

Emergency Procedures



DA40XL | N656BC

ENGINE FAILURE

During Takeoff Roll?

- ① Throttle....IDLE ④ MAGs.....OFF
- ② Brakes....Apply ⑤ Mixture...LEAN
- ③ Flaps....Retract ⑥ Master.....OFF

After Takeoff (Insufficient Alt.)?

- ① Airspeed.....73 (KIAS) if Flaps Up
- ② Mixture.....**CUT OFF** (pull out)
- ③ Fuel SHUTOFF.....**OFF** (pull out)
- ④ MAGNETOS.....**OFF**
- ⑤ Flaps.....Full (recommended)
- ⑥ MASTER.....**OFF**
- ⑦ Canopy.....UNLATCH
- ⑧ LAND.....STRAIGHT AHEAD

Sufficient Altitude for Restart?

YES : Attempt Restart

- ① Airspeed.....80 kts
- ② Fuel Shutoff Valve.....**ON** (push in)
- ③ Fuel Selector.....**BOTH**
- ④ Fuel Pump.....**ON**
- ⑤ Mixture.....**RICH**
- ⑥ MAGNETOS.....**BOTH**
(if prop is NOT windmilling, **START**)

If the propeller is windmilling, engine will restart automatically within a few seconds. If propeller has stopped (possible at low speeds), turn MAGNETOS switch to START, advance throttle slowly from idle and lean the mixture from full rich until smooth operation.

Did Engine Restart?

- Yes:** Land as Soon as Practical
- No:** Prepare for a Forced Landing

SECURING ENGINE

- Best Landing Site.....Selected
- MayDay.....Transmit (121.5)
- Transponder.....7700
- Mixture.....Idle Cut **OFF**
- Fuel Selector & Pump.....**OFF**
- MAGNETOS (Keys).....**OFF**
- Seatbelts Secure & Passengers Briefed
- Vg.....73 kts....(Until Landing Assured)
- Flaps.....Full (recommended)
- Airspeed.....73 kts (with full flaps)
- Master Switch.....**OFF**
- ELT.....Activate
- Canopy.....UNLATCH
- Touchdown.....SLIGHTLY TAIL LOW
- Brakes.....APPLY HEAVILY
- Aircraft.....EVACUATE

ENGINE FIRE

ENGINE FIRE DURING FLIGHT

- Mixture....IDLE CUT OFF (pull out)
- Fuel Shutoff Valve & Pump.....**OFF**
- MASTER.....**OFF**
- Airspeed.....**100 kts+**
(If not extinguished, increase glide speed within limitations until extinguished)
- Airspeed.....68 kts, **Proceed To:**

FIRE DURING ENGINE START

Keep Cranking Until Engine Starts

- Power.....1800 RPM for 2 Minutes
- Mixture....IDLE CUT OFF (pull out)
- Fuel Selector & Pump.....**OFF**
- MAGs.....**OFF**.....EVACUATE Aircraft

ELECTRICAL FIRE

- MASTER.....**OFF**
- Cabin Vents/Heat.....CLOSED/OFF
- Fire Extinguisher.....ACTIVATE
- After flames have been extinguished, ventilate cabin as necessary.
- LAND AS SOON AS PRACTICAL



rev. 05/2024

PREFLIGHT

When departing from CFI RAMP, perform an initial visual check of Fuel & Oil levels, if needed call: **SunAir (805) 389-9301**

COCKPIT

- Hobbs/Tach.....Verify
- Certs/Documents.....Check
- Control Lock.....Remove
- Master (BAT).....**ON**
- Flaps.....Check Function.....Retract
- Lights**ON & Check**.....**OFF**
- Master (BAT).....**OFF**

LEFT WING

- Strut & Tire.....Check
- Fuel Strainer.....Sample
- Fuel Quantity...(20 Gal /Side)...Check
- Stall Indicator.....Clear
- Leading Edge.....Check
- Pitot Mast & Fuel Vent.....Clear
- Aileron & Flap.....Check

