

Slide 1

EMERGENCY
ELEVATOR PROCEDURES



Freight Elevator Systems

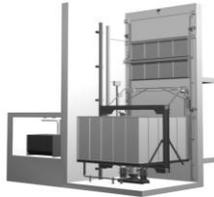
Slide 2

Automatic Bi-Parting Freight



Slide 3

Hydraulic Freight



- ▣ This happens to be a hydraulic unit, but many are traction / drum machines

Slide 4

Freight Car and Gate Panel

☐ If the car gate is not closed completely, the Safety Circuit is open, and car will not run.



Gate Panel

Slide 5

Older freight elevator

Must have:

- Car Gates
- Landing Doors
- Use History
- Stop Switch
- Alarm System
- Public Excluded
- Annually Inspected



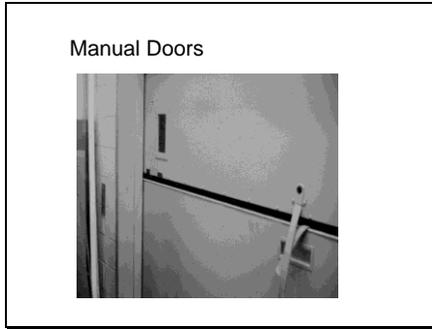
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Modern Freight Systems

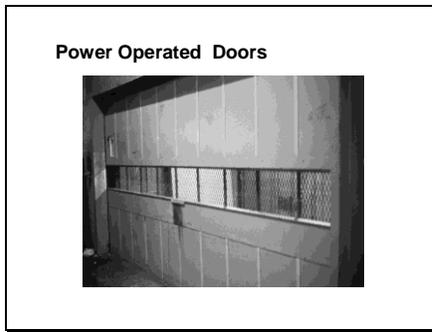


Design Differences

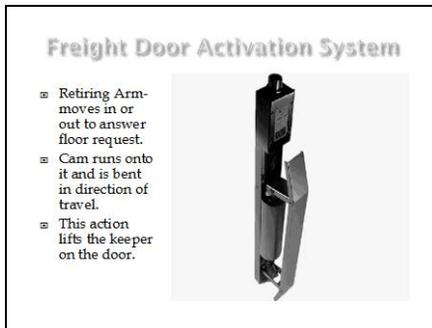
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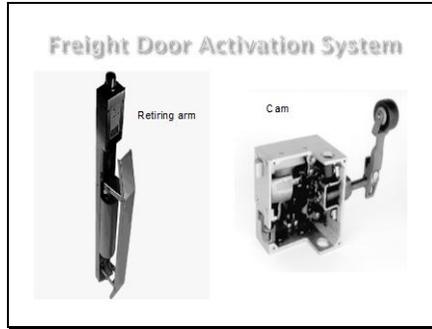
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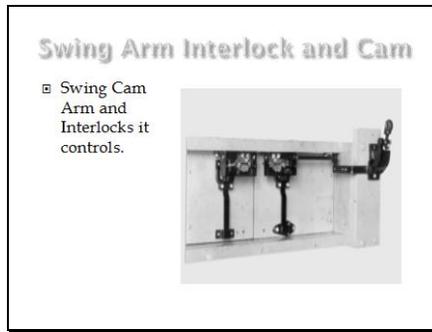
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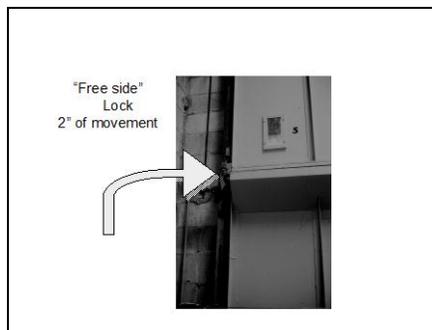
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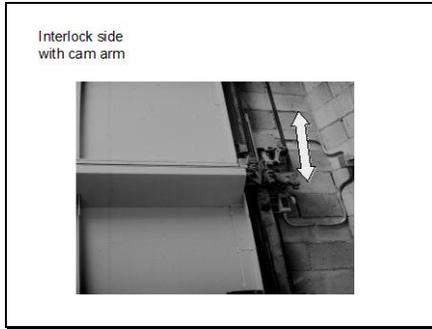
