Checklist für Diamond DA40-Fixed Pitch

Edition #: 17  Edition date: 01.03.2015

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

Checklist DA40-F G1000 LEA

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<th>Page</th>
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</table>

Comments explaining Edition # 17 are on page 2 of this document

Comments explaining Edition # 15

This is a major revision cycle and all checklists are now Edition # 15.

Normal Procedures:
Page 2:
Battery voltage check added.
Page 5:
Run up: recheck of C/Bs and voltage, throttle retard added; items 13-16 marked as "When cleared for Line Up"

Emergency Procedures:
Page 3:
DOOR OPEN procedure revised

Comments explaining Edition # 17

Preflight Procedures:
Page 2:
Parking brake, chocks, towbar added

Normal Procedures:
Page 7:
Parking Check, Item 3:
Text of ELT check revised
This checklist is compiled according the guidelines of GAMA Specification No.1, SECTION 3, para 3.5, SECTION 3A, para 3A.5 and SECTION 4, para 4.5. The “Amplified Normal Procedures, Amplified Emergency Procedures” and “Amplified Abnormal Procedures” according GAMA Specification No. 1 are in the DA40 Airplane Flight Manual Chapters 4A, 3 and 4B.

This checklist is a Recommended Operator Checklist and for reference only. It is not a substitute for and does not supersede the current approved Airplane Flight Manual or any of its supplements or parts thereof, or any training or procedures required by any regulatory or advisory bodies.

This checklist may not contain all procedures shown in the Airplane Flight Manual. For a comprehensive listing of all procedures consult the Airplane Flight Manual. Use of the checklist is at the user’s sole risk and discretion. Any possible liability of Diamond 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 18 (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.

Preflight interior + exterior
1. Check Aircraft papers
2. Remove pitot cover
3. Check interior for foreign objects
4. Check flight controls free
5. Check circuit breakers
6. Ignition OFF, key removed
7. Mixture IDLE CUT OFF
8. Essential bus OFF
9. Avionic Master + electrics OFF
10. Electric Master ON
11. Electric fuel pump ON + OFF
12. Check fuel quantity
13. Parking brake SET
14. External lights ON
15. Check external lights
16. External lights OFF
17. Electric Master OFF

Preflight exterior
Left main gear
- Wheel fairing
- Tire condition, pressure (2,5 bar), position mark
- Brake, hydraulic line

Left wing
- Wing leading edge, top- and bottom surface, stall strips
- Drain fuel sump
- Stall warning
- Fuel vent
- Fuel filler cap
- Pitot, static probe (cover removed)
- Landing/Taxi light
- Wing tip, position light
- Static dischargers
- Aileron (freedom of movement, hinges, control linkage, security)
- Wing flap

Left fuselage
- Canopy left side
- Rear door
- Fuselage left side
- Antennas

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

Right fuselage
- Fuselage right side
- Rear window
- Canopy right side

Right wing
- Wing flap
- Aileron (freedom of movement, hinges, control linkage, security)
- Static dischargers
- Wing tip, position light
- Wing leading edge, top- and bottom surface, stall strips
- Fuel filler cap
- Fuel vent
- Drain fuel sump

Right main gear
- Wheel fairing
- Tire condition, pressure (2,5 bar), position mark
- Brake, hydraulic line

Nose section
- OAT sensor
- Propeller surface
- Spinner
- Cowling, Air inlets (3)

