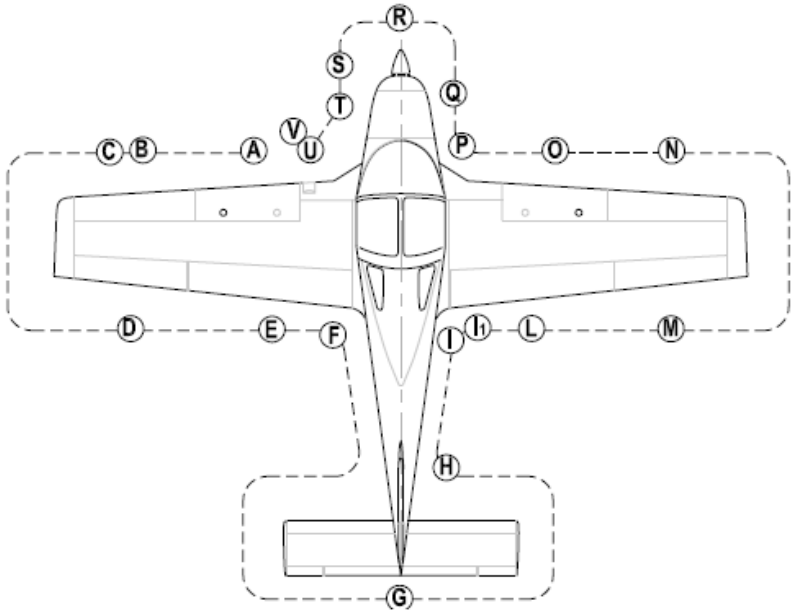
FOX AIR

Tecnam P2002-JR Checklist & Emergency Procedures

Preflight Inspections

1	Aircraft Papers & Flight Manual	On board	**1**
2	Weight and Balance	check within limits	**2**
3	Safety Belts	Flight Controls free	**3**
4	Magnetos	Off	**4**
5	Master Switch	On	**5**
6	Stall Warning	Acoustic Check	**6**
7	Master Switch	Off	**7**
8	Baggage	Securely stowed	**8**

Outside Check



A	Left fuel filler cap & drainage	Check fuel and contaminants	**A**
B	Pitot tube	Check	**B**
C	Left leading edge	Visual inspection	**C**
D	Left tank vent & aileron	Visual inspection	**D**
E	Left flap & hinges	Visual inspection	**E**
F	Left main landing gear	23 PSI or 1,6 bar	**F**
G	Horizontal tail	Visual inspection	**G**
H	Vertical tail & rudder	Visual inspection	**H**
	Battery & ext. starter case	Closed	
I	Right main landing gear	23 PSI or 1,6 bar	**I**
I1	Emergency LG system	Pressure 20 bar (+/- 2)	**I1**
L	Right flap and hinges	Visual inspection	**L**
M	Right aileron & tank vent	Visual inspection	**M**
N	Right leading edge	Visual inspection	**N**
O	Right fuel filler cap & drainage	Check fuel and contaminants	**O**
P	Fuel selector OFF	Drain and check	**P**
Q	Nose wheel strut & tire	15 PSI or 1,0 bar	**Q**
R	Propeller & Spinner	Check	**R**
S	Engine cowlings	Open	**S**
	1. No foreign objects	Visual inspection	
	2. Cooling system	Check level and for leaks	
	3. Lubrication system	Check level and for leaks	
	4. Fuel circuit	Check for leaks	
	5. engine suspensions	Check integrity	
	6. Air intake system	Check unobstructed	
	7. Engine	All parts secured	
	8. Muffler fixing springs	Check integrity	
T	Close engine cowling	Check	**T**
U	Landing lights	Visual inspection	**U**
V	Tow bar & chocks	Remove	**V**

Before Engine Start

1	Aircraft and Cockpit inspection	Completed	**1**
2	Flight controls	Check free	**2**
3	Parking brake	Engage	**3**
4	Throttle adjust friction	Idle	**4**
5	Propeller pitch	Minimum	**5**
6	Flight planning, fuel planning	Completed	**6**
7	Seat position & Safety belt	Adjusted	**7**

