

Entrusted project of the Ministry of
Health, Labour and Welfare, 2016

Training Manual on Safety and Health for Unskilled Workers

>>> Land Freight Transport <<<



Educate with good care!



Japan Association of Safety and Health Consultants

Introduction

Occupational accidents occurrence among unskilled workers is more frequent than among skilled workers since they are not accustomed in process, and they are not sensitive to danger yet. Therefore, training of safety and health takes important roll when a company employs new workers or when they change operations. However, especially in middle-sized or small-sized workplaces, providing perfect know-how of safety and health is sometimes difficult.

This manual advises land freight transport operators on safety and health training when they educate workers whom newly employed or the ones with insufficient work experience (unskilled workers).

This manual contains illustrations to make it easier to understand for those who do not have enough experience in safety and health at work.

Lastly, this manual was compiled with the help of several companies and their employees who provided us with many valuable materials regarding safety and health at work. We sincerely express our gratitude to you for your cooperation. We believe many workplaces could utilize this manual to improve safety and health training to protect "unskilled workers" from occupational accidents in the field of land freight transport.

February, 2017

Compilation Committee of Training Manual on
Safety and Health for Unskilled Workers

Tomoho Shintaku, Chair

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How to use this manual

This manual compiles important advices for accident prevention of unskilled workers, and the tips are necessary for companies and employees to perform in land freight transport.

Responsible persons and lecturers can utilize this manual as follows.

Part 1 Safety and Health Training for Unskilled Workers (for managers of safety and health)

- (1) This part explains important points to effectively conduct the safety and health training for unskilled workers.
- (2) This part explains what the unskilled workers should know and acquire through the safety and health training.
- (3) In the actual training, please use "Part 2 Safety and Health Training for Unskilled Workers (for lecturers)".

Part 2 Safety and Health Training for Unskilled Workers (for lecturers)

- (1) This part consists of explanation for lecturers on each content of the Power Point materials that lecturers can download and use in the training. Please use as additional reference and apply to the training.
- (2) In middle-sized and small-sized workplaces, sometimes it is difficult to take much time for safety and health training, and they give training to workers as short as in 1 to 2 hours. The Power Point materials are compiled well so that lecturers can use it also in this short hours.

(Note) You can download the Power Point materials from the website of the Ministry of Health, Labour and Welfare.

Part 1 Safety and Health Training for Unskilled Workers (for managers of safety and health)

This part consists of essential fundamentals for managers and lecturers of safety and health.

Utilize the contents for your company's safety and health training.

I Need for Safety and Health Training for Unskilled Workers

1 Occupational accidents occur most among unskilled workers

<Occupational accidents of unskilled workers in land freight transport>

- ◆ Dead or injured accidents (with more than four day-offs) are slightly increasing in land freight transport among workers with less than three years of experience.
- ◆ Workers with less than three years of experience account for about 40%.
- ◆ When categorized by accident type, "Fall" from truck bed, etc. accounts for 25%, which occurs most frequently.

(1) Occupational accidents of workers without enough experience (unskilled workers) are slightly increasing

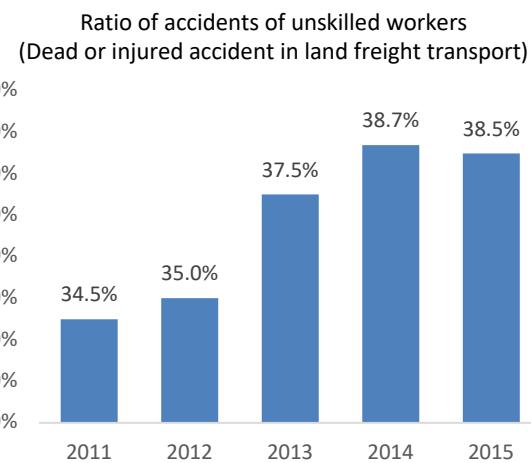
Dead or injured accidents (which resulted in more than four day-offs) of unskilled workers with less than three years of experience are steadily increasing and account for about 40% of all dead or injury accidents in the land transport industry.

By the number of years of experience, workers with less than one-year experience account for 20%, and those with less than three-years experience account for 39% of the all accidents in land freight transport in 2015.

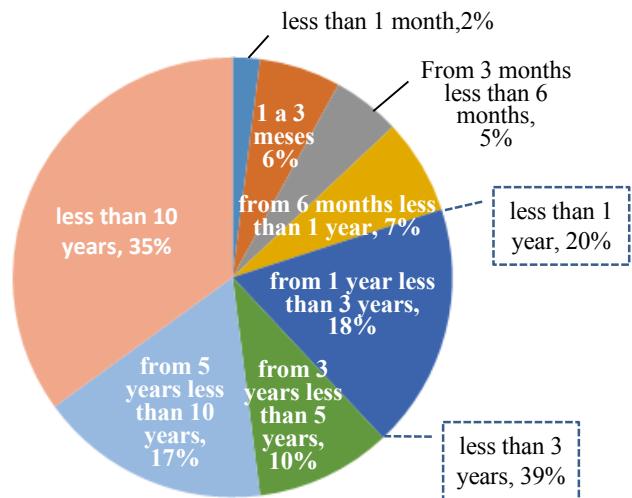
※ Sum of each ratio doesn't correspond to the number in pie chart because of decimal number.

When you compare the ratio of the group with less than three years of experience to other industries, it is almost the same as the ratio for all industries.

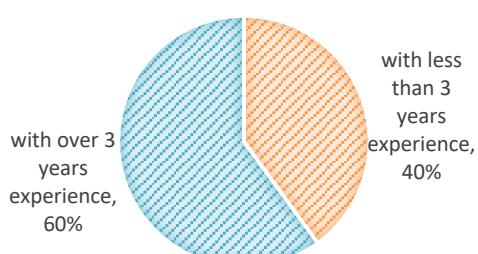
Accident prevention is necessary for unskilled workers who don't have much experience after they join the workplaces.



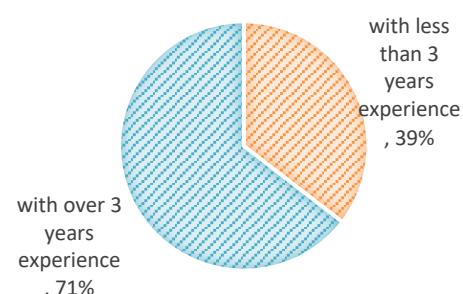
Dead or injured accidents by years of experience
(2015, land transport)



Ratio by years of experience
(all industries)



Ratio by years of experience
(land transport)



Reference: Ministry of Health, Labour and Welfare (2015)

(2) Detail of occupational accident of unskilled workers

Detail of occupational accidents of unskilled workers (with less than three years of experience) in 2015 was as follows.

<By age>

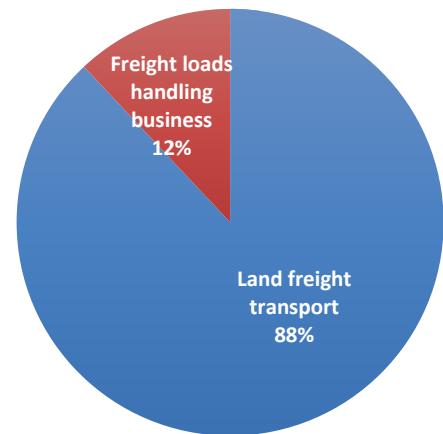
When you categorize the occupational accidents of unskilled workers in land freight transport by age, the group of age 40-49 is 33%, which is the largest, and the group of age 50-59 accounts for 26%.

Also the ratio of unskilled worker's accidents in dead or injured accidents by age group shows that the group of age 20-29 accounts for 80% of all dead or injured accidents.

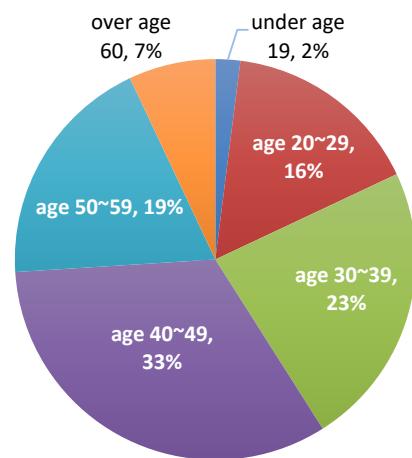
<By business type>

Land freight transport occupies 88%, but freight loads handling business also accounts for large part, 12%.

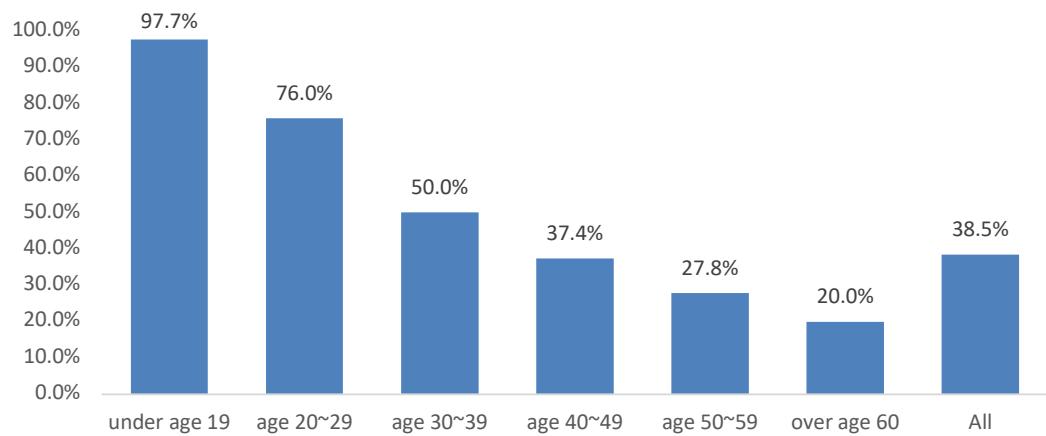
Dead or injured accidents of unskilled workers by business type (2015, land freight transport)



Dead or injured accidents of unskilled workers by age (2015, land transport)



Ratio of unskilled workers in dead or injured accidents by age group (2015, land transport)



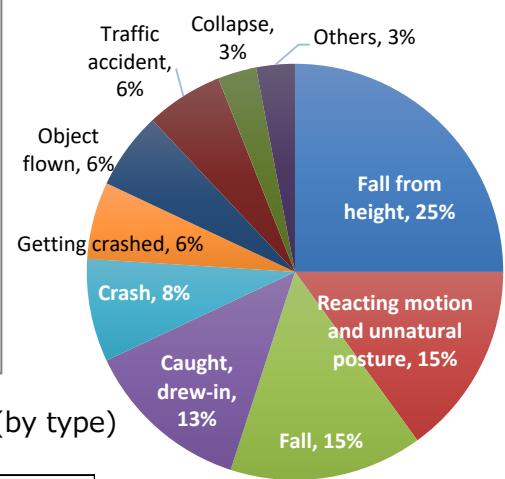
Reference: Ministry of Health, Labour and Welfare (2015)

<By accident type> (unskilled workers)

- ① "Fall from height," includes falls from truck bed: 25%
- ② "Reacting motion and unnatural posture," which includes back pain injury: 15%
- ③ "Fall," including the one during carrying loads: 15%
- ④ "Caught and drew-in" by forklift, etc.: 13%.

The ratio of unskilled workers in "fall from height" is 33.6%, and this is relatively lower than others. The risk of "fall from height" is high also for skilled workers.

Dead or injured accidents of unskilled workers by accident type (2015, land transport)



Ratio of unskilled workers in dead or injured accidents (by type)

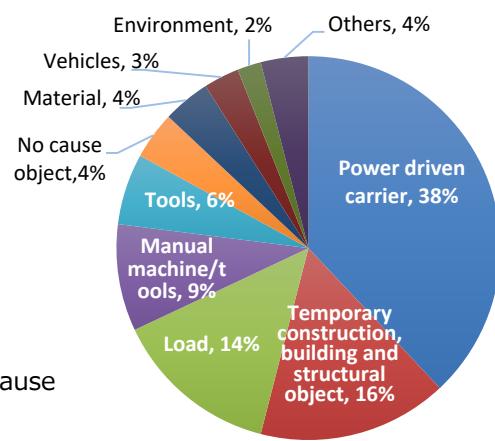
All	fall from height	reacting motion and unnatural posture	fall	caught, drew-in	crash
38.5%	33.6%	41.0%	38.9%	44.2%	39.5%

<By object> (unskilled workers)

"Powered carrier" such as freight truck and forklift occupies the largest part of 38%. This contains falls from truck bed and hit by forklift, which accounts for a large part.

Next is temporary utility, construction and structural object, and this includes falls in constructing buildings.

Dead or injured accidents of unskilled workers by cause object (2015, land transport)



Ratio of unskilled workers in dead or injured accidents (by cause object (middle classification))

All	powered carrier	temporary construction, building and structural object	load	manual machine / tools	tool
38.5%	34.5%	39.5%	44.8%	54.6%	37.0%

(Reference)

<Trend of occupational accidents of dispatched workers (land transport)>

Reference: Ministry of Health, Labour and Welfare (2015)

	2010	2011	2012	2013	2014	2015
Dead or injured (persons)	371	399	397	397	491	456

<Trend of occupational accidents of foreign workers (all industries)>

	2009	2010	2011	2012	2013	2014
Dead or injured (persons)	1,055	1,265	1,239	1,292	1,548	1,732

Reference: Ministry of Health, Labour and Welfare (2015) Analysis of occupational accident occurrence

2 Prevent occupational accidents through safety and health training

(1) Repeating safety and health training is especially important for unskilled workers

1 Safety and health training is especially important for unskilled workers

Why is safety and health training important?

<Teach what is "unsafe action">

There are various dangers in workplaces, thus many occupational accidents still occur.

The next two principles are important to prevent occupational accident.

- | ① Materials including facilities as work environment should not be in "unsafe state".
- | ② Workers themselves should not take "unsafe behavior".

As unskilled workers who are not accustomed enough to operations at work, they are not sensitive to danger and is not used to safe operations. Therefore, to eliminate **unsafe action** (②) is especially necessary.

Therefore, Industrial Safe and Health Law requires companies to provide safe and health training when they employ new workers.

<Repeated education makes a habit of "safe action">

Safe and health training for unskilled workers will help workers who does not know how to avoid danger by themselves and unable to perform safe operation sufficiently, learn how to work safely and avoid danger at workplace. **Repeated education** is necessary after the first training when they are employed.

2 Contents of safety and health training

What should you teach in safety and health training for unskilled workers? Ordinance on Industrial Safety and Health has eight items in the article 35 (refer to the next page), and Land Transportation Safety and Health Association compiles safety and health training textbook for newly employed workers, and the training consists of following lessons.

To make a training effective, please refer to the "Steps of the safety and health training for unskilled workers" in the next page when you give training to unskilled workers. Provide safe and health training referring these points.

Also, details of these contents are explained after 14 page, in "Steps of the safety and health training for unskilled workers"

【Examples of training for newly employed workers】

① work in land transport	⑦ back injury prevention at work
② safety and health at workplace	⑧ handling of hazardous materials
③ traffic accident prevention	⑨ Seiri/Sorting and Seiton/Setting-in-Order (2S)
④ machine and utensil for freight operation	⑩ fire prevention
⑤ freight loads operation	⑪ handling abnormal situation
⑥ health management	⑫ various activities

Steps of the safety and health training for unskilled workers

- 1 Understanding the various types of dangers at workplace . . . P14
- 2 "Might" questions can notify workers on the occurrence of danger . . . P20
- 3 Teaching fundamentals for accident prevention (Part 1) . . . P22
 - Let workers understand various rules and activities for safety and health
 - (1) Safe operation starts with the proper attire
 - (2) Implementing operation procedures
 - (3) Implementing 4S and 5S activities
 - (4) Near-miss (Hiyari-Hatto) activity
 - (5) Hazard prediction training (Kiken-Yochi training/ KY training / KYT)
 - (6) Risk assessment
- 4 Teaching the fundamentals for accident prevention (Part 2) . . . P36
 - Carry out safe operations to improve workplace safety
 - (1) Points to prevent "falls from height"
 - (2) Points to prevent "back injury"
 - (3) Points to prevent "falls"
 - (4) Points to prevent "getting caught and drawn in"
 - (5) Points to prevent "crash" and "get crashed"
 - (6) Points to prevent "heat stroke"
- 5 Teaching the fundamentals for accident prevention (Part 3) . . . P44
 - Teach the right actions to take during occurrence of accidents or abnormal situations
 - (1) Handling abnormal situations
 - (2) Examples of abnormal situations
 - (3) Handling occupational accidents (management)

(Reference) Ordinance on Industrial Safety and Health, Article 35

The employer shall, when having employed a new worker or changed the content of work assigned to a worker, give without delay education to the said worker on items, which are necessary as regards safety and health among the following matters. (omitted)

- ① Matters related to danger or toxicity of machines, etc., or raw materials, etc., and matters related to methods of handling thereof.
- ② Matters related to performance of safety devices, harmful substance control devices, or of personal protective equipment and matters related to methods of handling thereof.
- ③ Matters related to operation procedures.
- ④ Matters related to inspection at the time of commencement of work.
- ⑤ Matters related to the causes and prevention of diseases of which workers are susceptible related to the work concerned.
- ⑥ Matters related to housekeeping and maintenance of sanitary conditions.
- ⑦ Matters related to emergency measures and evacuation at the time of an accident.
- ⑧ In addition to what is listed in preceding each item, matters necessary for maintaining safety and health related to the said work.

(2) Provide safety and health training repeatedly

Safety is effective not when you know it but when you "actually work safely".

A worker can't learn safety operation only by one-time lesson of safety training.

Then, it is important to repeat safety and health training and to let worker get accustomed to it when a company employs new a worker and when they are not used to it.

Therefore, many workplaces repeat training after one week, one month, three months, a half year, and one year later of the employment. Here is a check list example used at a workplace. Provide learning level check referring the list.

Check list to see whether a worker understand the safety and health training (example)

<Learning checklist for safety and health training for new employees>

Name: _____ Training date: _____ / _____ / _____ (year/month/date) checker: _____

■ Q1 Choose an appropriate word for () from the word list below.

Mechanism that occupational accident occur follows four steps: ① ⇒ ② ⇒ ③ ⇒ ④.

①(): Factors that cause workers to get injured when they come in contact with people, facilities, machinery, tools, etc. Knowing this factor is the first step to safety.

Example: forklift, pallet, heavy object, etc.

②(): Status that ① can possibly harm a worker.

Example: taking down loads from truck bed, carrying loads with a cart, taking up a load (heavy object), etc.

③(): Status that ① and a worker almost get touch, and they feel surprised or in danger.

Example: fall from truck bed, fall of a cart, a forklift almost hit a worker, etc.

④(): Status ① and a worker get touch, and they get injured. Some case results in fatality.

Example: a worker falls from truck bed and hit his waist, a worker gets caught with his foot by a cart, a worker got back injury when they take up a heavy object.

danger danger source occupational accident accident

■ Q2 Choose an appropriate word for () from the word list below.

To prevent injuries, it is essential not to approach the danger source. So, the following ten advices of safety action and safety operation are very important.

① Follow (), designated () and ()!

② Implement "()" that you should discard unnecessary objects and "()" that you should put objects in its designated place!

③ In case of trouble, "()", "()" and "()".

④ Use tools and utensil ()!

⑤ () put your () in moving parts! Stop the machine every time when you clean it!

⑥ Work in designated safe and clean ()!

⑦ Be careful when you handle ()!

⑧ When a roll box pallet is falling to you, never try to hold it, but ().

⑨ Perform machine () every time you start operation!

⑩ Work with preparing for the risk that "()" a danger!

·wait ·rules ·operation standard ·setting-in-order ·stop ·might be ·run ·appropriately
·call ·sorting ·Never ·attire ·regulations ·heavy object ·hand ·inspection

Checklist

Task: "Forklift Operation Fundamentals"

Date: MM DD () YY HH MM - HH MM Inspector:
 Work area: Name: Result: Pass/Fail

Checklist Items			Results	Points to Check
Before work	1	Was pre-inspection performed properly?		All 43 inspection items learned
	2	Is the name tag clearly visible?		
	3	Is the yellow paint on the forklift prongs clearly visible?		
Operation	4	Have item weight, appearance, balance, and fork insertion spot been confirmed?		Confirm fork insertion spot
Actions	5	Was the load state checked properly before the task was begun?		Contact with adjacent items
	6	Did worker stop temporarily in front of items (to check edge of fork)?		
	7	Is the fork width the maximum possible for the items?		Fall prevention, appropriate fork width
	8	Is fork being pulled out gently (is the fork level)?		Damage due to fork edges
	9	Is the fork being inserted properly? Are prongs being pointed using yellow lines as a guide (excluding forklifts with short prongs)? Is the insertion location appropriate, and is the stability of the items being checked? Is the degree of tilt appropriate? Are the fork prongs being inserted all the way?		Loaded item stability
	10	Are items being lifted to the appropriate height (5 cm - 10 cm)?		
	11	Is item stability being checked while pulling out the prongs and after pulling them out?		
	12	Is load being checked when hoisted off the ground?		
	13	Is continuous operation being avoided?		
Movement	14	Does driver check to the left, right, and rear before moving, and does s/he point and call to warn people in the vicinity?		Confirm pointing
	15	Is driver driving at a safe speed?		Safe speed maintained
	16	Are sudden, drastic movements avoided?		Sudden acceleration, turns, and stops not allowed
	17	While driving, is care being paid to items, surroundings, and driving conditions?		
	18	When backing up, is the route checked?		
	19	Are signals/instructions from truck drivers or container workers being followed?		
Evaluator's Overall Assessment (focus on areas that need improvement)				

*Evaluate with a grade of A, B, C, or D. A: Extremely good B: Good C: Bad D: Unsatisfactory (Very bad)

Safe Driving Education - Understanding Level Test

For the following questions, please fill O in the answer column for those you consider to be correct, and X for the false.

Question	Questions	Answers
1	Having the consciousness of a healthy driver is the basis for safe driving, and it is important for a professional truck driver to bear in mind his daily health care.	
2	Even if you feel an abnormality in the physical condition that might interfere with the driving during your drive, you should endure for the moment to return earlier to the office.	
3	In order to conduct health care, I must take the yearly 2 times (once within 6 months) regular health examinations in my company.	
4	If issues are pointed out in the health examinations, it is important for a professional driver to receive appropriate treatment, and regain his health.	
5	If by any chance you feel fatigue and sleepiness during your drive, you should park your car to the nearest safe place and take a break and nap, after the break you must sit behind the wheel immediately to start in a hurry.	
6	Stroke, heart disease, hypertension, diabetes, obesity and hyperlipidemia are diseases related to lifestyle, therefore they are called "lifestyle related diseases".	
7	The main cause of lifestyle-related diseases lies in the 5 Habits (eating habits, exercise, rest, drinking, smoking) in daily life, and the onset of these diseases are due to the buildup of these unhealthy habits.	
8	Sleep apnea syndrome (SAS) is a disease in which the respiratory tract is blocked by the trailing down tongue during sleep, the states of breathing stop and recovery repeat intermittently with loud snoring, and adequate sleep can not be achieved, which lead to a strong sleepiness feel or tend to be drowsy during the day.	
9	The poor physical condition etc. subjective symptoms are required to report, and drugs should not be taken during the roll call before driving.	
10	In order not to accumulate fatigue while driving, it is also important to have a break of more than 15 minutes for each driving less than 2 hours.	

Testimonials

Please write "I feel 'safe driving' after receiving education, and will bear that in mind hereafter" in the column.

(3) What you should care in the safety and health training

Unskilled workers who take safety and health training are sometimes not accustomed to work itself. You should pay attention to the following points without using difficult words, but with easy words to understand, and with avoiding one way talk to the trainee.



Teaching Method

① Teach from the point of view of the trainee

The most important thing is for a trainee to understand the content and practice it.

Therefore, a trainer should match a trainee's pace and level, then check their understanding of the content.

② Teach detail of the point

When a trainer says "carefully" or "cautiously", a trainee can't understand "how much" they should care. "To put loads neatly" can be said as "to pile up loads in three pallets in the position A", and "to handle it carefully" can be said as "to hold it with both hands from the bottom". Explain specifically with detail. Showing a sample or picture is also effective.

③ Teach the reason

If you don't teach the "reason", a trainee can't understand why they should do it, and they might not remember it. A trainer should explain not only "what they should/shouldn't do" but "why they should/shouldn't do", so that they can act appropriately based on a reason.

④ Care about the order of the training content

Care about the order of the training to make it understandable. For example, start with an easy topic and then progressively explain difficult topics. Explain the individual details after explaining the overview.

⑤ Utilize specialized organization and their services

It is not easy to educate effectively with well structured lesson of professional content. Give effective training by utilizing specialized organizations or experienced safety and health consultants.

