

**Checklist for Diamond DA42 NG**

Edition #: **14.5 NG** Edition date: **06.04.2010**  
 Edition #: **15 NG** Edition date: **20.05.2010**  
 Edition #: **15.1 NG** Edition date: **01.07.2010**

Since no e-mail notification after publication of checklist editions "14.5" and "15" was issued, the LEP shows versions 14.5, 15 and 15.1 with the yellow "new" marking.

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 # 14.5, 15 and 15.1 are on page 2 of this document**

**Checklist DA42 NG - LEP**

Page	Following Edition	Date (or any higher) is valid
<b>Section : Normal Checklist</b>		
1	14	26.04.2009
2	14.5	06.04.2010
3	14	26.04.2009
4	14.5	06.04.2010
5	14.5	06.04.2010
6	<b>15.1</b>	<b>01.07.2010</b>
7	14.4	19.09.2009
8	14	26.04.2009
9	14.3	28.08.2009
10	14.4	19.09.2009

<b>Section: Emergency Checklist</b>		
1	14.5	06.04.2010
2	14.5	06.04.2010
3	14.5	06.04.2010
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10	14.5	06.04.2010
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<b>Section: Abnormal Checklist</b>		
13	14.5	06.04.2010
14	14.5	06.04.2010
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16	14.5	06.04.2010
17	14.5	06.04.2010
18	<b>15</b>	<b>20.05.2010</b>
19	14.5	06.04.2010

**Comments explaining Edition # 14.5**

**Normal checklist:**

Page 2:  
 Preflight Interior + Exterior: Item 7: check of battery voltage included

Page 4:  
 Some time ago the design of the "fuel selector safety guard" has been changed: the guard is no longer spring-loaded in the "safe" position, but remains "open" when twisted. I therefore included a verification of the guard position in line 4 of the "check before engine start".  
 In the **electronic checklist** items 1 to 21 are not available. Therefore I placed this verification in the "check after engine start" just before the x-feed check.

Page 5:  
 It is no longer necessary to perform the "variable elevator backstop check" with all flap settings. For the sake of uniformity with the other DA42 variants I kept the "flaps full travel check" in this position, instead of replacing it to the "before take-off check" (which is the position in the AFM).

**Emergency Checklist**

*All pages new, because of renumbering*  
 Page 2:  
 New procedure: 2 ENGINES OUT LANDING  
 Page 5:  
 "DOOR OPEN" procedure revised  
 Page 7:  
 Right hand line numbers added

**Abnormal Checklist:**

*All pages new, because of renumbering*  
 Page 15:  
 "LOW VOLTS" procedure revised  
 Page 16:  
 "FUEL LOW" procedure revised  
 Page 18:  
 "FUEL temperature low" procedure revised  
 Page 19:  
 "VOLTS low" procedure revised

**Comments explaining Edition # 15**

**Abnormal Checklist:**

Page 18:  
 Procedure "FUEL temperature low" revised in line with modification of the "green bar" on the EIS display.

**Comments explaining Edition # 15.1**

**Normal Checklist:**

Page 6:  
 Initial warm up time 2 minutes instead of 30".

# NORMAL CHECKLIST

## Diamond DA42 NG



This checklist is compiled according to 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 to GAMA Specification No. 1 are in the DA42 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 Aircraft 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 22 (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.**

### Attention!

For refuelling with JET A1 no additives (e.g. „Aerojet") are permitted.

- \* if optional ice protection is installed
- \*\* if optional AUX tanks are installed

### PREFLIGHT INTERIOR + EXTERIOR.

- 1 Check airplane documents
- 2 Remove pitot cover
- 3 Check interior for foreign objects
- 4 Check circuit breakers
- 5 Start key PULLED OUT
- 6 Gear selector CHECKED DOWN
- 7 Electric Master ON  
Check battery voltage
- 8 Gear 3 greens CHECKED
- 9 Check fuel quantity + temp
- 10 \*\*AUX PUMPS (2) ON – if L/R  
AUX FUEL E caution ON:  
AUX tank(s) empty  
AUX PUMPS (2) OFF
- 11 External lights ON
- 12 Pitot heat ON
- 13 \* Check de-ice fluid quantity
- 14 \* Select de-ice pump 1
- 15 \* De-ice HIGH/MAX
- 16 \* Check DEIC PRES LO+HI out
- 17 \* Select de-ice pump 2
- 18 \* Check DEIC PRES LO+HI out
- 19 \* Ice lights ON
- 20 \* Check de-ice function
- 21 Check external lights
- 22 Check stall warning
- 23 Check pitot/static tube heat
- 24 Pitot heat OFF
- 25 External lights OFF
- 26 \* De-ice, ice lights OFF
- 27 Electric Master OFF

### PREFLIGHT EXTERIOR

Canopy left side

#### Left main gear

Strut (min 4cm bare piston) & downlock  
Tire condition, pressure (4,5 bar), position mark  
Brake, hydraulic line  
Gear door & linkage

#### Left engine nacelle

Drain gascolator  
3 air inlets / 2 air outlets  
Spinner, propeller  
Gearbox oil level  
Engine oil level  
Cowling  
Nacelle underside  
Venting pipe  
Exhaust  
\*\* Check AUX tank full ?