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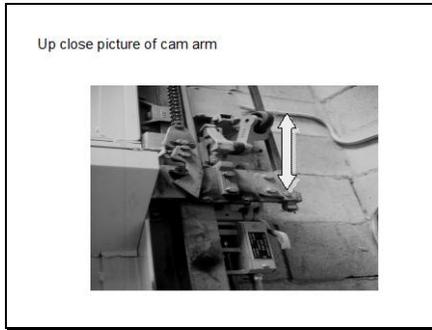
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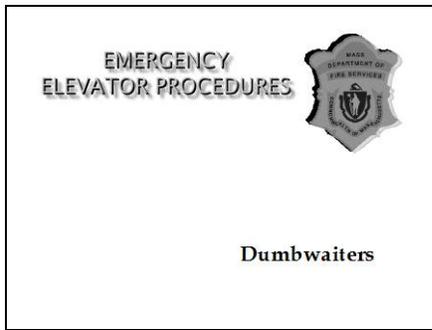
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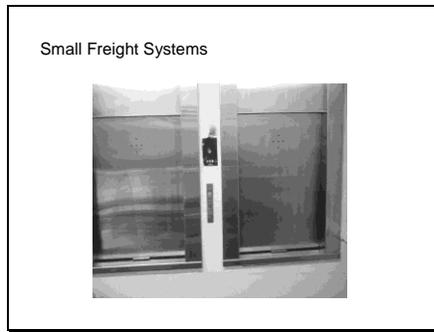
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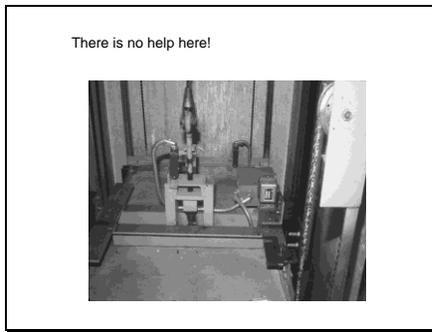
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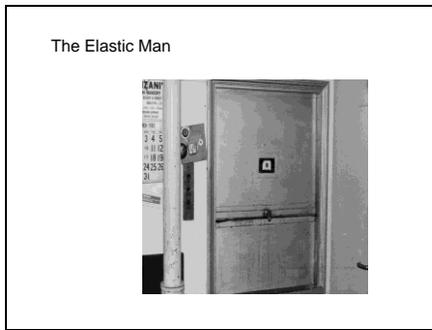
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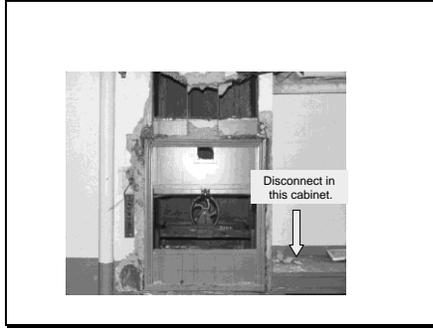
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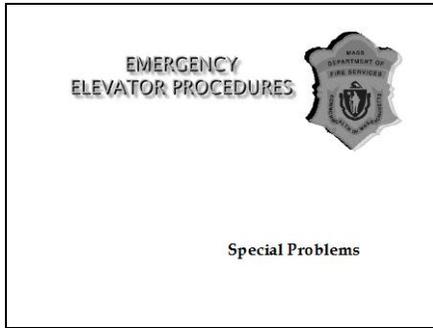
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EMERGENCY
ELEVATOR PROCEDURES



Blind Hoistways

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25 stories down



- ❑ In a true blind hoistway, there would be no hoistway doors.
- ❑ There would be an emergency exit every 42 feet

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- ❑ What are your options?

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EMERGENCY
ELEVATOR PROCEDURES



Construction Elevator Systems

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Lock out/tag out-
No Choice-it **MUST** be done!



