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PRODUCT LIABILITY: An In Depth Study

An Interactive Qualifying Project

Submitted to the Faculty

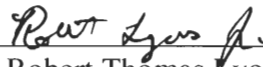
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ABSTRACT

For this Interactive Qualifying Project we made an in depth study of four cases where either personal injury or even death were caused by the result of a lack of regard for safety protocols. It was our purpose to examine each case and with our knowledge and experience as a growing engineer, place blame on the party responsible. We based our understanding of product liability and safety standards we achieved through reading An Engineer In the Courtroom, viewing the “Art of Advocacy Skills in Action Video Series” and our own personal research and understanding.

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1. Video Summaries

To begin our study we watched nine videos from the Art of Advocacy Skills in Action Series. Each video discussed a different topic on what a trial would be like for an engineer in a courtroom. The videos helped illustrate different aspects of the trials and allowed the viewer to learn how to give an expert opinion, and how the inner workings of a courtroom are accomplished.

1.1 Video 1: The Opening Statement

The opening statement is perhaps one of the most important parts of the case for a lawyer. This is the time where the lawyer must form their relationship with the jury. Opening statements in the past were boring and uninteresting but in modern times it is known as the groundbreaker and sets the tone for the rest of the case. In this video there are two examples of opening statements.

The first statement features Leonard DeKroft presenting the case of Kelly vs. Admiral Realty. In Leonard's opening statement he covers all the basics that the jury needs to know. He goes over who was involved, where it took place, and when it took place. It is important for the lawyer to present this information in the opening statement. Leonard describes how an eight-year-old boy was killed by suffocating and being crushed while playing in a gravel pit that was owned by Admiral Realty. The lawyer tries to make the jury feel bad by going into detail about how old the boy was and how he died to try and convince the jury to be on his side. This is a technique used to persuade the jury.

The next step after explaining the event is to identify the person at fault, which is Admiral Realty, and explain how they intend on proving this fault. In this case he

explains that Admiral Realty is a fault because they neglected the gravel pit and over the years it became unsafe to be near. It was just a matter of time before the pit caved in and it cost them a human beings life before they did something about it.

The second opening statement was for a case that involved a boy being hit by a truck when walking home from school. The lawyer begins by explaining the details of the case. The accident occurred in Miami, Florida, at about 3:15 in the afternoon. The boy was crossing a street and was hit by a one and a half ton truck. The lawyer used a pad of paper to draw a picture of the scene so the jury could better understand the accident. There were two witnesses and both said that the driver did not attempt to swerve out of the way of the boy, so the driver is at fault. The lawyer then discusses the injuries that were sustained. Again this makes the jury feel bad and wanting to side with the boy. The lawyer also describes the boy's life long injuries.

The opening statement is a very important part of the case for the lawyer. It sets the atmosphere and tone for the case to come. The most important things the lawyer should establish include orientation of the incident, introduce the protagonist, develop a scheme, outline the strong points on both sides, and give the jury a full understanding of the bodily injuries and property damages.

1.2 Video 2: Direct Examination

The direct examination is the part where the lawyer calls forth their witness and examines them in front of the court. Each lawyer gets a chance to question the witness to help support their version of the truth. The witness is usually well prepared by their lawyer to help their cause. The lawyer is in control of the witness during the direct

examination.

The jury is an important part of the direct examination. You should present the most important information at the beginning and the end of the direct examination to keep the jury interested. Juries are made up of common people who have no direct knowledge of the case and have neutral views on the case. But often there are technical facts that may leave the jury bored and they might lose their concentration. The lawyer must provide the necessary information and then conclude with something that will leave an impact in the jury's minds.

In this video a woman's hand was squeezed between two rollers at an industrial plant. Due to the injuries she received she was unable to continue working. The lawyer brings an expert witness to the stand to ask questions. The lawyer controls what questions are asked, so essentially the lawyer controls the witness.

Expert witnesses are usually someone who is a professional in determining something relevant to the case. Expert witnesses are good at reenacting accidents, calculating monetary damages, like the case shown in this video, and giving expert opinions on something that is relevant to the case.

When a lawyer brings a witness to the stand there are certain things they want to accomplish. The lawyer wants to grab the juror's attention by questioning the witness, showing visual aides, and setting the pace and flow. The lawyer will show evidence to support his side and then end with a conclusion. When the lawyer is questioning the witness they should use "yes" or "no" questions to prevent the witness from wandering off the subject or say something that would not support their side. The lawyer should also show the effects of the injuries and damages that the victim sustained to leave a lasting

impression on the jury.

1.3 Video 3: Additional Opening Statements

The third video talks about the opening statement again. It is emphasized that the opening statement should address the theme and pace of the case as well as grab the jury's attention and curiosity. A lawyer can grab the jury's attention by changing voice patterns, stressing certain facts or ideas, hand movements, and physical presence and location in the courtroom.

This video has two different cases with opening statements in them. The first case is about a construction worker how was injured on the job. The worker was riding a crane and the crane broke and the worker fell four stories to the ground, injuring his leg. Both the defense lawyer and the plaintiff's lawyer make an opening statement.

The defense lawyer stimulates the jury by talking about the victim but does not talk about the accident to stimulate their curiosity. The defense lawyer also creates a one-on-one relationship with the jury by telling them he will only ask questions that the jury wants to hear the answers to. Also the defense lawyer admits some weaknesses to his case to show the jury that he wants to show honesty when presenting his defense.

The plaintiff's lawyer gives his opening statement by getting straight to the point. He talks about how the crane works and uses many hand gestures to illustrate it. This will give the jury a common sense approach to the accident. He does not use any technical terms in describing the crane. This is a good approach because the jury can understand the crane failure without bringing in an expert. Then the lawyer describes the details of

how the accident occurred and who should be at fault.

Both of these lawyers used techniques that we discussed in the first opening statement video. The lawyers established a relationship with the jury, they established trust, and used hand gestures, and set the tone for the case to come.

In the second case a boy is injured by a baseball pitching machine. The pitching arm of the machine was wound up and being held by a spring. The machine was not plugged in and it was not in use at the time. The boy brushed up against the machine and the pitching arm was released and it struck the boy in the head.

The opening statement given by the lawyer in this case starts by quickly over viewing the case and then goes through it again in much greater detail. Unlike the first opening statements we heard from the first case the lawyer in this case uses very descriptive words. He tries to get the jury to see from the little boy's perspective. The lawyer sets the tone in the courtroom by using a soft, mellow voice to create a mood of somberness. The lawyer also discusses the injuries to the boy and how they will affect him for the rest of his life because the manufacturer of the baseball pitching machine neglected a safety default because it cost too much money to fix.

1.4 Video 4: Cross Examination

The cross examination portion of the trial is when the lawyer receives a chance to question the witness's of the opposition. A lawyer often must be aggressive towards the witness during the cross examination. This is unlike the direct examination when the lawyer is strict and controlling over the witness in order to control the content in the case. The lawyer must again ask "yes" or "no" questions to get their point across and also to

prevent the witness from saying too much to support their side of the story.

If an expert witness is brought to the stand, it is the lawyer's job to find holes in the witness's story to discredit the witness. The lawyer should mention facts that the witness is unaware of, where is the expert witness's report on the case if they even wrote one, and did the expert witness even do any research on the case and the material they are talking about. Any faults in the expert witness's professionalism should also be brought to the attention of the jury.

In this video there are two different cases. The first case was a farming accident. The lawyer cross-examines a witness to attack his credibility as an expert witness. The second case deals with a man being killed in a restricted area. The worker was not cleared to work in an area but did so anyway.

A successful cross examination includes a controlled pace, a controlled witness, and control over what the jury hears. The cross-examination should be used to discredit your opponent's theories and pride. The lawyer should be able to find holes in the witness and show the jury that you are in control.

1.5 Video 5: Cross Examination of Non-Medical Experts

Many times in a court case an expert witness will be called to the stand. Some examples of expert witnesses are doctors, economists, inspectors, and engineers. These witnesses have usually taken the stand before and may feel comfortable in a courtroom. The lawyer must have psychological control at all times and cannot be tentative or hesitant.

In this video, the lawyer, Mr. Miller, is cross-examining an expert witness on the

stand. He uses his size and presence to intimidate the witness. He is rude when asking questions to the witness and Mr. Miller notes to the jury that this witness is being paid to testify in the courtroom. This is a technique to discredit the defense. It is also noted that this isn't the first time that this expert witness has been in a courtroom testifying for a defense team. Mr. Miller discredits the witness by saying he is disorganized because the notes he took on the case were misplaced and thrown away.

It is important for the lawyer to have control over the expert witness by exercising good eye contact, keeping a good pace, and creating a presence in the courtroom just like Mr. Miller has done in this video. The lawyer will want to compare the witness's answers to their deposition. Establishing contradictions and finding those holes in the witness is a good way to discredit the witness. The lawyer should not attack the witness personally but should attack professionally.

1.6 Video 6: The Deposition

The deposition is the testimony under oath by the witness. The deposition is not held in the courtroom, it is held in a conference room. The only people present are the lawyers from each side, a scribe who will record everything said, also known as a court stenographer, and the person giving the deposition. The deposition is considered evidence for the trial.

Depositions are usually done to establish facts and to find the origins of these facts. There are several guidelines to follow when giving a deposition: never volunteer any information, keep answers brief, be direct, and wait on the explanation until asked to discuss the question in detail. The lawyers will often try to confuse the witness by using

different words and wording their questions differently. It is important to ask the lawyer to clarify something that is unclear.

Honesty is very important when doing a deposition. Anything you add or remove can be used against you later in court. It is ok to give an answer such as, “I don’t know” when you are being asked a question. Always take some time when replying to a question to think it over.

1.7 Video 7: Conclusion

The conclusion is the closing arguments of the case and it is the last chance the lawyers have to persuade the jurors. The closing argument is the opposite of the opening statement as in the jury already knows all the facts and evidence. The lawyers are now able to use any persuasive techniques or skills that they possess to try and persuade the jury to their side. Body language is an extremely valuable tool for the concluding remarks. The closing words should be well thought out in order to create a vivid picture in the minds of the jurors.

There are many techniques for a successful closing statement. The closing statements should provide a detailed description of all the evidence and this should be presented as a story. If the lawyer is a good story teller it will leave a picture in the juror’s minds. Another technique is to put a new spin on a recognizable situation to get the juror’s attention, this is known as alienation.

In this video a young woman was severely burned in an explosion. In this case it was important for the lawyer to express the pain and discomfort this woman felt in the

closing arguments to leave an impression on the jury. This may persuade the jury to take the side of the woman because they feel bad for her injuries.

At the end of the conclusion the lawyer should suck up to the jury by letting them know how important they are, and that they are doing a great service for society. The lawyer should say anything else that butter up the jury in his favor.

