

## SPECIALTY UP-TOWER SERVICES

Minimize turbine downtime, unnecessary crane costs and in-shop repairs

### WIND POWER FIELD SERVICE

Denver, CO  
800.448.0899

Indiana, PA  
800.537.0097

Lake Benton, MN  
507.368.4015

Portland, OR  
800.366.4951

Shreveport, LA  
800.366.6030

Sweetwater, TX  
325.933.4275

Winnipeg, MB  
204.237.6066

### WIND POWER DISTRIBUTION

Dassel, MN  
320.204.0582

### WIND POWER SERVICE CENTERS

Chicago, IL  
800.978.4559

Denver, CO  
800.448.0899

Indiana, PA  
800.537.0097

Litchfield, MN  
888.694.6200

Portland, OR  
800.366.4951

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### Up-Tower Shaft Repair

IPS has completed up-tower shaft repairs on multiple brands and models of equipment, eliminating the need for expensive cranes and extended downtime for in-shop repair. We have performed up-tower shaft repair, including sleeving and straightening, for most of the major owner operators in North America.



*Bearing spinning on the shaft? Why not repair up-tower using our proven and reliable shaft repair service?*



*IPS utilizes steel sleeving instead of typical and less reliable epoxy repair of journals and shafts*

### Up-Tower Electrical Testing & Rotor Re-leads

Just because a generator tests bad electrically does not mean that it must be pulled out of service for an in-shop repair. Many times the damaged portion can be isolated and repaired up-tower. Every year, generators are misdiagnosed and unnecessarily removed for repairs. Case in point are rotor re-leads which can be performed up-tower.

IPS field service teams are equipped with extensive, portable electrical testing equipment, and can perform component level testing and repair on your generator, similar to what we do in-shop. You would be surprised at what we can repair up-tower, saving you lots of money on crane costs and turbine downtime.



*Failed wind generator rotor leads*



*IPS field service technicians have the equipment to test and repair rotor leads up-tower*

## ADDITIONAL SPECIALTY UP-TOWER SERVICES

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### Hub Slip Ring, Gearbox Seal & Bearing Replacements

Do you have a turbine that is faulting because of a hub slip ring that is being contaminated with oil from the gearbox? Our expert field service technicians will mobilize on-site to eliminate this issue. If we find a downwind, low-speed bearing that is wearing in the process, we are fully experienced and equipped to replace that bearing as well while we are replacing the seals.



*IPS removes the generator brake up-tower to access the seals that cause hub slip ring issues*



*Faulty seals that cause slip ring issues due to gearbox oil contamination are easily replaced up-tower*



*IPS can replace downwind, low-speed bearings in conjunction with the gearbox seals.*

### Complete Wind Generator Exchange Services

IPS stocks multiple brands of remanufactured wind generator exchange units. Our field service teams and generator exchange crews work closely with site supervisors on scheduling times to meet the crane at the tower in order to maximize crane usage to replace a failed generator with an exchange unit at the same time. This saves on crane costs, turbine downtime and extra handling of generators.



*Exchange unit being lifted by crane*



*IPS field service team installs replacement generator after removing failed unit*



[www.ips.us/wind](http://www.ips.us/wind)