheel spinning
AFTER TAKE-OFF / CLIMB	**> 300 ft AGL**
*(Climb) Follow P-A-T = Full **P**ower - Climb **A**ttitude (After Flap retraction), then **T**rim*	
Climb Speed	**66** K_{IAS} / **75** K_{IAS} If OAT >**30**°C
Propeller RPM	Reduce below **2250** RPM
Flaps	Retract - (Above Flap Retraction Speed **51** K_{IAS})
Landing Light (**N**)	OFF
Fuel Pump	**OFF** (Above 1000 ft AGL) - Check Pressure in GREEN

Lights SOP:

On ground (Moving) > Landing light ON

In-flight > In-Circuit > Landing light ON. Out of Circuit > Landing light OFF

CRUISE (at TOC and every 15 mins)	
(Levelling Off) Follow A-P-T = Attitude (Lower Nose)- (Reduce) Power - then Trim	
F - Fuel Note: Change Fuel tank	Check Pressure & Quantity Fuel Pump …… **ON** Fuel Selector Valve … Switch tanks, Check Pressure Fuel Pumps …… **OFF** - Check Pressure
R - Radios	Check correct frequency
E - Engine	Check Oil T&P, Coolant temp, Carb Heat Note: *Carb Heat only required in Icing Conditions i.e. Visible moisture (clouds, rain, fog) and Temp. < **+10**°C* Temps: Max CHT: **135**°C, Max CT: **120**°C Oil Min / Max: **50**°-**130**° C Oil Normal operating range (approx.) **90**°-**110**°C
D - Directional Indicator	Check – Align
A - Altimeter	Check correct regional QNH setting, MSA
DESCENT & APPROACH	
(Descending) Follow P-A-T = (Reduce) Power – Attitude (Lower Nose) - then Trim	
Pre-Landing Checks	Perform
Fuel Pump	**ON**
Carburettor Heat	As required, then check **OFF** on FINAL Note: *Carb Heat only required in Icing Conditions i.e. Visible moisture (clouds, rain, fog) and Temp. < **+10**°C*
Descent Profile	Adjust Power to **75** K_{IAS} and **300** FPM
On Downwind leg	Speed **70** K_{IAS}, Flaps T/O (**15**^{0}), Landing Light **ON**
On Final leg	Speed **56** K_{IAS}, Flaps LAND (**40**^{0}), Touchdown **51** K_{IAS} In gusty wind conditions add (+) **5** kts to V_{APP}
Note: For Training Flights	Downwind Speed (All): **75** K_{IAS} V_{APP} Speeds for Landing: - Base: **75** K_{IAS} ✈ Flaps UP (Flapless) V_{APP}: **65** K_{IAS} - Base: **65** K_{IAS} ✈ Flaps T/O (**15**^{0}) V_{APP}: **60** K_{IAS} - Base: **65** K_{IAS} ✈ Flaps FULL (**40**^{0}) V_{APP}: **56** K_{IAS}
GO AROUND	
Throttle	**FULL**
Flaps	Set to **T/O –** Retract Flaps >**300**' AGL
Speed	**66** K_{IAS}
AFTER LANDING	
Propeller RPM	Set **1000** RPM
Landing Light (**N**)	As required
Flaps	UP
Transponder (**N**)	Set as required (SBY) – Close Flight Plan
Fuel Pump	OFF – Check Pressure
PARKING	
Parking Brake	Set ON
All Electrical equipment	OFF (except Strobe Light)
Magnetos	Ensure 1 min. cooling period completed <**1200** RPM - OFF
Strobe Light (**N**)	OFF

Master & GEN. switch	**OFF** **Do NOT leave the Battery On** ✈ FLAT Battery
Fuel Selector Valve	OFF
Parking Brake	When Chocks & Tie-Downs in place set **OFF**
Flight Document / ATL	Complete (Block + Hobbs times, PIC, note any technical defects)
AIRCRAFT SECURING	
Pitot & Static tubes	Cover
Canopy	Lock
A/C cover	Install

FLY SAFELY

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. Ensure the airplane stays on a safe path regarding obstacle clearance. This is achieved by remaining above MSA or by following a prescribed track (e.g. SID, EOP, airway, holding pattern)

(2) **NAVIGATE** ✈ Know where you are / Where you should be / Where is the Terrain / What is the obstacle clearance?

