



## RENTING DANGEROUSLY:

INJURIES, FATALITIES AND LOSSES IN THE EQUIPMENT RENTAL INDUSTRY

St. Paul Travelers and USI Rental Specialties recently completed a comprehensive study examining the type of equipment and operations most often involved in general liability losses for rental centers. The study examined approximately 3,500 general liability losses involving rental equipment (directly and indirectly), occurring from 1996-2002.

The highlights of this study are separated into three sections. The first section lists the percentage of losses by type of equipment. The second compares the current results of the study to similar studies performed in the 1980s and 1990s. The final section is a detailed look at the type of equipment frequently involved in losses, typical operations surrounding the rental and use of equipment, and insight into taking steps to prevent general liability losses.

## EQUIPMENT LOSSES WITH HIGH SEVERITY AND HIGH FREQUENCY

Table 1.1 shows the type of equipment involved in general liability losses for rental centers from 1996–2002. For each type of equipment listed, the table lists the percentage of the number of losses (% Total Number) and total costs (% Total Cost) attributed to those losses. According to this data, the equipment most frequently involved in losses (total number) includes trailers, tents, personnel lifts, forklifts and chairs. This equipment accounted for more than two-thirds of the number of claims reviewed.

The equipment with the highest severity (total cost) includes lifts, forklifts, trailers, tents, skid-steer loaders, scaffolding, saws and log splitters. These claims collectively account for more than 75 percent of the costs.

The type of equipment with the lowest severity of losses includes sanitation, car-top carriers and concrete, which were less than 0.1 percent of the total cost and less than 1 percent of the total number.

Trailers were excluded from the two previous studies because they were covered under a separate auto liability loss analysis. Due to their significance in general liability claims, trailers have been included in this study.

## COMPARISON OF THE STUDIES

St. Paul Travelers and USI Rental Specialties conducted similar rental equipment studies in the 1980s and 1990s. Losses reported from 1983–1986 and 1990–1995 are compared to the 1996–2002 losses in Table 1.2.

Lifts received the highest severity rating in all three studies. In the current study, this also was the equipment type with the most fatalities. Tents have moved up in rank from number 12 to number four since the 1990–1995 study. Skid-steer loaders also have shown an increase in severity. Saws and scaffolding, however, have received a consistent rating over the last 20 years.

## A CLOSER LOOK AT THE LARGE LOSS LEADERS

The three types of equipment generating a large number of losses are trailers, tents and lifts.

Lifts not only lead in the severity category, but also ranked third for the percent of total number of claims. Lifts were responsible for 19.8 percent of the total cost of general liability losses in this study, as well as 10.6 percent of the total number of losses. Five of the 18 fatalities that occurred during the claim period were due to lifts (28 percent). Of the five fatalities, four involved power line contact. Failure to use fall protection also was a contributing factor. Operator error was the cause of 57 percent of lift equipment turnovers.

Forklifts ranked second in severity and fourth in the total number of claims. Forklifts were responsible for 11.1 percent of the total cost and 6.7 percent of the total number of general liability losses in the study. Forklift operator errors caused four fatalities. Three of the four people were bystanders.

Trailers ranked third in severity and first in total number of claims. They were accountable for 9 percent of the total cost and 30 percent of the total number of general liability losses in the study. Loader and delivery errors were responsible for 62.5 percent of all claims and contributed 28 percent to the cost of trailer claims. Two fatalities were attributed to trailers — one involving a bystander.

Many types of equipment have a trailer built into the unit and a loss may occur when it's operated, if the equipment malfunctions, or as a result of both. In some cases, the cause of the trailer loss was not available. The main cause of trailer claims seems to be a disconnection between the towing vehicle and the trailer. The use of safety chains is a common practice and prevents the trailer from becoming loose. However, the trailer, or equipment with a built-in trailer, can still move considerably and damage the towing vehicle and other vehicles, or injure bystanders.

