

Cessna 172M Skyhawk N4480R

Pre-Flight Inspection

Cabin

- Squawks REVIEW
- AROW paperwork CONFIRM IN AIRCRAFT
- Control wheel lock REMOVE
- Ignition switch OFF
- Master switch ON
- Fuel gauges CHECK LEVELS
- Position, beacon, strobe, landing & taxi lights CHECK OPERATION
- Wing flaps LOWER
- Master switch OFF
- Fuel selector BOTH
- Left window UNLOCKED
- Baggage door CHECK SECURE

Tail Section

- Left fuselage & empennage CHECK
- Left horizontal stabilizer & elevator CHECK SURFACES, MOVEMENT & LINKAGES
- Tail tie-down & rudder gust lock REMOVE
- Vertical stabilizer & rudder CHECK SURFACES, MOVEMENT & LINKAGES
- Right horizontal stabilizer & elevator CHECK SURFACES, MOVEMENT & LINKAGES
- Antennae CHECK
- Right fuselage & empennage CHECK

Right Wing

- Wing flap CHECK SURFACES, ROLLERS & LINKAGES
- Aileron CHECK SURFACES, MOVEMENT & LINKAGES
- Wing CHECK
- Wing tie-down REMOVE
- Fuel tank VISUALLY CHECK LEVEL & SECURE CAP
- Fuel tank sump DRAIN; CHECK FUEL GRADE & QUALITY
- Gear, tire, & brakes (29 PSI) CHECK

Nose

- Windshield CHECK & CLEAN
- Engine sump DRAIN; CHECK FUEL GRADE & QUALITY
- Engine oil (6 QTS. minimum) CHECK LEVEL & QUALITY
- Nose gear strut & tire (26 PSI) CHECK
- Cowling & cowling fasteners CHECK SECURE
- Cowling openings CHECK FREE OF FOREIGN MATERIAL
- Propeller & spinner CHECK
- Alternator belt CHECK
- Air cleaner CHECK
- Static port CHECK FREE OF BLOCKAGES

Left Wing

- Fuel tank VISUALLY CHECK LEVEL & SECURE CAP
- Pitot tube / cover CHECK / REMOVE
- Fuel vent CHECK
- Stall horn CHECK
- Wing tie-down REMOVE
- Wing CHECK
- Aileron CHECK SURFACES, MOVEMENT & LINKAGES
- Wing flap CHECK SURFACES, ROLLERS & LINKAGES
- Gear, tire, & brakes (29 PSI) CHECK
- Fuel tank sump DRAIN; CHECK FUEL GRADE & QUALITY

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Flight Checklist – Part I

Significant Speeds

- Best power-off glide speed (flaps up) 80 MPH**
- V_{SO} Stall speed, flaps extended 49 MPH
- V_S Stall speed, flaps up 57 MPH
- V_X Best angle of climb 68 MPH
- V_Y Best rate of climb 91 MPH
- V_{FE} Maximum flap extension speed 100 MPH
- V_A Maneuvering speed 112 MPH
- V_{NO} Maximum structural cruising speed 145 MPH
- V_{NE} Never exceed speed 182 MPH

Take-Off Procedure & Speeds

Normal

- Wing flaps 0 DEGREESS
- Carburetor heat OFF (PUSH)
- Throttle FULL (PUSH)
- Rotate 60 MPH
- Climb-out 75-85 MPH

Obstacle and Short Field

- Wing flaps 0 DEGREES
- Carburetor heat OFF (PUSH)
- Brakes SET
- Throttle FULL (PUSH)
- Brakes RELEASE
- Rotate 60 MPH
- Climb-out 68 MPH UNTIL CLEAR OF OBSTACLES

Soft Field

- Wing flaps 10 DEGREES
- Carburetor heat OFF (PUSH)
- Throttle FULL (PUSH)
- Nose gear LIFT IMMEDIATELY; LEVEL OFF WHEN CLEAR
- Climb out AFTER REACHING V_X (68 MPH) OR V_Y (91 MPH)
- Wing flaps RAISE WHEN CLEAR OF OBSTACLES

Enroute Climb

- Throttle FULL (PUSH)
- Mixture RICH (PUSH) UNTIL 3,000 MSL
- Climb 80-90 MPH

Cruise

- Throttle 2,200 RPM - 2,700 RPM
- Elevator trim ADJUST
- Mixture LEAN
- Landing & taxi lights OFF
- Flight plan OPEN

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Flight Checklist – Part II

Prior to Landing

- Fuel selector BOTH
- Mixture RICH (PUSH)
- Carburetor heat ON (PULL)
- Landing & taxi lights ON
- Seats, belts & harnesses ADJUST & LOCK

Landing Procedure & Speeds

Normal

- Wing flaps AS DESIRED
- Downwind 90 MPH
- Base 80 MPH
- Final 70-80 MPH (FLAPS UP) / 65-75 MPH (FLAPS EXTENDED)

