CHECKLIST DR40 / 140 B

ENGLISH

SPEED

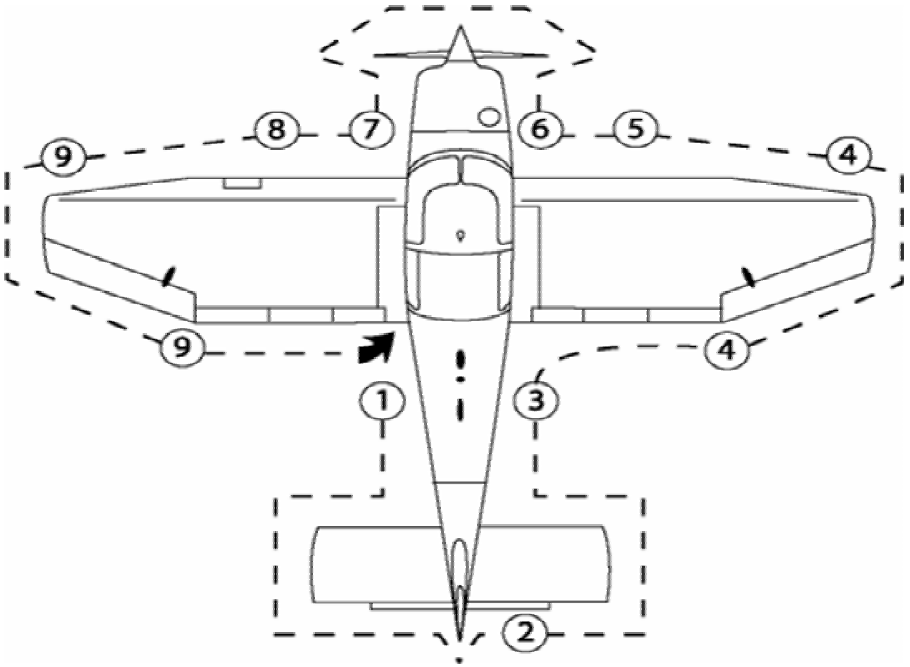
Vr	54 kt	V_{S0}	47 kt
Vx	70 kt	Va	116 kt
Vy	81 kt	Vref	65 kt + WIND
Vbest glide	78 kt	Cruise	120 kt

FUEL

TOTAL	160 L
USABLE	159 L
CONSUMPTION	~ 35L/H
ENDURANCE	~4H30

OTHER

DEMONSTRATED CROSSWIND	22 kt
MTOM	1000 kg



COCKPIT

1. MAGNETO SWITCH ..... OFF
2. CONTROLS ..... FREE
3. FLAPS ..... CHECK OPERATION
4. BATTERY SWITCH ..... ON
5. FUEL QUANTITY ..... CHECK
6. BATTERY SWITCH ..... OFF
7. AIRCRAFT DOCUMENTS ..... CHECK AVAIBILITY ON BOARD
8. BAGGAGE ..... CHECK STOWING

01

1. FUEL FILLER CAP ..... IN PLACE, LOCKED
2. STATIC VENT ..... CLEAN, UNOBSTRUCTED
3. FUSELAGE MAIN TANK DRAIN VALVE ..... ACTUATED

02

1. HORIZONTAL STABILIZER ..... SURFACE CONDITION, HINGES WITHOUT CLEARANCE
2. RUDDER ..... CHECK HINGES AND CLEARANCE

03

1. STATIC VENT ..... CLEAN, UNOBSTRUCTED

04

1. FLAP AND AILERON ..... CHECK CONDITION AND HINGES
2. WING TIP AND NAVIGATION LIGHT ..... CHECK CONDITION

05

1. STALL WARNING ..... CLEAN, CHECK DISPLACEMENT
2. RIGHT MAIN LANDING GEAR ..... CHECK ATTACHMENT AND FAIRING CONDITION
   ..... NORMAL SHOCK ABSORBER COMPRESSION
   ..... TYRE INFLATED

