

V _S	57 MPH (47 KIAS)	V _{BG}	80 MPH (65 KIAS)
V _{SO}	49 MPH (41 KIAS)	V _{A @ max}	112 MPH (97 KIAS)
V _R	60 MPH (55 KIAS)	V _{FE}	100 MPH (85 KIAS)
V _X	68 MPH (64 KIAS)	V _{NO}	145 MPH (128 KIAS)
V _Y	91 MPH (78 KIAS)	V _{NE}	182 MPH (160 KIAS)

Before Starting Engine

- 1) Preflight inspection – COMPLETE
- 2) Towbar – STOWED
- 3) Fuel caps – ON & SECURE
- 4) Pitot cover – REMOVED
- 5) Control lock – REMOVED
- 6) Documents – ON BOARD
- 7) Hobbs & tach – RECORDED
- 8) Airplane keys – ON DASH
- 9) Pax & PIC briefing – COMPLETE
- 10) Seats & seatbelts – ADJUSTED
- 11) Brakes – TEST & SET
- 12) Avionics & electrical equipment – OFF
- 13) Circuit breakers – CHECK IN
- 14) Fuel selector – BOTH
- 15) Doors – CLOSED & LOCKED

Starting Engine

- 1) Primer
 - Engine Cold – 2-3 strokes, locked
 - Engine Hot – 0-1 strokes, locked
- 2) Carb heat – COLD
- 3) Throttle – OPEN ¼ inch
- 4) Mixture – RICH
- 5) Master switch – ON
- 6) Beacon/strobes – ON
- 7) Propeller area – “CLEAR” and visually clear area
- 8) Ignition – START, slowly advance throttle, release after start
- 9) Throttle – SET 800 to 1000 RPM
- 10) Oil pressure – CHECK GREEN within 30 seconds

After Start

Look around and move if people are waiting.

Don't block the ramp!

- 1) Ammeter – CHECK slightly positive
- 2) Avionics – ON
- 3) Mixture – LEAN for taxi, slightly rich of engine roughness
- 4) Flaps – UP, visually confirm
- 5) Transponder – ALT & 1200
- 6) ATIS/AWOS/ASOS – CHECK
- 7) Flight instruments – SET (altimeter near FE)
- 8) Radios – SET, CONTACT GROUND

Taxi

- 1) Brief taxi diagram & hot spots
- 2) Brakes – CHECK gently
- 3) Flight instruments – CHECK OPERATION

Run-up

- 1) Nosewheel straight, brakes held tight
- 2) Flight Controls – FREE & CORRECT
- 3) Trim – SET FOR TAKEOFF (yoke aft, trim flush with elevator)
- 4) Flight instruments – CHECK & SET
- 5) Doors & windows – CLOSED & LATCHED
- 6) Primer – IN & LOCKED
- 7) Mixture – RICH
- 8) Throttle – 1700 RPM
- 9) Magnetos – TEST R, BOTH, L, then BOTH (max. 125 RPM drop & 50 RPM differential)
- 10) Carb heat – CHECK HOT, note RPM drop, then COLD
- 11) Engine instruments – CHECK
- 12) Ammeter – CHECK (do not cycle the alternator!)
- 13) Suction gauge – CHECK
- 14) Throttle – IDLE (500-800 RPM), then 800-1000
- 15) Throttle friction – ADJUSTED
- 16) GPS/NAV – SET
- 17) Takeoff briefing – COMPLETE

“This will be a normal/short-field (soft-field) takeoff, flaps up (10°), departing runway ____ with a climb to ____ feet. V_R is 60 MPH (55 KIAS), V_X is 68 (64), and V_Y is 91 (78). For any abnormality with runway remaining, I will call “abort, abort,” reduce the throttle to idle, and bring the aircraft to a stop on the runway. For an engine failure below 400' AGL, I will land straight ahead. I will not attempt to return to the runway until reaching a safe altitude. For any abnormality or emergency I will aviate, navigate, communicate, and run the appropriate checklist. Best glide is 80 MPH (65 KIAS). Any questions?”

Before Take-off

- 1) Lights – AS NEEDED
- 2) Transponder – ALT & squawk code
- 3) Flaps – UP for normal/short-field takeoff (10° for soft-field)
- 4) Mixture – RICH (or set for DA)
- 5) Carb heat – COLD
- 6) Trim – SET FOR TAKEOFF
- 7) Fuel – CHECK quantity, fuel on BOTH, primer LOCKED
- 8) Seats & seatbelts – ADJUSTED
- 9) Doors & windows – CLOSED & LATCHED
- 10) Radios – SET & CONTACT TOWER

Normal Takeoff

- 1) Flaps – UP, visually confirm
- 2) Throttle – Smoothly to FULL FWD
- 3) Engine instruments – CHECK
- 4) Elevator – Lift nosewheel at 60 MPH (55 KIAS)
- 5) Climb – 75 to 85 MPH (70 to 80 KIAS) until clear of obstacles, then climb at V_Y

