Checklist für Diamond DA40 NG - NXI

Edition #: **1.3 Nxi** Edition date: **09.05.2022**

Please observe:

The file you are receiving hereby combines all three sections of the checklist: Normal Checklist, Emergency Checklist and Abnormal Checklist.

All pages of a new edition will have the same new "edition #" and "edition date", even if only one page was amended and all other pages still have the same, unchanged content.

Therefore the "List of Effective Pages" (LEP) is provided. It is here where you can see whether a particular page was amended. Pages which have been amended by a new edition will be marked yellow. For all other pages you will see which original "edition #" (and of course any higher "edition #") is still valid.

Note:

The system of assigning "Edition #" is as follows:

- if the revision affects all types, a new edition # (without a decimal figure) will be assigned to all of the checklists
- if the revision does not affect all types, the affected checklists will get subsequent "decimal figures" until a major revision affecting all checklists is issued.

Have a lot of nice flights and happy landings!

Peter Schmidleitner

Comments explaining Edition # 1.2 Nxi are on page 2 of this document

Checklist DA40 NG - NXI LEP

Page	Following Edition (or any higher) is valid	Date
Section : Normal Checklist		
1	15	20.05.2010
2	18.1	20.02.2019
3	16.4	01.08.2014
4	17.3	15.04.2017
5	1.0 Nxi	20.02.2019
6	16.2	01.06.2014
7	17.2	15.03.2017
8	1.0 Nxi	20.02.2019

Section: Emergency Checklist		
1	1.0 Nxi	20.02.2019
2	1.2	10.11.2020
3	15.2	15.12.2011
4	1.0 Nxi	20.02.2019
5	15.2	15.12.2011
6	15.2	15.12.2011
7	15.3	15.12.2011
8	17	01.03.2015
9	15.2	15.12.2011
10	1.0 Nxi	20.02.2019
11	1.0 Nxi	20.02.2019
Section: Abnormal Checklist		
12	1.2	10.11.2020
13	1.3 Nxi	09.05.2022
14	1.0 Nxi	20.02.2019
15	16.4	01.08.2014
16	1.0 Nxi	20.02.2019

Comments explaining Edition # 17.1

Emergency Prodedures
Page 2:
Emergency landing (Engine OFF): Fuel pumps OFF added
Abnormal Procedures
Page 13:
Editorial correction

Comments explaining Edition # 17.2

Normal Procedures
Page 5: Gearbox temperature before ECU Test
Page 7: "SECURING THE AIRCRAFT" added
Emergency Prodedures
No change

Comments explaining Edition # 17.3

Normal Procedures
Page 4: Engine Start Procedure: "Prop Area….CLEAR" placed on top

Comments explaining Edition # 1.0 Nxi

changes from legacy edition #17.3

Normal Procedures
Page 2: Editorial changes
Page 5: Props cycling 2 times > 1800RPM
Page 8: Vy up to safe altitude (Flap T/O)
Page 8: Cruise climb speed (Flaps UP)
Page 8: Maneuvering speed (Vo) above 1180kg
Page 8: Empty mass 940kg
Emergency Procedures
Page 1: G1000 Warnings ALTN AMPS Pg. 8 (page referral)
Page 4: Engine Troubleshooting, 9. updated acc. AFM
Page 10: Fire / Smoke on ground, 3. "Apply Brakes added"
Page 10: Fire / Smoke during cont. TKOF, 9. "Verify Flaps position"
Abnormal Procedures
Page 14: Cool Lvl, Check Temp. check page 16 (page referral)
Page 16: Fuel Temp low, changed to <-25°C

Comments explaining Edition # 1.1 Nxi

changes from NXi edition #1.0
Emergency Procedures
Page referral "Title – Engine Fire edited"
Abnormal Procedures
Blank page deleted

Comments explaining Edition # 1.2 Nxi

changes from NXi edition #1.1
Emergency Procedures
Page 2 referral "Restart changed p.7 to p.3"
Abnormal Procedures
Page 12 referral "COOL LVL changed from p.16 to p14"

Comments explaining Edition # 1.3 Nxi

changes from NXi edition #1.2
Abnormal Procedures
Page 13 "Wording ECU FAIL DURING FLIGHT" Added

This checklist is compiled according the guidelines of GAMA Specification No.1, SECTION 3, para 3.5, SECTION 3A, para 3A.5 and SECTION 4, para 4.5.
The "Amplified Normal Procedures", „Amplified Emergency Procedures" and „Amplified Abnormal Procedures" according GAMA Specification No. 1 are in the DA40 Airplane Flight Manual Chapters 4A, 3 and 4B.

