




MODULAR UP-TOWER CRANES
FOR SMART AND EFFICIENT WIND TURBINE
MAJOR COMPONENT EXCHANGES & REPAIRS

An aerial photograph showing a large white cylindrical nacelle of a wind turbine being transported on a specialized modular crane system. The crane is mounted on a white truck and is positioned on a dirt road. The nacelle is supported by a long, narrow, white metal structure. In the background, there are several other vehicles, including a white SUV and a black car, parked on the dirt road. The ground is sandy and shows tire tracks.

KENZFIGEE IS A SPECIALIST SUPPLIER OF LIFTING, HOISTING EQUIPMENT AND SERVICES. SINCE ITS ESTABLISHMENT IN 1836, WE HAVE BUILT MORE THAN 4,500 CRANES, ENGINEERED TO THE SPECIFIC NEEDS OF THE MARINE, OFFSHORE AND WIND ENERGY INDUSTRIES.

We innovate side by side with our clients, taking their operational efficiency to new heights. This resulted in the launch of new crane technology for wind turbine maintenance in 2019. Not only new heights but also the application or environment in which they operate are exactly the challenges to meet in terms of risk, cost and time.

KenzFigeer has developed an ingenious modular crane range to facilitate major component repairs in on- and offshore wind turbine nacelles of any type or brand. New crane technology to lower O&M costs and decreasing the window of maintenance activities by enabling safe operations at wind speeds up to 12m/s average wind speeds and 18m/s gust winds without the need for civil works.

ADVANTAGES NEW CRANE TECHNOLOGY FOR ANY TYPE OR BRAND WIND TURBINE IN ON- OR OFFSHORE APPLICATION

THE KENZFIGEE RANGE OF UP-TOWER CRANES FOR WIND TURBINE MAINTENANCE HAS BEEN SPECIFICALLY DESIGNED TO BE PLACED TEMPORARILY ON TOP OF WIND TURBINES, FOR MAJOR COMPONENT EXCHANGE IN A WIND TURBINE NACELLE.

KENZFIGEE UNDERSTANDS THAT CLIENT NEEDS VARY AND IS STAFFED WITH AN ENGINEERING TEAM WITH A LONG TRACK RECORD OF DESIGNING OR MODIFYING DESIGNS ABLE TO TRANSLATE ANY PREFERENCES OR WISHES TO SPECIFIC APPLICATIONS.

BESIDES DRIVING DOWN OVERALL COSTS OF MAJOR MAINTENANCE AND DECREASING THE WINDOW OF MAINTENANCE, OUR CRANES OFFER MANY BENEFITS:

SAFE OPERATIONS

- minimal lifting & working ground area
 - by eliminating ground stability issues
 - overload protection system
 - emergency lowering system
 - safety limitation of slewing areas
 - structurally bolted to the turbine
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LOW MOBILIZATION COSTS

- cranes are compact and containerized
 - easy to install and remove
 - no road permits or civil work needed
 - no mobile cranes needed on the ground
 - no need for large support vessels offshore
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BROAD ENVIRONMENTAL CONTROL CONDITIONS

- suitable for harsh offshore environment
 - high operable wind speeds of up to 12 m/s average and 18 m/s gust winds
 - superior precision during component exchanges, compared to traditional cranes
 - yawing during installation, exchange and dismantling operation
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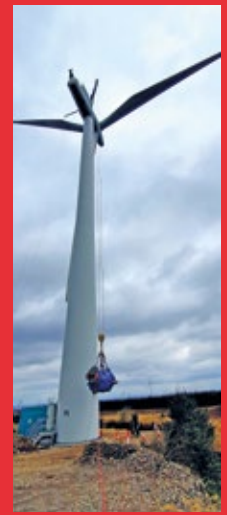
SMALL GROUND FOOTPRINT

- compact & containerized
 - no crop damages
 - container and equipment positioned immediately next to the wind turbine
 - minimal crane hardstand area
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REDUCTION OF 75% OVERALL CARBON FOOTPRINT

- less (de)mobilization equipment
- fully electric operation up-tower cranes

THE WAY OUR ALTERNATIVE LIFTING SOLUTION WORKS WITHOUT THE NEED OF MOBILE CRANES OR OFFSHORE VESSELS



CAPACITY OVERVIEW

MAJOR COMPONENT EXCHANGE CAPABILITIES USING UP-TOWER CRANES

DEPENDING ON THE NATURE OF THE MAINTENANCE OPERATION, DIFFERENT CRANE TYPES AND CAPACITIES MAY BE DEPLOYED. EVERY CRANE TYPE IS CAPABLE OF HOISTING THE NEXT CATEGORY UP FOR INSTALLATION.

						
	TeleHook™	Heli-Hook™	GenHook™ LT	GenHook™	RotorHook™	BoxHook™
Safe Working Load	0.75t	3t	10t	30t	70t	85-100t
Transport	1x 20ft ISO	1x 20ft ISO	1x 40ft ISO	1x 40ft ISO	2x 40ft ISO	2x 40ft ISO
Assist crane for installation of	Heli-Hook™	GenHook™ and GenHook™ LT		RotorHook™		
Examples of lifts	Yaw drive, roof panel	IMS shaft, gearbox components	Generators, transformers and small components	Gearbox, blade, generator, blade bearing	Rotor, main shaft, main bearing	Complete rotor assemblies, gearboxes in 4+MW turbine range
	The TeleHook™ can be used for up-tower hoisting and installation of the larger Heli-Hook™ crane The TeleHook™ can normally be placed up-tower using the nacelle's internal hoist	The Heli-Hook™ can be used for up-tower hoisting and installation of the larger GenHook™ LT and GenHook™		The GenHook™ can be used for up-tower hoisting and installation of the larger RotorHook™ and BoxHook™		



UNDER CONSTRUCTION
available late 2022

MAJOR COMPONENT EXCHANGES OR CORRECTIVE REPAIRS USING THE UP-TOWER CRANE TECHNOLOGY

THIS ALTERNATIVE UP-TOWER CRANE TECHNOLOGY IS A PROVEN CONCEPT AND USED BY MULTIPLE WIND TURBINE OEMs, COMPONENT SUPPLIERS, WIND FARM OPERATORS AND MAINTENANCE PROVIDERS. DEVELOPED IN CLOSE COOPERATION WITH ONE OF THE WORLD'S EXPERIENCED WIND TURBINE SERVICE SPECIALIST LIFTWERX.



**YAW DRIVE
EXCHANGES**



**GENERATOR
EXCHANGES**



**GEARBOX
EXCHANGES**



**PITCH BEARING
EXCHANGES**



**MAIN BEARING
EXCHANGES**



**BLADE
EXCHANGES**



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