



User's Manual

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English version.

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Thank you for choosing our new Bio Cargo.

This manual will show you how to use your Bio Cargo and provides good advice and instructions on how to make your vehicle work well and last a long time.

Even though you may have experience with similar bikes before, it is important to fully read the contents of this manual to ensure safety during those operations.

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This symbol marks useful information about how to handle the bike to avoid damage or incorrect use.



This symbol marks imminent risks to your life or health. Please comply with all instructions and take preventive measures accordingly.



This symbol marks special risks of entrapment. Please comply with all instructions and take preventive measures accordingly.



This symbol indicates a positive action or status.



This symbol indicates a negative action or status.

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Motor	SEG LEM 2/30
Torque	280 Nm
Gearbox	Steel planetary
Continuous rated power	250 w
Top speed (electr. assisted) ⁽¹⁾	25 km/h (EU) - 12 mph (USA)
Drive-off assistance	Up to 5 km/h (3 mph)
Number of motors	1
Number of batteries ⁽²⁾	1 (removable L-Ion) (MANDO HL)
Numbers of battery slots	2
Battery voltage	48v
Battery capacity	2,40 X 2 = 4,80 Kwh
Range ⁽³⁾	90 km (56 miles)
Chassis	Aluminium with two suspensions axles
Brakes	Hydraulic disk brakes on all 4 wheels
Recuperation	Yes
Handbrake	Yes
Gearshift	2 manual gears / (5+R) drive mode
Reverse gear	Yes
Number of wheels/tires	4
Rim	Front 12" - Rear 8"
Lighting	LED (front and rear light)
Brake light	Yes
Turn signal	Yes (front and rear)
Side mirrors	Yes
Electric rear mirror	Yes

Electric horn	Yes
App connection	Yes
Connectivity	Wi-Fi / 5G / Bluetooth / GPS / NFC
Lockable luggage compartment	Rear box
Loading area rear	Yes
Vehicle dimensions (Standard)	3000 mm x 980 mm x 1870mm
Vehicle dimensions (XL)	3610 mm x 1100 mm x 2070 mm
Wheelbase (Standard)	1300 mm
Wheelbase (XL)	1620 mm
Track width	860 mm
Payload	250 kg (EU) / 350 kg (USA)
Total permissible weight (MMTA)	650 kg (EU) / 750 kg (USA)
Charging	10 A / 600 W
Subject to registration	Yes
Driving license required	No
Battery certificate	UN 38.3 (EU) / UL 2271 (USA)
Certificate	DIN 79010:2020-02 // EN 15194

(1) Configurable to 19km/h (12 mph) or less

(2) Possibility 1 extra

(3) 45 km (28 miles) = 1 battery // 90 km (56 miles) = 2 batteries

The bike is intended to be used for cargo delivery in an urban environment, on streets, bicycle lanes and pathways.

Excessive use on off-road terrain is considered unintended use and may pose unforeseeable risks that have not been covered by the vehicle's design or this manual.

Operating controls

Control locations



Get acquainted with the controls in a safe and traffic-free area.



① Turn left light

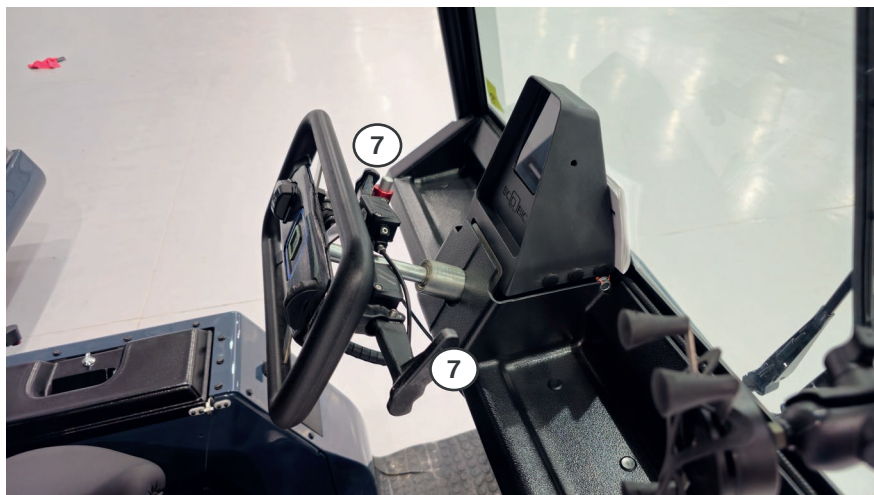
② Turn right light

③ High Beams

④ Horn

⑤ Control buttons

⑥ Display



⑦ Brakes



⑧ Handbrake

Brakes

The Bio Cargo Bike is equipped with independent hydraulic braking systems for both axes.