Nose gear
- Wheel fairing
- Tire condition, pressure (2,0 bar), position mark

Engine bay
- Engine oil level (min 5 qts)
- Drain fuel strainer

Chocks removed
- Towbar removed
CHECK BEFORE ENGINE START

1. Preflight check ........................................ COMPLETED 1
2. Baggage and tow bar ................................... SECURED 2
3. Parking brake ........................................... SET 3
4. Mixture .................................................... IDLE CUT OFF 4
5. Throttle ..................................................... CLOSED 5
6. Carburetor heat ........................................ OFF (FWD) 6
7. Electric master ......................................... OFF 7
8. Avionic master .......................................... OFF 8
9. Essential bus .......................................... OFF 9
10. Alternate static ........................................ CLOSED 10
11. All electrics ........................................... OFF 11
12. Horizon emergency switch .................. OFF / GUARDED 12
13. ELT .......................................................... ARMED 13
14. Circuit breakers .................................... CHECKED IN 14
15. Flap selector ........................................... UP 15
16. Pitot heat .................................................... OFF 16
17. Electric fuel pump ..................................... OFF 17
18. Electric Master ........................................... ON (check avionic fan noise) 18
19. Rudder pedals ......................................... ADJUSTED 19
20. Passengers .............................................. INSTRUCTED 20
21. Seat belts .................................................. FASTENED 21
22. Rear door ............................................... CLOSED and LATCHED 22
23. Front canopy ............................................ POS 1 or 2 23
24. G1000 .................................................. POWERED, ACKNOWLEDGED 24
25. Fuel quantity ........................................... CHECKED 25
26. Fuel selector ............................................. FULL TANK 26
27. MFD ......................................................... ENGINE – SYSTEM 27
28. Fuel Quantity ........................................... RESET/SET if requ. 28
29. Total time in service .................................. NOTED 29
30. MFD ......................................................... ENGINE – DEFAULT 30
31. ACL (strobe) ............................................ ON 31
32. Propeller area .......................................... CLEAR 32

END OF CHECKLIST

ENGINE START PROCEDURE:

Mixture ............................................. FULL RICH
Electric fuel pump .................................... ON
Throttle ................................................ 1/4 OPEN

Cold engine:
Prime ................................................... 1 – 4 seconds
Starter ..................................................... ENGAGE
Oil pressure ........................................... CHECK GREEN RANGE
Throttle ................................................... 1000 RPM
Voltage, Electrical load ............... CHECK INDICATION
Annunciations / Eng.Instr ............... CHECK
Electric fuel pump ................................... OFF

CHECK AFTER ENGINE START

1. Oil pressure ........................................... CHECKED 1
2. Fuel selector ............................................ SWITCH TANKS 2
3. Throttle ............................................. 1500 RPM for 1 minute 3
4. Pitot heat ............................................. 1...
BEFORE TAKE OFF CHECK

1 Parking brake ........................................ SET 1
2 Seat belts ................................ FASTENED 2
3 Rear door ................................ CLOSED + LATCHED 3
4 Front canopy ................................ CLOSED + LATCHED 4
5 Door warning light ................................ OFF 5
6 Engine instruments green range ...... CHECKED 6
7 Mixture ................................ RICH or as required 7

RUN UP
Throttle ........................................ 1800 RPM
Magnetos .....................................(max 175/50) CHECKED
Circuit breakers, voltage.................. RECHECKED
Carburetor heat ............................. CHECKED

Throttle ........................................ IDLE

8 Amperemeter .................................. CHECKED 8
9 Electric elevator trim......... CHECKED, T/O SET 9
10 Flaps ....................................... CHECKED T/O 10
11 Flight controls ................................ CHECKED 11
12 Fuel selector ............................. FULLEST TANK 12

When cleared for Line Up:

13 Electric fuel pump ..................... ON 13
14 Pitot heat ................................ AS REQUIRED 14
15 Transponder .............. CODE / MODE CHECKED 15
16 Parking brake ......................... RELEASED 16

LINE UP PROCEDURE
Landing light ..................................... ON
Approach sector ............................... CLEAR
Runway .......................................... IDENTIFIED

CLIMB TO CRUISE CHECK

1 Flaps ......................................... CHECKED UP 1
2 Electric fuel pump .................................. CHECKED OFF 2
3 Landing light .................................. CHECKED OFF 3

PERIODICALLY DURING CRUISE

Fuel Radio Engine Direction Altitude

Maximum fuel unbalance:
Standard tank: 10 USG, Long range tank: 8 USG

DESERT / APPROACH CHECK

1 Landing data ................................. RECEIVED 1
2 Altimeters ..................................... SET 2
3 COM / NAV / FMS ........................ SET 3
4 Seatbelts ..................................... CHECKED 4
5 Fuel selector .............................. FULLEST TANK 5
6 Mixture ...................................... AS REQUIRED 6
7 Carburetor heat ............................ ON 7

BEFORE LANDING PROCEDURE

Downwind, latest base leg:
Flaps ......................................... T/O
Electric fuel pump ......................... OFF
Landing light ................................. ON
On final:
Mixture ...................................... RICH
Carburetor heat ............................ OFF
Flaps ......................................... LDG

GO AROUND PROCEDURE

Power (Trottle, Mixture, Carburetor heat) .... MAX
Flaps ......................................... T/O
Continue with take-off profile
**AFTER LANDING CHECK**

1. Flaps ................................................. UP 1
2. Pitot heat ............................................ OFF 2
3. Electric fuel pump .............................. OFF 3
4. Carburetor heat .................................. OFF 4
5. Landing/Taxi light .................. AS REQUIRED 5

