



oil & gas
mining
power
rail

Service and repair driven by David Brown

metals
cement
sugar
rubber

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Service and repair driven by David Brown

The unique experience of David Brown's service and repair business is founded on more than 150 years of engineering for some of industry's most challenging applications. This gives us an unparalleled insight into the environments in which gearboxes operate, and how different types and applications function. Our experience in keeping our customers' gearboxes running economically through key activities such as asset management and strategic spares availability, tells us that in mission critical operations cutting corners on maintenance, repair and overhaul comes with associated risks and costs.

David Brown's service support is always about delivering solutions to problems through high quality engineering. Our aim is to minimise downtime and reduce life time costs to ensure our customers have long-term asset availability and a healthy balance sheet.

Not only do we provide service and repair for David Brown gearboxes we can inspect, overhaul and repair other manufacturers' units, such as:

- Allen Gears
- Eickhoff
- Falk
- Flender
- Hansen / Sumitomo
- Jahnel Kestermann
- Lohmann & Stolterfoht
- Lufkin
- Moventas
- Philadelphia Gear
- SEW
- Sumitomo
- Renk
- All others

ENGINEERED AROUND YOU: the name David Brown has been an integral part of industry for more than 150 years. This is because everything that we produce is driven by client needs. We completely immerse ourselves in the demands you face, because we know that the best way to solve a problem is to look at it from every possible angle. This is engineered around you.



Lifetime support

We are proudly collaborative and pride ourselves on the long term relationships we have with our customers – even if it's just advice they need, our customers know they can always rely on David Brown to provide an honest, professional perspective.

In situ inspection

Using the latest video endoscope technology, our service engineers inspect your gearbox to ensure all components are running smoothly. Regular in situ inspections can help identify issues before they cause failure so they are an ideal way to reduce expenditure on emergency repairs.

- Rapid global support
- Full range of on-site services including:
 - Installation
 - Commissioning
 - Trouble shooting
 - Failure analysis

Gearbox repair

Depending on your gearbox model, our engineers can often conduct repairs in situ to reduce downtime to its lowest level. If your gearbox cannot be repaired at site, our proposals team will strive to minimise the costs associated with removing your gearbox from its application.

- Gearboxes repaired to an 'as new' standard
 - This can cost 40% less than a new gearbox

Gearbox upgrade

To ensure your application operates smoothly, David Brown will thoroughly inspect your gearbox to provide full technical reports and upgrade recommendations for gearboxes experiencing serial failure. Our global manufacturing capability facilitates design and manufacture of new, upgraded components to ISO 9001:2008.

- Reconfiguration of any gearbox brand to engineer out original design flaws
- Upgrades to suit a change in your process, duty cycle or working environment
- Reworking of an older gearbox to current and higher standards
- Upgrade to combat issues such as:
 - Gear failure
 - Bearing failure
 - Lubrication

Strategic spares management

Reducing unscheduled downtime and maintaining high performance operations through strategic component replacement can help you manage your operating costs more effectively.

David Brown provides comprehensive strategic spares management plans designed specifically for your application and its operating environment.

- Spares can be manufactured to customers' specifications and held in stock
- Full in-house manufacturing capability
- Peace of mind for any gearbox brand

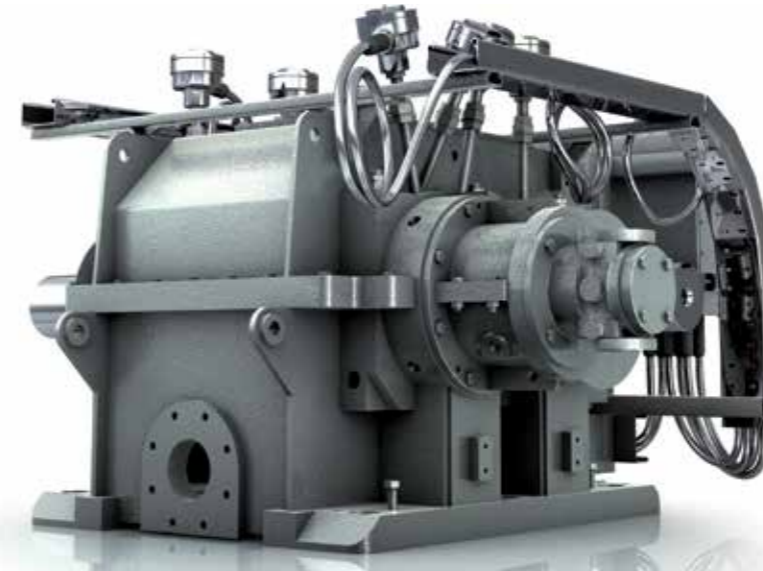
Full asset management

Our asset management programmes proactively look after your gearbox with regular inspection, carefully scheduled repair and upgrades. As part of your asset management programme we can hold drop in replacement gearboxes to ensure minimal downtime and maximum operational ability.

