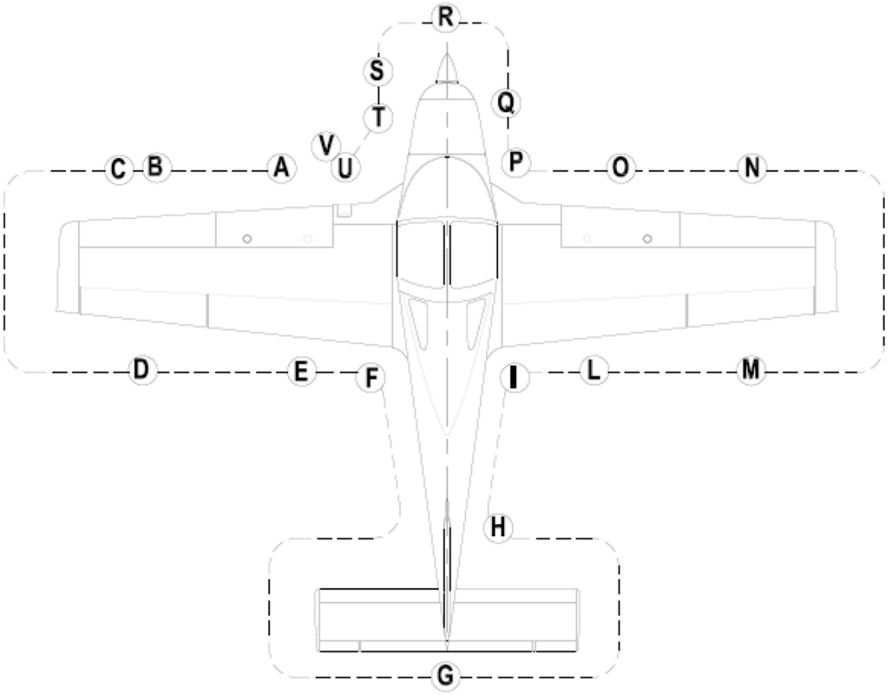
TECNAM P2002 JF

[KIAS]	FLAPS	620KG
ROTATION SPEED (V_R)	**T/O**	**42**
BEST ANGLE-OF-CLIMB SPEED (V_X)	**0°**	**56**
BEST RATE-OF-CLIMB SPEED (V_Y)	**0°**	**66**
APPROACH SPEED	**15°**	**66**
FINAL APPROACH SPEED	**FULL**	**55**
DESIGN MANEUVERING SPEED (V_A)	**0°**	**100**
NEVER EXCEED SPEED (V_{NE})	**0°**	**142**
NORMAL TURN/STEEP TURN (60^O)	**0°**	**70/96**
LANDING PATTERN SEED	**0°**	**80**
GLIDING SPEED (V_G)	**0°**	**69**
MAXIMUM FLAP EXTENDED SPEED (V_{FE})	**T/O**	**101**
MAXIMUM FLAP EXTENDED SPEED (V_{FE})	**FULL**	**69**
STALL SPEED (V_S)	**0°**	**41**
STALL SPEED IN LANDING CONFIG. (V_{S0})	**FULL**	**33**
STALL SPEED IN TURN (30°)	**0^O**	**44**
STALL SPEED IN TURN (60°)	**0°**	**69**

CABIN INSPECTION	
AIRCRAFT DOCUMENTS	(ARC, CERTIFICATE OF AIRWORTHINESS, NOISE CERTIFICATE, RADIO COM CERTIFICATE, AFM)
WEIGHT AND BALANCE	CHECK WITHIN LIMITS
SAFETY BELTS	CHECK CONDITION
MAGNETOS	OFF, KEYS EXTRACTED
ALTERNATE HORIZON	PULL TO CAGE, HOLD
MASTER	ON
VOLTMETER	10-12V
AMMETER	CHECK (RED)
LIGHTS	ALL ON, CHECK OPERATION
ACOUSTIC STALL WARNING	CHECK OPERATION
MASTER	OFF
BAGGAGE	CHECK

Per flight check



Visual inspection is defined as follows: check for defects, cracks, detachments, excessive play, unsafe or improper installation as well as for general condition. For control surfaces, visual inspection also involves additional check for freedom of movement and security. Red lubber lines on bolts and nuts shall be intact.

Fuel level indicated by the cockpit-televels should be verified by visual check of actual fuel quantity embarked in the tanks.

NOTE

Fuel drainage operation must be carried out with the aircraft parked on a level surface. Set Cockpit Fuel Selector Valve to on prior to drain fuel circuit nose section valve.

