

Honeywell Aerospace

Honeywell is a leading global provider of integrated avionics, engines, wheels and brakes systems and service solutions for aircraft manufacturers, airlines, business and general aviation, military, space and airport operations.

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N61-1646-000-001 | 08/17
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F124 TURBOFAN ENGINE

High Performance for Light Combat and
Advanced Trainer Aircraft



State-of-the-Art Performance and Operability

The Honeywell designed F124 turbofan engine meets the most rigorous requirements of modern light combat and advanced trainer aircraft.

High Performance, Reliability, and Readiness

The F124 is a high performance, low bypass ratio turbofan engine that meets the most rigorous requirements of modern light combat and advanced trainer aircraft. The F124 engine was designed in accordance with U.S. Military specifications and standards, including the U.S.A.F.'s Engine Structural Integrity Program (ENSIP) MIL-STD 1783.

Maximum Performance

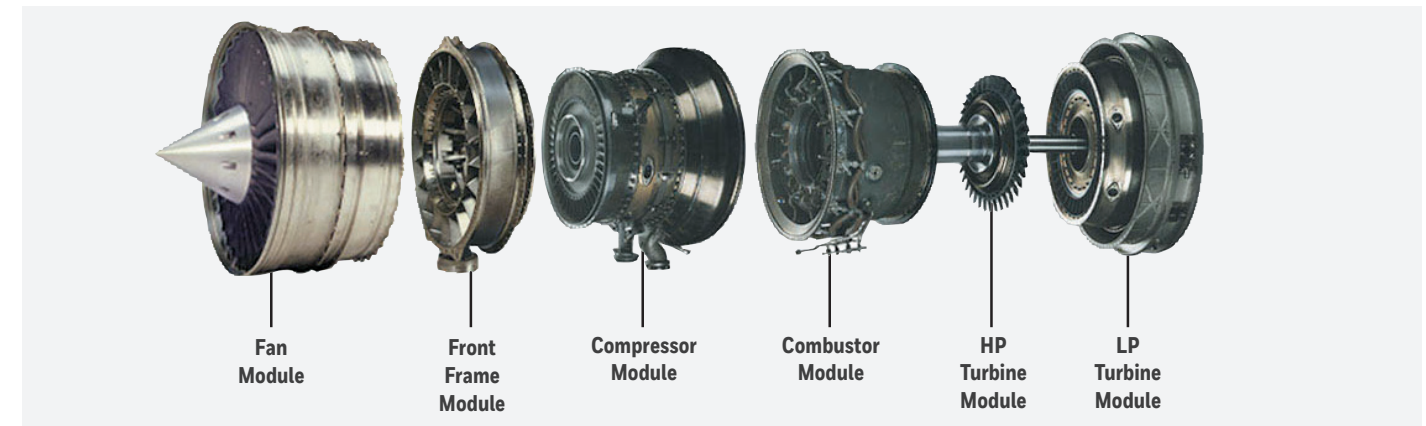
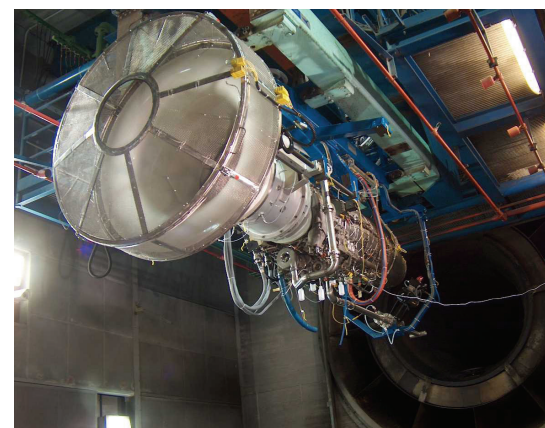
The engine has the highest thrust-to-weight ratio in its class. Incorporating a three stage fan and five stage axial-centrifugal high pressure compressor, the unique design of the F124 engine maximizes engine performance while providing exceptional inlet distortion tolerance and stall resistance. With only a single stage of variable geometry at the compressor inlet, the F124 design also reduces complexity and increases reliability. Axial turbines drive the fan and compressor rotors on concentric co-rotating shafts employing highwork single stage designs.



Low high pressure turbine temperatures ensure long life and inherent growth capability. Substantial thrust growth has been designed specifically for demanding military applications.

Advanced Control

Designed from inception to operate with a Full Authority Digital Electronic Control (FADEC) the engine includes all controls and sensors required for fully automatic operation and unrestricted throttle movement throughout the flight envelope. Pilot workload is significantly reduced through features such as automatic start and ignition sequencing, continuous temperature and speed limiting, auto-relight after flameout, and transient fuel scheduling to avoid engine surge. The dual FADECs (based on Honeywell's latest Modular Aerospace Control architecture) perform continuous diagnostics through built-in test (BIT) and fault-detection/ accommodation logic. Transfers to backup modes of operation are performed automatically with no pilot action required, and with no degradation in engine performance.



Ease of Maintenance

The F124 includes several features designed to ease maintenance. An integrated Engine Monitoring System (EMS) continuously monitors engine health and tracks life usage in order to alert the operator when a maintenance action is required. This on-condition maintenance philosophy helps to significantly reduce maintenance and down times. The EMS also records important data to be used for performance trend monitoring. EMS health monitoring and diagnostic information is integrated into the technical publications to ensure rapid post flight engine analysis and fault isolation. Engine life records are also automatically captured and transferred to engine maintenance records.

Other design concepts such as the elimination of safety wire, the elimination of shimming requirements, easy access to line replaceable units, excellent boroscope access, and color coding of wiring harnesses have been incorporated to simplify maintenance actions.

Key F124 Features

- Highest Thrust-To-Weight Ratio of its Class
- High Reliability
- High Durability
- Modular Engine Design
- Ease of Maintenance
- Reduced Pilot Workload

The F124 engine is offered with a comprehensive and proven Integrated logistics support program. Packages can be tailored to meet the specific requirements of the operator and include Ground Support Equipment (GSE), Logistics Support Analysis (LSA), provisioning and spares management, maintenance training, and technical publications.

Modular Design

The F124 engine is designed to be truly modular. All modules can be installed or removed from the engine, or interchanged with modules from another engine, without requiring special retesting, balancing, or shimming. This feature of the engine provides significant maintenance and logistics benefits to the operator, and also facilitates international co-production and support of the engine.



Key Performance Data

Engine	Performance, Sea Level Static, Standard Day, Nominal Engine, Max Power	
F124	Maximum Thrust, lb	6280
	TSFC, lb/hr/lb	0.78
	Bypass Ratio	0.49
	Corrected Airflow, lb/sec	92.6