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Products Liability

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by

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Abstract

This project will deal with the basic principles and fundamentals of products liability and its association with engineering. The cases in question were analyzed independently using the basic principles of products liability and engineering practice. Pending lawsuits were analyzed through the investigation of actual depositions, statements, manuals, standards, and pictures. Three distinct cases were used for this analysis. Each case involved an accident and was put through the litigation process for the purpose of accident reconstruction and monetary settlement. Throughout the reconstruction process the project groups were asked to question the effectiveness and proper handling of machinery. The first was a 10" Skil table saw, the second involved a 9000 gallon tanker truck and a Dodge Aries, and the third involves an MGS wire spooling machine and its operator. The final stage of the project was a mock trial. At this mock trial we present our case on one of the above topics. Here we show what compelling evidence led to our final conclusions. By completing this project, our group gained a clear understanding of the implication of products liability in everyday life and in the engineering process. This allowed us to view each with an ethical, moral, and scientific understanding apart from the legal.

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Chapter 1
Principle of Products Liability

1.1 Introduction to Products Liability

The law of product liability, in general, is concerned with the manner in which to evaluate personal injury through the use of some tangible goods like machinery. It has grown, however, to include intangible products like electricity. In each products liability case there are two sides. Those who are filing suit and pursuing some judgment, usually monetary, and those who are in defense of such suits. The law enters as a mediator to such disputes and determines whether such claims are reasonable and are within legal jurisdiction. In the case where because of a defect in the delivered product, a life, body, or property of another person is injured, the person who manufactured, processed, or has claim to the product as a business is liable for damages of the injured person. The court determines through investigation, trial and reconstruction whether the product indeed is at fault for the injury through some kind of defect. On the other hand, it may also be found that a claim is without justification, and it may be determined that an injury was caused rather through improper use of the product or through consumer negligence. Each is a possible conclusion or verdict and is found through extensive trial analysis in which an engineer may play the most important role. He/she is an expert who is willing to place his/her reputation as a qualified professional engineer on the stand and will ultimately question the design and manufacturing of the delivered product. Throughout the text we will study the litigation process and the very important role of the engineer as a trial expert.

Many of the lawsuits concerning products involve what are generally termed "accidents." In these incidents someone has suffered some injuries or losses and seek redress for those losses through the litigation process. The term accident may have different meanings to different

individuals therefore we will define by legal terms what the courts consider an accident. An accident is an occurrence that is unexpected and causes injuries or losses that may in some way be expressed in economic terms. From that definition it is very clear and obvious that when an accident occurs involving a product, the seller or manufacturer are the most likely targets for claims which seek recovery of damages. With this comes the blaming process for which the design, handling, and delivery of the product will be questioned and ultimately the engineering of the product will be questioned. This is why again, the engineer's role in these cases is vital. Within the term accident are many examples. Accidents may involve collisions, slips and falls, loss of control, fire, mechanical failure, and many more. Because of the diversity of accidents, a comprehensive way of analyzing these claims is needed and mediators like the courts are necessary. Therefore the litigation process must be a solid standard that will act fairly and justly in a very expeditious manner when called upon. Redress should be fair and the intent must be to address losses and damages. So now we will focus on the litigation process and the law of products liability.

1.2 Going to Court

Within the complexity of the products liability litigation lies the question of "why" go to the courts for redress. The litigation system-filing suit, naming claims, and eventually arriving at a settlement is the process we use for settling disputes. Each and every citizen in this country has the right to seek redress in the Court of Law. In a perfect society there would be no need for courts and mediators because everything would be solved using the sincerity and good word of the person. We all know that we do not live in a perfect world and disputes are rarely ever solved by using good faith. Disputes are generally complicated and difficult to solve using discussion. Therefore the courts are called upon as a middle man to these disputes for fair unbiased judgement. Of course the courts may also be seen as a preventive measure against fights and further injury. We must look at society in general and ask ourselves whether we could co-exist in a civilized manner if it were not for the legal system. Society is not perfect and those who participate in society are not perfect either. With time always comes change. We have those who oppose it and those who greet change. Because of this there will always be arguments as whether change is good or needed. Products, either being tangible goods like clothes, instruments, and tools or intangible products like electric power are always changing also. For this reason a perfect product is also impossible and accidents involving products will occur. The argument starts when the finger of liability is pointed and the product or the consumer are accused of this unforeseen occurrence. The court's job is to determine by hearing both sides, whom is at fault. Also, because products can be turned into improper use society has resorted to codes of conduct

and systems of law that guide our actions and stop the misuse. The court again is the entity which furthermore provides penalties for these wrong uses and encourage proper behavior. The bodies of laws within the legal system have been developed through action of legislation. The court throughout time has chronicled all disputes and has found the best way of preventing these happenings to occur again through laws. We are guided by these laws to create and deliver products to individuals that ill not be faulty and will not injure others. We do this by using a good engineering standard for the development of goods, and this is what the courts will eventually look at. Whether the product was designed and tested to prevent injury or to forgive accidental misuse by allowing the user to walk away unharmed. This may be through the use of safety factors like manuals, air-bags, or reinforcements. If all has been done to do this and the product was found to be not at fault then the court will rule out claims of liability, but if on the other hand the product or manufacturer is found to be at fault then the system will redress damages and will find the manufacturer or distributor of this good responsible for those monetary settlements.

The initial stage of analyzing a case involving products liability is to recognize the definition of the word product. We have defined product in the previous text as some type of tangible good or an intangible good. Also we have said that is fair to assume that the manufacturer of the given product is responsible for injuries occurring as a result of the product's use. But we must also note that there may be other parties which may be liable. The person who distributes the god may be liable. We can term this individual as the importer. In fact, any person who puts his name, representative symbol or characteristic marking on the product with such titles as, "manufacturer" or "importer", or any person who puts his name on

the product in a manner mistakable for its manufacturer or importer may be liable. Additionally, any party which is a provider of a service recognized under products liability law may be held responsible for resulting injuries caused by the service.

It is important to note again that the manufacturer or any potential party is not liable when the product has not been found to be defective. Therefore it may be important to define what a defect is by definition. A defect may be a malfunction or failure to work that creates a lack of safety in which the product may lead to injury to life, body, or property. Legally this term, "defect", is defined as a lack of safety that the product ordinarily should provide, taking into account "the time when the manufacturer delivered the product," and other circumstances concerning the product. This argument can furthermore be sub-divided into definitions of its own. For example the meaning of, "the nature of products", may be termed in the following ways which include these factors:

- representation of the product(instructions, warnings, etc to prevent accident)
- the effectiveness and usefulness of the product compared to its danger
- cost and effectiveness
- probability of occurrences of accident and its severity.
- durability and life of product.

The meaning of "foreseeable manner of use of the product can be further categorized . This means that the use of the product involves the following factors:

- reasonable foreseeable use of the product(intended uses and misuses)
- possibility of preventing damage by use
- correct use and incorrect uses.

And the meaning of "time of delivery' in the following manners:

- safety level required for the importation of the product.
- correct handling in delivery (at the time of delivery)
- technological capabilities at the time of the delivery

Furthermore in our discussion we must look at the full explanation of the definition of the term defect. A product may contain defects other that mechanical malfunctions of serviceable damages. A defect may come in the form of design defects, which may not fully comply with correct engineering practice. Defects may be faulty or inadequate warnings or manuals detailing the correct use of the product. Manufacturing defects may include defects in the inspection of products which must meet standards of use and tolerances of safety factors.

It may be found that a product is faulty ut before that is done there must be proof that the product or use of the product was directly responsible for the resulting injuries incurred in an accident. This is termed "proximate cause." If a given product is neither the definite or proximate cause of an accident then that product cannot be considered defective. Additionally, if there is no manner in which to foresee injuries or mishandling of a product from the standpoint of the manufacturer, then again the product cannot be defective.

Assessment of the accident is also important. Which are the proper questions to ask in this assessment? The three main ones are: (1). Was the manufacturer responsible or negligent in producing the product? (2). Did the manufacturer incur any statutory violations while manufacturing this product? (3). Is the product defective under the provisions of strict tort liability, which focuses on the quality of the product that caused the injuries. In formal terms strict liability states that the manufacturer is responsible for a product being out on the market and therefore must ensure that the product is not dangerous. Several implied obligations that apply are:

1) The Warranty of Merchantability – This is a contract or warranty that takes place between the seller and the consumer. The contract requires products which are sold to be of fair and average quality within their description. This means that the products should be adequately packaged and labeled. The implied warranty of merchantability applies when the seller is a merchant, or a person who has knowledge of / or skill about the products being sold.

2) The Warranty of Fitness for a Particular Purpose– There are conditions for this warranty to be applicable. If the seller knows what purpose the product will be used for and if the buyer relies on his skill or judgement, then there is an implied warranty between both parties that the product will be fit for that use. In this case the seller need not be a merchant, meaning that he does not have specialize in that particular product's area.