06

1. FUEL DRAIN VALVE ..... ACTUATED
2. OIL LEVEL ..... CHECK, OIL CAP SECURED, PANEL CLOSED
3. ENGINE COWL ATTACHMENT ..... CHECK
4. PROPELLER ..... CLEAN, IN GOOD CONDITION
5. PROPELLER SPINNER ..... NO PLAY
6. AIR INLETS ..... CLEAN, UNOBSTRUCTED

07

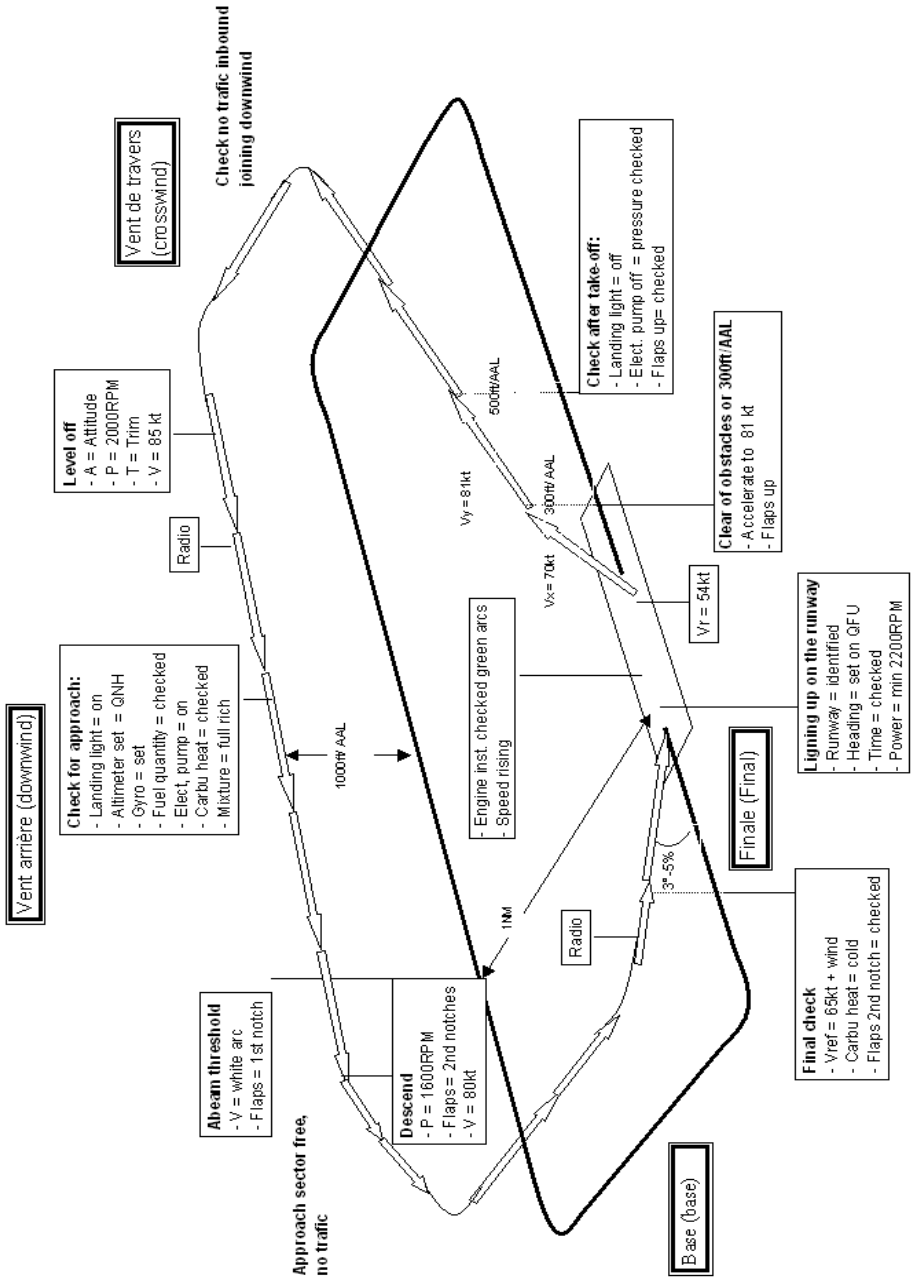
1. NOSE GEAR ..... CHECK ATTACHMENT AND FAIRING CONDITION
   ..... NORMAL SHOCK ABSORBER COMPRESSION
   ..... TYRE INFLATED
   ..... TOW BAR REMOVED
2. EXHAUST PIPES ..... RIGID
3. CANOPY CLEANLINESS ..... CHECK

