

Black Square

Piston Duke vs. Turbine Duke Features

The airframes of the Piston Duke and Turbine Duke may be nearly identical, but the two aircraft provide **vastly different flying experiences**. Managing the reciprocating engines requires finesse and adherence to performance tables. Managing the turbine engines requires precision and fine tuning. Both types of engines require constant attention and adjustment. With the different engines comes **unique engine monitors, instrumentation, systems, switch panels, procedures, and troubleshooting**.

	Piston Duke	Turbine Duke
Engines	380 HP (280 kW) Turbocharged Lycoming TIO-541	525 SHP (390 kW) Free Turbine Pratt & Whitney PT6A-35
Advanced Engine Simulations	- Advanced Starting Physics - Turbochargers Simulation - Spark Plug Fouling & Backfires - Vapor Lock & Flooding - Propeller Feathering Physics - Cylinder Shock Cooling	- Improved Turbine Dynamics - Fuel Control Failures & Surging - Propeller Governor Failures - Beta Range Simulation - Hot Starts & Residual Heat - Fuel Filter Clogging
Tablet Interface (EFB)	TIO-541 Engine Visualizer	PT6A-35 Engine Visualizer
Cruising Speeds	250 KTAS	320 KTAS
Max Rate of Climb	2,600 ft/min	4,000+ ft/min
Checklist Items	332 Normal / 195 Emergency	248 Normal / 263 Emergency
Engine Trend Monitor	JPI EDM-760	Shadin ETM
Engine Failure Warning	Low Thrust Detector	Feather Warning Handles
Fire Suppression System	None	Detector Loops & Extinguishers
Pressurization Source	Turbochargers	Bleed Air
Possible Failures	120	133
Variable Engine Cooling	Cowl Flaps	Oil Cooler Doors
Engine Ice Protection	None	Ice Deflectors
Circuit Breakers	73	83
Audio Control Panel	Factory Integrated	KMA 24 or GMA 340
Other Unique Simulations	- Needle Stiction & Friction - Original B60 Configuration - Unfeathering Accumulators	- FOD Ingestion Calculation - Oil Cooler Doors & Fuel Press. - P2.5 HP & LP Valve Simulation