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To: Whom it may concern

**Research into Fifth-Wheel Couplings: Silvertip Design**

For a number of years the Transport Research Group in Cambridge University Engineering Department has researched heavy vehicle dynamics and the implications for pavement loading. More recently the group has investigated the feasibility of hydraulically actuated, active roll control systems for heavy goods vehicles. This research has shown that transmitting a restoring roll moment through the fifth wheel coupling, can improve the roll stability of the vehicle as a whole. Lash (or play) in the fifth wheel coupling reduces the benefits available from an active anti-roll system and can reduce the roll stability of conventional vehicles.

Previous research has shown that modest improvements in roll stability can be achieved by applying a roll moment to the trailer unit using an active fifth wheel. It may be expected that some benefits could be obtained by a 'passive' fifth wheel tilting system. Any dynamic evaluation of this sort can only be reliably conducted on a full sized vehicle. If the mechanism described by Mr Henderson is able to improve roll moment transfer and reduce lash without upsetting the other dynamic characteristics of the vehicle it may have benefits in terms of vehicle stability. We have worked with Mr Henderson on his fully steered semi-trailer and anticipate that this current work may again demonstrate some potential for improvements in the industry.

Yours sincerely,

A handwritten signature in black ink that reads 'David Cebon'.

Dr David Cebon