SKY SAFETY

Diamond DA-40 Checklist

CABIN

1. Seat Belts – CHECK
2. Documents - (AROW) & VOR
3. Fire Extinguisher - CHECK
4. Switches & Inst. Lights – OFF
5. Circuit Breakers – CHECK IN
6. Throttle – CLOSED
7. Prop – FULL FORWARD
8. Mixture – CUTOFF
9. Trim – SET T.O.
10. Flight Controls – CHECK
11. Master (BATT) – ON
12. Hobbs & Tach – CHECK
13. Fuel Qty & Total - UPDATE
14. Flaps – CYCLE & CK LTS.
15. Lights & Strobes - CHECK
16. Instrument Lights (night) – CHECK
17. Master (BATT) - OFF

LEFT WING & FUSELAGE

1. Gear – CHECK (36 psi)
2. Fuel – SUMP & CHECK
3. Stall Warning – CHECK
4. Pitot Vane – CHECK
5. Landing/Taxi Lights - CHECK
6. Wing, Tip & Lights – CHECK
7. Aileron, Flap & Static Wicks – CHECK
8. Canopy & Aft Door –CHECK
9. Antennas – CHECK

TAIL & RIGHT WING

1. Elevator & Servo Tab – CHECK
2. Rudder – CHECK
3. Static Wicks – CHECK
4. Flap, Aileron & Static Wicks – CHECK
5. Wing, Tip & Lights – CHECK
6. Fuel – SUMP & CHECK
7. Gear– CHECK (36 psi)

NOSE

1. Gascolator Drain - CHECK
2. Oil – CHECK (4-6 qts.)
3. Air Intakes – CHECK
4. Prop & Spinner – CHECK
5. Nose Gear – CHECK (29 psi)

BEFORE ENG. START

1. Rear Door – SECURED
2. Rudder Pedals – ADJUST
3. Seats Belts – FASTENED
4. Canopy – POSITION 1 or 2
5. Trim – SET for T/O
6. Throttle – IDLE
7. Prop – FULL FORWARD
8. Mixture – IDLE CUTOFF
9. Alternate Air - CLOSED
10. Alternate Static - CLOSED
11. Avionics Master – OFF
12. Essential Bus Sw. – OFF
13. Strobes – DAY; Nav – NIGHT

COLD ENGINE

1. Fuel – FULLEST TANK
2. Master BATT Switch – ON
3. Electric Fuel Pump - ON
4. Throttle – 1 Inch OPEN
5. Mixture – RICH (3-5 secs)
6. Throttle – ¼ inch OPEN
7. Prop Area – CLEAR!
8. Ignition – START
9. Mixture – RICH as Engine Fires
10. Oil pressure – within 15 secs

WARM START

1. Electric Fuel Pump - ON
2. Throttle – 1 Inch OPEN
3. Mixture – RICH (1-3 secs)
4. Throttle – ¼ inch OPEN
5. Prop Area – CLEAR!
6. Ignition – START
7. Mixture - RICH
8. Oil pressure – within 15 secs

FLOODED START

1. Electric Fuel Pump - OFF
2. Mixture – IDLE CUTOFF
3. Throttle – MID RANGE
4. Prop Area – CLEAR!
5. Ignition – START
6. Throttle – 1000 RPM
7. Mixture - RICH
8. Oil pressure – within 15 secs

BEFORE TAXI

1. Master Sw. ALT – ON
2. Ammeter – CHECK
3. Electric Fuel Pump – OFF

AIRCRAFT SERVICING

Total Fuel Gal.	40 or 50 Gal
Oil (Max/Min)	8 qts/4 qts.
Tire Press. (Nose/Mains)	29/36 psi

Airspeeds

V_{NE} – 178	V_S/V_{SO} – 52/49
V_{NO} – 129	XWind – 20 kts.
V_{FE} T.O./Ldg. – 108/91	

4. **Fuel Pressure – 14 to 35 psi**
5. **Annunciator Panel - CHECK**
6. **Avionics Master – ON**
7. **Flaps – UP**
8. **Com, Nav & G1000 – SET**
9. **Instruments – CHECK**
10. **Fuel – SWITCH TANKS**
11. **Mixture – LEAN (for taxi)**
12. **Pitot Heat – CHECK**
13. **Idle RPM – CHECK (600-800)**

TAXI CHECK

1. **Brakes – CHECK**
2. **Instruments - CHECK**

ENGINE RUNUP

1. **Brakes – Hold**
2. **Canopy – CHECK SECURED**
3. **Fuel – FULLEST TANK**
4. **Trim - SET for Takeoff**
5. **Flight Controls – CHECK**
6. **Engine Instruments – IN GREEN**
7. **Electric Fuel Pump - ON**
8. **Throttle – 2000 RPM**
9. **Mixture – RICH or LEAN 1500^{O} EGT**
10. **Mags – CHECK *(Drop/Diff 175, 50)***
11. ***RPM – CYCLE (Max 500 Drop)***
12. **Engine Instruments - CHECK**
13. **Throttle – IDLE**
14. **Throttle – 1000 RPM**
15. **Alt Air – CHECK CLOSED**
16. **Circuit Breakers – CHECK**
17. **E. P.s – REVIEW**
    a. **Ground Run/Abort Point**
    b. **Failure Before Rotation**
    c. **Failure After Rotation**
    d. **Failure After T.O. – Low**
    e. **Exchange of Flight Controls**
18. **Departure - BRIEF**
19. **Transponder – SET**
20. **Mixture – RICH**
21. **Prop – FULL FORWARD**
22. **Ignition – BOTH**

