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INVESTIGATIONS INTO ALTERNATIVE FORMS OF CONTROL FOR DUST GENERATED DURING THE CLEANING OF BRAKE ASSEMBLIES AND DRUMS*

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INTRODUCTION

THE MOST usual method of removing the accumulated dust from brake drums and assemblies is by "blowing off" with a compressed air stream. This, of course, generates a dust cloud in which the operator works, proportionate in size to the drum/assembly being cleaned. We therefore investigated two alternative methods of controlling dust generated at a maintenance operation on commercial vehicles, as representing maximum likely exposure.

Enquiries at the beginning of the investigation indicated that the removal of dust is to allow inspection of the mechanism, rather than being a maintenance procedure in itself. Our efforts were, therefore, directed towards the removal of loose dust from the parts of the brake mechanism which needed inspection, rather than achieving total cleanliness.

The criteria for evaluating the two methods devised were firstly, that the alternative method did not take significantly longer than the method already in use, secondly, that it was not more difficult to carry out, and thirdly, that very little extra equipment was needed.

ALTERNATIVE METHODS EXAMINED

The alternative methods examined were a vacuum funnel, and a vacuum brush.

Vacuum funnel

The funnel (see Fig. 1) comprised a steel cone with a connection point at its apex for an industrial vacuum cleaner; a flexible skirt, with a draw string attached at its periphery; and a small-bore side-entry for the injection of compressed air. In use, the funnel was secured over the backplate of the brake assembly or over the drum and compressed air was injected to dislodge dust while the vacuum cleaner extracted dust-laden air. The assembly was rotated around the total circumference to complete the cleaning operation.

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