# ADHESION AND LEAVES: EXPERIMENTS WITH HIGH PRESSURE WATER JETS

This report follows previous reports, and trials carried out by London Transport and Southern Region in the Autumn of 1972 using converted de-icing trains to test high pressure water jets as well as other mechanical methods to remove leaf films.

Its conclusions are as follows:

- Applying the jet at an angle of 30$^{o}$ to the rail and approximately one inch above the surface would give the best results.
- Experiments with various shapes of outlet jet showed size of orifice to be critical in maintaining correct pressure and showed the best shape to be pencil jets or 15$^{o}$ flat fan jets. Fan jets of wider angles covered a very wide band but with less cleaning efficiency.
- The most significant result of the laboratory tests was the effectiveness of small amounts of additive in the spray stream, in particular sodium metasilicate at concentrations down to 0.1%.

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