

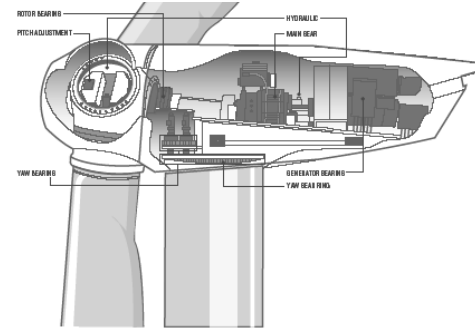
Reduced Vibration and Improved Micro-Pitting Protection

WIND AFTERMARKET (CHINA)

Blade Adjusting System and Main Gearbox

Castrol Optigear® Synthetic A 320

TOTAL SAVINGS: \$62,250 per turbine



THE SITUATION

The customer, located in west China, has manufactured wind turbines since 2007. For about one year, they were using a synthetic gear oil from an alternate oil company which was recommended by the German gearbox supplier (OEM).

The competitive gear oil had two viscosity grades (ISO 220 and 320) being used in the blade adjusting system and main gearbox, respectively.

BEFORE

- High vibration of >80db during 2400 hr / 5000N over-load test for blade adjusting system
- Micro-pitting on main gear surface and blade adjusting system during this over-load test
- Poor seal compatibility caused issues with the main gearbox and blade adjusting system during the test

AFTER

- Vibration reduced to 60db during 2400 hr / 5000N over-load test
- *Optigear Synthetic A 320* improved the performance and repaired micro-pitting on the gear surface during the test
- Excellent compatibility, longer gear system life, and eliminated leaking

THE SOLUTION

- Thorough on-site survey was undertaken to understand the customer's needs, process, and issues.
- Our intensive evaluation and lubricant recommendation for the wind turbines resulted in exceptional turbine performance in terms of longer gear life and reduced energy consumption.
- Long-term trial, tracking, and test services were provided for the customer.
- Technical and health & safety training were conducted for customer personnel.

Reduced Vibration and Improved Micro-Pitting Protection

RECOMMENDATIONS

The correct selection of wind turbine gear oil is crucial to provide low vibration, seal & gearbox compatibility, and low coefficient of friction.

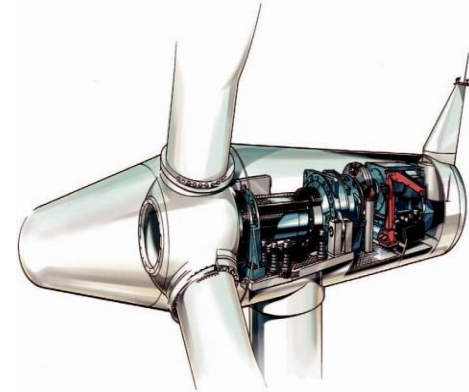
Super clean gear oil such *Optigear Synthetic A* can provide long component life especially to bearings, which tend to be most susceptible to contamination.

Castrol *Optigear Synthetic A 320* is a reliable long-term synthetic wind turbine gear oil with excellent micro-pitting and seal compatibility performance. The super clean particle level and extremely low coefficient of friction will enhance the life of the gears, bearings, gear oil, and internal seals.

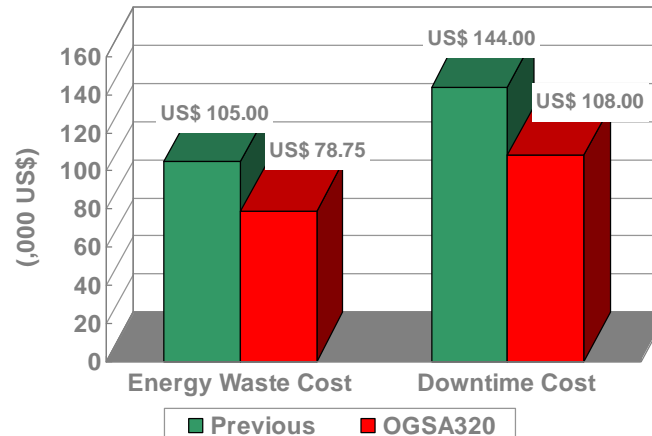
CONCLUSION

After a long-term trial, the customer was very satisfied with the performance of Castrol *Optigear Synthetic A 320* which helped them to prolong the gearbox life and reduce the downtime & energy waste of the wind turbine

The result was a savings of \$62,250 per turbine.



Unit Cost Comparision



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