

## A MESSAGE TO HYUNDAI FORK LIFT TRUCK OPERATORS

Fork lift trucks are specialized machines with unique operating characteristics, designed to perform a specific job. Their function and operation are not like a car or ordinary truck. They require specific instructions and rules for safe operation and maintenance.

Safe operation of fork lift trucks is of primary importance to HYUNDAI.

Our experience with fork lift truck accidents has shown that when accidents happen and people are killed or injured, the causes are:

- Operator is not properly trained
- Operator is not experienced with fork lift truck operation
- Basic safety rules are not followed
- Fork lift truck is not maintained in safe operating condition

For these reasons, HYUNDAI wants you to know about the safe operation and correct maintenance of your fork lift truck.

This manual is designed to help you operate your fork lift truck safely.

This manual shows and tells you about safety inspections and the important general safety rules and hazards of fork lift truck operation. It describes the special components and features of the truck and explains their function. The correct operating procedures are shown and explained. Illustrations and important safety messages are included for clear understanding. A section on maintenance and lubrication is included for the fork lift truck mechanic.

The operator's manual is not a training manual. It is a guide to help trained and authorized operators safely operate their fork lift truck by emphasizing and illustrating the correct procedures. However, it cannot cover every possible situation that may result in an accident. You must watch for hazards in your work areas and avoid or correct them. It is important that you know and understand the information in this manual and that you know and follow your company safety rules.

Be sure that your equipment is maintained in a safe condition. Do not operate a damaged or malfunctioning truck. Practice safe operation every time you use your fork lift truck. Let's join together to set high standards in safety.

Remember, before you start operating this fork lift truck, be sure you understand all driving procedures. It is your responsibility, and it is important to you and your family, to operate your fork lift truck safely and efficiently.

△ Be aware that the Federal Occupational Safety and Health Act(OSHA) and state laws require that operators be completely trained in the safe operation of fork lift trucks. It is also an (OSHA) requirement that a machine inspection be performed before every shift. If you need training in operating or inspecting your fork lift truck, ask your supervisor.

HYUNDAI fork lift trucks are built to take hard work, but not abuse. They are built to be dependable, but they are only safe and efficient as the operator and the persons responsible for maintaining them. Do not make any repairs to this truck unless you have been trained in safe fork lift truck repair procedures and are authorized by your employer.

This manual describes procedures for operation, handling, lubrication, maintenance, checking and adjustment. It will help the operator realize peak performance through effective, economical and safe machine operation.

## INTRODUCTION

HYUNDAI welcomes you to the growing group of professionals who own, operate and maintain HYUNDAI fork lift trucks. We take pride in the long tradition of quality products and superior value the HYUNDAI name represents. This manual familiarizes you with safety, operating, and maintenance information about your new fork lift truck. It has been specially prepared to help you use and maintain your HYUNDAI fork lift truck in a safe and correct manner.

Your HYUNDAI fork lift truck has been designed and built to be as safe and efficient as today's technology can make it. As manufactured, for some models, it meets all the applicable mandatory requirements of ANSI B56.1-1988 Safety Standard for Powered Industrial Trucks. Some trucks are also furnished with equipment to help you operate safely. For example, load back rest, parking brake and horn are standard equipment.

Safe, productive operation of a fork lift truck requires both skill and knowledge on the part of the operator. The operator must know, understand, and practice the safety rules and safe driving and load handling techniques described in this manual. To develop the skill required, the operator must become familiar with the construction and features of the fork lift truck and how they function, the operator must understand its capabilities and limitations, and see that it is kept in a safe condition.

### Routine Servicing and Maintenance

Regular maintenance and care of your fork lift truck are not only important for economy and utilization reasons. It is essential for your safety. A faulty fork lift truck is a potential source of danger to the operator, and to other personnel working near it. As with all quality equipment, keep your fork lift truck in good operating condition by following the recommended schedule of maintenance.

### Operator Daily Inspection - Safety and Operating Checks

A fork lift truck should always be examined by the operator, before driving, to be sure it is safe to operate. The importance of this procedure is emphasized in this manual with a brief illustrated review and later with more detailed instructions. HYUNDAI dealers can supply copies of a helpful Drivers Daily Checklist. It is an OSHA requirement.

