

BEFORE ENGINE START

- 1) Hobbs Time..... NOTED
- 2) Preflight..... COMPLETE
- 3) Fuel quantity ADEQUATE
- 4) Documentation (including IFR)..... CHECK
- 5) Seats & Seat Belts ADJUSTED & LATCHED
- 6) Brakes TEST (SET)
- 7) ELT ARMED
- 8) Landing gear switch..... DOWN
- 9) Magneto switch..... OFF
- 10) Master switch OFF
- 11) Radio master switch OFF
- 12) Alternate static OFF
- 13) Lights and electrical equipment..... OFF
- 14) Ram air OFF
- 15) Cowl flaps OPEN
- 16) Fuel selector Tank to be 2nd
- 17) Circuit breaker panel CHECK
- 18) Passengers..... BRIEFED (normal & emergency)

STARTING ENGINE

- 1) Mixture..... CUT OFF
- 2) Propeller FULL ADVANCE
- 3) Throttle..... OPEN ¼ inch (1/2 for hot)
- 4) Master switch ON
- 5) Strobes and/or Navigation lights ON
- 6) Propeller area CLEAR

For hot start delete steps 7-9

- 7) Boost pump ON
- 8) Mixture.... RICH for 3-8 seconds then cut off
- 9) Boost pump OFF

- 10) Magnetos START (10 seconds max)
- 11) Mixture..... RICH
- 12) Oil pressure NORMAL (within 30 seconds)
- 13) Mixture..... LEAN for smooth idle

AFTER START

- 1) Radio Master ON
- 2) Set JPI fuel quantity ... R button to set, L to enter
- 3) Lights..... AS REQUIRED
- 4) Electric trim ON
- 5) Parking brake RELEASED
- 6) Brake and steering check ON TAXI
- 7) IFR taxi checks ON TAXI

BEFORE TAKEOFF

- 1) IFR taxi check COMPLETE
- 2) Flight controls..... FREE & CORRECT
- 3) Flight instruments SET
- 4) Radios Comm, Nav and GPS SET
- 5) Annunciator panel CHECK
- 6) Auto pilot TEST and OFF
- 7) Elevator Trim SET for TAKEOFF
- 8) Flaps..... SET for TAKEOFF
- 9) Cowl flaps FULL OPEN
- 10) Speed brakes..... RETRACTED
- 11) Fuel selector ON DESIRED TANK

- a) Throttle 1900 RPM
- b) Magnetos .. CHECK (175 max drop)
- c) Oil pressure NORMAL RANGE
- d) Ammeter CHARGE
- e) Vacuum gauge ... NORMAL RANGE
- f) Propeller ... CYCLE then FORWARD
- g) Throttle 1000 RPM

- 12) Standby vacuum test throttle to idle, stby vac on
- 13) Door LOCKED
- 14) Mixture FULL RICH
- 15) Boost pump ON
- 16) Lights & strobes AS REQUIRED
- 17) Transponder ALT
- 18) Time of departure NOTED
- 19) Pilot briefing NORMAL & EMERGENCY

TAKEOFF & CLIMB

- 1) Rotate..... 62 KIAS
- 2) Gear UP
- 3) Climb 85 KIAS
(66 KIAS max performance)
- 4) Flaps UP
- 5) Throttle..... 25 inches MP (at 500 AGL)
- 6) Propeller..... 2500 rpm
- 7) Climb 100 KIAS
(85 for best rate)
- 8) Boost pump OFF
- 9) Mixture LEAN
(50 rich of peak or 14 gph)
- 10) Cowl flaps..... as necessary (open if CHT hot)
- 11) Cylinder temperatures..... MONITOR

CRUISE

- 1) Level at altitude ACCELERATE
- 2) Throttle.... SET DESIRED MANIFOLD PRESSURE
- 3) Propeller SET (2200 or 2400 rpm)
- 4) Trim for LEVEL FLIGHT
- 5) Cowl flaps..... TRAIL or CLOSE (if CHT allows)
- 6) Mixture LEAN (lean of peak at < 60%)
- 7) Ram Air OPEN if necessary
- 8) JPI-EDM..... set NORMALIZE
- 9) Engine temperatures MONITOR
- 10) Systems..... CHECK