3) Strict Tort– This states that any person who sells a product in a defective condition which is unreasonably dangerous is subject to liability for physical harm to the consumer. This only applies if the seller is engaged in the business of selling a product and only if the product reaches

the consumer without substantial change in condition in which it was sold. Strict torts still apply even if the seller has taken all possible care in the preparation and sale of the product and if the consumer has not bought the product from the seller.

We have studied so far the implications of defendant liability. However, we must also consider liability concerning the plaintiff. This is termed "plaintiff misconduct." This could be Contributory Negligence which can be defined as the plaintiff's lack to take reasonable care for his/her safety. Assumption of the Risk , when knowing and voluntary accepting risks associated with a product or service are taken. And Plaintiff Misuses, which are cases when the plaintiff is found to have used the product or service in an irresponsible or unforeseen manner.

Logically our discussion should now focus on the determination of damages and the addressing of monetary redresses. After the liability has been assessed , in general it is found that the plaintiff is allowed an economic redress. The damages that may be collected depend on the type of tort considered. Lost wages may be collected, medical expenses, replacement costs, pain and suffering, and/or cost of repairs. It must be shown through documentation that certain losses are obvious or even that future possible gains can no longer be gained due to this accident. Therefore it is up to the skill of the individual lawyer to determine what type of losses these may be and whether they indeed were caused by the accident.

In conclusion, products liability law is a jurisdictional code of ethics applied to the manufacturing, distribution, and sale of products such that consumer satisfaction and safety may be assured. This set of codes, laws, or legislation is over-seen by the Court of Law and proper engineering methodologies A firm understanding of the implications of products liability law is necessary in each stage of design, production, and distribution. It must also be used in the

warning and instruction development, and packaging and manufacturing.

1.3 The Litigation Process

As described above, when someone has reason to believe that an accident has occurred, that person may seek to determine if he other is at fault and is responsible to redress those losses. In this case he/she can bring this case to the attention of the legal system where through the courts someone will be found responsible for those losses. The process of this litigation are as follows:

- The claim(Summons and Complaint),
- The response and defense(Answer),
- The discovery process, including:
    - Interrogations,
    - Requests for Production,
    - Requests for Admissions,
    - Inspections, and
    - Depositions
    - 01The trial

There are also post-trial activities and settlements to be considered.

First we will look at the claim. This is the start of the litigation process where a "Complaint" is filed. Along with the complaint is the plaintiff's (accuser) request to the court for a trail and redress for the damages. The initial filing of the complaint is usually accompanied by

some type of reason for why the defendant(accused) is felt responsible for losses. The claim must be clear enough and logical enough to justify the court to continue the legal process. It may be the case that the judge finds a claim has no merit, and it will be dismissed. This may occur at any time throughout the process. Furthermore the claim should include a description of the accident and everything that occurred at that time and why the plaintiff has determined that the other side is responsible for these losses. After the compliant, the next general step is the response by the accused as to what he thinks of these allegations. Also termed "Answer" the response is given a reasonable time to study the claims and allegations and to make a response to those accusations. If it is the case that the defendant denies the allegations then the ball keeps rolling and the litigation process continues. This second step can end a dispute when a defendant accepts and says "yes" to all claims. The Third step immediately following the response is the "Defenses".

This is part of the response where the defendant lists reasons as to why he does not believe the accusations have merit. Defenses usually involve legal matters like lack of jurisdiction, expiration of statutes of limitation, or some other legal matter. Fourthly, the "Discovery" process follows. Here a set of different legal steps will come to play. Both parties will now have full legal consultation in all matters and interrogations will take place. This will include the deposition of all parties involved to determine what happened or what lead to this accident. Question will be asked in a legal manner to list all events that lead to the accident and also to rule out foul play. Both sides will be asked questions and in many cases information will be sought. Parties involved may be asked to present evidence and documentation concerning the accident. Also witnesses and involved parties may be asked to reveal information through a

subpoena. That form of request is termed, "Request for Production." That simply means that parties will be asked to produce physical evidence , instead to back up verbal accusation or defense. Requests for admission also accompany the discovery process. These are just questions of admission that seek to strengthen the case. Examples of these requests may come in the form of questions that ask; "Are you the manufacturer?," " Are you the designer?" These seek to solidify the case by confirming certain questions. Eventually, this all leads to the fifth step which is the trial. This is the body of the litigation process, where both sides present their prepared cases and tell the court and its appointed jury the full story. From here on, it is up to the courts to determine which story fits the case best and which side is at fault. Each side will strengthen their case by providing witnesses, either medical, expert, or circumstantial. These witnesses will tell their side and arguments to back up the arguments of the side its speaking for. Hopefully, through the use of these and many other legal tools the courts will be able to come to a conclusion or both sides may come to an agreement where a settlement is made. This is an assurance that both sides fully agree as to the outcome of the case and will no longer seek redress for those damages. It is basically an end to a complicated argument and a solution to a problem concerning an accident caused by a product.

Chapter 2

John Frazier vs. S-B Power Tool Company

2.1 Introduction

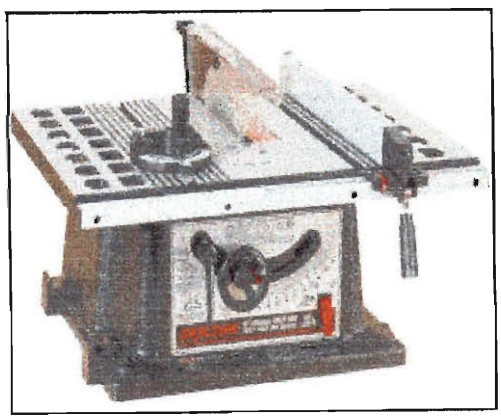
John Frazier vs. S-B Power Tool Company. The plaintiff in this case is Mr. John Frazier. He is a 76 year old gentleman who was well until he was doing some carpentry around the house and had an accident with a Skil Saw 10" Model 3400 Type 2 VVW3 power tool. Mr Frazier's left middle finger was amputated below the second knuckle from the tip, his thumb was cut down to the first knuckle, and the ring finger and pointer suffered severe injury and partial amputation. It is claimed that the 10" Skil saw caused the accident because it was an unreasonably dangerous and defective product.

2.2 Background.

The power tool in this case is the 10" Skil Saw Model 3400 Table Saw, Type 2 VVW3. It falls into the category of transportable or bench-top tools. It is made in Taiwan for the S-B Power Tool Company of Chicago, Illinois under contractual arrangement with the manufacturer, P&F Corporation of Taichung, Taiwan. It is sold and marketed by S-B Power Tool Company in the United States. It is advertized as a Model 3400 10" Table Saw powered by a 13.0 AMP, 4,800 RPM Motor with the following:

- Skil Accu-Lign . Self aligning quick-set rip fence.
- High torque 13.0 AMP motor.
- All Ball bearings
- See-through blade guard with splitter and kickback fingers
- Large 17 5/8" x 26 5/8" die cast aluminum table
- Full 12" right rip capacity
- Heavy duty blade height and bevel adjustment controls
- ABS base for strength and durability
- Storage space for rip fence, miter gauge and wrenches
- Weighs 35 pounds for portability
- Double insulated construction.

It is shown here in the picture. (Picture obtained from the S-P power Tool Company online catalog)



10" Skil Saw (S-B Power Tool Company)

As you can see from the previous picture of the tool, it has a see through blade guard which is intended to protect from injury. Behind the guard is a pronged anti-kick back device which protects the operator from accidental kickbacks. The following is a detailed description of the machine. (Also supplied by the S-P Power Tool Company)

Model	Description	Meas.	RPM	HP	Blade Diam.	Net Wt.
3400	10" Tbl Saw	1	4,800	2.5	10.0"	35.50

Max Cut @ 90° (in.)	Max Cut @ 45° (in.)	Right-Side Rip @ 45° (in.)	Ship Wt.	Carton Size L xWx D
3	2.5	12	38	28.5x13.0x20 7/8

Skil Saw supplies a warranty for the product and an operators manual which describes the proper use of the tool and all of its guards and accessories. In the case of John Frazier vs. S-B Power Tool Company, the matter in question is the effectiveness and functioning of all of its safety guards. It is claimed by John Frazier that the anti-kick back device and the see through blade guard did not function as specified and were, due to their failure to properly work, the cause of his accident. This would make S-B Power Tool Company, under Products Liability Law, solely responsible for all damages.

2.3 Deposition of John Frazier

Mr. John Frazier is a 76 year old retired man from Braintree, Massachusetts. He suffered a traumatic accident on May 14, 1996 with a Skil Saw 10" table saw in which severe damage to his left hand was caused by contact with the blade. Until that day, he was a normal retired gentleman who occasionally liked to do some carpentry work around the house in Braintree, MA or for his daughter in California. The accident occurred when Mr. Frazier was doing some work in California for his daughter and attempted to cut a 27" x 2 ½" x 3/4" workpiece.

