

DA40-1J00 (Ted Yin v1.2)

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..... note
- ▶ Master..... off
- ▶ Controls..... free & correct
- ▶ Hobbs Time..... note

Walkaround

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

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"
- ▶ Electric Pump..... on
- ▶ Warm

- ▶ Mixture..... 1-3 sec
- ▶ Cold
- ▶ Mixture..... 3-5 sec
- ▶ Throttle..... 0.4"
- ▶ "Clear Prop!"
- ▶ Mags..... start
- ▶ Mixture..... rich
- ▶ Throttle..... 1000 RPM
- ▶ Mixture..... lean (peak)
- ▶ Oil Pressure..... 15 sec
- ▶ Electric Pump..... off
- ▶ Alternators..... on
- ▶ Engine Indicators..... check

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..... AI/HSI(MC)/TC
- ▶ 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
- ▶ Engine
- ▶ Fuel Selector..... fullest
- ▶ Mixture..... rich
- ▶ Throttle..... 2000 RPM
- ▶ Cycle Prop x3..... -250-500
- ▶ Mags. L/R..... -175, +/-50
- ▶ Alternate Air..... check
- ▶ Indicators..... check
- ▶ (Standby Alternator)
- ▶ Master (Alt.)..... off
- ▶ STBYALT ON..... glow
- ▶ Elect. Load..... increase
- ▶ STBYALT ON..... flashing

- ▶ 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
- ▶ Bank: 30/45/60°... 58/68/83

- ▶ Master (Alt.)..... on
- ▶ STBYALT ON..... dark
- ▶ Elect. Load..... normal
- ▶ 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..... off

Post-Flight

- ▶ Flight Plan..... close
- ▶ Hobbs Time..... note
- ▶ Under Seats..... check
- ▶ Gust Lock..... on
- ▶ Covers/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)

- ▶ V..... 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
- ▶ Bank: 30/45/60°... 58/68/83

In-flight Operations

Pre-Takeoff

- ▶ Abort Plan/Lost Comm.
- ▶ Canopy/Door lock
- ▶ Trim T/0
- ▶ Fuel Selector fullest
- ▶ Flaps T/0
- ▶ **Mixture** rich
- ▶ **Prop** high RPM
- ▶ Pitot Heat as required
- ▶ (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** as required
 - ▶ **Pump** off
 - ▶ Lights as required
- ▶ **Climb**
 - ▶ T/0: Vy 67-54 KIAS
 - ▶ Cruise 76-60 KIAS
 - ▶ Flaps UP
 - ▶ **Mixture** rich
 - ▶ >5000 hold const. EGT
 - ▶ **Prop** as required
 - ▶ **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 richer
 - ▶ 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
- ▶ **Prop** 1800-2400 RPM
- ▶ High Altitude **pump** on
- ▶ CHT Cool Down
 - ▶ <= 50°F (22.8°C)/min.

Pre-Landing

- ▶ ATIS/Rwys/Approach Plan
- ▶ "CCGUMPSP"
 - ▶ **G** Fuel Selector
 - ▶ **M** **Mixture** rich
 - ▶ **P** **Pump** on
 - ▶ **P** **Prop** high RPM
 - ▶ **S** Seat Belts secure
 - ▶ **F** Flaps as required
 - ▶ T/0 <100 KIAS
 - ▶ LDG <91 KIAS
 - ▶ Trim as required
 - ▶ Lights as required
 - ▶ Approach Speed 73-58
 - ▶ (Air Conditioner off)
- ▶ **Go Around**
 - ▶ **Throttle** full
 - ▶ Vy 67-54 KIAS
 - ▶ Flaps T/0
 - ▶ Safe Altitude
 - ▶ **Prop** as required
 - ▶ **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
 - ▶ Transponder as required
 - ▶ Clearance obtain
- ▶ **C0 Contamination**
 - ▶ Cabin Heat off
 - ▶ Ventilation open
 - ▶ Emergency Windows open
 - ▶ Canopy open (partially,
 - ▶ D0 NOT unlock rear door during flight)
- ▶ **Engine Failure**
 - ▶ Short Flow
 - ▶ 1. Fuel Selector fullest

