Engine tooling plays a vital role in the development, production, maintenance and overhaul of aircraft engines. It is often very simple in itself. The challenge lies in the interface to the engine, understanding the sequence, the complexity of the program and the volume of quantity.

HYDRO can manage all these challenges for you with our proven processes. The detailed understanding of our customer requirements makes HYDRO the worldwide leading developer and supplier of Engine Tooling for gas turbines.

**ENGINE TOOLING PORTFOLIO**

- Line maintenance tooling
- Engine transportation stands
- Build & strip tooling for engine & modules
- Engine module transportation
- Balancing tooling
- Ground support equipment (GSE)
- Component repair tooling
- Electrical test equipment
- Tooling & equipment for final engine test
- On wing tooling

HYDRO designs and manufactures tools for the following engines:

<table>
<thead>
<tr>
<th>Engine</th>
<th>Aircraft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trent XWB</td>
<td>Airbus A350</td>
</tr>
<tr>
<td>Trent 1000</td>
<td>Boeing B787</td>
</tr>
<tr>
<td>Trent 900</td>
<td>Airbus A380</td>
</tr>
<tr>
<td>Trent 800</td>
<td>Boeing B777</td>
</tr>
<tr>
<td>Trent 700</td>
<td>Airbus A330</td>
</tr>
<tr>
<td>Trent 500</td>
<td>Airbus A340-500/600</td>
</tr>
<tr>
<td>IAE V2500</td>
<td>Airbus A320 - family</td>
</tr>
<tr>
<td>RB211-524, -535</td>
<td>Boeing B747, B757, B767</td>
</tr>
<tr>
<td>CFM LEAP</td>
<td>Airbus A320, Boeing B737</td>
</tr>
<tr>
<td>Tay, Spey, Dart</td>
<td>Fokker, Gulfstream</td>
</tr>
</tbody>
</table>
QUALITY, COST AND DELIVERY

HYDRO has the ability to deliver certified products within critical time at the right cost and quality.

PROVIDED SERVICES

HYDRO provides a world class service which includes:

- Requirements capture
- Concept
- Detail design
- Technical documentation
- Manufacture
- Validation
- Training
- Technical support
- Industrialization
- Maintenance
- Repair and refurbishment
- Calibration
- Consignment stock of spare parts
- Supply chain management
- Modification and upgrades
HYDRO ACHIEVEMENTS IN TOOLING

Rolls-Royce plc

- HYDRO has designed and delivered over 1,500 bespoke tools per engine variant
- Extensive optimisation of tooling designs to support production rate readiness
- HYDRO continues to innovate tooling upgrades for new engine programs

SELECTED BY ROLLS ROYCE

Official Tooling Service Provider of Rolls-Royce plc

- Design and manufacture according to Rolls-Royce quality standards
- Tooling representative to all Rolls-Royce customers and partners
- Comprehensive knowledge on how to build, strip and maintain gas turbine engines
- Dedicated processes for defining build, strip or maintenance and overhaul tooling
- Outstanding skills in requirements capture, design and manufacture of tooling
- In-house capability for design and manufacture
- Proven experience of delivering high volume bespoke design and manufacture programs
- Repair, refurbishment and spares
HYDRO - THE ONE-STOP-SOLUTION FOR AERO ENGINE TOOLING

Rolls-Royce - General
- More than 18,000 tools have been delivered from HYDRO to Rolls-Royce airlines and overhaul shops in 2014.
- HYDRO provided 8,000 new or upgraded engine tool designs since 2008.

IAE – V2500 Engine Program
- HYDRO is delivering engine tooling to IAE and the airline & overhaul customers of IAE, providing value for money solutions.

SUPPLY CHAIN MANAGEMENT
- HYDRO has both inhouse capabilities and a strong global supply chain for the manufacturing of tooling.
- Tooling demands that HYDRO gets it right the first time.
- HYDRO’s suppliers are located close to key customers in Europe or Asia which allows us to offer both responsive and competitively priced options.

OVERHAUL SHOPS
- HYDRO delivered the complete tooling package required for Trent XWB to the first 3 Rolls-Royce Trent XWB Overhaul Shops.
- HYDRO supplied complete tooling packages for Trent 900 and Trent 1000 overhaul shops and gave support during the introduction of the new engine type.
HYDRO ENGINE TOOLING AT A GLANCE

- Sole tooling service provider of Rolls-Royce plc
- Delivery of very large design & manufacturing projects with up to 1,500 different tools for one engine type
- Reducing build time through innovative solutions
- Providing bespoke tooling solutions
- Manufacturing & supply of the complete range of engine tools for all applications and tasks
- Specialized worldwide supply chain for engine tooling
- Comprehensive aftermarket service portfolio

IN SAFE HANDS.

Strong. Leading. Worldwide. HYDRO means innovation, quality and reliability for aircraft and engine manufacturers, MROs, airlines and airports around the world. From the development of turnkey system solutions through to the manufacture of Ground Support Equipment and Tooling, including a diverse range of services, we provide all your requirements from a single source.

As the global market leader, HYDRO sets the benchmark. With our highly experienced development teams, our wide-ranging innovative product portfolio, modern production facilities and class-leading supply chains, you get genuine quality from HYDRO. Precise, reliable and without costly interfaces. HYDRO is truly your “One Stop Shop”, a leader within its industry.

HYDRO Systems KG
Headquarters worldwide
Ahfeldstrasse 10
77781 Biberach / Baden
Germany
Phone: +49 (0) 7835 787-0
Fax: +49 (0) 7835 787-8888
info@hydro.aero

www.hydro.aero

and more than 50 sales representatives located worldwide!