SKY SERVICES FLIGHT ACADEMY | EMERGENCY CHECK LIST | P2008JC NIGHT VFR

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1. INTRODUCTION

In case of emergency the pilot should acts as follows:

- *Keep control of the aeroplane*
- *Analyse the situation*
- *Apply the pertinent procedure*
- *Inform the Air Traffic Control if time and conditions allow*

Two types of emergency procedures are hereby given:

- The procedures **boxed**, must be known **by memory** and execute in the correct and complete sequence, as soon as possible as the failure is detected and recognized
- Other procedures are not time critical and can be executed entering and following step by step the AFM appropriate checklist

WARNING In this Chapter, following definitions apply:

- **LAND AS SOON AS POSSIBLE: Land without delay at the nearest suitable area at witch a safe approach and landing is assured.**
- **LAND AS SOON AS PRACTICAL: Land at the nearest approved landing area where suitable repairs can be made.**

2.1 ELECTRIC POWER SYSTEM MALFUNCTION

	ALTERNATOR FAILURE LIGHT ON If ALTOUT caution is ON	
1	*VERIFY FAILURE*	
2	*CIRCUIT BREAKER(S)*	*CHECK*
3	*GENERATOR SWITCH:*	*OFF 1 SEC. THEN BACK ON*
	If ALTOUT caution persists ON	
5	*GENERATOR SWITCH:*	*OFF*
6	*REDUCE ELECTRICAL LOAD AS MUCH AS POSSIBLE*	
7	*LAND AS SOON AS PRACTICAL*	
NOTE	*The battery can supply electrical power for at least 30 minutes*	

2.2.1 G3X FAILURES - LH OR RH DISPLAY FAILURE

	In case of LH or RH display failure, navigation and engine data will be automatically available in the remaining display (split mode).
1	*REVERT TO THE REMAINING DISPLAY*

2.2.2 G3X FAILURES – LOSS OF ENGINE PARAMETERS

refer to engine parameters warning lights (OP LOW 5.3.1 and FP LOW5.3.2) and CHT/CT backup indicator

2.3 PITOT HEATING SYSTEM FAILURE

	When the Pitot Heat system is activated, the green PITOT HEAT ON safe operating annunciation is ON; *If the amber PITOT HEAT is turned ON, but the caution remains ON, the Pitot Heat system is not functioning properly.*	
	In this case, apply following procedure:	
1	*PITOT HEAT SWITCH*	*OFF*
2	*CHECK PITOT HEAT CIRCUIT BREAKER*	*IN*
3	*PITOT HEAT SWITCH*	*ON*
4	*CHECK PITOT HEAT CAUTION LIGHT:*	
5	**IF THE AMBER LIGHT STAYS ON**	**ASSUME PITOT HEAT MALFUNCTION**
6	**AVOID VISIBLE MOISTURE CONDITIONS.**	

3 AIRPLANE EVACUATION

	With the engine secured and propeller stopped (if practical):	
1	*PARKING BRAKE*	*ON*
2	*SEAT BELTS*	*UNSTRAP COMPLETELY*
3	*HEADPHONES*	*REMOVE*
4	*DOOR*	*OPEN*
5	*ESCAPE AWAY FROM FLAMES/ HOT ENGINE COMPARTMENT/ SPILLING FUEL TANKS/ HOT BRAKES*	

4 ENGINE SECURING

	Following procedure is applicable to shut-down the engine in flight:	
1	*THROTTLE LEVER*	*IDLE*
2	*IGNITION KEY*	*OFF*
3	*FUEL SELECTOR*	*OFF*
4	*ELECTRICAL FUEL PUMP*	*OFF*
5	*GENERATOR SWITCH*	*OFF*

5.1 ENGINE FAILURE DURING TAKE OFF RUN

1	*THROTTLE*	*IDLE (KEEP FULLY OUT)*
2	*RUDDER*	*KEEP HEADING CONTROL*
3	*BRAKES*	*APPLY AS NEEDED*
	WHEN SAFELY STOPPED:	
5	*IGNITION KEY*	*OFF*
6	*FUEL SELECTOR VALVE*	*OFF*
7	*ELECTRIC FUEL PUMP*	*OFF*
8	*ALTERNATOR & MASTER SWITCHES*	*OFF*