A Left fuel filler cap: check visually for desired fuel level. Drain the left fuel tank by drainage valve using a cup to collect fuel (drainage operation must be carried out with the aircraft parked on a level surface). Check for water or other contaminants. Close filler cap.

B Remove protection plug (if provided) and check the Pitot tube and the static ports mounted on left wing are unobstructed; do not blow inside vents.

C Left side leading edge and wing skin: visual inspection

D Left aileron, trim tab and hinges: visual inspection, check free of play, friction; Left tank vent: check for obstructions.

E Left flap and hinges: visual inspection

F Left main landing gear: check inflation, tire condition, alignment, fuselage skin condition.

G Horizontal tail and tab: visual inspection, check free of play, friction.

H Vertical tail, rudder and trim tab: visual inspection, check free of play, friction.

I Right main landing gear; check inflation, tire condition, alignment, fuselage skin condition.

L Right flap and hinges: visual inspection.

M Right aileron, trim tab and hinges: visual inspection, check free of play, friction; Right side tank vent: check for obstructions.

N Right leading edge and wing skin: visual inspection.

O Right fuel filler cap: check visually for desired fuel level. Drain the right fuel tank by the drainage valve using a cup to collect fuel. Drainage operation must be carried out with the aircraft parked on a level surface. Check for water or other contaminants. Close filler cap.

P Set the fuel selector valve to OFF. Drain circuit using a cup to collect fuel by opening the specific drainage valve (part of the gascolator). Check for water or other contaminants.

Q Nose wheel strut and tire: check inflation, tire and rubber shock absorber discs condition.

R Propeller and spinner condition: check for nicks, cracks, dents and other defects, propeller should rotate freely. Check fixing and lack of play between blades and hub.

S Open engine cowling:

1. Check no foreign objects are present.
2. Verify coolant level in the overflow bottle: level must be between min. and max. mark. Replenish if required.

3. Only before the first flight of the day:
a. Verify coolant level in the expansion tank, replenish as required up to top (level must be at least 2/3 of the expansion tank).
b. Turn the propeller by hand to and fro, feeling the free rotation of 15°or 30° before the crankshaft starts to rotate. If the propeller can be turned between the dogs with practically no friction at all further investigation is necessary. Turn propeller by hand in direction of engine rotation several times and observe engine for odd noises or excessive resistance and normal compression.
c. Carburettors: check the throttle cable condition and installation.
d. Exhaust: inspect for damages, leakage and general condition
4. Check radiators. There should be no indication of leakage of fluid and they have to be free of obstructions.
5. Check oil level and replenish as required. Prior to oil check, having magnetos switched off turn the propeller by hand in direction of engine rotation several times to pump oil from the engine into the oil tank, or let the engine idle for 1 minute. This process is finished when air is returning back to the oil tank and can be noticed by a murmur from the open oil tank. Prior to long flights oil should be added so that the oil level reaches the “max” mark.
6. Inspect fuel circuit for leakages.
7. Check integrity of silent-block suspensions.
8. Check connection and integrity of air intake system, visually inspect that ram air intake is unobstructed.
9. Check that all parts are secured or safetied.

T Close engine cowling, check for proper alignment of cam-locks.

U Visual inspection of the Landing and Strobe Light.

V Remove tow bar and chocks, stow on board pitot, static ports and stall warning protective covers.

Post flight check

1. Safety belts: connected to hard points, check condition
2. Magnetos: OFF, keys extracted
3. Master switch: OFF
4. Visual inspection is defined as follows: check for defects, cracks, detachments, excessive play, unsafe or improper installation as well as for general condition. For control surfaces, visual inspection also involves additional check for freedom of movement and security. Red lubber lines on bolts and nuts shall be intact.