It is strictly forbidden to brake the vehicle by dragging your feet on the ground!



The right-hand lever operates the front brakes.



The left-hand lever operates the rear brakes.

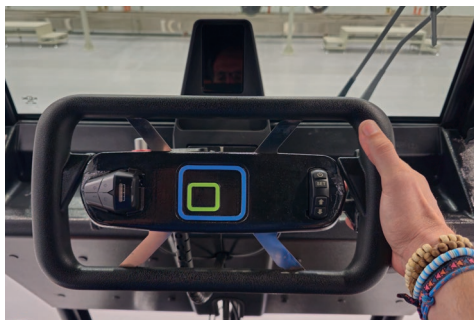
To engage the brake, pull the left or right brake lever and the vehicle will start to brake.

Pull the lever all the way out to bring the vehicle to a complete stop.

To disengage the brake, gradually release the brake lever.



The left-hand lever operates the rear brakes.



The right-hand lever operates the front brakes.

To activate the handbrake, pull the left lever and push the button.



To deactivate the handbrake, pull the left lever.



Always engage the handbrake after parking the vehicle.

Seat adjustment



Do not adjust the seat while driving!

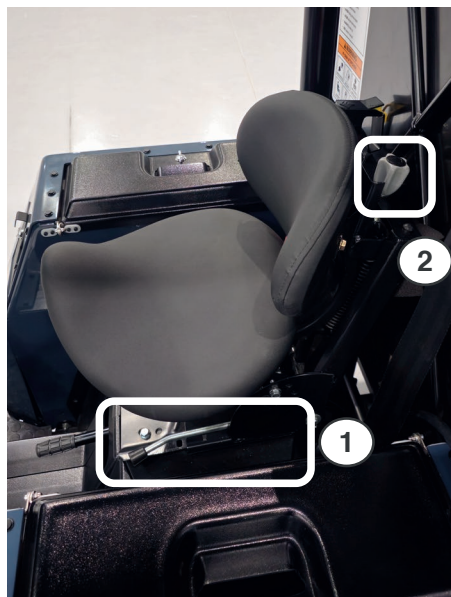
Only adjust the seat when the vehicle is stopped and the parking brake is engaged.



Adjust the seat to the most comfortable pedalling position for you.

To adjust the seat:

- 1) Pull the lever upwards.
- 2) Slide the seat forwards or backwards.
- 3) Release the lever to lock the seat in position.



- ① Lever to adjust the seat.
- ② Mechanism to adjust the seat cushion.

Safety belt (extra)

The Bio Cargo Bike is equipped with a safety belt on the seat.



To fasten the belt, pull the strap and pull it over the legs until it is fastened at the clasp.



To unbuckle the seat belt, press the red button on the right-hand side of the seat belt lock and pull it out until it is fully retracted to the left-hand side of the seat.

Mirror adjustment



Adjust both of the rear-view mirrors so that you can see the vertical edge of the cargo box.



Always readjust the mirrors after adjusting your seating position!

Do not adjust the seat while driving!

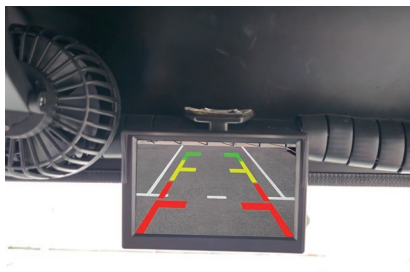


Only adjust the seat when the vehicle is stopped and the parking brake is engaged.



Electric rear mirror (extra)

The Bio Cargo Bike is equipped with a electric rear mirror, which is automatically activated when the vehicle is started.



Cooling system (extra)

The Bio Cargo Bike is equipped with a cooling system inside the cab, consisting of two fans.

To activate it, push the buttom between the fans to position I and II.

To deactivate it, push the buttom to position 0.



USB port (extra)

The Bio Cargo Bike is equipped with a USB port and USB type-C port for charging devices.