This checklist is a Recommended Operator Checklist and for reference only.
It is not a substitute for and does not supersede the current approved Airplane Flight Manual or any of its supplements or parts thereof, or any training or procedures required by any regulatory or advisory bodies.
This checklist may not contain all procedures shown in the Airplane Flight Manual. For a comprehensive listing of all procedures consult the Airplane Flight Manual.
Use of the checklist is at the user's sole risk and discretion.
Any possible liability of Diamond Flight Training and/or Diamond Aircraft Industries for any damages, injury or death resulting from its use is excluded.
All such terms and conditions shall be deemed to be explicitly accepted in full by using the checklist.
If you do not understand, or if you disagree with, any of the above terms and conditions and in any jurisdiction that does not give effect to all provisions of these terms and conditions any use of the checklist is not permitted.

Use of the electronic checklist (if available):
Before using the electronic checklist on the G1000 the following sections have to be completed using this paper checklist:

- **Preflight interior + exterior**
- **Preflight exterior**
- **Check before engine start items 1 to 21 (may be completed by heart).**

This checklist also serves as a back up for the electronic checklist in case the G1000 MFD is not available.

For use of fuel additives see AFM.

PREFLIGHT INTERIOR + EXTERIOR.

1 Check Aircraft papers
2 Remove pitot cover
3 Check interior for foreign or loose objects
4 Check flight controls free
5 Check circuit breakers
6 Fuel Valve NORMAL
7 Engine Master OFF
8 VOTER switch AUTO
9 Fuel pumps OFF
10 Essential bus OFF
11 Avionic Master + electrics OFF
12 Electric Master ON
check voltage
13 Check fuel quantity + temp
14 External lights ON
15 Pitot heat ON
16 Parking brake SET
17 Check stall warning
18 Check pitot tube
19 Check external lights
20 Pitot heat / ext. lights OFF
21 Electric Master OFF,
key removed

PREFLIGHT EXTERIOR

Left main gear
Wheel fairing
Tire condition, slip mark
Brake, hydraulic line

Left wing
Wing leading edge, top- and bottom surface
Drain fuel tank and sample check
Air intake (winter baffle)
Stall warning
Fuel vent
Fuel filler cap
Pitot probe (cover removed)
Landing/Taxi light
Wing tip, position light
Static dischargers
Aileron (freedom of movement, hinges, control linkage)
Wing flap

Left fuselage
Canopy left side
Rear door
Fuselage left side
Antennas

Tail
Elevator & rudder (freedom of movement, hinges)
Trim - tab
Tail skid + lower fin
Static dischargers

Right fuselage
Fuselage right side
Rear window
Canopy right side

Right wing
Wing flap
Aileron (freedom of movement, hinges, control linkage, security)
Static dischargers
Wing tip, position light
Wing leading edge, top- and bottom surface
Fuel filler cap
Fuel vent
Fuel cooler air inlet (winter baffle ?) + outlet
Drain fuel tank

Right main gear
Wheel fairing
Tire condition, slip mark
Brake, hydraulic line

Nose section
OAT sensor
Propeller surface
Spinner
Cowling, Air inlets

Nose gear
Wheel fairing
Tire condition, slip mark

Engine bay
Engine oil level (5,0 – 7,0 l)
Gearbox oil level
Drain gascolator and sample check

Chocks removed
Towbar removed

CHECK BEFORE ENGINE START

1	Preflight check ..... COMPLETED	1
2	Baggage and tow bar ..... SECURED	2
3	Fuel valve ..... NORMAL / SECURED	3
4	Power lever ..... IDLE	4
5	Parking brake ..... SET	5
6	Alternate Air ..... CLOSED	6
7	Electric master ..... OFF	7
8	Avionic master ..... OFF	8
9	Essential bus ..... OFF	9
10	Alternate static ..... CLOSED	10
11	Engine master ..... OFF	11
12	VOTER switch ..... AUTO	12
13	Fuel pumps ..... OFF	13
14	All light switches ..... OFF	14
15	Emergency switch ..... OFF / GUARDED	15
16	ELT ..... ARMED	16
17	Circuit breakers ..... CHECKED IN	17
18	Flap selector ..... UP	18
19	Pitot heat ..... OFF	19
20	Fuel transfer ..... OFF	20