1.8 Video 8: Summation

The summation is also known as the closing of the conclusion. It can be a pivotal moment in the case. This is the point where a summary of the principle points are given. At this point in the trial the jury and the lawyers know each other well and they should feel comfortable around each other. That means there is no need for the lawyer to reintroduce himself because the jury already knows who he is. Usually in the summation the lawyer brings up the issue of product liability. The lawyers can use visual aides to compliment evidence or even a podium to project an aura of power, but podiums usually are not used because they act as a barrier between the jury and the lawyer.

In this video the lawyer brings up something that he asked the jurors during jury selection. He refreshed their memory of a question that was asked about if they would support his evidence. This is a great connection to the jury and creates some good principles for his argument. The lawyer skims over the facts of the case but does not want to go into details about the facts because the jury has already heard them and he does not want to bore them with repetition.

During the summation the lawyer should go over the facts about money figures

and property damages. The lawyer should use the opportunity to persuade the jury to side with him. Doctor bills and dentist bills should also be brought up in this section.

1.9 Video 9: 60 Minutes – “A Classic Cover-Up”

The 1964-1970 Ford Mustang is a death trap. There is a major defect with these classic mustangs. Because of the design of the location of the gas tank any slight collision to the rear of the Ford Mustang could cause an explosion. This is something that could have been prevented by Ford but it chose not to because it would have cost them too much money to fix the problem. Instead of spending more money on the Mustang to save lives and increase the safety of the car Ford decided that it was ok for people to be killed because of their selfishness.

The problem with the '64-'70 Ford Mustang was the design of the gas tank. It was designed to be a drop in gas tank that mounted to the floor of the trunk. This design was to save money for the Ford Company. It was inexpensive to produce and easy to install. Ford was the only American car company to use this fuel tank design. The design was dropped in 1971.

On July, 15, Harold Gielow was driving his 1966 Ford Mustang on the freeway during a rainy day. The car hydroplaned and spun out of control crossing into the oncoming lane of traffic. Harold's mustang was struck from behind by an oncoming car and exploding into flames. Harold was killed in the explosion. He was burned to death while engulfed in flames from the burning mustang.

Ford is at fault for not producing a safe and reliable car. The mid to late 1960's

Ford Mustangs are now known as fireballs because they have a faulty fuel tank location. Ford has been sued 70 times by families of people who have been burned in mustang accidents. Lee Iacocca was the president of Ford at the time and the father of the mustang. He said that safety was not a major concern in automobiles during the late '60s. He believes that not only the mustang had technical and safety problems in those days. But the mustang did take many lives.

The worst part about it is that the engineers knew about the faulty fuel tank location but did nothing about it. There is evidence that during the mustang crash tests the gas tank would rupture and it would send gasoline squirting into the passenger seat of the car. But nothing was done due to cost issues. It was important that the mustang was to be released before other competitor's released their sport vehicles so the mustang was pushed into production.

Lee Iacocca was quoted as saying. "If you want safety, buy a new car." Harold Gielow's family is now looking into suing the Ford Company. The Gielow family is trying to persuade people to boycott classic mustangs and not drive the late '60s model mustang on the road.

2. An Engineer in the Courtroom

An Engineer in the Courtroom is a book written by William J. Lux. This book is meant to be a guide to engineers who might find themselves in the position of going to court on the side of either the plaintiff or defense. Mr. Lux goes over all types of scenarios and how to handle yourself in all stages of the litigation process. He pays particular attention to how the engineer can help the lawyer to achieve his goals if they

work together and understand each other.

2.1 Chapter 1: Introduction

Being called into the courtroom to testify can be a scary experience, especially if you do not know what to expect. If the trial is about you being sued due to injury or loss caused by one of your products, it would be very likely that you would have to go into the courtroom and testify on behalf of your product. It is important for you, as an engineer, to know what to expect in the courtroom and also what is expected of you.

If you are being sued, it can seem that the engineer, you, is being taken advantage of by the court system. You may feel that even though you designed a good product, one to the best of your ability, it has still failed. You might think, ‘Why should I ever bother to design anything if I’m only going to get sued?’ By knowing how the Litigation system works, an engineer will realize that it may not be that he designed a bad product at all, it may just be a miss understanding. The engineer needs to realize that litigation itself does not mean you have designed a bad product, it could mean this, or it could mean that the plaintiff does not have a good claim and as an engineer you can show this.

One thing you need to remember is that even though the court system is not perfect, it has come a long way and is still improving as we speak. Its amazing, if you think about it, that the legal system we have now originally developed from the notion that if you left your neighbor alone, there was a good chance he would leave you alone. There have been many legal systems tried throughout history, some worked and some failed. One of the oldest is Hammarabi’s code which is “An eye for an eye, and a tooth

for a tooth.” . This did not work as it punished one misdeed with another and it did nothing to stop the first misdeed from happening. Other early attempts at legal systems were the Ten Commandments and, later on, the Magna Carta. All of these early attempts at a framework of law have shaped our society today and helped to lay the groundwork for our legal system we now use. We now use the Constitution.

2.2 Chapter 2: The Nature of Accidents

Next the book moved on to the term “accident”. This is a very difficult point as there are many individual interpretations of this word. In the book, the author shows a good definition by giving two points that an accident must meet. The first point is that it must be “an occurrence that is unexpected”. To narrow the definition down more, the second point it must meet is “an occurrence that causes loss or injury, which can be expressed in some form of economic terms”. We must take these two conditions into account when we look at accidents.

There are many types of accidents, but they can be broken into many sub-categories, some of which are collisions and slip and fall accidents. Collisions are when two bodies try to occupy the same space. The typical example would be a car accident although there are many other types of accidents that are considered collisions. Other accidents include, but are not limited to, airplane crashes, vehicles hitting non-moving objects, a vehicle hitting a person, or a person running into another person.

Another kind of accident that can occur is a slip and fall type of accident. Slip and fall accidents include, but are not limited to, tripping, scuffing, and a physical

malfunction of the person. Another possible slip and fall accident can be from the result of dizziness when someone has lost his or her balance or directional control either partially or fully. Also included in the slip and fall accidents are loss of step support or falling from a ladder or step.

Thirdly, there is loss of control accidents. A loss of control accident could be where the brakes on your car malfunction or maybe your steering no longer works. Also included here is “jumping into gear” or the vehicle all of a sudden will start moving without any input. These are called inadvertent motion accidents. You need to be careful to understand that inadvertent motion is when the vehicle moves under its own power but does not include rolling downhill on a slope. Accidents by loss of control are any accident where a control system has failed.

Being hit by a falling or rolling object is a fourth category of accidents. Being hit by a steel girder which has fallen off of a crane fits in here. A vehicle rolling down a hill and hitting you also fits.

Suffocation is also a type of accident. A suffocation accident can include drowning, electrocution, poisoning, shock and vibration, entanglement, cuts and abrasions, fire (which includes chemical burns, explosions, radiation, and burns from contact with hot surfaces) and mechanical failure.

Another type of accident is being struck by a projectile. Included in this would be firearms and other types of projectile tools such as a bow and arrow. A special case of a being hit by a projectile accident is war. In war, people are expected to be injured and killed so it would not be an accident. War also has its own rules as to the injuries and damages and are in a totally different class as most accidents.

There are also Natural and Environmental Factors. These are a large cause of accidents as nature is unpredictable. Included here are injuries or death due to heat, cold, wind, lightning and animal attacks.

Lastly, there is a category for homicide, the intentional killing of another human being. There are two special cases of homicide which are legal intervention, or capital punishment, or suicide, the intentional taking of one's own life.

We must realize that not all accidents fit into the given categories. As time goes on and technology progresses, new types of accidents will occur and the categories will need to be reconstructed as needed. Even now, there are accidents that can happen that are not listed and we will take these as they come and classify them, even if it means starting a new category.

2.3 Chapter 3: Why go to court?

The author then moves on to talk about the reasons why we go to court. The main reason is that society and the people in it are not perfect and this leads to disagreements. These disagreements need to be solved in a civilized way and we have created the organized court of law to fill this need. Over the years, laws have been formed to regulate who is at fault and who should be compensated. Here is a summary:

1. The product must meet the expectations of the buyer and the user.
2. The product must not be unreasonably dangerous.
3. The product must not be defective.
4. The product must warn of hidden or unexpected dangers.

5. The product must be manufactured according to the specifications.
6. The product must not be misrepresented
7. Proper instructions for safe use and operation must accompany the product.

There are also some conditions that the user of the product must follow:

1. He must use the product according to the instructions and warnings provided.
2. He must not misuse the product in any way.
3. He must maintain, repair, and inspect the product according to the instructions.

In certain cases, the person who is the one at fault will be unable to pay for the complete amount of damages and the plaintiff may go after the individual or company who is best able to pay for the damages.

2.4 Chapter 4: Avoiding Litigation

The best way to avoid being sued is to avoid litigation all together. If there has not been an accident then there cannot be any litigation. There are six main ways to avoiding litigation. They are:

1. Avoid the accident.
2. Protect from the accident.
3. Make the accident safe.
4. Warn of the impending accident.
5. Warn of the possibility of the accident.
6. Protect the used from the accident if it should happen.

As I said above, if there is no accident, there can be no litigation. Avoiding the accident is just that. The design of the accident should be such that it will prevent future accidents.

If it is not possible to completely prevent the accident will happen, you should design the product so that you take some measure to protect when the accident does happen. You need to be aware of “ad absurdum” which is when too many safety devices have been added and they complicate the design, outweigh the benefits, or make the machine work at a less productive pace.

If you know you cannot prevent the accident or protect against it, you need to at least design the product so that it will make the accident safe. If there is no way to do the above, you need to have clear warning about the possibly accident and take any measure possibly to protect the user if the accident should happen in the future.

2.5 Chapter 5: The Litigation Process

Next the author moves on to the actual litigation process. The order of events is the claim, the response and defense, the discovery process, and the trial. The book goes in to great detail, but at this time we did not think it is feasible to go into the same detail. Here is a brief overview of the litigation process. The claim consists of the summons and the complaint. The plaintiff will file suit against the defendant when they feel there has been a wrongdoing done towards them. If the court decides the case is legitimate, the offending party is notified with a summons that they are being sued.

In the response, the defendant either agrees with the claim or denies the claim (all or most). Usually, if it is the first such claim, a settlement is reached out of court. In all other cases, litigation will move forward to the discovery process.

The discovery process is when both the plaintiff and defendant build their cases in preparation for the trial. The discovery process can be very different in the amount of time it will take either side to get ready for the trial. Included in the discovery process are the interrogatories, which is where each side asks basic questions about the case and they find the answers. These will be the facts of the case and they cannot be disputed. This is usually the who, what, when, and where of the case. Also included in the discovery process are requests for admission, requests for production, inspections, and last but not least, depositions.

