

## Checklist für Diamond DA40 NG

Edition #: **21.0** 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 # 20.1 are on page 2 of this document**

### Checklist DA40 NG - LEP

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

<b>Section: Emergency Checklist</b>		
1	18.1	20.02.2019
2	20.1	10.11.2020
3	15.2	15.12.2011
4	18.1	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	18.1	20.02.2019
11	18.1	20.02.2019
<b>Section: Abnormal Checklist</b>		
12	20.1	10.11.2020
<b>13</b>	<b>21.0</b>	<b>09.05.2022</b>
14	18.1	20.02.2019
15	16.4	01.08.2014
16	18.1	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

### **Abnormal Procedures**

No Change

## **Comments explaining Edition # 17.3**

### **Normal Procedures**

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

## **Comments explaining Edition # 18.1**

### **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 # 20.1**

changes from edition #18.1

### **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 # 21.0**

changes from edition #20.1

### **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.....	FUEL	28
29	Fuel Quantity.....	CHECKED, RESET/SET if requ.	29
30	Fuel temperature .....	CHECKED	30
31	Total time in service .....	NOTED	31
32	MFD - EIS .....	EIS - SYSTEM	32
33	Power lever .....	IDLE	33
34	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
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**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 – SYSTEM	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
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**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
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**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	-20°C	-10°C	0°C	10°C	20°C	30°C	40°C	50°C
	-31°F	-4°F	14°F	32°F	50°F	68°F	86°F	104°F	122°F
0	94%						95%	92%	90%
2000	94%						95%	92%	/
4000	94%						95%	92%	/
6000	96%						95%	92%	/
8000	96%			95%		94%	91%	/	/
10000	96%			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	Engine / System page.....	CHECKED	4
5	Engine / Fuel page .....	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 red:***

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*

<b>STALLING SPEEDS KIAS</b>				
	<b>1000kg</b>	<b>1100kg</b>	<b>1200kg</b>	<b>1310kg</b>
Stalling speed (V <sub>S</sub> ) Flaps UP	58	61	64	66
Stalling speed (V <sub>S</sub> ) Flaps T/O	54	56	60	62
Stalling speed (V <sub>S0</sub> ) Flaps LDG	55	57	59	60

<b>OPERATING SPEEDS KIAS</b>					
	<b>940kg</b>	<b>1000kg</b>	<b>1100kg</b>	<b>1200kg</b>	<b>1280kg + above</b>
Rotation speed	56	58	61	65	67
V <sub>50</sub> up to 50 ft	62	65	67	70	72
V <sub>y</sub> up to safe altitude ( <b>Flaps T/O</b> )	72				
Cruise climb speed ( <b>Flaps UP</b> )	88				
Max. cruising speed (V <sub>NO</sub> )	130				
Never exceed speed (V <sub>NE</sub> )	172				
Max. flap speed (V <sub>FE</sub> ) Flaps T/O	110				
Max. flap speed (V <sub>FE</sub> ) Flaps LDG	98				

	<b>940kg</b>	<b>1000kg</b>	<b>1100kg</b>	<b>1200kg</b>	<b>1216kg</b>	<b>1280kg +above</b>
Approach V <sub>REF</sub> Flaps UP	71	73	78	82	82	83
Approach V <sub>REF</sub> Flaps T/O	68	70	74	77	77	78
Approach V <sub>REF</sub> 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 <sub>O</sub> )	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**

<b>MASS</b>			
		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

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

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

*Abnormal Checklist starts at page 12*

### **Emergency landing (engine off) ..... page 2**

#### **Engine**

Engine failure in flight .....	page 2
Windmill engine start .....	page 3
Engine troubleshooting.....	page 4
Oscillating RPM.....	page 5
RPM overspeed .....	page 5
RPM underspeed .....	page 5

#### **Electric System**

High current .....	page 9
Total electrical fail .....	page 9

#### **Smoke and Fire**

Engine fire in flight .....	page 2
Electric fire / smoke in flight .....	page 9
Fire / smoke on ground .....	page 10
Fire / smoke in continued TKOF.....	page 10

#### **Other Emergencies**

Unintentional flight into icing .....	page 8
Landing with defective main gear tire .....	page 11
Landing with defective brakes .....	page 11
Fuel transfer pump u/s .....	page 11
Suspicion of carbon monoxide .....	page 11

**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 flight***

**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**

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

**Indications outside of green range**

<b>RPM high</b> .....	<b>page 15</b>
<b>OIL PRESSURE high/low</b> .....	<b>page 15</b>
<b>OIL TEMPERATURE high/ low</b> .....	<b>page 15</b>
<b>FUEL TEMPERATURE high/low</b> .....	<b>page 16</b>
<b>COOLANT TEMPERATURE high/low</b> .....	<b>page 16</b>
<b>GEARBOX temperature high</b> .....	<b>page 16</b>
<b>ALTERNATOR load yellow range</b> .....	<b>page 16</b>

**Other abnormal situations**

<b>Flap failure</b> .....	<b>page 16</b>
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**ECU A OR B FAIL****ON GROUND**

- |   |                         |              |   |
|---|-------------------------|--------------|---|
| 1 | Alternate Air .....     | check CLOSED | 1 |
| 2 | Fuel pumps .....        | OFF          | 2 |
| 3 | VOTER switch .....      | check AUTO   | 3 |
| 4 | Other ECU caution ..... | check OFF    | 4 |

*Clearing procedure:*

- |   |                    |                   |   |
|---|--------------------|-------------------|---|
| 5 | VOTER switch ..... | set to failed ECU | 5 |
|   |                    | Wait 5 seconds    |   |
| 6 | Voter switch ..... | AUTO              | 6 |
- If ECU caution persists terminate 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 annunciators 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 ( $< -25^{\circ}\text{C}$ ):
    - ⇒ 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:

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