Answer1: ①danger source ②danger ③accident ④occupational accident

Answer2: ①operation standard, regulations, rules ②sorting, setting-in-order ③stop, call, wait ④appropriately ⑤hand, never ⑥attire ⑦heavy object ⑧run ⑨inspection ⑩might be

(4) Safety and health training considering the type of employment

Employers should give safety and health training for all new employees including all types of employment (regular employee and non-regular employee), age and gender. To give more effective training, a trainer should pay attention to the type of employment.

<Basic points>

- ◆ Good communication between regular employee and non-regular employee is important to prevent accidents. Make sure that dispatch workers do not feel isolated.
- ◆ Working together on various activities and meetings on safety and health training improves communication between regular and non-regular employees.
- ◆ You should check if any difference occur between regular and non-regular employees on irregular work such as inspection or cleaning.
- ◆ It is important for workers to experience emergent machine stop so that they can perform it during an emergency.

① Safety and health training for dispatch employees (as a dispatching business operator)

- ◆ It is necessary to conduct safety and health training to a dispatch employee at the time of employment.
- ◆ When a company changes the workplace of a dispatch employee, the company should give them a training for changing the work content.

(Items to be considered)

- ◆ Dispatching company should conduct safety and health training on the danger possibility in the work place and the training of safe operation based on the operation at the dispatching workplace.
- ◆ Dispatching company should let workers understand the danger and harm of the work in advance based on the danger possibility, harmful operation, and the content of the safety and health training that the clients company gives.
- ◆ Dispatching company should know the content of the safety and health training of the client company.

② Safety and health training for dispatch employees (as a dispatched client company)

- ◆ As stipulated by the laws and regulations, the company should provide special training to dispatched employees that will be engaged in dangerous or harmful operations.
- ◆ The company should provide training for the new work content when the company changes the work content of a dispatched worker

③ Safety and health training for foreign workers

- ◆ Based on the difference of language and culture, safety and health training especially for accidents that can be caused by lack of communication is necessary.
- ◆ Safety and health training should contain a lot of illustration and movies so that it covers the difference of verbal training.
- ◆ Put importance on safety and health signs so that foreign workers can understand the meanings.
- ◆ Teaching Japanese used in emergency is also important.

④ Safety and health training for elderly workers

- ◆ Provide training on the effects of declined physical functions.
- ◆ As learning new things is relatively difficult, repeat training for them.

(Please refer to the next page for details on safety and health training for elderly workers)

作業専任者などの識別		
Chief	Operation Chief	Slinging
Signal Person	Guide	
		ここでの作業現場では作業専任者などをヘルメットに貼り付けて識別をおこなっています



This is an example that worker's roles such as operation commander are clarified with the color of helmets in construction field. You can assign each color of helmet, cap, clothes from leader to unskilled worker so that you can also pay attention if unskilled worker implement safe operations.

(Example note of "Safety visualization" (Osaka Labour Bureau))

(Reference) To ensure elderly worker's operation more safe

It is common to work until 65 years old. However, because of high incidence of occupational accidents among elderly workers, protecting their safety and health is becoming more important.

Aging affects especially the ability to drive trucks or lift heavy objects, and measures to prevent occupational accidents based on their health is necessary.

【Challenges for elderly workers】

- ◆ **Decline of physical functions**
 - decline of muscular strength
 - decline of eyesight
 - decline of audibility
 - decline of agility
- ◆ **Judgment from knowledge and experience**
 - confidence in past experience
 - reliance on self-judgment
 - some may ignore rules
- ◆ **Difficult to adjust new things**
 - decline in focus and memory
 - reliance to conventional things
- ◆ **Not good at communication with young people**
 - difficulty in asking younger people

【Care for elderly workers】

- ◆ **Help them be aware of the decline in their physical ability**
 - Physical check can notify them on decline in eyesight, reflex and agility
 - Educate them with safe operation procedures that can cover the decline in physical ability
- ◆ **Improvement of Work Environment**
 - When handling heavy object, use support tools and work with other people
 - Stop working in unstable positions
 - Equip hand rail and non-slip parts on stairs and slopes. Eliminate steps or display warning.
 - Brighten the workplace, display signs in larger text
 - Set alarm louder, inform not only by hearing but by sight
 - Adjust operation speed, eliminate operation that needs instant judgment of reaction
- ◆ **Considerations provided by the operation management**
 - Assign them to a position that needs experience
 - Explain role sharing for work
 - Provide enough training
 - Check their understanding
- ◆ **Thoroughly compliance to rules**
 - Educate them on what could happen when they break a rule
 - Ask them to be good models for young workers
- ◆ **Promote communication**
 - Managers should initiate communication.
 - Encourage young workers to gain experience and know-how from elderly workers

II Steps of the safety and health training for unskilled workers

1 Understanding the various types of dangers at workplace

Many safety and health manager notice that many new workers believe workplace is safe without any reasons.

However, many accidents of unskilled workers happens as already explained in "1 Occupational accidents in commerce occur more frequent than other workplaces".

The first step for the safety of unskilled workers is to let them know the various types of danger in the workplace and to improve their awareness of danger.

Showing actual examples of occupational accidents, allows them understand what type of danger would occur at which process.

② Introduce near-miss (Hiyari-Hatto) examples.

Providing examples of near-miss (Hiyari-Hatto) cases is effective to let them know that danger risk is all over the workplace. Introduction of actual accidents at your company is effective.

Near-miss examples are shown categorized by accident type in land transport industry after page 15. Provide training using the examples to inform workers on various danger risks at workplace.

(Note) Near-miss examples are quoted from "website of workplace safety" on page 64.

② Introduce example of occupational accidents.

Introduction of occupational accident examples is an important method to let them understand dangers at workplace. Of course, introduction of actual accident at your company is effective.

Here are three examples, and please choose effective ones to explain.

Cause and countermeasure of these cases are just examples. Please consider adding other cause and countermeasure to the case details.

③ Obtain various examples of occupational accidents.

The most effective explanation of occupational accidents is to introduce the accident that is related to the trainee's work.

If you can't find good examples in this manual, you can find it from websites including "Website for workplace safety" of Ministry of Health, Labour and Welfare. Refer to page 75 for further information.

(1) Introduce near-miss (Hiyari-Hatto) examples

Here are examples of the various types of near-miss (Hiyari-Hatto) accidents listed on the Ministry of Health, Labour, and Welfare's website of workplace safety. Use these examples as a reference to raise awareness of the various dangers present in the workplace.

1 Case of Crash / Fall Accidents

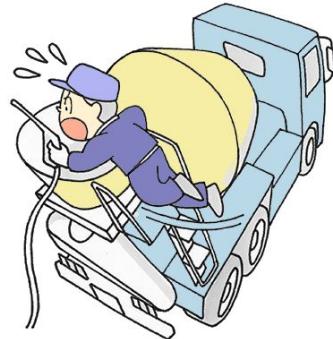
A worker ascended the steps of a concrete mixer truck, and while he was cleaning the hopper section, he slipped and nearly fell from the steps.

<Cause>

He was so focused on cleaning that he neglected to pay attention to his footing.

<Countermeasure>

The steps on the concrete mixer truck are small, and cleaning the hopper section requires bending, so make sure you do not lose your balance. Also, be sure to wear work shoes with traction when cleaning the hopper section.



While a worker was unloading a flexible container bag, he climbed onto the loading-type crane truck bed in an attempt to hoist the bag, but this resulted in shaking that caused the bag to crash into him, nearly causing him to fall from the bed.

<Cause>

The worker did not know where he was supposed to stand when operating the crane. In addition, the crane wire was slanted when he attempted to hoist the bag.

<Solution>

Provide safety and health education to workers so that they understand both radio control operation and the proper standing position when dealing with a loading-type crane truck. In addition, when hoisting the flexible container bag with the crane, make sure to hang it on the crane hook while staying on the same level as the crane.



2 Case of Bad Posture / Recoil Accidents

While unloading rice (in 30 kg bags) from a delivery vehicle, a worker hoisted it onto his shoulder and twisted his waist, causing discomfort.

<Cause>

By suddenly lifting the bag stacked on the truck bed and resting it on his shoulder, the worker placed a sudden burden on his lumbar region.

<Countermeasure>

When handling heavy objects, use power units and other labour-saving equipment. If this is difficult, use carts or other auxiliary equipment to lessen the strain placed on the body. In addition, avoid sudden movements and unnatural postures, such as bending forward and twisting.



3 Case of Falling down

In a logistic center, when a worker stepped over a belt conveyor carrying a box as the conveyor didn't move, he lost balance and almost fell to the floor.

<Cause>

As seeing the belt stopped, he tried to step over the conveyor with his both hands occupied.



<Countermeasure>

When a worker wants to move to the other side of conveyor, don't step over it but take a safer path. Also, if necessary, locate an overbridge.

4 Case of Get caught

When a worker coordinated shipping products, he rotated a pallet cart with many products on it. But he almost got his foot caught by the rotated cart.

<Cause>

He didn't pay attention to the rotating tires of the cart.

<Countermeasure>

Use safety shoes while carrying a pallet cart. Also when changing the cart direction, don't move the pallet cart with its center not aligned to the worker's body center.



5 Case of Crash

A worker was using a forklift to carry empty boxes from receiving area to the empty box storage outside. When the forklift run under the shutter door without stopping, another worker was approaching to cross the shutter door, the forklift almost crushed the other worker.

<Cause>

Forklift driver didn't stop before he crossed over the walk passage.

<Countermeasure>

Forklift driver should stop in front of shutter door, and make a call of safety check there. Also, don't run the forklift when crossing a walk passage as possible.



(2) Introduce various examples of occupational accidents

[Case 1] Crushed beneath by the pallet loads that collapsed from truck bed

[Situation of the accident occurrence]

- 1 Business type: General freight transport
- 2 Company scale: 10 to 49 persons
- 3 Occurrence time: noon to around 1 pm
- 4 Victim: worker engaged in loads handling (50 years old)
- 5 Degree of injury and sickness: Death
- 6 Accident situation

The victim was sorting house exterior wall materials by types within the shipping storage of his company and loading them on a 3-ton truck.

The victim was guiding a forklift driven by his colleague to load a wooden pallet which stacked 63 bundles of exterior wall materials in two rows, with two materials in each bundle.

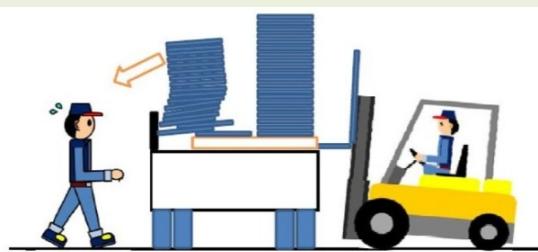
The colleague once placed the pallet on the truck bed, then pulled out the fork a little from the pallet and re-inserted it. While trying to move the pallet further inside into the truck bed, the stacked materials collapsed, and the victim who was guiding was crushed beneath and died.

[Cause and measures]

- (1) The unsafe act of people
 - 1) It is necessary to re-insert the forklift lightly (forklift driver)
 - 2) Did not check the position of re-insertion which could be, and the guider should stand in front of the pallet load (guider)
- (2) The unsafe state of objects
 - 1) The pallet stacking method was not suitable for the loads
 - 2) Measures to prevent the loads from collapsing were not taken
- (3) The unsafe status in management
 - 1) Not assigning a field work director and work based on the work plan
 - 2) Risk prediction actions were not implemented before work

[Measures to prevent recurrence]

- Assign a field work director who will monitor the work status constantly and correct unsafe states.
- Before work begins, the field work director will show workers the work procedure, work points, and implement risk prediction activities before work begins.



Source: Land transportation and safety & sanitation (a letterzine of land-related accidents prevention institutions)

[Case 2] Victim boarding the truck bed fell down from the truck bed with the refrigerator loaded on the truck

[Situation of the accident occurrence]

1 Business type: loads handling business

2 Company scale: 16 to 29 persons

3 Degree of injury and sickness: Death

4 Accident situation

The victim loaded recycled household appliances (refrigerators) collected on a 2-ton van type truck, and transported them from the platform (temporary storage place) on the 1st floor of the workplace to the recycled home appliances storage house on the 3rd floor.

The victim loaded the refrigerator on the truck bed of the 2-ton van type truck, got on the unfixed truck bed, and delivered the extra part of the lashing belt to the side of the refrigerator, such lashing belt was used to fix other loads (panel for packing) to the wall of the truck bed; and then by holding the end of the lashing belt, the refrigerator was supported by the victim stepped on the truck bed in a half-rising posture.

The colleague worker confirmed with the victim whether he can start the truck or not, and the truck was started with both rear doors of the truck bed opened. While the truck was on the upslope toward the 3rd floor, the victim fell down from the truck bed together with the refrigerator.

[Cause]

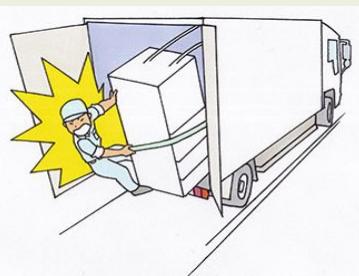
1) Worker was on board while the truck was driving.

2) The work procedure concerning freight transportation was prepared.

[Measures to prevent recurrence]

1) Workers shall not board on locations other than boarding seats while the truck is moving.

2) Prepare a work procedure concerning freight transportation then inform the workers about the procedure.



Source: Website of workplace safety
(Ministry of Health, Labour and Welfare)

[Case 3] A worker died by getting caught between a truck coming back and another truck because the driver failed to apply the emergency brake

[Situation of the accident occurrence]

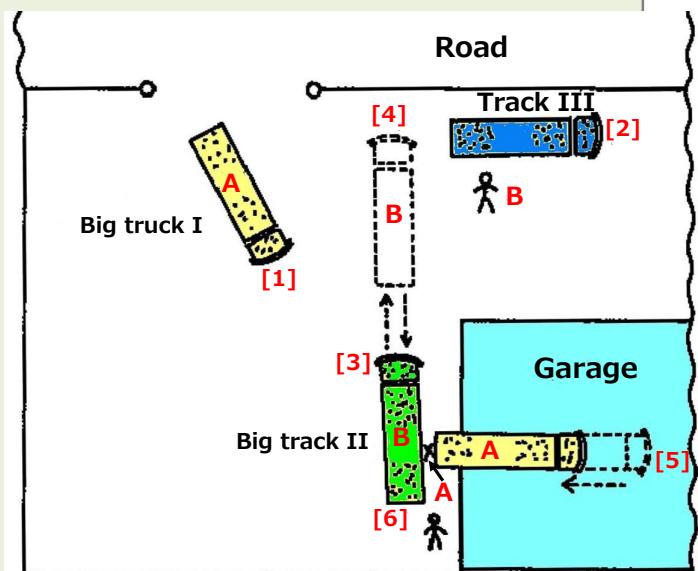
- 1 The victim A, the driver of the truck, was driving 10-ton heavy truck to return to the workplace. In order to put the car into the garage, A pulled over the car on the position [1] in front of the garage.
- 2 However, the heavy truck II was parked in front of the same garage. The colleague B, who was checking the truck III on the position [2], moved the truck II forward the position [4] by telling B, to help A put into the garage.
- 3 After the truck I, which A was driving, was put into a garage [5], B backed the truck II in order to move the truck II into the original position [3] again.
- 4 On the position [6], after getting out of the truck I, A guided B, who was backing the truck, with good intentions.
- 5 Then B noticed that the truck I was moving back slowly and automatically and notified A of the situation.
- 6 A was surprised, went back to the back side of the truck I, and tried to stop the truck by his hands, However, he was pushed by the truck I and died because he was caught between the truck I and the side gate of the truck II.

[Cause]

- ① The victim did not stop the truck when he left the driver's seat of the motor truck.
- ② As he did not apply the emergency brake well, the truck I slowly went back due to the vibration of engine and the low pitch of the rear wheel.
- ③ The victim acted unsafe by attempting to stop the heavy truck, which was coming back.

[Measures to prevent recurrence]

- ① When leaving the driver's seat, make sure to stop the motor and apply the emergency brake. Lock the tires if necessary.
- ② Do not act unsafe such as stopping the moving vehicle.



Source: website of workplace safety
(Ministry of Health, Labour and Welfare)

2 "Might" questions can notify workers on the occurrence of danger

Promote activities that can improve employee's awareness of hazard such as questioning "might" possibility, to let them understand that there are many kinds of hazardous risk and possibility of occupational accidents. Also, using the cases on page 15 to identify the type of each "might be" near-miss example would help them understand better.

Familiarizing with "might" situations!

["might" situations of a worker's action]

A worker "might" get caught by a carrier machine, or a worker "might" fall from height. Let employees understand that these dangers might occur.

A worker "might"

- fall
- get back pain
- fall trapped
- get caught
- get dragged-in
- crash
- get crashed
- get burnt
- get an electric shock
- get gas poisoning
- get lack of oxygen
- get harmed by hazardous material



["might" situations of an object]

An object might "move suddenly" or "fall from height". Let employees understand that these dangers might occur.

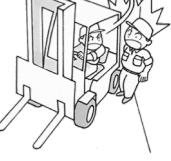
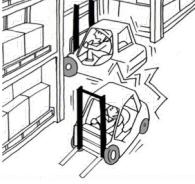
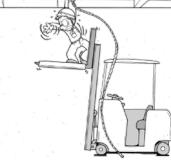
An object "might"

- move
- rotate
- fly
- fall
- fall off
- burn
- fall down
- collapse
- explode
- leak



For example:

- While a worker is working on truck bed, he/she "might fall."
- If a worker tries to jump off from truck bed, he/she "might lose balance and fall."
- When a worker lifts up a heavy object, he/she "might get back pain."
- When a worker works on a pallet, it "might move suddenly."
- When a worker handles a container bag, it "might hit him/her."

	<p>① When a worker tries to take down a roll box pallet from the power gate of a truck, he/she "might fall" with the box.</p> <p>※ While a worker pulls a roll box pallet backwards to put it on the power gate, he might get trapped on a power gate stopper and get fall. Then if he tries to hold and stop the pallet, he might fall and get crushed under the heavy box pallet.</p>
	<p>② A worker tries to lift up a rice bag, he/she "might get back injury."</p> <p>※ When a worker carries rice bags (30 kg in each paper bag) from delivery truck and he/she lifts a rice bag onto his/her shoulder, he/she might get back pain injury.</p>
	<p>③ When a worker gets off from truck bed, he/she "might fall trapped by something."</p> <p>※ In a customer's parking, when a worker jumps off from truck bed after taking down loads, he/she might trip on a car stopper and fall down to the ground.</p>
	<p>④ A worker standing near a forklift "might get dragged-in."</p> <p>※ A worker was standing close to a forklift in a warehouse. When the forklift started to move by turning to the right, the worker got caught between the left rear of the forklift and the wall of the warehouse.</p>
	<p>⑤ When a worker steps over an object, he/she "might get trapped and fall."</p> <p>※ In a logistic center, when a worker carrying a box stepped over a belt conveyor as it didn't move, he lost balance and almost fell to the floor.</p>
	<p>⑥ When a forklift is running, it "might crash" into something.</p> <p>※ When some forklifts run at the same time, they might crush without noticing each other.</p>
	<p>⑦ When a worker puts his head out of the front of a forklift, the mast "might move suddenly."</p> <p>※ When a worker puts his head out of the front frame of a forklift to check the loads and touches the tilt lever by mistake, he might get caught between mast and the frame.</p>
	<p>⑧ When a worker works on a pallet, it "might move suddenly."</p> <p>※ While a worker was hanging a wire rope onto a hook working on a forklift pallet with lifted up, the pallet might move and he/she might fall.</p>
	<p>⑨ While carrying a cart on the edge of a platform, the cart "might fall."</p> <p>※ While a worker is carrying a container cart on a platform, he/she might fall with the cart because he/she can't see forward well with the loads in the container.</p>

3 Teaching the basics of accident prevention (Part 1)

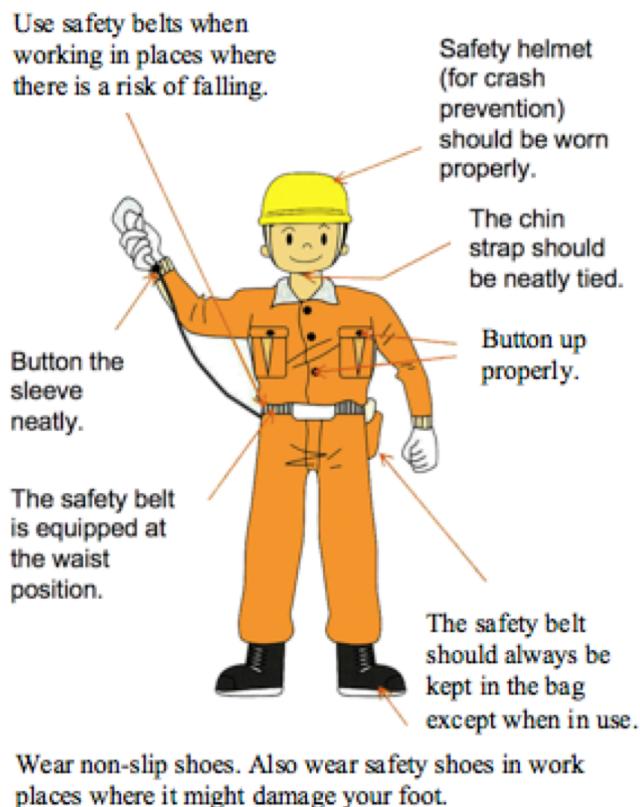
- ~ Let workers understand various rules and activities for safety and health

(1) Safe operation starts with the proper attire

<Basics of working clothes>

- ① Wear a set of safe clothes while working.
- ② The work clothes are made lightweight, and fit to the body.
- ③ For long sleeves, tighten the cuffs and tuck in the jacket in the pants.
- ④ Do not work while a knife, screwdriver, or drill is in your pocket.
- ⑤ Do not wrap a towel or a washcloth around your neck, do not wear anything that might get caught such as a tie or a scarf.
- ⑥ Protective gear, such as instructed safety helmet should be worn properly.

<Wearing work clothes Example 1>



【Wear the safety helmet correctly】

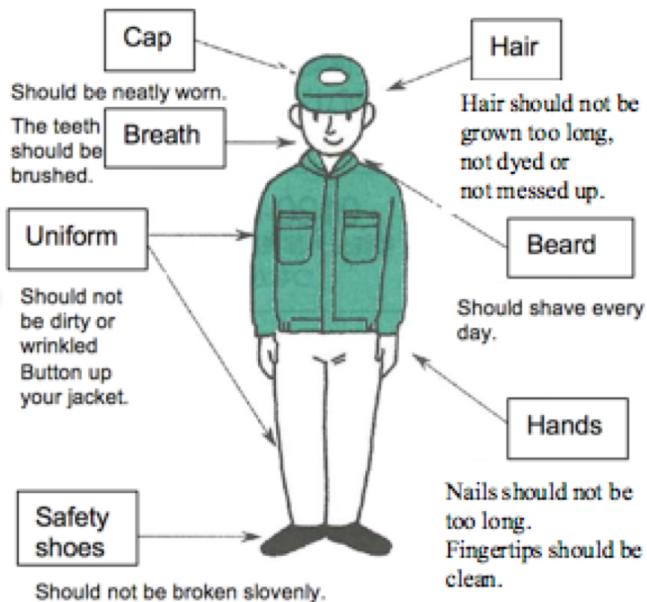
- Check chinstrap not loosened, or not in a pushed back cap style
- Check it not worn or damaged
- Safety helmet for protection at the time of crash

【Use Safety belts correctly】

- If you are working at height on the load, be sure to use the safety belt
- Position of the hook is above the waist with a safety belt
- Harness Type safety belt (note) is preferable.

Note: For the harness type, see P60.

<Wearing work clothes : Example 2>



The dress is a mirror of the mind, and disciplined body. The disorder of clothes is a disturbance of the mind. Clean and neat clothes tighten the mind.

In particular, in the service industry, it is important to have a favorable customer. Always take care of your appearance and try to make your impression better. Recently, there has been a growing number of complaints. Do not let the customer feel uncomfortable in order to carry out the corporate stance of "service first". Smoking is strictly prohibited in the vehicle.

<Wearing work clothes Example 3>



This attire is intended to move the roll box pallet in the distribution center. It should be easy to move, and the one you can allow when it gets stained. Long sleeves (can't be shorter than short sleeves), long trousers, safety shoes, gloves, helmets (safety helmet), Achilles Guard, and glove guard should be equipped.

(2) Implementing operation procedures

Some work procedure may not exist in written form, but in principle, every work has a procedure in place wherever work is performed. An operation manual contains these procedures in written form.

