

Mooney M20C Ranger Model Guide

The Mooney M20C Ranger is a four-seat, single-engine piston retractable built from 1961 to 1978. The documents show a 180 hp Lycoming O-360-A1D with a Hartzell constant-speed propeller and a 2575 lb maximum weight. The wider M20 family reaches up to 222 kt cruise, but that is a family maximum, not an M20C figure.

KEY TAKEAWAYS

- Maximum weight is 2575 lb and the baggage limit is 120 lb. Early models carry 48 usable gal; a 1966 weight sheet lists 52 gal maximum.
- Power is a Lycoming O-360-A1D, 180 hp, 2700 rpm limit. No continuous running between 2000 and 2250 rpm (red arc).
- Gear and extension limit is 120 mph. Never-exceed speed is 189 mph CAS. Normal category only: no acrobatics or spins.
- Check two items first: the Dukes gear actuator coupling (SI M20-89B) and the elevator balance weights (SB M20-345A).

LOADING AND FUEL

Gear-down CG limits are 42 in at 2100 lb, and 46.5 to 49.0 in at 2575 lb. Baggage is 120 lb maximum and the hatrack 10 lb. Seat position affects aft CG. Two rear passengers with one pilot is not normally acceptable. 1962-63 models carry 24 gal per tank, 48 gal total. One school checklist calls the fuel gauges unreliable and uses a dipstick.

HANDLING AND OPERATION

Flaps are hand-pumped, with the white arc at 63 to 100 mph. Retract them soon after takeoff. Make sure the gear lever is fully latched; the green light alone is not enough. The fuel selector passes through OFF between tanks. The prop control can creep back to high rpm, so include it in the scan. Controls are sensitive and the landing gear pucks make landings bouncy.

WHAT TO INSPECT

SI M20-89B covers all M20C with a Dukes electric gear actuator. Inspect the rubber coupling within 100 hours, then with each 200 hour gear backlash inspection (AD 75-23-04). SB M20-345A covers M20C serials 680170 or earlier: check for hybrid elevator weight P/N 430018-1. If it is cracked, do not fly. Champion lists 8 spark plugs per engine.

SPECIFICATIONS

Engine Power Hp	180
Seats	4
Usable Fuel Gal	48
Max Fuel Gal	52
Propeller Diameter Inches	74
Oil Capacity Qt	8
First Year	1961
Last Year	1978

V-SPEEDS

Vso Mph	57
Vs1 Mph	67
Vr Mph	65
Vx Mph	80
Vy Mph	100
Va Mph	132
Vfe Mph	100
Vne Mph	189

WEIGHT & BALANCE

Max Takeoff Weight Lbs	2575
Max Baggage Weight Lbs	120
Max Hatrack Weight Lbs	10
Forward Gross Cg Inches	46.5
Aft Cg Limit Inches	49

SAFETY NOTES

- Stay out of the 2000 to 2250 rpm tach red arc. It has an engine and prop vibration that may not be felt by the pilot.
- A reported gear collapse on rollout was linked to a deteriorated rubber coupling in the Dukes gear actuator. Follow SI M20-89B.
- If a 430018-1 elevator balance weight shows cracks, do not fly the aircraft (SB M20-345A).