After both sides have completed the discovery process, they move on to trial. At a litigation trial, both sides try to prove their case to a jury who will decide who is at fault. The jury has the power to award compensatory and punitive damages as they decide is right. The judge has final say on the amount of the reward. This is the end of the litigation process.

2.6 Chapter 6: Engineers and Engineering Information

In a product liability case, some may argue that the most important person to either side is the engineer. Engineers have expertise and knowledge in areas that most lawyers will not. An engineer knows why a product was built a certain way and knows

of other ways to do the same thing. He can give insight into why certain decisions were made concerning the design of a product.

They are also important as they can read design plans and blueprints and tell if a product was designed correctly and safely. They can determine if the defect was in the design or happened when the product was being manufactured. When it comes to litigation, this is an important thing to know.

Engineers are important to both sides of the case. The plaintiff will have engineers who will testify that the product was defective either in design or by how it was manufactured. The plaintiff will try to show that part of the product was defective and they will offer an alternative to the current design. They will also give the reasons why they feel their new design is superior and would have prevented the accident. The defendant will try to do the opposite, naturally. The defendant's engineers will try to prove that the product was correctly designed and manufactured and the person using it contributed to the accident. They will try to show why the design proposed by the plaintiff will not work and the current design is better.

Lawyers will usually try to find engineers who were either in charge of the design for the specific product in question or those who were deeply involved in the design. For them, it is best to get those who were involved as they will know the reasons for certain decisions. You can use any engineer but it just makes more sense to have someone who was involved with that product as they have more knowledge of it.

Sometimes when it comes to looking for information, there will be none. While sometimes it may be that someone destroyed the information intentionally, usually it is just lost in the normal day-to-day activities. If you are asked a question where you are

not sure of the answer, it is best to say you are not sure and not guess. You need to make sure that you know for sure about something if you are going to say it. If you are going to make a statement as a fact, you need to be 100% sure that it is a fact.

An engineer can be either a fact witness or an expert witness in a trial. If they are a fact witness, they can only comment on the facts. If they are an expert witness, he or she can give their opinions any questions asked of them pertaining to the case.

2.7 Chapter 7: How the Engineer can help the Attorney

There are many responsibilities the engineer can undertake in trials, usually focusing on engineering information and how this can help the attorney. Engineers are used in product liability cases as they have knowledge in areas the attorney may not. The engineer will know why a product was built a certain way and if there is indeed a defect in the design of the product. He will know why the product was built in a certain way and why alternative ways to build it may have been passed over. The plaintiff uses engineers to testify that the product was defective either in the design or manufacturing process. The defendant needs engineers to testify to the exact opposite to tell juries how the machine is designed correctly and that user error was the reason for the accident. Usually, the head engineer over the product is the one the lawyer likes to find, as he will have the greatest overall knowledge of the product. Finding engineers who worked on the design is always the best course of action as they were there for the development and will know why certain decisions were made.

Without a doubt, engineers and attorneys think in vastly different ways. Engineers think more with physical things and numbers while attorneys deal more with ideas and concepts. The best way for them to work together is for them both to be patient and try to explain things in a way the other party will understand. This works now only with the attorney, but with the judge and jury as well.

While in the courtroom, the engineer must realize that it is still essentially a legal matter, no matter how important the engineering data may be. The engineer needs to take the role of a helper and let the attorney be the leader. While he is in charge, the attorney will still need the help of the expert, in this case the engineer. He must at all times give the attorney his honest and truthful answers. If he does not know something, he must say this. By doing this, the attorney will be able to do the best possible job for his client.

There are many other ways an engineer can help out the attorney. One of the most helpful is being able to explain the design and development process used and how certain decisions and compromises on the design were decided upon. He also will be able to explain how the product was tested and the results of this. He will be able to show the interaction between the operator and the machine. Another key area the engineer can help in is with the reconstruction of the accident and explaining the results from that. If an attorney had no engineer to help him, he might become lost in the concepts, numbers, and diagrams associated with the product. An engineer is the best way for any attorney to deal with these complex things.

2.8 Chapter 8: The Discovery Process

The discovery process is the time when both parties try to discover as much information as possible in preparation for the trial. This is the time between when the charges have been pressed and the trial begins. Here are the parts of the discovery process:

1. Interrogatories
2. Inspections
3. Investigations
4. Requests for the production
5. Requests for admission
6. Depositions

The interrogatories are like questionnaires. They are lists of questions that need to be answered truthfully about anything dealing with the case. These can be questions like ‘what is the history of accidents in this model’ or ‘were there any previous designs of this model’. There may be questions pertaining to other possible designs that may have been debated over in the design process. The engineer is helpful to the attorney here to explain the answers which may be in a complicated technical language. Interrogatories will produce a lot of information for both sides. While it may not seem like this much information is needed, there are reasons that it is.

There will also be inspections of the machine at fault and the accident site to find information that may be important. The lawyers will ask many questions to people involved in either the accident or the design and manufacture of the machine. They will

also interview many people and in some cases ask for depositions, which we will go into more detail of in the next section. All of this produces lots of information.

You need to remember that the lawyer on the plaintiff's side needs to show that the plaintiff incurred injuries and economic losses as a result of a certain feature of the machine. The lawyer needs to show that the feature was the reason for the loss and that the feature was defective either in design or in manufacturing. He needs to prove the feature was defective when it left the manufacturer and was not made defective by some other means. He needs to show that alternative designs would now have hurt the plaintiff, that it would not have been more costly to implement, and that it would make a significant improvement in the safety of the machine.

Seeing how much he needs to prove, you can see why the plaintiff wants, and needs, so much information. The defendant's lawyer is working just as hard and making his case to stop the defendant from being sued. He must prove that the plaintiff's claims are not valid, the fault of the accident is not as the plaintiff claims and lies elsewhere, and that there is no defect on the part of the machine and its operations.

Since the answers to the questions in the discovery process are very important and could be vital to either side, there are three cautions to keep in mind. First and foremost, so that you can answer as truthfully as possible, avoid inflexible and infinite words such as always, never, all, none, impossible, absolute, and certainly. Secondly, don't stray from main issues of the matter, and finally, watch out for careless use of generic, vernacular, or idiomatic terms.

2.9 Chapter 9: The Deposition

Before the trial begins, depositions may be taken from those people involved in the case. While they are part of the discovery process, they have many uses in the trial. Depositions are usually a witness's side of the story about the accident. While they may contain important and vital information about the case, they are not the only thing the decision in the trial will rest on.

There are six general rules to follow when giving a deposition. The first one is to listen intently to the question. The lawyer may be trying to get specific information or the question may be worded a little bit tricky. If you get confused or do not understand the question, just say so. They will repeat the question or re-phrase it as necessary.

The next rule is to pause before you answer the question. You want to pause for three reasons. First, you want to make sure you have thought your answer through so that you can make sure you give the proper and correct answer. Second, you want to give your attorney time to object to the question if he decides he needs to do so. And finally, you want to feel that you are controlling the pace of the deposition. You want to take your time and not be hurried by the lawyer and make a mistake.

Thirdly, only answer the question that is asked. For example, if the attorney asks if you know the date, you should only answer 'yes' or 'no'. Giving him the date is not answering the question in the way you should. Another thing to make sure is that if the attorney asks if you have an opinion, the answer should also be 'yes' or 'no'. If the attorney asks for your opinion then give it, but do not answer more than the question is asking. The simpler answer, the better.

Fourth, you want to always answer truthfully and to the best of your knowledge and ability. While sometimes it may seem like a good idea to try to make the information look better for your case, this is frowned upon. This looks very bad to a judge and even worse to a jury.

The next rule is do not volunteer any information. As a rule of thumb, only speak when spoken to. If you add extra information onto the end of a statement, it could be harmful to your client or case without you knowing it.

Finally, do not argue or advocate during a deposition. Let the attorneys argue, that is their job. You are there only to answer question to which you have knowledge. If you believe that something has been said that is in your expertise that is incorrect, say so, but do not argue. Arguing will not make your point.

The reasons for depositions are for the purpose of discovery, to establish facts, to determine the opinions of the expert witnesses, to seek information and bases to impeach the witness, if such an opportunity exists, to pin down testimony so it may not be changed during the trial, to preserve testimony for the trial, and finally, the attorney may use the deposition to gain knowledge of the plans or strategy of his or her opponent.

2.10 Chapter 10: The Trial

The trial will only happen if the two opposing parties fail to reach an agreement of their own outside of the court. During the trial, the two sides present their arguments and findings to a judge and jury. They jury will make a decision and the two sides will

have to agree to it. There can also be appeals, though they can be a lengthy and expensive process to undertake.

The trial can only take place once the pre-trial activities such as interrogatories and depositions have been completed. Once the defendant and plaintiff are ready to argue their cases, they go to trial. The trial process starts with the jury selection. Depending on the trial, the jury can be from six to twelve people who are chosen through a process of elimination. This jury selection process is to try to get an unbiased and balanced jury.

Once the jury is chosen, opening statements will begin. The purpose of this is for each side to tell the judge and jury what they hope to show during the trial. Usually the plaintiff's lawyer goes first followed by the defendant's lawyer. In the plaintiff's opening statement, the attorney will talk about why the loss was not the plaintiff's fault and why the defendant caused it. The defendant will try to get the jury to start thinking about why it was not the defendant's fault and why it was either caused by an error on the plaintiff's part or by some other outside event.

When the opening statements are complete, the plaintiff will present his case followed by the defendant. The plaintiff will try to show the story of the accident and how it happened. Usually he will show medical bills pertaining to repairing the injuries that were sustained during the accident and possibly lost wages or any other losses the plaintiff sustained due to the accident. He will present what he thinks was defective about the said machine and how he thinks it could have been better designed through the use of expert witnesses. He will have testimonies to show that the plaintiff did indeed sustain injuries, lost wages, and if applicable, that he has lost earning ability or was

disabled. In the end, the plaintiff tries bring all of these elements together into a package that on a whole says that the defense is responsible for the accident and is liable for the costs of injury and damage. The plaintiff will then rest his case and let the defense begin.

The defense lawyer now will try to prove that the plaintiff is wrong. The defense does this by presenting testimony about the machines and its background, testimony about the manufacturer and his activities in the matter of safety, testimony of witnesses to the incident that do not agree with the scenario of the plaintiff and his witnesses, and expert testimony showing why the machine was safe and not defective. The defense will also present testimony against the medical and economic claims to refute claims made by the opponent. Once the defense feels he has sufficiently proven his point, he will rest his case and move on to closing arguments.

