

# MAN OF THE Moment



It's reasonable to suggest that the German truck builder, MAN, has not captivated the vast majority of the Australian trucking brotherhood in recent decades. Still, after driving the new MAN TG-A 480, PAUL MATTHEI found little to fault with this quiet achiever that has the calibre and potential to dramatically improve the fortunes of MAN in this country.

**W**henever the opportunity presents itself to pilot a fully-loaded semi over the Bell's Line of Road, the alternative route over the Blue Mountains west of Sydney, it never fails to evoke a sense of excitement at the thought of man and machine, or in this case man and MAN, facing one of the most formidable roads this country has to offer. What's more, we decided to make the test even tougher by returning on the same road rather than the somewhat less challenging Great Western Highway.

Drivers of trucks with manual gearboxes are required to make a multitude of gear changes as they traverse the many undulations and bends on the road that snakes its way between North Richmond and Lithgow. On the other hand, with the increasing adoption of automated boxes, drivers of these particular vehicles are free to concentrate on the considerable task of safely keeping the truck on the narrow strip of blacktop without the added mental and physical burden of cog swapping.

It was for this reason that we were particularly keen to try out the new MAN TG-A 480 fitted with ZF's AS-Tronic 12-speed self-shifter. After meeting with MAN's Pat Cook on Sydney's western rim, it wasn't long before he moved into the passenger seat and the flat snout of the TG-A was pointing towards the mountains. At this stage, Cook wasted no time explaining the various features including the degree of intelligence displayed by the transmission's computer giving it the ability to sense steep grades and modify shift patterns accordingly. Let's see!

The test TG-A had a rather complicated selector for the transmission. In total, there are seven positions: D1, D3, D5, R, N, DM and RM. The first three are normal drive modes. In D1, the truck starts off in first gear before progressing through the range. This position must be used when the truck is fully loaded. D3 may be used in lightly-loaded situations where

the truck will start off in third and then shift through the rest while D5 is for empty running only as fifth is used for lift-off. In each case, the transmission will skip-shift when appropriate conditions prevail.

According to Cook, MAN is simplifying the selector and future TG-As will have just one 'D' mode instead of three, which makes a lot of sense. DM and RM are useful manoeuvring modes for forward and reverse respectively. The computer limits engine revs to 800 and allows an element of clutch slippage to provide low speed sensitivity.

Such is the severe nature of the climbs on the Bell's Line of Road, some automated gearboxes have been known to become caught in a dithering dilemma, seemingly unable to decide which gear is best suited to the fierce grade. For this reason, automated transmissions invariably feature a manual mode which many drivers prefer to engage on steep ascents and descents.

The TG-A has one of the slickest manual modes in the automated business. A steering column-mounted lever has a button on the end which is pushed in to select manual mode, then the lever is either lifted for upshifts or pushed down for downshifts. Additionally, skip-shifting can be done by simultaneously clicking the lever for the desired amount of changes required.

On the other hand, automated transmissions are ostensibly designed to competently tackle any road condition encountered and as technology improves, it stands to reason that automated transmission adroitness should do likewise. Therefore, with the wicked ascent of Bellbird Hill fast approaching, the transmission selector was left in 'D 1' position facilitating full-range automated shifting while the size 11 Blundstone remained firmly planted on the 'go' pedal.

As the speed of the truck swiftly dropped, the transmission skip-shifted from seventh to third to maintain momentum. Shortly after, it made the only mistake detected on the whole trip when it shifted up to fourth as the road

levelled slightly just before the steepest pinch of the hill. As the grade again steepened, the transmission attempted to downshift but by this stage the truck was coming perilously close to a standstill. In a last ditch effort, it snatched first gear and kept marching, narrowly averting a torturous standing start.

Indeed, it was a steep learning curve for the transmission but from then on and with no grades to quite match the severity of Bellbird, it seemed to adapt to the terrain and didn't make any upshifts until it was clear the road had levelled out significantly to qualify for a gear change. As a result, the next sharp rise heading up to the top of Mount Tomah was powered over with comparative ease by the TG-A. To say the least, the polished credentials of the smooth-shifting AS-Tronic endow the MAN with thoroughly impressive road manners, not only climbing hills but also coming down the other side.

#### **On the 'Down' Side**

A hydraulic retarder ZF calls 'Intarder' is integrated with the transmission and provides spades of braking effort. The silent operation is an added bonus as it enables the retarder to be confidently used in residential areas where engine (read Jake) brake noise is about as welcome as a KISS concert in a monastery.

Setting the operation of the retarder is simplicity itself. As the summit approaches, the driver applies the service brakes to slow the truck to the required speed for the descent. This allows the computer to select the correct gear and progressively engage the full package of exhaust brake, engine brake and Intarder, as need dictates. When the service brakes are released, the three auxiliary brakes work in symphony to hold the truck at that speed for the entire decline and are cancelled when the accelerator is depressed to resume normal driving.

