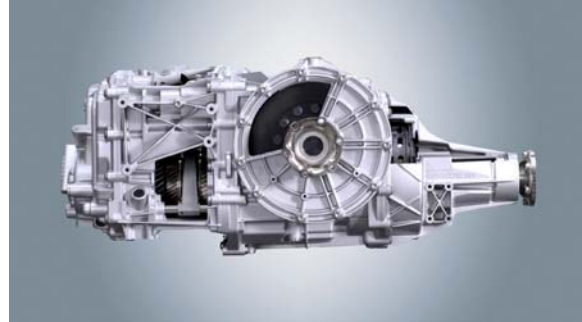


GETRAG 7DCL750

The Flexible Seven-Speed Dual-Clutch Transmission for Transaxle Applications

Getrag Powershift is the product line of the state-of-the-art dual-clutch transmissions from Getrag. They combine the convenience of a conventional automatic transmission with the direct response characteristics and high degree of efficiency of a manual transmission. All Getrag dual-clutch transmissions work without interrupting the power flow and, compared to conventional automatic transmissions, achieve a reduction in fuel consumption and CO₂ emission by 4 to 8 %. The oil of the 7DCL750 is fill for life, which results in considerable advantages in terms of maintenance and running costs.



The 7DCL750 seven-speed transmission was developed for transaxle and mid-engine installation for high-performance sports cars with rear-wheel drive - above all in the high-end range - and can be combined with an all-wheel drive. An optional engine start-/stop function without modification of hardware is in production. Combined with an electric motor, the transmission can also be used in a hybrid drive.

The shortened response times during the gearshift (compared to conventional multi-step automatic transmissions with torque converter) allow for more driving pleasure and provide a direct driving experience. Thanks to an individual adaptation of the transmission control, it is possible to cover various driving profiles (comfortable, sporty, racing, etc.).

Compared to the conventional torque converter, dual clutches offer the advantage of a targeted actuation and therefore optimized vehicle launch and gearshift with regard to the dynamics and driving comfort. In addition, Getrag dual-clutch transmissions combine the high degree of efficiency of a manual transmission with an application-specific shifting strategy, thereby resulting in a considerable reduction of the fuel consumption and the CO₂ emissions compared to conventional automatic transmissions. The transmission control also works directly with the engine control unit.

The 7DCL750 transaxle transmission has seven forward gears and one reverse gear. The even (2, 4, 6, R) and odd-numbered gears (1, 3, 5, 7) are divided into two partial transmissions. The engine and the two partial transmissions are connected by means of a double wet clutch. Depending on the requirement, the dual clutch can be supplemented with a separate dual mass flywheel (DMF). A mechanically or electronically controlled differential lock is available as an option. To improve the degree of efficiency and the consumption, dry sump lubrication is implemented in the 7DCL750. The otherwise usual churning losses of the gear set are hereby reduced to a minimum.

The oil systems and cooling systems of the hydraulic control, including clutch and gear set, are designed separate from each other. The special requirements with regard to oil properties of the clutch and hydraulic system on the one hand and the hypoid gear on the other are hereby allowed for. Smaller possible gear widths result from this and "fill for life" could be implemented for both oil systems.

The 7DCL750 has an optimized installation length, which was achieved by means of a 4-shaft design. Thanks to intelligent double use of gear wheels, the number of gear set components and in turn the weight could be reduced. The ratio of first gear, seventh gear and final drive can be freely selected and can be adjusted to the respective application.

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About Getrag

Getrag is the world's largest independent transmission system supplier, with approximately 13,500 employees in 23 locations. The company's head office is in Unterguppenbach, Germany. The company develops and produces transmission solutions for the automotive industry. Getrag has a broad product portfolio which includes manual, automated manual and dual-clutch transmissions. The company also offers a range of solutions for the hybridisation and electrification of transmissions. The total turnover in 2014 was around 1.695* billion EUR.

* In 2014, the Getrag Group switched from the HGB accounting standards to the IFRS accounting standards. Under HGB, the sales of the Getrag Group's joint ventures could be fully consolidated. Under IFRS, these sales must be accounted for through the equity method. In 2014, the turnovers for the joint ventures were: 1.119 billion EUR (Getrag Ford Transmissions) and 446 million EUR (Getrag Asia Pacific).

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Technical Data

Transmission	7DCL750
Maximum input speed	9,500 1/min
Maximum torque:	750 Nm
Weight (filled)**:	approx. 128 kg
Installation length:	approx. 695 – 880 mm
Overall ratio 1 st gear:	9.9 to 20.4
Gear ratio spread:	4.3 to 5.9
Actuators:	hydraulic gear engagement hydraulic clutch actuation
Dual clutch:	parallel wet clutch
Transmission oil:	fill for life; 7 liters (hydraulics), 3 liters (gear set)
Other details:	separate oil chambers for hydraulics with clutch and gear set external electronic control mechanical or electronical controlled differential lock all-wheel drive application possible shift-by-wire parking lock with mechanical emergency release start-/stop function optional without additional hardware

** without ZMS