(3) **COMMUNICATE** ✈ If and when time permits and conditions allow, inform Air Traffic Control (ATC). Declare May-Day (Distress) / Pan-Pan (Urgency) on **121.5**

Initial Radio Call

PALMA Approach - Your Callsign - I have a problem – Standby

Follow up Radio Call

MAYDAY, MAYDAY, MAYDAY – Palma Approach – Your Callsign – Your present Position / Level / Heading (e.g. 10 miles East of Son Bonet Airport descending through 2,000 feet - Heading 090) – Nature of the urgency / distress (e.g. Engine Failure) – Your intentions (e.g. Gliding for Forced Landing) – 2 persons on board – Student / PPL Pilot

(4) **MANAGE the PROBLEM** ✈ Analyse the situation. What is the problem? Avoid confirmation bias. Apply the pertinent AFM checklist procedure step by step

(5) **Is it Safe to continue the flight?**

Yes = Continue to Destination

No = Land at the Nearest Suitable Airport

Decide whether to continue the flight to destination or to initiate an en-route diversion / air turn back / Return-To-Base (RTB)

EMERGENCY PROCEDURES

MEMORY ITEMS ✈ **Commit to memory and Action As Soon As Possible when the failure is detected and recognised** (Avoid confirmation bias)

Decision Making Model Mnemonics

While managing the problem, follow an aviation decision making model, for e.g.

NMATE (Boeing) = **N**on-Normal Recognition – **M**aintain Airplane Control – **A**nalyse the Situation – **T**ake Proper Action – **E**valuate the Need to Land

FORDEC (Airbus) = **F**acts – **O**ptions – **R**isks / Benefits – **D**ecision – **E**xecution – **C**heck

QUICK REFERENCE HANDBOOK (QRH)

A	**ENGINE FAILURE**
A-1	**Engine Failure During Take-Off Run**
A-2	**Engine Failure Immediately After Take-Off**
A-3	**Engine Failure During Flight**
A-3-1	**Low Fuel Pressure**
A-3-2	**Oil Pressure Limits Exceedance**
A-3-3	**High Oil Temperature**
A-3-4	**Cylinder Temperature (CT) Limit Exceedance**
B	**IN-FLIGHT ENGINE RESTART**
C	**ENGINE SECURING**
D	**LANDING EMERGENCY**
D-1	**Forced Landing – Without Engine Power**
D-2	**Forced Landing – Power ON**
D-3	**Landing – With a Flat NOSE Tire**
D-4	**Landing – With a Flat MAIN Tire**
E	**AEROPLANE EVACUATION**
F	**SMOKE and FIRE**
F-1	**Engine Fire – On the Ground**
F-2	**Engine Fire – During Take-Off**
F-3	**Engine Fire – In-Flight**
F-4	**Cabin Fire / Electrical Smoke – In-Cabin – During Flight**
F-5	**Cabin Fire / Electrical Smoke – In-Cabin – On the Ground**
G	**AIRPLANE ALERTS**
G1	**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**
H	**RECOVERY FROM UNINTENTIONAL SPIN**
I	**UNINTENTIONAL FLIGHT INTO ICING CONDITIONS**

A	ENGINE FAILURE	
A1	**ENGINE FAILURE DURUNG TAKE OFF RUN**	
Rejected Take Off (RTO)		
1	**Throttle Lever**	**IDLE**
2	**Rudder**	**Keep Heading Control**
3	**Brakes**	**Apply as necessary**
When Safely Stopped		
4	Magnetos	OFF
5	Fuel Selector Valve	OFF
6	Electric Fuel Pump	OFF
7	Generator & Master Switch	OFF

