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Building a Business from the Tyres Up

Adam Gosling tells the story of a group of transporters and their pursuit of higher profits. Improving performance from the tyres up, the results speak for themselves.

Some of you may think you've heard this story before: don't be a monkey, just go bananas, you'll get it eventually. There were a group of transport companies who all competed for the same dollar. They improved their trucks with higher horsepower, dressed up the rigs, put more axles and tyres on the trailers, carried heavier payloads, some even went to buy extra trailers. They all were chasing the extra profit, but when an outsider suggested they look at their tyres to figure out whether they were getting the best bang for their buck they all threw cold water over the idea. Tyres are just consumables, we buy on price or we only buy premium brands, we put them on and run them out. Some of the cost appreciative operators actually pulled their drive tyres earlier and sent them to the local retreaders for capping. The retreaders were tyre people, they knew that if they didn't deliver a sound product their business would suffer. They checked each tyre presented and ended up rejecting a good percentage of the casings presented. Belt end separation was the usual reason.

The transport operators would meet out on the road or at various industry association events maybe even during client tender presentations. They were always cagey about letting on what they were doing with their fleet, a small percentage improvement would mean the difference in being successful in acquiring new business or sustaining existing business. Their clients wanted the freight shifted at the best prices and delivered safely on time, every time. Every small improvement was an advantage.

Some transport operators went down the higher performance route of spending up big on having designers and engineers develop rigs that required high end computer software to model. Some even ended up with quad axle rigs that even had rear axle steering. Others just went for more horsepower figuring that if they were able to sit on the speed limits up hill and down dale then they'd get to their destinations faster. Others went for multiple trailers pulling two and three trailers in various configurations yet they were all plagued with the same issues, increased fuel costs and costly expenses like tyres not providing the increased returns they expected.

All the operators were reaching up the ladder but every time they thought they were getting ahead their hopes were dashed. We need to improve the human element or reduce fatigue some said, so there were expensive electronics installed to track the vehicles every inch of the way or to determine when the drivers eye lids were getting tired, provide warnings that a scheduled break was coming up, that the driver had gone beyond the expected rating on the driver score card. Still the transport operators were not achieving what they thought they could and still they were bucketed by cold water every time they thought they were getting ahead.

From wise men over great periods of time the comment of watching your pennies has been heard many times.

One operator we worked with decided that there was merit in considering the truck from the ground up. They started with the tyres and asked what is necessary to achieve maximum life performance from the tyres? The simple answers of the right amount of air all the time, not just when the truck is sitting in the yard but when it is out on the road and having the tyre roll down the road not scuffing or bouncing every revolution. After some work on the inflation pressures and understanding what the tyres were doing in real time the bench mark was set.

The fuel burn on these rigs was 1.45 km/litre or a little over four miles per gallon (imp). These were triple trailer rigs being pulled by reasonably high horsepower trucks, the aerodynamics of the trailers was not good. This operator was pretty happy with the costs, they had bench marked this fuel burn rate over a period of time.

Once the tyres were understood it became obvious that the tyres were not working as a team, on each axle group there was a series of individuals all working at different levels and varying rates. How did we ascertain this? The way the tyres were wearing and it was evidenced simply from the real time tyre pressures that were monitored and recorded. A tyre tells no lies about its experiences.

So, the next step in the process was to get the tyres all rolling in exactly the same direction and so working at the same rate. Items such as axle camber, bearing pre load and then the old bogey of alignment was examined. Adjustments were made tuning the trailers fraction by fraction. The tyre pressures were recorded and stored for analysis.

The first noticeable effect was comments from the drivers, “we don’t know we have got three trailers on, this thing steers like a car”, “I can relax and just monitor the drive I am no longer fighting the steering trying to keep this thing on the road” and “at the end of my 12 hour shift I’m feeling fresh, my arms aren’t sore from constantly working the wheel to keep the trailers on the road,” were indications the project was bearing fruit.

All the tyres were now showing shared and even workloads, all pressures were within one or two PSI of the other tyres on the axle group. The tyres no longer exhibited strange wear patterns, they all were wearing evenly and smoothly. The projected tyre life increased by a substantial margin.

The transport operator could not believe what was happening. The first rigs done suddenly started using less fuel, a lot less fuel. He thought that the drivers must have been milking the tanks previously but when the calculations were in this was discounted. By looking at the fuel used over trips of several days fuel theft could not have occurred. The engine fuel burn rates were checked and were found to be down in comparison to the other rigs in the fleet. No longer was the operator feeling the bucket of cold water as he climbed the ladder. Another rig was assessed and after coming out of an annual rebuild it too was aligned and set up with pressure monitoring. The end result was that these rigs were now achieving 1.85 km/litre, a little over 5,2 mpg, that’s a 25% reduction in fuel costs! Add to this fact the operator started calculating reduced tyre costs as the tyres were lasting longer. When you have 54 tyres on a rig a 10% improvement in life is worth 5.5 tyres a set! Over time the wheel end maintenance reduced, the bearing life was increasing with fewer pre term failures and even extended lubrication schedules. The reject casing rate at the retreaders was going down. The drivers of these rigs were very happy, they knew the difference between fighting with the steering wheel to keep the trailers on the same track and just relaxing guiding the rig.

The other transport operators could not figure why they were still being bathed in cold water every time they tried some other expensive “fix”, they still could not reason why they weren’t getting the results. There was more and more data and still it all indicated that they were doing “what they could” to maintain costs. They spent up on more horsepower, aero fixtures for the trucks and trailers, light weight wheels, cheaper tyres, cut maintenance down by out sourcing but still the cold water keep on coming. Must be the human factor the HR department said, more training, more qualifications, more telematics to monitor behaviours, reduce the burden on the drivers, something was not working the cold water keep on bucketing down.

The company that started with the philosophy of looking at the vehicle from the ground up starting with the tyres continued to expand and grow. They now had a list of drivers waiting for a position to become vacant, the company was a “go to” company in the industry. The word had got around the industry that these rigs were comfortable to drive and reliable. Breakdowns were not on the score cards. Fuel burn was down even the driver noticed this as they weren’t putting in as much as they used to. When you burn 1 200 litres in a shift you know how much it costs.

Why throw dollars at expensive fixes when the foundations of the vehicle are ignored? How do you evidence what the tyres are doing? In the same way as every other function of the truck, by monitoring them, recording the detail and then being considering actual tyre performance with evidence and data, not just guessing that your tyres are “ok”.

If an engine had each cylinder working at a different rate, pressure temperature how long do you think the engine would last? It would consume more fuel and probably burn more oil as there would be different parts working at different rates, would it not vibrate and shake itself apart? Why do you consider tyres on an axle group are any different to cylinders in an engine?

What makes you think that expensive electronics will cure poor foundations sorry substandard tyres and/or tyre maintenance? If the tyres are not working at the appropriate level of pressure how can the vehicle return the performance you are expecting? The moral of the story is instead of looking up the ladder and wondering why you can’t escape the cold water start considering a ground up approach. The tyres are the first and last contact point. Are your tyres actual providing you the maximum returns possible?

Don’t leap up the ladder to get wet, work your tyres to extract the most from them and the rest of the vehicle will improve in its performance, it’s not rocket science.

If they’re not turning, they’re not earning.



Adam Gosling heads up the team at TyreSafe Australia. Considering tyres holistically he helps clients turn higher profits. Tyres reflect the whole operation, they don’t tell lies. Transport and mining companies benefit from our tyre experience. **T**