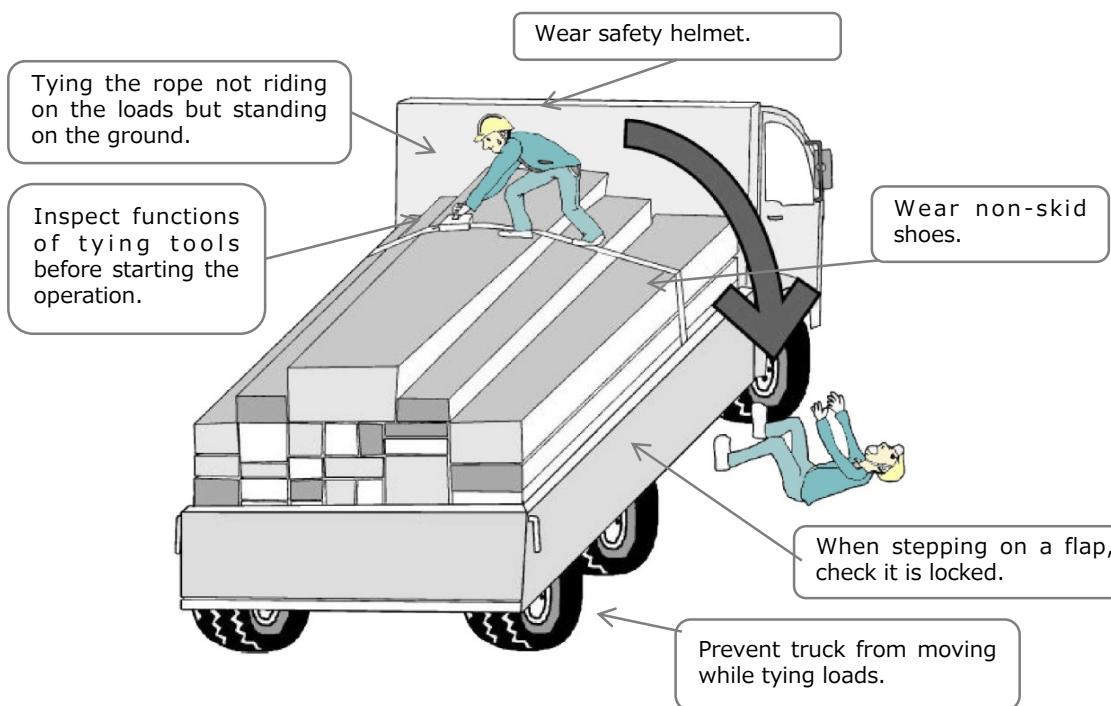
An operation manual compiles procedures to transport and carry freight loads efficiently without any damage and also should contain items relevant to safety and health.

Of course, because the manual indicates what to do and what not to do to maintain safety and health, it is necessary to train employees so that they understand why these rules are necessary and make sure they abide by them faithfully.

In addition, it is essential to perform risk assessment for the work procedures and review them as necessary to further improve safety.

<Implementing operation procedures>

Follow the operation manual when working



- ① Follow work procedures (operation manual) strictly and do not use any other methods to perform work. It is especially vital to recognize the importance of safety equipment and not remove or otherwise render it ineffective.
- ② Practice the work procedures indicated in the operation manual repeatedly until you master them.
- ③ Abide by all related laws and regulations as well as workplace rules regarding acts that maintain safety and acts that compromise safety.
- ④ If you do not know proper work procedure, do not attempt to perform the work without consulting the person in charge.
- ⑤ Avoid accidents due to overconfidence, and do not perform reckless or forcible actions.

(Land Transportation Safety & Health association "Stop occupational accident in handling freight loads")

Example Operation Manual

(3) Implementing 4S and 5S activities

4S consists of four ideas, "Seiri / Sorting", "Seiton / Setting-in-Order", "Seiketsu / Standardizing" and "Seisou / Shining". A workplace can implement these concept with these 4S activities. You can add "Shukan / Sustaining", which is to learn the 4S into mind. This is called as "5S activities".

These are fundamental activities to work safe and effective. Let's start with these 4S activities.

【Seiri】 	<p>① Seiri / Sorting</p> <p>Divide up items into necessary and unnecessary items, and discard unnecessary ones.</p> <p>(If unnecessary items are left lying around, this increase the risk of stumbling and falling, and also worsens the flow of operations.)</p>
【Seiton】 	<p>② Seiton / Setting-in-Order</p> <p>Store necessary items in a manner that is easy to use.</p> <p>(Searching a necessary item can decrease the work efficiency. Showing a picture of neatly stored items in their original position makes Seiton operation easier.)</p>
【Seiketsu】 	<p>③ Seiketsu / Standardizing</p> <p>Eliminate any dirt and keep yourself clean and well-groomed.</p> <p>(This is crucial for maintaining normal operation of machinery. Also, Seiketsu is essential for the workplace that handles customer's cargo in order not to dirty the cargo.)</p>
【Seisou】 	<p>④ Seisou / Shining</p> <p>Eliminate dirt and trash from carrier machines and the operation and storage area.</p> <p>(Immediately wiping up wet spots on the floor is crucial for preventing slipping incidents.)</p>
【Shukan (Shitsuke)】 	<p>⑤ Shukan (or Shitsuke)/ Sustaining</p> <p>Follow the rules properly. Repeating the assigned procedures will make yourself be accustomed to safe operations.</p> <p>(Just understanding seiri, seiton, seiketsu and seisou is not enough, but it is important for employees to also make a habit of carrying out these procedures.)</p>



Set up tool storage area and put this on the wall.

Source: "Visualization of safety" case studies (Osaka Labour Bureau)

○ If they do not follow 4S sufficiently…

If they do not follow 4S correctly, there will be many bad influences. Make sure to conduct 4S all the time.

Workplace without sufficient 4S activity

Occurrence of accident and occupational disease

- Work environment degradation
- Occurrence of accident caused by working behavior

Lowering productivity

- Lowering productivity due to Muri / strain and Muda / waste tasks
- Breakdown of machines, occurrence of trouble
- Late shipment

Insufficient 4S

Losing trust

- Occurrence of freight claim
- Losing trust of shippers
- Lowering of morality of workers

Occurrence of pollution

- Leak of oil and toxic substance
- Occurrence of bad smell

Muda / waste of recourse

- Muda / waste of material

(4) Near-miss (Hiyari-Hatto) activity

A About near-miss (Hiyari-Hatto) activities

In the course of work, sometimes operators come very close to injury. The process of compiling these "Hiyatto shita (I got chills)" or "Hatto shita (I had to stop to catch my breath)" moments and applying them to activities with the goal of injury prevention is called "near-miss (Hiyari-Hatto) activities." These activities are an effective method for grasping what dangers (injury risks) there are in the workplace.



B Heinrich's law

From analysis of large number of workplace accidents, we found that for every individual fatal accident or serious injury, there were 29 minor injuries and 300 accidents (which did not cause injury) all caused by the same unsafe act. This relationship is called Heinrich's law. (refer to the next page)

If the number of these 300 near-miss incidents is reduced, the number of minor and serious injuries can also be expected to decline, so these types of accidents provide beneficial information which can prevent fatal accidents before they occur.

C Raising awareness of dangers through near-miss (Hiyari-Hatto) activities

Near-miss incidents provide extremely precious information by identifying dangers in the workplace. Aside from standard near-miss activities, the following are some other applications.

- ① Making inexperienced workers aware of the dangers in the workplace in an easy to understand way.
- ② Reporting near-miss incidents can raise operator's sensitivity to danger.
- ③ If hazard prediction (Kiken-Yochi, KY) training and risk assessment are conducted based on near-miss information, this can make activities more familiar.

■ Important points for implementing "near-miss (Hiyari-Hatto) activities"

(1) Reporting Near-miss (Hiyari-Hatto) experiences

Memories fade over time. Report these experiences at the end of your work using the prescribed form.

(2) Do not attempt to find fault with the reporting operator

Near-miss incidents arise from unsafe actions, so carry out through safely activities only and refrain from attempting to find fault with the reporting operator. Failure to do so will result in a decline in the number of reports received.

(3) Use near-miss experiences as opportunities for improvement

If no improvement activities are conducted following a report, this will have a negative impact on participants' motivation to submit reports. Trace back to the root cause and implement countermeasures at an early stage.

(4) Sharing near-miss information

Near-miss information should be provided promptly to operators carrying out similar operations in order to prevent the same problems from repeating themselves.

○ Near-miss (Hiyari-Hatto) report form

Two example report forms for reporting near-miss (Hiyari-Hatto) experiences are included on pages 42 and 43. The sample form on page 42 is taken from the labour bureau's website (the filled-in sample was created for this manual). The sample form on page 43 is an actual reporting form used at one of the company's locations.

*The labour bureau website materials introduce near-miss (Hiyari-Hatto) implementation in detail, covering the following topics: "near-miss (Hiyari-Hatto) actual and hypothetical examples," and "implementing the near-miss (Hiyari-Hatto) reporting system." Sample reports are also posted.

- http://niigata-roudoukyoku.jsite.mhlw.go.jp/library/niigata-roudoukyoku/roudoukyokunituite/kantokusyo_oshirase/04/260711_04hiyarihatto_houkokuseido.pdf (Niigata labour Bureau)

<Keywords>

Heinrich's law (1:29:300 law)

This law was announced by Heinrich, a safety technician at a damages insurance company.

"Out of 330 accidents caused by the same human, if 1 of them is serious (including but not limited to fatal accidents and those involving severe injuries such as severed limbs), 29 of them will be minor (scrapes and cuts treatable with first aid alone), and 300 will be accidents without any injuries involved (incidents with the possibility of injuries or damages)." In other words,



This suggests that thousands of unsafe actions and attitudes are in the background for the 300 injury-free accidents. Also, although Heinrich himself stated that this ratio differs between steel frame construction and clerical work, not so much the numbers themselves but rather the thinking behind this law is what continues to be used today as a means of expressing the relationships between minor and major accidents.

Related research includes Bird's accident ratio work, which analyzed 1.75 million accident reports from 297 companies, calculating the following ratios. 1 (serious injury or damages) : 10 (injury) : 30 (damages only) : 600 (accidents without any injuries or damages).

The important part of these research results is not the ratios themselves, but rather the finding that there are a multitude of risks and causes in the background of these accidents. This shows that maintaining the best possible awareness of near-miss (Hiyari-Hatto) incidents and other information, and implementing handling measures rapidly and appropriately is important.

(Workplace safety site (health and safety keywords))

Example

Report type: **Near-miss/Potential Near-miss**
 ↑Circle one

Near-miss/Potential Near-miss Report

Name and Post	OO OO OO		
Time	____ / ____ /2016 (day) at approx. 1:30 p.m.		
Place	Shipment area at customer's place	Action being performed	When moving the flexible container bag down from truck bed.
Summary of near-miss/feeling of danger	When I was lifting up a container bag on the bed of truck with crane, the bag swung and it almost hit me, then I almost fell from the truck.		

What were the issue (the unsafe conditions or actions)?

[Choose the fields of the issues you think is the problem, then write what happened as well as any potential solutions.]

1) Work environment issues

I was working on a small truck bed.

2) Equipment issues

3) Procedural issues

Operation manual for carrying cargo was not prepared.
 Safety and helth training of carrying cargo was not done.
 He hanged wire on the container bag slantingly.

Physical and mind analysis

(circle every item that fits)

- 1. You weren't able to see(hear) well
- 2. You didn't notice it
- 3. You forgot it
- 4. You didn't know it
- 5. You didn't think well
- 6. You assumed it was alright
- 7. You were in a hurry
- 8. You felt unpleasant
- 9. You were tired
- 10. You took action automatically
- 11. It was difficult to do
- 12. You lost body balance

Individual issues

The operation was delayed, and I did not think well about safety, then I was in a hurry to get the operation done.

Measures to be taken in the future (desired actions)

Make operation manual to raise awareness of dangerous operation and to show safe operation. If necessary, secure operation area to handle crane outside the truck bed.

※To be filled out by the Safety Supervisor: The reporting individual should not fill this out

- (1) Make a safe operation manual on carrying cargo with crane on a truck.
- (2) Include safe operation when a worker lifts up a flexible container bag.
- (3) Provide safety training based on the prepared operation manual.
- (4) Share this near-miss example with colleagues.

Near-miss Report

For: Risk Assessment

Date: / / (mm/dd/yyyy)

Branch Name		Dept.		Name	
Category	Driving/On premises/Other ()				
When	/ / /	:	(mm/dd/yyyy hh:mm)	Weather	
Where					
While doing what					
What happened					
Likely cause					
Things you should've done (preventive measures)					
Sketch *Be as detailed as possible					
Risk Evaluation				Severity of Injury/Illness	
				Fatal/serious	Moderate
	Frequency	Very likely, relatively likely	<input checked="" type="checkbox"/>	<input type="triangle"/>	<input type="circle"/>
		Possibility of occurring	<input type="triangle"/>	<input type="triangle"/>	<input type="circle"/>
	Almost no possibility	<input type="circle"/>	<input type="triangle"/>	<input type="triangle"/>	
*Mark with a ☆ for evaluations made upon realizing the near-miss, and mark with a ○ for evaluations based on the assumption that you did what you should have done.					
Manager Comment					

Date:

Manager	Check	Name

Near-miss Report

This report is to help prevent occupational accidents while on the road. If you ever feel like you've narrowly avoided an accident, write down your observations.

When	/ / : (mm/dd/yyyy hh:mm)
Where	Expressway National route Other road () Onsite
Location description	Crosswalk Left/right curve Straight lane Tunnel Bridge Other ()
Type of incident	Head-on collision Side collision Rear-end collision Structure collision Veering off road Other ()
Responsible party	I almost caused it It almost happened to me Other ()
Cause	Going too fast Ignored signal Did not stop Inappropriate right/left turn Inappropriate passing Inappropriate pursuit Inappropriate turn Fell asleep Not paying attention to road Not braking correctly Other ()
Describe in greater detail	Reference image
	Cause/reflections/things you want to improve

(5) Hazard prediction training (Kiken-Yochi training / KY training / KYT)

A. Use hazard prediction training (Kiken-Yochi training / KY training) to increase awareness of risks.

Hazard prediction training (Kiken-Yochi training / KY training) is the process of talking about hidden dangers in working posts and operations, as well as the accidents that can result from these dangers, and increasing awareness of specific risks in the hope of preventing accidents.

This type of training is effective for improving risk awareness among inexperienced workers.

B. How to implement hazard prediction training (Kiken-Yochi training / KY training)

One method involves using illustrated sheets and other materials depicting the workplace. The following is an example of one such initiative.

4. Round KYT

1. Awareness of current conditions . . .

Where are the hidden risks?

Point out the problem areas and identify the hidden dangers. Allow participants to point out the problem areas freely, avoid criticism from other members, and guide the group to find as many points as possible.

2. Investigating the true nature . . .

This is the point where the risk lies.

When the risk content has been identified, have the members consider the causes of problem areas and which ones should receive priority for handling, then organize their ideas.

3. Establishing countermeasures . . .

What would you do?

Using the organized problem areas, prompt the members to develop countermeasures for solving or improving the situation.

4. Setting goals . . .

We will approach things like this.

Have the members discussed the countermeasures suggested and compile them with the agreement of the group.

(6) Risk Assessment

What is Risk Assessment?

Risk assessment is a method for finding potential **risks or hazards** hidden in the workplace, categorize these risks according to priority, in order to mitigate or eliminate them. This is an effective method for preventing the occurrence of occupational accidents as well as preventing severe injury should an accident occur. The benefits of risk assessment are as follows:

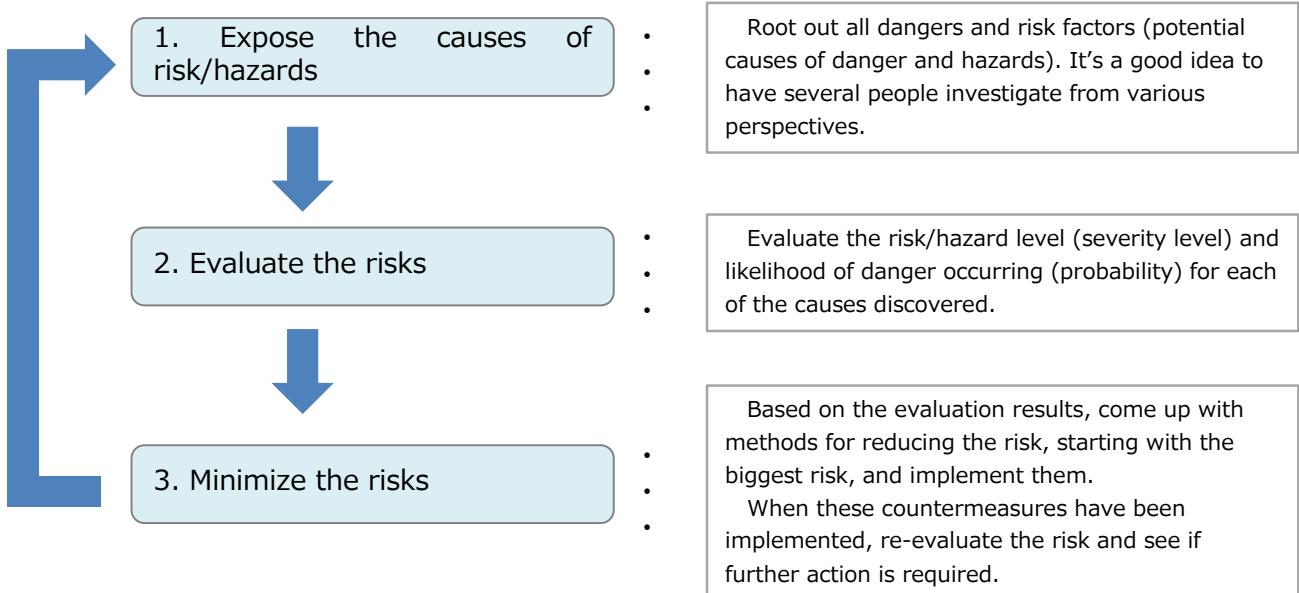
- ① When deciding to use new equipment or materials or replacing old ones, etc., **this is an effective method for systematically revealing risks hidden in the workplace.**
- ② In addition, because **potential risks are evaluated and ranked by priority**, this allows management resources to be diverted toward the biggest issues, thus making the process more effective.
- ③ **To minimize risk**, it is essential to **proactively** consider changes in work methods, interlocking (safety devices, safety mechanisms) installations, and other **equipment-related countermeasures**.

Furthermore, risk assessment can be performed on the basis of near-miss reports and the operation manual, so it is an effective method for ensuring that new employees practice safe work procedures.

Risk assessment resources and training materials are available on the Ministry of Health, Labour, and Welfare website. Please make use of them as necessary.

(⇒ <http://www.mhlw.go.jp/bunya/roudoukijun/anzeneisei14/index.html>)

Risk Assessment Implementation and Considerations



Important points of detecting hazardous cause

Fundamentals for identifying hazardous cause is as following.

Check each category of worker (operation and move) / object (facilities and utility) / environment

Pick up every points including the one with small possibility or low impact.

Check normal operations as well as temporally ones

You can check materials and references related to risk assessment on the website of the Ministry of Health, Labour and Welfare.

⇒ <http://www.mhlw.go.jp/bunya/roudoukijun/anzeneisei14/index.html>

4 Teaching the fundamentals for accident prevention (Part 2)

~ Carry out safe operations to improve workplace safety

Implement prevention measure to frequent accidents including ① "fall from height", ② "back pain injury", ③ "falls", ④ "getting caught or dragged-in", ⑤ "crash", ⑥ "heat stroke".

(1) Points to prevent "falls from height"

• Points to prevent "falls from height"

The most frequent accident is "falls from height". Prevent it by cooperating with customer if necessary.

■ Freight loads operator should implement safe operation!

Sometimes operator handles loads by themselves in the customer's place, and so they should follow safe operation procedures strictly. (refer to the table on next page)

■ Avoid working while standing on the flap of a truck bed!

If you need to work on the truck bed, prepare a platform near the truck bed, so don't have to work on the flap. It is very dangerous. (picture 1)



■ Use a lift facility when you should step on a truck bed!

If it is in a customer's place, request permission to place it there. (picture 2)

■ If there is equipment that allows the use of a safety belt, use one!

If a worker works at height such as on top of loads, install safety belt equipment on the facility side as much as possible, and coordinate it with customer if necessary. (picture 3)



(picture 1)



(picture 3)

※Full harness type of safety belt is desirable.

(refer to page 60)



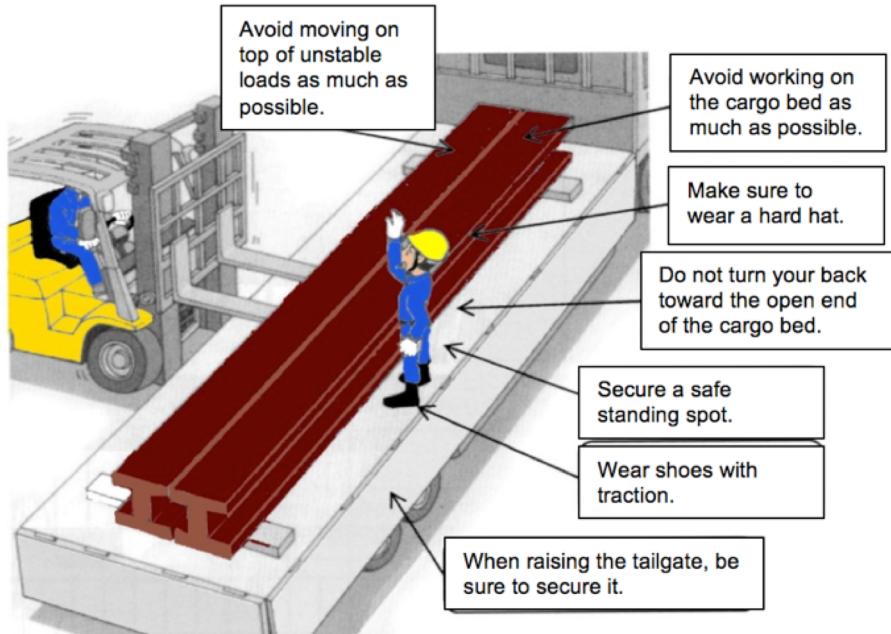
(picture 2)

There are times when the shipper, etc., is handling freight loads at a customer's place. Be sure to abide by the rules below to ensure that work is completed in a safe manner.

List of Precautions for Preventing Crashes/Falls

- ① Look for uneven surfaces and obstacles around the truck before handling the loads and address any issues.
- ② Moving on top of unstable loads is not allowed.
- ③ Do not fasten, wrap, or affix labels to loads while on top of loads. Do this on the ground whenever possible.
- ④ If there's equipment that allows for the use of a safety belt, use one (harness type).
- ⑤ When in areas where crashes/falls might occur, wear a Safety helmet.
- ⑥ When working with loads or on the truck bed, secure a safe spot where forklift operators, etc., can see you.
- ⑦ When working with loads or on the truck bed, do not turn your back toward the open end of the truck bed when near the edge, and do not step backward.
- ⑧ When working while it is raining or otherwise slippery, wear shoes with a lot of traction (F mark).
- ⑨ When raising the tailgate, make sure to secure it.
- ⑩ When ascending to or descending from the truck bed of a truck with a max load capacity five tons or above, use raising and lowering equipment.
- ⑪ When ascending to or descending from the truck bed with a max load capacity below five tons, use raising and lowering equipment if possible (stools and other simple equipment are sufficient).
- ⑫ When working with loads or on the truck bed, or when getting into or out of the driver's seat of a truck, use triple limb security (when moving one of your limbs, use the other three to support it). * Refer to P 53

(From "Guidelines for freight loads handling")



(2) Points to prevent "back injuries"

■ Eliminate manual handling of heavy objects!

Move heavy objects using machines (crane, forklift) and tools (cart, etc.) as much as possible to avoid burden to lower back of worker's body.



■ Handle a heavy object properly!

- Stay as close to heavy objects as possible and maintain a low center of gravity.
- To lift up a heavy object, first, approach his body to the object, put his foot slightly forward in front of him, steep down and hold the object, then lift it up slowly.
- Keep movement distance short, and avoid carrying heavy objects up and down stairs. When lifting heavy objects, take a deep breath and brace your abdominals prior to lifting.
- If you don't know the weight of a load and even if it looks light weighed, don't lift it in one breath, but check the weight by lifting it up slightly. ➡ (refer to the picture on next page)

■ Stretch your body to prevent back injury

Practice back pain prevention exercises with a focus on stretching before you start work or handle a heavy object.

➡ (refer to the picture on next page)

■ Take breaks appropriately when driving vehicles!

- Driving forklifts and trucks requires long hours of sitting and can easily result in back pain, therefore implementation of management of proper driving hours and taking breaks intervals is necessary.
- After long-hours driving with fixed posture, back injury and fall risk increases, and so take a break and perform stretching your body before handling a heavy object.

