SKY SAFETY

# DA-40 EMERGENCY PROCEDURES Checklist

**Items in BOLD FACED type are immediate action items and should be committed to memory.**

## 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**

## STARTER RELAY FAILURE

*Starter does not disengage after start*

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 – OFF**
**5. Master Switches – OFF**

## SMOKE & FIRE ON TAKEOFF

**1. Abort**
**2.** Cabin Heat – OFF

*After Stopping*

**3.** Mixture – IDLE CUTOFF
**4.** Fuel Valve – OFF
**5.** Ignition Switch – OFF
**6.** Canopy – OPEN
**7.** Airplane – EVACUATE

## 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

## ENGINE FAILURE INFLIGHT

**1. Airspeed – 80 KIAS**
**2. Mixture – FULL RICH**
**3. Prop – FULL FORWARD**
**4. Throttle – FORWARD**
**5. Fuel Pump – ON**
**6. Alternate Air - OPEN**
7. Fuel Valve – FULLEST TANK
8. Ignition Switch – BOTH

***If engine does not start***

9. Mixture – LEAN
10. Mixture – Advance slowly until engine starts
11. Locate Suitable Field
12. Fuel Quantity – CHECK
13. Engine Gauges – CHECK

***If Prop Stopped***

14. Electrical & Avionics - OFF
15. Ignition Sw. – START

## 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

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**Speed for Engine Restart – 80 KIAS**
**Best Glide Flaps T.O. – 68 KIAS**
**Best Glide Flaps Up – 73 KIAS**
**Best Glide Flaps Ldg – 60 KIAS**

7. Airspeed – INCREASE TO EXTINGUISH FIRE
8. Windows – OPEN if Required
9. Perform "Landing W/O Eng.Pwr"

## LANDING W/O ENG POWER

1. Landing Area - SELECT
2. Airspeed – BEST GLIDE (73 KIAS)
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
12. Soft Field Landing – LOWEST POSSIBLE AIRSPEED

## ROUGH ENGINE OPERATION

### WARNING

**A rough running engine can lead to catastrophic failure of the prop or other engine component.**

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 FOR SMOOTH OPERATION
7. Alternate Air – OPEN

### WARNING

**If the problem does not clear itself immediately, and the engine is no longer producing sufficient power, then an emergency landing should be carried out.**

## LOW FUEL FLOW OR PRESSURE

1. Fuel Pump – ON

***CAUTION***

*Operation at high altitudes (Above 5000 ft.) with fuel pump **OFF** may cause vapor bubbles, resulting in intermittent low fuel pressure indications, sometimes followed by high fuel flow indications*

2. Mixture – ENRICHEN

***NOTE***

*At 5000 ft. Density altitude or high ambient temps, full rich mixture can cause rough running engine or loss of performance. Mixture should be set for smooth running of the engine.*

3. If fuel flow/pressure in green arc with alert – sensor needs service

*If Fuel Pressure Not Restored*

4. LAND AT NEAREST SUITABLE AIRPORT
5. PREPARE FOR ENGINE FAILURE & EMERGENCY LANDING

## HIGH FUEL FLOW

1. Fuel Pressure – CHECK
2. Fuel Pressure Low – POSSIBLE LEAK
3. LAND AS SOON AS PRACTICABLE
4. Fuel Pressure – GREEN ARC *(Suspect defective fuel flow indicator)*
5. Fuel Quantity – MONITOR

## LOSS OF OIL PRESSURE

1. Oil Pressure Warning Light & Oil Pressure Gauge – CHECK
2. Oil Temperature – CHECK

*Pressure below green arc but temp normal*

3. Oil Pressure Warning Light – MONITOR
4. Oil & CHTs – MONITOR
5. Land as soon as possible

*Oil pressure below green arc; Temps rising, or flashing Pressure Light*

6. Throttle - MIN REQUIRED
7. LAND AS SOON AS POSSIBLE
8. Prepare for Landing w/o Eng. Power

*Oil pressure dropping or zero with engine vibration, loss of oil, unusual metallic noise &/or smoke*