A	ENGINE FAILURE	
A2	**ENGINE FAILURE IMMEDIATELY AFTER TAKE OFF**	
1	**Speed**	**Keep minimum 51 kts**
2	**Find a Suitable Place to Land**	
	The immediate landing should be planned straight ahead with only small changes in directions not exceeding 45° to the left and 45° to the right.	
3	**Flaps**	**As required**
	Stall speed increases with bank angle and longitudinal load factor. Acoustic stall warning will provide a correct anticipated clue of an incipient stall.	
4	**Throttle**	**IDLE (Full Out)**
5	**Magnetos**	**OFF**
6	**Fuel Selector**	**OFF**
7	**Electric Fuel Pump**	**OFF**
8	**Generator & Master Switch**	**OFF**
	A single engine aircraft take off should always be preceded by a thorough take off emergency pilot self-briefing. (In case of engine failure after take-off …) Decision to try an engine emergency restart immediately after take-off should only be taken if the environmental situation requires it. Otherwise, pilot shall never ignore the priority of attentively following an immediate emergency safe landing. An engine restart attempt is NOT recommended following fire, mechanical engine seizure (severe damage), or a major propellor damage.	

A	ENGINE FAILURE	
A3	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	ON
2	Fuel Selector	Change the fuel feeding tank
3	Check both fuel quantity indicators	
If Fuel Pressure does NOT build up		
4	**Land As Soon As Possible - Monitoring Fuel Pressure**	
If Engine Stops		
5	**Land As Soon As Possible - Applying FORCED LANDING procedure**	

A	ENGINE FAILURE	
A3	ENGINE FAILURE DURING FLIGHT	
A-3-2	**OIL PRESSURE LIMITS EXCEEDANCE**	
If Oil Pressure exceeds upper limit (**7** bar):		
1	Throttle Lever	REDUCE engine power as practical
2	OIL PRESS and OIL TEMP	Check within limits
3	**LAND As Soon As Practical**	
If Oil Pressure is under the lower limit (**0.8** bar):		
1	Throttle Lever	REDUCE minimum practical
2	**LAND As Soon As Practical**	
If Oil Pressure continues to decrease:		
3	**LAND As Soon As Possible - Applying FORCED LANDING procedure**	

A	ENGINE FAILURE	
A3	ENGINE FAILURE DURING FLIGHT	
A-3-3	**HIGH OIL TEMPERATURE**	
If Oil Pressure is Low: See LOW OIL PRESSURE checklist		
1	Throttle Lever	REDUCE Minimum, as Practical
If Oil Temperature does NOT decrease		
2	Airspeed	INCREASE
Note	If oil temperature does NOT come back within limits, the thermostatic valve (if embodied), 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 CHT / CT is detected:		
4	**LAND As Soon As Possible - Applying FORCED LANDING procedure**	

A	ENGINE FAILURE	
A3	ENGINE FAILURE DURING FLIGHT	
A-3-4	**CHT / CT LIMIT EXCEEDANCE**	
If CHT is above **135**°C or CT is above **120**°C:		
1	Throttle Lever	REDUCE Minimum, as Practical
2	**LAND As Soon As Practical**	
If CHT/CT continues to rise and engine shows roughness or power loss:		
3	**LAND As Soon As Possible - Applying FORCED LANDING procedure**	

B	IN-FLIGHT ENGINE RESTART	
	After a mechanical Engine Seizure (Severe Damage), Fire or a major Propeller damage, an engine restart is NOT recommended.	
Note	It is preferred to restart the engine at an altitude below 4000 ft and at the suggested speed of **69** K_{IAS} or more	
1	Carburettor heat	ON
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.	
Note	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 checklist
2	**LAND As Soon As Possible - Applying FORCED LANDING procedure**	

C	ENGINE SECURING	
Following procedure is applicable to shut-down the engine in flight:		
1	Throttle Lever	IDLE
2	Magnetos	OFF
3	Fuel Selector	OFF
4	Electric Fuel Pump	OFF
5	Generator Switch	OFF