3X three year assurance

David Brown has recently introduced 3X - a full three year extended warranty on any brand of gearbox that's serviced, repaired or upgraded by David Brown at our manufacturing and service facilities across the globe.

With 3X your gearbox will be installed, commissioned and maintained at regular intervals by a specialist David Brown service engineer local to you. You will also have access to round the clock support through our global network of service and repair centres.



On call anytime, anywhere, in any industry

In business critical processes, downtime is never an option. If the worst happens, speed is key and no one responds faster than David Brown. We are proud to support the world's critical industries.



Cement production

- Service and repair for:
 - Vertical mill drives
 - Horizontal ball mill drives
 - Kiln drives
 - Girth gears
 - Conveyor drives
 - Centre drives

Metals

- Service and repair for:
 - Crane hoist drives
 - Furnace and converter tilt drives
 - Stacker reclaimers
 - Conveyor drives
 - Kiln and mill drives
 - Girth gears
 - Mill drives
 - Pinion stands
 - Combined reduction pinion stands
 - Rolling mill pinions
 - Coilers and uncoilers
 - Levellers

Conventional power

- Service and repair for:
 - Vertical mill drives
 - Conveyor drives
 - High speed drives
 - Slurry pump drives
 - Stacker reclaimers
 - Air preheater drives
 - Cooling tower fan drives
 - Concrete volute pump drives

Oil, gas and petrochemical

- Service and repair for:
 - Top drive gears
 - Mud/frac pump drives
 - Drawworks gears
 - Compressor drives
 - High speed pump drives
 - Rotary table gears
 - Crane slew and winch gears
 - Jack up rig gears
 - Anchor winch gears
 - Gen-set high speed gears
 - Right angled fire water pump gears
 - Process pump reducer drives

Mining

- Service and repair for:
 - Conveyor drives
 - Horizontal mill drives
 - Girth gears
 - Pinions
 - Slurry pump drives
 - Stacker reclaimers
 - Barring drives
 - Agitator drives
 - Winch drives
 - Winder drives
 - Slew drives
 - Pump drives
 - Shovel and dragline components

Rail

- Service and repair for:
 - Metro
 - EMU
 - DMU
 - Locomotive
 - Tram/LRV
 - High speed rail
 - Monorail

Renewables

- Service and repair for:
 - Hydro power gearboxes
 - Tidal gearboxes

Other industries

- Defence – land and marine
- Food production and packaging
- Material handling
- Marine
- Pharmaceutical
- Plastics
- Power generation – CHP
- Rubber
- Water/irrigation/flood defence
- Sugar processing

Case study

- Our latest project saw David Brown service engineers provide rapid upgrade for a raw mill gearbox at a leading cement production site in the UK.

Case study

- David Brown recently designed a drop in replacement mill gearbox which delivered a 20% increase in productivity for an aluminium plant owner, whilst fitting into the same space envelope.

Case study

- For more than 50 years we have refurbished and upgraded critical coal crushing gear units for South Africa's largest utility company.

Case study

- A David Brown service engineer recently spent three weeks offshore providing a complete overhaul and upgrade for a water injection pump gearbox to suit our customer's new pump installation.

Case study

- Already this year, David Brown field service engineers based in Australia have provided service and repair to one of the world's largest mine operators.

Case study

- David Brown rail engineers are currently overhauling a fleet of DMUs for one of Thailand's largest rail end users.

Case study

- We have recently upgraded one of our heritage brand hydro power gearboxes. The Turbine Gears gearbox had been in operation for more than 40 years and needed some slight modifications to bring it up to modern operating standards.

Case study

- David Brown has a long and successful history in servicing gear systems situated in remote locations such as naval vessels, sugar processing plants as well as irrigation and flood defence applications.



Our people – dedicated to our customers

David Brown is one of the only gearbox manufacturers with a dedicated service team, working from service and repair centres globally. Fast response is key to any customer who requires gearbox support, that's why our service centres will always strive to ensure your gear system is up and running in the fastest possible time.

Our team comprises:

- Engineering – giving our customers sound technical advice, speedy repair and upgrade using our gearbox OEM experience.
- Site service coordination – ensuring fast response anywhere in the world, with the best engineers for your application.
- Quotations – ensuring you always have the best prices at your specified lead time.
- Project management teams – coordinating the repair and redelivery of your gearbox at our global service centres.

