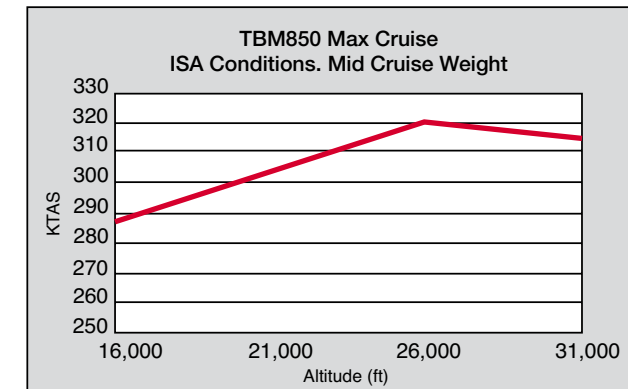


# 3. TBM 850 Performance



## Cruise Speed

The TBM 850 offers the cruising speed typical of a light jet but with the economy of a single-engine turboprop. Maximum cruise speed at 26,000 ft in ISA conditions is 320 KTAS and at the TBM 850's service ceiling of

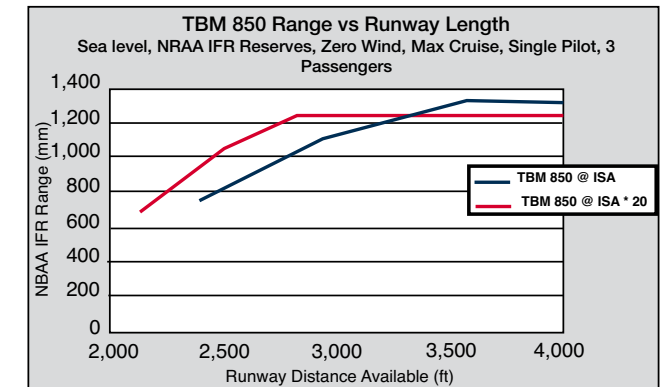


31,000 ft it is 315 KTAS. Another key feature of the TBM 850 is excellent performance at “mid-teen” altitudes, offering cruise speeds exceeding 290 KTAS. This flexibility allows the pilot a range of options to maximize ground speed in case of strong headwind at higher altitudes.

## Takeoff Distance

The TBM 850 offers excellent short field performance and load carrying capabilities. While FAR Part 23 only requires Ground Roll to be used in calculating runway length for the purposes of the following charts runway distances are selected based on the distance to clear a 50 ft obstacle to provide an enhanced safety margin.

TBM 850 Take-off Distance		
Distance to clear a 50ft obstacle at MTOW on a dry level runway at sea level		
	ISA	ISA+20°C
Ground Roll	2,035 ft	2,315 ft
Distance to clear 50ft obstacle	2,840 ft	3,200 ft



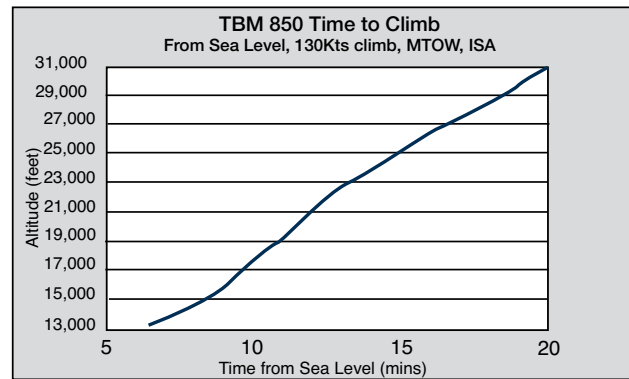
The TBM 850 offers excellent range and short field capabilities and as a result can be used at the vast majority of general aviation runways allowing the owner to fly closer to his intended destination without reducing runway safety margins while carrying a meaningful cabin load. This must be compared to the majority of light jets where operation out of short fields (if possible at all) has a substantial negative impact on aircraft payload.

Approaching at only 85 KIAS or less, short runways or short unpaved surfaces will accommodate the TBM 850. The large Hartzell propeller can also be utilized as a powerful aerodynamic brake, allowing landing on extremely short strips and runways.

In addition, the availability of thrust reversal on the TBM 850 substantially improves safety margins over aircraft without these capabilities when flying into shorter fields, particularly when the surface is wet.

## Climb Performance

The TBM 850 can climb to 26,000 ft in a mere 15 mins and to its certified service ceiling of 31,000 ft in only 20 mins when departing from sea level at its maximum takeoff weight. This performance exceeds that of the vast majority of turboprops and some light jets allowing the operator to climb faster above weather and to fly more trips and at higher, more fuel efficient altitudes reducing operating costs while at the same time enhancing passenger comfort.