D	LANDING EMERGENCY	
D-1	**FORCED LANDING – POWER ON (PFL)**	
1	Airspeed	**69** KIAS (VG Best Glide Speed)
2	Flap	UP
3	Locate the most suitable terrain for emergency landing. Plan to approach it upwind.	
4	Fuel Selector	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 Switch	OFF
Note	Glide Ratio is **12.8** (AFM) Therefore, in zero wind conditions, for every **1000 ft** Above Ground Level it is possible to cover ca. **2** NM (ca. 4 km)	

D	LANDING EMERGENCY	
D-2	**FORCED LANDING – WITHOUT ENGINE POWER**	
1	Flap	UP
2	Airspeed	**69** KIAS (VG Best Glide Speed)
3	Find a Suitable Place to Land Safely, plan to approach it upwind	
4	Safety Belts	Tighten
5	Canopy Locks	CHECK LOCKED
When certain to land, right before touchdown:		
6	Flaps	As required
7	Fuel Selector valve	OFF
8	Electric Fuel Pump	OFF
9	Magnetos	OFF
10	Generator & Master Switch	OFF
As aircraft stops:		
9	ENGINE SECURING	Perform checklist (See **C**)
10	AEROPLANE EVECUATION	Perform checklist (See E)

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 checklist (See **C**)
5	AEROPLANE EVECUATION	Perform checklist (See E)

D	LANDING EMERGENCY	
D-4	**LANDING – WITH a FLAT MAIN TIRE**	
If it is suspected a MAIN tire defect or it is reported to be defective:		
1	Pre-Landing Checklist	Complete
2	Flaps	Land
3	Land the aeroplane on the side of runway opposite to the defective tire to compensate the change in direction which is to be expected during final rolling	
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 checklist (See **C**)
6	AEROPLANE EVECUATION	Perform checklist (See E)

E	AEROPLANE EVACUATION	
With the engine secured and propeller stopped (if practical):		
1	Parking Brake	ON
2	Seat Belts	Unstrap completely
3	Headphones	REMOVE
4	Canopy	OPEN
5	If canopy is locked or does NOT slide	Break Using the hammer
6	Escape away from flames/ hot engine compartment/ spilling fuel tanks.	

F	**SMOKE and FIRE**	
F-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	**Generators & Master Switch**	**OFF**
7	**Parking Brake**	**SET - Engaged**
8	**AEROPLANE EVECUATION**	**Carry out immediately** **Perform checklist** (See E)

F	SMOKE and FIRE	
F-2	**ENGINE FIRE – DURING TAKE OFF**	
Before Rotation ABORT TAKE OFF - Rejected Take Off (RTO)		
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 Switch	OFF
7	Parking Brake	SET - Engaged
8	AEROPLANE EVECUATION	Carry out immediately Perform checklist (See E)

F	SMOKE and FIRE	
F-3	**ENGINE FIRE – IN-FLIGHT**	
1	Cabin Heating	OFF
2	Cabin Vents	OPEN
3	Canopy	OPEN, if necessary
4	Try to choke the fire	
5	Fire Extinguisher	USE -Direct the fire extinguisher towards the flame base
If Smoke Persists:		
1	Generator & Master Switch	OFF
2	LAND As Soon As Possible	
3	EVACUATE the Aeroplane	
CAUTION	If the MASTER SWITCH is set to OFF, consider that flaps extension and pitch trim operation would be NOT possible.	

