



MAN fleet for new A94 motorway maintenance depot

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MAN has equipped the recently established motorway maintenance depot in Ampfing with five MAN TGS vehicles to perform operational services on a section of the A94 motorway from Munich – Passau, opened in the autumn of 2019.

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- **These include three MAN TGS 28.420 6x4-4 BL vehicles and two MAN TGS 35.420 8x4H-6 BL tailored to operational services on the motorway**
- **Industry-specific technical solutions from MAN ex works**
- **Configured and delivered by Aebi Schmidt as the general contractor in close collaboration with MAN**
- **Operational services for the 77-km section of the A94 provided by Isentalautobahn Services GmbH & Co. KG**

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The time it takes to drive between Munich and Passau is now shorter since, on 1 October 2019, a 33-kilometre section of the A94 motorway between Pastetten and Heldenstein was opened to traffic. Isentalautobahn Services GmbH & Co. KG is taking over the operational services on a 77-kilometre stretch of the A94. Not only has a new motorway maintenance depot been created at the Ampfing junction (in the Mühldorf am Inn district) for this purpose, but a completely new fleet of vehicles has also been purchased. This is mostly comprised of MAN municipal vehicles from the TGS series. Additions from other manufacturers include a universal vehicle with different equipment, along with several vans.

MAN TGS vehicles equipped in line with industry needs

Purchasing the vehicles was preceded by an intensive planning phase in order to determine how the vehicle concept needed to be tailored to the tasks involved. The A94 Isentalautobahn Services fleet includes five MAN TGS vehicles: three 3-axle vehicles and two 4-axle vehicles with the same design.

MAN Truck & Bus is one of Europe's leading commercial vehicle manufacturers and transport solution providers, with an annual revenue of some 11 billion euros (2018). The company's product portfolio includes vans, trucks, buses/coaches and diesel and gas engines along with services related to passenger and cargo transport. MAN Truck & Bus is a company of TRATON SE and employs more than 36,000 people worldwide.



These were purchased with bodies from Aebi Schmidt Deutschland as the general contractor in close collaboration with MAN Truck & Bus Deutschland:

- MAN TGS 28.420 6x4-4 BL with twistlock interchangeable system for winter service equipment
- MAN TGS 28.420 6x4-4 BL with twistlock interchangeable system for loading crane tipper and wet salt gritter
- MAN TGS 28.420 6x4-4 BL as a roll-off skip loader
- MAN TGS 35.420 8x4H-6 BL with twistlock interchangeable system for wet salt gritter and brine sprayer (two identical vehicles)

For winter service tasks, MAN provided all of the vehicles ex works with amber revolving beacons, spotlights and compressed-air horns on the roof of the M cab, along with a front mounting plate for attaching the snow plough and raised winter service lighting. Aebi Schmidt also equipped all the vehicles with a specially adapted load-sensing hydraulic system for operating all of the attachment equipment for summer and winter service.

All of the vehicles have a common feature, and that is the air suspension on the rear axle. The advantage of this becomes apparent during winter service operations when gritting the road. During the gritting run, the amount of salt and brine decreases. With a leaf-spring suspension system, this has an effect on the angle of the loading surface – and thereby on the angle of the gritting system attached to it – due to the reduced load on the spring leaves. Achieving a uniform gritting pattern throughout the entire gritting run would not be possible without implementing technically complex measures on the gritter. In this case, the electronically controlled air suspension installed by MAN is advantageous, as it keeps the loading surface height and its angle constant at all times. This means the gritter can distribute the salt and brine evenly over the entire width of the road from the first to the last kilometre of the run, irrespective of the load state.

The payload, traction and manoeuvrability were important requirements for the operators; MAN managed to implement these at a technical level ex works. In the 3-axle vehicles with a high design height, the first and centre axles are permanently driven. The trailing axle is steered. As a result, this chassis combines the payload of a 3-axle vehicle with the manoeuvrability of a 2-axle vehicle and the off-road capability of an all-wheel vehicle. The 4-axle vehicles are configured for maximum manoeuvrability in such a way that three axles are steered. If traction is needed, the driven rear axle is assisted by MAN HydroDrive. The hydraulic drive is installed in the second front axle. This makes a normal design height possible, and makes it easier for the driver to get in and out of the vehicle.



For smooth operation during snow and low temperatures, the vehicle configuration has a heated windscreen and a flame-start system for improving the cold-start capability.

