

Cessna 172M

MAXIMUM TAKEOFF WEIGHT 2300 LBS
 MAXIMUM LANDING WEIGHT 2300 LBS
 MAXIMUM BAGGAGE WEIGHT 120 LBS

STALL SPEED

V_{SO} 41 KIAS
 V_{S1} 47 KIAS

MANEUVERING SPEED

V_A 2300 lbs 97 KIAS
 V_A 0000 lbs 00 KIAS

TAKEOFF & CLIMB

V_Y 78 KIAS
 V_X 64 KIAS
 V_R 52 KIAS
 ENROUTE CLIMB SPEED 75~90 KIAS

OPERATING SPEEDS

V_{NE} NEVER EXCEED SPEED 160 KIAS
 V_{NO} MAXIMUM STRUCTURAL CRUISING SPEED 128 KIAS
 V_{FE} FLAP EXTENDED SPEED 85 KIAS
 FLAP OPERATING RANGE 41~85 KIAS
 NORMAL OPERATING RANGE 47~128 KIAS
 CAUTION RANGE 112~149 KIAS
 CRUISE 100 KIAS
 MAX. DEMONSTRATED CROSSWIND 15 KTS

DESCENT SPEEDS

NORMAL DESCENT SPEED 80~90 KIAS
 PATTERN DESCENT SPEED (FLAPS 10°) 90 KIAS
 BASE (FLAPS 20°) 80 KIAS
 FINAL (FLAPS 30°) 70 KIAS
 SHORT FINAL (Short Field Approach) 65 KIAS
 V_{GLIDE} (Flaps Up) 65 KIAS

FUEL CAPACITY

Total fuel 42 gal
 Usable fuel (total) 38 gal

PREFLIGHT INSPECTION

CABIN

Pilot's Operating Handbook & Certificates IN AIRPLANE
 Control Wheel Lock REMOVE
 Ignition Switch OFF
 Master Switch ON
 Fuel Quantity Indicators CHECK
 Flaps FULL DOWN
 Avionics Cooling Fan AUDIBLE
 Master Switch OFF
 Fuel Selector Valve ON BOTH

EMPENNAGE

Baggage Door CLOSED/LOCKED
 Surface UNDAMAGED
 Horizontal Stabilizer SECURE
 Elevator - Movement/Security CHECK
 Vertical Stabilizer SECURE
 Rudder - Movement/Security CHECK
 Tie Down REMOVE
 ELT Antenna CHECK

RIGHT WING

Flap - Deflection, Tracks, Pushrod CHECK
 Aileron - Hinges/Pushrod CHECK
 Wing Tip CONDITION/SECURITY
 Nav LT/Strobe LT CHECK
 Wing Leading Edge CHECK CONDITION
 Cabin Vents UNOBSTRUCTED
 Main Landing Gear - Tire wear, inflation 29 PSI, Brakes CHECK
 Tie Down REMOVE
 Fuel Sump (Return Sample if Not Contaminated) DRAIN
 Fuel Tank - Visually check quantity CHECK
 Fuel Cap SECURE
 Upper Wing Surface INSPECT

FORWARD FUSELAGE

Engine Oil (Max. 8 qts., Min. 5 qts.) CHECK

Fuel Strainer DRAIN
 Engine Cowling/Fasteners.....INSPECT
 Spinner SECURE
 Propeller -Check for nicksINSPECT
 Carburetor Air Filter UNOBSTRUCTED
 Nose Strut..... FOR EXTENSION
 Nose Wheel -Treadwear and inflation 31 PSICHECK
 Exhaust..... SECURE
 Alternator Belt - Tension/Security.....CHECK
 External Power Receptacle SECURE
 Static Port..... UNOBSTRUCTED

LEFT WING

Cabin Vent Inlets UNOBSTRUCTED
 Fuel Sump - Return sample if not contaminated TAKE SAMPLE
 Fuel Tank - Visually check quantityCHECK
 Fuel Cap SECURE
 Upper Wing Surface - Com antennaeINSPECT
 ADF AntennaCHECK
 Leading EdgeCHECK
 Stall Warning Inlet UNOBSTRUCTED
 Pitot TubeCHECK
 Fuel VentCHECK
 Landing LightCHECK
 Main Landing Gear - Tire wear, inflation 29 PSI, BrakesCHECK
 Tie Down REMOVE
 WingtipCHECK
 Nav LT/Strobe LTCHECK
 Aileron - Hinges, Pushrod.....CHECK
 Flap - Deflection, Tracks, Pushrod.....CHECK