#### Left wing

Wing leading edge, top- and bottom surface  
vortex generators

Tank drain  
Stall warning  
Tank air vent  
Fuel filler cap  
Pitot, static probe (cover removed)  
Wing tip, position light  
Static dischargers  
Aileron (freedom of movement, hinges, control linkage, security)

Wing flap  
Fuel cooler air in- & outlet  
\*\* AUX tank vent  
\*\* Drain AUX tank

#### Left fuselage

Step  
Rear cabin door  
Fuselage left side  
Static source  
Antennas

**Tail**

Elevator & rudder (freedom of movement, hinges)  
 Elevator & rudder trim - tabs  
 Tail skid & lower fin  
 Static dischargers

**Right fuselage**

Fuselage right side  
 Static source  
 Rear window  
 Step

**Right wing**

Fuel cooler air in- & outlet  
 \*\* AUX tank vent  
 \*\* Drain AUX tank  
 Wing flap  
 Aileron (freedom of movement, hinges, control linkage, security)  
 Static dischargers  
 Wing tip, position light  
 Wing leading edge, top- and bottom surface  
 vortex generators  
 Fuel filler cap  
 Tank air vent  
 Tank drain  
  
 Canopy right side

**Right engine nacelle**

\*\* Check AUX tank full ?  
 3 air inlets / 2 air outlets  
 Spinner, propeller  
 Gearbox oil level  
 Engine oil level  
 Cowling  
 Nacelle underside  
 Venting pipe  
 Exhaust  
 Drain gascolator

Ventilation air inlet

**Right main gear**

Strut (min 4cm bare piston) & downlock  
 Tire condition, pressure (4,5 bar), position mark  
 Brake, hydraulic line  
 Gear door & linkage

**Nose section**

\* De-ice fluid tank  
 L + R front baggage door locked  
 OAT sensor  
 EPU connection  
 Landing / Taxi light

**Nose gear**

Strut (min 15cm bare piston) & lock  
 Tire condition, pressure (6 bar), position mark  
 Gear door & linkage

Chocks removed  
 Tow bar removed

**CHECK BEFORE ENGINE START**

1	Preflight check.....	COMPLETED	1
2	Baggage and tow bar.....	SECURED	2
3	Fuel selectors (2) .....	ON, safety guard closed	3
4	Power levers (2) .....	IDLE	4
5	Parking brake .....	SET	5
6	Alternate Air.....	CLOSED	6
7	Fuel pumps (2) .....	OFF	7
8	Manual gear extension handle.....	PUSHED	8
9	Gear selector.....	DOWN	9
10	Avionic master.....	OFF	10
11	Electric master.....	OFF	11
12	Engine masters (2).....	OFF	12
13	Pitot heat.....	OFF	13
14	Alternate static .....	CLOSED	14
15	Alternators (2).....	ON	15
16	VOTER switches (2).....	AUTO	16
17	All light switches .....	OFF	17
18	Emergency switch .....	OFF/GUARDED	18
19	ELT .....	ARMED	19
20	Circuit breakers .....	CHECKED IN	20
21	Flap selector.....	UP	21

If starting with external power:

a	Prop area.....	CHECK CLEAR	a
b	External power .....	CONNECT	b

22	Electric master.....	ON	22
23	Rudder pedals .....	ADJUSTED	23
24	Flight controls.....	CHECKED	24
25	Trims.....	CHECKED	25
26	Gear warning, fire detector.....	TEST	26
27	* De-ice ANNUN TEST.....	ON	27
28	* DEICE LVL LO caution ...	CHECKED ON if applic.	28
29	* Windshield de-icing.....	PUMP 1 + 2 CHECKED	29

Checklist continued next page

**CHECK BEFORE ENGINE START continued**

30	Flaps .....	LDG	30
31	Variable elevator backstop.....	CHECK	31
	<i>Control stick ..... AFT and HOLD</i>		
	<i>Power levers..... MAX</i>		
	<i>Check backstop limit decreasing</i>		
	<i>Power levers..... IDLE</i>		
	<i>Check backstop limit increasing</i>		
32	Flaps .....	UP	32
33	Passengers.....	INSTRUCTED	33
34	Seat belts .....	FASTENED	34
35	Rear door.....	CLOSED and LATCHED	35
36	Front Canopy .....	POS 1 or 2	36
37	G1000 .....	POWERED, ACKNOWLEDGED	37
38	PFD/MFD.....	BACKUP MODE	38
39	MFD .....	ENGINE – FUEL	39
40	Fuel Quantity.....	CHECKED, RESET/SET if requ.	40
41	Fuel temperature .....	CHECKED	41
42	Total time in service .....	NOTED	42
43	MFD .....	ENGINE – SYSTEM	43
44	* DEIC PRESS LO caution .....	CHECKED ON	44
45	* De-ice ANNUN TEST.....	OFF	45
46	Start key.....	INSERTED	46
47	Power levers (2) .....	IDLE	47
48	ACL (strobe).....	ON	48

End of Checklist

**ENGINE START PROCEDURE****Normal sequence: first start LH engine**

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

If external power was used:

External power .....DISCONNECT

**Start RH engine, procedure as above****CHECK AFTER ENGINE START**

1	Oil pressure.....	CHECKED	1
2	RPM 740 +/- 30 .....	CHECKED	2
3	Warm up time .....	START	3
	<i>Warm up:</i>		
	<i>Idle ..... 2 minutes</i>		
	<i>50% load ..... until Oil &gt; 50°C and Coolant &gt; 60°C</i>		
4	Fuel pumps (2) .....	check OFF	4
5	Fuel selectors (2) .....	X-FEED	5
6	Pitot heat.....	ON, annunciation + Amps checked	6
7	Pitot heat .....	OFF	7
8	PFD/MFD.....	NORMAL MODE	8
9	Avionics master .....	ON	9

**FMS SETUP***I*nitalize profile (AUX 4, MAP)*F*light plan*R*adios (COM, NAV, ADF, DME, CDI, BRG 1/2)*P*erformance (speed bugs; Flight ID if applicable)

10	FMS setup.....	COMPLETED	10
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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

11	Autopilot test.....	COMPLETED	11
12	Flood light.....	CHECKED, ON as required	12
13	Position lights .....	ON as required	13
14	Fuel Selectors (2).....	ON	14
15	Altimeters (2) .....	SET	15
16	Standby horizon.....	CHECKED	16
17	Transponder.....	CODE / MODE CHECKED	17
18	Parking brake .....	RELEASED	18

