

EMERGENCY BRAKE LIGHT DISPLAY (EBLD)

Transmitted by the expert from The Netherlands

Considerations concerning signalization to be used in situations of emergency braking

Background / History

Almost two years ago when the discussions on EBLD had already started in GRE, a general philosophy was developed in the Netherlands. This philosophy was about the considerations concerning the possible signalization to be used in situations of emergency braking. It was and still is, although further developed, our basis for the considerations concerning EBLD. It was therefore back then also sent out, by e-mail, to the members of the then “ad-hoc group on EBLD” (December 2002). The text below further reflects on this all.

General

For the assessment of situations concerning emergency braking one should actually distinguish, in practice, two important sequential events:

Event 1

Firstly, the vehicle will, due to *emergency braking*, retard at a high deceleration rate.

Event 2

Secondly, immediately after event 1, in most cases at least, the vehicle will come to a (*almost*) *standstill*, whether or not due to a possible collision.

Signalization

Perhaps the most intuitive signal for Event 1 - *emergency braking* - would be by means of the red lamp(s), at the rear (e.g. stop lamp or rear fog lamp). In order to discriminate between the signal for *emergency braking* and the regular signal for those lamps, one could then choose for the red lamp(s) to flash, in the case of *emergency braking*.

All relevant conditions, such as activation, de-activation, frequency, dynamic response of used light source(s), intensities, etc., of this signal must be determined on the basis of research. Paramount is that it has to make sense!

Then, for Event 2 - (*almost*) *standstill* - the most intuitive signal seems to be the hazard warning signal. The stopped (or crashed) vehicle does now indeed temporarily constitute a special danger to other road-users. In order to activate the hazard warning signal as quick as possible, automatic activation would be favorable, for this event.

All relevant conditions, such as activation and de-activation, must be determined on the basis of research or, at least, common sense. Once again: it has to make sense!

In order to avoid possible confusion of signals by the road user, it would most likely be the best to have one unique signal for each event.

Furthermore, if *emergency braking* occurs in conditions of dense fog, i.e. the rear-fog lamp is (should be) already switched on, it would possibly be a good idea to have in this case a flashing rear fog lamp (even if flashing stop lamps are chosen for *emergency braking*, the flashing rear fog lamp would then simply be an additional signal in this specific case). In dense fog the rear fog lamp signal has the highest penetrability. Crashes in dense fog can be very severe and often have disastrous consequences.

Ideally, this all should be accompanied with uniform provisions for the use of the rear fog lamp.
