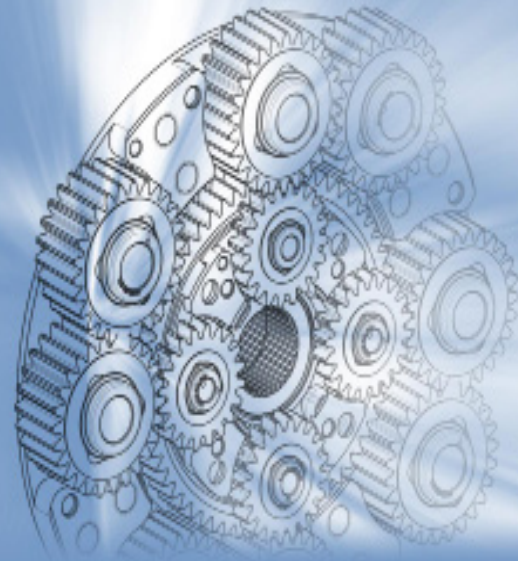


MAHLE Powertrain Transmissions Build & Test



Innovative Gear Development & Production

Specialist Testing of eMachines

Comprehensive Customer Support

Prototype Manufacture

Prototypes represent a significant milestone in the development of new products. MAHLE ZG Transmissions achieves this milestone together with their selected partners – no matter whether “only” a gear wheel or an entire gearing (e.g. an automatic gear for cars) is required.



>> Attention to detail

- Creation of production drawings
- Drawing review with suppliers
- Component modifications management
- Supporting the customer production
- Detailed dimensioning of components
- Gear prototype assembly
- Complete documentation of prototypes

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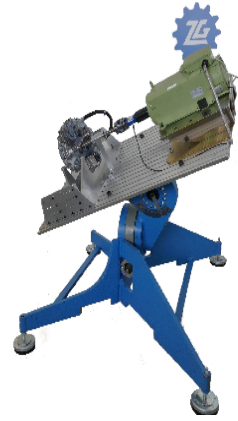
Prototype Transmissions Manufacturing

- In-house manufacturing of prototype transmissions
- Systematic documentation in all production stages
- Wide spectrum of testing on prototype assemblies
- Validates all required specifications including:
 - › Mechanical durability
 - › Lubrication
 - › Sealing
 - › Cooling
 - › NVH tests



Benefits

- Our prototypes represent significant milestones in development of new products
- All gear components provided
- Network of approved suppliers
- Prototypes assembled in house
- Systematic assembly documentation
- Initial function tests for assembled gears
- Dedicated facility for lubrication tests
- Experienced team for test results evaluation
- Corresponding sensor system



>> Motor tilt rig

Specialised Test Rigs

- ZG Transmissions have developed a range of bespoke test rigs
 - › Supports evaluation & development of transmissions & eMotors
- Specialist in-house equipment for testing includes:
 - › Tilt table for simulation of g-loading during lubrication system optimisation
 - › Axial sealing / rotor cooling rig for thermal & leakage testing of multiple seals (up to 10) simultaneously
- Modular test rig
 - › Provides experimental research on eMotors
 - › Oil & water cooling system development
- Thermal loss testing



>> Axial sealing rig

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