### Planned Maintenance

In addition to the daily operator inspection, HYUNDAI recommends that a planned maintenance (PM) and safety inspection program be performed by a trained and authorized mechanic on a regular basis. The PM will provide an opportunity to make a thorough inspection of the safety and operating condition of your fork lift truck. Necessary adjustments and repairs can be done during the PM, which will increase the lift or components lifecycle and reduce unscheduled downtime and increase safety. The PM can be scheduled to meet your particular application and fork lift truck usage.

The procedures for a periodic planned maintenance program that covers inspections, operational checks, cleaning, lubrication, and minor adjustments are outlined in this manual. Your HYUNDAI dealer is prepared to help you with a Planned Maintenance Program by trained service personnel who know your fork lift truck and can keep it operating safely and efficiently.

### Service Manual

In-depth service information for trained service personnel is found in Service Manual.

## HOW TO USE THIS MANUAL

This manual is a digest of essential information about the safe operation, the features and functions and explains how to maintain your fork lift truck. This manual is organized into eight major parts:

Section 1. General Safety Rules, reviews and illustrates accepted practices for safe operation of a fork lift truck.

Section 2. Operating Hazards, warns of conditions that could cause damage to the truck or injury to the operator or other personnel.

Section 3. Know Your Truck, describes the major operating components, systems, controls, and other features of your truck and tells how they function.

Section 4. Daily Safety Inspection, presents details on how to perform the operator's daily safety inspection and refuel the fork lift truck.

Section 5. Operating Procedures, discusses specific instructions on the safe, efficient operation of your fork lift truck.

Section 6. Emergency Towing, gives instructions for towing your truck in an emergency and for using battery jumper cables to start your truck in an emergency.

Section 7. Planned Maintenance, describes the PM(Planned Maintenance) program.

Section 8. Specifications, provides reference information and data on features, components, and maintenance items.

※ The descriptions and specifications included in this manual were in effect at the time of printing. HYUNDAI reserves the right to make improvements and changes in specifications or design, without notice and without incurring obligation. Please check with your authorized HYUNDAI dealer for information on possible updates or revisions.

The examples, illustrations, and explanations in this manual should help you improve your skill and knowledge as a professional fork lift truck operator and take full advantage of the capabilities and safety features of your new fork lift truck.

The first section of the manual is devoted to a review, with illustrations and brief messages, of general safety rules and the major operating hazards you can encounter while operating a fork lift truck. Next, you will find description's of the components of your specific fork lift truck model and how the instruments, gauges, and controls operate. Then, you will find a discussion of safe and efficient operating procedures, followed by instruction's on how to tow a disabled fork lift truck. The later sections of the manual are devoted to maintenance and truck specifications.




Take time to carefully read the 3. Know Your Truck section. By acquiring a good basic understanding of your truck's features, and how they function, you are better prepared to operate it both efficiently and safely.

In Planned Maintenance, you will find essential information for correct servicing and periodic maintenance of your truck, including charts with recommended maintenance intervals and component capacities. Carefully follow these instructions and procedures.

Each major section has its own table of contents, so that you can find the various topics more easily.

We urge you to first carefully read the manual from cover to cover. Take time to read and understand the information on general safety rules and operating hazards. Acquaint yourself with the various procedures in this manual. Understand how all gauges, indicator lights, and controls function. Please contact your authorized HYUNDAI dealer for the answers to any questions you may have about your fork lift truck's features, operation, or manuals.

Operate your fork lift truck safely. Careful driving is your responsibility.

