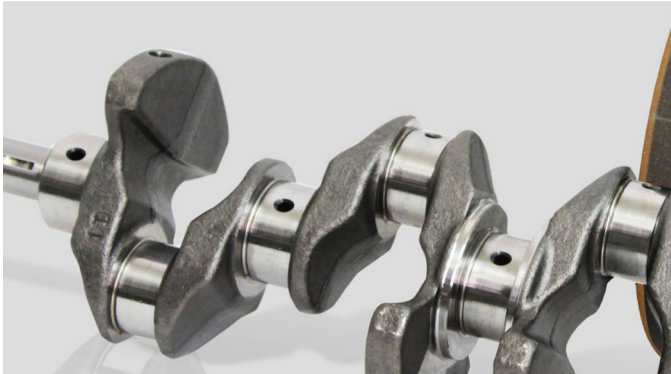


Automotive and powertrain



Crankshaft as an application example

Consider the application and tool together

The automotive documents connect tooling solutions for engines, powertrains, housings, CV joints and bearings. The more recent application collections add electric mobility, motor windings and other components to these manufacturing tasks.

This edited overview provides an introduction to the tool family. Complete original tables and illustrations remain accessible through the source links. You can move from the described operation directly to a technical discussion of your application.

Applications and tool assignment

Application or feature	Tool and assignment
Motor housings	Special boring tools
Powertrain	PCBN inserts matched to the material
CV joints	PCBN endmills/inserts and grinding tools
Aluminum alloys	XF face-milling cutters in the catalogue
Hairpin motor windings	Stripping blades matched to conductor profile

Tool features and benefits

The illustrated tools target precise contours, high machining performance and useful tool life. Hairpin processing focuses on removing insulation while preserving the copper conductor; the source example names PEEK and PAI. Material, geometry and the following process are considered together. An application name alone does not establish a universal cutting-material recommendation.

From your application to a tooling solution

The component drawing, material, hardness, machine and cycle-time goal help selection. For hairpins, state conductor cross-section, corner radii, insulation and the required stripping region. Existing surface results and tool life help choose a suitable solution.

Start with the information already available. An existing tool, a photo or a drawing is often a useful starting point. Also discuss your goal: replacing an existing design, improving surface quality or reducing tool changes and machining time. Comparisons record quality, time and useful output together; missing information can be added during the technical discussion.

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Further original documents

- [Automotive and powertrain - AMB 2026 -Automotive](#) · Original PDF, 14 pages.
- [Automotive and powertrain - Automotive 2026 QR-1](#) · Original PDF, 7 pages.
- [Automotive and powertrain - Automotive | engine-turbocarger](#) · Original PDF, 8 pages.
- [Automotive and powertrain - Automotive | gear-steering-brake](#) · Original PDF, 10 pages.

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