

Transmitted by the expert from Sweden

## PROPOSAL REGARDING ALCOLOCK SYSTEMS

Alcolock systems installed in vehicles are an effective way to prevent the vehicles from being used by drivers who are impaired by alcohol. The alcolock system requires the driver to blow in a special hand-held unit before the vehicle can be driven away. The alcolock system will prevent the vehicle engine to be started or will by other means block the vehicle if it detects alcohol from the driver. From a traffic safety point of view, it is essential to reduce drink-driving and the number of alcohol related traffic accidents. Statistics show that about 25 per cent of fatal traffic accidents are caused by drivers impaired by alcohol, drugs or fatigue.

Many transport operators in Sweden have installed alcolocks in their vehicles on a voluntary basis. Since the start about ten years ago, 40000 alcolock systems are now installed in vehicles, such as lorries, buses and taxis. The experiences show that the alcolock systems are reliable and easy to use. The experiences also show that the systems are effective in preventing drunk drivers from driving. A Swedish investigation shows that the alcolocks in average, have blocked about 0.1-0.2 per cent of the attempts to start the vehicle engine. For more background information see the informal document No GRSG-95-22.

An alcolock system consists of a hand-held unit, that can analyse the driver's breath, and a control unit installed in the vehicle, that can prevent the vehicle from being driven. The hand-held unit detects any alcohol in the driver's breath and transmits the information to the control unit. The control unit will block the vehicle from being driven if the amount of alcohol in the driver's breath is above a defined level. Some control units also can record the use of the system so that it is possible to see all attempts to start the vehicle, the level of alcohol and whether the system blocked the vehicle or not.

Most of the alcolock systems installed today are aftermarket equipment. The control unit is installed in the vehicle so that it can activate an existing vehicle safety function that prevents the engine from being started from the drivers place. For example, many buses are equipped with a sensor on the door to the engine compartment so that the engine cannot be started from the drivers place if the door is open. In those buses, the alcolock system can be connected via a relay to the sensor on the engine compartment door. In some new vehicles there are alcolocks installed by the vehicle manufacturer. The alcolocks installed by the vehicle manufacturer are integrated in the vehicle's electronic system. These alcolocks can be given different functions by the computer program in the electronic system of the vehicle.

The alcolock technology is under development. Different alcolock systems have different functions, for example the following:

- The result of the breath analysis is stored for a certain amount of time after the engine is turned off, so that the driver does not need to repeat the procedure after a short stop.
- The engine is possible to start, e.g. to warm up, but the accelerator pedal is inactivated and the parking brake activated, so that the vehicle cannot be possible to move.
- A bypass function can be activated for emergency situations. The bypass function can e.g. be limited for use once, for use several times or be used during a certain amount of time.

- A service function can be activated, so that the vehicle is possible to drive with limited speed, e.g. in work shop areas.

There is a need for an UNECE Regulation on the installation of alcolocks in vehicles of categories N1, N2, N3, M2 and M3. Today there is a CEN standard, EN 50436, that covers the hand-held unit that analyses the driver's breath, but there are no requirements on the installation in vehicles. A Regulation would contain installation and performance requirements on alcolock systems in vehicles. It is desirable to have a standardized interface between the alcolock system and the vehicle. Alcolocks should be installed in the vehicle electronic system so that it is impossible to disconnect the system by others than authorised personnel. Compliance with a Regulation would assure that the alcolock system is reliable and safe and that the alcolock system does not interfere with other vehicle systems.

Sweden would like to propose the start of an ad-hoc group for the development of a Regulation on the installation of alcolocks in vehicles of categories N1, N2, N3, M2 and M3. Sweden offers to organise the group or to participate in the group if another Contracting Party is willing to organise the group.