

# WIND ENERGY



LOOK AROUND THE WIND ENERGY MARKET  
TODAY AND YOU WILL FIND **DAVID BROWN**  
WORKING AT THE HEART OF THE INDUSTRY.

By closely aligning ourselves with major OEMs and wind farm operators, we have acquired a unique understanding of the challenges that wind turbine manufacturers and operators face. It's given us a detailed knowledge of the sector and helped us to develop an advanced range of wind turbine services:

- Problem solving – anywhere, any time
- Repair, overhaul and upgrade
- Retrofit replacement gearboxes
- Spare part manufacture



## PROJECT

### NON-DESTRUCTIVE WIND TURBINE INSPECTIONS

Using Video Endoscope equipment, David Brown technicians recently carried out non-destructive inspections of the main drive bearing on wind turbines.

The condition of the bearing cages, rollers and faces - together with gear teeth, profiles and helixes - was verified and recorded in high-quality video format. As a result, all future component wear can now be regularly monitored and problems easily identified to prevent catastrophic failure.

Ideal for end-of-warranty inspections, this type of work not only allows maintenance budgets to be agreed and managed, but is essential in improving the efficiency of wind turbines.

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## PROJECT

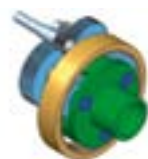
### IN-HOUSE GEARBOX REFURBISHMENT

Our team of service engineers carried out a refurbishment of a 1.3MW wind turbine gearbox, at David Brown's service centre in Huddersfield.

With experience of working on a range of gearboxes manufactured by the major wind industry OEM's, David Brown stripped down the gearbox and compiled a full technical report.

We also created 3D CAD drawings and FEA analysis models and combined these with our own specialist in-house analytical tools, to advise on the rigidity and suitability of individual components subjected to simulated (torsional) loading. As a result, of our analysis we expected to find considerable damage to the sun gear (i) and Annulus (ii) which proved to be the case.

However these problems were easily overcome, due to David Brown's ability to design, upgrade and manufacture new components for the wind energy market to ISO 81400-4:2005 quality standards.



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