

Gearbox Services

Effective and cost-efficient gearbox repair solutions

BENEFITS

- Our in-house repair capabilities offer unparalleled expertise in identifying and rectifying even the most complex faults
- Competitive pricing, quick and cost-effective solutions enabled by economies of scale
- Savings on replacement cost of up to 80%*
- Global repair loops and plug-and-play solutions
- Large assortment of gearboxes in stock

*Dependent on component-specific conditions

We service over 280 gearboxes annually, which enables us to develop uniquely innovative and effective inspection and repair methods. We currently offer maintenance, repair, upgrade and exchange services for the following gearbox brands:

- Bosch-Rexroth®
- Moventas®
- Winergy®
- ZF-Hansen®
- Eickhoff®
- Echesa®

Experience means quality and reliability

We monitor performance data from more than 48,000 turbines across the globe, providing our specialist engineering teams with the knowledge to create truly innovative, life-cycle tested gearbox solutions for your turbines.

Global presence ensures pace and flexibility

While we aim to offer as many uptower and on-site solutions as possible, some faults require workshop treatment. Vestas owns and operates an advanced repair center solely dedicated to gearboxes, that is affiliated with a global network of approved partner workshops. Our in-house expertise and global coverage ensures even your most complex issues are resolved in an effective and timely manner.

Gearbox Services

Flexible, fleetwide solutions for your business

Reduce cost with preventive inspections and maintenance

One of our primary strengths is our capability to perform preventive inspection and maintenance that prevents total component failure and workshop repairs. We properly inspect and classify gearbox damages on-site and document them in a customised report to save you both time and money on eventual repair work.

Choose your preferred repair level

Your business has individual requirements. Deciding whether a faulty gearbox requires a full upgrade or only needs to be returned to functional state is dependent on your business case. Based on your asset management strategy, type of components and age of your wind farm, we can evaluate the best possible scenario for you. We have the capability, you have the choice.

Basic	Complete	Advanced
Returns an item to a functional state after failure; only failed parts are replaced and covered by warranty.	Full disassembly and component assessment. Parts that are likely to fail will be replaced; critical design upgrades are included.	Full disassembly and assessment, installing new bearings, applying all available upgrades.

Save cost & time with uptower and onsite repairs

We offer the following uptower and onsite repairs:

- High-speed shaft and bearing (rotor and generator side)
- Intermediate shaft and bearing (rotor and generator side)
- Low-speed shaft

Case study

"A leading renewables energy company contracted us to perform preventive inspection on its fleet. During bore-scope inspection of the gearbox of a competing turbine brand a broken tooth was detected on the Low Speed Shaft. This type of fault normally requires replacement of the complete gearbox.

Our engineering team conducted compatibility studies and successfully applied a Low Speed Shaft replacement instead, significantly reducing turbine downtime and overall repair costs. According to our knowledge to date Vestas is the only company capable of performing such an uptower operation on this gearbox type and platform."

Borja Fernandez Garcia
TPO Manager, Vestas

Workshop repairs

Sometimes, failures require workshop repair. In such cases, we will dismantle and transport your gearbox for an industry-leading workshop repair. Your gearbox will be in the very best hands and repaired with quality spare parts.

Example: repair of micro pitting and surface scratches

Options included as repair method:

- Superfinishing
- Bearing re-conditioning
- Regrinding
- Thermal spraying

Can be used to :

- Remove superficial scratching
- Smoothen light micro-pitting
- Replace hand polishing of gears
- Lower roughness for better performance of gear set

Repair loops and exchange

We have established global gearbox repair loops to keep delivery times and costs to a minimum. Your defective gearbox will be integrated into our global repair loop for future use in order to keep costs down. In return, you receive a state-of-the-art, repaired gearbox. Once you have received your replacement gearbox, you will be invoiced for the repair of the damaged gearbox. The global gearbox repair loop limits the requirement for a crane and a service-team to one site visit only, reducing related service costs by 50 percent.

We stock over 500 top-quality replacement gearboxes at strategic locations throughout the world, enabling us to deliver replacement gearboxes as quickly as possible.

Case study

"A customer of ours is a major utility in the Western United States. It reported a Gearbox/Mainshaft replacement issue on a competing turbine brand. Vestas has a low scope maintenance contract for the multibrand site, excluding all main components, but the contractually obligated partner was not able to perform the exchange on time. Our Senior Manager, Josh Rauterkus, and his site team took over and were able to quickly mobilize their crew and perform a gearbox exchange the following day. They followed up with a second tower shortly after.