Tents tied with skid-steer loaders in severity, both ranking fourth, and also ranked high (second) for the total number of claims. Tents were responsible for 8.7 percent of the total cost and 14.5 percent of general liability losses in the study. Tent claim severity has risen sharply in the last 10 years, most likely due to the increased usage of tents. Improper setup or take down was responsible for 50 percent of the total number of tent claims and 20 percent of the tent claims cost. While using stakes is the preferred anchoring method for tents, in 38 percent of the tent claims accidents occurred when consumers or rental employees improperly used the stakes and made contact with utility lines or improperly secured the stakes and tie lines.

## GENERAL LOSS PREVENTION AND CLAIM REPORTING TIPS

- Specific loss prevention measures or risk control interventions depends on the rental equipment. In addition, how soon the claim is reported after the occurrence, how well the evidence is preserved and how the individual business operations performed will influence the total cost of the claim.
- The following general loss prevention measures can help prevent losses:
  - Rental dealers should provide adequate training and safety information (verbally and in writing) for the rental equipment. There are many options for acquiring and distributing this information. It can come from the manufacturer, trade association or vendor that specializes in providing access to large national databases with rental equipment safety bulletins and training programs.
  - Rental dealers should inquire about third-party use and reiterate that the equipment should only be used for the operation it was designed for and that operators must adhere to all safety requirements (e.g., fall protection for lifts and hoists).
  - Dealers should inspect and service all rental equipment before renting to users. Adequate records of maintenance, recalls and any modifications made according to manufacturer recommendations should be kept on file.
  - Equipment should not be modified without the manufacturer's consent.
  - Only qualified personnel should conduct maintenance and repairs.
  - Rental dealership inventories should include new equipment with the latest industry safeguards. Old, out-of-date equipment (even if it is in working order) should be replaced. It takes a lot of rental income to make up for one significant loss.
  - Rental dealers should ensure that manufacturer's of the products they rent have adequate insurance coverage.

For additional information regarding this study, please contact your USI Rental Specialties agent or your St. Paul Travelers Risk Control consultant.



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**TABLE 1.1**

General liability losses for rental centers by equipment type – 1996–2002

Equipment Type	% Total Cost	% Total Number	Fatalities
Lifts	19.8%	10.6%	5
Forklifts	11.1%	6.7%	4
Trailers	9.0%	30.0%	2
Tents	8.7%	14.5%	0
Skid-steer Loaders	8.7%	1.3%	2
Scaffolding	7.2%	2.3%	2
Saws	5.8%	1.4%	0
Log Splitters	5.1%	0.9%	0
Chairs	4.8%	5.8%	0
Heaters	2.4%	1.7%	0
Augers	2.3%	1.0%	0
Jacks	2.2%	0.5%	0
Ladders	2.0%	2.8%	0
Sewer Augers	1.7%	0.2%	0
Other	1.6%	2.2%	0
Trenchers	1.3%	3.0%	0
Mixers	1.2%	0.7%	0
Cranes	0.8%	0.5%	0
Floors	0.7%	1.3%	0
Backhoes	0.5%	2.6%	2
Chainsaws	0.4%	0.9%	0
Hoists	0.3%	0.7%	0
Lawn and Garden	0.3%	1.0%	0
Pumps	0.3%	0.4%	0
Floor Maintenance	0.3%	1.5%	0
Staging	0.2%	0.1%	0
Jackhammers	0.2%	0.5%	0
Post Hole Diggers	0.2%	0.2%	0
Power Washers	0.2%	0.2%	0
Generators	0.1%	0.7%	1
Wall Paper Steamers	0.1%	0.2%	0
Welders	0.1%	0.3%	0
Carpet Cleaners	0.1%	1.2%	0
Airless Paint Sprayers	0.1%	0.2%	0
Compressors	0.0%	0.1%	0
Sand Blasters	0.0%	0.5%	0
Tow Bars	0.0%	0.7%	0
Concrete	0.0%	0.1%	0
Car-top Carriers	0.0%	0.1%	0
Sanitation	0.0%	0.1%	0