BEFORE STARTING ENGINE

Preflight Inspection / Briefing..... COMPLETE
 Seats, Seat Belts, Shoulder Harness SECURE
 Fuel Selector Valve ON
 Avionics Master (COM1, COM2, ADF, Intercom, Transponder) OFF
 Autopilot..... OFF
 Brakes TEST/SET
 Circuit BreakersCHECK IN

STARTING ENGINE

Mixture..... RICH

Carb Heat OFF
 Primer - 2 to 6 Strokes, None if engine is warm..... AS REQUIRED
 Throttle 1/8 INCH OPEN
 Propeller Area..... CLEAR
 Master Switch ON
 Beacon ON
 Ignition Switch START
 Oil Pressure (if no pressure within 30 sec - shutdown).....CHECK
 Avionics Master (COM1, COM2, ADF)..... ON
 Autopilot..... OFF
 Transponder "SBY"
 ATIS/Clearance/Taxi OBTAIN
 Flaps..... UP

COM/NAV/TRANSPONDER CHECK (IFR)	
Audio Panel	SET
Marker	TEST & SET
COM1	TRANSMIT
COM2	RADIO CHECK
NAV1	SET VOR & ID
NAV2	SET VOR & ID
NAV1 & 2.....	COMPARE READINGS
Sensitivity	CHECK
Ambiguity.....	CHECK
DME.....	SET & ID
ADF	SET/ID/TEST
Transponder	TEST & SET 1200
Altimeter.....	CHECK WITH IN 75 FT.
1. Audio panel set to AUTO on PHONES. 2. Test MARKER, set to LOW, place on SPEAKER if so desired. 3. COM1 should have next series of frequencies (CLNC, GND, TOWER...). 4. COM2 should have ATIS and DEPARTURE. 5. NAV1 should have local VOR, ID station, then center CDI. 6. NAV2 should have same VOR, ID station, then center CDI. 7. If using VOT Test, tune in frequency and ID. Set CDI to N and obtain FROM indication. 8. OBS Readings should be within 4°. Record any errors in VOR Check Sheet. 9. Check Sensivity by turning 5° each way. CDI should deflect half scale. 10. Check Ambiguity by setting in reciprocal heading and check accuracy. 11. Setup DME and ID. Set to REMOTE if available. 12. Tune in local NDB and ID. Set selector to ANT and back to ADF. 13. Test transponder and set 1200.	

TAXI CHECK

Park brakeRELEASE
 BrakesCHECK
 SteeringCHECK
 DG, Turn & Bank, Attitude IndicatorCHECK

RUNUP CHECK

Park Brake SET
 Cabin Doors/WindowsCLOSED/LOCKED
 Flight ControlsFREE/CORRECT
 Flight Instruments SET
 Fuel Selector Valve ON
 Mixture RICH (Below 3000 MSL)
 Elevator TrimTAKEOFF
 Throttle 1700 RPM
 Magnetos - Max 125 RPM Drop, 50 RPM DifferenceCHECK
 Carburetor Heat (RPM drop)CHECK
 Engine Instruments/AmmeterCHECK
 Suction GaugeCHECK
 ThrottleFULL IDLE, THEN 1000 RPM

BEFORE TAKEOFF CHECK

Radios SET
 Autopilot OFF
 Throttle Friction Lock ADJUST
 Strobe Lights AS REQUIRED
 Navigational Lights AS REQUIRED
 Fuel Selector Valve BOTH
 Flaps (Normal & Short Field 0° / Soft Field - 10°) SET
 Trim SET
 Transponder "ALT"
 Park brakesRELEASE
 Primer IN & LOCKED

NORMAL TAKEOFF

Carb Heat COLD
 Mixture RICH
 Throttle FULL OPEN
 Rotate 55 KIAS
 Climb Airspeed 70-80 KIAS