If starting with external power: External power….CONNECT

Check Prop clear

21	Electric Master ..... ON (check avionic fan noise)	21
22	Rudder pedals ..... ADJUSTED	22
23	Passengers ..... INSTRUCTED	23
24	Seat belts ..... FASTENED	24
25	Rear door ..... CLOSED and LATCHED	25
26	Front canopy ..... POS 1 or 2	26
27	G1000 ..... POWERED, ACKNOWLEDGED	27
28	MFD - EIS ..... ENGINE	28
29	Fuel Quantity ..... CHECKED, RESET/SET if requ.	29
30	Fuel temperature ..... CHECKED	30
31	Total time in service ..... NOTED	31
32	Power lever ..... IDLE	33
33	ACL (strobe) ..... ON	34

End of Checklist

ENGINE START PROCEDURE

Propeller area .....CLEAR
Engine Master ..... ON
Annunciations / Eng.Instr. ..... CHECKED
Glow indication..... OFF
Start key .....START
Oil pressure ..... OUTSIDE RED within 3 sec
Voltage, Electrical load .....CHECK INDICATION
Annunciations / Eng.Instr. ..... CHECK

CHECK AFTER ENGINE START

If external power was used:

	External power ..... DISCONNECT	
1	Oil pressure.....CHECKED	1
2	RPM 710 +/- 30 .....CHECKED	2
3	Circuit breakers .....CHECKED IN	3
4	Pitot heat..... ON, annunciation + Amps checked	4
5	Pitot heat.....OFF	5
6	Avionics master .....ON	6

FMS SETUP

I *nitialize profile (AUX 4, MAP)*
F *light plan*
R *adios (COM,NAV,ADF,DME,CDI,BRG 1/2, AUX3,RAIM)*
P *erformance (speed bugs, flight ID if applicable)*

7	FMS setup..... COMPLETED	7

AUTOPILOT TEST

DISCONN press, check electric trim not working
AP ON, check annunciations and FD
DISCONN press, check AP off
GA button press, check FD commands climb, FD OFF

8	Autopilot test..... COMPLETED	8
9	Flood light..... CHECKED, ON as required	9
10	Position lights ..... ON as required	10
11	Flaps .....full travel CHECKED, then T/O	11
12	Altimeters (2).....SET	12
13	Standby horizon.....CHECKED	13
14	Transponder..... CODE/MODE CHECKED	14
15	Engine temperatures .....CHECKED	15
16	Parking brake .....RELEASED	16

Max power 50% until engine temperatures in green range

End of Checklist; see next page for "During taxi" – items

DURING TAXI

Check brakes
Check flight instruments

BEFORE TAKE OFF CHECK

1	Parking brake	SET	1
2	Seat belts	FASTENED	2
3	Adjustable backrests	UPRIGHT	3
4	Rear door	CLOSED + LATCHED	4
5	Front canopy	CLOSED + LATCHED	5
6	Door warning light	OFF	6
7	Circuit breakers	CHECKED	7
8	Electric elevator trim	CHECKED, T/O SET	8
9	Flaps	CHECKED T/O	9
10	Flight controls	CHECKED	10
11	Power lever	IDLE	11
12	MFD - EIS	ENGINE	12
13	Engine instruments	CHECKED	13

Engine temperatures must be in green range before performing ECU test.
(For gearbox min.38° recommended). For warm up max power 50%.

14	VOTER switch	A, AUTO, B, AUTO	14

ECU TEST

ECU test button ..... press and hold
"ECU A/B fail" ..... ON
Prop cycling 2 times > 1800 RPM
"ECU A/B fail" ..... OFF
ECU test button ..... release

15	ECU test	PERFORMED	15
16	Pitot heat	AS REQUIRED	16
17	Transponder	CODE/MODE CHECKED	17
18	Fuel pumps	ON	18
19	MFD - EIS	DEFAULT	19
20	Parking brake	RELEASED	20

End of Checklist

LINE UP PROCEDURE

Landing light ..... ON
Approach sector ..... CLEAR
Runway ..... IDENTIFIED

Available power check (see pg.6) ..... PERFORMED

Available Power Check:

10 sec. power MAX, RPM 2200 – 2300 (min. 2100 below -10°C), min. load acc. table below

Altitude [ft]	OAT -35°C -31°F	-20°C -4°F	-10°C 14°F	0°C 32°F	10°C 50°F	20°C 68°F	30°C 86°F	40°C 104°F	50°C 122°F
0	94%						95%	92%	90%
2000							95%	92%	
4000	96%						95%	92%	
6000							95%	92%	
8000						95%	94%	91%	
10000				94%	93%	91%	88%		