(References)

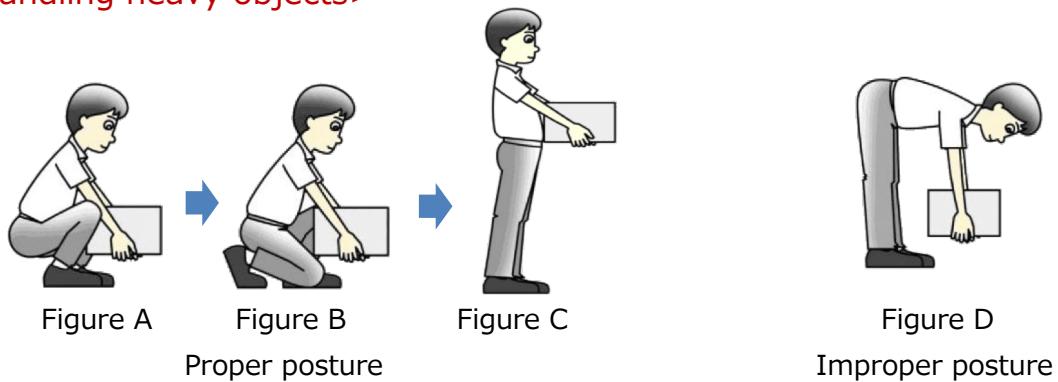
- Press release of the Ministry of Health, Labour and Welfare "Prevent back pain injury at workplace!" (Back pain prevention guideline)
<http://www.mhlw.go.jp/stf/houdou/youtsuushishin.html>
- Leaflet of the Ministry of Health, Labour and Welfare "Prevent back pain injury at workplace!"
<http://www.mhlw.go.jp/new-info/kobetu/roudou/gyousei/anzen/dl/131114-01.pdf>

Since more workplaces use machines and facilities such as forklift than before, burden to freight loads operator is decreasing. However, there are many manual operations yet, and "back pain prevention" is important.

Raise awareness on the above points, and implement back pain prevention using the information in the next page.

One of accident type is "reacting move or unnatural move," and major part of this result in back pain injury. When you categorize this type (which occurred in 2015) into business groups, total number of the accidents is 14,420, and land transport marks 1,960, which accounts for 14%. This is the third largest following the top of the third industry and the next to manufacturing.

<Handling heavy objects>



[Work posture, movement]

- 1 Approach the object with your body as near as you can, use a posture with lower gravity center, and it becomes easy to avoid an unnatural posture.
 - 1) When lifting up a load from the floor etc., you should step one of your foot forward a little with knees bent, and hold the load in a squatting like posture (figure A and figure B).
 - 2) Lift up from this posture by stretching the knees, using the strength from the legs and knees, not the waist.
- 2 Do not take the posture of bending your upper body forward while stretching your two knees (Figure B).
- 3 While lifting up and carrying a load, try to approach the load with your body as close as you can, and avoid the posture of separating from your body (Figure C).
- 4 Low back pain usually occur when you twist your body while holding a heavy object, because the burden on the waist becomes extremely large at the moment. It is ideal to work without twisting your body, if this is difficult, try to reduce the body twist by devising the height, position and arrangement of the work table.

<Stretching>

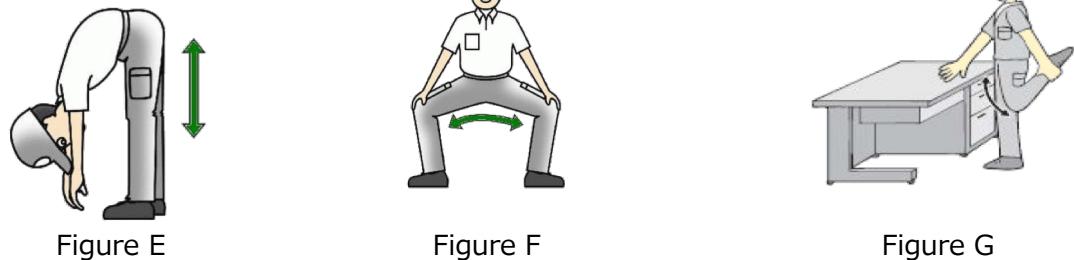


Figure E, F: Maintain the posture for about 20 to 30 seconds, and stretch 1 to 3 times.

Figure G: Maintain the posture for about 20 to 30 seconds, and stretch 1 to 3 times right and left respectively.

(3) Points to prevent "falls"

■ Carrying an object while walking increases the risk of "falls"!

In land transport operation, workers frequently carries objects by hand, and this increases the risk of stumbling because they cannot see their feet well, or because it's unbalance with a load.

Never run while carrying something especially when going down the stairs!



■ Always perform 4S (Seiri / Sorting, Seiton / Setting-in-Order, Seisou / Shining, Seiketsu / Standardizing) on the floor!

In many case of "falls", workers slips on the floor, or get tripped on a step or an object.

To prevent stumbling and falling accidents, it is important to perform 2S (Seiri and Seiton) and to clean up the floor.



■ Use a cart to transport large and heavy object!

If you carry large or heavy objects by hand, you cannot see your feet as you walk, which makes maintaining balance difficult, increasing the risk of stumbling and falls. Use a cart as much as possible.

In addition, when you use a cart, please be careful not to stumble the cart trapped on the floor too.

■ Ensure there is sufficient light on pathways!

When you feet are difficult to see, this increase the risk of stumbling and falls. Ensure that there are no dark work areas or passages used for transport.

■ Wear non-slipping shoes!

Shoes can impact much on if they slip or stumble. Choose shoes referring the next page. Also, regularly check the shoe soles if they are not worn down.

Most of the stumbling and falls accidents are "slip" on the wet floor, or "stumbling" on an object or a step. Above points are countermeasures for those causes.

Ministry of Health, Labour and Welfare promotes "a project for fall accident prevention" shown on next page since "falls accident" occurs the most frequently.

【Be careful when handling a handy cart】

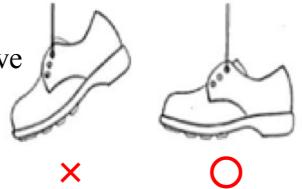
- ① Check the cart before handling, and don't use the imperfect one whose tire doesn't move well or whose frame is worn out.
- ② The height of loads on a cart should not be higher than your line of sight.
- ③ Limit the maximum load of a cart, and follow this limit.
- ④ Following the operation manual when handling a cart.
- ⑤ Allocate exclusive passage for carts.
- ⑥ Prevent collapsing of piled-up objects on a cart if necessary.

Ministry of Health, Labour, and Welfare “Fall Prevention Project”

<Choosing Shoes that Prevent Falls>

Size

If your shoes are too small or too large, you won't have firm footing and it will be easy to lose your balance.



Flexibility

If your shoes aren't flexible, you're likely to shuffle your feet, causing you to trip.

Weight

Heavy shoes make it difficult to lift your feet, causing you to trip.

Weight balance (front and back)

If there's too much weight at the toe of the shoe, the toe will drop when you walk, causing you to trip.

Toe height

If the toe of your shoe is low, this could cause tripping over even on slightly elevated surfaces.

Anti-skid balance of shoe soles and floor

It is important that the traction of your soles matches the work area and the content of your work. For example, wearing non-slip shoes on a non-slip floor could cause a trip accident.



STOP! Fall Prevention Project

厚生労働省・都道府県労働局・労働基準監督署

MINISTRY OF Health, Labour, and Welfare Website
<http://www.mhlw.go.jp/stf/seisakujouhou-11300000.html>

Roudoukjunkyokuanzeneisibu/0000111161.pdf

Fall Prevention Checklist	
1	Are there any obstacles in pathways, on stairs, or near exits and entrances? <input checked="" type="checkbox"/>
2	Has any water, ice, oil, powder, etc., on the floor been cleaned up as needed? <input type="checkbox"/>
3	Is the lighting sufficient to allow for safe movement? <input type="checkbox"/>
4	Has training been implemented to prevent falls? <input type="checkbox"/>
5	Do work shoes have the appropriate amount of traction for the work area, and are they of the appropriate size? <input type="checkbox"/>
6	Has near-miss information been utilized to identify areas prone to fall accidents, and have employees been made aware of them? <input type="checkbox"/>
7	Have signs been posted near uneven surfaces and slippery areas to encourage safety? <input type="checkbox"/>
8	Has the practice of walking with one's hands in one's pockets been forbidden? <input type="checkbox"/>
9	Have stretching and other forms of fall prevention exercise been implemented? <input type="checkbox"/>

How were the results? If you improve on the problem areas, your work efficiency is sure to increase, and your workplace will become more worker-friendly as well. Consult with the safety committee to come up with best approaches in order to make improvements!

(4) Points to prevent "getting caught and drawn in"

- Stop conveyor whenever you fix the jam, inspect or repair it!
 - Certainly stop the conveyor when you fix its jam, inspect or repair it.
 - Don't stride over a conveyor.
- Be careful not to crush into a forklift when you walk in working the site!
 - Walk on safety passage
 - Don't run out from behind an object.
- Forklift driver should be careful not to hit or touch a walker near it!
 - Even if a forklift was left and started to move, don't try to stop it.
 - Don't lean your body out from the driver's seat.
 - Be careful not to hit a pedestrian when you drive a forklift while its loaded.
- Wear protectors if necessary when operating a roll box pallet or a cart!
 - Wear safety shoes and leg protectors in case you might get run over.
 - Stop and make a call when you come to a place where you can't look around clearly.



1 Stop conveyor whenever you fix the jam, inspect or repair it!

When you perform adjustments or repair operations, make sure to stop the machine and prevent other workers from turning it on by accident.

Same with conveyor operations. Removing a jammed load while the conveyor is still moving might result in a severe accident. Tell this to yourself every time "I might get caught". Legislation also requires you to stop a machine when it is being provided with cleaning, lubrication, inspection, repair and arrangement.

2 Forklift driver should be careful not to hit or touch pedestrians around it!

Both driver and pedestrian should be careful to prevent getting-caught accidents.

【Driver】

- ① In some case, a forklift was left and started to move, and a driver was hit when he tried to get on. Another worker got caught between the forklift and a wall when he tried to stop it by hands.
- ② When a driver leaned his body out of the front window frame attempting to organize loads neatly, he got caught by the mast by touching the tilt lever by mistake.

3 Wear protectors if necessary while operating the roll box pallet.

- Operation of a roll box pallet or a cart needs preventive measures for accidents such as getting caught by foot or by hand.
- For example, while a worker was taking down a fully loaded box pallet from truck gate, he moved it towards a forklift, and then got his hand caught between the cart and forklift.

※ Refer to page 45 for safe handling of roll box pallet, and page 54 for safety protectors.



(5) Points to prevent “crash and getting crashed”

■ Do not jump off the truck bed or driving seat!

- Many accidents resulted in injuring the legs and hips due to the impact of falling.
- Make sure to use the lifting apparatus if any.
- If there is no lifting apparatus, use three-point suspension for lifting.



■ Prevent crash disasters by forklift!

- When you drive a forklift at the premises, make sure to observe the speed limit and pay attention to pedestrians.
- When walking at the premises, walk on the safety aisle and do not run into any loads or in contact with a forklift driven by another worker.

■ Be careful with crush against wheeled box pallet!

- Make sure to wear safety shoes and protectors on legs in case you are crushed or hit by a wheeled box pallet or truck.
- Stop and make a call when you come to a place where you can't look around clearly.

1 Do not jump off the truck bed and driving seat

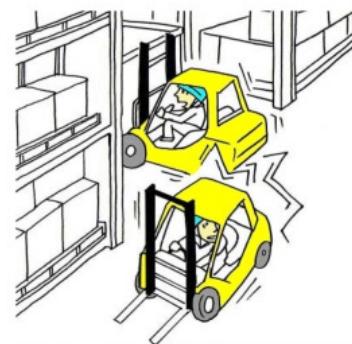
The most frequent accident is ankle sprain which occurs when workers jump from the truck bed. This is classified as crush accident, but is also linked with rollover.

You need to inform them that jumping off is more dangerous than you think.

Especially after the long drive in the same position, the risk of injuries by jumping off is quite high.

2 Prevent any crash by forklift

The driver is injured from the crush with a forklift, and a pedestrian get injured from the crush with a forklift. You need to be careful for each case.



3 Be careful with the crush with wheeled box pallet

Wheeled box pallets are called as a basket carriage, cage truck, and box pallet, and these are used widely. When they do not move smoothly or move slowly, you will not able to control it as you want, and it leads to injury of the legs. We will show you how to use it properly on the next page.

Roll box palette

Work accident prevention manual when using a roll box pallet

【Eight rules for working safely】

(from the Ministry of Health and Welfare leaflet) A4 version 4 page

◆Rule 1: Handling in places with steps and slopes

Let's work with extreme care because it is a place where accidents easily occur.



◆Rule 2: work clothes, work shoes, protective equipment

In order to work safely, you should wear a proper work wear.



◆Rule 3: Basic operation of the Roll box palette

Remember the basic operation, not to cause an accident

◆Rule 4: Push, pull, and side push

Remember each of these tips and work safely.



◆Rule 5: handling by multiple persons

Speak up and work more carefully than when you are alone.



◆Rule 6: Loading of luggage

Let's master the basic way of stacking, and prevent the load from falling.

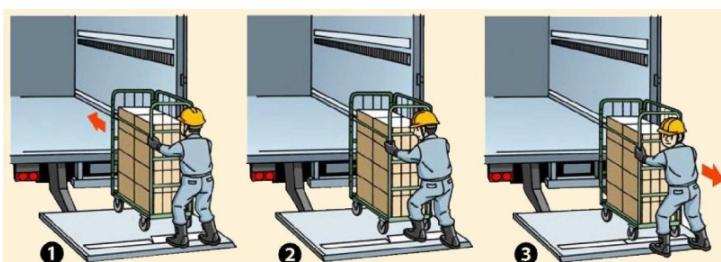
◆Rule 7: folding, assembling and stacking

It becomes unstable while folding so

let's be careful not to fall.

◆Rule 8: Handling in Tail Gate Lifter

Because it is especially dangerous when elevating, take extra care when you work.



Ministry of Health, labour and Welfare Roll Box Pallet

search

(Steps to move the roll box pallet from the elevating plate to the ground)

(6) Points to prevent "heat stroke"

There is a risk of heat stroke when handling freight loads outside. Be aware of the following.

■ Be careful of heat stroke in hot and humid working environment!

Heat stroke is caused by imbalances of water and salt content in the body, which occurs gradually when you spend long periods of time in hot and humid environments. Your body's regulating functions are unable to keep up with demand, and the temperature inside your body rises. This condition occurs both outdoors and indoors, and can result in emergency treatment and even in death in severe cases.



■ Take the necessary measures if you experience heat stroke symptoms such as feeling dizzy or nauseous!

- ① Move to a cooler area · · · Evacuate to a cooler area such as a place with air conditioning or a shaded and well-ventilated space
- ② Cool down your body · · · Loosen clothing and cool down the body (especially the neck, sides, and bottoms of the legs)
- ③ Hydrate · · · Hydrate with water and salt or an oral rehydration solution*.
※ Dissolve salt and glucose in the water

If the affected operator is unable to drink on his own or is unconscious, call an ambulance immediately!

※ Refer to the symptoms and degree of heat stroke on the next page

■ Prevent heat stroke by taking in sufficient water and salt!

- ① Provide downtime and breaks from operations and break area, and keep continuous working times shorter.
- ② Regardless of whether operators are aware of any symptoms, always take in water and salt before and after operations, as well as regular intervals during operations.
- ③ Drink appropriate amounts of a sports drink or oral rehydration solution.
- ④ Factors such as sleep deprivation, poor condition, and skipping breakfast can affect the onset of heat stroke.

Learn the truth about heat stroke, pay attention to change in physical condition, and refrain from trying to tough it out when symptoms appear. If you feel any symptoms, call someone and ask to call for ambulance. If you take a break by yourself, your symptoms could worsen, making you no longer able to call out for help.

Also pay attention to those around you and tell someone right away if you think another operator is exhibiting signs of heat stroke.

[Heat stroke symptoms]

- Dizziness, lightheadedness, numbness in the hands and feet, muscle cramps, feeling sick
- Headaches, nausea, vomiting, fatigue, lethargy

In serious cases

- Strange responses, loss of consciousness, seizures, body is hot to the touch

Take in water, salt and hydration solutions regularly whether working outside or inside, regardless of whether you feel thirsty.

<Symptoms and classification of heatstroke>

Classification	Degree I	Degree II	Degree III
Symptoms	Dizziness, syncope, myalgia, muscle rigidity, profuse perspiration	Headache, dysphoric mood, nausea, vomiting, sense of fatigue, despondency	Consciousness disorder, spasm, limb dyskinesia, hyperthermia
Degree of severity	Low 		High

It is recommended to send the patient who shows symptoms of Degree II to the hospital;

It is necessary to immediately call the emergency services if the patient shows the symptoms of Degree III.

<Understanding the heat index (WBGT values)>

1 How to refer to the "Heat index (WBGT)" published by the Ministry of the Environment

It is understandable by using the WBGT predicted value and each actual status value from the "Heatstroke prevention information website" (open from about May to October every year) of the Ministry of the Environment.

Ministry of the Environment website <http://www.wbgt.env.go.jp/>

2 The actual measuring method is by using the "Heat index meter (WBGT measuring instrument)"

Please measure the correct (WBGT value) by using a heat index meter with black ball.



WBGT measuring instrument (example)

Note: Data on this page are from the Ministry of Health, labour and Welfare leaflets of "Is everything all right for the heatstroke preventative measures in workplace?".

5 Teaching the fundamentals for accident prevention (Part 3)

~ Teach the right actions to take during occurrence of accidents or abnormal situations

It is important to learn beforehand what to do, to train, and to acquire it in case of an emergency and an abnormal situation such as an accident and a disaster, and to be able to respond appropriately without panicking.

(1) Handling abnormal situations

Since freight loads operator works in different places such as open air storage ground, warehouses, customs shed, factories, public places, on road, the operation may cause accidents, not to mention accidents caused by the work itself when working in the neighborhood. When you discover such an abnormal state during work, immediately stop the operation and evacuate if necessary.



A. when you need to stop and evacuate your work

① In case when hazardous material leaks	The contents may be harmful when the load leaked due to an accident or a traffic accident. In this case, to avoid inhaling or touching the hazardous material, a worker should stop working so that they will not be affected, and should evacuate to a safer place. Moreover, do not approach further should you see hazardous material leaking from cracks on the wall etc. of the warehouse.
② When there is a possibility of fire or explosion	When a fire occurs in the workshop, and there is not enough time to extinguish or if an explosive substance might explode any time soon, immediately evacuate to a safer place.
③ In the event of an earthquake	If an earthquake occurs during the work, it is necessary to suspend the work and evacuate to a safer place because the load may fall or the equipment may collapse.
④ In the case of strong winds or heavy rains	Since the possibility of crashing or falling is high when working in high places in the case of strong winds, heavy rains, and heavy snow, operations during these times should be stopped. In bad weather, driving a car requires a temporary stop.
⑤ Oxygen-deficient air or high carbon monoxide	Grains consume oxygen by breathing. Also, the fermentation of soy sauce and other oils generates carbon dioxide and reduces the oxygen concentration. In these warehouses, silos, and in the hold, the oxygen deficiency can become a condition, and the carbon monoxide can become high in concentration by the exhaust gas, etc. In this case, it is necessary to stop and evacuate from work.
⑥ Danger of Ash-particles	In warehouses and open air storage ground, etc., there is a possibility that the state of loading is bad. If this is the case, stop working. Rework and Measures are required.
⑦ In case of traffic accident, etc.	In case of a traffic accident, the car should be moved to the shoulder or open area to prevent a secondary accident, and the engine should be turned off. In addition, to avoid being involved in an accident, inform subsequent cars using emergency signals, etc. since it is possible to be hit by a trailing cars. It is necessary to move the car to a safer place, especially if the load is combustible, explosive or hazardous. If it is not possible, leave a signal or sign for subsequent cars and evacuate immediately.

B. Response to abnormal situations

1) Follow the instructions of the commander	In case of hazardous conditions, act according to the instructions of the commander. In addition, if it is found by yourself, contact the nearby official promptly, and follow his instructions. (When working in a place of a freight loads owner etc., it is also necessary to follow the instructions of the freight loads owner.)
2) Considering the fixed route and direction of the wind	When the retraction place and route are showed in the workplace, comply during evacuation. There are cases of increased injuries in outdoor work for not evacuating upwind.
3) There are situations when you should follow your own judgment	In the case of driving a car, if instructions from commander and supervisor can not be received, it is required to stop driving and evacuate according to your own discretion and the accident treatment procedure (particularly the preset prevention measures in the transportation of hazardous and noxious substances).

(2) Examples of abnormal situations

(1)Measures when an abnormal situation occurs

< For example... Load was caught in the conveyor belt>

- 1) When an abnormal situation occurred, asses first the situation to confirm if anything happened.
- 2) Inform in a loud voice the site manager and colleagues around.
- 3) Press the emergency button if necessary. Give examples of situations when an emergency button should be pressed to stop a machine and carry out actual emergency button press training.
- 4) Based on the guidance from the manager, carry out appropriate treatment by cooperating with colleagues. Do not act selfishly alone.
- 5) Provide a brief report about the occurrences to the manager, after the abnormal situation has been resolved.

< For example... Parked forklift start to move. Roll box pallet collapsed>

- 1) Do not try to stop it, "run away".
- 2) Shout "run away" around in a loud voice.
- 3) Learn to "run away" in the daily safety education.



< For example... Strange noise was heard. Strange smell was smelled. Lamp is lit >

Immediately inform the people around.

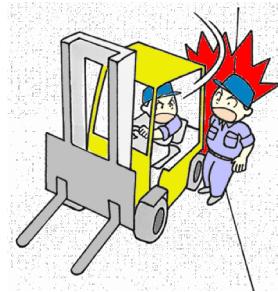
[Inform us!]

Please inform leaders etc. and people around immediately if you feel any circumstance other than usual!

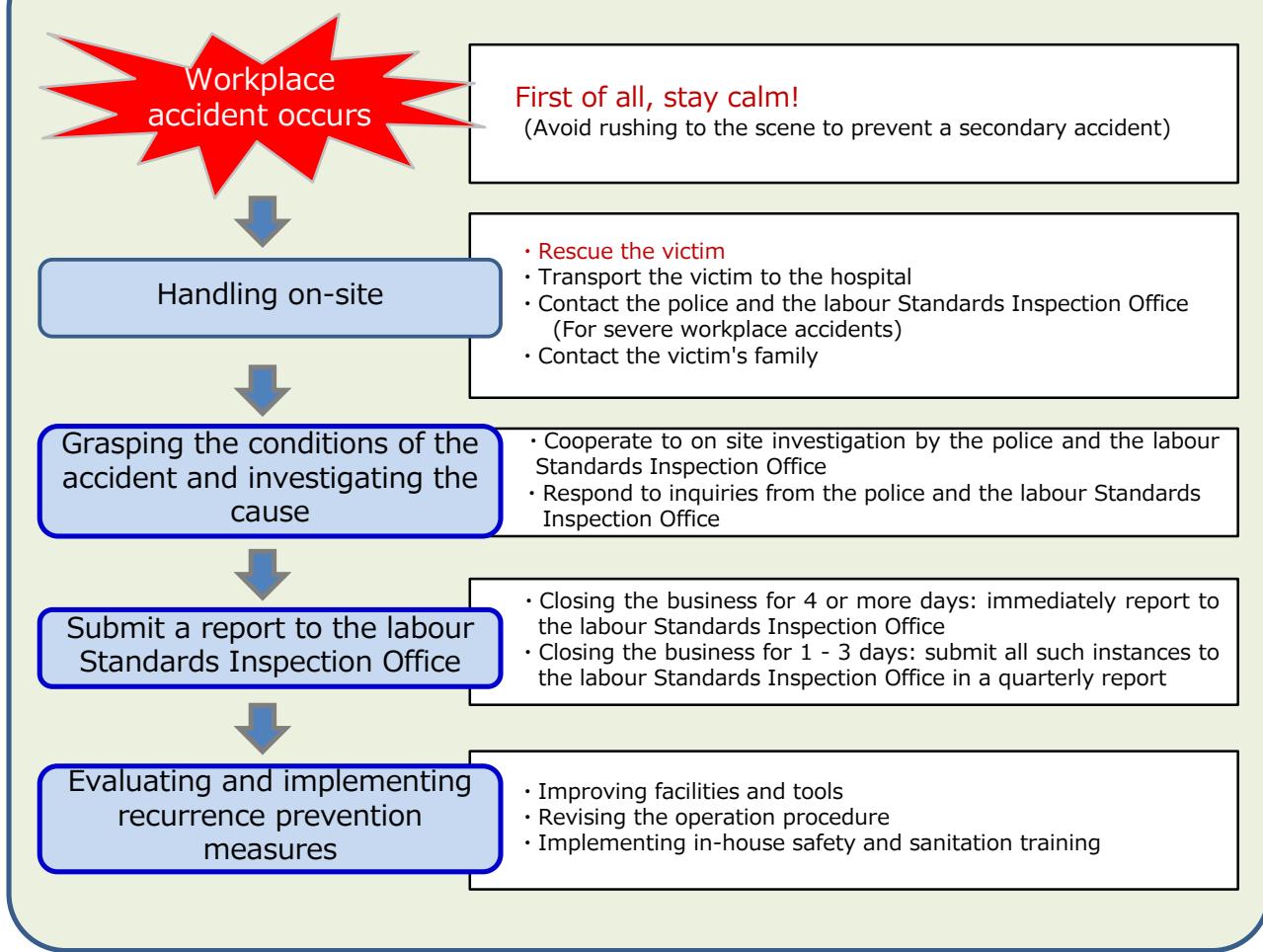
(3) Handling occupational accidents (management)

Although the company is proactively implementing safety and sanitation management and safety and sanitation promotion activities, it is impossible to completely eliminate the risk of workplace accidents.

