DA40-180 (Ted Yin v1.0a)

Ground Operations

Initial
- Papers .... A.R.O.W.
- Fire Extinguisher ..... check
- 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

- Electric Pump .... on
- Warm
- Cold
  - Mixture .... 3-5 sec
  - Throttle .... 0.4"
  - "Prop Clear!"
  - Mags .... start
  - Mixture .... rich
  - Throttle .... 1000 RPM
  - Mixture ...... lean (peak)
  - Oil Pressure .... 15 sec
  - Electric Pump .... off
  - Alternators .... on
  - Engine Inst. .... check
  - Fuel Pressure ... 14-35 psi
  - Volts/Amps ... 25-30V/2-75A

Walkaround
- 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
- Canopy/Door
- Final Walkaround

Pre-Taxi
- Flaps .... UP, then T/O
- Lights .... as required
- Avionics .... on/set
- Fuel Totalizer .... enter
- ATIS ...... PFD/backup/AP(?)
- Radio .... test
- Transponder .... check
- Check ...... TC/AI/HSI<->MC
- Clearance .... obtain
- Brakes .... release/test

Run-Up
- Brake .... set
- Seat Belts .... check
- Canopy/Door .... lock
- Door Warning .... off
- Flight Controls .... check
- Instruments
- Alternate Static .... check
- GPS/System/Ann .... check
- AP .... MET/HDG
- Heading/Altitude .... set
- Com/Nav/FPL .... set
- MFD Range/Track Up .... set
- Instruments .... scan
- Lights .... as required
- (ADSB Handheld .... on)
- Engine
- Fuel Selector .... fullest
- Mixture .... rich
- Throttle .... 2000 RPM
- Cycle Prop x3 ..... -250-500
- Mags. L/R .... -175, +/-50
- Alternate Air .... check
- Indicators .... check

Pre-Start
- Passenger .... brief
- Rear Door .... secure
- Canopy .... pos. 1/2
- Seat Belts .... on
- Brakes .... test/set
- Circuit Brkrs. .... check
- Strobe (ACL) .... on
- Avionics .... off
- Essential Bus .... off
- Mixture .... idle cutoff
- Prop .... high RPM
- Friction .... adjust
- Master (Battery) .... on
- Rudder Pedals .... adjust
- G1000 DB Date .... check
- Fuel Selector .... least

Start
- Throttle .... 1.2"

- Throttle .... idle
- Throttle .... 1000 RPM
- Mixture .... lean
- Each Tank .... 1 min, 1500

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
- (Standby Alternator ... off)
- Master .... check

Post-Flight
- (ADSB Handheld .... off)
- Flight Plan .... close
- Hobbs Time .... note
- Under Seats .... check
- Gust Lock .... on
- Pitot Cover .... on
- Tiedowns/Chocks .... on
- Canopy/Door .... lock

Flooded Engine
- Electric Pump .... off
- Mixture ...... lean (full aft)
- Throttle .... mid position
- Mags .... start
- When engine fires:
- Throttle .... idle
- Mixture ...... rich (rapidly)
- Finish up normal start

Airspeeds (KIAS)
- Vr 59
- VsO ... 49, Vs1 52
- Mass ... 2646/2535/2205/1874
- Vg 76/73/68/60
- Vy(Up) 76/73/68/60
- Climb(T/O) 67/66/60/54
- Approach
  - Up 76/73/68/60
  - T/O 74/72/66/59
  - LDG 73/71/63/58
- Va .... MAM 40-227
  - yes ...... 111 @ 2646-2284
  - no .... 108 @ 2535-2161
  - o/w ...... 94 @ <2284/2161
- Turn: L/R ... 30/45/60°: 56/68/83

