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Finding traction for your defective-tire case

A look at how and why tires fail, often with disastrous consequences, and how to prove it

Litigating a tire product-liability case in today's legal climate involves many complicated and interrelated issues that need to be considered and evaluated immediately from the onset of the case. Properly investigating and evaluating a potential case is vital to ensure that you are able to maximize your client's recovery. Recent case law, as well as scientific advancements, has added additional layers of complexity to this already dense area of legal practice.

This article will address the issues commonly encountered in tire failure cases and the impact of recent developments, and provide a blueprint for starting a tire product liability case with a proper foundation in order to navigate

the myriad of issues that arise in the complex area of tire product liability.

There are many issues and nuances that arise in tire-defect cases, and, consequently, this article will only address a few of the major issues that are routinely present in these types of cases.

Typical failure modes?

Before addressing the issues and recent developments in the area of tire product liability, it is important to understand the different types of failure modes that can result from a defectively designed and/or manufactured tire.

The first of these, and the failure method this article will primarily focus on, is one of the most common mechanisms

of tire failure: a tread and top-belt separation generally referred to as a "tread belt separation."

Most passenger and light truck radial tires sold in the United States for the past several years have two steel belts positioned on top of the tire carcass. The tread is a different type and piece of rubber that is positioned over the top steel belt. The two steel belts are coated with a thin layer of rubber, typically called the skim stock. After the various components of the tire are assembled by the tire builder, the tire is then vulcanized at high temperature and high pressure for a specified period of time. During this process, the different types of rubber

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pieces are supposed to molecularly bond so that the tire is able to retain air, operate at high speeds and withstand foreseeable forces without falling apart.

A tread-belt separation typically occurs when the tread and top steel belt separate from the bottom steel belt. The bottom steel belt typically remains connected to the tire carcass. The dynamics of a detaching tread and belt will create a drag effect on the vehicle, and depending on what parts of the vehicle are impacted by the detaching tread belt package, the vehicle's direction of travel, handling characteristics, and stability can be significantly affected. In addition, often in a tread-belt separation, there is not a meaningful loss of air pressure in the failed tire. This is a significant issue, and it should be pointed out that a tread-belt separation is a much different event than what many people routinely describe as a "tire blowout."

There can be many potential causes of the separation event, which are discussed in more detail below; however, a sub-issue related to tread-belt separations that has received significant attention in the past few years, is the effects of tire age and oxidation. In recent years, most tire manufacturers and many auto manufacturers have recommended that tires older than six years should be taken out of service. One problem with older tires relates to oxidation of the rubber, causing the bonding to break down and lead to a failure.

Consequently, while most manufacturers have recognized the issues associated with tire age, there is often a major failure on the part of retailers to inform consumers of the risks of tire age. This failure can result in a substantial failure-to-warn claim that should be pursued on behalf of your clients. In addition, many retailers are not familiar with the manufacturer's recommendations concerning tire age, so this is an additional theory that can be pursued under the right factual scenario.

Other failure mechanisms involve a sidewall failure or other event causing a hole in the tire carcass that leads to rapid air loss. This type of failure is a common "tire blowout" scenario, and can lead to

vehicle control problems, injury and/or death.

A bead failure occurs when the bead, which consists of a strand of steel cables that form the inner circumference of a tire and fits onto the wheel, can be defective and cause a tire failure. Bead failures often involve metallurgical issues, and can also lead to vehicle control problems, injury and/or death.

Another category of potential problems involves actions by retailers or installers who negligently repair and/or replace tires. The problems associated with the tire retailer can involve: (a) installing over-sized tires, which can affect vehicle handling, cornering ability, center of gravity of the vehicle and inaccurate speedometer and odometer readouts; (b) installing only one new tire, which most experts agree is not a good practice; (c) installing new tires on the front instead of the rear of the vehicle; and (d) improperly repairing a puncture with either the wrong material or in a location on the tire where a puncture repair should not be performed.

Whether due to poor training, oversight, laziness or a combination of all these factors, the conduct of tire retailers often justifies investigation when there is a serious injury or death associated with a tire failure.

This list of tire-failure modes is not meant to be all-inclusive, but to identify the more common types and causes of tire failures. This article will concentrate primarily on tread-belt separations; however, many of the issues discussed apply equally to other failure modes.

Investigation considerations

Given the different possible mechanisms of tire failure, it is important to secure and maintain custody of the physical evidence. Ideally, the failed tire, as well as the companion tire and the vehicle those tires were mounted on, will be secured and properly stored.