Should a workplace accident occur in your operation space, follow the handling procedure below.



Handling procedure for when a workplace accident occurs (example)



Also, in preparation for possible accidents, carry out the following in advance.

- (Confirmation of) the location of first aid and nursing facilities and tools
- Contact information and handling supervisor for the fire department, emergency vehicles, the police, and the labour Standards Inspection Office
- Contact information for operators' families, methods for submitting reports to the labour Standards Inspection Office and applying for workers' compensation insurance benefits, etc.

*Ministry of Health, Labour and Welfare: When an occupational accident occurs

<http://www.mhlw.go.jp/bunya/roudoukijun/rousai/index.html>

*Ministry of Health, Labour and Welfare: Workers' compensation

<http://www.mhlw.go.jp/bunya/roudoukijun/rousai.html>

- Other proprietary reporting methods or formats used by the company

III Reference for Safe Operations

1 Visualization (Mieru-ka) of risks

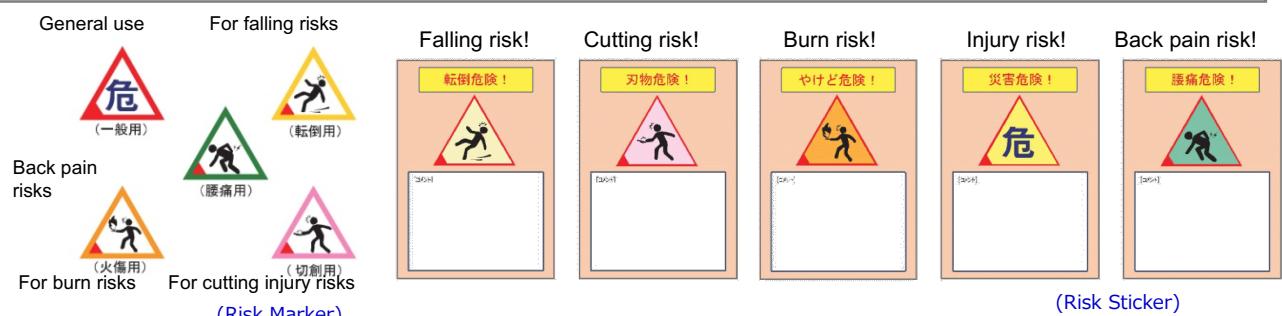
~ Raise awareness of danger by "risk visualization (Mieruka)"

- ◆ Visualization (Mieru-ka) of Risks is the process of visualizing the hidden dangers in the workplace and the things to focus on to ensure safety. For this, each workplace are making efforts to implement effective risk visuals the workplace.
- ◆ Visualization of Risks is the easiest way to inform and let operators understand and recognize the risk and call their attention during operations. The ability for inexperienced workers to participate easily also contributes to making it an effective tool for ensuring safety.
- ◆ When conducting Visualization of Risks, it is important to teach operators why some actions are dangerous and how they can maintain safety.

(1) Applications of risk visualization

- ◆ Risk maps, risk markers, and risk stickers indicate dangerous areas, and the Ministry of Health, Labour and Welfare has provided instructions for their use. The website below is not an exact example in land transport but you can use it as reference.

(Risk visualization in freight transport) → <http://www.mhlw.go.jp/stf/seisakunitsuite/bunya/0000058407.html>



(Risk Map)



• **Risk maps** are floor maps or other diagrams of the workplace that indicate dangerous areas where workplace accidents could occur, calling these areas to operators' attention.

• **Risk markers** are notes affixed to the dangerous areas on the maps with comments about important compliance rules for the applicable areas.

• **Risk stickers** are stickers applied to the dangerous areas on maps to indicate **warnings** about the content of the danger. Content such as the type of danger, things to be careful of related to it, and what to do to preserve safety should be written in the open space.

*Markers and stickers can be acquired from the Japan Association of Safety and Health Consultants website.

→ <http://www.jashcon.or.jp/contents/>

(2) Danger visualization examples

Making the potential dangers in the workplace visible is extremely beneficial, and it is for this reason that various steps are taken at each workplace to increase the visualization of risks.

Here, we will share examples published by the Ministry of Health, Labour, and Welfare (including the Prefectural labour Bureaus) as well as examples from the workplaces that collaborated in the creation of this manual (*Content without any particular attributions are from these workplaces).

Please use these examples as reference to improve danger visualization at your workplace.

- ◆ The Ministry of Health, Labour, and Welfare, in order to stimulate efforts to implement the safety practice of visualization at workplaces, holds a contest to gather examples of the efforts currently being made at various workplaces and selects best entries. The best examples are presented every fiscal year, and the Prefecture Labour Bureaus present their own model examples of visualization as well.

The examples of visualization selected by the Ministry of Health, Labour, and Welfare are shown at the link below:

○ FY 2014 Model Examples

→ <http://anzeninfo.mhlw.go.jp/anzenproject/concour/2014/result.html>

(The winners from FY 2011 – FY 2013 are listed as well.)

[Visualization Example 1]



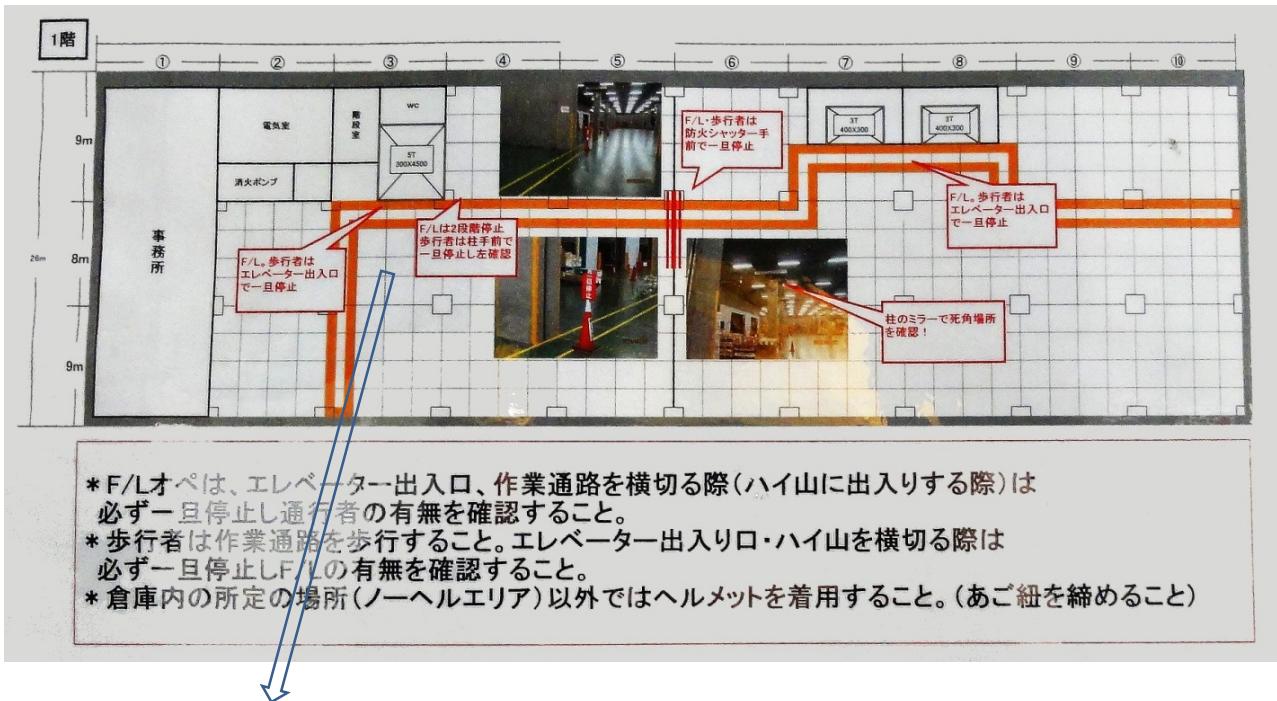
In this case, a forklift and workers were working in the same area, and workers with long experience know the rules in the workplace, but short-term-employed workers do not know such rules and touch the forklift.

To make it easier for short-term workers to understand, they made a rule of dividing places into four color groups. This eliminated "getting touch accident" with a forklift.

Materials: "Safety Visualization" example compilation (Osaka labour Bureau)

[Visualization Example 3] ◆ Hazard map

Plot the location of dangerous spots on a map and provide visuals of safe work tips.
Below is a good example.



[Visualization Example 4]

Below shows the details of the visuals of the work area in example 3. Hazard map says "F/L (forklift) and pedestrian must stop before the elevator".



(Countermeasures to prevent a forklift from hitting a pedestrian.)



(Stop sign for a forklift coming from left)



(Mirror is installed on a pillar to help workers easily see the outside while in the elevator.)

[Visualization Example 5]

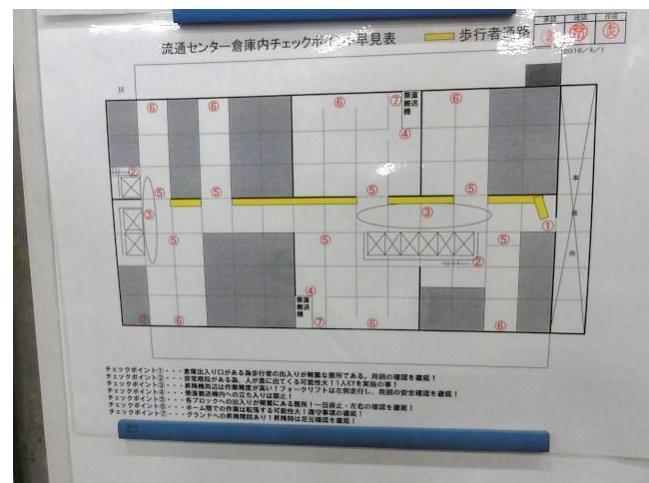
Below illustrates protective gears to use when moving roll box pallets and how to wear them properly.



[Visualization Example 6]

An explanation of the hazard prediction training happening at the workplace and a chart showing warehouse checkpoints. The chart lists the warehouse checkpoints using red numbers from 1 through 7. Explanation is provided below.

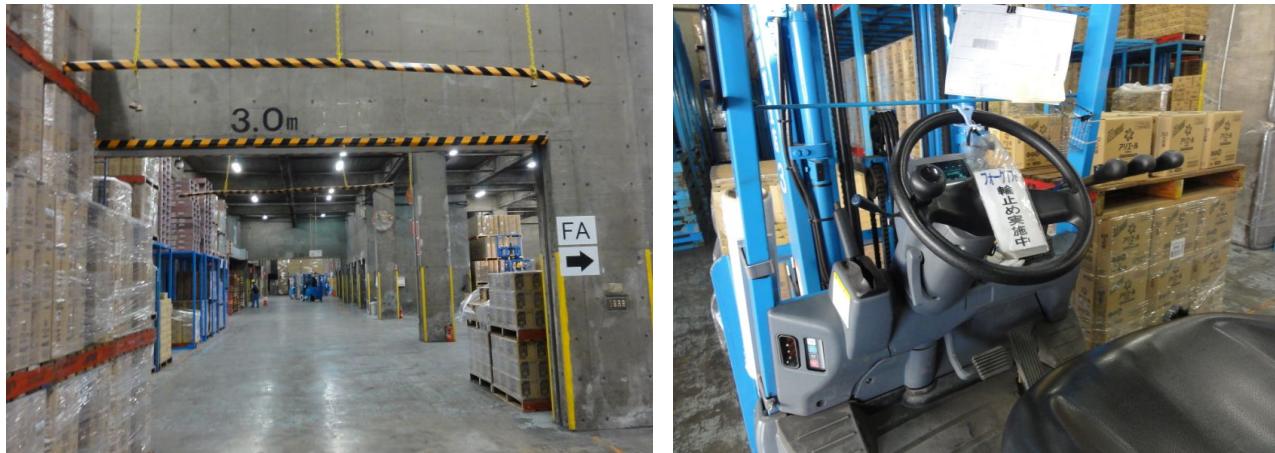
危険予知活動表		リーダー	メモ
12月22日		担当人	担当人
作業名	担当人	担当人	
危険要因			対策
1. ハサミ-20kg 小さな工具の上級の高さをもれ ハサミ-20kg 運搬 22kg ある物 他の工具 ハサミ-20kg 小さな工具-8kg Xへ工具箱 工具箱-10kg 他の工具-8kg 工具箱-10kg 他の工具-8kg			各上級の高さで荷物を下げる、工具箱を下げる 2. ハサミ-20kg 10kg の理屈-2kg 3. 他の工具-8kg Xへ工具箱 4. 工具箱-10kg 他の工具-8kg
2. 上級の高さで荷物を下げる、ハサミ-20kg 他の工具-8kg 工具箱-10kg 他の工具-8kg 工具箱-10kg 他の工具-8kg			
△ム行頭 ②上級の高さで荷物を下げる、一旦停止して上級の荷物を下げる △行頭			



- Checkpoint ① • • It gets crowded with workers here because it's the warehouse entrance. Be certain to check your surroundings.
- Checkpoint ② • • There's an emergency staircase here, so people are likely to make sudden exits! Exercise caution!
- Checkpoint ③ • • There's often work going on around the lift! Forklifts should keep to the left and watch their surroundings!
- Checkpoint ④ • • Entering the vertical conveyance machine is forbidden!
- Checkpoint ⑤ • • People enter and exit blocks often at these spots! Stop and look to the left and right!
- Checkpoint ⑥ • • When working near the edge of the platform, there's a possibility of something falling! Be sure to comply with all rules!
- Checkpoint ⑦ • • There's a companionway on the ground! Watch your step when going up the stairs!

[Visualization Example 7]

Bars have been installed to make the forklift height limit easy to recognize. To prevent workers from driving without removing the wheel stoppers, a “wheel stoppers applied” sign is placed on the handle.



[Visualization Example 8]

As a way to prevent workers from falling from the cargo bed, there are four hand grips installed on the back. In the future, longer handgrips and other improvements will be considered.

Four hand grip locations



Boarding the cargo bed



Descending from the cargo bed



Closeup of hand grip



Important points to check before work

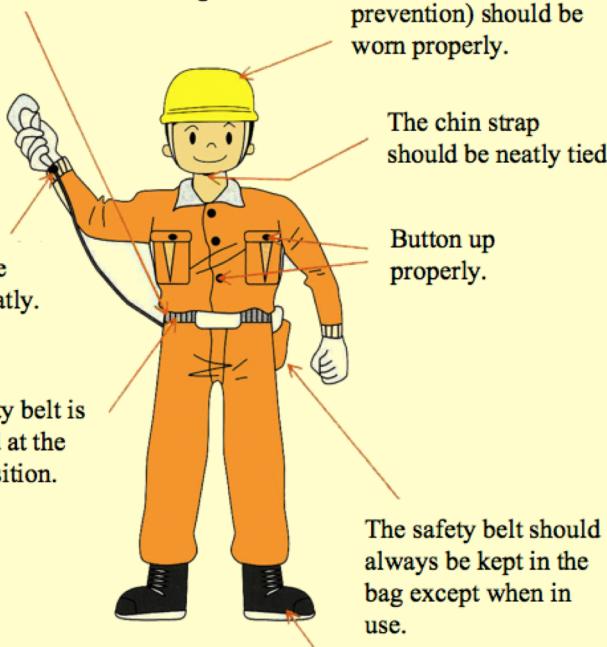
Check clothes and protectors

Use safety belts to work in places where there is a risk of falling.

Button the sleeve neatly.

The safety belt is equipped at the waist position.

Wear non-slip shoes. Also wear safety shoes in work places where it might damage your foot.



Safety helmet (for crash prevention) should be worn properly.

The chin strap should be neatly tied.

Button up properly.

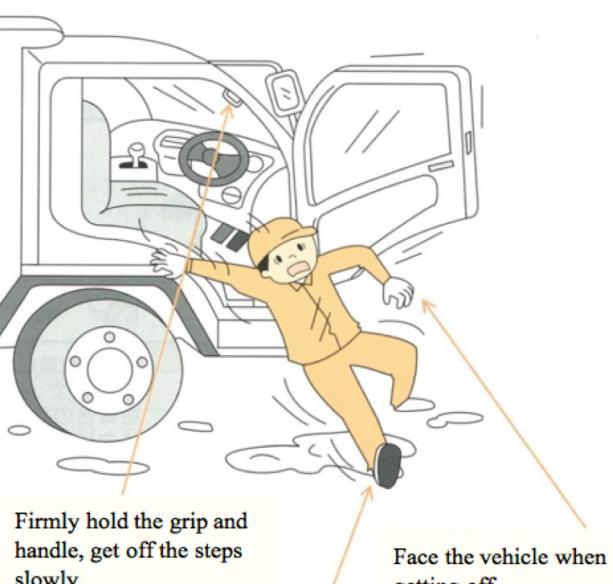
The safety belt should always be kept in the bag except when in use.

<Important points>

- Wear safety helmet when you work on cargo bed or loads.
- Full harness safety belt^(Note) is desirable.

(Note) Refer to page 60 for full harness safety belt.

Important points when stepping onto the driver seat



Firmly hold the grip and handle, get off the steps slowly.

Face the vehicle when getting off.

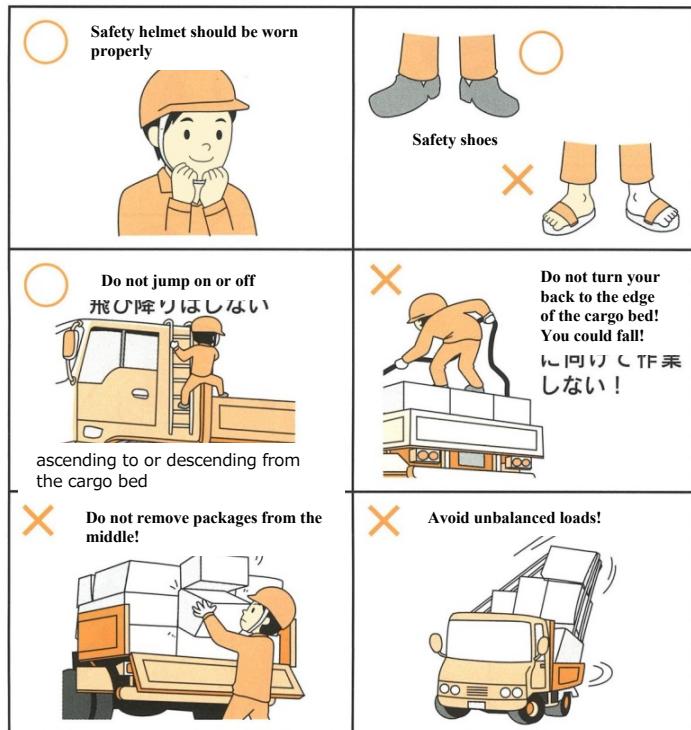
Be careful not to slip when the road is wet.

<Important points>

- Step onto the driver seat by supporting your body "at three points".
- Jumping off from the driver seat causes accidents. Jumping on/off the driver seat is prohibited.
- Especially after long-hour drive, the risk is higher. Get off slowly and keep the posture for a while.

Before Loading and Unloading a Flat Body Cargo Bed

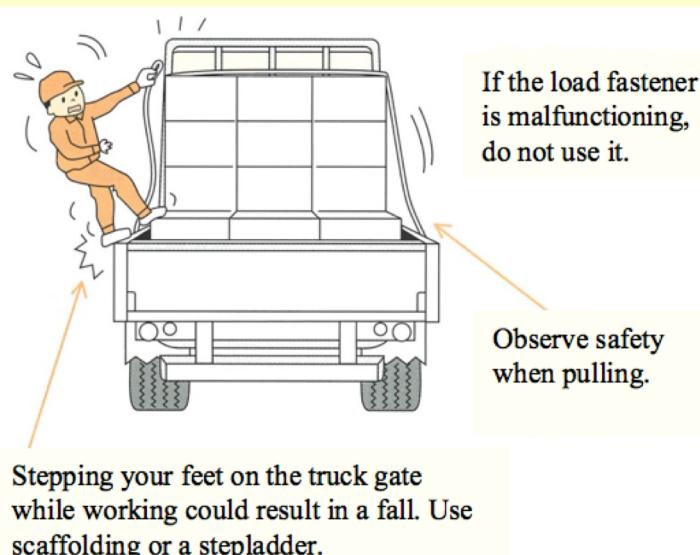
There have been many crashing/falling accidents involving slips and losing one's footing when loading and unloading flat body cargo beds.



<Caution>

- If there's a safety belt attaching device available, be sure to use the safety belt.
- If there's lift available, be sure to use it.
- Avoid working on top of the loads and stay on the ground as much as possible.

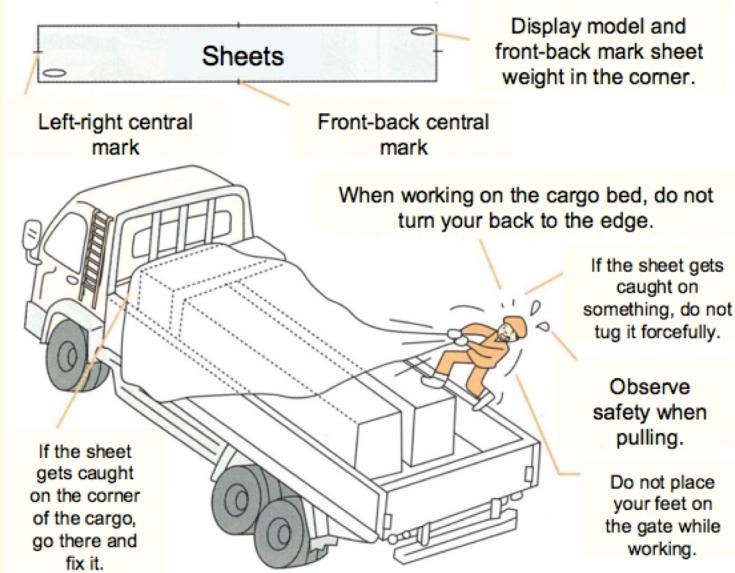
When Binding with Rope



<Caution>

- Check the work procedure and work method for binding and unbinding loads.
- If performing work on the cargo bed seems difficult, use scaffolding or a stepladder.
- Wear safety shoes with sufficient traction.
- When performing work that requires force, take the recoil into consideration.
- To prevent the load fastener from malfunctioning, perform daily inspections. While on site, check how it functions on the ground.

When Covering with a Sheet

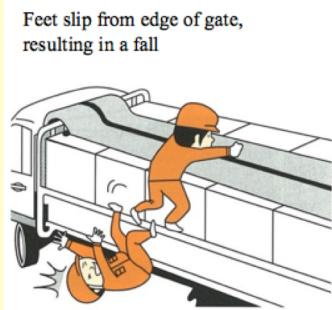
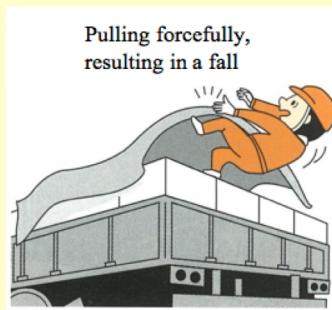
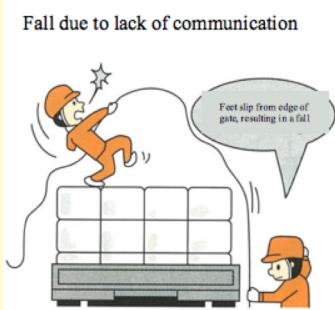
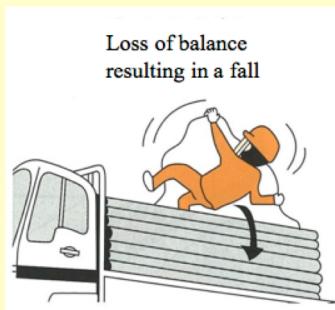


<Caution>

- Check the work procedure and work method for sheet covering.
- If performing work on the cargo bed seems difficult, use scaffolding or a stepladder.
- Do not jump down from the cargo bed or board/descend with something in your hand.

- It will be easier to secure your position if you attach a marking to the sheet with the vehicle type, length, width direction, and halfway position and fold it each time so that it aligns with the middle of the cargo bed, allowing you to keep it in the center of the vehicle and work your way outwards.