End of Checklist

**DURING TAXI**

Check Brakes

Check nose wheel steering

Check flight instruments

**BEFORE TAKE OFF CHECK**

1	Parking brake .....	SET	1
2	Seat belts .....	FASTENED	2
3	Adjustable backrest .....	UPRIGHT	3
4	Rear door.....	CLOSED + LATCHED	4
5	Front canopy .....	CLOSED + LATCHED	5
6	Front baggage doors.....	CHECKED CLOSED	6
7	Door warning light.....	OFF	7
8	Engine instruments .....	CHECKED	8
9	Fuel temperature .....	CHECKED	9
10	Circuit breakers .....	CHECKED	10
11	Electric elevator trim .....	CHECKED, T/O SET	11
12	Fuel selectors (2) .....	CHECKED ON	12
13	Rudder trim.....	AS REQUIRED	13
14	Flaps .....	CHECKED UP	14
15	Flight controls.....	CHECKED	15
16	Power levers (2) .....	IDLE	16
17	ECU test (2) .....	PERFORMED	17

**ECU TEST**

ECU test buttons (2) ..... *press and hold*  
 "L/R ECU A/B fail"..... *ON*  
 Props cycling  
 "L/R ECU A/B fail"..... *OFF*  
 ECU test button..... *release*

18	VOTER switches (2) .....	A, AUTO, B, AUTO	18
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*Engines checked*

19	Pitot heat .....	AS REQUIRED	19
20	* Ice protection .....	AS REQUIRED	20
21	Transponder .....	CODE / MODE CHECKED	21
22	Fuel pumps (2) .....	ON	22
23	Parking brake .....	RELEASED	23

End of Checklist

**LINE UP PROCEDURE**

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

Available power check (see pg.10)..... **PERFORMED**

**AFTER TAKE-OFF PROCEDURE**

Brakes..... *APPLY*  
 Gear..... *UP*  
 Fuel pumps (2) ..... *OFF*   Climb power ..... | *92% / 2100 RPM*   Landing light..... *OFF* |

**CLIMB TO CRUISE CHECK**

1	Gear.....	CHECKED UP	1
2	Flaps .....	CHECKED UP	2
3	Fuel pumps (2) .....	CHECKED OFF	3
4	Climb power .....	SET	4
5	Landing light .....	CHECKED OFF	5

End of Checklist

Maximum fuel unbalance: 5 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 backrest .....	UPRIGHT	5
6	Fuel selectors (2) .....	CHECKED ON	6
7	Parking brake .....	CHECKED RELEASED	7
8	Fuel pumps (2) .....	ON	8
9	Gear warning horn .....	CHECKED	9

End of Checklist

**BEFORE LANDING PROCEDURE**

*Downwind, latest base leg:*

Flaps..... *APP*  
 Gear..... *DOWN, CHECK 3 GREENS*  
 Landing light..... *ON*

*On final when landing assured:*

**FINAL CHECK**

1	Flaps .....	LDG	1
2	Gear.....	3 GREENS CHECKED	2

**GO AROUND PROCEDURE**

Power ..... MAX  
 Flaps ..... APP  
 Positive rate of climb:  
 Gear ..... UP  
 Continue with take-off profile  
 At safe altitude:  
 Flaps ..... UP  
 Fuel pumps (2) ..... OFF  
 Climb power ..... 92% / 2100 RPM  
 Landing light ..... OFF

**AFTER LANDING CHECK**

When clear of runway

- |   |                    |             |   |
|---|--------------------|-------------|---|
| 1 | Flaps              | UP          | 1 |
| 2 | Pitot heat         | OFF         | 2 |
| 3 | Fuel pumps (2)     | OFF         | 3 |
| 4 | Alternate air      | CLOSED      | 4 |
| 5 | * De-ice systems   | OFF         | 5 |
| 6 | Landing/Taxi light | AS REQUIRED | 6 |

End of Checklist

**PARKING CHECK**

- |   |  |                       |   |
|---|--|-----------------------|---|
| 1 | Parking brake                            | SET                   | 1 |
| 2 | Power levers (2)                         | max 10% for 1 min.    | 2 |
| 3 | ELT                                      | 121,5 CHECKED         | 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 Masters (2)                       | OFF                   | 8 |
| 9 | ACL (strobe)                             | OFF                   | 9 |

When engine indications x-ed out red:

- |    |                 |             |    |
|----|-----------------|-------------|----|
| 10 | Electric Master | OFF         | 10 |
| 11 | Interior light  | CHECKED OFF | 11 |
| 12 | Start key       | REMOVED     | 12 |

End of Checklist

**SECURING THE AIRCRAFT**

Release parking brake, use chocks.  
 Attach tie down ropes to mooring points.

STALLING SPEEDS KIAS		
	1510 kg	1900 kg
Stalling speed (V <sub>SO</sub> ) Flaps LDG	58	62
Stalling speed (V <sub>S</sub> ) Flaps APP	62	66
Stalling speed (V <sub>S</sub> ) clean	62	69
In Ice: + 4-6 KIAS		

