Schenck is the foremost supplier of balancing equipment, and a licensed supplier of assembly and rotor handling tooling
We offer a total support program that goes beyond balancing to provide equipment and technical services for balancing program certification, rotor assembly tooling and handling fixtures, detailed process documentation and engine specific training programs. Schenck's total support program ensures a timely and efficient launch for every engine overhaul program.
Balancing Tooling

Precision accuracy and efficient floor to floor time can only be realized if the machine and tooling are carefully designed for the task, and the requirements of the user. Schenck’s tool design engineers have experience with every balancing application and every engine type.

Schenck has supplied complete tooling packages for all phases of the balancing process to ensure:

► reduced vibration levels
► interchangeability of subassemblies
► reduction of overhaul time

Spindle-based balancing fixture for CFM 56 fan disk with booster module
Balancing Tooling

Tooling for P&W PW 4168 Fan Rotor (LP Compressor)

Hydraulic adapters for two plane balancing of AGT 1500 power turbine on a vertical machine

HP compressor dummy and HP turbine dummy for balancing CFM 56 & F 110 engines
Balancing Tooling

Drive shaft fixture

Modular fan rotor balancing fixture with electrically-actuated shroud for simple operation

Modular HPT rotor balancing fixture with removable castors for easy storage

Passion for Balancing
Gage Standards for Machine Certification

Trial mass & shoulder screw kit for SAE proving rotors

Proving rotor to verify balancing machine compliance with SAE Standards

SAE rotor fixture

Passion for Balancing
Schenck’s mobile work cells with interchangeable fixtures support a variety of rotor assembly and inspection tasks. Users can easily build rotors in one location, wheel it to inspection, lift it from the vertical position, rotate to the horizontal position, and place it into a modular run-out fixture and then the balancing machine.
Assembly Fixtures & Build Stands

The modular build stand concept incorporates interchangeable mandrels, fixtures, and optional accessories for multiple tasks. The modular concept can be used for multiple engine programs using quick change tools resulting in immediate reconfiguration. Return on investment is shortened through reduced time to assemble a specific rotor, and adaptability in reconfiguration between engine program applicability.

Pneumatic Fan Rotor Tilting Mechanism permits building the fan rotor vertically. After rotor assembly, tilt the fan rotor to horizontal for installation in your balancing machine.
Modular Assembly/Disassembly Stand is designed to support more than one task. A quick detachable mandrel permits deblading of a fan disk. The fan rotor can be rotated 360 degrees for fan blade removal. A pin lock is included to lock the rotor at each blade position.

Kipp handles are included with a modular design to ensure quick changes between a variety of mandrels for efficiency and multiple use. Kipp handles make reconfiguration quick and easy.

Interchangeable mandrel assemblies can be supplied to accommodate different assembly tasks. Each mandrel incorporates pillow block bearings with grease fittings to permit full rotation of each rotor assembly.

The compressor rotor mandrel permits 360 degree rotation about the rotor axis, and also permits end to end rotation for forward end or aft end up assembly processes.

Schenck Tool Design Principle: “Eliminate need for hand tools; Design using modular interchangeability in mind.”

Passion for Balancing
Rotor Handling Tools

Schenck’s rotor handling and rotor transfer tools are designed with integration in mind. Rotor handling tools are designed for use with Schenck build stands as well as other balancing tooling packages and balancing machine configurations. All lifting slings are load certified for safety. A load certification is issued with each lifting sling.

- Rotor clamping fixtures incorporate trunnions for turning the rotor from vertical to horizontal and back.
- Each rotor is clamped at its center of gravity for easy turning. Swivel locks with register pins ensure a rotor cannot break loose.
- Quick release push pins lock the orientation of the rotor in place during lifting and transport.
### Other Accessories...

<table>
<thead>
<tr>
<th><strong>Rotor Handling Tools</strong></th>
<th><strong>Unbalance Correction/Grind Stands</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Shaft collars</td>
<td>• For precision unbalance correction</td>
</tr>
<tr>
<td>• Lifting slings</td>
<td></td>
</tr>
<tr>
<td>• Turning trunnions</td>
<td></td>
</tr>
<tr>
<td>• Rotor center of gravity fixtures</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Inspection Accessories</strong></th>
<th><strong>Tools &amp; Accessories</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Runout measurement</td>
<td>• Slide hammers</td>
</tr>
<tr>
<td>• Dimensional gages</td>
<td>• Slave race pullers</td>
</tr>
<tr>
<td>• Alignment fixtures</td>
<td>• Tool inspection gages</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Machine &amp; Process Certification</strong></th>
<th><strong>Tools &amp; Accessories</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Proving rotors</td>
<td>• Storage boxes</td>
</tr>
<tr>
<td>• Fixtures</td>
<td>• Spanner and torque wrenches</td>
</tr>
<tr>
<td>• Go-no-go gages</td>
<td></td>
</tr>
<tr>
<td>• Software-based test packages</td>
<td></td>
</tr>
</tbody>
</table>
Count on Schenck…

For complete, comprehensive support!

Schenck can provide a complete, integrated approach to assembly and balancing solutions for any rotor assembly and balancing application.

Products and services offered by Schenck are designed for quick, efficient use while complying with current industry and government quality requirements.

Schenck products are of a modular design that can be configured to meet a variety of gas turbine applications. Schenck is the only supplier that integrates products with value-added services to ensure facility certification to OEM and industry standards.

For more detailed information call 1-800-873-2352
or visit us on-line at: www.schenck-usa.com
Global Balancing Network for the Aviation Industry