Specifications:

USB port: Output = 5V - 1.5A

USB type-C port: Output = 5V - 2.5A



Windscreen wipers (extra)

The Bio Cargo Bike is equipped with a windscreen wipers.

To active the windscreen wipers, push de buttom and the light turn on.

To operate the windscreen washer water, push the buttom on the top.



Windscreen washer reservoir (extra)

To fill the windscreen washer reservoir, open the door on the left-hand side of the dashboard by pressing on it and fill the reservoir without overflowing.



Mobile holder (extra)

The Bio Cargo Bike is equipped with a dobbble mobile holder.



Gear lever

The Bio Cargo Bike is equipped with a gear lever, which allows a choice between slow speed and fast speed.

To use the gear lever, the Bio Cargo must be at a complete standstill.

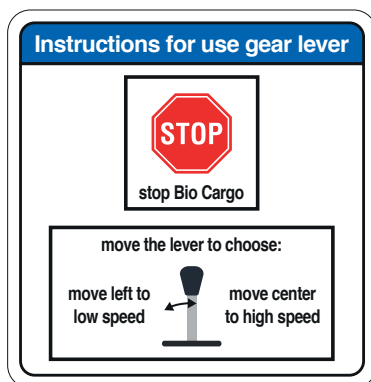
Once stopped, move the lever to the left to select low speed and/or to the center to select high speed.



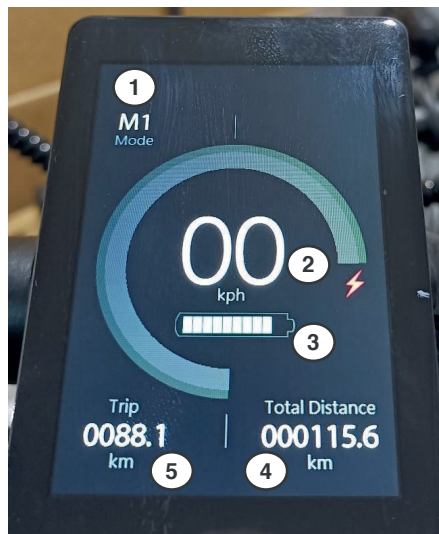
Move left to low speed



Move center to high speed

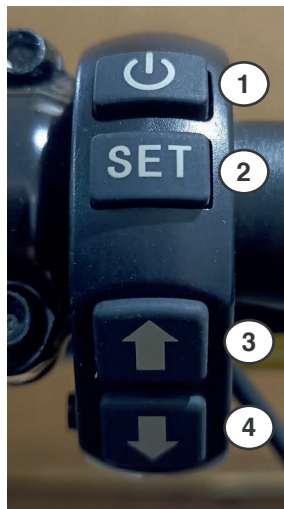


Display



- ① Mode
- ② Current speed
- ③ Battery charge percentage
- ④ Total distance travelled
- ⑤ Trip distance travelled

Control Buttons



- ① Power / Power off
- ② Set
- ③ Up
- ④ Down

Pre-ride inspection



Visually assess that the vehicle appears in a good condition.



The vehicle must be visually in working order.



No parts missing.



Nothing seems out of order or disaligned.



Windshields are clean and you can see through them.



Check tyre condition.



There should be at least some thread left on the tyres.



No bumps or visual cuts.



Check tyre pressure depending on the tyres fitted on the bike.



Visually check if all the tyres are properly inflated. Apply pressure with your hand to get a better understanding.



If needed, inflate the tyres up to a 100% max allowed pressure written on the tyre sidewall.



Make sure the lights are working correctly.



Front daylights.



Front nightlights.



Turn signals (front and back)



Brake lights



Before joining traffic, test the brakes at low speed.



Try pushing the bike with the handbrake on. It should barely move if you push hard.



Test the electrical brake that is activated when riding the bike forwards and then pedalling backwards!



Make sure that the riding position is comfortable and adjust the side mirrors. On an everyday basis, you should be checking for changed behaviour and new noises. If there are changes, like sounds, something feels loose, low top speed, strange handling, poor brake performance, etc. immediately consult with Support.



As with all components, the cargo bike is subjected to mechanical wear and high stresses. Different materials and components may react to wear or stress fatigue in different ways. If the design life of a component has been exceeded, it may suddenly fail, possibly causing injuries to the rider. Any form of crack, scratch or change of colouring in highly stressed areas may indicate that the life of the component has been reached and it should be replaced.