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5.2 ENGINE FAILURE IMMEDIATELY AFTER TAKE OFF

1	SPEED	MINIMUM 58 KIAS
	FIND A SUITABLE PLACE TO LAND SAFELY	
WARNING	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.	
2	FLAPS	AS NEEDED
WARNING	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	
3	THROTTLE	IDLE (KEEP FULLY OUT AND HOLD)
4	IGNITION KEY:	OFF
5	FUEL SELECTOR VALVE	OFF
6	ELECTRIC FUEL PUMP	OFF
7	ALTERNATOR & MASTER SWITCHES	OFF

WARNING	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 takeoff 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.

5.3.1 LOW FUEL PRESSURE

	If the fuel pressure indicator falls below the 2.2 psi: FP LOW warning is ON	
1	ELECTRIC FUEL PUMP:	ON
2	FUEL SELECTOR VALVE	SELECT OPPOSITE FUEL TANK IF NOT EMPTY
3	FUEL QUANTITY INDICATORS	CHECK BOTH
	If fuel pressure doesn't build up:	
4	LAND AS SOON AS POSSIBLE APPLY FORCED LANDING PROCEDURE SEE PARA 8.1	

5.3.2 LOW OIL PRESSURE

	If oil pressure IS BELOW 12 PSI , OP LOW warning is ON	
1	THROTTLE LEVER	REDUCE TO MINIMUN PRACTICAL
2	LAND AS SOON AS PRACTICAL	
	If oil pressure does not increase and OP LOW warning persist ON	
3	LAND AS SOON AS POSSIBLE APPLY FORCED LANDING PROCEDURE SEE PARA 8.1 OR 8.2	

5.3.3 HIGH OIL TEMPERATURE

	If OP LOW warning is ON see LOW OIL PRESSURE above If oil pressure is within limits:	
1	THROTTLE LEVER	REDUCE MINIMUM PRACTICAL
	IF OIL TEMPERATURE DOES NOT DECREASE:	
2	AIRSPEED	INCREASE IF PRACTICABLE
	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 SEE PARA 8.1	

5.3.4 CT LIMITS EXCEEDANCE

	If CT is above 120°C apply following procedure: If OP LOW warning is ON, see Low Oil Pressure 5.3.2 IF OIL PRESS IS WHITHIN LIMITS	
1	THROTTLE LEVER	REDUCE MINIMUM PRACTICAL
2	LAND AS SOON AS PRACTICAL	
	If CHT/CT does not come back within limits, the thermostatic valve regulating the water flow to the cylinder heads could be damaged or a coolant leakage can be present in the coolant supply line.	
	IF CHT CONTINUES TO RISE AND ENGINE SHOWS ROUGHNESS OR POWER LOSS:	
3	LAND AS SOON AS POSSIBLE APPLYING FORCED LANDING PROCEDURE SEE PARA 8.1 OR 8.2	

6 IN FLIGHT ENGINE RESTART

WARNING	After a mechanical engine seizure, fire or a major propeller damage engine restart is not recommended.

1	CARBURETTOR HEAT	ON- IF REQUIRED
2	ELECTRICAL FUEL PUMP	ON
3	FUEL QUANTITY INDICATOR	CHECK
4	FUEL SELECTOR	SELECT OPPOSITE TANK IF NOT EMPTY
5	IGNITION KEY	BOTH
6	IGNITION KEY	START
7	THROTTLE LEVER	SET AS REQUIRED
	IN CASE OF UNSUCCESSFUL ENGINE RESTART	
8	ENGINE	SECURE APPLY ENGINE SICURING PARA 4
9	LAND AS SOON AS POSSIBLE APPLYING FORCED LANDING PROCEDURE SEE PARA 8.1	

7.1 ENGINE FIRE ON THE GROUND

1	FUEL SELECTOR	OFF
2	ELECTRICAL FUEL PUMP	OFF
3	IGNITION KEY	OFF
4	THROTTLE	FULL POWER
5	CABIN HEAT OFF	OFF
6	ALTERNATOR & MASTER SWITCHES	OFF
7	PARKING BRAKE	ENGAGE
8	AIRCRAFT EVACUATION	PERFORM IMMEDIATELY