FUSELAGE & TAIL

- Antennas.....Check
- Elevator & Rudder.....Check

RIGHT WING

- Aileron & Flap.....Check
- Leading Edge.....Check
- Fuel Vent.....Clear
- Strut & Tire.....Check
- Fuel Strainer.....Sample
- Fuel Quantity...(20 Gal /Side)...Check

NOSE

- Oil Quantity.....5-7 qts
- Fuel Strainer.....Drain & Check
- Prop Blade.....Check
- Prop Hub.....Check
- Air Intake and Filter.....Clear
- Nose Gear Strut & Tire.....Check

FINAL RAMP CHECK

- Ramp/TieDown/Chocks.....All Clear

ENGINE START

BEFORE ENGINE START

- Seats & Seat Belts.....Adjusted / **ON**
- Headsets & Keys.....Plugged In
(To prevent damage to magnetic compass and scratches to windscreen, ABSOLUTELY NOTHING is PERMITTED to be placed above panel on glareshield)
- Canopy.....Closed & Latched
- Circuit Breakers.....Check
- Avionics Master.....Verify **OFF**
- Master (ALT & BAT).....**ON**
- Anti-Collision Lights.....**ON**
- Nav Lights (night).....(If Required)
- Foot Pedals.....Adjusted
- Fuel Selector.....Both

ENGINE START (Cold)

- Ignition Switches.....(Key).....**ON**
- Throttle.....Full Open
- Mixture.....Rich
- Fuel Pump..**ON**.....(4 Seconds)...**OFF**
- Throttle.....**1/4" OPEN**
- Mixture.....**1/4" OPEN**
- Brakes.....Engaged
- Prop Area.....Clear

Starter (Switches).....**START**

- Mixture.....Advance Smoothly when engine starts to **RICH**, then **50%**
- Throttle 1000RPM & Oil Pres Check**
- Avionics**ON**
- Database.....Confirm
- Annunciators.....Check
- Standby Att. Ind.....CAGE

PRE-TAXI / TAXI

PRE-TAXI

- Brakes.....Check
- ATIS/ASOS (if available).....Listen
- TAXI (IFR)**
- Heading Indicator.....Turns
- Turn Coordinator...Turns & Ball Skids

ENGINE RUN UP

Fuel.....Fullest Tank
 Brakes.....Engaged
 Mixture.....Rich (or As Required)
 Throttle.....2000 RPM
 Eng. Instruments.....Check
 Magneto Check (KEYS)
RIGHT MAG.....<175 RPM drop
Back to **BOTH**.....
LEFT MAG.....<175 RPM drop
Back to **BOTH**.....

RUN UP

Cycle Propeller 3X.....(1) M.P. Rise
 (2) RPM Drop...(3) Oil Press. Drop.....Confirm
 AMP Meter.....Check
 Throttle.....Idle Check....then 1000 RPM
 Mixture.....Lean 50%
 Flight Controls.....Free & Correct
 Flight Instruments.....Check & Set
 Flaps & Trim.....Set for T.O., Trim Set
AVONICS & INSTRUMENTS
 Flight Instruments.....Set
 GPS, COMMs & Fuel Totalizer.....Set

BEFORE TAKEOFF

Flaps.....Set to T.O.
 Aircraft Lights.....As Required
 Fuel Pump.....**ON**
 Mixture.....Rich (As Required)

TAKEOFF

Rotate.....Vr = 59 kts
 Pitch For.....Vy = 66 kts

TAKEOFF

CLIMB (>500' AGL)

Pitch For66-67 kts
 Flaps.....**UP**
 Prop.....2400 RPM
 Manifold.....25 Inches
 Fuel Pump.....**OFF**
 Mixture.....Lean above 3,000ft
 (EGT 1450F and CHT less than 400F)

CLIMB / CRUISE

CRUISE-CLIMB

Climb Speed.....80-90kts
 Mixture..EGT 1450F/CHT Under 400F

CRUISE

MAP & RPM....See Performance Table
 Mixture.....Lean (Rich of Peak)

