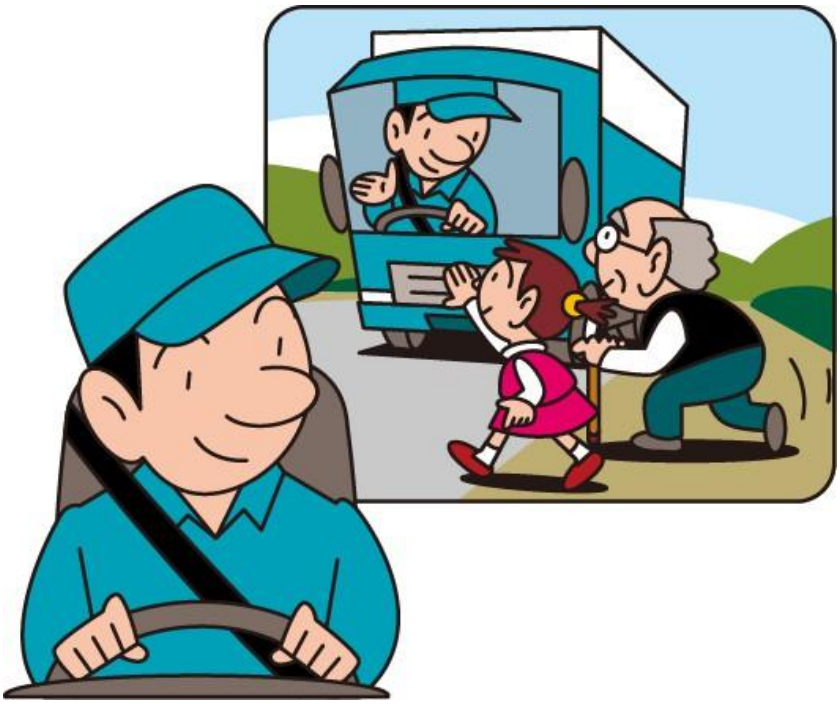
Aspiring Truck Drivers

Textbook for Foreign Students



公益社団法人 全日本トラック協会

ZIPLUS

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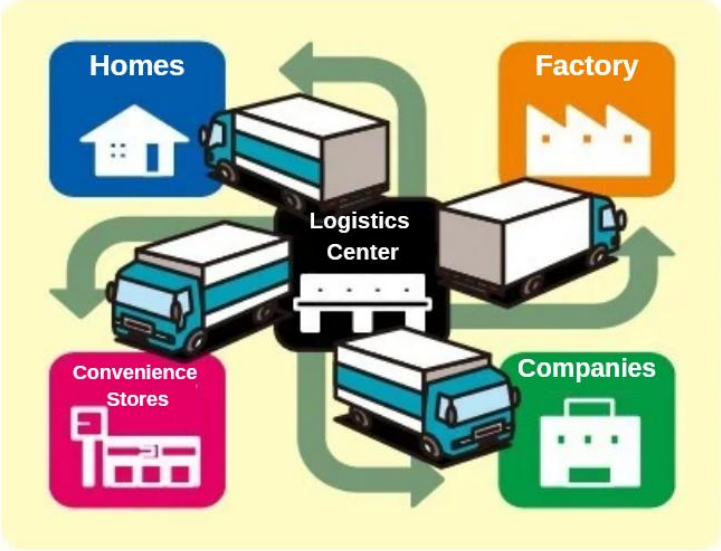
Chapter 1:
Basics of Truck Driving

1. How Trucks Support People's Lives and Jobs

1.1 The Role of Trucks

Right now, you are likely starting your studies to become a truck driver in Japan. So, how much are trucks contributing to Japan’s society?

Trucks carry everyday goods such as food, clothing, and miscellaneous items, as well as industrial products, parts, and construction materials. They also transport liquids and gases like oil and propane. Additionally, trucks are used to transport huge items like bridges and large construction equipment. Trucks are also responsible for delivering goods for courier services and convenience stores. While transportation is also done by rail, ships, and airplanes, trucks handle the delivery from stations, ports, and from the airports to the destination.
In Japan, trucks are responsible for transporting over 90% of the domestic cargo, supporting both people's daily lives and their work. Truck drivers are essential workers, and their jobs are indispensable for maintaining a functioning society.



1.2 What If Truck Transportation Stops?

Truck transportation is crucial for people's work and daily lives. If trucks were to stop transporting goods, products, parts, and even medicine would not be delivered. As a result, stores, factories, and hospitals across Japan would grind to a halt.

After the 2011 Great East Japan Earthquake, fuel shortages led to many trucks being unable to operate, causing disruptions such as the inability to purchase goods at convenience stores.

In Europe and Asia, there are occasional strikes that temporarily halt truck transport. For example, during a strike in Spain, tanker trucks stopped delivering fuel, leading to fuel shortages at gas stations. This created problems for people who could not buy goods or reach hospitals.

If trucks stop transporting goods, similar disruptions could occur in factories, markets, and construction sites.

In this way, truck transportation is vital for economic activity and daily life. It's important for truck drivers to understand the significance of their role in society.

1.3 The Differences Between Private Trucks and Commercial Trucks

◆ The Structure of a Driver's License System

To drive a truck, you need a driving license appropriate for the size of the vehicle. Here are the types of licenses and the vehicles they allow you to drive:

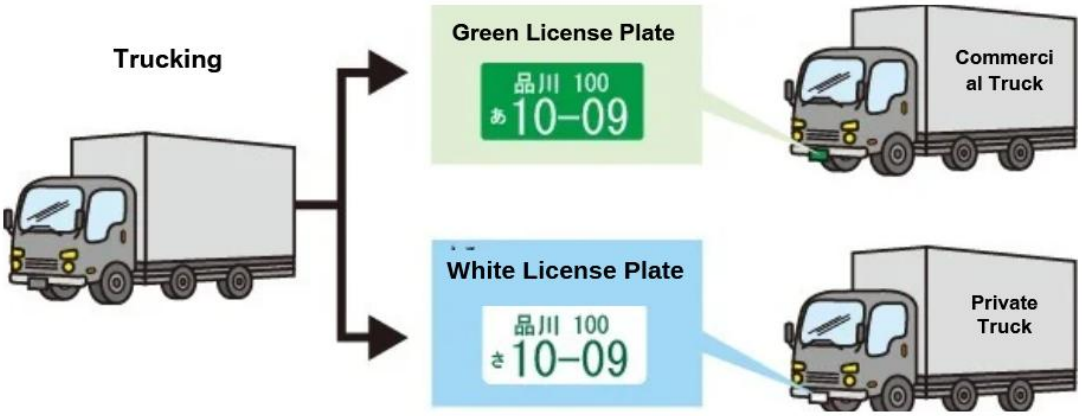
License Types	Vehicles that can be operated
Large Vehicle License	large, medium, and small trucks, as well as ordinary vehicles and small special vehicles.
Medium Vehicle License	medium trucks, small trucks, ordinary cars, and small special vehicles.
Semi-Medium Vehicle License	Semi-medium trucks, ordinary cars and small special vehicles
Regular Vehicle License	Ordinary cars and small special vehicles

◆Differences Between Private Trucks and Commercial Trucks

In Japan, there are two types of trucks: commercial trucks and private trucks.

Commercial Trucks: These are trucks owned by transport companies that have been authorized by the Minister of Land, Infrastructure, Transport, and Tourism to operate for profit. Only business trucks are allowed to carry goods for payment.
The number plate of a business truck is green with white letters, often referred to as a "green number plate."

Private Trucks: These trucks are owned by individuals, businesses, or shops to transport their own goods. Private trucks are not allowed to carry goods for payment.
The number plate of a private truck is white with green letters, often called a "white number plate."

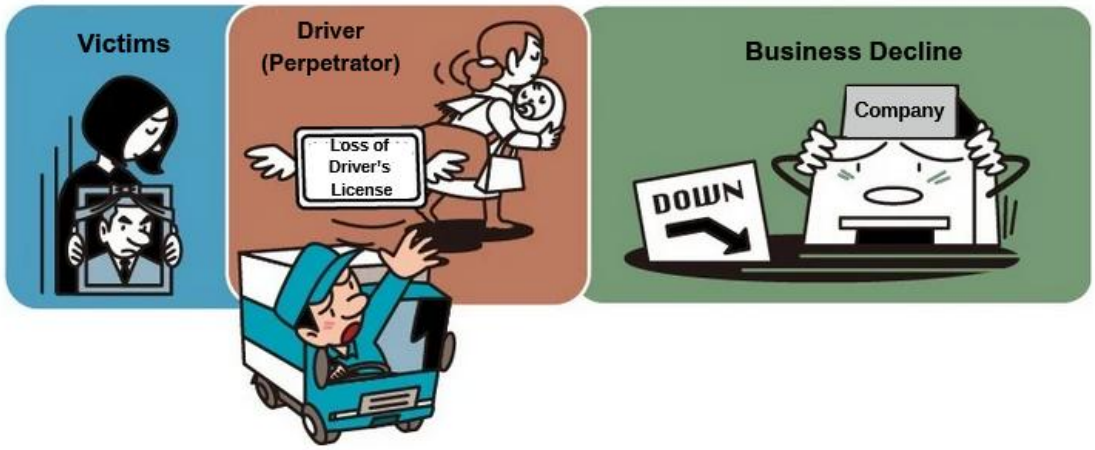


2. Social Impact of Truck Accidents

2.1 Truck Accidents Impact Scale

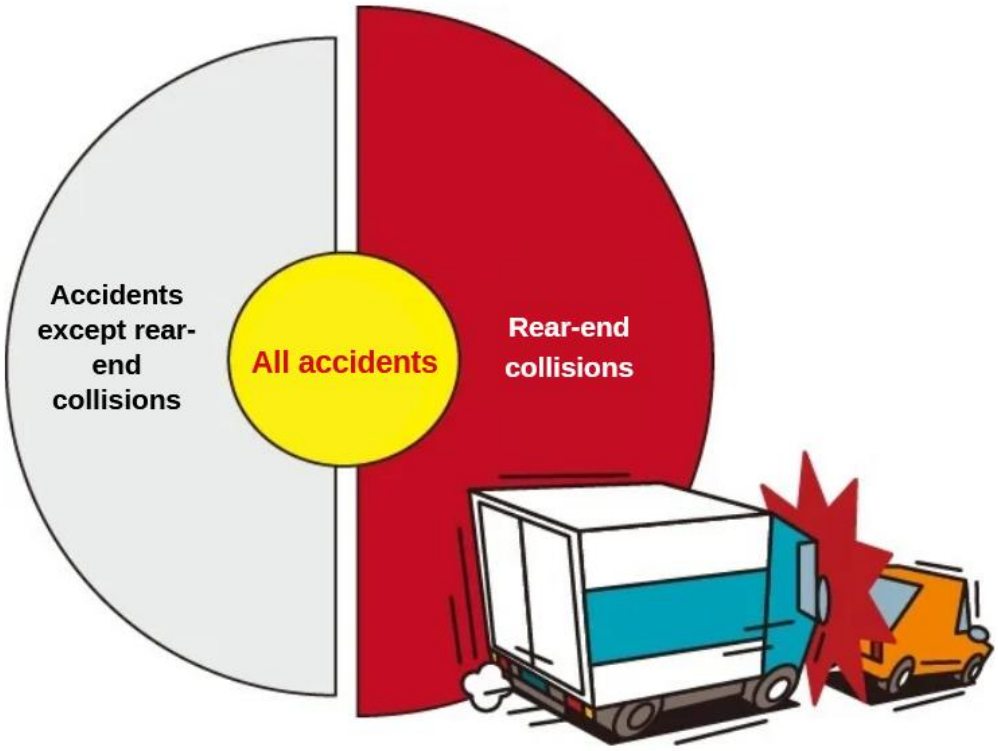
To ensure safe, secure, and reliable transportation, safety must always be the top priority. Traffic accidents especially, can not only take lives or cause injuries but also impact company management.

Because trucks are larger and heavier than other vehicles, accidents involving trucks can result in major accidents that affect the victims' families and their lives. In addition, the trucking industry and society suffer significant losses. It's important to remember that an accident caused by one truck driver can have a broad effect on the transport industry.



2.2 Causes of Rear-End Collisions

About half of traffic accidents involving business trucks are rear-end collisions. These often happen due to inattentive driving or distractions, such as looking away from the road. Other factors, like falling asleep or driving while fatigued, also contribute to rear-end collisions.
On general roads, rear-end collisions often occur when trucks are moving at low speeds and hit vehicles in front of them. On highways, they are more likely to occur when trucks crash into stopped vehicles in traffic.



2.3 Intersection Accidents

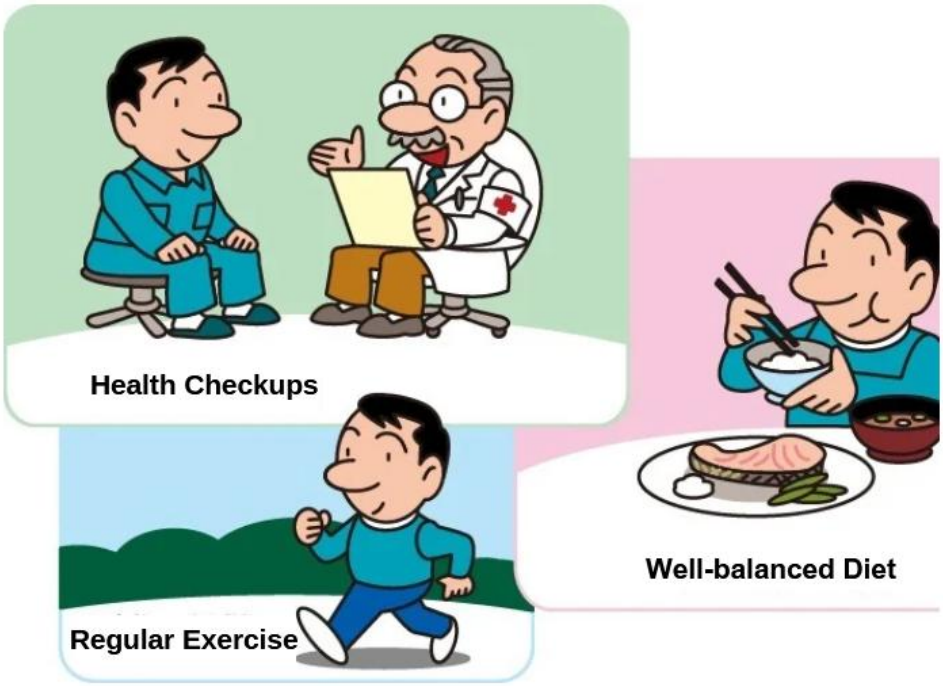
Approximately 30% of traffic accidents involving business trucks occur at intersections, particularly involving pedestrians and cyclists. Most of the accidents involving cyclists happen during a left turn, while accidents with pedestrians tend to happen during right turns.

2.4 Preventing Health-Related Accidents

Health-related accidents occur when a driver's illness causes them to lose the ability to continue driving. For truck drivers, good health is extremely important, as poor health can lead to decreased concentration, which can result in accidents.

Conditions like high blood pressure, diabetes, and obesity can also lead to serious health events like strokes or heart attacks while driving, which can lead to major accidents.

Truck drivers should regularly undergo health checkups, ensure they get adequate sleep, exercise, avoid excessive drinking, and manage their health to prevent health-related accidents.



2.5 Use of Safety Management Devices (Digital Tachographs and Dashcams)

Various safety management devices are being used to prevent traffic accidents. For example, digital tachographs record the speed, time, and driving data of a vehicle, including events like sudden braking, acceleration, and fuel consumption. This data can be used to guide safe driving and eco-friendly driving.

Dashcams (also known as "drive recorders") record video footage while driving. In the event of a crash or emergency braking, the dashcam records the moments before and after the incident. Some models record continuously.

【Digital Tachograph Example 1】

【Digital Tachograph Example 2】

3. Mindset of a Truck Driver

3.1 Greeting in the Workplace

Interactions with others begin with greetings. To build good relationships at work, it's important to keep the following in mind:

- Greet with a smile.
- Use a cheerful voice.
- Make eye contact when greeting.
- Greet others first.

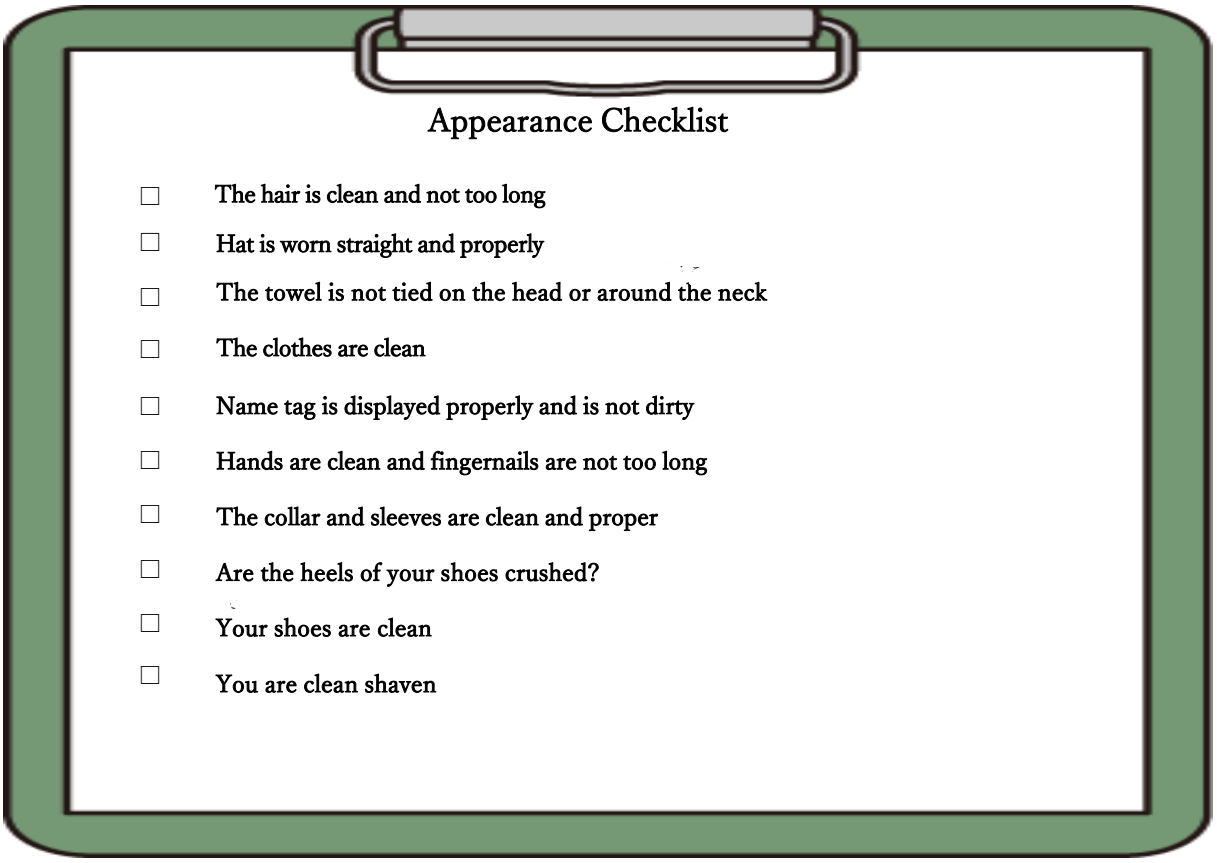
3.2 Greeting Outside the Workplace

Customers expect truck drivers to handle goods with care, be punctual, and maintain good manners, such as wearing appropriate clothing, using polite language, and having a respectful attitude.

Truck drivers represent their companies, so it's important to greet customers with a smile and a positive attitude, as poor manners can negatively impact the company's image

3.3 Personal Appearance

Personal appearance refers to clothing and behavior that do not cause discomfort to others. It reflects a person's character and attitude toward their work.
If a driver's appearance is unkempt, it can create a bad impression and cause customers to feel uncomfortable. This reflects poorly not only on the driver but also on the company. Always maintain a clean and neat appearance.



3.4 Workplace Mindset

- Cooperation:
  A company is a place where people work together. It's essential for everyone to have a cooperative mindset. Truck drivers must understand their role in the company and work with others to fulfill the company's responsibilities, contributing to its growth and success.

- Communication:
  Since driving is a solitary job, the opportunities for communication are relatively few. This is why making the most of communication during the short times spent at the company, such as during roll calls and talking to other drivers, is crucial.

3.5 Basic Etiquette for Language Use

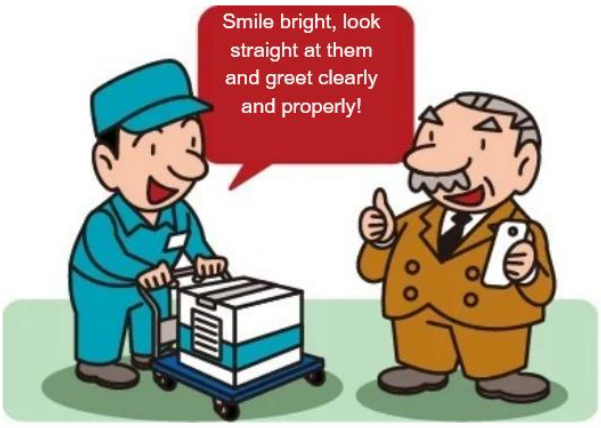
◆ Language Use is Fundamental to Human Relationships

Proper language use is the foundation of lasting human relationships. When talking to others, using correct language tailored to the situation is critical for interpersonal relations. It's important to communicate clearly and appropriately, ensuring your words are understood. Speaking too quickly or having a soft voice can lead to miscommunication. Always make sure to speak clearly and enunciate properly.

◆ Addressing Customers:

When addressing customers, it is crucial to use language that is both polite and sincere. Positive language that shows positivity and sincerity can help in building good customer relations, even if minor mistakes are made in the process.

- Speak cheerfully.
- Make eye contact while speaking.
- Speak clearly.
- Avoid using vague expressions.



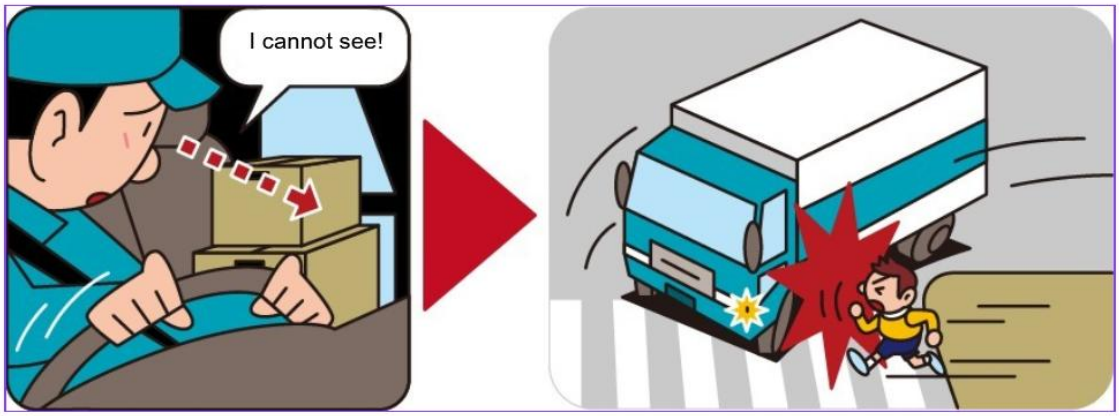
3.6 Vehicle Organization and Cleanliness (4S)

◆ The Importance of the 4S:

4S refers to "Seiri" (Sorting), "Seiton" (Setting in order), "Seisou" (Cleaning), and "Seiketsu" (Maintaining cleanliness). These actions help prevent accidents and maintain safety by keeping the car organized and free of distractions.

◆ Seiri (Sorting):

Sorting involves removing unnecessary items and keeping only the essentials in the car. For example, leaving documents or helmets near the passenger door could obstruct the driver's view, so they should be removed to avoid potential accidents.



◆ Seiton (Setting in Order):

Items should be arranged in a way that makes them easy to use and doesn't interfere with driving. For instance, placing documents on the dashboard can obstruct the view and lead to accidents due to distracted driving.

◆ Seisou (Cleaning):

Keeping the car clean and organized is important for maintaining a safe and efficient driving environment. Any clutter, like cans or trash on the floor, could potentially block the pedals or cause a serious accident.

- Seiketsu (Maintaining Cleanliness):

  It's important to continue maintaining cleanliness, as a clean car promotes good driving habits. When a car is clean and organized, drivers are more likely to drive safely and responsibly.

3.7 Special Considerations for Truck Drivers

- Truck Driving Skills:

  Truck drivers must learn specific skills based on the unique characteristics of trucks. These include understanding how to drive safely while handling large vehicles.

- Handling the Stress of Truck Driving:

  Long hours of driving and the need for quick decision-making require mental and physical preparedness. It's essential for truck drivers to maintain their health and well-being to ensure safety.

4. Basics of Safe Driving

4.1 Daily Health Management

◆ The Importance of Health Management
Truck drivers, who work by driving every day, must always maintain both physical and mental well-being. This is critical because driving has the following characteristics:

① Solo Activity: drivers most often operate alone.

② Extended Duration: Driving requires long periods of concentration.

③ Emergency Situations: Drivers must make calm and appropriate decisions, even in very short time frames or emergencies.

④ Limited Movement: During driving, one remains seated for prolonged periods with little opportunity to move or change posture.

If drivers operate under poor physical condition, they cannot perform the tasks effectively, leading to potential accidents. Maintaining good health is essential for safe driving.

◆ Tips for Daily Life and Holidays

Truck drivers often have irregular schedules due to early departures, late arrivals, or overnight trips. To maintain a balanced lifestyle, prioritize the following:

① Get adequate sleep.

② Eat a balanced diet.

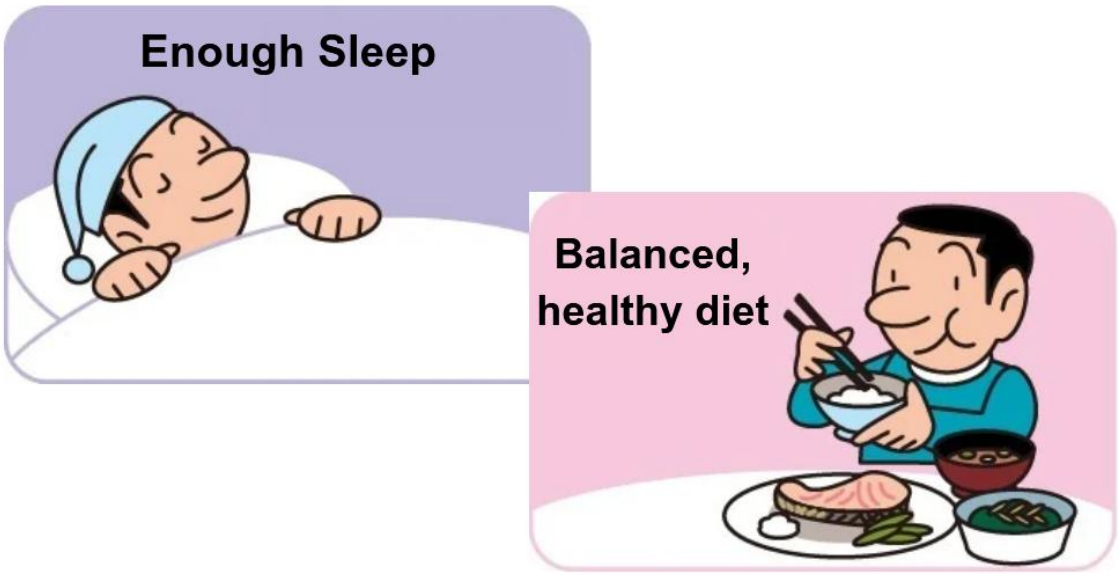
③ Take time to relax.

④ Engage in moderate exercise to avoid fatigue the next day.

⑤ Have a hobby that provides a mental refresh.

⑥ Maintain a positive mindset.

On holidays, take sufficient rest and refresh both your mind and body through exercise or hobbies.



4.2 Eliminating Drunk Driving

◆ Drunk Driving is a serious Crime

Drunk driving is a serious crime that often leads to severe accidents. Penalties are heavy, including imprisonment, fines, and suspension or revocation of driving licenses, even in the absence of an accident.
When drunk driving results in injuries or fatalities, offenders often face imprisonment. No matter the circumstances, drunk driving must never occur.

◆ Penalties for Driving the Day After Drinking

If alcohol remains in your system the day after drinking—referred to as a "hangover"—you may still face penalties for drunk driving. Time or sleep alone does not guarantee sobriety. Never drive if there is any possibility of alcohol affecting your ability.

4.3 Observing Maximum Speed (Speed Limits)

◆ On expressways, the maximum speed differs depending on the type of truck.

There are two types of maximum speeds: "Legal Speed" and "Regulated Speed."
"Legal Speed" refers to the speed limit set by law when no speed is specified by signs or road markings.
On general roads, the maximum speed for trucks is 60 km/h.
On expressways, the speed limits differ depending on the type of truck, categorized as 100 km/h, 90 km/h, or 80 km/h.

For medium trucks, the maximum speed is determined as follows:

- Gross Vehicle Weight: The total weight of the vehicle when fully loaded with cargo.
- Maximum Load Capacity: The maximum weight of cargo the vehicle can carry.

The maximum speed varies based on these factors, so be sure to pay attention.

【Expressway Speed Limits】

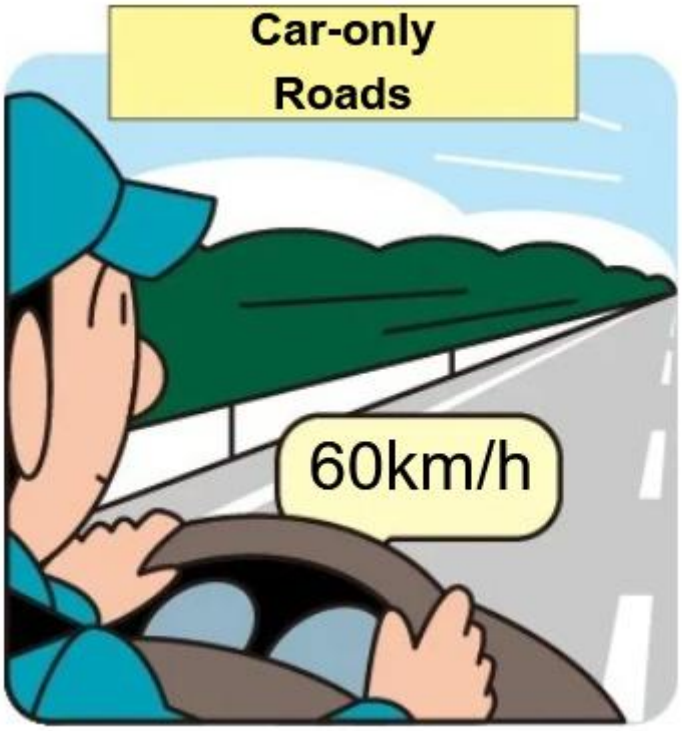
Vehicle Types		Maximum Speed
Large Truck		90 k m/ h
Medium Truck	Vehicle weight: Maximum 8 tons, maximum load weight: 5 tons	100 k m/ h
	Other Trucks:	90 k m/ h
Semi-medium Truck		100 k m/ h
Normal Truck		100 k m/ h
Trailer		80 k m/ h

◆ What is Regulated Speed?

The regulated speed refers to the maximum speed specified by signs or markings.
On general roads, there are many areas where the speed is regulated to 40 km/h or 30 km/h.
On expressways, speeds are also regulated during conditions such as rain, snow, or strong winds, so be sure to pay attention to speed signs and markings while driving.

◆ The maximum speed on exclusive automobile roads is the same as on general roads

Expressways, which include both national expressways and exclusive automobile roads, are collectively referred to as highways. However, the maximum speeds differ between national expressways and exclusive automobile roads.
The maximum speed on exclusive automobile roads is the same as on general roads. Unless specified by signs or markings, the maximum speed is 60 km/h.
If you drive at the same speed, you would on national expressways, there is a risk of speeding violations, so be cautious.

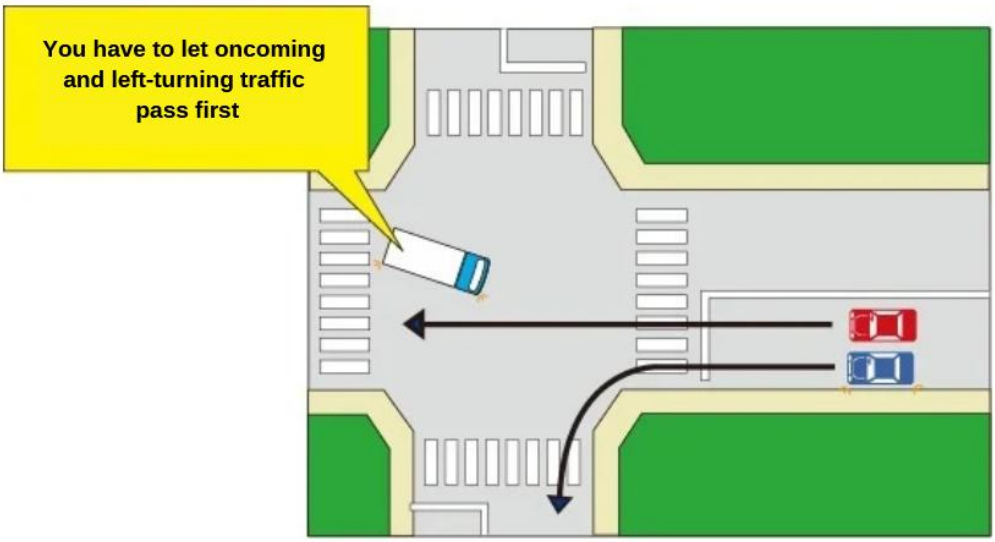


4.4 Navigating Intersections

- Ensuring Safety and Using Signals
  When changing lanes, turning, or reversing, always confirm safety with mirrors before signaling. Signal at least 30 meters before making a left or right turn.

- Reducing Speed at Intersections
  At intersections, always reduce speed sufficiently to allow for a safe stop, if necessary, particularly when turning.

- Priority at Intersections
  At intersections, straight-moving and left-turning vehicles have priority over right-turning vehicles. Always wait for their passage before turning right.



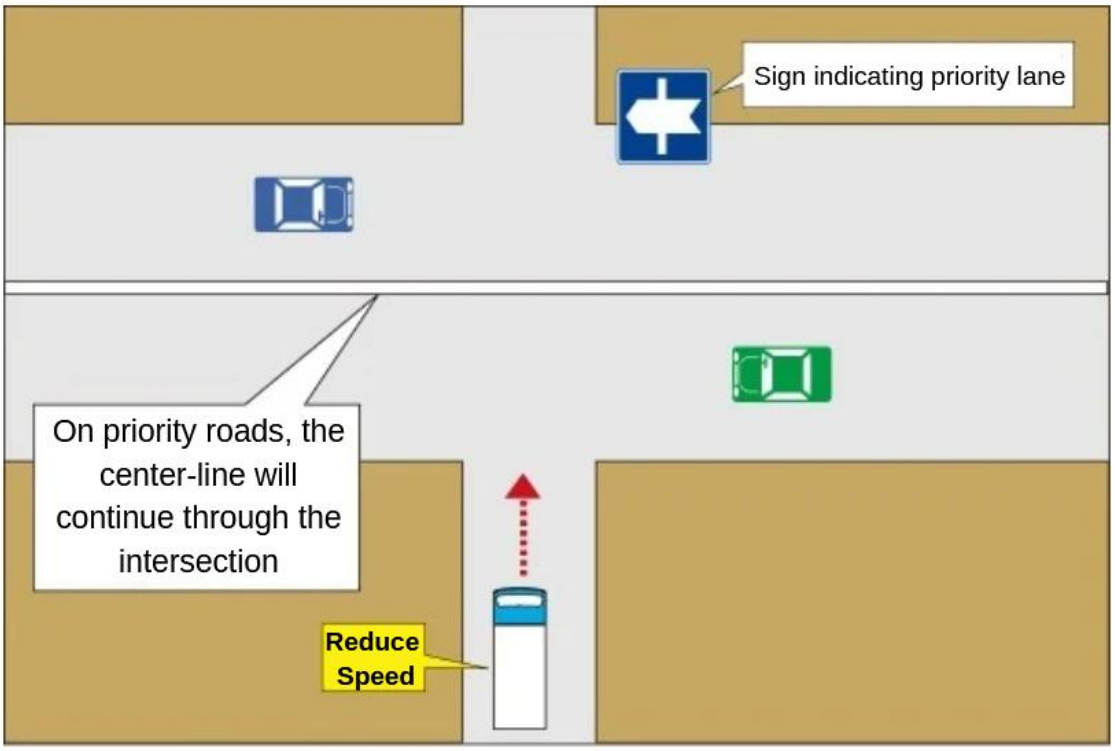
◆ Intersections Without Traffic Signals

At intersections lacking signals, pay extra attention to:

① The road's priority designation.

② Yielding to others when necessary.

By observing these rules, safe navigation of intersections is ensured.

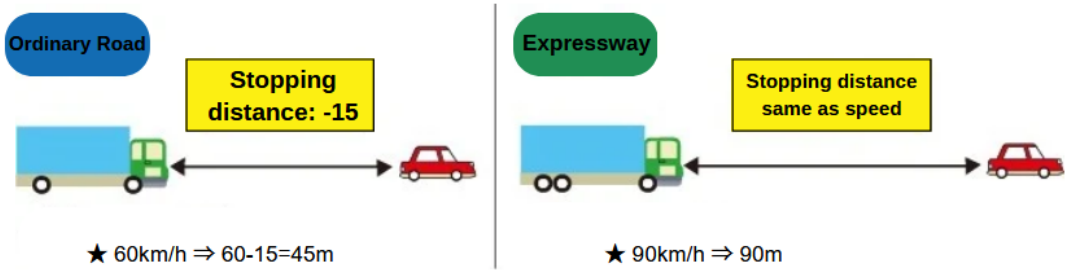

Sign indicating priority lane
On priority roads, the center-line will continue through the intersection
Reduce Speed

4.5 Maintaining a Safe Following Distance

◆ Keep a Safe Distance to Prevent Rear-End Collisions

A characteristic of truck accidents is the high frequency of rear-end collisions. To prevent rear-end collisions, it is essential to maintain a sufficient following distance (the distance between your vehicle and the one in front). Maintaining a safe distance to the car in front allows you to respond to sudden deceleration or stops by the vehicle ahead.

As a rule of thumb, on general roads, maintain a distance equal to your speedometer reading minus 15 meters (e.g., if your speed is 50 km/h, 50 meters - 15 meters = 35 meters or more). On expressways, maintain a distance equal to your speedometer reading in meters (e.g., if your speed is 100 km/h, 100 meters or more).



◆ Be Mindful of Maintaining Following Distance

Since the driver's seat of a truck is elevated, drivers often have a good view of the road. However, this can make following distances seem longer than they are, leading truck drivers to reduce the distance unintentionally. Therefore, it's important to consciously maintain a sufficient following distance.

4.6 Prohibition of Smartphone Usage While Driving

- Dangers of Using Smartphones While Driving

  Operating or looking at a smartphone or mobile phone screen while driving can delay your reaction to a stopped vehicle ahead, leading to rear-end collisions. For this reason, operating or looking at smartphones while driving is prohibited, and violations are subject to severe penalties. If an accident occurs, you may face imprisonment or a fine.

- Only Use Devices When Parked in a Safe Location

  If you must use a smartphone while driving, be sure to stop your vehicle in a safe location, such as a parking lot, before using the device. Stopping at the left side of the road is not recommended, as it increases the risk of being rear-ended and may obstruct traffic, causing congestion.

  Even hearing a ringtone while driving can distract you and reduce your attention to the road ahead. Therefore, turn off your device or set it to silent or driving mode while driving.

4.7 Protection of Pedestrians and Others

◆ Maintain a Safe Distance

Even a slight contact with a pedestrian or cyclist can result in a serious injury or fatal accident. When passing pedestrians or cyclists, leave a safe distance, or slow down if this is not possible.

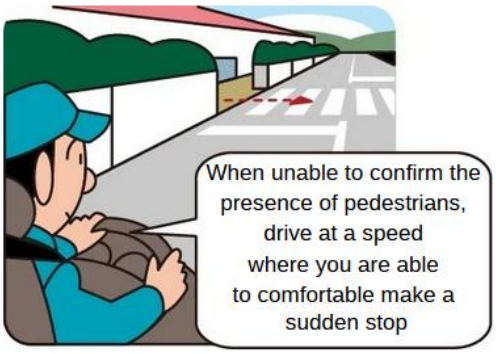
A safe distance should be at least 1 meter to ensure safety even if pedestrians or cyclists make sudden movements.

◆ Precautions When Approaching Crosswalks

When approaching crosswalks without traffic signals, follow these rules:

① If it is clear there are no pedestrians or cyclists crossing, you may proceed.

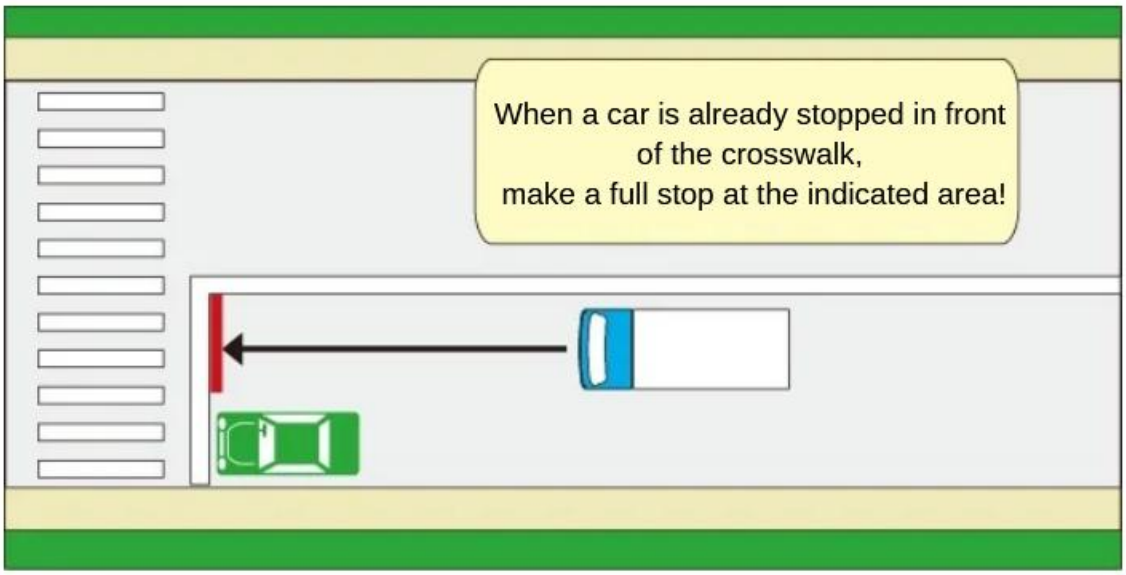
② If it is unclear whether there are pedestrians or cyclists crossing, reduce your speed so that you can stop before the crosswalk (or stop line, if present).