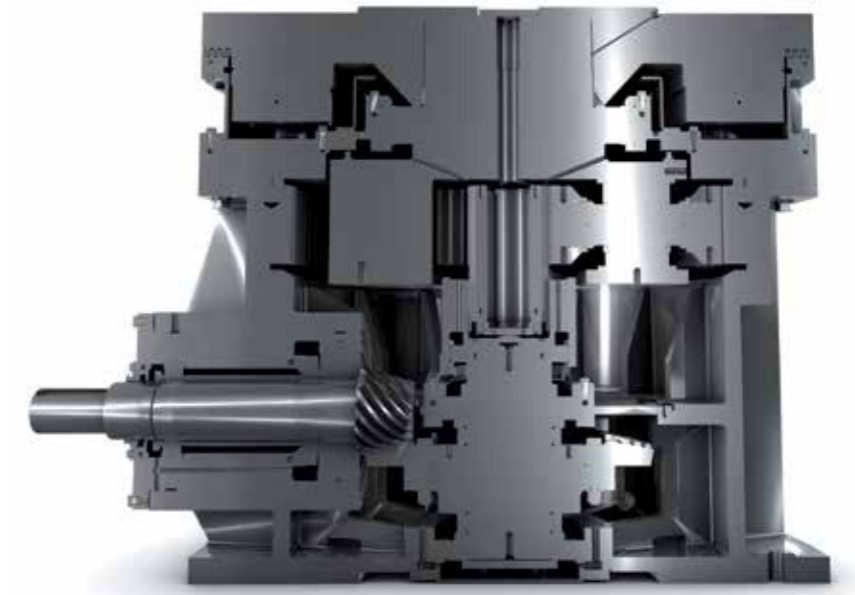


Gear Academy

We are committed to developing the skills and knowledge of our team and in 2009 we launched the David Brown Gear Academy which trains employees in over 300 core skills required to excel in gear technology. The David Brown Gear Academy is not just restricted to David Brown employees, we actively encourage our customers to attend the award winning course.

Key features:

- Gear Academy enables our customers to increase their knowledge of gearing and managing gear systems for optimal performance.
- We continually develop our service engineers' expertise with both practical and academic training upto MSc level.
- Gear Academy enables continuity and transfer of skills into both apprentices and experienced employees.



A day in the life of Mark Flinders – Service Engineer

Mark Flinders has worked for David Brown for more than 14 years and one of his most recent offshore operations involved working on a platform in the North Sea.



In response to our customer's urgent call, I made an immediate visit to their platform, arriving at the airport less than two hours after first communication.

The main reason for my visit was to remove the white metal bearings and gearing from the gearbox as they had become damaged due to contaminants. These components were to be delivered to David Brown for expert refurbishment.

During the removal procedure I noticed the contaminants had entered the oil ways. I worked with the customer to explain what this meant to the gearbox and their business as a whole. I advised that the gearcase

would have to be thoroughly cleaned to avoid contamination of the new white metal bearings and gearing, which would result in them becoming unserviceable.

In addition to removing the bearings and gears, the whole gearbox was to be extracted and returned to David Brown for a complete overhaul.

Due to restricted access within the turbine module, I had to strip down the entire gearbox into component parts and then move them to a point on the platform where they could be transported onto a ship. Flexibility is key to service engineering and I had to think on my feet, finding solutions to specific and unique issues to ensure the gearbox could be safely stripped and transported.

On arrival at David Brown, the gearcase and parts were inspected, cleaned and where necessary, parts were replaced or reworked. The entire gearbox was re-built at David Brown, this included the installation of new instrumentation (RTDs and proximity probes) and internal gearcase modifications. The re-built gearbox was then thoroughly tested before being stripped down into component parts and packed for transportation back to the platform. After all repairs and modifications were completed, I returned to the platform and rebuilt the gearbox to the correct David Brown standards.

Throughout the project we worked closely with our customer to keep them informed and provide reassurance that the gearbox would be up and running in the shortest possible time frame.

- Specific and detailed understanding of the gearbox, advanced technical knowledge and ongoing training is key to David Brown's service and repair capabilities and this was key to the project's success.

Global support

David Brown's longstanding gearbox service and repair experience enables you to concentrate on running your business by allowing us to improve process performance and reduce long term costs with our renowned expertise. Together we will create a management strategy to maximise equipment availability and minimise the total cost of ownership throughout the life of your equipment. We have 60 service engineers based in strategic locations across the globe, primed to deal with any problem you may encounter at any time, anywhere in the world.



Global support

- Manufacturing
 - Australia
 - Canada
 - France
 - South Africa
 - UK
- Service centres
 - Australia
 - Canada
 - Chile
 - France
 - India
 - Indonesia
 - South Africa
 - Philippines
 - UAE
 - UK
- Sales offices
 - Australia
 - Chile
 - India
 - Singapore
 - Thailand
 - USA