OPERATING SPEEDS KIAS for MTOM 1900 kg				
Best angle of climb (V <sub>X</sub> )	90			
Best rate of climb (V <sub>Y</sub> )	90			
Best rate of climb 1-eng. (V <sub>YSE</sub> )	85			
Min. control speed (V <sub>MCA</sub> )	76			
Min. control speed for TRG(V <sub>SSSE</sub> )	85			
Operating speed in ice	118 - 156			
Cruising climb speed	90			
Rotation speed	80			
Max. flap speed (V <sub>FE</sub> ) Flaps APP	133			
Max. flap speed (V <sub>FE</sub> ) Flaps LDG	113			
Max. LG extension (V <sub>LOE</sub> )	188			
Max. LG extended (V <sub>LE</sub> )	188			
Max. LG retraction (V <sub>LOR</sub> )	152			
Approach V <sub>REF</sub> Flaps UP	86	in ice: 94		
Approach V <sub>REF</sub> Flaps APP	84	in ice: 90		
Approach V <sub>REF</sub> Flaps LDG	84	in ice: prohib.		
Min. Go-around speed Flaps UP	90			
Max. cruising speed (V <sub>NO</sub> )	151			
Never exceed speed (V <sub>NE</sub> )	188			
	up to	1700 kg	1800 kg	1900 kg
Manoeuvring speed (V <sub>O</sub> )	112	119	122	

MASS		
Max. TKOF mass	1900 kg	
Max ZF mass	1765 kg	
Max. LDG mass	1805 kg	
Empty mass	1450 kg	
Max. baggage in NOSE	30 kg	
Max. baggage in COCKPIT	45 kg	45 kg
Max. baggage in rear EXTENSION	18 kg	

**Available Power Check:**

10 sec. power MAX, RPM 2250 - 2300, 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
0	99%					97%	96%	93%	91%
2000						97%	96%	93%	-----
4000						97%	96%	93%	-----
6000						97%	96%	93%	-----
8000			98%	98%	98%	96%	95%	92%	-----
10000	98%	97%	97%	95%	94%	92%	89%	-----	-----

# 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.



2 engines out landing .....page 2

G1000 Warnings .....page 3

Engine

*Engine fire / failure during take-off*.....page 6

*Engine fire / failure in flight* .....page 6

*Engine troubleshooting* .....page 7

*Engine restart*.....page 8

*Oscillating RPM* .....page 9

*RPM overspeed* .....page 9

Landing Gear

*Landing with defective main gear tire*.....page 9

*Landing with defective brakes* .....page 9

*Landing gear unsafe warning* .....page 10

*Manual extension of landing gear* .....page 10

*Landing gear up landing*.....page 10

Smoke and fire

*Engine fire on ground* .....page 11

*Electrical fire on ground* .....page 11

*Electrical fire in flight*.....page 11

**If Oxygen System is installed**

*Cabin smoke, cabin fire, loss of oxygen pressure*  
    *above 10.000 ft* .....page 12

Other Emergencies

*Oxygen pressure loss above 10.000 ft*.....page 12

*Emergency descent* .....page 12

*Suspicion of carbon monoxide*.....page 12

*Unintentional flight into icing, Inadvertent icing*  
    *encounter & excessive ice accumulation* ....page 13

*Ice protection failure* .....page 13

Electrical System

*Complete electrical failure* .....page 13

## 2 ENGINES OUT LANDING

- 1 Mayday call ..... CONSIDER 1
  - 2 Engine masters (2) ..... OFF 2
  - 3 Alternators (2) ..... OFF 3
  - 4 Fuel pumps (2) ..... OFF 4
  - 5 Fuel selectors (2) ..... OFF 5
  - 6 Avionic master ..... OFF 6
  - 7 Safety harnesses..... FASTENED and TIGHT 7
- When sure of making landing area:
- 8 Flaps ..... APP or LDG, as required 8
  - 9 Approach speed ..... min 84 KIAS 9
- ❖ Gear UP landing
- After touchdown:
- 10 Electric master ..... OFF 10
- ❖ Gear DOWN landing
- 10 Gear ..... DOWN, 3 GREENS CHECKED 10
  - 11 Electric master ..... OFF 11

**G1000 WARNINGS**

L/R OIL PRES	Pg. 3	Oil pressure low (red range)
L/R OIL TEMP	Pg. 3	Oil temperature high (red range)
L/R GBOX TEMP	Pg. 4	Gearbox temperature high (red range)
L/R ENG TEMP	Pg. 4	Coolant temperature high (red range)
L/R FUEL TEMP	Pg. 4	Fuel temperature high (red range)
L/R FUEL PRES	Pg. 5	Fuel pressure low
L/R ALTN AMPS	Pg. 5	High Current (red range)
L/R STARTER	Pg. 5	Starter not disengaging
DOOR OPEN	Pg. 5	Unlocked doors
L/R ENG FIRE	Pg. 6 Pg. 6 Pg. 11	Engine fail/fire during take-off Engine fail/fire in flight Engine fire on ground

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

Abnormal Checklist starts at page 14

**L/R OIL PRES****OIL PRESSURE LOW**

- Reduce power on affected engine
- Be prepared for loss of oil and an engine failure; land ASAP

**L/R OIL TEMP****OIL TEMPERATURE HIGH**

- Check oil pressure
  - ❖ If oil pressure too low (outside green range):
    - ⇒ Reduce power on affected engine
    - ⇒ Expect loss of engine oil
    - ⇒ Be prepared for an engine failure
  - ❖ If oil pressure in green range
    - ⇒ Reduce power on affected engine
    - ⇒ Increase airspeed
      - ❖ If oil temperature not returning to green range:
        - ⇒ Be prepared for an engine failure; land ASAP

**L/R GBOX TEMP****GEARBOX TEMPERATURE HIGH**

- Reduce power on affected engine
- Increase airspeed
  - If not returning to green range:
    - ⇒ Be prepared for an engine failure; land ASAP

