1. DAILY INSPECTION

At the beginning of each shift, inspect your battery Fork Lift and fill out a check, maintenance and lubrication table.

Check for damage and maintenance problems.

Have repairs made before you operate the battery Fork Lift.

Do not make repairs yourself. Fork Lift Truck mechanics are trained professionals. They know how to make repairs safely and properly.

25B9UOM0101

2. Do'S AND Don'ts

Do watch for pedestrians.

Do wear safety equipment when required.

Don't mix drugs or alcohol with your job.

Don't block safety and emergency equipment.

Don't smoke in NO SMOKING areas or when charging.

Don't operate the truck outdoors in rainy day.

Don't perform battery charging service in the room without adequate ventilation.

Don't park the truck outdoors in rainy day in order to protect electric components.

Don't splash water about electric components during truck washing.

⚠ UNAUTHORIZED MODIFICATION

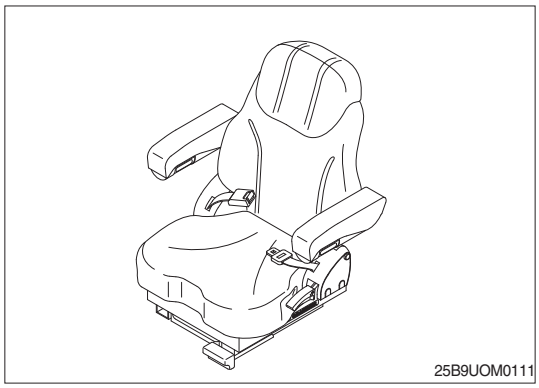
Any modification made without authorization from hyundai can create hazards.

Before making a modification, consult your Hyundai distributor.

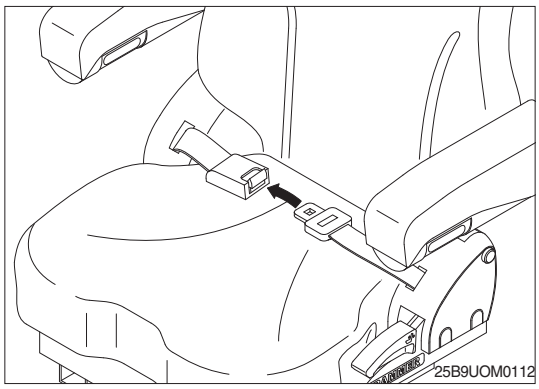
Hyundai will not be responsible for any injury or damage caused by any unauthorized modification.

3. SEAT BELTS

⚠ Always buckle up for the machine equipped with safety belt.



⚠ Seat belts can reduce injuries.

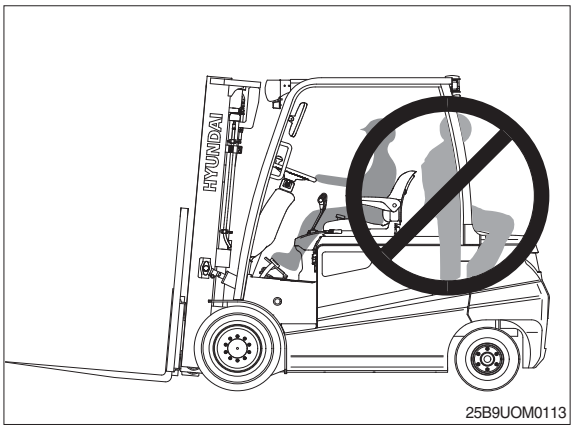


4. GET ON AND GET OFF

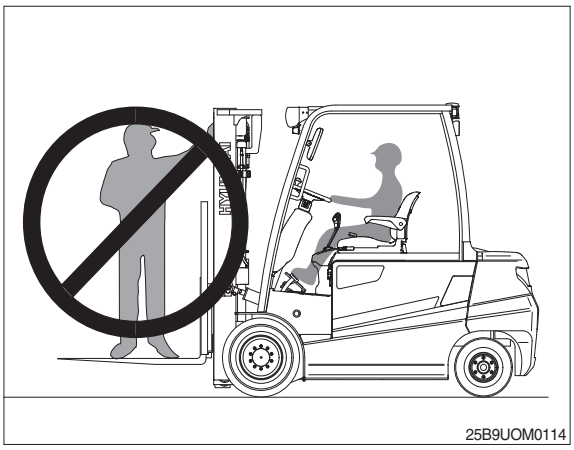
1) The operator is the only one who should be on a truck.

⚠ KEEP RIDERS OFF TRUCK

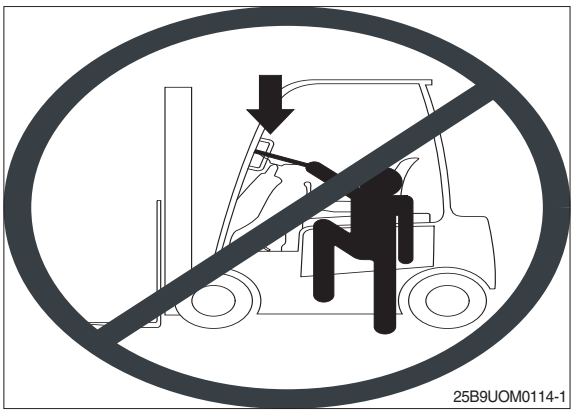
Riders on a truck are subject to injury such as being struck objects and being thrown off the truck.



2) Never transport personnel on the forks of a lift truck.

