

DA40-1400 (Ted Yin v1.0)

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

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-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
- ▶ GA000 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"
- ▶ "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

Pre-Taxi

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

Run-Up

- ▶ Brake..... set
- ▶ Seat Belts..... check
- ▶ Canopy/Door..... lock
- ▶ Door Warning..... off
- ▶ Flight Controls..... check
- ▶ Heading/Altitude..... set
- ▶ Com/Nav/FPL..... set
- ▶ Engine
- ▶ Fuel Selector..... fullest
- ▶ Mixture..... rich
- ▶ Throttle..... 2000 RPM
- ▶ Cycle Prop x3..... -250-500
- ▶ Mags. L/R..... -175, +/-50
- ▶ Alternate Air..... check
- ▶ Indicators..... check
- ▶ Throttle..... idle
- ▶ Throttle..... 1000 RPM
- ▶ Mixture..... lean
- ▶ Each Tank..... 1 min, 1500
- ▶ Full Check (initial)
- ▶ Alternate Static..... check
- ▶ GPS/System/Ann..... check
- ▶ AP..... MET/HDG

Airspeeds (KIAS)

- ▶ Vr..... 59
- ▶ Vso..... 49, Vsl..... 52
- ▶ Mass..... 2646/2535/2205/1874
- ▶ Vg..... 76/73/68/60
- ▶ Vy(Lp)..... 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
- ▶ Steep Turn: <=45°, >=68

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

In-Flight Operations

Pre-Takeoff

- ▶ Abort Plan/Lost Comm.
- ▶ Canopy/Door ..... lock
- ▶ Trim ..... T/O
- ▶ Fuel Selector ..... fullest
- ▶ Flaps ..... T/O

Mixture

- ▶ 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 ..... 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 ..... rich

Economy

- ▶ 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
- ▶ Prop ..... 1800-2400 RPM
- ▶ High Altitude ..... pump on
- ▶ CHT Cool Down
- ▶ <= 50°F (22.8°C)/min.

Pre-Landing

- ▶ ATIS/Rwys/Approach Plan
- ▶ "CGUMPSP"
- ▶ G Fuel Selector
- ▶ M Mixture ..... rich
- ▶ P Pump ..... on
- ▶ P Prop ..... high RPM
- ▶ S Seat Belts ..... secure
- ▶ F Flaps ..... as required
- ▶ T/O ..... <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/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
- ▶ 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 ..... 1.45m/1kft
- ▶ Stationary ..... 1.7m/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

- Mixture..... 3/4 rich
- "Prop Clear!"
- Mags..... start
- Throttle..... 1000 RPM
- Oil Pressure..... 30 secs.
- Volts/Amps..... [E2L] [O0]
- Mixture..... lean for taxi

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/AT/HSI<=>MC
- Clearance..... obtain
- Brakes..... test

Walkaround

- Fuel/Oil..... dip/sample
- Caps/Drains/Vents
- Surfaces/Controls
- Exhaust/Antennas
- Prop/Belt/Air Intake
- Pitot/Static/Stall
- Gear/Tires/Brakes
- Ties/Baggage Door
- Final Walkaround

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
- Stby. Battery..... test/arm
- Engine Ind..... no Xs
- Volts..... [E>24] [M<1.5]
- Amps..... SC0/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

Start

- Stby. Battery..... test/arm
- Engine Ind..... no Xs
- Volts..... [E>24] [M<1.5]
- Amps..... SC0/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

Takeoff

- "Lights, Camera, Action"
- Mixture/Throttle
- Engine Inst..... green
- Vr..... 55 kts
- Vx..... 62 kts, Vy..... 74 kts

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 (121.5)
- 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"