③ If pedestrians or cyclists are crossing or appear to be about to cross, come to a complete stop before the crosswalk and ensure their passage is not obstructed.

④ If another vehicle is stopped right before a crosswalk, come to a complete stop before moving past it to ensure safety.

This rule also applies when approaching bicycle crossings.



★This applies for a bicycle crossing as well.

◆ Protection of Young Children, Elderly, and Others

When individuals listed below are passing, stop or slow down to ensure their safety:

- Elderly pedestrians
- Unaccompanied children or toddlers
- Wheelchair users
- People with physical disabilities or difficulties walking (e.g., those using a cane or pregnant individuals)

- Individuals carrying white or yellow canes (visually impaired)

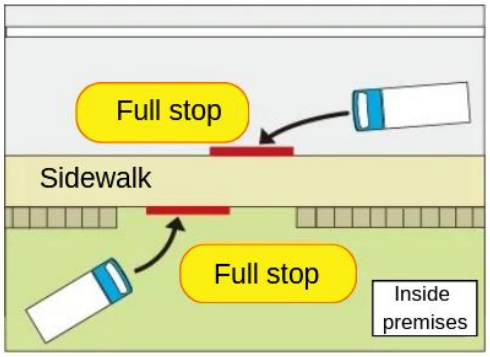
- Individuals accompanied by guide dogs

◆ Bicycle Protection

Bicycles are classified as a type of vehicle and are generally required to use the roadway. However, bicycles are less stable and do not offer the same level of protection as vehicles, so ensure their safety by exercising caution.

◆ Crossing Sidewalks

When entering or exiting premises or facilities that require crossing sidewalks or shoulders, stop completely beforehand, even if no pedestrians are present.



◆ Protection of Route Buses

Many roads are frequented by route buses (buses running on fixed routes). These buses often stop at designated bus stops to pick up or drop off passengers.

4.8 Emergency

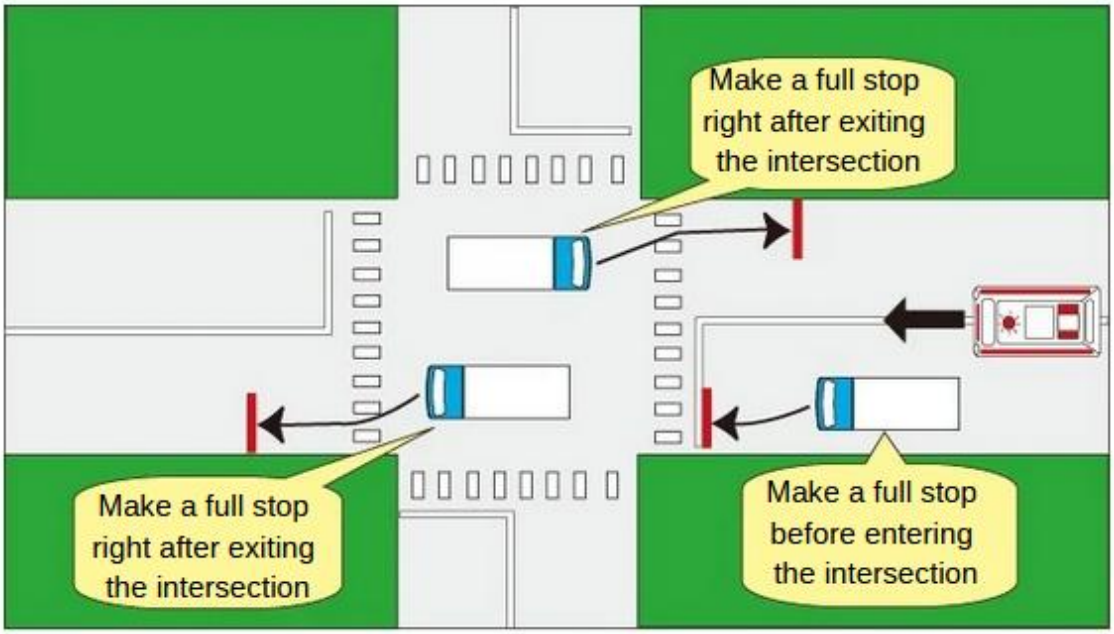
When an emergency vehicle such as an ambulance approaches, you must yield the right of way and take action to avoid obstructing its passage. Follow the methods below:

① At intersections or nearby areas, avoid the intersection and pull over to the left side of the road, then come to a complete stop temporarily.

② In locations other than intersections or nearby areas, pull over to the left side of the road and yield the right of way. Although stopping temporarily is not mandatory in this case, you should stop if necessary to avoid obstructing the emergency vehicle's passage.

③ Even on one-way roads, the general principle is to pull over to the left side and yield the right of way. However, if pulling over to the left would obstruct the emergency vehicle's passage, pull over to the right side and yield the right of way instead.

※ Emergency vehicles are allowed to drive in the right-hand lane of the road. In such cases, vehicles traveling in the opposite direction must pull over to the left side and yield the right of way.



4.9 Level Crossings

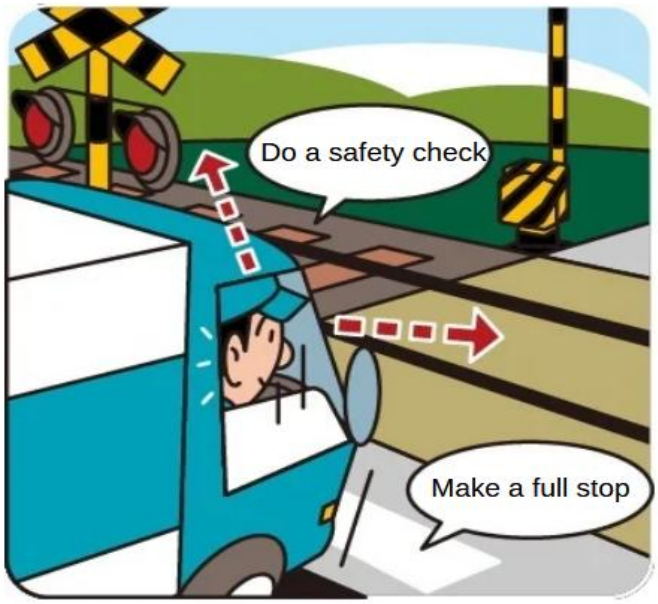
When large vehicles like trucks collide with trains at level crossings, it can lead to catastrophic accidents with numerous casualties. This makes it crucial to exercise extra caution while driving.

◆ Stopping and Ensuring Safety

When approaching a level crossing, reduce speed. If there is a stop line, stop just before it. If there is no stop line, stop just before the level crossing. Open your windows and check both directions for safety with your eyes and ears.

※ Even if following another vehicle through the level crossing, stop temporarily to confirm safety.

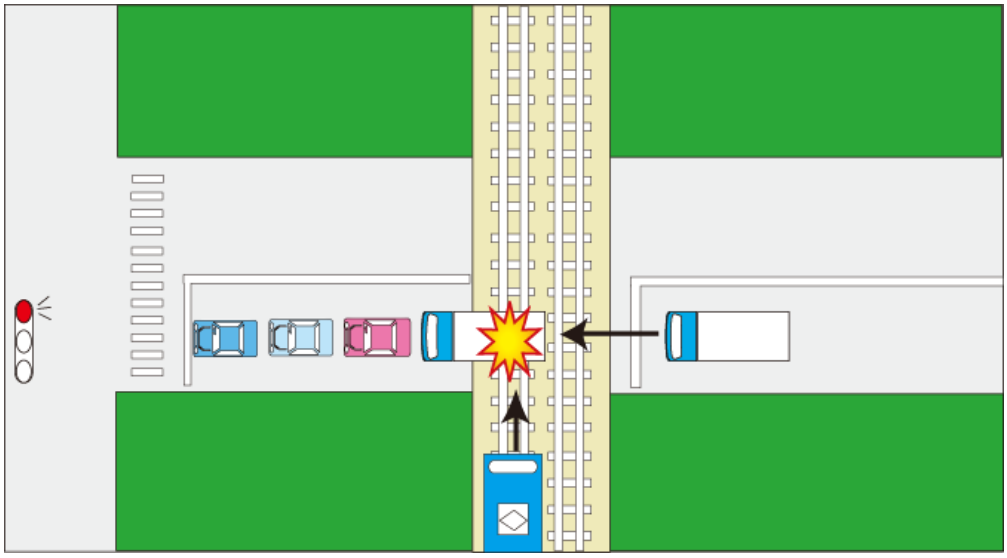
※ If the crossing is equipped with traffic lights and the light is green, you can pass without stopping. However, ensure to check both sides for safety even in this case.



◆ Cases Where Entry is Prohibited

① When warning devices are activated: Do not enter the level crossing when the alarm is sounding, the barrier is lowering or has already lowered.

② When the road ahead is congested: Avoid entering if congestion may leave your vehicle stranded within the crossing. Always confirm there is enough space on the road ahead before proceeding.



◆ How to Cross a Level Crossing

① To prevent stalling, use the same low gear used for starting and avoid shifting gears within the crossing.

② Pay attention to pedestrians, cyclists, and oncoming vehicles, and position slightly toward the center to avoid wheel slippage.

【Actions to Take When Stuck Inside a Railroad Crossing】

If you become stuck inside a railroad crossing, immediately take the following actions:

① At crossings with warning devices, use the emergency notification button attached to the post or other parts of the warning device.

② If there is no emergency notification button, use a flare or other equipment provided in the
vehicle to signal the train as quickly as possible.
Note: If you do not know how to properly use a flare, you may not be able to take appropriate action.
Learn the correct way to use a flare in advance. Additionally, confirm where the flares are stored in your vehicle.

③ If there are no flares available, or if you have used them up, burn something that produces noticeable smoke to signal the train.

【Use the emergency button】

【If there are no buttons, use an emergency flare】

4.10 Driving on Expressways

◆ Vehicle Inspection

Before using an expressway, ensure the vehicle is in good condition to prevent breakdowns:

- Adequate fuel levels.
- Proper coolant and engine oil levels.
- Radiator cap securely tightened.
- Is the engine oil level appropriate?
- Proper fan belt tension and no damage.
- Correct tire pressure
- Correct tire tread depth.

◆ Checking Cargo

Cargo should be properly secured to prevent items from falling off while driving on expressways. Make necessary adjustments before entering the highway.

◆ Lane Discipline

- Reserve the far-right lane (overtaking lane) for overtaking and drive in the regular lane on the left.
- Trailers should use the far-left lane unless specified otherwise.
- Do not drive on the shoulder or roadside strips.

4.11 Uphill, Curves, and Tunnels

- Priority for Uphill Vehicles

  On narrow roads, downhill vehicles should yield to uphill vehicles, as starting from a stop uphill is more difficult. However, if a passing area is nearby, uphill vehicles should use it to allow passage.

- Braking on Long Descents

  Excessive use of foot brakes on long descents may overheat the brakes, causing the "fade phenomenon," which reduces braking effectiveness. This can create a dangerous situation where speed cannot be controlled.

  Use engine brakes or exhaust brakes to minimize foot brake usage.

  If a gear slips unexpectedly, immediately use the foot brake to slow down or stop, then re-engage the gear.

◆ Reduce Speed Well Before Curves

If you enter a curve at excessive speed, you may slip and fail to complete the turn, potentially veering off the road or overturning.

Especially when applying the brake while steering, the likelihood of overturning increases. Therefore, reduce speed well before entering a curve.

S-curves, where frequent steering adjustments are required, are particularly prone to overturning. Handle the steering with care and caution.

◆ Accidents in Tunnels Can Lead to Major Collisions

If an accident occurs inside a highway tunnel, it can lead to major collisions involving many vehicles. Follow the guidelines below and drive cautiously:

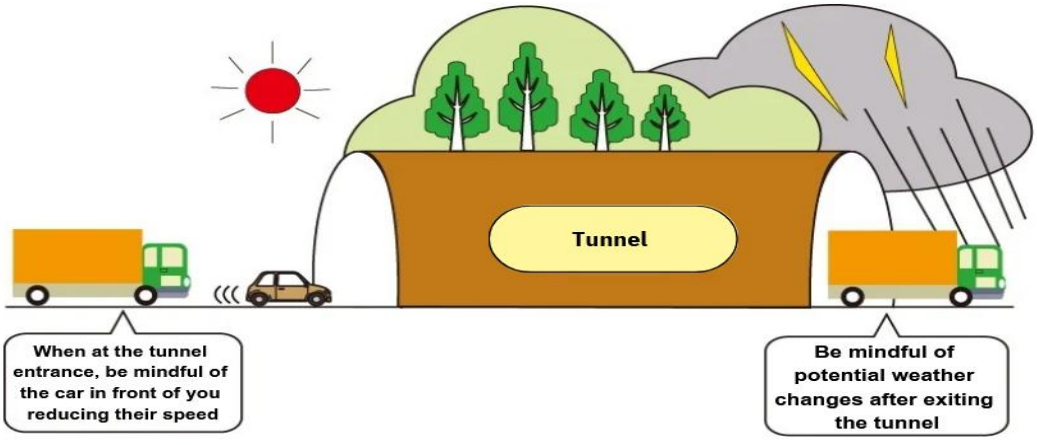
- Entering the Tunnel:
  When entering a tunnel at high speed, your vision may deteriorate rapidly. Additionally, vehicles ahead may slow down before the tunnel. Therefore, reduce your speed beforehand and maintain a sufficient following distance.

- Traffic Congestion:
  There may be traffic jams inside the tunnel. Before entering, check traffic conditions via information boards or car radios. Pay close attention to the situation ahead when entering the tunnel.

- Traffic Signals:
  At tunnels with traffic signals, always obey them.

- Headlights:
  Even in tunnels with lighting, turn on your headlights.

- Weather Changes:
  Weather conditions may differ between the tunnel entrance and exit. Pay close attention to the weather and road conditions, especially when approaching the exit.



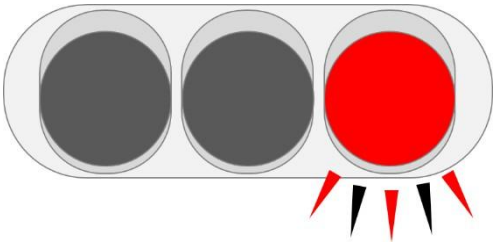
4.12 Signal Compliance

◆ Yellow Signal:

The yellow signal generally means you should stop unless there is a risk of the vehicle behind you crashing into you from behind. However, if the signal turns yellow and you think the car in front of you is entering the intersection, you should consider the possibility of rear-ending that vehicle if they make a sudden stop. To avoid this, slow down and stop before the intersection when the signal turns yellow.

◆ Flashing Red Signal:

When the signal flashes red, vehicles must come to a full stop at the stop line and, after confirming safety, proceed only if it's safe. Pedestrians can continue, but they must watch for other traffic.



※ Flashing Yellow Signal:

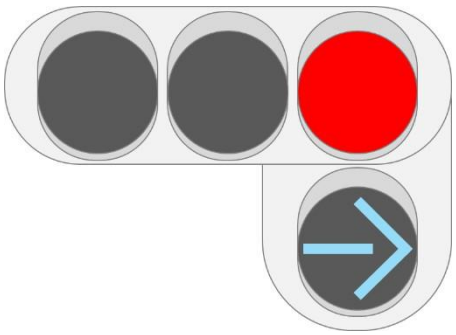
Both vehicles and pedestrians can proceed while being cautious of other traffic when the signal flashes yellow.

◆ Right Turn Arrow Signal

Even if the traffic light in the opposite direction is red, if a green right-turn arrow signal appears below it, you are allowed to make a right turn or perform a U-turn.

When the right turn arrow signal is displayed and you are turning right, make sure to confirm that no oncoming vehicles are entering the intersection.

※At intersections where U-turns are prohibited by signs or markings, U-turns are not allowed, so be sure to pay attention to the signs and markings.



4.13 Road Signs and Road Markings Compliance

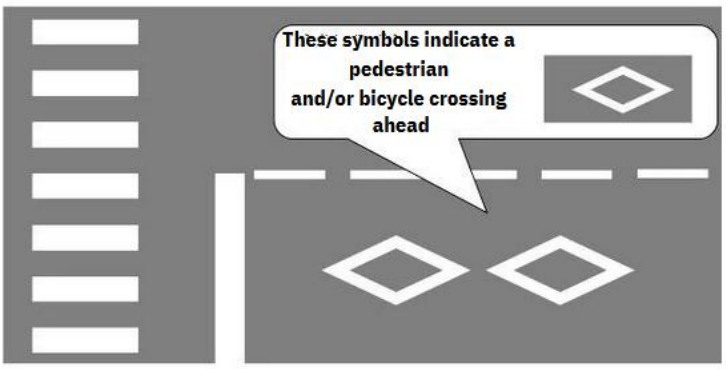
◆ Road Signs and Road Markings

Road signs refer to signboards that indicate traffic regulations, such as speed limits and other instructions. Particularly important signs related to trucks and large vehicles are shown on the next page.

Road markings refer to lines, symbols, and letters painted on the road surface or installed with road studs, which provide instructions and regulations. These include regulatory markings and advisory markings.

◆ Road Signs and Road Markings as Important Information Sources for Drivers

The legal maximum speed limit on general roads for motor vehicles is 60 km/h, but there are many roads where the speed limit is reduced to 40 km/h or 30 km/h due to regulatory road signs and markings. This indicates that driving at 40 km/h or 30 km/h is necessary for safety.
Additionally, the diagram below shows road markings for "crosswalks and bicycle crossings," indicating that there are crosswalks or bicycle crossings ahead. This allows drivers to be aware of these features in advance, ensuring safer driving by reducing speed.
As such, road signs and road markings are important sources of information that inform drivers about potential hazards.



◆ Main Signs Important for Trucks

【Large Freight Vehicles Prohibited from Using Road】

Large freight vehicles and certain medium-sized freight vehicles, as well as large special vehicles, are prohibited from using the road.

【Prohibition for Vehicles Exceeding Certain Maximum Load Capacity】

Vehicles that exceed the maximum load capacity specified on the supplementary signs are not allowed on the road.

【Weight Restrictions】

Vehicles exceeding the weight limit indicated on the signboards are not allowed to pass.

【Height Restrictions】

Vehicles exceeding the height limit indicated on the signboards are not allowed to pass.

【Vehicle Classification by Type】

For roads with three or more lanes on one side, signs are used to indicate designated routes for large freight vehicles and other vehicles.

【Tire Chains Required】

Signs indicate that vehicles not equipped with tire chains are prohibited from passing.

Note: Tire chains are required even for vehicles with winter tires in certain cases.

【Temporary Stop Required】

At intersections with this sign, even if you think it is safe, you must always come to a complete stop before proceeding.

4.14 Parking and Stopping

◆ Difference Between "Parking" and "Stopping"

The terms "parking" and "stopping" describe a state where the vehicle is stopped.
Parking refers to a state where the vehicle remains stopped for a while, or where the driver is away from the vehicle and cannot immediately drive it.
Stopping refers to a brief stop.
If a vehicle is stopped to let people get on or off or for loading or unloading within 5 minutes, it is considered stopping, not parking.

◆ Prohibited Parking and Stopping Areas

Before parking or stopping, you must check that you are not in a prohibited area.
In areas where parking is not prohibited, you cannot park on the right side of the vehicle if there is not at least 3.5 meters of space.
If parking space is designated by signs, parking is not allowed in areas where that space cannot be used.

However, in cases where goods are being loaded or unloaded and the driver does not leave the vehicle or can return to driving immediately, parking is allowed.

【Prohibited Parking Areas】

① Areas with "No Parking" signs or markings
② Inside railroad tracks
③ Steep hills or near hilltops
④ Tunnels
⑤ Intersections or within 5 meters from the intersection
⑥ Curves on the road within 5 meters
⑦ Pedestrian crossings or bicycle lanes and within 5 meters of their ends
⑧ Railroad crossings and within 10 meters of their ends
⑨ On the left side of safety zones and within 10 meters
⑩ Bus stops or tram stops within 10 meters (only during operational hours)

【Parking Prohibited Areas】

1. Areas designated by "No Parking" signs or markings
2. Within 1 meter of a fire alarm
3. Within 3 meters of entrances or exits of parking lots, garages, etc.
4. Within 5 meters of road construction areas
5. Within 5 meters of firefighting equipment storage
6. Within 5 meters of water supply facilities

◆ Parking on Expressways

Parking is prohibited on expressways except in cases of emergencies or breakdowns. At expressway bus stops, parking is prohibited even outside of operating hours for non-bus vehicles.

◆ Parking with "Wheel Chocks"

Even on seemingly level roads, there are places where parking without proper use of wheel chocks may cause the vehicle to move unintentionally.

◆ Parking and Stopping Rules

On roads with sidewalks or shoulder lanes (marked white for pedestrian space), rules are established to prevent hindrance to traffic.

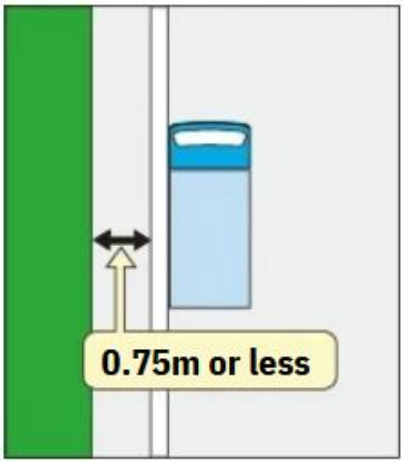
・When stopping for passenger pick-up or unloading luggage, always park on the left side to avoid obstructing traffic.

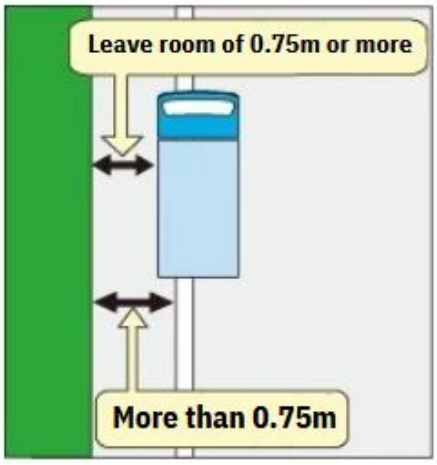
・On roads without sidewalks or shoulder lanes, always park on the left side.

※ Blocking traffic by parking in a way that prevents other vehicles from passing is prohibited.

On roads with sidewalks, stay along the left side of the roadway.

- On roads with roadside areas, if the width of the roadside area is 0.75 meters or less, you cannot enter the roadside area, so you must stay along the left edge of the roadway.
- If the width of the roadside area exceeds 0.75 meters, you can park within the roadside area. However, you must leave at least 0.75 meters of space on the left side.

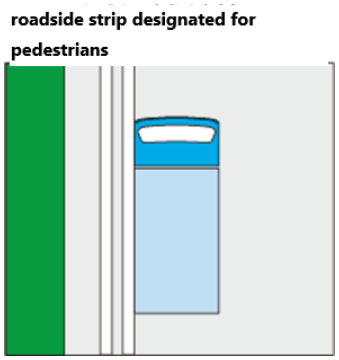




◆ Roadside Areas Where Parking and Stopping Are Not Allowed

Even if the width of the roadside area exceeds 0.75 meters, you cannot enter the roadside area in places where:

- There are two solid white lines marked (designating a pedestrian-only roadside area).
- There are markings of a solid white line and a broken white line (designating a roadside area where parking and stopping are prohibited).



4.15 Driving at Night

While driving at night, avoid using interior lights (lights used to illuminate the inside of the car) as they may make it harder to see the outside of the vehicle.

5 Basic Driving Manners

5.1 Be a Role Model for Other Drivers

Drivers operating commercial trucks must strive to be role models for other drivers through safe and courteous driving.
For the public, the mere presence of a large truck nearby can feel intimidating. Therefore, behaviors such as "tailgating" (driving too close to other vehicles) or "aggressive driving" (dangerous driving that obstructs others) must absolutely be avoided.

5.2 Trucks as "Moving Billboards"

Trucks often display company names, client names, logos, or product names prominently. Because of this, trucks carry the following three images:

- The company's image
- The client's image
- The image of the trucking industry

Trucks are truly "moving billboards." Seeing these trucks influences people's perception of the company and industry, creating an advertising effect. This also means that truck drivers have the duty and responsibility to drive considerately and avoid creating anxiety for others. Truck drivers must always serve as role models for other drivers. Take pride in this responsibility by mastering and practicing proper driving manners.

5.3 The Basics of Driving Manners: "Consideration" and "Mutual Yielding"

Roads are public spaces shared by many people. Traffic rules exist as the minimum requirements to ensure safe and smooth use of these spaces. However, not all situations can be resolved with traffic rules alone.

Driving manners, including "consideration" and "mutual yielding," fill this gap. Truck drivers, who use roads as their workplace, should approach driving with gratitude, thinking of it as "a privilege to use the road." Always adopt a mindset of yielding to others.

5.4 Drive with Consideration for Others

From the elevated cab of a truck, drivers look down on other vehicles and pedestrians, which can foster a sense of superiority. Even if this is unintentional, other drivers may perceive truck drivers as intimidating or harassing.

The principle of "the strong helping the weak" is key. Truck drivers, being in a stronger position, must drive with consideration for the perspective of others.

5.5 Yield to Others on Narrow Roads

Due to their wide size, trucks pose a risk of colliding with oncoming vehicles if they force their way through narrow roads. In such situations, do not assume the other vehicle will stop. Instead, stop your truck and yield the path to the other vehicle.

When pulling over to the left to stop, ensure that you do not come into contact with pedestrians, bicycles, roadside signs, or other structures. Exercise utmost caution.

5.6 Do Not Throw Objects Outside the Vehicle

Some truck drivers throw litter such as paper scraps, plastic bottles, or empty cans out of their windows. Such "littering" is not only highly discourteous but is also prohibited by law. Littering during parking or stopping is equally unacceptable. Whether driving or stationary, littering must be strictly avoided.

6. Practicing Eco-Driving

◆ The Four Benefits of Eco-Driving

Eco-driving refers to driving techniques and practices aimed at reducing fuel consumption and CO2 (carbon dioxide) emissions, thereby contributing to the prevention of global warming. Eco-driving offers the following four benefits:

① By curbing CO2 and exhaust gas emissions, it contributes to environmental conservation.
② Relaxed driving reduces the occurrence of traffic accidents.
③ It lowers operating costs, such as fuel and tire expenses.
④ It reduces wear and tear on engines, brakes, and other components, minimizing repair costs.

In summary, eco-driving has significant benefits for the environment, safety, and business management.

◆ The Eight Points of Eco-Driving

The key points of "Eco-Driving" are the following eight items:

① Smooth starting and acceleration.
② Early gear shifts to higher gears.
③ Consistent speed while driving.
④ Utilizing engine braking.
⑤ Observing economical speed limits.
⑥ Predictive driving for stops and starts.
⑦ Avoiding unnecessary revving.
⑧ Minimizing idling to essential levels.

① Smooth Starting and Acceleration

The foundation of eco-driving is to avoid increasing the engine’s RPM more than necessary. Trucks, being diesel vehicles, can achieve smooth starts and acceleration even when carrying heavy loads, using low RPM ranges. Start and accelerate slowly, utilizing low RPM ranges as much as possible.

② Early Gear Shifts

If you increase speed while staying in low gear, the engine's RPM will rise, reducing fuel efficiency. For example, operating a large vehicle in 4th gear instead of 5th, or a medium/small vehicle in 3rd gear instead of 4th, can worsen fuel efficiency by 20–40%. Therefore, shift gears early and aim to use higher gears whenever possible to improve fuel efficiency.

③Encouraging Consistent Speed Driving

Frequent alternation between the accelerator and brake, known as stop-and-go driving (accelerating and decelerating repeatedly), harms fuel efficiency. For example, maintaining a consistent speed compared to stop-and-go driving with speed variations of around 10 km/h can result in a 10% difference in fuel consumption. Strive to maintain a steady speed whenever possible.
To achieve this, look ahead to anticipate traffic flow and avoid unnecessary acceleration and deceleration. Keeping a safe following distance is key to consistent speed driving.

④ Utilizing Engine Braking
In diesel vehicles, releasing the accelerator pedal to engage the engine brake stops fuel from being sent to the engine, allowing the vehicle to coast on its own momentum without consuming fuel. Incorporating engine braking into your driving promotes eco-driving.
On downhill slopes or when approaching traffic lights, use engine braking early and minimize the use of the foot brake. Avoid disengaging the clutch or shifting to neutral, as this creates an idling state and disables engine braking. Only disengage the clutch or shift to neutral just before coming to a complete stop.

⑤ Adhering to Economical Speeds

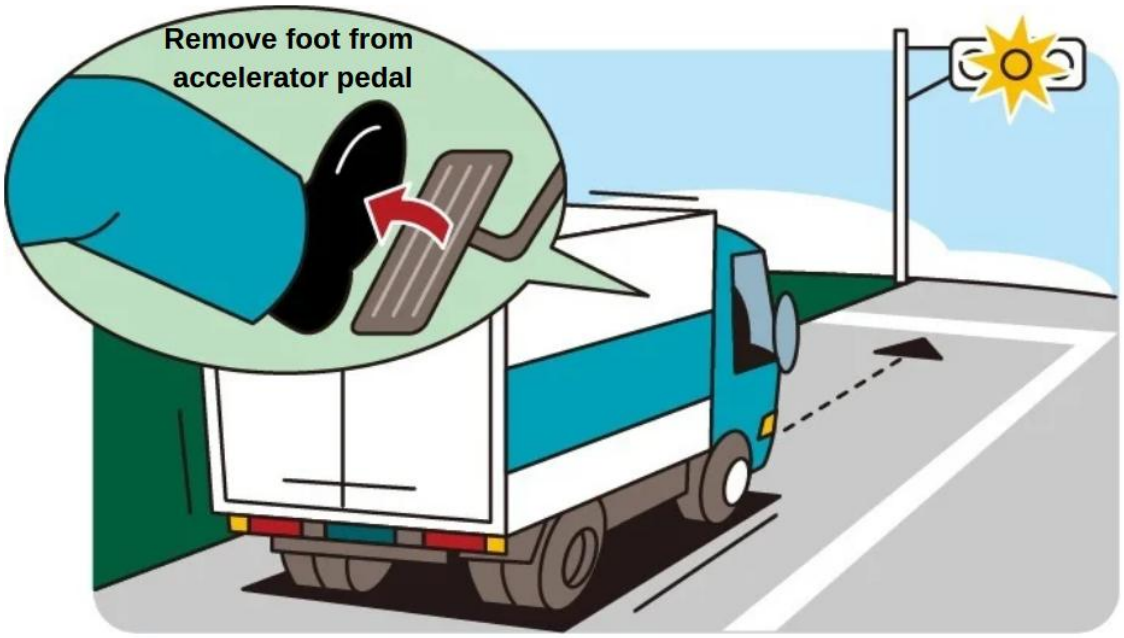
Economical speed refers to driving at a speed that keeps the engine's RPM as low as possible while maintaining smooth traffic flow. For example, if 50 km/h is an economical speed based on surrounding traffic conditions, increasing to 60 km/h can increase fuel consumption by about 10%.

Avoid unnecessary overtaking and refrain from excessive speeding to maintain economical fuel consumption.

⑥ Predictive Driving for Stops and Starts

A vehicle consumes as much fuel restarting after a stop as it does when climbing a hill. Therefore, avoiding frequent stops and starts is key to eco-driving.

To reduce stops and starts, practice predictive driving by anticipating changes in traffic signals and conditions ahead.



⑦ Avoiding Unnecessary Revving of the Engine

Revving the engine unnecessarily (when the engine is on and the gear is in neutral while pressing the accelerator) wastes fuel:

- Large vehicles: 10–12cc per rev
- Medium vehicles: 5–7cc per rev
- Small vehicles: 3–5cc per rev

For instance, a large truck that can travel 3 km per liter of fuel wastes enough fuel for a 30–36m drive with just one rev. This habit often happens unconsciously, so be mindful to avoid revving when in neutral.

⑧ Minimizing Idling Time

Unnecessary idling not only wastes fuel but also causes noise pollution. When stopping for cargo loading/unloading, waiting, or during long stops like at railway crossings, turn off the engine to prevent unnecessary idling.

A tip: To avoid forgetting to turn off the engine when leaving the vehicle, tie the car key to a strap attached to your belt.

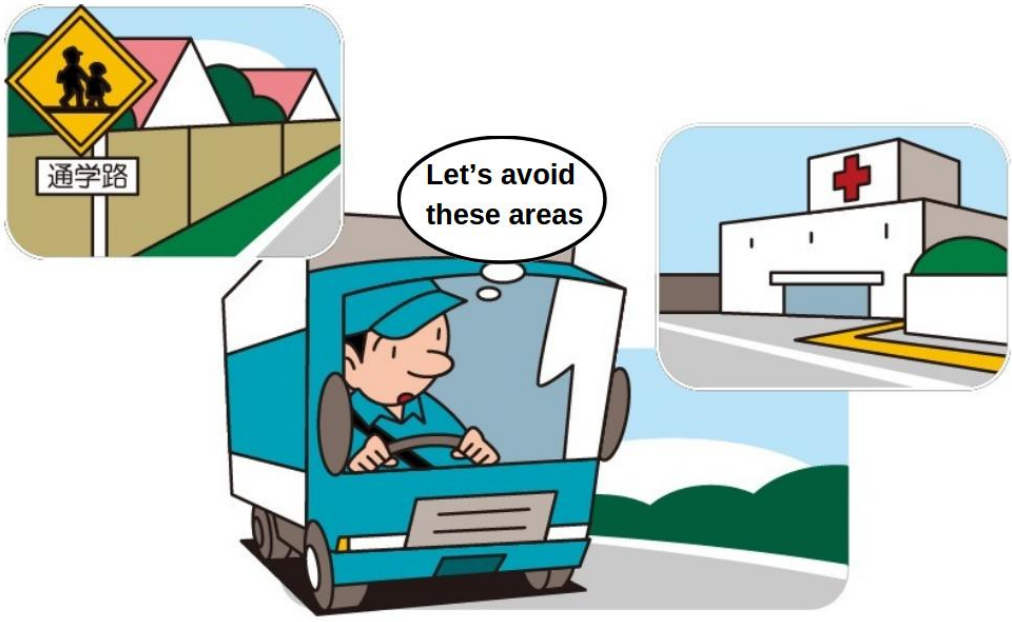
7. Choosing Suitable Driving Routes

7.1 Route Selection for Safety

It's the job of route managers to select safe and efficient routes for trucks, considering factors like arrival time, weather and geographical conditions (e.g., hills, narrow roads).

Drivers must follow the designated routes determined by the operations manager and are not allowed to change the routes based on their own judgment.

It is also important to be aware of areas with a high risk of traffic accidents. Utilize resources like the "Traffic Accident Occurrence Map" and "Accident Hazard Location Search Map" provided by prefectural police departments.



7.2 Gathering Route Information in Advance

Road and weather conditions change frequently. Collecting information in advance is critical for safe driving. Be aware of areas where accidents or near-misses (risky situations) occur frequently.

◆ During severe weather conditions such as heavy rain, heavy snow, storms, blizzards, or dense fog:
Dangerous situations are more likely to occur. To ensure safety, take necessary measures such as checking the operation route.
In the case of heavy rain:

- Avoid roads prone to flooding (roads with water covering the surface) and areas along rivers with a risk of flooding.
  In the case of typhoons:
- Avoid bridges where strong winds or gusts are expected.
  In the case of heavy snow:
- Check for the presence of chain regulations and adjust the operation route according to the weather conditions.

When driving on snowy roads, try to drive in the tracks left by vehicles ahead whenever possible.

Chapter 2
Operations Management

1. Workflow and Rules for Truck Drivers

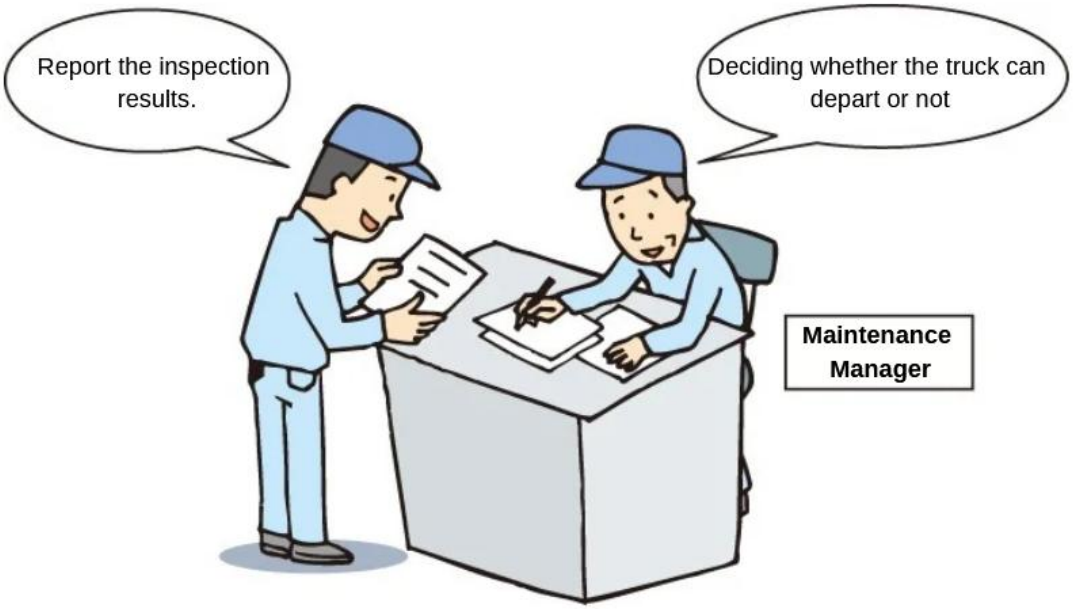
This section explains the general workflow of truck drivers.
If your company has its own rules, please follow those rules.

① Starting Work
Arrive with enough time to spare so you can clock in on time.
Greet everyone energetically.

② Preparation
Change into work attire. Personal appearance affects customer impressions, so use a mirror to check your appearance.

③ Daily Inspection (Inspection of the vehicle before starting to drive)
Obtain the truck keys and daily inspection checklist from the operations manager (the person managing vehicle operations) and confirm whether there are any notices from the company.
Go to the parking area, check the truck you are scheduled to drive, and follow the daily inspection checklist to inspect the vehicle. Record the results of the inspection.

④ Submit the Daily Inspection Checklist to the Maintenance Manager
Submit the completed daily inspection checklist to the maintenance manager (the person managing vehicle maintenance and inspections) for confirmation.
If there are any issues, follow the instructions of the maintenance manager.



⑤ Pre-Work Roll Call (Roll call before driving)

Submit the daily inspection checklist, confirmed by the maintenance manager, to the operations manager and report any required details.

Don't forget to use a breathalyzer to check for alcohol consumption.

Afterward, receive roll call from the operations manager.

If there are no issues, depart according to the manager's instructions.

If there are issues, you may not begin driving.

⑥ Operation

If there are abnormalities with the truck or your physical condition during the operation, contact the operations manager and follow their instructions.

※ Mid-Operation Roll Call

For long-distance operations lasting two or more nights, contact the office during the journey to receive a roll call from the operations manager or assistant (a person assisting the operations manager).

⑦ Post-Work Roll Call (Roll call after completing the drive)

After finishing the operation and returning to the office, create a work record.

Submit the work record to the operations manager for review and reporting.

Receive feedback, instructions, or guidance for the next day's operation from the operations manager.

⑧ Cleanup

If there are any issues with the truck you drove, report them to the maintenance manager.

If there are no issues, clean and maintain the truck before returning the keys.

⑨ Clocking Out and Going Home

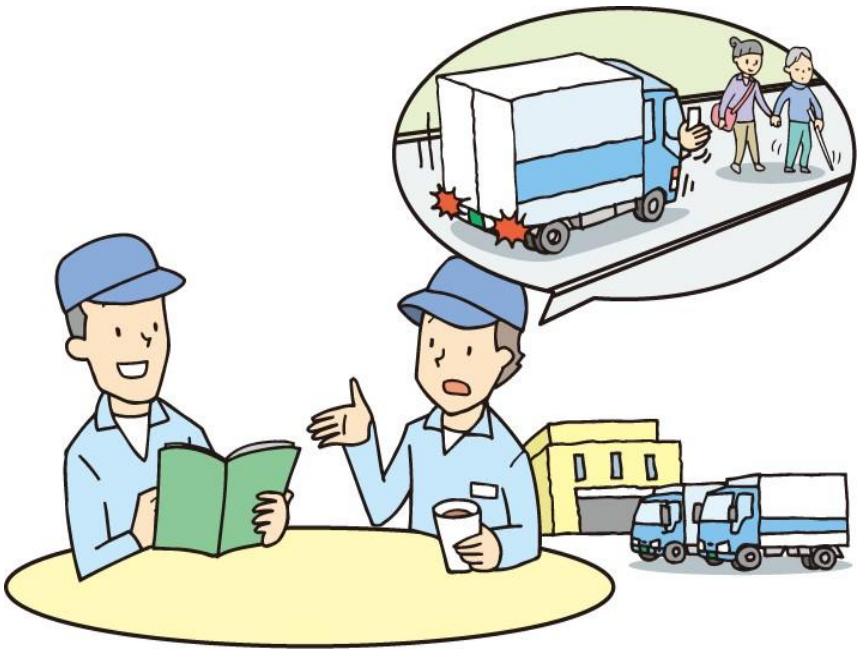
Complete the clock-out procedures and head home.

