Checklist for Diamond DA42 NG / -VI

Edition #: **20.1 NG / -VI** Edition date: **15.05.2020**

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 DA42 NG / -VI - LEP

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<td><strong>Section: Normal Checklist</strong></td>
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<td>19.1</td>
<td>15.02.2019</td>
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<td>16.5</td>
<td>01.08.2014</td>
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| **Section: Emergency Checklist** | | |
| 1 | 18 | 15.12.2017 |
| 2 | 18 | 15.12.2017 |
| 3 | 18 | 15.12.2017 |
| 4 | 18 | 15.12.2017 |
| 5 | 18 | 15.12.2017 |
| 6 | 18 | 15.12.2017 |
| 7 | 18 | 15.12.2017 |
| 8 | 18 | 15.12.2017 |
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| **Section: Abnormal Checklist** | | |
| 15 | 18 | 15.12.2017 |
| 16 | 18.1 | 15.03.2018 |
| 17 | 18 | 15.12.2017 |
| 18 | 19.1 | 15.02.2019 |
| 19 | 18 | 15.12.2017 |
| 20 | 19.1 | 15.02.2019 |
**Comments explaining Edition # 18**

**Normal Procedures:**
No change

**Emergency Procedures:**
Pages rearranged and renumbered

Major changes:

- Page 5: L/R STARTER
- Pages 6/7: Engine Fire
- Page 9: Engine Restart

**Abnormal Procedures:**
Pages renumbered

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**Comments explaining Edition # 18.1**

**Normal Procedures:**
No change

**Emergency Procedures:**
Page 9: Engine Restart speeds corrected

**Abnormal Procedures:**
Pages 16, 18, 20: Editorial correction

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**Comments explaining Edition # 19.1**

**Normal Procedures:**
Page 10: \((V_{YSE})\) – “In Ice” speeds added
Page 10: Min Flight Mass - Editorial correction

**Emergency Procedures:**
Editorial correction

**Abnormal Procedures:**
Editorial correction

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**Comments explaining Edition # 20.1**
Order Change – Emergency / Abnormal Checklist
NORMAL CHECKLIST

Diamond DA42 NG/-VI

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 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 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 23 (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 use of fuel additives see AFM

* if ice protection is installed
** if AUX tanks are installed

PREFLIGHT INTERIOR + EXTERIOR.
1. Check airplane documents
2. Remove pitot cover
3. Check interior for foreign or loose 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 AUX FUEL E caution ON:
    AUX tank(s) empty
    AUX PUMPS (2) OFF
11. External lights ON
12. Parking Brake SET
13. Pitot heat ON
14. * Check de-ice fluid quantity
15. * Select de-ice pump 1
16. * De-ice HIGH/MAX
17. * Check DEIC PRES LO+HI out
18. * Select de-ice pump 2
19. * Check DEIC PRES LO+HI out
20. * Ice lights ON
21. * Check de-ice function
22. Check external lights
23. Check stall warning
24. Check pitot tube heat
25. Pitot heat OFF
26. External lights OFF
27. * De-ice, ice lights OFF
28. 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
Vortex generators
Wing leading edge, top- and bottom surface
Tank drain
Stall warning
Tank air vent
Fuel filler cap
Pitot 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
Fuel filler cap
Tank air vent
Tank drain
Cabin air vent inlet
Vortex generators
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

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Preflight check</td>
<td>COMPLETED</td>
</tr>
<tr>
<td>2</td>
<td>Baggage and tow bar</td>
<td>SECURED</td>
</tr>
<tr>
<td>3</td>
<td><strong>AUX PUMPS (2)</strong></td>
<td>OFF</td>
</tr>
<tr>
<td>4</td>
<td>Fuel selectors (2)</td>
<td>ON, safety guard closed</td>
</tr>
<tr>
<td>5</td>
<td>Power levers (2)</td>
<td>IDLE</td>
</tr>
<tr>
<td>6</td>
<td>Parking brake</td>
<td>SET</td>
</tr>
<tr>
<td>7</td>
<td>Alternate Air</td>
<td>CLOSED</td>
</tr>
<tr>
<td>8</td>
<td>Fuel pumps (2)</td>
<td>OFF</td>
</tr>
<tr>
<td>9</td>
<td>Manual gear extension handle</td>
<td>PUSHED</td>
</tr>
<tr>
<td>10</td>
<td>Gear selector</td>
<td>DOWN</td>
</tr>
<tr>
<td>11</td>
<td>Avionic master</td>
<td>OFF</td>
</tr>
<tr>
<td>12</td>
<td>Electric master</td>
<td>OFF</td>
</tr>
<tr>
<td>13</td>
<td>Engine masters (2)</td>
<td>OFF</td>
</tr>
<tr>
<td>14</td>
<td>Pitot heat</td>
<td>OFF</td>
</tr>
<tr>
<td>15</td>
<td>Alternate static</td>
<td>CLOSED</td>
</tr>
<tr>
<td>16</td>
<td>Alternators (2)</td>
<td>ON</td>
</tr>
<tr>
<td>17</td>
<td>VOTER switches (2)</td>
<td>AUTO</td>
</tr>
<tr>
<td>18</td>
<td>All light switches</td>
<td>OFF</td>
</tr>
<tr>
<td>19</td>
<td>Emergency switch</td>
<td>OFF/GUARDED</td>
</tr>
<tr>
<td>20</td>
<td>ELT</td>
<td>ARMED</td>
</tr>
<tr>
<td>21</td>
<td>Circuit breakers</td>
<td>CHECKED IN</td>
</tr>
<tr>
<td>22</td>
<td>Flap selector</td>
<td>UP</td>
</tr>
</tbody>
</table>