**TABLE 1.2**

Severity of general liability losses for rental centers by type of equipment – a comparison of three studies

Equipment Type	Severity Rank 1996–2002	Severity Rank 1990–1995	Severity Rank 1983–1986
Lifts, Hoists (combined in previous studies)	1	1	1
Forklifts	2	11	2
Trailers	3	†	†
Tents	4	12	n/a
Skid-steer Loaders	5	15	10
Scaffolding	6	3	4
Saws	7	4	6
Log Splitters	8	22	n/a
Chairs	9	21	n/a
Heaters	10	36	n/a
Augers	11	n/a	n/a
Jacks	12	16	n/a
Ladders	13	5	11
Sewer Augers	14	10	3
Other	15	7	n/a
Trenchers	16	19	14
Mixers	17	25	7
Cranes	18	n/a	n/a
Floors (non-maintenance)	19	n/a	n/a
Backhoes	20	17	19

† Data unavailable, GL trailer claims moved to auto

**TABLE 1.3**

General liability losses for rental centers by equipment type – a comparison with the previous study

Equipment Type	Frequency Rank 1996–2002	Frequency Rank 1990–1995
Trailers	1	†
Tents	2	5
Lifts	3	4
Forklifts	4	8
Chairs	5	10*
Trenchers	6	11
Ladders	7	9
Backhoes	8	13*
Scaffolding	9	6
Other	10	2
Heaters	11	25*
Floor Maintenance	12	12
Saws	13	13*
Floors (non-maintenance)	14*	n/a
Skid-steer Loaders	14*	10*
Carpet Cleaners	15	20*
Augers (non-sewer)	16*	n/a
Lawn and Garden	16*	3
Log Splitters	17*	13*
Chain Saws	17*	20*

\* Tie in frequency of claims (% total number) with another type of equipment

† Data unavailable, GL trailer claims moved to auto

**REMEMBER:**

It takes a lot of rental income to make up for one significant loss.



## CASE STUDIES

Lifts received the leading severity rank in all three studies.

### Lifts

**CASE STUDY 1** Two construction workers were electrocuted while using a lift.

The workers were trying to measure spacing for roof purlins. One was situated on top of the building and the other in the lift. To measure the spacing, the worker on top of the building was holding on to one end of a metal tape measure while the worker in the lift held the other end. The lift operator raised the platform to be even with the building and made contact with the overhead power line. This electrocuted both workers because the metal tape measure acted as a conductor. The electrocution knocked the worker on the building 20 feet to the ground and killed the individual who was in the lift.

### Forklifts

**CASE STUDY 2** An employee of a company that rented a forklift was killed when his forklift rolled over. The worker drove the forklift a few miles down a road and hit a curb. The forklift rolled over and pinned the operator underneath. The forklift may not have had a safety belt, which caused the operator to be thrown from the forklift. It also was alleged that the worker was not properly certified to operate a forklift.

### Tents

**CASE STUDY 3** Tents fell, injuring people and damaging property. A rental customer rented some tents and wanted the rental company to set them up on their property. The customer did not want the tents to be staked into the ground. The rental company employees anchored the tents with weights instead, possibly going against the manufacturer recommendation and industry best practices. Wind knocked over two of the tents because of poor anchoring, causing property damage and injuring 10 people.

### Trailers

**CASE STUDY 4** A rental trailer accident seriously injures a child. A man with a small truck rented a trailer and a backhoe from a rental facility. He was assured that his truck was properly rated (or strong enough) to pull the load. The claimant was driving home when the trailer began to fishtail and he lost control. The trailer broke away from the truck and the truck rolled. The driver was unharmed, but a passenger, who was a child, was seriously injured in the accident.

**CASE STUDY 5** A trailer carrying a generator unhitched from a tow vehicle, striking and killing a pedestrian. The rental company had improperly hooked up the trailer to the tow vehicle. The unsecured trailer came loose during towing and the safety chains were too short, which caused them to come apart, allowing the unit to separate and strike the pedestrian without warning.



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