

# ZEROSHIFT

## Press Release

1<sup>st</sup> May 2009



### World's first 8 speed front wheel drive.

**British innovation company Zeroshift Ltd reveals its compact multi-path transmission technology. Zeroshift Micro™ has applications for front wheel drive automobiles, hybrid vehicles through to heavy trucks.**

The illustration of the 8 speed unit above is only one variation of a Zeroshift multi-path layout. So many configurations are available that it is also possible to achieve similar results with minimal changes to existing transmissions. The multi-path technology also allows for a single Zeroshift hub to be used with existing dual clutch transmission architecture, but without the need for a second clutch. Additionally a reduction in the inertia seen at the pre-engagement synchronisers provides the option for further cost down. An 8 speed transmission may be laid out which is only four gears long with one single damped Zeroshift hub situated on the input shaft. Additional ratios are available for trucks.

Traditionally, powertrain efficiency has been improved predominantly through engine research. Today, greater improvements in powertrain efficiency are made through innovative transmissions and hybrid technologies. Transmission efficiency combined with 7 or 8 gear ratios is key to overall powertrain efficiency. The low manufacturing costs of the Zeroshift system make it the most competitive automatic transmission. Multi-speed automatic transmissions are difficult to package in front wheel drive automobiles where pedestrian crash legislation puts further constraints on powertrain architecture. Zeroshift's new layouts allow many gear ratios to be accommodated within a very compact space whilst still retaining world class efficiency.

Development work on a series of compact transmissions based on multi-path is well underway. In addition to extensive design for manufacture studies of its core components, the multiple torque paths downstream of the single Zeroshift module allow for commonality of shafts, gears, pre-selection units and actuators, thus further reducing manufacturing costs.

Zeroshift Micro™ is poised to be a dominant transmission technology of the future.

Zeroshift Ltd has filed numerous patents protecting the technology, and related systems, including non-Zeroshift versions.

### **About Zeroshift**

Zeroshift is a privately owned British innovation company, specialising in the development and application of power transmission and electronic control solutions across a wide range of transport industries. Zeroshift's main area of IP is an innovative shift system in an Automated Manual Transmission (AMT) to provide an affordable, highly fuel-efficient, zero torque interruption fully automatic transmission.

Zeroshift Ltd has received several international awards for its technology.

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