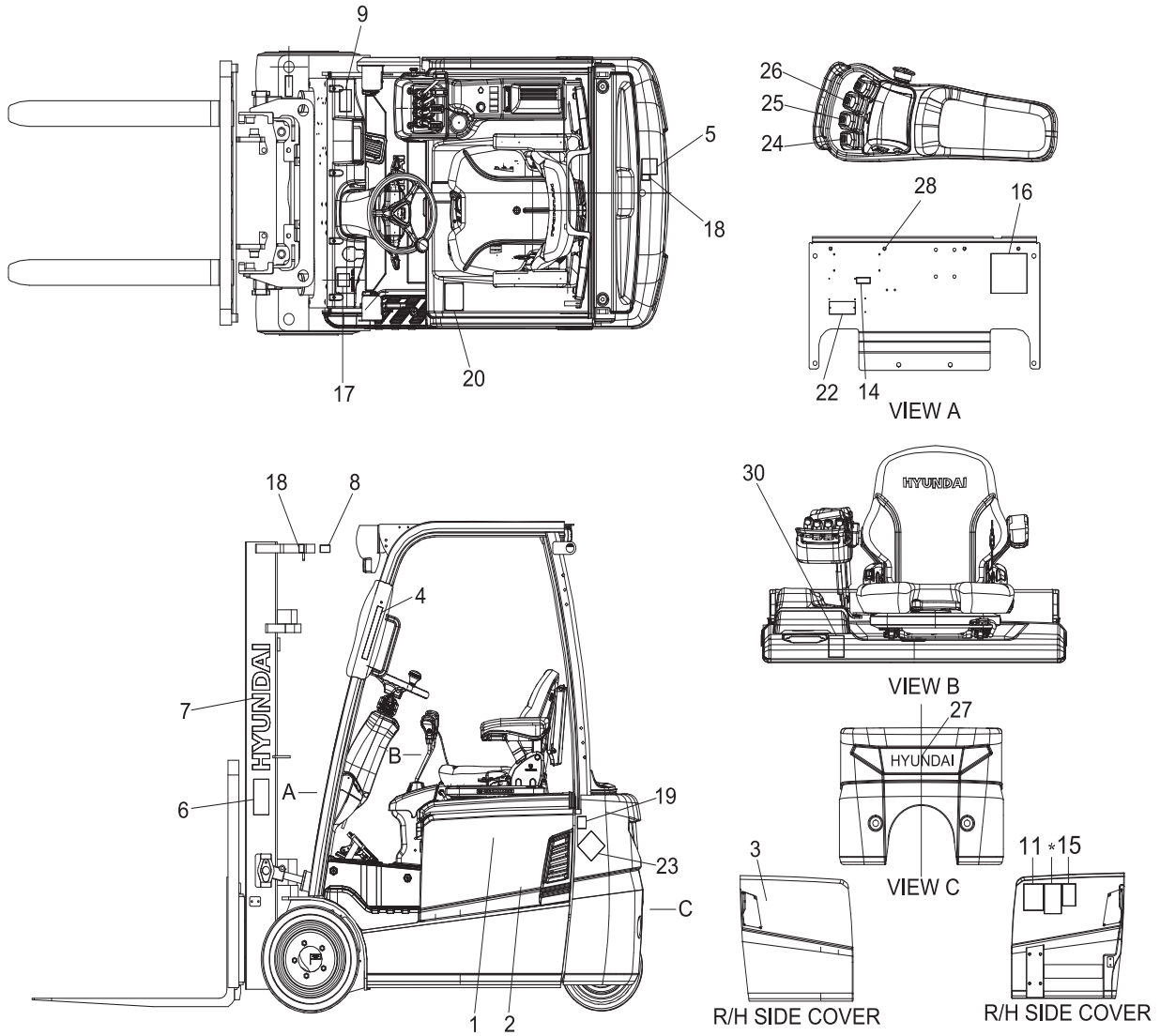
Drive defensively and think about the safety of people who are working nearby. Know your truck's capabilities and limitations. Follow all instructions in this manual, including all symbols (    ) messages to avoid damage to your fork lift truck or the possibility of any harm to yourself or others.

This manual is intended to be a permanently attached part of your fork lift truck. Keep it on the truck as a ready reference for anyone who may drive or service it. If the truck you operate is not equipped with a manual, ask your supervisor to obtain one and have it attached to the truck. And, remember, your HYUNDAI dealer is pleased to answer any questions about the operation and maintenance of your fork lift truck and will provide you with additional information should you require it.

# SAFETY LABELS

## 1. LOCATION

Always keep these labels clean. If they are lost or damaged, attach them again or replace them with new labels.



