

DA40-1A00 (Ted Yin v1.1)

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

Shutdown

- ▶ 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
- ▶ Alternator 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
- ▶ (Standby Alternator)
- ▶ Master (Alt.)..... off
- ▶ STBYALT ON..... on
- ▶ Electrical Load increase
- ▶ STBYALT ON..... flashing
- ▶ Master (Alt.)..... on

Run-Up

- ▶ Brake..... set
- ▶ Seat Belts..... check
- ▶ Canopy/Door..... lock
- ▶ Door Warning..... off
- ▶ Flight Controls..... check
- ▶ Instruments
- ▶ Alternator Static..... check
- ▶ GPS/System/Ann..... check
- ▶ AP..... MET/HDG
- ▶ Heading/Altitude..... set
- ▶ Com/Nav/FPL..... set
- ▶ MFD Range/Track Up..... set
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- ▶ Seat Belts..... check
- ▶ Canopy/Door..... lock
- ▶ Door Warning..... off
- ▶ Flight Controls..... check
- ▶ Instruments
- ▶ Alternator Static..... check
- ▶ GPS/System/Ann..... check
- ▶ AP..... MET/HDG
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- ▶ Mags. L/R..... -175, +/-50
- ▶ Alternate Air..... check
- ▶ (Standby Alternator)
- ▶ Master (Alt.)..... off
- ▶ STBYALT ON..... on
- ▶ Electrical Load increase
- ▶ STBYALT ON..... flashing
- ▶ Master (Alt.)..... on

Airspeeds (KIAS)

- ▶ V_r..... 59
- ▶ V_{S0}..... 49, V_{S1}..... 52
- ▶ Mass..... 2646/2535/2205/1874
- ▶ V_g..... 76/73/68/60
- ▶ V_y(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
- ▶ V_a..... 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
- ▶ "CGGMPSF"
- ▶ **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

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"