

CASE STUDY OPTIGEAR BM 460

FORMULATED TO HELP INCREASE THE LIFE
OF YOUR GEARBOXES AND BEARINGS



THE SITUATION

A major tire manufacturer had heavy deterioration on their calendar gearbox, which needed replacement within 6 months.

Gear inspections showed advanced wear on the teeth and some fragments of teeth actually missing.

Vibration was noticeably high and oil temperatures had increased. Castrol was challenged to extend the life of the gearbox by at least 1 year to help the plant avoid unscheduled downtime.



WCA CALENDAR GEARBOX CONDITION PRIOR TO CASTROL – HEAVY WEAR AND MISSING TEETH FRAGMENTS

BEFORE CASTROL

- Conventional EP 460 gear oil
- Heavy gear deterioration
- High vibration
- High oil temperatures
- Metal fines continually plugging filters due to gear wear
- Gearbox scheduled to be replaced

AFTER CASTROL

- Castrol Optigear BM 460 high performance gear oil with MFT PD additives
- Gear surface wear has improved
- Vibration greatly reduced
- Oil temperatures dropped by 20°F
- Filter changes back to normal
- Gearbox still running after 8 years



FORMULATED TO HELP
REDUCE YOUR ENERGY COSTS

IT'S MORE THAN JUST OIL. IT'S LIQUID ENGINEERING.



THE SOLUTION

- Castrol engineers recommended Optigear BM 460 gear oil due to its advanced additive system, Microflux Trans[®], with the ability to improve the condition of the gear surface.
- Temperatures dropped by 20°F within 2 days of oil change.
- Gear condition was monitored and found that the tooth wear actually improved after 2 months.
- Filters that were previously plugging daily from metal wear particles went back to normal changes.
- Plans to replace the gearbox were cancelled.



**A FAILING GEARBOX
WAS DUE FOR
REPLACEMENT IN
6 MONTHS, BUT AFTER
SWITCHING TO CASTROL
OPTIGEAR BM 460 IT WAS
STILL IN SERVICE AFTER
8 YEARS.**



RECOMMENDATION

A calendar gear drive is a heavily loaded application within a tire manufacturing facility. Castrol Optigear BM is specifically designed with advanced additives that can help to improve the surface of the gear teeth, thus increasing the load bearing area and helping to extend gear life. This is beneficial with new gears and gears that are already worn.

**SUITABLE FOR GEARS AND BEARINGS
OPERATING UNDER EXTREME CONDITIONS.**

CONCLUSION

The customer was hoping to extend the gear life by 1 year but achieved over 8 years. Replacement of the gear set was cancelled saving them \$374,400 in replacement and labour costs.

Castrol Optigear BM has extensive OEM approval.

Castrol Industrial
Technology Centre
Whitchurch Hill
Pangbourne
Reading
RG8 7QR

Telephone: +44 (0) 118 9843311
www.castrol.com

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