



CAVOK

CAVOK Aviation Training Ltd.

**TECNAM P2006T AND SOFTEKSIM
FNPT II MEP
EMERGENCY PROCEDURES**

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FAILURES INDICATED ON PFD

Warning

PANEL CONTROL is situated on PFD right from altimeter and vertical speed indicator

BOTH GENERATORS FAILURE –

L ALT FAIL and R ALT FAIL

FIELD RH + LH OFF
FIELD RH + LH ON

If L+R ALT FAIL cautions stay displayed

FIELD RH + LH OFF
CROSS BUS RH + LH OFF
ELECTRICAL LOAD Reduce to minimum

Land as soon as practical. The battery can supply electrical power for at least 30 minutes.

GENERATOR FAILURE

L ALT FAIL or R ALT FAIL

FIELD RH (or LH) OFF
FIELD RH (or LH) ON

If L or R ALT FAIL caution stays displayed

FIELD RH (or LH) OFF
AVIONICS LH OFF
ADF OFF
Restricted possibility of using LANDING LIGHT



If **L or R ALT FAIL** caution stays

displayed CROSS BUS RH (or LH) OFF

Battery and a single Generator are able to supply the electrical power necessary for the entire mission.

BOTH GENERATORS OVERVOLTAGE

**L BUS VOLT HIGH and
R BUS VOLT HIGH**

FIELD RH + LH OFF

FIELD RH + LH ON

If only **L or R BUS VOLT HIGH** warning stays displayed

FIELD RH + LH OFF

AVIONICS LH..... OFF

ADF OFF

Restricted possibility of using LANDING LIGHT

If only **L + R BUS VOLT HIGH** warning stays displayed

CROSS BUS RH + LH OFF

FIELD RH + LH OFF

FIELD RH + LH ON

If **L or R BUS VOLT HIGH** warning

stays displayed FIELD RH + LH OFF

CROSS BUS RH + LH OFF

AVIONICS LH..... OFF

ADF OFF

Restricted possibility of using LANDING LIGHT

If **L + R BUS VOLT HIGH** warning

stay displayed FIELD RH + LH OFF

CROSS BUS RH + LH OFF

Land as soon as practical.

The battery can supply electrical power for at least 30 minutes.



SINGLE GENERATOR OVERVOLTAGE -

**L BUS VOLT HIGH or
R BUS VOLT HIGH**

FIELD RH (or LH) OFF

FIELD RH (or LH) ON

If **BUS VOLT HIGH** stay displayed

FIELD RH or LH..... OFF

AVIONICS LH OFF

ADF OFF

Restricted possibility of using LANDING LIGHT

Battery and single Generator are able to supply the electrical power necessary for the entire mission, but redundancy is lost.

FAILED DOOR CLOSURE -

PILOT DR OPEN or REAR DR OPEN

On the ground:

- 1/ verify correctly closed
- 2/ try to open the door, if it is possible blocking is damaged 3/ check oil pressure
- 4/ abort mission.

In flight:

- 1/ verify correctly closed
- 2/ if door is closed, blocking is damaged 3/ check oil pressure
- 4/ if oil pressure is in green arc, continue in flight and after landing inspect the system 5/ if door is not locked, warn passengers on possible danger

PITOT HEATING SYSTEM FAILURE – displays both information

PITOT HEAT OFF

Verify Pitot Heating circuit breaker

is IN PITOT HEAT ON

Check **PITOT HEAT** caution light

**PITOT HEAT ON
PITOT HEAT**

If the amber light stays ON, avoid visible moisture, change altitude or direction into conditions with higher OAT.



COOLANT LIQUID LOW LEVEL -

**L LOW COOLANT or
R LOW COOLANT**

- 1/ check affected engine
- 2/ if CHT is high, reduce power 3/ verify if CHT decreases
- 4/ if CHT stabilizes in green arc, continue in flight
- 5/ if CHT stays high, increase speed and reduce power

If CHT is above 135°C:

- 6/ affected engine: **SECURE** (see **ENGINE SECURING** procedure)

Remark

Restarting the engine in flight is allowed, if it is necessary.