5. Use protection plug on the Pitot tube and the static ports mounted on left wing
6. Use protection plug on the Pitot tube and the static ports mounted on left wing
7. Left aileron, trim tab and hinges: visual inspection, check free of play, friction;
Left tank vent: check for obstructions.
8. Left flap and hinges: visual inspection
9. Left main landing gear: check inflation, tire condition, alignment, fuselage skin condition
10. Horizontal tail and tab: visual inspection, check free of play, friction.
11. Vertical tail, rudder and trim tab: visual inspection, check free of play, friction.
12. Right main landing gear; check inflation, tire condition, alignment, fuselage skin condition.
13. Right flap and hinges: visual inspection.
14. Right aileron, trim tab and hinges: visual inspection, check free of play, friction; Right side tank vent: check for obstructions.
15. Right leading edge and wing skin: visual inspection.
16. Nose wheel strut and tire: check inflation, tire and rubber shock absorber discs condition.
17. Propeller and spinner condition: check for nicks, cracks, dents and Rother defects, propeller should rotate freely. Check fixing and lack of play between blades and hub.
18. Open engine cowling:
1. Check no foreign objects are present.
4. Check radiators. There should be no indication of leakage of fluid and they have to be free of obstructions.
6. Inspect fuel circuit for leakages.
7. Check integrity of silent-block suspensions.
8. Check connection and integrity of air intake system, visually inspect that ram air intake is unobstructed.
9. Check that all parts are secured or safetied.
19. Close engine cowling, check for proper alignment of cam-locks.
20. Visual inspection of the landing and strobe light.
21. Use chocks, stall warning protective covers.

BEFORE ENGINE STARTING	
SEAT POSITION AND SAFETY BELTS	ADJUST
FLIGHT CONTROLS	MOVEMENT SMOOTHNESS, FREE OF PLAY AND FRICTION
PARKING BRAKE	ENGAGE
THROTTLE	THROTTLE FRICTION AND IDLE
CIRCUIT BREAKERS	CHECK ALL IN
GPU (G500) BREAKER	OUT
ALTERNATE HORIZON	PULL TO CAGE, HOLD
MASTER	ON, *CHECK GENERATOR LIGHT ON AND VOLTAGE (AT LEAST 10.5 V)*
FUEL PUMP	ON CHECK FUEL PRESSURE
FUEL PUMP	OFF
MASTER AVIONIC	ON INSTRUMENTS CHECK
MASTER AVIONIC	OFF
FLAPS	CYCLE FULLY EXTENDED AND THEN SET T/O
PITCH TRIM	ON - CYCLE FULLY UP AND DOWN, SET NEUTRAL
NAV LIGHTS,	ON
FUEL QUANTITY	CHECK INDICATION
CANOPY	CLOSED AND LOCKED

ENGINE STARTING	
ALTERNATE HORIZON	PULL TO CAGE
MASTER	CHECK ON
AVIONC MASTER	CHECK OFF
THROTTLE	IDLE
CHOKE	AS NEEDED
FUEL SELECTOR VALVE	SELECT LEFT OR FULLEST TANK
FUEL PUMP	ON
PROPELLER AREA	CALL FOR CLEAR AND VISUALLY CHECK
MAGNETOS	START
OIL PRESSURE	RISE WITHIN 10 SEC. (MAX. 7 BAR)
GENERATOR	ON
VOLTMETER	14 V
AMMETER	GREEN
ENGINE INSTRUMENTS	CHECK
CHOKE	OFF
PROPELLER RPM	1000-1200
FUEL PUMP	OFF FUEL PRESSURE (MIN. 2.2 PSI)
GPU (G500) BREAKER	IN
AVIONIC MASTER ON	SET NAV/COMM, BARO, ALT, HDG, CRS, GPS, XDPS,

TAXI	
OFF BLOCK TIME	NOTE
SPACE AROUND THE PLAIN	CHECK
PARKING BRAKE	DISENGAGE
BRAKES	CHECK DURING TAXI
STEERING	CHECK
FLIGHT INSTRUMENTS	CHECK REACTION AND INDICATIONS

RUN UP	
PARKING BRAKE	ENGAGE
ENGINE INSTRUMENTS	CHECK WITHIN LIMITS
FUEL PUMP	ON, CHECK PRESSURE
FUEL VALVE	SELECT LEFT OR FULLEST TANK
RPM	1640
IGNITION MAGNETOS	CHECK L, BOTH, R, BOTH
CARB. HEAT	TEST
RPM	1000
FLAPS	SET T/O (15°)
PITCH TRIM	CHECK NEUTRAL
FLIGHT CONTROLS	CHECK FREE
SEAT BELTS	CHECKED FASTENED
CANOPY	CHECK CLOSED AND LOCKED

BEFORE TAKE-OFF	
WIND	CHECK DIRECTION AND SPEED
APPROACH SECTOR	CHECK FREE
INSTRUMENTS	CHECK SETTINGS AND INDICATIONS
TRANSPONDER	ALT
STROBE LIGHT	ON
FUEL PUMP	CHECK ON
CARB. HEAT	CHECK OFF
FLAPS	CHECK T/O
LANDING LIGHT	ON

