

MOONEY M20M TLS Model Guide

The MOONEY M20M TLS is a four-seat, turbocharged, retractable-gear single, described in a 1989 AOPA flight report. It has a Lycoming TIO-540 rated at 270 hp. The report calls its 3,200 lb gross weight the highest of any Mooney and lists 223 kt best-power cruise at 25,000 ft. It carries 90 usable gallons of fuel.

KEY TAKEAWAYS

- Max takeoff weight is 3,200 lb and empty weight is 2,012 lb, leaving 1,188 lb useful load. Full fuel plus three 170-lb occupants fits, per the 1989 report.
- 270 hp intercooled TIO-540: 223 kt at 25,000 ft best power (20.9 gph); 202 kt at 19,000 ft best economy (16.6 gph).
- 90 usable gallons gives about six hours at 180 kt at FL180 with IFR reserves. Flying high means managing oxygen.
- Turbocharger service bulletins (ASB 074, SB 040) apply to Mooney turbo installs. Check the records for compliance.

PERFORMANCE AND FUEL

Sea-level climb is 1,230 fpm, and climbing to 12,000 ft at gross weight takes about 10 minutes. Best-power cruise at 12,000 ft is 195 kt at 20.4 gph. At best power the report gives 208 kt at 17,000 ft, 212 kt at FL190 and 223 kt at FL250. The approach speed is a low 75 kt.

AIRFRAME AND SYSTEMS

It has a dual alternator system and two batteries, one in the tail. It also has a three-blade McCauley 75-in prop, speed brakes and electric cowl flaps. The 270 hp limit comes from the airframe and controllability, not the engine. Recommended TBO is 2,000 hr. The report notes a strong nose-down pitch when flaps are extended.

WHAT TO CHECK WHEN BUYING

Verify turbocharger part numbers and center housing history against ASB 074 and SB 040, using the data plate rather than paperwork alone. Review engine logbooks closely. One sample logbook shows a 2010 return to Lycoming for disassembly and inspection, and a June 2014 sudden stoppage inspection.

SPECIFICATIONS

Engine Power Hp	270
Propeller Diameter In	75
Wingspan Ft	36.1
Length Ft	24.8
Height Ft	8.25
Fuel Capacity Gal	96
Usable Fuel Gal	90
Baggage Capacity Lbs	130

PERFORMANCE

Rate Of Climb Fpm	1230
Max Cruise Speed Kts	223
Economy Cruise Speed Kts	202
Max Cruise Fuel Flow Gph	20.9
Economy Fuel Flow Gph	16.6
Max Operating Altitude Ft	25000
Approach Speed Kts	75

V-SPEEDS

Vx Kts	80
Vy Kts	105
Va Kts	123
Vfe Kts	110
Vle Kts	165
Vno Kts	174
Vne Kts	195
Stall Clean Kts	65

WEIGHT & BALANCE

Max Takeoff Weight Lbs	3200
Empty Weight Lbs	2012
Useful Load Lbs	1188
Baggage Capacity Lbs	130
Usable Fuel Gal	90
Fuel Weight Lbs	576

SAFETY NOTES

- ASB 074: Aeroforce center housings P/N 441320-12 shipped 10 May to 1 Nov 2017 may have undersized bearing bores. This can cause bearing wear and turbocharger seizure.
- ASB 074 compliance for single-engine aircraft: above 30 in MAP at takeoff, before next flight. At 30 in MAP or less, within 10 hours or at the next scheduled inspection.
- SB 040: machining debris in some turbo center housings can seize the shaft and cause loss of engine power. It applies to units with up to 50 hours time in service.