If starting with external power:

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Status</th>
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</thead>
<tbody>
<tr>
<td>23</td>
<td>Electric master</td>
<td>ON</td>
</tr>
<tr>
<td>24</td>
<td>Rudder pedals</td>
<td>ADJUSTED</td>
</tr>
<tr>
<td>25</td>
<td>Flight controls</td>
<td>CHECKED</td>
</tr>
<tr>
<td>26</td>
<td>Trims</td>
<td>CHECKED</td>
</tr>
<tr>
<td>27</td>
<td>Gear warning + lights, fire detector</td>
<td>TEST</td>
</tr>
<tr>
<td>28</td>
<td>* De-ice ANNUN TEST</td>
<td>ON</td>
</tr>
<tr>
<td>29</td>
<td>* DEICE LVL LO caution</td>
<td>CHECKED ON if appl.</td>
</tr>
<tr>
<td>30</td>
<td>* Windshield de-icing</td>
<td>PUMP 1 + 2 CHECKED</td>
</tr>
</tbody>
</table>

Checklist continued next page
### CHECK BEFORE ENGINE START continued

<p>| | |</p>
<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>31</strong></td>
<td>Flaps full travel --&gt; LDG --&gt; UP .......... CHECKED</td>
</tr>
<tr>
<td><strong>32</strong></td>
<td>Variable elevator stop ......................... CHECK</td>
</tr>
</tbody>
</table>

- Control stick ................................ AFT and HOLD
- Power levers ........................................ MAX
- Check stop limit decreasing
- Power levers ........................................ IDLE
- Check stop limit increasing

<p>| | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td><strong>33</strong></td>
<td>Passengers ........................................ INSTRUCTED</td>
</tr>
<tr>
<td><strong>34</strong></td>
<td>Seat belts .......................................... FASTENED</td>
</tr>
<tr>
<td><strong>35</strong></td>
<td>Rear door ........................................... CLOSED and LATCHED</td>
</tr>
<tr>
<td><strong>36</strong></td>
<td>Front Canopy ....................................... POS 1 or 2</td>
</tr>
<tr>
<td><strong>37</strong></td>
<td>G1000 ........................................... POWERED, ACKNOWLEDGED</td>
</tr>
<tr>
<td><strong>38</strong></td>
<td>MFD .................................................. EIS - ENGINE</td>
</tr>
<tr>
<td><strong>39</strong></td>
<td>Fuel Quantity ...... CHECKED, RESET/SET if requ.</td>
</tr>
<tr>
<td><strong>40</strong></td>
<td>Fuel temperature .................................. CHECKED</td>
</tr>
<tr>
<td><strong>41</strong></td>
<td>Total time in service ............................. NOTED</td>
</tr>
<tr>
<td><strong>42</strong></td>
<td>* DEIC PRESS LO caution ............ CHECKED ON</td>
</tr>
<tr>
<td><strong>43</strong></td>
<td>* De-ice ANNUN TEST ............................ OFF</td>
</tr>
<tr>
<td><strong>44</strong></td>
<td>Start key ........................................... INSERTED</td>
</tr>
<tr>
<td><strong>45</strong></td>
<td>Power levers (2) ................................... IDLE</td>
</tr>
<tr>
<td><strong>46</strong></td>
<td>ACL (strobe) ....................................... ON</td>
</tr>
</tbody>
</table>

End of Checklist

### ENGINE START PROCEDURE

**Normal sequence: first start LH engine**

- 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

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 710 +/- 30 ........................................... CHECKED 2
3. Fuel pumps (2) ............................................ check OFF 3
4. Fuel selectors (2) ........................................ X-FEED 4
5. Pitot heat ...... ON, annunciation + Amps checked 5
6. Pitot heat ..................................................... OFF 6
7. Avionics master ............................................. ON 7
8. WX radar (if installed) ............................... VERIFY STBY 8

FMS SETUP

1. Initialize profile (AUX 4, MAP)
2. Flight plan
3. Radios (COM, NAV, ADF, DME, CDI, BRG ½)
4. Performance (speed bugs; Flight ID if applicable)

