

ZF LIFETEC releases innovative new rear seat belt system

- **Starting in mid-2025, ZF LIFETEC will release the SPR6.1 seatbelt**
- **Unique mechanical decoupling with improved adaption to different crash scenarios**
- **Versatile and compatible for different installation positions for easier installation of the SPR6.1 by vehicle manufacturers**
- **Helps to achieve Vision Zero - zero road traffic deaths and serious injuries**

ZF LIFETEC, a global leader in passive safety systems, presents the new SPR6.1 seatbelt, which will be launched in mid-2025. The SPR6.1 improves available options for vehicle safety in the rear seats and goes beyond the existing safety requirements for passengers in the rear. Due to a mechanical decoupling, the system can better adapt to passengers of different weights in the event of a crash, thus representing a significant step towards Real Life Safety in the rear seats.

For years, ZF LIFETEC's rear passenger restraint systems have been helping to reduce risk of serious injuries in the event of an accident. To further enhance rear seat safety for passengers of all sizes and weights, the SPR6.1 features a unique mechanical decoupling, depending on the occupant's stature, that is activated when the seat belt is overtightened. This feature is currently unique on the market and enables ZF LIFETEC to provide Real Life Safety and more comfort for rear seat passengers. "With the SPR6.1, we have developed a solution that significantly increases rear seat safety while improving passenger comfort," said Harald Lutz, Senior Vice President Global Engineering at ZF LIFETEC. "Our innovations in passive safety technology continue to set standards and help us achieve our goal of Vision Zero - zero road fatalities and serious injuries."

The rear seat – a safe place for everyone we care about

Whether it's a long holiday trip or a short journey, the back seat is where we usually put those who are really important to us. Namely, our loved ones, whether they're our grandparents or our children. But some also use the back seat to relax or work. And this is precisely where the new retractor tensioner SPR6.1 from ZF LIFETEC comes in.

Innovative technology

The SPR6.1 combines the advantages of variable pretensioning through the torsion bar with the compactness of pretensioning through the spool. In vehicles with AEB (Autonomous Emergency Braking), the occupant could be moved forward due to a pre-braking initiated just before a crash. The sensors of the locking mechanism detect this braking deceleration and mechanically restrains the occupant. In the event of an actual accident, the

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snake (SPR = Snake Pretensioner Retractor), which is a plastic driving element, will be pressed into a special gear by a pyrotechnical drive and ensures a tightening of the seat belt. But, as already mentioned, only up to the point of mechanical decoupling to avoid excessive force loads.

Application options and availability

The mechanical decoupling of the belt also offers greater variability in the use of additional belt pretensioners in the same system. For example, an additional anchor pretensioner could be used to reduce the risk of submarining without increasing the risk of injury to the occupants. The SPR6.1 offers a wide range of applications and can be used for both direct and indirect retraction. It is also compatible with a range of sensors that mechanically lock the belt retractor. Available, for instance, as a standard vehicle-sensitive ball sensor or as a premium SLS (silent locking side) pendulum sensor. At just 8 dB, the SLS is barely audible even in the quietest electric vehicles. The low noise level is a comfort factor, especially in the rear seats, where the belt pretensioner is often at ear level.

The new SPR6.1 seat belt will be available from mid-2025, offering vehicle manufacturers a new option to help improve passenger safety.

Caption:

ZF_LIFETEC_SPR6.1.jpg

The SPR6.1 improves available options for vehicle safety in the rear seats and goes beyond the existing safety requirements for passengers in the rear.

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About ZF LIFETEC

ZF LIFETEC is a leading passive safety technology provider for the enhanced protection of vehicle occupants. Employing approximately 36,000 employees dedicated to the mission of saving lives with a technology driven approach, the company develops, manufactures and distributes a comprehensive product portfolio including airbag, seat belt and steering wheel systems, covering a wide range from small vehicles in the volume segment up to sophisticated luxury vehicles. Featuring a market share exceeding 20 percent in its core product categories, ZF LIFETEC has a worldwide presence at 51 locations across 22 countries. In the fiscal year 2024, the Group generated sales of EUR 4.8 billion. Based on its strong relationships with a diversified customer base of global OEMs, driven by outstanding quality, long-standing R&D collaborations besides a strong global innovation platform, ZF LIFETEC is well positioned for future growth opportunities arising from the automotive megatrends electrification, (semi-) automated driving, smart interior, as well as increasing safety demands and stepped-up safety regulations worldwide.

Learn more at www.zf-lifetec.com