2. Responsibilities of the Driver

2.1 Responsibilities as a Truck Driver

A truck driver is a professional in transportation. It is crucial to have excellent driving skills and a high awareness of traffic safety.

On the road, drivers will be moving alongside pedestrians, cyclists, and other vehicles. As a professional, the truck driver must operate in a way that ensures the safety of pedestrians, cyclists, and other vehicles. Be aware of the responsibility that comes with being a truck driver.



2.2 Items That Drivers Must Follow

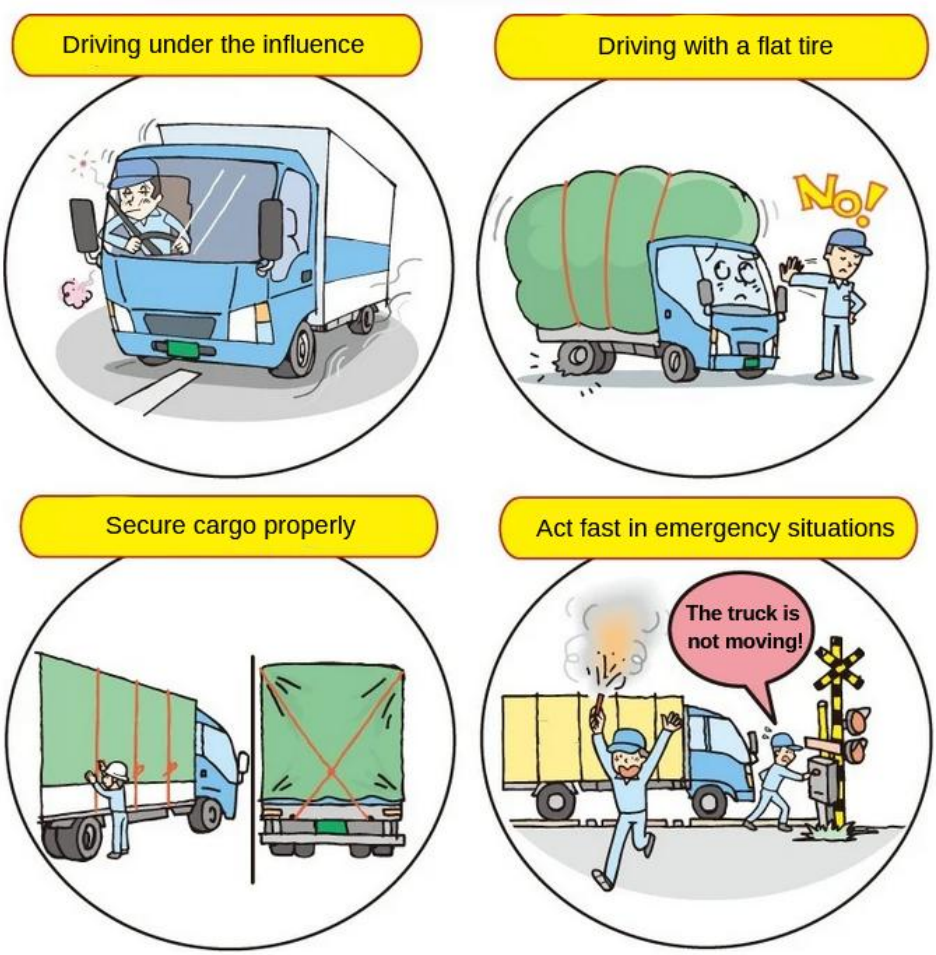
Truck drivers must follow the 13 items listed below:

① Do not drive while under the influence of alcohol (whether you have been drinking or if there is residual alcohol from the previous day).

② Do not drive a truck that is overloaded (exceeding the truck's weight limit).

③ Load goods onto the truck using the correct method.

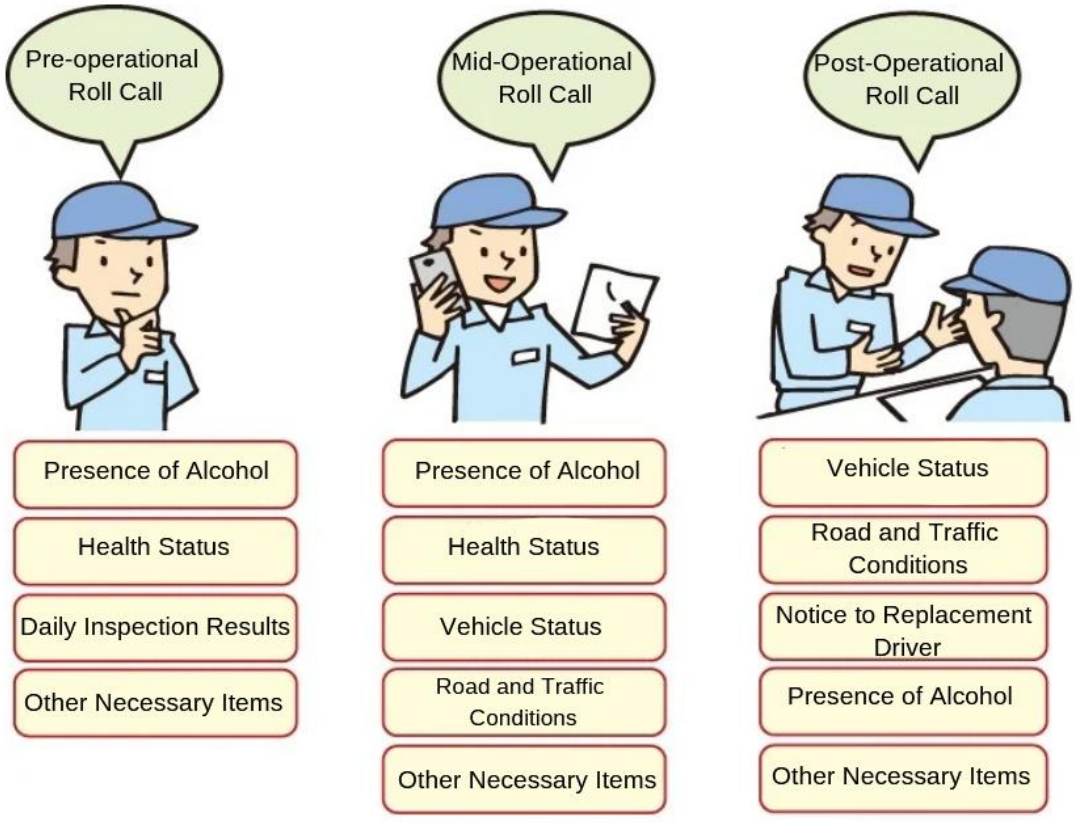
④ If the truck becomes stuck at a railroad crossing, take immediate necessary actions.



⑤ If you are unable to drive safely due to alcohol consumption, illness, fatigue, or lack of sleep, notify the company.

⑥ Perform daily inspections and verify the truck's condition.

⑦ Attend pre-shift and mid-shift checks (including intermediate checks) and post-shift checks and submit the required reports.



⑧ If a malfunction is discovered during driving or if there is a risk of an accident, immediately stop driving and report it to the company.

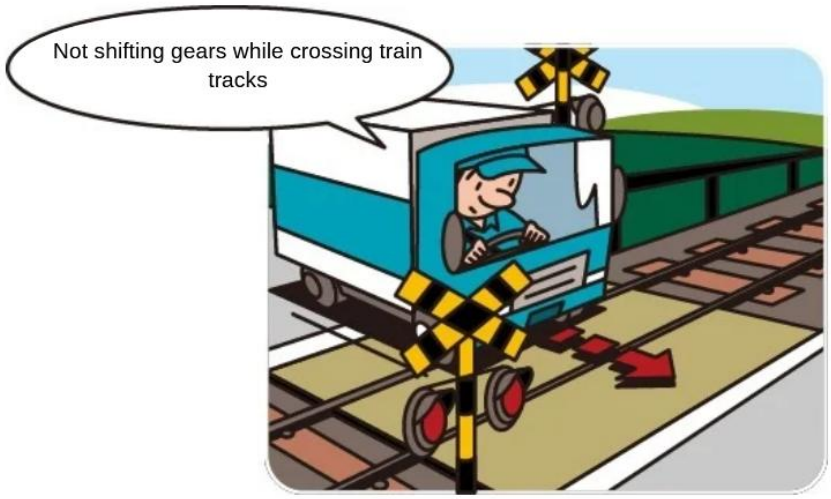
⑨ When finishing your shift and handing over to another driver, inform them about the vehicle, road conditions, and the status of the operation.

⑩ When taking over driving from another driver, receive their report and inspect the vehicle's brakes, steering, and other systems.

⑪ Keep records of your work (if using a driving log, make sure to write the necessary details on the log sheet).

⑫ Carry the "Operation Instructions" provided by the company, and if there are any changes from the company, record the changes.

⑬ When passing through a railroad crossing, do not operate the shift gears.



3. Method and Content of Daily Inspections

Large trucks, due to malfunctions, can cause traffic accidents that may have a significant impact on society. Therefore, daily inspections are mandatory. By conducting daily inspections properly, you can prevent malfunctions.

To carry out daily inspections safely and smoothly, pay attention to the following points:

① Perform the inspection in a flat location.

② Apply wheel chocks to the tires.

③ Ensure the parking brake is fully engaged and set the gear to neutral.

④ Turn off the engine and remove the starter key.

⑤ Do not inspect immediately after driving, as there is a risk of burns; perform the inspection once the engine has cooled.

⑥ When raising the cab, follow the operating procedures.

⑦ Be careful not to drop anything into the intake ducts.

⑧ When stepping onto the engine, avoid putting your feet on pipes or air cleaners.

⑨ After the inspection, check that no flammable materials or tools are left in the engine room.

⑩ Finally, do a general check to ensure there are no oil, liquid, or water leaks.

4. Receiving a Check-In

Drivers must receive check-ins conducted by the operations manager or others before, during, and after the job, and provide the required reports.
Check-ins are received at designated locations. For drivers, receiving a check-in is an essential and important task.

4.1 Preparing for a Pre-Shift Check-In

After conducting the daily inspection, ask the maintenance manager if the vehicle is safe to operate, then receive a face-to-face check-in from the operations manager.

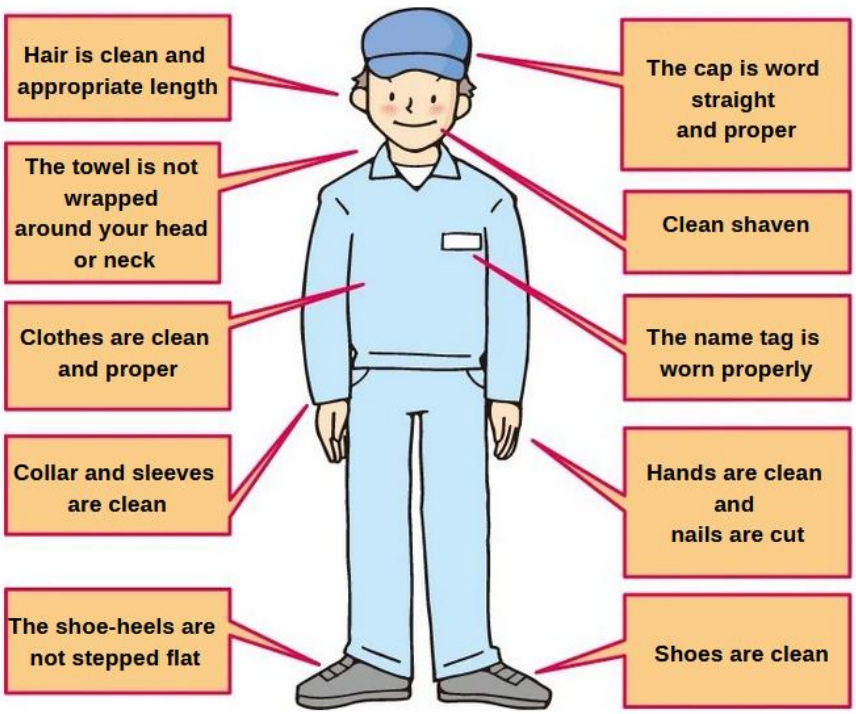
The pre-shift check-in is for confirming whether the driver and vehicle are fit for safe operation and to communicate any important safety precautions. It is not just a formality but a meaningful process. If you are staying at a remote location, you must receive the check-in by phone or other means.

When receiving a check-in, be mindful of the following:

① Ensure that your appearance is neat and tidy.

② Think carefully about the purpose of the check-in and focus on receiving the instructions.

③ Repeat the key points of the instructions and warnings to ensure full understanding (if anything is unclear, confirm it on the spot).



4.2 Key Points for Receiving a Pre-Shift Check-In Smoothly

① Confirm in advance whether the check-in will be an individual check-in (one-on-one check-in) or a group check-in (a check-in with several drivers gathered).

② Ensure you are not late for the designated check-in time.

③ Organize the items that need to be confirmed for safe operation with others.

④ After receiving instructions regarding safe operation, repeat the key points to clearly remember them.

4.3 Main Items to Report During the Pre-Shift Check-In

① The driver's name.

② The driver's alcohol presence, illness, fatigue, or sleep deprivation status.

③ The vehicle’s registration number or an identifying symbol.

④ The status of the daily inspection.

⑤ Other necessary items, especially "Confirmation of alcohol presence using an alcohol tester," and "Whether there is any concern that the driver cannot operate the vehicle safely due to illness, fatigue, sleep deprivation, or other reasons."
Confirming whether the daily inspection was conducted, or its status is essential.

5. What is Operation Management?

Operation management aims to prevent overworked driving, overloading, and other issues, with the goal of ensuring safe operation. The company, operation managers, and drivers each have their respective duties, which are outlined by law (Regulations for the Safety of Freight Vehicle Operations).

【Company】

○ Provide and manage sleep facilities, as well as maintain them.
○ Record and store accident information.
○ Listen to the opinions of the operation manager, among other tasks.

【Operation Manager]

○ Conduct check-ins, record them, and store the information.
○ Prepare operation directives.
○ Provide guidance and supervision to drivers and others.

【Driver】

○ Do not drive a vehicle under the influence of alcohol.

○ Do not drive a vehicle that is overloaded.

○ Report to the company if you are unable to drive safely.

○ Conduct daily vehicle inspections and verify their status.

○ Participate in check-ins, among other responsibilities.

【Crew】

(※ Includes drivers and anyone assisting the drivers)

○ Do not ride in a vehicle under the influence of alcohol.

○ Do not ride in an overloaded vehicle.

6. Operations During Transportation

6.1 Response to Traffic Accidents

Even if you are driving safely, accidents can still occur. In the event of an accident, the following steps should be taken to prevent the situation from worsening:

① Aiding Injured Persons

If a traffic accident occurs, even a minor one, immediately stop driving. Check if there are any injured persons or if any luggage is damaged.
If there are injured persons, ask people nearby for assistance and provide first aid. Call 119 to request an ambulance.
While waiting for the ambulance to arrive, continue to provide first aid.
If the injured person can move to a safe location, ensure that actions are taken to prevent further accidents from occurring.

② Preventing Subsequent Accidents

When a vehicle involved in an accident is struck by a vehicle approaching from behind, the accident may escalate. To prevent this, move the vehicle involved in the accident to a safe location, such as the shoulder of the road or an open space. Additionally, take the following actions:

- Turn on the hazard lights (emergency flashers).
- Use an emergency flare to warn following vehicles.
- On highways, place warning devices (such as a stop sign) in a location visible to drivers of following vehicles.

※Emergency flares or stop devices should be placed behind the vehicle, within a safe range, ensuring safety.

③ Escaping to a Safe Location

Once the necessary response actions have been completed, do not remain inside the vehicle or near the road. Move to a safer location, such as outside the guardrail. On highways, where vehicles may be traveling at 100 km/h, it is essential to move to a safe location immediately.

④ Notifying the Police

Notify the police of the following:

- The date, time, and location of the accident.
- The number of casualties (both deceased and injured persons) and the severity of the injuries.
- The extent of the damage to property.
- The cargo being transported in the vehicle.
- The response actions taken at the accident site.

⑤ Notifying the Company

Notify the company of the accident and the status of the cargo. Follow the instructions from the operations manager or other authorized persons.

If you are unable to contact the company due to injuries, inform those around you of the contact details and ask them to make the notification on your behalf.

6.2 Other Considerations for Drivers

① Actions to Prevent Fires

At accident scenes (locations where an accident has occurred), there is a risk of oil leakage. Therefore, absolutely avoid using fire, such as smoking cigarettes. If transporting hazardous materials, ensure that there is no leakage or scattering. If a fire breaks out involving hazardous materials, the damage can escalate significantly. Use tools like fire extinguishers to extinguish the fire promptly.

② Prohibition of Settlement at the Accident Scene

In minor accidents, the other party may propose a settlement (agreeing to resolve compensation for damages such as treatment for the victim or car repairs). However, the responsibility for compensation lies with the company, and drivers must not unilaterally engage in settlement discussions at the scene. Even if the other party insists on a settlement, you must firmly refuse.

③ Identifying Witnesses and Other Evidence

If a dashcam is installed, footage of the accident can serve as evidence. If there is no dashcam, and there are witnesses (people who saw the accident), record their names, addresses, and contact details. Additionally, documenting the road conditions at the scene, the collision point, the stopping positions of the vehicles, the state of the other party's vehicle before and after the accident, and the extent of vehicle damage using a smartphone or notes can be helpful for accident resolution.

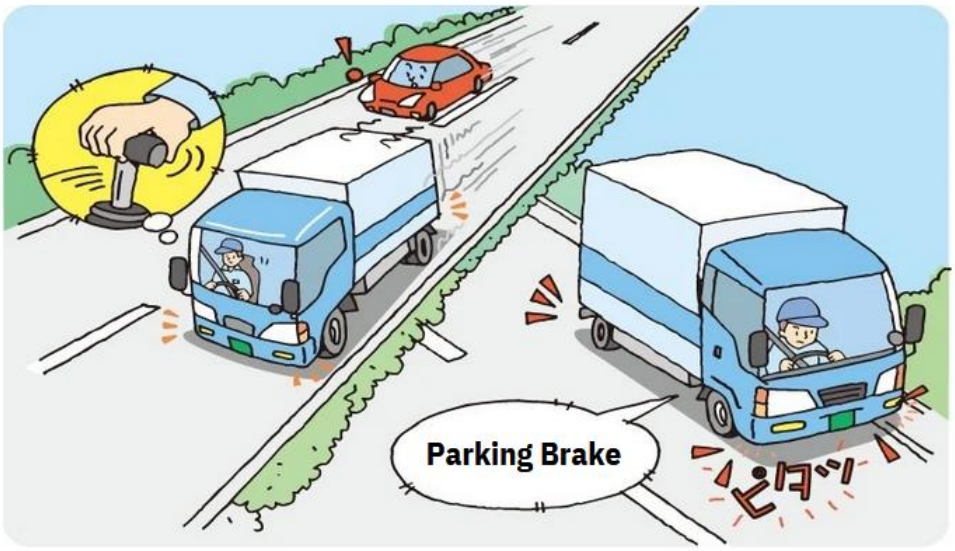
6.3 Responding to Vehicle Breakdowns

① Stopping the Vehicle in a Safe Location

If the vehicle breaks down while driving, ensure your own safety and the safety of surrounding vehicles by staying calm and taking appropriate measures. On general roads, turn on the hazard lights to inform trailing vehicles about the breakdown. Then, gradually reduce speed. If the vehicle doesn't slow down when braking, repeatedly downshift and use the engine brake and exhaust brake to lower the speed.

② Do Not Turn Off the Engine Until the Vehicle Stops

Turning off the engine while the vehicle is still moving may cut all electrical power and create dangerous situations. Ensure the engine remains on until the vehicle comes to a complete stop. Additionally, before the vehicle becomes undriveable, stop in a safe location, such as the shoulder, to avoid obstructing traffic, and engage the parking brake.



③ Responding to Breakdowns on Highways

If a breakdown occurs on a highway, turn on the hazard lights while driving and attempt to stop in a service area or parking area. If this is not possible, slowly reduce speed without braking suddenly and stop on the shoulder or in an emergency parking zone. Use flares or warning triangles to alert trailing vehicles of the breakdown and report the issue via an emergency phone or the highway emergency dial (#9910).

Emergency phones are located every 1 kilometer (200 meters inside tunnels). Using these phones connects you to the road management center. Inform them of the breakdown details and your stopping location (e.g., the kilometer marker on the shoulder). This enables measures to prevent secondary accidents, such as dispatching traffic management teams or displaying information on electronic boards.

④ Vehicle Malfunction

If you notice any issues with the vehicle, report them to the company immediately.

In cases where the vehicle becomes inoperable due to a malfunction, report to the company and follow their instructions.

If the vehicle becomes inoperable in areas such as a railroad crossing or tunnel, there is a risk of a major accident. If you notice a vehicle malfunction, report it to the company immediately and follow their instructions, such as avoiding roads with railroad crossings or tunnels and heading to the nearest maintenance facility.

⑤ Inspecting the Malfunctioning Parts in a Safe Location

It is extremely dangerous to move around the vehicle on highways. Inspections of malfunctioning parts should be carried out in safe locations, such as service areas.

Even on general roads, inspections should be avoided in areas with heavy traffic.

7. Responding to Delays in Operations

7.1 Responding to Delays Based on Causes

Arrival times may be delayed for various reasons. Failure to respond appropriately in such situations can lead to a loss of trust from customers.

Possible reasons for delays include:

- Late departure
- Traffic accidents or vehicle malfunctions
- Severe weather
- Traffic regulations or traffic jams (conditions where vehicles are congested, preventing smooth travel)
- Poor physical condition

When there is a delay in the arrival time, do not contact customers based on your own judgment. Instead, decide in advance how to respond with the operation manager. Also, do not attempt to make up for delays by increasing speed or driving dangerously.

7.2 Reporting to the Company and Receiving Instructions

If there is a risk of delayed arrival time, report to the company and follow the instructions of the operation manager.

To receive proper instructions, provide the operation manager with the following information:

① Name, vehicle number, and the branch office you belong to
② Reason for the delay
③ Road conditions
④ Estimated arrival time
⑤ Whether there was an accident or malfunction

In cases of delay caused by a vehicle malfunction, it is crucial to report to the company and follow instructions.

8. Handling Emergency Signaling Devices and Fire Extinguishers

8.1 Emergency Signaling Devices

Emergency signaling devices (tools to notify other drivers of issues such as vehicle malfunctions) include red flashlights and flare signals. Vehicles must be equipped with one of these.

Emergency signaling devices should not only be stored in the vehicle but also be checked regularly to ensure they can be used immediately when needed. Flares that have passed their expiration date (four years) may fail to ignite, so they should be replaced with new ones. Practice using them to ensure proper operation.

How to Use Flares:

① Twist off the outer cap of the flare.

② Strike the outer cap with the chemical tip against the body of the flare, like a match.

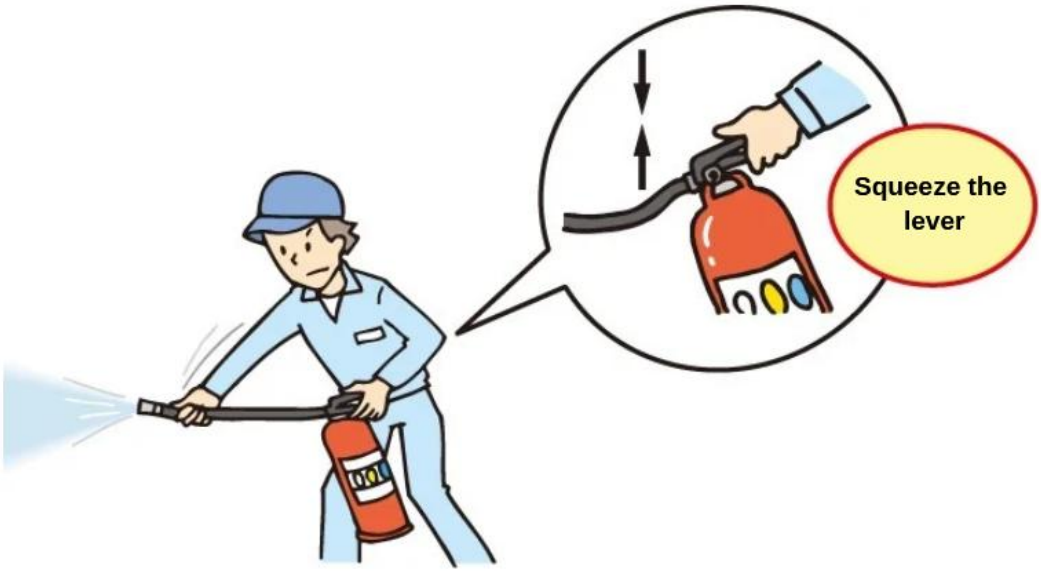
③ When striking, point the body of the flare forward.

④ Ignite the flare.

8.2 Fire Extinguishers

The effective lifespan of a fire extinguisher is 10 years. Fire extinguishers that have been used for more than 10 years need to be replaced. Drivers should confirm where the fire extinguisher is in the vehicle. The correct way to use a fire extinguisher is as follows:

1. Pull out the safety pin upwards.
2. Detach the hose, hold the end of the hose, and point it at the source of the fire. Avoid holding the middle of the hose, as the discharge pressure may prevent accurate spraying.
3. Firmly squeeze the lever to discharge the extinguisher.



9. Measures for Abnormal Weather Conditions

9.1 What is abnormal weather?

Abnormal weather refers to conditions significantly different from usual, such as heavy rain, heavy snow, strong winds, and dense fog. These conditions can pose various risks.
For instance, during typhoons, strong winds and high waves can cause signs, markers, or trees to fall. Heavy rain can lead to flooding (when rivers overflow) or inundation (when houses or roads are submerged). Landslides may also occur.

During abnormal weather conditions, normal driving may become impossible. Therefore, it is essential to follow the "Guidelines for Actions During Abnormal Weather," which include adhering to operational managers' instructions (e.g., suspending operations).

If caught in abnormal weather during a trip, stop in a safe location. From there, contact your company for instructions, such as halting operations. Drivers should not continue driving based on their own judgment.

⚠ Guidelines for Measures During Abnormal ⚠ Weather Conditions

Weather Conditions	Rain Intensity	Directives from Japan Meteorological Agency	Estimated Shipping Time
During Rain 	20～30mm/h	Hard to see even with wipers set to highest speed	Need to take measures to ensure transport safety
	30～50mm/h	While driving at higher speeds, the water level may cause the wheels to lose contact with the road, causing the brakes to stop working (Water Planing Effect)	Suspending shipping should be considered
	50mm/h or more	Driving at this water level is dangerous.	Continuing shipping operations is inappropriate
Stormy Weather 	10～15m/s	The windsock by the road will become completely horizontal and you may feel the vehicle bieng pushed by sidewind	Measures must be taken to ensure safe transport
	15～20m/s	The feeling of being pushed by sidewind becomes even stronger.	
	20～30m/s	Driving at normal speeds becomes becomes difficult	Suspension of transport should be considered
	30m/s	Trucks in motion can roll over	Continued operation is inappropriate
Snowfall 	If there are reports of heavy snowfall, safety measures needs to be taken before continuing operations		
Poor Visibility (Fog, Wind) 	When visibility is generally 20m or less, the suspension of transport should also be considered		
When a Warning is Issued 	Measures should be taken to ensure the safety of transport, and then a decision should be made on whether transport can proceed		

9.2 Response to Heavy Rain

Localized heavy rains (intense rainfall over a short period) have become more common. These conditions may obscure visibility, cause road closures, or bury vehicles under water or mud. Avoid such dangerous roads and stop the vehicle in a safe place until the rain subsides.

Additionally, avoid underpasses (roads beneath overpasses), underground tunnels, or similar areas, as vehicles may become submerged. If a vehicle becomes submerged and immobilized, evacuate immediately.

To prepare for situations where evacuation from a submerged vehicle is impossible, keep a hammer (to break windows) and a cutter (to cut seat belts) on hand.

9.3 Response During Earthquakes

◆ When a warning or emergency earthquake alert is issued

When there is a risk of a major earthquake in a specific area, the government may issue a "warning" to prepare for the earthquake.

◆ Driver response to a warning

①If driving when a warning is issued:

- Slow down in anticipation of the earthquake. Listen to earthquake and traffic updates via the car radio and act accordingly.
- If evacuating the vehicle, move it as much as possible off the road. If leaving it on the road, park on the left side, turn off the engine, leave the key in the ignition, close the windows, and do not lock the doors.
- Do not park in areas that may obstruct the passage of emergency vehicles or other evacuees.

②If not driving when a warning is issued:

Except when escaping a tsunami, do not use a vehicle to evacuate.

◆ Emergency Earthquake Alerts During Driving

Emergency earthquake alerts are issued before significant tremors reach an area. If driving when such an alert is issued, turn on hazard lights to warn surrounding vehicles, avoid sudden braking, and gradually reduce speed.

9.4 Actions to Take During a Major Earthquake When Driving

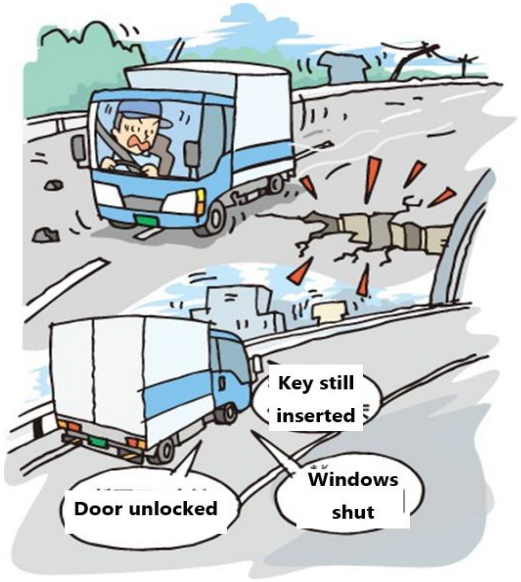
① Avoid sudden steering or sudden braking and bring the vehicle to a stop on the left side of the road in the safest manner possible.
② After stopping, use the car radio or other sources to listen for earthquake and traffic information, and act accordingly.
③ If you continue to drive, pay close attention to the condition of the road, such as damage and the operation status of traffic signals.
④ If you evacuate the vehicle, move it off the road to a safe location whenever possible. If leaving the vehicle on the road, park it on the left side, turn off the engine, leave the key in, close the windows, and do not lock the doors.
⑤ Do not park in locations that may obstruct the evacuation of people or the passage of emergency vehicles.

When Not Driving:

When a major earthquake occurs while not driving, respond as follows:

① Do not use a vehicle to evacuate, except in the case of escaping a tsunami.

② If using a vehicle to escape a tsunami, pay close attention to road conditions, such as damage and the operation status of traffic signals.

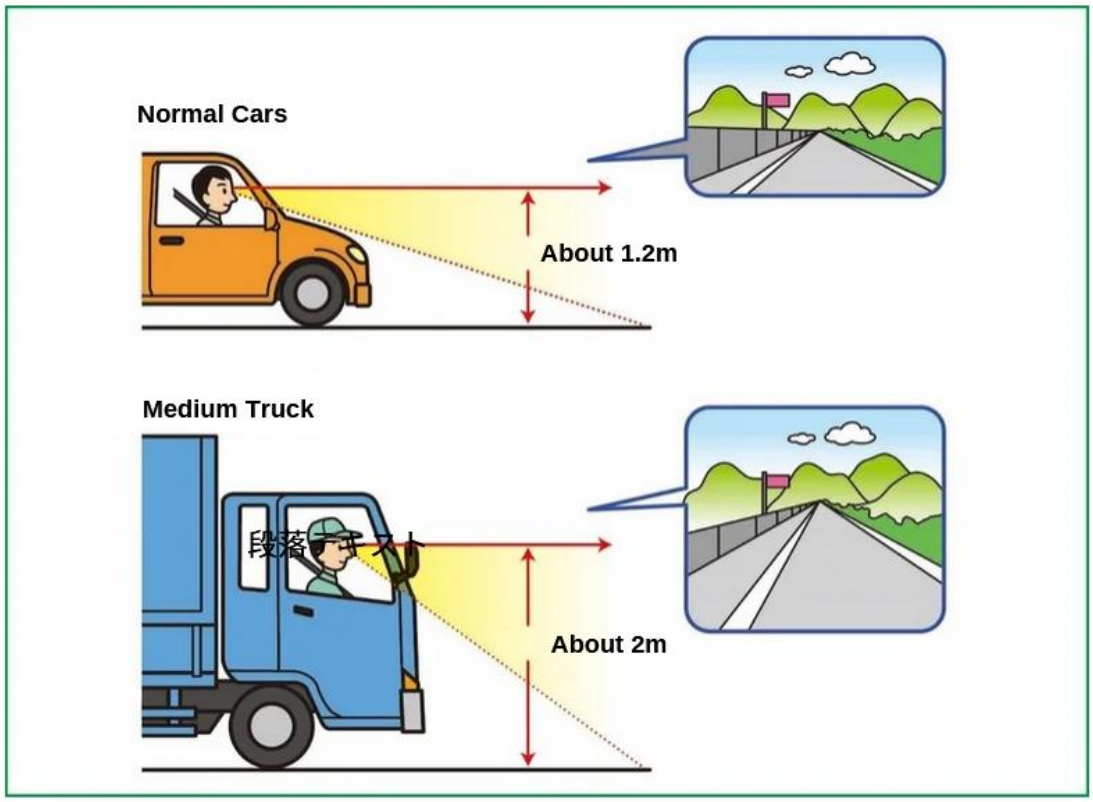


10. Driving Adapted to the Characteristics of Trucks

10.1 Vehicle Height and Driving

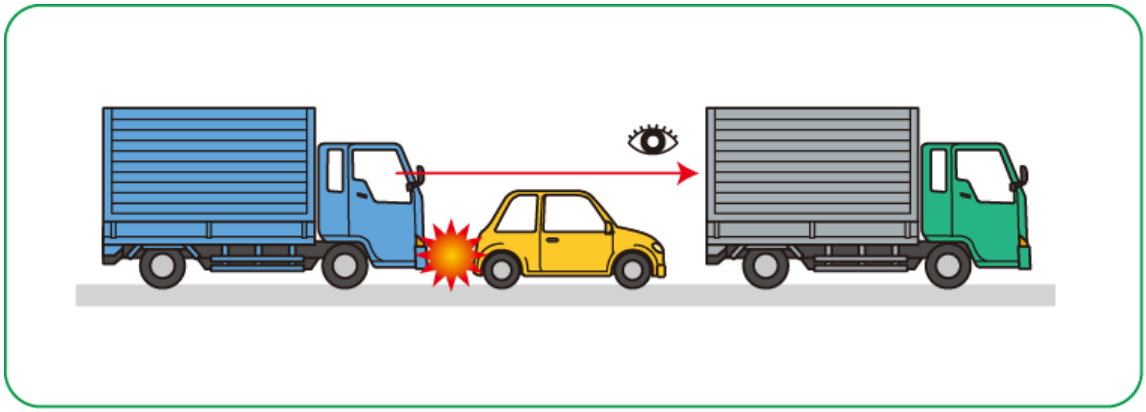
(1) Perception of Long Following Distance

"Following distance" refers to the gap between your vehicle and the one ahead. Trucks have higher driver seats, providing a downward view of the road. This can create the illusion of a longer following distance, even when the gap is short, causing drivers to reduce the distance unnecessarily. Always aim to maintain a longer following distance.

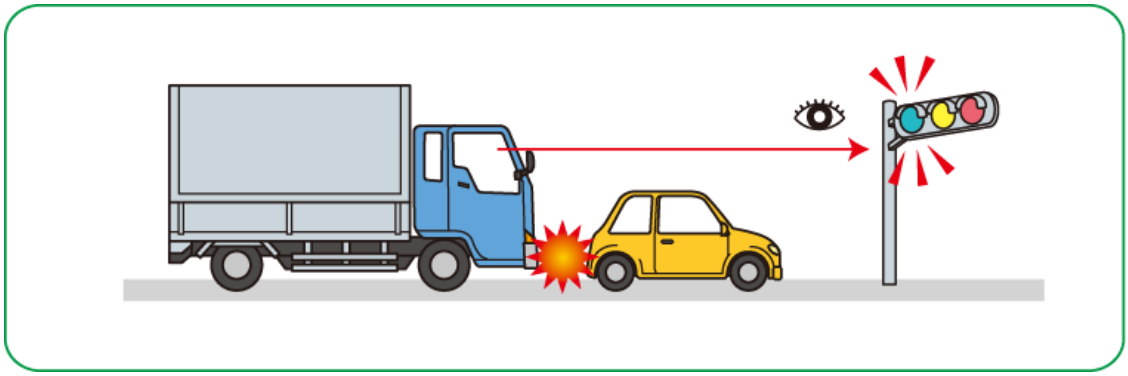


(2) Tendency to Overlook the Vehicle Directly in Front

When a car is immediately in front of your truck, your attention may be drawn to the road ahead or the next vehicle, leading to unawareness of the car directly ahead. This could result in a collision if the truck speeds up following a leading vehicle.



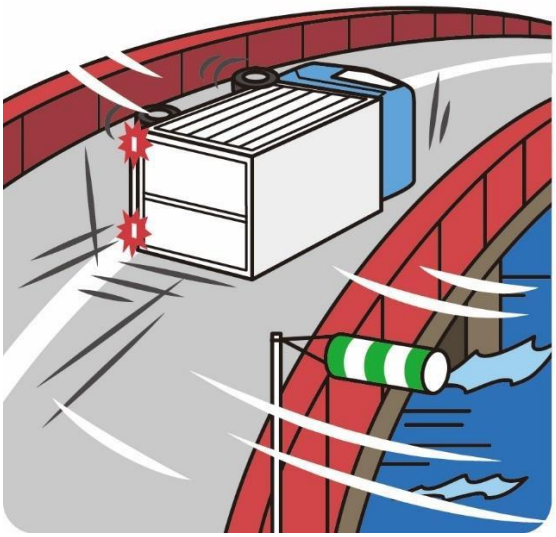
When waiting at a red light and starting to move on green, always confirm that the vehicle ahead has started moving.



(3) Susceptibility to Overturning

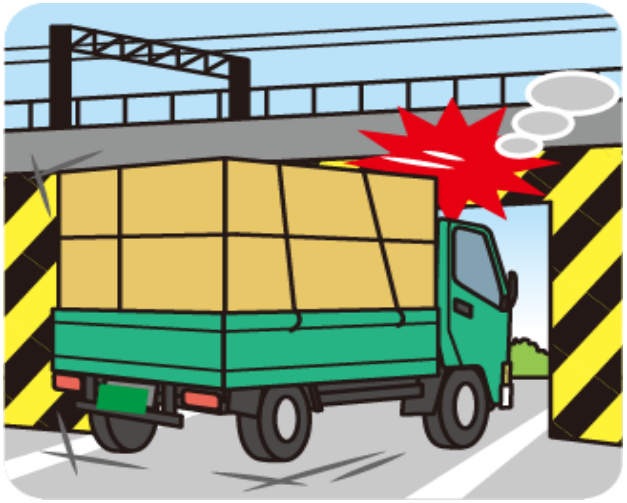
Trucks may overturn when navigating curves or making right or left turns at intersections. Reduce speed and operate the steering and brakes cautiously in such scenarios.

Additionally, strong winds, especially on bridges, can cause trucks to overturn. Be particularly vigilant in such conditions.



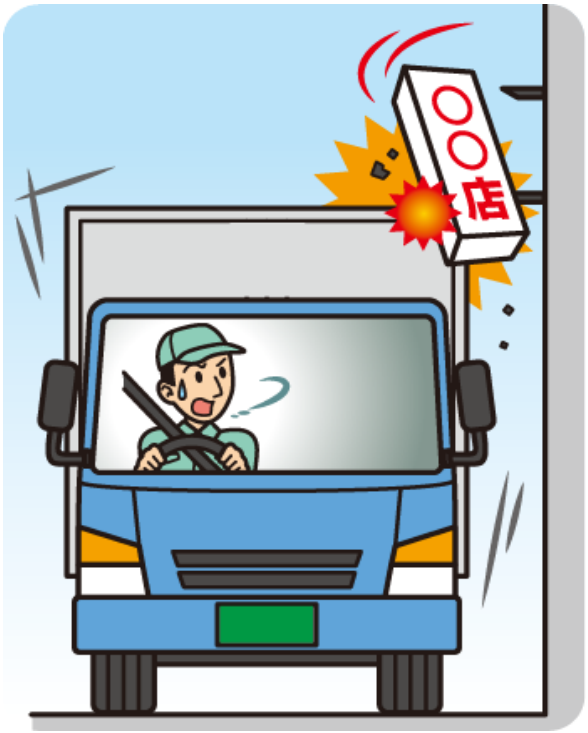
(4) Beware of Underpasses

Underpasses, such as tunnels under railways or roads, have height restrictions. Always check the height before passing. If the truck's height exceeds the limit, do not attempt to enter. For non-box trucks, ensure that cargo does not increase the vehicle's height beyond the limit.



(5) Be Cautious of Signs and Eaves

On narrow roads, pulling too far to the left to pass an oncoming vehicle can cause the truck to hit signs or eaves. Repairs for these can be costly, and incidents at customer sites may damage the company's reputation. Exercise great caution.