It is for precisely this reason that selecting manual mode to lock in a particular gear for descents is entirely unnecessary with this set-up as the computer does the job automatically. Dropping down the number of steep declines on the Bell's Line of Road, the Intarder efficiently quelled the velocity of the TG-A which was grossing 42.7 tonnes. Yet despite these significant attributes, there are a couple of inherent drawbacks with hydraulic retarders.

For instance, the oil can become overheated if the retarder is consistently used for lengthy periods on long, steep descents. If this occurs, the computer automatically reduces the retarding effect allowing the oil cooler to bring the temperature down to ensure damage to

transmission and retarder is avoided. In addition, it could perhaps be argued that Intarder imposes a weight penalty of around 70 kg, but in reality it's a burden worth accepting.

Everywhere you look, the TG-A bristles with technology and innovation. The engine cooling fan is yet another example. Being computer-controlled, it activates when the coolant temperature rises as little as two degrees above normal. This is especially useful for removing excess heat from the transmission/retarder oil on downgrades as more air is drawn through the oil cooler.

Nevertheless, on the return journey and the steep descent of Mount Tomah, the retarding effect was reduced due to elevated oil temperature as the truck neared the base of the hill. However, it needed only a quick stab of the service brakes to keep speed in check.

This served to underline the value of the retarder, or any engine brake for that matter, as paramount in keeping the service brakes cool and ready for undiminished performance if necessary. Typically though, the contribution of retarders – be it Intarder, a Jake or any of the modern systems offered today – to overall truck safety is rarely appreciated by those outside the industry.

Also pertaining to safety, the TG-A is equipped with electronically controlled disc brakes – a feature that's fast becoming standard across the board on European trucks. Even during normal braking, the trio of auxiliary brakes come into effect in varying

degrees depending on needs, helping to dramatically increase brake lining life.

A noteworthy feature of the test TG-A was the Georg Fisher turntable fitted with RECOSS electronic monitoring system. Sensors on the turntable jaws and locking/release handle are wired to a light on the dash giving the driver constant peace of mind that the coupling is secure. The light also flashes a code to warn the driver when the jaws need adjusting.

#### MAN Power

The engine in this particular model is new to the MAN range. Code-named D28, it is a 'stroked' version of the common-rail 10.5 litre D20 engine, pushing displacement out to 12 litres. It pumps out a healthy 480 hp (353 kW) at 1900 rpm and a strong 1696 lb ft (2300 Nm) of torque at 1300 rpm. The torque curve is almost flat from 1000-1300 rpm and on the road this translates to willing and tractable power delivery from low revs and reinforces the fact that strong bottom-end pulling power is an inherent feature of long-stroke engines.

In Europe, the TG-A is also available with a 530 hp (390 kW) rating and torque output of 1770 lb ft (2400 Nm). A TG-A with this higher rating is rumoured to be making an appearance at the forthcoming Brisbane truck show which could be of interest to B-double operators. Indeed, the fact that the test truck was rated with a 68 tonne GCM suggests MAN is aiming the model at single-trailer and B-double applications and the 530 hp rating would certainly lift the TG-

## TOP OF THE TREE

MAN may be merely a bit player in the Australian heavy-duty market, but not so in Europe where it is at least the equal of such luminaries as Volvo, Scania and Mercedes-Benz.

Proving the point, an extensive comparison recently undertaken by Colin Barnett, associate editor of well-respected UK trucking magazine *Commercial Motor*, between four popular European trucks of around 430 hp, awarded MAN's TG-A top points. The test procedure involved allocating each truck a certain number of points for each feature tested, with the total number of available points being 1000. This was the verdict:

'The final countdown revealed a 32-point gap between top and bottom rankings. The fact that a product as excellent as Volvo's (420 hp) FH12 should be placed fourth indicates the pace of truck development and the high standard of the trucks that entered.

'Volvo's 816 points was largely a result of the FH12's weight and its engine, which is competent but unremarkable. We'd hoped for a better showing from Scania's R420 after its International Truck of the Year award, but sadly the calculator only awarded it 823 points. A mixed, but generally favourable showing from Mercedes-Benz Actros (430 hp) gave it 837 points.

'With 848 points to its credit, the MAN TG-A's winning margin is almost entirely attributable to its new D20 engine. It turns what had become merely an average truck into an exceptional one. Extremely good in all situations, it gets even better when the going gets tougher.'