- |                       |                           |                              |
|-----------------------|---------------------------|------------------------------|
| 1 Model name          | 14 EMC                    | 24 Fork Lift                 |
| 2 Side cover LH       | 15 Caution BAT.Handling   | 25 Fork Tilt                 |
| 3 Side cover RH       | 16 Safety Warning         | 26 Side Shift                |
| 4 Warning O.H.G       | 17 Brake Fluid wet        | 27 HYUNDAI Logo              |
| 5 Hanger              | 18 Hook                   | 28 Tape Marking              |
| 6 Mast Warning        | 19 Temperature            | 30 Seat Warning              |
| 7 HYUNDAI Logo        | 20 Name plate(ANSI or CE) | 31 Brake                     |
| 8 Hand caution        | 22 UL Label-EE or ES Type | * Battery Instruction manual |
| 9 Start Warning       | 23 EE or ES Label         |                              |
| 11 Maintenance Export |                           |                              |

15BT9UOM0001

## 2. DESCRIPTION

There are several specific warning labels on this machine please become familiarized with all warning labels. Replace any safety labels if those are damaged, or missing.

### 1) MAST WARNING (Item 6)

This warning label is positioned on the both side of the mast.

- ⚠ **Never stand or work under the raised forks even if the hydraulic safety lock lever is applied.**
- ⚠ **In case of working under the forks, it is essential to support the carriage with blocks.**

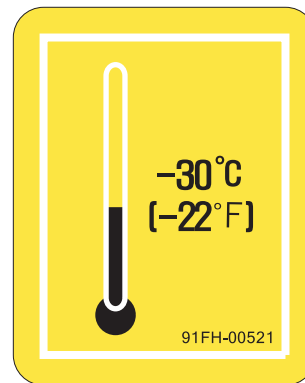


15BT9UOM0002

### 2) TEMPERATURE (Item 19)

This warning label is positioned on the Counter Weight.

- ⚠ **If working in the cold storage, a label for the cold storage option(OL03) is required.**
- ⚠ **Continuous operation time in the cold storage must not exceed 30 minutes.**
- ⚠ **After waiting or working outside the cold storage more than the work hours, you can resume work.**



15BT9UOM0003

### 3) HAND CAUTION (Item 8)

This warning label is positioned on the top side of mast.

- ⚠ **It warns of the danger of injury from movement between rails, chains, sheaves, fork carriage, and other parts of the mast assembly. Do not climb on or reach into the mast. Personal injury will result if any part of your body is put between moving parts of the mast.**

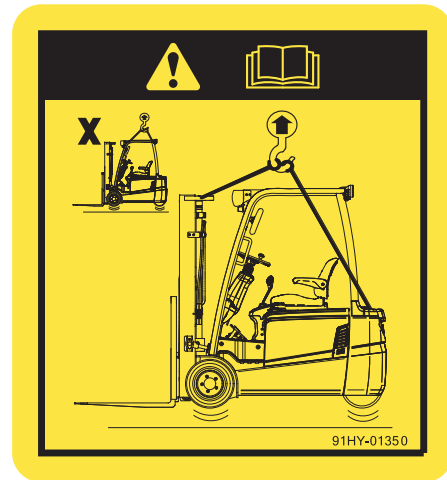


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#### 4) HANGER (Item 5)

This warning label is positioned on the Counter Weight.

- ▲ Refer to page 1-20 for safe loading procedures.



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#### 5) BRAKE FLUID WET (Item 17)

This warning label is located on the left side of dashboard.

- ※ Use only brake fluid DOT 3



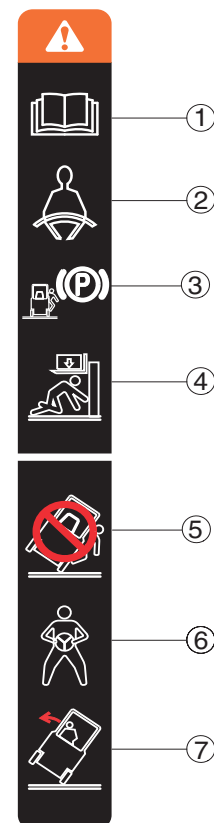
15BT9UOM0006

#### 6) WARNING OVER HEAD GUARD (Item 4)

This warning label is positioned on the inside of overhead guard.

