

DA40-G1000 (Ted Yin v0.9)

Ground Operations

Initial

- ▶ Papers - A.R.0-14.
- ▶ Mags. - key out
- ▶ Electrical - off
- ▶ Avionics - off
- ▶ Essential Bus - off
- ▶ Mixture - idle cutoff
- ▶ Prop - high RPM
- ▶ Throttle - idle
- ▶ Master - on
- ▶ Flaps - check & set T/O
- ▶ Lights/Pitot - test
- ▶ Fuel Pump - check
- ▶ Fuel - note
- ▶ Master - off

- ▶ Controls - free & correct

- ▶ 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
- ▶ Struts/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
- ▶ Essential Bus - 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"
- ▶ Electric Pump - off
- ▶ "Prop Clear!"
- ▶ Mags. - start
 - Mixture - rich
- ▶ Throttle - 1000 RPM
- ▶ Oil Pressure - 15 secs.
- ▶ Fuel Pressure - 14-35 psi
- ▶ Master Alt. - on
- ▶ Volts/Amps - [25-30] [>0]
- ▶ Engine Inst. - no Xs
- ▶ 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
- ▶ 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
- ▶ Vso = 49, Vsl = 52
- ▶ Weights
 - 2446/2535/2205/1874 lbs
- ▶ Vg = 76/73/68/60
- ▶ Vy(Up) = 76/73/68/60
- ▶ Climb (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 @ 2284-2446
 - no - 108 @ 2161-2535
 - below 2161/2284 - 94
- ▶ Steep Turn: <=45°, >=68°

In-Flight Operations

Pre-Takeoff

- ▶ Abort Plan/Lost Comm.
 - ▶ Canopy/Door - lock
 - ▶ Fuel Selector - fullest
 - ▶ Flaps - T/O
 - ▶ **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 67-60 KIAS
 - ▶ Safe Altitude
 - **Prop** - 2400 RPM
 - **Pump** - off
 - ▶ Lights - as required
- ### Climb
- ▶ T/O: Vy = 67-54 KIAS
 - 68 minus 1.8 per 100 lbs under 264lb
 - ▶ Cruise
 - Flaps - UP
 - Airspeed = 76-60 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** - 1800-2400 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: 165-220°F

Descent

- ▶ **Mixture** - richen slowly
 - ▶ **Throttle** - as required
 - ▶ **Prop** - 1800-2400 RPM
 - ▶ High Altitude - **pump** on
 - ▶ CHT Cool Down
 - <= 50°F (22.8°C) per min.
- ### Pre-Landing
- ▶ ATIS/Rwys & Patterns
 - ▶ "CGMPSP"
 - ▶ **G** Fuel Selector
 - downwind/fullest
 - **M** **Mixture** - rich
 - **P** **Prop** - high RPM
 - **P** **Pump** - on
 - **S** Seat Belts - secure
 - **F** Flaps - as required
 - T/O <108 KIAS
 - LDG <91 KIAS
 - ▶ Trim - as required
 - ▶ Lights - as required
 - ▶ Approach - 73-56 KIAS
- ### Go Around
- ▶ **Throttle** - full
 - ▶ Vy - 67-54 KIAS
 - ▶ Flaps - T/O
 - ▶ 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/O
 - ▶ Lights - as required
 - ▶ Clearance - obtain
- ### C0 Contamination
- ▶ Cabin Heat - off
 - ▶ Ventilation - open
 - ▶ Emergency Windows - open
 - ▶ Forward Canopy - partially
 - ▶ open (DO 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: 76-60 KIAS**
 - Windmill: 1:8-8,
 - 1:45m/1kft
 - Stationary: 1:10-3,
 - 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