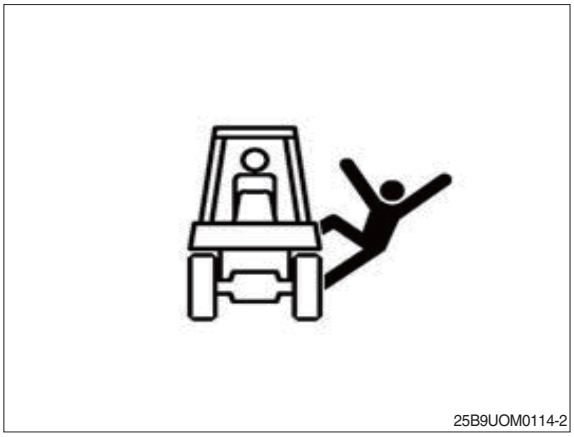


3) Do not hold the steering wheel when get on and off the truck. Use the handgrip mounted on the truck. Excessive loads on the steering wheel may cause structural distortion and safety issues.



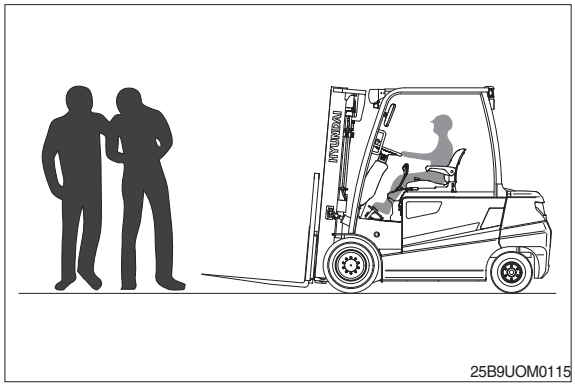
4) Do not jump when get on and off.
Do not get on and off while the truck is moving. Use the handgrip and foothold mounted on the truck to get in and off. Keep the handgrip and foothold clear of mud and oil. Keep it clean at all times.

Wear non-slip shoes.

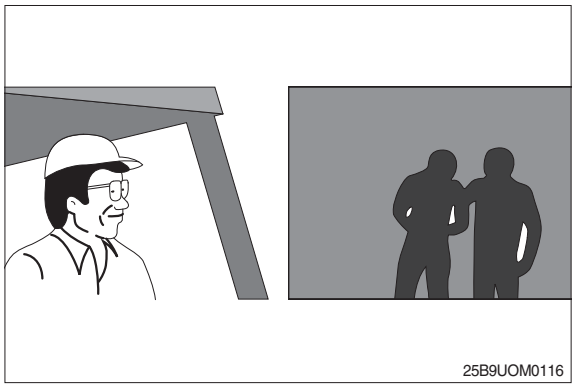


5. PEDESTRIANS

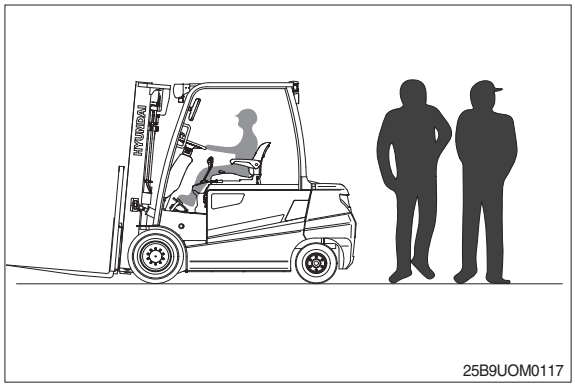
1) Watch where you are going. Look in the direction of travel. Pedestrians may use the same roadway you do. Sound your horn at all intersections or blind spots.



2) Watch for people in your work area even if your battery tractor has warning lights or alarms. People may not watch for you.

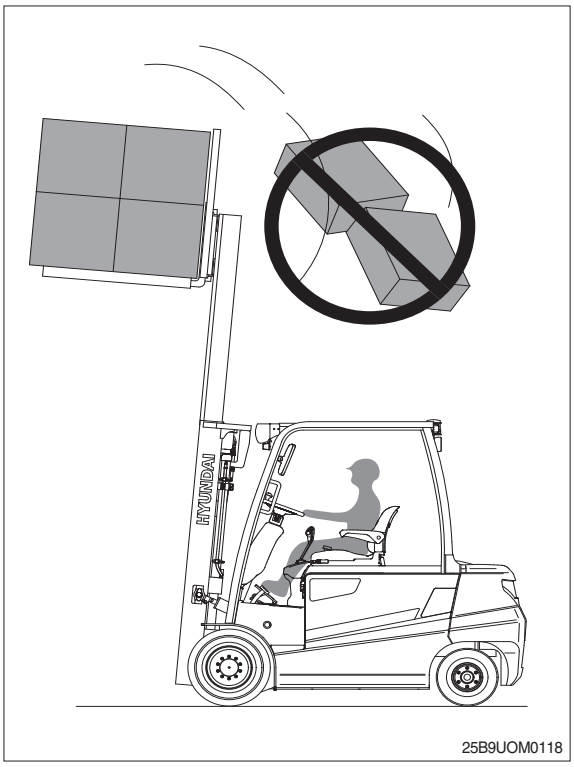


3) Make people stand back, even when you are parked.



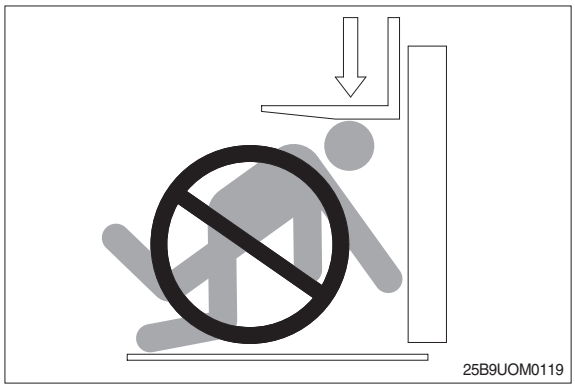
6. OPERATOR PROTECTION

1) Keep under the overhead guard.
2) Always keep your body within the confines of the truck.