HOLD SHORT

1. **Canopy – CLOSED**
2. **Strobes & Landing Light – ON**
3. **Pitot Heat – ON**
4. **Flaps – T.O.**
5. **Approach – CLEAR**

NORMAL TAKEOFF

1. **Throttle – FULL**
2. **Rotate at 59 KIAS**
3. **ACCEL - 73 V_Y**

SHORT FIELD T.O.

1. **Brakes – HOLD**
2. **Throttle – FULL**
3. **Brakes - RELEASE**
4. **Rotate at 59 KIAS**
5. **Climb - 60 KIAS (V_X T.O. Flaps)**
6. **Clear of Obs. – Accel to 68 KIAS**

SOFT FIELD T. O.

1. **Stick – FULL AFT**
2. **Aircraft on C_L Throttle – FULL**
3. **Airborne In Ground Effect**
4. **Accel – V_X (60) or V_Y (68)**

CLIMB

1. **Flaps – UP (400 ft)**
2. **Throttle – Full**
3. **Prop – 2400 RPM**
4. **Fuel Pump - OFF**
5. **Airspeed - 80 – 85 KIAS**
6. **Landing Light – OFF**

CRUISE

1. **Trim – SET**
2. **Cruise Power – SET**
3. **Mixture – ADJUST 100^{o} Rich Peak**
4. **Engine Instruments– CHECK**
5. **Fuel Quantity – CHECK**

Fuel Pump ON – Switching Tanks

DESCENT

1. **Power – 2400 & 15 to 18 in. MP**
2. **Seat Belts – SECURE**
3. **Mixture – ENRICHEN**
4. **Landing Light – ON**
5. **Parking Brake – OFF**

BEFORE LANDING

1. **Fuel Pump – ON**
2. **Fuel – FULLEST TANK**
3. **Throttle – 15 inches MP**
4. **Mixture – RICH**
5. **Prop – FULL FORWARD**
6. **Flaps – T.O. (DOWNWIND 85 KIAS)**
7. **Base – FLAPS LDG (75 KIAS)**

NORMAL LANDING

1. **Flaps – LDG (FINAL 65 KIAS)**
2. **Airspeed – 60 SHORT FINAL**
3. **Nose – LWR GENTLY**

SHORT FIELD

1. **Approach - NORMAL**
2. **Flaps – LANDING**
3. **Airspeed – 55 SHORT FINAL**

4. **Land – MAINS FIRST**
5. **Flaps – UP**
6. **Brakes – APPLY**

SOFT FIELD LDG

1. **Approach - NORMAL**
2. **Flaps - LANDING**
3. **Airspeed – 55 SHORT FINAL**
4. **Touchdown – SOFTLY**
5. **Nose – LWR GENTLY**

GO AROUND

1. **Throttle – FULL**
2. **Airspeed – 66 KIAS**
3. **Flaps – T.O.**
4. **Prop – 2400 RPM**
5. **Flaps – UP**

TOUCH & GO

1. **Flaps – T.O.**
2. **Throttle - FULL**
3. **Prop Lever – 2400 RPM**
4. **Flaps - UP**

AFTER LANDING

1. **Fuel Pump – OFF**
2. **Pitot Heat - OFF**
3. **Landing/Taxi Light – AS REQ'D**
4. **Mixture – LEAN FOR TAXI**
5. **Flaps – UP**

SHUTDOWN

1. **Avionics Master – OFF**
2. **Throttle - 1000 RPM**
3. **Mixture – IDLE CUT OFF**
4. **Ignition - OFF**
5. **External Lights – OFF**
6. **Hobbs & Tach - RECORD**
7. **Master Switch – OFF**
8. **Overhead Lights - OFF**

EMERGENCY PROCEDURES

ENGINE FIRE ON START

1. **Mixture – IDLE CUT-OFF**
2. **Fuel Selector – OFF**
3. **Cabin Heat – OFF**
4. **Brakes – APPLY**
5. **Throttle – MAX POWER**
6. **Master Switch – OFF**

When Engine has Stopped

7. **Ignition Switch – OFF**
8. **Canopy – OPEN**
9. **Aircraft - EVACUATE**

ELEC. FIRE ON THE GROUND

1. **Master Switches – OFF**

If Engine is Running

2. **Throttle – IDLE**
3. **Mixture – IDLE CUTOFF**
4. **Fuel Valve – OFF**
5. **Ignition Switch – OFF**
6. **Canopy – OPEN**
7. **Aircraft - EVACUATE**
8. **Fire Extinguisher – AS REQ'D**