*Big wheels. Good dash layout but oversize tiller is unnecessary in this day and age.*



## SPECS AT A GLANCE

**Model:** TG-A 26.480  
**GCM:** 68,000 kg  
**GVM:** 26,000 kg  
**Cab:** 'LX' cab with twin bunks  
**Engine:** MAN D2876 LF12  
**Power:** 480 hp (353 kW) @ 1900 rpm  
**Torque:** 1696 lb ft (2300 Nm) @ 1000 – 1300 rpm  
**Transmission:** ZF AS 2301 12-speed overdrive 'Tipmatic' with 'Intarder' retardation

**Front Axle:** MAN VOK-08, 7500 kg capacity  
**Front Suspension:** Parabolic leaf springs  
**Rear Axles:** MAN HYD-1370/HY-1350 Hypoid  
**Rear Suspension:** Airbag – four bags per axle  
**Brakes:** Disc brakes on all axles  
**Wheelbase:** 3200 mm  
**Fuel Capacity:** 580 litre and 450 litre  
**Front Tyres:** Continental 385/65R 22.5 HSR  
**Rear Tyres:** Continental 295/80R 22.5 HDR



A's appeal in the highly competitive B-double arena. Clearly, MAN is eager to shake off its past reputation for producing sluggish engines and it's to the company's credit and the 480 rating's obvious benefit that MAN appears to have overcome this considerable hurdle.

True to its European heritage, the cab is well suspended providing the driver and passenger with a remarkably smooth ride with minimal roll through corners. Additionally, the seats have well-bolstered sides and ample padding helping alleviate the 'numb bum' syndrome on long trips. All instruments are easy to read, especially the large speedo and tachometer. However, the theory that 'bigger is better' doesn't necessarily suit all controls.

For instance, the large-diameter steering wheel is a little on the cumbersome side and made keeping the truck positioned correctly on the narrow road more of a chore than it should have been because of the tendency to overcorrect when making small directional changes. Perhaps the super-direct steering with very little 'sneeze factor' exacerbated the situation because any incremental change of direction – often needed on narrow roads – equated to a relatively large steering wheel movement.

No question, before the advent of power steering, an oversized tiller was necessary to provide the leverage to turn the front wheels when manoeuvring at low speed. Nowadays, however, the only real advantage is an unobstructed view of the instruments. This criticism may have little relevance when driving on a German autobahn, but on an Australian backroad the added concentration required tends to make the trip a tad less enjoyable. Perhaps this is yet another example where more comprehensive Australian testing of trucks by overseas manufacturers could serve to highlight areas that require improvement for our conditions.

The other minor controls are well placed although the general layout is starting to look

a little dated and bland compared with competitors' recent models. The various shadings of grey that make up the interior err on the drab side – brighter colours would give interior presentation a boost. On the plus side though, driver's sleeping quarters are excellent. The lower bed is comfortably wide and long while the top bunk, hinged at the back, pivots up easily on gas struts when not needed. There is ample room for the driver to stand up straight on the flat floor between the seats, unencumbered by a gear stick, and roll-down blinds mounted above the windscreen combine with curtains on the side windows to adequately shut out light and prying eyes.

An additional bonus is the generously proportioned storage bins situated above the driver – sizeable enough to accommodate an overnight bag. There's also a copious stowage locker under the bunk which is accessed externally via doors or internally by lifting the lower bunk. Cleverly, the left side locker is only accessible from the exterior so the odours from oil or grease containers don't permeate the interior. A fridge/freezer located in a slide-out drawer under the bunk is easily reached from the driver's seat.

MAN seemingly left no stone unturned when kitting out the test truck and it certainly turned some heads while on the run over the mountains. The jet-black paint contrasted strikingly with the polished aluminium bullbar, fuel tanks and Alcoa wheels enclosed by stainless steel rear guards. The dual fuel tanks collectively hold 1030 litres and on the arduous test route, the TG-A achieved a highly respectable 1.4 km per litre (3.95 mpg). Considering a fair proportion of the test route involved heavy climbing both ways and with a gross weight of 42.7 tonnes, this was a good result. Over this course, there have been far worse figures recorded.

The front axle, rated at 7500 kg, is suspended on parabolic leaf springs while four air bags per axle take the weight at the business end. The ride is impressively smooth, due in no small part to the cab suspension and damping working in tune with the vehicle's suspension. The test truck's front axle rode on 385/65R 22.5 wide profile tyres while the rears were shod with 295/80R 22.5 rubber.

The half-way point on the test was the weighbridge at Bell. As the TG-A rolled to a halt on the bridge, it was clear the RTA officers were not prepared to wave us through in a hurry. One checked the logbook while the other did the obligatory tour of duty around the truck and trailer checking tyres, lights and rego labels. Once the formalities were over, they asked us if we'd mind pulling off to the side so they could have a proper look over the truck. Not that there was anything sinister in their request, it's just that they had seen many MANs in their time, but none quite as jaunty as this one.

They spent the next fifteen or so minutes casting discerning eyes over the truck, both inside and out, while Cook recounted the various features and specifications. A parting comment by one perhaps typified the extent of the evolution of MAN over the last few decades. "The MAN I used to drive had a column gear change," he poignantly stated.

In fact, judging by the response from most people who saw it including our friends at the weighbridge, the new TG-A seems set to give the local profile of MAN a sizeable and overdue lift. Long-term durability and dealer support network are the only questionable factors and if these prove favourable, there's every chance this quiet achiever will find a loyal following Down Under.

And with its paltry showings in the sales charts thus far, this can only be a good thing for the MAN camp. **D**