It is not uncommon for investigating law-enforcement agencies to leave detached pieces of tire tread behind at the scene. The tire manufacturers will often refer to the missing tread pieces as evidence of an impact with some unknown

object that caused the tire failure.

Accounting for all of the tread pieces will not only enable you to rebut this common defense, it will also provide valuable information to the tire-failure experts.

Along these same lines, it is essential to visit the scene of the collision as soon as possible to look for and document all of the physical evidence. Many times, law enforcement personnel will fail to retrieve or document all physical evidence, including the tire tread, vehicle components, and tire marks.

There are no shortcuts in this process – proper investigation and discovery in a tire-defect case are time-intensive, and will likely involve hundreds if not thousands of hours of time devoted to the liability aspects of the case. Consequently, another important factor to bear in mind is that handling a tire-defect case through trial is an expensive endeavor. A tire-defect case is not very different than other types of automobile-defect cases, and is very expensive to properly investigate and prosecute.

Most tire manufacturers are located outside of California, which requires taking out-of-state depositions. The tire manufacturer is not likely to produce more than one or two, if any, employees as witnesses at trial, so videotaping the depositions is worth the extra expense given that out-of-state witnesses, like documents in the possession of an out-of-state defendant, cannot be compelled to appear at trial.

It should not come as a surprise that tire manufacturers attempt to limit the scope of discovery. The tire company will always attempt to limit discovery to the exact type of tire involved, and, even then, will likely claim that many documents are no longer available due to document "retention" policies. Successfully handling a tire-defect case requires tenacity. You should expect to file discovery motions in order to gain access to critical materials and information.

Common theories associated with tread separation

Inspecting the scene and obtaining the physical evidence are only the tip of

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the discovery iceberg. As outlined below, proving the cause of even just one mechanism of the tire failure involves significant time and energy.

• **Manufacturing defects – insufficient adhesion, contamination, and oxidation**

As touched upon briefly above, the cause of tread-belt detachments is often described as resulting from insufficient adhesion between rubber surfaces. The insufficient-adhesion theory focuses on the failure of the layers of rubber between the top and bottom steel belts to properly adhere, developing into a separation, and ultimately leading to a tread-belt detachment.

There are various potential causes of the failure to adhere, including improper vulcanization, improper placement of the steel belts in relation to each other, the presence of air pockets between the rubber surfaces, and contamination.

Tire manufacturers will go to great lengths to severely limit what discovery is produced during a tire-defect case, including attempting to force the plaintiff's attorney to sign an unjustifiably restrictive protective order. Generally speaking, a tire manufacturer will not produce a single piece of paper without a protective order being in place. It is typical for defense counsel to insist on a protective order with a non-sharing provision, which will limit plaintiff counsel's ability to fully gain access to relevant documents.

Plaintiff's counsel are encouraged to not sign a stipulated protective order without a sharing provision. The first law and motion issue that may be faced in a tire defect case is a motion to have a protective order that is acceptable. This issue is addressed in more detail below.

The contamination theory requires detailed analysis, and may require a chemist/polymer expert in addition to a design and manufacturing expert. While the tire companies will fight to avoid revealing what ingredients are in the rubber formula, detailed discovery will uncover what is not supposed to be found in a tire. For instance, most tire manufacturers will concede that dirt particles, candy wrappers, polypropylene and polyethylene liners, and cig-

rette butts should not be found in a tire.

Polypropylene and polyethylene, in various forms, are common in many every-day plastic products, including grocery bags and Tupperware containers. Polypropylene and polyethylene are excellent materials for preventing molecular bonding of rubber. For this reason, the tire companies often use polypropylene or polyethylene liners to separate rubber components before the tire builder assembles and manufactures the tire. If the tire builder fails to remove the liners while positioning the various tire components, a piece of the liner may remain between layers of rubber and will prevent bonding and adhesion.

If a detailed visual and microscopic analysis of the tire reveals what is believed to be contamination, then chemical analysis should be able to reveal the type of contaminant. This is a costly and time-consuming process, but it is important to thoroughly analyze the tire.

It is also important to recognize that if contamination is present in a tire, the contaminant will be abraded as the tire rotates thousands or even millions of revolutions before the separation grows sufficiently large to cause the ultimate failure. There may not be any evidence of the contaminant at the exact site where the failure initiated, but the presence of contaminants in surrounding areas is strong evidence that contamination was the cause of the insufficient adhesion.