- ① Refer to operator's manual in detail.
- ② Always buckle up the seat belt for safety operation.
- ③ When the operator get off the machine, always confirm the parking brake so that the machine can keep with stopping condition.
- ④ The people should not pass through under forks and other attachments which are lifted or being lifted.
- ⑤ Do not jump down from the machine. It can be caused that the operator have severe injury or death in the event of a tip over.
- ⑥ Outstretch the legs as widely as possible and grasp firmly the steering handle.
- ⑦ Lean the body to the opposite direction in order to avoid severe injury or death when the machine is tipped over.

- ※ Refer to page 3-3 for details.

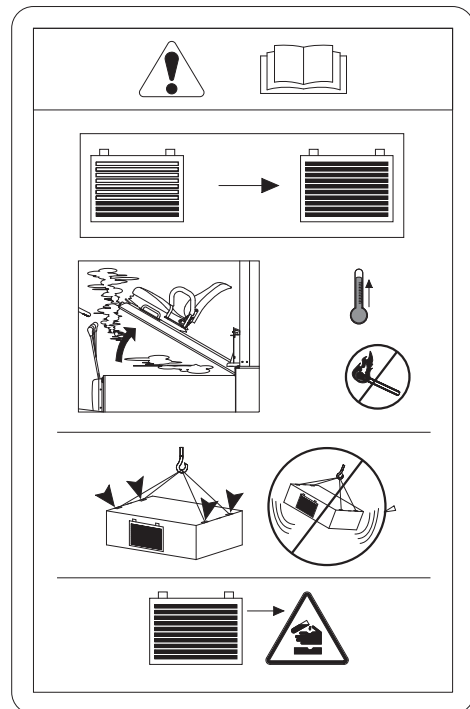


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## 7) BATTERY HANDLING (Item 15)

This battery handling is located on the left side of the bonnet.

- ▲ Refer to page 7-22 for a safe battery removal.
- ※ Open the battery cover when charging. Battery being charged not only heat, but also inflammable hydrogen gas is produced. Keep fire away.
- ※ Hoisting the battery case, use 2 or 4 wires with hook and handle carefully, not to shock.
- ※ The electrolyte solution of battery is dilute sulfuric acid ( $H_2SO_4$ ). Be careful not to drop on clothes and mechanical parts.