**L/R ENG TEMP****COOLANT TEMPERATURE HIGH**

- Check G1000 for LOW COOL LVL caution light
  - ❖ If LOW COOL LVL caution light OFF
    - ❖ During climb:
      - ⇒ Reduce power on affected engine by 10% or more as reqrd
      - ⇒ Increase airspeed by 10 KIAS or more as required
      - ⇒ If coolant temp. not returning to green range within 60":  
reduce power on affected engine as much as possible and increase airspeed
    - ❖ During cruise:
      - ⇒ Reduce power on affected engine
      - ⇒ Increase airspeed
      - ⇒ If coolant temp. not returning to green range:  
Be prepared for an engine failure; land ASAP
  - ❖ If LOW COOL LVL caution light ON
    - ⇒ Reduce power on affected engine
    - ⇒ Expect loss of coolant fluid
    - ⇒ Be prepared for an engine failure

**L/R FUEL TEMP****FUEL TEMPERATURE HIGH**

- Reduce power on affected engine
- Increase airspeed
- Transfer fuel from AUX to MAIN tank if applicable
  - If not returning to green range: land ASAP

**L/R FUEL PRES****FUEL PRESSURE LOW**

- Check fuel quantity
- FUEL SELECTOR of affected engine: check ON
- FUEL PUMP of affected engine: ON
  - If warning remains:
    - ⇒ FUEL PUMP of affected engine: OFF
    - ⇒ FUEL SELECTOR of affected engine: CROSSFEED
    - If warning still remains:
      - ⇒ Be prepared for an engine failure; land ASAP

**L/R ALTN AMPS****HIGH CURRENT**

- Check circuit breakers
- Reduce electrical load and land ASAP

**L/R STARTER****STARTER NOT DISENGAGING**

- Affected power lever IDLE
- Affected engine master OFF
- Electric master OFF

**DOOR OPEN****UNLOCKED DOORS**

- Reduce airspeed immediately
- Check canopy visually
  - If open:
    - ⇒ airspeed below 140 KIAS, land ASAP
- Check rear door visually
  - If open:
    - ⇒ airspeed below 140 KIAS, land ASAP
    - ⇒ do not try to lock door in flight
- Check front baggage doors visually
  - If one or both open:
    - ⇒ reduce airspeed to keep door(s) in stable position, land ASAP

**ENGINE FAILURE****DURING TAKE-OFF****ENGINE FIRE****REJECTED TAKE-OFF OR EMERGENCY RE-LANDING**

1	Power .....	OFF	1
2	Brakes .....	APPLY	2
3	ATC .....	INFORM	3
	If necessary:		
4	Engine Masters (2) .....	OFF	4
5	Fuel selectors (2) .....	OFF	5
6	Electric Master .....	OFF	6
	In case of fire:		
7	Cabin heat & defrost .....	OFF	7

**ENGINE FAILURE****IN FLIGHT****ENGINE FIRE****If airspeed below 76 KIAS:**

Perform V<sub>mc</sub>a recovery procedure

**Airspeed above 76 KIAS:**

1	Power .....	INCREASE up to MAX	1
2	Airspeed.....	min Vyse 85 KIAS	2
3	Landing gear .....	UP	3
4	Flaps .....	UP	4
5	Power lever (affected engine).....	IDLE	5
6	Engine Master (affected engine) .....	OFF	6
	Above safe altitude		
7	Power (life engine) .....	up to MAX CONTINUOUS	7
8	Alternator (dead engine) .....	OFF	8
9	Fuel pump (dead engine).....	OFF	9
10	Fuel selector (dead engine).....	OFF	10
	In case of fire:		
11	Cabin heat & defrost .....	OFF	11
12	Canopy .....	UNLATCH if necessary	12

Max airspeed 117 KIAS

**ENGINE TROUBLESHOOTING**

- |    |  |    |
|----|--|----|
| 1  | Power lever (good engine) INCREASE up to MAX   | 1  |
| 2  | Circuit breakers.....CHECK / RESET             | 2  |
|    | ❖ If successful: land ASAP                     |    |
|    | ❖ <b>If no success:</b>                        |    |
| 3  | VOTER switch ..... ECU A                       | 3  |
|    | ❖ If successful: land ASAP                     |    |
|    | ❖ <b>If no success:</b>                        |    |
| 4  | VOTER switch ..... ECU B                       | 4  |
|    | ❖ If successful: land ASAP                     |    |
|    | ❖ <b>If no success:</b>                        |    |
| 5  | VOTER switch .....AUTO                         | 5  |
|    | ❖ If successful: land ASAP                     |    |
|    | ❖ <b>If no success:</b>                        |    |
| 6  | Fuel pump (affected engine) .....CHECK OFF     | 6  |
| 7  | Fuel selector (affected engine) .....CROSSFEED | 7  |
|    | ❖ If successful: continue flight               |    |
|    | ❖ <b>If no success:</b>                        |    |
| 8  | Fuel selector (affected engine)ON or CROSSFEED | 8  |
| 9  | Alternate air ..... OPEN                       | 9  |
| 10 | Power ..... AS REQUIRED                        | 10 |
|    | ❖ If successful: land ASAP                     |    |
|    | ❖ <b>If all unseccesful:</b>                   |    |
|    | continue with                                  |    |
|    | ENGINE FAILURE IN FLIGHT                       |    |
|    | checklist                                      |    |
|    | (page 6)                                       |    |

**ENGINE RESTART****Reason for shutdown must be ascertained****Maximum restart altitude:****18.000 ft PA for immediate restart****10.000 ft PA for restart within 2 minutes****NO restart:****If engine shut down for more than 2 minutes****Windmilling restart**

- |   |   |   |
|---|---|---|
| 1 | Airspeed..... min 125 KIAS - max 145 KIAS | 1 |
|---|---|---|

**Restart with starter motor:**

- |   |  |   |
|---|--|---|
| 1 | Airspeed.....max 100 KIAS              | 1 |
|   | or prop stationary, whichever is lower |   |

