

Description and Operation

The electronic Anti-lock Braking System (ABS) installed in Scorpio consists of a conventional brake system with split dual-circuits and an ABS actuator.

Two types of ABS unit are fitted to Scorpio. Up to '97 MY was fitted with a Teves Mk. IV. Scorpio '97 MY onwards is fitted with a Teves Mk. 20. The operation of both these units is identical. The Teves Mk. 20 has been re-engineered and packaged, producing a smaller and lighter unit.

The ABS unit consists of the following components:

- Hydraulic actuator.
- ABS brake pressure pump.
- ABS module with built-in relay box.

The wheel-speed signals required for control are supplied by four wheel sensors. The ABS module compares these signals with the physical limiting values stored in the ABS module.

If the wheel speed of one or more of the wheels approaches the locking limit during braking, the corresponding ABS solenoid valves are activated by the ABS module. This leads to a brake pressure drop in the respective brake cylinder.

If the wheel speed now exceeds the locking limit, the ABS brake pressure is switched on by the ABS control module. The ABS brake pressure pump rapidly increases the pressure in the wheel cylinder assembly in accordance with the brake pressure applied by means of the brake pedal. The ABS solenoid valves are deactivated during the pressure build-up phase.

This procedure can be repeated several times per second depending on the condition of the road surface and the duration of the braking procedure, and is known as the ABS control frequency. The control frequency of the ABS system on Scorpio can reach a maximum of approximately 20 Hz.

ABS control does not come into effect at road speeds of less than 5 km/h (3 mph).