

### Retreading in Focus at the Tire Technology Expo



Ruud Spuijbroek

The retreading industry had a significant presence at the recent Tire Technology Expo in Cologne, Germany. RMA Director David Wilson hosted an extensive session on retreading, which was well attended. The title of the Seminar was "Tire Retreading – A New Beginning" and the session dealt with the legislative and technological developments that are currently taking place within the industry. Speakers included Richard O'Connell from Bandvulc Tyres, Ruud Spuijbroek from BIPAVER, Florian Fischer from VMI Group, Rainer Huber from Steinbichler, Bernward Maehner from SDS-Systemtechnik, Jacob Peled from Pelmar Engineering and Markus Gaida from Marangoni SpA. The subjects dealt with included the Retyre Project, problems with energy saving truck tyres, aircraft tyre retreading, developments in extrusion technology and the latest in shearography and tyre testing techniques. The first speaker, Ruud Spuijbroek dealt with the Retyre Project, currently being carried out through

BIPAVER. The transport industry, said Spuijbroek, has moved forward considerably in the last 40 years and trucks that were once 'state of the art' are now historic vehicles. They carry more weight, have higher horsepower, travel at higher constant speeds and have more efficient braking. It is therefore important that truck replacement components should be every bit as reliable as the type approved original. Today's technology, he added, has given the retreader the ability to manufacture retreads equivalent to new tyres, a fact which helps in today's commercial climate, where the supplier is becoming legislated to give the purchaser more details about a product, prior to purchase, in order that he can make an 'informed decision'. The present guide to retread quality is the issue of ECE 109 to prove that a truck retread processor has procedures in place to produce a quality product. This system has worked well and had the effect of removing 'non serious'

manufacturers from the market place. Retreads are now widely accepted as a quality product and represent approximately 40 per cent of replacement truck tyres in Europe. However, future legislation (Labeling Directive COM 1222/2009) may draw truck retread production even closer to new tyre specifications when it is reviewed in 2015. This could result in a 'New Beginning' for retreaded truck tyres, said Spuijbroek. BIPAVER (the Association of European Associations representing the interests of the independent SME retreaders) has therefore started to prepare for the eventuality that retreaded truck tyres could be included when a review of COM 1222/2009 takes place in 2015. If the exemption is removed truck retreaders would be expected to test their tyres in line with new tyre testing. With the approximate price for this standing at 5,000 Euros per tyre tested, the sudden imposition of a testing system in line with new tyres could spell the death knell for many European SME retreaders if the industry is not prepared to meet the challenge. As a result BIPAVER decided to develop an algorithm, derived from tests carried out on a range of retread

sizes and patterns conducted under the conditions specified for new tyres. In combination with an existing truck (new) tyre database (wet grip, tyre noise and rolling resistance) the programme will provide a banding label. It will still be up to the retreader to ensure that the label produced meets his Conformity of Production as the system will become part of his 109 specifications. The ReTyre project, which is now underway, is, says Ruud Spuijbroek, an ambitious project to allow the opportunity to incorporate retreaded truck tyres into the new tyre labelling legislation without imposing undue financial on smaller independent retreaders. Also speaking at the seminar was Richard O'Connell of Bandvulc, who dealt with the subject of problems with Energy Saving Truck Tyres. According to O'Connell, many of Bandvulc's customers have tried energy saving tyres but have experienced a range of problems including reduced wear, the tendency for tread chunking, reduced traction, confusing fuel consumption results and the fact that if the tyre and fuel budgets are not controlled under the same budget there will be a conflict of



Conference at Cologne



interest and the test will be abandoned.

In a cost comparison exercise O'Connell compared two separate vehicles with carbon cutters and conventional tyres fitted to the drive axle. Vehicles were checked for alignment and pressure. Says O'Connell: "If I make an allowance that my Carbon Cutter tyres have a life of only 80 per cent of normal tyres and cost 20% more the cost for 4 conventional tyres would be £300 x 4 = £1200 over 2 years. The Carbon Cutters costing 20% more and a 20 per cent allowance for lost mileage would cost £1728 over two years - i.e. £264 per annum more than the conventional tyres.

However, if the operator sees a 2.5 per cent improvement in fuel costs, on a £60K per annum fuel bill the saving is £1500 per annum. Taking away the extra cost of £264 per annum, this means a final saving of £1236 p.a.. With the drive axle accounting for 33% of the vehicles costs, the saving if the whole vehicle were fitted with Cost Cutters would theoretically be £3745 per truck per year.

