

# TIRE MANUFACTURING (USA)

## STOCK PREPARATION

### Castrol Optigear® BM 460

## ANNUAL SAVINGS: \$374,400



### 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.

### 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
- 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!**

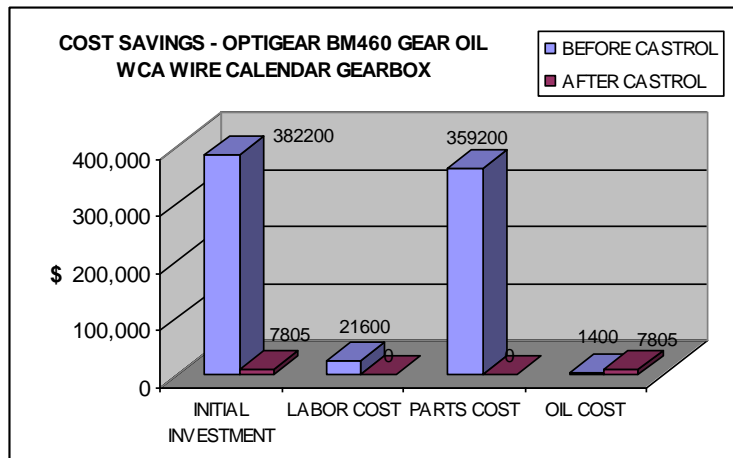
### THE SOLUTION

- 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 was saved by Castrol Optigear BM 460 and is still in service after 8 years!

## RECOMMENDATIONS

Calendar gear drive is a heavily loaded application within a tire manufacturing facility. Conventional EP gear oils are not equipped to handle the extreme conditions. Castrol Optigear BM is specifically designed with advanced additives that will actually improve the surface of the gear teeth, thus increasing the load bearing area and greatly extending gear life. This is beneficial with new gears and gears that are already worn from use of conventional gear oil.



## CONCLUSION

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

Castrol Optigear BM 460 continues to exceed the customer's expectations.



WCA Calendar Gearbox  
Condition prior to Castrol  
Heavy wear and missing teeth fragments



## OTHER POTENTIAL APPLICATIONS

Castrol Optigear BM series high performance gear oils are suitable for all industrial gearboxes where long oil and equipment life is desired.