Before the final arguments can begin, the judge will tell the jury that they have now heard all of the evidence in the trial. The closing arguments give each attorney one last chance to summarize the evidence and show once more why their side is correct. When this is over, the jury will make a decision on the case after discussing all pertinent information. They need to do this in an unbiased way. When they have gone over all of the information and vote on a verdict, they will let the court know by way of the foreman announcing the verdict to all.

2.11 Chapter 11: Questions

In litigation cases and everything surrounding them, many questions are asked. There are many situations in which they are asked, many people asking them, many types

of questions, and many ways in which they are asked. Questions are asked as simple inquiries, legal inquiries, and litigation matters. A simple inquiry is asking if you know something about a certain subject. A legal inquiry is asking for your opinion in a legal sense. In litigation matters, you should consult a legal expert when answering as you are an engineering expert and may not be well versed in law.

When you move on to types of questions, they can usually be grouped into specific or general, open or closed, leading or non-leading, formal or casual, polite or serious, rhetorical or interrogating, simple or complex, and, probing and outlining. A general question would be something along the lines of 'Is it day or night?' while a specific question is 'What time is it right now?' Closed questions are a yes or no answer while open questions allow you to elaborate. Leading questions will try to lead you in the direction the questioner wants you to go. The difference between formal and casual is basically whether it is on or off the record. If there is going to be a transcript of the questioning it will be a formal questioning. A simple question will have one part of the question while a complex question will have many parts to answer. Lawyers will use complex questions to try to get the party they are asking to say what they want, whether they mean to say it or not. Finally, there are probing and outlining questions. Probing questions are asked to get information that the lawyer does not know about out of a testifier. Outlining questions are used to show the court the result of the probing questions once the information has come out.

You not only need to focus on the words you are saying, but also of the emphasis you may put on certain words or phrases. You need to be careful as this emphasis may

either give something away you otherwise would not have or it may falsely lead someone to draw the wrong conclusions.

2.12 Chapter 12: Accident Reconstruction

In a trial, good accident reconstruction can play a key role. Until an accident has been reconstructed, there may be information that would never have been found or thought about. A good engineer should be able to take in all of the physical evidence and from it be able to produce an extremely accurate reconstruction. An engineer will look at things such as skid marks, the landscape, and the distance something rolled. By doing this, they can rule out certain things will making educated guesses as to what happened.

It is usually hoped that all the evidence, testimonies, and personal recollections fit together to support one reconstruction. Usually there may be conflicts between testimonies due to the fact that it was a long time ago or they may not have been paying close attention when the accident happened.

There are some guidelines to follow if you are to make an accurate reconstruction:

1. The accident must be square with the laws of physics. If it could not have physically happened, then the testimony must be false.
2. The reconstruction scenario should have good agreement with the mass of the information and evidence available.
3. The reconstruction should be able to be explained to lay people-jurors for instance
4. Reconstructions should also be free of bias

5. Accident reconstructions are a matter of litigation and can be disputed by the opposing party

It is the engineer's job to perform the reconstruction to the best of his ability in a truthful, unbiased, easy to understand way.

2.13 Chapter 13: Definitions and Techniques Employed by Attorneys

Like an engineer, attorneys speak their own "language" and it is helpful to know and understand these terms so that there are no misunderstandings. A basic understanding of the more common definitions used solely in the courtroom is usually all that is needed to help bridge this gap.

An adverse witness is a witness testifying by the opposing attorney, but not by the attorney he is assisting, or for whom he is consulting. When they use the term answer, it can be taken as being interchangeable with response. Arbitration or Mediation is when the courts are too busy to hear the case in court and a mediator or an arbitrator makes the decision on who is at fault. Usually this is only done in cases where damages are of smaller monetary values. In the courtroom, you will hear the term bar used a lot. Bar has three main uses with respect to the court. First, it is used to denote anywhere that legal activity is taking place. Secondly, it refers to a group of attorneys in a certain geographical region. Lastly, when used as a verb, to bar means to prevent or to keep out, as in to bar certain evidence or testimony. The bench is a reference to the location of the judge in the courtroom. Best evidence is a term used to talk about the acceptability or admissibility of evidence into the case. A breach is a break in the chain of legal activity.

Burden of Proof is that the opposing party has the burden, or obligation, to pin the wrongdoing on the defendant. To charge a jury means to instruct a jury in legal matters and the judge usually does this. Civil Law is the section of law that deals with relationships between people. Sometimes, a crime can be tried in both criminal and civil court. A complaint is the formal name for the list of claims against the defendant. Due Process is the steps in the legal process. This says that if you are charged with something then you have the right to a trial and to an attorney.

Evidence is any information that is used to prove or disprove a disputed fact. Evidence has many forms, some of which are documents, pictures, testimony, and accident reconstruction. An expert witness is a witness who testifies for a specific side in a dispute in an area in which they have expertise. They are used to help a jury understand the technical aspects of the matter at hand. Forensic literally means “belonging to the law”. Therefore, forensic science is “science belonging to the law” and is used to present evidence in certain cases to settle matters or disputed evidence. Hearsay is term that deals with the admissibility of testimony from a witness who may be lying or presenting irrelevant information. It is also known as the Hearsay Rule. Hidden defects are defects that are hidden from view or not easily detectable though under the law of strict liability, the manufacturer is still responsible for them.

2.14 *Chapter 14: War Stories*

War stories are stories from experiences in court, at least in this case. They are based in truth but over time they tend to get distorted. Depending on the intent, they can

make someone look bad, to be humorous, or to educate another attorney. The stories shown in this chapter are meant to educate the engineer to what may happen in his or her future appearances in the courtroom.

One story the author talks about is the seventeen-hour deposition that occurred because of a scheduling mistake. From that time forward, the lawyer now has requirements for the length of time which he will be deposed. He also talks about the deposition at the airport gate because both attorneys were traveling a long distance to get to the witness.

He also talks about expert witnesses. He talks about how sometimes they have now proof as to why one thing did happen but they can prove why something did not happen. To do this, they use mathematics, physics, and general engineering principles and apply them to an accident to determine if it was possible. They can say if something is possible but usually cannot say exactly how or why it happened.

Also talked about was how a judge one time called an expert witness up the bench after his testimony. The lawyers were all nervous because they did not know what was going to happen. In reality they had a mutual acquaintance and the judge was being nice. The judge asked the witness to not say what they talked about for a while so to keep the attorneys guessing and not knowing.

The author talks about many war stories in this chapter, and all of them have something to learn in them. Many valuable lessons can be learned by talking to those who have gone through the ordeal before you and it is always good to talk to these people before you have to do the same.

3. Timothy Sandsbury, Plaintiff vs. RANPAK Corporation and ALLES Corporation, Defendants.

3.1 *Background*

On January 24, 1997, Timothy Sandsbury came into work for his shift almost 2 hours early as he usually did. He was informed that the PADPAK machine had been having problems and was shredding paper abnormally and was currently jammed. Since he had experience with jams on his machine, which was a similar machine, and had fixed a jam on the machine which the accident occurred on, he volunteered to one of his supervisors to fix it. Mr. Sandsbury had not had any formal training on any of the PADPAK machines and was not certified or trained to work on the machine.

3.2 *General Accident Description*

Mr. Sandsbury approached the machine from the right, which was the side opposite the location of the warning signs. He then pressed the emergency stop button and began to clear the jam. To do this he stuck his left hand into the machine, grabbed onto the paper clogging the chute and pulled it out. Once he had completed this task, he reset the machine by flicking a switch, similar to a light switch which allowed him to pull up on the emergency stop button and therefore reset the machine. He then pressed the two green buttons on each side of the control panel which he knew to be the “cut” buttons which had to be pressed simultaneously so that one hand could not be near the chute when the cutting operation began. After he pressed the two cut buttons, nothing occurred. He assumed there still might be something in the machine, so he stuck his left

hand in again without hitting the emergency stop button, at which point the blade cut his finger tips off. As stated in the Incident Investigation Report which was completed by Timothy Sandsbury's supervisor William Follett, Tim began to try to unclog a jammed machine at 1:40 PM. The result of the accident was that the tips of Timothy's index, middle and ring fingers on his left hand had been amputated due to the cutting blade coming down.



Figure 3.1: Timothy Sandsbury's amputated fingers

3.3 Depositions – Timothy Sandsbury

Timothy Sandsbury stated in his deposition that Mr. Follet informed him of the jam prior to the formal start to his shift at 3:00 PM. Timothy Sandsbury had been able to clear jams in his machine which had a slightly different function, but remained similar in

appearance and design, so he volunteered to try and fix the jammed machine. He had not had access to the machine which the accident occurred on before the night prior to the accident January 23rd which was when he first solved a jam on the machine for the lady working on it, Ms. O'Brien.

Later before discussing the accident he explained that he had not had any formal or informal training on the machines on behalf of the Millipore Corporation and that as far as he can recall the only way he found out how to use the machines was using it himself and discovering what certain buttons did. He even went as far to say that even after several years of working there where his duties had pretty much remained the same, he did not even know what some of the buttons did on the machine where the accident occurred.

He also explained the events of the accident, but did not provide a reason as to why he did not press the emergency stop button again after he realized the machine was still not functioning and decided to reach into the chute again. It was made the clear that after he pressed the two cut buttons and nothing occurred, the next action he took was to stick his hand into the chute to look for more debris inside it.

After his fingers were reattached, they were later reamputated due to complications. At which point he began to undergo further treatment for both physical and mental complications.

3.4 Investigation and Analysis

There were many things that should have been done differently, and if any one of then had been done differently then this might have been avoided. We first looked at the PADPAK corporation and what they should have done to prevent an accident of this

nature. There were two warning signs that read, “DANGER KEEP HANDS CLEAR,” and “!WARNING WATCH YOUR HANDS AND FINGERS.” There was also another under the chute that read, “DANGER KEEP HANDS CLEAR,” however that was not visible unless in a seated position. One of the reasons and need for these warnings was the machine lacked the proper safeguards. According to the safety standards set forth by OSHA the point of operation where the jam occurred should not have been accessible unless by a properly trained technician. By the picture presented below it is obvious that this requirement was not met.



Figure 3.2: Photo of a Paper Jam in PADPAK Machine #1

The gap where the paper jam occurred is not only larger than it should be, but it was so large that Timothy Sandsbury was able to reach his hand and lower arm into the machine in attempt to unclog the chute.