GEAR PUMP FAILURE – **GEAR PUMP ON**

Caution light is ON, when the landing gear hydraulic pump is electrically supplied. After the landing gear retraction, if the red **TRANS** light is turned OFF and **GEAR PUMP ON** caution stays turned ON, this could be the effect of an electrical failure.

Continue the mission monitoring the caution light.

Remark

If electrical gear pump is continuously supplied, electrical consumption does not require interrupting of the mission. Check system on the ground.

ENGINE FIRE – **LH ENGINE FIRE or RH ENGINE FIRE**

If warning light is turned ON, refer to following procedures:

**FIRE ON THE GROUND
FIRE DURING
TAKEOFF RUN FIRE
IN FLIGHT**

PFD FAILURE (LEFT DISPLAY)

DISPLAY BACKUP (red button) Push

Will change the projection of the right display to the left display data.



ENGINE SECURING

THROTTLE Idle
PROPELLER..... Feathering
MAGNETOS..... Both OFF
FUEL SELECTOR..... OFF
FUEL PUMP..... OFF
AVIONICS LH OFF
ADF OFF

Remark

If necessary, this procedure is applicable to both engines

PROPELLER OVERSPEEDING

THROTTLE Reduce power
PROPELLER..... Reduce RPM, **NOT IN FEATHERING**
RPM INDICATOR Check

If it is not possible to decrease propeller rpm, apply engine securing procedure.

CHT LIMIT EXCEEDANCE

1/ check affected engine CHT

If CHT is high, reduce power and verify if CHT decreases

2/ if CHT stabilizes in green arc, continue in flight

3/ if CHT stays high, increase speed and reduce power

Interrupted flight- If CHT is over 135°C

4/ CHECK OIL PRESSURE

5/ Set power and interrupt flight

OIL TEMPERATURE LIMIT EXCEEDANCE

OIL PRESSURE Check

If oil pressure is within limits, apply following procedures:

THROTTLE Reduce power by 10%
PROPELLER..... Increase RPM, for sufficient oil flow
OIL TEMPERATURE..... Check, if come back within limits
SPEED Increase, if temperature decreases
OIL TEMPERATURE..... Check, if come back within limits



If oil temperature does not come back within limits, apply following procedures:

Land as soon as practical keeping the affected engine to the minimum necessary power

Ensure the engine, in case of other failures (low OIL pressure, high CHT)

Warning

Excessive oil pressure drop leads to a high pitch propeller configuration with consequent propeller feathering and en-gine stopping..

OIL PRESSURE LIMITS EXCEEDANCE (away from 0,8 – 7 bar)

Warning

Excessive oil pressure drop leads to a high pitch propeller configuration with consequent propeller feathering and en-gine stopping..

Remark

An excessive oil pressure value can be counteracted by decreasing propeller rpm.

OIL PRESSURE Check (verify value away from the limit)

If oil pressure exceeds upper limit (7 bar)

THROTTLE Reduce power by 10%

PROPELLER..... Reduce RPM

OIL PRESSURE Check, if come back within limits

Land as soon as practical

If oil pressure is under the lower limit



Land as soon as practical

If oil pressure is continuously decreasing

Secure affected engine, land as soon as practical

LOW FUEL PRESSURE (under 2,2 psi)

FUEL PRESSURE Check FUEL QUANTITY Check

Monitor fuel consumption:

If a fuel leakage is deemed likely land as soon as possible

If a fuel leakage can be excluded, and there is only a small amount in tank

Feed the affected engine by means of opposite side fuel tank

If there is enough fuel in tank

FUEL PUMP ON

FUEL PRESSURE Check, if come back within limits

If pressure does not come back within the limits

Land as soon as practical

ELECTRICAL SYSTEM TOTAL FAILURE

MASTER SWITCHES All OFF MASTER SWITCHES All ON

If failure persist:

EMERG. HORIZON ON

EMERG. LIGHT (as needed) ON

Land as soon as practical applying:

EMERGENCY GEAR EXTENSION
PROCEDURE

Warning

An electrical system overall failure prevents flaps operation: landing distance without flaps increases of about 25%..