9. FMS setup ................................................... COMPLETED 9

AUTOPILOT TEST

10. Autopilot test ........................................... COMPLETED 10
11. Flood light ...................... CHECKED, ON as required 11
12. Position lights ................................. ON as required 12
13. Fuel Selectors (2)................................. ON 13
14. Altimeters (2) .......................................... SET 14
15. Standby horizon ................................. CHECKED 15
16. Transponder .................. CODE / MODE CHECKED 16
17. Engine temperatures ......................... CHECKED 17
18. Parking brake ................................. RELEASED 18

Max power 50% until engine temperatures in green range

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 Circuit breakers ........................................ CHECKED 8
9 Electric elevator trim .................................. CHECKED, T/O SET 9
10 Fuel selectors (2) .................................. CHECKED ON 10
11 Rudder trim ........................................... AS REQUIRED 11
12 Flaps ........................................... Normal TKOF: UP Short field TKOF: APP 12
13 Flight controls ......................................... CHECKED 13
14 Power levers (2) ...................................... IDLE 14
15 MFD .................................................. EIS – ENGINE 15
16 Engine instruments ..................................... CHECKED 16

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

17 VOTER switches (2) ......................... A, AUTO, B, AUTO 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 ECU test (2) ............................................. PERFORMED 18
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 MFD .................................................. EIS – DEFAULT 23
24 Parking brake ...................................... RELEASED 24

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
Alternate air: OPEN in rain, snow, visible moisture
At safe altitude: Flaps ........................................................... UP
Climb power .......................................................... 92%

CLIMB TO CRUISE CHECK

1. Gear .......................................................... CHECKED UP 1
2. Flaps .......................................................... CHECKED UP 2
3. Fuel pumps (2) ............................................... OFF 3
4. Climb power ............................................... SET 4
5. Alternate air ............................................... AS REQUIRED 5
6. Landing light ............................................... OFF 6

End of Checklist

DESCENT / APPROACH CHECK

1. Landing data ............................................... RECEIVED 1
2. Altimeters (2) ............................................... SET 2
3. COM / NAV / FMS ............................................... SET 3
4. Safety harnesses ........................................ FASTENED 4
5. Adjustable backrests ...................................... UPRIGHT 5
6. Parking brake ........................................... CHECKED RELEASED 6
7. Rudder trim ............................................... AS REQUIRED 7
8. Gear warning + lights .................................... TEST 8
9. Landing light ............................................... ON 9

Normal Approach:

10. Fuel selectors (2) ......................................... CHECKED ON 10
11. Fuel pumps (2) ............................................... ON 11

End of Checklist

1 engine out Approach:

10. Fuel selector (good engine) ................... CHECKED ON 10
11. Fuel pumps (good engine) ......................... ON 11

End of Checklist

FINAL CHECK

1. Flaps .......................................................... LDG 1
2. Gear .......................................................... 3 GREENS CHECKED 2
3. Rudder trim ............................................... NEUTRAL 3
**GO AROUND PROCEDURE**

- **Power** ....................................................... MAX
- **Flaps** ....................................................... APP

**Positive rate of climb:**
- **Gear** ....................................................... UP
- **Flaps** ....................................................... UP

Continue with take-off profile
- At safe altitude:
- **Climb power** ............................................. 92%

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**AFTER LANDING CHECK**

*When clear of runway*

1. Alternate air ........................................... CLOSED 1
2. Pitot heat ............................................... OFF 2
3. Flaps ....................................................... UP 3
4. Fuel pumps (2) ........................................... OFF 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 .................................................. CHECK not activated 3
4. MFD .................................................. EIS – ENGINE 4
5. MFD ................................................... 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:*

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

End of Checklist

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**SECURING THE AIRCRAFT**

- Use chocks, consider parking brake released.
- Cover the pitot probe.
- Consider tie down ropes to mooring points.
All masses and speeds are for ACFT **without** increase of MTOM, MZFM, MLM

### Stalling Speeds KIAS for MTOM 1900 kg

| (\(V_{SO}\)) Flaps LDG, gear down | 62   | 62   |
| (\(V_S\)) Flaps APP, gear down   | 66   | 65   |
| (\(V_S\)) clean, gear up         | 69   | 68   |

In Ice: + 4-6 KIAS

### Operating speeds KIAS for MTOM 1900 kg

| Min. control speed Flaps UP (\(V_{MCA}\)) | 76   | 71   |
| Flaps APP                                  | 73   | 68   |
| Rotation speed                             | 80   | 76   |
| Best angle of climb (\(V_X\))              | --   | --   |
| Best rate of climb (\(V_Y\))               | 90   | 85   |
| Best rate of climb 1-eng. (\(V_{YSE}\))    | 85   |
| (\(V_{YSE}\)) – In ice up to 1900kg        | 88   |
| (\(V_{YSE}\)) – In ice above 1900kg        | 90   |