TAKE-OFF BRIEFING

I'LL TAKE-OFF RWY….. SURFACE CONDITION (WET/DRY), WIND……
ROTATION 42, CLIMB SEED V_Y 66. IN CASE OF EMERGENCY ON THE GROUND ABOARD TAKE-OFF . IN CASE OF ENGINE FAILURE UP TO ALT=500 FT AGL LAND STRAIGHT AHEAD, IN CASE OF ENGINE FAILURE ALT>500 AGL TURN AROUND AND LAND ON RWY WITH TAIL WIND, V_G=69
TAKE – OFF BRIEFING COMPLETED

TAKE-OFF AND CLIMB	
PARKING BRAKE	DISENGAGE
FULL THROTTLE	CHECK INSTRUMENTS AND CALL OUT "T/O POWER SET AND CHECK"
SPEED	CHECK AND CALL OUT "SPEED ALIVE"
42 KTS	ROTATION
66 KTS	CLIMB
ALT>200 FT AGL	FLAPS RETRACT, FUEL PUMP OFF, LANDING LIGHT OFF
RPM	REDUCE AT OR BELOW 2250

CRUISE	
RPM	GREEN SECTOR BELOW 2250
ENGINE INSTRUMENTS	WITHIN LIMITS
CARB. HEAT.	AS NEEDED[1]
PITOT HEAT.	AS NEEDED
FUEL SELECTOR VALVE	AS NEEDED FUEL PUMP ON, CHECK PRESSURE, SWITCH VALVE , CHECK PRESSURE AND WAIT 10-15 s., FUEL PUMP OFF

BEFORE LANDING BRIEFING	
I'LL LAND RWY…. SURFACE CONDITIONS (WET/DRY). WIND…… I'LL LAND WITH …..(FULL / T/O) FLAPS POSITION. T/O FLAPS AFTER BASE APCH SPEED 66 KTS, FULL FLAPS ON FINAL APCH SPEED 55 KTS. ALTIMETERS SET AND CHECKED, LANDING BRIEFING COMPLETED	
FUEL PUMP	ON
CARB. HEAT	AS REQUIRED[1]
LANDING LIGHT	ON
PARKING BRAKE	CHECK DISENGAGE

BALKED LANDING	
THROTTLE	FULL
CARB. HEAT.	OFF
FLAPS	T/O
CLIMB	AFTER SETTING FLAPS T/O POSITION AND INCREASING SPEED SET CLIMB WITH V_X-56 OR V_Y-66
FUEL PUMP	CHECK ON

AFTER LANDING	
FLAPS	UP
FUEL PUMP	OFF
TRANSPONDER	SBY
STROBE LIGHT	OFF
LANDING LIGHT	OFF (AT NIGHT USE LANDING LIGHT FOR TAXI)
ENGINE SHUT DOWN	
ON BLOCK TIME	NOTE
PARKING BRAKE	ENGAGE
RPM	1000-1200 FOR 1 MINUTE
RPM	MINIMUM
AVIONIC MASTER	OFF
GPU (G500) BREAKER	OUT
MAGNETOS	OFF
NAV LIGHT	OFF
MASTER AND GENERATOR	OFF
FUEL SELECTOR VALVE	OFF

Two types of emergency procedures are hereby given:
a. „RED", which must be known by heart and executed in the correct and complete sequence, as soon as possible as the failure is detected and recognized.
b. „YELLOW", which should be well theoretically know and mastered, but that are not time critical and can be executed entering and following step by step the AFM appropriate checklist.

***Land as soon as possible**:* land without delay at the nearest suitable area at which 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.

GENERATOR LIGHT ILLUMINATES (*ALT*)	
GENERATOR	OFF
MASTER	OFF
GENERATOR	ON
MASTER	ON
IF THE PROBLEM PERSISTS	
GENERATOR	OFF
NON-VITAL ELECTRIC EQUIPMENT	OFF
RADIO COMM	REDUCE TO MIN.
BATTERY IS CAPABLE TO SUPPLY POWER FOR ABOUT 20 MIN.	