- |   |  |   |
|---|--|---|
| 2 | Power (affected engine) ..... IDLE       | 2 |
| 3 | Fuel selector (affected engine) ..... ON | 3 |
| 4 | Alternate air ..... AS REQUIRED          | 4 |
| 5 | Alternator (affected engine)..... ON     | 5 |
| 6 | Engine Master (affected engine) ..... ON | 6 |

If applicable:

- |   |                     |   |
|---|---------------------|---|
| 7 | Starter..... ENGAGE | 7 |
|---|---------------------|---|

If engine started:

- |   |   |   |
|---|---|---|
| 8 | Power (affected engine) ..... MODERATE    | 8 |
| 9 | Engine instruments..... check GREEN RANGE | 9 |

**OSCILLATING RPM**

- 1 Power lever ..... change setting 1
  - If no success:
    - Check G1000 for ECU FAIL caution
    - If ECU FAIL caution indicated:
- 2 VOTER switch ..... unaffected ECU 2
  - If no success:
- 3 VOTER switch ..... AUTO 3
 

Land ASAP

**RPM OVERSPEED**

- 1 Power setting ..... REDUCE 1
  - If no success:
    - Check G1000 for ECU FAIL caution
    - If ECU FAIL caution indicated:
- 2 VOTER switch ..... unaffected ECU 2
  - If no success:
- 3 VOTER switch ..... AUTO 3
 

Land ASAP

Be prepared for ENGINE FAILURE IN FLIGHT

**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**

After touchdown (if necessary):

- 1 Engine Masters (2) ..... OFF 1
- 2 Fuel selectors (2) ..... OFF 2
- 3 Electric Master ..... OFF 3

**LANDING GEAR UNSAFE WARNING**

If on for more than 20 seconds:

- 1 Airspeed ..... max 152 KIAS 1
 

In cold temperature:
- 2 Airspeed ..... max 110 KIAS 2
- 3 Gear selector ..... RECYCLE 3
  - ❖ If landing gear **extension** unsuccessful:
    - Continue with MANUAL EXTENSION
  - ❖ If landing gear **retraction** unsuccessful:
    - Consider flight with landing gear down

**MANUAL EXTENSION OF LANDING GEAR**

- 1 Airspeed ..... max 152 KIAS 1
- 2 Gear indicator lights ..... TEST 2
- 3 Electric master ..... CHECK ON 3
- 4 Bus voltage ..... CHECK NORMAL 4
- 5 Circuit breaker ..... CHECK 5
- 6 Gear selector ..... DOWN 6
- 7 Manual extension handle ..... PULL 7
 

If necessary
- 8 Airspeed ..... max 110 KIAS 8
 

Apply moderate yawing
- 9 Gear indicator lights ..... CHECK 3 GREENS 9

**LANDING GEAR UP LANDING**

(Landing gear completely retracted)

- 1 Approach ..... NORMAL 1
 

Just before touchdown:
- 2 Power lever ..... IDLE 2
 

After touchdown:
- 3 Engine Masters (2) ..... OFF 3
- 4 Fuel selectors (2) ..... OFF 4
- 5 Electric Master ..... OFF 5

**ENGINE FIRE ON GROUND**

- 1 Power levers (2)..... IDLE 1
- 2 Engine masters (2)..... OFF 2
- 3 Fuel selectors (2) ..... OFF 3
- 4 Mayday call ..... CONSIDER 4
- 5 Electric master..... OFF 5
- When engine and aircraft stopped:
- 6 Canopy ..... OPEN 6
- Evacuate

**ELECTRICAL FIRE ON GROUND**

- 1 Mayday call ..... CONSIDER 1
- 2 Electric Master ..... OFF 2
- 3 Power levers (2)..... IDLE 3
- 4 Engine Masters (2) ..... OFF 4
- 5 Fuel selectors (2) ..... OFF 5
- When engine and aircraft stopped:
- 6 Canopy ..... OPEN 6
- Evacuate

**ELECTRICAL FIRE IN FLIGHT**

- 1 Emergency switch ..... ON 1
- 2 Mayday call ..... CONSIDER 2
- 3 Avionic master ..... OFF 3
- 4 Electric master..... OFF 4
- 5 Cabin heat & defrost ..... OFF 5
- 6 Emergency windows ..... OPEN as necessary 6
- 7 Canopy ..... UNLATCH if necessary 7
- Max airspeed 117 KIAS*
- Land ASAP

**CABIN SMOKE ABOVE 10.000 FT**

- 1 Oxygen ..... CHECK ON 1
- 2 Emergency descent ..... INITIATE 2
- When passing 10.000 ft
- 3 Oxygen ..... OFF 3
- Land ASAP

**CABIN FIRE ABOVE 10.000 FT**

- 1 Oxygen ..... PUSH OFF 1
- 2 Emergency descent ..... INTITIAE 2
- Land ASAP

**OXYGEN PRESSURE LOSS ABOVE 10.000 FT**

- 1 Oxygen ..... PUSH OFF 1
- 2 Oxygen pressure ..... CHECKED, note down 2
- 3 Emergency descent ..... INTIATE 3
- When passing 10.000 FT:
- 4 Oxygen pressure ..... CHECK AGAIN 4
- ❖ If oxygen pressure constant: .. Continue flight
- ❖ If oxygen pressure dropped:..... Land ASAP

If Oxygen System is installed

If Oxygen System is installed

**EMERGENCY DESCENT**

- 1 Flaps ..... UP 1
- 2 Landing Gear ..... DOWN 2
- 3 Power levers ..... IDLE 3
- 4 Airspeed..... AS REQUIRED 4

**SUSPICION OF CARBON MONOXIDE**

- 1 Cabin heat & defrost ..... 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*