AFTER TAKE-OFF PROCEDURE

After passing safe altitude:
Flaps..... UP
Climb power ..... SET

CLIMB TO CRUISE CHECK

1	Flaps	CHECKED UP	1
2	Fuel pumps	OFF	2
3	Climb power	SET	3
4	Landing light	OFF	4

End of Checklist

PERIODICALLY DURING CRUISE

Fuel transfer ..... repeat as required

Maximum fuel unbalance - Long range tank: 9 USG

DESCENT / APPROACH CHECK

1	Landing data	RECEIVED	1
2	Altimeters (2)	SET	2
3	COM / NAV / FMS	SET	3
4	Seatbelts	FASTENED	4
5	Adjustable backrests.....	UPRIGHT	5
6	Fuel transfer.....	AS REQUIRED	6
7	Parking brake	CHECKED RELEASED	7
8	Fuel pumps	ON	8
9	Landing light	ON	9

End of Checklist

BEFORE LANDING PROCEDURE

Downwind, latest base leg:
Flaps.....T/O
On final:
Flaps.....LDG

GO AROUND PROCEDURE

Power .....MAX
Flaps.....T/O
Continue with take-off profile

AFTER LANDING CHECK

1	Flaps	UP	1
2	Pitot heat	OFF	2
3	Fuel pumps	OFF	3
4	Alternate air	CLOSED	4
5	Landing/Taxi light	AS REQUIRED	5

End of Checklist

PARKING CHECK

1	Parking brake	SET	1
2	Power lever	max 10% for 1 min.	2
3	ELT	CHECK not activated	3
4	MFD - EIS	ENGINE PAGE - CHECKED	4
5	MFD - EIS	TTL TIME IN SVC NOTED	5
6	Avionic master	OFF	6
7	Electrical consumers except ACL (strobe)	OFF	7
8	Engine Master	OFF	8
9	ACL (strobe)	OFF	9

When engine indications x-out:

10	Electric Master	OFF	10
11	Start key	REMOVED	11

End of Checklist

SECURING THE AIRCRAFT

Release parking brake, use chocks.
Cover the pitot probe.
Attach tie down ropes to mooring points

STALLING SPEEDS KIAS				
	1000kg	**1100kg**	**1200kg**	**1310kg**
Stalling speed (V_S) Flaps UP	58	61	64	66
Stalling speed (V_S) Flaps T/O	54	56	60	62
Stalling speed (V_{SO}) Flaps LDG	55	57	59	60

OPERATING SPEEDS KIAS					
	940kg	**1000kg**	**1100kg**	**1200kg**	**1280kg + above**
Rotation speed	56	58	61	65	67
V_{50} up to 50 ft	62	65	67	70	72
Vy up to safe altitude **(Flaps T/O)**	72				
Cruise climb speed **(Flaps UP)**	88				

Max. cruising speed (VNO)	130
Never exceed speed (VNE)	172
Max. flap speed (V_{FE}) Flaps T/O	110
Max. flap speed (V_{FE}) Flaps LDG	98

	940kg	**1000kg**	**1100kg**	**1200kg**	**1216kg**	**1280kg +above**
Approach V_{REF} Flaps UP	71	73	78	82	82	83
Approach V_{REF} Flaps T/O	68	70	74	77	77	78
Approach V_{REF} Flaps LDG	66	68	72	76	76	77
Min. GA speed Flaps T/O	72					

	up to 1080 kg	1081-1180 kg	above 1180 kg
Maneuvering speed (V_O)	101	108	113

Best gliding Flaps UP, windmilling prop	88 Gliding ratio 1:9,7 1,59 NM / 1000 ft Without wheel fairings: Gliding ratio 1:9,4 1,54 NM / 1000 ft

Max demonstrated X-wind: 25 kt

MASS			
		Option "574"	Option "662"
Max. TKOF mass	1280 kg		1310 kg
Max ZF mass	1200 kg	1265 kg	
Max. LDG mass	1216 kg	1280 kg	
Empty mass	*940 kg*		
Max. baggage in FWD compartment	45 kg		
Max. baggage in AFT extension	18 kg		
Total in both	45 kg		

EMERGENCY + ABNORMAL CHECKLIST

For conditions to use this Emergency + Abnormal Checklist see page 1 of the Normal Checklist.
All such conditions are fully applicable also for this checklist.