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Construction Elevators



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Construction Elevators

- ▣ Construction Elevator attached to building via tower and braces.
- ▣ Cab and counterweights can be seen on the tower.
- ▣ Motor is located on the roof of the cab.
- ▣ These type of units have been the scene of a number of accidents.



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Construction Elevators

- ▣ Construction Elevator attached to building via tower and braces.
- ▣ Cab and counterweights can be seen on the tower.
- ▣ This is a fatal accident scene involving the counterweight.



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Construction Elevators

- ▣ Construction Elevator attached to building via tower and braces.
- ▣ If you look closely, you can see the outline of a man who has just been killed by the counterweight.



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Construction Elevators

- ▣ This man was part of a 2 man team who regularly worked on these units. He looked out of the tower just as the counterweight came down.



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Construction Elevators

- ▣ Firefighters gain access to him where the para-medics amongst them declared him to be beyond help.
- ▣ They then proceeded to secure both him and themselves to allow for his removal.



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Construction Elevators

- ▣ They secured the victim and ran a belay line that can be seen below.



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Construction Elevators

- ▣ The elevator mechanic then moved the counterweight in the up direction.
- ▣ This then allowed access for the firefighters to remove his body.



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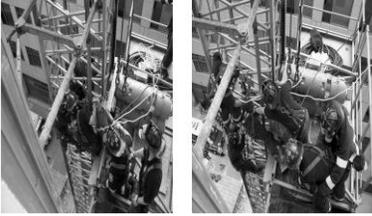
Construction Elevators

- ▣ More of the removal sequence.



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Construction Elevators



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Working on removal of deceased

- Firefighters have moved onto the roof of the cab to secure the deceased worker and remove him to the ground.
- All members should be secured with body harnesses and life lines.



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Down to the ground

- Deceased is removed to the ground by elevator mechanics moving the cab to the ground electrically.
- Once at the ground, the stokes stretcher was slid down ground ladders laid against the cab.
- He was then transported by the medical examiner.



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EMERGENCY ELEVATOR PROCEDURES



Hoistway Door Unlocking Device Tool

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Procedure to Follow

- ☐ Upon arrival secure proper key tool.
- ☐ Always work with another firefighter at scene.
- ☐ Confirm with machine room team that lock out/tag out has been performed.
- ☐ Determine approximate location of car in hoistway.
- ☐ Use tool to open hoistway door.
- ☐ If at wrong level, shut door and test for locking.
- ☐ If at proper level, gain access to car.

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Lock out/tag out-
No Choice-it **MUST** be done!