9. Engine – SHUTDOWN IMMEDIATELY
10. EXECUTE EMERGENCY FORCED LANDING

## HIGH OIL PRESSURE

1. Oil Temp – CHECK
   *If temp normal, suspect erroneous oil pressure indication.*

## HIGH OIL TEMPERATURE

1. CHT & EGT Gauges – CHECK
   *If CHTs or EGTs High*
2. Oil Pressure – CHECK
   *If oil pressure Low*
3. Throttle – REDUCE TO MIN REQ.
4. LAND AS SOON AS PRACTICABLE
5. PREPARE FOR ENGINE FAILURE & EMERGENCY LANDING
   *If oil pressure in the green*
6. Mixture – CHECK, enrichen if necessary
7. Power – REDUCE
   *If no improvement*
8. LAND AS SOON AS POSSIBLE

## HIGH CHT

1. Mixture – CHECK (Enrichen)
2. Oil Temp – CHECK
   *If oil temp High*
3. Oil Pressure – CHECK
   *If oil pressure Low*
4. Throttle – REDUCE TO MIN, REQ.
5. LAND AS SOON AS PRACTICABLE
6. PREPARE FOR ENGINE FAILURE & EMERGENCY LANDING
   *If oil pressure normal (Green Arc)*
7. Power – REDUCE
   *If no Improvement*
8. LAND AS SOON AS PRACTICABLE

## HIGH RPM

*RPM moves on its own into Yellow or Red arc*

1. Throttle Friction – CHECK
2. Oil Pressure – CHECK
   *If Oil Pressure Low*
3. PROCEED WITH LOSS OF OIL PRESSURE CHECKLIST
   *If Oil Pressure Normal*
4. Prop Control – MOVE AFT & CHECK for RPM DROP
5. Audible Drop but no change in RPM, suspect defective RPM indicator.
   *If no change*
6. Control RPM with Throttle
7. Land as soon as practicable

## LOSS OF RPM

1. Electric Fuel Pump – ON
2. Fuel Selector Valve – CHECK
3. Throttle Friction - ADJUST
4. Prop Control – HIGH RPM
   *If no rise in RPM governor may be defective*
5. Control RPM with Throttle
6. Land as soon as practicable

## PRECAUTIONARY LANDING

1. Landing Area - SELECT
2. Airspeed – BEST GLIDE (73 KIAS)
3. ATC - ADVISE
4. Flaps - LDG
5. Seat Belts & Harnesses – TIGHT
6. Touchdown – LOWEST POSSIBLE AIRSPEED

## SPIN RECOVERY

**1.Throttle – IDLE**

**2.Rudder – FULL OPPOSITE DIRECTION OF SPIN**

**3.Stick – FULL FORWARD**

**4.Ailerons – NEUTRAL**

5. Flaps – UP

***Once rotation has stopped -***

**6.** Rudder – NEUTRAL

**7.** Recover - SMOOTHLY

## ELEC./CABIN FIRE INFLIGHT

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

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| **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 |

## TOTAL ELECTRICAL FAILURE

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

## ALTERNATOR FAILURE - ALT

1. Circuit Breakers – CHECK
2. Master (ALT) - CYCLE
   *If power not restored*
3. Essential Buss – ON
4. Non-Essential Electrical – OFF
5. Voltmeter – CHECK Regularly
6. Land within 30 Minutes

## OVERVOLTAGE (above 32 Volts)

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

## 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

## POSSIBLE CARBON MONOXIDE

1. Cabin Heat - OFF
2. Ventilation – OPEN
3. Emergency Windows – OPEN
4. Forward Canopy – OPEN

***CAUTION***

***In case of possible carbon monoxide in the cabin, the front canopy may be unlatched inflight. This allows it to partially open to improve ventilation. Flight characteristics will not be affected significantly.***

## 'DOOR'-WARNING LIGHT ON

1. Airspeed – REDUCE BELOW 140 KIAS
2. Canopy – CHECK VISUALLY
3. Rear Door – CHECK VISUALLY

**WARNING**

***NEVER UNLATCH THE REAR PASSENGER DOOR DURING FLIGHT IN AN EFFORT TO SECURE IT. IT MAY BREAK AWAY.***

4. **DO NOT ATTEMPT TO HOLD REAR DOOR CLOSED BY PULLING ON C-HOOK. THIS WILL RELEASE C-HOOK & DOOR WILL BREAK AWAY!**