What Makes The Daher TBM Series So Popular?

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The Daher TBM has been in production since 1988. To date, over 1,000 examples have been produced across several versions, with the current variant on offer being the TBM 960. The TBM pioneered its market as a high-performance turboprop, and it remains one of the most popular aircraft in general aviation.

The TBM was created in the 1980s as a collaboration between French manufacturer SOCATA and the famed American company Mooney. The TB stands for Tarbes, SOCATA's home city, while the M stands for Mooney. The new plane would be a pressurized, high-performance aircraft with a single turboprop airport derived from the Mooney 301 prototype, a much smaller and much less powerful plane. At the time, this type of aircraft was a novel concept, but today it's a significant market.

Excellent Performance Characteristics

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Most people associate propellers with the words slow and old. But the TBM is hardly either. Ever since it was first introduced as the TBM 700, the aircraft could cruise at up to 31,000 ft, avoiding most weather, and its cruising speed in excess of 300 kt is comparable with some jets, making it one of the fastest general aviation aircraft on the market.

The TBM typically carries up to five passengers in addition to a pilot, while its substantial luggage compartment means that the whole family can come along for a vacation. Meanwhile, the aircraft offers a versatile range while being able to take-off and land from runways shorter than 2,600 ft (792 m). This means that owners have their pick of the litter in terms of where they want to travel to and which airports to land at.

The original SOCATA TBM700 was already a remarkably capable aircraft, with its Pratt & Whitney Canada PT6 engine providing 700 shp, twice the power figure of the original Mooney 301 prototype. The TBM 850 offered 850 shp, and since Daher acquired the program in 2009, the TBM has become even more capable, with aerodynamic refinements and technology improvements resulting in more range as well as higher weights. Furthermore, while the current TBM 960 is limited to 850 shp, the PT6 can produce nearly double the horsepower, meaning that the plane retains the same power at high altitudes and inflight.

Cost And Capability

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A TBM 960 costs upwards of $5.6 million brand new. Used examples typically retail for at least $2.75 million, while running costs are typically around $700,000 a year. With these costs, it's not difficult to see why it's a popular choice.

This aircraft is significantly more expensive than a high-performance piston-powered aircraft like the Cirrus SR22T, but it also offers much more capability. "Above" the TBM are very-light jets like the Cirrus VisionJet, and the TBM is much more cost-effective while offering the same or more capabilities. The TBM can essentially be used like a mini-airliner, yet is more flexible and cheaper to operate, largely stemming from using a single turboprop engine rather than one or two turbofan engines, like an entry-level business jet.

Specifications	Cirrus SR22T	TBM 960	Embraer Phenom 100EX
Base price	$969,900	$5.6 million	$4.995 million
Annual running costs	$153,000	$700,000	$1,000,000
Capacity	Five	Six	Eight
Service ceiling	25,000 ft (not pressurized)	31,000 ft	41,000 ft
Max. speed	211 kt	330 kt	406 kt
Engine	1x Continental IO-550 (215 hp)	1x Pratt & Whitney Canada PT6E-66XT(850 shp limited)	2x Pratt & Whitney Canada PW617F1-E (1,730 lbf)
Range	1,100 NM (2,037 KM)	1,730 NM (3,200 KM)	1,178 NM (2,182 KM)
Max. payload	1,246 lb (565 kg)	1,446 lb (656 kg)	1,775 lb (805 kg)

You'll notice that the TBM is actually more expensive than the jet, but contrary to popular opinion, price is not calculated by cost-of-production plus a margin for profit. The TBM costs more than the Embraer because Daher has enough demand for the plane to sell it for a higher price. Meanwhile, what we see is that the Cirrus is essentially a small plane with the ability to fly long distances, while the TBM is a cheaper-to-run business jet. The Embraer is only good if you need to fly fast and lift a lot of weight. The TBM is really the best of both worlds, which is why Daher can charge so much.

How Does It Work In The Real World

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Powerful planes work well near the ocean, but most aircraft tend to have significantly diminished performance when operating at hot and heavy airports, like Aspen Pitkin County Airport (ASE). However, because the powerful PT6 is so heavily derated, the TBM produces the same power at an 8,000 ft (2,438 m) airport compared to sea level. Beyond the performance, the newest TBM models also offer a wide range of technological and safety features, like a Garmin G3000 glass cockpit as well as FADEC and even an emergency autoland function.

Flying Magazine described the newest TBM 960 as a plane that "turns a crush into love." Engineers engineered the cockpit to be as intuitive as an Audi, and pilots enjoy the latest in technological innovation from Daher, along with exceptional power and nimble handling. The aircraft also boasts impressive field performance, with the ability to use almost the same runways and quick climb rates.

