In order to cope with economic pressure and changing transport/consumer trends, distribution and manoeuvres are continually on the increase. A growing number of docking operations, to be carried out within tight schedules in difficult conditions of access — and mainly in reverse — expose both employees and equipment to the risk of accidents. This danger can also affect staff working near the vehicle, as well as the forklift truck operators that are in charge of loading and unloading. Accidents can also cause material damage, resulting in significant expense for haulage companies, and can even lead to vehicles being taken off the road.

To avoid the traps of reversing, such as blind spots, use of the right-hand wing mirror and difficulty judging distances, CHEREAU has developed the Rear Detect-C reversing aid.

The solution

The Rear Detect-C reversing aid is the solution for docking trailers in complete safety. This system not only detects obstacles, but also gives an audible warning of the manoeuvre and automatic halts the vehicle. The reversing aid uses 3 sensors to detect an obstacle located within 3 metres of the rear of the vehicle. The audible signal warns people outside that the vehicle is reversing and the stalk lights, positioned on each side of the chassis rear, notify the driver of any obstacle. The driver can identify the space between the obstacle and the rear of the vehicle by means of a box in the cab (optional). When the obstacle is located at a specific distance (predefined at between 30 and 100 cm), the system automatically breaks the trailer until it halts, without any intervention by the driver. The driver can then take over to finish the approach without any risk of damage.

The benefits

The Rear Detect-C reversing aid is fitted to CHEREAU vehicles, enabling them to work in a near zero-accident environment. Its 3 sensors are designed to ensure an optimal protection area, including the central axis. Rear Detect-C delivers a rapid ROI, avoiding repair costs and reducing vehicle downtime. Compatible with or without the Bumper-C, it guarantees maximum security for your equipment in even the most extreme rear vision conditions.
The reversing aid features three ultrasonic sensors, connected to the EBS, that are fitted on the rear chassis of the vehicle at the same height as the fixed bumper system or the Bumper-C.

The side sensors (right and left) scan the external areas, whilst the central sensor scans the neutral central area, concentrating on the top rear of the vehicle.

Data is fed back to the electronic braking system (EBS).

Coded flashing of the stalk lights indicates the approach of an obstacle.

> Operating details

- Automatic activation when the gearbox is engaged in reverse.
- To the rear of the vehicle, the stalk lights begin to flash at a frequency of 1 Hz.
- Audible warning is activated if an obstacle is detected within the scanned area. Sound system can be disabled to comply with PIEK use.
  - Around 3 m from the obstacle within the detection area, the stalk lights begin to flash at a frequency of 2 Hz.
  - Trailer speed slowed to 9 km/h.
  - Automatic braking comes into effect if speed is over 9 km/h.
  - Around 1.8 m from the obstacle, flashing increases to 4 Hz.
- 1m from the obstacle, full automatic braking occurs and flashing increases to 6 Hz.

Once the trailer has been halted, the brakes are freed after 3 seconds to allow the driver to finish the docking operation.

• The Rear Detect-C can be disabled by:
  - disengaging the reverse gear
  - reversing at speeds of over 12 km/h
  - a fuel supply pressure of under 4.5 bars
  - double declutching of the reverse gear within 1 to 3 seconds (the audible warning system is not disabled as it is connected by default to the reverse gear).

• Compatibility:
  - compatible with the Bumper-C option
  - compatible with a rear modular underride guard or tailgate only
  - incompatible as standard with a longitudinal wheel support or short jambs (at the level of the central sensor)
  - installing the sensors on a non-modular rear requires validation.

• Restrictions:
  The Rear Detect-C reversing aid requires:
  - EBS (Wabco Premium type)
  - stalk lights option.