Mr. Frazier had many years of experience in carpentry from various home assignments he had been involved with. On the day of the accident he was performing some ripping operations he had previously done before. He was wearing dungarees, a short sleeve shirt, sneakers, safety glasses, and a nail apron. He was working on the table saw outside of the house and after the accident was rushed to Valley Hospital Medical Center in Van Nuys, California by a passing driver.

In his statement, Mr. Frazier claimed that the accident occurred as a result of a defective anti- kickback device, and a loose blade guard which he implies caused a kickback. Mr. Frazier stated that he was preparing to rip the workpiece and place the wood on the work bench. He had prepared a home-made push stick for the completion of the operation and cut. After setting the tool to its proper dimensions for the cut, he pushed the workpiece as to make the cut. He had his left hand in front and flat on the top of the workpiece. His right hand was placed on the rear as depicted in Figure 1.

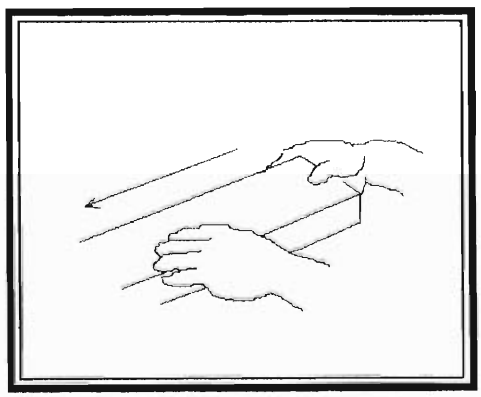


Figure 1

However, unlike usual, while pushing the workpiece, after ripping through 2 5/16" of wood, he experienced a kick back. He claimed that all guards were in place on that date and that no alterations had been made to the machine which he had bought at Home Depot several days prior. The push stick which he had prepared for the operation was in his back pocket. He was going to use it after some distance in the cut, he claimed. At the time of the kickback, Mr. Frazier said, that he had no recollection of the events that took place in the small elapse of time where he suffered his injuries except for some movement from the see through guard. All he recalls is that he suffered severe injuries to his left hand and ran for help where he got a ride from a passing driver and was rushed to the hospital.

Upon arriving at the hospital Mr. Frazier was treated for his injuries and surgery was performed. The Surgeon who operated on his hand was, Dr. George Balfour. His operation was classified as a revision of amputation of long finger, revascularization of index finger, revision of amputation of thumb, and repair of complex injury of ring finger. As to the events which Mr. Frazier could not recall, he wrote the following:

> *"The Skil Saw entered the thumb tip through the mid-portion of the distal phalanx, dividing the distal phalanx imbedded nail bed and tearing in a ragged manner the tip of the thumb...."*

That information makes it hard to understand how it was possible for Mr. Frazier to injure himself if he was holding the work piece as he has indicated. If you refer to Figure 1, where it shows the manner in which Mr. Frazier was holding the work piece, according to his statement, it seems improbable that the thumb would be the first finger in contact with the blade. Further

more if Mr. Frazier was holding the work piece as he had indicated it is peculiar that his pinky finger was not injured.

At the time of the accident Mr. Frazier had no one helping him, therefore there are no witnesses as to what exactly happened. Mr. Frazier maintains that it was his intention to use the push stick which he had manufactured according to the recommendations provided by S-B Power Tool Company. Furthermore he claims that he had fully read and understood all the instructions and warnings pertaining to the tool. With this he claimed he was familiar with the zone of danger which is mentioned in the manual and stated it was beyond the boundary of the table. Mr. Frazier mentioned he was not resting against or exerting weight on the workpiece. In his deposition he mentioned that it was his belief that the fence was loose and this caused the accident. This was, in his statement, observed after the accident had occurred and he performed some post-accident inspections of the tool.

Inspection of the saw was performed and found were the following warnings:

- **Always use the Blade-Guard...**
- **Always keep hands out of path of blade....**
- **Know how to avoid risk of "kickback"...**
- **Never reach in back of or over blade....**

It was also found that the bevel lock was operational and so was the bevel adjust. The kickback springs were fine and the guard was in place. All fence locks were good.

If what Mr. Frazier indicated was correct it seems probable that he did not perform the operation as specified by the manufacturer. His hands were in the line of the blade and a push stick was not in use. Inspection of the wood itself resulted in some burn marks which seem to

indicate that there was some pressure exerted to force the cut. Again this would be against the recommendations of S-B Power Tool Company on the proper use of the table. Clearly the actions of Mr. Frazier were not in accordance with the proper use of the saw as stipulated in the Operators Manual supplied by S-B Power Tool Company.

2.4 Deposition of Peter Domeny (S-B Power Tool Company)

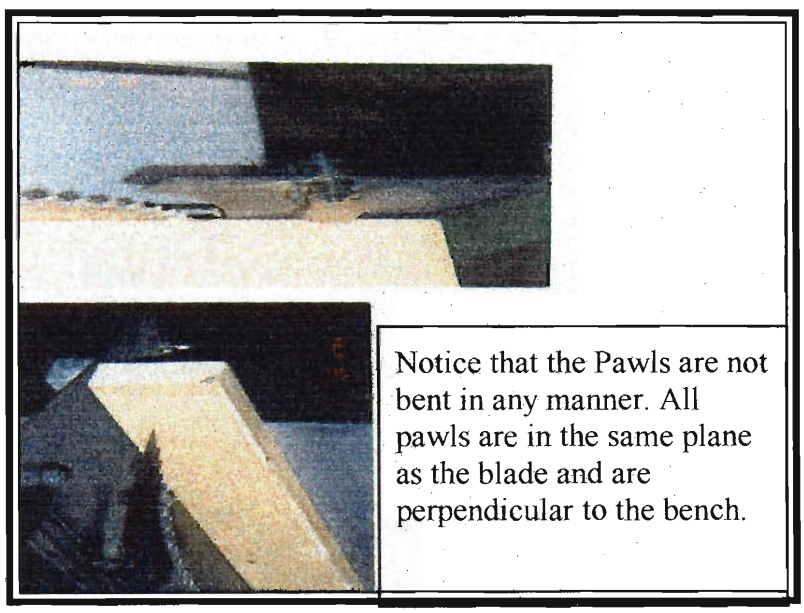
At the time of the accident Peter Domeny was Director of Product Safety at S-B Power Tool Company. He had actually served as director at Skil since 1987 and with the merger of Skil and Bosch he continued his position from 1992 until present. Mr. Domeny had the opportunity to personally examine the allegations presented to S-B PTC and the actual table saw that was used by Mr. Frazier.

According to Mr. Domeny, the tool in question is advertised as a safe product and holds its name as safe. The descriptive terms "Accu -Lign self aligning rip-fence" which are the first words used to describe the product, according to Domeny, are a feature of the design that allows for the operator to, in his words, "just push down on the lever, and as you push down alignment is achieved." This statement refers to the ease in which the company intends for the user to experience. He maintains though, that the self aligning must be set up according to the instructions that are provided in the manual, such that the operation is self-aligning through the clamping process to the degree of accuracy that the operator has *chosen* to have. This, in other words, meant that while the rip-fence alignment is self induced, the degree of accuracy is directly related to the degree of accuracy the operator places on the positioning of the device and the workpiece. In the case of Mr. Frazier's alignment it tends to indicate that his degree of accuracy was not good and compliant to the operating instructions.

Mr. Domeny went on to mention how the company has anticipated a broad environment of uses of the tool. Therefore, he explained, the company foresaw possible kick backs and provided the appropriate means of preventing injury from these occurrences. He stated that the manual warned of these occurrences and provided proper handling measures to prevent them.

Also in place, as a safety guard, were the anti-kickback pawls which are intended to stop a workpiece from shooting back. Through his statements, Domeny further recognizes that kickbacks can occur and are not completely eliminated by following the manual, but also states that injury from such an occurrence is "practically eliminated" when read thoroughly. If Mr. Frazier had understood all the conditions that cause a kick-back and knew what happens while a kick-back occurs, Domeny believes, he would not have been injured. According to Domeny's statement, the kick-back pawls when catching the piece of wood that gets kicked back would be bowed. In the case of Mr. Frazier's they were not deformed. This would imply that they did not catch the wood or that the severity of the kickback was not extreme. Inspection of the workpiece shows that the pawls dug in like they should. However, there is no deformation to the pawls.

In the next picture set labeled Pictures1.1 you can see the set up of the pawl mechanism that helps protect from kick-backs.. It should be noted that they are in perfect condition and do not seem to show any evidence of bowed fingers. The springs that can be seen, were also in perfect condition and were operational when they were inspected.



Picture 1.1

2.5 Inspection of Applicable UL Standards

Stationary and Fixed Electric Tools

Protection against injury to persons-All Tools

Article 27: Rotating Members

Article 27.1: A rotating member, the deterioration of breakage of which may create a risk of injury to persons, such as cutting tools or accessories, shall be constructed of such material and in such a manner as to reduce the likelihood of deterioration or breakage; and to reduce the likelihood of release or loosening of rotating part that could result in a risk of injury to persons.