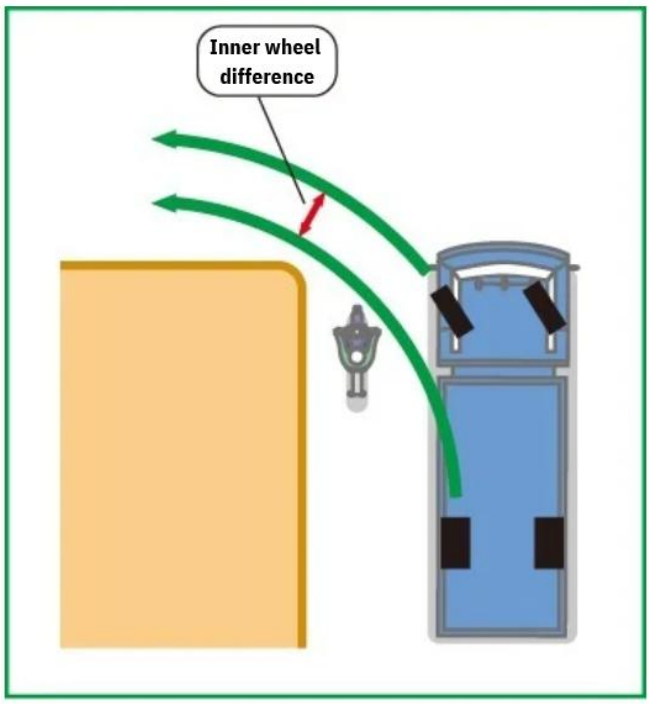


10.2 Vehicle Length and Driving

(1) Beware of Turning Inward When Making Left Turns

Long trucks have a large inner-wheel gap (the difference in the path taken by front and rear tires during a turn), which can lead to collisions with bicycles, pedestrians, or objects when turning left.

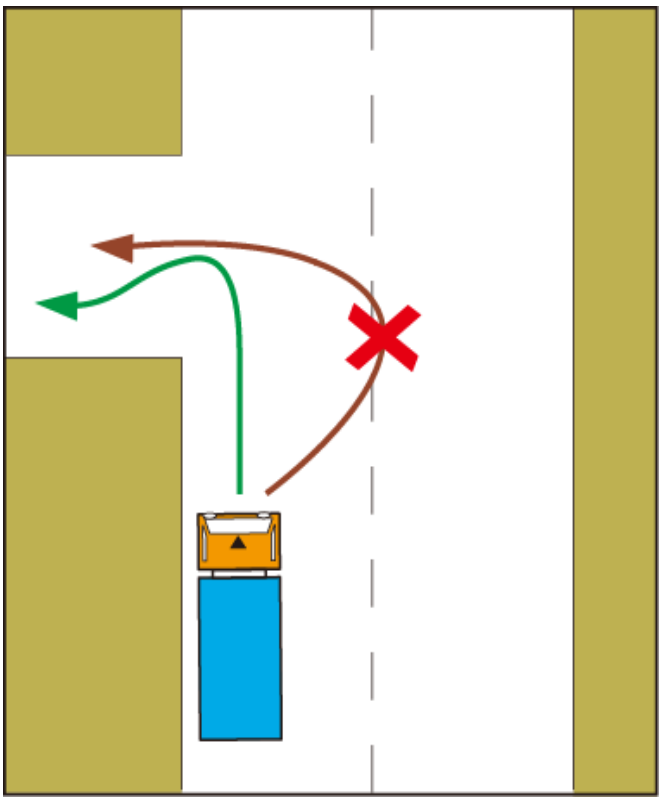
When exiting parking lots or other premises to turn left, ensure the left side is clear to avoid hitting walls or gates.



(2) Beware of Swinging Outward During Left Turns

When turning left, trucks must stay close to the left edge of the road. However, due to the large inner-wheel gap, some trucks may swing right before turning left.

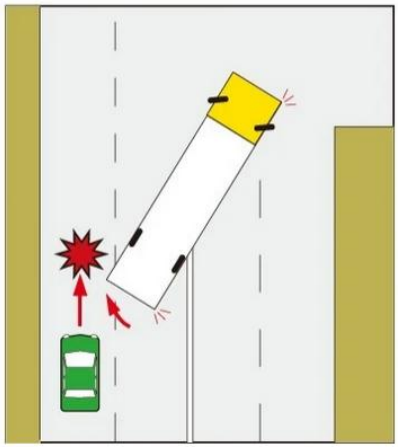
Such maneuvers can cause collisions with motorcycles or bicycles, as well as with oncoming or trailing vehicles on single-lane or multi-lane roads, respectively. Avoid making such left turns.

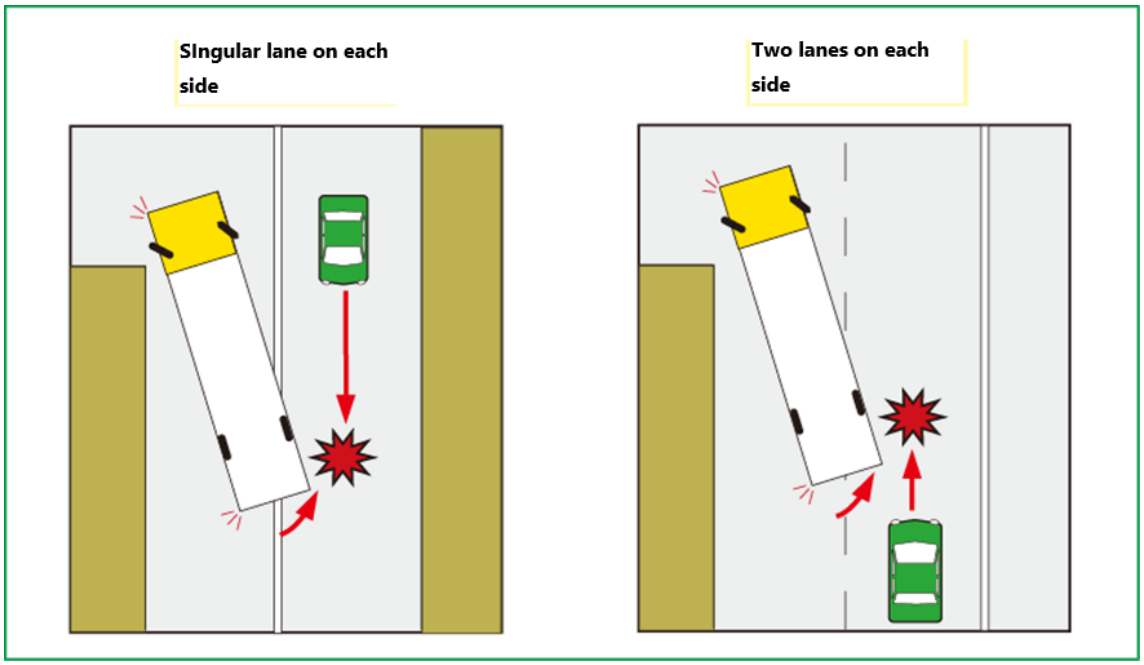


(3) Large Rear Overhang

The "rear overhang" is the distance between the rearmost part of the vehicle and the rear axle.
Trucks with large rear overhangs are prone to collisions with trailing or oncoming vehicles when making right or left turns.
When turning right, check the left mirror; when turning left, check the right mirror.

(Rear overhang accident during a right turn)





10.3 Cars: Width and Driving

(1) When there are oncoming vehicles on a narrow road, let them pass first
Trucks have a wide width, so when there are oncoming vehicles on a narrow road, follow these driving steps:

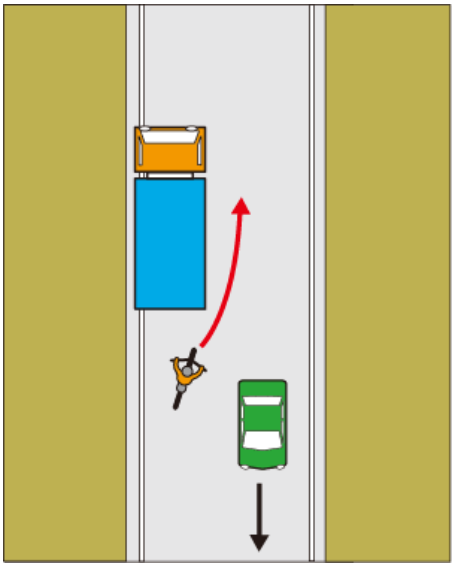
① Check the left-side mirror and the safety window (the window below the left-side glass of the driver's cabin) to confirm there are no pedestrians or bicycles on the left side.

② Once confirmed, carefully move closer to the left side while paying attention to signs and other obstacles above. Stop temporarily and let the oncoming vehicle pass first.

③ After confirming there are no following vehicles, proceed forward.

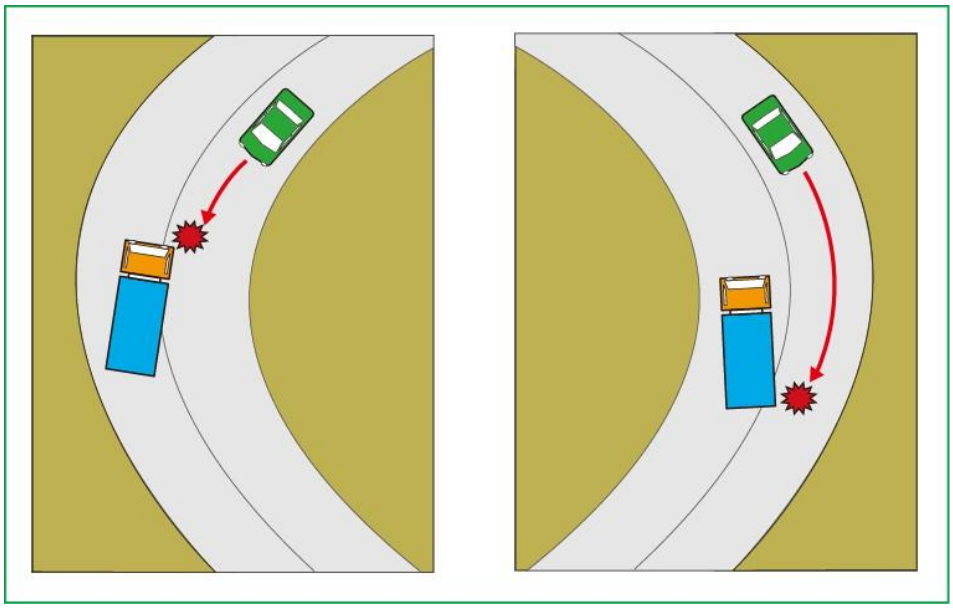
(2) Be cautious of bicycles when starting

When moving to the left side to allow oncoming vehicles to pass, you may block the path of bicycles. In such cases, bicycles may move to the right side of the truck after the oncoming vehicle has passed. When starting, ensure you do not overlook bicycles or other vehicles approaching from behind.



(3) Be cautious of crossing into the oncoming lane on curves

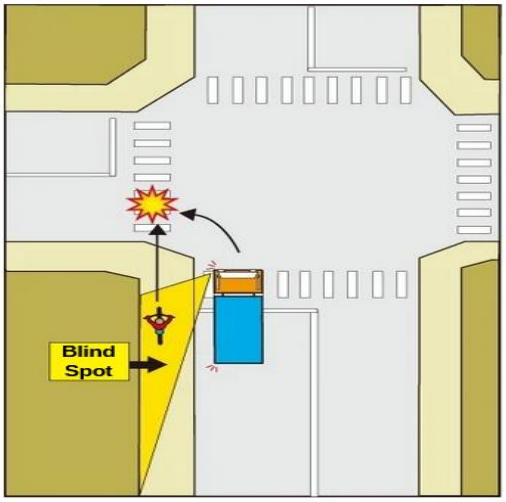
On narrow curves with a single lane on each side, parts of the vehicle may cross into the oncoming lane. Use the right-side mirror to check the centerline carefully and avoid crossing into the other lane.



10.4 Blind Spots and Driving

(1) There are blind spots on the left side and left rear that are not visible in mirrors

Blind spots refer to areas or ranges that cannot be seen from the driver's seat.
Trucks have blind spots on the left side and left rear that are not visible in mirrors. Pedestrians and bicycles, particularly those on sidewalks, can easily enter these blind spots and be overlooked. When turning left, you must stop temporarily before the crosswalk and check both the left and right sides to confirm there are no bicycles or pedestrians.



(2) Do not obstruct the safety window

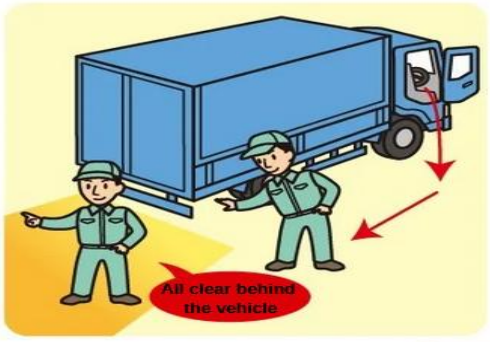
The safety window is designed to eliminate blind spots on the left side. Obstructing it may lead to overlooking pedestrians or bicycles on the left side. Do not place items like newspapers or cardboard near the safety window, as they may block it. Additionally, covering the safety window with curtains is prohibited.

(3) Reversing

When reversing, exit the vehicle to ensure safety.

Panel trucks have blind spots at the rear, so when reversing, exit the vehicle once to check the rear for safety. If there is someone to guide you (signaling the driver from outside the vehicle), have them assist you.

Even if your vehicle is equipped with a rear-view camera (a camera that records the situation behind the vehicle), do not rely solely on it. Always confirm with your own eyes.



11. Speed and Driving

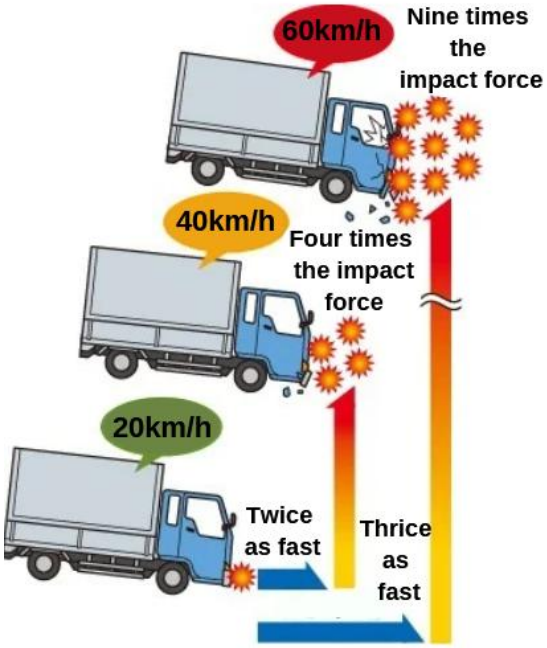
11.1 Effects of Speed on Driving

(1) Increased Impact Force

The force generated when a vehicle collides is called "impact force." Impact force increases proportionally to the square of the speed.

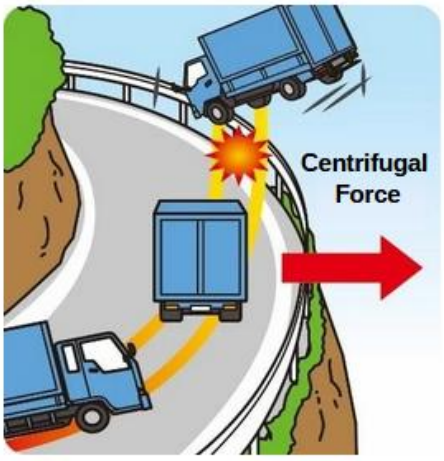
For example,

if speed triples, impact force becomes 3×3=93 \times 3 = 93×3=9 times greater. Since trucks are heavy, their impact force becomes even greater, so excessive speed can lead to serious accidents.



(2) Increased Centrifugal Force

When taking a sharp turn, a force pulls the vehicle outward; this is called "centrifugal force." Like impact force, centrifugal force increases proportionally to the square of the speed. Additionally, the heavier the vehicle, the stronger the effect. For trucks with high-loaded cargo, there is a risk of overturning in curves.



(3) Increased Braking Distance

The distance a vehicle travels after the driver perceives a danger and applies the brakes until they take effect is called "reaction distance." The distance the vehicle travels after the brakes take effect until it comes to a complete stop is called "braking distance." Combined, these are called the "stopping distance." Braking distance increases proportionally to the square of the speed, so the higher the speed, the longer the stopping distance.

(4) Increased Travel Distance per Second

The higher the speed, the farther the vehicle travels in one second. For instance, at 60 km/h, a vehicle covers approximately 17 meters in one second; at 100 km/h, it covers approximately 28 meters. A brief distraction, such as looking at a slip or using a smartphone, can lead to accidents.

(5) Risks of High-Speed Driving in Rain

When driving at high speed in rain, the phenomenon of "hydroplaning" (where steering and braking become ineffective) can occur. When driving on highways in rainy conditions, reduce your speed.

11.2 Controlling (Adjusting) Speed

(1) Driving at a Safe Speed

Abiding by the maximum speed limit is the foundation of speed control. However, adhering to the speed limit does not always guarantee safety. Adjust your speed and maintain an appropriate distance based on weather conditions (rain, snow, strong winds) and road conditions (traffic jams, construction).

(2) Precautions for Curves

Excessive speed in curves can result in veering into oncoming traffic or off the road and may cause the vehicle to overturn. Reduce your speed before entering a curve.

(3) Precautions on Descents and Ascents

On downhill slopes, speed tends to increase. Overusing the foot brake on long descents may render it ineffective, so use engine braking or exhaust brakes.

On uphill slopes, speed tends to decrease. Check the speedometer to control your speed. On highways with climbing lanes (lanes for slow-moving vehicles on uphill sections), use these lanes. If vehicles are approaching from behind, it is important to yield.

12.Mid-Operation Inspections (Interim Checks)

For operations lasting 2 nights and 3 days or more, if drivers cannot meet with operation managers in person either before or after the operation, they must, at least once during the operation, directly communicate with the operation manager (e.g., via phone) to confirm the absence of alcohol consumption, illness, fatigue, or lack of sleep. Drivers must not conduct such checks while driving, such as using a smartphone.

Additionally, operations requiring mid-operation inspections must carry an operation instruction sheet prepared by the company.

【Key Points for Mid-Operation Inspections】

- Decide the location and time for the inspection in advance.
- Do not undergo inspections while driving.
- Report to the operation manager on whether safe driving is possible.
- Receive instructions from the operation manager while referring
- to the operation instruction sheet.

13. Post-Operation Duties

13.1 Cleaning and Washing the Vehicle

(1) Organizing and Tidying the Driver's Cabin

It is important to keep not only the visible exterior of the vehicle but also the interior of the driver's cabin clean and organized for a pleasant work environment.

If items such as beverage containers or documents are left unattended in the cabin, they may fall and interfere with driving.

Tips for Organizing the Driver's Cabin:

- Ensure windows remain unobstructed.
- Do not place documents on the dashboard.
- Do not let empty containers roll on the floor.
- Keep gloves or window-cleaning items properly stored.

(2) Cleaning and Maintenance After Operation

After completing the day's operation and returning to the office to report the day's results, your responsibilities are not over. If the vehicle is dirty, cleaning or washing is also important. Customers highly value "transportation quality," "driver interaction," and "vehicle maintenance."

13.2 Post-Operation Roll Call

(1) Mindset for Receiving Post-Operation Roll Call

After completing your operation and returning to the office, you must receive a roll call from the operations manager in person.

The post-operation roll call serves as an important opportunity to exchange information with the operations manager and discuss the next operation, so ensure you attend it properly.

(2) Key Points for Smooth Post-Operation Roll Call

① Once you finish your tasks, head to the roll call location immediately.
② Fill out necessary details on work records or tachograph recording paper.
③ Organize information about the vehicle's condition, road conditions, and other reporting matters.
④ Report on specified matters to the operations manager and receive the roll call.
⑤ Receive instructions for the next operation or shift.

(3) Items to Report or Communicate During Post-Operation Roll Call

① Vehicle, road, and operational conditions.
② Information conveyed to alternate drivers.
③ Confirmation of alcohol consumption (or lack thereof).
④ Any other necessary matters.

13.3 Work Records

Drivers must use designated forms to document their work after completing their driving tasks.

If tachograph recording paper is used, necessary information must be recorded on that paper.

The main items that must be included in the work record are as follows:

- Driver's name
- Vehicle registration number
- Start point and time of the operation
- End point and time of the operation
- Major transit points
- Distance traveled during the operation
- Points and times of driver changes
- Points and times of breaks or sleep
- For medium/large vehicles (e.g., total vehicle weight exceeding 8 tons), details of the cargo loading/unloading, waiting time due to customer-related delays, etc.
- Presence or absence of accidents, significant delays, their overview, and causes
- Changes to operational instructions communicated by the operations manager (e.g., via phone)

Filling Out the Work Record

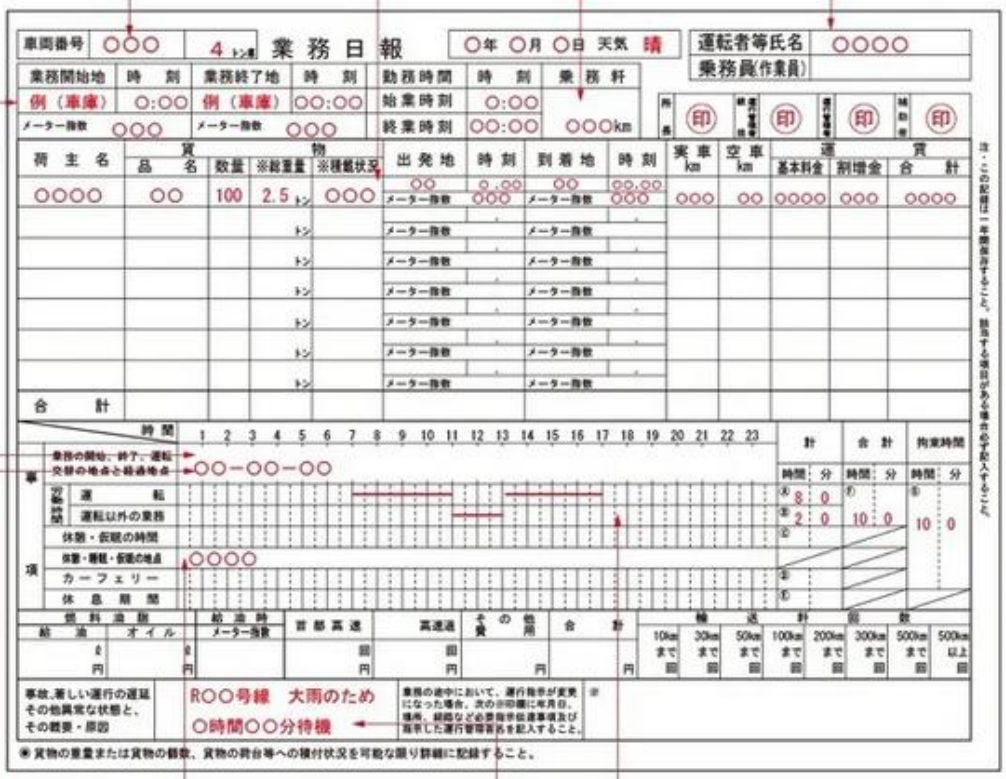
The location and time of the start and end of the work

The vehicle registration number or other numbers designated by the company

For vehicles with a maximum loading capacity of 5 tons or a gross vehicle weight of 8 tons or more, this must be filled out

The distance traveled during the job

The name of the driver, etc.



Major passing points

If rest or sleep occurs, the location and date/ time rested

To be recorded during cargo loading, unloading or while waiting for cargo

If a driver switch occurred, the location and time of the switch

If an accident, significant road delay. or abnormal condition occurs, this must be recorded

Chapter 3:
Cargo Handling Operations

※Cargo handling operations refer to the work of loading and unloading cargo.

1. Why Is It Necessary to Load Cargo Properly?

◆ Understanding the Characteristics of Cargo

A truck driver's important task is to deliver the cargo entrusted by the customer quickly and carefully. Among these, the most important thing is to ensure the cargo does not fall off, causing a major accident.

◆ Ensure proper loading and measures to prevent cargo from falling.

Truck drivers are obligated to load cargo securely to prevent it from falling. Additionally, companies that transport cargo and drivers are also required to take preventive measures against falling cargo.

To avoid accidents, truck drivers must acquire sufficient knowledge and skills regarding proper loading methods.

2. Shape and Size of Cargo

2.1 Types and Shapes of Cargo

◆ Various shapes and sizes of cargo.

Cargo transported by trucks can range from large construction machinery to liquids and gases, some of which cannot be transported as is. Cargo also varies greatly in size and weight, from light to large and heavy items.

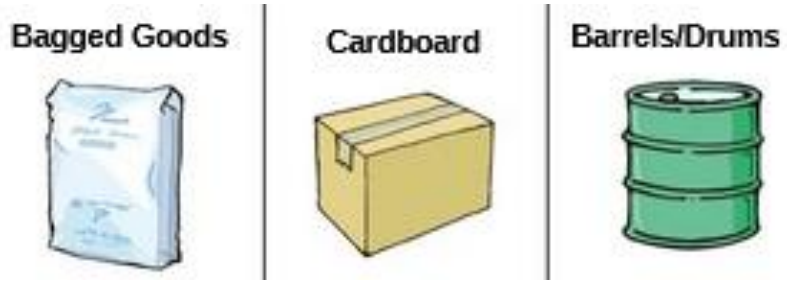
When loading cargo onto a truck, it is important to consider the shape, size, and quantity of the cargo, and to ensure it is secured and fastened to prevent movement or falling.

◆ Common Packing Materials

Cargo is often packed in various materials (e.g., boxes to protect items) or placed in containers. Examples include rice, vegetables, and fruits, which are packaged in bags or boxes to make handling easier.

Typical packing materials include:

- Bagged Goods
- Cardboard
- Barrels/Drums



2.2 Bagged Items

- Bags are primarily used for powders and granules.
  Powders and granules, such as flour or rice, are often transported and stored in bags made of paper or plastic to prevent spillage. These typically weigh 20–30 kg, but larger bags weighing 500–1,000 kg are also used in factory-to-factory transport. Bags are also used for non-food items like chemicals, feed, and fertilizers.

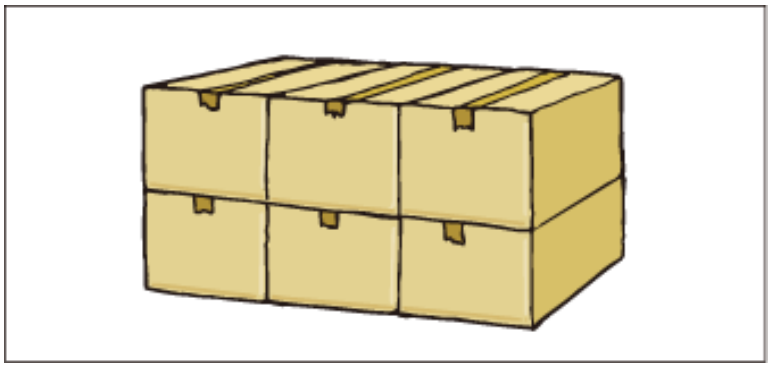
- Handling precautions for bagged items.
  Care must be taken to avoid tearing bags during transport, which could result in leakage and contamination of the truck bed or other cargo. Strong-smelling cargo may transfer odors to other items, so extra care is required.

Paper Bags	Resin Bag	Flexible Containers
		

2.3 Cardboard Boxes

- Cardboard is efficient for stacking.

  Cardboard is commonly used for packaging due to its low cost and ease of handling. It can also be recycled or incinerated after use, making it environmentally friendly. Cardboard boxes are often custom sized to minimize wasted space, improving stacking efficiency. They typically hold items weighing 20–30 kg, making them manageable by hand.



- Damaged cardboard can be perceived as cargo damage.

  Cardboard boxes are often discarded after a single use, but in factories and other places, they may be reused multiple times.
  A cardboard box is meant to transport cargo and protect it from vibrations (shaking) and impacts that occur during transport or loading and unloading.

For this reason, even if a cardboard box gets damaged, it does not pose a problem. However, depending on the customer, if the cardboard box is scratched or if the printed text is smudged, it may be considered a cargo accident (an accident where the cargo is damaged or broken).
Additionally, some customers consider the cardboard box itself to have value, so care must be taken when handling cargo.

2.4 Cans

- Precautions for stacking more than two tiers.

  Cans, such as drums and pails, are frequently used for transporting goods. When stacking cans in more than two tiers, care must be taken as the low friction between metal cans makes them prone to slipping during sudden starts or stops. Use tools like ropes, straps, or foam materials to secure the load and prevent collapse.

Drums/Barrels	18 Litre Cans (1 metal can)	Metal Pail
		

2.5 Loose Bulk Cargo

- What is loose bulk cargo?

  Loose bulk cargo includes items like sand, oil, or wood, as well as unpackaged liquids or solids such as steel beams or logs. These are often transported by specialized trucks like tankers or dump trucks but can also be transported by regular trucks.

- Avoid overloading and falling cargo.

  Unlike packed items, the weight of loose bulk cargo is harder to estimate, which can lead to overloading. Measures like using truck scales or proper estimation techniques are essential. Additionally, secure loose cargo with sheets or other tools to prevent spillage during transport.

2.6 Handling Instructions for Cargo

◆ JIS defines 19 types of handling instruction marks.

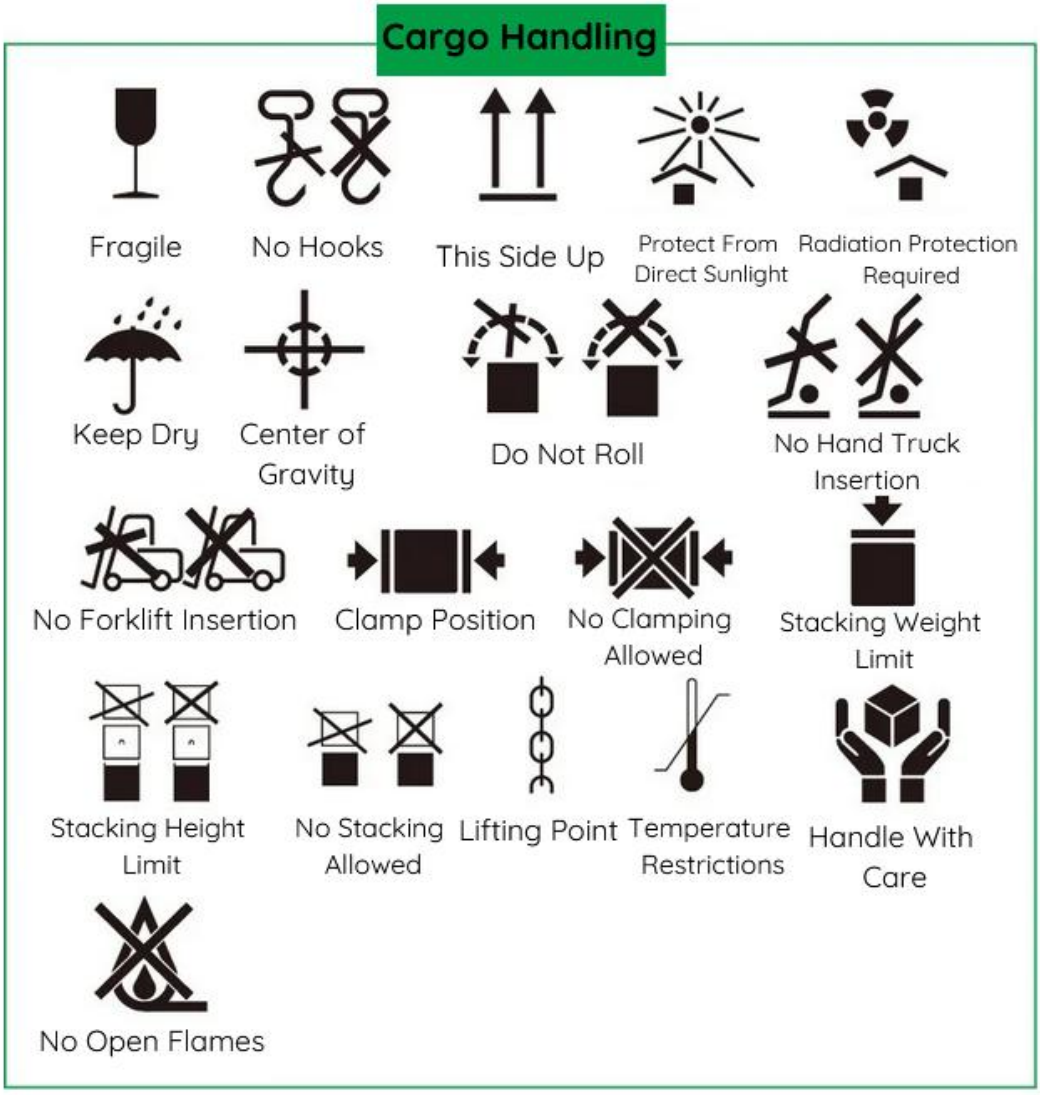
Cargo handling instructions, displayed as symbols or text, provide guidance on proper handling and precautions. These marks, referred to as "care marks" in workplaces, are regulated by JIS for domestic cargo and by ISO for international cargo. Ensure you are familiar with these marks to handle cargo appropriately.

◆ Barcodes Are Also Important

Cargo often includes not only handling instruction marks but also barcodes.

- Barcodes convey important information, such as the type of cargo, its name, and the quantity inside a box or container, to the next person in the workflow.
- If the barcode becomes unreadable or dirty, it may disrupt operations and affect subsequent tasks.

It is important not only to follow handling instruction marks but also to ensure that other displayed information, such as barcodes, is not damaged or dirty.



Barcode Example

3 Types and Usage of Pallets

3.1 The Role of Pallets

◆ Pallets Are Essential for Efficiency

Pallets are materials designed to streamline the handling of cargo, such as bags, cardboard boxes, or cans, by bundling them together or making them easier to transport and store.

The most used type is the "flat pallet," which allows large amounts of cargo to be loaded and transported together. Pallets can be moved or lifted using forklifts or hand lifts. Some pallets are equipped with wheels, allowing them to be moved manually.

Pallets allow for the transport of large amounts of cargo at once, making them indispensable for improving efficiency. However, depending on the type of pallet, such as wooden ones, some can weigh over 30 kg per pallet. Proper calculation of load weight is necessary to avoid issues.

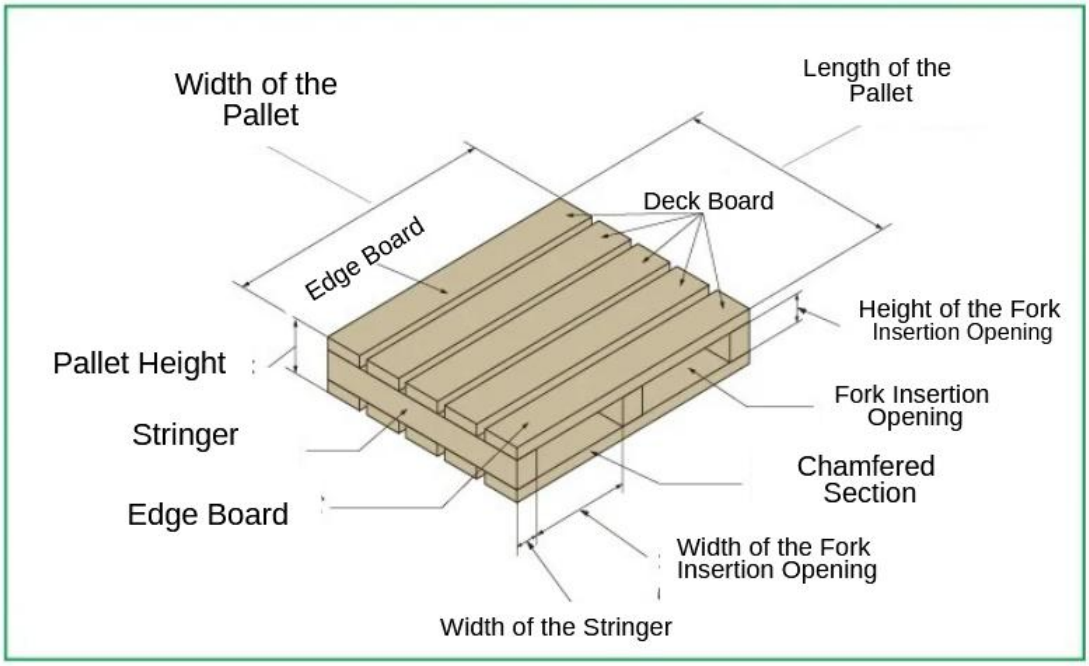
◆ Know and Handle Pallet Characteristics Appropriately

Pallets are often reused, but there are cases where they are single use ("one-way pallets"). Reusable pallets may need to be returned to the customer as they are considered the customer's property or asset. Careful handling of pallets is crucial, especially when dealing with different types:

"Two-Way Pallets": Forklift access from only two directions.
"Four-Way Pallets": Forklift access from all directions.
"Single-Face Pallets": Usable on one side only.
"Double-Face Pallets": Usable on both sides.

Pallets are made with combinations of these features, so it's essential to understand their characteristics when using them in transport or loading operations.

Basic Structure of a Double-Sided Two-Way Pallet



3.2 Methods for Loading Cargo onto Pallets

◆ Understand Loading Methods for Each Cargo Type

While pallets are essential for efficiency, incorrect loading can lead to collapsed cargo, reduced transport efficiency, or accidents during loading or transport.

Cargo and pallet sizes may not always match. To maximize efficiency and prevent accidents, familiarize yourself with the appropriate loading methods (loading patterns) for each type of cargo.

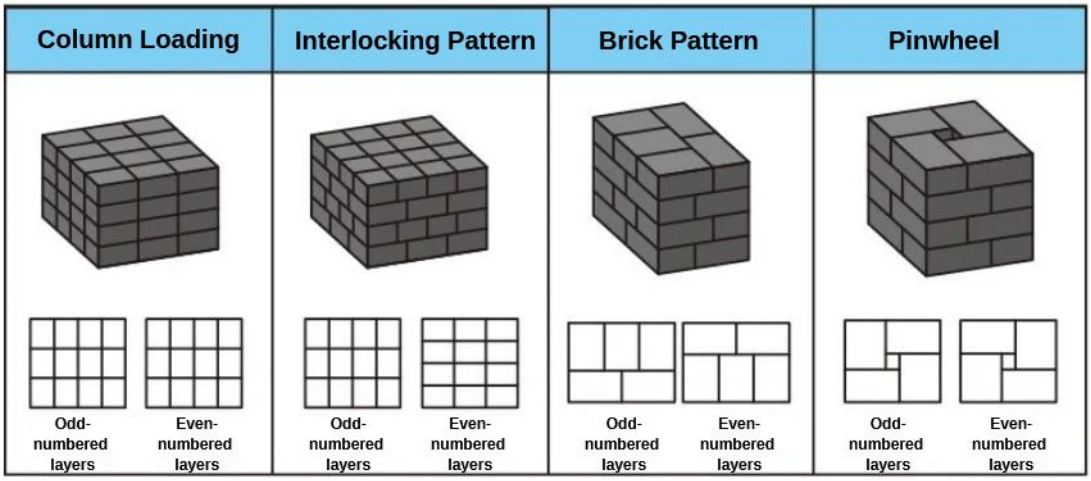
If unsure, consult logistics staff or supervisors at the loading site.

Common Pallet Loading Patterns Include:

- Column Loading
- Row and Column Loading (Interlocking)
- Brick Loading (Interlock)
- Pinwheel Loading

Understanding these basic patterns can be helpful.

[Common Pallet Loading Patterns]



◆ Avoid "Sudden" Driving

Even if cargo is properly loaded on pallets, vibrations and shocks during transport can cause it to collapse.

Factors include uneven roads, bumps, or abrupt actions like sudden starts, stops, or accelerations. The forces exerted on the cargo during these situations can be far greater than expected.

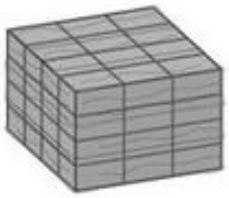
Prohibited Driving Behaviors:

- Sudden starts
- Sudden accelerations
- Sudden stops

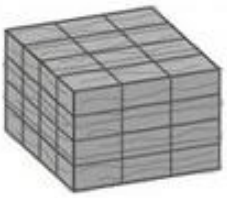
These actions not only increase the risk of cargo collapse but also traffic accidents, making them strictly prohibited.

