



SCANIA

PRESS info

N01021EN / Per-Erik Nordström
23 April 2000

From 0 to 100,000 in eight years

The Scania Retarder has met with resounding success, with sales quickly exceeding forecast levels. At its launch in 1993, plans were dimensioned around expected sales of 3,000 units a year. This soon turned out to be a gross underestimate. Last year saw record sales of 23,000 units. Retarder number 100,000 recently left the Scania production unit in Sibbhult.

Scania transmissions with integrated retarders are now built both in Sibbhult and in Tucumán in Argentina. After its launch, the retarder took the market by storm and capacity soon had to be expanded. Almost half of all Scania vehicles are specified with a retarder. In European long-haul operations, it is an even more common feature, fitted to 60 per cent of all such vehicles.

A retarder brakes hydraulically without causing any mechanical wear, and it does not activate the wheel brakes. This is an important safety consideration on a heavy vehicle, since excessive use of the wheel brakes can cause overheating and thus impair brake efficiency. Another important benefit of the retarder is that it significantly reduces brake wear, which benefits the customer's operating costs.

"It all began in the mid-eighties. Scania offered its customers transmissions tailored for retrofitting of retarders, primarily from Telma and Voith. They were popular, particularly in the mountainous regions of the Alps and Spain. Almost 3,000 units were retro-fitted each year by our customers," relates Hans Jönsson, who at the time was manager of the Scania Retarder project and today continues to play an active role within transmission development.

"At that time, we had developed an advanced microprocessor-controlled retarder for our automatic transmissions. Inspired by this achievement, the company's technical executive board decided that we should develop our own retarder for manual transmissions. Tests got under way in 1986, with prototype testing and field trials taking over in 1990," he continues.

The engineering directive included a brief to make the retarder as quiet as possible – an exhaust brake can be rather noisy, particularly when driving through a sleeping city at night. The retarder also had to be able to be disengaged quickly to prevent the wheels from locking.

The entire retarder unit is installed at the rear of the standard transmission, easily accessible for service and maintenance. Considerable heat is generated during retarder application. This heat is led away via a plate-type oil cooler into the engine's cooling system – a solution inherited from the earlier automatic transmission era.

At the Brussels Show in January 1993, the Scania Retarder was launched as an integrated auxiliary braking system – integrated because retarder braking was inter-linked with the braking system in a variety of ways.

The driver activates the retarder with the brake pedal or via a lever on the dashboard. The retarder interacts automatically with the engine's exhaust brake in order to maximise braking efficiency.

From the start, both the retarder and the exhaust brake were linked together with the vehicle's ABS system. As a result, they are disengaged as soon as the ABS sensors register any wheel-locking tendency.

"The advanced control system was ground-breaking – at the time of its launch, nobody had ever done anything quite like it before," explains Hans Jönsson.

In principle, the system functions remain basically the same today. However, the on-board control system is far more advanced in today's vehicle generation, not least with regard to integration with the Opticruise automatic gearchanging system.

Downhill speed control has always been a highly appreciated feature. The driver activates this function by pressing lightly on the brake pedal or by activating a button on the retarder lever. The truck then maintains a steady speed down the hill with the help of the retarder and exhaust brake.

With Opticruise, downchanges take place automatically to increase engine revs and thus boost the output of the retarder and exhaust brake. Cooling too is more effective at higher engine speeds.

Another important milestone in the development of the retarder came in conjunction with the launch of the new V8 engine last year. Using an electronically controlled engine cooling fan, the retarder and the engine's cooling capacity can be managed in an even more intelligent and efficient way.

Illustrations can be found at www.scania.com, "Retarder anniversary".

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Scania is one of the world's leading manufacturers of trucks and buses for heavy transport applications, and of industrial and marine engines. With 26,900 employees and production facilities in Europe and Latin America, Scania is one of the most profitable companies in its sector. In 2000, turnover totalled SEK 53,800 million and the result after financial items was SEK 4,500 million. Scania products are marketed in about 100 countries worldwide and some 95 percent of Scania's vehicles are sold outside Sweden.

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