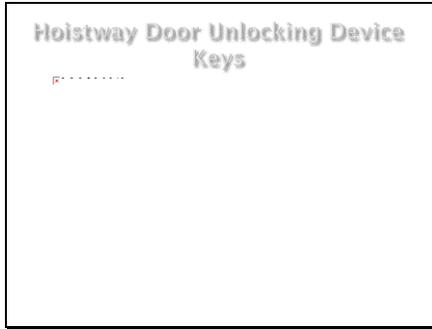


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Back in code in MA

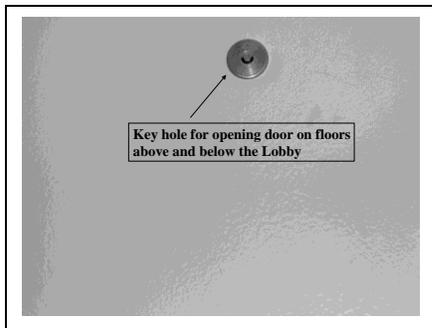
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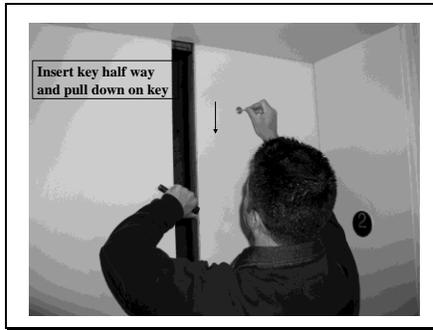
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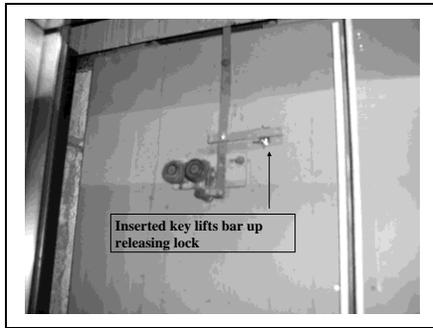
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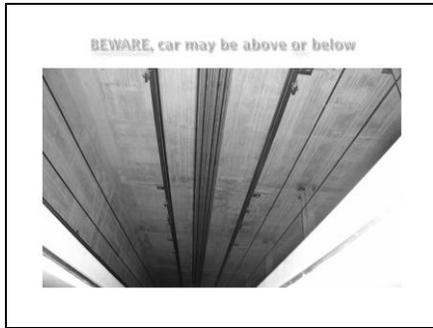
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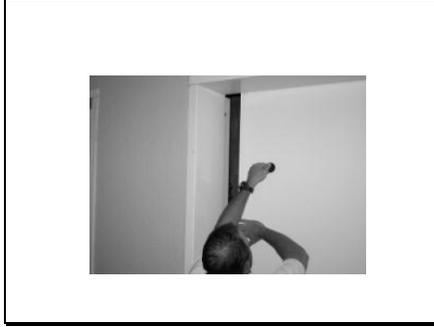
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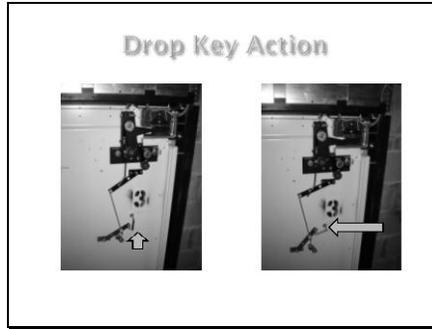
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Slide 60



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Proper procedure using the tool

- ▣ Always have another firefighter work with you when opening the door.
- ▣ Make sure that you remove your hand and the tool after you have cleared the keeper from the lockbox.
- ▣ If you don't you will slam your hand into the door frame as it opens fully.

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Elevator "UP" in the hoistway

- ❑ This elevator is in a dangerous position because it is "UP" in the doorway.
- ❑ The exposed hoistway is an invitation to fall under the car and down the hoistway.
- ❑ Always guard such openings with a ground ladder or other obstruction.



Slide 65

Elevator "UP" in the hoistway

- ❑ This elevator is in a dangerous position because it is "UP" in the doorway.
- ❑ The exposed hoistway is an invitation to fall under the car and down the hoistway.
- ❑ Always guard such openings with a ground ladder or other obstruction.



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Elevator "Down" in hoistway

- ❑ This is a dangerous situation to be confronted with.
- ❑ How would you take a passenger out?
- ❑ Top-of-car exit?
- ❑ Out the door exit?



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EMERGENCY
ELEVATOR PROCEDURES



Escalator Systems
·History
·Injuries
·Deaths

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Escalators are Everywhere!

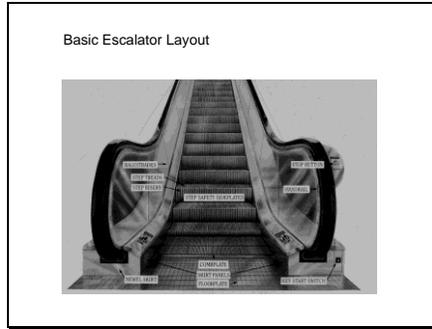


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**Escalator Accident
Figures**

- ▣ 50% of 1000 side-wall entrapments involve children under 5 years of age.
- ▣ 6,000 hospital ER visits annually.
- ▣ Escalators experience 18 times as many accidents as there are involving elevators.
- ▣ Most involve hands or footwear being caught in an escalator combplate or sidewall.