Short Field

- Wing flaps 40 DEGREES
- Airspeed 70 MPH
- Brakes AS REQUIRED

Soft Field

- Wing flaps 40 DEGREES
- Airspeed 70 MPH

After Landing

- Carburetor heat OFF (PUSH)
- Strobe lights OFF
- Wing flaps UP

Shutting Down Engine

- Transponder VFR & STANDBY
- Avionics master switch OFF
- Taxi, beacon & navigation lights OFF
- Throttle 1,000 RPM
- Magnetos GROUND
- Mixture IDLE CUT-OFF (PULL)
- Ignition switch OFF (AFTER PROP STOPS)
- Master switch OFF
- Flight plan CLOSE

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Before Take-Off Checklist

Prior to Engine Start

- Wheel chocks REMOVE
- Towbar REMOVE
- Seats, belts & harnesses ADJUST & LOCK
- Brakes SET
- Circuit breakers CHECK
- Avionics master switch OFF
- Fuel selector BOTH

Starting Engine

- Mixture RICH (PUSH)
- Carburetor heat OFF (PUSH)
- Prime (2-6 strokes) AS REQUIRED
- Primer IN & LOCKED
- Throttle OPEN 1/4 INCH
- Master switch ON
- Beacon & navigation lights ON
- Propeller area VERBALLY CLEAR
- Ignition switch START
- Oil pressure CHECK
- Engine warm-up 800-1,200 RPM
- All gauges CHECK FOR NORMAL INDICATIONS

Prior to Taxi

- Avionics ON & SET
- Wing flaps UP
- Taxi light AS REQUIRED
- Brakes TEST

Prior to Take-Off

- Brakes SET
- Flight controls FREE & CORRECT
- Trim tab TAKE OFF
- Altimeter SET
- Doors & windows SECURELY LATCHED
- Throttle 1,700 RPM
- Engine gauges & ammeter CHECK
- Magnetos RPM DROP <125 PER SIDE; RPM DIFFERENCE <50
- Carburetor heat SLIGHT RPM DROP
- Throttle 1,000 RPM
- Transponder Squawk code SET
- Transponder "ADS-B TX" display ON
- Transponder "NO ADSB" display EXTINGUISHED
- Communication & navigation frequencies SET
- Seat latching SECURE
- Landing & strobe lights ON

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Emergency Procedures – Part I

ENGINE FAILURE

During Take-Off Run

- Throttle IDLE (PULL)
- Brakes APPLY
- Wing flaps RETRACT
- Mixture IDLE CUT-OFF (PULL)
- Ignition switch OFF

Immediately After Takeoff

- Airspeed 80 MPH
- Mixture IDLE CUT-OFF (PULL)
- Fuel selector OFF
- Ignition switch OFF
- Wing flaps AS REQUIRED
- Master switch OFF

In Flight

- Airspeed 80 MPH
- Carburetor heat ON (PULL)
- Mixture RICH (PUSH)
- Fuel selector BOTH
- Primer CLOSED & LOCKED
- Ignition switch BOTH OR START IF PROPELLER IS STOPPED
- Transponder 7700
- Radio 121.5 MAYDAY

FORCED LANDING

Without Engine Power

- Airspeed 80 MPH
- Mixture IDLE CUT-OFF (PULL)
- Fuel selector OFF
- Avionics, electrical & ignition switches OFF
- Wing flaps AS REQUIRED (40 DEGREES RECOMMENDED)
- Airspeed 65 to 70 MPH
- Master switch OFF
- Cabin doors UNLATCH PRIOR TO FINAL APPROACH
- Touchdown SLIGHTLY TAIL LOW
- Brakes APPLY HEAVILY WHILE HOLDING FULL UP ELEVATOR

With Engine Power

- Wing flaps 20 DEGREES
- Airspeed 70 MPH
- Landing site FLY OVER NOTING TERRAIN & OBSTRUCTIONS
- Avionics & electrical switches OFF
- Wing flaps 40 DEGREES ON APPROACH
- Cabin doors UNLATCH PRIOR TO FINAL APPROACH
- Ignition switch OFF BEFORE TOUCHDOWN
- Master switch OFF BEFORE TOUCHDOWN
- Touchdown SLIGHTLY TAIL LOW

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Post-Flight Checklist

Refuel

- Parking brake SET
- Fuel selector BOTH
- Static line ATTACH TO TIE DOWN RING
- Fuel ADD TO BOTTOM OF FILLER NECK
- Fuel cap SECURE
- Static line REMOVE
- Parking brake RELEASE

Hangar Aircraft

- Avionics master switch OFF
- Position, beacon, strobe, landing & taxi lights OFF
- Ignition switch OFF
- Master switch OFF
- Keys PLACE ON GLARE SHIELD
- Seatbelts LATCH ALL
- Trash & personal belongings REMOVE FROM AIRCRAFT
- Start & stop tach times RECORD IN TACH LOG
- Oil added RECORD IN TACH LOG
- Doors & windows CLOSE SECURELY
- Nose wheel CHOCK
- Tow bar REMOVE; PLACE AGAINST WALL

