

# DAF – Adaptive Cruise Control

## For a safe and easy drive



### Cruise control

Most modern commercial vehicles are equipped with cruise control. Cruise control maintains a set, constant vehicle speed under varying road conditions and is of great benefit for the driver when not on 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 slower preceding vehicle, ACC reduces engine throttle and (if necessary) applies braking force to maintain a safe distance as preset by the driver, relieving the driver from frequent manual intervention.

The ACC functionality includes Forward Collision Warning. This alerts the driver they are in danger of running into the back of another vehicle.

### 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 driver is much more relaxed, with reduced symptoms of fatigue.

The additional Forward Collision Warning function increases the vehicle's safety by alerting the driver if a collision threatens.

Adaptive Cruise Control in DAF vehicles is optimised to prevent adverse effects on fuel consumption.

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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.

ACC is connected to other vehicle management systems for brake control, engine power, AS Tronic gear shift and retarder control. This allows direct intervention of ACC in those systems.



The driver sets a desired cruise speed and following distance mode to a vehicle ahead. ACC adapts the vehicle's speed to maintain the preset following distance.

The following will be used for deceleration, in the order as given:

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

The ACC system has been limited to decelerations up to 2.5 m/s<sup>2</sup>.

### 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 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 a more relaxed and safer driver. However, ACC is not an autopilot. The driver will at all times remain fully responsible for the vehicle.

### When will ACC/ FCW react?

#### ACC/ FCW 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/ FCW 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/ FCW 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 distance alert**

ACC will generate a visual and audible distance alert if intervention by the driver is needed to maintain the required distance.



#### **Forward Collision Warning**

If a situation is detected that requires the maximum braking effort in order to avoid a collision, the driver will be alerted with a red warning and an acoustic signal.



Adaptive Cruise Control can be switched on and off by the driver. Forward Collision Warning will remain active even with ACC off.