08

1. LEFT MAIN LANDING GEAR ..... CHECK ATTACHMENT AND FAIRING CONDITION
   ..... NORMAL SHOCK ABSORBER COMPRESSION
   ..... TYRE INFLATED
2. PITOT ..... CLEAN, UNOBSTRUCTED
3. LIGHTS ..... GLASS CLEAN

09

1. WING TIP AND NAVIGATION LIGHT ..... CHECK CONDITION
2. FLAP AND AILERON ..... CHECK CONDITION AND HINGES



PREFLIGHT INSPECTION

1. OIL LEVEL ..... BETWEEN 6 AND 8 US QUARTS
2. AIRCRAFT DOCUMENTS, AIRCRAFT LOGBOOK, CHECKLIST ..... ON BOARD
3. EMERGENCY EQUIPMENTS ..... FLASHLIGHT, MICRO,
   ..... FIRE EXTINGUISHER, EMERGENCY CHECKLIST

WINTER - START UP PROCEDURE : TEMPERATURE < 5°C

1. INJECTION ..... 8 - 10 TIMES
2. THROTTLE ..... 1 CM
3. MAGNETOS ..... LEFT, KEEP HAND ON THE KEYS
4. STARTER ..... ENGAGE

AS SOON AS THE ENGINE BEGIN TO START

5. MAGNETOS ..... BOTH

IF THE ENGINE DOESN'T START, DO AGAIN THE PROCEDURE AT POINT 1

BEWARE OF NOT INJECT FUEL IN THE SAME TIME OF STARTING THE ENGINE

KEEP YOUR HAND ON THE MAGNETOS

SUMMER - START UP PROCEDURE : TEMPERATURE >5°C

1. INJECTION ..... 3 TIMES
2. THROTTLE ..... 1 CM
3. MAGNETOS ..... LEFT, KEEP HAND ON THE KEYS
4. STARTER ..... ENGAGE

AS SOON AS THE ENGINE BEGIN TO START

5. MAGNETOS ..... BOTH

SUMMER- WINTER - HOT ENGINE START UP PROCEDURE

1. INJECTION ..... 1 TIME
2. THROTTLE ..... 1 CM
3. MAGNETOS ..... LEFT, KEEP HAND ON THE KEYS
4. STARTER ..... ENGAGE

AS SOON AS THE ENGINE BEGIN TO START

5. MAGNETOS ..... BOTH

FLOODED ENGINE PROCEDURE

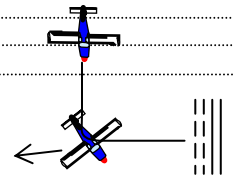
1. ELECTRIC PUMP ..... OFF
2. MIXTURE ..... LEAN
3. THROTTLE ..... FULL POWER
4. STARTER ..... ENGAGE

AS SOON AS THE ENGINE BEGIN TO START, ADVANCE THE MIXTURE TO FULL RICH

AND CONTINUE THE NORMAL PROCEDURE

TAXI

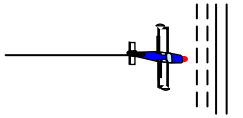
1. PARKING BRAKE ..... RELEASED
2. POWER 1000RPM
3. BRAKES ..... CHECK



4. FLIGHT INSTRUMENTS

AIRSPEED ..... READ "0"
HORIZON ..... STABLE
ALTIMETER ..... QNH, CHECK ALTITUDE
TURN COORDINATOR ..... TURN IN THE SIDE OF THE CURVE, BALL EXTERIOR
DIRECTIONAL GYRO ..... INDICATION: INCREASE (R) AND DECREASE (L)
VERTICAL SPEED ..... READ "0"
COMPASS ..... FREE

RUN UP



1. WAIT THAT THE ENGINE WARM UP ..... CYLINDER HEAD TEMPERATURE IN THE GREEN
   ..... OR TEMPERATURE OF OIL MINI 40°
   ..... OR IN THE WINTER, WAIT MINI 5-10 MIN