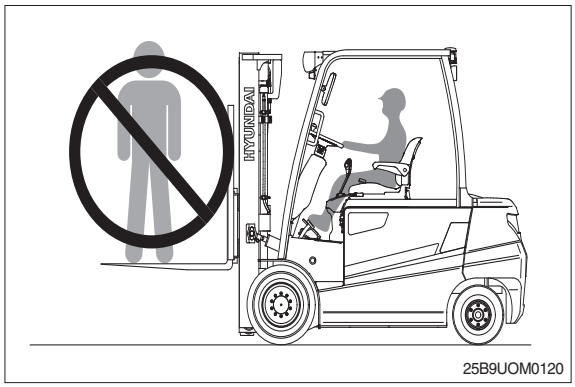


7. FORK SAFETY

Never allow anyone to walk under raised forks.

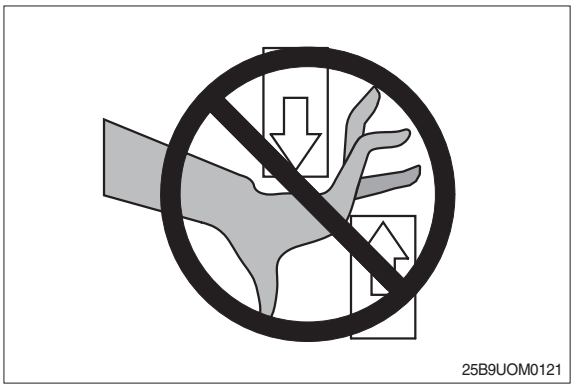


There is special equipment to raise people for overhead work. Do not use lift trucks.

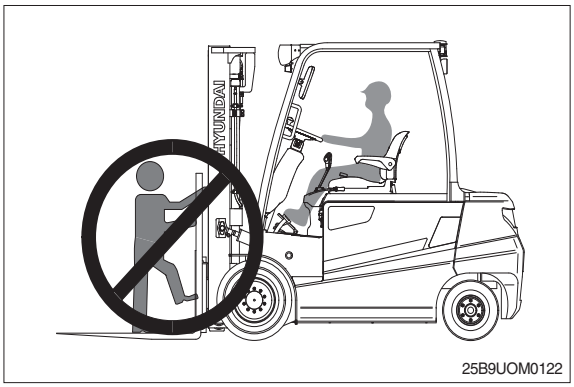


8. PINCH POINTS

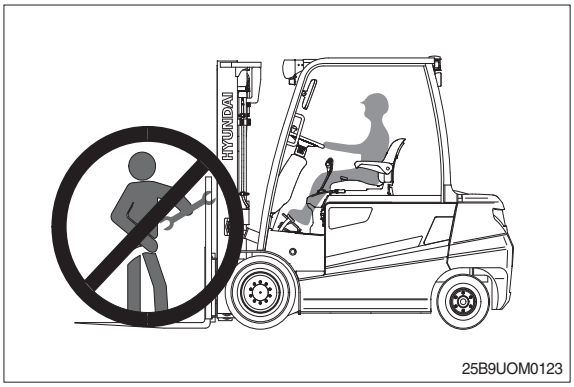
⚠ Keep hands, feet and legs out of the mast.



⚠ Don't use the mast as a ladder.



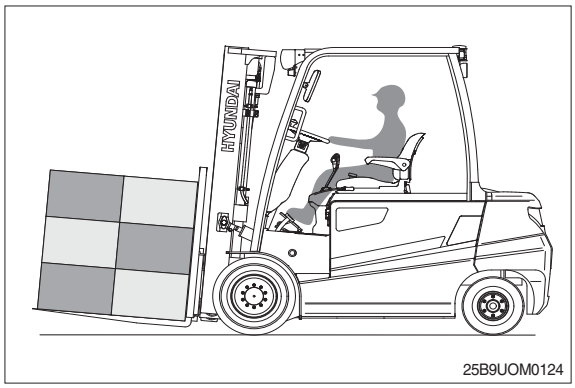
⚠ Never try to repair the mast, carriage, chain, or attachment yourself. Always get a trained mechanic.



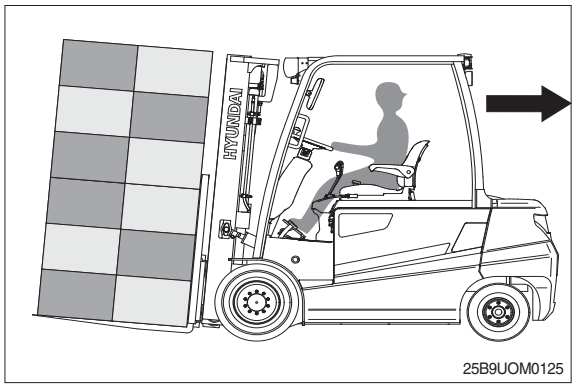
9. TRAVEL

1) Travel with the load near the floor/ground, with mast tilted back to cradle the load whenever possible.

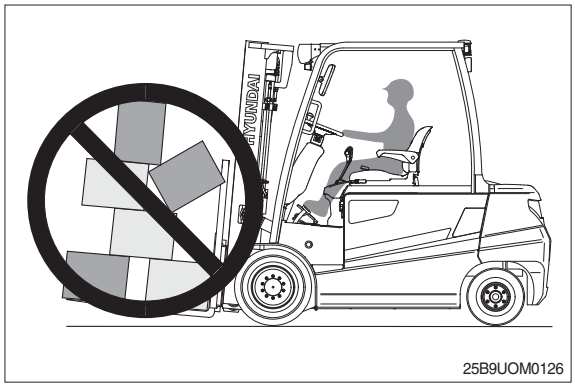
⚠ **Never lift or lower the load when the truck is in motion.**



2) When handling bulky loads that restrict your vision operate your truck in reverse to improve visibility. Be sure to pivot in the seat to give maximum visibility.



