CROSS-BRACED BOGIE CURVING TESTS IN NORTH WALES

Recent work has shown that the ability of a bogie to negotiate sharp curves without flange contact can usually be improved by a reduction in primary yaw stiffness. However, this may have an adverse effect on bogie hunting critical speeds. It has been suggested that the limitations imposed by this basic compromise can be reduced by the use of cross-bracing. The present report describes a series of experiments designed to measure the steady-state curving behaviour of a cross-braced three-piece bogie, and a comparison of the results with theoretical predictions. It is shown that fairly good agreement is obtained over a wide range of primary and cross-bracing stiffnesses and axle load. The theoretical study is then extended to give a quantitative estimate of possible flange wear reduction accruing from the use of cross-bracing in three-piece bogie applications.

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