**Operating speed in ice**: 118 - 156

| Max. flap speed (\(V_{FE}\)) Flaps APP | 133  |
| Max. flap speed (\(V_{FE}\)) Flaps LDG | 113  |
| Max. LG extension (\(V_{LOE}\))        | 188  |
| Max. LG extended (\(V_{LE}\))          | 188  |
| Max. LG retraction (\(V_{LOR}\))       | 152  |
| Approach \(V_{REF}\) Flaps UP           | 86   |
|                                           | in ice: 94 |
| Approach \(V_{REF}\) Flaps APP          | 84   |
|                                           | in ice: 90 |
| Approach \(V_{REF}\) Flaps LDG          | 84   |
|                                           | in ice: prohib. |
| Min. Go-around speed Flaps UP            | 90   |
| Max. cruising speed (\(V_{NO}\))        | 151  |
| Never exceed speed (\(V_{NE}\))         | 188  |

**Up to**: 1700 kg, 1800 kg, 1900 kg

| Manoeuvring speed (\(V_0\)) | 112  | 119  | 122  |

### Mass

| Max. TKOF mass | 1900 kg |
| Max ZF mass    | 1765 kg |
| Max. LDG mass  | 1805 kg |
| Empty mass -Min Flight Mass | **1450 kg** |
| Max. baggage in NOSE | 30 kg |
| Max. baggage in COCKPIT | 45 kg |
| Max. baggage in rear EXTENSION | 18 kg |

Available Power Check:

10 sec. power MAX, RPM 2250 – 2300, min. load acc. table below

<table>
<thead>
<tr>
<th>OAT</th>
<th>Altitude [ft]</th>
<th>-35°C</th>
<th>-20°C</th>
<th>-10°C</th>
<th>0°C</th>
<th>10°C</th>
<th>20°C</th>
<th>30°C</th>
<th>40°C</th>
<th>50°C</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
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<td></td>
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<td></td>
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<tr>
<td></td>
<td>2000</td>
<td></td>
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<td>96%</td>
<td>93%</td>
<td>91%</td>
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<td>96%</td>
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<td></td>
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<td>97%</td>
<td>96%</td>
<td>93%</td>
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<tr>
<td></td>
<td>8000</td>
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<td>96%</td>
<td>93%</td>
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<td>98%</td>
<td>97%</td>
<td>97%</td>
<td>95%</td>
<td>94%</td>
<td>92%</td>
<td>89%</td>
<td></td>
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</tr>
</tbody>
</table>

15.05.2020 Diamond Flight Training Page 10

Edition # 20.1 NG / -VI Does not replace the Airplane Flight Manual
All masses and speeds are for ACFT with increased MTOM, MZFM, MLM

<table>
<thead>
<tr>
<th>Stalling Speeds KIAS for MTOM 1999 kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>$(V_{SO})$ Flaps LDG, gear down</td>
</tr>
<tr>
<td>$(V_s)$ Flaps APP, gear down</td>
</tr>
<tr>
<td>$(V_S)$ clean, gear up</td>
</tr>
<tr>
<td>In Ice: + 4-6 KIAS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Operating Speeds KIAS for MTOM 1999 kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. control speed (V_{MCA}) Flaps UP</td>
</tr>
<tr>
<td>Flaps APP</td>
</tr>
<tr>
<td>Rotation speed</td>
</tr>
<tr>
<td>Best angle of climb $(V_X)$</td>
</tr>
<tr>
<td>Best rate of climb $(V_Y)$</td>
</tr>
<tr>
<td>Best rate of climb 1-eng. $(V_{YSE})$</td>
</tr>
<tr>
<td>Operating speed in ice</td>
</tr>
<tr>
<td>Max. flap speed $(V_{FE})$ Flaps APP</td>
</tr>
<tr>
<td>Max. flap speed $(V_{FE})$ Flaps LDG</td>
</tr>
<tr>
<td>Max. LG extension $(V_{LOE})$</td>
</tr>
<tr>
<td>Max. LG extended $(V_{LE})$</td>
</tr>
<tr>
<td>Max. LG retraction $(V_{LOR})$</td>
</tr>
<tr>
<td>Approach $V_{REF}$ Flaps UP in ice:</td>
</tr>
<tr>
<td>76</td>
</tr>
<tr>
<td>Approach $V_{REF}$ Flaps APP in ice:</td>
</tr>
<tr>
<td>93</td>
</tr>
<tr>
<td>Approach $V_{REF}$ Flaps LDG in ice:</td>
</tr>
<tr>
<td>93</td>
</tr>
<tr>
<td>Min. Go-around speed Flaps UP</td>
</tr>
<tr>
<td>Max. cruising speed $(V_{NO})$</td>
</tr>
<tr>
<td>Never exceed speed $(V_{NE})$</td>
</tr>
<tr>
<td>Mass up to 1700 kg</td>
</tr>
<tr>
<td>1999 kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. TKOF mass</td>
</tr>
<tr>
<td>Max ZF mass</td>
</tr>
<tr>
<td>Max. LDG mass</td>
</tr>
<tr>
<td>Ice: 1900 kg</td>
</tr>
<tr>
<td>Empty mass</td>
</tr>
<tr>
<td>Max. baggage in NOSE</td>
</tr>
<tr>
<td>Max. baggage in COCKPIT</td>
</tr>
<tr>
<td>Max. baggage in rear EXTENSION</td>
</tr>
<tr>
<td>45 kg</td>
</tr>
</tbody>
</table>