STARTER RELAY FAILURE

1. Throttle – IDLE
2. Mixture – IDLE CUTOFF
3. Ignition Switch – OFF
4. Master Switch – OFF

ABORT

1. **Throttle – IDLE**
2. **Brakes – AS REQUIRED**

ENGINE FAILURE ON TAKEOFF

1. **Abort**
2. Mixture – IDLE CUT-OFF
3. Fuel Selector - OFF
4. Ignition & Master Switches – OFF

SMOKE & FIRE ON TAKEOFF

1. **Abort**
2. Cabin Heat - OFF

ENGINE FAIL AFTER TAKEOFF

1. **Airspeed - 66 (Flaps T.O.)**
2. **Land Straight Ahead**
3. **Mixture – IDLE CUT-OFF**
4. Fuel Valve – OFF
5. Ignition Switch – OFF
6. Master Switches – OFF

AIRSPEEDS CONT.

V_X Flaps T.O./Up	60/66
V_Y Flaps T.O./Up	68/73

EMERGENCY OPERATIONS

Best Glide Clean	73
Best Glide T.O. Flaps	68
Best Glide Ldg Flaps	60

ENGINE FAILURE INFLIGHT

1. **Airspeed – 80 KIAS**
2. **Mixture – FULL RICH**
3. **Prop – FULL FORWARD**
4. **Throttle – FORWARD**
5. **Fuel Pump – ON**
6. **Fuel Valve – FULLEST TANK**
7. **Alternate Air - OPEN**
8. **Ignition Switch – BOTH**
9. Locate Suitable Field
10. Fuel Quantity – CHECK
11. Engine Gauges – CHECK

If Prop stopped

12. Electrical & Avionics - OFF
13. Ignition Sw. – START

LANDING W/O ENG POWER

1. Landing Area - SELECT
2. Airspeed – BEST GLIDE
3. Fuel Valve – OFF
4. Throttle - CLOSED
5. Mixture – IDLE CUT-OFF
6. Ignition Switch – OFF
7. Seat Belts & Harnesses – TIGHT
8. Transponder – Set 7700
9. Radio (121.5 MHz) – XMIT "Mayday

Before Landing:

10. Flaps – LDG
11. Master Switch – OFF

ENGINE FIRE INFLIGHT

1. **Airspeed – 73 KIAS**
2. **Mixture – IDLE CUT-OFF**
3. **Fuel Valve – OFF**
4. **Throttle – FULL**
5. Cabin Heat – OFF
6. **Electric Fuel Pump – OFF**
7. **Airspeed – INCREASE TO EXTINGUISH FIRE**
8. Windows – OPEN if Required
9. Perform "Landing W/O Eng.Pwr"

ROUGH ENGINE OPERATION

1. Airspeed – 73 KIAS
2. Fuel Pump – ON
3. Fuel Selector – CK (SWITCH TANKS)
4. Engine Instruments – CHECK
5. Throttle & Prop - CHECK or Adjust
6. Mixture – ADJUST
7. Alternate Air - OPEN

LOSS OF OIL PRESSURE

1. Land as soon as possible
2. Oil Temperature – CHECK
3. Prepare Landing w/o Eng. Power

SPIN RECOVERY

1. **Throttle – IDLE**
2. **Rudder – FULL OPPOSITE DIRECTION OF SPIN**
3. **Stick – FULL FORWARD**
4. **Ailerons – NEUTRAL**
5. Flaps - UP
6. Rudder – NEUTRAL
7. Recover - SMOOTHLY

ELEC./CABIN FIRE INFLIGHT

1. **Emergency Switch - ON**
2. **Master Switch – OFF**
3. **Cabin Heat – OFF**
4. **Cabin Vents – OPEN if Required**
5. **Fire Extinguisher – AS REQ'D**

TOTAL ELECTRICAL FAILURE

1. Emergency Switch – ON
2. Flood Light – ON (As Necessary)
3. Power – SET (Audible noise)

OVERVOLTAGE (above 32 Volts)

1. Essential bus - ON
2. Alternator Switch – OFF
3. Non-Essential electrical – OFF
4. Land as Soon as Practical

ALTERNATOR FAILURE - ALT

1. Master (ALT) - CYCLE
2. Circuit Breakers – CHECK

If power not restored

3. Essential Buss – ON
4. Non-Essential Electrical – OFF
5. Voltmeter – CHECK Regularly
6. Land within 30 Minutes

AHRS or ADC Failure

1. Use STBY AI & Mag Compass
2. Set Course using Digital Window

ICING

1. Alternate Air - ON
2. Pitot Heat – ON
3. Cabin Heat – ON Distributer - UP
4. RPM - INCREASE
5. Land at the nearest airfield

PFD of MFD Failure

1. **Display Backup Button - PUSH**