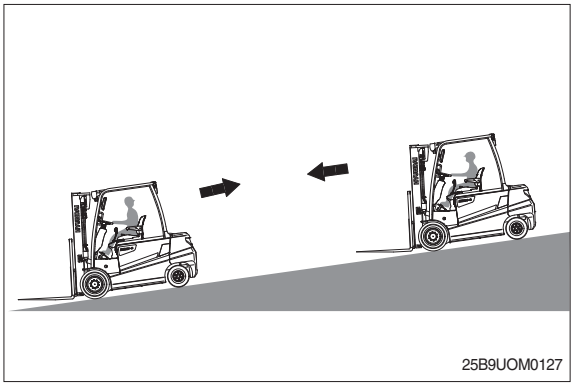
3) Unstable loads are a hazard to you and to your fellow workers. Always make certain that the load is well stacked and evenly positioned across both forks. Never attempt to lift a load with only one fork.



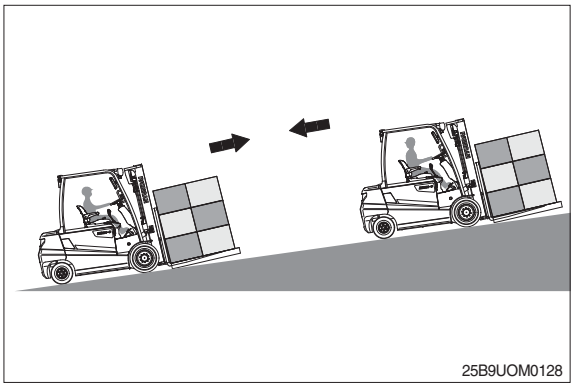
10. GRADES, RAMPS, SLOPES AND INCLINES

⚠ **Never turn on a grade, either loaded or unloaded.**

1) **UNLOADED** - Forks downgrade



2) **LOADED** - Forks upgrade



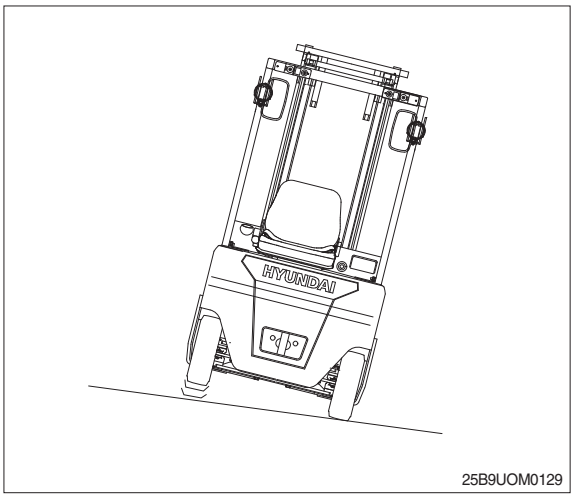
11. TIP OVER

1) LATERAL TIP OVER

(1) Lateral tip over can occur with a combination of speed and sharpness of turn. This combination will exceed the stability of the truck. This condition is even more likely with an unloaded truck.

(2) With the load or mast raised, lateral tip over can occur while turning and/or braking when traveling in reverse or accelerating and turning while traveling forward.

(3) Lateral tip over can occur loaded or unloaded by turning on an incline or ramp.



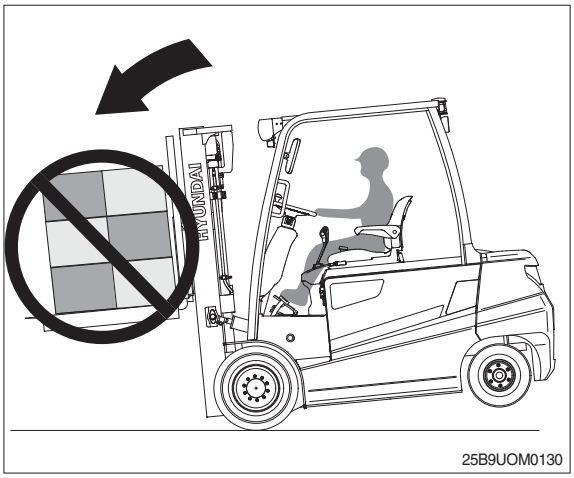
2) LONGITUDINAL TIP OVER

(1) Longitudinal tip over can occur with combination of overloading and load elevated also with capacity load and elevated. This combination will exceed the stability of the truck. This condition is even more likely with excessive forward tilt, braking in forward travel or accelerating rearward.

(2) Longitudinal tip over can occur by driving with the load down slope on a steep grade.

Lateral and longitudinal tip over can occur if the truck is driven over objects on the floor or ground, off the edge of improved surfaces, or into potholes in the road surface, or by running into overhead objects or collisions.

An off dock type of tip over can occur if the truck is steered too close to the dock edge, driven off the edge of the dock or ramp, or if the highway truck or trailer rolls away from the dock or is driven away during loading.



⚠ The conditions listed above can be further aggravated by overloading, excessive tilt, or off center loads.

⚠ Lift truck tip over can cause serious injury or death if the operator is trapped between the truck and the ground.

