

# DAF - Adaptive Cruise Control

Relaxed and safe



## Cruise control

Modern commercial vehicles are equipped with cruise control. Cruise control maintains a set, constant vehicle speed under varying road conditions and thus is a great relief for the driver, at least on not too busy motorways.



In dense traffic, however, the driver must continually adjust the vehicle speed to the traffic flow. The benefit of conventional cruise control systems diminishes as the traffic gets heavier.

## Adaptive Cruise Control

The limitations of conventional cruise control systems are overcome by Adaptive Cruise Control (ACC). If the vehicle catches up with a preceding vehicle, ACC reduces engine throttle and (if necessary) applies braking force to maintain a safe distance as preset by the driver. Even in dense traffic and with other vehicles crossing or joining his lane at various speeds, the driver is relieved from frequent manual intervention.

## What are the benefits of ACC?

Above all, Adaptive Cruise Control reduces the strain on the driver. Because ACC maintains a safe distance to the vehicle immediately ahead, the driving is much more relaxed, with reduced symptoms of fatigue.

ACC includes a **Forward Collision Warning (FCW)** function to alert the driver if manual intervention is required.

**Advanced Emergency Braking System (AEBS)** further reduces the risk of a rear-end collision by applying up to the maximum available brake power if appropriate.

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### How does ACC work?

A radar sensor behind the grille detects objects ahead of the vehicle and checks their relative speed and distance. Three radar beams together with an integrated yaw rate sensor enable the system to differentiate between vehicles in the same lane and those in other lanes.

The driver sets a desired cruise speed and following distance to a vehicle ahead.

To maintain the set distance the vehicle speed will be adapted by active intervention from ACC in the vehicle systems:

- engine throttle
- engine brake
- automatic gear shift down
- secondary retarder
- service brakes

### Cautions

- ACC is intended for use on main roads and motorways.
- The field of view of the radar sensor is limited. In some situations (for example a motorcycle, or a vehicle driving far off centre) other traffic can be detected later than expected or not be detected at all.
- ACC is a supporting system that will contribute to more relaxed and safer driving. However, ACC is not an autopilot. The driver himself will at all times remain fully responsible for his vehicle.

### When will ACC react?

ACC will react on:

- moving objects ahead that are coming closer, like preceding vehicles driving at a lower speed.
- stationary objects that have been detected moving before, like a slowly moving queue that comes to a full stop.

ACC will not react on:

- objects that are moving away from the vehicle, like overtaking vehicles.
- stationary objects, like a traffic jam that is already at complete stand-still when first detected.
- opposing traffic.

### How will ACC react?

#### Maintain a preset distance

If a preceding slower vehicle is detected, ACC will maintain a safe distance by decelerating the vehicle. If the lane ahead is clear again, the vehicle will accelerate to the set cruise speed.

ACC alerts the driver if manual intervention is needed to avoid a collision, Active intervention by FCW and AEBS in the vehicle systems will follow if the driver does not react properly.

#### ACC distance alert

- audible distance alert and yellow warning on the central dashboard display

#### FCW distance alert

- audible distance alert and red warning on the central dashboard display

#### FCW partial braking phase

- max. deceleration 3 m/s<sup>2</sup>

#### AEBS full braking emergency phase

- max. deceleration 6 m/s<sup>2</sup>

ACC and AEBS can be switched on and off by the driver. FCW will remain active, even with ACC off.