

DA40-G1000 (Ted Yin v0.7)

Ground Operations

Initial

- ▶ Papers - A-R-0-W.
- ▶ Controls - free & correct
- Mags. - key out
- ▶ Mixture - idle cutoff
- ▶ Throttle - idle
- ▶ Electrical - off
- ▶ Essential Bus - off
- ▶ Avionics - off
- ▶ Master - on
- ▶ Fuel Pump - check
- ▶ Fuel - note
- ▶ Flaps - check & set T/O
- ▶ Lights/Pitot - test
- ▶ Master - off
- ▶ Hobbs Time - note

Walkaround

- ▶ Canopy/Door - check
- ▶ Fuel/Oil - test/sample
- ▶ Caps/Drains/Vents
- ▶ Surfaces/Controls
- ▶ Stall Strips/Fairings
- ▶ Exhaust/Antennas
- ▶ Prop/Air Intakes x3
- ▶ Pitot/Static/Stall
- ▶ Gear/Tires/Brakes
- ▶ Ties/Chocks
- ▶ Final Walkaround

Pre-Start

- ▶ Rear Door - secure
- ▶ Rudder Pedals - adjust
- ▶ Seat Belts
- ▶ Parking/Brakes - test/set
- ▶ Circuit Brkrs. - check
- ▶ Strobe (ACL) - on
- ▶ Avionics - off
- ▶ Fuel Selector - least
- ▶ Canopy - pos. 1/2
- ▶ Passenger - brief

Start

- Prime
  - Mixture - idle cutoff
  - Prop - high RPM
  - Friction - adjust
  - Master Bat. - on
  - Throttle - 1.2"
  - Electric Pump - on
  - Warm
- Mixture - 1-3 sec

▪ Cold

- Mixture - 3-5 sec
- Throttle - 0.4"
- "Prop Clear!"
- ▶ Mags. - start
- ▶ Throttle - 1000 RPM
- ▶ Oil Pressure - 15 secs.
- ▶ Electric Pump - off
- ▶ Master Alt. - on
- ▶ Engine Inst. - no Xs
- ▶ Volts/Amps - [25-30] [>0]
- ▶ Fuel Pressure - 14-35 psi
- ▶ Mixture - lean (peak)

Pre-Taxi

- ▶ Flaps - UP, then T/O
- ▶ Lights - as required
- ▶ Avionics - on/set
- ▶ GPS - DB date
- ▶ Fuel Totalizer - enter
- ▶ ATIS - PFD/backup/AP(?)
- ▶ Radio - test
- ▶ Transponder - squawk
- ▶ Check - TC/Alt/HSI->MC
- ▶ Clearance - obtain
- ▶ Brakes - release/test

Run-Up

- ▶ Parking Brake - set
- ▶ Seat Belts - check
- ▶ Canopy/Door - lock
- ▶ Door Warning - off
- ▶ Flight Controls - correct
- ▶ Instruments - scan
- ▶ Alternate Static - check
- ▶ AP - MET/HDG
- ▶ Trim - T/O
- ▶ Fuel Selector - fullest
- ▶ Hdg./Alt. Bugs
- ▶ GPS/Status Bar/Ann. Test
- ▶ MFD Range/Track Up
- ▶ Comm/Nav/VOR/FP
- ▶ Mixture - rich
- ▶ Throttle - 2000 RPM
- ▶ Cycle Prop x3 - 250-500
- ▶ Mags. L/R - 175, 50.
- ▶ Alternate Air - check
- ▶ Engine Inst. - check
- ▶ Idle Check
- ▶ Throttle - 1000 RPM
- ▶ Mixture - lean
- ▶ Lights - as required
- ▶ ADSB Handheld - on

Shutdown

- ▶ ELT - check (121.5)
- ▶ Avionics - off
- ▶ Electrical - off
  - ACL Strobes - on
- ▶ Throttle - 1000 RPM
- ▶ Mags. - off then both
- ▶ Mixture - idle cutoff
- ▶ Mags. - key out
- ▶ Tach Time - note
- ▶ Master - off

Post-Flight

- ▶ ADSB Handheld - off
- ▶ Tie-downs/Chocks
- ▶ Pitot Cover
- ▶ Gust Lock
- ▶ Close Flight Plan
- ▶ Hobbs Time - note
- ▶ Check Under Seats
- ▶ Canopy/Door - lock
- ▶ Post-Flight Walkaround

Flooded Engine

- ▶ Electric Pump - off
- ▶ Mixture - lean (full aft)
- ▶ Throttle - 1/2 position
- ▶ Mags. - start
- ▶ When engine fires:
  - Throttle - idle
  - Mixture - rich (rapidly)
- ▶ Finish up normal start

Airspeeds (KIAS)

- ▶ Vr = 59
- ▶ Weights
  - 2546/2535/2205/1874 lbs
- ▶ Vg = 76/73/68/60
- ▶ Vy(Up) = 76/73/68/60
- ▶ Vy(T/O) = 67/66/60/54
- ▶ Approach Speeds
  - Up - 76/73/68/60
  - T/O - 74/72/66/59
  - LDG - 73/71/63/58
- ▶ Va
  - MAM 40-227
  - yes - 111 @ 2284-2646
  - no - 108 @ 2161-2535
  - below 2161/2284 - 94