In addition to contamination, there are other causes of the rubber between the two steel belts not properly bonding. Irregular cuts of the steel belt wires can create gaps where air pockets exist. Improper placement of the top belt on the bottom belt can create a "wavy" configuration and also create spaces where air pockets exist. Inadequate vulcanization of the tire can result in complete molecular bonding not occurring – often this will be an issue if liner pattern marks are present on the surface of the belts. The liner pattern marks are caused by the pattern on the polyethylene liner that is used to separate the belts prior to the tire being assembled. If the liner pattern marks are still present, then likely the

vulcanization procedure was not properly followed.

Air pockets, in addition to preventing molecular bonding of the tire components, also affect the speed at which tire rubber ages or oxidizes. Oxidation naturally occurs over time in rubber products, including tires, and has been a well-known and documented cause of tire failure for years.

A 2003 German study concluded that tire failure increased with tire age and estimated that the failure of a nine-year-old tire was eight times as likely as a two-year-old tire. (See E. Pflaum, *Observations in the Field: Knowledge is Lying on the Pavement* (2003) 40 *Natural Rubber & Rubber Plastics*, No. 8/87 (Alexandria Translations for Strategic Safety trans.)) The United Kingdom-based Tyre Industry Council (TIC), which acts as a nonprofit organization with the principal objective to improve public awareness of tire safety, issued a press release in 2003 warning consumers about the dangers of old tires. It recommended that those over 10 years old in service be replaced, and that tires older than 6 years not be placed in service. (Tyre Indus. Council Press Release, *TIC Warn on Dangers of Old Tyres* (Sept. 4, 2003), available at <http://www.tyresafe.org/media-centre/latest-news/33-tic-warn-on-dangers-of-old-tyres> (as of September 5, 2012).) The TIC also found that static sitting caused risks of premature aging, as the anti-aging chemicals used to prevent oxidation were not active.

These oxidation and aging risks are generally agreed to by U.S. tire manufacturers, but there is still an overwhelming lack of communication of this information to consumers. This can justify a failure-to-warn claim against tire retailers and manufacturers, and for this reason, it may be necessary to name retailers as defendants.

In order to properly address the issue of tire aging and oxidation, during the discovery process plaintiff's counsel should attempt to obtain the percentages of the anti-aging chemicals used by a tire manufacturer, as well as the rubber compound formulas. However, these formulas are not something the tire

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manufacturers willingly disclose, so expect a significant discovery battle to obtain this information. As set forth below, though, there are ways you can construct your case to make this fight far easier.

There are many other types of problems that can develop in the tire manufacturing process that will affect the structural integrity of a tire. Knowledge of the manufacturing process and likely places for breakdowns in the process is necessary to recognize and pursue other design-defect and manufacturing-defect theories.

• **Design defects – absence of nylon overlays and nylon belt wraps**

In addition to the issues with rubber compounds and contaminants discussed above, another significant cause of tread separation events is the failure of tire companies to employ well-known, safe methods of tire construction. Tire companies have known for decades that tremendous forces are exerted at the edges of the steel belts due to the tire encountering different speeds, starting and stopping, coming in contact with mixed surfaces, turning, and use in varied environments. In order to combat these forces, and to help the rubber to continue to adhere, tire engineers developed a variety of nylon components, including nylon overlays and nylon belt wraps.

A nylon overlay is a component placed over the top steel belt and under the tread. Nylon belt wraps are components which are wrapped around the edges of the top and bottom steel belts. The function of both of these nylon components is to provide reinforcement for the rubber bonds and prevent separation. There are numerous patents dating back several years which confirm that tire companies have long known about this safety technology and the feasibility and benefits of this design improvement.

Tire manufacturers generally claim nylon overlays and nylon belt wraps are only used on high-speed rated tires, typically found on high-performance vehicles. There are several responses to this defense. One response is that most vehicles in this day and age, even generic sedans, are capable of sustaining speeds

in excess of 100 miles per hour; therefore, to argue that nylon components should only be used on certain high-end tires is not well-founded. A second response is that there is no excuse for ignoring a low-cost, known safety feature. Additionally, it can be proven that non-speed rated tires have been designed and manufactured with nylon overlays or belt wraps for many years, particularly outside the United States.

It is not uncommon for tire manufacturers that supply original-equipment tires to automobile manufacturers to claim that the reason nylon components were not utilized is that the automobile manufacturer did not want to pay for a slightly more expensive tire. To begin with, the incremental cost to incorporate a nylon component is small. Moreover, automobile manufacturers rely on tire manufacturers to design and manufacture a safe tire. A person most knowledgeable deposition of an automobile manufacturer on this issue will typically result in testimony that the automobile manufacturer never placed such a limitation or restriction on what safety components were designed in a tire.

