

A FURTHER EXAMINATION OF POSSIBLE MODIFICATIONS TO THE CLASS 86 SUSPENSION, IN ORDER TO IMPROVE THE TRACTION MOTOR DYNAMIC ENVIRONMENT AND THE DYNAMIC TRACK FORCE

A model of a Class 86 (AL6) bogie is set up and studied for variations of certain parameter values:

- Gear wheel torsional stiffness
- Motor nose-end stiffness
- Gear wheel ratio
- Resilient wheel stiffness
- Locomotive speed

The developed dynamic equations are solved by digital computation with particular emphasis being placed upon comparisons between solid wheel and resilient wheel installations. The results, which are extracted, show the variations which exist in the dynamic environment of the motor and in the level of the track forces. Independent of any stability criteria, conclusions are drawn from the comparisons.