

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) Boost pump..... 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) Alternator Field Switch ON
- 6) Strokes and/or Navigation lights ON
- 7) Propeller area..... CLEAR

For hot start delete steps 8-10

- 8) Boost pump..... ON
- 9) Mixture..... RICH for 3-8 seconds then cut off
- 10) Boost pump..... OFF
- 11) Magnetos Turn & push to START (10 sec max)
- 12) Mixture..... RICH
- 13) Oil pressure NORMAL (within 30 seconds)
- 14) 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 SET
- 5) Annunciator panel CHECK
- 6) Auto pilot TEST and OFF
- 7) Standby vacuum pump..... TEST (Optional)
- 8) Elevator Trim SET for TAKEOFF
- 9) Flaps..... SET for TAKEOFF
- 10) Cowl flaps FULL OPEN
- 11) Fuel selector ON DESIRED TANK

ENGINE RUN UP

- a) Throttle..... 1900 RPM
- b) Magnetos .. CHECK (175 max drop)
- c) Oil pressure NORMAL RANGE
- d) Ammeter CHARGE
- e) Vacuum CHECK
- f) Propeller... CYCLE then FORWARD
- g) Throttle..... 1000 RPM
- 12) Door LOCKED
- 13) Emergency Gear extension handle LATCHED
- 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 63 KIAS
- 2) Gear UP
..... WHEN NO RUNWAY REMAINS
- 3) Climb..... 85 KIAS
(66 KIAS max performance)
- 4) Flaps UP
- 5) Throttle 25 inches (at 500 AGL)
- 6) Propeller..... 2500 rpm
- 7) Climb..... 100 KIAS
(85 for best rate)
- 8) Boost pump OFF
(confirm fuel pressure)
- 9) Mixture LEAN
(50 rich of peak or 14 gph)
- 10) Cowl flaps FULL OPEN or as required
- 11) Cylinder temperatures MONITOR

CRUISE

- 1) Level at altitude ACCELERATE
- 2) Throttle SET DESIRED POWER
- 3) Propeller SET (2200 or 2400 rpm)
- 4) Trim for LEVEL FLIGHT
- 5) Cowl flaps CLOSE (if CHT allows)
- 6) Mixture LEAN (lean of peak at < 60%)
- 7) Engine temperatures MONITOR
- 8) Systems CHECK

DESCENT

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

IN RANGE

- 1) Seats & belts SECURE & LOCKED
- 1) Fuel ADEQUATE & DESIRED TANK
- 2) AWOS – ATIS – Advisories NOTED
- 3) Altimeter SET
- 4) Approach & missed approach..... BRIEFED
- 5) Radios SET
- 6) Lights AS REQUIRED
- 7) Initial approach speed..... 105 KIAS

BEFORE LANDING

FLOW AT FINAL APPROACH FIX

- 1) Landing gear..... DOWN (below 132 KIAS)
- 2) Boost pump..... ON
- 3) Throttle..... SET
- 4) Propeller..... FORWARD
- 5) Mixture..... RICH
- 6) Cowl Flaps..... OPEN
- 7) Flaps..... SET (Full down below 115 KIAS)
- 8) Approach speed 80 KIAS

- 9) Landing assured
 - a. Autopilot off
 - b. Gear confirmed down
 - c. Final approach speed – 71 KIAS

MISSED APPROACH / GO AROUND

- 1) Throttle..... FORWARD
- 2) Propeller..... FORWARD
- 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) Electrical equipment..... OFF
- 5) Mixture..... CUT OFF
- 6) Throttle..... CLOSED
- 7) Magnetos..... OFF (remove key)
- 8) Lights..... OFF
- 9) Master switch OFF
- 10) Alternator Field Switch OFF
- 11) Overhead lights OFF
- 12) Parking brake OFF
- 13) 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 WCFC operations and fuel consumption

WCFC recommended SPEEDS TO FLY

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

Best glide speed (clean)
 @ gross weight..... 93 KIAS
 @ 2300 pounds..... 84 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