



Since the 1930s Cross Manufacturing has specialised in the design and manufacture of heat resisting metal products, combining technology with innovation to achieve world-class quality and precision across many industries.

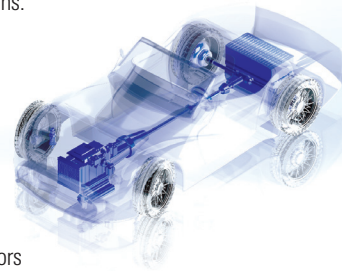
Our turbocharger and engine rings are manufactured from wrought and machined materials, delivering cost-effective, optimum performance with excellent resilience under arduous conditions.



Cross are advancing and diversifying with trends in the markets including electric vehicle and hybrid designs.

Applications include:

- » Electric boosting
- » Transmission
- » EV coolant / heat pumps
- » EV range extenders
- » Microturbines
- » Hydrogen fuel cell compressors



CROSS

PRECISION SEALING SOLUTIONS



#sealingthefuture

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CROSS

PRECISION SEALING SOLUTIONS

AEROSPACE / AUTOMOTIVE / POWER GENERATION



TURBOCHARGER SEALS & RETAINING RINGS





» Turbocharger Main Shaft Seals.

Cross shaft sealing rings offer efficient sealing solutions for new and developing applications.

- We supply virtually all of the world's passenger car and truck turbocharger OEMs
- Cross has delivered in excess of 1 billion high precision parts since the 1980s
- Typical diameter range; 9mm to 60mm
- Typical materials: M2 (1.3343) and M35 (1.3243) tool Steels, and 420 martensitic stainless steel (1.4028).

» Actuator Shaft Seals.

Reliable actuator shaft sealing delivers efficient emissions control.

- Excellent sealing options for mechanisms operating at high temperatures
- Very small diameters available, down to 6mm
- Cost-effective solutions for high volume applications
- Typical materials: A286 (1.4980). HAYNES® 25 alloy(L.605). WASPALOY®.

» Dynamic Sealing.

Our range includes special low cost rings for axially sliding applications.

- Wide range of diameters for both car and commercial vehicle applications
- Suitable for high temperature applications in the gas path
- Special profile sections available to suit retaining ring features
- Highly efficient production methods, maximising the cost-effective use of super alloys
- Typical materials: A286 (1.4980). Ni 90.

» Static Joint Rings.

The best solution for VGT nozzle sealing.

- Proven in many existing applications
- Typically square in ring section, applications include high end turbochargers for passenger cars
- Cobalt based with other super alloy grades available to seal in the most demanding areas of the turbocharger
- Typical diameter range: 30mm to 80mm, other sizes can be accommodated
- Typical materials: A286 (1.4980). WASPALOY®. HAYNES® 282 alloy. Alloy 718.

» Your Sealing Application.

Sealing is our business – we can help.

- Seals for any engine application, especially where demanding conditions exist
- Cross has many years' experience and know-how in the production and performance of sealing rings – we can provide technical advice and support
- Our in-house Materials Laboratory provides analysis of ring and material performance
- Test facilities can be organised, including collaborative work with universities.

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WASPALOY® is a registered trademark of Pratt & Whitney, a United Technologies Company.