When being questioned by Mr. Kruczynski on behalf of RANPAK, Mr. Sandsbury admitted to never assessing the exact problem with the machine. He assumed it was a jam since it jammed the night before. However, he never admitted to testing the machine himself to see whether or not it was in fact broken. Due to the events that followed, it seems that machine was fine after all. The paper he cleared was cut, not torn and since the machine did cut his fingers once they were in the chute then machine was in proper working order, at least after he reset the machine. He stated that his machine would cut whether there was paper in it or not, however since this was a different machine, it was incorrect of him to assume the same to occur. He did not attempt to press the foot pedal, which would have loaded paper into the chute to be cut. If he had, the machine would have probably began to work properly again. Mr. Sandsbury would have known this if he had been properly trained on the EDS, Electronic Delivery System, and mode of the machine which only cuts when the paper is removed from the chute and there is more paper to be cut.

3.5 *Guarding Standards*

Through out this project we encountered various situations where it was necessary for the justice system to bring in people who were considered experts in their field of study. In each of these cases it was a mechanical engineer, however, there is an equal need throughout other cases for people of almost every profession. It would appear to the common citizen that if there is knowledge and experience to prevent accidents such as the ones that occurred in each of our four cases, then why aren't these people out there making sure that these incidents do not occur in the first place? Or why are these

machines or practices being allowed to infiltrate our everyday life if they are not safe if there are people who know that they are not safe? Shouldn't we have a better way of reviewing product safety?

Guarding standards was one of the first issues we discussed when we first started examining product liability. This seems like such a fundamental idea, however, some companies, as we have seen, have chosen to neglect their responsibility to ensure safety by simply utilizing these. Guarding standards are a set of guidelines set forth by OSHA and other organization in an effort to try to protect the people who deal with these machines everyday. One guarding standard that we found on the OSHA website discusses the point of entry of a machine.

The point of operation of machines whose operation exposes an employee to injury, shall be guarded. The guarding device shall be in conformity with any appropriate standards therefore, or, in the absence of applicable specific standards, shall be so designed and constructed as to prevent the operator from having any part of his body in the danger zone during the operating cycle. (1910.212(a)(3)(ii))

This was also found on the OSHA website, it is a definition of what exactly is considered to be a point of entry.

"Point of operations" means that point at which cutting, shaping, boring, or forming is accomplished upon the stock. (1910.211(a)(1))

This simple standard as we know is not always followed through on. In our first case not only was a machine's point of entry left unguarded but untrained employees were allowed to work on it. And in our 4th case the machine's point of entry was able to cause fatality. Now why wouldn't a company want to prevent this? We assume that they do not enjoy law suits being filed against them and it does not seem that in the grand scheme of things it would cost a great deal of time or money to apply proper guards to conform to these regulations and ensure a better chance that injury will not occur. Millipore in the first case was able to design, manufacture, and incorporate longer chutes for all their present PADPAK machines in under a week after the incident with Mr. Sandsbury. In the fourth case the access point to the point of operation was large enough for a fully grown human male to fall into it.

While going over guarding standards we found a great deal of engineering newsletters that discussed guarding standards. One such newsletter stated, "*There is no hiding from the fact that guarding is a crucial element of a machine or production line, but designing the guarding is often left until last and is not given as much thought as the parts that are seen to relate directly to productivity.*" (<http://www.engineeringtalk.com/news>) The problem we have seems to be able to be seen even through the engineering world. Since this is true, then what hope is there that these standards will ever be implemented? Machine designers and manufacturers need to make the realization that machine safety does not take a back seat to productivity. And until they realize this then there will be a higher need for expert witnesses in trials that could have been easily prevented if the machining industry would put out a little more care into their machine design.

3.6 Final Assessments

It may seem unfair to believe that RANPAK is responsible due to the fact that Timothy Sandsbury was not smart enough to service the machine safely or better yet, refrain from servicing a machine that he had no knowledge. However, it was RANPAK's responsibility to design the machine to OSHA specifications where Sandsbury could not have accessed the jam. For if there were proper safeguards then Timothy Sandsbury could not have attempted to fix the jam without putting himself at personal danger. After the accident Sandsbury stated in his deposition that Millipore added the necessary guards to the machine so that a similar injury could not occur again.

4. DALE ROEMER and SHARON ROEMER, As Parents and Next Friends of ERIC T. ROEMER, a Minor, and DALE ROEMER and SHARON ROEMER, Jointly, Plaintiffs, vs. THOMAS R. MIRABELLA, Defendant.

4.1 Background

On December 21, 1999, Thomas R. Mirabella of 5 Duval Road, in Dudley, MA and Eric Roemer of 234 Dudley Oxford Road, in Dudley MA were both traveling along Dudley Oxford Road in Dudley in opposite directions. Mr. Mirabella was driving a 1990 Chevy S-10 Pick Up Truck and Mr. Roemer was driving a 1985 Honda NIGHTHAWK S brand motorcycle.

4.2 General Accident Description

At approximately 3:20 p.m. Mr. Mirabella was making a left hand turn from Dudley Oxford Road onto Marsh Road traveling less than 30 miles per hour. As he was turning he was struck on the right side of his vehicle by Mr. Roemer on his motorcycle. Mr. Mirabella did not suffer any severe injuries; however, Mr. Roemer was left unconscious and airlifted to a hospital in Worcester, MA. The information of the accident was then recorded and sent to the accident reconstruction unit of the state police.

4.3 Depositions – Thomas R. Mirabella

Thomas Mirabella agrees with the facts stated in the general accident description, however, he takes opposition to the stated speed on Mr. Roemer. Based on the damage done to his truck he feels that Mr. Roemer would have had to be traveling at a much more excessive speed than he reported to the police. Also, Mr. Mirabella feels that he did not see Mr. Roemer coming around the bend when he looked for oncoming traffic. And for Mr. Roemer to come around the bend in time to make contact with the truck before Mr. Mirabella could finish his left hand turn would mean that he had to be traveling well beyond the legal speed limit.

4.4 Investigation and Analysis

The first complication we faced when trying to place blame for the accident in

this case was the damage done to Mr. Mirabella's truck by Mr. Roemer's motorcycle. We accept the fact that there will obviously be damage to the vehicle, it may even be possible, with the various angles, for the motorcycle to do the damage done to the passenger side of the truck.



Figure 4.1: Right Side Truck Damage

However, what we do not feel was possible to occur was the displacement of the front cab from the bed of the truck. There are two things we had to look at to determine whether or not this would have been possible, the weight of the 2 vehicles and well as their approaching speeds. The first faults we found with the polices' accident reconstruction was the weights used for the truck and motorcycle. The police used a

weight of 2,500 pounds for the truck when in fact the weight was probably over 3,300 pounds since that is what the lightest option model of that truck weighed without whatever Mr. Mirabella had in the truck as well as his own personal body weight. This creates another issue when examining the weights of the 2 vehicles, because when correcting the weight of the truck that makes it almost 5 times as heavy as the motorcycle. This massive difference made us wonder if this dynamic remodeling of the accident is even useful because of the great difference in masses. For example, how accurate can the calculation be when trying to calculate the forces acting on each other in a situation where a baseball bat hits a fly? They can't be accurate at all, and therefore we must ask ourselves, is there really even a point to using dynamic remodeling of this accident when there is such a massive difference in weight.



Figure 4.2: Displacement of Cab from Bed of the Truck

However, as shown in the figure above, the cab was offset from the bed by around 4 inches. For the motorcycle to cause this much of a displacement, we believe that it would have to have been traveling at speeds far greater than what was reported, unless the truck had prior complications, which we do not believe it did.

To take a deeper look into the dynamic remodeling of the accident, we decided to use the impulse momentum equations to check the State Police Officers calculations. Seeing that we were trying to find out the approach speeds, we used his calculations on the departure speeds. These were converted from miles per hour to meters per second. The masses of the vehicles were converted from pounds into kilograms. This alone

changes his results. Through the impulse momentum calculations, we arrived at an approach speed of 2.50 miles per hour for the truck and 46.0 miles per hour on the bike. This is drastically different than the calculations from the Trooper. While ours might not be totally accurate, we feel it is probably closer to what it was actually like. These were the speeds we determined at the point of impact. The driver of the truck reported that he saw the motorcycle 500-1000 feet away when he made the turn.



Figure 4.3: Dudley Oxford Road

Seeing that most vehicles, automobiles, are able to stop from 60 miles per hour to 0 miles per hour in less than 200 feet, the person on the bike should have had no problem coming to a complete stop. A motorcycle also stops better than an automobile does and would stop in less distance. This means there are a few possible reasons. One would be that the

person on the motorcycle was not paying attention as he was driving and did not see the truck until the last second and by then could not stop. Another possibility is that he was traveling at such a high rate of speed that when he did see the truck, he could not slow down fully from the speed he was traveling at. We would say these are the 2 best possibilities. According to our calculations, the bike was also moving faster than the speed limit when he hit the truck. I would say this is supported by the damage on the truck. The Troopers results also point to this as he had the impact speed as being 27.86 miles per hour. Just because the speed then was under the speed limit does not mean anything as he would have been using the brakes to try to slow down. The one thing that does not make any sense is that the person on the bike did not try to swerve or go around the truck. And the only thing we can conclude is that he might have been traveling so fast, he might not have even had time.

4.5 Final Assessments

Due to the change in the calculations that we discovered, we believe that Mr. Mirabella was justified in making his left hand turn at the time of the accident. This is due to the fact that even if he did see Mr. Roemer coming around the bend in the road, he would not have been able to see him long enough to properly gauge his approaching speed. So if he assumed that Mr. Roemer was traveling at the speed limit, which is a fair assessment, then he would have had time to make the turn safely. However, since the turn was not completed safely and we believe that Mr. Mirabella did not want to drive into an oncoming motorcyclist we believe that Mr. Roemer had to be traveling at excessive speeds. This explains the damage done to the truck, especially the displacement of the cab from the bed.

5. Dominic Lapenta and Tammy Lapenta vs. J&M Equipment and Transportation, Inc.

5.1 Background

On the morning of the accident, Dominic Lapenta and two friends were using a lift to raise trusses to the roof of the new house he was building. While operating the lift, it tipped over, he jumped out, and was struck and injured. He suffered many injuries and feels that the lift should have had supporting arms so that it would not have been able to tip over. Due to the lack of supporting arms and that when his original lift was much larger, Lapenta feels that J&M Equipment is responsible for his injuries as they knowingly supplied him with a lift that was not safe for the task he was performing.

5.2 General Accident Description

On the morning of December 29, 2001 a Dominic Lapenta and two friends, Kevin LaPointe and Peter Chamberlin, were working on the construction of Lapenta's new house. On this day, they were using the list to raise pre-fabricated trusses above the master bedroom. Lapenta was operating the lift while LaPointe was on the roof and Chamberlin was on the ground handling a tag line. At approximately 9:15 AM, as they were lifting one of the trusses, the lift began to tip over. Feeling the lift tipping over, Lapenta decides to jump from the lift. Upon reaching the ground, he tries to run away so as to not be injured. As he was running away, he was hit by the falling boom and forced

to the ground. He suffered serious injuries from the accident and was transported to Hartford Hospital by Life Star.