TAKE-OFF BRIEFING

1. SPEED ..... Vr
   Vx
   ..... Vy
2. ROUTING ..... 1st HEADING
   ..... 1st ALTITUDE
3. EMERGENCY PROCEDURE:

<u>ANY FAILURE BEFORE Vr</u> ..... POWER IDLE
..... BRAKE, MAINTAIN RUNWAY AXIS
..... ADVISE ATC

<u>ENGINE FAILURE AFTER Vr</u>

UP TO 1000FT/GROUND ..... LAND STRAIGHT AHEAD, Vbest glide
FROM 1000FT/GROUND ..... LAND STRAIGHT AHEAD OR BACK ON RUNWAY, Vbest glide

APPROACH BRIEFING

1. ENTRY POINT ..... CHECKED
2. RUNWAY IN USE ..... BRIEFED
3. ALTITUDE OF DOWNWIND ..... BRIEFED
4. ALTITUDE OF AIRPORT ..... BRIEFED
6. SPEED ..... INITIAL
   ..... INTERMEDIATE
   ..... FINAL
7. GO AROUND PROCEDURE ..... BRIEFED

01 - CHECKS BEFORE STARTING ENGINE

1.	OUTSIDE CHECKS	PERFORMED
2.	SEATS POSITION	ADJUSTED & LOCKED
3.	SEAT BELTS & SHOULDER HARNESSES	FASTENED & ADJUSTED
4.	PARKING BRAKE	SET
5.	ELECTRICAL CONSUMERS	OFF
6.	MASTER SWITCH & ALTERNATOR	ON
7.	CIRCUIT BREAKERS	IN
8.	ANNUNCIATOR LIGHTS	TEST & DAY POSITION
9.	ELT	AUTO / ARMED
10.	FUEL QUANTITY & ENDURANCE	CHECKED
11.	FUEL SELECTOR	OPEN
12.	AUXILIARY TANK	AS REQUIRED
13.	CARBURETOR HEATER	COLD
14.	MIXTURE	RICH

02 - STARTING ENGINE

1.	NAV LIGHT & STROBE	ON
2.	FUEL PUMP / PRESSURE	ON / GREEN SECTOR
3.	MAGNETOS	LEFT
4.	CANOPY	CLOSED & LOCKED
5.	THROTTLE	INJECTION & 1-2 CM FORWARD
6.	PROPELLER AREA	CLEAR
7.	STARTER	ENGAGE
8.	MAGNETOS	BOTH
9.	POWER	1000 - 1200 RPM
10.	OIL PRESSURE	CHECKED

03 - CHECK AFTER STARTING ENGINE

1.	FUEL PUMP / PRESSURE	OFF / CHECKED
2.	AMMETER	GREEN SECTOR
3.	ANNUNCIATOR LIGHTS	EXTINGUISHED EXCEPT FLAPS
4.	STROBE LIGHT	OFF

04 - BEFORE TAXI

1.	FLAPS	UP
2.	VENTILATION, HEATER & DEFROSTER	AS REQUIRED
3.	AVIONICS	ON, SET
4.	ATIS	RECEIVED
5.	DIRECTIONAL GYRO	SET

READY FOR TAXI

05 - TAXI

1.	TAXI LIGHT	ON
2.	BRAKES & STEERING	CHECKED
3.	MAGNETIC COMPASS	FREE, FULL OF FLUID
4.	GYROS	CHECKED

06 - RUN-UP

1.	PARKING BRAKE	SET
2.	POWER	1000-1200RPM
3.	TAXI LIGHT	OFF
4.	ENGINE INSTRUMENTS	GREEN ARCS
5.	CANOPY	CLOSED & SECURED
6.	MIXTURE	FULL RICH
7.	POWER	2000 RPM
8.	GYRO-SUCTION	CHECKED
9.	AMMETER	CHECKED
10.	MAGNETOS	CHECKED L/R(175/50)THEN "BOTH"
11.	CARBURETOR HEATER	CHECKED
12.	MIXTURE	CHECKED
13.	IDLE	600-650RPM
14.	POWER	1000-1200RPM