End of Checklist

**PARKING CHECK**

1. Parking brake ................................. CHECKED 1
2. Engine instruments ......................... CHECKED 2
3. Engine / System page TTL TIME IN SVC NOTED 3
4. ELT ............................................. CHECK not activated 4
5. Avionics master ............................... OFF 5
6. Electrical consumers except ACL (strobe) ... OFF 6
7. Throttle .......................... 1000 RPM 7
8. Ignition .................................. GROUNDING CHECK 8
9. Mixture ................................ IDLE CUT OFF 9
10. Ignition ........................................ OFF 10
11. ACL (strobe) ................................. OFF 11
12. Electric Master .............................. OFF 12
13. Interior light ................................ CHECKED OFF 13
14. Start key .................................. REMOVED 14

End of Checklist

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**OPERATING SPEEDS**

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**Weights**

- Max. TKOF weight: 1150 kg
- Empty weight: 795 kg
- Max. LDG weight: 1150 kg
- Full tanks (standard): 107 kg
- Full tanks (long range): 132 kg
- Max. baggage in front: 45 kg
- Max. baggage in rear: 18 kg
- Max. baggage in case: 45 kg

---

**All data for ISA + 15**

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*) Full Open Throttle unless limited by max. RPM
DA40-180 Fixed Pitch  G1000

EMERGENCY + ABNORMAL CHECKLIST

For conditions to use this Emergency + Abnormal Checklist see page 1 of the Normal Checklist.

All such conditions are fully applicable also for this checklist.

G1000 WARNINGS

<table>
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<th>Condition</th>
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<tr>
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<td>Starter not disengaging</td>
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<tr>
<td>Unlocked doors</td>
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</table>

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

Abnormal Checklist starts at page 9

Emergency landing .................................................................page 2

Engine
- Rough engine and/or power loss............................................page 4
- Loss of RPM .................................................................page 4
- Windmill engine start ................................................. page 5
- Powered engine start ...................................................... page 5

Electric System
- Total electric fail ............................................................page 4

Smoke and Fire
- Engine fire in flight ..........................................................page 6
- Engine / carburetor fire on ground........................................page 6
- Electric fire / smoke in flight .......................................... page 7
- Electric fire / smoke on ground .........................................page 7

Other Emergencies
- Suspicion of carbon monoxide .............................................page 8
- Unintentional flight into icing ..........................................page 8
- Landing with defective main gear tire.................................page 8
- Landing with defective brakes ..........................................page 8

Emergency landing

EMERGENCY PROCEDURES

OIL PRES LO

1 Oil pressure (OP) .................................................CHECK 1
2 Oil temperature (OT) .............................................CHECK 2
3 Cylinder head temperature (CHT) .........................CHECK 3

- OP indication below green and
  OT normal

4 OT and CHT .................................MONITOR 4

- OP indication below green and
  OT or CHT rising

5 Engine power .......................RECUDE TO MIN 5
   Land ASAP, be prepared for Emergency Landing
   - OP near zero, vibration, loss of oil, smoke

6 Mechanical failure ..................SUSPECT 6

7 Engine ..................SHUT DOWN 7
   Emergency landing
**ALTERNATOR**

**ALTERNATOR FAIL**

1. Circuit breakers .................................. CHECK  
2. Master switch (ALT) ......................... OFF, then ON  
   - If alternator does not reset:
3. Essential bus ........................................... ON  
4. Unnecessary equipment .......................... OFF  
   - If PFD attitude information lost:
5. Horizon emergency switch ......................... ON  

**STARTER ENG'D**

**STARTER NOT DISENGAGING**

1. Throttle ................................................. IDLE  
2. Mixture ........................................... IDLE CUT OFF  
3. Ignition .................................................. OFF  
4. Master switch ........................................... OFF  

**DOOR OPEN**

**UNLOCKED DOORS**

1. Airspeed ............................................... REDUCE  
2. Canopy and rear door ......................... CHECK visually  
   - If unlocked:
   - Airspeed below 140 KIAS, land ASAP
   - *Do not try to lock the rear door in flight*

**ROUGH ENGINE AND/OR POWER LOSS**

1. Airspeed ............................................. 73/68/60 KIAS  
2. Electrical fuel pump ................................. ON  
3. Fuel tank selector .................................. CHECK  
4. Engine instruments .................................. CHECK  
5. Throttle ................................................... CHECK  
6. Mixture .................................................. SET  
7. Carburetor heat ......................................... ON  
8. Ignition switch ......................................... BOTH  
9. Throttle / Mixture .......... TRY VARIOUS SETTINGS  
   - If no success and insufficient power:  
     - Land ASAP