The cutting head of the Skil Saw 10" Table Saw is constructed of steel. All fastening hardware is also of steel. The steel cams in the rip fence were built to standard at the time of manufacture. In the event of loosening, the cutting head is covered by the see through guard to help reduce the possibility of injury to persons.

Article 30: Mechanical Assembly

Article 30.1: A tool shall operate smoothly without vibration, chatter, or deflection of support member or a work-table that could result in a risk of injury to persons.

Article 30.2: Requires article 30.1 to apply throughout the speed range of the tool, at full or partial capacity-size of workpiece, and the like-and while performing any of the functions of which it is capable.

Total elimination of planar vibration is an impossibility. However, the bench and its recommended supports are able to sustain the vibrations present through the entire range of operating speeds as to allow for safe operation without risk of injury to persons

Article 40: Table Saws

Article 40.19: A rip fence shall be constructed so that it can be firmly secured to the table and so that it will not tend to loosen under normal operating conditions.

In the case of the Skil Saw 10" table Saw, the rip fence would indeed be secured under normal operating conditions. These conditions were stipulated in the operator's manual.

Article 44: Miter Saws

Article 44.2: A saw blade shall be furnished with the saw

Article 44.3: The miter saw shall:

a) Be provided with automatic or manual arbor breaking such that a 10' or smaller blade will stop within 15 seconds or

b) Constructed so that inherent friction losses, such as from gearing, preclude continued rotation of the saw blade beyond the limits specified in 44.4(a).

Again, the table saw indeed came with a saw blade and according to company laboratory tests the blade indeed stops within the allowed time span.

Article 44.4: A blade guard shall be provided that encloses the periphery of the blade in quadrants A and B, and extends at least 3/4 inch radially inward beyond the root of the teeth, in the full cut position, for the blades specified by the manufacturer to be used with the saw. With the carriage in the full retract position, the blade teeth shall be fully guarded for at least 3/4 inch radially inward beyond the root toward the spindle in quadrants C and D. A 45 degree section of

exposure is allowed in quadrant C.

It is evident that the guard in place is sufficient to meet this standard was in place the Skil Saw 10" Table Saw that Mr. Frazier used.

It is thus concluded that the 10" Skil Saw Table Saw meets all Underwriter's Laboratories (UL) standards at the time of production. It also met the standards or exceeded them at the time of the accident. Therefore, it is not probable that the tool was in any way negligent in respect to standard compliance.

2.6 Review of Owner's Operating Manual

The owner's manual examined was the Model 3400-Type 2 10" Table Saw Owner's Operating Manual. Mr. Frazier's statements imply that he had fully read and comprehensively understood all material contained within its context. The intent of this review is to focus on the more pertinent parts of the manual that may have prevented this incident. The recommendations within the manual are intended to instruct the operator on the safe and unsafe manners of handling the work-bench and its work-pieces. It is the belief of this group that some parts of this manual were ignored, and thus we will present the most compelling segments of the manual.

1. General Rules

1.a Personal Safety:

1.1: *Know your power tool:* Read and understand the owner's manual and the labels affixed to the tool. Learn its applications and the limitations as well as the specific potential hazards peculiar to this tool.

1. 2: *Don't Overreach:* Keep proper footing and balance at all times.

1.3: *Stay Alert:* Watch what you are doing. Use common sense. Do not operate tool when you are tired. Do not operate while under medication or while using alcohol or any other drug.

1.4: *Keep Guards In Place:* In working order, and in proper adjustment and alignment.

1.5: *Check Damaged Parts:* Before further use of the tool, a guard or other part that is damaged should be carefully checked to ensure that it will operate properly and perform its intended function. Check for alignment of moving parts, mounting and any other conditions that may affect its operation. A guard or other part that is damaged should be

properly replaced.

2. Tool Use

2.1: *Don't Force Tool:* It will do the job better and safer at the rate for which it was designed.

- Here it is likely that Mr. Frazier was forcing the tool in some way. This is evident in the 2 distinct burn marks on the workpiece. This implies that he was forcing the workpiece into the blade creating a risky situation that eventually led to binding and ultimately a kickback.

3. Additional Safety Rules

3.1 *Do Not Alter Or Misuse Tool:* These are precision built. Any alterations or modifications not specified are misuse and may result in dangerous conditions.

This section also goes on to mention "kick-backs." This is what is stated:

Kickback

Kickbacks can cause serious injury: A "KICKBACK" occurs when a part of the workpiece binds between the saw blade and the rip fence or other fixed object. Workpiece binding the blade due to misalignment, can also cause kickbacks. During kickback, workpiece rises from the table and is thrown towards the operator. Keep your face and body to one side of the saw blade, out of line with a possible "KICKBACK."

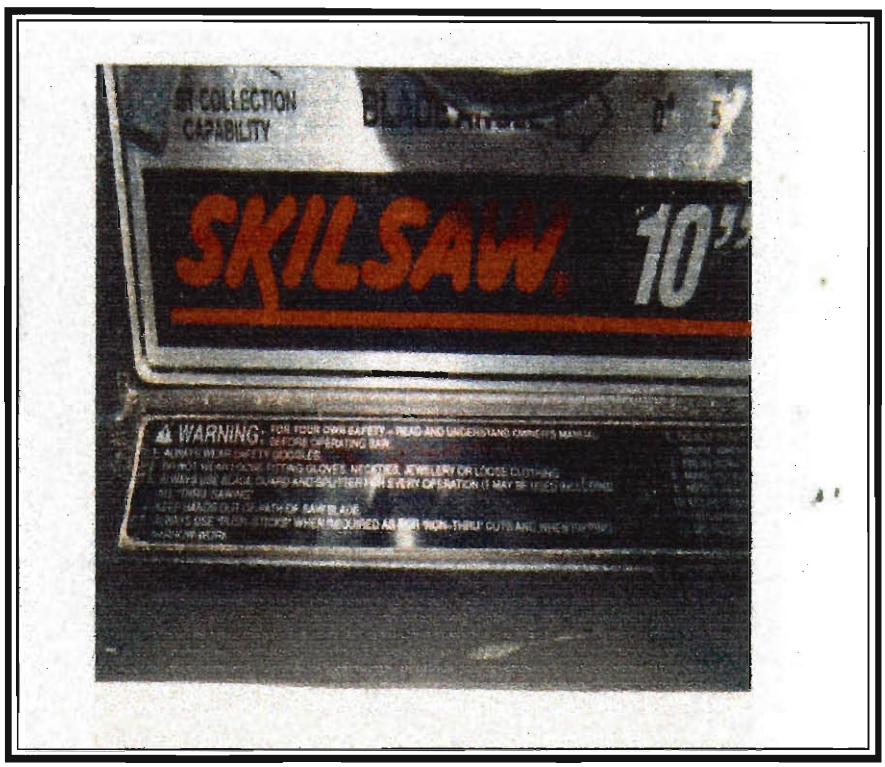
- It seems likely that Mr. Frazier ignored this particular

recommendation and thus was forced into the blade causing his accident.

- There are preventative measures provided on page 3 of ADDITIONAL SAFETY RULES section inform the user on how to prevent kickbacks. The following are three we believe Mr. Frazier ignored or did not fully understand:

1. *Maintain the rip fence parallel to the saw blade.* (Mr. Frazier never took enough care as to ensure that the fence was aligned properly and without gaps)
2. *Keeping saw blade guard, spreader and anti-kickback pawls in place and operating properly. The spreader must be aligned with the saw blade and the pawls must stop a kickback once it has started. Check their actions before ripping.* (Mr. Frazier, again, did not take the time or care to insure that all pawl springs and fingers were operational. If he had checked the guard, this incident would not have occurred.)
3. *When ripping, apply feed force to the section of the workpiece between the saw blade and the rip fence. Use Push Stick or Push Block when appropriate.* (Mr. Frazier never used a push stick. In his deposition he said he had it in his back pocket, implying that he may have surpassed the zone of danger.)

2.7 Analysis of Pictures



Notice how S-B Power Tool Company very clearly sets warnings for the user to view. The warnings are located underneath the Elevation Wheel where the operator can see them. If Mr. Frazier had fully understood these warnings, serious injury would have been prevented. These are the same warnings that are discussed in the operator's manual and are intended to help prevent against dangerous situations like kickbacks.

Analysis of Pictures (continued)

In this picture you can see the severity of Mr. Frazier's injury. Notice that the pinky finger did not suffer amputation though it was the first in line with the blade according to Mr. Frazier's deposition. It would not be possible to suffer the type of injury Mr. Frazier suffered if he had been holding the workpiece as he has stated.

2.8 Conclusions

After reviewing the case of John Frazier vs. S-B Power Tool Company we have concluded that the evidence supports the defendant S-B Power Tool Company.