Available Power Check:
10 sec. power MAX, RPM 2250 – 2300, min. load acc. table below

<table>
<thead>
<tr>
<th>OAT</th>
<th>Altitude [ft]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-35°C</td>
</tr>
<tr>
<td>0</td>
<td>97%</td>
</tr>
<tr>
<td>2000</td>
<td>97%</td>
</tr>
<tr>
<td>4000</td>
<td>97%</td>
</tr>
<tr>
<td>6000</td>
<td>97%</td>
</tr>
<tr>
<td>8000</td>
<td>98%</td>
</tr>
<tr>
<td>10000</td>
<td>98%</td>
</tr>
</tbody>
</table>

“Ice”: Ice accumulation and/or icing conditions
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 failure during take-off ............................ page 7
   Engine failure, engine shutdown in flight  .... page 7
   Engine troubleshooting ................................. page 8
   Engine restart ................................................. page 9
   Oscillating RPM .............................................. page 10
   RPM overspeed ............................................... page 10

Landing Gear
   Landing with defective main gear tire .... page 10
   Landing with defective brakes .................... page 10
   Landing gear unsafe warning .................... page 11
   Manual extension of landing gear ........ page 11
   Landing gear up landing ............................. page 11

Smoke and fire
   Engine fire on ground or during take-off ...... page 6
   Engine fire in flight ........................................ page 6
   Electrical fire on ground .......................... page 12
   Electrical fire in flight .............................. page 12

If Oxygen System is installed
   Cabin smoke, cabin fire, above 10.000 ft... page 13
   Oxygen pressure loss above 10.000 ft ...... page 13

Other Emergencies
   Emergency descent ................................. page 13
   Unintentional flight into icing, Inadvertent icing
      encounter & excessive ice accumulation .... page 14
   Ice protection failure ............................... page 14
   Suspicion of carbon monoxide ................. page 14

Electrical System
   Complete electrical failure ........................ page 12
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  
10. Power levers (2) ....................... IDLE 10

Gear UP landing

After touchdown:

11. Electric master ......................................... OFF 11

Gear DOWN landing

11. Gear......................... DOWN, 3 GREENS CHECKED 11
12. Electric master ......................................... OFF 12
G1000 WARNINGS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Page</th>
<th>Warning</th>
</tr>
</thead>
<tbody>
<tr>
<td>L/R ALTN AMPS</td>
<td>3</td>
<td>High Current (red range)</td>
</tr>
<tr>
<td>L/R OIL PRES</td>
<td>3</td>
<td>Oil pressure low (red range)</td>
</tr>
<tr>
<td>L/R OIL TEMP</td>
<td>3</td>
<td>Oil temperature high (red range)</td>
</tr>
<tr>
<td>L/R GBOX TEMP</td>
<td>4</td>
<td>Gearbox temperature high (red range)</td>
</tr>
<tr>
<td>L/R ENG TEMP</td>
<td>4</td>
<td>Coolant temperature high (red range)</td>
</tr>
<tr>
<td>L/R FUEL TEMP</td>
<td>4</td>
<td>Fuel temperature high (red range)</td>
</tr>
<tr>
<td>L/R FUEL PRES</td>
<td>5</td>
<td>Fuel pressure low</td>
</tr>
<tr>
<td>L/R STARTER</td>
<td>5</td>
<td>Starter not disengaging</td>
</tr>
<tr>
<td>DOOR OPEN</td>
<td>5</td>
<td>Unlocked doors</td>
</tr>
<tr>
<td>L/R ENG FIRE</td>
<td>6</td>
<td>Engine fire on ground, during take-off, in flight</td>
</tr>
</tbody>
</table>

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

Abnormal Checklist starts at page 15

L/R ALTN AMPS

- Check circuit breakers
- Reduce electrical load and land at nearest suitable airfield

L/R OIL PRES

- Reduce power on affected engine
- Be prepared for loss of oil and an engine failure; land at nearest suitable airfield

L/R OIL TEMP

- 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 at nearest suitable airfield
L/R GBOX TEMP

- Reduce power on affected engine
- Increase airspeed
  - If gearbox temperature still in red range:
    - Land at nearest suitable airfield
    - Be prepared for an engine failure

L/R ENG TEMP

- 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 required
      - Increase airspeed by 10 KIAS or more as required
      - If coolant temp. not returning to green range within 60 s:
        - 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 at nearest suitable airfield
  - 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

- Reduce power on affected engine
- Increase airspeed
- Transfer fuel from AUX to MAIN tank if applicable
  - If not returning to green range:
    - Land at nearest suitable airfield
**L/R FUEL PRES**

