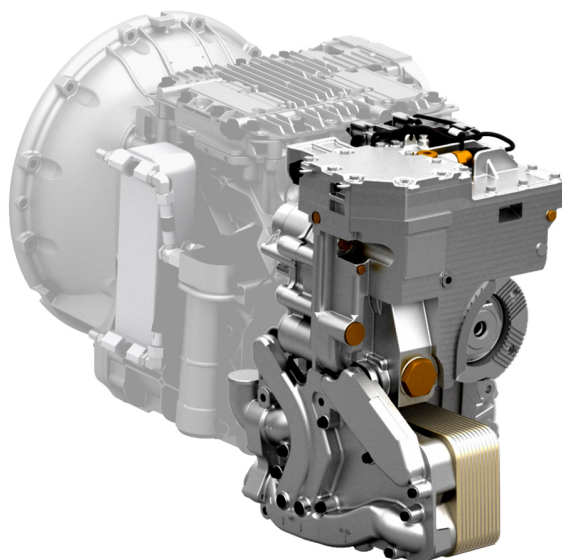


FACT SHEET

Retarder RET-TH



RET-TH is a compact, gearbox-mounted, hydraulic retarder that effectively supplements the vehicle's ordinary brake system. It is suited to a number of manual gearboxes as well as to I-Shift.

The retarder is coordinated with the engine's exhaust brake, 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 reduces total operating 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.

FEATURES AND BENEFITS

- Compact and durable design with few moving parts results in a long service life and high vehicle productivity.
- Coordinated with the engine's exhaust brake.
- High braking torque that increases driving safety and reduces wear on the vehicle's ordinary brake system.
- Easy-to-access manual control provides exactly the right amount of braking power in every situation.
- Cruise control function provides automatic cruise control on downgrades.
- Approved for ADR transport.

SPECIFICATION

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

Max brake power* (approx.) with engine brake EBR-, kW					
Engine	EPG	VEB	VEB+	VEB7	VG7
D11	610**	740			
D11K (Euro 6)	610**	740			
D13A (Euro 3)	630**	750	805		
D13A (Euro 4)	630**	750	825		
D13B				790	630***
D13C (Euro 5)	630**	750	825		
D13K (Euro 6)	650**		825		
D16C (Euro 3)	680		875		
D16E (Euro 4)	680		875		
D16G (Euro 5)	680**		875		
D16K (Euro 6)	680		920		

* In the case of continuous operation, effect is reduced when water and oil temperature increase. ** Also for EBR-EPGC. *** Also for EBR-VGTC.

FACT SHEET

Retarder RET-TH

Multifunction control stalk

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.

O 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.



Control stalk for auxiliary brakes	
Gearbox	Stalk design
I-Shift	
Exhaust Pressure Governor without Retarder	A, O, 1 and B-button
Volvo Engine Brake without Retarder	A, O, 1, 2, 3 and B-button
Retarder	A, O, 1, 2, 3 and B-button
Powertronic	A, O, 1, 2, 3 and B-button
Manual	
Exhaust Pressure Governor without Retarder	A, O, 1
Volvo Engine Brake without Retarder	A, O, 1, 2, 3
Retarder	A, O, 1, 2, 3



Auxiliary brake symbol.



Trailer brake symbol. When the truck is equipped with trailer brake this function is also controlled with the auxiliary brake control stalk.

Simple design provides high vehicle reliability

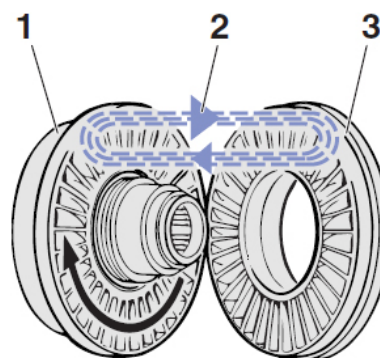
The RET-TH is a compact, closed unit with few moving parts, which results in minimal wear and high vehicle reliability.

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 retarder is coordinated with the engine's exhaust brake, which provides high total braking power. A special function also ensures that the rear axle is not overloaded at high simultaneous braking torque. The retarder installation is integrated in the transmission.

The retarder weighs approximately 105 kg and the gearboxes' 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.

VOLVO

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