2. **Mixture** full/check

- 3. **Pump** on
- 4. Alternate Air on
- 5. Mags check all

▶ **Glide and Trim**

- ▶ Airspeed 76-60 KIAS
- ▶ Windmill 1.45nm/1kft
- ▶ Stationary 1.7nm/1kft
- ▶ Wind and Landing Site

▶ Longer Flow

- ▶ Engine Inst. check

▶ Short Flow

▶ **Windmill Restart**

- ▶ Airspeed 70-80 KIAS
- ▶ Mags both
- ▶ **Mixture** lean then slowly richen

▶ **Stationary Restart**

- ▶ Airspeed 80 KIAS
- ▶ Electrical off
- ▶ Avionics off
- ▶ Master on
- ▶ Mags start

▶ **Engine-off Landing**

- ▶ Fuel Selector off
- ▶ **Mixture** idle cutoff
- ▶ Mags off
- ▶ Master off
- ▶ Belt and Seat check
- ▶ Flaps LDG (when able)
- ▶ 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

- ▶ Emergency Switch on
- ▶ Master off
- ▶ Cabin Heat off
- ▶ Emergency Windows open
- ▶ Canopy partially
- ▶ Land ASAP

CL72S-G1000 (Ted v1.2)

Initial

- Papers..... A.R.O.ϖ. start
- Control Lock..... off 1000 RPM
- Mags..... key out 30 secs.
- Mixture..... idle cutoff [>2L] [>0]
- Throttle..... lean for taxi
- Avionics..... off
- Fuel Shutoff..... on
- Fuel..... both as required
- Master..... on on/set
- Fuel..... note DB date
- Flaps..... down enter
- Lights/Pitot..... test PFD/backup/AP(?)
- Avionics on/off..... fans test
- Master..... off squawk
- Hobbs Time..... note TC/AI/HSI<=>MC

Pre-Taxi

- Flaps..... up
- Lights..... as required
- Avionics..... on/set
- GPS..... DB date
- Fuel Totalizer..... enter
- ATIS..... PFD/backup/AP(?)
- Radio..... test
- Transponder..... squawk
- Check..... TC/AI/HSI<=>MC
- Clearance..... obtain
- Brakes..... test

Run-Up

- Brakes..... set
- Seat Belts..... check
- Doors/Windows..... secure
- Flight Controls..... correct
- Instruments..... scan
- Alternate Static..... check
- AP..... MET/HDG
- Trim..... takeoff
- Fuel..... on/both
- Hdg./Alt. Bugs
- GPS/Status Bar/Ann. Test
- MFD Range/Track Up
- Comm/Nav/VOR/FP
- Mixture..... rich
- Throttle..... 1800 RPM
- Mags..... 150, 50
- Engine Inst..... check
- Idle Check
- Throttle..... 1000 RPM
- Mixture..... lean
- Lights..... as required
- ADSB Handheld..... on

Pre-Start

- Doors..... secure
- Belts/Seat Track
- Brakes..... check, set
- Circuit Brkrs..... check
- Passenger..... brief
- Beacon..... on
- Avionics..... off
- Fuel..... both

Start

- Stby. Battery..... test/arm
- Engine Ind..... no Xs
- Volts..... [>24] [>11.5]
- Amps..... SCD/ann on
- Prime:
- Mixture..... idle cutoff
- Brakes..... secure
- Master..... on
- Throttle..... slight
- Aux. Pump..... on
- Mixture..... prime
- warm: 0-3 sec
- cold: 3-5 sec
- Aux. Pump..... off

Pre-Takeoff

- Abort Plan/Lost Comm.
- Fuel..... on/both
- Flaps..... 0-10°
- Mixture..... rich
- Aux. Pump..... off
- Pitot heat..... as required
- Review Airspeeds
- Time..... note/start
- Stby. Battery..... off

- Mixture..... 3/4 rich
- "Prop Clear!"
- Mags..... start
- Throttle..... 1000 RPM
- Oil Pressure..... 30 secs.
- Volts/Amps..... [>2L] [>0]
- Mixture..... lean for taxi



Climb / Cruise

- Cruise Climb..... 75-85 kts
- Flaps..... up
- Mixture..... lean >3000'
- Flow Check (~15 min)
- Fuel, Trim
- Flaps, Engine Inst.
- Mixture, Throttle
- Master, Mag., Pump