There are other design-defect theories, but those above are common design-defect theories. Often, tire manufacturers that implement nylon components will see a dramatic drop in the incidence of tread-belt separations. Obtaining discovery concerning separation rates prior to implementing a nylon component and the same information after implementation of nylon components provides good evidence of the benefits of nylon components.

These are other examples of information that is important to your case, but which the defendant manufacturer is not likely to willingly produce in discovery. Defendant manufacturers routinely claim trade-secret protection, unreasonably and unilaterally limit the scope of your discovery requests, or provide partial document productions to make you think that they are being compliant. You must remain diligent in order to defeat these tactics, but you can make this process easier by properly organizing your case from the start.

Avoiding trade-secret disputes

One of the main battles in a tire product-liability case occurs during discovery, as you fight for the information necessary to prove your claims that the subject tire was defectively manufactured and/or designed. Undoubtedly, the defense will claim that nearly all information you request in discovery constitutes privileged trade secrets, and will not be disclosed absent a protective order. It is important to note that the battle to defeat the trade secret defense begins at the very onset of your case, when you prepare the allegations in your complaint. This is discussed in greater detail below.

Whether an item qualifies as a trade secret is governed by Civil Code section 3426.1, subdivision (d). Section 3426.1, subdivision (d) lists three factors that must be established: 1) that information is not generally known or readily ascertainable; 2) the information must derive independent economic value from secrecy; and 3) the party asserting trade secret must have made reasonable efforts to maintain its secrecy. (Civ. Code, § 3426.1, subd. (d).)

Initially, the party seeking to establish the trade secret privilege has the threshold burden of establishing that a trade secret exists. (*Bridgestone/Firestone, Inc. v. Super. Ct.* (1992) 7 Cal.App.4th 1384 (hereinafter, “*Bridgestone*”).) However, once this showing has been made, the burden then shifts to the party seeking disclosure to establish that the information is “essential to the fair resolution of the lawsuit.” (*Id.* at p. 1393.) In *Bridgestone*, the defense claimed its rubber-compound formulas were trade secrets and were not essential to the plaintiffs’ claims. The court in *Bridgestone* agreed with defendants and held that while the information could be “potentially necessary,” that was not enough to defeat the trade secret privilege. (*Id.* at p. 1395).

Defendants have relied upon this argument to keep information from plaintiffs during discovery, and it is here that carefully constructing the allegations in your complaint during the pleading stage will assist in overcoming the assertion of trade secrets.

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As discussed above, there are multiple potential causes of tread separation. Such causes range from poor manufacturing practices, poor design, failure to utilize known safety features, problems with the rubber-compound formulas and contaminants in the manufacturing process, to name a few. Including specific factual allegations in your complaint regarding these failures will, from the very beginning of your case, demonstrate to the court that the information you are later seeking in discovery is essential to the resolution of the lawsuit. Some examples of specific allegations are as follow:

Defendants failed to properly formulate the rubber compounds of the subject tire so as to prevent oxidation, including but not limited to the failure to utilize halobutyl rubbers and or improperly limiting the halobutyl rubber content of the subject tire despite knowing that halobutyl rubbers and compounds, as opposed to permeable inner liners, prevent oxidation and tire failure.

Defendants failed to properly formulate the rubber compounds of the subject tire so as to prevent oxidation, including, but not limited to, the failure to utilize and include antioxidant chemical protection in the subject tire-belt skim-stock, so as to provide protection against the effects of aging, heat and flexion, despite knowing that antioxidant chemicals prevent oxidation and tire failure.

Defendants negligently designed the subject tire and failed to include and incorporate the use of a robust belt wedge between the outer and inner steel belts and/or utilize a nylon cap or ply on top of the subject outer steel belt to restrain the movement of the belts at the shoulder edges and diffuse stress, so as to prevent separation of the tire components and tire failure . . .

It should be noted that pleading with factual specificity provides an even greater advantage by capitalizing on recent case law. It has made it more difficult for defendants to assert the trade-secret privilege.

In 2009 the United States District Court for the Central District of California,

in *Urbina v. Goodyear Tire & Rubber Co.* (C.D. Cal. 2009) 2009 WL 481655, ordered Goodyear to disclose its tire rubber formula, specifically the percentage of halogenated butyl rubber used in Goodyear's tire, because it was necessary to prove the specific claims of a defect by the plaintiff. (See *Urbina* at p. 5 n.2).