**UNINTENTIONAL FLIGHT INTO ICING**

Leave icing area, continue with item 1

**\* INADVERTENT ICING ENCOUNTER & EXCESSIVE ICE ACCUMULATION**

- |   |                            |                       |   |
|---|----------------------------|-----------------------|---|
| 1 | Pitot heat .....           | ON                    | 1 |
| 2 | Cabin heat & defrost ..... | ON                    | 2 |
| 3 | Power .....                | INCREASE PERIODICALLY | 3 |
| 4 | * De-ice systems.....      | USE as appropriate    | 4 |
| 5 | Alternate air .....        | OPEN as required      | 5 |
| 6 | Emergency windows .....    | OPEN as required      | 6 |

- \* When de-ice system does not work properly:  
Continue with ICE PROTECTION FAILURE

**\* ICE PROTECTION FAILURE**

- |   |                                  |              |   |
|---|----------------------------------|--------------|---|
| 1 | Airspeed.....                    | MIN 118 KIAS | 1 |
| 2 | Flaps .....                      | APP          | 2 |
| 3 | Slip angle.....                  | MINIMIZE     | 3 |
| 4 | Approach with residual ice ..... | 90 KIAS      | 4 |
| 5 | Landing distance .....           | CHECK AFM    | 5 |

**COMPLETE ELECTRICAL FAILURE**

\* Leave icing area

- |   |  |                 |   |
|---|--|-----------------|---|
| 1 | Circuit breakers.....                              | CHECK all IN    | 1 |
|   | • If no success:                                   |                 |   |
| 2 | Emergency switch .....                             | ON              | 2 |
| 3 | Flood light, if necessary.....                     | ON              | 3 |
| 4 | Power .....  | SET             | 4 |
|   | according power lever position and/or engine noise |                 |   |
| 5 | Flaps .....  | VERIFY POSITION | 5 |

Land ASAP

Landing gear may slowly extend

For landing apply "Manual extension of landing gear"

**G1000 CAUTION LIGHTS**

L/R ECU A FAIL	Page 15	ECU A failed
L/R ECU B FAIL	Page 15	ECU B failed
L/R ALTN FAIL	Page 15	Alternator failed
L/R VOLTS LOW	Page 15	Bus voltage too low
L/R COOL LVL	Page 16	Engine coolant level low
PITOT FAIL	Page 16	Pitot heating system failed
PITOT HT OFF	Page 16	Pitot heating system OFF
STALL HT FAIL	Page 16	Stall warning heating failed
STALL HT OFF	Page 16	Stall warning heating OFF
L/R FUEL LOW	Page 16	Main tank fuel qty low
L/R AUX FUEL E	Page 16	L/R auxiliary fuel tank empty
STICK LIMIT	Page 16	Stick limiting system failed
DEICE LVL LO	Page 17	De-icing fluid level low
DEIC PRES LO	Page 17	De-icing pressure low
DEIC PRES HI	Page 17	De-icing pressure high

**Engine instrument indications outside of green range**

COOLANT temperature high/low ..... page 18  
 OIL temperature high/low..... page 18  
 OIL pressure high/low..... page 18  
 FUEL temperature high/low..... page 18  
 VOLT low..... page 19  
 RPM high..... page 19

**Other abnormal situations**

**Both Alternators failed ..... page 19**  
**Hydraulic pump fail or continuous ops... page 19**  
**AUX fuel transfer fail ..... page 19**

## CAUTION ALERTS ON THE G1000

## L/R ECU A OR B FAIL ON GROUND

- Discontinue operation, terminate flight preparation

## L/R ECU A FAIL DURING FLIGHT

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

- Verify VOTER switch in position AUTO
  - ❖ If ECU caution remains:
    - ⇒ Land ASAP
  - ❖ If additional engine problems are observed:
    - Go to **Emergency Checklist page 7 ENGINE TROUBLESHOOTING**

## L/R ECU B FAIL DURING FLIGHT

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

- Verify VOTER switch in position AUTO
  - ❖ If ECU caution remains:
    - ⇒ Land ASAP
  - ❖ If additional engine problems are observed:
    - Go to **Emergency Checklist page 7 ENGINE TROUBLESHOOTING**

## L/R ALTN FAIL ALTERNATOR FAILED

- ❖ If in icing conditions:
  - ⇒ Leave icing area as soon as practicable
- Alternator on affected side OFF
- Monitor bus voltage
- Reduce electrical consumers
  - ❖ If both alternators failed:
    - ⇒ See Abnormal Checklist "Both Alternators failed", page 19

## L/R VOLTS LOW BUS VOLTAGE TOO LOW

Remark: possible reasons are  
- fault in the electrical power supply  
- Alternators OFF

- Continue with "Engine instrument indications outside of green range"  
- VOLTS low, page 19

## L/R COOL LVL

## ENGINE COOLANT LEVEL LOW

- Monitor annunciators / engine instruments
- Check coolant temperature
- See "Engine instrument indications outside of green range" – COOLANT TEMPERATURE

## PITOT FAIL

## STALL HT FAIL

## PITOT HT OFF

## STALL HT OFF

- check pitot heat ON, if in icing conditions
  - ⇒ expect failure of the pitot-static-system
- leave area with icing conditions (see **Emergency Checklist page 13** "Unintentional flight into icing")

## L/R FUEL LOW

## MAIN TANK FUEL QTY LOW

- Check fuel quantity
- Avoid uncoordinated flight
  - ❖ If LH & RH quantities show remarkable difference:
    - ⇒ Expect loss of fuel on side with lower indication
    - ⇒ Check fuel pumps OFF
    - ⇒ Use x-feed: Fuel selector to x-feed on side with LOW FUEL indication