SHORT FIELD TAKEOFF

Flaps 10°
 Carb Heat COLD
 Brakes APPLY
 Mixture (Above 3000 MSL lean for Max RPM) RICH
 Throttle FULL OPEN
 Brakes RELEASE
 Elevator SLIGHTLY TAIL LOW
 Rotate 50 KTS
 Climb 59 KTS
 Flaps (Above 60 KIAS) RETRACT SLOWLY

SOFT FIELD TAKEOFF

Flaps 10°
 Carb Heat COLD
 Mixture (Above 3000 MSL lean for Max RPM) RICH
 Elevator FULL AFT
 Lift Off WHEN ABLE
 Stay in ground effect until airspeed reaches 65~75 KIAS.

ENROUTE CLIMB

Airspeed 70-85 KIAS
 Throttle FULL OPEN
 Mixture(Above 3000 MSL lean for Max RPM) LEAN

CRUISE

Power (No more than 75% recommended) N5727E 2100-2400 RPM
 Mixture - Lean above 3000 MSL AS REQUIRED
 Trim SET
 Engine Instruments CHECK

PRE-MANEUVER CHECK

Landing Light AS REQUIRED
 Mixture RICH
 Clearing Turns CLEAR AREA

DESCENT

Seat belts.....SECURED
 Fuel QuantityCHECK
 Mixture.....ADJUST
 PowerAS REQUIRED
 Carb Heat (ON below 2100 RPM).....AS REQUIRED

APPROACH CHECK

Landing Light.....AS REQUIRED
 Mixture.....RICH
 Fuel Selector ValveBOTH
 Landing Gear and BrakesCHECK
 Altimeter (ATIS).....SET

BEFORE LANDING CHECK

Seats, Seat Belts, Shoulder Harness SECURE
 Fuel Selector Valve BOTH
 Mixture.....RICH
 Carb Heat.....ON

NORMAL LANDING

Airspeed (Flaps Up).....60-70 KIAS
 Flaps (Below 85 KIAS)AS REQUIRED
 Airspeed (55~65 KIAS).....FLAPS DOWN
 Touchdown.....MAIN WHEELS FIRST
 Landing Roll.....LOWER NOSE WHEEL GENTLY
 Brakes.....MINIMUM REQUIRED

SHORT FIELD LANDING

Airspeed60~70 KIAS
 Flaps (Below 85 KIAS)40°
 AirspeedMAINTAIN 60 KIAS
 PowerREDUCE AFTER CLEARING OBSTACLE
 Touchdown.....MAIN WHEELS FIRST
 BrakesAPPLY HEAVILY
 Flaps.....RETRACT

SOFT FIELD LANDING

Flaps.....30°
 Carb HeatON
 Airspeed60-70 Kts.
 Touchdown.....NOSE UP

GO-AROUND

ThrottleFULL OPEN
 Carb HeatCOLD
 Flaps.....RETRACT TO 20°
 Climb Speed.....55 KIAS
 Flaps.....10° Until Obstacle Cleared
 After reaching safe altitude.....RETRACT FLAPS

AFTER LANDING

Flaps.....RETRACT
 Carb HeatCOLD
 Transponder "SBY"
 Unnecessary LightsOFF
 Communicate - Taxi Clearance.....OBTAIN

SHUTDOWN AND SECURING AIRCRAFT

Parking Brake.....SET
 Avionics Master (COM1, COM2, ADF, Transponder, Intercom).....OFF
 Lights and Electrical EquipmentOFF
 Mixture.....IDLE CUT-OFF
 Ignition SwitchOFF
 Master Switch.....OFF
 Control LockINSTALL
 Hobbs & Tach.....RECORD
 Aircraft.....TIE DOWN

CROSS COUNTRY FLIGHT PROCEDURE

- Park and tie down aircraft when possible.
- Order fuel.
- Call FSS and cancel flight plan, update weather, file new flight plan.
- Return to aircraft and check fuel/oil. Pay for fuel and get receipt.

***DID YOU LOCK THE AIRPLANE?
 CLOSED FLIGHT PLANS?***