However, O'Connell points out that most premium drive axle tyres have a tread depth of around 22mm. If a replacement drive axle tyre is fitted with a tread depth of 16 mm this will give a misreading of the tachograph by 1 per cent plus the reduced tread depth will improve fuel consumption

by 2 per cent, giving an apparent 3 per cent saving with no technology input whatsoever.

It is therefore important to check tread depths of replacement tyres before any test. Tread depth has a significant effect on tyre fuel economy. Bridgestone tests show that as a tread wears, the fuel efficiency of a tyre usually increases.

So to do a test require tyres of same tread depth, same width, same diameter, same tread radius, same pressure, same operating conditions, same speed and a full set of tyres. Wear and rolling resistance, says O'Connell, are the most important parameters for truck tyres. A third of the fuel cost is simply to roll the tyres. Most of the reduction in rolling resistance is achieved by modifying the tread compound. However, modifying the tread compound to significantly reduce the tyre rolling resistance can result in tread chunking plus a loss of traction. As a result, energy saving tyre patterns are developing as a compromise between grip and fuel economy. The higher the fuel saving that the manufacturer hopes to achieve, the more this must be reflected in a tread pattern with few lugs. More luggy designs give the danger of chunking if the rolling resistance isn't to be compromised. As a conclusion Richard O'Connell pointed out several key points; A drive axle tyre with a reduced tread depth will give an apparent fuel

saving, an energy saving traction truck tyre runs the risk of tread chunking requiring premature removal, vehicle traction may be compromised, newly fitted energy saving tyres may initially show worse

fuel consumption than the worn out tyres being removed and trailers fitted with energy saving tyres must stay with similarly fitted out tractor units to show the true benefits.

## Salvadori Revisits Essen

As in the past 30 years, Salvadori Srl will be at the Reifen show in Essen located in Hall 1, Stand 419, with a brand new stand, in which the team will have the opportunity to meet both regular and new customers and answer all their questions and doubts relative to the tyre retreading world.

The team will be present to show new products and offer five suggestions about the best methods to retread, repair and mount and dismount the tyres. Since the economic crisis developed, Salvadori has also offered many ways in which to fight this period better, such as the brand new line of Gun Extruders, items, which have become essential in the tyre retreading process, and which have been produced for 30 years with the same care and precision by Salvadori Srl.

This year the brand new 685s (Salvadori) will be available, which are assigned to the old traditional line with Bosch Gun. Thanks to a new drill, made in Italy, Salvadori is able to cut the costs of production and offer the extruder to the public at a lower price, without resorting to compromises. In fact, rather than cutting the power, it has been increased.

Another interesting new item for retreaders is the new line of steel cord carbide grinders, produced with dedicated sizes.

Regarding the tyre dealer and garage sector, there is also some interesting news for them, such as the new 254sp long hydraulic bead breaker, which, thanks to a longer run, is able to de-bead new generation tyres, which have larger and heavier beads and are very difficult to demount by traditional techniques.



Florian Fscher, Ruud Spuijbroek and Richard O'Connell



A range of buffing tools from Salvadori



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### Borex – “The New Way of Retreading”

Borex is a company that is defiantly investing in its marketing slogan, “a new way of retreading.” What has been traditionally used in Europe for many many years, but in Latin America was a retreading technique not previously supplied; Borex is turning into a national success. The supply of precured tread cut to the right size for each tyre and with cushion gum already applied to the back of the tread.

According to the Business Manager, Mr. Rodrigo Farina, the company has

already hired 12 representatives spread throughout Brazil and is still looking for some more to fill some areas not yet activated by the company. “In the phase of growth and expansion of Borex, we are creating a network of specialised representatives who are qualified technically and commercially better able to serve our market,” says Mr. Rodrigo Farina. He also emphasized that the company encourages sales via the company website because it is easy, simple and results in fast delivery.



Mr. Rodrigo Farina, Business Manager of Borex.

### Raytak – New Machine to Identify Envelope Holes



Specialising in products for tyre repairing and accessories for retreaders, Raytak gave a focus during the fair to its new one-piece inner and outer envelope, which facilitates deployment and reduces costs for retreaders because previously they had to buy two pieces for vulcanizing. Two other machines were also highlighted at the booth: The first

was to identify holes in inner envelopes and the other machine was to identify holes in the inner and outer envelope; giving retreaders the certainty that there is no air in the envelope and no loss of pressure that wastes work, time and money for the company.

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