5.3 Interrogatories and Documents

5.3.1 Interrogatory of Dominic Lapenta

Dominic Lapenta, now 34, is the plaintiff in this case. According to the interrogatory, on the morning of December 29, 2001 at approximately 9:15 AM, he was operating a hoist and as he raised the truss, the machine rolled over onto his body. He had only started moments before the incident and was seated operating the controls as the machine began to roll. He had never operated this machine before. He said he had used a traditional lift in approximately 1998. He had leased another from J&M a few days earlier but it would not start. He did not read an instruction manual. He did not read or see any printed or written direction, instructions or regulation for the use of the machine. To him, the machine appeared to be in working order. He says he was physically competent of operating the machine but not qualified or knowledgeable. He says J&M “should not have entrusted lift to me, should have inquired into intended use; should have warned me of hazard; should have inquired regarding training or knowledge; should have provided me with information, warnings or literature regarding operation. He claims the defendant knew he was incompetent to operate the lift.

When asked about the worthiness of the lift, he says that it was not suitable for raising loads of this nature to these heights.

When asked about activities he can no longer do that he was able to before the

accident, he lists a few. Those that he is unable to do anymore at all are run, bend, or lift items over forty pounds. He says he can no longer play golf, go boating, and is prevented from regular exercise involving running or jogging. He is also limited or hampered from doing certain activities including dressing, chores, exercising, driving, getting up and down, negotiating stairs, and any other activities requiring the use of his legs. He also says he has some residual problems with dexterity in his right hand. He says he has pain in his back, legs, knees, and feet.

5.3.2 Police Report

Looking at the police report, we get a good description of the accident:

“12-29-01 at 0923 hrs.

At the above date and time the below listed victim was working on his house, which is under construction at the above building lot. The victim was working with two friends and they were attempting to put up trusses above the master bedroom. The victim was operating a lull (fork lift) while the one witness (Chamberlin) was on the ground handling the tag line and the other witness (LaPointe) was on the roof. As the victim attempted to lift a truss up to the roof, the fork lift tipped over. As the fork lift was tipping over, the victim attempted to jump from the drivers seat and run away from the tipping machine. As the victim was attempting to get away from the machine, the fork lift boom struck the victim forcing him to the ground. The victim suffered serious injuries from the accident and was transported to Hartford Hospital via Life Star.”

On February 13, 2002, the state trooper drove to Mount Sinai Hospital to interview the victim, Dominic Lapenta. The victim stated that he was hesitant to accept the new lift as it was much smaller and had no stabilizing arms. He said he had used lifts with stabilizing arms periodically over the past 10 years. The victim stated that he was not wearing a seat belt.

5.4 Investigations and Analysis

In this case, Dominic Lapenta, the plaintiff, is suing J&M Equipment for damages

due to his injuries after the lift he rented tipped over and hit him. He has many claims against J&M Equipment. These are:

- . J&M did not warn that the lift was hazardous.
- . J&M did not inform of proper use and possible hazards.
- . J&M did not provide an instruction manual.
- . J&M did not provide any warning, notice, or instruction to the plaintiff regarding the dangerous properties of the lift.
- . J&M did not say not to operate the lift without proper training.
- . J&M did not say the type of training required to operate the lift.
- . J&M did not warn regarding appropriate use.

He suffered many injuries, too many to list here. He feels that the defendant is wholly responsible for all of this and is asking for damages over Fifteen Thousand Dollars.

On the morning of the accident, Dominic Lapenta and two friends, Kevin LaPointe and Peter Chamberlin, were working on the construction of Lapenta's new house. On this day, they were using the lift to raise pre-fabricated trusses above the master bedroom. Lapenta was operating the lift while LaPointe was on the roof and Chamberlin was on the ground handling a tag line. As they were lifting one of the trusses, the lift began to tip over. Seeing this, Lapenta jumped from the lift and tried to run away. As he was running away, he was hit by the boom and forced to the ground. He suffered serious injuries from the accident and was transported to Hartford Hospital by Life Star.

The first report from the hospital was that he had two broken legs, a collapsed

lung, and a back injury, but should recover fine. In total, his injuries were:

- . Burst Fracture at L-2
- . Transverse Process Fracture at L-1
- . Fracture of the Left Femur, Left Tibia, Left Fibula, and Left Nasal Bone.
- . Dislocation of the Left Knee
- . Fracture of the Right and Left Ankles
- . Multiple Rib Fractures
- . Widening of Sacroiliac Joint and Symphysis
- . Multiple Lacerations on the Body

In the end, he recovered with the exception of a significant loss of the use of his legs.

After reviewing all the data and photographs, we found a few things. One was that the machine clearly said it must be used on level ground and even had a level built into it so you could check. Looking at the scene, Lapenta had used the machine on a ten-degree down slope. Figure 5.1 shows the inclination of the ground:



Figure 5.1: Picture of Level Showing 10° Downward Slope



Figure 5.2: Picture Showing Set-Up To Find Ground Inclination

Figure 5.2 shows the lift after it has tipped over. Figure 5.3 shows the built in level and Figure 5.4 shows the warnings on the lift about only using it on level ground:



Figure 5.3: Picture Showing Built-In Level On Lift

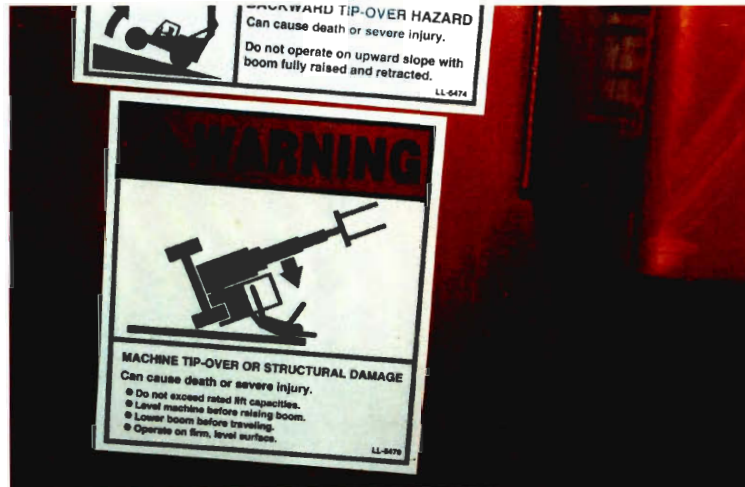


Figure 5.4: Picture Showing Warning About Only Using Machine On Level-Ground

Second, the machine clearly said that a seatbelt must be worn when operating and after the accident the seatbelt was tested and it was fully functional. Figure 5.5 and Figure 5.6 show the seatbelt warning:

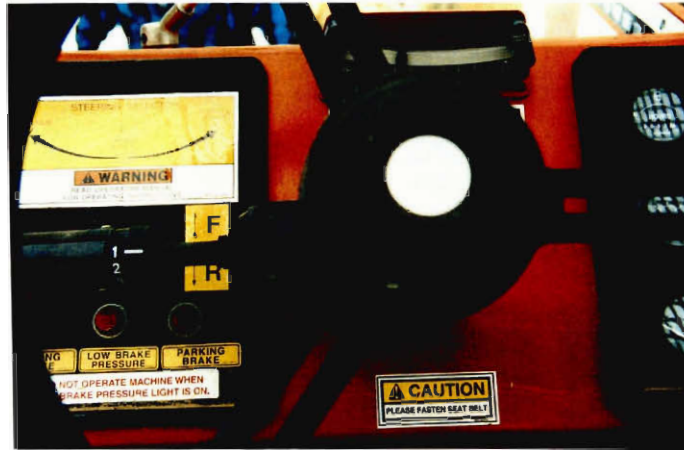


Figure 5.5: Picture Showing Warning To Always Wear The Seat Belt

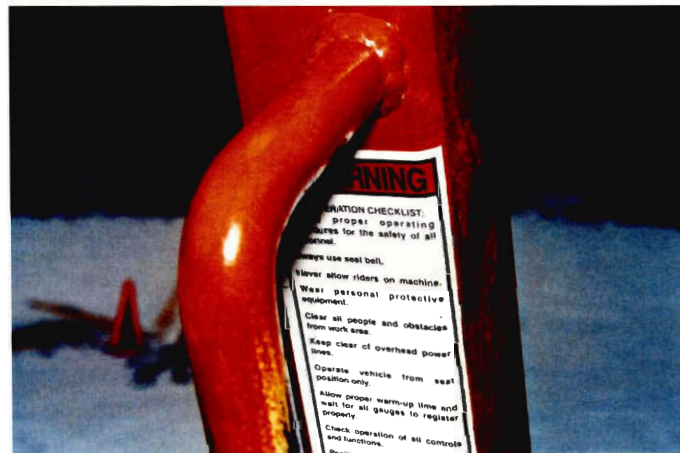


Figure 5.6: Picture Showing Second Warning To Always Wear The Seat Belt

When interviewed, Lapenta admitted that he was not wearing his seatbelt. Thirdly, Lapenta previously had a larger lift with supporting arms that had mechanical trouble. When he asked for a replacement, he received the lift that would later tip over. Lapenta said he had never used a lift without supporting arms before. Fourth, during his interview, Lapenta said he had used lifts of this type, with supporting arms, many times before and was competent as an operator of them. He also said he had no formal training in the use of a lift.

5.5 Final Assessments

When going over all the data, we have come to a few conclusions. First, we feel that the manufacturer of the machine clearly labeled the machine that it must be operated only when on level ground. They even put a level on the machine so you would know if it were on level ground. If Lapenta had been on level ground, the likelihood of the lift tipping over would have been greatly reduced if not eliminated. We also feel that the manufacturer of the machine clearly labeled that a seat belt must be worn when operating the machine. If the machine did tip over, but he was wearing his seatbelt, he would have stayed in his seat and been protected from most of his injuries. By not having his seat belt on, and more importantly, jumping out of the lift, he opened up the possibility for greater harm to himself. In this case, it was the injuries he received when the boom struck him and forced him to the ground. So in this respect, the accident is Lapenta's fault, as he did not follow the clearly marked warnings on the machine.

Second, we do feel that J&M Equipment is at fault for not inquiring as to whether or not Lapenta had any experience with this machinery. We also feel that they should have provided an instruction manual for the machine when it was delivered. We do not know if he had rented from them in the past and was asked about his competency then. If this is the case (he had rented from them before and he was asked about his competency), we feel that J&M should not have rented him another lift, never mind the first one, until he was deemed competent by receiving training. If he had rented from them before and said he had training, then we feel that J&M did no wrongdoing.