In-Flight Operations

Pre-Takeoff
- ▼ Abort Plan/Lost Comm.
- ▼ Canopy/Door .... lock
- ▼ Pitot Heat ..... as required
- ▼ Trim .... T/O
- ▼ Fuel Selector .... fullest
- ▼ Flaps .... T/O
- **Mixture** .... rich
- **Prop** .... high RPM
- ▼ (Air Conditioner .... off)
- ▼ Review Airspeeds
- ▼ Time .... note/start

Takeoff
- ▼ "Lights, Camera, Action"
- **Electric Pump** .... on
- ▼ Mixture/Prop/Throttle
- ▼ Engine Inst. .... green
- ▼ Vr .... 59, then 67-60
- ▼ Safe Altitude
- **Prop** .... 2400 RPM
- **Pump** .... off
- ▼ Lights .... as required

Climb
- ▼ T/O: Vy .... 67-54 KIAS
- ▼ Cruise .... 76-60 KIAS
- ▼ Flaps .... UP
- **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**
- • Economy ... max EGT, <=75%
- • Best ..... 100°F(55°C) lower
- • Higher Power .... richen
- • High Altitude .... **pump** on
- ▼ Flow Check (~15 min)
- ▼ Trim, 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
- **Pump** .... 1800-2400 RPM
- ▼ High Altitude .... **pump** on
- ▼ CHT Cool Down
- • <= 50°F(22.8°C)/min.

Pre-Landing
- ▼ ATIS/Rwys/Approach Plan
- ▼ "CCGUMPSF"
- **G** Fuel Selector
- **M** **Mixture** .... rich
- **P** **Pump** .... on
- **P** **Prop** .... high RPM
- **S** Seat Belts .... secure
- **F** Flaps .... as required
- · T/O .... <108 KIAS
- · LDG .... <71 KIAS
- ▼ Trim .... as required
- ▼ Lights .... as required
- ▼ Approach Speed 73-58
- ▼ (Air Conditioner .... off)

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
- ▼ Transponder .... as required
- • Clearance .... obtain

CO Contamination
- ▼ Cabin Heat .... off
- ▼ Ventilation .... open
- ▼ Emergency Windows ... open
- ▼ Canopy ...... open (partially,
- *DO NOT unlock rear door during flight)*
- ▼ Emergency Windows ... open
- ▼ Engine-off Landing

Electrical Fire
- ▼ Master .... off
- ▼ Cabin Heat .... off
- ▼ Emergency Switch .... on
- ▼ Emergency Descent
- ▼ Landing is ensured
- ▼ Fuel Selector .... off
- **Throttle** .... full
- **Pump** .... off
- ▼ Master .... on
- ▼ Emergency Windows ... open
- ▼ Canopy .... partially
- ▼ Land ASAP

Engine Fire
- ▼ Cabin Heat .... off
- ▼ Emergency Descent
- **Mixture** .... idle cutoff
- ▼ Fuel Selector .... off
- ▼ Mags. .... off
- ▼ Master .... off
- ▼ Belt and Seat .... check
- ▼ Flaps .... LDG (when able)
- ▼ Unlatch Door?/Brace

Engine-off Landing
- ▼ Airspeed .... 80 KIAS
- ▼ Electrical .... off
- ▼ Avionics .... off
- ▼ Master .... on
- ▼ Mags. .... start

Stationary Restart
- ▼ Airspeed .... 70-80 KIAS
- ▼ Mags. .... both
- ▼ **Mixture** .... lean then slowly richen

Windmill Restart
- ▼ Airspeed .... 76-60 KIAS
- ▼ Engine Inst. .... check
- ▼ Short Flow

Glide and Trim
- ▼ Airspeed .... 76-60 KIAS
- ▼ Windmill 1.45nm/1kft
- ▼ Stationary 1.7nm/1kft
- ▼ Wind and Landing Site
- ▼ Longer Flow

Engine Failure
- ▼ Short Flow

1. Fuel Selector .... fullest
2. **Mixture** · full/check
3. **Pump** .... on
4. Alternate Air .... on
5. Mags. .... check all