Pallet Load Collapse Prevention Methods and Features

Stretch Film Method



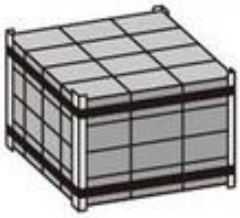
Shrink Method



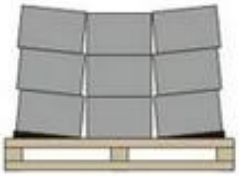
Horizontal Branding Method

Vertical Banding Method

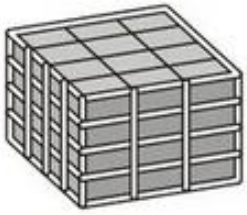
Corner Protector Horizontal Banding Method



Perimeter Up Method



Box Frame Method



Horizontal Belt Hanging Method

4 Loading Trucks and Preventing Cargo Collapse

4.1 Why Does Cargo Collapse Occur?

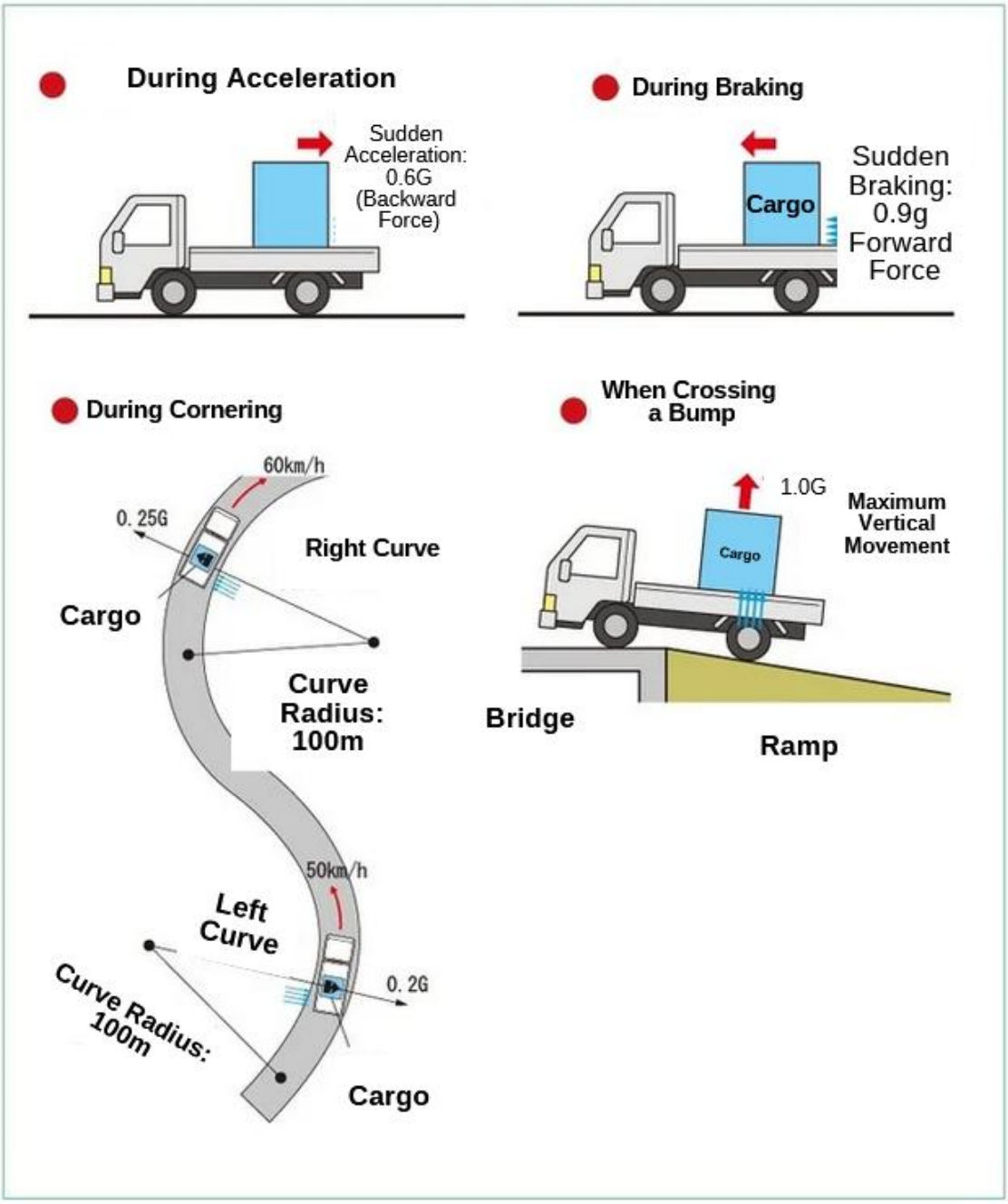
- Cargo is always subjected to vibrations and forces during transport.
  These forces vary depending on situations like starts, stops, and turns, as well as road conditions (e.g., bumps or bridge seams).
  To prevent cargo collapse, measures must be designed to handle the largest possible forces that might occur during transport.

When a truck starts moving, the cargo experiences a backward force.
If the road has bumps, bridge joints, or manhole covers, the cargo will experience an up-and-down force. When braking, the cargo experiences a forward force. Similarly, during turns, the cargo experiences side-to-side forces. Sudden starts, sudden braking, or abrupt turns apply even greater forces to the cargo, increasing the risk of cargo movement or collapse.

- Managing Forces Acting on Cargo During Driving
  While it is possible to measure the forces exerted on cargo during transit, predicting the exact timing, location, and intensity of these forces remains challenging. To ensure cargo stability, it is essential to implement precautions against the maximum anticipated force.
  Examples of situations where significant forces act on the cargo include:
  - Accelerating or decelerating.
  - Navigating curves.
  - Crossing over raised sections of the road.

The following are examples of the magnitude of forces cargo may experience in such scenarios.

Forces Acting on Cargo Loaded in a Truck During Driving



4.2 Preventing Cargo Collapse

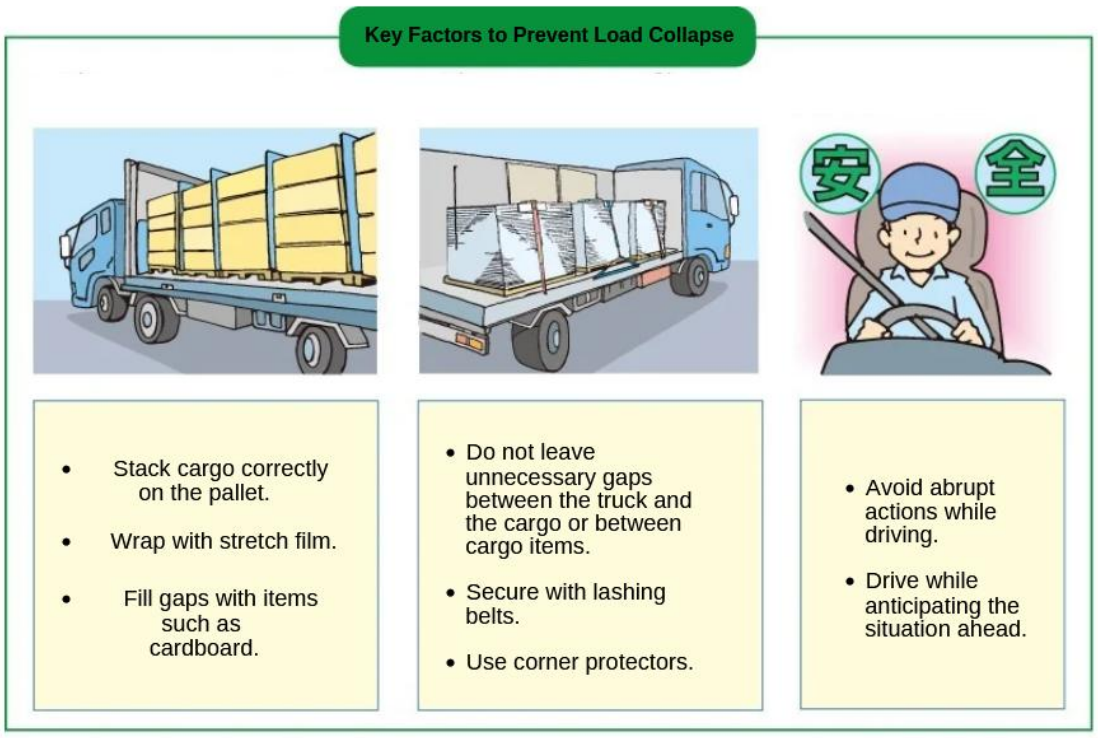
◆ Three Elements of Cargo Collapse Prevention

To prevent cargo collapse during transport, three key factors must be addressed:

① Proper Loading:
Ensure the cargo is properly loaded with attention to stability.

② Securing the Cargo:
Use ropes, straps, or other securing tools to fix the cargo in place.

③ Safe Driving Techniques:
Avoid sudden starts, stops, or sharp turns that can destabilize the cargo.



4.3 Methods for Loading to Minimize Cargo Collapse

◆ Handling Box-Type Cargo (Cardboard or Wooden Boxes)

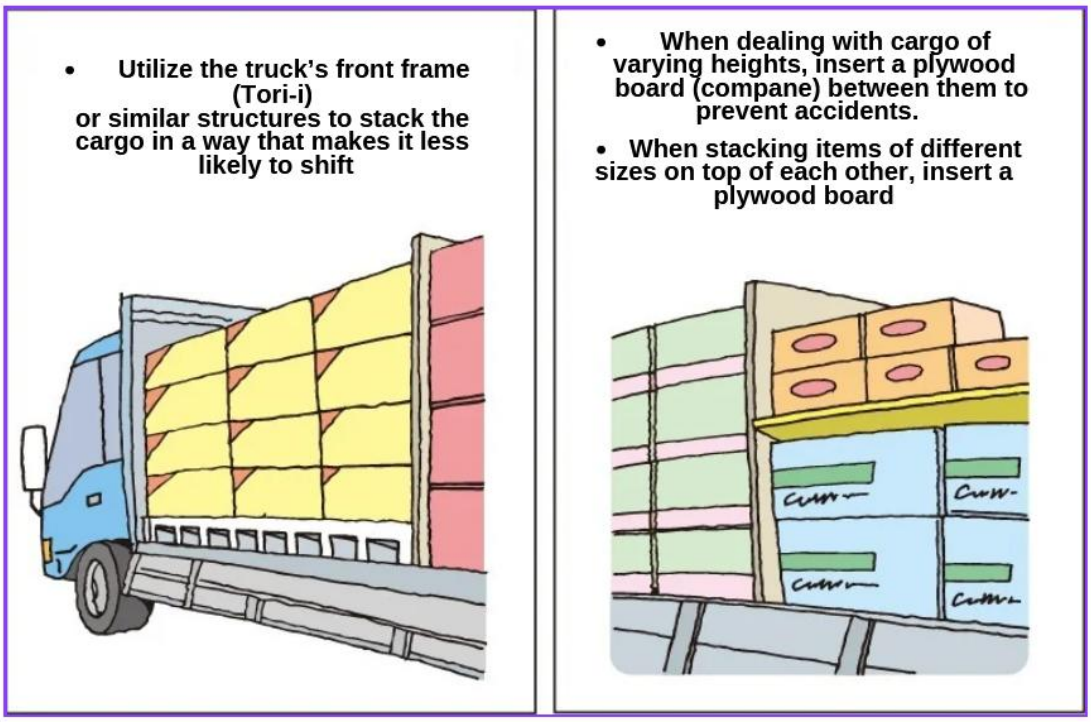
When loading box-shaped cargo, the following points should be observed:

- Minimize Gaps:
  Ensure minimal gaps between cargo items on all sides by loading cargo from the front first.

- Use Guards or Barriers:
  Utilize barriers, such as the truck's front guard (behind the driver's cabin), to prevent cargo movement.

- Follow Handling Instructions:
  Adhere to handling marks like "Do Not Invert" and use appropriate equipment for the cargo type.

· Check Packaging Strength:
  Ensure the packaging can withstand the weight of items placed above it.



· Distribute Weight:
  If lower boxes are at risk of deformation, insert wooden boards or similar materials to distribute weight evenly.
· Use Slip-Resistant Materials:
  Insert non-slip sheets or boards to prevent sliding, especially for high stacks of boxes.

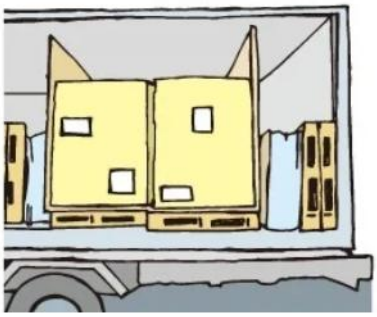
Strength of Different Stacking Patterns:

- Block stacking retains 80% strength.
- Pinwheel stacking retains 40% strength.
- Interlocking retains 50% strength.

When Stacking Items Such as Cardboard

- Use Air Bags to Fill Gaps

- Space Between Cargo and Materials with Plywood Boards



- Insert boards between pieces of cargo

◆ Special Considerations for Mixed Cargo

When transporting a mix of cargo types:

- Heavy Items at the Bottom:
  Never place heavy items on top of lighter ones.
- Larger Items at the Bottom:
  Avoid placing large items on smaller ones.
- Prevent Sharp Damage:
  Cover sharp edges or protrusions to avoid damaging other cargo.

◆ Here are the precautions to take when loading heavy items such as machinery, steel, or long cargo:

Be mindful of weight distribution to avoid concentrated or eccentric loads

・Heavy items are prone to creating concentrated loads or eccentric loads (where the weight is applied off-center from the truck bed). When loading, it is important to pay attention to the balance of the weight.

・Position the overall center of gravity near the center of the truck bed. Ensure that the overall center of gravity of the cargo is as close as possible to the center of the truck bed for better stability during transportation.

・When loading heavy machinery or irregularly shaped items, ensure the center of gravity is positioned as close to the center of the truck bed as possible to maintain balance.

・When loading items of varying shapes and sizes, gaps may form between the cargo due to differences in weight and size. Use materials like wood to fill these gaps and prevent the cargo from shifting during transit.

・When loading round items, use chocks to prevent them from rolling. The height of the chock should be at least one-tenth of the item's diameter to effectively secure it.

By following these precautions, you can ensure that the cargo is safely loaded, preventing instability and potential accidents during transportation.

4.4 Materials and Equipment for Loading Cargo to Prevent Cargo Collapse

◆ Familiarize Yourself with the Characteristics and Usage of Materials and Equipment for Loading

To prevent cargo from collapsing, it is important to understand the characteristics of the cargo and stack it properly. However, simply loading it correctly is not enough to completely prevent cargo collapse caused by vibrations or impacts during transportation.

At work sites, various materials and equipment are used to prevent cargo accidents.

In the case of special cargo, customers may provide materials or equipment and lend them to drivers. However, in such cases, these materials and equipment must be returned.

Generally, materials and equipment to prevent cargo collapse are prepared by companies or drivers.

Drivers should be well-acquainted with the characteristics and usage of these materials and equipment and use them appropriately to prevent cargo collapse. However, the names of materials and equipment may vary depending on the customer, company, or region, so gathering such information is also important.

● Materials and Equipment to Fill Gaps

These are used to prevent gaps from forming between cargo items. Examples include air bags, cardboard, styrofoam, and pallets.

● Materials and Equipment to Secure Cargo

These are used to keep the cargo from moving. Examples include lashing belts, wire ropes, synthetic fiber ropes, and steel belts.

● Materials and Equipment to Prevent Cargo Collision
These are used to prevent cargo items from colliding with each other. Examples include cardboard, plywood, pallets, and plastic boards.

● Materials and Equipment to Cushion Contact Between Cargo and Fastening Materials
These are used to prevent cargo and fastening materials from colliding with each other. Examples include corner protectors and padding cloth.

● Materials and Equipment to Prevent Cargo Collapse on Pallets
These are used to prevent cargo on pallets from collapsing. Examples include stretch film, pallet vibration dampers, anti-slip sheets, and horizontal bands.

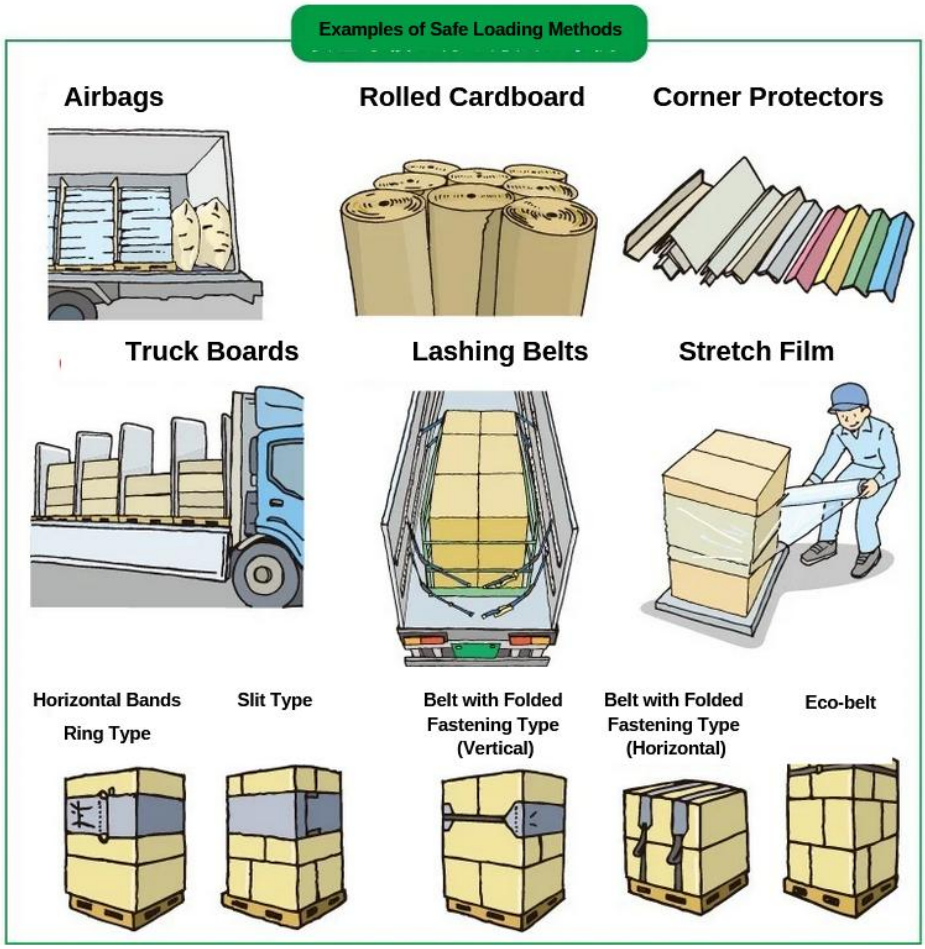
Some materials and equipment are disposable, while others can be reused. For reusable items, proper maintenance after use is important to keep them in a usable state.

◆ Regular Inspections to Prevent Material and Equipment Degradation
The degradation of materials and equipment (loss of performance or quality) can be effectively detected through regular inspections.
This process is essential to gain customer trust and ensure the safe use of materials and equipment.

Special care is needed for materials and equipment used to secure cargo, as securing cargo requires significant force. Prolonged use may cause degradation, leading to reduced holding strength.

Degraded materials and equipment may result in serious accidents, labor-related injuries, or traffic incidents, so regular inspections are crucial.

Regular inspections are the most effective way to prevent the degradation of materials and equipment.



4.5 Methods for Securing Cargo to Prevent Cargo Collapse

◆ Points to Note for Safe Loading and Securing

Truck drivers should, upon determining their route, consult with transport managers or drivers who have previously transported the same cargo to gather necessary information.

- Details about the route and cargo (product names, quantities, number of items, shapes, and packaging).
- Loading methods, materials, equipment to be used, and inspection procedures.

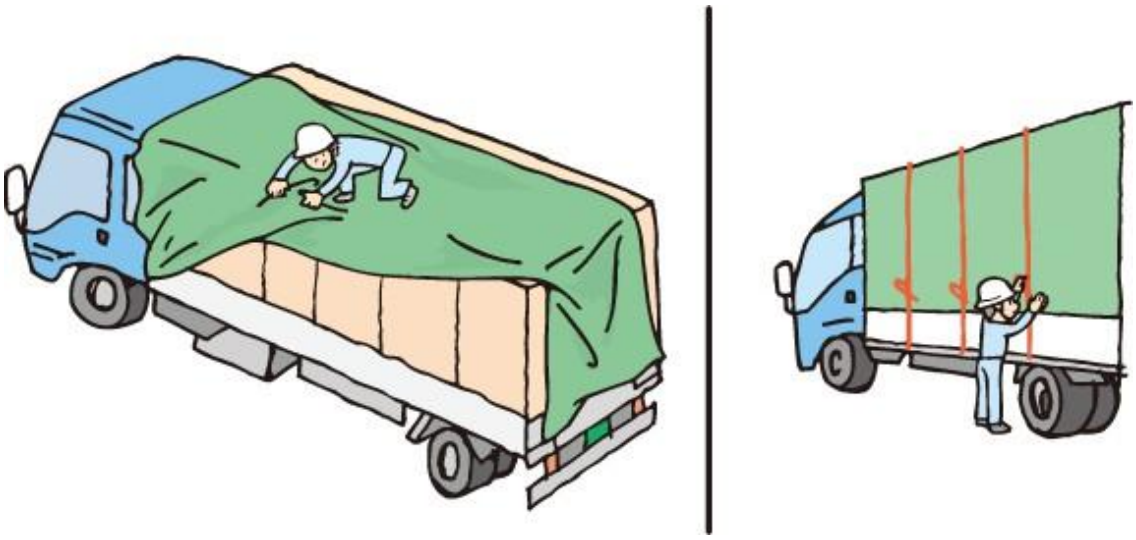
For special cargo or items requiring special handling, customers may provide instructions.

However, drivers are often responsible for decisions regarding the loading location, loading methods, and securing procedures, so they need a wide range of knowledge. To safely load and secure cargo, ensuring it does not move during transit, the following points should be considered:

Specific Points for Attention:

- Coordinate with supervisors:
  Conduct the loading process in coordination with the person supervising the operation and follow their instructions.
- Double-check return cargo:
  If loading return cargo, confirm its details.
- Use sufficient materials and equipment:
  Use the necessary materials and equipment fully and avoid cutting corners.
- Ensure safety during loading:
  While working on the truck bed, prepare for potential cargo collapse or accidents. Work within the field of vision of forklift or crane operators and maintain a safe posture.

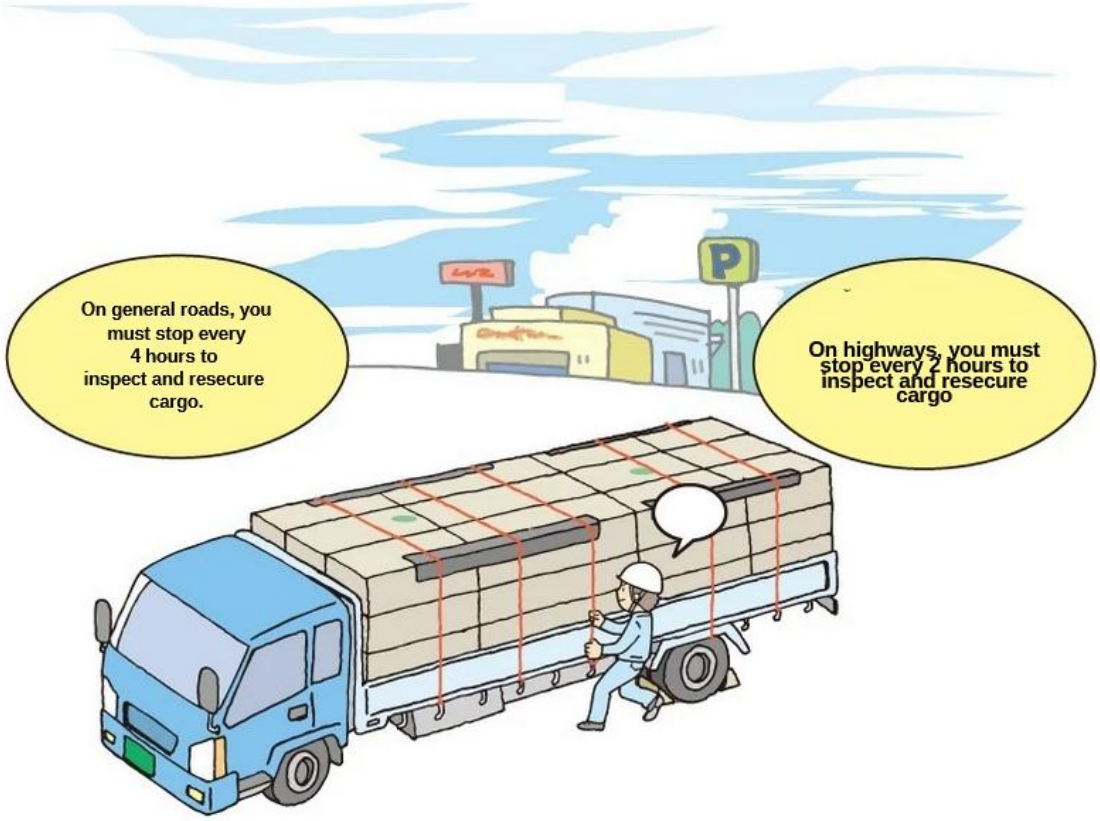
- Work safely at heights:
  When working at elevated positions (2 meters or more above ground), use ladders or platforms to work from a secure location.
- Prevent rolling cargo:
  Use chocks or stanchions for cargo prone to rolling.
- Secure construction machinery properly:
  When loading construction machinery, secure it with wire ropes, and also check the brake locks and wheel chocks.
- Fill gaps around cargo:
  If there are gaps to the sides or front and back, use wedges or similar items to prevent the cargo from shifting.
- Protect cargo from rain:
  Cover the cargo with sheets to prevent it from getting wet and ensure rainwater does not seep in.
- Secure sheets during transit:
  Securely fasten sheets to prevent them from billowing or coming off during transit. Since sheets alone do not provide sufficient securing force, always use ropes to prevent cargo collapse.



◆ Points to Note for Preventing Loosening of Ropes or Padding During Transit

During transit, ropes or padding can loosen, potentially causing cargo accidents. To prevent this:

- Check during transit:
  Regularly inspect the cargo and its securing during the journey.
- Early checks for easily collapsing cargo:
  Cargo prone to collapse may cause ropes to loosen shortly after departure. Stop the vehicle in a safe location to inspect the securing.
- General road inspection intervals:
  On general roads, stop the vehicle every four hours at a safe location for inspection.
- Highway inspection intervals:
  On highways, stop the vehicle every two hours at a safe location (such as service areas or parking areas) for inspection.



5. The Risks of Uneven Load Distribution

※Uneven load distribution refers to a condition where the weight of the cargo is concentrated in only a specific part of the truck bed.

5.1 Causes and Risks of Uneven Load Distribution

- Uneven Loading Negatively Affects Driving

  Unevenly distributed cargo can lead to truck instability and overturning. To ensure stable driving, the truck's center of gravity must be positioned in the middle.

  It occurs when the cargo's center of gravity shifts away from the truck's center, either to the sides or front/back. This shift can impact steering and increase the risk of overturning.

Examples:

Drivers may experience the truck veering left or right even without turning the wheel.

If this occurs while driving, check for uneven load distribution or imbalance caused by road conditions.

Impacts of Front/Back Center of Gravity Shift——s

When the center of gravity shifts forward or backward:

The braking distance may increase significantly.

Heavier cargo concentrated at the front can extend the stopping distance compared to normal conditions.

In larger trucks, uneven loading (especially heavy cargo at the front or back) can exceed axle load limits (e.g., 10 tons per axle). This requires attention to prevent regulatory violations and safety hazards.

◆ Uneven Loading is Caused by Improper Loading Methods

Uneven loading, which significantly affects truck driving, is mainly caused by improper methods of loading cargo.

If cargo is loaded unevenly, it may shift or collapse during transit, causing the center of gravity to move.

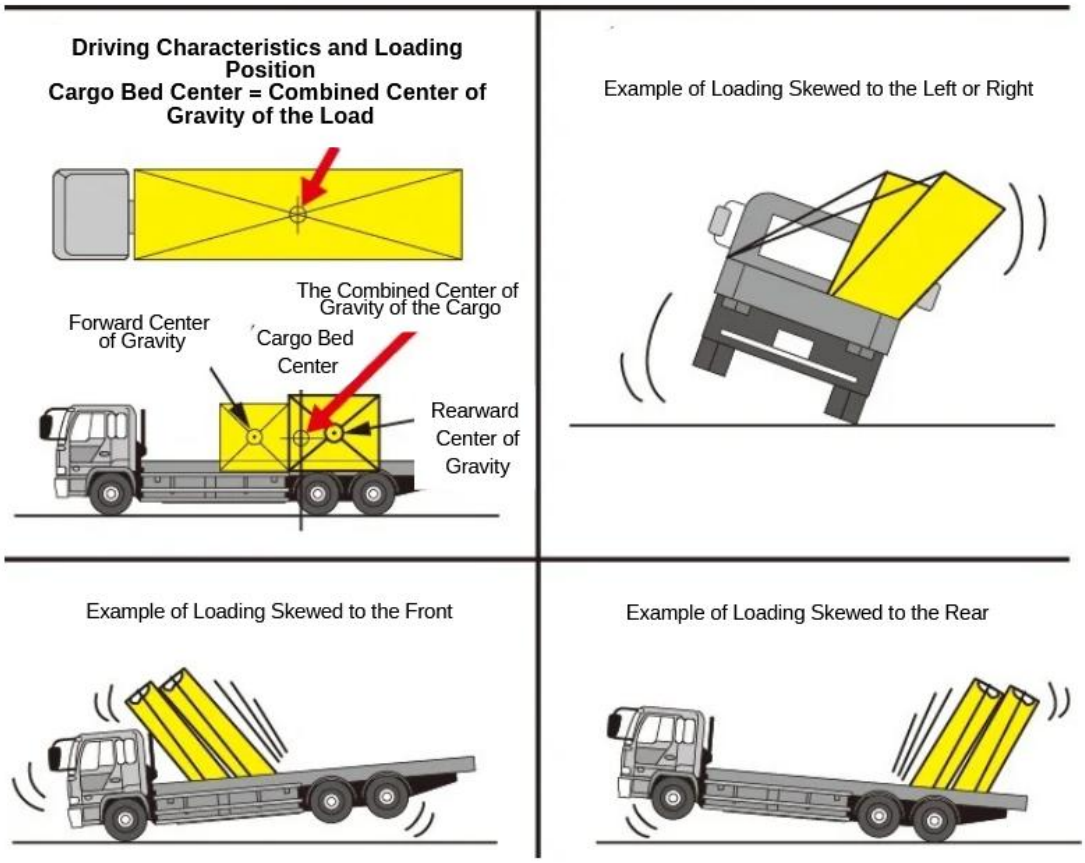
To prevent cargo from shifting or collapsing, it is important to:

- Understand the characteristics of the cargo.
- Load it correctly.
- Use the appropriate materials and equipment to secure it properly.
- Additionally, regularly check the condition of the cargo during transit.

It is common to load various types of cargo together. This is especially problematic when dealing with heavy, loose cargo, such as machinery or other items of irregular shapes.

For square-shaped items like cardboard boxes, the center of gravity is relatively easy to identify.

However, for cargo with various shapes, the center of gravity becomes harder to determine. This difficulty increases when loading multiple items of different shapes together.



5.2 How to Avoid Uneven Load Distribution

- Follow Instructions; Avoid Personal Judgment

  For cargo with complex shapes or unclear center of gravity, consult operational managers or customers for guidance. Avoid relying solely on personal judgment and strive to load safely.

- Proper Loading Practices

  Misjudging or failing to secure cargo correctly can lead to movement or collapse during transit, altering the center of gravity. This can be prevented by: Understanding the characteristics of the cargo, using proper materials and equipment to secure the load in addition to conducting regular inspections during transit.

Special Attention to Mixed Cargo

Mixed cargo, especially with irregular shapes (e.g., machinery), increases the challenge of maintaining balance. Pay particular attention to heavy or bulky items, as their center of gravity may be harder to determine compared to regular, box-shaped items.

◆ Permission for Overloaded Cargo

When receiving permission to exceed the cargo weight limit, the following conditions must be followed:

① Display necessary markings in a visible location on the cargo

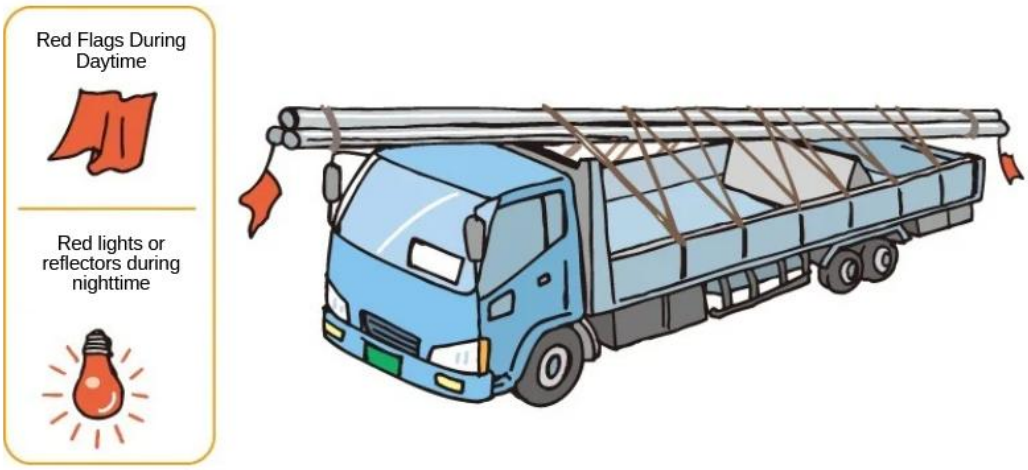
- Daytime: Attach a red cloth of at least 0.3 square meters to a visible spot on the cargo.
- Nighttime: Either activate a red light or attach a red reflector to the cargo.

② Display the permit in a visible location on the front of the vehicle

The permit must be clearly displayed on the front of the vehicle for easy visibility.

③ Take necessary measures to prevent hazards on the road

Implement appropriate safety measures to ensure there are no risks or accidents on the road caused by overloading.



5.3 Avoiding Overloading

◆ Negative Impacts of Overloading

Drivers are not allowed to drive commercial cargo vehicles with overloaded cargo. Overloading can cause issues such as causing the vehicle's stopping distance to increase, raising the risk of accidents. Overloaded vehicles can become unbalanced, which affects stability and makes handling more difficult, increasing the likelihood of accidents. Overloading puts excessive strain on the engine, leading to higher emissions and contributing to air pollution. Overloading can damage the vehicle's components (such as tires, suspension, and brakes) and shorten its lifespan. It can also cause damage to the road surface.

[Reference 1] Measures Against Overloading
Overloaded Vehicles and Corresponding Measures

① When a police officer determines that a vehicle is overloaded, the vehicle will be stopped. At that time:

- The driver must present the Vehicle Inspection Certificate.
- The weight of the cargo will be measured. If the vehicle is confirmed to be overloaded, the excess cargo exceeding the weight limit must be unloaded from the vehicle or transferred to another vehicle. Measures such as these will be enforced by order.

If the above measures cannot be implemented, the driver will receive a Traffic Directive Notice that specifies actions to prevent hazards on the road, such as adjusting the traffic lane or route.

② Customers are prohibited from:

- Requesting drivers to overload vehicles.
- Handing over cargo to drivers knowing it will result in overloading.

If a customer repeatedly demands overloading, the following actions may be taken:

- The police chief may issue a Recurrence Prevention Order regarding overloading.
- The Minister of Land, Infrastructure, Transport and Tourism may issue an official Warning to prevent overloading.

If a customer demands overloading, immediately contact your company.

[Reference 2] Penalties for Companies Involved in Overloading

If a driver operates a vehicle in an overloaded state, the company will face penalties, such as the suspension of vehicle use.

5.4 Effective Use of Driving Recorders and Dashcams

◆ Benefits of Driving Recorders

① Monitoring Driving Habits

Using driving recorders helps identify the following:

- Whether the vehicle exceeds the maximum speed limit.
- Whether the driver maintains a consistent speed.
- Whether the driver accelerates or decelerates suddenly.

② Cross-checking with Work Records

Reviewing driving records alongside operational logs reveals:

- Whether the average daily driving time exceeds 9 hours over a 2-day period.
- Whether the driver engages in continuous driving for more than 4 hours.
- Whether the driver takes appropriate rest breaks.

③ Highway Speed Management

If the vehicle exceeds the prescribed speed limit on highways, it may indicate an issue with the speed limiter (a device that caps the maximum speed at 90 km/h). Driving recorders can assist in diagnosing such problems.

◆ Benefits of Dashcams

① Making Driving Visible ("Visualization")
Dashcams enable the visualization of driving habits, making It clear how a driver operates the vehicle.
This raises awareness of safe driving among drivers.

② Accident Analysis and Driver Training
- Dashcam footage and data can be used to analyze accidents or dangerous situations.
- They are valuable for safety training, such as practicing hazard prediction or reviewing near-miss incidents.

③ Reducing Traffic Accidents
Dashcams have been shown to reduce traffic accidents significantly, with some companies reporting a 30% decrease in accidents.

④ Smoother Accident Resolution
Detailed footage and data help facilitate smoother accident resolution processes.

⑤ Driver Training
Dashcams are useful for teaching proper driving techniques, such as:
- Maintaining a safe following distance.
- Ensuring complete stops at intersections.
- Safely navigating through intersections.

⑥ Sharing Road Condition Information
Dashcams can share information about road conditions or hazardous locations with other drivers.

Overall Benefits
Driving recorders and dashcams enhance driver skills and safety awareness, while also preventing fatigue-related driving. They are tools designed not to monitor but to protect drivers.

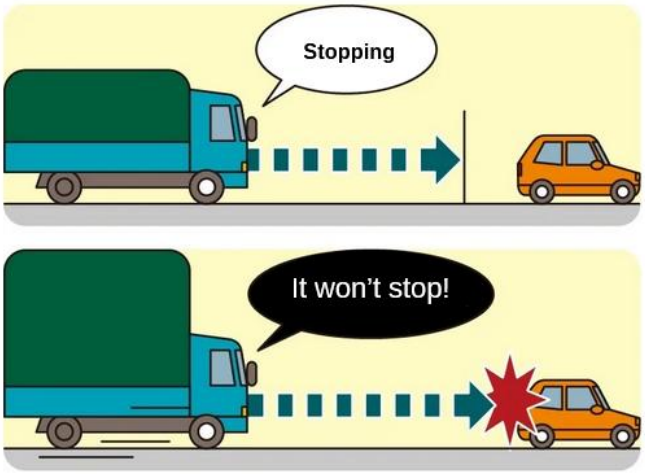
6. Overloading

6.1 Causes and Social Impacts of Overloading-related Accidents

1. Causes of Overloading Accidents

- Trucks have a designated maximum load capacity (weight) for cargo. Overloading refers to loading cargo beyond this designated limit and driving the vehicle.
  When driving with an overloaded vehicle, it becomes more unstable compared to when carrying the correct amount of cargo. As a result, the risk of accidents increases significantly. Overloading is extremely dangerous. It is important to understand how overloading affects vehicles and contributes to traffic accidents.

- When driving with an overloaded vehicle, the distance required to come to a complete stop after applying the brakes becomes longer than usual. Since braking effectiveness is reduced when overloaded, the likelihood of rear-end collisions increases.



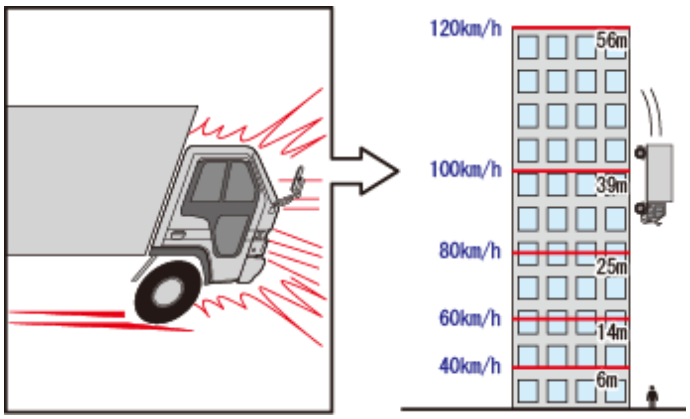
◆ Increased Impact Force

If a heavy object and a light object are dropped from the same height, the damage to the ground will be greater for the heavier object. Similarly, even for the same object, dropping it from a higher place will cause more damage than dropping it from a lower place. This is because the force of impact when hitting the ground is related to both the weight of the object and its speed (how fast the object falls).

This force is called impact force, and it increases in proportion to the weight of the object and in proportion to the square of its speed.

For example, the impact force when crashing into a solid wall at a speed of 60 km/h is roughly equivalent to falling from a height of 14 meters. At 120 km/h, the impact force is similar to falling from 56 meters.

This impact force also increases in proportion to the weight of the vehicle. Since an overloaded vehicle is heavier, the force of impact in a collision is significantly greater. As a result, accidents involving overloaded vehicles are more likely to lead to fatal or serious accidents.



◆ Factors That Can Easily Disrupt a Vehicle's Balance

When driving a vehicle, you may feel a force pulling your body outward during sharp turns. This force is called centrifugal force. Centrifugal force not only affects the body but also acts on the vehicle itself.

- The faster the speed, the greater the centrifugal force.
- The sharper the curve (the smaller the curve's radius), the greater the centrifugal force.
- The heavier the vehicle, the greater the centrifugal force.

If the vehicle is overloaded, its weight increases, amplifying the centrifugal force proportionally. Additionally, overloading raises the center of gravity, making the vehicle less stable.

When comparing a vehicle with a low center of gravity (A) to one with a high center of gravity (B):

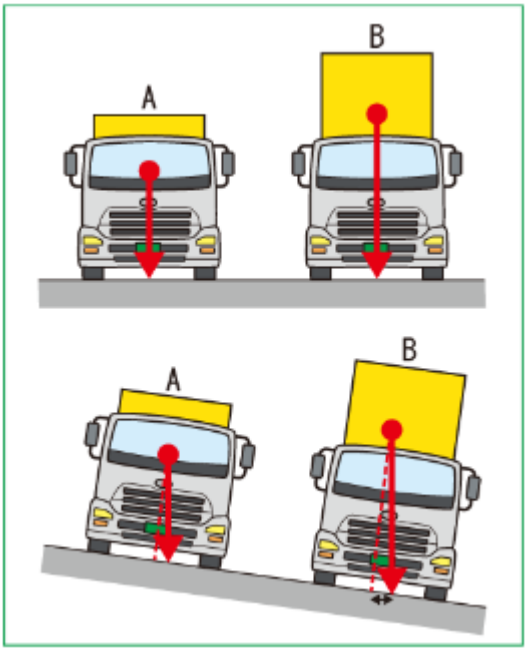
- On flat terrain, both vehicles have the same level of stability.
- On sloped roads, vehicle B's center of gravity shifts more significantly, making it less stable.

When a vehicle's center of gravity is high, it becomes more prone to swaying or losing balance due to uneven road surfaces, bumps, or height differences, which can increase the likelihood of a rollover accident.

Centrifugal force becomes even stronger during sharp turns. As a result:

- The vehicle may fail to complete the turn, potentially veering into the opposite lane.
- The risk of a rollover accident also increases.

To maintain safety, it is crucial to consider these factors and avoid overloading the vehicle while adjusting speed appropriately, especially when navigating sharp curves or uneven roads.



◆ Heavy Load on Brakes

Objects tend to either stay at rest or continue moving at the same speed unless acted upon by an external force. This tendency is called inertia.

For example:

When a train starts moving, your body shifts backward. When it stops, your body shifts forward.

This phenomenon is caused by inertia

The force needed to either accelerate or stop an object due to inertia is called inertial force.

Characteristics of Inertial Force:

- The heavier the object, the greater the inertial force.
- The faster the speed, the greater the inertial force.