7.2 ENGINE FIRE DURING TAKE OFF

	BEFORE ROTATION: ABORT TAKE OFF	
1	THROTTLE LEVER	IDLE (FULL OUT AND HOLD)
2	RUDDER	KEEP HEADING CONTROL
3	BRAKES	AS REQUIRED
	With aircraft under control:	
4	FUEL SELECTOR	OFF
5	ELECTRICAL FUEL PUMP	OFF
6	IGNITION KEY	OFF
7	CABIN HEAT	OFF
8	ALTERNATOR & MASTER SWITCHES	OFF
9	PARKING BRAKE	ENGAGED
10	AIRCRAFT EVACUATION	PERFORM IMMEDIATELY

7.3 ENGINE FIRE IN FLIGHT

1	CABIN HEATING	OFF
2	FUEL SELECTOR VALVE	OFF
3	ELECTRIC FUEL PUMP	OFF
4	THROTTLE	FULL FORWARD UNTIL THE ENGINE STOPS
5	IGNITION KEY	OFF
6	CABIN VENT	OPEN

WARNING	Do not attempt engine restart

7	LAND AS SOON AS POSSIBLE APPLYING FORCED LANDING PROCEDURE SEE PARA 8.1

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7.4 CABIN FIRE/ ELECTRICAL SMOKE IN CABIN DURING FLIGHT

1	CABIN HEATING	OFF
2	CABIN VENTS	OPEN
3	TRY TO CHOKE THE FIRE	DIRECT THE FIRE EXTINGUISHER TOWARDS FLAME BASE
	IF SMOKE PERSISTS:	
4	ALTERNATOR & MASTER SWITCHES	OFF
5	LAND AS SOON AS POSSIBLE APPLYING FORCED LANDING PROCEDURE SEE PARA 8.1 OR 8.2 AND EVACUATE THE AIRCRAFT	
CAUTION	If the MASTER SWITCH is set to OFF, consider that flaps extension and pitch trim operation is prevented.	

7.5 ELECTRICAL SMOKE/ FIRE IN THE CABIN ON GROUND

1	GENERATOR SWITCH	OFF
2	THROTTLE LEVER	IDLE
3	IGNITION KEY	ALL OFF
4	FUEL SELECTOR VALVE	OFF
5	MASTER SWITCH	OFF
6	AIRCRAFT EVACUATION	PERFORM IMMEDIATELY

8.1 FORCED LANDING WITHOUT ENGINE POWER

1	FLAP	UP
2	SPEED	71 KIAS
	FIND SUITABLE PLACE TO LAND SAFELY, PLAN TO APPROACH IT UPWIND	
4	FUEL SELECTOR VALVE	OFF
5	ELECTRIC FUEL PUMP	OFF
6	IGNITION KEY	OFF
7	SAFETY BELTS	TIGHTEN
	When certain to land	
8	FLAPS	AS REQUIRED
9	ALTERNATOR AND MASTER SWITCHES	OFF

*Glide ratio:**12.8** – With no wind every 1000ft AGL it is possible to cover ca. 2 NM*

8.2 POWER ON FORCED LANDING

1	FLAP	UP
2	SPEED	71 KIAS
	LOCATE THE MOST SUITABLE TERRAIN FOR EMERGENCY LANDING, PLAN TO APPROACH IT UPWIND	
3	SAFETY BELTS	TIGHTEN
	When certain to land, right before touchdown	
4	FLAP	AS REQUIRED
5	FUEL SELECTOR VALVE	OFF
6	ELECTRIC FUEL PUMP	OFF
7	IGNITION KEY	OFF
8	ALTERNATOR AND MASTER SWITCHES	OFF

8.3 LANDING WITH A FLAT NOSE TYRE

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 SEE PARA 4
5	AIRPLANE EVACUATION	PERFORM SEE PARA 3

8.4 LANDING WITH A FLAT MAIN TYRE

	If it's suspected a main tyre defect or it's reported to be defective	
2	PRE-LANDING CHECKLIST	COMPLETE
3	FLAP	LAND
4	Land aeroplane on side of runway opposite to defective tyre to compensate the change in direction which is to be expected during final rolling	
5	Touchdown with the GOOD TIRE FIRST and hold aircraft with the flat tyre off the ground as long as possible by mean of aileron and rudder control.	
	As aircraftt stops	
6	ENGINE SECURING	PERFORM SEE PARA 4
7	AIRPLANE EVACUATION	PERFORM SEE PARA 3

