

Extending Casing Life Nets Millions of Dollars

by Don Schauer

An upturn in truck freight ton miles in 2009 and 2010 has resulted in a shortage of new tires for the commercial trucking industry. But many fleets have found a way to convert the tire shortage inconvenience into cost savings for their operations.

According to the American Trucking Associations, ton miles increased by more than 7 percent in 2009. Another 3 percent growth in ton miles was measured in the first half of 2010.

With mixed economic news, this apparent effort by business to restock inventories caught even new tire manufacturers by surprise, which has resulted in a shortage of new tire availability.

That new tire shortage might have a mixed blessing for the commercial trucking industry, which is finding there are substantial tire budget savings by returning to the proven industry practice of retreading.

Since the 1970s, retreading has been the best way for fleet managers to maximize the return on their tire assets.

At one point, the trucking industry's ratio of retreads to new replacement tires was 1.5-to-1. That ratio has slipped to 1:1 in the past two decades as many fleets have implemented arbitrary casing age limits of four or five years as well as restrictive repair limitations.

Those four and five-year casing age limitations were established because the retread industry did not have the sophisticated casing inspection technology necessary to make decisions using science rather than a gut feeling. In effect, the management practices arbitrarily reduced the number of retreads a fleet realized before scrapping a casing.

ENSURING RETREAD RELIABILITY

In 2000, Bandag introduced the 7400 INSIGHT® Casing Analyzer, utilizing Shearography. As Bandag dealers upgraded their casing inspection capabilities with this new technology, fleets started to notice improvements in retread reliability.

With the proven results, some fleet managers have removed those casing age limits and are relying on the results of a Shearography inspection to determine if a casing should be retreaded or taken out of service.

Up until the recent new tire shortage, fleets have been slow to move away from the arbitrary casing age and repair limitations.

In a study completed several years ago, BBTS collected data on more than 13 million tires which were rejected for retreading based on repair and age limitations. The study found that approximately four million of those tires, or casing assets, could have been salvaged with less restrictive repair and age limitations and more reliance on inspection results.



THERE IS GOLD IN THAT SCRAP PILE

Crete Carrier Corporation is one of the large fleets that have extended casing life from five years to seven years. The fleet has in excess of 172,000 wheel positions. Mike Bice, tire program manager for Crete Carrier Corporation, said: "We have been tweaking our tire program for about five years, trying to find a casing age limit that provided the best return on investment for our fleet. We spent a lot of time diagnosing our scrap pile. From the data we gathered, we determined that our casing age limit should be seven years."

Bice continued: "Modern casing inspection technology, like Shearography, has made it possible for us to enjoy the extra return on our casing assets without negatively impacting reliability. We really don't have a limit on the number of times a casing can be retreaded as long as it passes the INSIGHT® Casing Analyzer inspection and meets the seven-year age limit. The extra two years of utilization results in one or two additional retreads per casing. That translates into substantial tire budget savings for our fleet. In addition, modern casing inspection technology has improved reliability and reduced our tire-related road service calls."

Another major carrier with 112,000 wheel positions was only using new tires in the fleet up until about two years ago when they re-evaluated tire costs.

Larry Rivers, a Bridgestone Bandag Tire Solutions national fleet account executive, said: "The fleet was adamantly against the use of retreads based on previous bad experiences. With the recent difficult economic conditions, the fleet's maintenance team revisited retreads as a cost savings option. After the new casing inspection technology, the fleet opted to give retreads another try." *Continued*

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Mike Bice, tire program manager for Crete Carrier Corporation

ESTIMATED SAVINGS TO FLEET BY INCREASING AGE LIMIT ON CASINGS TO ALLOW FOR ONE ADDITIONAL RETREAD PER CASING

ESTIMATED TIRE/RETREAD COSTS EXAMPLE

New trailer tire price	\$280.00
Casing credit	\$(40.00)
Net cost of new tire	\$240.00
Net cost of new tire	\$240.00
Retread tire price	\$(120.00)
Savings per tire	\$120.00

CASING LIFE EXAMPLE

LIFE	ANNUAL MILES	STATUS
Year 1	100,000	New tire
Year 2	100,000	1st retread @ 150K
Year 3	100,000	2nd retread @ 300K
Year 4	100,000	-
Year 5	100,000	3rd retread @ 450K
Year 6	100,000	-

Changing casing spec from 4 years old to 5 years old allows for 1 additional retread per casing.

ESTIMATED FLEET SIZE - 1,000 UNITS

Trailer positions per unit	8 X 1,000 = 8,000 tires
Estimated total tires	8,000
Savings per tire	x \$120.00
Total savings for 1 additional retread	= \$960,000



River's continued: "That second chance came with stringent casing limitations. A casing had to be less than four years of age. The casing could have only a single repair and it could only be retreaded once. After two years of positive retread experience the fleet is looking at their tire casings with a new perspective. They are seeing them as tire assets. To maximize the return on those assets they have relaxed the age, number of repairs and number of times a tire can be retreaded. We anticipate doubling the number of tires we retread for this fleet in the next 12 months."

OTHER FLEETS' PERSPECTIVES

Five other large fleets in the United States and Canada with a total of 189,000 wheel positions have increased their casing age limitations from five to seven years. One large beverage fleet in Canada has increased the casing age limitations from five to ten years for its 14,000 wheel positions. A large Canadian small package delivery fleet with 32,400 wheel positions is relying totally on the Bandag INSIGHT® Casing Analyzer for determining when a casing should be retreaded or pulled from service. That fleet moved its casing age limitations from five years to unlimited.

In the matrix at left, you can see how a typical fleet with 1,000 trucks which travel an average of 100,000 miles per year could save \$960,000 dollars in trailer tires costs. Those savings result from extending the casing age to the point where the fleet can get one additional retread from each casing - in this case, a trailer tire. By getting an additional retread per casing on the drive-axle wheel positions of 1,000 tractors, that same fleet could enjoy another \$1.4 million dollar savings.

To understand just how dramatically extending casing life can impact the transportation industry, it is important to note the large fleets mentioned in this article have a total of 520,000 wheel positions. If each of those wheel positions could enjoy just one extra life as a retread, the savings potential from this group of fleets is as much as \$62 million. That dollar determination is based on the assumption that all of those extra retreads would be manufactured for the trailer-axle position. If drive-axle retreads became part of the mix, the savings would be even greater.

You don't have to be a mega fleet to enjoy the benefits of extended casing life. The dollars saved from tracking and maximizing your tire assets flow to the bottom line for a fleet with ten or less trucks just like they do for a fleet with more than 100,000 wheel positions.

When you consider the environmental benefits of retreading, that green picture gets even greener. Each of those retreads also represents a savings or 15 gallons of oil. In this economy, the dollar savings definitely gets top billing. That being said, being a good environmental citizen is always the right thing to do. •



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