In Summer

- Leading edges CLEAN WITH MICROFIBER CLOTH & WATER
Wings, spinner, cowlings, struts, wheel fairings & stabilizers
- Windshield CLEAN WITH PAPER TOWEL & NOVUS No. 1 PLASTIC POLISH

In Winter

- Cabin door CLOSE & LATCH
- Tanis (engine sump & interior) heater PLUG IN
- Cowling COVER WITH COWLING BLANKET

Scheduling System

- Unused time (decided not to fly or returned early) CANCEL & NOTIFY MEMBERSHIP
- Start & stop tach times RECORD ONLINE
- Oil added RECORD ONLINE

Report Squawks

- Squawks RECORD IN SCHEDULING SYSTEM
- Maintenance Officer NOTIFY VIA PHONE OR EMAIL
- Next pilot NOTIFY OF FLIGHT SAFETY CONCERNS

Secure Hangar

- Overhead hangar door CLOSE & LATCH
- Hangar lights OFF
- Utility door CLOSE & LOCK

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Aircraft Specifications

Airframe

- Year of manufacture..... 1974
- Serial No.17263222

Power Plant

- Make & model Lycoming O-320-E2D
- Horsepower..... 160 (RAM Aircraft STC)
- Serial No.L-44655-27A

Propeller

- Make & model McCauley 1C160/DTM7557MI
- Serial No.724061

Avionics

- Autopilot.....Garmin GFC 500 with Electronic Stability & Protection
- Electronic attitude indicator Garmin G5
- Horizontal Situation Indicator..... Garmin G5
- Audio panel & intercom Garmin GMA 345
- No. 1 navigation / communication radio Garmin GTN 650Xi
GPS, ILS, VOR, LOC, GS
- No. 2 navigation / communication radio Garmin GNC 215
VOR, LOC, GS, DME
- Transponder..... Garmin GTX 345
ADS-B In & Out
- ICAO address..... A56ABD (Hexadecimal) / 51265275 (Octal)
- Emergency locator transmitter Artex ME 406 460MHz

Instrumentation

- Engine Indication System Garmin GIS 275
- Carburetor temperature gauge Westach K30X
- CO monitor..... Guardian Aero 452

Capacities

- Fuel..... 21 gallons per tank; 42 gallons total
- Useable fuel 19 gallons per tank; 38 gallons total
- Engine oil 8 quarts

Landing Gear

- Main gear tire pressure (6.00x6 6-ply) 29 PSI
- Nose gear tire pressure (5.00x5 5-ply)..... 26 PSI

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Emergency Procedures – Part II

ENGINE FIRE DURING ENGINE START

- Ignition switch..... CONTINUE CRANKING

If Engine Starts

- Throttle 1,700 RPM FOR 2-3 MINUTES
- Engine..... SHUT DOWN AND INSPECT FOR DAMAGE

If Engine Does Not Start

- Throttle FULL (PUSH)
- Mixture IDLE CUT-OFF (PULL)
- Ignition switch..... CONTINUE CRANKING FOR 2-3 MINUTES
- Ignition switch..... OFF
- Fuel selector..... OFF
- Master switch OFF
- Smother flames with fire extinguisher, seat cushion, blanket, or loose dirt. If practical, remove carburetor air filter if it is ablaze.

ENGINE FIRE IN FLIGHT

- Mixture IDLE CUT-OFF (PULL)
- Fuel selector..... OFF
- Master switch OFF
- Airspeed 120 MPH
- Cabin heat..... CLOSED (PUSH)
- If fire is not extinguished, increase glide speed in an attempt to find an airspeed that will provide an incombustible mixture.
- Execute **Forced Landing Without Engine Power**
- **DO NOT** attempt to restart engine

ELECTRICAL FIRE IN FLIGHT

- Master switch OFF
- Cabin heat..... CLOSED (PUSH)
- Cabin air..... CLOSED (PUSH)
- Overhead cabin vents..... CLOSED
- Avionics & electrical switches OFF
- Smother flames with fire extinguisher

When Fire Is Extinguished, If Electrical Is Required

- Circuit breakers CHECK; DO NOT RESET ANY FAULTY CIRCUITS
- Master switch ON
- Avionics & electrical switches ON ONE AT A TIME TO ISOLATE SHORT
- Cabin heat, cabin air & overhead cabin vents IF FIRE IS FULLY EXTINGUISHED
OPEN AS REQUIRED

CARBON MONOXIDE ALERT

- Cabin heat..... CLOSED (PUSH)
- Cabin air, cabin vents & windows OPEN IMMEDIATELY
- Oxygen..... USE IF AVAILABLE
- CO alert..... RESET TO SILENCE
- Land AS SOON AS CONDITIONS PERMIT