STATIC PORT FAILURE

CABIN VENTILATION OFF



alternate static port VALVE Open
Continue the mission

UNINTENTIONAL FLIGHT INTO ICING CONDITIONS

CARBURETTOR HEAT..... Both ON PITOT HEAT ON
Change altitude or direction, leave ice forming area.
CONTROL SURFACES Move continuously to avoid locking
PROPELLER..... Increase RPM to prevent ice build-up

Warning

In event of ice build-up in correspondence of wing leading edges, stall speed increases.

CARBURETTOR ICING

During takeoff

The carburettor icing in “full throttle” mode is unlikely, therefore the takeoff must be performed with carburettor heating OFF.

In flight

If you notice an engine power reduces, when OAT is under 15°C, in rain, moisture, clouds mist and fog, switch Carburettor heating - ON, until engine power is restored

FLAPS CONTROL FAILURE

During takeoff:

Remark

In the case of unintentional flaps retraction, if you can not interrupt takeoff, distance increases of about 20%.

SPEED Under 93 KIAS
Land as soon as practical.

During flight:

Remark

In the case of landing with retracted flaps, consider increased landing distance of about 25%.

SPEED Over 62 KIAS
Land as soon as possible with use of whole RWY and brakes.

ENGINE FAILURE DURING TAKEOFF RUN



THROTTLES..... Both idle
FLAPS Retract
BRAKES..... As needed

Inoperative engine:

MAGNETOS..... OFF
FUEL PUMP..... OFF
FIELD OFF

Continue straight ahead, avoid particular obstacles.

ENGINE FAILURE DURING TAKE-OFF

Suitable RWY lenght and landing gear DN:

THROTTLES Idle
immediately LAND If in air
FLAPS Retract
BRAKES As needed

Inoperative engine:

MAGNETOS..... OFF
FUEL PUMP OFF
FIELD..... OFF

Continue straight ahead, avoid particular obstacles

Insufficient RWY (+decision continue in takeoff):

SPEED..... Over 62 KIAS
THROTTLE + PROPELLER..... Check MAX.POWER
CONTROL Keep heading+stabilized climb
LANDING GEAR UP
FLAPS Retract

Continue as in engine failure in flight



ENGINE FAILURE IN FLIGHT

SPEED as needed..... **84 V_{YSE} KIAS**(blue line), over **62 KIAS**

V_{MC}

IDENTIFY INOP. ENGINE Dead leg – dead engine

VERIFY INOP. ENGINE Reduce inop. engine throttle

Remark

Engine restart is recommended under 4000 feets altitude and speed 85 KIAS.

ENGINE RESTART

CARBURETTOR HEATON, as needed
 FUEL PUMPON
 FUEL CONDITIONCheck
 FUEL SELECTORCheck, XFEED as needed
 FIELDOFF
 MAGNETOSBoth ON
 INOP. ENG. THROTTLE.....Idle
 INOP. ENG. PROPELLER Full forward
 STARTER Push (if propeller inop.)
 PROPELLERRPM as needed
 FIELDON
 THROTTLESSet as needed

Warning

After engine restart set low power,for engine temperature stabilisation in green arc.

SHUT DOWN OF INOP. ENG.