9 RECOVERY FRON UNINTENTIONAL SPIN

	If unintentional spin occurs, the following recovery procedure should be used:	
1	THROTTLE	IDLE - (FULLY OUT POSITION AND HOLD
2	RUDDER	FULL IN THE OPPOSITE DIRECTION OF THE SPIN
3	STICK	CENTRALIZE AND HOLD NEUTRAL
	As the spin stops	
4	RUDDER	SET NEUTRAL
5	AEROPLANE ATTITUDE	SMOOTHLY RECOVER AVOIDING SPEED TO EXCEED VNE
6	THROTTLE	READJUST TO RESTORE ENGINE POWER
WARNING	Keep full rudder against rotation until spin has stopped. One complete turn and recovery takes around 500 feet.	

10.1 UNINTENTIONALLY FLIGHT INTO ICING CONDITIONS

WARNING	Carburettor ice is possible when at low RPM in visible moisture (visibility < 5 km, fog, mist, clouds, rain, snow or hail) and OAT < 10°C. Airbox carburettor heater is designed to prevent carburettor ice, 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 and below of clouds, visible moisture, precipitations)	
3	CONTROL SURFACES	CONTINUE TO MOVE TO KEEP CLEAR FROM ICE BUILD UP
4	PROPELLER SPEED	INCREASE RPM.
5	CABIN HEAT	ON
WARNING	In case of ice formation on wing leading edge, stall speed could highly increase and stall may become asymmetric. In case of stabilator ice accretion, it may lose its efficiency, leading to aircraft pitch up response and loss of control.	

10.2 TRIM RUNAWAY

	In event of trim runaway, act as follows:	
1	TRIM CUTOUT SWITCH	OFF
2	SPEED:	ADJUST TO CONTROL AIRCRAFT WITHOUT EXCESSIVE STICK FORCE
3	LAND AIRCRAFT AS SOON AS POSSIBLE.	

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10.2 TRIM JAMMING

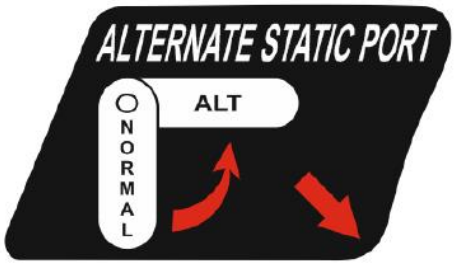
	Should trim control be inoperative, act as follows:	
1	*BREAKERS*	*CHECK IN*
2	*LH/RH TRIM SWITCH*	*CHECK FOR CORRECT POSITION*
	If jamming persists	
3	*TRIM CUTOUT SWITCH*	*CHECK ON*
4	*SPEED*	*ADJUST TO CONTROL AIRCRAFT WITHOUT EXCESSIVE STICK FORCE*
5	*LAND AIRCRAFT AS SOON AS POSSIBLE*	

10.3 FLAPS FAILURE

	In event of flaps up landing, account for:	
1	**APPROACH SPEED**	**64 KIAS**
2	*LANDING LENGTH*	*35% INCREASED*

10.4 STATIC PORT FAILURE

IN CASE OF STATIC PORTS FAILURE, THE ALTERNATE STATIC PORT IN THE CABIN (IDENTIFIED BY THE PLACARD BELOW) MUST BE ACTIVATED.



	In this case apply following procedure:	
1	**CABIN HEAT**	**OFF**
2	*ALTERNATE STATIC PORT VALVE*	*OPEN*
3	*MISSION*	*CONTINUE*

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This Check List is compliant to Section 3 – Normal Procedure of the **Aircraft Flight Manual** *Doc. No. 2008/0100 2ND Edition – Rev. 6 issued by* Costruzioni Aeronautiche **TECNAM** srl - Via Maiorise CAPUA (CE) – Italy on the 19TH FEBRUARY 2020.
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