ELECTRICAL FUEL PUMP FAILURE	
FUEL PUMP	OFF
FUEL PUMP	ON
FUEL PRESSURE	CHECK
IF FUEL PRESSURE DOESN'T BUILD UP	LAND AS SOON AS POSSIBLE MONITORING FUEL PRESSURE

TRIM SYSTEM FAILURE (LOCKED CONTROL)	
BREAKERS	CHECK
TRIM SWITCH LH/RH	CHECK FOR CORRECT POSITION
SPEED	ADJUST TO CONTROL AIRCRAFT WITHOUT EXCESSIVE STICK FORCE
LAND AIRCRAFT AS SOON AS POSSIBLE	

RUNAWAY	
TRIM SWITCH	OFF
SPEED	ADJUST TO CONTROL AIRCRAFT WITHOUT EXCESSIVE STICK FORCE
LAND AIRCRAFT AS SOON AS POSSIBLE	

AIRPLANE EVACUATION	
PARKING BRAKE	ENGAGE
SEAT BELTS	UNSTRAP COMPLETELY
HEADPHONES	REMOVE
CANOPY	OPEN
IF CANOPY IS LOCKED OR DOESN'T SLIDE BREAK IT USING THE HAMMER	
ESCAPE	

ENGINE SECURING	
THROTTLE	IDLE
MAGNETOS	OFF
FUEL SELECTOR	OFF
FUEL PUMP	OFF
GENERATOR	OFF

ENGINE FAILURE DURING TAKE-OFF RUN	
THROTTLE	IDLE
RUDDER	KEEP HEADING CONTROL
BRAKES	APPLY AS NEEDED
WHEN SAFELY STOPPED	
MAGNETOS	OFF
FUEL SELECTOR VALVE	OFF
FUEL PUMP	OFF
GENERATOR & MASTER	OFF

ENGINE FAILURE AFTER TAKE-OFF ALT<200' AGL	
SPEED	DEPENDING ON FLAPS POSITION V=(69, 66, 55) > 51
FLAPS	AS NEEDED
AT, OR RIGHT BEFORE TOUCH DOWN	
MAGNETOS	OFF
FUEL SELECTOR VALVE	OFF
FUEL PUMP	OFF
GENERATOR & MASTER	OFF

LOW FUEL PRESSURE	
FUEL PUMP	ON
FUEL SELECTOR VALVE	CHANGE THE FUEL FEEDING TANK
FUEL QUANTITY INDICATORS	CHECK
LAND AS SOON AS POSSIBLE MONITORING FUEL PRESSURE	
IF ENGINE STOPS	FORCED LANDING PROCEDURE

OIL PRESSURE LIMITS EXCEEDANCE	
THROTTLE	REDUCE POWER AS PRACTICAL
OIL PRESS AND OIL TEMP	CHECK WITHIN LIMITS
LAND AS SOON AS PRACTICAL	

OIL PRESSURE UNDER THE LOWER LIMIT (0.8 BAR)	
THROTTLE	REDUCE POWER AS PRACTICAL
LAND AS SOON AS PRACTICAL	
IF OIL PRESSURE CONTINUES TO DECREASE	LAND AS SOON AS POSSIBLE APPLYING FORCED LANDING PROCEDURE

HIGH OIL TEMPERATURE	
THROTTLE	REDUCE POWER AS PRACTICAL
AIRSPEED	INCREASE
LAND AS SOON AS PRACTICAL	
IF ENGINE ROUGHNESS, VIBRATIONS, ERRATIC BEHAVIOR, OR HIGH CHT /CT IS DETECTED	LAND AS SOON AS POSSIBLE APPLYING FORCED LANDING PROCEDURE

CHT/CT LIMIT EXCEEDANCE	
THROTTLE	REDUCE POWER AS PRACTICAL
LAND AS SOON AS PRACTICAL	
IF ENGINE ROUGHNESS OR HIGH CHT /CT IS DETECTED	LAND AS SOON AS POSSIBLE APPLYING FORCED LANDING PROCEDURE

IN-FLIGHT ENGINE RESTART	
SPEED	> 69
ALTITUDE	< 4000’
CARB. HEAT.	AS NEEDED
FUEL PUMP	ON
FUEL QUANTITY	CHECK
FUEL SELECTOR VALVE	CHANGE THE FUEL FEEDING TANK
MAGNETOS	BOTH
MAGNETOS	START
THROTTLE	SET AS REQUIRED
IN CASE OF UNSUCCESSFUL ENGINE RESTART	
ENGINE	SECURE
LAND AS SOON AS POSSIBLE APPLYING FORCED LANDING PROCEDURE	

ENGINE FIRE ON THE GROUND	
FUEL SELECTOR VALVE	OFF
FUEL PUMP	OFF
MAGNETOS	OFF
THROTTLE	FULL POWER
CABIN HEAT	OFF
GENERATOR & MASTER	OFF
PARKING BRAKE	ENGAGED
EVACUATION	IMMEDIATELY