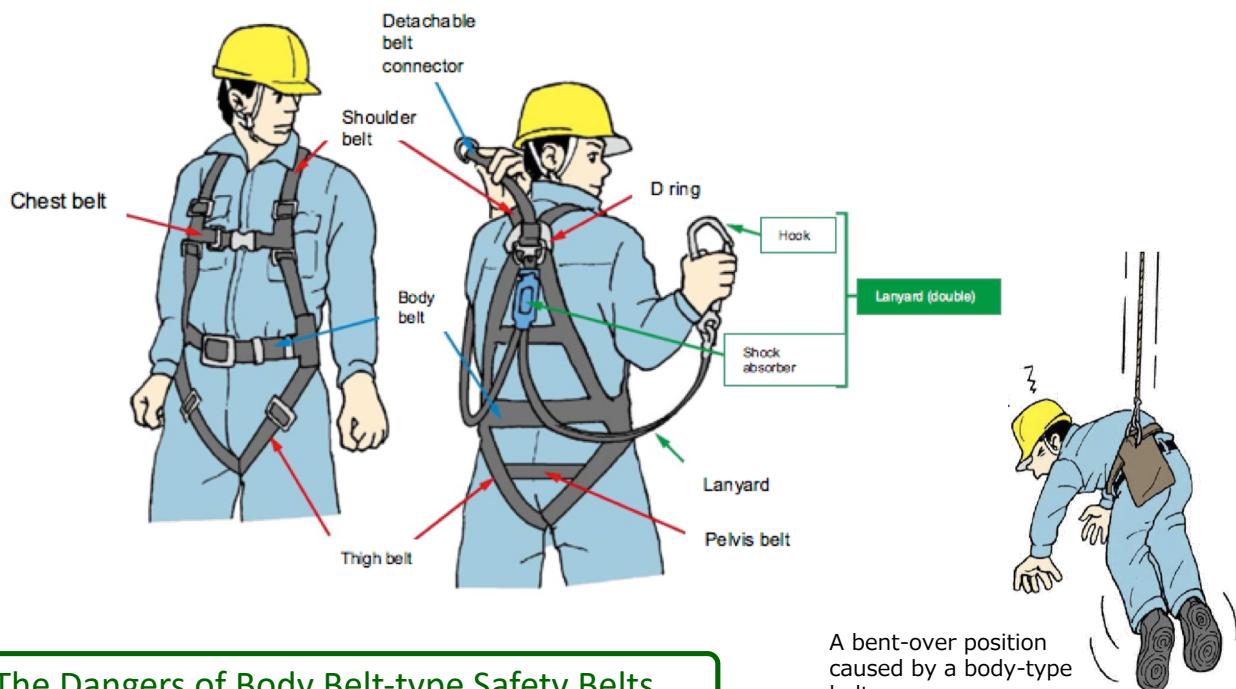
Common Accidents While Rope Binding/Sheet Covering



- Be sure to follow the work procedures and rules for safety when performing rope binding or sheet covering tasks.
- If you don't, accidents such as those depicted to the left are likely to occur.

[Reference] What is a Full Harness-type Safety Belt?

- ① A full harness-type safety belt consists of belts for the shoulder, thigh, chest, and so on. This lowers the chance of you slipping out of the safety belt or having excessive pressure placed on your chest or abdomen.
- ② Because a full harness-type safety belt keeps the D-ring toward your head away from your center of gravity (near the waist), this prevents you from bending over while you wear it.
- ③ A shock absorber greatly reduces the impact load when preventing a fall. Because this lessens the axial force on the lanyard, the load applied to the safety belt attaching device is lessened as well, as is the friction generated from contact with sharp corners. This creates a lower risk of the lanyard snapping compared with lanyards without shock absorbers.



The Dangers of Body Belt-type Safety Belts

A body-type safety belt is a single strap wrapped around the body to secure it. When preventing a fall, the impact load causes the belt to lengthen and lessen the force, but when the belt rides up, this can result in pressure being applied to the chest or abdominal regions (there have been cases in Japan of this resulting in death), or it could cause workers to slip out of the belt and fall to the ground.

Another issue with body-type safety belts is that they can cause workers to bend over when preventing falls, which can place a lot of pressure on the abdomen and other regions, and the D ring at the suspension base can end up near one's legs below one's center of gravity (near the waist).

Nowadays, many countries are moving to make it mandatory to replace body-type safety belts with full harness-type safety belts.

(Source: Ministry of Health, Labour and Welfare, from the leaflet "Using Full Harnesses Correctly."

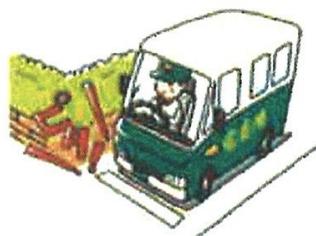
Intersections/Crosswalks

Intersections are the most accident-prone areas.

To prevent collisions with other vehicles and hurting motorcyclists and pedestrians, lower your speed, put your foot on the brake, and make sure it's safe.

If you see something, it's important to wait a bit and not rush ahead.

- A **safety check**, as the term implies, means confirming that something is safe. If your vehicle is moving before you check, you may cause a collision. **Make sure your tires stop completely before checking.**



- When exiting from a narrow street to a wider one or when leaving a collection or delivery destination, make sure to check the shoulders of the road and the sidewalks for **bicycles and pedestrians**.



- At intersections where there's no traffic light and **there are blind spots, make sure to slow down, stop temporarily, then stop again**, and look right, left, then right again before driving. Don't worry about right of way; be ready to stop for others.



- When making a left turn, make sure your rear wheel does not collide with motorcyclists and pedestrians by **carefully checking that your left side is safe**. If it's difficult to see, then lean out of the window and check your blind spots.



- When making a right turn, incoming vehicles, cyclists behind incoming vehicles, and vehicles making left turns have the right of way. **Make sure it's safe, proceed slowly**, and prevent accidents caused by misunderstandings about who's going first.



Using Safety Communication (Pointing and Calling)

Safety communication (pointing and calling) can get the attention of people in the vicinity and alert them to danger quickly.

Don't simply look. Use your arms, fingers, mouth, eyes, ears, and so on to check for safety and make your confirmation more accurate. Don't be embarrassed. Focus on preventing accidents!



Getting ready to move		Check by pointing and verbally notifying people
Pulling out		Check below, to the right, to the left, and to the front before pulling out
Intersection		Stop once, stop again, check to the right, to the left, and to the front
Signal	Green	Proceed slowly
	Yellow	Slow down
	Red	Stop once, stop again
Side roads		Watch for people dashing out, proceed slowly
Signs/ Displays	Crosswalk	Watch for pedestrians
	Stop sign	Stop once, stop again
	Proceed slowly	Drive slowly and carefully
	Speed limit	Drive below the designated limit
	Railroad crossing	Wait for the all-clear
Parking		Check the parking spot, make sure the wheels are turned to the left, check the handbrake, check the gear



Tips

Turning the Wheels to the Left

When parking, workers angle their tires to the left.

At our company, we make sure our workers always do this when parking for collections or deliveries.

You may be wondering why we do this.

There's a good reason for this practice.

First, it forces the driver to take extra time when pulling out.

When pulling out, it's natural to check around and beneath the vehicle, but if a child happens to be nearby, those extra few seconds can give you enough time to notice them.

Second, it prevents runaway vehicle accidents.

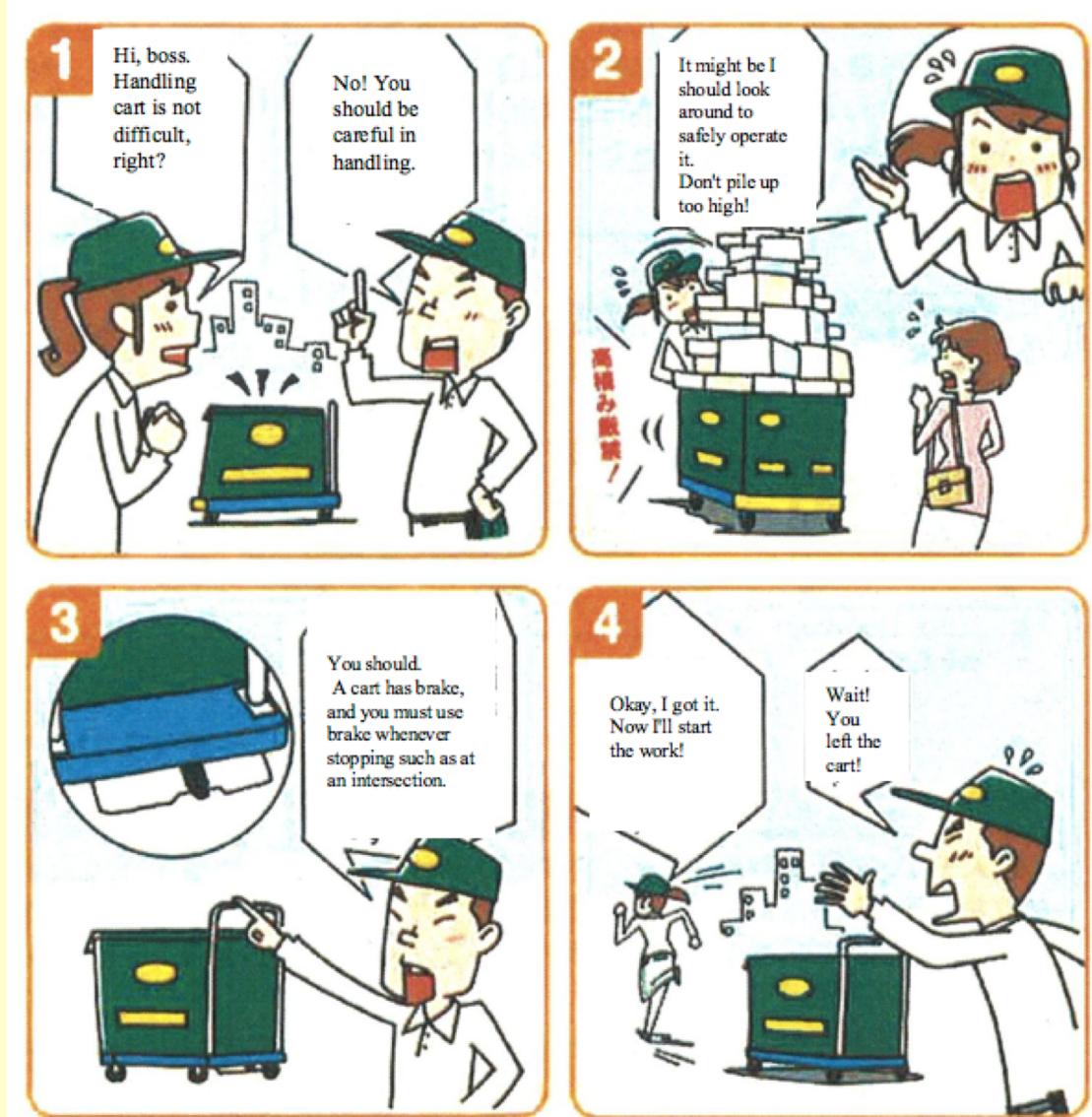
If the handbrake doesn't work properly and the vehicle is parked on a slope, this allows you to minimize the damage caused.

Turning the wheels to the left causes a bit more tire wear than usual, but if this practice can enhance safety, it's worth it.



Important points to handle a cart

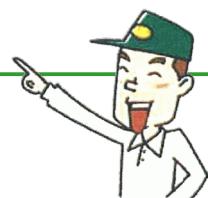
- 1 Make sure to apply brake when stopping at an intersection.
- 2 Always check the environment around you and be careful not to hit or touch a pedestrian or an object. (Height of a cart is about 1 m.)



Tips for Preventing Accidents

Danger lurks all around you!

In order to prevent either you or others from suffering accidents both during collections and deliveries and in other situations, always follow company regulations while working and be vigilant to prevent accidents before they occur.



① Do not race down steps or uneven surfaces, and make sure your footing is secure.



② When exiting a vehicle, use the steps or footrest.



③ Do not stand on drain lids at the edges of roads, metal grids, or other unstable surfaces!



④ When working indoors, wear safety shoes, a hard hat, and work gloves.



⑤ Do not enter the path of forklifts or trucks when they're in operation.



⑥ Do not walk while using a device, a mobile phone, or reading!



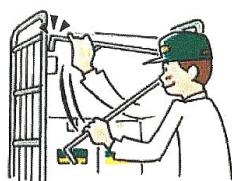
⑦ When it's raining, the entrances to apartment buildings, roads, manholes, and so on get very slippery, so watch your step!



⑧ When carrying packages, do not stoop to avoid putting pressure on your back. Keep your back low while working!



⑨ When removing packages from a cart, lower the crossbar at the top of the box before working!



⑩ When moving carts, be sure to use both hands and keep your hands and feet from getting caught, and call out to people in the surrounding area!



(1) Acquiring information about workplace injuries and deaths, as well as related ordinances

While promoting preventive measures for workplace-related injury and death, maintaining an understanding of the rate of occurrence of these incidents and specific examples and applying this knowledge is very effective.

This kind of workplace injury and death information is available at the following website.

[1] Workplace safety site

→ <http://anzeninfo.mhlw.go.jp/index.html>

This site contains information collected by the Ministry of Health, Labour and Welfare related to workplace-related injury and death prevention.

The following are examples of the type of information available.

- Workplace-related injury and death statistics
- Actual examples of incidents (workplace-related injuries and deaths, incident database, near-miss incidents, etc.)
- Initiatives to promote safety and peace of mind for employees in stores and facilities

[2] Safety and health information center

→ <http://www.jaish.gr.jp/index.html>

This site contains information collected by the Japan Industrial Safety and Health Association related to safety and health.

- Ordinances related to safety and health
- List of reports and announcements made by the Ministry of Health, Labour and Welfare related to safety and health, etc.



(2) Acquiring documents related to safety and health

The various documents (leaflets, etc.) related to this manual can be acquired through the following:

<Ministry of Health, Labour and Welfare materials>

- ① Freight loads handling safety guidelines for freight transport on roads
→ <http://www.mhlw.go.jp/new-info/kobetu/roudou/gyousei/anzen/130605-3.html>
- ② Roll box pallet accident prevention manual
~Eight rules for work safety~
→ <http://www.mhlw.go.jp/stf/seisakunitsuite/bunya/0000098500.html>
- ③ Preventing accidents during transport
→ <http://www.mhlw.go.jp/stf/seisakunitsuite/bunya/0000102664.html>
- ④ Preventing back pain at the workpalce
→ <http://www.mhlw.go.jp/new-info/kobetu/roudou/gyousei/anzen/dl/131114-01.pdf>
- ⑤ Let's prevent heatstroke!
→ <http://www.mhlw.go.jp/houdou/2009/06/dl/h0616-1b.pdf>
- ⑥ Use safety full harness properly → <http://www.mhlw.go.jp/new-info/kobetu/roudou/gyousei/anzen/dl/170131-1.pdf>
- ⑦ Securing work conditions, safety, and health for dispatch workers
→ <http://www.mhlw.go.jp/file/06-Seisakujouhou-11200000-Roudoukijunkkyoku/0000069165.pdf>
- ⑧ Safety and health training for dispatch workers
→ <http://www.mhlw.go.jp/file/06-Seisakujouhou-11300000-Roudoukijunkkyokuanzeniseibu/0000073045.pdf>

* Website with various safety and health-related leaflets:
→ http://www.mhlw.go.jp/stf/seisakunitsuite/bunya/koyou_roudou/roudoukijun/gyousei/anzen/index.html

<Ministry of Land, Infrastructure, Transport and Tourism>

- ① Manual for general instruction and supervision provided by express carriers to vehicle operators: Truck operator edition (Volume Two) → https://www.mlit.go.jp/jidosha/anzen/03safety/resource/data/truck_honpen.pdf

<Searching for Materials>

Ministry of Health, Labour and Welfare materials can be easily searched using the search box on the main page of the Ministry of Health, Labour and Welfare website, as demonstrated in the image below.

In addition, the sources listed in this handbook contain other useful information as well, so searching for a source using a general search engine can allow you to find additional information.

Dispatch worker safety and health	<input type="button" value="Search"/>
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Part 2 Safety and Health Training for Unskilled Workers (for lecturers)

This part was written under the assumption that the lecturer will conduct the safety and health training by distributing its handouts and/or by projecting the PowerPoint presentation material "For all workers in land transport, to work in safe and in good health"^(Note). The upper part of a page shows the material for employees while the lower part shows the explanation.

During the safety and health training, it is more efficient to speak in details as much as possible while providing examples of actual occupational accidents the company experienced (if they have one). It is also better if you can share personal experiences that will help increase awareness of participants.

(Note) Material is available on the website of Ministry of Health, Labour and Welfare.

Point 1 There are various dangers at workplace!

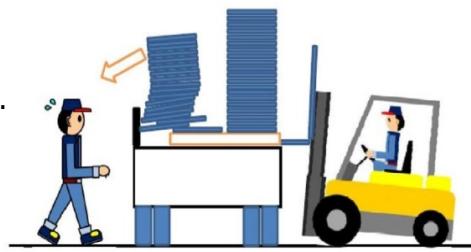
【Occupational accident Case 1】 The worker was trapped under the pallet!

1 The occurrence of occupational accidents

- (1) The afflicted person A was assisting the driver of a forklift loading external wall material on a 3t-truck.
- (2) The forklift loaded a wooden pallet with binded external wall material on it.
- (3) The forklift driver B loaded the wooden pallet on the truck once, then shifted the fork back a little and then shifted the fork forward to push the wooden pallet further behind.
- (4) The external wall material collapsed towards worker A and was trapped under the material.

2 Unsafe operation

- (1) The position of the wooden pallet was too shallow.
- (2) Worker A was standing immediately behind the load.
- (3) Pallet loading way was not appropriate.
- (4) Measures to prevent the collapse were not taken.
- (5) A leader for the work was not appointed and the work itself was not based on the work plan.
- (6) There were no procedures taken to prevent accidents before starting the work.



3 For safe operation

- (1) To appoint a leader of the work. The leader constantly monitor the working conditions and rectify the unsafe conditions.
- (2) Prior to beginning the work, the leader shows the work procedures, important points of the work and the risk predicted during the work.

【Explanation】

1 Let employees understand that there are many possible dangers at workplace, and an accident may occur any time.

To help them realize that a workplace is dangerous, it is effective to show actual occurrence of work accidents. A fatal accident case was introduced here, in which external wall material collapsed during the loading operation on the truck and killing the worker who happen to be just assisting the forklift driver. It is taken from the labour accidents cases in the "Workplace Safety Site" of the Ministry of Health, Labour and Welfare.

2 To understand what was the cause of the accident.

"Unsafe behaviour" of the workers ((1) (2)), "Unsafe state" of the pallet loading ((3) (4)) and "Unsafe management" ((5) (6)) are given as the causes.

One of the causes of the disaster was that the worker was unable to anticipate what could happen (such as "the external wall material might collapse"). Let the trainer recognize the importance of safety and health education and safe work procedures.

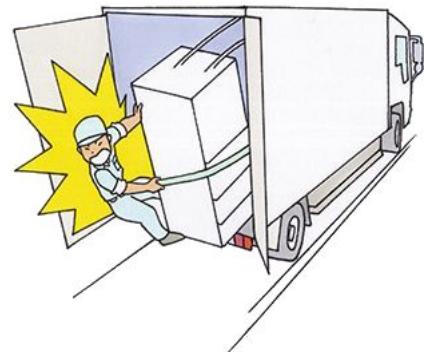
3 To prevent accidents

To prevent an accident, it is important that each worker consider and understand what is necessary for prevention by themselves

【Occupational accident Case 2】 A worker fell with loads!

1 Occurrence of occupational accident

- ① Workers were transporting a refrigerator on a van type Truck. It went from the 1st floor to the 3rd floor of a parking
- ② The workers didn't secured the refrigerator. A worker h to keep the refrigerator from falling.
- ③ They run the truck with its back door open.
- ④ When the truck was passing the slope to the 3rd floor, fell along with the refrigerator.



2 Unsafe operation

- ① A worker was on the truck bed when the truck was running.
- ② Operation manual was not prepared for the transporting operation.

3 For safe operation

- ① When you drive a cargo truck, don't get anyone on the truck bed. They should be no where other than on a passenger seat.
- ② Prepare operation manual on transporting freight, and inform it to operators.

【Explanation】

1 Let employees understand that there are many possible dangers at the workplace, and an accident may occur any time.

To help them realize that a workplace is dangerous, it is effective to show actual occurrence of work accidents. In this example, when workers were transporting a refrigerator, a worker held a lashing belt to secure the refrigerator while the truck drives from the 1st floor to the 3rd floor. The door of the truck was open, and since he wasn't able to hold the belt further, he let go of the band and fell along with the refrigerator from the truck and died. This is from the "Website of workplace safety" of Ministry of Health, Labour and Welfare".

2 To understand what was the cause of the accident.

This case focuses on a worker's unsafe action.

First, a worker was on a truck bed. As it was a short distance, they didn't secure the refrigerator well enough, and held it by hand. Also, there was no "operation manual" available for them to use to learn the proper procedures.

3 To prevent accidents

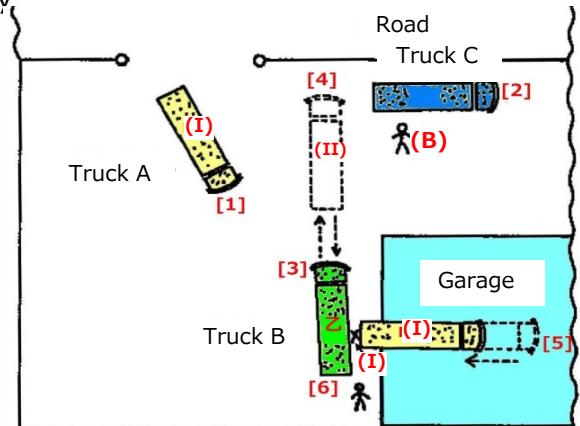
To prevent an accident, it is important for each worker to consider and understand what is necessary for prevention by themselves.

【Occupational accident Case 3】

A worker got caught when he tried to stop a truck that started to move!

1 Occurrence of occupational accident

- ① The victim (I) was in the front of the garage at position [1] to park large truck A (10 t) into the garage.
- ② A colleague (II), who was checking the truck C moved another large truck B to position [4].
- ③ After truck A got into the garage, colleague (II) moved truck B backwards to return it to position [3].
- ④ Worker (I) got off the truck A, and verbally assisted colleague (II).
- ⑤ Worker B noticed that the truck A was rolling back slowly and notified worker (I) of the situation.
- ⑥ Worker (I) was surprised, went back to the back side of the truck A, and tried to stop the truck by his hands. However, he was pushed by the truck A and died because he was caught between the truck A and the side gate of the truck B.



2 Unsafe operation

- ① The victim did not stop the engine when he left the driver's seat of the truck.
- ② As he did not apply the emergency brake well, truck A slowly went back due to the vibration of engine and the gradual slope at the rear body.
- ③ The victim acted unsafe by attempting to stop the heavy truck, which was coming back.

3 For safe operation

- ① When leaving the driver's seat, make sure to stop the engine and apply the brakes. Lock the tires if necessary.
- ② Do not act unsafe such as stopping the moving vehicle.

【Explanation】

1 Let employees understand that there are many possible dangers at workplace, and an accident may occur any time.

To help them realize that a workplace is dangerous, it is effective to show actual occurrence of work accidents. This case is an example of a fatal accident. A driver tried to stop a truck that started to move. This is from the "Website of workplace safety" of Ministry of Health, Labour and Welfare".

2 To understand what was the cause of the accident.

It is not a rare case that a truck or a forklift starts moving on a gradual slope, etc. when the driver leaves the vehicle. A driver should imagine "if it might move", and take a measures to prevent it from moving.

3 To prevent accident

To prevent an accident, it is important for each worker to consider and understand what is necessary for prevention it by themselves.

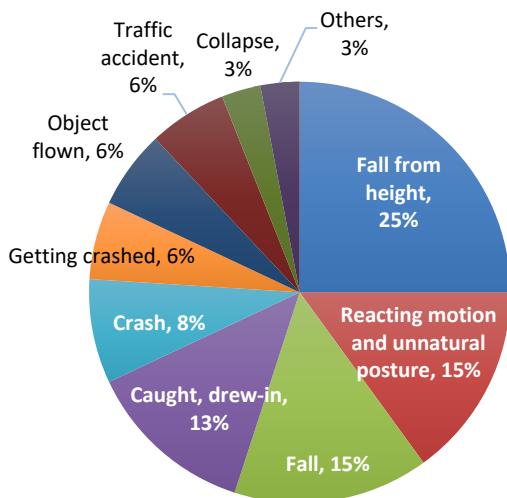
In this case, it is important to inform them constantly that "you never be able to stop a truck or a forklift that started to move" or "Don't stop it but run away"

【 Occupational accidents occur frequently to unskilled workers ! 】

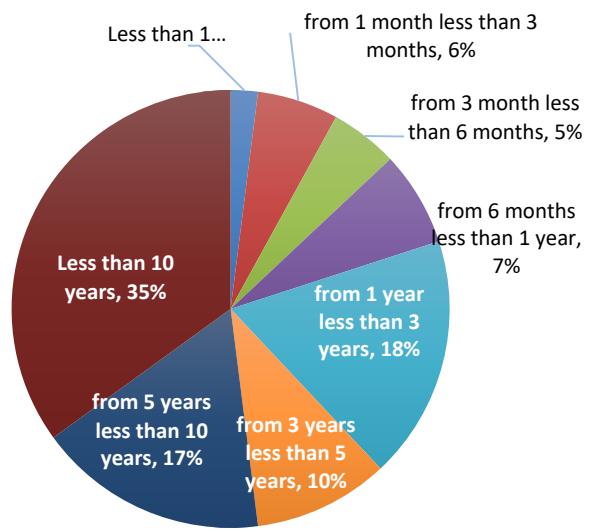
1 Many occupational accidents occur for unskilled workers (with less than three years experience)!