## In-Flight Operations

### Pre-Takeoff

- ▶ Abort Plan/Lost Comm.
  - ▶ Canopy/Door - lock
  - ▶ Fuel Selector - fullest
  - ▶ Flaps - T/0
    - ▶ **Mixture** - rich
    - ▶ **Prop** - high RPM
  - ▶ Pitot Heat - as required
  - ▶ Review Airspeeds
  - ▶ Time - note/start
- ### Takeoff
- ▶ "Lights, Camera, Action!"
  - ▶ **Electric Pump** - on
  - ▶ Mixture/Prop/Throttle
  - ▶ Engine Inst. - green
  - ▶ Vr - 59, then b7-b0 KIAS
  - ▶ Safe Altitude
    - ▶ **Prop** - 2400 RPM
    - ▶ **Pump** - off
    - ▶ Lights - as required
- ### Climb
- ▶ T/0: Vy = b7-54 KIAS
  - ▶ b8 minus 1.8 per 100 lbs under 2b4b
  - ▶ Cruise
    - ▶ Flaps - UP
    - ▶ Vy = 7b-b0 KIAS
    - ▶ **Mixture** - rich
    - ▶ >5000 hold const. EGT
    - ▶ **Prop** - 2400 RPM
    - ▶ **Throttle** - full
  - ▶ Engine Inst. - green
  - ▶ Trim - as required
  - ▶ High Altitude - **pump** on
- ### Cruise
- ▶ Flaps - UP
  - ▶ **Throttle** - 21-24"
  - ▶ **Prop** - 1b00-2400 RPM
  - ▶ **Mixture**
    - ▶ Higher Power - richen
    - ▶ Economy: max EGT & <=75%
      - Best: 100°F (55°C) lower
  - ▶ High Altitude - **pump** on
  - ▶ Flow Check (~15 min)
  - ▶ Trim, Fuel (Switch tanks)
  - ▶ Mixture/Prop/Throttle
  - ▶ Flaps, Engine Inst.
  - ▶ Pump, Mag., Master
  - ▶ CHT: 150-400°F
  - ▶ Oil: 1b5-220°F

### Descent

- ▶ **Mixture** - richen slowly
  - ▶ **Throttle** - as required
  - ▶ **Prop** - 1b00-2400 RPM
  - ▶ High Altitude - **pump** on
  - ▶ CHT Cool Down
    - <= 50°F (22.8°C) per min.
- ### Pre-Landing
- ▶ ATIS/Rwys & Patterns
  - ▶ "CGLPPSF"
  - ▶ **G**: Fuel Selector
    - downwind/fullest
  - ▶ **M**: **Mixture** - rich
  - ▶ **P**: **Prop** - high RPM
  - ▶ **P**: **Pump** - on
  - ▶ **S**: Seat Belts - secure
  - ▶ **F**: Flaps - as required
    - T/0 <10b KIAS
    - LDG <91 KIAS
  - ▶ Trim - as required
  - ▶ Lights - as required
  - ▶ Approach - 73-5b KIAS
- ### Go Around
- ▶ **Throttle** - full
  - ▶ Vy - b7-54 KIAS
  - ▶ Flaps - T/0
  - ▶ Safe Altitude
    - ▶ **Prop** - 2400 RPM
    - ▶ **Pump** - off
    - ▶ Lights - as required
    - ▶ Cruise Climb
- ### Post-Landing
- ▶ **Throttle** - 1000 RPM
  - ▶ **Mixture** - lean
  - ▶ Flaps - UP
  - ▶ **Electric Pump** - off
  - ▶ Pitot Heat - off
  - ▶ Trim - T/0
  - ▶ Lights - as required
  - ▶ Clearance - obtain
- ### C0 Contamination
- ▶ Cabin Heat - off
  - ▶ Ventilation - open
  - ▶ Emergency Windows - open
  - ▶ Forward Canopy - partially
  - ▶ open (D0 NOT lock/unlock
  - ▶ **rear door** during flight)
  - ▶ **Engine Failure**
  - ▶ Short Flow
  - ▶ Fuel Selector - fullest

### **Mixture** - full/check

- ▶ **Pump** - on
  - ▶ Alternate Air - on
  - ▶ Mags. - check all
  - ▶ **Glide and Trim**
  - ▶ **Speed: 7b-b0 KIAS**
  - ▶ Windmill: 1.8-8.1
  - ▶ 1.45m/1kft
  - ▶ Stationary: 1.10-3.1
  - ▶ 1.7m/1kft
  - ▶ Wind and Landing Site
  - ▶ Longer Flow
  - ▶ Engine Inst.
  - ▶ Short Flow Again
  - ▶ Windmill Restart
  - ▶ Airspeed >= 70 KIAS
  - ▶ **Mags. - both**
  - ▶ **Mixture** - lean then slowly richen
  - ▶ Stationary Restart
  - ▶ Airspeed >= 80 KIAS
  - ▶ Electrical - off
  - ▶ Avionics - off
  - ▶ Master - on
  - ▶ **Mags. - start**
  - ▶ **No Restart**
  - ▶ Fuel Selector - off
  - ▶ **Mixture** - idle cutoff
  - ▶ Mags. - off
  - ▶ Master - off
  - ▶ Belt and Seat - check
  - ▶ Unlatch Door
  - ▶ Brace
- ### Engine Fire
- ▶ Cabin Heat - off
  - ▶ Emergency Descent
  - ▶ Landing is ensured
  - ▶ Fuel Selector - off
  - ▶ **Throttle** - full
  - ▶ **Pump** - off
  - ▶ Master - on
  - ▶ Emergency Windows - open
  - ▶ Engine-off Landing
- ### Electrical Fire
- ▶ Cabin Heat - off
  - ▶ Emergency Switch - on
  - ▶ Master - off
  - ▶ Emergency Windows - open
  - ▶ Forward Canopy - partially
  - ▶ Land ASAP