

**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) Magneto switch ..... KEY IN - SWITCH OFF
- 8) Master switch ..... OFF
- 9) Radio master switch ..... OFF
- 10) Alternate static ..... OFF
- 11) Lights and electrical equipment..... OFF
- 12) Auxiliary fuel pump ..... OFF
- 13) Fuel selector..... BOTH
- 14) Fuel shutoff valve..... ON (in)
- 15) Circuit breaker panel..... CHECK
- 16) Passengers..... BRIEFED (normal & emergency)

**STARTING ENGINE**

- 1) Mixture ..... CUT OFF
- 2) Throttle..... OPEN ¼ inch
- 3) Master switch ..... ON
- 4) Beacon and/or Navigation lights ..... ON  
*Prime only for cold start*
  - o Auxiliary fuel pump..... ON
  - o Mixture RICH 3-5 seconds then cutoff
  - o Auxiliary fuel pump..... OFF
- 5) Propeller area..... CLEAR
- 6) Magnetos..... START (10 seconds max)
- 7) Mixture ..... RICH
- 8) Oil pressure ..... NORMAL (within 30 seconds)
- 9) Mixture ..... LEAN for smooth idle

**AFTER START**

- 1) Radio Master ..... ON
- 2) Lights ..... AS REQUIRED
- 3) Flaps..... RETRACT
- 4) Parking brake ..... RELEASED
- 5) Brake and steering check..... ON TAXI
- 6) IFR taxi checks ..... ON TAXI

**BEFORE TAKEOFF**

- 1) Parking brake ..... SET
- 2) IFR taxi check ..... COMPLETE
- 3) Flight controls..... FREE & CORRECT
- 4) Flight instruments..... SET
- 5) Radios ..... Comm & Nav SET
- 6) NAV/GPS switch ..... SET
- 7) Annunciator panel ..... TEST & CHECK
- 8) Auto pilot..... TEST and OFF
- 9) Elevator Trim..... SET for TAKEOFF
- 10) Flaps..... SET for TAKEOFF
- 11) Fuel selector valve..... BOTH
- 12) Mixture ..... RICH
  - a) Throttle ..... 1800 RPM
  - b) Magnetos .. CHECK (150 max drop)
  - c) Oil pressure ..... NORMAL RANGE
  - d) Ammeter ..... CHARGE
  - e) Vacuum gauge ..... CHECK
  - f) Throttle ..... 1000 RPM
- 13) Door ..... LOCKED
- 14) Lights & strobes ..... AS REQUIRED
- 15) Transponder..... ALT
- 16) Time of departure ..... NOTED
- 17) Pilot briefing ..... NORMAL & EMERGENCY

**TAKEOFF & CLIMB**

- 1) Normal takeoff ..... Flaps 0-10 degrees
- 2) Rotate ..... 55 KIAS
- 3) Climb ..... 70-85 KIAS
  - SHORT FIELD ..... Flaps 10 degrees
  - Climb..... 56 KIAS
  - SOFT FIELD..... Flaps 10 degrees
- 4) Flaps..... RETRACT
- 5) Mixture.... LEAN to 50 rich of peak above 3000 ft  
(50 rich of peak or 14 gph)
- 6) Cylinder temperatures ..... MONITOR

**CRUISE**

- 1) Level at altitude ..... ACCELERATE
- 2) Throttle..... SET DESIRED POWER (2100-2600)
- 3) Trim ..... for LEVEL FLIGHT
- 4) Mixture..... LEAN (50 rich of peak)
- 5) Engine temperatures ..... MONITOR
- 6) Systems ..... CHECK

**DESCENT**

- 1) Throttle..... (as necessary)
- 2) Mixture..... Richen only as necessary

**IN RANGE**

- 1) Fuel selector valve ..... BOTH
- 2) Seats & belts..... SECURE & LOCKED
- 3) ATIS – AWOS – Advisories ..... NOTED
- 4) Altimeter..... SET
- 5) Approach & missed approach..... BRIEFED
- 6) Radios ..... SET
- 7) NAV/GPS switch ..... SET
- 8) Lights..... AS REQUIRED
- 9) Initial approach speed ..... TRIMMED

**BEFORE LANDING**

- 1) Mixture..... RICH
- 2) Flaps..... SET (below 110/85 KIAS)
- 3) NORMAL LANDING . Flaps 20 degrees – 65 KIAS
- 4) SHORT FIELD..... Flaps 30 degrees – 61 KIAS

**MISSED APPROACH / GO AROUND**

- 1) Throttle..... FORWARD
- 2) Speed ..... 65 to 80 KIAS
- 3) Flaps..... 20°
- 4) Flaps..... RETRACT at 65 KIAS

**AFTER LANDING**

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

**ENGINE SHUTDOWN**

- 1) Throttle.....1000 rpm (stabilize CHT)
- 2) Radio master .....OFF
- 3) Electrical equipment.....OFF
- 4) Mixture ..... CUT OFF
- 5) Throttle..... CLOSED
- 6) Magnetos..... OFF (remove key)
- 7) Lights .....OFF
- 8) Master switch .....OFF
- 9) Parking brake .....OFF
- 10) Fuel selector valve .LEFT or RIGHT for Refueling
- 11) Aircraft interior & exterior ..... SECURE

**FLOODED START**

- 1) Auxiliary fuel pump .....OFF
- 2) Mixture ..... Idle cutoff
- 3) Throttle..... Open ½ to full open
- 4) Magnetos..... START (10 seconds max)
- 5) Mixture ..... RICH
- 6) Throttle..... Retard to idle
- 7) Oil pressure .....NORMAL (within 30 seconds)
- 8) Mixture ..... LEAN for smooth idle

**C172SP CRUISE POWER SETTINGS**

Derived – with some interpolation – from Figure 5-8 Cruise Performance Cessna 172S POH and AFM

\*2550 lbs gross weight, standard temperature, recommended leaning per POH (50 degrees rich of peak)

Operation at less than 75% power in cruise is permitted at peak EGT, which achieves approximately 4% range increase and reduces TAS approximately 3 knots. Operation lean of peak is prohibited by the POH.

**55% POWER CRUISE SETTINGS**

Altitude	RPM	KTAS	GPH
2000	2250	100	7.7
4000	2300	102	7.7
6000	2350	104	7.7
8000	2400	106	7.7
10,000	2450	108	7.7
12,000	2500	110	7.7

**65% POWER CRUISE SETTINGS**

Altitude	RPM	KTAS	GPH
2000	2400	110	9.0
4000	2450	112	9.0
6000	2500	114	9.0
8000	2550	115	9.0
10,000	2600	117	9.0
12,000	2650	119	9.0

**73% POWER CRUISE SETTINGS**

Altitude	RPM	KTAS	GPH
2000	2500	115	9.9
4000	2550	117	9.9
6000	2600	119	9.9
8000	2650	122	9.9
10,000	2700	123	9.8
12,000	not available, see 65% schedule		

**WCFC recommended C172 SP SPEEDS TO FLY**

- Vx 62 KIAS
- Vy 74 KIAS
- Best glide speed (clean) 68 KIAS
- Va 105 KIAS @2550 pounds
- 98 KIAS @ 2200 pounds
- 90 KIAS @ 1900 pounds
- Initial climb 80 KIAS
- Cruise climb 90 KIAS
- Normal landing with flaps 20 65 KiAS
- approach
- Short field landing with flaps 30 61 KIAS