Overall, we feel that Lapenta is responsible for his injuries by not following the

clearly marked warnings on the machine. We also feel that Lapenta also could have mentioned his lack of training to J&M and asked for training, but that is a small matter. The only fault that we feel is J&M's is not finding out Lapenta's training or lack there of and in not providing an instruction manual for the machine.

6. Vicky L. Landry, Administratrix of Estate of Jeremiah Johnson vs. Grafton County, Grafton County House of Corrections, Grafton County Farm, Glenn Libby, Donald Kimball, and AG-BAG International LTD

6.1 Background

Jeremiah Johnson and Neil Tinker were inmates of the Grafton County House of Corrections, which is located near North Haverhill, New Hampshire. As part of there stay at the house of corrections both were assigned to the "farm crew" of the Grafton County Farm and would often spend several hours a day working at the farm. On June 2, 1999 Jeremiah Johnson was entangled in the rotor mechanism of an agricultural feed bagging machine. Mr. Johnson was killed after falling into the open throat of the machine. He was said to sustain, "multiple, blunt impact injuries"¹ which caused his death. Neil Tinker was working with Mr. Johnson at the time of the accident. The accident was initiated by Mr.

¹ Thomas Gilson, M.D. Deputy Chief Medical Examiner, State of New Hampshire

Johnson when he was trying to unclog the bagging machine due to the mass amount of hay that was stuck in the throat of the machine. Mr. Johnson was using a fence post to attempt to clear this clog. Mr. Johnson had climbed onto the machine in order to use his feet to kick down onto the fence post that was wedged into the throat of the machine. The machine was running during the whole incident. As Mr. Tinker was moving to shut the machine down he heard a yell for help and when he turned to look Mr. Johnson could not be seen. Mr. Johnson had fallen inside the throat of the machine.

6.2 General Accident Description

Jeremiah Johnson, age 19, died on June 2, 1999. The accident happened between 9:00 and 9:20 p.m. The machine being used was a PTO/tractor driven Ag-Bagger Model G-580 bagging machine. Mr. Johnson was atop of the Ag-Bagger machine attempting to clear the clogged material in the machine's intake throat immediately before he was killed.

Jeremiah had been working at the Grafton County Farm for slightly over a month when the accident happened. Neil had been working at the farm since the fall of 1998. There are no specific reports in regard to how much training the workers received. Mr. Johnson had previously worked for a farmer in the Meriden/Cornish area. Mr. Johnson had approximately 7.6 hours of work exposure on the day of the incident.

Mr. Johnson and Mr. Tinker were in the process of bagging chopped hay that was cut on 5/30/1999, which was three days before the incident. Loads of hay had been bagged on 5/31/1999, and due to rain on 6/1/1999 no bagging took place on that day. It

had rained on the day of the incident from 2:00 to 2:15 p.m. and approximately from 7:00 to 8:00 p.m. The reason for stating when it rained was because when it rains the hay is too wet to be collected by the bagging machine. The wet hay would clog a machine such as the Ag-Bagger G-580.

Environmental conditions such as temperature, humidity, and precipitation were not known at the time of the accident. The specific lighting conditions were also unknown. The sunset in Manchester, NH on 6/2/1999 was 8:17 p.m. and moonrise was scheduled for 11:03 p.m. It is unclear if artificial light was being used such as lamps, or headlights from the Ag-Bagger machine.

Don Kimball according to report materials is listed as the farm manager. Specific tasks are assigned to inmates by the farm managers. According to Mr. Tinker, Mr. Kimball was the one who showed him how to unplug the hopper of the bagging machine using a fence post. Mr. Johnson was most likely in the vicinity when Mr. Kimball was showing this technique. It is recorded that Mr. Kimball did not assign the inmates to work on the evening of 6/2/1999 but a man named Delton Stimson assigned them to work. Mr. Stimson was the only paid employee on the property at the time of the accident. Mr. Stimson was in the barn assisting other inmates with livestock when the accident occurred.

Reports indicate that Mr. Johnson's only responsibility when dealing with bagging hay was to run the hay chopper. Mr. Tinker was in charge of driving the silage truck and operating the bagging machine. It is stated that Mr. Johnson was assisting to operate the bagging machine because it was the last load.

6.3 Depositions

The summarizations that follow are the depositions of Glenn Libby, Donald R. Kimball, Neil P. Tinker, and Larry Inman. Each deposition has its supportive information about the case.

6.3.1 Deposition of Glenn Libby

Glenn Libby is 41 years old and he works for the Grafton County as the Superintendent of the Department of Corrections. He has held this job since March of 1999. In Mr. Libby's deposition he states that the Ag-Bagger machine is a potentially dangerous machine if it is not used properly. He blames the farm manager, Don Kimball, for not following the directions in the manual and the warnings on the machine. Mr. Libby states that Mr. Kimball's training in farm safety and prisoner safety was inadequate and that Mr. Kimball would benefit from some formal classroom training in farm safety and prisoner safety. Mr. Libby agrees that Mr. Johnson was not closely supervised at the time of his death, and that if he had had closer supervision that his actions would have been noticed and the accident may have been prevented. Prior to June 2nd, Mr. Libby felt that the way the farm manager trained inmates on machinery by walking them through the processes of operation was adequate, but since June 2nd he believes that we need more training materials and resources, such as an owner's manual, to train people.

In this deposition the prosecution was the only side to question and is trying to accuse Mr. Kimball for the fault of Mr. Johnson's death. The prosecution is stated to say that since Mr. Tinker had seen Mr. Kimball unplug the machine using a fencepost while the machine was running that it violated the warning from the manufacturer and showed bad practice to the inmates. Mr. Libby also agrees that this is bad practice but denies that

Mr. Johnson or Mr. Tinker had seen Mr. Kimball do this practice.

6.3.2 Deposition of Donald R. Kimball

Donald Richard Kimball is 46 years old and is the farm manager of the Grafton County Farm. Mr. Kimball has been an employee of the Grafton County Farm since 1981. Mr. Kimball is very experienced in farm equipment. The material being harvested in June of 1999 was haylage. Haylage is a grass mixture of alfalfa and orchard grass. In the year of 1998 the Ag-Bagger was not used to bag hay and according to Mr. Kimball the reason for this is unknown. Mr. Kimball states that before the death of Mr. Johnson the Ag-Bagger was only operated by himself and Neil Tinker. A John Deere mower was used to cut the haylage, this was Mr. Johnson's job, he was not supposed to be using the Ag-Bagger at any times. This was the first time he had used this tractor. The grass is unable to be bagged directly after it is cut because it is too wet and green; it needs to be sun-dried first. Mr. Kimball stated that the grass was dry enough to be bagged on the evening of the first day of cutting. Mr. Kimball cannot recall what he was doing on the day of Mr. Johnson's death. Mr. Johnson was running the tractor and dump truck while Mr. Tinker was running the Ag-Bagger. Mr. Kimball did say he would check up on them throughout the day. It was confirmed that it rained on the day of Mr. Johnson's death. Mr. Kimball did not view the owner's manual to see if it had advice on unclogging the machine. Mr. Kimball admits to using a fence post to unclog the machine and also admits Mr. Tinker was present at the time.

Q. "When asked how the Ag-Bagger would be cleared if it became clogged, Kimball said that it was his practice to clear it with a wooden fence post. Is that

correct?”²

A. “Yes.”³

Mr. Kimball admitted that he would sometimes stand on the hydraulic box at some point and push down with a fence post, while the machine was running. Exhibit 2 is a warning decal that is on the machine that states “Do not attempt to service, remove or unclog and material while machine is in operation.” Mr. Kimball states that the machine must be running when trying to unclog it so you can put more grass in it to make it go. Mr. Kimball is relentless to say that the method he used to unclog the machine was dangerous. One basic rule of farm safety is to stay away from rotating shafts. Mr. Kimball did not abide by this rule when trying to unclog the Ag-Bagger. Mr. Kimball was aware that there was a powerful rotating shaft in the Ag-Bagger that was capable of pulling someone into it. Mr. Kimball is the person who makes the decisions to cease work if it rains. He was aware that it had rained that day. There were instances where the machine had clogged the previous day and two days before the accident. In Exhibit 11 Mr. Hall makes reference to the third paragraph which states, “No inmate will be utilized to assist with farm duties at any time that they are not supervised by paid help; i.e., if there are no paid farm employees on duty, there will be no inmate labor utilized whatsoever.” Mr. Kimball admits to letting the inmates use the equipment without his supervision.

Paul Aldrich was the officer in charge at the time Mr. Johnson was killed. It is proven that there was no one supervising Mr. Tinker and Mr. Johnson when Mr. Johnson was killed because Mr. Stimson, the paid employee on the premises at the time, was in the barn milking the cows and Mr. Aldrich was not at the facility.

² Mr. Hall of Hall, Hess, Stewart, Murphy and Brown

³ Donald R. Kimball

The Defense tries to make a case that these operating manuals are not even offered to the inmates. Mr. Kimball states that he did not put any part of his body into the hopper but he did use a fence post to unclog the machine.

The prosecution is blaming Mr. Kimball for showing bad practice when unclogging the Ag-Bagger, not supervising the inmates while they operated the machinery, not showing them the operator's manual, and not using good judgment when it comes to checking if the grass is too wet to be bagged.

6.3.3 Deposition of Neil P. Tinker

Neil Patrick Tinker was inmate at the Grafton County House of Corrections for approximately two years. Mr. Tinker was present at the time that Jeremiah Johnson suffered a fatal injury at the Grafton County Farm. Mr. Tinker states that he believes it was his own and Jeremiah's fault for the death of Jeremiah because they were the ones climbing and working on the machine. He also states that it is "kind of dumb"⁴ that if you knew what the machine looked like and what the machine does, to stand on top of it like they were doing. Mr. Tinker states that Donnie Kimball was the man who trained him how to use the Ag-Bagger. He said the Mr. Kimball told him that if the hopper was plugged up he could use a pole to beat the material down and then throw some dry grass on top of it to unclog the machine. Mr. Kimball also showed Mr. Tinker how to do this action. Mr. Kimball initially showed him how to use a rake to jam into the machine by standing on a step that was located on the front of the Ag-Bagger. The rake had broken so they then used a cedar fence post. Mr. Tinker says that he saw and read all the warning stickers on the Ag-Bagger machine and did not follow any of the warnings. It is said that

⁴ Neil P. Tinker, Neil P. Tinker's deposition

the loads that they were bagging were often too wet that they had to dump them out on the ground. But there was no concern if the grass was too wet before they started working because it had only rained about 15 minutes that day, according to Mr. Tinker. The inmates felt that they could finish the job later that night since the grass was going to be dry.