- Check fuel quantity
- FUEL SELECTOR of affected engine: check ON
- FUEL PUMPS of affected engine: ON
  - If warning remains:
    - FUEL PUMPS of affected engine: OFF
    - FUEL SELECTOR of affected engine: CROSSFEED
  - If warning still remains:
    - Be prepared for an engine failure

**L/R STARTER**

- **On ground:**
  - Affected power lever: IDLE
  - Affected engine master: OFF
  - Electric master: OFF
- **In flight:**
  - Pull LDG LT/START CB (RH Main Bus; push again when LDG light needed)
  - Watch engine cowling and instruments
  - Land at nearest suitable airfield

**DOOR OPEN**

- Reduce airspeed immediately
- Check canopy visually
  - If open:
    - airspeed below 140 KIAS, land at nearest suitable airfield
- Check rear door visually
  - If open:
    - airspeed below 140 KIAS, land at nearest suitable airfield
    - 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 at nearest suitable airfield
G1000 WARNING

L/R ENG FIRE

-----OR ENGINE FIRE OBSERVED-----

---On ground:
1. Engine masters (2) ...................................... OFF 1
2. Fuel selectors (2) ....................................... OFF 2
3. Mayday call ...................................... CONSIDER 3
4. Electric master ....................................... OFF 4

When engine and aircraft stopped:
5. Canopy ................................................. OPEN 5
   Evacuate

---During Take-off
1. Cabin heat & defrost................................. OFF 1
2. Emergency windows (2) ............................. OPEN 2
3. Proceed according
   ENGINE FAILURE DURING TAKE-OFF → page 7...

G1000 WARNING

L/R ENG FIRE

• In flight:
  ⇒ Evaluate the situation
  • If Engine Fire observed:
    ⇒ Proceed according
       ENGINE FIRE IN FLIGHT → page 7
ENGINE FAILURE DURING TAKE-OFF

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

ENGINE FAILURE DURING FLIGHT AND ENGINE SHUTDOWN

If airspeed below Vmca:
Perform Vmc recovery procedure

Airspeed above Vmca:

1. Power .................................................. INCREASE up to MAX 1
2. Airspeed ............................................. min BLUE LINE 2
3. Landing gear ......................................... UP 3
4. Flaps .................................................... UP 4
5. Power lever (affected engine). REDUCE TO VERIFY 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 pumps (dead engine) ......................... OFF 9
10. Fuel selector (dead engine) ....................... OFF 10

ENGINE FIRE IN FLIGHT

1. Cabin heat & defrost................................. OFF 1
2. Canopy ............................................. UNLATCH if necessary 2
   Max airspeed 117 KIAS
3. Shut down the engine according
   † ENGINE SHUT DOWN †-procedure †
ENGINE TROUBLESHOOTING

If

\textcolor{red}{L \text{ OR } R}

\textcolor{blue}{\text{ECU A AND B FAIL}}

\text{simultaneously}

and ALL of the following conditions exist:

\begin{itemize}
  \item \textbf{indicated LOAD unchanged}
  \item \textbf{perceived thrust is reduced}
  \item \textbf{engine noise level changes or engine running rough}
\end{itemize}

1. \textbf{POWER lever} ......................... \text{IDLE for 1 second}  
2. \textbf{POWER lever} ........... \text{slowly increase to 1975 RPM}  
   \hspace{1em} \textbullet\hspace{1em} \text{If engine shows power loss during the POWER lever increase}
3. \textbf{POWER lever} ......................... \text{idle for 1 second}  
4. \textbf{POWER lever} ......................... \text{slowly increase}  
   \hspace{1em} \text{stop prior to the RPM where former engine power loss was observed}

\textit{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.}

\textit{With this power setting the engine can provide up to 65\% at the maximum propeller speed of 1975 RPM}

5. \textbf{Land at nearest suitable airfield}  

\text{End of Checklist}

Otherwise:

1. \textbf{Power lever (good engine)} . \text{INCREASE up to MAX}  
2. \textbf{Circuit breakers}  
   \hspace{1em} \textbullet\hspace{1em} \text{If engine OK: continue, land ASAP}  
3. \textbf{VOTER switch}  
   \hspace{1em} \textbullet\hspace{1em} \text{If engine OK: continue, land ASAP}  
4. \textbf{VOTER switch}  
   \hspace{1em} \textbullet\hspace{1em} \text{If engine OK: continue, land ASAP}  
5. \textbf{Fuel pumps (affected engine)} .......... \text{CHECK OFF}  
6. \textbf{Fuel selector (affected engine)} ........ \text{CROSSFEED}  
   \hspace{1em} \textbullet\hspace{1em} \text{If engine OK: continue, End of Checklist}  
7. \textbf{Fuel selector (affected engine)} \text{ON or CROSSFEED}  
8. \textbf{Alternate air}  
   \hspace{1em} \textbullet\hspace{1em} \text{If engine OK: land as soon as practicable}  
   \hspace{1em} \textbullet\hspace{1em} \text{If engine still not OK: Be prepared for ENGINE FAILURE IN FLIGHT, land ASAP}  