## L/R AUX FUEL E

## AUXILIARY FUEL TANK EMPTY

- ⇒ L/R auxiliary fuel pump OFF

## STICK LIMIT

## VARIABLE ELEVATOR BACKSTOP

## SYSTEM FAILED

- ❖ 1 or 2 power levers set for MORE than 20% load:
  - ⇒ Elevator variable backstop is INOP
  - ⇒ Do not stall in any configuration!
- ❖ 2 power levers set for LESS than 20% load:
  - ⇒ Elevator variable backstop always ACTIVE
  - ⇒ Reduced elevator capacity
  - ⇒ For approach min V<sub>REF</sub> 84 KIAS

**DEICE LVL LO****DE-ICING FLUIDS LEVEL LOW**

- Maximum duration of ice protection in NORMAL mode: 45 min, in HIGH mode: 22 min

**DEIC PRES LO****DE-ICING PRESSURE LOW**

- Switch DE-ICE to HIGH
  - ❖ If DEIC PRES LO light still ON
    - ⇒ PUMP1 / PUMP2: select other pump
    - ⇒ If necessary prime pump by activating windshield pump
    - ❖ If DEIC PRES LO light still ON
      - ⇒ Activate ALTERNATE switch
      - ❖ If DEIC PRES LO light still ON
        - ⇒ Go to **Emergency Checklist page 13**
  - ❖ If DEIC PRES LO light OFF
    - ⇒ Continue flight (de-icing fluid flow: 30 lt/hr)
    - ⇒ Monitor ice protection system operation
    - ⇒ Check de-icing fluid level periodically

**DEIC PRES HI****DE-ICING PRESSURE HIGH**

- Possible reduced system performance
- Filter cartridge to be replaced at next scheduled maintenance

**ENGINE INSTRUMENT INDICATIONS  
OUTSIDE OF GREEN RANGE****COOLANT temperature high**

- Refer to **Emergency Checklist page 4**, "L/R ENG TEMP"

**COOLANT temperature low**

*Remark: During low power descent from high altitude coolant temperature may decrease. Consider increasing power.*

- Check G1000 for LOW COOLANT LVL caution light
- ❖ If "LOW COOLANT LVL caution light" ON
  - ⇒ Reduce power on affected engine
  - ⇒ Expect loss of coolant fluid
  - ⇒ Be prepared for an engine failure

**OIL temperature high**

- Refer to **Emergency Checklist page 3**, "L/R OIL TEMP"

**OIL temperature low**

- Increase power
- Reduce airspeed

**OIL pressure high**

- Check oil temperature and coolant temperature
  - ❖ If within green range
    - ⇒ Oil pressure indication may be faulty; watch temperatures
  - ❖ If outside of green range
    - ⇒ Reduce power on affected engine;
    - ⇒ Be prepared for an engine failure; Land ASAP

**OIL pressure low**

- Refer to **Emergency Checklist page 3**, "L/R OIL PRES"

**FUEL temperature high**

- Refer to **Emergency Checklist page 4**, "L/R FUEL TEMP"

**FUEL temperature low**

- Increase power on affected engine
- Reduce airspeed
  - ❖ If not returning to green range:
    - ⇒ Be prepared for an engine failure; Land ASAP

**VOLTS low**

- ❖ On ground:
  - ⇒ Check alternators ON
  - ⇒ Check circuit breakers
    - ❖ If LOW VOLTS CAUTION still indicated on the G1000:
      - ⇒ Discontinue operation; terminate flight preparation
- ❖ In flight:
  - ⇒ Check alternators ON
  - ⇒ Check circuit breakers
  - ⇒ Switch off unnecessary electrical equipment
    - ❖ If LOW VOLTS CAUTION still indicated on the G1000:
      - ⇒ Apply L/R ALTN FAIL caution procedure, page 15

**RPM high**

- Reduce power on affected engine
- Keep RPM in green range with appropriate power lever setting
  - ❖ If problem not solved:
    - ⇒ Refer to **Emergency Checklist page 9** "RPM overspeed"
    - ⇒ Land ASAP

**OTHER ABNORMAL SITUATIONS****Both alternators failed**

- Avionic Master: OFF
- LH/RH Alternator: OFF
- Transponder: STBY
- Gear: DOWN
  - ❖ When down and locked:
    - ⇒ Pull manual gear extension handle
- Stall/Pitot heat: OFF
- All lights: OFF
  - ⇒ Expect battery power to last for 30 minutes
  - ⇒ Expect engine stoppage after this time
    - ⇒ Land ASAP

**Hydraulic pump: failure or continuous operation**

- Check gear indication lights
- Prepare for manual landing gear extension

**L/R Auxiliary fuel XFER FAIL**

- Both AUX PUMPS: OFF
- Check fuel pumps OFF
- Check fuel quantity
- Use X-feed to keep main tank fuel unbalance within 1 USG
- Switch remaining AUX PUMP ON
- Use X-feed to keep main tank fuel unbalance within 1 USG
- Amend flight plan to allow for reduced amount of available fuel

**FMS Initialization – AUX 4 page  
Recommended and compulsory settings**

TIME FORMAT	UTC
NAV ANGLE	MAGNETIC
DIS. SPD	NAUTICAL
ALT. VS	FEET
TEMP	CELSIUS
FUEL	GALLONS
POSITION	HDDD°MM.MM'
AIRSPACE ALERTS	As desired
ARRIVAL ALERT	As desired
VOICE	As desired

MFD DATA BAR FIELDS	1 GS
	2 DIS
	3 ETE
	4 As desired
GPS CDI	
SELECTED	AUTO
COM CHANNEL SPACING	25,0 KHZ
NEAREST APT	
RWY SURFACE	As desired
MIN LENGTH	As desired

Compulsory: **ARINC 424 Distance Coding:**

A	B	C	D	E
1	2	3	4	5
F	G	H	I	J
6	7	8	9	10
K	L	M	N	O
11	12	13	14	15
P	Q	R	S	T
16	17	18	19	20
U	V	W	X	Y
21	22	23	24	25