
Some years ago it was recognised that legislative requirements could not keep pace with continuing development of electronic systems. With respect to Regulation 13 Annex 18 (Special requirements to be applied to the safety aspects of complex electronic vehicle control systems), was introduced to provide generic requirement which could apply to any electronic system and in parallel new definitions were introduced associated with automatic application of the brakes.

At the time it was also recognised that the then current text of Regulation 79 did not include similar provisions and as electronic control of steering systems were being developed it was considered appropriate to amend this Regulation to remove possible limitations that could be considered design restrictive, these were introduced via the 02 Series of Amendments.

It would appear that much of the text is applied to motor vehicles although there are definitions associated with trailers which include:

2.5.2. *For trailers:*

2.5.2.1. *"Self-tracking steering equipment" means a system designed to create a change of steering angle on one or more wheels only when acted upon by forces and/or moments applied through the tyre to road contact.*

2.5.2.2. *"Articulated steering" means equipment in which the steering forces are produced by a change in direction of the towing vehicle and in which the movement of the steered trailer wheels is firmly linked to the relative angle between the longitudinal axis of the towing vehicle and that of the trailer;*

2.5.2.3. *"Self-steering" means equipment in which the steering forces are produced by a change in direction of the towing vehicle and in which the movement of the steered trailer wheels is firmly linked to the relative angle between the longitudinal axis of the trailer frame or a load replacing it and the longitudinal axis of the sub-frame to which the axle(s) is (are) attached;*

2.5.2.4. *"Additional steering equipment" means a system, independent of the main steering system, by which the steering angle of one or more axle(s) of the steering system can be influenced selectively for manoeuvring purposes.*

However all of the above are only permitted when there is no energy, electrical or hydraulic supplied from the towing vehicle. In the introduction – see Section 0 – the last paragraph states the following:

This Regulation also prevents the approval of positive steering of trailers using energy supply and electrical control from the towing vehicle as there are not any standards applicable to energy supply connectors or to control transmission digital information interchange. It is expected that at some time in the future, the International Standards Organization (ISO) Standard, ISO11992, will be amended to take account of transmission of steering control data.

Steering systems for semi-trailers are now available where all elements of the control and actual steering are mounted on the trailer. Such systems measure the articulation angle between the trailer and the towing vehicle by means of a sensor mounted on the trailer which provides information to an ECU which in turn control the generation of hydraulic pressure and subsequent steering control. Based on the content of the above paragraph such systems cannot be approved as they utilise electrical energy from the towing vehicle and no standard connector is currently specified. This restriction is considered unnecessary when currently there is no standard interface specified for the pneumatic supply line, the pneumatic control line or for the purpose of lighting. Therefore applying such a restriction to steering equipment would appear unnecessary and is preventing innovation development.