G1000 WARNINGS

ENG TEMP	Pg. 6	**Coolant temperature high (red range)**
OIL TEMP	Pg. 6	**Oil temperature high (red range)**
OIL PRES	Pg. 6	**Oil pressure low (red range)**
GBOX TEMP	Pg. 7	**Gearbox temperature high (red range)**
L/R FUEL TEMP	Pg. 7	**Fuel temperature high (red range)**
FUEL PRESS	Pg. 7	**Fuel pressure low**
ALTN FAIL	Pg. 7	**Alternator failed**
ALTN AMPS	Pg. 8	**High Current (red range)**
STARTER	Pg. 8	**Starter not disengaging**
DOOR OPEN	Pg. 8	**Unlocked doors**

For other parameters "out of green range" see Abnormal Checklist

Abnormal Checklist starts at page 12

ENGINE FAILURE IN FLIGHT

1 Airspeed ..... 88 KIAS 1
2 Flaps ..... UP 2
Depending on remaining altitude consider:
RESTART (page 3) or
EMERGENCY LANDING (ENGINE OFF) (see ↓)

EMERGENCY LANDING (ENGINE OFF)

1 Gliding speed ..... 88 KIAS 1
2 ATC ..... INFORM 2
3 Adjustable backrests ..... UPRIGHT 3
4 Engine master ..... OFF 4
5 Fuel transfer pump ..... OFF 5
6 Fuel pumps ..... OFF 6
7 Fuel valve ..... OFF 7
8 Avionic master ..... OFF 8
9 Safety harness ..... TIGHT 9
On final:
10 Flaps ..... T/O or LDG 11

	Approach speed KIAS				
Flaps	**1000 kg**	**1080 kg**	**1160 kg**	**1216 kg**	**1280 kg**
T/O	70	73	76	77	78
LDG	69	72	74	76	77

11 Electric master switch ..... OFF 10

ENGINE FIRE IN FLIGHT

1 Cabin heat ..... OFF 1
2 Canopy ..... UNLATCH as necessary 2
Select emergency landing area
When certain to reach landing area:
3 Fuel valve ..... OFF 3
4 Power lever ..... MAX 4
5 Emergency windows ..... OPEN as necessary 5
Carry out:
EMERGENCY LANDING (ENGINE OFF) (see ↑)

WINDMILL ENGINE START

Do not consider starter assisted restart if propeller has stopped

Max. altitude:
16.400 ft PA for immediate restart
10.000 ft PA for restart within 2 minutes

1	Airspeed	88 KIAS	1
2	Power lever	IDLE	2
3	VOTER switch	CHECKED AUTO	3
4	Fuel valve	CHECKED NORMAL	4
5	Alternate air	AS REQUIRED	5
6	Fuel quantity	CHECKED	6
7	Fuel transfer pump	AS REQUIRED	7
8	Electric master	CHECKED ON	8
9	Engine master	CHECKED ON	9

- If engine does not start:

10	Fuel valve	EMERGENCY	10

- If engine does not start:

11	Flaps	UP	11

Carry out:
EMERGENCY LANDING (ENGINE OFF) (page 2)

ENGINE TROUBLESHOOTING

1 Airspeed ..... 88 KIAS 1
2 Power lever ..... MAX 2

If

ECU A AND B FAIL simultaneously

and ALL of the following conditions exist:
- **indicated LOAD unchanged**
- **perceived thrust is reduced**
- **engine noise level changes or engine running rough**

3 POWER lever ..... IDLE for 1 second 3
4 POWER lever ..... slowly increase to 1975 RPM 4
- If engine shows power loss during the POWER lever increase

5 POWER lever ..... idle for 1 second 5
6 POWER lever ..... slowly increase 6
stop prior to the RPM where former engine power loss was observed

Do not increase the POWER lever past the propeller speed of 1975 RPM or the setting determined in step 4. An increase of engine power beyond this setting leads into another power loss.
With this power setting the engine can provide up to 65% at the maximum propeller speed of 1975 RPM

7 Land at nearest suitable airfield 7

End of Checklist

Otherwise:

3 Circuit breakers ..... CHECK/RESET 3
- If engine OK: continue, land ASAP End of Checklist

4 VOTER switch ..... SWAP between A and B 4
- If engine OK: continue, land ASAP End of Checklist

5 VOTER switch ..... AUTO 5
- If engine OK: continue, land ASAP End of Checklist

6 Fuel valve .....EMERGENCY 6
- If engine OK: continue, land ASAP End of Checklist

7 Fuel valve ..... NORMAL 7
8 Alternate air ..... OPEN 8
9 POWER lever..... apply power as required 8
- If engine OK: land as soon as practicable End of Checklist
- If engine still not OK: be prepared for ENGINE FAILURE IN FLIGHT, land ASAP End of Checklist