07 - CHECK BEFORE DEPARTURE

1.	SEAT BELTS & SHOULDER HARNESSES	SECURED CHECKED
2.	FUEL QUANTITY	ENDURANCE CHECKED
3.	FUEL SELECTOR	OPEN
4.	AUXILIARY TANK	AS REQUIRED
5.	MIXTURE	FULL RICH
6.	CARBURETOR HEATER	CHECKED, COLD
7.	MAGNETOS	CHECKED BOTH
8.	CONTROLS	FREE ☐
9.	ELEVATION TRIM	T/O POSITION
9.	FLAPS	CHECK FUNCTION & T/O POSITION
10.	FLIGHT INSTRUMENTS & AVIONICS	CHECKED
11.	SPEEDS, Vr 54 kt / Vx 70 kt / Vy 81kt	BRIEFED
12.	DEPARTURE ROUTING, 1st HDG, 1st ALT	BRIEFED
13.	EMERGENCY PROCEDURES	BRIEFED

READY FOR DEPARTURE

08 - BEFORE & LINE-UP

1.	CANOPY	CLOSED & SECURED
2.	LANDING LIGHT & STROBE	ON
3.	AVIONIC & X-PANDER	SET ACCORDING ATC
4.	FUEL PUMP	ON
5.	APPROACH SECTOR	FREE
6.	WIND	CHECKED

09 - TAKE OFF & INITIAL CLIMB

1. DIRECTIONAL GYRO ..... SET WITH RUNWAY HEADING
2. TIME ..... CHECK
3. BRAKES ..... RELEASED & FREE
4. T/O POWER ..... FULL POWER / 2200 RPM MIN CHECKED
5. SPEED RISE ..... CHECKED
6. ROTATION SPEED ..... REACHED, ROTATION
7. ATTITUDE & CLIMB SPEED ..... ESTABLISHED
8. FLAPS ..... UP

10 - CLIMB CHECK

1. FLAPS ..... CHECKED UP
2. LANDING LIGHT ..... OFF
3. FUEL PUMP / PRESSURE ..... OFF / GREEN SECTOR CHECKED

11 - CRUISE CHECK & EVERY 15 MINUTES

1. ALTIMETER ..... SET
2. DIRECTIONAL GYRO ..... CHECKED
3. ENGINE INSTRUMENTS ..... CHECKED
4. CRUISE POWER SETTING ..... CHECKED
5. MIXTURE SETTING ..... CHECKED

FUEL MANAGEMENT

6. FUEL QUANTITY AND ENDURANCE REMAINING ..... CHECKED
7. FUEL SELECTOR ..... CHECKED OPEN
8. AUXILIARY TANK ..... AS REQUIRED

12 - DESCENT FOR APPROACH

1. ATIS ..... RECEIVED
2. APPROACH BRIEFING ..... BRIEFED
3. SEAT BELTS & SHOULDER HARNESSES ..... CHECKED
4. FLIGHT INSTRUMENTS & AVIONICS ..... CHECKED
5. DESCENT POWER ..... SET
6. CARBURETOR HEATER ..... CHECKED / IF REQUIRED
7. MIXTURE ..... ENRICH ACCORDING TO DESCENT

13 - APPROACH PREPARATION

1. LANDING LIGHT ..... ON
2. ALTIMETER ..... SET
3. DIRECTIONAL GYRO ..... SET
4. FUEL QUANTITY & ENDURANCE ..... CHECKED
5. FUEL PUMP ..... ON
6. AUXILIARY TANK ..... AS REQUIRED
7. CARBURETOR HEATER ..... CHECKED / IF REQUIRED
8. MIXTURE ..... FULL RICH (OR AS REQUIRED BY FIELD ELEVATION)

14 - FINAL CHECK

1. FLAPS LDG POSITION ..... CHECKED
2. CARBURETOR HEATER ..... CHECKED COLD
3. FINAL SPEED (ACC AFM) ..... SET & TRIM

15 - BALKED LANDING - [GO AROUND]

1. POWER ..... FULL THROTTLE
2. CARBURETOR HEATER ..... CHECKED COLD
3. ATTITUDE & SPEED ..... ESTABLISHED
4. FLAPS ..... T/O POSITION