THROTTLE Idle
 PROPELLER..... Feathering
 MAGNETOS..... Both OFF
 FUEL SELECTOR OFF
 FUEL PUMP..... OFF
 AVIONICS LH OFF
 ADF OFF

ONE ENGINE INOPERATIVE LANDING

LANDING GEAR..... DN when RWY is in range

FLAPS DN when RWY is in range

INOPERATIVE ENGINE Check securing

During approach keep higher altitude and speed and remember, that LDG should be performed for the first time, because GO-AROUND with max. power of oper. Engine make A/C controlling difficult.



EMERGENCY LANDING GEAR EXTENSION

CIRCUIT BREAKERS Retraction check
MASTER SWITCH..... ON
FIELD ON
THREE GREEN LIGHT Check button

After extension follow:

SPEED Reduce under **93 KIAS**
LANDING GEAR LEVER DOWN, extended
EMERGENCY GEAR EXTENSION ACCESS DOOR.... Remove
RH CONTROL LEVEL..... Rotate 90° counterclockwise
WAIT At least **20** seconds

Remark

Main Landing Gear legs green lights may be turned on, thus indicating effective main gear legs blocked in down position by mere effect of gravity force.

LH CONTROL LEVER..... Rotate 180° counterclockwise
Land as soon as practical

Remark

The emergency landing gear extension operation takes about 20 – 30 sec.

NOSE GEAR UP LANDING

APPROACH NORMAL POWER AND SPEED
FLAPS LAND

After touch down on main gear keep the nose up as long as possible

THROTTLES Close before
ground contact FUEL SELECTORS .. OFF
MAGNETOS..... OFF
MASTER SWITCHES..... OFF
Aircraft evacuation



COMPLETE GEAR UP LANDING

SAFETY BELTS..... Tightly fastened
LANDING GEAR CONTROL LEVER...UP,
retract THREE GREEN LIGHTS..... Check
button OFF
FLAPS LAND

Touch down conduct with slight nose-up and wings levelled

MAGNETOS..... Before ground contact OFF

After touch down:

FUEL SELECTORS..... OFF

FUEL PUMPS OFF

MASTER SWITCHES..... OFF

Aircraft evacuation

FAILED RETRACTION

SPEED Under **93 KIAS**

LANDING GEAR CONTROL LEVER DOWN, extend

If control light TRANS is operating, some landing
leg is moving. If necessary, conduct emergency
landing gear extension.

Land as soon as practical.

ENGINE FIRE ON THE GROUND

CABIN HEAT AND

DEFROST OFF FUEL SELECTORS OFF

MAGNETOS..... OFF

FUEL PUMP..... OFF

MASTER SWITCH..... OFF

PARKING BRAKE ENGAGE

Aircraft evacuation.



ENGINE FIRE DURING TAKEOFF RUN

Before rotation:

- THROTTLES Both idle
- RUDDER Keep heading control
- BRAKES As required

With aircraft under control:

- MAGNETOS OFF
 - CABIN HEAT AND DEFROST OFF
 - FUEL SELECTORS OFF
 - FUEL PUMP OFF
 - MASTER SWITCH OFF
 - PARKING BRAKE Engage
- Aircraft evacuation.

Remark

After propellers stop, leave the aircraft on the side without fire.

After nose landing gear up:

Remark

If remaining length of RWY does not allow abort take off, consider if the performance during climb with one engine will be at least 300 ft/min. Identify affected engine, apply following procedures:

- OP. ENG. THROTTLE FULL
- CONTROL AIRCRAFT Heading+stabilized climb
- SPEED Over **62 KIAS**
- FIRE AFFECTED ENG. PROPELLER.. FEATHER
- LANDING GEAR RETRACT UP

At safe altitude:

**FIRE AFFECTED
ENG.**

- FUEL SELECTOR OFF
- MAGNETOS OFF
- CABIN HEAT AND DEFROST .. OFF
- FUEL PUMP OFF
- FIELD OFF

Land as soon as possible applying one engine inoperative landing procedure.



ENGINE FIRE IN FLIGHT

CABIN HEAT AND DEFROST OFF
CONTROL AIRCRAFT Keep heading

FIRE AFFECTED
ENG.