OSCILLATING RPM

1 Power lever ..... CHANGE SETTING 1

- If no success:

2 VOTER switch .....SWAP between A and B 2

- If no success:

3 VOTER switch .....AUTO 3

Land at nearest suitable airfield

RPM OVERSPEED

1 Power lever .....ADJUST to max. 2300 RPM 1

2 Airspeed ..... 88 KIAS 2

3 Flaps .....UP 3

If RPM stabilized below 2300:

4 Airspeed .....AS REQUIRED 4

5 Power lever .....AS REQUIRED 5

but do not exceed 2300 RPM

If RPM still above 2300:

6 VOTER switch .....SWAP between A and B 6

- If no success:

7 VOTER switch .....AUTO 7

adjust RPM with power lever

Land at nearest suitable airfield

If increased climb rate required:

8 Flaps ..... T/O 8

9 Airspeed ..... 72 KIAS 9

10 Power lever .....ADJUST to max. 2300 RPM 10

RPM UNDERSPEED

1 Power lever .....AS REQUIRED 1

2 VOTER switch .....SWAP between A and B 2

- If no success:

3 VOTER switch .....AUTO 3

4 Power lever .....AS REQUIRED 4

Land at nearest suitable airfield

G1000 WARNINGS

ENG TEMP

COOLANT TEMPERATURE HIGH

- Check "COOL LVL" caution message
  - If "COOL LVL" OUT:
    - During climb:
      - ⇒ Reduce power 10%
      - ⇒ Increase airspeed 10 KIAS
      - ⇒ If not returning to green range within 60 seconds: reduce power as far as possible and increase airspeed
    - During cruise:
      - ⇒ Reduce power
      - ⇒ Increase airspeed, if necessary descend
      - ⇒ Check coolant temperature in green range
        - If not returning to green range:
          - ⇒ land at nearest suitable airfield
  - If "COOL LVL" ON:
    - ⇒ Reduce power
    - ⇒ Expect loss of coolant fluid
    - ⇒ Be prepared for emergency landing

OIL TEMP

OIL TEMPERATURE HIGH

- Check oil pressure
  - If too low:
    - ⇒ Reduce power
    - ⇒ Be prepared for loss of oil and engine fail; be prepared for emergency landing
  - If in green range:
    - ⇒ Reduce power
    - ⇒ Increase airspeed

OIL PRES

OIL PRESSURE LOW

- Reduce power
- Expect loss of oil
- Land at nearest suitable airfield
- Be prepared for engine fail

GBOX TEMP

- Reduce power
- Increase airspeed
  - If gearbox temperature still in red range:
    - ⇒ Land at nearest suitable airfield
    - ⇒ Be prepared for engine fail

L/R FUEL TEMP

FUEL TEMPERATURE HIGH

- Reduce power
- Increase airspeed
- Consider fuel transfer from AUX to MAIN tank
  - If fuel temperature **not returning** to green range:
    - ⇒ Land at nearest suitable airfield

FUEL PRESS

FUEL PRESSURE LOW

- Check fuel quantity
- Check fuel valve NORMAL
- Switch fuel pumps ON
  - If FUEL PRESS warning remains:
    - ⇒ Fuel valve to EMERGENCY
    - ⇒ Switch fuel pumps OFF
      - If FUEL PRESS warning still remains
        - ⇒ Be prepared for engine fail

ALTN FAIL

ALTERNATOR FAILED

Batteries will last for about 30 minutes

- Check circuit breakers
- ESSENTIAL BUS: ON
- Switch off unnecessary electrical equipment
- Land at nearest suitable airfield
- Be prepared for engine fail;
  be prepared for emergency landing

ALTN AMPS

HIGH CURRENT

Consumption of electrical power is too high

Possible reason: fault in wiring or equipment

- Switch OFF electrical equipment as necessary and possible to reduce electric load
  - If problem not cleared:
    Land at nearest suitable airfield

STARTER

STARTER NOT DISENGAGING

- Power lever IDLE
- Engine master OFF
- Electric master OFF

DOOR OPEN

UNLOCKED DOORS

- Reduce airspeed
- Check canopy and rear door visually
  - If canopy and/or rear door unlocked:
    ⇒ Airspeed below 140 KIAS
    ⇒ Land at nearest suitable airfield