The last time Mr. Tinker saw Mr. Johnson was when Mr. Johnson was on top of the hopper of the Ag-Bagger machine. Mr. Tinker tells the jury exactly where each foot was positioned by Mr. Johnson while he was on top of the hopper. Mr. Tinker had been standing on top of the hopper previous to Mr. Johnson in the same spot trying to unclog the machine. He had gotten tired and got down and let Mr. Johnson try to unclog the machine even though he knew it was a dangerous place to be. After watching Jeremiah try and unclog the machine, Mr. Tinker turned his back to make his way to the kill switch, and Jeremiah fell into the hopper at this precise moment.

Mr. Ewing is the defendant for Ag-Bag International and he is trying to say that the machine was not the cause of death. He brings up facts that the inmates did not have the required amount of training from Mr. Kimball to operate this type of equipment. It was found out that the inmates did receive the manual for the machine the day before the accident. The inmates were not forced to work that night but they decided to work to please the boss. One major fact about this deposition is that the inmates were only using a five-foot pole to unclog the machine which is very short for this action. It is very dangerous to be using a pole that short in this situation, not that you should be doing this anyway.

Grafton County makes a case by recalling the fact that Mr. Tinker had blamed

himself and Mr. Johnson for the death of Mr. Johnson. They both knew that what they were doing was foolish and unsafe and they are not blaming the manufacturer, the equipment, or the Grafton County Farm.

The prosecution in this case is blaming Mr. Kimball for not training the inmates properly and showing them a dangerous way to unclog the bagging machine. Also Mr. Tinker is somewhat at fault because he carelessly let Mr. Johnson climb onto the machine after watching him do the same thing.

6.3.4 Deposition of Larry Inman

Larry Inman is 52 years old and he is employed by Ag-Bag International. He has been working there since 1978. Mr. Inman describes the area that Mr. Johnson fell into as there is a conveyor that takes the cut grass and moves it into the hopper which then drops it into the front of the rotor. The rotor has many 6 inch welded fingers that can be very dangerous if someone comes in contact with them.



Figure 6.1: The 6 inch welded fingers that Mr. Inman describes

The rotor spins at 36 rpm. Mr. Inman says that it is a common practice that engineers and designers identify potential hazards, attempt to design out the hazard, and if the hazard cannot be designed out then attempt to guard against the hazard. If the hazard cannot be guarded against then they would put warning stickers on such hazard areas. There is a Farm Equipment Manufacturers Association safety committee but no Ag-Bag employees have been on the safety committee. In violation of ASAE standard 441 the Ag-Bag machine did not have a warning sign that advised the danger of being entangled in the rotor shaft. In violation of ASAE standard 318.8 there should be shields or guards on the machine to prevent inadvertent contact with dangerous moving parts of the machine. These components should have been shielded to the maximum extent. Ag-Bag is said to also be in violation of ASAE standard 318.9 because the machine was manufactured after March 1987.

Mr. Inman was not aware of previous depositions and states that it would be very

unsafe to put a fence post into the rotor because the rotor could grab the object and break arms, fingers, or even pull someone in. He believes that it is very dangerous to unclog the machine using a fence post. Mr. Inman says that should have seemed to be obvious danger that the farm manager should have noticed. Ag-Bag International did have some inquiries on the clogging of their machines. They tried to test different methods to prevent clogging such as a drain in the bottom of the hopper to release moisture, but that didn't work. Ag-Bag has tried feed table design instead of the dumping into a hopper design, but they both had equal amounts of clogging. The feed table units have a secondary rotor that tries to feed material into the primary rotor. Ag-Bag has even experimented with rotor access into the plugged area but this plan failed also. Ag-Bag has also tried to put a lid over the hopper but the lid interfered with feed material coming up the conveyor. This was the only incident where someone was killed using a hopper machine.

The prosecution is trying to make a case against Ag-Bag International by saying they violated three ASAE standards and that they could have come up with a better way to protect people from the rotor mechanism. Prosecution said that there were not enough warning stickers that were not in the right places on the machine and that they did not have the proper protective guards on the machine.

In defense to this Mr. Ewing shows the jury the stickers that were on the machine. Sticker No. 1 reads, "Do not reach or place any part of your body inside the hopper." No. 8 reads, "Keep hands, feet and other clothing away from intake area and all other moving parts of the machine." And No. 2 reads, "Do not attempt to service, remove or unclog any material while the machine is in operation. Sticker No. 2 directly relates to the situation

of Mr. Johnson's death.

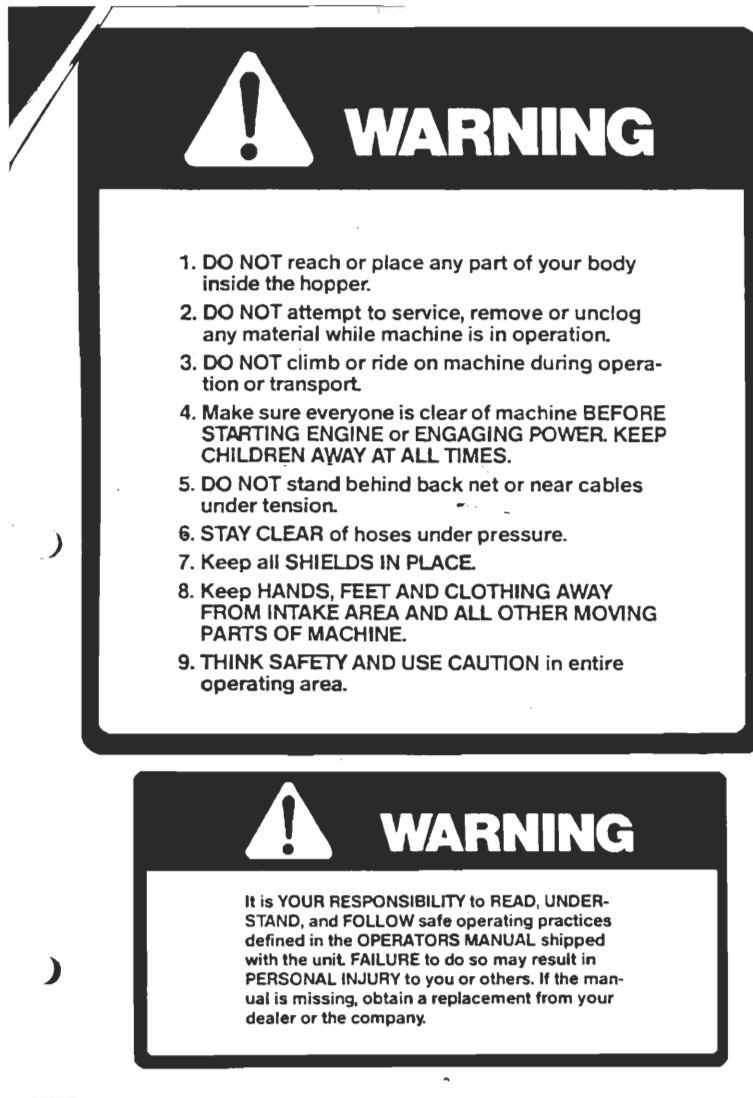


Figure 6.2: The warning labels that were on the Ag-Bag machine and in the owner's manual

6.4 Investigations and Analysis

We began our investigation with the ASAE standards mentioned in the deposition of Larry Inman. In this deposition, standards such as ASAE 441, ASAE 318.8, and ASAE 318.9 were mentioned. While searching the web for these standards we found that

they have been updated but are very similar.

ASAE S441.3 (established February 2003)

“Safety Signs”

1 Purpose and scope

1.1 This Standard establishes uniformity of safety signs to promote and improve personal safety in the agricultural workplace. This Standard may be referenced by other standards for applications outside the agricultural workplace.

1.2 This Standard establishes signal words, format, color combinations, letter sizes, placement, and durability requirements for safety signs.”⁵

ANSI/ASAE S318.5 (established December 2002)

“Safety for Agricultural Field Equipment”

1 Scope

1.1 This Standard is a guide to provide a reasonable degree of personal safety for operators and other persons during the normal operation and servicing of agricultural field equipment.

1.2 This Standard does not apply to skid steer loaders, permanently installed grain dryers, and agricultural equipment covered by other safety standards, such as but not limited to permanently installed farmstead equipment, portable grain augers, and storage structures, except where specifically referenced by other standards.”⁶

Even though these are new updated standards they still hold the same rules and standards as the original standards mentioned in these depositions. After reading these standards we don't feel that Ag-Bag International really violated any of these standards fully.

⁵ <http://asae.frymulti.com/request.asp?JID=2&AID=16001&Abstract=441.htm&CID=s2000&T=3>

⁶ <http://asae.frymulti.com/request.asp?JID=2&AID=14746&Abstract=318.htm&CID=s2000&T=3>

Other information provided in these depositions is just a matter of the jury deciding on the evidence of who is at fault for the death of Jeremiah Johnson. There is no scientific evidence that could persuade the jury one way or the other. It is just a matter of putting together the facts and coming to a conclusion of who is at fault if anyone at all is at fault. There is a lot of evidence against the farm manager, Donald Kimball, which may blame him for the accident. The farm could be at fault for having nobody supervising the inmates.

6.5 Final Assessments

After reviewing the depositions, photographs and police reports we have come to the conclusion that Jeremiah Johnson's death was due to the fact of careless training by the farm manager and Jeremiah's own reckless actions. Some blame may go to Neil Tinker who was present at the site of Jeremiah's death for participating in these reckless actions.

Donald Kimball, who was the farm manager of Grafton County Farm, had taught the inmates to use a fence post to shove down the hopper in order to unclog the machine, while it was running. Since the machine was bagging wet haylage the Ag-Bag machine was being clogged due to the moisture in the haylage. This caused Jeremiah and Neil to attempt to unclog the machine using the technique taught to them by their farm manager, Donald Kimball. This action led to the death of Jeremiah Johnson. If it wasn't for the Mr. Kimball showing the inmates this technique then it may not have ever happened.

We do not blame Ag-Bag International because the machine was covered in

warning stickers and danger stickers. There was a guard around the hopper that was removed at a time that is unknown, so the machine originally did come with some sort of protective guard. There was an owner's manual that explained what to do when there is a clog in the rotor, and also there was a list of rules and warnings in the manual.

We believe that since Donald Kimball was the farm manager at the time, and did not have the inmates under supervision, and did not teach them the proper technique to unclog the machine that he is at some fault for the death of Jeremiah Johnson on 6/2/1999. Grafton County Farm could also take some of the blame due to the fact that they had nobody supervising the inmates while they were operating machinery, which is a law. Although it was admitted that the inmates knew that they were doing something stupid for climbing on top of the machine and trying to unclog it which was not shown by Donald Kimball. A percentage of the fault rests on Jeremiah Johnson himself.

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All depositions, photos, police reports, and all relevant information about the cases were provided by Prof. Hagglund