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"New Technology Floods the Trailer Industry" by Tim Killday

Your delivery trucks and trailers ain't what they used to be! The old adage, "The only thing that remains constant is change", almost defines a new way of life for all of us. This new wave of technological change is finding its way into the over-the-road trailer.

By now you have probably heard the term ABS in the transportation industry. Anti-lock brake systems (ABS) are found everywhere from your car or pick-up truck, to road tractors and the trailers they pull.

ABS's consist of a wheel-speed sensor electromagnetic device which, in conjunction with a rotating toothed wheel, constantly monitors wheel-end speed and transmits the information to an electronic control unit (ECU), the "brain" of the ABS. The ECU actuates the ABS relay valve, which is a control mechanism that ensures each wheel is optimally braked. ABS improves not only the stopping ability of the vehicle, but can reduce wear and tear such as tire flat spotting, and increase life cycle time for the entire vehicle. Can you believe that - a computer chip on your truss trailer?

As of March 1, 1997, the National Highway Transportation Safety Administration (NHTSA) began requiring ABS on all new truck tractors, and as of March 1, 1998, all truck trailers and buses with air brakes were required to have ABS.

improved rear underride protection, etc. Innovations in technology for safety and improved performance may not be stopping there. Here's just a sampling of some things that may be just around the corner.

Side Guards: As we have mentioned, NHTSA has tightened the requirements of rear underride to no higher the 22 inches off the ground and within 4 inches of the side of the trailer and 12 inches from the rear of the trailer. Underride side guards are mandated on all trailers built in the European Community. They are often times referred to as "bicycle guards" because of the large number of bicyclists in Europe and the need to keep them from being caught under the trailer while the rig is passing by. Some advocacy groups in this country would like to see these side guards mandated to reduce the side impact of vehicles that collide with trailers. The new reflective tape called conspicuity marking has gone a long way in helping with clear visibility of the rear and side of trailer. This has proven to help reduce side impact accidents.

Air Ride: Ten years ago, air suspensions on trailers were rare. According to Meritor Automotive, a leading manufacturer of air suspensions, only 11 percent of trailers were manufactured with air suspensions, as the technology was not only new, but also heavy and expensive. The technology has evolved in the last decade and the result has been increased acceptance in the

trailer market, as nearly 45 percent of new trailers built in 1998 were equipped with air suspensions. Growth of these suspensions will continue over the next few years. Meritor expects that by 2003, 62 percent of trailers will be shipped with air suspensions, and that number may subsequently climb even further as understanding of the benefits of these suspensions grows.

There are numerous benefits from air suspensions, but many believe that the biggest advantages are related to improved ride for the cargo, the vehicle and the operator. Decreased vehicle damage is also a benefit as components such as fuel tanks, batteries, fifth wheels, seals and doors, refrigeration units, exhaust systems and trailer bodies receive less shock. most importantly, the driver receives the benefits of added comfort, reduced fatigue and better control. A driver's vision improves because the forward and rearview mirror images are steadier. Keeping good drivers happy is key in today's competitive marketplace and air suspensions can help retain experienced drivers and recruit new ones.

Disc Brakes & EBS: According to Trailer Body Builders magazine, another technology that is growing in Europe is air disc brakes and Electronic Brake Systems. Although one does not require the other, they seem to be catching on at the same time. This could be an indication of things to come in the U.S. The main advantage of air disc brakes is a 30 percent improvement in stopping distance compared to drum brakes, and less sensitivity to heat. Disc brakes may even achieve twice the life expectancy of a drum brake. Adding electronic controls or "brake by wire" to air disc can eliminate the delay of air signaling because electronic actuation is almost instantaneous. This will further reduce stopping distances and achieve better brake balance between the truck and the trailer, according to Trailer Body Builders.

Obviously, your new truss trailer is not just a wagon any more. There are many more advancements in the trailer industry we have not addressed. Technology has trickled down from the car to the road tractor and now to the tractor-trailer. As we adapt to all the technology around us, this trickle can at times seem much more like a flood. Hopefully, a good flood at that.

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