F	SMOKE and FIRE	
F-4	**CABIN FIRE / ELECTRICAL SMOKE IN-CABIN – DURING FLIGHT**	
1	Generator Switch	OFF
2	Throttle Lever	IDLE
3	Magnetos	ALL OFF
4	Fuel Selector Valve	OFF
5	Master Switch	OFF
6	AEROPLANE EVECUATION	Carry out immediately Perform checklist (See E)

F	SMOKE and FIRE	
F-5	**CABIN FIRE / ELECTRICAL SMOKE - 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	**AEROPLANE EVECUATION**	**Carry out immediately** **Perform checklist** (See E)

G	AIRPLANE ALERTS	
Note	**GREEN**: to indicate that pertinent device is turned ON **AMBER**: to indicate no-hazard situations which must be considered and which require proper crew action	
G-1	**GENERATOR WARNING LIGHT** **ELECTRIC POWER SYSTEM MALFUNCTION**	
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	
1	Generator Switch	OFF
2	Master Switch	OFF
3	Generator Switch	ON
4	Master Switch	ON
If the Problem Persists:		
5	Generator Switch	OFF
6	Non-vital electric equipment	Shed
7	**LAND As Soon As Practical**	
	A fully charged battery is capable to supply enough power to supply normal electric-loads including operation of FLAP and TRIM for about 20 minutes	

G	AIRPLANE ALERTS	
G-2	**ELECTRIC FUEL PUMP FAILURE**	
Note	If Electrical Fuel Pump light (If installed) is OFF the reasons can be: • Electrical Fuel Pump NOT electrically fed • Light Inoperative	
1	Electrical Fuel Pump Switch	OFF
2	Electrical Fuel Pump Switch	ON
3	Fuel Pressure	Check raise
If Fuel Pressure does NOT build up:		
4	**Land As Soon As Possible - Monitoring Fuel Pressure**	

G	AIRPLANE ALERTS	
G-3	**TRIM SYSTEM FAILURE LOCKED CONTROL**	
Should trim control be inoperative, act as follows:		
1	Circuit Breakers	CHECK
2	Trim Switch LH / RH	CHECK
3	Speed	Adjust to control aircraft without excessive stick force
4	**Land As Soon As Possible**	
	RUNAWAY	
In the event of trim runaway, act as follows		
1	Trim Disconnect Switch	OFF
2	Speed	Adjust to control aircraft without excessive stick force
3	**Land As Soon As Possible**	

G	AIRPLANE ALERTS	
G-4	**INSTRUMENT LIGHTS FAILURE**	
In the event of failures affecting the instrument lights, if required, apply the following:		
1	Dome Light	ON

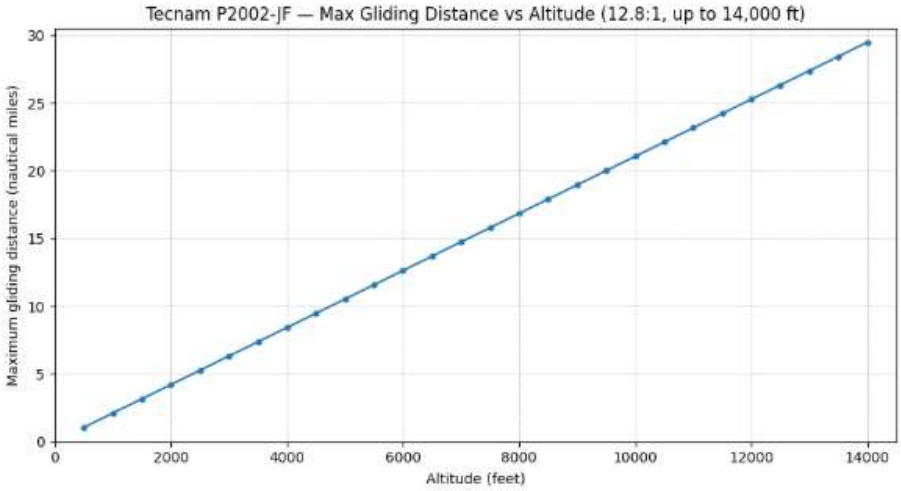
G	AIRPLANE ALERTS	
G-5	**STATIC PORT FAILURE**	
In case of Static Port Failure, the Alternate Static Port in the cabin (pedestal, right side) must be activated. In this case, apply the following procedure:		
1	Cabin Ventilation	OFF
2	Alternate Static Port	OPEN