A well-thought-out vehicle design

Different factors were considered during the selection and configuration of the vehicles, and there was close collaboration between the operator and suppliers MAN and Aebi Schmidt during the process. Additional sections of road were taken over from neighbouring road maintenance depots, so that a stretch of 77 kilometres is to be maintained. In winter, this stretch is to be cleared and gritted starting from the depot in Ampfing without having to stop at an intermediate store to load up on salt and brine. This specification defined the volume that the transport containers needed to have, thereby influencing the size and payload requirements of the vehicles. The two 4-axle vehicles have bodies for 12 m³ of salt and 5,500 litres of brine. Thanks to the twistlocks, these can be exchanged for a tank with a spray device for 15,000 litres of brine. Two of the MAN TGS 28.420 vehicles have capacity for 8 m³ of salt and 5,000 litres of brine. The roll-off skip loader has the smallest body with 7 m³ of salt and 3,000 litres of brine. In Bavaria, a state-specific special permit allows the permitted gross weight of a 3-axle vehicle to be increased from the standard 26 tonnes to 29 tonnes during winter service operations, and therefore for a gritter with a greater load volume to be attached (8 m³ instead of 6 m³).

The aim was to enable multifunctional use throughout the entire year; outside of the seasonal winter service activities, a motorway maintenance depot has a very varied range of tasks. The vehicles and their bodies had to be equally suited to ensuring traffic safety in the event of roadworks or accidents, carrying out repairs on this stretch of road, maintaining green areas, and cleaning the facilities in the parking areas. The two 4-axle vehicles remain unchanged throughout the year. They have warning trailers and serve as safety vehicles. Flexible deployment is ensured through changing the crane tipper body, along with the roll-off skip loader. For this vehicle, different tipper bodies are available in addition to the gritter.

The stretch of road has two lanes on each carriageway. Here, the right concept for clearing snow is to use two vehicles with extra-wide snow ploughs. This is why Aebi Schmidt installed the load-sensing hydraulic system, which also controls the snow ploughs. The clearing concept is realised using special motorway snow ploughs with length-adjustable blades and a total clearing width of 4.40 metres.



Operations on the A94 Isentalautobahn motorway

The new 33-kilometre section of the A94 was created as part of a public-private partnership. Until 2046, Isentalautobahn Services GmbH & Co. KG will be responsible for the operation and upkeep of the entire 77-km long motorway section Forstinning – Marktl. The consortium is comprised of the three construction companies BAM, Berger Bau from Germany and Eiffage from France. This is why the technology – like the fleet – and the services were able to be procured without calls to tender, and ordered already tailored to the tasks involved.

Captions:

P_TGS_EOT_highwayservice_01.jpg

A new MAN fleet with bodies from Aebi Schmidt and a new motorway maintenance depot in Ampfing for the section of the A94 Isentalautobahn motorway opened in October 2019.

P_TGS_EOT_highwayservice_02.jpg

Ready for winter service. In the salt storage depot, the MAN TGS 28.420 6x4-4 BL with wet salt gritter from Aebi Schmidt is loaded up.

P_TGS_EOT_highwayservice_03.jpg

Three steered axles and MAN HydroDrive in the second front axle guarantee manoeuvrability and traction for the MAN TGS 35.420 8x4H-6 BL vehicles. They have containers for 15,000 litres of brine or a combined gritter body with 12 m³ of salt and 5,500 litres of brine.

P_TGS_EOT_highwayservice_04.jpg

The A94 Isentalautobahn Services fleet is comprised of two vehicle types: two MAN TGS 35.420 8x4H-6 BL vehicles and three MAN TGS 28.420 6x4-4 BL vehicles. Aebi Schmidt provided the bodies for the winter service.

P_TGS_EOT_highwayservice_05.jpg

Same chassis for different bodies: the MAN TGS 28.420 6x4-4 BL combines the payload of a 3-axle vehicle with the manoeuvrability of a 2-axle vehicle and the off-road capability of an all-wheel vehicle.



P_TGS_EOT_highwayservice_06.jpg

With the roll-off skip loader – an MAN TGS 28.420 6x4-4 BL vehicle – work equipment such as an embankment mower can be transported to the site.

P_TGS_EOD_highwayservice_07.jpg

Equipped by MAN for winter service requirements, with a front mounting plate, hydraulic connections, raised winter service lighting and amber revolving beacons.

P_TGS_EOT_highwayservice_08.jpg

The A94 Isentalautobahn Services fleet includes an MAN TGS 28.420 6x4-4 BL with a crane tipper body for varied deployment.

P_TGS_EOT_highwayservice_09.jpg

MAN quartet on the road on the new A94 Isentalautobahn motorway to the east of Munich.

P_TGS_EOT_highwayservice_10.jpg

The fleet from the new A94 Isentalautobahn motorway maintenance depot is comprised of 3-axle vehicles and 4-axle vehicles from MAN. The difference in height is clear: the 3-axle vehicle is an all-wheel drive vehicle; the 4-axle vehicle has a normal design height thanks to MAN HydroDrive.