- The evidence suggests that Mr. John Frazier did not use the planer in accordance with the provided instruction manual. It is apparent that some kind of alterations were made to the tool, it seems very probable based on the medical reports and burn marks on the wood that excessive force was used to push the workpiece into the saw, and negligence on Mr. Frazier's part led to the mishandling of the workpiece such that a kick-back occurred.
- The evidence shows that Mr. Frazier did not follow proper handling recommendations provided by S-B Power Tool Company. He did not use a push stick to allow for pushing of the workpiece when near the zone of danger.
- Based on analysis of the anti kick-back pawls shows that they did not engage during the kick-back. However, during inspection of the work-bench the anti kick-back springs were found to be in working condition. This indicates that the pawls were either blocked or prevented from working. This implies negligence on Mr. Frazier's part due to his failure to inspect the machine prior to use.
- Based on an analysis of UL Standards, the S-B Power Tool seemed to comply with all pertinent standards thus implying that the machine was safe for operation and thus was not a defective product which caused risk to injury of persons.
- Upon investigation of the medical report, it was found that the blade must have

entered from the thumb. This clearly contradicts any notion that Mr. Frazier was handling the workpiece in the manner he stated during his deposition.

- In any products liability case, it is very important to reconstruct the accident as accurately as possible. While Mr Frazier was helpful in this aspect, he could not recall the important events that occurred during contact with the blae since he was in a traumatic state. Therefore, the exact manner in which he got injured cannot be determined
- The plaintiff's expert witness, Darry Robert Holt P.E., did not present an argument that was substantially backed up by evidence. His findings were speculative and without scientific merit. Therefore the argument that the tool was a defective machine which caused risk of injury is not compelling.

Based on these findings we believe that the plaintiff, Mr. John Frazier is not entitled to a monetary settlement from the defendant, S-B Power Tool Company on the basis of the distribution of a defective machine by the defendant. Furthermore economic redress should not be rewarded to Mr. Frazier by the defendant due to Mr. Frazier's negligence in improperly handling a table saw.

Chapter 3

Hector Hernandez Administrator of the Estate of Laura Hernandez

vs.

Michael Mackenzie

3.1 Introduction

Hector Hernandez administrator of the estate of Laura Hernandez vs. Laura Hernandez. This case involves a car accident that occurred on July 21, 1992 at 9:08 a.m. on Route 12 in the Town of Ashburnham. Laura Hernandez, a 32 year old resident of Winchendon Massachusetts was traveling north on Rt. 12 to work. Michael Mackenzie, a 24 year old truck driver, was on the same road traveling in the opposite direction. At 9:08 a.m. a collision occurred between the two vehicle causing the death of Laura Hernandez. Hector Hernandez administrator for the estate of Laura Hernandez is suing Michael Mackenzie for the death of Ms. Hernandez.

3.2 Background

The incident in question resulted in the death of Laura Hernandez who was driving a Dodge Aries north on Rt. 12 on the morning of July 21, 1992. Michael Mackenzie, driving an 18 wheel tanker truck collided with Ms. Hernandez after completing a turn on Rt. 12. The accident occurred on the double yellow lines on the road. Refer to Photo 3.1 As can be seen from the photo, the truck collided with the Dodge Aries and skid towards the guard rail on the opposite side of the road. Ms. Hernandez's vehicle was completely turned around and also ended up against the guard rail on the North bound lane. It was early in the morning when the accident occurred and traffic was light. The weather was fair and driving condition were normal. Ms. Hernandez was on her way to work . Mr. Mackenzie had completed a swimming pool fill up that morning. Earlier that morning he had filled up a pool with some water he had gotten from a local lake.

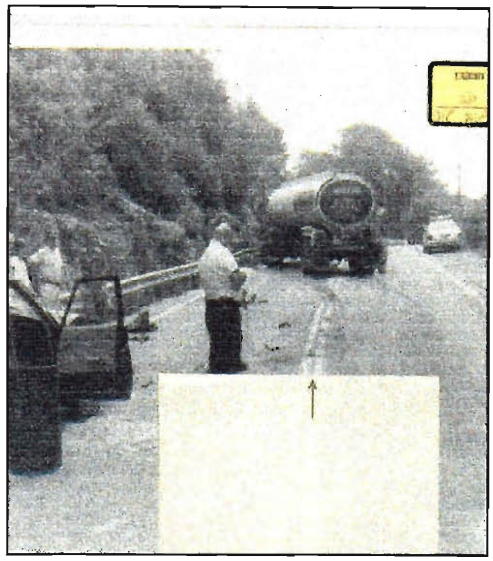


Photo 3.1 This picture illustrates the location of the accident. The arrow on the yellow box points to the point of collision.

The road exhibited no evidence of drivers' attempt to stop the collision. The collision was instantaneous and unforeseeable. After the point of impact the road shows skid marks coming from the truck and some skid marks and gouge marks coming from the Dodge Aries. Inspection of the guard rail shows that a severe impact was felt from the truck. The rock behind that railing also shows evidence of an impact by the truck. Inspection of Ms. Hernandez's vehicle shows that much of the impact's force was absorbed by the Dodge aries.

As can be seen by the picture, the vehicle's left front quarter panel was ripped off and the front left tire axle was severely damaged. Inside the vehicle, the dashboard was push towards Ms. Hernandez and the steering wheel column also suffered damage.

The truck did not suffer too much damage. Inspection of Photo 3.2 shows that the truck's fiber glass hood popped open and was cracked. The front left wheel was popped and the rim shows evidence of the impact with the Aries. Much of the damage to the hood occurred when the truck impacted the rock on the North bound lane. It is important to note that the trucks gasoline tank did not suffer any damage.

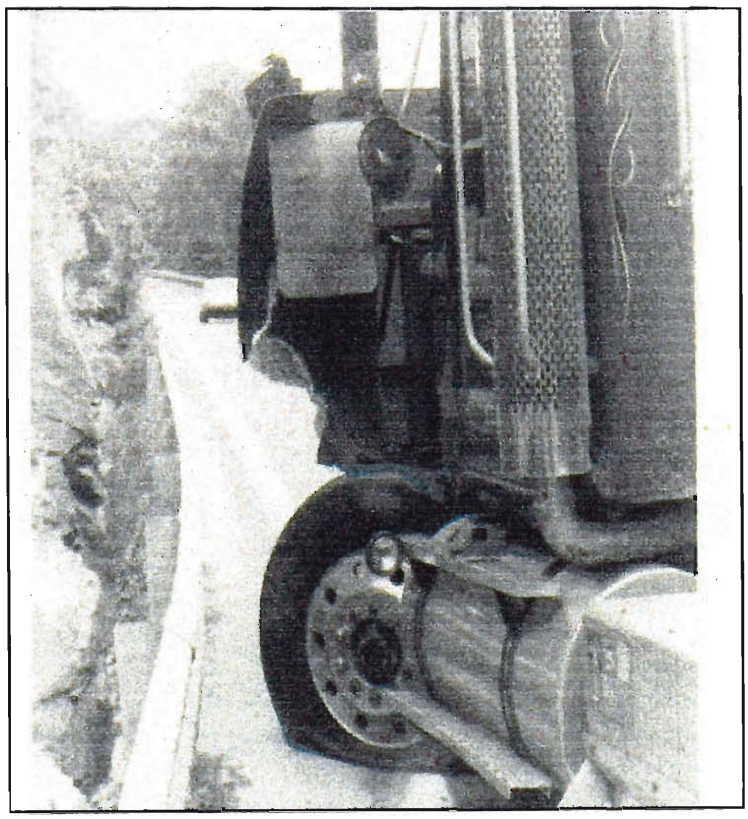


Photo 3.2 Picture of truck's damage.

3.3 Deposition Of Ronald Laplante (Chief of Police, Town of Ashburnham)

Ronald Laplante is the Chief of police in the Town of Ashburnham. He had served in the Navy from 1959 to 1963 when he decided he wanted to be a police officer. He studied at the Police Academy for eight weeks. There he studied criminal law, motor vehicle law, statute law, CPR, and self defense. Officer Laplante was the first officer on the scene after the accident. He had arrived after the fire department. Upon arrival to the scene, he made assessments of the accident and prepared the accident report. He spoke with Michael Mackenzie, the driver of the truck. He had made notice that no-one had seen the accident occur. When questioning Mr. Mackenzie he took notes. He then used these notes to type the accident report in his office.

Chief Laplante is important to the case because he is the officer who decided whether anyone had committed a driving infraction. His decision would decide who was at fault. Performing his duties, Laplante viewed the driving records of both drivers. Upon inspection of the driving record of Ms. Hernandez, he discovered that she had been cited for speeding in more than one incident. She had been involved in two surcharge-able accidents 2 years prior. She had been cited for not carrying a licence or registration. These infractions had occurred twice in the Town of Ashburnham, one in Holden, and the other in Fitchburg. Inspection of Mr. Mackenzie's driving record revealed that he had been cited for speeding.

According to Chief Laplante's statements on the day of the accident between Ms. Hernandez and Mr. Mackenzie, he performed some basic accident assessment. He marked off what he believed was the point of impact and made several measurements. It is important to note that according to his statement, he had never received any formal training in accident reconstruction. He had not triangulated the seen for appropriate measurement nor had he make

any concrete evaluations. He had not determined the speeds of both vehicles nor had made any effort to contact any state agencies to reconstruct the accident.

