



Revolution in the North

Tieman BAB-quad sulphuric acid road train

BUILDING THE WORLD'S FIRST BAB-QUAD ROAD TRAIN FEATURING A FULL EBS BRAKING SYSTEM, CHEMTRANS AND TIEMAN HAVE SET A NEW BENCHMARK IN THE BULK LIQUID TRANSPORTATION SECTOR. IN JUNE, RENOWNED TRANSPORT COMPANY CHEMTRANS HAS PUT THE 52M STAINLESS STEEL COMBINATION TO THE TEST IN AUSTRALIA'S VAST NORTHERN TERRITORY.

"In conjunction with Tieman, Chemtrans has designed the first road train in the world to feature a full EBS system that is able to cover the entire combination including the dolly," says Chemtrans' National Fleet Manager Bob Rose. "It's the first of a new generation of road trains designed for the cartage of dangerous goods, incorporating a suite of new technology plus the proven reliability of Tieman equipment." The BAB-quad road train was designed to transport highly corrosive Class 8 sulphuric acid in the Northern Territory.

"The new BAB-quad layout has reduced the number of articulation points, delivering the most stable configured road train of its type operating in the Territory," says Bob.

"The lead tanker of the first B-double combination is equipped with a quad-axle

group including a steerable rear axle. It's coupled to a tri-axle rear B-double and a tri-axle dolly, which is linked to the same

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combination again," Bob explains. "Thereby we've eliminated the need for an additional dolly, reducing the number of articulation points, which in turn reduces the rearward

amplification of the combination and increases stability on the road."

Whilst Chemtrans has already gained experience in using EBS on the rear trailer in a 2AB double quad road train configuration, the company commissioned the first full EBS triple road train in 2011. "Each trailer is equipped with a multi volt WABCO EBS E Series system to ensure full stability and safety on the road, all supplied and designed by Air Brake Systems," says Bob. "Each trailer has a CAN router installed to enable high speed EBS data transmission throughout the combination. At Chemtrans, EBS has become a standard feature and we are very proud to have made the next step to a new level of road safety. The new combination is extremely stable on the road; and the ability of the vehicle to straighten

itself up after a sudden change in direction is outstanding."

Each lead B-double is able to cart approximately 12,000 litres in a two-compartment barrel made of 6mm stainless steel. The barrel is fitted on a corrosion resistant stainless steel chassis and equipped

with 80mm stainless steel pipework.

Equipped with a lockable ball race turntable assembly, both lead B-doubles are built using Hendrickson's Intraax quad axle air bag suspension and axle combination including alloy hubs and drum brakes. "We've been using Hendrickson

suspensions on our existing equipment and it has performed well for us," says Bob. In addition, all axles are fitted with the VIGIA tyre inflation system to maintain equal pressure across all axle groups on the tankers, and thereby maximise the tyres' life cycle.

The two articulated trailers provide a capacity of approximately 16,800 litres each, with all sub assembly components on the entire combination mounted onto the reinforcing stainless steel rings which are welded to the shell. "We avoided a connection to the barrel itself to allow all stresses to be dissipated through the rings and not the shell," explains Mark Nelson, technical manager of Tieman's tanker division.

"Based on the expertise and knowledge of both Chemtrans and Tieman, we have designed a state-of-the-art road train combination that will ring in a new generation of safe and reliable dangerous goods transport," says Bob. "It's the long-standing relationship between both companies that ensured such an outstanding result."

Pulled by a T909 Kenworth tridem with a 600hp Cummins engine, the innovative



(L-R): Glenn Hambleto, National Sales Manager of Air Brake Systems; Mark Nelson, Technical Manager Tankers for Tieman; Bob Rose, National Fleet Manager Chemtrans; Colin Tieman, Joint Managing Director of Tieman.



quad road train will deliver acid in the Northern Territory. "The road network is not particularly demanding as it is all undulating bitumen, but it's a popular tourist route. There's quite a lot of traffic on this route, and safety and stability were paramount when designing this combination," Bob explains. "Chemtrans offers nationwide transportation of dangerous goods of the full spectrum of dangerous liquids, chemicals, explosives and other products. We are flexible enough to meet the handling requirements of the most specialised materials; that's why safety lies at the heart of everything we do, from risk assessments to the equipment we use in the field."



Rear steerable quad axle suspension

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In fact, Tieman's new BAB-quad combination has already become a tourist attraction. "Once we pull over, people stop by to take a picture of the road train." To cut a good figure both on the road and on camera, Chemtrans is constantly trying to maintain an immaculate appearance. "We place high value on our logo and colour

scheme. Our promise to you is safety, performance and peace of mind. The motto has evolved over time and we take it very seriously," says Bob. "The people at Tieman speak the same language as Chemtrans, and we believe they are a leading force in the production of stainless steel tankers. "A good trailer must be resilient, safe,

easy-to-use, and stable on the road. Our drivers say that Tieman equipment is able to meet these requirements. I've been using Tieman equipment for almost 40 years, and our relationship has stood the test of time. Together we were able to deliver ongoing improvement in the areas of safety and performance."

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