DA40-180 (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

▶ Rear Door ············· secure
▶ Rudder Pedals ········· adjust
▶ Seat Belts ················· on
▶ 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 ····· 25-30V/2-75A
▶ 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/AI/HSI<->MC
▶ Clearance ··············· obtain
▶ Brakes ·········· release/test

Run-Up

▶ Parking Brake ············· set
▶ Seat Belts ············· check
▶ Canopy/Door ············· lock
▶ Door Warning ············· off
▶ Flight Controls ········· check
▶ Instruments ··············· scan
▶ Alternate Static ······ check
▶ AP ····················· MET/HDG
▶ Trim ····················· T/O
▶ Fuel Selector ······· fullest
▶ Heading/Altitude ········· set
▶ Aux/GPS/Ann. ··········· check
▶ MFD Range/Track Up ····· set
▶ Comm/Nav/FPL ··············· set
▶ Mixture ··················· rich
▶ Throttle ············ 2000 RPM
▶ Cycle Prop x3 ······· 250-500
▶ Mags. L/R ······· -175, +/-50
▶ Alternate Air ········· check
▶ Engine ··················· check
▶ Throttle ················· idle
▶ Throttle ············ 1000 RPM

▶ Mixture ················· lean
▶ Lights ········· as required
▶ ADSB Handheld ··············· on

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
▶ Master ····················· off

Post-Flight

▶ ADSB Handheld ············· off
▶ Flight Plan ············· close
▶ Hobbs Time ············· note
▶ Under Seats ············· check
▶ Gust Lock ················· on
▶ Pitot Cover ················· on
▶ Tiedowns/Chocks ············ on
▶ Canpoy/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
▶ Vs0 ········ 49, Vs1 ········ 52
▶ Weights
  2646/2535/2205/1874 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
• MÄM 40-227
· yes ······· 111 @ 2646-2284
· no ·········· 108 @ 2535-2161
• o/w 94 @ below 2284/2161
▶ 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
- ▶ (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
- ▶ `Prop` ······· 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` `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 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

CO Contamination
- ▶ Cabin Heat ················ off
- ▶ Ventilation ··············· open
- ▶ Emergency Windows ····· open
- ▶ Canopy ···· open (partially,
  `DO NOT 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`
- • 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

C172S-G1000 (Ted v1.2)

Initial

- ► Papers ·············· A.R.O.W.
- ► Control Lock ············· off
- ► Mags. ············· key out
- ► Mixture ········· idle cutoff
- ► Throttle ················· idle
- ► Avionics ················· off
- ► Fuel Shutoff ············· on
- ► Fuel ···················· both
- ► Master ···················· on
- ► Fuel ···················· note
- ► Flaps ··················· down
- ► Lights/Pitot ············ test
- ► Avionics on/off ········· fans
- ► Master ···················· off
- ► Hobbs Time ·············· note

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

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 ········· [E>24] [M<1.5]
- ► Amps ··············· S<0/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

- ► Mixture ·············· 3/4 rich
- ► "Prop Clear!"
- ► Mags. ·················· start
- ► Throttle ··········· 1,000 RPM
- ► Oil Pressure ······· 30 secs.
- ► Volts/Amps ······· [>26] [>0]
- ► 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/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 ··········· 1,800 RPM
- ► Mags. ············· 150, 50
- ► Engine Inst. ·········· check
- ► Idle Check
- ► Throttle ··········· 1,000 RPM
- ► Mixture ················ lean
- ► Lights ········· as required
- ► ADSB Handheld ············· on

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

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
- ► "CCGUMPSF"
- • 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 ··········· 1,000 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 ··········· 1,000 RPM
- ► Mags. ········· off then both
- ► Mixture ········· idle cutoff
- ► Mags. ················ key out
- ► Master ···················· off
- ► Tach Time ·············· note
- ► Stby. Battery ············· off

Post-Flight

- ▶ ADSB Handheld ············· off
- ▶ Tiedowns/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: 68 kts
  - • Ratio: 9, 1.48nm/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