ENGINE FIRE DURING TAKEOFF	
BEFORE ROTATION	ABORT TAKE OFF
THROTTLE LEVER	IDLE
RUDDER	KEEP HEADING CONTROL
BRAKES	AS REQUIRED
FUEL SELECTOR	OFF
FUEL PUMP	OFF
MAGNETOS	OFF
CABIN HEAT	OFF
GENERATOR & MASTER	OFF
PARKING BRAKE	ENGAGED
EVACUATION	IMMEDIATELY

ENGINE FIRE IN-FLIGHT	
CABIN HEATING	OFF
FUEL SELECTOR VALVE	OFF
FUEL PUMP	OFF
THROTTLE	FULL FORWARD until the engine stops
MAGNETOS	OFF
CABIN VENTS	OPEN
LAND AS SOON AS POSSIBLE APPLYING FORCED LANDING PROCEDURE	

CABIN FIRE / ELECTRICAL SMOKE IN CABIN DURING FLIGHT	
CABIN HEATING	OFF
CABIN VENTS	OPEN
CANOPY	OPEN, IF NECESSARY
FIRE EXTINGUISHER	USE TOWARDS FLAME BASE
IF SMOKE PERSISTS	
MASTER	OFF
GENERATOR	OFF
LAND AS SOON AS POSSIBLE AND EVACUATE THE AIRCRAFT	

ELECTRICAL SMOKE/FIRE IN CABIN ON THE GROUND	
GENERATOR	OFF
THROTTLE	IDLE
MAGNETOS	OFF
FUEL SELECTOR VALVE	OFF
MASTER	OFF
EVACUATION	IMMEDIATELY

FORCED LANDING WITHOUT ENGINE POWER	
FLAP	UP
AIRSPEED	69
PLACE TO LAND	FIND A SUITABLE
FUEL SELECTOR VALVE	OFF
FUEL PUMP	OFF
MAGNETOS	OFF
SAFETY BELTS	TIGHTEN
CANOPY LOCKS	CHECK LOCKED
FLAPS	AS NECESSARY
GENERATOR & MASTER	OFF

POWER-ON FORCED LANDING	
AIRSPEED	69
FLAPS	UP
PLACE TO LAND	FIND A SUITABLE
SAFETY BELTS	TIGHTEN
CANOPY LOCKS	CHECK LOCKED
BEFORE TOUCH DOWN	
FLAPS	AS NECESSARY
FUEL SELECTOR VALVE	OFF
FUEL PUMP	OFF
MAGNETOS	OFF
GENERATOR & MASTER	OFF

LANDING WITH A FLAT NOSE TIRE	
PRE-LANDING CHECKLIST	COMPLETE
FLAPS	FULL
LAND AND MAINTAIN AIRCRAFT NOSE HIGH ATTITUDE AS LONG AS POSSIBLE	
ENGINE	SECURE
EVACUATION	PERFORM

LANDING WITH A FLAT MAIN TIRE	
PRE-LANDING CHECKLIST	COMPLETE
FLAPS	FULL
LAND THE AEROPLANE ON THE SIDE OF RUNWAY OPPOSITE TO THE DEFECTIVE TIRE	
TOUCHDOWN WITH THE GOOD TIRE FIRST AND HOLD AIRCRAFT WITH THE FLAT TIRE OFF THE GROUND AS LONG AS POSSIBLE	
ENGINE	SECURE
EVACUATION	PERFORM

RECOVERY FROM UNINTENTIONAL SPIN	
THROTTLE	IDLE
RUDDER	FULL, IN THE OPPOSITE DIRECTION OF THE SPIN
STICK	CENTRALIZE AND HOLD NEUTRAL
AS THE SPIN STOPS	
RUDDER	SET NEUTRAL
AEROPLANE ATTITUDE	SMOOTHLY RECOVER
THROTTLE	READJUST

UNINTENTIONAL FLIGHT INTO ICING CONDITIONS	
CARB. HEAT	ON
PITOT HEAT	ON
IMMEDIATELY FLY AWAY FROM ICING CONDITIONS	
CONTROLS SURFACES	CONTINUE TO MOVE TO MAINTAIN THEIR MOVABILITY
PROPELLER SPEED	INCREASE RPM
CABIN HEAT	ON

[1] Carburetor heating use only if necessary when rpm idle. Using carburetor heating when rpm at or above 1800 can lead to fuel boiling and engine failure. SERVICE INFORMATION LETTER N° SIL-2017–02