



INCREASE YOUR GEARBOX KNOWLEDGE

THIS HANDS-ON TRAINING WILL SIGNIFICANTLY ENHANCE YOUR UNDERSTANDING OF WIND TURBINE DRIVETRAINS. LED BY INDUSTRY-LEADING REPAIRERS, FIELD TECHNICIANS, AND EXPERTS, YOU'LL GAIN INVALUABLE INSIGHTS. THE COURSE COMBINES CLASSROOM LEARNING WITH PRACTICAL SHOP-FLOOR SESSIONS, FOSTERING BOTH INDIVIDUAL AND TEAM-BASED LEARNING EXPERIENCES. THE HIGHLIGHT OF THE TWO-DAY PROGRAM IS A HIGH-SPEED SHAFT REPLACEMENT DEMONSTRATION. BY THE COURSE'S END, YOU'LL LEAVE WITH A PROFOUND COMPREHENSION OF WIND TURBINE GEARBOX DESIGN AND FUNCTIONALITY.

IT'S NOT A BLACKBOX, IT'S A GEARBOX.

AT GEARBOX EXPRESS, WE ARE GEARBOX GUYS THAT HAVE GROWN UP IN THE INDUSTRY. OUR APPROACH TO LEARNING IS HANDS-ON, GAINING KNOWLEDGE THROUGH PRACTICAL EXPERIENCE. OUR TRAINING PROGRAM IS STRAIGHTFORWARD: OUR KNOWLEDGEABLE TEAM WILL GUIDE YOU TO ENHANCE YOUR SKILLS ON THE JOB.

LEADING THE CHARGE



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GEARBOX EXPRESS IS THE ONLY COMPANY IN NORTH AMERICA THAT IS FOCUSED ON PROVIDING INDEPENDENT, DOWN-TOWER, WIND GEARBOX REMANUFACTURING SERVICES.

LEADING THE CHARGE



GEARBOX EXPRESS



Trainings Offered	101	Borescope	Uptower Repair
DAYS / Training	2	2	3.5
Drivetrain Basics	*	*	*
Technical Drawings	*	*	*
Measurements & Tools	*	*	*
Heat Treatments / Material Quality	*		
Basic- Bearing / Gear & Damage Modes		*	*
In Depth- Bearing / Gear & Damage Modes	*		
Condition Monitoring	*		
Lubrication Basics	*	*	*
Borescope Best Practices	*	*	*
Borescope Reports		*	
Safety for Up-tower Repairs			*
Heating & Torch Use			*
Hands-On: Reading Technical Drawings	*	*	*
Hands-On: Measurements	*		*
Hands-On: Borescope	*	*	
Hands-On: Gearbox Repair			*

1. DRIVETRAIN BASICS: COVERING 3-POINT MOUNT AND 4-POINT MOUNT TURBINE ARRANGEMENTS, AS WELL AS VARIOUS GEARBOX DESIGNS.
2. TECHNICAL DRAWINGS: MECHANICAL DRAWINGS, INCLUDING LAYOUTS, SECTIONED VIEWS, AND TITLE BLOCKS.
3. MEASUREMENTS & TOOLS: EXPLAINING HOW TO READ AND USE MEASUREMENT AND OTHER TOOLS.
4. HEAT TREATMENTS / MATERIAL QUALITY: DISCUSSING TYPES OF STEEL HEAT TREATMENT FOR GEARS AND BEARINGS AND THE IMPACT OF MATERIAL QUALITY.
5. BASIC BEARING / GEAR & DAMAGE MODES: COVERING GEAR AND BEARING TYPES, TERMINOLOGY, AND AN OVERVIEW OF GEAR AND BEARING DAMAGE.
6. IN-DEPTH BEARING / GEAR & DAMAGE MODES: EXPLORING GEAR AND BEARING TERMINOLOGY, TYPES, CONFIGURATIONS, MATERIALS, AND APPLICATIONS IN WIND, ALONG WITH A DEEP DIVE INTO GEAR AND BEARING DAMAGE CLASSIFICATION.
7. CONDITION MONITORING: PROVIDING BASICS OF CONDITION MONITORING, INCLUDING OIL DEBRIS MONITORING.
8. LUBRICATION BASICS: EXPLAINING THE ROLE OF LUBRICANTS, LUBRICANT TYPES, CONTAMINATION, AND HEALTH.
9. BORESCOPE BEST PRACTICES: COVERING BORESCOPE OPERATION, FEATURES, AND USE.
10. BORESCOPE REPORTS: DETAILING HOW TO PROPERLY BUILD A BORESCOPE REPORT.
11. HEATING & TORCH USE: ADDRESSING SAFETY, OPERATION, PROPER SETTINGS, AND TECHNIQUES FOR EFFECTIVE TORCH AND BEARING HEATER USE.
12. SAFETY FOR UPTOWER REPAIRS: FOCUSING ON UPTOWER REPAIR-SPECIFIC SAFETY.
13. HANDS-ON: READING TECHNICAL DRAWINGS: PROVIDING PRACTICE IN READING GEARBOX DRAWINGS.
14. HANDS-ON: MEASUREMENTS: OFFERING PRACTICE IN TAKING PRECISE MEASUREMENTS ON GEARBOX COMPONENTS.
15. HANDS-ON: BORESCOPE: PROVIDING PRACTICE IN PERFORMING BORESCOPE INSPECTIONS ON A VARIETY OF GEARBOXES WITH AN EXPERIENCED MENTOR.
16. HANDS-ON: GEARBOX REPAIR: DETAILING HOW TO PROPERLY REPLACE GEARBOX BEARINGS AND HIGH-SPEED AND INTERMEDIATE SHAFTS.

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