

TESTS ON A BR/BRECKNELL-WILLIS HIGH-SPEED PANTOGRAPH IN THE MIRA WIND TUNNEL

This report describes tests carried out on the BR/Brecknell-Willis high speed pantograph in the MIRA wind tunnel. The purpose of these tests was twofold: to evaluate the performance of the pantograph, free from installation effects, under a range of yaw and roll conditions and to investigate the effect on this performance of changes to the geometry of the pantograph.

Details of the rig design and test procedure are given, along with graphs showing the effect on up lift of both yawing and rolling the pantograph with respect to onset flow, as occurs in crosswind conditions (yaw) and in crosswind conditions on embanked track (yaw with roll). In addition a number of configurational changes were made to the pantograph to examine their effect on pantograph uplift in crosswind operation. Some of these showed a significant improvement under certain flow conditions and it is suggested that consideration be given as to whether they could be introduced as a permanent improvement to the manufactured pantograph