16 - AFTER LANDING

1. STROBE LIGHT ..... OFF
2. LIGHTS ..... LANDING OFF & TAXI ON
3. X-PANDER ..... STBY
4. FUEL PUMP ..... OFF
5. FLAPS ..... UP

17 - ENGINE SHUT DOWN

1. PARKING BRAKE ..... SET
2. POWER ..... 1000 RPM
3. TAXI LIGHT ..... OFF
4. EMERGENCY FREQUENCY 121.5 ..... LISTENED
5. AVIONICS ..... OFF
6. ELEVATOR TRIM ..... T/O POSITION
7. FLAPS ..... FULL DOWN
8. CANOPY ..... CLOSED & SECURED
9. MIXTURE ..... IDLE CUT-OFF
10. THROTTLE ..... CLOSED
11. MAGNETOS ..... OFF
12. KEYS ..... REMOVED
13. NAVIGATION LIGHTS ..... OFF
14. BATTERY & ALTERNATOR ..... OFF
15. FLIGHT TIME COUNTER (FTC) ..... NOTED

18 - PARKING

1. KEYS ..... REMOVED, CHECKED
2. BATTERY & ALTERNATOR ..... OFF, CHECKED
3. AUXILIARY TANK ..... CLOSED
4. AIRCRAFT ..... CHOCKED & SECURED
5. CABIN & SEAT BELTS ..... TIDYED
6. CONTROLS (PIC SEAT) ..... LOCKED

EMERGENCY PROCEDURES

TABLE OF CONTENT

ENGINE FAILURE DURING TAKEOFF (ROLL)

With sufficient runway remaining:

Throttle to idle, and stop in the runway axis using brakes as required.

Without sufficient runway remaining:

1. Throttle ..... idle
2. Brakes ..... apply heavily
3. Mixture ..... idle cut-off
4. Fuel valve ..... closed
5. Magnetos switch ..... off
6. Battery switch ..... off

ENGINE FAILURE IMMEDIATELY AFTER TAKE OFF

1. Glide speed (flaps in takeoff position) ..... (73 kt) 135 km/h
2. Mixture ..... idle cut-off
3. Fuel valve ..... off
4. Magnetos switch ..... off
5. Battery switch ..... off

NOTE CAREFULLY

Land straight head, with only small direction changes to avoid obstructions.

Never try to turn back to the runway, as altitude after take off is seldom sufficient.

ENGINE FAILURE IN FLIGHT

If altitude is evaluated to be sufficient to try an engine restart

Establish maximum glide speed, flaps up 145 km/h (78 kt). In these conditions, and without wind, the aircraft covers approximately 9.3 times its altitude.

1. Fuel valve ..... open
2. Electric pump ..... on
3. Mixture ..... fully rich
4. Throttle ..... 1/4 travel forward
5. Magnetos switch ..... L + R ("Both")

If the propeller still turns, the engine should restart.

If the propeller is stopped, operate the starter.

If the engine still does not start, prepare for a forced landing, following the procedure below.

POWER OFF FORCED LANDING OFF AIRFIELD

Look for a suitable landing area:

1. Belts and harness ..... tight
2. Electric pump ..... off
3. Mixture ..... idle cut-off
4. Throttle ..... to idle
5. Magneto switch ..... off
6. Fuel valve ..... off
7. Alternator switch ..... off
8. Battery switch ..... off

Final

Flaps ..... full down

Canopy ..... unlock

PRECAUTIONARY POWER LANDING ON AIRFIELD

Fly over the choose field several times at low speed (130 km/h - 70 kt) in order to locate the most suitable landing area, flaps in "takeoff" position (1st notch) then make a precautionary approach at 120 km/h (65 kt), flaps in landing configuration (2nd notch)

On final, unlock the canopy

Before touchdown:

1. Magneto switch ..... off
2. Battery switch ..... off

NOTE: IN CASE OF CANOPY JAMMING

Canopy handle in " open " position.

Free the two canopy release levers located on the arm rests, on both sides of the instrument panel, and place them in vertical position.

FIRE

Engine fire during starting:

Keep the engine turning with:

1. Fuel valve ..... off
2. Electric pump ..... off
3. Throttle ..... full power
4. Mixture ..... idle cut-off

The aim of this procedure is to make the engine "swallow" the accumulated fuel in the inlet pipes (generally following an excess of fuel injection during a difficult engine start).

