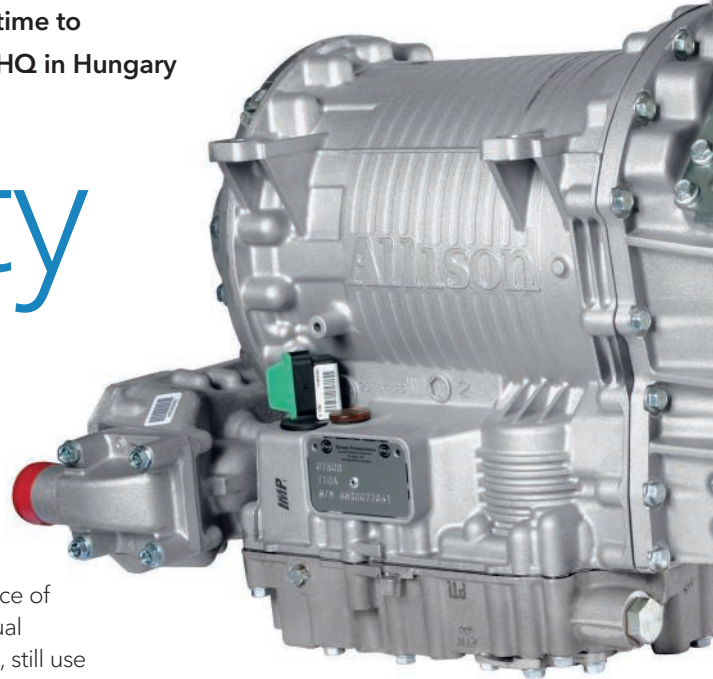


More sophisticated fully automatic gearboxes might mean it's time to reconsider their adoption. Steve Banner reports from Allison's HQ in Hungary

Productivity PUSH



Fully automatic gearboxes can be a viable alternative to AMTs (automated manual transmissions), particularly on trucks deployed on intense urban duty, such as RCVs (refuse collection vehicles). That much we know. However, according to Allison Transmission marketing director Manlio Alvaro, they should now be considered for short-haul intercity distribution work involving heavily congested traffic.

That is despite the fact that they attract a price premium of 10-15%. Why? Alvaro (who is responsible for Allison's operations in Europe, Middle East and Africa) argues that one of their key advantages is enhanced productivity – because of the way they multiply torque immediately available by a factor of two when the vehicle accelerates from rest.

"We're talking about up to 35% better acceleration, which means your average speed can be as much as 14% higher, depending on your duty cycle," he observes. That means more deliveries per day, so more work done.

Even if you only achieve one or two additional drops, that spells a significant productivity output per driver and per truck, Alvaro points out. And to that can

be added a complete absence of clutch wear. Robotised manual transmissions, he reminds us, still use conventional clutches.

Alvaro does not claim that boxes such as Allison's 3000 and 4000 Series offer better fuel efficiency than their AMT counterparts. However, their overall economy should be no worse on a comparable duty cycle, he insists.

SIXES AND SEVENS

Both of these are six-speed boxes – although a seventh gear is available on the 4000 as an option. Each comes with three sets of planetary gears and five clutch packs. The 3000 can cope with up to 336bhp and 1,695Nm torque. Its stablemate 4000 can handle up to 485bhp and 2,644Nm. Both can also be equipped with an integrated retarder, adding further brake wear reduction benefits, as well as additional control and potentially also safety.

So why this sudden fanfare for fully autos? Allison is understandably attempting to widen the appeal of its transmissions beyond their use in RCVs, buses, and specialised applications that require vehicles to stop and start constantly and/or manoeuvre very slowly.

A good example of specialised usage is the installation of a 1000 Series Allison fully-auto box in a 6.5-tonne Iveco Daily heavy van, which is in service with airport and highway maintenance contractor Allied Infrastructure Management. Using this transmission allows the Daily to maintain a steady 2mph to match the walking pace of an operator who applies sealant fed from the vehicle through an extruder arm to joints in concrete.

Back on the instantly higher torque point, while enthusing about its obvious advantages, Alvaro is also aware that torque needs to be managed – not only to retain fuel economy but also to ensure road safety. That, he says, is why Allison has developed a series of transmission management packages under its FuelSense, FuelSense Plus and FuelSense Max banners for matching to the vehicle's duty – with the last-named featuring acceleration rate management.

So far, so good. But a transmission that could certainly help US-based Allison enhance its appeal on this side of the Atlantic is its new 10-speed TC10,



now available in truck models such as Navistar's TranStar and ProStar tractor units in the US.

"This can achieve an average fuel improvement of 5% compared with a manual or AMT," asserts Alvaro. A torque converter box - but one that relies on twin counter-shafts, rather than the planetary gears in other Allison boxes - the TC10 can deal with power inputs up to 600bhp and torque to 2,305Nm.

This transmission could well be coming to the UK soon. "We are in discussions about applications for it with a number of European truck manufacturers," hints Alvaro. And, given that Paccar announced last April that it will soon be offering TC10 in the States

in Kenworth's T680 and T880 trucks as well as Peterbilt's 567 and 579 models, it would hardly be surprising if DAF were to become an early European adopter.

Alvaro describes TC10 as being suitable for "commuter work" - short- to medium-haul intercity trips that involve some motorway and dual carriageway runs, but with a lot of time spent in slow-moving traffic followed by low-speed slogs around industrial estates. Activities could, for example, involve collecting and delivering palletised cargo. It's unglamorous stuff, but necessary to keep the economy moving. And if this transmission offers a way of doing it more productively, why wouldn't operators want to take advantage? **TE**

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