

# Check your tech: the top 5 safety systems



## Truck safety begins with your pre-start checklist.

Safety technology, such as braking and stability assists, driver monitoring and communications, are in place to prevent incidents and protect your life but can only help if they're working properly.

This guide gives you more information on the technologies designed to keep you safe, why they matter and what to look out for to check that they're working.

## Drive, don't fly

Even though your seatbelt is not a new technology, it's still **the number one safety device** in the event of an accident.





IF YOU'RE NOT WEARING A SEATBELT, YOU'RE **8X MORE** LIKELY TO DIE IN A CRASH.

A seatbelt stops you from being ejected from your seat if you have to stop in a hurry or if something crashes into your vehicle.

Three-point seatbelts, or seatbelts that go over the shoulder and lap, with pretensioner and load limiter technology, give you the best protection in the event of a crash.

A pretensioner tightens and locks the seatbelt in place, which keeps you in your seat and reduces your chances of being thrown against the wheel, dashboard, door or roof. Load limiters then loosen the webbing to prevent your seatbelt from over-tightening and putting too much force on your chest.

As truck cabs have become stronger and safer (see R29 below), keeping you restrained within the cab becomes even more important.

 To test if your seatbelt is working properly, check that it retracts freely and is not faded or frayed. 

## How safe is your office?

Do you know if your cab is R29 compliant? R29 is a **cab integrity test** that checks how safe you are in a collision.

R29-COMPLIANT CABS CAN **REDUCE FATALITIES** IN TRUCK CRASHES BY 35%.





It tests the strength in four ways by measuring the ability of:

- the front of the cab to resist an impact from the front (for cab-over trucks only)
- the windscreen pillars to resist an impact from the front
- the roof to resist impact from the top
- the roof to resist an impact obliquely from the side.

The cabs are stronger, so they protect the integrity of the space around the driver in a crash.

Safety features that can give a cab an R29 rating include shaped panels that increase bending strength (to absorb more energy), triangulated structural members and gussets between joints.

While not mandated in Australia, R29 compliance is a requirement to access certain regulatory concessions, and most new trucks comply with the strength requirements.

 How do you know if your cab is R29 compliant? Normally there is a sticker in one of the door jambs to show the cab conforms to UN/ECE Regulation No. 29. 

## Always brake straight

**Anti-lock Braking Systems** help keep your rig straight when you have to stand on the brakes. So if you need to activate emergency braking, you know it's there to assist.





IF YOU NEED TO BRAKE SUDDENLY, YOU'RE **18% MORE LIKELY** TO BE INVOLVED IN A MULTI-VEHICLE CRASH WITHOUT OPERATIONAL ABS.

ABS uses wheel speed sensors to detect when wheels have locked up under heavy braking and then uses electrically controlled actuators to release and re-apply the brakes.

A locked wheel does not provide as much stopping power, so ABS can shorten stopping distances. It also improves directional control under emergency braking and greatly reduces the likelihood of trailers jack-knifing under brakes.

Other braking technologies include load-sensing proportioning, which adjusts braking force to match the load carried by each axle or axle group, and electronic braking systems (EBSes), which supplement pneumatic brakes with an electric signal that activates the brakes instantaneously.

EBSes also play a role in stability control (see below) and brake distribution (which matches braking force on each wheel to the available grip).

 If the ABS is working properly, the ABS warning light on the dash should light up briefly when you turn the key to the 'on' position. If the light stays on, your ABS needs attention and should be reported. 

## Rollover on your bunk, not the road

**Electronic Stability Control and Trailer Stability Control** systems can prevent rollovers and loss of control.

OPERATIONAL ESC AND TSC SYSTEMS CAN MAKE YOU UP TO **35% LESS LIKELY** TO CRASH.





Using accelerometers and wheel speed sensors, stability control systems can detect high G-force turning events and modulate the vehicle's brakes to attempt to stabilise the vehicle.

This can involve braking individual wheels to reduce sway and, if needed, pull a swerving trailer back on track.

The same sensors also help with traction control, helping avoid wheelspin while accelerating.

Many systems can be temporarily disabled so that drivers negotiating difficult terrain at low speed will have full manual control of their rigs.

 Like ABS, if the ESC/TSC warning light stays on, report it. 

## DMS is on your side



Fatigue and driver distraction are common causes of heavy vehicle accidents.

DATA FROM SEEING MACHINES HAVE LOGGED MORE THAN **8 MILLION DISTRACTION EVENTS** IN THE LAST 12 MONTHS.

**Driver Monitoring Systems** can help save you from crashing due to distraction, drowsiness, and more.

DMSes use cameras, facial recognition and artificial intelligence to judge if you're becoming fatigued or even falling asleep. They sound alerts to bring your attention back to the road.



 Make sure your device is not obstructed. 

Your pre-start checklist is your voice. More than just a walk-around, it's a chance to officially tell the business whether your truck's in good shape or needs work.

The best safety systems in the world won't help you if they're not working, so make sure [your checklist covers all your truck's active technologies](#). If you're not sure, speak with your team.