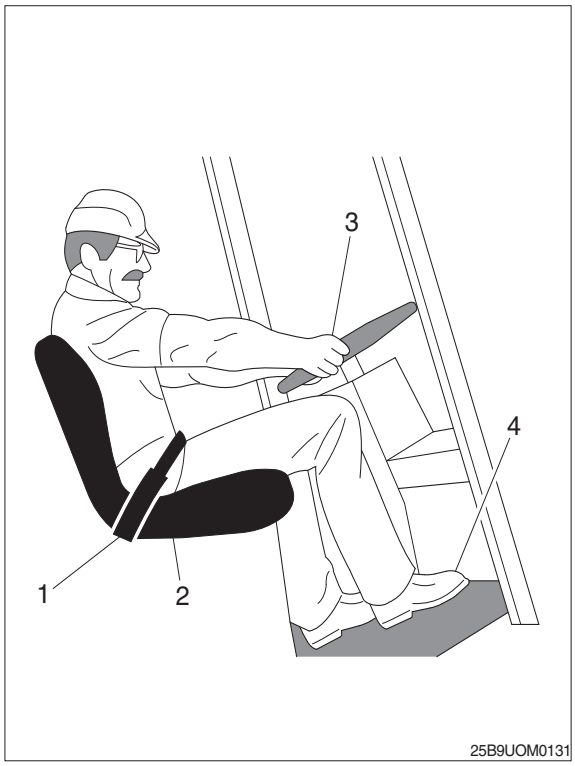
3) WHAT TO DO IN CASE OF A TIP OVER

⚠ If your truck starts to tip over, Do not jump.

⚠ Brace yourself as illustrated right.

1 Make sure your seat belt is fastened securely, if the truck is equipped with seat belt.
2 Stay in your seat.
3 Grip the wheel.
4 Brace your feet.

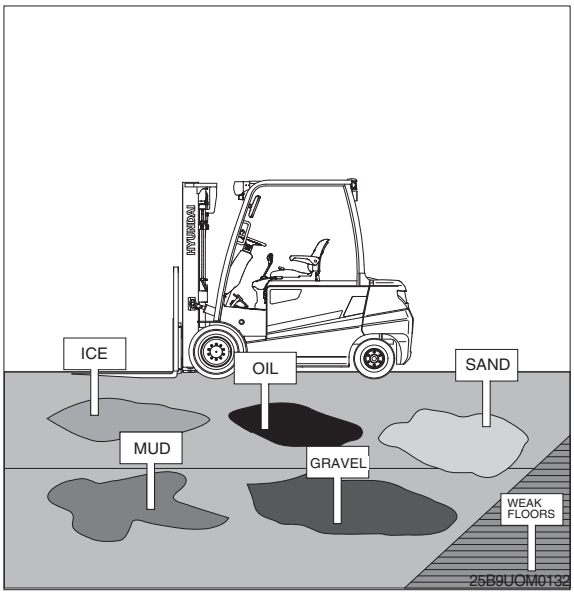
⚠ Your chances for survival in a tip-over are better if you stay with the truck, in your seat.



12. SURFACE AND CAPACITY

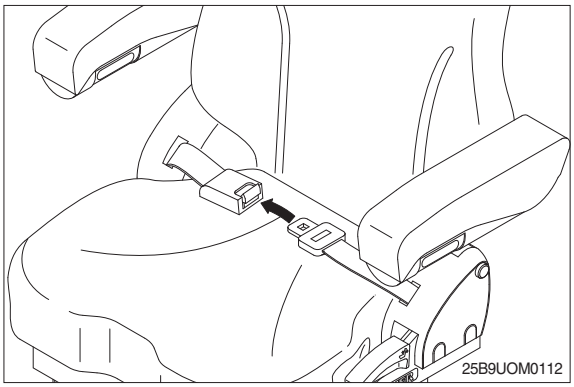
Avoid these conditions. They can cause a truck to tip over or lose traction for braking or driving.

⚠ Know the weight of your truck and load. Especially when using elevators, know the capacity of the elevator you intend to use. Do not overload.



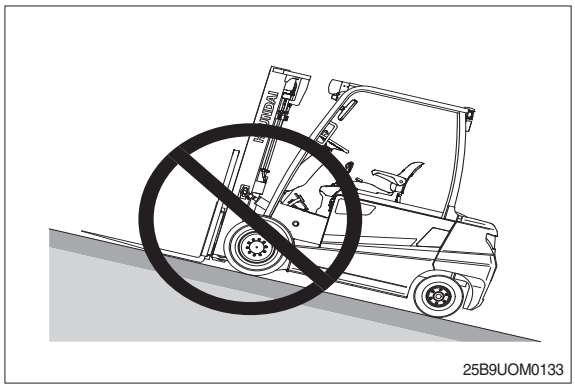
TIP OVER

⚠ Seat belts can reduce injuries. Always buckle up.

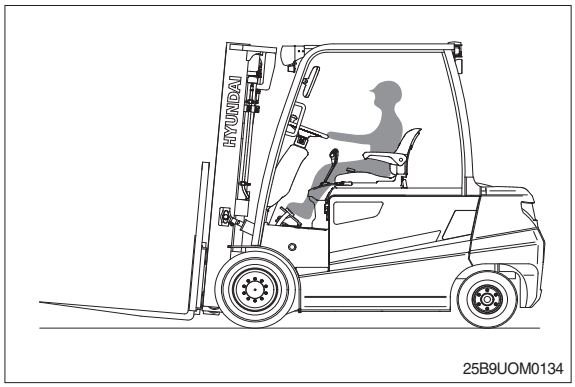


13. PARKING

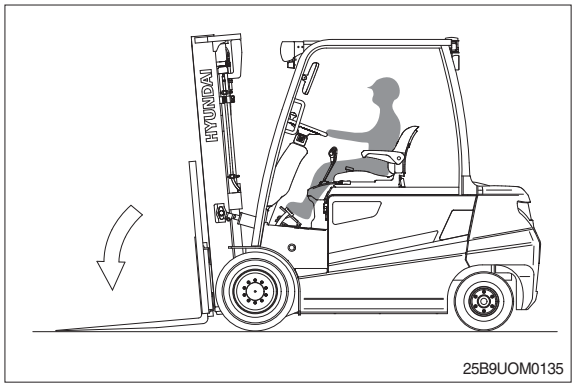
1) Never park on a grade.