Prior to *Urbina*, in 2006 a New York Supreme Court, Appellate Division opinion went even further, and flatly dismissed Cooper Tire Company's claims that its rubber compound constituted a trade secret. (*Mann v. Cooper Tire Company* (2006) 33 A.D.3d 24 (hereinafter, "*Mann*").) There, the court found that simply because money and time went into the creation of a rubber compound did not mean that it qualified as a trade secret. The *Mann* court additionally stated that a tire's ingredients were publically available and therefore not a protected trade secret. (*Id.* at p. 32).

Consequently, specifically pleading your case will help to clarify issues regarding discovery of vital information later in your case.

Discovering the facts

When fighting to obtain information for your client, you need to ask the right questions and then make sure that you get answers to those questions. Properly crafting your complaint at the onset will formulate the skeleton to build on, but the discovery you propound constitutes the meat.

Below are some categories of information you will want to seek during discovery in a tire defect case:

- The tire's design and manufacturing specifications, including for same and similar tires, skim stock, wire specifications, manufacturing processes, type and condition of tire-building machines, and training of tire builders;
- Thorough analysis of the failed tire, including maintaining custody of the tire and the detached pieces, securing maintenance and repair records, detailed photographs, microscopic examination, and, if necessary, chemical analysis;
- The adjustment claims rates for the model of tire that failed, as well as for similar tires;

- The adjustment claim forms submitted by the tire retailers, which identify the type of tire, when and where the tire was manufactured, and the reason for the adjustment;
- Adjustment trend reports;
- Technical investigative committee meeting minutes and reports;
- Technical bulletins and service bulletins distributed by the tire manufacturer to retailers;
- Alternative designs considered, including implementation of nylon components and thicker rubber compounds;
- Alternative designs adopted after the failed tire was manufactured;
- Patents for designs, which will reveal the tire company's knowledge of technologically feasible safety improvements;
- Federal government investigations and inquiries and the tire company's responses to the government;
- Experience with the same model of tires by other government agencies, such as police agencies, the Departments of Transportation and Forestry, and the military;
- Experience with the same model of tires by rental car companies;
- Litigation testing showing that design improvements work; and
- Testimony from former employees concerning plant practices.

Naturally, defendants will be evasive, avoid responding, and claim trade-secret protection, and it is therefore important to remain persistent.

Protecting your right to information

In connection with their claims of trade secrets, defendants always take the position that they will disclose information only after a protective order is in place. Again, defendants bear the burden of establishing the necessity of a protective order, and will likely provide you with a proposed order. However, this is only the beginning of another battle that you must fight on behalf of your client. Defendants will undoubtedly attempt to impose a protective order with provisions so restrictive that your case is hampered, and you are prevented from maximizing the utility of the information and evidence you are entitled to.

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One way that defendants seek to do this is by including a non-sharing provision in their protective orders. Such a provision prevents you from disclosing the information obtained in discovery to third parties or utilizing the information in future cases, and requires you to obtain signed confidentiality agreements from any party whom you share the information with. Understandably, these provisions severely restrict your ability to use the information you obtain during discovery and will make the administration of your case burdensome.

The goal of the manufacturers is to limit the plaintiff attorney's ability to know what other claims involving the same or similar model of tires are pending against the manufacturer, and, further, to use the protective order as a barrier to prevent attorneys with similar claims from getting discovery and depositions produced in other cases. By trying to force plaintiff attorneys to agree to protective orders without sharing provisions, the manufacturers hope to severely restrict the ability of plaintiff attorneys to communicate, gather important discovery,

and ensure that the manufacturer is being completely truthful with discovery.

It is important that you do not agree to an unjustifiably restrictive protective order, and if the defendant refuses a sharing provision, to then require the defendant to demonstrate to the court why such a provision should not be included in the protective order.

Fighting the protective-order battle, as well as getting the discovery you are entitled to, will likely require extensive law and motion, but it is necessary in order to obtain the information required to prove your case.

Conclusion

The recent media attention to problems with tire failures may have helped bring product liability issues into focus for consumers and plaintiff attorneys, but it does not mean the tire companies are going to roll over and pay a premium to settle tire defect lawsuits. Successfully representing injured consumers against tire companies is an expensive and time-consuming endeavor. Preparing your case from the outset, properly pleading your

factual causes of action, and remaining diligent through investigation and discovery will enable you to ensure tire companies, and the retailers that sell defective products, are held accountable.

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