If you need to manually push the bike, stand to the side of the vehicle, hold one hand on the steering wheel for steering and braking, and push with your other hand from the cargo box. Do not push solely from the steering wheel!



Do not touch the brake discs after heavy use. Risk of burns!

Important riding tips to keep in mind

 Although our Bio Cargo has a stable frame, we still recommend wearing a cycle helmet.

 Keep in mind that riding and braking behaviour in laden and unladen conditions of the bike will differ, particularly when riding on sloping roads or cornering.

 Be aware that stopping distances for your bike may be longer than they are for conventional bikes you may have had experience with. Under wet conditions, stopping distances may increase further as the braking effect is reduced. Extra caution is required.

 In the correct use of the vehicle and with the correct placement of the load in the body, no noticeable vibrations are detected on the driver when driving the vehicle.



The Bio Cargo is composed of parts that can pose a particular risk of entrapment during proper use and maintenance. Please be aware of this and follow all instructions in this manual to avoid this.

How to get started



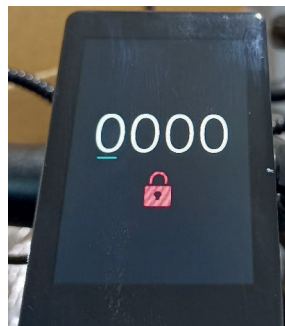
①

Press the  button.



②

Mando logo will appear on the Display.



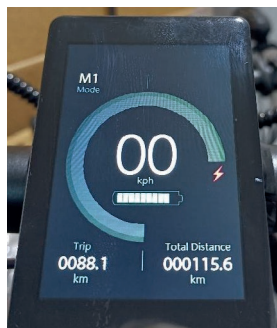
③

Display will show PIN (default PIN is 0000)



④

To confirm PIN, press “SET” button 4 times.



⑤

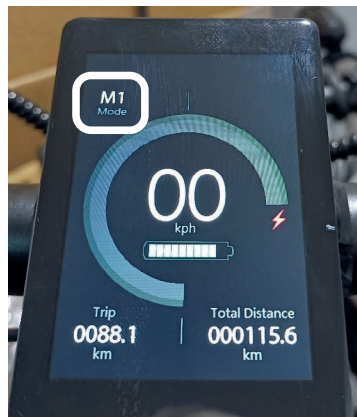
Driving interface will be shown on the Display.

Driving mode

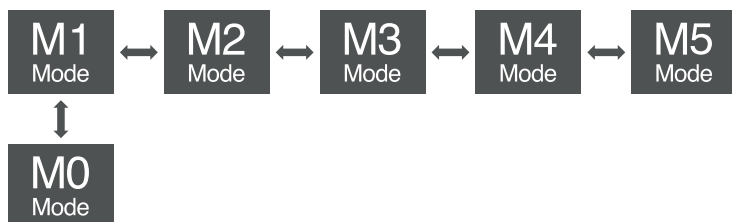
Mode is shown on the up-left corner.

Mando SPM setup has 5 driving modes: (M1-M5) + reverse mode (R) + neutral mode (M0).

To move forwards, choose mode and start pedalling forwards.



To change driving mode, press  and  buttons.



For reverse mode, press  button and start pedalling backwards to drive backwards.



Check the blindspot behind the vehicle before reversing!

Important riding tips to keep in mind:

-  Ride safely and always be considerate of pedestrians.
-  Do not hand over your rental bike to any third parties without your Employer/Bike Owner's written permission.
-  Make sure that you're always up to date and comply with local driving regulations by reading the daily press and government publications.
-  Whenever and wherever possible use bicycle lanes.
-  Switch on the high beams while driving at night, but be cautious about blinding other road users.

Be aware that stopping distances for your bike may be longer than they are for conventional bikes you may have had experience with. Under wet conditions, stopping distances may increase further as the braking effect is reduced. Extra caution is required.
-  Keep in mind that riding and braking behaviour in laden and unladen conditions of the bike will differ, particularly when riding on sloping roads or cornering.
-  Do not use your phone while driving! Come to a full stop in a traffic-free area and engage the parking brake before operating with a phone.