2) Always come to a complete stop before leaving truck. Be sure travel control is in NEUTRAL.

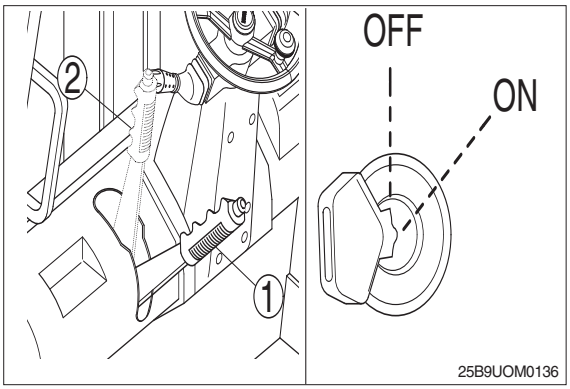


3) Lower forks fully to floor and tilt forward.



4) Set parking brake.
   Position ① : Lock
   Position ② : Release

5) Turn key to OFF position.



14. LIFTING, JACKING AND BLOCKING

⚠ **Lifting or jacking any large piece of equipment such as Forklift truck presents obvious hazards. It must be done with great care and forethought.**

1) SAFE PARKING

Before working on truck :

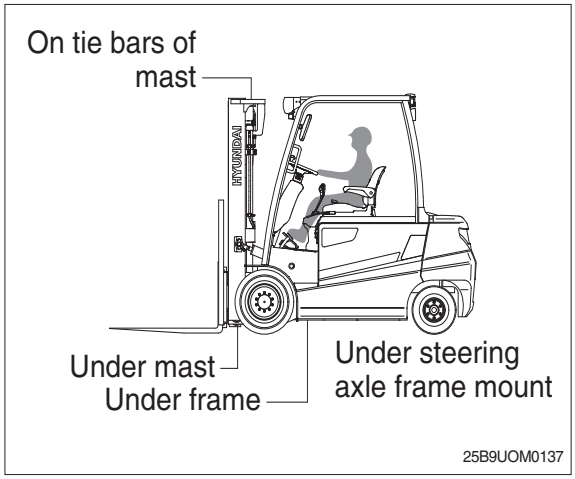
(1) Park truck on a hard, level and solid surface, such as a concrete floor with no gaps or breaks.
(2) Put mast in vertical position and fully lower the forks or attachment.
(3) Put all controls in neutral. Turn key switch OFF and remove key.
(4) Apply the parking brake and block the wheel.

⚠ **Defective equipment can cause accidents. All tools and lifting equipment must be in good condition, meet the load capacity requirements and have OSHA labels when required. Tools with defects have failures cause severe injury or death.**

2) LIFTING, BLOCKING AND JACKING POINTS

Use the following illustration to locate general lifting, blocking and jacking points on the truck. Read the procedures for raising, blocking or jacking specific components of the truck to make sure you understand the correct, safe procedures.

⚠ **Do not attempt to lift the truck by the overhead guard or the counterweight. Severe injury may result and the truck can be damaged.**

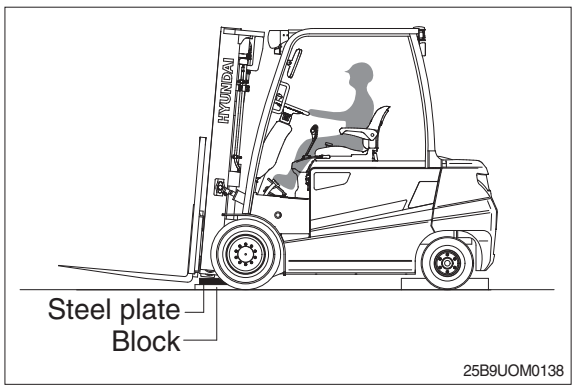


3) RAISING DRIVE WHEELS OFF FLOOR

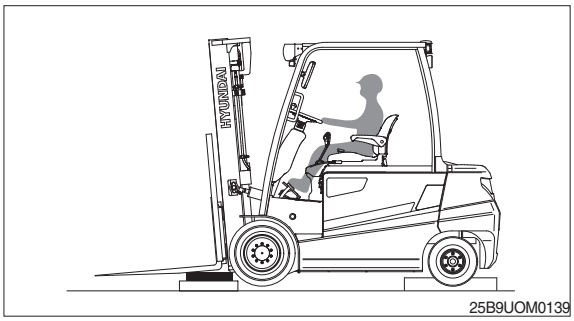
This procedure uses the mast as a lever to lift the drive wheels off the floor and prevent accidents due to inadvertent powering of the drive wheels.

(1) Park truck safely as described in "Safe Parking". Block rear steer wheels.
(2) Be sure mast trunnion bolts are tight.
· 25.2~34.2 kgf · m (182~247 lbf · ft)

(3) Turn the key switch ON. Tilt the mast fully back. Adjust upright height as necessary to put blocking underneath the lower end of the mast.
(4) Put a solid 100 mm (4 in) hardwood block under the front section of each mast rail. Put a 3~6 mm (0.125~0.250 in) steel plate on top of each block.

