

Justification for APL

The text reproduced below was prepared by the expert from the International Motorcycle Manufacturers Association (IMMA) to provide supporting information on the effectiveness of APL, in support of ECE/TRANS/WP.29/GRE/2009/67 and ECE/TRANS/WP.29/GRE/2009/68 as requested by GRE.

Justification for amber position lamps (APL)

0. Background

At 63/GRE, IMMA was asked to coordinate information on the effectiveness of APL, in support of GRE/2009/67 and GRE/2009/68. This report is the consolidation of information received.

1. Issues raised in previous discussions at GRE

The issues as IMMA understands them are:

- (a) whether the colour of amber is visible enough
- (b) that APL would not have a negative effect on the visibility of direction indicators
- (c) whether or not APL should stay on or go off when the direction indicator was operating

2. The colour issue

Amber has been used for many years for direction indicators precisely because it is visible. Various UMTRI studies have confirmed this recently.

In past discussions, GRE has wanted to reserve amber position lamps for motorcycles. In North American discussions there has been a tendency to want amber position lamps to help them stand out from the automatically-on headlamp. Work in Australia and at General Motors has concluded that amber turn signal DRLs are more effective than the white equivalent.

On this basis IMMA considers amber to be a suitably conspicuous colour for position lamps.

3. The possible negative effect of APL on the visibility of direction indicators

Research by JARI in 2001 on "*An evaluation of the visibility of direction indicators for motorcycles*" (*Annex I*), compared the conspicuousness of the direction indicators reciprocally incorporated with the front position lamp, for both "turn-off" and "remain-on" position lamp systems.

The first test asked the observer to compare the conspicuousness of the direction indicator with the two position lamp systems, when they were presented at the same time. The second test, using a car which the subject drove towards the motorcycle, measured the distance at which the direction indicator was detected for both position lamp systems.

The results showed very small differences, none of which were statistically significant. The direction indicators were perceived as equally conspicuous in all conditions for both systems and they were detected at about 200 metres in all test configurations.

The researchers therefore concluded that there was no difference between the “turn-off “ and the “remain-on” position lamp systems when it came to detection or conspicuity.

In addition, in the North American market, the amber front position lamps are commonly incorporated with amber front direction indicators. At no time, in IMMA’s review, has there been a published or known concern with this particular incorporation.

On this basis, IMMA considers that there is no negative effect of APL on the visibility of direction indicators.

4. Whether APL should stay on or off while the direction indicator is functioning

It follows from the research cited in paragraph 3 above, that either the “turn-off” or the “remain-on” solution is acceptable, as there is no significant difference between these possibilities when it comes to the conspicuousness of the direction indicator.

IMMA therefore considers that both these options should be kept in the regulation.