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Escalators-(then) The "Reno"

- ❑ Very noisy
- ❑ Uncomfortable
- ❑ One person across
- ❑ Discharged passenger 2" in air.
- ❑ Very aware!



Figure 1.11. "Reno" escalator (Courtesy Otis Elevator)

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Escalators-(now)

- ❑ Very Quiet
- ❑ Room for 2+ people
- ❑ Smooth glide landing
- ❑ Lack of awareness
- ❑ Many distractions



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Slide
Stoppers
inserted
To prevent
sliding
accidents



Slide 74

This is the Truss

- ▣ Note the steps running on the return rails inside the Truss.
- ▣ The steps are actually upside down at that time.
- ▣ The MR is at the TOP of the unit, and pulls the system.



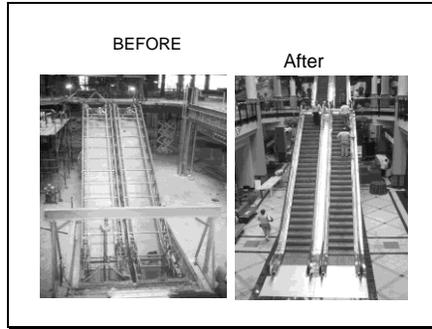
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Under Assembly

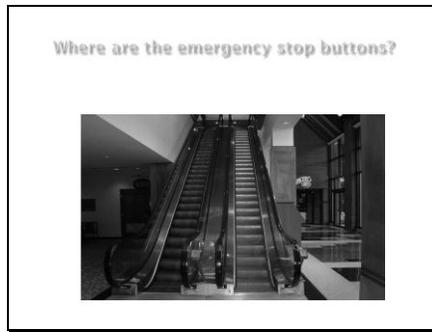
- ▣ This Escalator is still under construction.
- ▣ When finished, it will be moved back into position by hoists and locked into place.



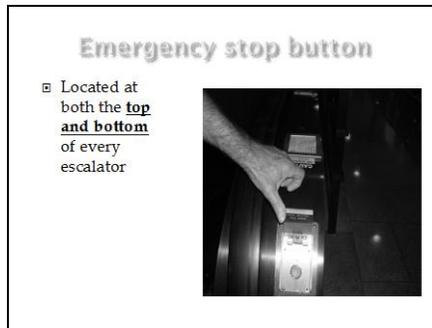
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Nearly all escalator accidents are in the down direction

Watch out for rollback



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Note: Emergency stop switch on right



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Open Floor Access



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Escalator Dangers

- ❑ Porter Square "T"
- ❑ Numerous falls or entrapments
- ❑ Deepest subway station in U.S. (140')



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Fatal Accident

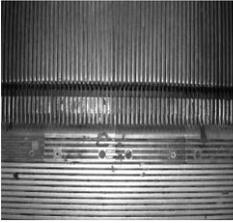
- ❑ Young man fell on down trip, and was fatally strangled when his necklace was caught in the comb plate.
- ❑ Young woman was strangled to death when her winter poncho caught in the comb plate.



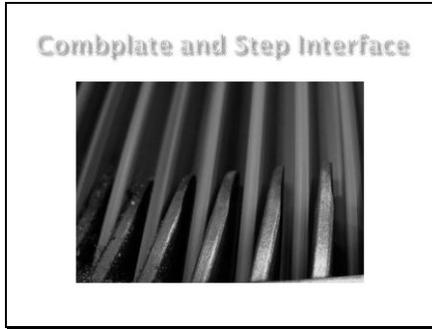
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Areas of entrapment

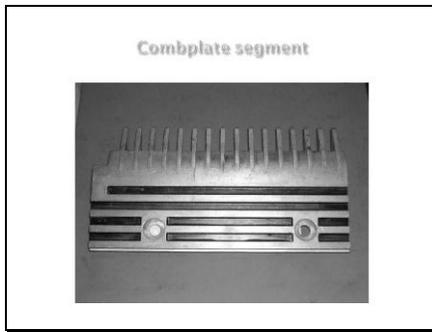
- ❑ The comb plate is a major area of entrapment



