

ALTERNATIVE MOTOR CONFIGURATIONS AS RETRO-FIT OPTIONS FOR DIESEL LOCOMOTIVES TO AID MAXIMUM UTILISATION OF ADHESION

DC series motors, driven by a locomotive alternator, are difficult to control in wheelspin to maintain good use of adhesion. Retro-fit modifications to enable more effective control in wheelspin are considered, comprising two options for novel motor field configurations.

A computer simulation of a class 58 locomotive showing performance before and after modification is presented. This illustrates the transient response under step changes in available adhesion. Recommendations for likely beneficial retro-fit options are presented together with proposals for further study.