Start Up

1	Circuit breakers	All in	**1**
2	Parking brake	Set and engaged	**2**
3	Fuel selector	Fullest tank ***LEFT***	**3**
4	Generator & Master Switch	On	**4**
5	Strobe light	On	**5**
6	Electric fuel pump	On	**6**
7	Engine throttle	Idle or as needed	**7**
8	Choke	As needed	**8**
9	Propeller area	Clear	**9**
10	Magnetos	Start	**10**
11	Oil pressure within 10 sec	2-5 max 7 bar	**11**
12	Engine instruments	Check	**12**
13	Choke	Off	**13**
14	Propeller rpm	1000 – 1100 rpm	**14**
15	Electric fuel pump	Off	**15**
16	Fuel pressure	Check	**16**
17	Fuel Quantity	Ckeck & Compare	**17**
18	Landing gear lights	Check	**18**

Before Taxi

1	Let the engine warm up	Oil 50° at 1100-1500 rpm	**1**
2	Radio & avionics	On	**2**
3	Flight instruments	Checked and set	**3**
4	Parking brake	Off	**4**

Taxi Check

1	Brakes	Check	1
2	Steering	Normal	2
3	Gyros	Turning correctly & no flag	3

Prior to Take Off & Engine Check

1	Parking brake	On	1
2	Flight controls	Normal	2
3	Safety belts	Correctly adjusted	3
4	Canopy	Closed and locked	4
5	Fuel pump	On	5
6	Engine instruments	Check	6
	Oil temperature	50° - 110°	
	Cylinder head temperature	Max. 120°	
	Oil pressure (< 1400 rpm)	2 – 5 bar	
	Fuel pressure	2,2 – 5,8 psi	
7	Generator light	Off	7
9	Throttle	1700 rpm	9
10	Governor & Prop. Speed	Check 3 x	10
11	Magneto check left & right	+/- 130 rpm	11
12	Throttle	1500 rpm	12
13	Carburettor heat	Check and off for T/O	13
14	Fuel quantity indicators	Check	14
15	Flaps	Set 15° for T/O	15
16	Trim	Set for T/O	16
17	Parking brake	Release	17
18	Landing light	On	18
19	Transponder	Set	19
20	Approach sector	Clear	20
21	Runway and heading	Identified & compared	21

Take Off

1	Wind	Checked and noted	1
2	Fuel pump ON	Recheck	2
3	Full throttle	Approx. 2400	3
4	Propeller pitch	Minimum	4
5	Rotation speed Vr	45 - 50 KIAS	5
6	Climb rate Vy	66 KIAS	7

Climb

1	Stop wheel spinning	Apply brakes	1
2	Landing gear	Up at safe altitude	2
3	Hydraulic gear pump	Check	3
4	Propeller Speed	Reduce	4
5	Flaps at safe altitude	Up	5
6	Fuel pump	Off & pressure checked	6
7	Landing light	Off	7

Cruise

1	Throttle	As required	1
2	Propeller speed	1900 – 2200 rpm	2
3	Trim	As required	3
4	Engine instruments	Check	4
	Oil temperature	90° - 110°	
	Cylinder head temperature	90° - 110°	
	Oil pressure	2 – 5 bar	
	Fuel pressure	2,2 – 5,8 psi	
5	Carburettor heat	As needed	5
6	**Change fuel tank**	**Every 30 minutes**	**6**
	Fuel pump	On	
	Fuel selector valve	Rotate to change	
	Fuel pump	Off	

Before Landing

1	Throttle	As required	1
2	Electric fuel pump & Landing Light	On	2
3	Fuel selector	Fullest tank	3
4	Altimeter	Check local QNH	4
5	Propeller pitch	Minimum	5
6	Carburettor heat	Check	6
7	Downwind leg	Reduce speed 65 KIAS	7
8	Flaps	Set 15°	8
9	**Landing Gear Latest on Base**	**Gear down**	**9**
10	Landing gear lights	Check 3 green	10
11	On final if landing is secured	Full flaps 40°	11
12	Runway	Identified	12
13	Optimal touchdown speed	50 KIAS	13

Balked Landing

1	Throttle	FULL POWER	1
2	Propeller Pitch	Minimum	2
3	Carburettor heat	Recheck Off	3
4	Electric Fuel Pump	Recheck On	4
5	Speed	Min. 50 KIAS	5
6	Flaps position	15° T/O position	6
7	Landing gear	Up	7