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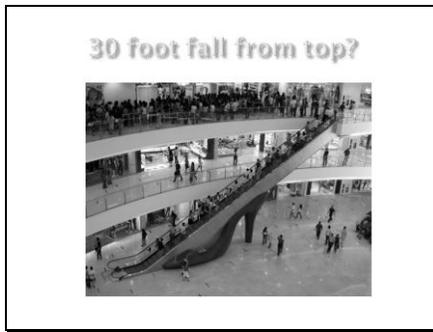
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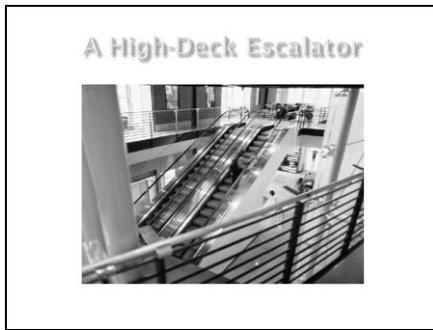
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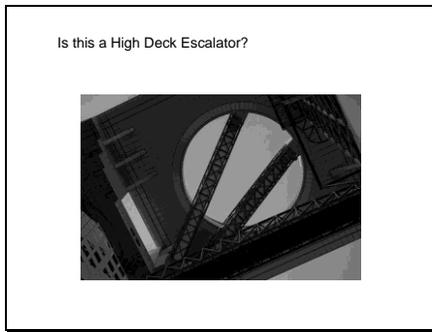
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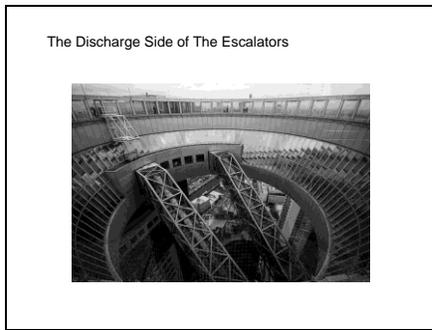
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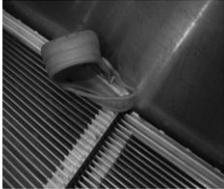
YES! This is an Escalator!



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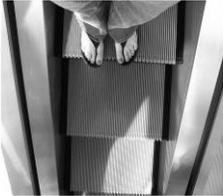
Side of Step Entrappements

- ▣ Side of step entrappements are some of the most difficult to resolve
- ▣ Due to position of injured person 40 feet in the air, with no side access due to height.



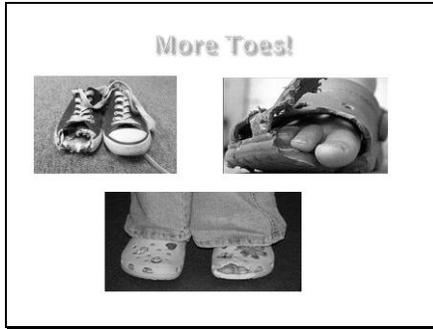
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Toes are Everywhere!



- ▣ Toes, as beautiful as some can be, are in danger anytime one rides an escalator.

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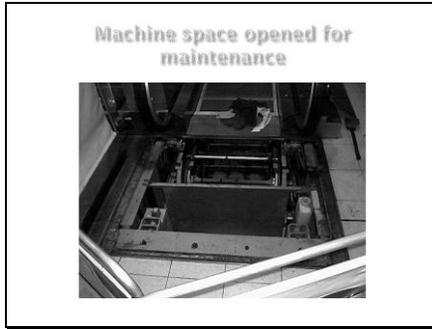
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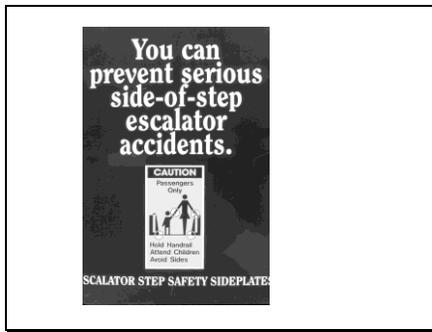
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Everyday at the Mall

- ☐ The next time you are out shopping, stop off at the 2nd or 3rd floor of your local mall.
- ☐ Look down at the escalator, and you will see parental neglect every day.