Battery change (in case to have 1 extra battery)

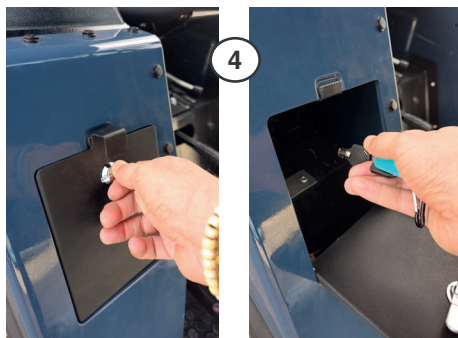
The Bio Cargo bike has two battery compartments with a battery each.

To operate the vehicle, only one of the batteries needs to be connected.

To change the battery:

- 1) Turn off the vehicle.
- 2) Open the cover.
- 3) Disconnect the cable by first pressing the yellow button.
- 4) Open the side door to access the battery lock and unlock the battery..
- 5) Take out the empty batteries.
- 6) Put in and connect the charged batteries.
- 7) Repeat step four to lock the battery
- 8) Close the cover.





If the battery is not connected, the vehicle will not start.



There is a risk of explosion if the battery is replaced with anything else than a genuine Bio Cargo battery!

Charging battery

To charge the battery, it must first be disconnected and removed from the charging compartment.

Connect the charging cable to the battery and to the socket.



You can see the charge percentage by pressing the button on the battery.



-  We recommend charging the battery to its full capacity.
-  To charge the battery you must take out the empty batteries.
-  Charge the battery with the supplied Bio Cargo charger only.
-  We recommend charging the battery during the night and in dry rooms fitted with smoke detectors.
-  Do not use a battery or charger that is defective.
-  Do not expose the battery or charger to the blazing sun during charging.
-  Keep the battery and charger away from moisture and water during charging.
-  Keep the battery and charger out of reach of children.
-  Make sure that the battery is in sound condition (no corrosion, cracking, or other damage) before using or charging. Do not open, disassemble, or crush the battery.
-  Avoid leaving your battery fully discharged for prolonged periods. This will negatively and permanently affect the battery's capacity.



Always follow the instructions contained on the label of the battery charger.



Do not use the charger outdoors when it's raining.



Temperature range for battery storage: 0° C ... 40° C



Do not use the charger, if its cable appears damaged.



Keep the battery away from fire and heat.



Remove the batteries from the bike if you do not use it for a long period of time.



The battery should not be disposed of via the household rubbish. Remove the battery via a suitable collection point for environmentally-friendly recycling.

Troubleshooting

In case of unusual performance of the vehicle collect as many details as possible:

- 1) Park the vehicle in a safe and traffic free area.
- 2) Locate the part or component causing the unusual performance.
- 3) Visually inspect if there is any kind of physical damage to the part itself or the parts it's connected to.
- 4) Track down the moment the issue first appeared:
 - Time, date and place
 - Battery status
 - Context in which it happened (recent maintenance or modification, recent level of utilization, weather etc.)
- 5) Make relevant visual material (photo or video).

After collecting the data, forward it to our technical support team who will help you troubleshoot and help with the issue. You will find the contact information at the beginning of this manual.



Do not perform troubleshooting operations or roadside repairs in traffic!

Cleaning

Cleaning the bike is not only important to preserve the nice looks of the bike, but also to ensure the longevity of the metal frame, mechanical components, and different materials.

Clean the bike regularly, but especially after driving on salty roads, in the rain or in muddy conditions.



Use the window cleaner and a microfiber towel for cleaning the windshield and side windows.



Use a damp microfiber towel with mild cleaning detergent or cleaning foam on other surfaces.



Do not use running water and/or a pressure washer to clean the bike!



Do not use abrasive pads or brushes for cleaning!



Do not use harsh chemicals or acids in any concentration!



Never use a dry rag or paper towel for cleaning the windshield. This will cause scratches and hinder the driver's visibility!

To keep your Bio Cargo in perfect condition, some care and maintenance is necessary. This will guarantee a safe and long-lasting usage and preserves the joy of using your Bio Cargo for many years .

Braking system

The brakes are subjected to heavy friction during each braking process. This causes signs of wear both on the brake pads and on the brake discs. Check the brakes regularly for wear. If the wear limit is reached, the brake pads and, if necessary, the brake disc must be replaced immediately. In particular, if you observe a decreasing braking power or scratching noise when braking, the brake pads must be checked and renewed if necessary. Depending on the load and driving style, the disc brakes wear off at different rates.



Falling below the wear limit can lead to total failure of your brake system.