APPROACH

DESCENT

Power.....Reduce as Required
 Mixture.....Enrichen as Needed
 ATIS/ASOS.....Listen
 Flight Instruments.....Check / Set
 Lights.....As Required
 Seat Belts.....Secure

FINAL

Mixture.....Set for "Go-Around" Power
 Fuel Pump.....**ON**
 Prop.....High RPM
 Flaps.....Set
 Airspeed.....60 - 70 KIAS (flaps down)
 Touchdown.....62 KIAS (30°)

AFTER LANDING

EXITING RUNWAY

Fuel Pump.....**OFF**
 Mixture.....Lean 50%
 Flaps.....Retract
 Lights.....As Required
 Transponder.....VFR/1200

ENGINE SHUTDOWN

Canopy.....Closed & Latched
 Engine G-1000 TACH.....Record
 Avionics Master.....**OFF**
 Mixture.....**LEAN / CUT OFF**
 Ignition Switches.....(Keys)..... **OFF**
 Master (ALT & BAT).....**OFF**



Special Start Procedures



ENGINE START - (HOT)

Throttle.....75% Open
 Prop.....Full Forward
 Mixture.....**CUT OFF**
 Brakes.....Engaged
 Prop Area.....Clear
 Starter.....**START**
 Mixture.....Advance Smoothly At Engine Start
 Throttle.....1000 RPM
 Oil Pressure.....Check
 Mixture.....Lean 50%

ENGINE START - (FLOODED)

Master Switch.....**OFF**
 Wait.....5 Minutes
 Master Switch.....**ON**
 Mixture.....Lean (cut off)
 Throttle.....Full Open
 Brakes.....Engaged
 Prop Area.....Clear
 Starter.....**START**
 Mixture.....Advance Smoothly At Engine Start
 Throttle.....1000 RPM
 Oil Pressure.....Check
 Mixture.....Lean 50%



Unusual Procedures



ENGINE ROUGHNESS

Mixture.....Adjust As Needed
 Throttle.....Adjust As Needed
**** If Roughness Continues ****
 Fuel Pump.....**ON**
 Fuel Selector.....Opposite Tank
 Engine Instruments.....Check
 Magnetos.....Switch to Left/Right
 If either Mag is Satisfactory,
 Continue on that Mag
 Throttle.....Reduce Power
LAND AS SOON AS PRACTICAL

LOSS OF OIL PRESSURE

LAND AS SOON AS PRACTICAL
 Prepare for Imminent Engine Failure

ELECTRICAL FAILURE IN IMC

Alternator.....**OFF**
 Essential Buss.....**ON**
 Emergency Attitude Power.....**ON**
LAND AS SOON AS PRACTICAL

SPIN RECOVERY (PARE)

Power.....Idle
 Ailerons.....Neutral
 Rudder.....Opposite of Rotation
 Elevator.....Forward / Break Stall

Performance Table

P Alt	MP	RPM	P Alt	MP	RPM
3000	23.0	2000	7000	21.1	2200
4000	22.7	2000	8000	21.0	2200
5000	23.1	2200	9000	20.7	2200
6000	22.8	2200	10,000	19.4	2200

SECURING AIRCRAFT

INSIDE

Strobe Lights.....LEAVE SWITCH ON
 To prevent damage to battery, it is requested that the ANTICOLLISION switch be left in the "ON" position, and pilot to confirm MASTER SWITCH is OFF
 Hobbs.....Record
 Pilot Windows.....Closed & Latched
 Flight Controls.....Secured (with bar)

EXTERNAL

Canopy/Rear Door.....Locked
 Tiedown/Chocks.....Installed

V-Speeds (KIAS)

Vr - 59 **Vg - 73**
 Vx - 60 Vno - 129
 Vy - 66 Vne - 178
 Vso - 49 Va - 108 (2535 lbs)
 Vs1 - 52 - 94 (2161 lbs)
 Vfe - 108 (T.O.) Vref - 65
 - 91 (LDG)