Do not try to lock the rear door in fligh

UNINTENTIONAL FLIGHT INTO ICING

Leave icing area, inform ATC

1	Pitot heat	ON	1
2	Cabin heat	ON	2
3	Cabin air	DEFROST	3
4	RPM	INCREASE, change periodically	4
5	Alternate air	OPEN	5
6	Emergency windows	OPEN as required	6

HIGH CURRENT

Refer to Emergency Checklist page 8 "ALTN AMPS"

TOTAL ELECTRIC FAIL

1	Circuit breakers	CHECK ALL IN	1
2	Essential bus	ON	2
	● If no success:		
3	Emergency switch	ON	3
4	Flood light, if necessary	ON	4
5	Power	SET	5
	according power lever position and/or engine noise		
6	Flaps	VERIFY POSITION	6

Land at nearest suitable airfield

ELECTRIC FIRE / SMOKE IN FLIGHT

1	Emergency switch	ON	1
2	Avionic master	OFF	2
3	Electric master	OFF	3
4	Cabin heat	OFF	4
5	Emergency window	OPEN as necessary	5
6	Canopy	UNLATCH as necessary	6

Land immediately

Consider:

EMERGENCY LANDING (ENGINE OFF) (page 2)

FIRE / SMOKE ON GROUND

1	Power lever ..... IDLE	1
2	Cabin heat ..... OFF	2
3	Brakes ..... apply –airplane to stop	3
4	Fuel valve ..... OFF	3
5	Fuel transfer pump ..... OFF	4
6	Engine master ..... OFF	5
7	Fuel pumps ..... OFF	6
8	Electric master ..... OFF	7
	After standstill and when engine stopped:	
9	Canopy ..... OPEN	8
	Evacuate	

FIRE / SMOKE DURING CONTINUED TKOF

1	Cabin heat ..... OFF	1
	If possible climb to safe height and land ASAP	
	When landing assured:	
2	Fuel valve ..... OFF	2
3	Fuel transfer pump ..... OFF	3
4	Engine master ..... OFF	4
5	Fuel pumps ..... OFF	5
6	Electric master ..... OFF	6
7	Emergency window ..... OPEN as necessary	7
8	Canopy ..... UNLATCH as necessary	8
9	Flaps ..... Verify Flap position	9

	Approach speed KIAS				
Flaps	**1000 kg**	**1080 kg**	**1160 kg**	**1216 kg**	**1280 kg**
T/O	70	73	76	77	78
LDG	69	72	74	76	77

LANDING WITH DEFECTIVE MAIN GEAR TIRE

1 ATC ..... INFORMED 1

For landing:

- Land on RWY side with "good" tire
- Keep wing on "good" side low
- Support directional control with brake

LANDING WITH DEFECTIVE BRAKES

Preferably land on grass.

After touchdown (if necessary):

1 Fuel valve ..... OFF 1
2 Engine master ..... OFF 2
3 Fuel pumps ..... OFF 3
4 Electric master ..... OFF 4

FUEL TRANSFER PUMP U/S

1 Fuel valve ..... EMERGENCY 1
2 Fuel pumps ..... OFF 2
3 AUX fuel quantity ..... CHECK min 1 USG 3
4 MAIN fuel quantity ..... CHECK max 14 USG 4
5 Fuel valve ..... Reset to NORMAL 5

SUSPICION OF CARBON MONOXIDE

1 Cabin heat ..... OFF 1
2 Ventilation ..... OPEN 2
3 Emergency windows ..... OPEN 3
4 Airspeed ..... max 117 KIAS 4
5 Canopy ..... UNLATCH 5

Push up and lock in cooling gap position

G1000 CAUTION LIGHTS

ECU A FAIL	Page 13	**Fault in ECU A**
ECU B FAIL	Page 13	**Fault in ECU B**
FUEL LOW	Page 14	**Main tank fuel qty low**
VOLTS LOW	Page 14	**Bus voltage too low**
PITOT FAIL	Page 14	**Pitot heating system failed**
COOL LVL	Page 14	**Engine coolant level low**
PITOT HT OFF	No procedure	**Pitot heating system OFF**

Indications outside of green range

Other abnormal situations

ECU A OR B FAIL — ON GROUND

1 Fuel pumps ..... OFF 2
2 VOTER switch ..... check AUTO 3
3 Other ECU caution ..... check OFF 4

Clearing procedure:

