



# RB199 turbopfan engine

Proven power



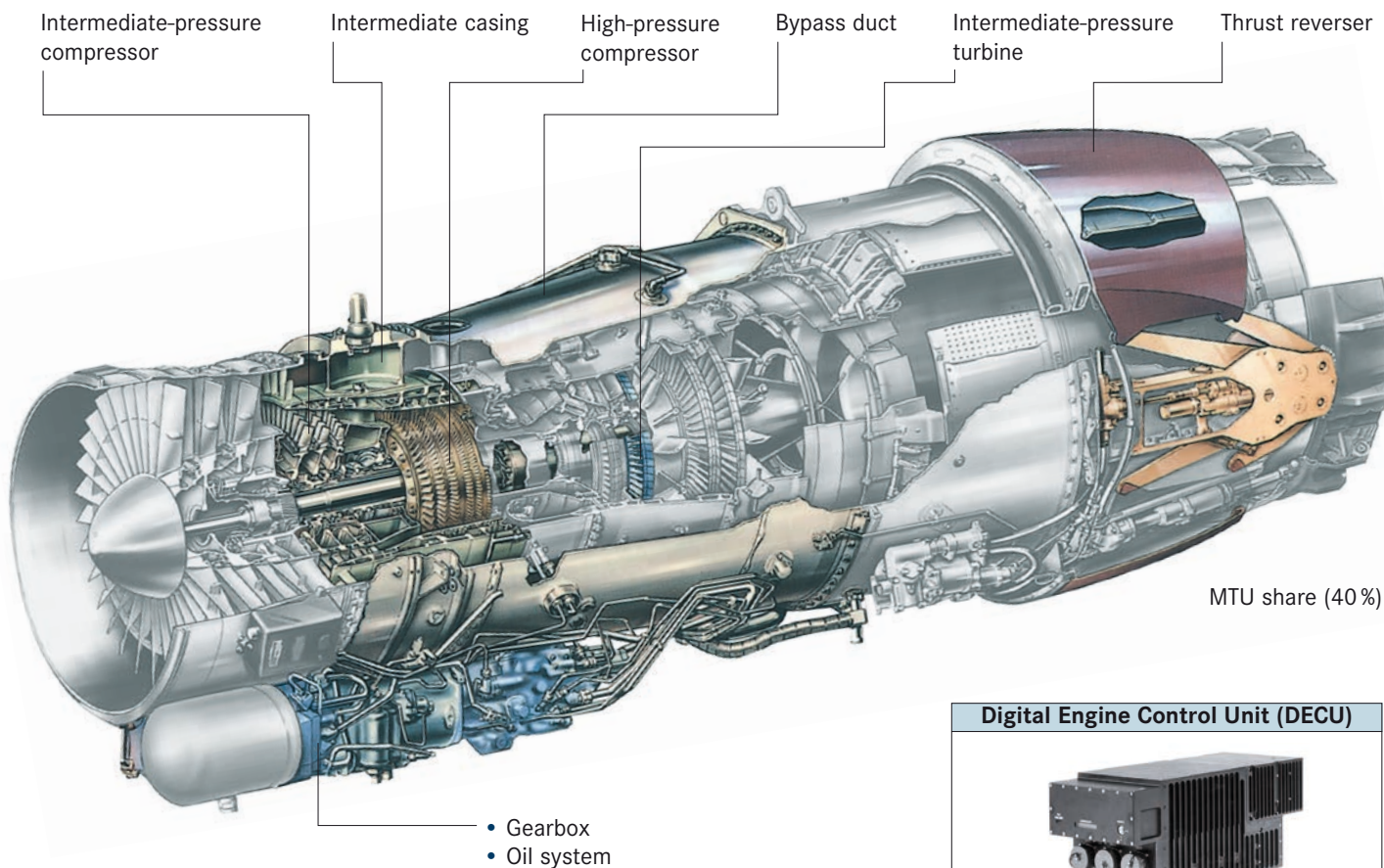
# RB199 – technology features

The RB199 is a product of the partner companies Rolls-Royce, MTU Aero Engines and GE Avio. Two RB199 engines power the Tornado multirole combat aircraft, which is in service with the armed forces of Great Britain, Germany, Italy and Saudi Arabia. 2,500 engines have been delivered since 1979 to the armed forces, which have accumulated close to 7.0 million engine flying hours. The RB199 was designed to give the Tornado outstanding performance. In order to meet the varying mission requirements of the Tornado, in particular extreme low-level missions, a three-shaft design with afterburner and thrust reverser was selected. The Digital Engine Control Unit (DECU) reduces the pilot's workload during operation and supports on-condition maintenance.

The fact that the RB199 is still a very modern combat engine with future growth potential is a confirmation of its advanced design. Modular construction allows damaged modules to be replaced within the minimum turnaround time, thus ensuring greater availability of the aircraft. Its unprecedented reliability has not only been demonstrated in hostile environmental conditions but also in combat. The most recent production standard, Mk105, powers the German ECR (Electronic Combat Reconnaissance) Tornado.

## Key features:

- Three-shaft turbofan with afterburner
- Thrust reverser
- Single-crystal turbine blades
- Modular construction
- Digital engine control
- On-condition maintenance



MTU share (40%)



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RB199 engine specifications (Mk 103)	
Max. thrust	
Reheated	70 kN
Dry	40 kN
Air flow rate	70 kg/s
Bypass ratio	1,1:1
Pressure ratio	23:1
Turbine entry temperature	approx. 1,600 K
Length	3,300 mm
Max. diameter	731 mm
Weight, including thrust reverser	1,084 kg