

# TP400-D6

The TP400-D6 is being developed and produced by Europrop International, an international cooperation comprising ITP, MTU Aero Engines, Rolls-Royce & Snecma (Safran group).

The engine has been designed to power the Airbus A400M military transport aircraft, Europe's response to the increased requirements for transport capacity within Europe and for peacekeeping missions abroad.

Major development activities started in May 2003 after the engine contract was signed by Airbus Military and Europrop International (EPI). This contract covers the development and production of over 700 engines to be delivered for the A400M fleets of Germany, France, the United Kingdom, Spain, Turkey, Belgium and Luxembourg, and any additional engines for potential export aircraft customers which already includes Malaysia.



## TP400-D6 is:

### tailored for A400M mission requirements:

- Cycle optimised for A400M mission performance
- Component technology based on best-in-service military and commercial practice
- Proven three-shaft architecture
- Moderate temperatures for long life
- Modular design for maintainability and low life cycle costs
- Meets noise and emissions regulations

### designed for optimum maintainability:

- Full module interchangeability
- Quick LRU replacement
- Dedicated on-wing boroscope ports
- FADEC built-in test functions
- NBC requirements covered
- Engine replacement within four hours

### Engine characteristics:

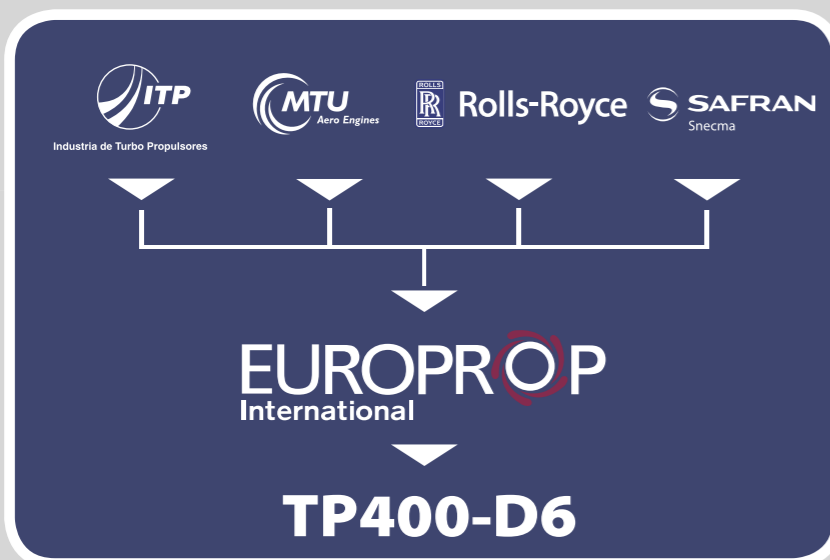
- Three-shaft turboprop
- Power class: 11,000 shp at sea level
- Pressure / compression ratio: 25
- Weight: 1,900kg (dry)
- Length: 3.5m

### Engine architecture:

- Offset Propeller gearbox with two senses of propeller rotation
- Intermediate Pressure Compressor
  - pressure ratio 3.5
  - 5 stage unit with no variables
- High Pressure Compressor
  - pressure ratio 7
  - 6 stage unit
- Combustor
- Single stage cooled high and intermediate pressure turbines
- Three stage low pressure power turbine

The TP400-D6 uses the Ratier-Figeac FH386 propeller (Airbus Military interface), driven by the Avio power gearbox.

## Programme milestones



2002



**2002**  
Europrop International established.



**2003**  
EPI selected by Airbus Military to power the A400M.  
  
EPI opens its Madrid liaison office.



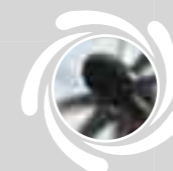
**2004**  
Preliminary design review.  
  
First Intermediate Pressure Compressor test.



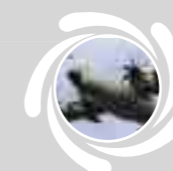
**2005**  
Critical design review.  
  
First Control Monitoring System test.  
  
First ground test.



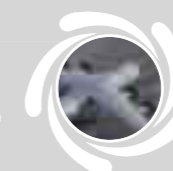
**2006**  
First engine test with propeller.  
  
First series of altitude tests.



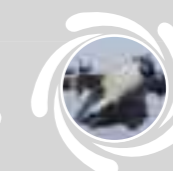
**2007**  
First engine to test in Sevilla.  
  
Delivery of flying test bed engine.



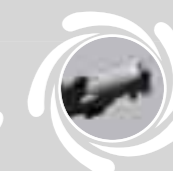
**2008**  
Delivery of first engines to Airbus Military.  
  
First flight test.



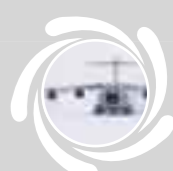
**2009**  
Ground test hours past 2,500.  
  
FTB second flight achieves maximum power.



**2009**  
First flight of A400M.



**2010**  
4,000 flight test hours achieved.  
  
Certification testing complete.



2011

**2011**  
TP400-D6 certification.

## About EPI

Formed in 2002, EPI Europrop International GmbH (EPI) is responsible for delivering the TP400 engine to its customer Airbus Military. Its tasks include the development of the engine, type certification, customer service, marketing, logistics and repair.

EPI GmbH has its headquarters in Munich, Germany and a liaison office in Madrid, Spain, close to its customer, Airbus Military.

The company is a multinational collaboration of the four leading engine manufacturers in Europe.

The EPI shareholders are ITP (16%), MTU Aero Engines (28%), Rolls-Royce (28%) and Snecma (28%).

The development and the production of the TP400-D6 engine are major contributors to the evolution of the high technology aero-engine industry in Europe, and provide high value and highly skilled jobs for the participating companies. EPI is combining the best of European engine technology to meet Europe's strategic defence requirements. As a key player in the aeronautical propulsion sector, it aims to make a substantial contribution to the European defence industry.

### ITP (Spain) (programme share 20.6%)

- front frame
- power turbine
- turbine exit casing and nozzle
- external dressings
- testing

### MTU Aero Engines (Germany) (programme share 22.2%)

- intermediate pressure compressor
- intermediate pressure turbine
- intermediate shaft
- part of the engine control & monitoring system
- final assembly of production engines
- testing

### Rolls-Royce (United Kingdom and Germany) (programme share 25%)

- air & oil systems
- performance
- whole engine mechanics
- HP compressor
- LP shaft
- intermediate case
- bearing support structures
- hot strut

### Snecma (France) (programme share 32.2%)

- combustor
- high-pressure turbine
- powerplant installation on aircraft
- lubrication system (Techspace Aero)
- starter
- part of the engine control & monitoring system
- accessory gearbox and components (Hispano-Suiza)
- testing

## EPI locations



The world's most advanced turboprop

# TP400-D6 turboprop



### EPI Europrop International Madrid S.L.

Edificio Berlin - First Floor  
Parque Empresarial San Fernando  
Avenida Castilla 2  
28830 San Fernando de Henares  
Madrid / Spain  
Tel +34 91 285 80 00

### EPI Europrop International GmbH

Dachauer Strasse 655  
80995 Munich  
Germany  
Tel +49 (0)89 312 036 10

[www.europrop-int.com](http://www.europrop-int.com)

© EPI Europrop International GmbH 2011 Ref:VCOMB 1442  
Aircraft images Copyright © Airbus Military 2011