

# A formidable combination

Building on its modular product range, the Swedish commercial vehicle manufacturer Scania has been demonstrating outstanding versatility for 50 years. Using relatively few components, it produces an almost limitless number of truck types.



Photo: Scania

Scania can supply a rugged standard truck for the majority of demanding transport tasks. If the load and laden weight requirements are exceptionally high, however, it turns to BPW to enhance its vehicles' capabilities with a steered tag axle. These axles are typically installed behind Scania's own drive axles, but they are also to be found in the heavy trucks that operate in coal, ore and gold mines, as well as in quarries.

"The mining industry demands extremely low operating costs per tonne-km," explains Anders Lindblad, a sales engineer with Scania Mining Solutions. Speaking on the factory premises in Södertälje near Stockholm, he says, "Running at a gross vehicle weight of 64 tonnes, our extremely tough ten-wheelers can carry a payload of 44 tonnes." He points to his company's highly successful track record when installing a fifth axle built by BPW in the most rugged trucks. "With two steering front axles supported by the BPW rear steer axle, we achieve a much higher payload, and the tight turning circle mirrors the performance of a four-axle truck. That's a very important attribute for vehicles working in mines." Scania's largest markets for these vehicles are Brazil, India and Russia. It also supplies trucks to pits and quarries in several other countries, including Germany and Sweden.

"We regularly face a major challenge when incorporating special components in our modular design system. The BPW axle, on the other hand, was easy to integrate in the truck's steering, suspension and braking systems," comments Lindblad's colleague Erik Engholm, another sales engineer at Scania Mining Solutions. "The same can be said about its inclusion in our service and spare parts system." All development and homologation activities are overseen by the company's Technical Centre. "For the trucks destined for operating in

Brazil's mines, the BPW axle is installed in our plant in São Paulo," explains Engholm. "Assembly for the European market takes place here in Södertälje."

## Maximising operating hours

Heavy trucks operating in mines can be on duty for as many as 7,000 of a possible 8,760 operating hours a year, which – alongside short downtimes for servicing and repairs – is seen by customers as a major benefit. Explaining how such a performance regime is possible, Engholm says, "We understand how our customers maximize the operating hours." He points to the especially important role played by preventive maintenance. In view of the extreme stresses to which the vehicles are exposed, carefully planned precautions are essential. "We know, for example, that the lubricant in the hubs of the BPW rear steer axle is to be renewed for preventive reasons after no more than 1,200 to 1,400 operating hours. As long as these instructions are followed, the truck will continue to operate very reliably," insists Engholm. "Adopting a preventive approach is always less costly and much more efficient than carrying out repairs once a component has failed or worn out." The relevant service details supplied by BPW are stored in the Scania system so that the workshop personnel can schedule the necessary maintenance work efficiently. In addition, all the parts built into the BPW axles have a Scania spare part number, which enables the vehicle manufacturer to order and install them itself.

## Air suspension for the BPW axle

Scania installs the BPW axle primarily in the four-axle trucks built with the strong-

est chassis and axles in its modular system. The truck's two front axles have Scania leaf springs, but the BPW axle is cushioned by Scania air suspension components. When the tipper body is raised, the air suspension deflates, and hydraulic cylinders on the chassis are forced down top of on both sides of the axle. "Our experience shows that this significantly improves the tipping stability thanks to the BPW axle," explains Lindblad.

For an axle load of 12 tonnes, Scania recommends a travel speed of up to 50 km/h for mining duty. "Our customers are continuously seeking to enhance their transport capacity and would like to cover the distances between the mine and unloading site more quickly," comments Lindblad. "Travelling with full load can seldom be done at speeds above 50 km/h, but when going back empty you can easily reach 50 km/h if the mine regulations allow this."

## Competing with the big hitters

The beefy Scania trucks measure up well against Off-highway equipment, especially as regards to the weight-to-payload ratio, fuel economy and cost per tonne-km. In addition, their cabs are more comfortable. "Off-highway equipment offer stiff competition in the international mining sector – the Caterpillar 777, for example, is a 100-tonne haul truck," concludes Engholm. "Those who want to rank alongside the big hitters need the very best truck components and systems. Thanks to the excellent pairing of our own products with BPW's special solutions, we are more than capable of holding our own." (mf)



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