If the fire continues

1. Magneto switch ..... off
2. Battery switch ..... off
3. Alternator switch ..... off

Abandon the aircraft, and try to extinguish the fire with the aids available:
fire extinguishers, covers, clothing, or sand.

Engine fire in flight

1. Fuel valve ..... off
2. Throttle ..... full power until engine stops
3. Mixture ..... idle cut-off
4. Electric pump ..... off
5. Alternator switch ..... off
6. Cabin heat and ventilation ..... off
7. Establish maximum glide speed ..... 78 kt (145 km/h)

Prepare for a forced landing off airfield, following the procedures in the chapter
"Power off forced landing off airfield"
Do not attempt to restart the engine.

Cabin fire:

Extinguish the fire by means possible (optional extinguisher)
To eliminate smoke, apply maximum ventilation.
In case an electrical fire (fumes indicating insulation burning)

1. Cabin ventilation ..... reduce
2. Alternator switch ..... off
3. Battery switch ..... off
4. Battery breaker ..... pull out
5. Alternator breaker ..... pull out

Land quickly if the fire continues.

VIBRATIONS AND ENGINE ROUGHNESS OPERATION

Vibrations and engine roughness operation are generally due to (verify in this order)

1. Carburetor icing: see paragraph "ICING" on the next page
2. Mixture set too rich or lean: adjust the mixture
3. Contamination in the fuel system: verify fuel pressure. Switch on the fuel pump

4. Ignition failure: magneto switch on "L", then "R", then return to "BOTH".
   select the position proving best engine operation, and fly to the nearest airfield,
   reduced power, and adjust mixture control to obtain smooth operation.

LOW OIL PRESSURE

In case of fuel low oil pressure indication, check oil temperature,
and if it is too high (red arc)

1. Reduce power
2. Flight to the nearest airfield, and prepare for an off airfield landing

ICING

Proceed as follows when inadvertently encountering icing:

1. Carburetor heat ..... on
2. Increase power in order to reduce ice built-up to minimum
3. Switch on the PITOT heat (if installed)
4. Select maximum cabin heat, and direct the total output to the windscreen (position "defrost") in order to remove the ice quickly
5. Turn back, or change altitude, to obtain an outside air temperature less conducive to icing.
6. Plan to land at the nearest airfield.

With an extremely rapid ice built-up, carry out a forced landing.

Remember that a layer of 0.5 cm (0.2 in) on the wing leading edge fairly increases stall speed. If needed, use a higher than normal approach speed: 135 km/h (73 kt)

REMARKS

If continuous carburetor heat is deemed necessary, it is imperative to adjust the mixture control to obtain normal engine operation.

Always use carburetor heat fully on or fully off, in certain cases, an intermediate position could increase icing.

ELECTRICAL POWER SUPPLY MALFUNCTION

Alternator failure is indicated when the amber "alternator failure" light on the warning panel is lit, and a progressive drop in voltage (show on the voltmeter).

<u>If "alternator failure" is lit</u>

Switch off the alternator, when back on.
This operation resets the overvoltage relay which may have cut-out due to a transient overvoltage.

<u>If the failure continues</u>

1. Switch off the alternator
2. Switch off all electrical equipment not essential for continuing the flight
3. Land as soon as possible, and have the electrical system inspected

NOTE

An alternator failure does not prevent the engine from operating normally

INADVERTENT SPIN

Should a spin occur, use the following procedure:

1. Throttle ..... idle
2. Rudder ..... maximum opposite to direction of rotation
3. Elevator ..... neutral
5. Ailerons ..... neutral
6. Once rotation stops, rudder to neutral position and recover within flight limitations.

NOTE

If flaps are down when spin begins, retract them immediately.

LOSS OF ELEVATION CONTROL

In the event of loss of elevator control (accidental disconnecting):

Stabilize the aircraft in level flight, flaps up, at 130 km/h (70 kt),
using the elevator trim and throttle.

Do not change the elevator trim setting, and control the angle of descent
only with throttle. Reduce power only on short final, and near to the ground.