- ① Workers with less than one year experience account for large part, 20%.
- ② Workers with less than three years experience also account for 39%.

2015 Occupational accidents of unskilled workers by accident type



2015 Dead or injured accidents by years of experience



2 Fall accidents account much for 25%!

- ① Falls from truck bed, etc. account for 25%.
- ② Back pain injury including lifting heavy objects or unnatural action account for 15%.
- ③ "Falls" during carrying a load are 15%

【Explanation】

- 1 Raise awareness of danger by understanding how many and what type of accidents occur.
 - (1) Highlight that many accidents occur for unskilled workers with less than three years of experience. Then, let them understand that safe and health training is important to know danger, and to save themselves from it.
 - (2) Explain that 14% of the accidents occurred among workers with less than one year of experience. Also, 32% of all accidents happen for worker with three years of experience. Highlight that accidents occur when a worker gets used to his assigned operation.
 - (3) Explain that the most frequent accident is "falls from height", and most incidents are by operators falling from the truck bed while they are transferring loads. Next to this is "reacting move and unnatural action". This explains that most of the incidents are while handling heavy objects.

Then explain necessary cases referring to the "Part 1 Safety and Health Training for Unskilled Workers".

You can show accident cases in manual for better understanding.

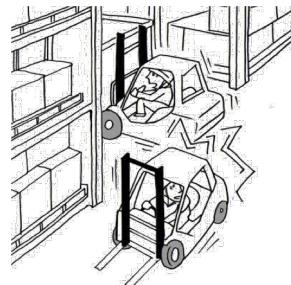
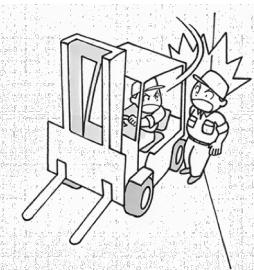
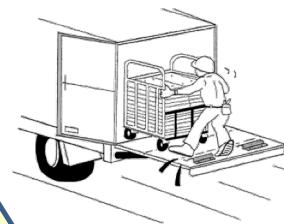
Point 2 Know a danger by questioning "might" risks!

【"Might" risks of a worker's action】

A worker "might"

- fall
- get back pain
- fall trapped
- get caught
- get dragged-in
- crush
- get crushed
- get burnt
- get an electric shock
- get gas poisoning
- get lack of oxygen
- get harmed by hazardous material

"might"



【Explanation】

1 To understand that the workplace is dangerous is the basics of safety.

(1) Unskilled workers are not sensitive to danger.

Interview of companies shows that unskilled workers think workplaces are safe in many cases, and are not sensitive to danger.

So, in many cases, they take unsafe motion (dangerous motion) automatically, resulting in an occupational accident.

(2) "Might" questions can notify workers on the occurrence of danger.

This is a training that raises awareness of danger. Anticipating different "might" situations will help increase awareness of danger in the workplace.

- While a worker is working on truck bed, he/she "might fall."
- When a worker lifts a heavy object, he/she "might get back pain".
- When a worker is walking, he/she "might stumble" on a step.
- A worker "might get caught" by a forklift
- A forklift "might hit you"
- A worker "might get dragged-in" by the mast of a forklift.
- When you stride over a conveyor, he/she "might stumble on it".

(3) Introduce "might" examples with accident cases.

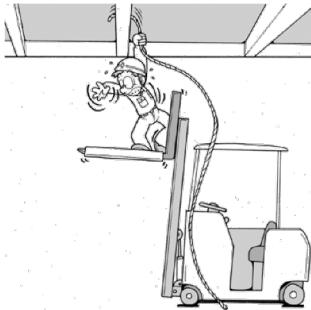
Explaining actual examples in near-miss (Hiyari-Hatto) cases on page 15 is also effective.

【"Might" risks of an object】

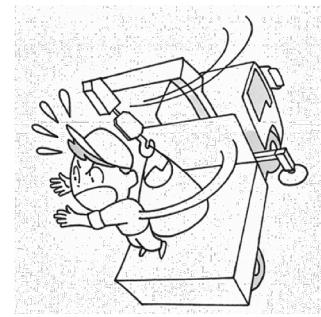
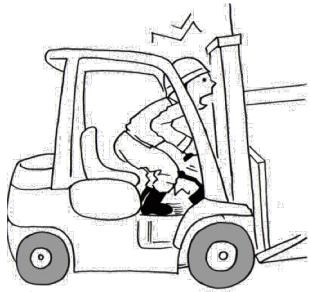
An object

"might"

- move
- rotate
- fly
- fall
- fall off
- burn
- fall down
- collapse
- explode
- leak



"might"



【Explanation】

1 To be aware of "might" situations of an object.

(1) Unskilled workers are not sensitive to danger.

An object might "move suddenly" or "fall from height". Let employees understand that these dangers could occur.

A worker may walk into unsafe status of an object without knowing it, and this may lead to an occupational accident.

(2) "Might" questions can notify workers on the occurrence of danger.

This is a training that raises awareness of danger. By thinking "might" possibility, let them realize awareness of danger.

- A pallet you ride on "might move suddenly"
- A cart "might move to unexpected direction"
- The mast of a forklift "might move suddenly".
- Hung loads might "move (swing)".

(3) Introduce "might" examples with accident cases.

Point 3 Safe operation starts with the proper attire!

【Example1】

【Wear the safety helmet correctly】

- Check if the chinstrap is not loosened or not in a pushed back style
- Check if it is not worn or damaged
- Wear safety helmet to protect your head incase you fall

【Use safety belt correctly】

- If you are working at height, be sure to use the safety belt
- Position of the hook should be above the waist.
- Harness type of a safety belt is advisable.

Use safety belts when working in places where there is a risk of falling.

Safety helmet (for crash prevention) should be worn properly.

The chin strap should be neatly tied.

Button up properly.

Button the sleeve neatly.

The safety belt is equipped at the waist position.

The safety belt should always be kept in the bag except when in use.

Wear non-slip shoes. Also wear safety shoes in work places where it might damage your foot.

【Explanation】

Proper attire depends per operations. Operators who may use forklift or work at height, should be aware of the following.

1 Explain the importance of wearing assigned proper attire.

Working attire is generally assigned depending on the operation. Explain what type of danger an operator might face and why the attire and protection is necessary.

- ① Loosened clothes could cause falls and stumbling accidents as an operator might get caught by the loosened part.
- ② Shoes (non-slipping shoes) are important to prevent falls.

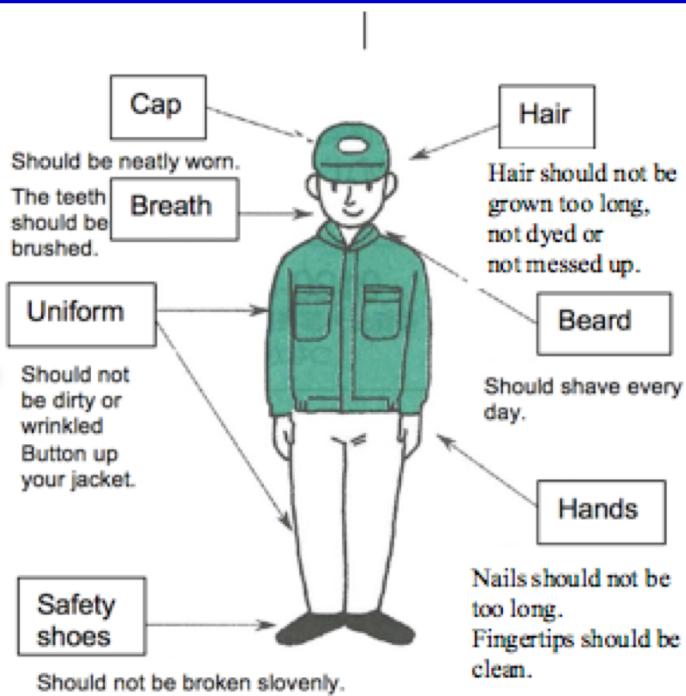
2 Explain the reason why the applied protection is necessary for a specific operation, and important point to use it.

For example, when a safety helmet is necessary, explain how to wear it by referring to the following.

- ① A safety helmet for flying object prevention is not effective for preventing from falls from height.
- ② If an operator doesn't wear it properly, it might get off during an accident, and it might result in a severe accident.

【Example2】

- ◆ Be ready and keep in mind that you will be interacting with customers.
- ◆ Proper grooming is important to maintain safety.
- ◆ Cleanliness is extremely important.



【Explanation】

1 Explain the importance of wearing assigned proper attire.

(1) Thinking about fundamentals

Start by thinking the fundamentals such as "awareness of your attire when interacting with customers," "safe attire," and "cleanliness".

(2) The assigned clothing varies depending on the operation content.

Explain what type of danger an operator might face and why the attire and protection is necessary.

① Loose clothing could increase the risk of falls from truck bed, etc. It could also get stuck on something, causing an injury.

② Shoes (non-slipping shoes) are important to prevent falls.

2 Explain the reason why the applied protection is necessary in a specific operation, and important point to use it.

For example, in cases where gloves and protective clothing are required, explain the cautionary points and the proper way to wear this equipment.

【Example3】

- ◆ Attire for handling a roll box pallet in a logistic center
 - Easy to move. Clothes that can get stained.
 - Long sleeves (can't be shorter than short sleeves)
 - Long trousers • Safety shoes • Gloves
 - Helmet (safety helmet)
 - Achilles guard and glove guard



【Explanation】

1 Explain the importance of wearing assigned proper attire.

(1) Thinking about fundamentals

Working attire is generally assigned depending on the operation. Explain what type of danger an operator might face and why the attire and protection is necessary.

① Loosened clothes could cause falls and stumbling accidents as an operator might get caught by the loosened part.

② Shoes (non-slipping shoes) are important to prevent falls.

(2) The assigned clothing varies depending on the operation content.

Explain what type of danger an operator might face and why the attire and protection is necessary.

① Loose clothing could raise the risk of falls, caught by roll box pallet or getting crushed.

② Shoes (non-slipping shoes) are important to prevent falls.

2 Explain the reason why the applied protection is necessary in a specific operation, and important point to use it.

For example, in cases where gloves and protective clothing are required, explain the cautionary points and the proper way to wear this equipment.

Point 4 Follow the assigned operation procedures!

- There are many unexpected source of danger.
- Following operation procedures is a rule in order to work effectively in a safe manner
- Follow operation procedures and protect yourself.

- ◆ Follow **work procedures** (operation manual) strictly.
- ◆ Practice the work procedures indicated in the operation manual **repeatedly** until you master them.
- ◆ Understand **what you should do** and **what you shouldn't do** for safety.
- ◆ If you do not know the proper work procedure, do not attempt to perform the work without consulting the person in charge.
- ◆ Avoid accidents due to overconfidence, and do not perform reckless or forcible actions.



【Safety points in tying loads】

- ① Wear safety helmet
- ② Wear non-skid shoes.
- ③ Check if flaps are locked
- ④ Inspect tools
- ⑤ Tie loads by working on the ground as much as possible
- ⑥ Prevent truck from moving away when tying loads.



【Explanation】

1 Let employees understand the importance of assigned operation (manual) and implement the procedures

- (1) Operation manual contains rules for workers to "work efficiently in a safe manner". Explain that following the procedures is the fundamental of the work and the importance of following them.
- (2) Operation manual includes necessary points to be able to work safely(and in good health). Explain the reason of what an operator should do and what they shouldn't do, and let them understand that it is important to protect themselves. Introducing accident cases that happened when an operator didn't follow the rules is also effective.

(Example) The illustration shows safety points in loads tying operation. In this example, explain why these points are important.

- Tie the rope while not riding on the loads but standing on the ground. Stopping the engine to prevent truck from running away, and putting a stopper under the tires. These should be written in a manual and should be implemented.

Also explain the necessity of the safety point adding to the "accident cases" for better understanding.

- (3) When an operator uses a safety belt at a place equipped with safety belt holders, it is also important that they experience equipping it and understand the necessity and practice it.

Point 5 Improve safety through implementing 4S and 5S!

- ◆ **Seiri/Sorting:** Sort items between necessary and unnecessary, and dispose of unnecessary items.
→ Improves operation efficiency and reduces the risk of falling incidents.
- ◆ **Seiton/Setting-in-Order:** Store the necessary items in a manner that it is easy to use and understand.
→ Reduces wasted time and improves quality as well.
- ◆ **Seisou/Shining:** Eliminate any dirt and keep yourself clean and well-groomed.
→ Improves quality, prevents food poisoning, and can keep foreign materials from mixing into products.
- ◆ **Seiketsu/Standardizing:** Eliminate dirt and trash from machinery and the operations area.
→ Maintains machinery functional and reduces the risk of falling incidents.
- ◆ **Shukan/Sustaining:** Follow the rules properly.
→ Repetition ensures that operations are carried out with proper safety and health. It becomes natural for workers that it is almost automatic.

If there are unnecessary items this leads to unnecessary actions.

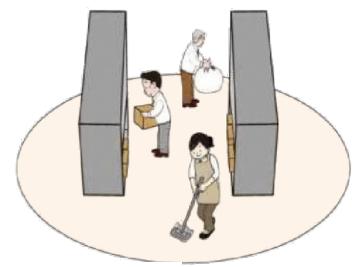
If storage is poor, time is wasted.

S is not properly followed

If the workspace is not kept clean, this can cause poor products and loss of trust.

If machinery is not properly cleaned, this can cause breakdown and falling incidents.

Put things away! Organize!



Wipe the floor! Clean up!

[Explanation]

1. Inspire employees to understand the importance of 4S (5S) and make it a part of their routine.

(1) Thoroughly explain the negative effects of not following 4S (5S), and ensure employees understand the importance of 4S.

[1] If unnecessary items are left lying around, this increases the risk of stumbling and falling, and also worsens the flow of operations.

[2] If you have to search for what you need, operating efficiency drops. Also, setting-in-order makes missing items and other problems easier to detect for food-related operations, and enables quicker discovery of foreign object contamination.

[3] This is crucial for maintaining normal operation of machinery. Also, maintaining sanitation and cleanliness in the workspace is crucial for preventing food poisoning when handling food products.

[4] Immediately wiping up wet spots on the floor is crucial for preventing slipping incidents.

[5] Just understanding seiri/sorting, seiton/setting-in-order, seisou/shining, and seiketsu/standardizing is not enough. It is important for employees to also make a habit of carrying out these procedures.

(2) Ensure that employees have a good understanding of the effectiveness of 4S and 5S and conduct themselves to maintain safety and health.

If 4S and 5S are thoroughly applied, this will have the positive effects indicated by the arrows (→) above. This is essential for operating efficiency, safety and health.

(3) Introducing examples of workplace-related incidents caused by failure to implement 4S and 5S makes this even more effective.

Point 6 If all employees maintain safety in the operations, the entire workplace will be safer!

(1) Points to prevent "falls from height"

■ Freight loads operators should implement safe operation!

Sometimes operator handles loads by themselves in the customer's place, therefore they should strictly follow safe operation procedures.



■ Avoid working while standing on the flap of a truck bed!

If you need to work on the truck bed, prepare a platform near the bed. Avoid working on the flap. (picture ①)

■ Use a lift facility when you should step on a truck bed!

If you are in the customer's place, request permission to place it there. (picture ②)

■ If you are working at height, be sure to use a safety belt.

If you are working at height and if the place is equipped with safety belt holder, be sure to use safety belt. (picture ③)

[Explanation]

Explain details of accident prevention measures on "falls from height", "falls and stumbling", "getting caught and dragged-in" and "crush".

■ Freight loads operators should implement safe operation!

Sometimes an operator handles loads by themselves in a customer's place. Based on the given safety operation training, they should consider by themselves the various danger and risks, such as "they could fall", and that they should follow safe procedures actively.

※ For example, explain the illustrated case where an operator fell from the truck bed by losing balance when he lifted a box on a truck bed during working by himself.

<Countermeasure>

- Wear safety helmet and shoes that has enough non-skid property and soft soles when handling loads on a truck bed.
- Put on/off loads from a truck by standing on a flat ground with truck's engine off, parking brake surely applied, and applying a tire stopper.
- Properly organize the loads on a truck bed, and eliminate cause of stumbling to prevent tripping on wrapping material, etc.

【Example of fall prevention】



Picture ③ Safety belt holder facility



Picture ① Moving platform for loads handling

Picture ② Step to the truck bed

【Explanation】

■ Avoid working while standing on a flap of the truck bed!

Sometimes the platform might move while an operator is working on the truck bed. In this case, use a step or a working floor. Avoid working while standing on the flap of a truck bed!

■ Use a step when you have to work on the truck bed!

Use a stairs or a lift step onto a truck bed if it is available. If there is no stairs or lift, climb or step up by "three point support".

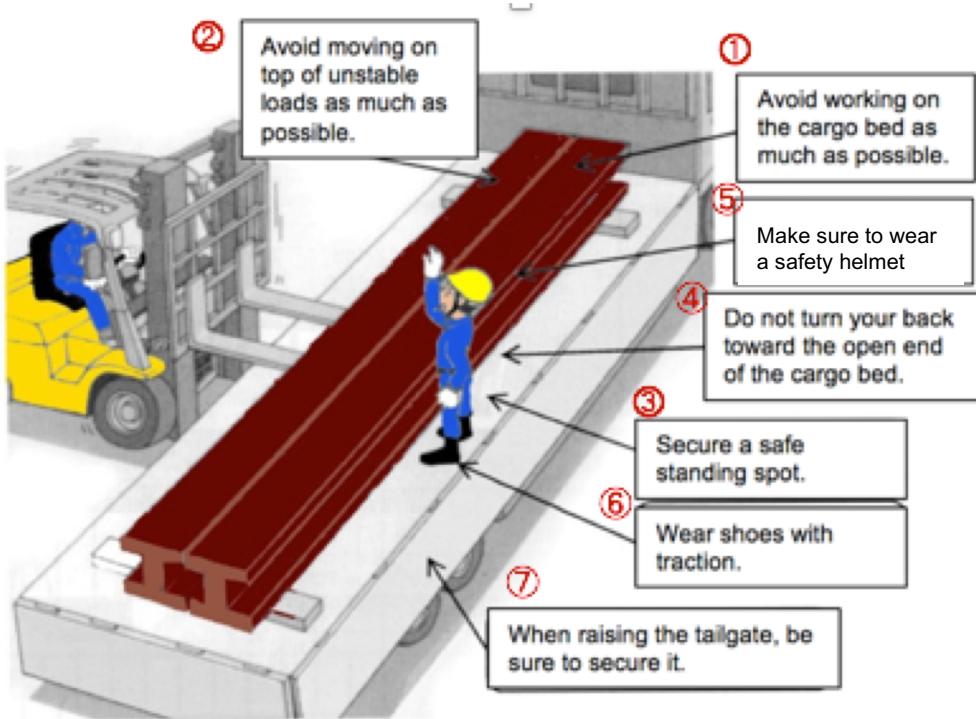
(picture ②)

■ If you are working at height, be sure to use a safety belt.

• If you are working at height and if the place is equipped with safety belt holder, be sure to use safety belt. Full harness safety belt is desirable.

(picture ③)

【Points to prevent "falls from height"]



【Explanation】

■ Teach basics by a picture of fall prevention for cargo bed operation

Some part would repeat itself, but illustrations are easier to remember therefore use this same illustration when you give the lecture.

① Avoid operation on the truck bed.

Fasten, wrap loads, or apply labels by standing on the ground whenever possible.

② Working on top of unstable loads is not allowed.

Don't work on top of unstable loads. Move after you step down to the ground.

③ Secure safe position

Secure safe position where a driver of a forklift, etc. can see you when you work on top of loads or truck bed.

④ Don't turn your back toward the open end of the cargo bed.

When working on the loads or on the cargo bed, do not turn your back toward the open end of the cargo bed when near the edge, and do not step backward.

⑤ Wear a safety helmet.

Use safety helmet for fall injury prevention and wear it properly including chin strap.

⑥ Wear non-skid shoes.

When it is raining, wear non-skid shoes with F mark.

⑦ Lock the flap whenever you raise it.

Lock the flap every time, and don't step up on the flap.

【Cases of falls from height】

■ **Case①-1** A worker ascended the step of a concrete mixer truck, and while he was cleaning the the hopper section, he slipped and nearly fell from the steps.



■ **Case①-2** While a worker was unloading a flexible container bag, he climbed onto the loading-type crane truck cargo bed in an attempt to hoist the bag, but this resulted in shaking and causing the bag to hit him, and almost fall from the cargo bed.



■ **Case①-3** When an operator attempted to take down a roll box pallet from power gate of a truck, the box pallet leaned and he tried to hold it but failed and fell from the power gate.



【Explanation】

○ **Case①-1**

He was so focused on cleaning that he neglected to pay attention to his footing.

- The steps on the concrete mixer truck are small, and cleaning the hopper section requires you to bend, so make sure you do not lose your balance.
- Also, be sure to wear work shoes with traction when cleaning the hopper section.

○ **Case①-2**

The worker did not know where he was supposed to stand when operating the crane. In addition, the crane wire was slanted when he attempted to hoist the bag.

- Provide safety and health education to workers so that they understand both radio control operation and the proper standing position when dealing with a loading-type crane truck.
- In addition, when hoisting the flexible container bag with the crane, make sure to hang it on the crane hook while staying on the same level as the crane.

○ **Case①-3**

The operator pulling the cart backwards on an unstable power gate.

- When moving a box pallet on cargo bed or on power gate, push it to see forward clearly.
- Make operation manual (procedures) for loads handling on truck bed, and implement it.
- When a roll box pallet is falling to you, never attempt to hold it, but just run away.

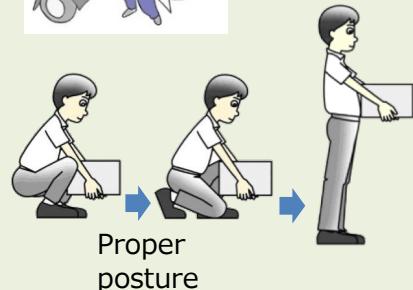
(2) Points to prevent "back pain injury"

■ Working posture, movements (handling of heavy objects)

Stay as close to heavy objects as possible and maintain a low center of gravity.

[When lifting up a heavy object]

- ① Move one foot slightly forward, bend your knees, lower your back sufficiently, grip the heavy object.
- ② Lift up by straightening your knees.
- ③ When lifting heavy objects, take a deep breath and brace your abdominals prior to lifting.



[Moving while holding a heavy object]

Keep movement distance short, and avoid carrying heavy objects up and down stairs.



【Explanation】

Back pain makes up about 60% of work-related ailments, and occurs in many workplaces. Prevent back pain with the following measures.

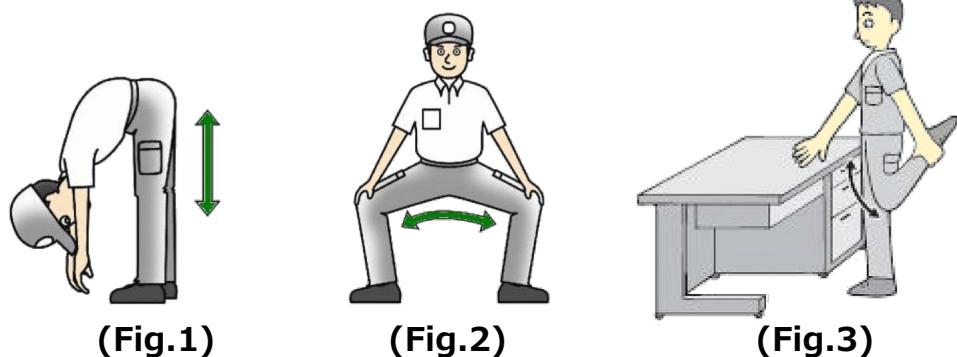
1 Working posture, movements (handling of heavy objects)

"When an operator carried a refrigerator, he sat down on his heels and gripped it attempting to lift it up. Then he felt severe pain in his lower back, and wasn't able to move from there. (21years old)" This is an actual case.

- Young unexperienced workers don't know enough about handling heavy objects, and sometimes get back pain because of bad posture. Secure proper posture when you lift an object.
- Explain with showing a picture on the method of lifting or placing down heavy objects.
- Strong warning should be given to prevent improper method.

【Physical exercise to prevent lower back pain】

Let's do back pain prevention exercises focusing on the stretching.



【Cases of low back pain】

- ◆ **case study (2)-1** When the worker unloaded rice (30 kg paper bag) from the truck, he twisted his hips after putting it on the shoulder.