## Fuel Efficiency

The TBM 850 offers both better fuel consumption and performance than typical turboprops, as well as substantially better fuel consumption and equivalent performance to typical light jets.

	PC-12	C90GT	Mustang	TBM 850
Max Cruise (Fastest speed)	267	270	342	320
Fuel Efficiency (nm per lb of fuel)	0,54	0,44	0,41	<b>0,72</b>
Conditions	8,000 lb, ISA, 16,000 ft	ISA, 20,000 ft	8,000 lb, ISA, 25,000 ft	6,300 lb, ISA, 26,000 ft

## Max Cruise Flight Profiles

- Power at Max Cruise as defined in the TBM 850 POH.
- Takeoff Weight includes the fuel required to complete the trip with the indicated number of passengers and fuel reserves.
- Flight Time includes climb, cruise and descent.
- No allowances have been included for taxi time or ATC procedures.
- Block Fuel includes takeoff, climb, cruise and descent.
- Cruise Altitude represents an optimum altitude for the distance flown. Reserve fuel is based on NBAA IFR specifications using 100 nautical miles as the alternate distance and assuming a climb to 20,000 ft.

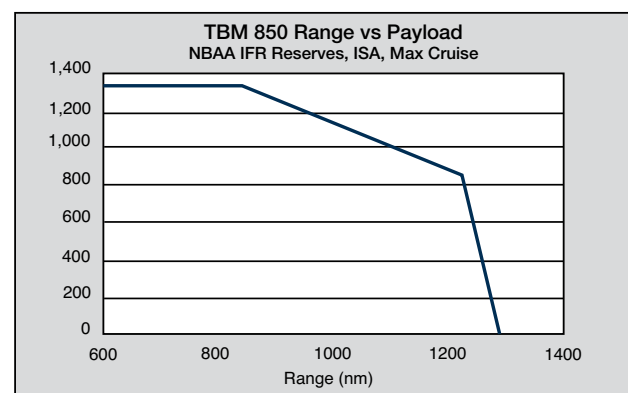
NBAA IFR Reserves (100 nm), ISA, Zero Wind, Max Cruise, Single Pilot + 3 pax				
Trip Distance (nm)	Flight Time (hr : mn)	Block Fuel (gal)	Cruise Alt (ft)	Reserve Fuel (gal)
200	0 : 44	54	16,000	50
400	1 : 26	83	26,000	50
600	2 : 04	118	31,000	50
800	2 : 43	154	31,000	50
1,000	3 : 20	189	31,000	50
1,250	4 : 07	241	31,000	50

## Range

The TBM 850 provides greater range and load carrying performance than the capabilities of typical light jets particularly allowing for the likely limited availability of flight levels above FL310 across most of the continental US and Western Europe to light jets that depend on access to these “higher” flight levels to obtain their quoted cruise range performance.

NBAA Reserve Max Cruise IFR Range with 4 Adults on Board - 1,290 nm

NBAA Reserve Long Range Cruise with 4 Adults on Board - 1,466 nm



The TBM 850 shows the excellent load and passenger carrying capabilities allowing four adults to fly for over 1,200 nm at maximum cruise speed of 315 KTAS at 31,000 ft with NBAA reserves.

# Characteristics Performance

Characteristics	Specifications
PT6A-66D Thermodynamic Power.....	1,825 SHP
PT6A-66D Nominal (flat-rated) Power.....	850 SHP
Time to climb to 26,000 ft/31,000 ft.....	< 15 min/<20 min
Maximum cruise speed at 26,000 ft.....	320 KTAS
Economy cruise speed at 31,000 ft.....	252 KTAS
FAA Certified ceiling.....	31,000 ft
Take-off distance.....	2,840 ft (ISA – to 50 ft AGL)
Landing distance w/o reverser.....	2,430 ft (ISA – to 50 ft AGL)
Range at economy cruise (252 Kts).....	1,585 NM (ISA – 45 min reserve)
Range at maximum cruise (320 Kts).....	1,410 NM (ISA – 45 min reserve)
Operating Weight – Empty.....	4,589 lbs
Maximum Zero Fuel Weight.....	6,032 lbs
Maximum Ramp Weight.....	7,430 lbs
Maximum Takeoff Weight.....	7,394 lbs
Maximum Payload.....	1,443 lbs
Maximum Landing Weight.....	7,024 lbs
Maximum Usable Fuel Weight (291.6 USG).....	1,910 lbs

With cruise speeds up to 320 KTAS the TBM 850 offers the cruise speeds typical of light jets but with the efficiency of a single-engine turboprop.