DESCENT

- 1) Manifold Pressure reduce (not less than 16" MP)
- 2) Cowl flaps..... (remain) CLOSED
- 3) Mixture (remain) LEAN (unless rough)

IN RANGE

- 1) Seats & belts SECURE & LOCKED
- 1) Fuel ADEQUATE & DESIRED TANK
- 2) Ram Air CLOSED
- 3) AWOS – ATIS – Advisories NOTED
- 4) Altimeter..... SET
- 5) Approach & missed approach.... BRIEFED
- 6) Lights AS REQUIRED
- 7) Radios SET
- 8) Autopilot..... APPROACH MODE if coupled
- 9) Initial approach speed 105 KIAS

BEFORE LANDING

- 1) Auto pilot OFF
- 2) Speed brakes.....RETRACTED

FLOW AT FINAL APPROACH FIX or ABEAM

- 3) Landing gear..... DOWN
(below 130 KIAS)
- 4) Boost pump..... ON
- 5) Throttle..... SET
- 6) Propeller..... FORWARD
- 7) Mixture..... RICH
- 8) Cowl flaps OPEN
- 9) Flaps..... SET (below 115 KIAS)
- 10) Approach speed 80 KIAS

- 11) Landing assured
 - a. Gear confirmed down
 - b. Autopilot off
 - c. Throttle 1500 rpm
 - d. Final approach speed – 71 KIAS

MISSED APPROACH / GO AROUND

- 1) Throttle FORWARD
- 2) Pitch 5-8 degrees
- 3) Speed 65 to 80 KIAS
- 4) Flaps..... TAKEOFF SETTING 15° (3 seconds)
- 5) Gear RETRACT after positive rate
- 6) Flaps..... RETRACT at 85 KIAS
- 7) Cowl flaps OPEN
- 8) Boost Pump OFF

AFTER LANDING

- 1) Transponder STANDBY
- 2) Flaps..... UP (clearing runway)
- 3) Boost pump..... OFF
- 4) Mixture..... LEAN
- 5) Strobes OFF (at night)
- 6) Lights..... AS REQUIRED
- 7) Trim TAKEOFF SETTING

ENGINE SHUTDOWN

- 1) Throttle 1000 rpm (stabilize CHT)
- 2) Electric trim OFF
- 3) Radio master OFF
- 4) Headset power OFF
- 5) Electrical equipment..... OFF
- 6) Mixture..... CUT OFF
- 7) Throttle CLOSED
- 8) Magnetos OFF (remove key)
- 9) Lights..... OFF
- 10) Master switch OFF
- 11) Overhead lights OFF
- 12) Parking brake OFF
- 13) Flight time RECORDED
- 14) Aircraft interior & exterior..... SECURE

POWER SETTINGS

CONDITION	MP	RPM	MIX	PWR	GPH
Takeoff	Full	2700	Rich	95%	18
Initial climb	25"	2500	Rich	75%	14
Cruise climb	24"	2500	Lean	71%	10
Cruise	24"	2400	Lean	67%	9.6
" "	22"	2400	Lean	63%	9.0
" "	*20"	2400	Lean	58%	8.2
" "	*22"	2200	Lean	55%	7.8
" "	20"	2200	Lean	50%	7.3
" "	18"	2200	Lean	45%	6.8
Descent	16"	22-24	Lean	-	6.1

* recommended for fuel efficiency and performance

WCFC recommended SPEEDS TO FLY

Va..... 120 KIAS
 Vx..... 66 KIAS
 Vy..... 85 KIAS

Best glide speed (clean)
 @ gross weight.....90 KIAS
 @ 2300 pounds.....85 KIAS

WCFC required FIELD LENGTH

Elevation	Normal	Maximum performance
Sea level	3,000 feet	2,500 feet
500 feet	3,200	2,600
1,000	3,500	2,800
2,000	4,000	3,000
4,000	5,000	4,000
6,000	6,000	5,000