Specifications	TBM 960
Takeoff distance	2,535 ft (773 m)
Landing distance	2,430 ft (741 m)
Time to cruise	18 minutes 35 seconds

The prior TBM 940 had already won Flying Magazine's 2021 Innovation Award with its Garmin Autoland function. The TBM 960 includes even more technological updates to make life easier while onboard. The new FADEC means that pilots only have to worry about setting their power and then going, while the onboard computer now sends fault messages and alerts to the digital displays, similar to EICAS on an airliner. The standard winglets boost fuel efficiency and make for sharper handling. Meanwhile, the TBM consumes significantly less fuel than an entry-level business jet.

What Else Is Available In This Market?

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Single-engine pressurized aircraft existed before the TBM, but they all used piston engines, which were less powerful and less reliable. The Cessna Caravan used a turboprop motor, but it was unpressurized, larger, and slower. It was more of a work plane rather than a private aircraft.

Today, there are two aircraft similar to the TBM in size, design, and role. The Pilatus PC-12 is the aircraft that is often compared to the TBM, and while it's an excellent design, it serves a different role. The PC-12 is a larger plane that flies farther while cruising slower and burning more fuel. It's used heavily by companies and governments, with its rough field capabilities being a particular point of interest. It's slightly overkill for personal use compared to the TBM, which is why a majority of TBM sales are to owner-operators, compared to a minority of PC-12 sales.

The other major option in this market space is the Piper PA-46, which is actually closer to the TBM in terms of its intended role. This originally started as the piston-powered Piper Malibu but received a turboprop engine in 1997 as the Meridian, and today is offered as the M700. However, the M700 is both slower and less capable than the TBM, while being similarly sized. To compensate for these shortcomings, the M700 is priced lower, typically costing between $4 million and $4.3 million.

What Was Pioneering About The TBM

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Back in the day, if you wanted to go faster than a typical Cessna 172, you'd look for a high-performance plane like the Cessna 182. To fly higher, there were pressurized options like the Piper Malibu and the Cessna P210. As another option for upgraded performance, there were two-engined aircraft, which were either powered by piston engines like the Piper Seneca, or turboprops like the King Air.

Flying with just one engine introduces risk, as you have no power if the motor stops working. This is why many people on the higher end of the general aviation market went with twin-engined planes. But turboprops are much more reliable than piston engines, and the chances of the engine dying are far lower. SOCATA bet that people would realize the reliability of the turboprop engine and buy the TBM on its performance and cost-effectiveness, a gamble that paid off.

Specification	TBM 960	King Air C90GTx
Price	$5.6 million	$4.2 million
Annual running costs	$700,000	$1.1 million
Capacity	Six	Seven
Service ceiling	31,000 ft	30,000 ft
Max. speed	330 kt	270 kt
Range	1,730 NM (3,200 KM)	1,260 NM (2,334 KM)

Today, single-engined turboprops are now the norm in general aviation. These planes are typically easier to fly than a two-engined aircraft, and offer superior performance while being cheaper to operate. Diamond Aircraft is notable for having introduced two new twin-engined designs, but while the DA-42 and DA-62 feature unparalleled fuel efficiency, they are more similar to a Cirrus SR22T in terms of design, role, and costs.

The Rundown

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Since the release of the TBM 700 in 1990, single-engined high-altitude turboprops have now become a desirable option in general aviation, and the TBM remains a lass leader. While it's not the best seller, other planes like the PC-12 tend to be used more for utility purposes, boosting sales. The TBM, meanwhile, leads with owner-operators, pilots who own and fly the planes themselves.

General aviation aircraft tend to stick around long after they were first introduced. Look at the Cessna 172, which has been in production since 1955. With an incredible start and continued refinement under Daher's ownership, the TBM will likely continue to lead its market as an excellent all-rounder, with phenomenal performance, exceptional range, and fantastic fuel efficiency for pilots looking to step up from a Cirrus or Diamond.

DAHER

TBM 960 DIGITAL POWER

Our latest TBM very fast turboprop aircraft delivers the full benefits of digital power. Taking maximum advantage of today's turboprop technology, the single-engine TBM 960 provides high efficiency for more sustainability. In its Prestige cabin, passengers regulate temperature and ambiance lighting with exactitude. Featuring outstanding safety systems such as the TBM e-copilot® and HomeSafe™ emergency autoland, the TBM 960 is the quintessential TBM.

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