



Volkan Selects ZF's Automatic Transmissions For Firefighting at Airports

- **ZF offers robust driveline technology which performs flawlessly in emergencies**
- **Integrated retarders make service braking gentler and reduce wear and tear**
- **Smart Driveline Torque Control ensures that performance is optimal in any situation**

Friedrichshafen/Izmir-Torbali (Turkey). Volkan, a Turkish special vehicle manufacturer, has selected automatic transmissions from ZF for its current fire trucks for airports, the Lion 8x8 and Lion 6x6. That's no surprise as robust, customized transmission technology is a must in order to ensure reliability when the vehicles are used in the toughest conditions. The Lion 6x6 is way ahead of the crowd with ZF-EcoLife Offroad, the new 7-speed transmission. The tried and tested 6-speed Ecomat transmission will be installed in the Lion 8x8. In both vehicle models, the Smart Driveline Torque Control transmission control unit ensures perfect performance in any situation.

Rescue operations at airports pose a special challenge to fire trucks. They have to be able to transport several thousand liters of water for fire fighting, but must also be able to accelerate quickly, take on any terrain and perform tough driving maneuvers. As rescue teams need to be able to get anywhere in the airport grounds within three minutes, the drivelines of these heavy, multi-axle and all-wheel drive special vehicles are put under a lot of stress.

With the Volkan Lion 6x6 and Lion 8x8, ZF's automatic transmissions transfer the engine power dynamically and with precision and also power the fire pumps. The Smart Driveline Torque Control software function only transmits the maximum permitted torque to the transmission input so that the vehicle can continue performing perfectly.



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PRESS RELEASE**

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Lion 8x8: Two engines + two transmissions = record-breaking acceleration

Volkan's flagship vehicle, the Lion 8x8, accelerates from 0 to 80 km/h in 22 seconds thanks to its two engines in the rear – making it twice as fast as other trucks of the same weight. The 45-ton vehicle has 1,160 HP in total, which is transmitted to the driveline via two ZF Ecomat transmissions in the first series. Every Ecomat transmission can handle almost 2,500 newton meters.

The Lion 8x8 is equipped with a "Pump & Roll" function which enables it to activate the water cannons in limited driving mode. When this function is used, one of the two drivelines can be disconnected from the transfer case, which sprays out around 10,000 liters of water per minute via the pump when fires are being fought.

Lion 6x6: Kitted out for emergencies with ZF-EcoLife Offroad

In the 39-ton Lion 6x6, a 566 kW Scania V8 engine cooperates with the ZF-EcoLife Offroad to ensure that the vehicle can be put to work as quickly as possible. The ZF-EcoLife Offroad is far more dynamic than the Ecomat in terms of acceleration, top speed and climbing capacity, thanks to a greater total spread. The permitted 3,000 newton meter torque catapults the 39-ton fire truck from 0 to 80 km/h in 30 seconds without interruptions. In conjunction with the new torque converter with integrated torque converter lock-up clutch, a smooth launch, good acceleration values and quiet operation are also ensured at low engine speeds. The integrated torsional damper filters and dampens unwanted engine vibrations before they even reach the transmission.

The integrated retarder brings the Lion 6x6 to standstill safely, making service braking gentler and thus reducing wear and tear on it.

A new dual cooling system keeps the oil temperature low even at extreme external temperatures, such as those found in Turkey or other countries where temperatures can be very high. The vehicle is thus always ready for action.



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Smart Driveline Torque Control for consistently optimal performance

The Smart Driveline Torque Control software function enables ZF transmissions to detect, offset and control the torque applied to the engine. It is thus possible to get more performance from the engine with ZF-EcoLife Offroad and Ecomat without overloading the driveline. The excess torque can be transferred to secondary loads such as the cooling system, power generation or other auxiliary power units. This means that driving performance is never interrupted, even in the most complicated situations.

Thanks to Smart Driveline Torque Control, ZF transmissions work together with engines which would otherwise require a much larger transmission. This saves on cost, weight and valuable installation space.

Captions:

- 1) A proven success over many years of use: ZF-Ecomat, an unbelievably successful transmission.
- 2) The ZF-EcoLife Offroad transmission is tailored specifically to the individual vehicle, which means that the driver doesn't have to operate the clutch and gear lever and thus prevents any operations being carried out incorrectly.
- 3) Volkan's flagship vehicle: The Lion 8x8 has two engines which elicit a total of 1,160 HP, transferred dynamically and efficiently by two ZF transmissions.

Images: ZF, Volkan

Press contact:

Georg Ehling, Head of Marketing and Business Development,
Marine and Special Driveline Technology Business Unit
Phone: +49 7541 77-2199, e-mail: georg.ehling@zf.com



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ZF Friedrichshafen AG

ZF is a global leader in driveline and chassis technology as well as active and passive safety technology. The company has a global workforce of 146,000 with approximately 230 locations in some 40 countries. In 2017, ZF achieved sales of €36.4 billion and as such, is one of the largest automotive suppliers worldwide.

ZF enables vehicles to see, think and act. The company invests more than six percent of its sales in research and development annually – in particular for the development of efficient and electric drivelines and also in striving for a world without accidents. With its broad portfolio, ZF is advancing mobility and services for passenger cars, commercial vehicles and industrial technology applications.

In the Industrial Technology Division, ZF pools its activities for off-road applications. These include the development and production of transmissions and axles for agricultural and construction machinery along with driveline technology for forklift trucks, rail and special vehicles. The division is responsible for the worldwide business of marine propulsion systems, aviation technology as well as the development and production of gearboxes for wind turbines and industrial applications. Test systems for all kinds of applications in driveline and chassis technology are also included in the division's portfolio.

For further press information and photos please visit: www.zf.com