**LOSS OF RPM**

1. Electrical fuel pump ................................. ON  
2. Fuel tank selector .................................. CHECK  
3. Friction adjuster .................................... CHECK  

**TOTAL ELECTRIC FAIL**

1. Circuit breakers ................................. CHECK, PULL, RESET  
2. Essential bus ......................................... ON  
   - If no success:
3. Horizon emergency switch ......................... ON  
4. Flood light, if necessary .......................... ON  
5. Power .................................................. SET  
   - according power lever position and/or engine noise
6. Flaps ................................................. VERIFY POSITION  
   - Land ASAP
WINDMILL ENGINE START
1. Airspeed: 73 - 130 KIAS
2. Fuel tank selector: FULL TANK
3. Ignition: BOTH
4. Mixture: CHECKED
5. Electric fuel pump: ON
6. Carburetor heat: ON

If no success:
7. Mixture: LEAN
8. Mixture: SLOWLY TO RICH

POWERED ENGINE START
1. Airspeed: 70 - 80 KIAS
2. Electrical equipment: OFF
3. Avionic master: OFF
4. Master switch (BAT): ON
5. Mixture: CHECKED
6. Fuel tank selector: CHECKED
7. Electric fuel pump: ON

ENGINE FIRE IN FLIGHT / AFTER TAKE OFF
1. Cabin heat: OFF
2. Emergency landing: PREPARE
3. Airspeed: 73/68/60 KIAS
4. ATC: INFORM
5. Canopy: UNLATCH as necessary

When landing assured:
6. Fuel tank selector: OFF
7. Throttle: MAX PWR if possible
8. Electrical fuel pump: OFF
9. Master switch: ON
10. Emergency window: OPEN if required

On final:
11. Mixture: IDLE CUT OFF
12. Flaps: LDG
13. Ignition: OFF
14. Master switch: OFF

ENGINE/CARBURETOR FIRE
ON GROUND WHEN STARTING
1. Starter: CRANK

If engine fires:
2. Throttle: 1800 RPM for 4 minutes
3. Cabin heat: OFF

If engine does not fire:
4. Mixture: IDLE CUT OFF
5. Throttle: MAX POWER
6. Electric fuel pump: OFF
7. Fuel tank selector: OFF
8. Master switch: OFF

When engine stopped:
9. Ignition: OFF
10. Canopy: OPEN

Evacuate
**ELECTRIC FIRE / SMOKE IN FLIGHT**

1. Horizon emergency switch ......................... ON  
2. Canopy ........................UNLATCH as necessary  
3. Master switch (ALT/BAT) .......................... OFF  
4. Cabin heat.............................................. OFF  
5. Emergency window............. OPEN as necessary  

   Land ASAP  

   If electronics/avionics required: apply isolation procedure as follows  
6. Master switch (BAT).................................. ON  
7. Essential bus ........................................... ON  
   If smoke decreases: Land ASAP  
   If smoke persists:  
8. Master switch (ALT).............................. ON  
9. Essential bus ........................................... OFF  
10. BATT and ESS TIE circuit breakers...........PULL  

   Land ASAP  

**ELECTRIC FIRE / SMOKE ON GROUND**

1. Master switch (ALT/BAT) .......................... OFF  
2. Throttle................................................. IDLE  
3. Mixture ................................................. IDLE CUT OFF  
   When engine stopped:  
4. Ignition ................................................ OFF  
5. Canopy .......................................................... OPEN  

   Evacuate  

**SUSPICION OF CARBON MONOXIDE**

1. Cabin heat.............................................. OFF  
2. Ventilation.............................................. OPEN  
3. Emergency windows ................................... OPEN  
4. Forward canopy ........................................ UNLATCH  

**UNINTENTIONAL FLIGHT INTO ICING**

1. Pitot heat ................................................ ON  
2. Cabin heat................................................. ON  
3. Cabin air distribution............................. UP  
4. RPM......................................................... INCREASE  
5. Carburetor heat ......................................... ON  
6. Emergency windows ............. OPEN as required  
   Leave icing area, inform ATC  
   When pitot heat fails:  
7. Alternate static valve .........................OPEN  
8. Emergency windows ......................... CLOSED  