H	RECOVERY FROM UNINTENTIONAL SPIN	
If unintentional spin occurs, the following recovery procedure should be used:		
1	**Throttle Lever**	**IDLE – Full OUT position**
2	**Rudder**	**FULL, in the OPPOSITE direction of the spin centreline**
3	**Stick**	**Hold Neutral**
As the Spin Stops		
4	**Rudder**	**Set Neutral**
5	**Aeroplane Attitude**	**Smoothly recover averting speeds in excess of VNE and maximum load factor (N=+3.8)**
6	**Throttle Lever**	**Readjust to restore engine power**
	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 (outside visibility less than 5 km, vicinity of fog, mist, clouds, rain, snow, or hail) and OAT less than +10°C. Airbox carburettor heater is designed to help prevent carburettor ice, and less effectively functions as a de-icing system.	
1	Carburettor heating:	ON
2	Immediately fly away from icing conditions (changing altitude and direction of flight, out of clouds, visible moisture, precipitations)	
3	Control Surfaces	Continue to move to maintain their movability
4	Propeller speed:	Increase RPM
5	Cabin Heat	ON
	In case of ice formation on wing leading edge, stall speed (VS) would increase.	

CALCULATING GLIDE DISTANCE

Glide Distance Vs Altitude - TECNAM P2002-JF



Maximum Glide Distance Speed (VG) = **69** Kts

Altitude (Feet)	Max Glide Distance (NM) - Still Air	
1,000	2.11	
2,000	4.21	
3,000	6.32	
4,000	8.43	
5,000	10.53	
6,000	12.64	
7,000	14.75	
8,000	16.85	
9,000	18.96	
10,000	**21.07**	**Max Altitude without supplemental O2**
11,000	23.17	
12,000	25.28	
13,000	27.39	
14,000	29.49	**AFM Altitude Limitation**

WIND CORRECTION	APPLY TO DISTANCE
Per 10 kt HEAD-wind	Minus (**-**) **15**%
Per 10 kt TAIL-wind	Plus (**+**) **15**%

Glide Ratio is **12.8**, according to Airplane Flight Manual (AFM)
Therefore, in zero wind conditions, for every **1000 ft** AGL it is possible to cover ca. **2** NM (ca. 4 km). Note: 1 NM = 6,076 ft.

RADIO FAILURE PROCEDURE

Note

Son Bonet Airport (LESB) does NOT have a manned Control Tower. Therefore contact by phone:

Palma CTA ATC Telephone +34 (0) 971 78 92 86

Trouble shooting:

Check correct frequency; Check station published hours; Master + Avionics sw. ON; Audio Selector Panel correctly ON; Volume & squelch correctly set; Microphone PTT button not stuck; Headset + Microphone plugged in firmly – consider changing sets; Check Circuit Breakers and Fuses (reset ONLY once); Ask other aircraft if they can hear you; Try another frequency **121.5** MHZ

If unable to establish communications on the radio:

1. Set Transponder to **7600** immediately
2. Turn ON all lights
3. Maintain VMC and remain clear of controlled airspace
4. Maintain last assigned altitude / clearance.
5. Consider whether the flight can safely be continued without a radio. For example, it may be advisable to divert to a quiet aerodrome outside of controlled airspace.
6. If it is possible that only the receive function has failed, state your intentions on the applicable frequency via 'blind' transmission.
7. If only the transmit function has failed, continue to listen for any instructions or information from ATC (if applicable).
8. Once overhead an aerodrome, observe the signal square and circuit.
9. Watch out for other traffic
10. Ascertain runway in use by observing the windsock and aerodrome traffic.
11. Descend to **1000** ft AGL and continue orbiting abeam the Control Tower.
12. Watch out for any light signals from the ground / Control Tower.
13. Rock the wings as acknowledgement for observing the signal, if after receiving:

- **GREEN FLASHES**: Return for landing
- **STEADY GREEN**: Cleared to land
- **STEADY RED**: Continue circling abeam the Control Tower and observe light signals.

14. Report your landing to any relevant ATSUs as soon as possible.