At the seen he spoke with a driver who stated he had driven past the truck a couple of seconds before impact. This gentleman said he did not see the accident but had heard the collision. He made a determination of the point of impact on visual evidence of the road. The point of impact, he stated was where there was a gouge mark on the road between the two yellow lines separating the two lanes. He marked off the point with an "X" on his report. He made note of the debris that was visible, the gouge mark itself, and emanating skid marks. In his opinion, he stated that the skid marks had occurred after impact. He never made a determination as to whether the truck's tires ever left the road. As to the gouge mark, he did not decide which car had caused it or what part of the vehicle would have caused it.

In his statement, Mr. Laplante concluded that Ms. Hernandez was on the wrong side of the road. Questioned as to whether he had made this determination based on her previous driving record he stated that he had indeed. He failed to say whether he felt comfortable speaking with Mr. Mackenzie, but he did state that he was aware that Mr. Mackenzie lived on the same street as his uncle.

It is the belief of this group, that Chief Laplante's accident report did not deserve any merit. His conclusions were never concrete and lacked reconstruction know-how. Because he had never been trained in accident reconstruction he was never aware of terms like "momentum" and could not make concrete evaluations. His inability to contact the proper agency which could actually aid in that determination shows his little concern with the death of Ms. Hernandez. It is evident from his statements, that a proper reconstruction of the accident never

took place. The lack of concern on his part led to a mishandling of the scene. Important reconstructive measurements lacked and therefore an evaluation of who was at fault was ultimately based on testimony of parties involved and pictures of the scene taken by the Lieutenant of the Winchendon fire department.

3.4 Deposition of Michael Mackenzie.

Michael Mackenzie was 24 years old at the time of the accident. He was driving the 18 wheel tanker truck for a swimming pool refilling service. On the morning of the accident, Mr. Mackenzie states that he had arrived late to work. The night before he had gone to bed at approximately 9 p.m. and had woken up at 5 a.m. to go to work. Work was located in Fitchburg. He had arrived at around 6 a.m. and was late for his deliveries. He recalls inspecting the truck prior to leaving the base. He stated that this "circle check" was standard pre-trip inspection of the air breaks, tires, and lights.

Mr. Mackenzie states that he was experienced with trucks. He had studied at Monty Tech and had graduated from there in 1989. There he studied basic mechanics. From there he studied at the Diesel Institute of Technology. There he learned about trucks and their care. He states that he had extensive knowledge of air-breaking systems. He hd studied the same systems that were installed in the truck he drove on the day of the accident. Though his training was good, he mentioned that he had never been schooled in truck angles, cab functions, etc. He was taught to drive trucks by his father. At the age of 15 he drove trailers in a lot where his father worked. There he says, he moved the trucks and gained a desire to be a truck driver. He received his truck driving license in 1992. Three month's after receiving it though, he was involved in an accident.

He mentioned that the accident was minor and that beside that he was a good driver. It was noted through questioning in the deposition that he had received several speeding citation also.

On the day of the accident, he first loaded the truck with water from a local lake and filled some pools. He never took measure of how much water the tanker was carrying at any

given time. The truck he states, has a capacity of 9,000 gallons of water. The tanker section has eight tires and is 43 ft. long. Along his trip were several stops of which one was water delivery. Again he does not recall how much had been dropped off.

As he was driving, he does not specifically remember where he was going, though according to his statement he considers himself very familiar with the route. He says that as he approached the turn in question, he was traveling at approximately 30-35 m.p.h. According to his statement, he never saw Ms. Hernandez approaching his vehicle. The truck on his hood, he noted, was 6 feet long and it made it hard to see objects directly in front of him by a couple of feet. That blind spot was the reason he believes prevented him from avoiding the accident. Though he could not see Ms. Hernandez's vehicle, Mr. Mackenzie is convinced that she was on his side of the road. He changes his statement and then says that he did see her vehicle, but only after the collision began. He stated that he saw the rear end of her vehicle as it brushed onto the left front side of his truck. At that moment, the truck's hood popped open and he says he lost control of the truck. His estimate of the distance Ms. Hernandez was on his side of the road is 1-1 ½ feet. As for his recollection of the vehicle he believed that the car was brown or tan but yet stood firm on saying that he did not see her approaching.

At impact he says that he felt the collision in his cab. He mentioned that the cab did not jump nor did it ever leave the ground. He did not see what part of Ms. Hernandez's vehicle he struck. After the dynamic event occurred, he recalls attempting to make a call to 911 but failing. He never approached Ms. Hernandez's car nor did he plot where her car was. According to his statement he did nothing after colliding with her car. After the accident, his boss drove him home.

In his deposition he was asked about the driving conditions and speeding limits. He recalls that the limit at the curve was 35 m.p.h. He said that when he approached the curve, he slowed down and took it safely. He allowed the truck to coast by relieving the throttle. On impact though, he does not recall whether he hit the air-brakes prior to the crash or after. As for the car which saw him pass before the car, he mentioned that he did not see it either.

Based on his deposition, nothing conclusive can be said. Mr. Mackenzie does not recall much that happened during the impact. His statements are sometimes contradictory and his reasons for driving on that road are unknown

3.5 Deposition of Robert Kohlstrom

Robert Kohlstrom is the driver who identified seeing the truck before it entered the curve. According to his statements to the police and in his deposition, he recalls seeing the truck coming South towards him. From his perception and his knowledge of trucks, he believes that Mr. Mackenzie was speeding as to not down shift gears. When he saw the truck, Mr. Kohlstrom was startled and he says he jerked his car to the right so as to avoid the truck. Seconds after he saw the truck, Mr. Kohlstrom mentions that he heard the crash and turned around to see if anyone had been hurt.

3.6 Accident Reconstruction Techniques

During the preliminary stages of the case, expert witnesses were hired to serve as accident reconstruction experts. Their job was to reconstruct the events that led to the death of Laura Hernandez and determine who was at fault. Their statements in court were based on their expertise as Professional Engineers and their prior experience with the techniques of accident reconstruction. In the following text we will see some of the techniques that are used to determine who was at fault by reconstruction of events.

First it can be assumed that the expert will seek an understanding of the physics behind the accident. First in line would come accurate measurements of any pertinent distances. The location of vehicles in relation to each other is very important. Traffic conditions and laws must also be noted. Some of the basic physics that are applied to these studies include:

- **An Understanding of Motion**: This pertains to the motion of any body. It may very well be the motion of atoms, planets, or vehicles. Three of the most important characteristics, are speed, momentum, and velocity. It is very important to understand those three concepts in order to properly study the causes of an accident.
- **Center of Gravity:** An object's center of gravity- also referred as the center of mass, is its balance point. It is important to have this characteristic understanding of the distribution of weight in a body because it is what will determine the path an object will take during motion. This is different in all vehicles.
- **Conservation of Momentum:** This is the first basic principle that is addressed. This characterizes the force a body in motion contains. This quantity is different

for vehicles with different masses, as in our case, and it helps in evaluating why a vehicle took the path it did after colliding. This is a magnitude that has both magnitude and direction.

- **Energy:** Energy, like momentum, is another physical quantity that is always conserved. This can be used to study the crash pattern and damage. In our case it can be used to study the imprints on the ground, the bending damage on both vehicles, and the damage caused to the rock on the road by the truck
- **Coefficient of Friction and Skid Analysis:** This is tabulated information on constant quantities that are used to characterize the surfaces the vehicles rode on. This is used to study skid marks caused by braking tires and are eventually used as indicators of how fast a vehicle was traveling.

All the factors mentioned above, are skills that must be mastered before any type of accident reconstruction can take place. In the case of Chief Laplante's study, he lacked an understanding of these skills. Therefore an accurate description of the events leading to the accident cannot be determined.

Accident reconstruction techniques also involve an understanding of the function of mechanical parts in vehicles. In the accident we are concerned with, it may prove useful to have an understanding of the air brakes found on a truck. Reaction times and conditions of use may determine how a truck reacted to sudden braking.

One very important study, involving the basic physics we mentioned earlier, is the study of bodies in curvilinear motion. In other words, it is important to understand how a vehicle acts when subject to a turn at a certain speed. In the case of the truck, it was very helpful to

understand roll-over. Roll-over is just what it implies, it is the tendency of a body to "roll-over" when subject to excessive forces induced by high speeds on curves. This is directly related to a vehicle's balance point or center of mass. In the case of the truck it was important to understand what the truck's angular velocity was. In other words the velocity of the truck while turning. The radius of curvature on the turn and the height of center of gravity of the truck will ultimately play a key part in the evaluation of a truck's roll-over tendency.

These skills were used by experts on both sides of each case. Upon studying these skills we came to certain conclusions as to what occurred on July 21, 1992. These events will be discussed next.

3.7 Accident Reconstruction and Conclusion

The conclusions reached in this reconstruction are based on the depositions of those deposed, advanced accident reconstruction techniques, and evidence in the form of pictures. It has been determined that fault and liability should be Michael Mackenzie's. Here is why.