After Landing

1	Flaps	Up	1
2	Electric fuel pump & Landing light	Off	2
3	Transponder	Standby	3

Engine Shut Down

1	Engine cool down	1 min at 1200	1
2	Avionic & electric utilities (ex. Strobe)	Off	2
3	Magnetos	Off	3
4	Strobe Light	Off	4
5	Master & Generator switches	Off	5
6	Fuel selector valve	Off	6
7	Parking brake	Engaged	7

Airspeed Limitations		**KIAS**
V_{NE}	Never exceed speed	**144**
V_{no}	Max. structural cruising speed	**113**
V_A	Manoeuvring speed	**99**
V_{FE}	Maximum flaps extended speed	**68**
V_{LO}	Max. landing gear operating speed	**68**
V_{LE}	Max. landing gear extended speed	**68**
V_R	Rotate Speed at 15° flaps	**45**
V_{S1}	Stallspeed (angel of bank 0°) Flaps up	**39**
V_Y	Best rate of climb	**66**
	Max. demonstrated side wind component	**22 KTS**

ENGINE FAILURES

If an emergency arise, the basic guidelines described in this section should be
considered and applied as necessary to correct the problem.

ENGINE FAILURE DURING TAKEOFF RUN

1. Throttle: *idle (full out)*
2. Brakes: *apply as needed*
3. Magnetos: *OFF*
4. Flaps: *retract*
5. Generator & Master switches: *OFF*.
With the aeroplane under control
6. Fuel selector valve: *OFF*
7. Electric fuel pump*: OFF*

ENGINE FAILURE IMMEDIATELY AFTER TAKEOFF

1. Speed: *check*
2. Find a suitable place on the ground to land safely. The landing should be planned straight ahead with only small changes in directions not exceeding ±45° heading deviation.
3. Electric fuel pump: *ON (check)*
4. Flaps: *as needed*.
5. Propeller speed: *max. rpm*
6. Throttle: *as required*
When certain to land
7. Landing Gear: *down*
After landing
8. Magnetos: *OFF*
9. Generator & Master switches: *OFF*
10. Fuel selector valve: *OFF*
11. Electric fuel pump: *OFF*

ENGINE FAILURE DURING FLIGHT

IRREGULAR ENGINE RPM

1. Throttle: *check position and adjustable friction*
2. Magnetos: *BOTH (check)*
3. Check engine gauges.
4. Check both fuel quantity indicators.
5. Carburettors heat: *ON*
6. Electric fuel pump*: ON*

If the engine continues to run irregularly:
7. Fuel selector valve: *change the fuel feeding to the tank not in use (e.g. if you are drawing fuel from the LEFT tank, change to RIGHT or v.v.)*
If the engine continues to run irregularly:
8. Landing Gear: *down*
9. Land as soon as possible

LOW FUEL PRESSURE

If the fuel pressure indicator falls below **2.2 psi** *(0.15 bar)*, apply this procedure:
1. Fuel quantity indicators: *check*
2. Electric fuel pump: *ON*
If the engine continues to run irregularly:
3. Fuel selector valve: *change the fuel feeding to the tank not in use (e.g. if you are drawing fuel from the LEFT tank, change to RIGHT or v.v.)*
If the fuel pressure continues to be low:
4. Landing Gear: *down*
5. Land as soon as possible

LOW OIL PRESSURE

1. Check oil temperature: *check*
If the temperature tends to increase:
2. Throttle: *set to reach a speed of 68 KIAS (maximum efficiency speed)*
3. Landing Gear*: down*
4. Land as soon as possible and be alert for impending engine fault and consequent emergency landing.
If the temperature remains within the green arc limits:
5. Land as soon as possible

IN-FLIGHT ENGINE RESTART

1. Altitude: *preferably below 4000 ft*
2. Carburettors heating: *ON*
3. Propeller Pitch: *minimum*
4. Electric fuel pump: *ON*
5. Fuel selector valve: *LEFT or RIGHT (whichever is not empty)*
6. Throttle: *middle position*
7. Generator & Master switch: *ON*
8. Magnetos: *START*
If the restart attempt fails:
9. Procedure for a forced landing: *apply*
After a successful restart:
10. Land as soon as possible

SMOKE AND FIRE

ENGINE FIRE DURING TAKEOFF

1. Throttle: *idle (full out)*
2. Brakes: *as necessary*
With the aeroplane under control
3. Fuel selector valve: *OFF*
4. Electric fuel pump: *OFF*
5. Cabin heating: *OFF*
6. Magnetos: *OFF*
7. Generator & Master switch: *OFF*
8. Parking brake: *engage*
9. Escape rapidly from the aircraft.

