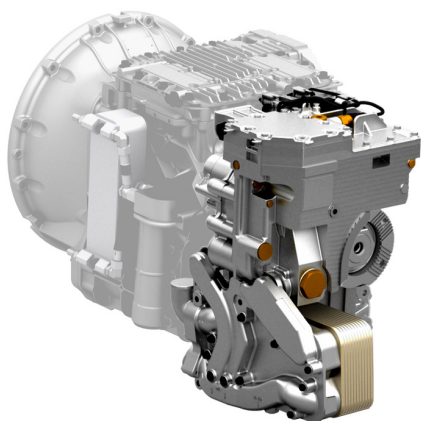


FACT SHEET

RETARDER

RET-TH Gearbox-mounted, hydrodynamic oil retarder



RET-TH is a compact, gearbox-mounted, hydraulic retarder that effectively supplements the vehicle's ordinary brake system.

The retarder is coordinated with the engine's exhaust brake (EBR), which results in high overall braking power. Volvo's most powerful engine brakes can be used, and a special function ensures that the rear axle is not overloaded.

Using the additional brake as primary brake limits wear on the truck's ordinary brakes, which reduce total operational costs.

The compact retarder is very suitable for regional and long haul transports in hilly areas. Retaining a safe driving, the average speed can be increased as the retarder makes it possible to maintain higher speeds when driving on long downgrades. This results in a considerable increase in vehicle productivity.

The retarder is fitted with a cruise control function that makes it easier for the driver to maintain a constant speed when driving downhill. Since the retarder is connected to the propeller shaft, braking power is also utilised when changing gears. Engaging and regulating the retarder is carried out conveniently with a lever next to the steering wheel.

The retarder should be regarded as an integrated part of the brake system, and it must be factory mounted as it cannot be retrofitted.



PRODUCTIVITY

- Compact and durable design with few moving parts results in long service life and high productivity.
- Coordinated with the engine's exhaust brake.



SAFETY

- High braking torque increases driving safety and reduces wear on the truck's ordinary brake system.
- Easy manual control provides exactly right amount of braking power in every situation.
- Approved for ADR transport.



ENERGY EFFICIENCY

- Cruise control function provides automatic cruise control on downgrades.

Max brake power* (approx.) with EBR-, kW			
Engine	EPG	VEB	VEB+
D11	610**	740	
D11K (Euro 6)	610**	740	
D13A (Euro 3)	630**	750	805
D13A (Euro 4)	630**	750	825
D13C (Euro 5)	630**	750	825
D13K (Euro 6)	620**		825
D13T (Euro 6)	580		830
D16C (Euro 3)	680		875
D16E (Euro 4)	680		875
D16G (Euro 5)	680**		875
D16K (Euro 6)	680		920
D17A (Euro 6)			975

*In the case of continuous operation, effect is reduced when water and oil temperature increase.

**Also for EBR-EPGC.

Note! The numbers in the table displays the effect of the retarder in combination with EPG, VEB and VEB+.

FACT SHEET

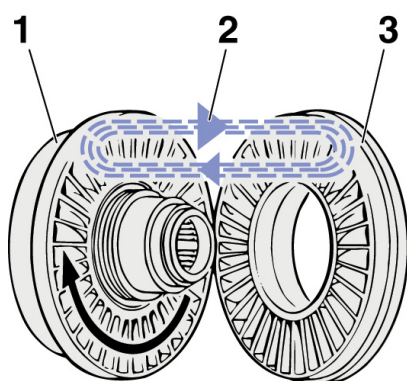
RETARDER

RET-TH Gearbox-mounted, hydrodynamic oil retarder

Simple design provides high vehicle reliability

RET-TH is a compact, closed unit with few moving parts, which results in minimal wear and high vehicle reliability.

The retarder consists primarily of two impellers; a fixed one (stator) and a rotating one (rotor) which counteract each other with the help of oil. Due to the fact that the blades on the stator and rotor are angled towards each other, the flow of oil between them is counteracted.



When the rotor (1), which is fitted to the gearboxes' output shaft, rotates, oil (2) is forced toward the stator (3), which is fixed in the retarder housing.

When oil reaches the stator's blades, a braking effect is created against the movement of the rotor, which means that the rotation of the propeller shaft is braked.

The retarder's control module regulates the oil volume and the oil pressure in the retarder. The amount of brake force is dependent on the pressure and the amount of oil pressed in between the rotor and the stator.

Reduced operating costs increase profitability

Thanks to the retarder's high braking torque, it can handle the majority of all braking situations. This results in reduced wear on the ordinary brakes, which means lower maintenance and repair costs.

The gearbox total length is increased by only approximately 100 mm. Gearboxdriven power take-offs can be used with no limitations.

The compact retarder normally does not require any service or maintenance in addition to one oil change per year.

Multifunctional control stalk



Control stalk for auxiliary brakes

The control stalk for auxiliary brakes has three or five positions, depending on the type of gearbox that the truck is equipped with.

- A** Automatic mode. Brake Blending is active if Cruise Control is inactive. When the brake pedal is depressed, the braking force is blended between the ordinary brakes and the auxiliary brakes.
- 0** All auxiliary brakes are off.
- 1-3** Brake level settings. Provides settings between 20 and 100%. The total brake torque depends on which auxiliary brakes that are fitted on the vehicle, load condition and retarder temperature. The auxiliary brake is activated when the accelerator pedal is released. On control stalk with setting 1 only gives full braking effect from the Exhaust Pressure Governor.
- B** Brake program mode. On vehicles with I-Shift or Powertronic, there is also a "B-button" that is used to activate the "brake program". This function provides faster down-changes during braking.



Auxiliary brake symbol.



Stretch Brake symbol. When the truck is equipped with Stretch Brake this function is also available when the auxiliary brake lever is in manual position 1–3.

FACT SHEET

RETARDER

RET-TH Gearbox-mounted, hydrodynamic oil retarder

SPECIFICATION

Designation.....	RET-TH
Manufacturer.....	Voith
Max. brake torque on propeller shaft.....	3250Nm
Max. brake torque at 750 rpm.....	3000Nm
Max. brake torque at 500 rpm.....	1800Nm
Installation weight including oil.....	105kg
Oil change volume.....	5.4l