



Lubrication Failures in Large Excavators



Reliability and maintenance issues relating to mechanism lubrication.

- Grease lines and injectors on H-links commonly damaged
- Grease leaks and spills



Solution- Wearite polymer bushes

- Self-lubricating
- Minimal wear on mating components
- 10,000 hours + part life
- Application verified by University of Queensland
- Improved safety in fitting and handling



Changes to mechanism

- Remove lines and injectors from linkages



Grease still required in these areas.

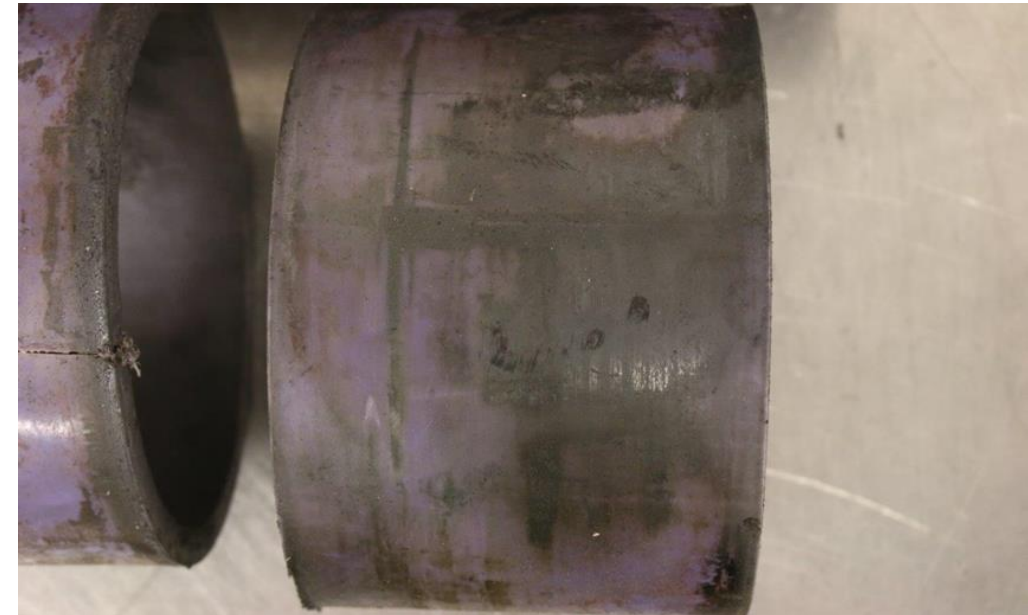


Grease lines removed from these areas.



Case-Study Australian Coal Mine

- Bushes in service on EX3600 and EX5600 H-Links since 2017
- No grease lubrication
- No service issues in this period
- Service life 10,000 hours
- UQMP report on used bushes October 2019



Case Study Australian Coal Mine

- Liebherr 996 connecting links.
- Bushes installed July 2016, replaced June 2018
- No grease lubrication
- No service issues





University of Queensland Materials Performance

The calculations showed that the most severe PV values for all joints on all machines analysed were below the published low-speed PV capacity for Wearite B. This suggests that Wearite B is a suitable material for all of the large excavator joints examined under normal operating conditions." *UQMP Study 2019*