According to Michael Mackenzie's deposition he estimated his speed to be 30-35 m.p.h. This of course is an estimate. Mr. Kohlstrom's statement revealed that he believed the truck driver was speeding. In search of what the driver's speed was, we used the techniques of evaluating roll-over capacity and determined through the following factors that the truck driver was driving at 40- 45 m.p.h.:

- Radius of turn
- Tank capacity(water)
- and Truck center of gravity.

These factors coupled with information that has been tabulated in accident reconstruction manuals was plugged into a mathematical formula and it was determined that the truck would have begun experiencing roll-over at around 40 m.p.h. If Mr. Mackenzie had felt this his first reaction would have been to turn the wheel all the way to the left as to increase his radius of curvature and avoid tipping over. If this had been done, as seen in the photo above the truck's tire would have protruded by an excess of 1 foot. If driving close to the yellow line this would have placed him on the opposite side of the road and into Laura Hernandez's lane.

As for the gouge mark on the road, which is very much an important marking, this occurred because when Mr. Mackenzie struck Ms. Hernandez, it crushed her axle, spinning her

and pinning the vehicle against the road. This caused the gouge mark, which is feathered and cause Ms. Hernandez to veer to her right. Momentum analysis coupled with damage found only on the truck's tire makes it possible for us to conclude that Ms. Hernandez did not slam into the truck. In opposite manner, the truck struck her car and killed her.

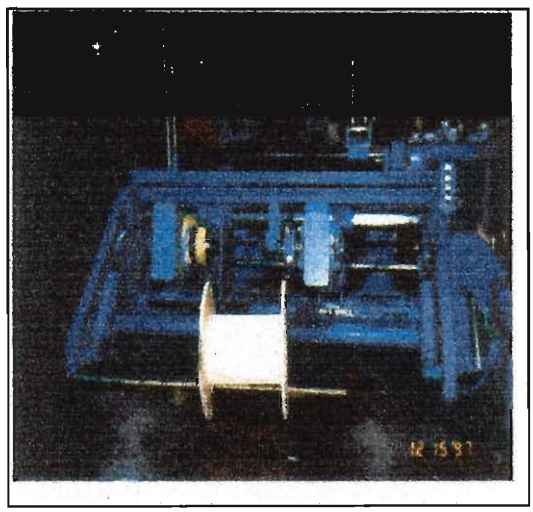
The skid marks caused by the truck, can be attributed to Mr. Mackenzie's late reaction. He slammed onto the brakes after he realized that he had struck an automobile. His final attempt to save his truck and the car were proved too little since by then he had most probably killed Ms. Hernandez. Therefore this is why it is evident that Mr. Mackenzie was at fault for the accident.

Chapter 4

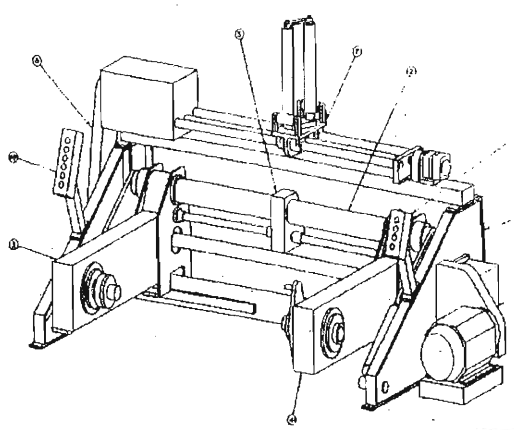
Norma Lopez v. Encore Wire Corp., MGS Manufacturing, and EWC Leasing

4.1 Introduction and Background

Hector Lopez was a 25-year-old full-time employee at Encore Wire Corp. in McKinney, TX. He worked on a MGS manufactured take-up rewind machine (refer to figs. 4.1a & 4.1b.), which was leased to Encore Wire by EWC leasing Corp. Hector's job was to wind wire from one spool on one machine to another spool on a second machine, this process was called the rewind process. There was another process that Encore performed on this machine, the scrapping process. The scrapping process is when the wire is emptied off the spool onto the floor and cut up as scrap because it is defective wire. This is process is thought to be very dangerous and is not performed in this manner at many wire companies because of it's adherent danger. Mr. Lopez was using the scrapping process on the MGS take-up rewind machine on December 10, 1997 when he was involved in an accident with this machine, which resulted in his death. The plaintiff Norma Lopez, Hector's wife, filed a complaint against three parties, Encore Wire Corp., MGS Manufacturing, and EWC Leasing Corp. for a number of different reasons. The plaintiff claims



Picture of MGS take-up rewind machine five days after accident.



Schematic drawing of MGS take-up rewind machine.

Encore instructed Mr. Lopez to perform an unsafe process, in an unsafe manner which he was not properly trained or warned about. Also that there was no barriers or Spanish warning signs on the machine and they were not in compliance with the safety standards for guarding on the machine. Finally an interlocking system was bypassed on the machine in order to perform the scrapping process which they were warned about a year before. The plaintiff claimed that MGS had a reasonably dangerous design of this machine that lacked safety devices. Safety devices such as a deadman switch and more effective emergency brakes. They also did not warn about unspooling wire onto the floor and that they did not have a safer design alternative for the unspooling process. The complaint against EWC leasing was that they leased a defective product and there were no warnings on the machine in Spanish.

4.2 Accident

On December 10, 1997 Hector Lopez was entangled by some loose wire hanging off the spool of wire on the rewind machine he was working on. At the time he was entangled Hector was removing defective wire from the spool on the machine so it could be sold for scrap. After he was entangled he was repeatedly spun through the machine and tossed against the floor. This resulted in severe injuries to his head, neck, back, legs, and arms in turn resulting in his death.

4.3 Letter to Gary Bliss from Area Director

This letter was sent on behalf of the inspection that was done on the MGS machine on December 12, 1997. The letter goes on to say that an employee could be entangled in wire off-winding it from a spool and pulled into the spool when attempting to clear wire from a backlash in the tension o the wire. There was no citation issued because of this inspection because no Occupational Safety and Health Act standard applied. If a citation were to be issued it would invoke the general clause Sec. (a)(1), which states that employer's are responsible for providing a safe work place. The letter concluded in saying that Encore had to take two steps in making that machine safer, 1. Install a deadman switch so when the operator leaves the station the machine will shut off. 2. Devise a method of disassembling the spool for scrapping process in order to eliminate the unspooling process.

4.4 Letter to Fernando Aristeguieta from Texas Worker's Compensation Committee

This letter was sent on July 3, 1996 to Encore Wire on behalf of the Texas labor code Sec. 411.041 to inform Encore Wire that they were considered an extremely safety hazardous company. This letter also said that Encore had to renew their safety plan within six months of receiving this letter and that they had to introduce an accident preparation plan. TWCC was going re-inspect their policies no earlier than six months and no later than nine months after this letter was received.

4.5 Encore Hazard Safety

Encore responded to TWCC on September 20, 1996, they planned to hold a training program on August 17, 1996 for all employees. Encore stated that their policy on safety was that " Safety is everyone's responsibility." They said that they had by-monthly inspections of all of their equipment and they held monthly safety meetings discussing those by-monthly inspections. Within these meetings there were disagreements as to what corrections had to be made to the machines. Check lists were established by management for those corrections to be made. The actual time frames varied, but according to company records these were all fulfilled. In reality the adjustments were never made, especially to the machine that Hector Lopez worked on.

4.6 Deposition of Dean Williams

(December 12, 1998) Dean Williams is a Mechanical Engineer that is employed by MGS Manufacturing. He was the head Mechanical Engineer in the design of the MGS take-up rewind machine. He specifically located the operator control panel on the opposite side of the rewind machine because of the adherent risk of the operator getting caught up in the machine. He believed that MGS's policy is that the machines that are sold are of standard safety requirements and any additional safety features were to be requested by the customer. He also stated that normally around take-up machines there was no or very little guarding. Mr. Williams said that the deadman switch was around for over twenty years and companies were very aware of it and it was not the sales person's responsibility to push the sale of the deadman switch. Williams said that MGS did not design a machine for the scraping process because there was to high of a risk of injury with that type of machine.

4.7 Deposition of William Gurecki

(August 29, 1998) William Gurecki is the Vice President of the Engineering at MGS, he is a Mechanical and Electrical Engineer. He stated that the Mechanical and Electrical departments were the people in charge of safety of the machines. Mr. Gurecki did the Electrical engineering on the MGS take-up rewind machine that was sold to Encore Wire. When the machine was installed at Encore Mr. Gurecki trained only one person at on the machine, so there on in it would be that person's responsibility to train anyone else on the machine. There were no written operation instructions given to Encore when the machines were installed and there was no safety inspection done on that type of machine until the summer of 1997. Also there was no cable pull switch and warning labels added, which would offer extra safety to the operator, until 1998. All of these options were not offered, and they were not even notified of these options to Encore or any customer that purchased their machines before these options were offered. MGS believed that it was the customer's responsibility to request these options and it was safety improvement. Mr. Gurecki stated that Encore Wire placed a second order from them after the order of the two take-up machines about three years after for new traverses for the take-ups. As well as Dean Williams, William Gurecki mentioned the high risk of injury in the scrapping process and that it was the customer's responsibility to request the deadman switch.