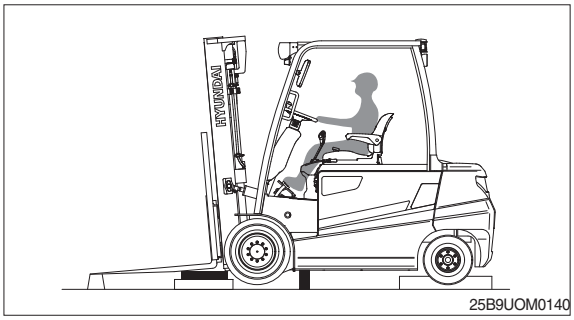


(5) Tilt mast fully forward. This raises the drive wheels off the floor. Release the tilt control lever and turn the key switch OFF.



(6) Insert blocking under the frame behind the drive wheels or slip wheel cradles under the drive wheels. If using blocking, check for safe clearance between drive wheels and floor and blocks.

※ **When forks are raised as in illustration above, use shop rags, paper, or bright tape on fork tips to signal the danger of tripping.**



(7) Check for stable condition of the truck. Be sure that the blocks are located securely under the truck frame before operating the drive or working on truck.

(8) Lower the drive wheels to the floor and remove the blocks by reversing the above procedure.

4) RAISING TRUCK WITH A HOIST

When suitable equipment is available, the front of the truck may be raised by means of a hoist, with wheel cradles placed under the wheels or blocking placed under the frame.

△ **When lifting the front of the truck, watch truck for signs of lateral instability. It may tip sideways. You may have to support or guide the side of the truck or overhead guard to prevent tipping.**

(1) Park truck safely as described in "Safe Parking". Block rear steer wheels.

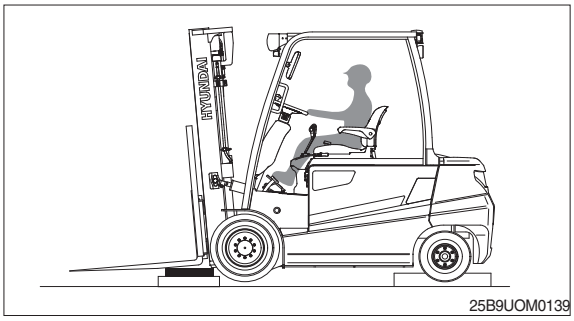
(2) Check trunnion bolts to make sure they are tightened to correct torque.
· 25.2~34.2 kgf · m (182~247 lbf · ft)

(3) To raise the front of the truck using the mast, spread two chains on the outer rail tiebar the mast.

⚠ **Chain and hoist used to lift truck should be checked to make sure they are of safe lifting capacity. See the truck data plate for information.**

(4) Slowly lift truck and lower drive wheels onto the cradles or place blocking under frame prop points.

(5) When maintenance work is completed, lower the truck to the floor by reversing the lifting procedure. Check to be sure no tools or equipment are under the truck or wheels.



5) BLOCKING THE MAST IN RAISED POSITION

This procedure is used to safely provide clearance for access from the front of truck to components on or near the drive axle. Illustrations show mast with forks removal.

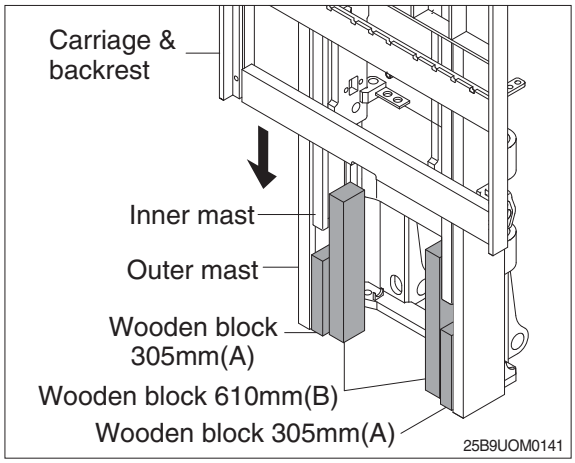
(1) Fork removal is not necessary.
(2) Park truck safely as described in "Safe Parking".
(3) Put blocks in front of and behind drive wheels.
(4) Put wooden support blocks conveniently near mast rails before raising the mast.
(5) Use both 305 mm (12 in) and 610 mm (24 in) length wooden blocks at V-mast, as shown.

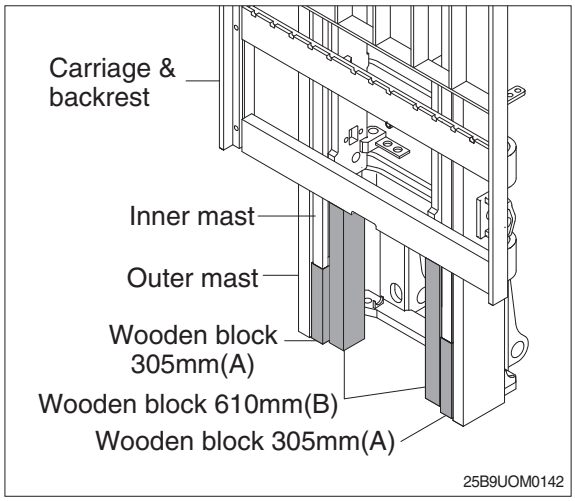
※ **In case of V-mast, support inner mast and carriage at the same time.**

※ **In case of V-mast, when you lift or lower the carriage, the lifting speed of carriage is 2 times faster than inner mast.**

(6) Start truck and raise the mast carriage.
(7) In case of V-mast, put the wooden block (A) below inner mast and put the wooden block (B) below carriage. Afterward lower the carriage until carriage and inner mast sit on the both block simultaneously.

V-MAST (Double stage mast)





(8) Two 915 mm (36 in) length wooden blocks are used in TF-mast, as shown.