Maintenance work on your brake system should only be carried out by qualified persons. Improper maintenance can cause leaks or trapped air, which can lead to failure of the brake system.



Do not change the route of the hydraulic hoses of your brake system. Incorrect routing may cause the hydraulic lines to be pinched or stretched, which can lead to leaks and failure of the brake system.



Only use original brake pads and disk from the Bio Cargo manufacturer. If in doubt, have the Bio Cargo serviced by your dealer.



The brake fluid should be serviced by checking the levels in the reservoirs on the steering wheel. In the event that it is necessary to replenish or replace the brake fluid, the Dot 4 type shall be used.

Wheels, tyres and rims

The front and rear wheels consist of a rims and the tyres running around the rims.

When in use, the front and rear wheels will be subject to heavy strain through the weight of the rider and the load and any unevenness in the path.



Check your front and rear wheel on a regular basis for possible damage and correct alignment.



Tyre pressure



Front wheel tyre pressure:
2.5 Bar - 36,26 PSI



Rear wheel tyre pressure:
3.0 Bar - 43,51 PSI



If the front and rear wheels are not aligned or if they wobble, this compromises rider safety. Have the front and rear wheel aligned by a Bio Cargo dealer if they are not aligned or if they wobble.



It is recommended to visit a workshop if the wheels are not correctly aligned.



For the maintenance of the rims with the above mentioned maintenance of the tyres, the rims will not suffer any wear. Periodic cleaning of the rims is recommended.



Check the rims for cracks and damage.
Have damaged rims replaced immediately. Contact your Bio Cargo dealer.



Damaged tyres can burst when driving. Check the tyres regularly for damage or heavy wear. If you notice damage or significant wear, contact a Bio Cargo dealer. If the tyres used do not correspond to the original size, the components may be damaged.



Tyre size



Front tyre size: 4.00-R12 C



Rear tyre size: 4.80/4.00-R8

How to tighten threaded joints



Handwheel tightening torques: 15 Nm



Seat pillar tightening torques: 30 Nm



Wheels tightening torques: 70 Nm

Spare parts



Use only original spare parts or spare parts authorised by the manufacturer.



Use only original accessories or accessories authorised by the manufacturer.

Maintenance plan

Task		Revision type
		B
	Batteries and charging systems	●
	Braking systems	●
	Tyres	●
	Shock absorber	●
	Differential lubrication	●
	Bodywork and accessories, misalignments, deformations, rust...	●
	Steering	●
	Marking road	●
	Torque	●
● Checking		
B – Periodical revision		
Each 2.000km / 4 months		



The theoretical maximum limit in travel and time is considered. These conditions may change depending on the use of the vehicle. If you see that the wear is premature, visit your workshop before the predetermined time in the table.



wear a helmet



EU USA
25 km/h 12 mph
maximum speed



always buckle up



parking brake
on steering wheel

front
36,26 PSI
2,5 Bar

rear
43,51 PSI
3,0 Bar



check tyre pressure



read manual



AVOID abrupt
maneuvers



AVOID
inclined floor



NEVER drive
under 16 years old

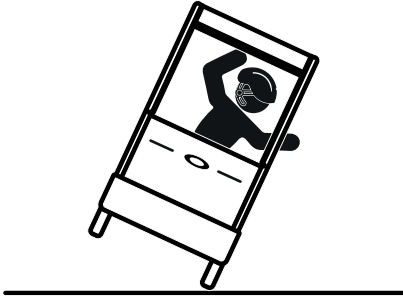


NEVER loads over max weight



ALWAYS heavy loads down

⚠ WARNING



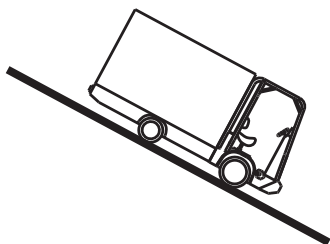
- **RISK of ROLLOVER** even on flat terrain
- **ROLLOVERS** could result in **DEATH** or **SERIOUS INJURY**
- **AVOID** sudden sharp turns
- **AVOID** steep inclines
- **AVOID** riding across slopes
- **AVOID** abrupt maneuvers
- **ALWAYS** buckle up
- **SEE** owner's manual

⚠ WARNING in case of TIPOVER



WARNING

when going downhill



- Be careful with the speed limit, please use the brakes.
- Avoid using low gear.

Notes