4 VOTER switch ..... set to failed ECU 5
Wait 5 seconds
5 Voter switch ..... AUTO 6

- If ECU caution persists termimate flight preparation

ECU A OR B FAIL — DURING FLIGHT

Remark: in case of ECU fail the system automatically switches to the other ECU

1 Alternate Air ..... OPEN 1
2 Fuel pumps ..... ON 2
3 Circuit breakers ..... CHECK/RESET if necessary 3
4 VOTER switch ..... check AUTO 4

- If ECU caution persists:
  ⇒ Land at nearest suitable airfield
- If additional engine problems are observed:
  ⇒ Go to Emergency Checklist page 4 ENGINE TROUBLESHOOTING

Remark: after landing the clearing procedure for "ECU FAIL ON GROUND" may be used.

ECU A AND B FAIL SIMULTANEOUSLY — DURING FLIGHT

➢ Go to Emergency Ckl page 4 ENGINE TROUBLESHOOTING

FUEL LOW

- Fuel transfer pump: ON
- Check fuel quantity
- Avoid uncoordinated flight
  - If light still ON:
  - ⇒ Expect fuel leak
  - ⇒ Fuel valve to EMERGENCY
  - ⇒ Fuel transfer pump OFF
  - ⇒ Be prepared for emergency landing

VOLTS LOW

BUS VOLTAGE TOO LOW

Remark: possible reason is a fault in the electrical power supply

- On ground
  - ⇒ Terminate flight preparation
- In flight
  - ⇒ Check circuit breakers
  - ⇒ Switch off unnecessary electrical equipment
    - If light still ON:

    Apply "ALTERNATOR FAIL"-emergency procedure
    (Emergency Checklist page 7)

PITOT FAIL

PITOT HEATING SYSTEM FAILED

- check pitot heat ON
  - If in icing conditions
  - ⇒ expect loss of airspeed indication
  - ⇒ leave area with icing conditions

COOL LVL

ENGINE COOLANT LEVEL LOW

- Monitor annunciations and instruments
- Check „Coolant temperature" procedure, page 16

INDICATIONS OUTSIDE OF GREEN RANGE

RPM high

Yellow range is permitted for up to 5 minutes if required

- Reduce power
- Keep RPM in green range using the power lever
  - If problem not solved
  - ⇒ Go to „RPM overspeed" procedure, Emergency Checklist page 5
  - ⇒ Land at nearest suitable airfield

OIL pressure high

- On ground during warm up with low oil temperature
  - Reduce power until oil pressure green, continue warm up at reduced power
- During flight
  - Check oil temperature
  - Check coolant temperature
    - If temperatures within green range
      - ⇒ Oil pressure indication may be faulty; watch temperatures
    - If temperatures outside of green range
      - ⇒ Reduce power;
      - ⇒ Land at nearest suitable airfield, be prepared for engine fail

Oil pressure low

- Refer to Emergency Checklist page 6, "OIL PRES"

Oil temperature high

- Refer to Emergency Checklist page 6, "OIL TEMP"

Oil temperature low

- Increase power
- Reduce airspeed

Fuel temperature high

➢ Refer to Emergency Checklist page 7, "L/R FUEL TEMP"

FUEL temperature low

➢ Monitor fuel temperature
- If fuel temperature decreases to red range (< -25°C):

⇒ Increase power

⇒ Reduce airspeed
- If not returning to yellow range:

⇒ Land at nearest suitable airfield

Coolant temperature high

➢ Refer to Emergency Checklist page 6, "ENG TEMP"

Coolant temperature low

Remark: During low power descent from high altitude coolant temperature may decrease

➢ Check "COOL LVL" caution light
- If ON

⇒ Reduce power

⇒ Expect loss of coolant fluid

⇒ Be prepared for engine failure

Gearbox temperature high

➢ Refer to Emergency Checklist page 7, "GBOX TEMP"

Alternator load yellow range

➢ Switch off unnecessary electrical equipment
- If indication still outside of green range:

⇒ Land at nearest suitable airfield

Flap failure

➢ Check flaps visually, recheck all flap switch positions

➢ Approach speeds with abnormal flap setting:

Approach speed KIAS						
Flaps	**940 kg**	**1000 kg**	**1100 kg**	**1200 kg**	**1216 kg**	**1280 kg + above**
T/O	68	70	74	77	77	78
UP	71	73	78	82	82	83