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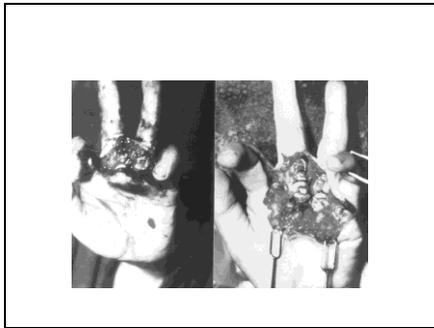
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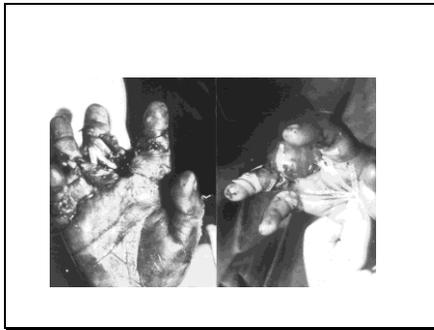
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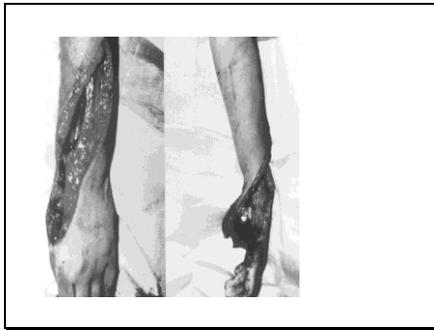
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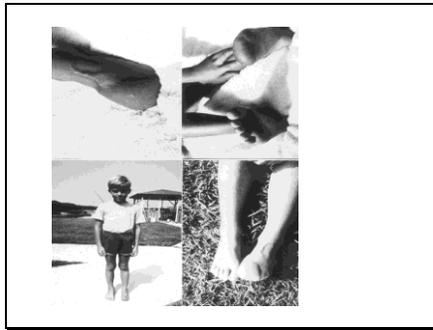
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EMERGENCY
ELEVATOR PROCEDURES



History of a Rescue

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COHASSET ELEVATOR
INCIDENT
Cohasset Knoll Nursing Home



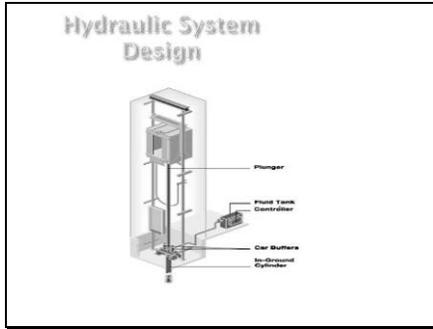
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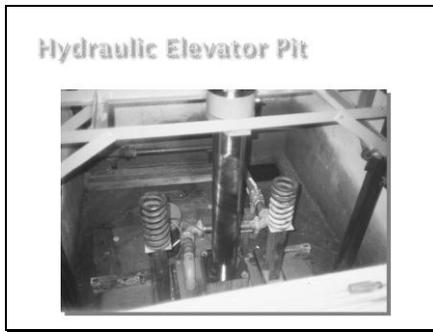
Cohasset Elevator Incident

- ☐ Date-Tuesday, 9/07/04
- ☐ Time-1131 hours
- ☐ On duty strength?
- ☐ Level of training in elevators?
- ☐ ICS used?
- ☐ Resulting performance?

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In the Elevator Pit

- ▣ Hydraulic supply line has separated and the car has dropped



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Cohasset Incident

- ▣ Car is down below its normal final limit switch.