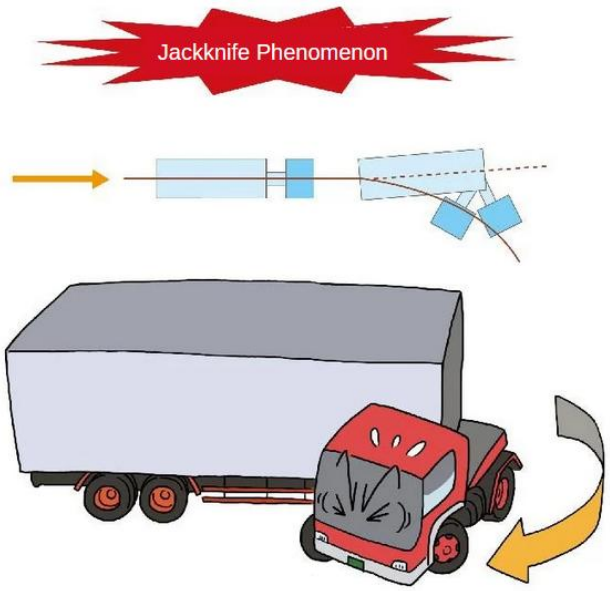
Effects of Overloading:

- The heavier the weight, the greater the inertial force.
- When driving downhill with an overloaded vehicle, the increased weight causes the vehicle to pick up speed more quickly.
- In such cases, standard braking may not be sufficient to control the speed.
- If the foot brake is used continuously, the brakes may overheat and fail to function properly.

◆ Jackknife Phenomenon on Trailers

The jackknife phenomenon occurs when driving a semi-trailer and braking suddenly or turning the steering wheel sharply. This causes the tractor and trailer to fold into a "V" or "L" shape, resembling a jackknife.
When turning the steering wheel sharply, the tractor may turn, but the trailer continues moving forward, leading to the phenomenon. This phenomenon is unique to semi-trailers and is more likely to occur on roads with bumps or uneven surfaces and at the transition point of slopes or inclines. Extra caution is required in these scenarios.

Overloading increases the force exerted by the trailer on the tractor, making the jackknife phenomenon more likely to occur.



6.2 Impact on Roads and Infrastructure

◆ Overloading Causes Significant Damage to Roads

Overloading affects roads, bridges, and other infrastructure negatively.
Roads and bridges are designed based on the legal weight limits of vehicles.
The total vehicle weight should not exceed 20 tons (or 25 tons on certain roads). The axle weight of the vehicle should not exceed 10 tons (except for some tractors). The wheel load should not exceed 5 tons. Exceeding these limits requires special permission to drive on public roads.

Road depressions or potholes and bridge damage, leading to significant repairs. Hazards to other vehicles, as damaged roads and bridges disrupt safe driving conditions.
According to experiments, a 20-ton vehicle causes as much damage to roads as approximately 4,000 10-ton vehicles.
Even though large, overloaded vehicles account for only 0.3% of vehicles, they are responsible for over 90% of road and bridge damage.
Strict enforcement is in place to mitigate the damage caused by overloading.
For cases where overloading exceeds twice the legal limit, it is treated as a criminal offense, and offenders face severe penalties.

6.3 What is Expected of Truck Drivers to Prevent Overloading

- Changing Awareness

  Even if you don’t want to engage in overloading, there may be situations where you feel compelled to comply with a customer's request or fear that refusing could affect your salary. However, no matter the reason, overloading is not permitted. Overloading can lead to traffic accidents, legal violations, and significant personal risks for drivers.

- Firmly Declining Overloading

  If you know that accepting a load would result in overloading, you must firmly refuse. If the customer continues to insist, you should adopt a strong stance, such as refusing to load anything at all. If trouble arises, report the issue to the operational manager immediately and follow their instructions.

7. Measures to Prevent Workplace Accidents

General Guidelines for Preventing Workplace Accidents

Truck drivers must adhere to regulations and avoid risky behaviors to prevent workplace accidents (such as injuries sustained during work). This section explains common workplace accidents in trucking and the proper methods and countermeasures to prevent them.

7.1 Points of Caution During Loading and Unloading Work

When loading or unloading cargo on the truck bed, perform warm-up exercises and follow these guidelines:

① After Long Drives:
After prolonged driving, stand and stretch your back for a few minutes before beginning work.

② Inspect the Work Area:
Check the floor or ground for depressions or obstacles and ensure the area is organized and tidy.

③ Avoid Unstable Cargo:
Minimize movement on top of unstable cargo.

④ Perform Tasks on the Ground:
Tighten straps, apply packaging, and attach labels on the ground rather than on the truck bed.

⑤ Use Safety Harnesses:
Always use a safety harness in areas where it can be attached.

⑥ Wear Helmets Properly:
Wear protective helmets (hard hats) correctly to ensure full coverage of the head.

⑦ Stay Visible to Equipment Operators:
When working on the truck bed, position yourself where forklift operators or others can see you.

⑧ Avoid Unsafe Postures:
Do not turn your back to the edge of the truck bed or lean backward while working.

⑨ Wear Safety Shoes:
Use slip-resistant safety shoes suitable for the working environment.

⑩ Prevent Collapsing Cargo:
Handle and stack cargo carefully to prevent it from collapsing during loading or unloading.

⑪ Avoid Mid-Stack Unloading:
Do not remove items from the middle of a cargo stack.

⑫ Distribute Cargo Evenly:
Avoid stacking cargo on just one side of the truck bed.

⑬ Secure Side Gates:
If using side gates, ensure they are properly secured to prevent items from falling.

⑭ Use Climbing Equipment:
For trucks with a capacity of 2 tons or more, use climbing equipment to board and exit the truck bed instead of jumping.

⑮ Maintain Proper Posture:
Avoid working in a crouched or strained posture.

⑯ Three-Point Contact Rule:
Use three points of contact (both hands and one foot or both feet and one hand) when climbing on or off the truck.

◆ Trucks Requiring Helmet Use

Protective helmets are required during loading and unloading on the following trucks:

- Trucks with a maximum payload of 5 tons or more.
- Trucks with a payload of 2–5 tons that feature side openings (e.g., flatbed or wing-body trucks).
- Trucks with tailgate lifters, provided the lifters are used for loading or unloading.

		Cargo bed sides are structurally open or can be opened/closed	Other cases
5 tons or more		Required	Required
2 tons or more	TGL Installation	Required	Required only when TGL is used
Less than 5 tons	No TGL Installed	Required	Not required

When working with a truck that has a tailgate lifter, a safety helmet is not required in the following situations:

When loading or unloading cargo without using the tailgate lifter.

When stopping the tailgate lifter in an intermediate position and using it only as a step for the worker, without loading or unloading cargo.

The safety helmet used during cargo loading and unloading must be one that has passed national certification tests and contains a shock-absorbing liner inside. This ensures protection in the event of a fall.

◆ Points for Proper Helmet Use

① Use helmets labeled for fall protection.
② Wear helmets correctly to cover the entire head.
③ Fasten chin straps securely to prevent shifting.
④ Do not use damaged helmets.
⑤ Adhere to the helmet's expiration date and replace it as needed.

◆ Maximum Load Capacity of 2 Tons or More: Required Installation of Access Equipment

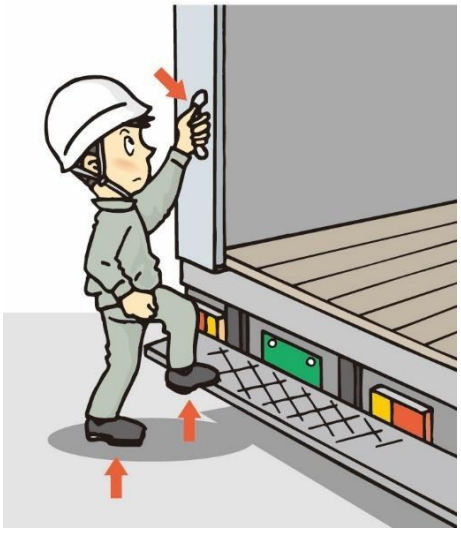
① Access Equipment Requirement:
Access equipment is required both between the "floor and the truck bed" and the "floor and the top of the cargo."

② Use of Access Equipment During Cargo Handling:
Access equipment used during cargo loading and unloading must be installed at the work site and include movable steps or steps fixed to the truck.

③ Unsuitable for Safe Access:
Equipment that only supports foot placement is not sufficient for safe access. For example, anti-roll guards do not qualify as access equipment.

④ Using Tailgate Lifters as Steps:
If the tailgate lifter is stopped at a middle position and used as a step, it qualifies as access equipment.

⑤ Work at Heights Over 1.5 Meters:
When performing work at heights exceeding 1.5 meters, it is generally required to install access equipment.



Steps for getting on and off (a vehicle or equipment) should be of a design that allows safe ascent and descent using three-point support.

Movable platforms such as step ladders.

7.2 Rope Tying and Untying Work

◆ Rope Tying Work

① Inspect Before Use

Check the rope for any issues before use.

② Use Dry Rope

Always use a dry rope.

③ Two-Person Work

If two people are working together, confirm and coordinate with each other.

④ Proper Posture

When tightening the rope, face the vehicle, spread your feet diagonally, and pull the rope vertically. On top of the cargo, maintain a low posture. At the front of the truck bed, face the driver's seat. At the back of the truck bed, turn your back to the driver's seat.

⑤ Use Protective Padding

Place padding on the corners of cargo where the rope might rub.

⑥ Direct Connection

Attach the rope in a straight line between the hooks on both sides.

◆ Rope Untying Work

① Flat Surface

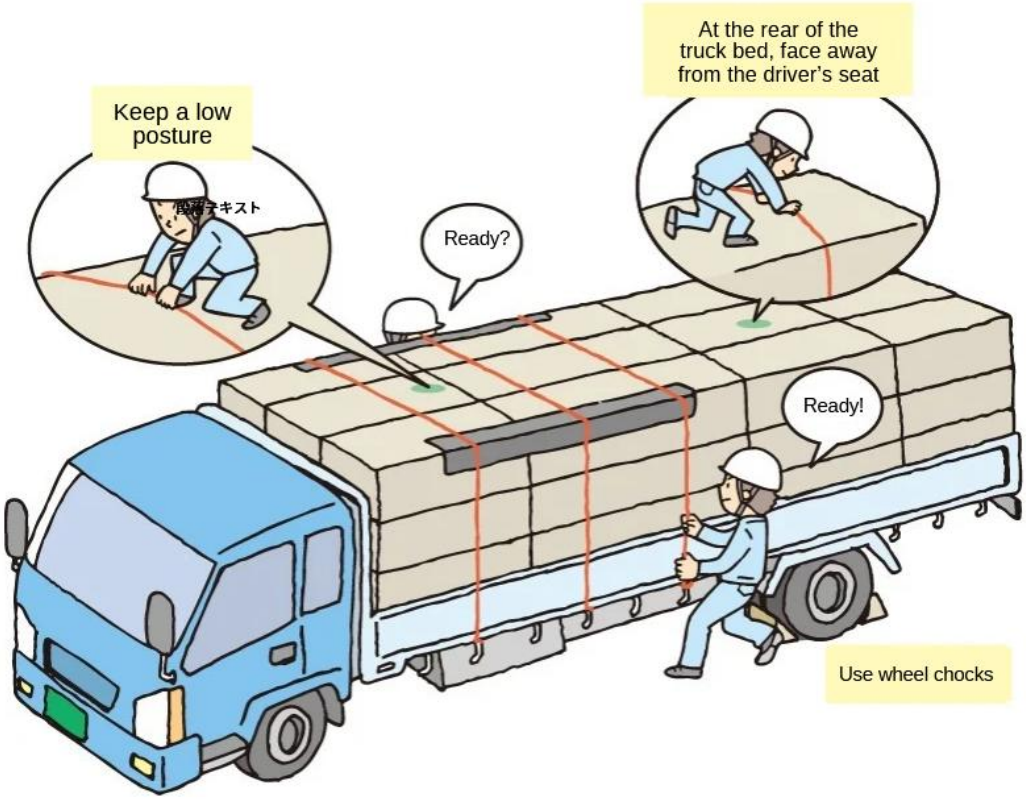
Work on a flat surface. Turn off the engine, apply the parking brake, and use wheel stoppers.

② Check for Risks

Ensure that no cargo or padding may fall before untying.

③ Stay Off Cargo

Do not climb on top of the cargo while untying the rope.



7.3 Sheet Covering and Removal Work

◆ Sheet Covering Work

① Check Cargo and Rope

Confirm that there are no abnormalities in the cargo or ropes.

② Center Alignment

Align the sheet with the center of the truck bed and spread it to the back.

③ Ensure Safe Footing

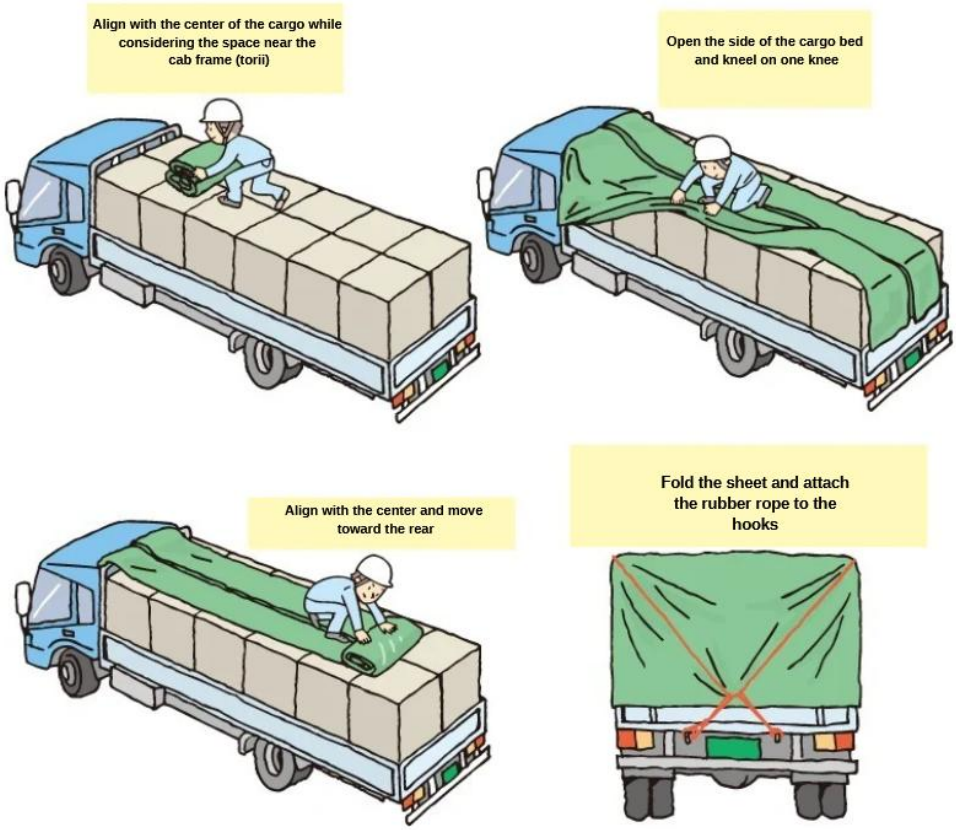
Face the side of the truck bed, kneel on one knee, lean your body forward, and spread the sheet along the truck's side.

④ Secure the Edges

Use rubber bands to secure the sheet's edges to the rope hooks.

⑤ Fold and Secure

At the front (near the cab) and the back of the truck bed, fold the sheet and secure it with rubber bands.



◆ Sheet Removal Work

① Inspect Cargo

Check the cargo for any abnormalities.

② Team Effort

Use two people to remove the sheet and pull it down.

③ Fold for Reuse

Fold the sheet neatly so it can be easily spread later.

④ Secure Heavy Sheets

When placing the sheet on the cab's roof carrier, first lift it onto the truck bed, then onto the carrier. For heavy sheets, work with two people.

7.4 Cargo Loading and Unloading for Box Trucks

① Avoid Gaps

Stack the cargo tightly without gaps, avoiding overloading or uneven stacking.

② Use Straps

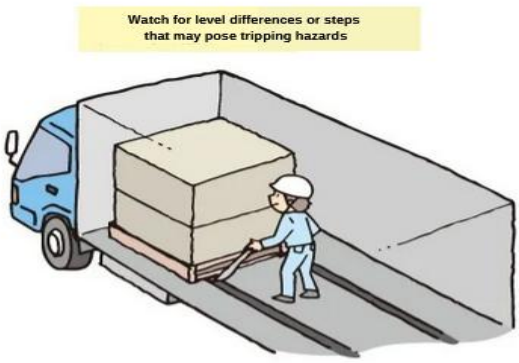
If gaps occur, use lashing belts to prevent the cargo from shifting.

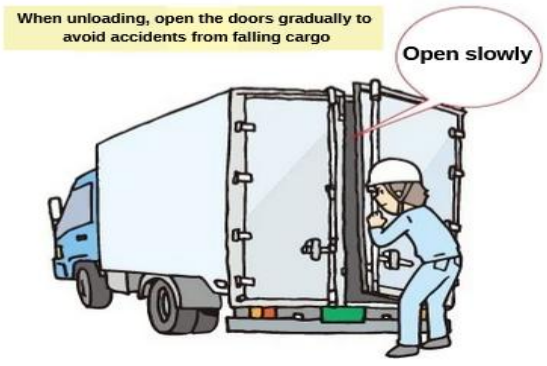
③ Watch for Hazards

Be mindful of tripping or falling hazards on truck beds with pallet loaders.

④ Open Doors Gradually

Open the truck doors gradually and check the cargo's condition.





7.5 Handling Roll Box Pallets

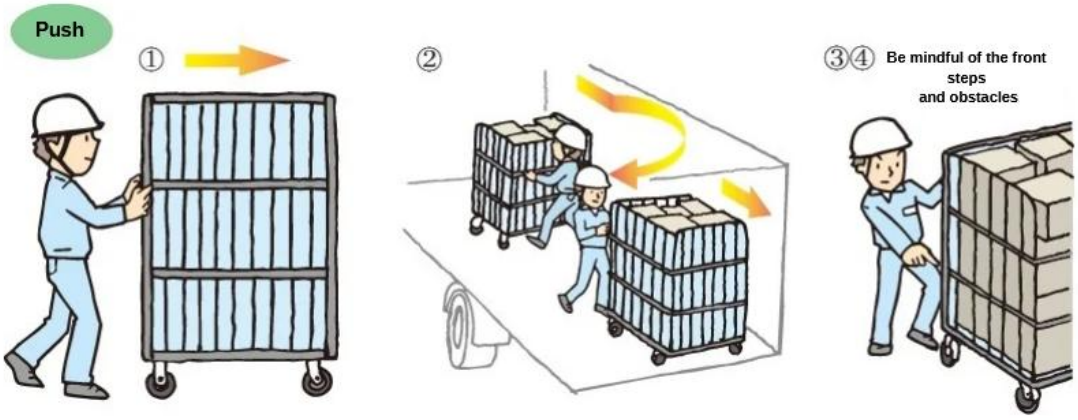
◆ Loading and Unloading onto Trucks

① Hold the Frame
At chest height, hold the outer frame of the wheel to change direction and push forward to move.

② Pull and Rotate
When pulling the pallet out of the truck bed, pull it backward first, then rotate it and push it forward.

③ Check for Obstacles
Ensure there are no obstacles or steps ahead. Stop and confirm in areas with poor visibility.

④ Be Cautious on Uneven Surfaces
Take extra care on inclined floors or areas with steps, as tipping may occur.

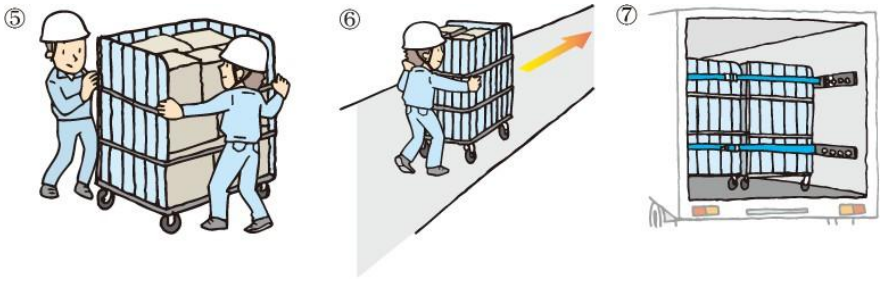


⑤ Weight Limits and Teamwork
Handle up to 300 kg alone. For heavier loads or when dealing with inclined floors, work with two people.

⑥ Reduce Speed
Slow down at least 2 meters before stopping or turning during long-distance moves.

⑦ Secure Cargo

Use lashing belts to secure the cargo near its center of gravity to the truck bed walls.



◆ Leaving the Driver's Seat for Tailgate Lifter Operation

① Operational Restrictions

If the driver's seat and tailgate lifter operation area differ, turning off the engine disables the lifter. One driver cannot perform the loading/unloading work alone in such cases.

② Engine-On Procedures

If the engine must remain on, lower the tailgate lifter to the lowest position before leaving the driver's seat.

③ Safety Measures

Apply brakes firmly and use wheel stoppers to prevent the vehicle from moving.

◆ Special Training for Loading and Unloading Cargo Using Tailgate Lifters

Special training is required for loading and unloading cargo using a tailgate lifter.

◆ Tailgate Lifter Operation

【Basic Rules】

① Adhere to Weight Limits

Do not exceed the lifter's maximum load capacity.

② Avoid the Underside

Do not stand underneath the lifter.

③ Flat Ground

Perform work only on level ground.

【Operating the Lifter】

① Operate from a Distance

Handle the lifter from a safe distance without standing on it.

② No Standing on the Lifter

Do not operate the lifter while standing on it.

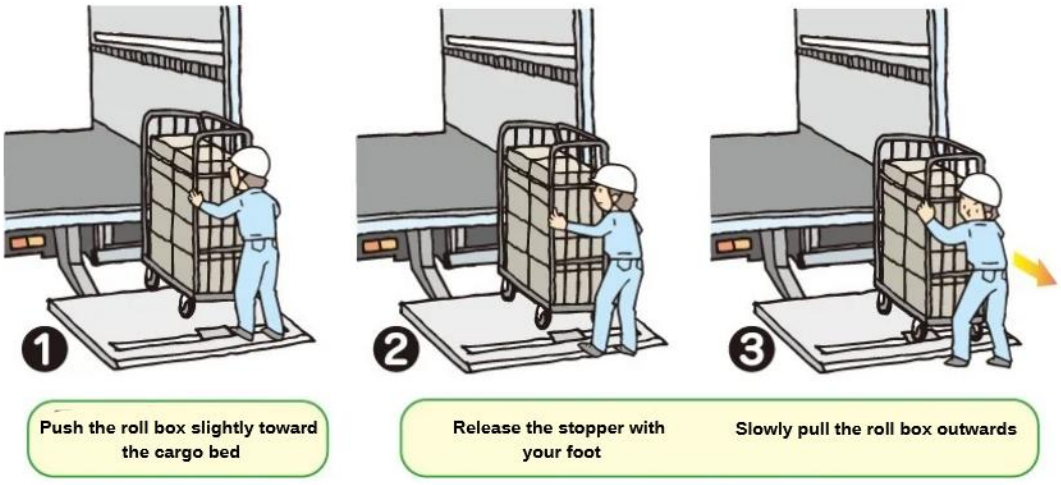
【When the Lifter Is at Ground Level】

① Handle the Gap with Care

Pay close attention to the gap between the lifter and the ground when moving roll boxes.

② Follow Proper Procedure

Push the roll box slightly toward the truck bed, disengage the stopper with your foot, and pull it out slowly.



【When the Lifter Is at Truck Bed Height】

① Ensure Stopper Engagement

Verify that the stopper is engaged before moving roll boxes from the truck bed to the lifter.

② Prevent Falls

If the lifter lacks side guards, ensure sufficient space to prevent cargo from falling.

8. Forklift Handling

◆ Precautions Before Starting Work

① Qualified Operators Only

Forklift operators must hold a valid Certificate of Completion. Verify this before allowing operation.

② Use Rails and Steps

Use handrails and steps when mounting or dismounting the forklift. Do not use levers or the steering wheel for support.

③ Wear Seatbelts

Always wear a seatbelt when operating a forklift.

④ Check Cargo Stability

Before starting work, ensure that cargo is securely loaded.

⑤ Check the Surroundings

Confirm there are no people or obstacles around the forklift before moving.

⑥ Brake Test

After starting, test the brakes before beginning work.

◆ Precautions During Operation

① Avoid Abrupt Movements

Do not accelerate or brake suddenly, as this can cause the cargo to shift or collapse.

② Avoid Sharp Turns

Sudden sharp turns can lead to tipping and must be avoided.

③ Manage Visibility

If visibility is obstructed, drive in reverse or work with a guide.

④ Adhere to Speed Limits

Drive within the designated speed limits.

⑤ Keep Cargo Low

Do not drive with cargo raised high.

⑥ Uphill and Downhill Driving

Drive forward on uphill slopes and reverse on downhill slopes.

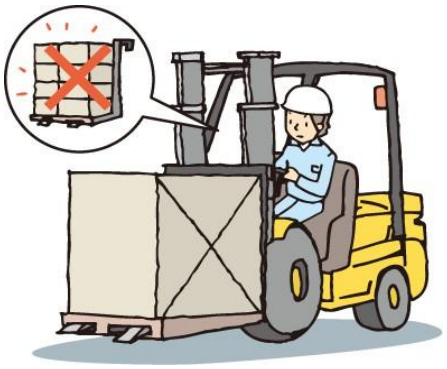
◆ Precautions During Cargo Handling

① Prevent Shifting Cargo

Take measures to ensure that cargo does not shift during operation.

② Observe Weight Limits

Do not exceed the forklift's weight capacity.



③ Avoid Uneven Loading

Prevent unbalanced loading by maintaining proper fork spacing.

④ Protect Cargo

Do not allow the forks to hit the cargo.

⑤ Keep People Clear

Do not allow anyone beneath the forks or cargo.

⑥ No Riding on Forks

Do not allow people to ride on the forks or pallets.

⑦ No Direct Handling

Do not remove items directly from raised forks.

⑧ Stay Within the Seat

Do not lean out of the driver's seat during operation.

◆ Precautions During Parking

Turn off the engine, engage the parking brake, lower the forks to the lowest position, and use wheel stoppers. Park in designated areas and remove the key.

◆ Other Precautions

① Forklifts must meet legal standards to operate on public roads. Plates issued by municipalities indicate tax payment but do not guarantee roadworthiness.

② Do not carry cargo while driving on public roads.

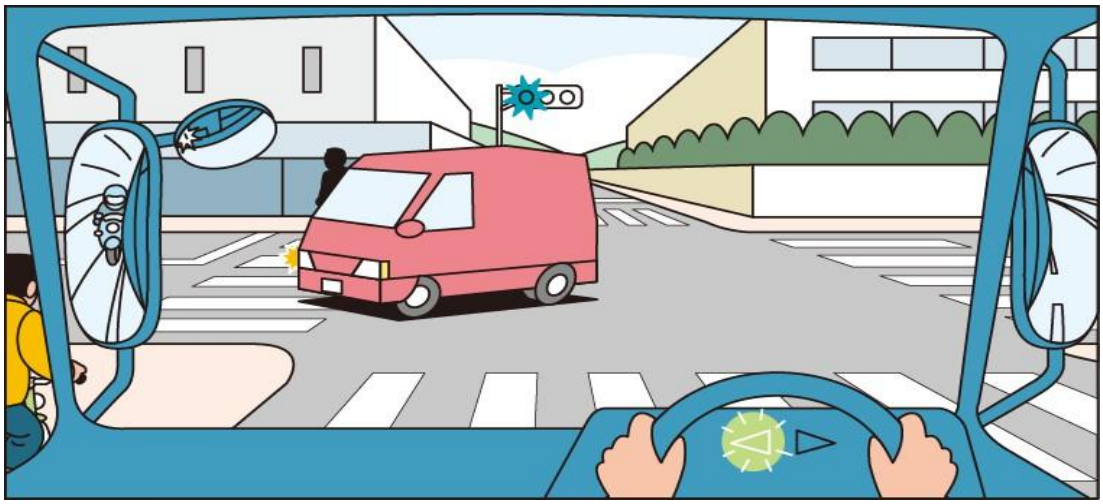
③ Obtain special permission before performing loading or unloading work on public roads.

Chapter 4:
Hazard Prediction Training

※Hazard Prediction Training involves anticipating various hazards that may occur in driving situations and developing methods to avoid them. This form of training is referred to as "KYT" (Kiken Yochi Training).

KYT Sheet 1: Traffic Light Intersection Left Turn

◆Scenario: You are about to make a left turn at an intersection with a traffic light. What hazards are present in this situation, and how can you drive safely to avoid them?

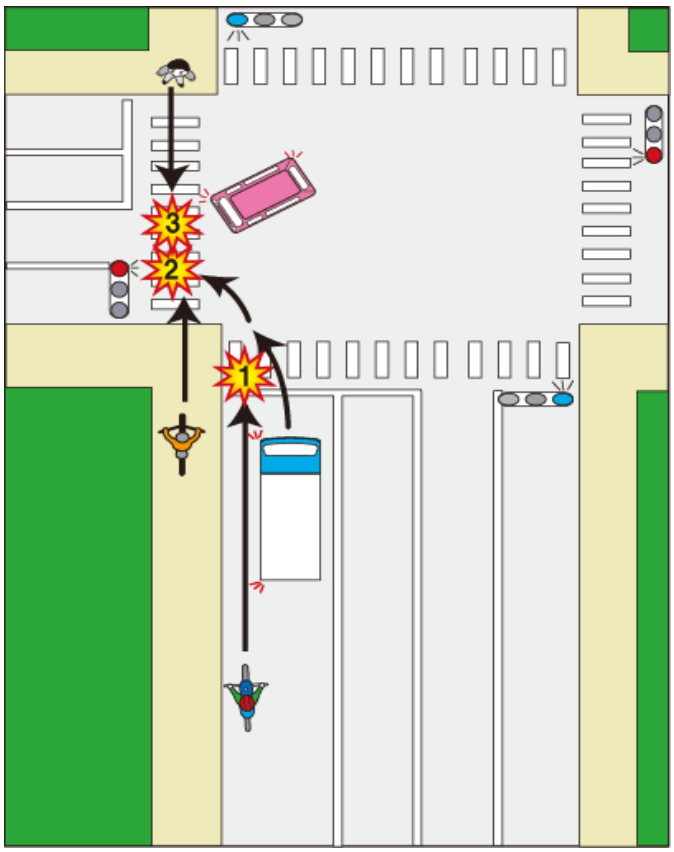


◆What hazards are present?

◆How can you drive safely?

KYT Sheet 1 Explanation

◆ Accident Patterns



◆ Hazard Factors

① Motorcycles Approaching from the Left:
A motorcycle is visible in the left side mirror, approaching the intersection. When turning left, there is a risk of colliding with the motorcycle.

② Bicycles from the Left Side:
A bicycle is approaching the intersection from the left side. There is a risk of colliding at the crosswalk.

③ Pedestrians Crossing:
A pedestrian crossing from behind a stopped right-turning vehicle in the opposite lane might go unnoticed, leading to an accident.

◆ Safe Driving Methods

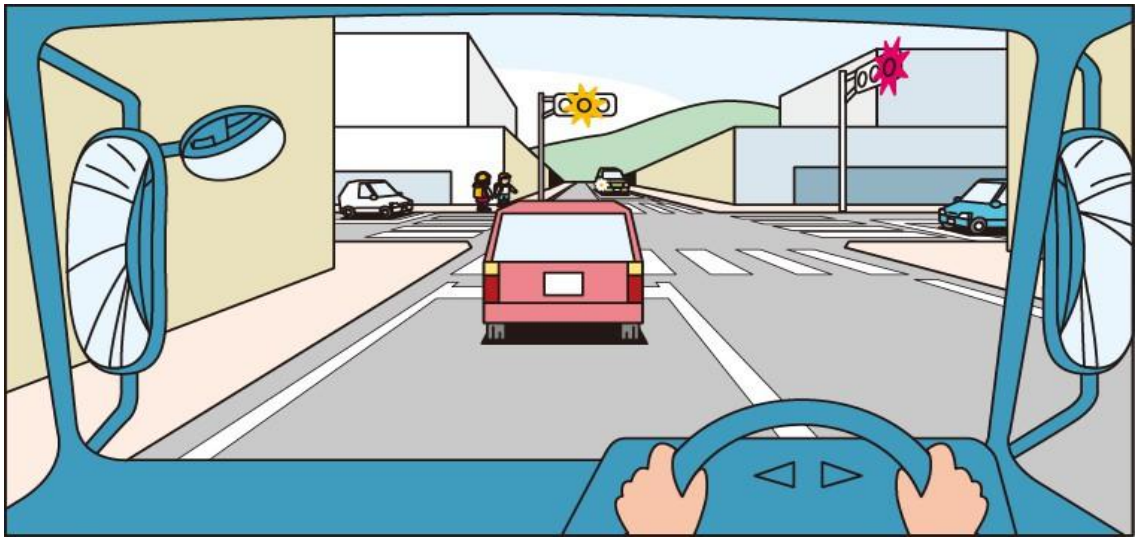
① Before turning left, always check for motorcycles or bicycles approaching from the left and rear.

② Pay special attention to bicycles approaching from the left side of the crosswalk, as they are easy to miss.

③ Stop before the crosswalk and check both sides to confirm the crosswalk is clear before proceeding.

KYT Sheet 2: Approaching a Yellow Traffic Light

- You are approaching an intersection where the traffic light has just turned yellow. Children are present on the sidewalk ahead, and a car in the opposite lane is signaling to make a right turn. What hazards are present, and how can you drive safely to avoid them?

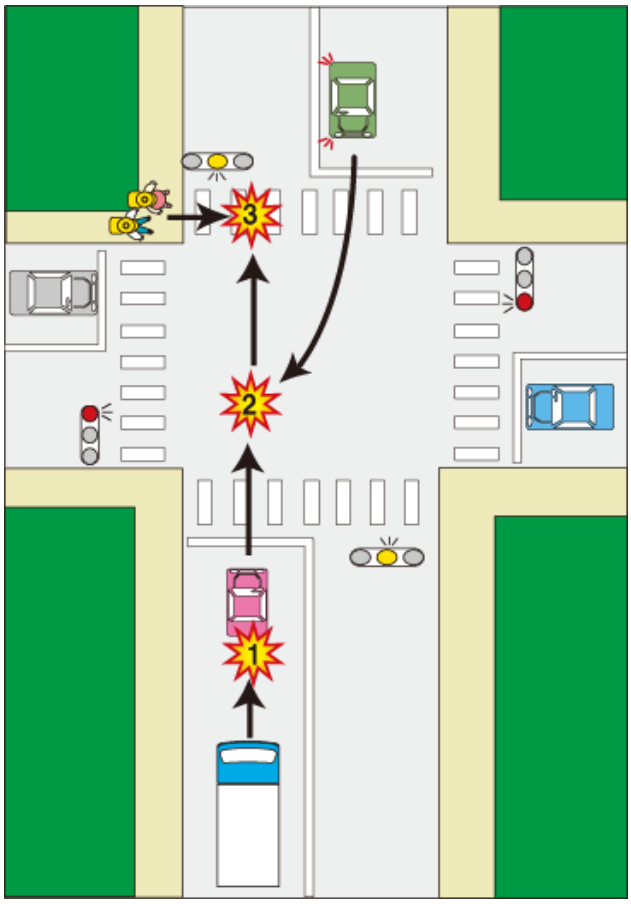


- What hazards are present?

- How can you drive safely?

KYT Sheet 2 Explanation

◆ Accident Patterns



◆ Hazard Factors

① Sudden Stopping by the Car Ahead:
If you try to pass through the yellow light, the car ahead might suddenly stop, causing a rear-end collision.

② Colliding with a Right-Turning Car:
If you follow the car ahead into the intersection, you may collide with an oncoming right-turning car.

③ Hitting a Pedestrian:
If you proceed through the intersection, the light may turn red, and you might hit a child starting to cross.

◆ Safe Driving Methods

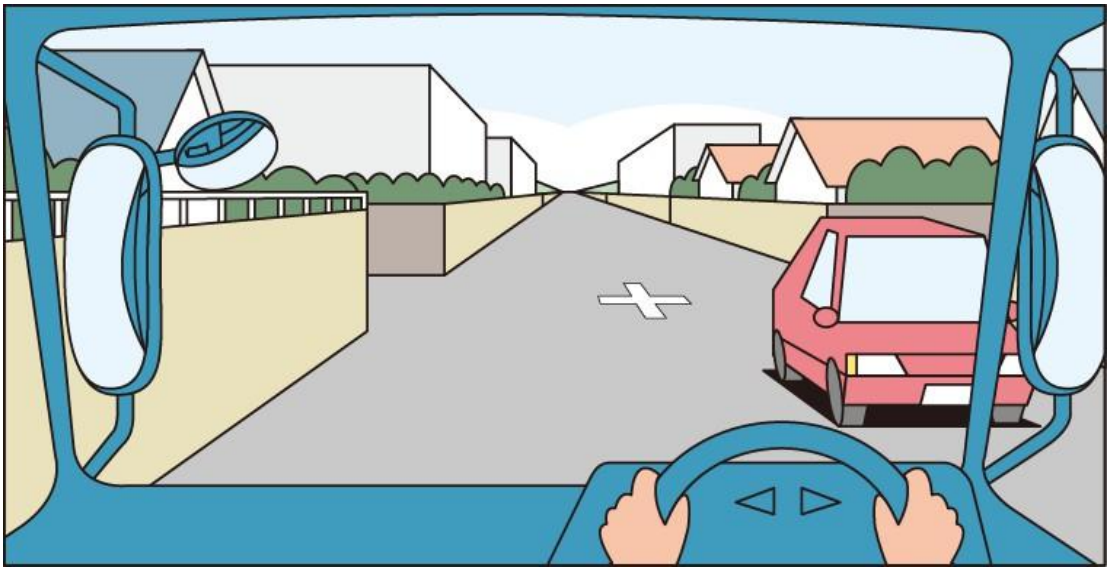
① Do not assume the car ahead will proceed through the yellow light. Stop safely before the crosswalk unless it is impossible to stop safely due to your position. Yellow lights indicate preparation to stop, not proceed.

② Even if the car ahead enters the intersection, do not follow. Evaluate the situation independently.

③ Slow down as soon as the light turns yellow and stop safely before the intersection.

KYT Sheet 3: Approaching a Poorly Visible Intersection

- You are approaching a poorly visible intersection in a residential area. What hazards are present, and how can you drive safely to avoid them?

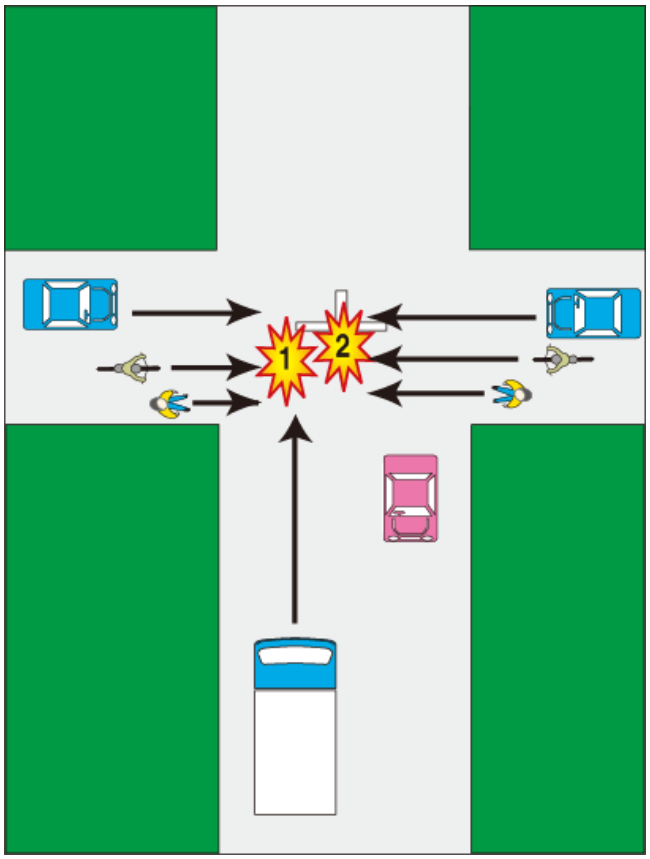


- What hazards are present?

- How can you drive safely?

KYT Sheet 3 Explanation

◆ Accident Patterns



◆ Hazards

① When passing through an intersection, pedestrians coming from the left side of the crossing road, or bicycles and vehicles (hidden in the blind spot of buildings and thus not visible), may collide.

② When passing through an intersection, pedestrians coming from the right side of the crossing road, or bicycles and vehicles (hidden in the blind spot of oncoming cars or buildings and thus not visible), may result in a collision.

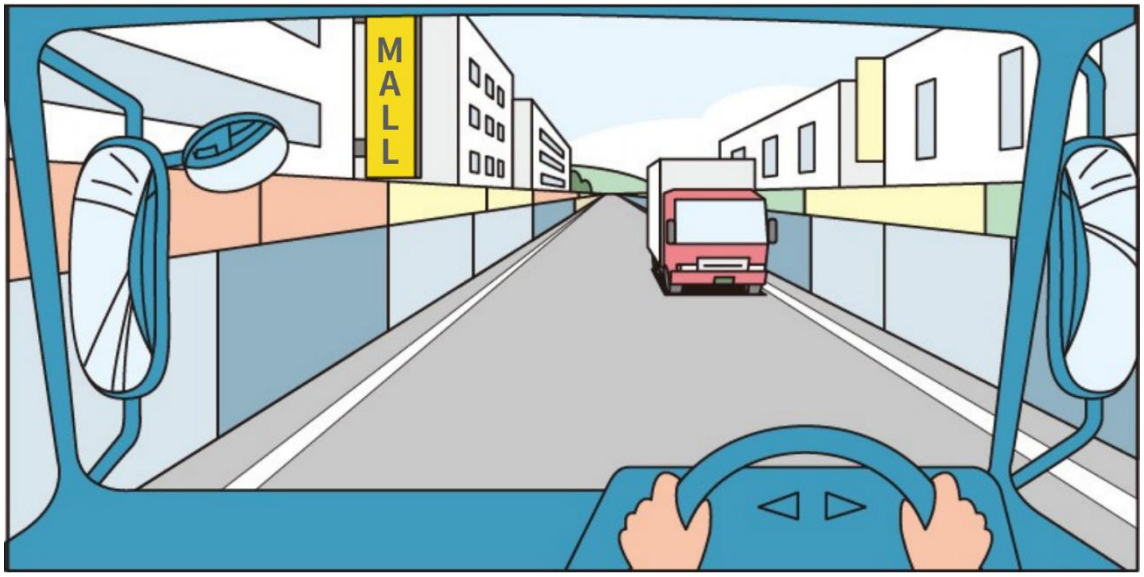
◆ Safe Driving Methods

① Even when there is no stop sign or marking, at intersections with poor visibility, it is mandatory to slow down. Always slow down and check for pedestrians, bicycles, or vehicles approaching from the left or right of the crossing road.