ENGINE FIRE WHILE PARKED

1. Fuel selector valve: *OFF*
2. Electric fuel pump: *OFF*
3. Magnetos: *OFF*
4. Generator & Master switches: *OFF*
5. Parking brake: *ON*
6. Escape rapidly from the aircraft.

ENGINE FIRE IN-FLIGHT

1. Cabin heating: *OFF*
2. Fuel selector valve: *OFF*
3. Electric fuel pump: *OFF*
4. Throttle: *full in, until the engine stops running*
5. Cabin vents: *OPEN*
6. Magnetos: *OFF*
7. Do not attempt an in-flight restart.
8. Procedure for a forced landing: *apply*

CABIN FIRE DURING FLIGHT

1. Cabin heating: *OFF*
2. Cabin vents: *OPEN*
3. Canopy: *open, if necessary*
4. Master switch: *OFF*
5. Try to choke the fire. Direct the fire extinguisher towards flame base
6. Procedure for a forced landing: *apply*

GLIDE

1. Flaps: *retract*
2. Speed: *68 KIAS (maximum efficiency speed)*
3. Non vital electric equipments: *OFF*
4. In-flight engine restart: *if conditions permit, try to restart several times*

LANDING EMERGENCY

FORCED LANDING WITHOUT ENGINE POWER

1. Procedure to glide: *apply (suggested airspeed 68 KIAS)*
2. Locate most suitable site for emergency landing, possibly upwind.
3. Fuel selector valve: *OFF*
4. Electric fuel pump: *OFF*
5. Magnetos: *OFF*
6. Tighten safety belts, canopy locks: *tighten – lock*
When certain to land
7. Flaps: *as necessary*
8. Landing Gear: *down*
9. Generator and Master switches: *OFF*.

FORCED LANDING WITH POWER-ON

1. Descent: *set*
2. Flaps: *as necessary*
3. Select terrain area most suitable for emergency landing and flyby checking for obstacles and wind direction.
4. Safety belts, canopy locks: *tighten – lock*
5. Canopy: *lock*
When certain to land
6. Flaps: *as necessary*
7. Landing Gear: *down*
8. Fuel selector valve: *OFF*
9. Electric fuel pump: *OFF*
10. Magnetos: *OFF*
11. Generator and Master switches: *OFF*

LANDING GEAR MALFUNCTION

FAILED GEAR EXTENSION

After having applied the normal extraction procedure, if
• One or more lights indicating LG extended and locked are turned off
• The light check control is positive
Apply the following procedure:

EMERGENCY LANDING GEAR EXTENSION

1. Speed < 68 KIAS
2. Landing Gear: *down*
3. Hydraulic pump breaker*: OFF*
4. Emergency LG panel*: open*
5. LG emergency valves: *down*
6. Land as soon as possible
After landing, park the aircraft and refer to the Maintenance Manual (Doc.

2002/93) for system-restore procedure.
The LG extraction with the emergency system lasts about 12 sec.

FAILED GEAR RETRACTION

1. Speed < 68 KIAS
2. Gear control lever: *down*
3. Green lights for gear extended and locked: *all ON.*
4. Land as soon as possible.

FORCED LANDING WITH LANDING GEAR "UP"

1. Safety belts, canopy locks: *tighten – lock*
When certain to land
2. Flaps: *land*
3. Fuel selector valve: *OFF*
4. Electric fuel pump: *OFF*
5. Magnetos: *OFF*
6. Carburettors heating: *OFF*
7. Using the starter set the propeller horizontal (if possible)
8. Generator and Master switches: *OFF*
9. Land as softly as possible with the nose slightly up and wings levelled

RECOVERY FROM UNINTENTIONAL SPIN

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

1. Throttle: *idle (full out position)*
2. Rudder: *full, in the opposite direction of the spin*
3. Stick: *move and hold forward until spin is halted*
As the spin is halted
4. Rudder: *neutralize*
5. Aeroplane attitude: *make a smooth recovery by pulling the stick back gently averting speeds in excess of V_{NE} (144 KIAS) and maximum load factor (n=+3.8)*
6. Throttle: *readjust to restore engine power.*