\text{End of Checklist}
**ENGINE RESTART**

Reason for shutdown must be ascertained

<table>
<thead>
<tr>
<th>With starter</th>
<th>Windmilling (demonstration and training not approved)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>15,000 ft PA</strong></td>
<td><strong>Immediate restart</strong>&lt;br&gt;Max 100 KIAS or stationary prop, whichever is lower. Do not engage starter when prop is windmilling.</td>
</tr>
<tr>
<td><strong>10,000 ft PA</strong></td>
<td><strong>Max 100 KIAS or stationary prop, whichever is lower. Do not engage starter when prop is windmilling.</strong></td>
</tr>
<tr>
<td>Up to <strong>10,000 ft PA</strong></td>
<td>OAT below -15°C: max. engine OFF time 2 minutes&lt;br&gt;OAT -15 to -5°C: max. engine OFF time 5 minutes&lt;br&gt;OAT above -5°C: max. engine OFF time 10 minutes</td>
</tr>
</tbody>
</table>

1. Power (affected engine) ...................... IDLE 1
2. Fuel selector (affected engine) ............... ON 2
3. Alternate air ................................. AS REQUIRED 3
4. Alternator (affected engine) .................. ON 4
5. Engine Master (affected engine) .............. ON 5

For restart with starter motor:
6. Starter ............... ENGAGE when prop stationary 6
7. Circuit breakers ........ CHECK/RESET if necessary 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 at nearest suitable airfield

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 at nearest suitable airfield
   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  
   In cold temperature:
2. Airspeed .................................. max 110 KIAS  
3. Gear selector ................................ RECYLE
   ❖ 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  
2. Gear indicator lights ...................... TEST
3. Electric master ................................ CHECK ON
4. Bus voltage ................................ CHECK NORMAL
5. Circuit breaker ................................ CHECK
6. Gear selector ................................ DOWN
7. Manual extension handle ................. PULL
   If necessary
8. Airspeed .................................. max 110 KIAS
   Apply moderate yawing
9. Gear indicator lights ............... CHECK 3 GREENS

LANDING GEAR UP LANDING
(Landing gear completely retracted)

1. Approach ........................................ NORMAL
   If time/situation allows: just before touchdown:
2. Power lever .................................... IDLE
3. Engine Masters (2) ............................ OFF
4. Fuel pumps (2) ................................. OFF
5. Fuel selectors (2) .............................. OFF
   Immediately after touchdown:
6. Electric Master ............................... OFF
**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 at nearest suitable airfield

**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 at nearest suitable airfield
Landing gear may slowly extend
For landing apply “Manual extension of landing gear”
**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 at nearest suitable airfield

**CABIN FIRE ABOVE 10.000 FT**

1. Oxygen ........................................... PUSH OFF 1
2. Emergency descent ....................... INITIATE 2  
   Land at nearest suitable airfield

**OXYGEN PRESSURE LOSS ABOVE 10.000 FT**

1. Oxygen ........................................... PUSH OFF 1
2. Oxygen pressure .......................... CHECKED, note down 2
3. Emergency descent ....................... INITIATE 3  
   When passing 10.000 FT:
4. Oxygen pressure .......................... CHECK AGAIN 4  
   ✫ If oxygen pressure constant: ..... Continue flight  
   ✫ If oxygen pressure dropped: ... Land at nearest  
      suitable airfield

**EMERGENCY DESCENT**

1. Flaps ................................................. UP 1
2. Landing Gear ..................................... DOWN 2
3. Power levers .................................... IDLE 3
4. Airspeed ......................................... AS REQUIRED 4
UNINTENTIONAL FLIGHT INTO ICING

Leave icing area, continue with item 1

* INADVERTENT ICING ENCOUNTER & EXCESSIVE ICE ACCUMULATION

1. De-ice system ............................... HIGH +MAX 1
2. Pitot heat .................................................. ON 2
3. Cabin heat & defrost................................. ON 3
4. Alternate air ........................................... OPEN 4
5. Windshield de-ice............. USE AS APPROPRIATE 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 .................. 118 to 156 KIAS until final 1
2. Flaps ............................. limited to APP position 2
3. Approach with residual ice........ min 90/93 KIAS 3
4. Landing distance ............ flaps LDG value + 20% 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
# G1000 CAUTION LIGHTS