Our team leveraged its expansive assets to complete these repairs. Among them were our tools department and technician base. Our tool department is intimately familiar with the tooling required to execute a wide range of repairs and can respond within an extremely short timeframe. In this case, overnight.

Additionally, our more than 10,000 service technicians globally (both site and resource, multibrand and Vestas) and technical support representatives give us the resources to resolve any issue as it may arise."

Merritt Pearson
Program Manager, Major Maintenance, Vestas

Vestas is the leading global manufacturer and service provider of wind turbines, and a company solely dedicated to renewable energy. We started our work more than 40 years ago and have been an industry pioneer ever since. Passion has brought us to where we are today. See for yourself how our passion, expertise and a global knowledge base can support your business goals. Put us to the test. www.vestas.com/contact

Gearbox Services repair capabilities

Wind Turbine	Downtower				Uptower									
	Repairs and Replacements	LSS Bearing	IMS Bearing (RE)	IMS Bearing (NRE)	IMS Complete Bearing set	HSS Bearing (RE)	HSS Bearing (NRE)	HSS Complete Bearing Set	Planet Carrier Bearing	Helical 3rd Stage	LS Shaft	IM Shaft	HS Shaft	Gearbox Borescope Inspection
Gamesa®														
G47	●	○									●**	●**	●**	●**
G5x	●	○		●**			●**				○		●**	●**
G8x	●	○		●**	●**	●**	●**	●**			○	●**	●**	●**
G9x	●	○		●**	●**	●**	●**	●**			○	●**	●**	●**
G1x	●	○		●**	●**	●**	●**	●**			○	●**	●**	●**
Siemens®														
SWT 2.3	●	●		●**		●**	●**	●**					●**	●**
SWT 1.3	●										○	○	○	●**
Suzlon®														
S8x	●	●		●**		●**	●**	●**			●**	●**	●**	●**
GE®														
1.X	●	●**		●**	●**	●**	●**	●**			●**	●**	●	●**
2.X	●	●**	○	○		●**	●**	●**			●**	●**	●	●**
Vestas®														
V39-V44	●*	○	○	○	○	○	○	○	○	○	○	○	○	●
V47	●*	●**	●**	●**	●**	●**	●**	●**			●**	●**	●**	●
V52-V60	●*	●**	●**	●**	●**	●**	●**	●**					●	●
V66	●*	●**	●	●	●	●	●	●	○	○	●**		●	●
V80	●*	●**	●	●	●	●	●	●	●	○	●**	●	●	●
V82	●	●**	●	●		●	●	●	●	○	●**		●	●
V90 - 2MW	●	●**				●	●	●		○	●**	●	●**	●
V90 - 3MW	●									●	○		●**	●
V100	●	●**	●	●	●	●	●	●	●	○	●**	●	●**	●
V105	●									●	○		●**	●
V110	●		●	●	●	●	●	●	●	○	●**	●	●**	●
V112	●		○	○	○	●	●	●		●	○		●	●
V117	●		○	○	○	●	●	●		●	○		●	●
V126	●		○	○	○	●	●	●		●	○		●	●
V136	●		○	○	○	●	●	●		●	○		●	●
NM60/1000				●**			●**	●**						●**
NM64/1500				●**			●**	●**						●**
NM72c/1500				●**			●**	●**						●**
NM82/1500				●**			●**	●**						●**
NM82/1650				●**			●**	●**						●**
Nordex®														
N54/1000				●**			●**	●**						●**
N80/2500				●**			●**	●**						●**
N90/2300				●**			●**	●**						●**
S70/1500				●**			●**	●**						●**
S70/1500				●**			●**	●**						●**
Senvion®														
MD				●**			●**	●**						●**
MM				●**			●**	●**						●**
DeWind®														
D6				●**			●**	●**						●**
DB				●**			●**	●**						●**

● Available *Including Vestas' unique upgrades **Subject to regional availability / Gearbox subtype ○ Not relevant for turbine type

Capabilities for additional turbine platforms upon request

© 2021 Vestas Wind Systems A/S. All rights reserved. This document was created by Vestas Wind Systems A/S on behalf of the Vestas Group and contains copyrighted material, trademarks and other proprietary information. This document or parts thereof may not be reproduced, altered or copied in any form or by any means without the prior written permission of Vestas Wind Systems A/S. All specifications are for information only and are subject to change without notice. Vestas Wind Systems A/S does not make any representations or extend any warranties, expressed or implied, as to the adequacy or accuracy of this information.