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Our reference:
Your reference:

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To all Chief Fire Officers



23 November 1983

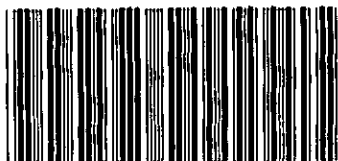
Dear Chief Officer

HAZARDS FROM VEHICLE FIRES

1. In my letter of 13 November 1981 (No.24/1981) I referred to hazards from explosions in severe vehicle fires. Recent incidents have shown further specific hazards which may arise from gas strut dampers, which are now commonly fitted to the boot lid/tailgate of many cars, and spring brake actuators of commercial vehicles.
2. Gas struts may explode when subjected to high temperature. Provided that the end fixings remain intact the casing is likely to split, but no projectile or other significant hazard should arise. One case is recorded, however, where the end anchorages of the strut failed first in the heat of the fire and thereafter the strut separated explosively into two parts, one of which punched a hole through the car body and emerged as a projectile.
3. In the case of spring brake actuators, many are manufactured from cast aluminium alloys and the heat of a severe fire may melt the spring retaining cap or permit sufficient distortion to release the retaining clip which secures the cap. In either event the springs, which store considerable energy, will be released violently and on occasions have travelled some considerable distance. They represent a serious projectile hazard. The units concerned are only fitted to rear axles and axles of trailers as part of the secondary (parking) brake. Most of these units have their axis in a near horizontal plane but some are directed in a slightly upward direction. They are therefore a particular hazard to anyone approaching from the rear of the vehicle or trailer.
4. Although attention has been drawn by previous letters to the general hazards arising from explosions of motor vehicle components in severe vehicle fires, you may think it appropriate that warning should also be given of the particular hazards which may arise from gas struts and spring brake actuators when involved in fire.
5. There are no cost or manpower implications arising from this letter.

Yours sincerely

The Fire Service
College



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