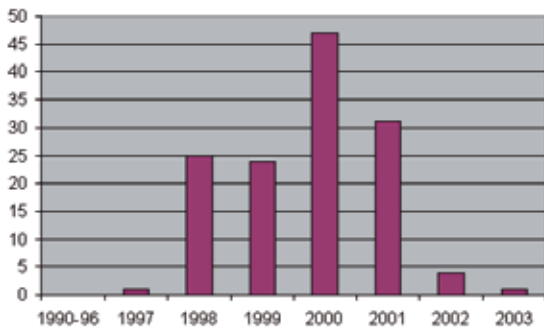




iWT³ Wheel Damage Problems

Number of X2-wheels with sub surface cracks/deep shelling found 1990-2003



Interfleet's third generation Instrumented Wheelset Technology provides essential data for solving wheel damage problems. The wheel sets are used to measure vertical and lateral forces between wheel and rail.

If an instrumented wheelset is used which is able to provide measurements at high frequencies it is able to provide data that is a key to understanding wheel damage. IWT3 is capable of performing wheel/force measurements in the range of KHz, making it perfect for such applications.

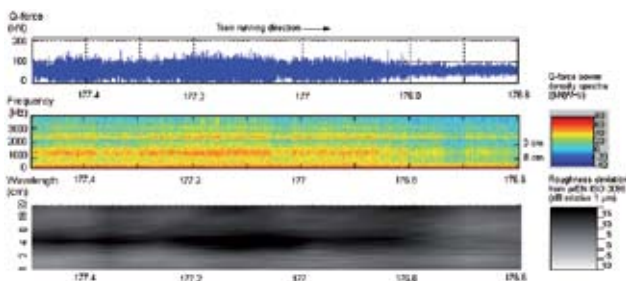
During the later half of the 90s, SJ, Sweden's biggest passenger train operator, encountered problems with damage to wheels.

Interfleet was contracted by SJ to investigate these problems. Using the technique to measure wheel/rail forces - up to 2000 Hz - we showed that fatigue cracks might well develop into fractures, because of e.g. discontinuities, local rail defects and rail surface corrugation.

The high force strain from these defects is easily detected in our test run diagrams.

Once the cause of the problems had been identified, dedicated maintenance measures were taken, including grinding of the rails. These preventable measures resolved the problem issues.

In summary, Interfleet's instrumented wheelsets can be utilized to identify causes of high local forces, and the major cause of damages to both vehicles and track.



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