Enroute Climb (at 1000' AGL & clear of obstacles)

- 1) Airspeed – 91+ MPH (80 to 90+ KIAS)
- 2) Engine instruments – MONITOR
- 3) Mixture – RICH***

Cruise

- 1) Throttle – 2100 to 2400 RPM (< 70% power)
- 2) Engine instruments – CHECK
- 3) Mixture – If engine temp normal, LEAN for altitude
- 4) Trim – SET for cruise airspeed
- 5) Fuel selector – BOTH
- 6) Flight instruments – CHECK

Descent

- 1) ATIS/AWOS/ASOS – CHECK
- 2) Flight instruments – CHECK & SET
- 3) Radios – SET, report 10 miles out
- 4) Approach/pattern entry briefing – COMPLETE
- 5) Carb heat – ON if required
- 6) Throttle – REDUCE for descent
- 7) Mixture – ADJUSTED for altitude
- 8) Seats & seatbelts – ADJUSTED

Before Landing

- 1) Lights – AS NEEDED
- 2) Fuel – CHECK quantity, fuel on BOTH, primer LOCKED
- 3) Carb Heat – ON before closing throttle
- 4) Mixture – RICH
- 5) Airspeed – 80 to 85 MPH flaps UP (70 to 75 KIAS)
- 6) Airspeed – 75 to 80 MPH flaps DOWN (65 to 70 KIAS)

After Landing (stop once clear of runway)

- 1) Radio – Switch to GROUND when advised
- 2) Flaps – UP, visually confirm
- 3) Mixture – LEAN for taxi
- 4) Carb Heat – COLD
- 5) Lights – AS NEEDED
- 6) Trim – SET FOR TAKEOFF
- 7) Transponder – ALT & 1200
- 8) Radios – CONTACT GROUND

Shutdown

- 1) Avionics and electrical switches – OFF
- 2) Throttle – 1000 RPM
- 3) Mixture – IDLE CUTOFF
- 4) Ignition – OFF, key on dash
- 5) Master switch – OFF
- 6) Fuel selector – LEFT or RIGHT TANK
- 7) Control lock & sunshade – INSTALL
- 8) Pitot cover – INSTALL
- 9) Hobbs & tach – RECORD
- 10) Trash – REMOVE & TIDY UP
- 11) Tiedowns & chocks – INSTALL
- 12) Doors – LOCK

*****Operating on hot days:** If oil temp and/or EGTs are warmer than normal, do not lean during climb. Use a higher enroute climb speed (90+ MPH/KIAS) as soon as possible for better cooling. Mixture may be leaned slightly during climb above 5000' if engine temps are cool.

Soft-field Takeoff

- 1) Flaps – 10°
- 2) Elevator – FULL AFT
- 3) Brakes – Minimize use
- 4) Throttle – Smoothly to FULL FWD
- 5) Engine instruments – CHECK
- 6) Elevator – Maintain nose high/tail low until liftoff
- 7) Climb – Remain in ground effect until 65 MPH (55 KIAS), then begin climb* and accelerate to V_Y 91 MPH (78 KIAS)
- 8) Flaps – RETRACT**

* If obstacles are present: climb at 65 MPH (55 KIAS) until clear, then accelerate to V_Y and retract flaps.

** Minimum flap retraction speed is 70 MPH (60 KIAS).

Normal and Soft-field Landing

- 1) Flaps – 30° (or less, as needed with a crosswind)
- 2) Airspeed – PITCH for 75 MPH (65 KIAS)
- 3) Throttle – ADJUST for descent rate
- 4) Touchdown – MAIN WHEELS FIRST
- 5) Elevator – Increase gradually to FULL AFT during deceleration
- 6) Brakes – Minimize use

Short-field Takeoff

- 1) Flaps – UP (refer to POH page 2-14 for options)
- 2) Brakes – HOLD
- 3) Throttle – Smoothly to FULL FWD
- 4) Engine instruments – CHECK
- 5) Brakes – RELEASE
- 6) Elevator – Lift nosewheel at 60 MPH (55 KIAS)
- 7) Climb – 68 MPH (59 KIAS) until clear of obstacles
- 8) Accelerate – 80 to 90 MPH (70-80 KIAS)

Short-field Landing

- 1) Flaps – 40°
- 2) Airspeed – PITCH for 70 MPH (60 KIAS)
- 3) Throttle – ADJUST for descent rate
- 4) Touchdown – MAIN WHEELS FIRST
- 5) Brakes – APPLY, but do not skid tires!
- 6) Flaps – RETRACT

Cessna 172M 1975 and older, refer to POH Section II, Description and Operating Details, and Section VI, Operational Data, to make adjustments for variations in conditions and to calculate takeoff & landing data.

Cessna 172M 1976 and newer, refer to POH Section 4, Normal Procedures, and Section 5, Performance, to make adjustments for variations in conditions and to calculate takeoff & landing data.