FUEL SELECTOR OFF
THROTTLE Full
PROPELLER Feathering
MAGNETOS OFF
FUEL PUMP OFF
FIELD OFF
CABIN VENTILATION Open

Land as soon as possible applying one engine inoperative landing procedure

ELECTRICAL SMOKE IN CABIN ON THE GROUND

MASTER SWITCHES All OFF CABIN HEAT AND DEFROST
THROTTLES BOTH IDLE
MAGNETOS OFF
FUEL SELECTORS OFF
After propeller stop, evacuate aircraft.

ELECTRICAL SMOKE IN CABIN DURING FLIGHT

Remark

During night flight immediately switch ON „Emergency lights“ of cabin and if required also EMERG.HORIZON.

LH + RH FIELD OFF
LH + RH CROSS BUS OFF

Verify the cause of smoke. Gain VMC conditions as soon as possible.

If smoke persists:

MASTER SWITCH OFF
RH FIELD ON

Verify the cause of smoke.

LH FIELD ON

If smoke disappears, land as soon as practical. If smoke still arises:

LH + RH FIELD OFF
In case of fire, use fire extinguisher towards base of flames. After extinguish open cabin ventilation. Land as soon as practical and evacuate aircraft.

Warning

If MASTER SWITCH is OFF, consider that flaps and landing gear require electrical supply for normal operation.



UNINTENTIONAL SPIN RECOVERY

Warning

CAA does not require demonstration of spins on multi engine aircraft. Tests have not been performed. Technique of spin recoveries is based on the best available information.

Warning

Intentional spin is forbidden. STALL IS FORBIDDEN WITH ONE ENGINE INOP.

THROTTLES Reduce to idle
RUDDER Fully against rotation until it stops
STICK Release pull
STICK Fully push if nose does not descend
AILERONS Centralize
RUDDER Neutral when rotation stops
STICK Slowly pull to recovery from descending

LANDING WITHOUT ENGINE POWER

Warning

In case of double engine failure both propellers should be feathered to achieve maximum glide, to select emergency landing field and conduct landing easily.

SPEED 90 KIAS
FLAPS Extend as needed
LANDING GEAR Extend, DOWN

Remark

To reduce landing gear extension time, evaluate use of emergency control system which reduces the time for 8 sec.

Select emergency landing field
SAFETY BELTS FASTEN

After touch down:

FUEL SELECTORS OFF
FUEL PUMPS OFF
MAGNETOS OFF
MASTER SWITCHES All OFF



LANDING WITHOUT BRAKES

Remark

If practical select an airport with suitable RWY length. Otherwise, evaluate the possibility to perform a gear up landing

SAFETY BELTS Fasten

After touch down:

FUEL SELECTORS OFF

FUEL PUMPS OFF

MAGNETOS OFF

MASTER SWITCHES All OFF

AIRCRAFT EVACUATION

Leave the aircraft when engines are fully stopped. Escape through the fuselage door or ditching Emergency exit.

Verify, (if not yet performed)

FUEL SELECTORS OFF

MAGNETOS OFF

MASTER SWITCHES All OFF

Leave the aircraft using emergency exits



DITCHING

Warning

Intentional ditching is forbidden. Following procedures are only informative.

LANDING GEAR..... UP

Before water impact:

FUEL SELECTOR OFF
FUEL PUMP OFF
MAGNETOS..... OFF
MASTER SWITCHES..... All OFF
IMPACT SPEED 55 KIAS

Contact with water shall happen with aircraft longitudinal axis and direction of motion parallel to the wave, with the nose up as long as possible. Once in the water, the aircraft shall be evacuated by following procedures:

Emergency exit handle rotate clockwise Latch door push outward.

Aircraft evacuation.

Remark

If available try to approach any existing ship in the vicinity in order to be rapidly located and rescued right after ditching