【Explanation】

2 Physical exercise to prevent lower back pain

Lower back pain is caused by lifting heavy materials or works with impossible posture. Stretching before work is important to prevent lower back pain. Let's do these exercises to prevent lower back pain. These focus on stretching before work. It is a must for most older people.

Fig. 1: Femoral posterior (rear thigh)... Maintaining posture for 20-30 seconds and stretching one to three times.

Fig. 2: Inside thigh... Maintaining posture for 20-30 seconds and stretching one to three times.

Fig. 3: Anterior (front thigh)... Maintaining posture for 20-30 seconds and stretching one to three times both left and right.

【Case (2)-1】

As soon as the worker carried the paper bag on his shoulder, his waist took a steep burden.

〈Solution〉

- labour-saving should be considered by using an appropriate power unit in the handling of heavy loads. If it's difficult, reduce burden by using a boogie, auxiliary equipment etc.
- Movement of body in a short time and "unnatural posture" such as bending forward and twisting should be avoided.

【Others】

For the workplace accidents categorized into "Backlash movement and unnatural posture", in addition to lower back pain, there are many cases of leg sprains after jumping off from the truck box or driver's seat, which should be specifically cautioned.

- **Jumping off from the driving seat should be prohibited.**
- **Jumping off from the truck box should be prohibited.** etc.

(3) Points to prevent "falls"

■ Carrying an object during walking increases the risk of "falls"!

- When a worker carries objects by hand, the risk of stumbling increases because they cannot see their feet well, which makes maintaining balance difficult.
- Don't rush when going down the stairs while holding an object!



■ Always maintain 4S (Seiri / Sorting, Seiton / Setting-in-Order, Seisou / Shining, Seiketsu / Standardizing) on the floor!

- Wipe clearly if the floor gets wet (Be careful on the wet floor while you clean it up)
- Unnecessary object becomes a cause of "stumbling"

■ Use a cart to transport large and heavy object!

When you can't use a cart, handle the loads by two workers, or bring them little by little in several times.



■ Wear shoes that help you in preventing slipping or stumbling.

【Explanation】

1 Carrying an object while walking increases the risk of "falls"!

- "While a worker was walking down a stairs carrying a box with his hands, he lost his footing and fell." This is an actual accident. Carrying something prevents you from seeing where you're stepping, which is a major risk for missing steps and falling.
- Carrying things can increase the risk of falls. Move slowly with much care as well as use a cart, etc. if possible for carrying large objects.

2 Always maintain 4S (Seiri / Sorting, Seiton / Setting-in-Order, Seisou / Shining, Seiketsu / Standardizing) on the floor!

"A worker stumbled and fell trapped on a pallet that was left on a safe passage." This is an actual case. Object left on a passage could be a cause of "stumbling". Also, if the floor is wet with water or oil or stained with something, "slipping" risk will increase. So, implement 4 S (5 S).

3 Use a cart to transport large and heavy object!

To avoid the risk of when you are unable to look where you are going, use a cart.

If you can't use a cart, carry it with colleagues or bring them little by little in several times.

4 Wear shoes that prevent from slipping or stumbling.

This point will be explained later.

5 Others

On dark passage or stairs, you can't see your footing clearly, and fall risk increases. Don't rush, walk slowly.

【How to choose appropriate shoes】

<Choosing Shoes that Prevent Falls>

Size

If your shoes are too small or too large, you won't have firm footing and it will be easy to lose your balance.



Flexibility

If your shoes aren't flexible, you're likely to shuffle your feet, causing you to trip.

Weight

Heavy shoes make it difficult to lift your feet, causing you to trip.

Weight balance (front and back)

If there's too much weight at the toe of the shoe, the toe will drop when you walk, causing you to trip.

Toe height

If the toe of your shoe is low, this could cause tripping over even on slightly elevated surfaces.

Anti-skid balance of shoe soles and floor

It is important that the traction of your soles matches the work area and the content of your work. For example, wearing non-slip shoes on a non-slip floor could cause a trip accident.

(Toe spring)



【Explanation】

○ Weight and weight balance

If the weight is heavy, shoes can cause stumbling. Also, if the gravity center is too close to the front, it can cause stumbling too.

○ Toe spring

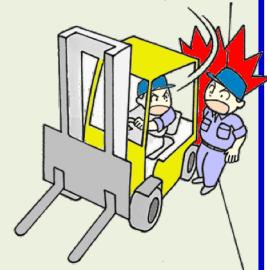
Height of toe is called "toe spring". If this is too low, this can cause stumbling on level difference.

○ Non-skid property

To choose good shoes with traction is important. However, please be careful that strongly grippy shoes may cause stumbling on the contrary. (Non-skid property is shown with a mark "F".)

(4) Points to prevent "Getting caught and drawn in"

- Stop conveyor whenever you fix the jam, inspect or repair it!
 - Certainly stop the conveyor when you fix its jam, inspect or repair it.
 - Don't stride over a conveyor.
- Be careful not to crush into a forklift when you walk in working site!
 - Walk on safety passage
 - Don't run out from behind an object.
- Forklift driver should be careful not to hit or touch a walker near it!
 - Even if a forklift was left and started to move, don't try to stop it.
 - Don't lean your body out from the driver's seat.
 - Be careful not to hit a pedestrian when you drive a forklift while its loaded.
- Wear protectors if necessary when operating a roll box pallet or a cart!
 - Wear safety shoes and leg protectors in case you might get run over.
 - Stop and make a call when you come to a place where you can't look around clearly.



[Explanation]

1 Stop conveyor whenever you fix the jam, inspect or repair it!

- Certainly stop the conveyor every time you fix its jam, inspect or repair it. Turn off the power source switch too. If repair or inspection takes time, display a sign of "Do not turn on! Under repair", or lock the conveyor to avoid other worker from turning on the switch.

2 Be careful not to get crashed by a forklift when you walk in the working site!

- Walk on a safety passage
- Don't run out from behind an object. Make a call with pointing a finger when you come to a place where you can't look around clearly.

3 Forklift driver should be careful not to hit or touch a walker near it!

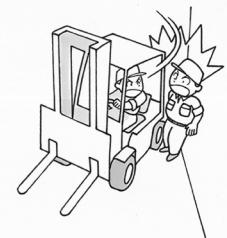
- Don't speed up the forklift, and make a stop at a corner even if you are an experienced driver.
- Even if a forklift was left and started to move, don't get in, or don't try to stop it.

4 Wear protectors if necessary in the operation of roll box pallet!

- Wear safety shoes and leg protectors in case you get run over.
- Stop and make a call when you come to a place where you can't look around clearly. Details will be given in next part.

【Cases of getting caught and drawn-in】

■ **Case④-1** A worker stood on the left side of a forklift and was talking with the driver about product inspection in a warehouse. When the forklift started to move by turning to the right, the worker got caught between the left rear of the forklift and the wall of the warehouse.



■ **Case④-2** A worker was moving shipping products. When he rotated a pallet cart with many products on it, he got his foot caught by the rotated cart.



【Explanation】

○ **Case④-1**

- When driving a forklift, make a call while pointing a finger, say "Clear right! Clear left! Clear forward!", and check safety sufficiently.
- Also, a worker around a forklift should stay on a safe position where the driver can see him.

○ **Case④-2**

- Wear safety shoes when using a pallet cart as possible.
- Also when rotating the cart to change direction, don't move the pallet cart when its is not aligned with center of the worker's body.

(5) Points to prevent "crash" and "getting crashed"

■ Do not jump off the truck bed or driving seat!

- Make sure to use stairs, etc. if any.
- If there is no stairs or other means available, step or climb on a box or a wheelbarrow supporting your body by three-points, which ensure safety.



■ Prevent crash disasters by forklift!

- If you drive at the premises by a forklift, make sure to observe the speed limit and pay attention to pedestrians.
- When walking at the premises, walk on the safety aisle. Be careful not to clash with any loads or a forklift.



■ Be careful with crush against wheeled box pallet!

- Make sure to wear safety shoes and protectors on legs in case you are run over by a wheeled box pallet or a cart.
- Stop and make a call when you come to a place where you can't look around clearly.

【Explanation】

1 Do not jump off the truck bed or driving seat!

The most frequently accident is besetting and a sprain of legs when jumping off the truck bed. This is classified as crash accident in many cases.

You need to instruct them that jumping off is more dangerous than you think.

Especially after a long drive when you had to keep the same position, the risk of injuries by jumping off is quite high.

2 Prevent crash disasters by forklift!

The driver is injured from the crash with a forklift, and a pedestrian gets injured from the crash with a forklift. You need to be careful for each case.

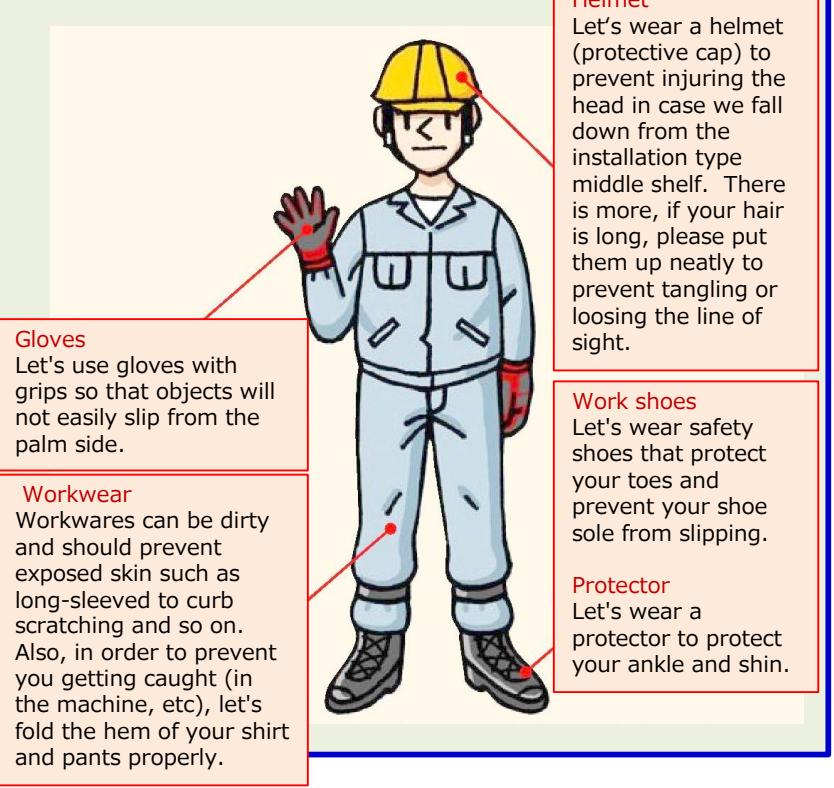
3 Be careful not to get hit by a wheeled box pallet!

Roll box pallets are called as a basket carriage, cage truck, and wheeled box pallet, and these are used widely. When they do not move smoothly or move too slowly, you cannot control as you wish, and it leads up to injuries on legs.

Examples are given in next part.

【Safe handling of roll box pallet】

- ◆ work clothes, work footwear and protective equipment
- ◆ Procedures in the place with steps and inclination



【Explanation】

1 work wear, work shoes, protective equipment

- Helmet

Let's wear a helmet (safety helmet) to prevent injuring the head in case we fall down from the installation type middle shelf. There is more, if your hair is long, please put them up neatly to prevent tangling or loosing the line of sight.

- Gloves

Let's use gloves with grips so that objects will not easily slip from the palm side.

- Work shoes

Let's wear safety shoes with non-slip soles and toes to be protected.

- Protector

Let's wear protectors to protect ankles and shins.

- Workwear

Workwares can be dirty and should prevent exposed skin such as long-sleeved to curb scratching and so on. Also, in order to prevent you getting caught (in the machine, etc), let's fold the hem of your shirt and pants properly.

2 Procedures in the place with steps and inclination

This risk of accident to occur is high, so follow the steps, paying close attention to your work.

【How to use roll box pallet safely】

■ Push, pull and side push

Learn these tips and work safely.



■ Handling by multiple persons

Speak up and work more carefully than when operate by yourself.

■ Loading of freight loads

Learn basic methods of stacking, and prevent the load from collapsing.

■ Handling on a tail gate lifter

Because it is especially dangerous when elevating, take care and work.



【Explanation】

◆ Rule 1 Handling in places with steps and slopes

Work with extreme care because it is a place where an accident is easy to occur.

◆ Rule 2 Work clothes, work shoes, protective equipment

In order to work safely, you should wear a proper work wear.

◆ Rule 3 Basic operation of roll box pallet

Learn basic operations, not to cause an accident

◆ Rule 4 Push, pull and side push

Learn these tips and work safely.

◆ Rule 5 Handling by multiple persons

Speak up and work more carefully than when you operate by yourself.

◆ Rule 6 Loading of freight loads

Learn basic methods of stacking, and prevent the load from collapsing.

◆ Rule 7 Folding, assembling and stacking

It becomes unstable while being folded, so be careful not to fall.

◆ Rule 8 Handling on a tail gate lifter

Because it is especially dangerous when elevating, take care and work.

Point 7 In case of accidents or abnormal situations!

(1) If you notice an abnormal situation

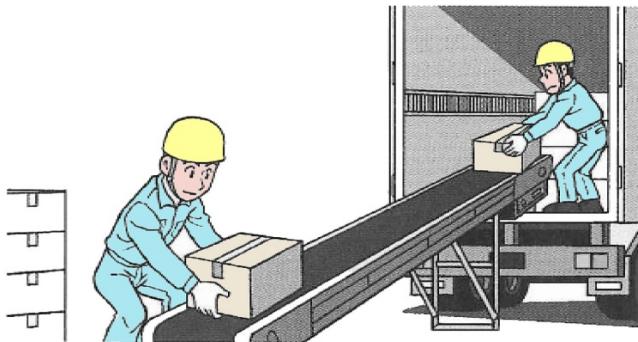
<Load gets caught in the conveyor belt! >

<Stacked loads are about to collapse! >

- ① If an abnormal incident happens, first, check what is happening.
- ② Yell in a loud voice to inform the manager and the colleagues near you.
- ③ Stop the machine by pressing the emergency button if necessary.
- ④ Take necessary action and cooperate with colleagues under the direction of the manager.
- ⑤ Don't handle it only by yourself, call someone.

[Tell others!]

If you notice something is wrong or danger around a machine or facility, tell your leader or someone immediately!



【Explanation】

1 Provide safety and health training to prepare for abnormal situation

When a worker faces an emergency, he/she might panic, and this may lead to a serious trouble or an accident.

Provide the following training to employees in advance.

- What kind of emergency could happen
- How should they respond to the emergency situation
- It is very important to perform a rehearsal assuming emergency cases and taking necessary actions.

• Let the trainees perform the rehearsal after the lesson. (Emergency rehearsal after they receive the lecture.)

2 Notice the change when something is different from usual.

A worker may feel that something is strange while doing the operation. They feel different state such as "Something smells strange," "Red light is on suggesting something is strange," or "Stacked loads are about to collapse." It is important to notice these indications.

3 Tell it immediately to the manager

When you notice an unusual state, inform your manager it immediately. If you are at the customer's place, inform it to the customer. If you respond to it by yourself without understanding the situation properly, you might suffer any trouble or cause an emergency situation.

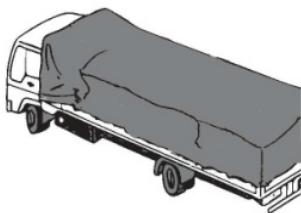
< Parked truck or forklift starts to move >

< Roll box pallet has fallen down >



(Unstoppable by human power!)

- (1) "Escape" do not trying to stop it.
- (2) Please shout "run away" for people around you in a loud voice.
- (3) In the course of health and safety education of recitation, learn to "escape".



【Explanation】

1 Parked truck or forklift starts to move

When the worker tried to stop the truck by ways of riding in the driver's seat or stopping at the back, many fatal accidents have occurred by being run over or caught in between buildings and the truck. In the education and training, teach them that they need act safe quickly. They should first inform other workers and say "it will not stop" and "get away!" repeatedly .

2 Roll box pallet has fallen down

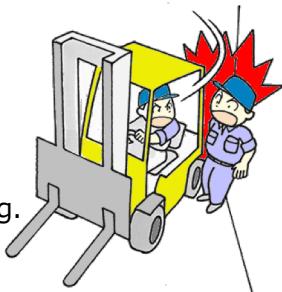
Roll box pallet can be close to as heavy as a ton when lots of things are loaded.

When the pallet is moved from the tracks to the platform or when loading and unloading by tail-gate lifter, it may fall down. When trying to stop it, there are also fatal accidents by falling together and underlaying it. Do not attempt to stop it, "running away!" is important as well as for the above case.

(2) If an occupational accident happens!

Even if a workplace is well prepared for safety, the possibility of occupational accidents can not be reduced to zero percent.

In case an occupational accident happens, response to it as following.



In case if an accident happens (example)



Necessary response

First, keep calm!

- Don't rush, it could lead to the second accident
- Yell and inform others about it in a loud voice

Rescue the accident victim(s)!

Tell it to your manager!

- Support and help the leader's action.
(Transport to the hospital, etc.)

[Explanation]

It is necessary to decide who should respond and in what manner during an emergency (earthquake, fire, etc.) or an occupational accident. So, please provide regular safety and health training and education to act properly during an accident.

1 First, keep calm and don't rush

Yell and inform others if an accident happens.

When a coworker get caught in a machine or conveyor belt, our usual response is to rescue them immediately. However, even after occurrence of accidents, the dangerous situation still remains, and those who tries to help them also may suffer such accident.

It is important to learn appropriate response through safety and health training, on what action a worker should take to prevent a subsequent accident.

2 Tell it to the manager

Basically, respond like when you responded when there was an abnormal situation.

Stop the dangerous status by pushing the emergency stop button, or by turn off the machine.

Tell the manager about the emergency, and follow his direction. (If emergency transport to the hospital is necessary, you may be asked to help it.)



Safety first!

Reference

Guidelines for freight loads handling

'Guidelines for freight loads handling' means labour Standards 0325 No. 1 "Safety measures guidelines for the freight loads operations of the land freight transport" enacted on March 25, 2013.

The "Guidelines for freight loads handling" are established for the following purposes.

【Purposes of the Guidelines for freight loads handling】

Among the occupational accidents in the land transportation industries, traffic accidents have been accounted for about half of all the fatal accidents. This has decreased greatly by the implementation of preventive measures which has been agreed on to be a priority.

On the other hand, base on situations of the land transport accidents (fatal and injuries with more than three days casualties), while traffic accidents occupy 7% in total, accidents during loading and unloading work accounted for about 70 percent and the countermeasures are not necessarily advanced to decrease such accidents.

For this reason, safety measures for loading and unloading loads on trucks was strongly necessary.

In addition, about 70% of the occupational accidents occurred in the workplace of shippers etc. (shippers, delivery destinations, contractors etc.). Therefore not only that land transporters but also shippers etc. need to cooperate into ensuring safety in loads handling works conducted by the workers of the land transporters.

For this reason, the Ministry of Health, Labour and Welfare has established the "Guidelines for freight loads handling" in 2013 to reduce occupational accidents during the loading and unloading works in the land transporters industries.

In the "Guidelines for freight loads handling", items categorized as "matters to be implemented by the land transportation operators" and "matters to be implemented by shippers etc." are listed up for the matters that should be undertaken by each entity as well as matters that should be undertaken in cooperative manner.

【Items in the Guidelines for freight loads handling】

Chapter 1 Purposes

Section 1 Purposes

Section 2 Responsibilities of stakeholders

Chapter 2 Matters to be undertaken by the land transport operators

Chapter 3 Matters to be undertaken by the shippers etc.

Section 1 Establishing safety and health management systems

Section 2 Occupational accident prevention measures in handling works

Section 3 Implementation of health and safety education of handling works

Section 4 Contact adjustment with the shippers etc. by the land transport operators

Section 5 Measures should be taken when the handling works were undertaken by the truck drivers

Section 6 Measures undertaken when outsourcing are conducted among the land transport operators

In the Guidelines for freight loads handling, the followings items requires compliance of workers at the land transportation industries.

1 Items which requires compliance in order to prevent crash and fall accident

- (1) Before loading and unloading operations, it is necessary to check the floor, and ground roughness, etc of the loading area. In addition to this, if the materials are placed around the area, organize the materials before starting the work.
- (2) Do not work on top of a load as much as possible(move after stepping down on the ground).
- (3) Such works as load fastening, wrapping and labeling etc. should not be conducted on top of a load or truck box, but works should be undertaken on the ground or from the ground.
- (4) When there are facilities to place the safety belt, it is recommended to use one.
- (5) In the work where there is a risk of falls from a height, it is recommended to wear safety helmets.
- (6) It is recommended to ensure a safe standing position when working on top of a load or truck bed where a forklift truck driver etc. can see you.
- (7) When working on top of a load or truck bed, do not turn your back to the platform edge toward the outside of the truck, and do not move back.
- (8) When works are undertaken in slippery conditions such as rainy days, wear slip resistant shoes (with F mark).
- (9) When the tilt of the truck bed is used, make sure to fix it.
- (10) Make sure to use lifting equipment to go up and down from truck bed when loading loads weighing over 5 tons of the maximum loading capacity. For the truck with less than 5-ton of the maximum loading capacity, it is recommended to use lifting equipment as much as possible (simple equipments such as springboard may be usable).
- (11) When getting on and off the driver's seat of the freight cars, loads and loading carriages, make sure to follow "secure three points" (securing the remaining three points when moving any of your four limbs).

2 Measures to prevent occupational accidents by a forklift

- (1) Do not use forklifts outside of the purpose of use (For example, lift people up and down).
- (2) Make sure to take measures to prevent collapse.
- (3) To wear a seat belt when driving a forklift equipped with a seat belt.
- (4) When stopping a forklift, make sure to conduct measures to prevent runaway. Should the forklift start to move, do not try to stop it, or get in the driver's seat.
- (5) To prevent disasters getting caught in between the mast and the head guard, do not attempt to get to the driver's seat.
- (6) If you use a forklift that can lift up and down the driver's seat, measures should be undertaken to prevent crash and falling down accidents such as use of a safety belt etc.
- (7) Do not abruptly stop or run a steep turn.
- (8) Comply with the speed limit of the loading/unloading work place.
- (9) when moving backwards, make sure to check the rear (moving direction).
- (10) You should ensure that you see all the sides (blind test) when you operate a forklift with the loading forks.
- (11) When the worker walks on the premises, walk on the safe passage and do not rush from behind the load to avoid collision with a fork-lift truck.

3 Measures to prevent occupational accidents with conveyors

- (1) If you want to move to the other side of the conveyor, go through a safe passage (Do not cross the conveyor).
- (2) When a conveyor jam is detected, stop the conveyor to fix the jam.
- (3) At the time of the conveyor repair or check, conduct the procedures after stopping the conveyor .

4 Measures to prevent occupational accidents by roll box pallets and other carts.

- (1) Wear safety shoes and protectors on the legs in case of collision with a roll box pallet or other carts or getting stuck on your feet.
- (2) The only way to use box pallet is to push it forward.
- (3) To unload a roll box pallet from the truck bed, create a small space by moving it to a position where it can be pushed towards the edge of the truck. Pay attention to the edge of the truck bed while you do this. Push the box pallet forward towards the edge of the truck bed from there.
- (4) When moving the roll box pallet or other carts from the loading platform to the tailgate lifter, make sure that the stopper of the tailgate lifter is out.
- (5) When in a place with bad visibility, pause then call out to make sure it is safe to pass.
- (6) When stopping or turning the curve, decelerate from about 2m before.
- (7) Push the roll box pallet or other carts with heavy weight by two people.
- (8) To ensure that the material loaded on the box pallet or other carts is fixed with a lashing belt so that it will not move when you push the box pallet.

5 Prevention of occupational accidents due to recovery of movement or impossible operation

- (1) Before loading and unloading operations, make sure to conduct physical exercise. Especially after driving the truck for a long time, do not conduct the unloading work immediately. Stretch your waist in a standing position at least for a few minutes.
- (2) Do not take unnatural work methods such as a half-crouching position.
- (3) When you push a heavy weight material (roll box pallet etc.), pull your body away from the load, extend your back, tilt your upper body forward and then push the weight to move forward.
- (4) Handle heavy loads with two or more people.
- (5) Use a dolly cart as much as possible, or any device that can help you move large objects easily.

6 Matters to be observed by workers performing loads handling work

- (1) When untying ropes tied to loaded materials and unseating work, conduct an inspection to make sure that the loaded material will not fall on the cargo stand.
- (2) When opening luggage compartment doors, conduct an inspection to make sure that loaded material and partitions collapsed do not fall during operation.
- (3) When lowering the tilt, conduct an inspection to make sure that loaded material will not fall on the loading platform.
- (4) To prevent collapsing of loaded material, use a pawl for steel pipes, logs, and roll paper etc.
- (5) Ensure that workers know that they should never attempt to stop freight cars incase it starts moving. Instead, they should escape. Should a freight car start to move, do not try to stop it nor to get in the driver's seat.

Compilation Committee of Training Manual on Safety and Health
for Unskilled Workers (Land freight transport)

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