② When there is an oncoming car, pay attention to pedestrians or bicycles coming from the right side of the crossing road, as it is easy to miss spotting vehicles. Be cautious.

KYT Sheet 4: Roads Without Centerline

◆ You are driving on a narrow road without a centerline. A vehicle is approaching from the opposite direction.

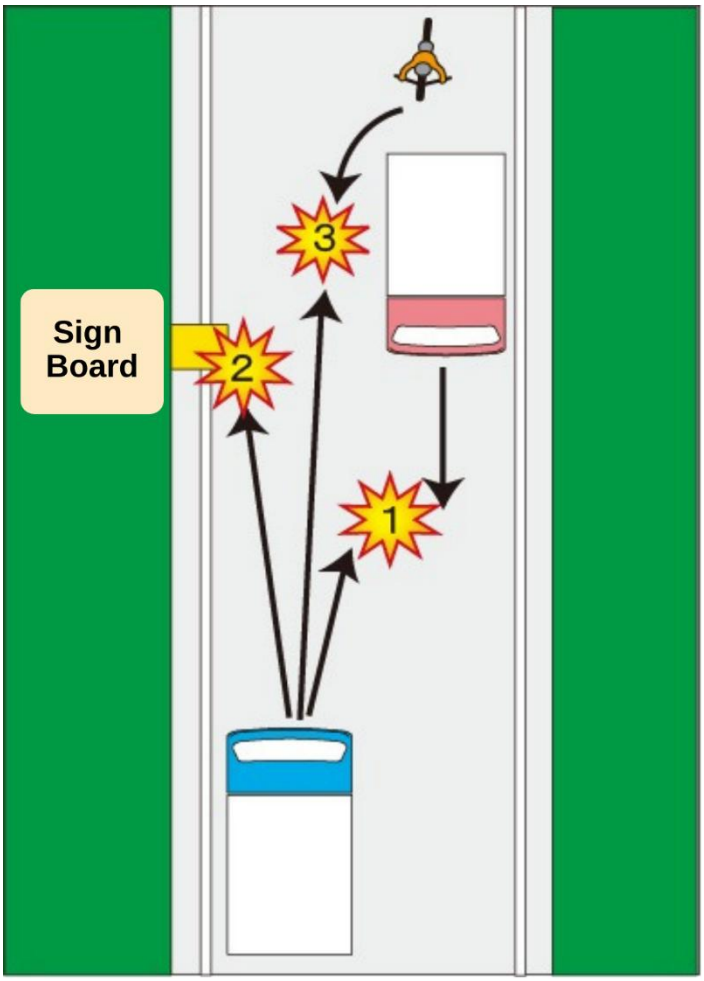


◆ What potential dangers exist in this situation?

◆ What driving actions can you take to avoid these dangers?

KYT Sheet 4 Explanation

◆ Accident Pattern



◆ Hazard Factors

① Colliding with Oncoming Vehicles:
While passing oncoming vehicles, there is a risk of collision.

② Hitting Objects on the Left Side:
Moving too far to the left to avoid oncoming vehicles may result in hitting signs or other roadside objects.

③ Hidden Bicycles or Vehicles:
If an oncoming vehicle has stopped, a bicycle or vehicle hidden behind it may suddenly appear in the center of the road, causing a collision.

◆ Safe Driving Methods

① Lower Speed and Yielding Right-of-Way:
On narrow roads, reduce speed and avoid trying to pass oncoming vehicles. Instead, stop and allow the oncoming vehicle to proceed first.

② Careful Maneuvering to the Left:
When moving to the left to let oncoming vehicles pass, be cautious of signs, overhangs, or other obstacles.

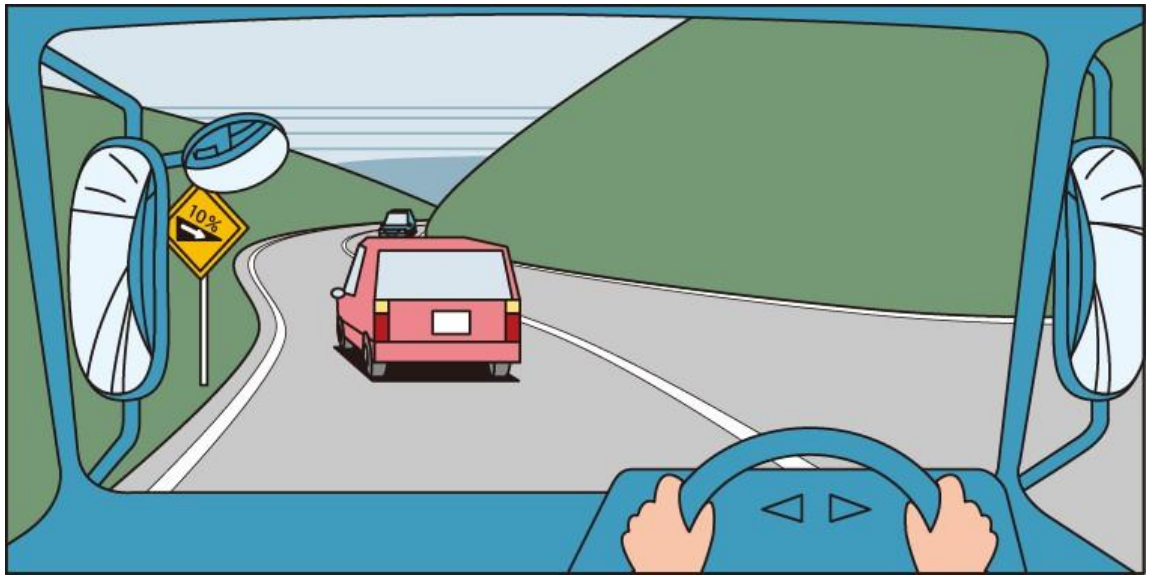
③ Anticipating Hidden Hazards:
Anticipate the possibility of bicycles or vehicles appearing from behind oncoming vehicles and proceed with caution.

※ Always confirm the height and width of your truck to avoid potential collisions with overhead or roadside objects.

※ Be aware that some signs, awnings, and similar items can be very expensive.

KYT Sheet 5: Driving on a Downhill Curve

- You are driving on a long downhill curve with warning signs indicating steep slopes. What hazards are present, and how can you drive safely to avoid them?

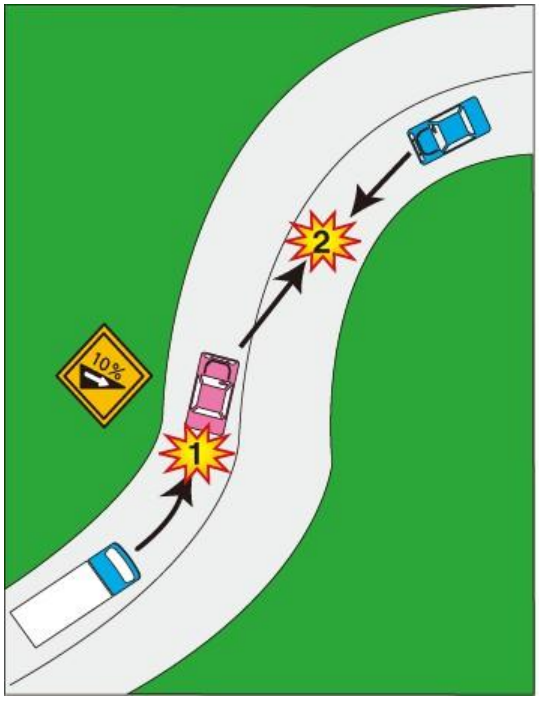


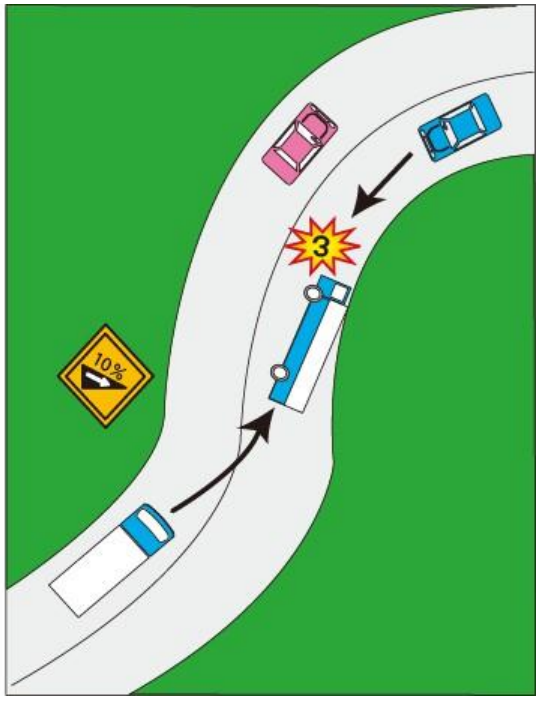
- What hazards are present?

- How can you drive safely?

KYT Sheet 5 Explanation

◆ Accident Patterns





◆ Hazard Factors

① Rear-End Collision:
If the vehicle ahead reduces speed, you may collide with it.

② Crossing the Centerline:
Vehicles, including your own or the one ahead, may cross the centerline, leading to a collision with oncoming traffic.

③ Losing Control on Curves:
Poor handling or braking on an S-curve may result in overturning, potentially causing a collision with oncoming vehicles.

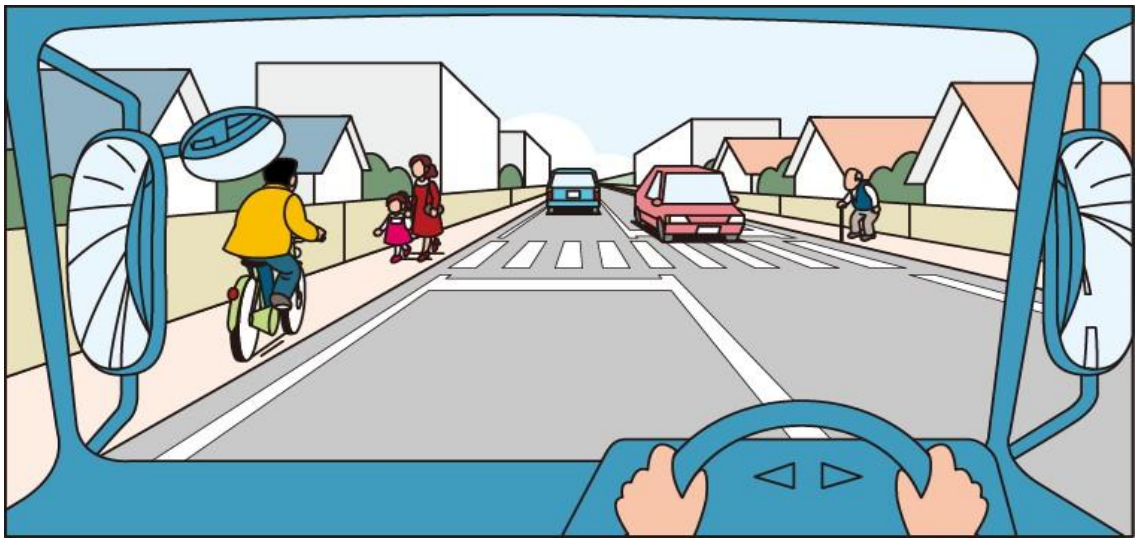
◆ Safe Driving Methods

① Control Speed with Engine Braking:
Use engine brakes or exhaust brakes to control your speed on steep downhill slopes and maintain a safe distance from the vehicle ahead. Avoid excessive use of foot brakes to prevent brake fading, which reduces braking efficiency and increases risk.

② Careful Handling on S-Curves:
S-curves are particularly prone to rollovers. Exercise caution with steering and braking and proceed slowly and deliberately.

KYT Sheet 6: Driving Near Pedestrian Crosswalks

- Scenario:
  You are driving on a single-lane road in each direction. A pedestrian crosswalk lies ahead, with an elderly person standing on the right sidewalk and bicycles or pedestrians moving on the left. What hazards are present, and how can you drive safely to avoid them?

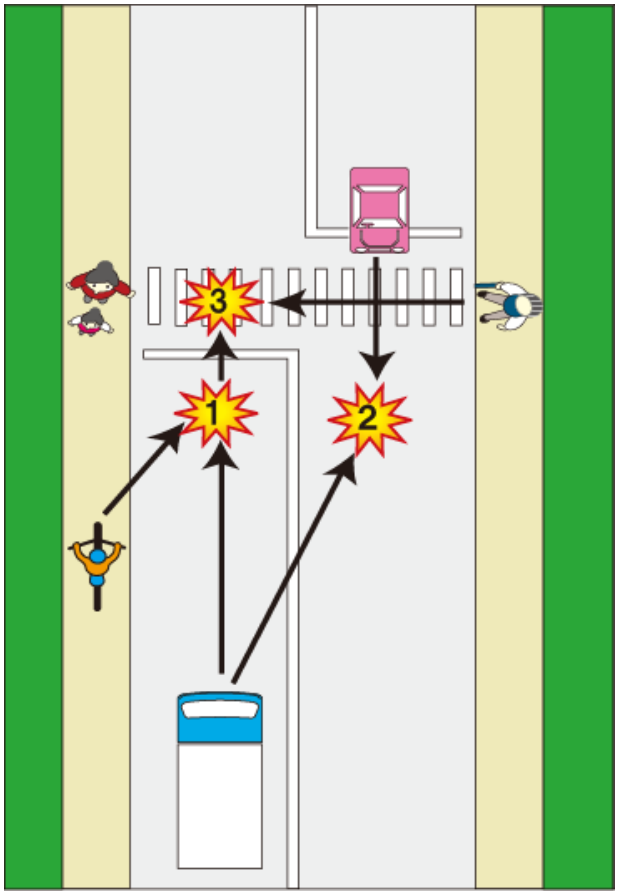


- What hazards are present?

- How can you drive safely?

KYT Sheet 6 Explanation

◆ Accident Patterns



◆ Hazard Factors

① Bicycles Avoiding Pedestrians:
Bicycles on the left-hand sidewalk may veer into the road to avoid oncoming pedestrians, potentially resulting in a collision.

② Avoiding Bicycles and Crossing the Centerline:
Attempting to avoid a bicycle in the roadway may cause the vehicle to move too far to the right, crossing the centerline and colliding with oncoming traffic.

③ Elderly Pedestrians Crossing the Crosswalk:
Elderly pedestrians standing on the right-hand sidewalk may begin to cross at the crosswalk after an oncoming vehicle passes, leading to a collision.

◆ Safe Driving Methods

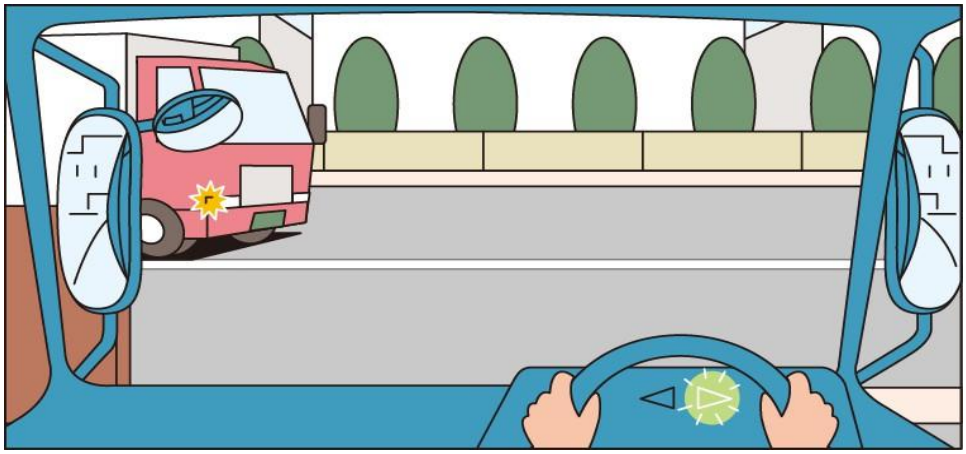
① Predicting Bicycle Behavior:
Even if bicycles are traveling on sidewalks, anticipate that they may enter the road to avoid pedestrians. Reduce speed accordingly.

② Yielding at Crosswalks:
When approaching a pedestrian crosswalk, stop if pedestrians are crossing or appear likely to cross. Always stop before the crosswalk and let pedestrians proceed first.

③ Extra Caution with Elderly Pedestrians:
Be especially cautious with elderly pedestrians, as they may begin crossing even when vehicles are approaching. Do not assume they have noticed your vehicle or will wait to cross.

KYT Sheet 7: Parking Lot

- You are crossing the sidewalk from the parking lot and trying to turn right onto the roadway.There is a vehicle in the oncoming lane trying to enter the parking lot. What kinds of hazards are present in this situation, and what kind of driving would help you avoid these hazards?

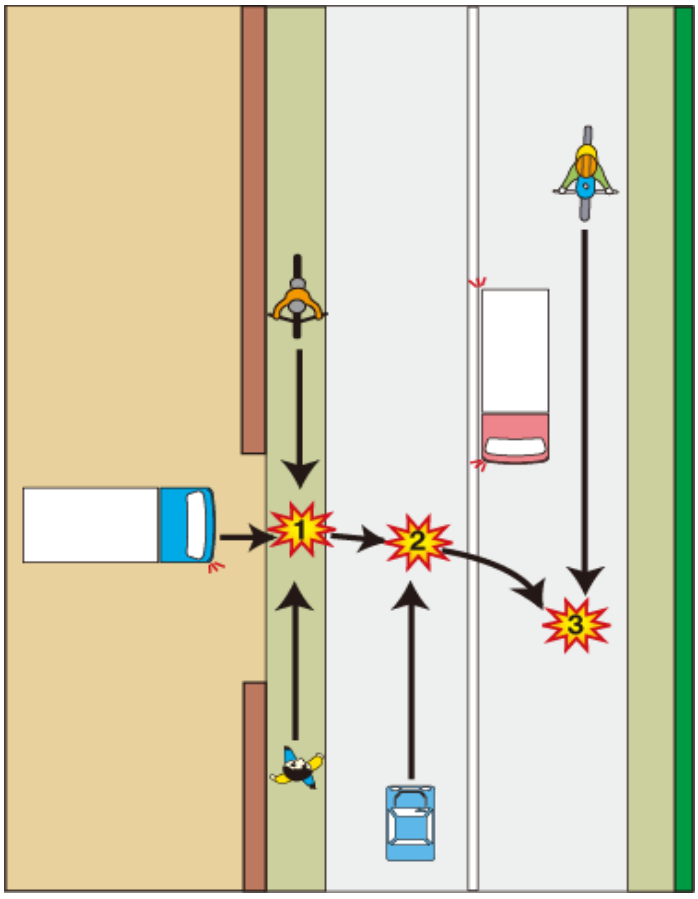


- What kinds of hazards are present?

- What kind of driving would help ensure safety?

KYT Sheet 7 Explanation

◆ Accident Patterns



◆ Hazard Factors

① Pedestrians and Bicycles on the Sidewalk:
While crossing the sidewalk, there is a risk of collision with pedestrians or bicycles traveling from either direction, especially if they are obscured by fences or other blind spots.

② Colliding with Vehicles on the Roadway:
When entering the roadway and making a right turn, there is a risk of collision with vehicles approaching from the right, especially if they are hidden in blind spots caused by fences or walls.

③ Motorcycles in the Blind Spot:
While turning right, motorcycles or other vehicles may approach from the side, hidden by the blind spot created by stationary vehicles waiting to turn.

◆ Safe Driving Methods

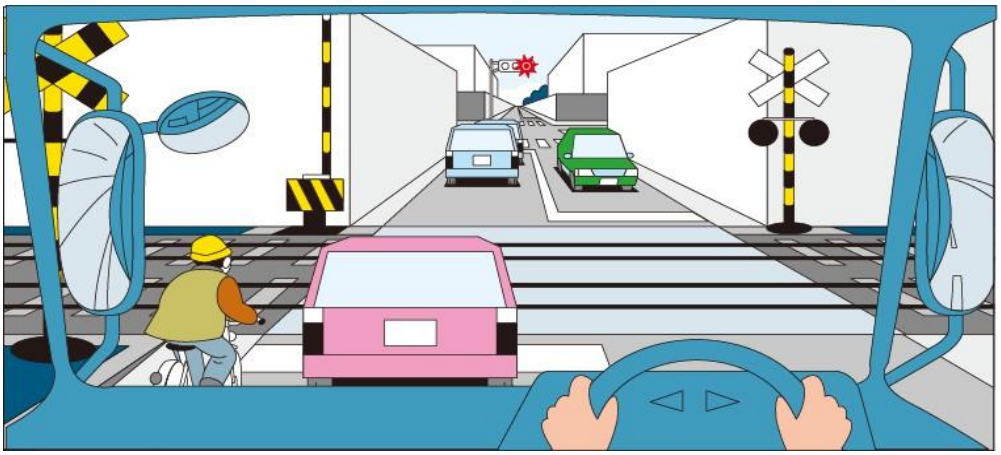
① Mandatory Stop and Observation:
It is mandatory to stop when crossing a sidewalk, particularly when fences or other objects obscure the view. Stop and confirm the conditions on both the sidewalk and the road before proceeding.

② Checking for Hidden Vehicles or Motorcycles:
When stationary vehicles are waiting to turn, be cautious of motorcycles or bicycles that may emerge from behind them. Thoroughly check the sides before making a turn.

③ Handling Tight Spaces:
Trucks have a larger turning radius. Be cautious of fences, gates, or other objects when entering or exiting parking lots through narrow entrances or exits.

KYT Sheet 8: Railroad Crossing

- You are approaching a railroad crossing. There is a bicycle traveling ahead of you on the left, and beyond the crossing, there is an intersection with a traffic signal. The signal is red.

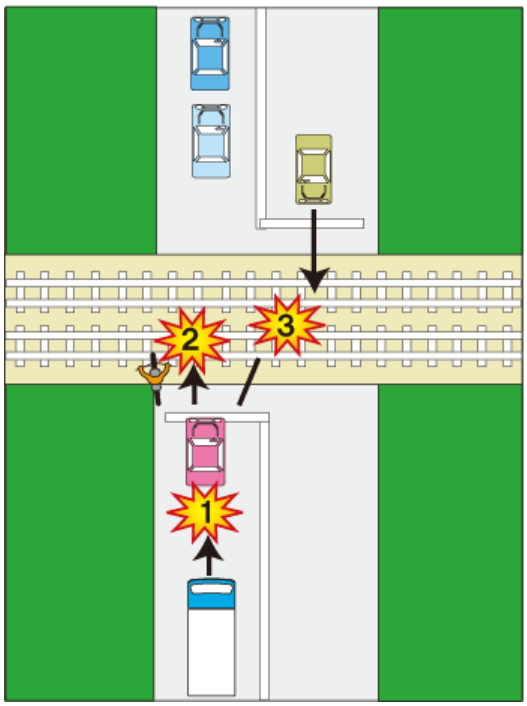


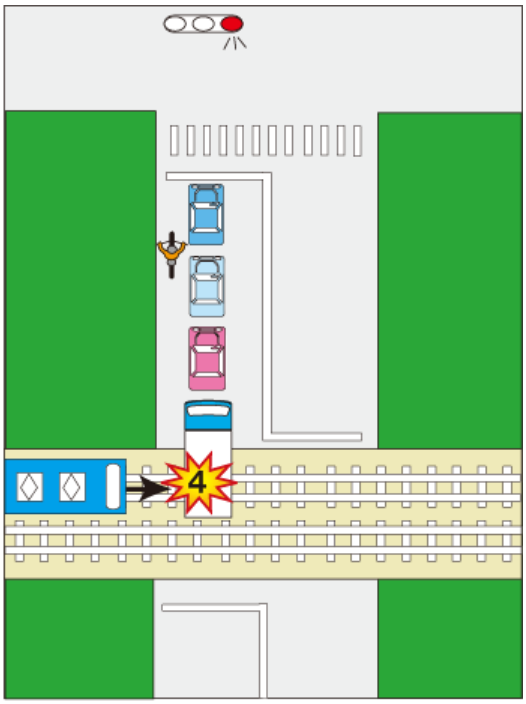
- What kinds of hazards are present?

- What kind of driving would help ensure safety?

KYT Sheet 8: Explanation

◆ Accident Patterns





◆ Hazard Factors

① Rear-End Collisions at the Crossing:
There is a risk of rear-ending the vehicle ahead that has stopped before the crossing.

② Colliding with Bicycles:
Collisions may occur with bicycles approaching from the left-front direction.

③ Avoiding Bicycles and Crossing the Centerline:
Attempting to avoid a bicycle may cause the vehicle to move too far to the right, potentially resulting in a collision with oncoming traffic.

④ Stalling in the Crossing Zone:
If traffic ahead is congested and the vehicle enters the crossing zone, part of the vehicle may be left inside the crossing, leading to a collision with an oncoming train.

◆ Safe Driving Methods

① Reducing Speed:
When approaching a railroad crossing, reduce speed and maintain sufficient distance from the vehicle ahead.

② Mandatory Stop at the Crossing Line:
Stop at the designated stopping line and ensure the crossing is clear before proceeding.

③ Confirming Space Beyond the Crossing:
Before entering the crossing, confirm there is enough space on the other side for the vehicle. If there is insufficient space or uncertainty, do not enter the crossing.

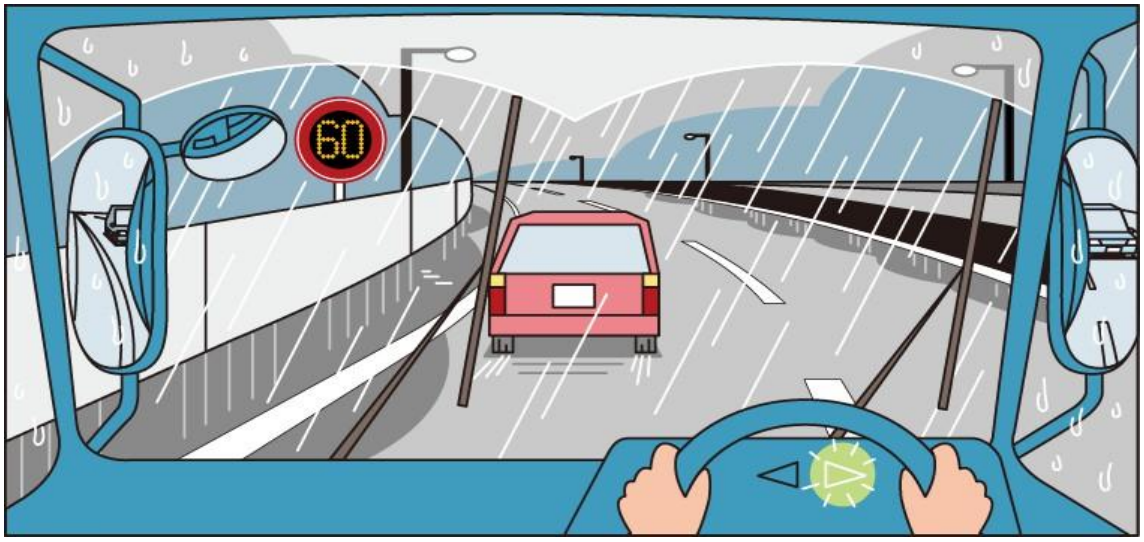
④ Safe Passage through the Crossing:
When passing through the crossing, be cautious of pedestrians, bicycles, and oncoming vehicles. Stick to the center of the lane and avoid gear changes while crossing.

※Make sure to check the length of the truck you will be driving.

KYT Sheet 9: Driving on a Rainy Highway

◆ Scenario

You are driving on a highway with a speed limit of 60 km/h due to rain. You feel the car ahead is moving too slowly, so you intend to change lanes into the overtaking lane.

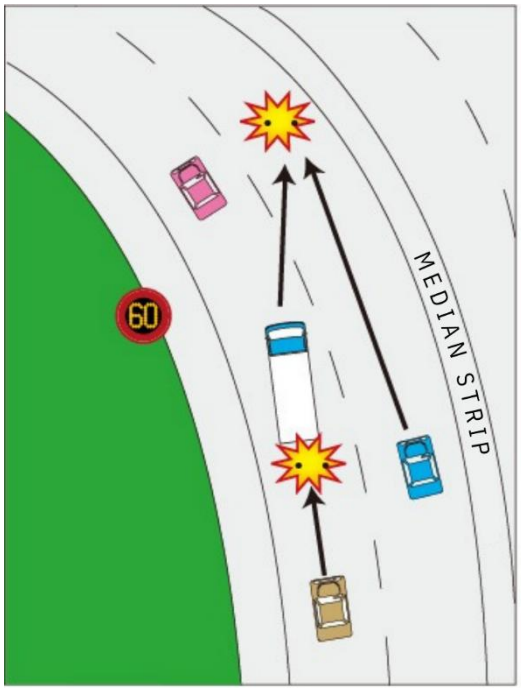


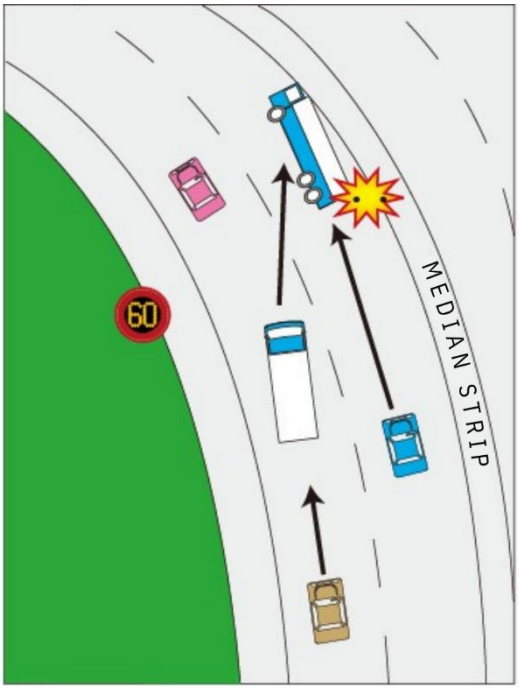
◆ What dangers are present in this situation?

◆ How can you drive safely to avoid these dangers?

KYT Sheet 9 Explanation

◆ Accident Patterns





◆ Hazard Factors

① Collision with a Vehicle in the Overtaking Lane

A vehicle is visible in the right-side mirror, approaching from behind in the overtaking lane. Changing lanes could result in a collision with the approaching vehicle.

② Sudden Braking and Rear-End Collision

Upon realizing the proximity of the vehicle in the overtaking lane, you abort the lane change and apply sudden brakes, causing the vehicle behind in your current lane to rear-end you.

③ Skidding and Losing Control

Due to the wet road surface, steering to change lanes causes your vehicle to skid. You crash into the central median barrier, flip over, and are subsequently hit by the following vehicle.

◆ Safe Driving Methods

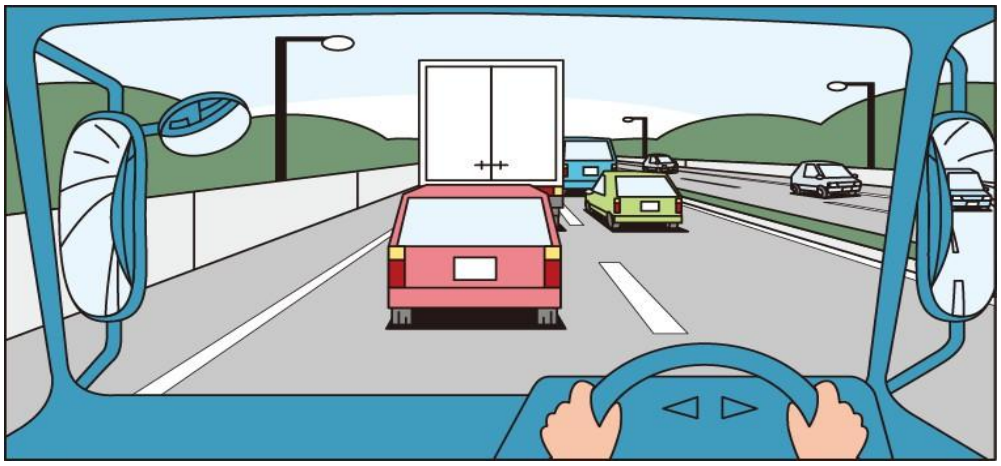
① Adhering to Speed Limits
Always comply with the speed limit when a regulation is enforced due to weather or road conditions.

② Avoid Lane Changes in Rainy Weather
Be aware that visibility in the mirrors is reduced during rain, and the wet road surface increases the risk of skidding. Avoid changing lanes unless necessary.

KYT Sheet 10: Driving on a Congested Highway

- Scenario

  You are driving on a highway. Traffic is congested ahead, and vehicles are stopped.

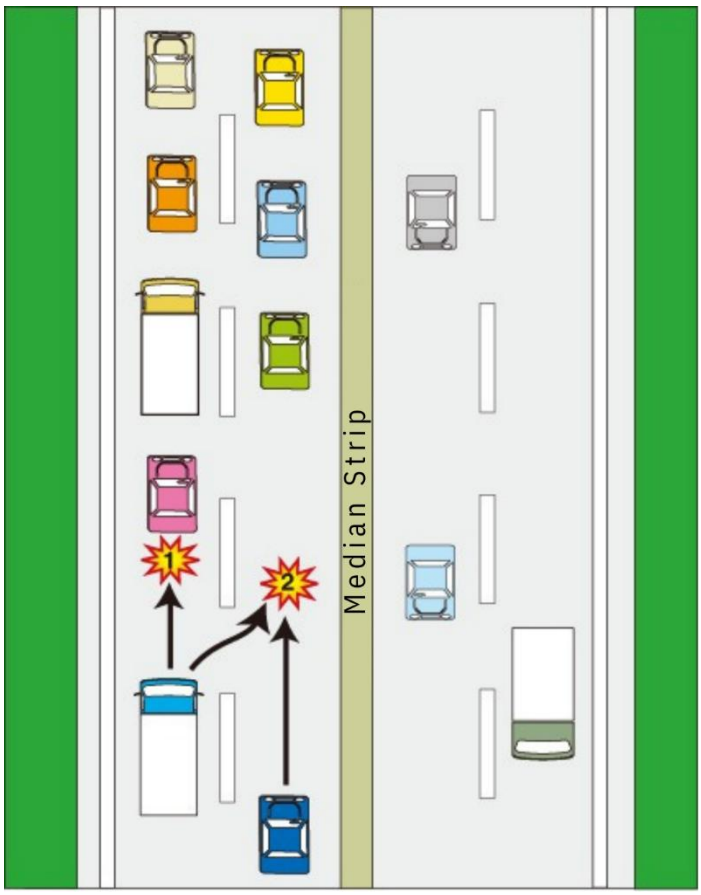


- What dangers are present in this situation?

- How can you drive safely to avoid these dangers?

KYT Sheet 10 Explanation

◆ Accident Patterns



◆ Hazard Factors

① Inattentive Driving and Rear-End Collisions
If you are driving inattentively or distracted, you might fail to notice the stopped traffic ahead in time, resulting in a rear-end collision.

② Collision While Changing Lanes
Trying to switch to the overtaking lane to move ahead faster can result in a collision with a vehicle approaching from behind in that lane.

◆ Safe Driving Methods

① Monitor the Road Ahead and Slow Down

On highways, traffic congestion can occur due to road construction or accidents. Always monitor the road ahead and slow down as soon as you notice traffic congestion.

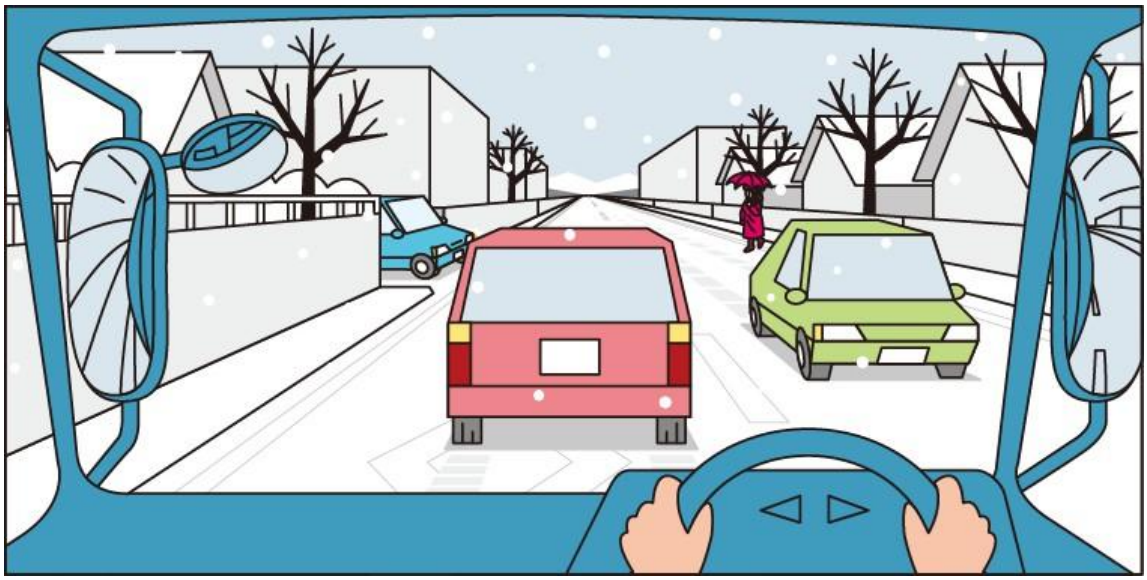
② Avoid Changing Lanes in Traffic

Do not attempt to change lanes to rush ahead when traffic is congested. Such actions can lead to accidents.

KYT Sheet 11: Driving on Snowy Roads

◆ Scenario

You are driving on a one-lane road during snowfall. Snow is beginning to accumulate on the road.

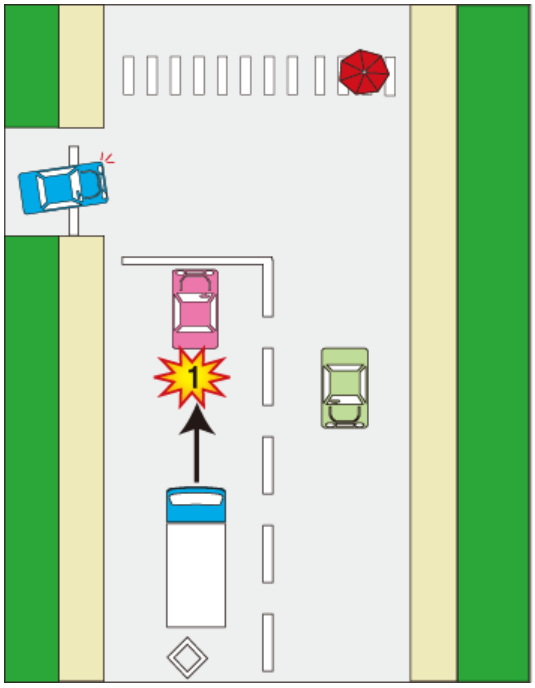


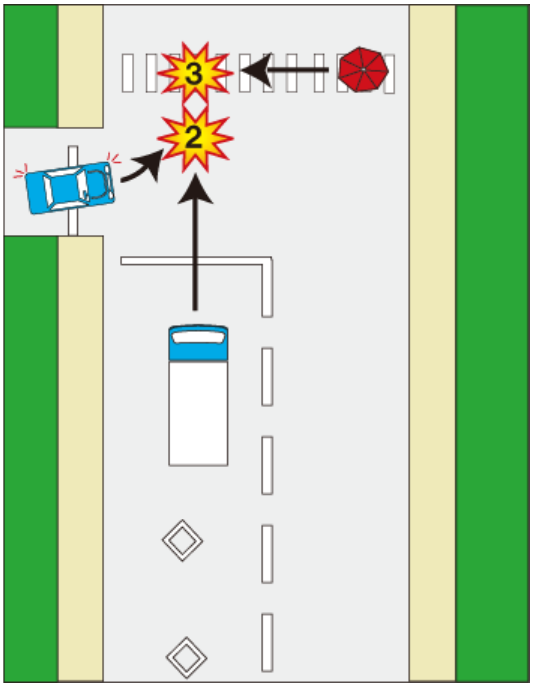
◆ What dangers are present in this situation?

◆ How can you drive safely to avoid these dangers?

KYT Sheet 11 Explanation

◆ Accident Patterns





◆ Hazard Factors

① Rear-End Collisions
You may rear-end the car in front if it stops to avoid a car entering from the left or a pedestrian crossing from the right.

② Collisions with Left-Turning Cars
A car entering from the left after the car in front passes may collide with you.

③ Pedestrian Collisions
A pedestrian holding an umbrella may cross from the right after the car in front passes and get hit.

◆ Safe Driving Methods

① Slow Down and Increase Following Distance
Snow makes roads slippery and stopping distances longer. Reduce speed and maintain a longer following distance.