Descent

- Mixture..... richen slowly
- Throttle..... as required
- Flow Check

Pre-Landing

- ATIS/Rwys & Patterns
- "CCGJMPSF"
- G: Fuel..... on/both
- M: Mixture..... rich
- S: Seat Belts..... secure
- F: Flaps..... as required
- Trim..... as required
- Ldg. Light..... on
- Approach..... 80-65 kts

Post-Landing

- Throttle..... 1000 RPM
- Mixture..... lean
- Flaps..... up
- Pitot Heat..... off
- Trim..... takeoff
- Lights..... as required
- Clearance..... obtain

Shutdown

- ELT..... check (12L, 5)
- Avionics..... off
- Lights..... off
- Beacon..... on
- Throttle..... 1000 RPM
- Mags..... off then both
- Mixture..... idle cutoff
- Mags..... key out
- Master..... off
- Tach Time..... note
- Stby. Battery..... off

Post-Flight

- ▶ ADSB Handheld..... off
- ▶ Tie-downs/Chocks
- ▶ Pitot Cover
- ▶ Fuel..... switch to L/R
- ▶ Gust Lock
- Close Flight Plan
- ▶ Hobbs Time..... note
- ▶ Check Under Seats
- ▶ Cabin / Baggage..... lock
- ▶ Post-Flight Walkaround

Engine Failure

- ▶ Short Flow
- Fuel..... on/both
- Mixture..... full/check
- Electrical Pump..... on
- Alternate Air..... on
- Mags..... check all
- ▶ **Glide and Trim**
- **Speed: 60 kts**
- **Ratio: 9, 1.48m/1000ft**
- ▶ Wind and Landing Site
- ▶ Longer Flow
- Engine Indicators
- Short Flow Again
- ▶ **No Restart**
- Fuel..... off
- Mixture..... idle cut-off
- Prop/Throttle..... off
- Mags..... off
- Master..... off
- Belt and Seat..... check
- Unlatch Door
- Brace
- ▶ Approach..... 80/70/65 kts

Flight Planning Checklist (Ted Yin V0.5)

Airports

- ▶ ATIS/Tower/Ground Frequencies
- ▶ Runways and Pattern
- Rwy Length
- Multiple Rwys?
- TPA & Directions
- ▶ Descent and Approach Plan
- Slow Down (engine cooling)
- Reach TPA in time with stable rate
- Terrain Hazards
- ▶ Taxiways and FB0 (Refueling)
- ▶ Obstructions/Mountains
- ▶ Emergency Landing during T/O
- ▶ Airport Guide (check website)

Route

- ▶ Cruising Altitude
- Westerly vs. Easterly (even/odd kft)
- Glide Range
- Terrain Separation (e.g. 2000+)
- Cloud Clearance (Detour?)
- Climb Performance & Oxygen
- ▶ Obstructions
- ▶ Flat Land vs. Mountains
- Highway is a good start
- ▶ SUA/TFR
- ▶ Fuel Reserve & Diversions

Aircraft

- ▶ Fuel
- ▶ Weight and Balance
- MTOW
- CG before/after the flight
- ▶ T/O & LDG distance to clear obstacles

Weather

- ▶ Airports
- Ceiling
- Visibility
- Wind (crosswind, gusts)
- Density Altitude
- ▶ En Route
- Cloud Base & Coverage
- Wind Aloft
- Icing (freezing point, day/night?)
- AIRMET & SIGMETs
- IMC

- Convective Weather
- Known Icing Conditions
- ▶ Global Picture
- Fronts
- Satellite Image (trend of moisture)
- ▶ Resources

• AWC <https://aviationweather.gov/>

• Windy <https://www.windy.com/>

• C0D <https://weather.cod.edu/satrad/>

Before Go

- ▶ This Sheet
- ▶ Leidos (1800wx) Briefing
- ▶ PPL & Med & Driver's License
- ▶ Flight Bag
- ▶ Garmin inReach Beacon
- ▶ iPad: foreflight pack up
- ▶ Water & Energy Bars
- ▶ "TNSAFE" & "PAVE"