4.8 Deposition of Gary Bliss

(November 24, 1998) Gary Bliss is the Vice President of Product Development and Environmental Matter from May 24, 1993 to the present. Mr. Bliss was at the plant when the accident happened but he did not witness it. He was told about the accident right after it happened and he immediately went to the scene. When he got there Billy Alley, Pablo Valverde, Sharon Walters were cutting Lopez from the reel that he was entangled in. Sharon Walters was the head of the Health and Safety Department. Bliss talked to Carlos Juan Diego who was working on the machine next to the Lopez's machine and he said that Lopez made a big mistake by walking around the machine without shutting it off. Carlos Juan Diego was the first person to try to help Lopez and he was the one who stopped the machine. Mr. Bliss said that there is no written policy for the safe operation of the machine but he says that it is common knowledge to know that he should not try to cut the wire while the machine was running. He explained the reasoning behind the scrapping process, the wire is scrapped because it is said to have sparks. Sparks means that there is a defect in the insulation around the copper wire causing the wire to spark when an electric current is run through the wire. The wire has to be taken off the reel to recycle the copper, this is done to save money for Encore. Also there was no written process for the scrapping process at Encore Wire. So it was possible that Lopez was operating at to high of a speed maybe causing the machine to jam. Before Lopez attempted to cut the wire there might have been a great deal of tension on the wire and when he cut the wire it backlashed, tangling

the leg of Lopez pulling him into the reel. Bliss said the first time he observed the machine the next day the emergency stop worked. After the accident Encore put up warning signs.

4.9 Deposition of Billy Alley

(January 7, 1998) Billy Alley was the plant manager of the plant where the accident occurred, he was 100 yards away from Lopez when the accident happened. Alley arrived at 6:30 am the morning of December 10th, his normal working hours were 7:00 a.m. to 6:00 p.m. Mr. Alley said that Encore did maintenance to the machines three times a year, which consisted of oiling of the hydraulics and emergency stop inspections. Alley believed that Lopez trained on the rewind machine for one month and he worked on the machine by himself for one month before the accident happened. Alley was not completely sure how the accident happened he only heard what people said happened. He explained that Lopez walked around the machine and attempted to cut the wire, when he cut the wire the wire on the floor wrapped around his leg and pulled him into the reel. When he got there Lopez was still tangled in the reel along with the cutters. There was no wire on the ground when Alley got there and he attempted to cut Lopez free from the reel along with Sharon Walters and Pablo Velverde. Mr. Alley said that the E-stop is the fastest way to stop the machine but the machine will still run for a few seconds. He also said that a jog pedal was installed after the accident.

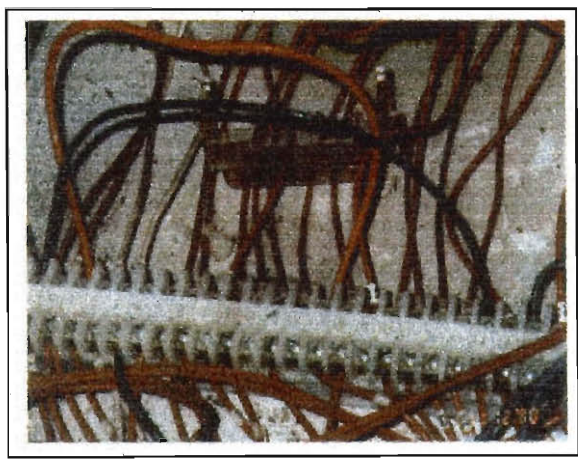
4.10 Deposition of Olegario Silva

Olegario Silva was a machine operator at Encore Wire for eight months before the accident. He was working on the Dual Rewinder on December 10th. Pablo Velverde trained Silva on the take-up rewind machine for one month. Mr. Silva started working on the machine the Lopez worked on 15 days after the accident. Silva said that he seen Lopez turning in the machine and he said that Lopez was definitely scrapping that day.

4.11 Miscellaneous information on the case

Previous to this incident there was another recorded accident similar to Hector Lopez's. Two men in a wire manufacturing company in New York were pulled into a take-up rewind machine manufactured by MGS Manufacturing. So, MGS had prior knowledge that this type of accident was possible and no alterations were made to the machine. When Dean Williams was asked about what he thought about having prior knowledge and nothing being done about it, he said that he did not even think about it.

The machine was inspected two days after the accident and it was found that there was an alteration made to the machine by Encore wire. On the machine there is a device called the counter devise. The purpose of the counter was to count the wire as it was spooled onto the reel. If there were no wire in the counter devise the machine would not run. In order to use the scrapping method the counter would prohibit the reel from turning because wire would not be run through it. In the scrapping process wire is unspooled on the floor. Encore used a jumper wire to bypass the counter devise so that the scrapping process would be possible (See fig 4.2.).



Jumper Wire on take-up rewind machine

4.12 Discussion and Analysis

There are many specifics to this case that have to be looked in order to find who was at fault. Encore Wire did not properly train Mr. Lopez on the safety hazards of this machine and they did not supply him with literature on the safe operation of the machine. Also, Encore used the jumper wire to rig the machine to do an operation that the machine was not made to do. They did not comply with the requests that were put forward to them by TWCC in the time frame they were instructed. The issue of properly guarding the machine was ignored by Encore on several occasions and they did not create a safety zone around the machine so that people could not just walk in front of the reel while it was running.

MGS had prior knowledge of this type of an accident and did nothing about it. They did not supply Encore with an operator's manual when they sold and installed the machine. They did not make it clear to Encore that safety options such as the deadman switch, proper guarding, and warning labels were offered.

EWC leasing plays a very small role because they did not have prior knowledge of the danger of the machine. So they should not have known to add labeling to the machine. And they specifically did not know that a large percentage of Encore's workers were non-English speaking. Hector Lopez, though he was not trained properly, should not have been trying to cut wire on the spool when the machine was still running. He was probably unaware of the fact the machine was doing an operation that it was not made to do.

4.13 Conclusion

Our conclusion on this case was that Encore Wire and MGS Manufacturing were the two major contributors to this accident. Encore Wire was negligent because they instructed Lopez to perform an operation that was extremely dangerous in extremely dangerous working conditions. Also they rigged the machine to perform an operation that was not suppose to be performed on that machine and they did not properly train Lopez on that operation. MGS is negligent because they had prior knowledge of this type of accident and did nothing to remedy it. Also because they did not supply Encore with an operators manual and they did not put proper warning labels on the machine. Hector Lopez played a small role in his own death, he tried to cut the wire while the machine was still running and he did this on several occasions before his death. We believe that Encore was 50 percent liable, MGS was 45 percent liable, Lopez was 5 percent liable and EWC leasing was 0 percent liable.

Chapter 5

Mock Trial

5.1 Introduction

On Sunday May 2, at 2:00 p.m. a mock trial was held between Professor Hagglund, Professor Dimentberg, the products liability students, and a group of people posing as a jury. The purpose of this trial was to discuss the cases that Professor Hagglund presented to us previously throughout the year. The trial lasted approximately two and half hours. We discussed case #2 (Hector Hernandez Administrator of the Estate of Laura Hernandez v. Michael Mackenzie) and case #3 (Norma Lopez v. Encore Wire Corp., MGS Manufacturing Inc., and EWC Leasing Corp.).

5.2 Discussion of cases

The trial began when Professor Hagglund called one of the groups up to the front of the room to present case #2 to the jury. They presented the facts of the case for about fifteen to twenty minutes. They then began to explain what conclusions they came and how they came to them. When Professor Hagglund was satisfied with their presentation of the case he called upon another group to state any difference in opinion or any unstated facts about the case. This process continued for about three or for groups. There were some differences in opinion of to who was at fault but for the most part there was a consensus that Michael Mackenzie was mostly at fault. This same process was repeated for case #3 until all of the groups had a chance to present at least one of the two cases. In case #3 there was many different opinions as to who was at fault or if there was joint liability for the accident, there was actually some pretty fiery discussions.

5.3 Deliberation and Verdicts

After both cases were completely covered the jury was sent from the room to deliberate on both cases. The jury returned with their verdicts about twenty minutes later. In case #2 they jury found that Laura Hernandez was 20% at fault and Michael Mackenzie was 80% at fault and they rewarded the Hernandez Estate $750,000.00.

In case #3 the jury found that Hector Lopez was 5% at fault, Encore Wire was 50% at fault, MGS Manufacturing was 40% at fault, and EWC Leasing was %5 at fault and they rewarded the plaintiff with $5 million from all three defendants.

5.4 Conclusion

When the mock trial was complete Professor Hagglund told us the actual verdicts in the two cases. In case #2 the Estate of Laura Hernandez settled for $600,000.00 and in case #3 Norma Lopez settled for $2 million.