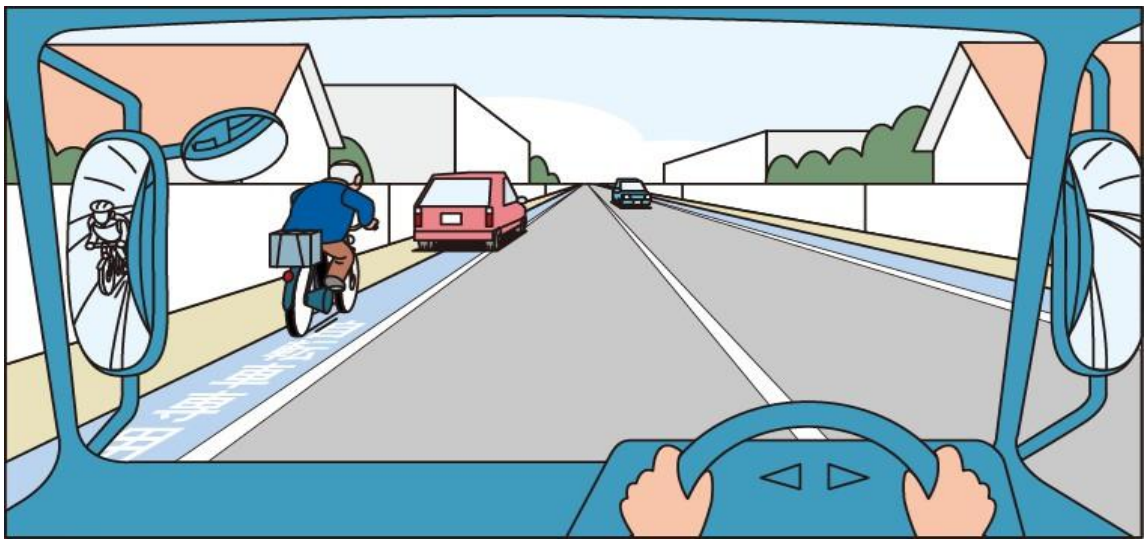
② Pay Attention to Road Markings
Snow can obscure road markings, making it harder to notice important information.

※ In this situation, the road marking indicating "pedestrian crossing or bicycle crossing lane" might not be visible, making it difficult to notice the pedestrian holding an umbrella on the right-hand side ahead attempting to cross the pedestrian crossing. Stay alert and be cautious.

KYT Sheet 12: Driving on Roads with Bicycle Lanes

- Scenario

  You are driving on a one-lane road with a sidewalk and a bicycle lane.
  A bicycle is riding in the lane ahead, and there is a parked car further along.
  Your mirror shows a delivery bicycle approaching from behind, carrying packages for a customer.

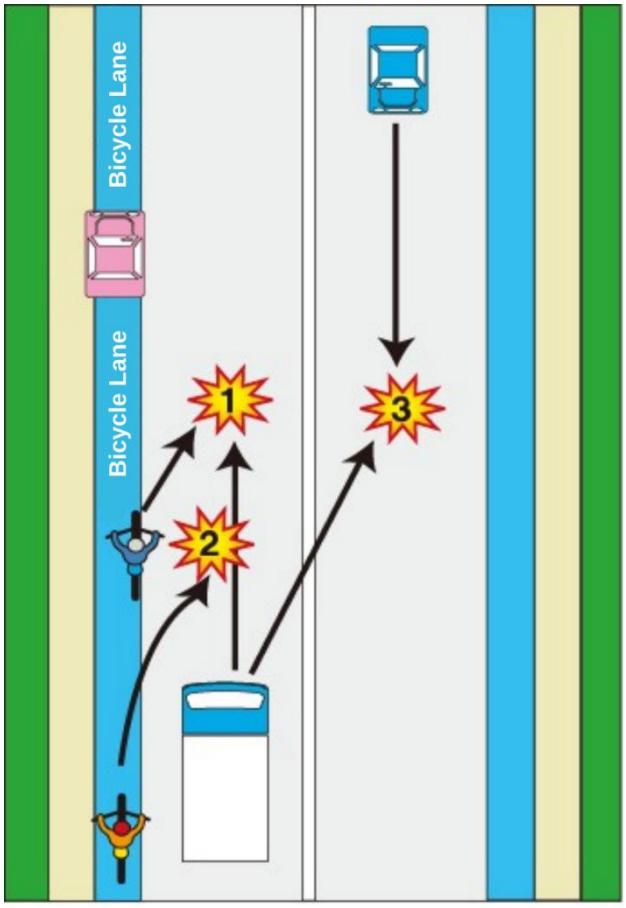


- What dangers are present in this situation?

- How can you drive safely to avoid these dangers?

KYT Sheet 12 Explanation

◆ Accident Patterns



◆ Hazard Factors

① Collisions with Parked Vehicles
Avoiding a parked car while navigating the bicycle lane may lead to a collision with another vehicle or the parked car.

② Collisions with the Delivery Bicycle
The delivery bicycle approaching from behind may collide with you if you turn or stop unexpectedly.

③ Collision with the Bicycle in Front
If you fail to account for the bicycle's movements while passing the parked car, you could hit it.

◆ Safe Driving Methods

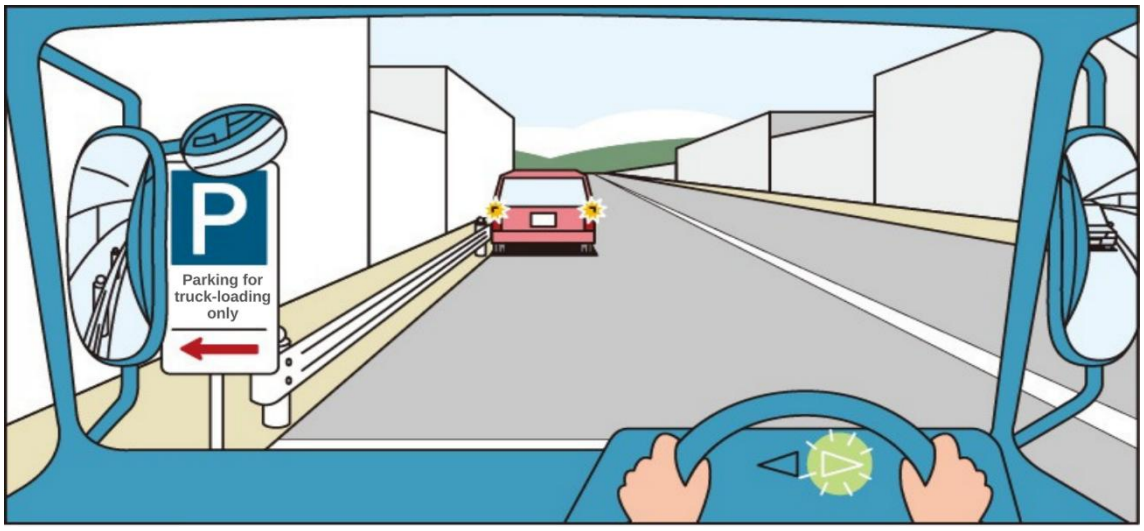
① Adjust Speed and Maintain Awareness
Slow down when approaching bicycles or parked vehicles. Be cautious of the movements of other road users.

② Use Mirrors Effectively
Monitor the delivery bicycle in your mirror to avoid sudden stops or turns that might cause a collision.

KYT Sheet 13: Starting from a Truck-Only Loading Zone

◆ Scenario

You are starting from a designated truck-only parking/loading area used for collecting or delivering cargo. A guardrail separates the road and sidewalk. There is a parked vehicle ahead, and another vehicle is approaching from behind.

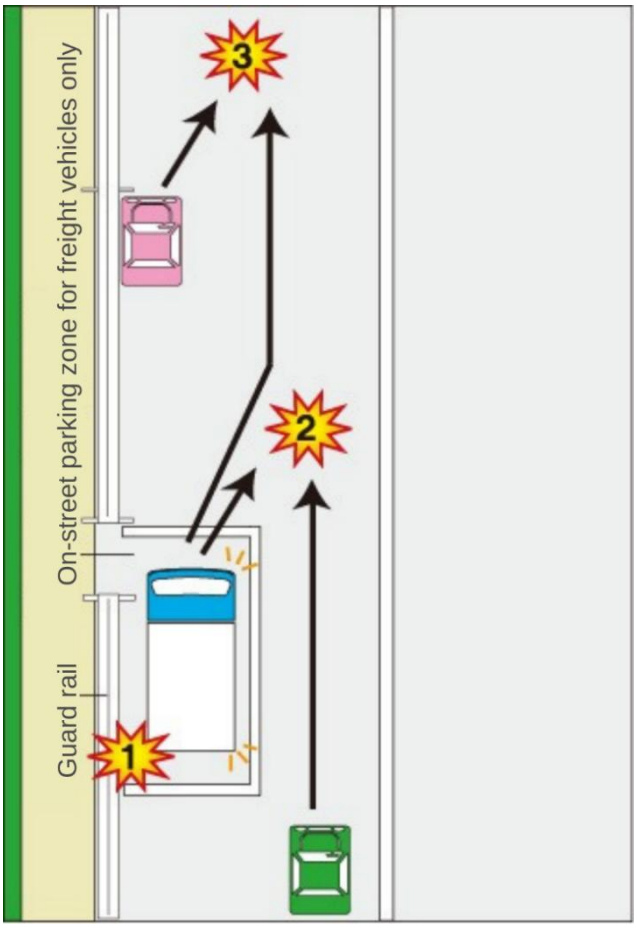


◆ What dangers are present in this situation?

◆ How can you drive safely to avoid these dangers?

KYT Sheet 13 Explanation

◆ Accident Patterns



◆ Hazard Factors

① Collision with a Guardrail
When turning the steering wheel during startup, the rear overhang of your truck may hit the guardrail.

② Collision with a Vehicle Approaching from Behind
If you fail to notice or misjudge the distance of an approaching vehicle from behind and start moving, a collision may occur.

③ Collision with a Parked Vehicle Starting Up
A parked vehicle ahead may also start moving, leading to a collision.

◆ Safe Driving Methods

① Be Mindful of Rear Overhang
Trucks have a large rear overhang, increasing the risk of hitting the guardrail when turning the wheel at startup.
Turn the wheel gradually and pay attention to the left side's conditions.

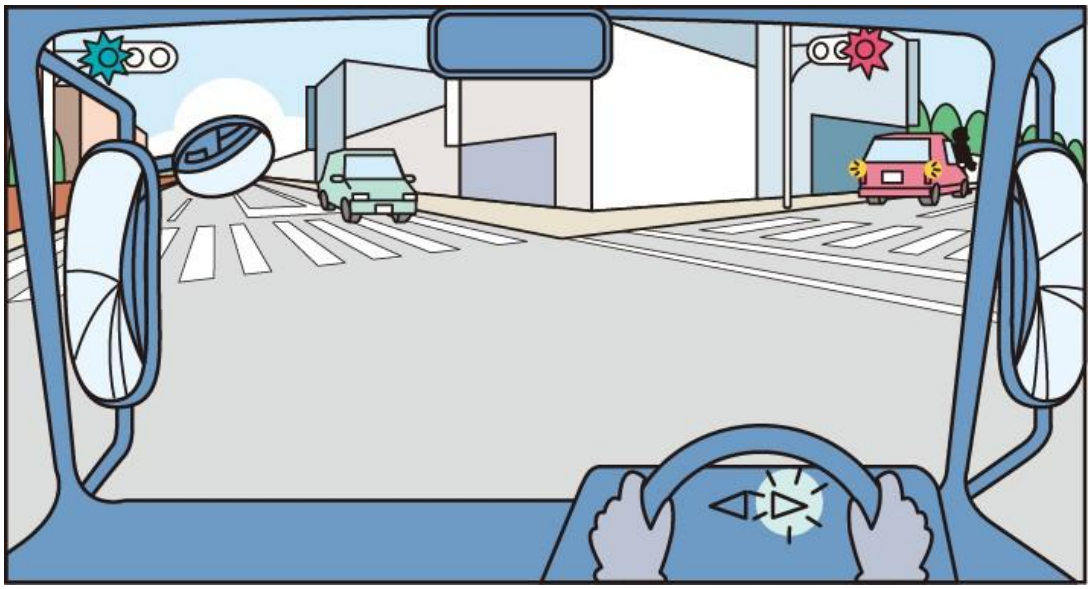
② Wait for Approaching Vehicles to Pass
Before starting, ensure that any vehicles approaching from behind have fully passed.

③ Anticipate Sudden Movements from Parked Cars
Be prepared for the possibility of parked vehicles starting suddenly.
Do not increase speed until you have passed the parked car safely.

KYT Sheet 14: Turning Right at a Signalized Intersection

- Scenario

  You turn right at a signalized intersection. A vehicle is approaching from the opposite direction. On the right side of the road, there is a parked car, and behind it, a pedestrian is visible.

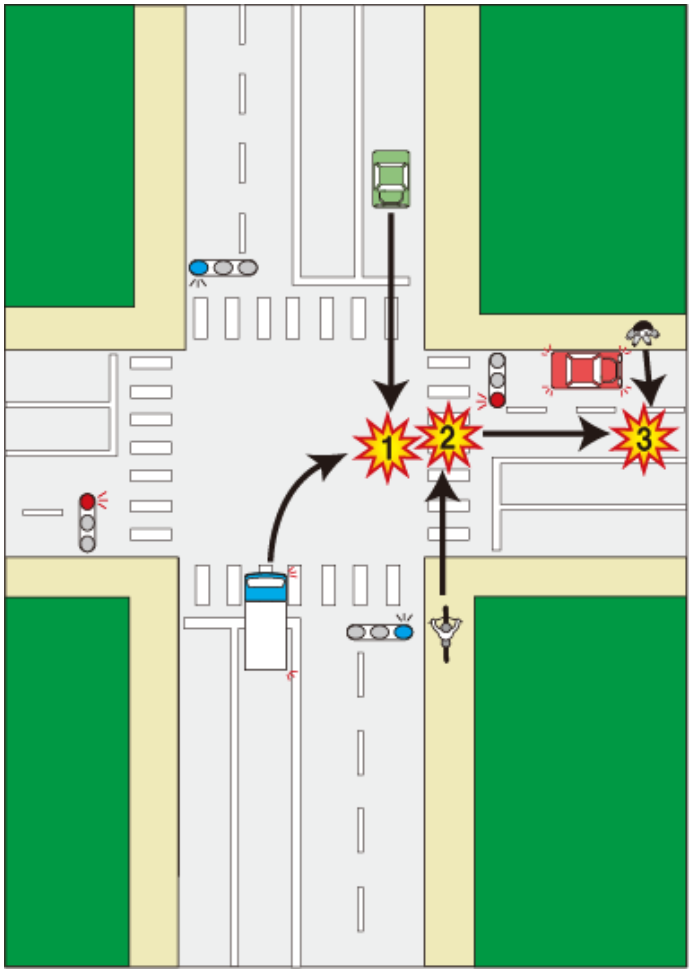


- What dangers are present in this situation?

- How can you drive safely to avoid these dangers?

KYT Sheet 14 Explanation

◆ Accident Patterns



◆ Hazard Factors

① Collision with an Oncoming Vehicle
Turning right while an oncoming vehicle is approaching can result in a collision.

② Collision with Pedestrians or Cyclists Crossing the Crosswalk
A pedestrian or cyclist crossing from the right on the crosswalk may collide with your vehicle.

③ Collision with a Pedestrian Emerging from Behind a Parked Car
A pedestrian emerging from behind a parked car on the right side of the road may collide with your vehicle during your turn.

◆ Safe Driving Methods

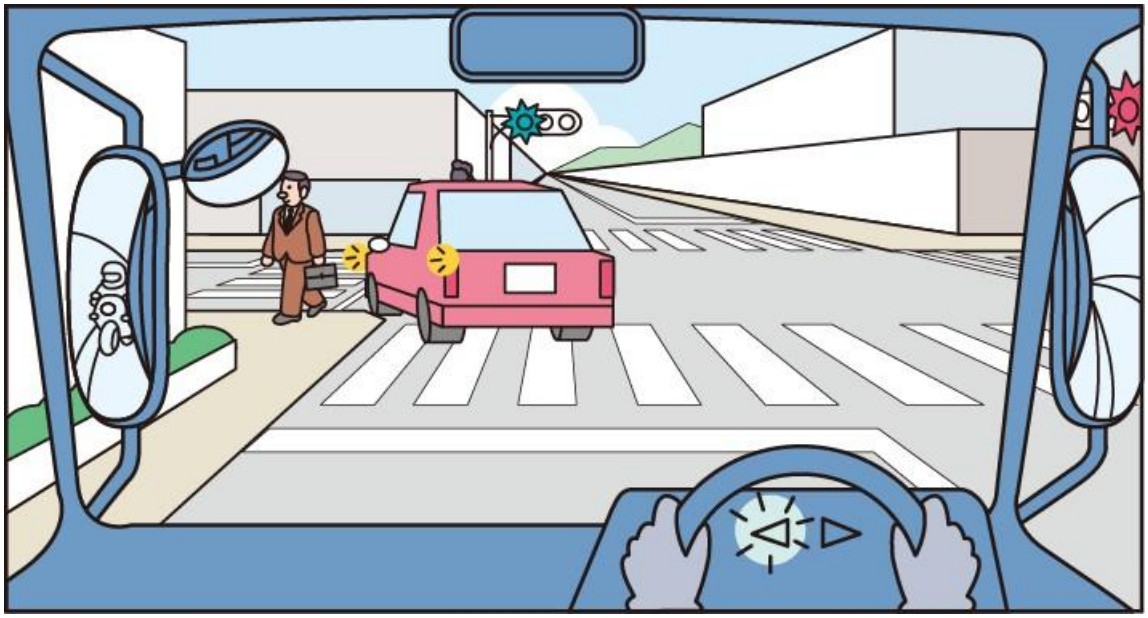
① Wait for Oncoming Traffic to Pass
Do not turn right while an oncoming vehicle is approaching. Wait for it to pass and ensure it is safe before making your turn.

② Pay Attention to Crosswalk and Surrounding Areas
When turning right, observe not only the crosswalk but also the area beyond it for potential hazards. Always proceed at a speed that allows you to stop immediately if needed.

KYT Sheet 15: Turning Left at a Signalized Intersection

◆Scenario

- You are turning left at a signalized intersection.
- A motorcycle is approaching from behind on your left side.
- A bicycle is visible across the intersection.

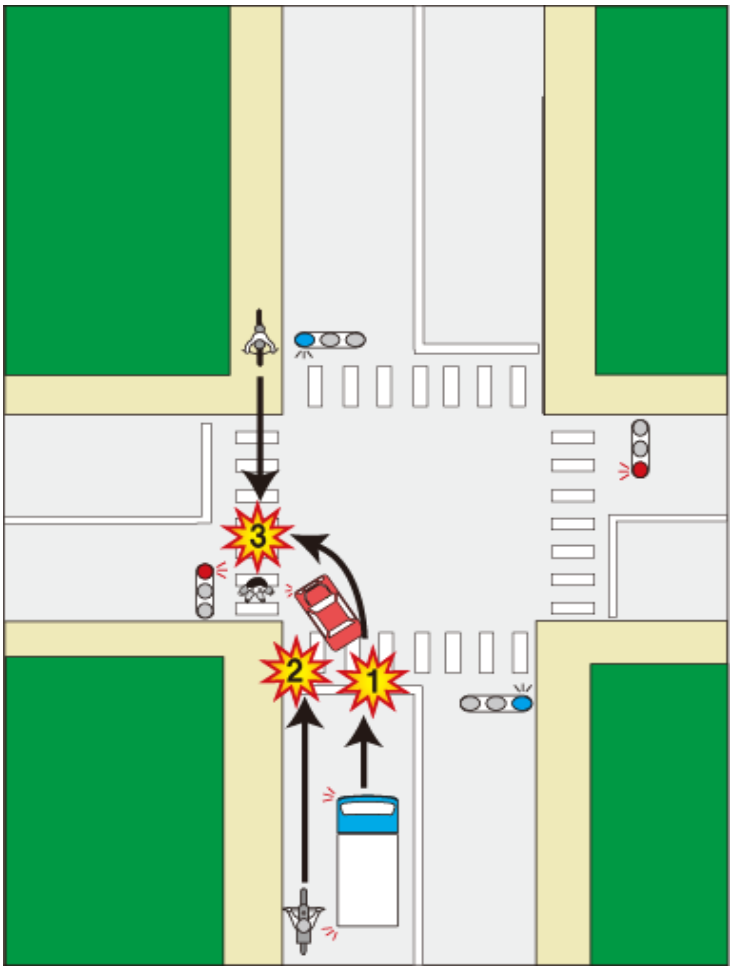


◆ What dangers are present in this situation?

◆ How can you drive safely to avoid these dangers?

KYT Sheet 15 Explanation

◆Accident Patterns



◆ Hazard Factors

① When stopping to protect pedestrians on a crosswalk, there is a risk of being rear-ended by a vehicle approaching from behind.

② When entering an intersection to make a left turn, there is a risk of causing a collision with a two-wheeled vehicle traveling alongside your vehicle.

③ There is a risk of colliding with a bicycle crossing a crosswalk.

◆ Safe Driving Methods

① Recognize the presence of pedestrians crossing the crosswalk well before entering the intersection. When stopping to protect pedestrians, avoid sudden braking to minimize the risk to vehicles behind you.

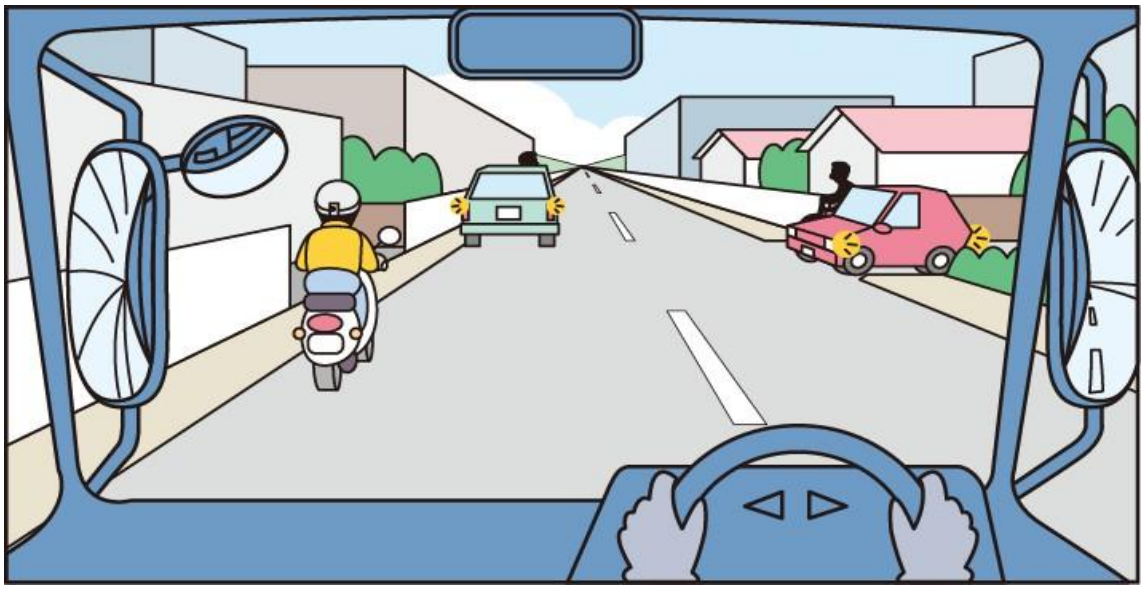
② Do not leave space on your left side that would allow two-wheeled vehicles to pass, as they may enter without noticing the danger. Ensure your vehicle is as close as possible to the left edge of the road, prevent side collisions, and always check visually for hazards.

③ When making a left turn, confirm the status of the crosswalk and check for pedestrians or bicycles that may approach it shortly. Predict and prepare for potential situations ahead of time.

KYT Sheet 16: Driving Through a Residential Area

◆Scenario

You are driving in a residential area. A motorcycle is traveling ahead on the left side of the road. A car and a bicycle are preparing to enter the road from the right side. A pedestrian is visible behind a parked car.

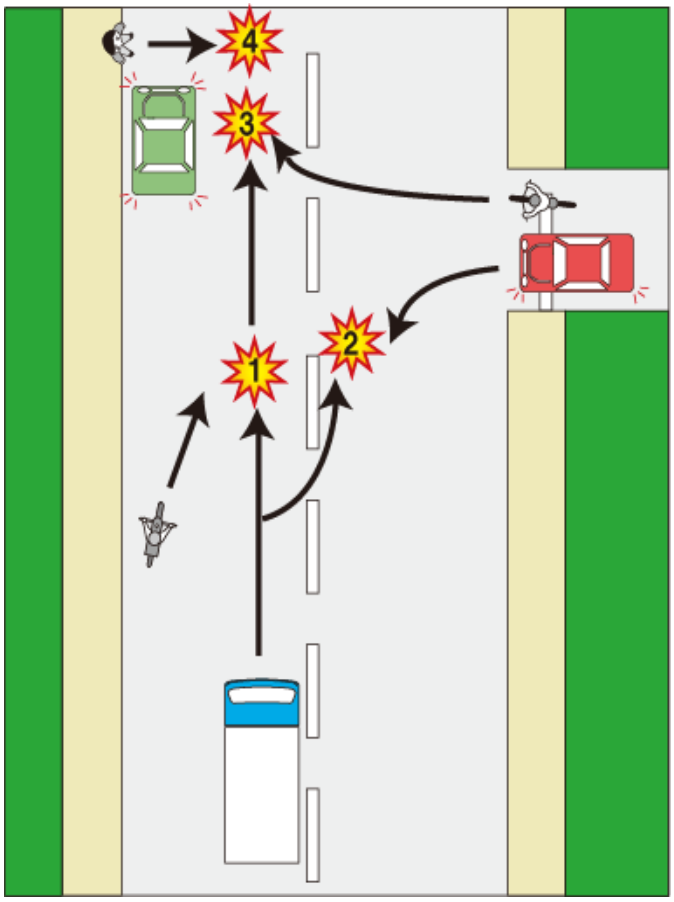


◆What dangers are present in this situation?

◆How can you drive safely to avoid these dangers?

KYT Sheet 16 Explanation

◆Accident Patterns



◆Hazard Factors

① Collision with a Motorcycle Changing Direction

A motorcycle ahead on the left may suddenly change its direction to the right.

② Collision with a Car or Bicycle Entering from the Right

While overtaking the motorcycle, a car or bicycle entering the road from the right may collide with your vehicle.

③ Collision with a Bicycle Entering the Road

A bicycle entering from the right may collide with your vehicle.

④ Collision with a Pedestrian Behind a Parked Car

A pedestrian emerging from behind a parked car may collide with your vehicle.

◆Safe Driving Methods

① Do Not Overtake Motorcycles Without Checking

Avoid overtaking motorcycles, as they may change lanes without checking for rear vehicles.

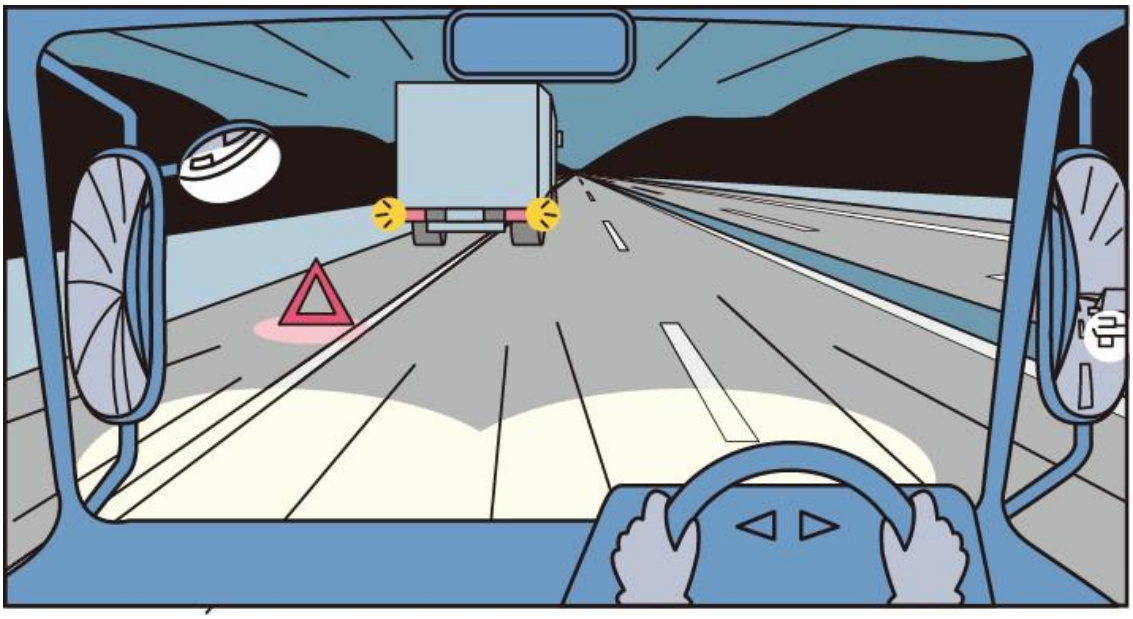
② Reduce Speed and Let Vehicles Proceed First

Slow down and allow cars or bicycles entering the road or pedestrians emerging from behind parked vehicles to proceed first.

KYT Sheet 17: Driving on a Highway at Night

◆Scenario

You are driving on a highway at night. A broken-down vehicle is stopped on the shoulder ahead.

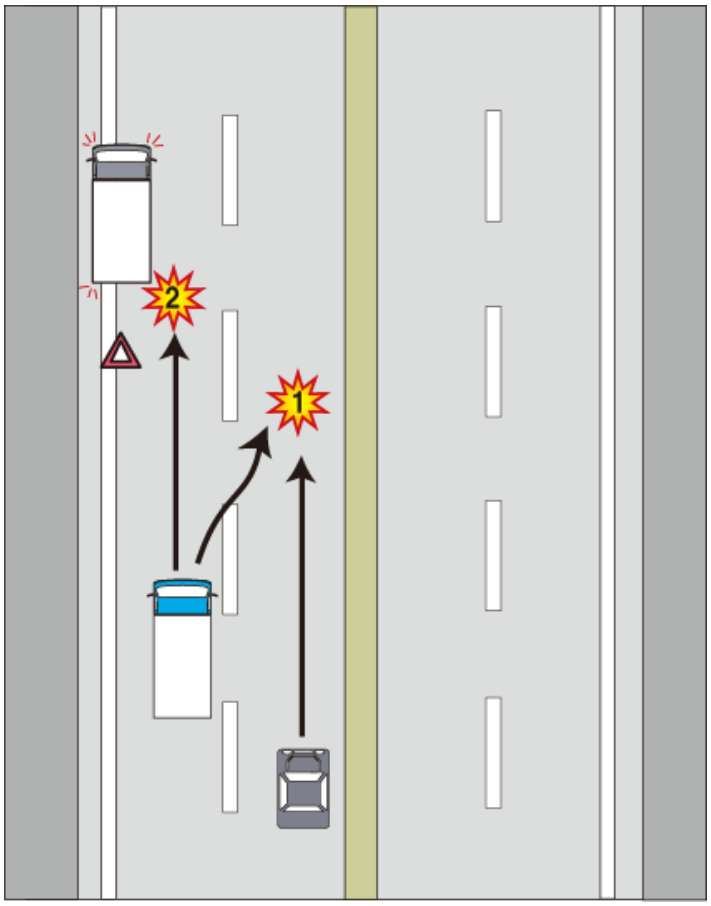


◆What dangers are present in this situation?

◆How can you drive safely to avoid these dangers?

KYT Sheet 17 Explanation

◆Accident Patterns



◆Hazard Factors

① Delayed Reaction to a Broken-Down Vehicle

If you fail to notice the broken-down vehicle ahead in time, a collision may occur.

② Collision with a Following Vehicle When Changing Lanes

If you change lanes to avoid the broken-down vehicle without checking behind, you may collide with the following vehicle.

◆Safe Driving Methods

① Pay Attention to the Road Ahead

Always watch the road ahead carefully to spot any broken-down vehicles or hazards as early as possible.

② Avoid Sudden Lane Changes

Do not change lanes suddenly near a broken-down vehicle, as this increases the risk of an accident.

Change lanes well in advance if possible.

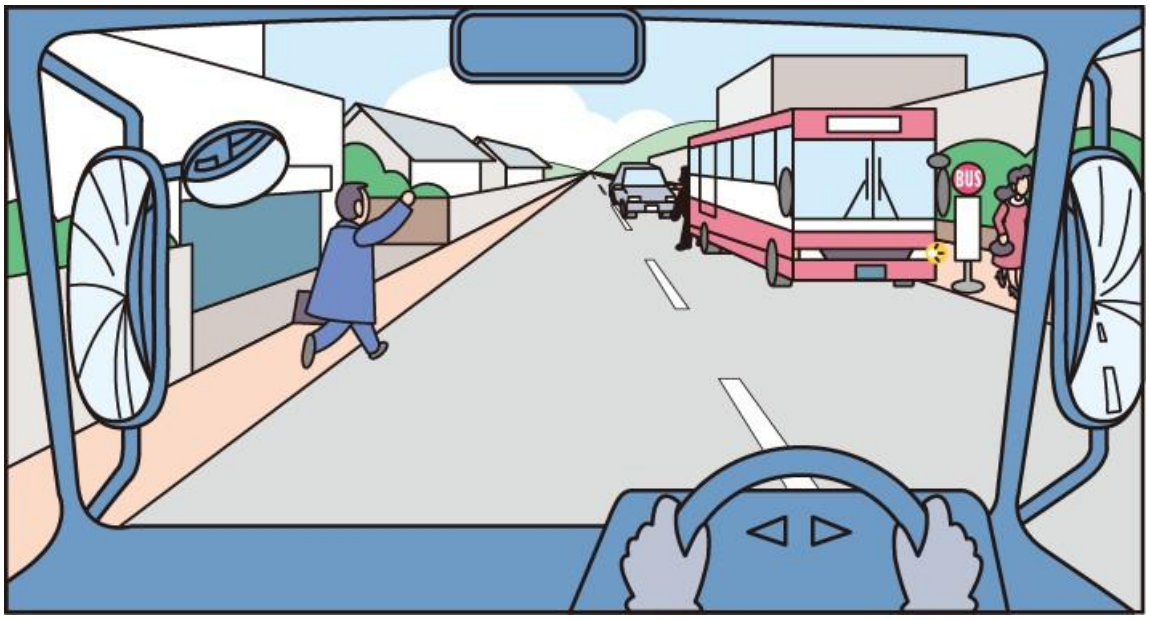
③ Check for Following Vehicles Before Changing Lanes

Always ensure there are no vehicles approaching from behind before changing lanes.

KYT Sheet 18: Driving Past a Bus Stop on a One-Lane Road

◆ Scenario

You are driving on a one-lane road. A bus stopped at a bus stop on the opposite side of the road.

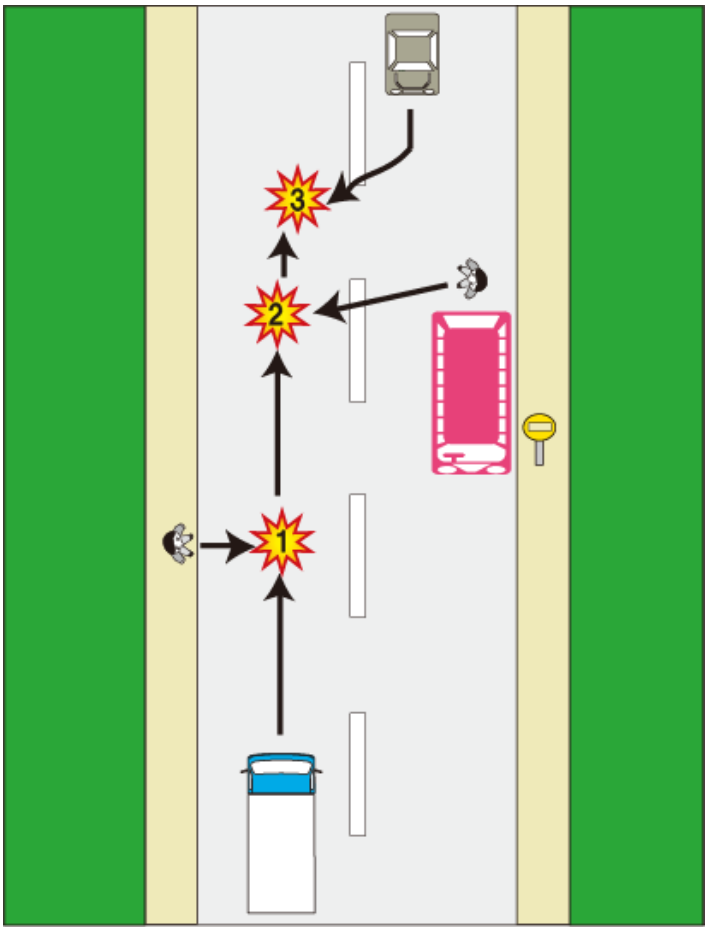


◆What dangers are present in this situation?

◆How can you drive safely to avoid these dangers?

KYT Sheet 18 Explanation

◆Accident Patterns



◆Hazard Factors

① Pedestrians Crossing the Road from the Left

Pedestrians on the left side of the road may cross to board the bus, leading to a collision.

② Pedestrians Crossing from Behind the Bus

Pedestrians standing behind the bus may suddenly cross the road, leading to a collision.

③ Collision with an Oncoming Vehicle Overtaking the Bus

An oncoming vehicle overtaking the stopped bus may enter your lane and collide with your vehicle.

◆Safe Driving Methods

① Watch for Pedestrians Crossing

When a bus is stopped at a bus stop, watch carefully for pedestrians crossing the road to board the bus.

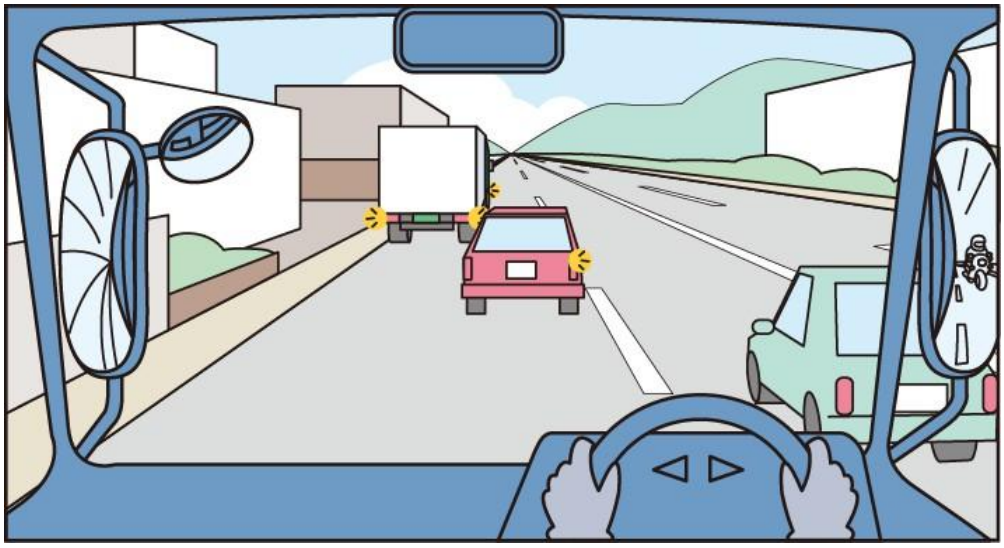
② Monitor Behind the Bus and Oncoming Vehicles

Be alert for pedestrians crossing from behind the bus and oncoming vehicles overtaking the bus. Pay close attention to the conditions around the bus stop.

KYT Sheet 19: Driving on a Two-Lane Road

◆Scenario

You are driving on a two-lane road. The vehicle in front of you is attempting to change lanes.

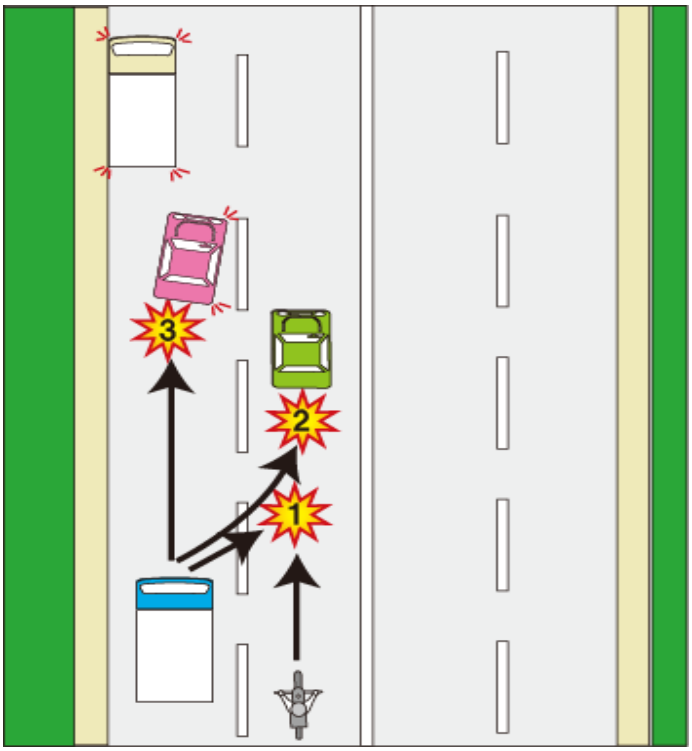


◆What dangers are present in this situation?

◆How can you drive safely to avoid these dangers?

KYT Sheet 19 Explanation

◆Accident Patterns



◆Hazard Factors

① Collision with a Motorcycle from Behind

If the front vehicle changes lanes without checking the conditions behind, it may collide with a motorcycle.

② Rear-End Collision During Lane Change

If the front vehicle slows down during the lane change, and you also change lanes, you may collide with it.

③ Late Reaction to Slowing or Stopping Vehicle

If you fail to notice the slowing or stopping of the vehicle ahead during its lane change, you may rear-end it.

◆Safe Driving Methods

① Maintain Safe Following Distance

Always keep a safe following distance to prepare for any sudden slowing or stopping of the vehicle in front.

② Check for Following Vehicles Before Changing Lanes

Always check for vehicles approaching from behind before changing lanes. If there are vehicles following, avoid changing lanes.