<table>
<thead>
<tr>
<th>Light Code</th>
<th>Page</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>L/R FUEL LOW</td>
<td>15</td>
<td>Main tank fuel qty low</td>
</tr>
<tr>
<td>L/R AUX FUEL E</td>
<td>15</td>
<td>L/R auxiliary fuel tank empty</td>
</tr>
<tr>
<td>L/R ECU A FAIL</td>
<td>16</td>
<td>Fault in ECU A</td>
</tr>
<tr>
<td>L/R ECU B FAIL</td>
<td>16</td>
<td>Fault in ECU B</td>
</tr>
<tr>
<td>L/R VOLTS LOW</td>
<td>17</td>
<td>Bus voltage too low</td>
</tr>
<tr>
<td>L/R ALTN FAIL</td>
<td>17</td>
<td>Alternator failed</td>
</tr>
<tr>
<td>L+R ALTN FAIL</td>
<td>17</td>
<td>Both Alternators failed</td>
</tr>
<tr>
<td>STICK LIMIT</td>
<td>17</td>
<td>Stick limiting system failed</td>
</tr>
<tr>
<td>L/R COOL LVL</td>
<td>18</td>
<td>Engine coolant level low</td>
</tr>
<tr>
<td>PITOT FAIL</td>
<td>18</td>
<td>Pitot heating system failed</td>
</tr>
<tr>
<td>PITOT HT OFF</td>
<td>18</td>
<td>Pitot heating system OFF</td>
</tr>
<tr>
<td>STALL HT FAIL</td>
<td>18</td>
<td>Stall warning heating failed</td>
</tr>
<tr>
<td>STALL HT OFF</td>
<td>18</td>
<td>Stall warning heating OFF</td>
</tr>
<tr>
<td>DEICE_LVL LO</td>
<td>18</td>
<td>De-icing fluid level low</td>
</tr>
<tr>
<td>DEIC PRES LO</td>
<td>18</td>
<td>De-icing pressure low</td>
</tr>
<tr>
<td>DEIC PRES HI</td>
<td>18</td>
<td>De-icing pressure high</td>
</tr>
</tbody>
</table>

### Engine instrument indications outside of green range

- COOLANT temperature high/low .................. page 19
- OIL temperature high/low ........................ page 19
- OIL pressure high/low .......................... page 19
- FUEL temperature high/low ....................... page 19
- VOLT low ........................................ page 20
- RPM high ........................................... page 20

### Other abnormal situations

- Hydraulic pump fail or continuous ops... page 20
- AUX fuel transfer fail ............................... page 20

## L/R FUEL 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

- L/R auxiliary fuel pump OFF
L/R ECU A or B FAIL ON GROUND

1. VOTER switch .......................................................... check AUTO 1
2. Other ECU caution ...................................................... check OFF 2

Clearing procedure:
3. VOTER switch .......................................................... set to failed ECU 3
   Wait 5 seconds
4. VOTER switch .......................................................... AUTO 4
   • If ECU caution persists terminate flight preparation

L/R 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 LH/RH ..................................................... ON 2
3. Circuit breakers ...................................................... CHECK/RESET if necessary 3
4. VOTER switch .......................................................... check AUTO 4
   • If ECU caution persists:
      ⇒ ECU caution clearing procedure may be used:
      BUT: In case of negative 1-eng climb rate only if a suitable landing site is available within gliding distance.
      Be prepared for loss of engine power.
5. Safe altitude .......................................................... CHECK 5
6. Airspeed .............................................................. Min. 85 KIAS 6
7. Flaps ................................................................. check UP 7
8. Landing gear .......................................................... check UP 8
9. Other ECU caution .................................................... check OFF 9
10. VOTER switch ...................................................... set to failed ECU 10
   Wait 5 seconds
11. VOTER switch .......................................................... AUTO 11
   • If ECU caution persists:
      • Land at nearest suitable airfield
      • If additional engine problems are observed:
      • Go to Emergency Checklist page 8

ENGINE TROUBLESHOOTING

L OR R

ECU A FAIL and ECU B FAIL SIMULTANEOUSLY

➢ Go to Emergency Ckl page 8 ENGINE TROUBLESHOOTING
**L/R VOLTS 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 20

**L/R ALTN FAIL**

- 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”

**L ALTN FAIL + R ALTN FAIL**

**BOTH ALTERNATORS FAILED**

Reduce all electrical equipment to a minimum:
- 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

**STICK LIMIT**

- 1 or 2 power levers set for MORE than 20% load:
  - Elevator variable stop is INOP
  - Do not stall in any configuration!
- 2 power levers set for LESS than 20% load:
  - Elevator variable stop always ACTIVE
  - Reduced elevator capacity
  - For approach min VREF 86 KIAS
**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 see page 19

**PITOT FAIL**  
**PITOT HT OFF**

- Check pitot heat ON, if in icing conditions
  - Expect loss of airspeed indication

- Leave area with icing conditions (see Emergency Checklist page 14, “Unintentional flight into icing”)

**STALL HT FAIL**  
**STALL HT OFF**

- Expect loss of aural stall warning

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

- Maximum duration of ice protection in NORMAL mode: 30 min, in HIGH mode: 15 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 14

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

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 at nearest suitable airfield
**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 17

**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 10 “RPM overspeed”
  - Land at nearest suitable airfield

**OTHER ABNORMAL SITUATIONS**

**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