**LANDING WITH DEFECTIVE MAIN GEAR TIRE**

1. ATC............................................. INFORMED  
   For landing:  
   - Land on RWY side with “good” tire  
   - Keep wing on “good” side low  
   - Support directional control with brake  

**LANDING WITH DEFECTIVE BRAKES**

1. Fuel tank selector..................................... OFF  
2. Mixture ................................................. IDLE CUT OFF  
3. Ignition ................................................ OFF  
4. Master switch................................. OFF  

   After touchdown (if necessary):
G1000 CAUTION LIGHTS

PITOT OFF
No procedure
Pitot heating system OFF

PITOT FAIL
Pg. 9
Pitot heating system failed

L FUEL LOW
No procedure
Left tank fuel qty low (< 3 USG)

R FUEL LOW
No procedure
Right tank fuel qty low (< 3 USG)

LOW VOLTS
Pgs 9
Bus voltage too low

Engine instrument indications outside of green range

- OIL pressure low / high ....................page 10
- OIL temperature high .......................page 10
- CYLINDER Head Temp high / low ......page 11
- EXHAUST GAS Temp low......................page 11
- FUEL FLOW high ..........................page 11
- FUEL PRESSURE low.........................page 11
- VOLT high (overvoltage)...................page 11

PITOT FAIL

PITOT HEATING SYSTEM FAILED

- check pitot heat ON
- if in icing conditions
  ⇒ expect failure of the pitot-static-system
  ⇒ alternate static valve: OPEN
  ⇒ leave area with icing conditions

LOW VOLTS

BUS VOLTAGE TOO LOW

Remark: possible reasons are
- malfunction of electrical supply
- RPM too low

- On ground
  ⇒ Increase RPM to 1200
  ⇒ Electrical equipment OFF
  ⇒ Check Ammeter and voltmeter
  ⇒ If light still ON
    ⇒ Terminate flight preparation

- In flight
  ⇒ Switch off unnecessary electrical equipment
  ⇒ Check Ammeter and voltmeter
  ⇒ If light still ON
    ⇒ Apply “ALTERNATOR FAIL”-emergency procedure
      (Emergency Checklist page 3)

OIL pressure low
Check OIL PRES LO warning light

- OIL PRES LO warning light ON or flashing
  ⇒ Apply “OIL PRES LO”-emergency procedure
    (Emergency Checklist page 2)

- OIL PRES LO warning light OFF
  ⇒ Check oil temperature and cylinder head temperature (CHT)

  ⇒ Oil temperature and CHT normal
    ⇒ Monitor oil pressure warning light
      (suspect faulty oil pressure indication)
    ⇒ Monitor oil temperature and cylinder head temperature

  ⇒ Oil temperature or CHT rising
    ⇒ Reduce engine power to minimum
    ⇒ Land ASAP
    ⇒ Be prepared for engine failure and emergency landing

  ⇒ Oil pressure near zero, vibration, loss of oil, smoke
    ⇒ Suspect mechanical failure in the engine
    ⇒ Shut down engine immediately
    ⇒ Perform emergency landing

OIL pressure high
Check oil temperature

- If oil temperature normal:
  ⇒ expect faulty oil pressure indication, continue flight

Oil temperature high
Check oil pressure

- If oil pressure low:
  ⇒ Continue with OIL pressure LOW checklist
    (Emergency Checklist page 2)

- If oil pressure in green range:
  ⇒ Check cylinder head temperature
  ⇒ Check mixture setting, enrich if necessary
  ⇒ Reduce power, increase airspeed
  ⇒ Land ASAP
**Cylinder head temperature (CHT) high**
- Enrich mixture
- Check oil pressure
  - If oil pressure low:
    - Continue with abnormal checklist “Oil pressure low” (page 10)
  - If oil pressure in green range:
    - Check mixture and enrich if necessary
    - Reduce power, increase airspeed

**Cylinder head temperature (CHT) or EGT low**
- A very low reading for a single cylinder may be the result of a loose sensor

**FUEL FLOW high**
- Check fuel pressure
  - If fuel pressure low suspect fuel leak:
    - Check and monitor fuel quantity
    - Check power setting
    - Land ASAP

  Consider reduced range and endurance due to possible loss of fuel

**FUEL PRESSURE low**
- Electric fuel pump ON
- Check fuel quantity
- Check fuel tank selector
- Check and adjust mixture if necessary
- Land ASAP

  Be prepared for engine failure

**OVER VOLTAGE**
- Essential bus ON
- Master switch (ALT) OFF
- Master switch (BAT) ON
- Switch OFF unnecessary equipment
- Land ASAP