



TIMKEN

AEROSPACE DRIVE SYSTEMS

Trusted transmission, component and service solutions.

Timken strengthens the aerospace industry by providing reliable solutions for mission-critical components in military and commercial helicopters, as well as jet engine accessory gearboxes.

At Timken, we apply our expertise in manufacturing, repairing, and testing drive train assemblies and components to supply a broad range of power solutions for these applications.

Our capabilities are as dynamic as our customers' requirements – from producing a single gear, to completely designing and testing transmissions, to manufacturing master gears and curvic couplings. We also design and manufacture vital rotor head components such as mast bases, pitch housings and swash plates to your exacting standards.

We also apply our production experience and know-how to other technologies used in the drivetrain system integration process, including our comprehensive supply-chain management. We integrate the materials needed to manufacture, assemble and test transmissions to exacting specifications, while meeting customer delivery requirements.

We're experts in meeting the most demanding aerospace tolerances and requirements. By operating under rigorous quality controls and manufacturing procedures, we can meet or exceed the most exacting customer specifications.



Applications

- Helicopter main rotor transmissions.
- Helicopter engine nose, intermediate and tail gearboxes.
- Helicopter rotor head assemblies and components.
- Jet engine accessory gearboxes.

Component and Service Solutions

- Our products meet or exceed the stringent quality standards of Timken and the aviation industry.
- Our gearboxes are engineered to the most precise aerospace tolerances and dimensions.
- We offer precision assembly of all components to exacting specifications and aerospace standards.
- We maintain tight control of metallurgical properties to help achieve excellent product quality, performance and uniformity.
- We offer in-house heat-treat capabilities.

Stronger. By Design.

Gears and Associated Components

We manufacture critical gearbox components, such as gears and housings, and associated parts, including shafts, adapters, covers, supports and retainers. Timken sells both parallel axis and spiral bevel gears up to Class 15 AGMA tolerances, ranging in size from 2 in. to 36 in. in diameter.

Our gear offering includes:

- Spiral bevels.
- Helicals.
- Spurs.
- Splines (straight and crowned).
- Curvics.

We use only the highest-quality materials for our gears, including carburizing 9310 and Pyrowear® X-53, and nitriding steel. In addition, we employ several processes to create surfaces that resist fatigue, wear and corrosion while reducing friction. Our in-house heat-treat and vacuum carburization capabilities allow us to control required metallurgical characteristics to detailed specifications.

Our associates inspect all gears throughout the manufacturing process and again at completion, maintaining a permanent record of all dimensions and process controls. We compare spiral bevel gears to master gear data and adjust machine settings to meet customer requirements. We make, verify and archive tape transfers showing the approved contact pattern between the gears we manufacture and customers' master gears.



Applications

- Aerospace gearboxes (rotorcraft and engines).
- Accessory-mounted accessory drives.
- Engine-mounted accessory drives.
- Helicopter rotorheads.

To learn more about Timken Aerospace, visit www.timken.com/aerospace.

For Aerospace Drive Systems customer support, call 860.649.0000 (fax 860.645.6293).

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The Timken team applies their know-how to improve the reliability and performance of machinery in diverse markets worldwide. The company designs, makes and markets high-performance mechanical components, including bearings, gears, belts, chain and related mechanical power transmission products and services.