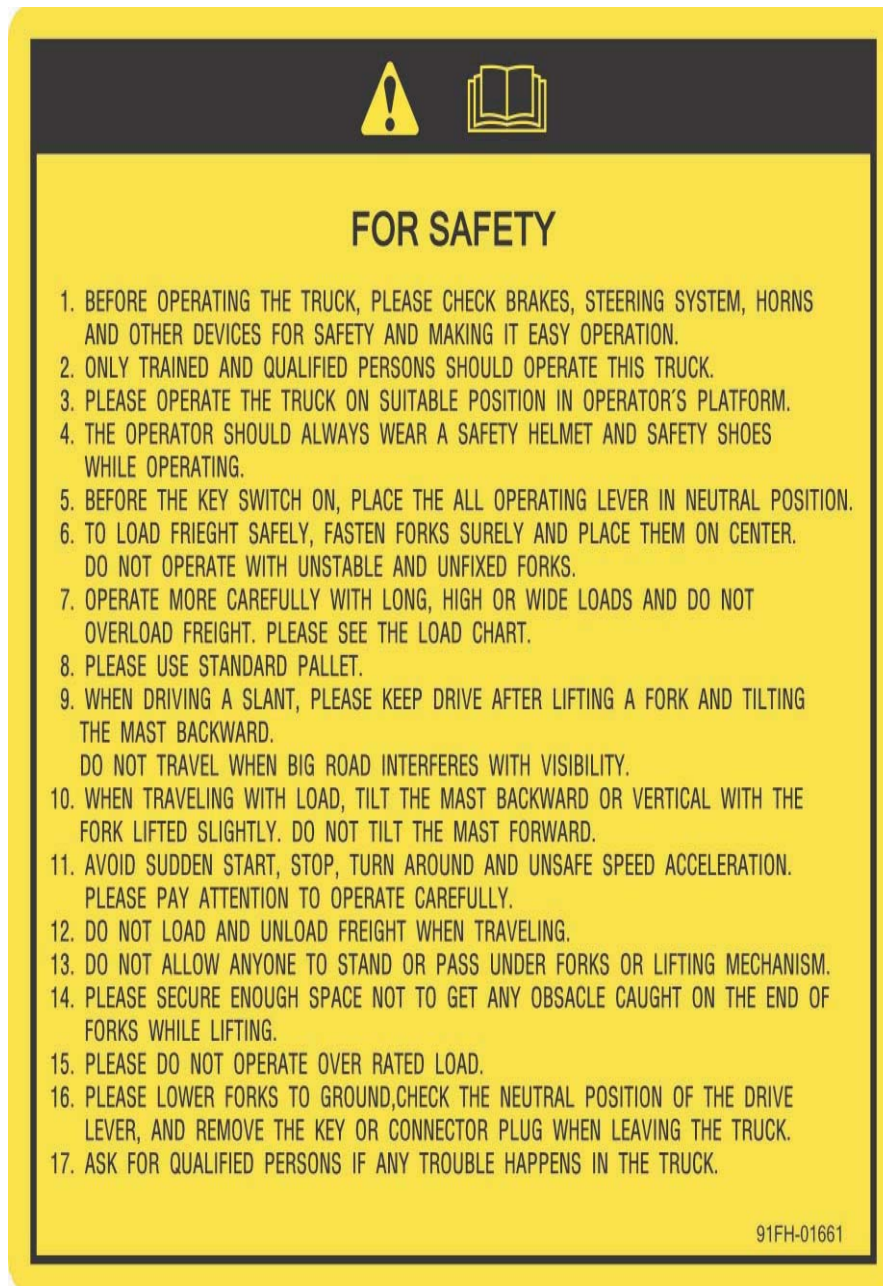


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## 8) WARNING SAFETY (Item 16)

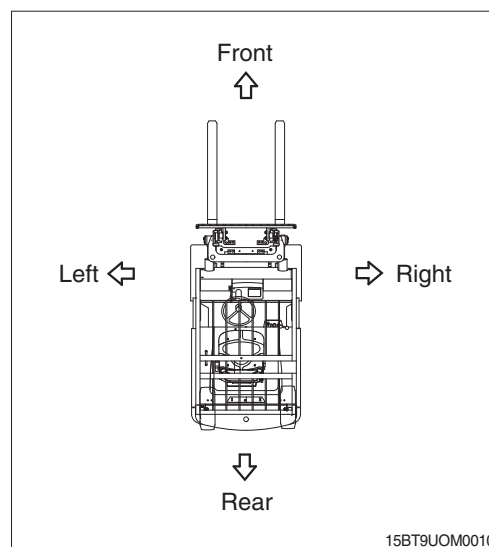
This warning safety is located on the left side of the dashboard cover.



15BT9UOM0009

## 1. DIRECTION

The direction of this machine indicate forward, backward, right and left when machine is in the travelling direction.

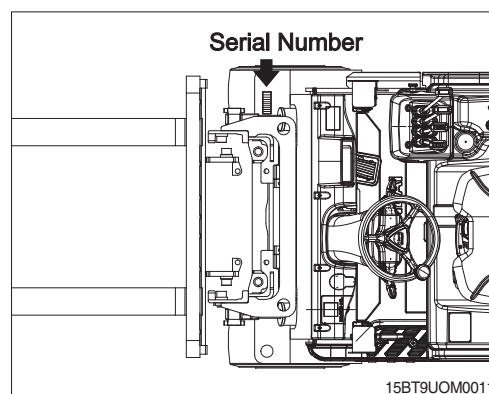


## 2. SERIAL NUMBER

Inform following when you order parts or the machine is out of order.

### 1) MACHINE SERIAL NUMBER

It's shown of the front-right side of the fork lift.



## 3. SYMBOLS

⚠ Important safety hint.

△ It indicates matters which can cause the great loss on the machine or the surroundings.

※ It indicates the useful information for operator.

## 4. WHOLE BODY VIBRATION

The whole body vibration level is measured according to standard EN13059 which contains specific test criteria (load, speed, roadway surface, etc.). Worksite vibration levels may vary depending on actual operating and surface conditions.

- Measured whole body vibration at the operator position, based upon standard production truck with full suspension seat.
- Declared whole body vibration emission value is in accordance with EN13059.
- 15/18/20BT-9U : 0.7 m/s<sup>2</sup>
- Uncertainty, K= 0.2 m/s<sup>2</sup>