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Gaining Access to Victims

- ▣ Cutting side panel
- ▣ Mechanic #1 standing in space



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The Outcome

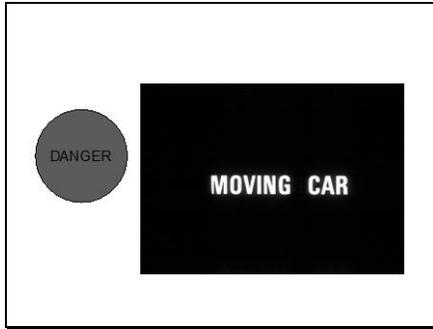
- ▣ Both mechanics surveyed for injuries in the pit.
- ▣ Both removed on long board to EMT-P group in hallway.
- ▣ Bleeding controlled, wounds dressed and boarded.
- ▣ Mechanic # 1 transported by ground.
- ▣ Mechanic # 2 transported by air.
- ▣ Neither lost consciousness
- ▣ ICS in place

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Cohasset Elevator Incident

- ▣ Date-Tuesday, 9/07/04
- ▣ Time-1131 hours
- ▣ On duty strength? 4-5 plus mutual aid
- ▣ Level of training in elevators?- *Adaptive!*
- ▣ ICS used?- *Excellent*
- ▣ Resulting performance - *Outstanding!*

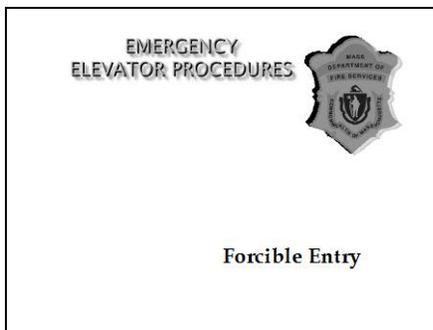
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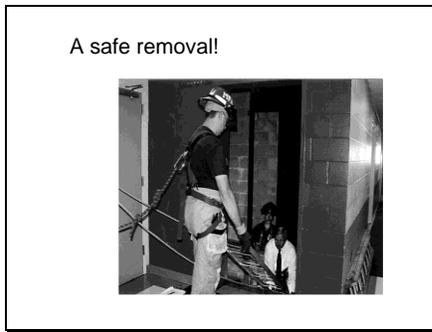
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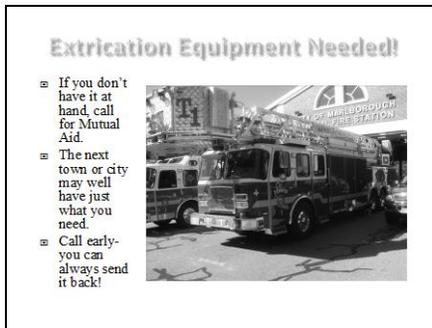
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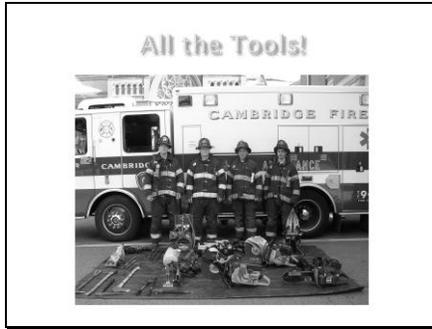
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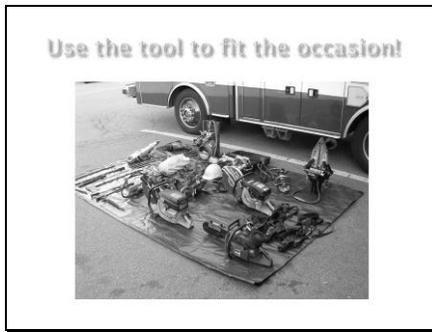
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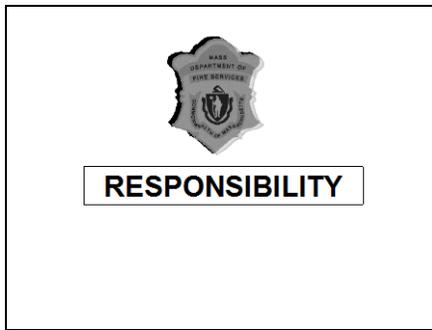
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Slide 134



Slide 135



Slide 136



Remember "POWER DOWN"
and LOTO
-Lock out/ Tag out-
Above all, stay safe!