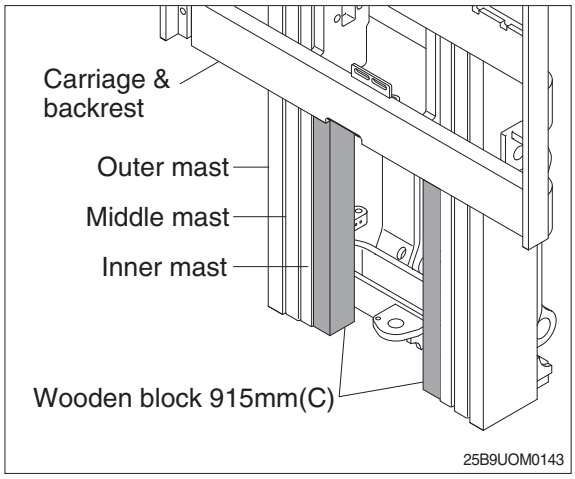
※ **Carriage support in TF-mast.**

(9) Start truck and raise the carriage.
(10) In case of TF-mast, put the wood block (C) below carriage side arms and then lower the carriage until carriage sits on the blocks.

⚠ **In case of TF-mast until carriage reaches the free lift height middle mast and inner mast don't move at all.**

(11) Reverse the procedure to remove blocking.

TF-MAST (Triple stage mast)



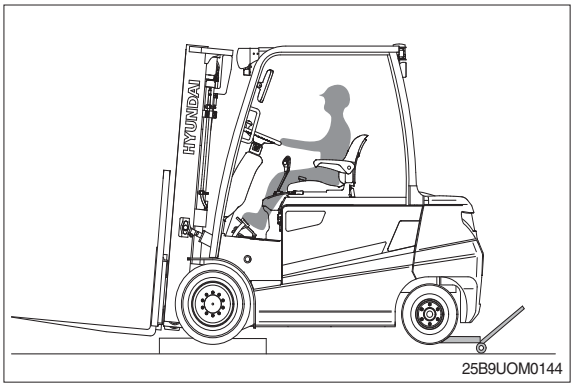
6) RAISING REAR OF TRUCK

The truck may be raised at the rear by jacking and blocking under the center of the frame member at either the front or rear steer axle mounting, or under the center section of the steering axle.
Refer to truck data plate for truck weights.

(1) Park truck safely as described in "Safe Parking". Put blocks at front and rear or drive wheels.

(2) Put a floor jack under the steering axle mounting frame member, centered between the two wheels.

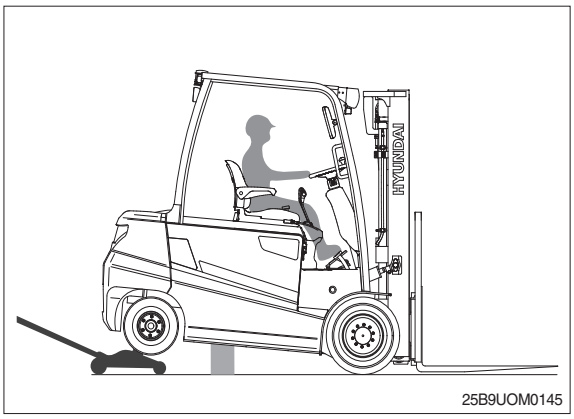
※ **If there is insufficient clearance under frame for your jack, the truck may first be driven onto shims, to increase the ground clearance.**



(3) Raise the truck only as high as necessary to perform the maintenance work.

(4) Put blocks at both sides of the truck, fully under the frame main side structure. Put the blocks in front of butt close to the counterweight and rear wheels for the best truck stability.

(5) Put an equal amount of blocks under each side of the truck to provide a level working position.
Lower the truck onto the blocks and remove the jack.



△ **Before performing any maintenance work, check the truck for stable condition on the blocking.**

(6) When maintenance work is completed, lower the rear side of the truck to the floor by reversing the above procedure and lowering each side of the truck 50 mm (2 in) at a time :
- Put jack under frame and raise truck.
- Carefully remove blocks and lower truck.
- Remove jack and blocks from drive wheels.

7) RAISING ENTIRE TRUCK

Refer to truck data plate for truck weights.

(1) Park truck safely as described in "Safe Parking". Lower mast fully.

(2) If necessary, drive truck onto boards to increase ground clearance.

⚠ **LATERAL TIP OVER. When jacking side of truck, be sure mast is lowered fully and do not raise one side of the truck more that about 50 mm (2 in) higher than the other, to avoid tipping truck over laterally.**

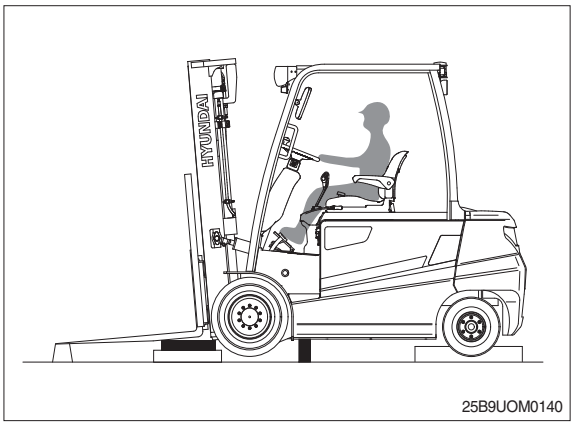
LONGITUDINAL TIP OVER. If the mast and the transaxle are removed while the truck is blocked up, the truck will tip backwards due to the heavy counterweight. Both mast and counterweight must be removed before attempting to raise the truck for transaxle removal. The back of the truck must be supported by blocking under the steer axle to prevent movement.

The reverse is also true. If the counterweight is removed while the truck is up on blocks, the weight of the mast and transaxle will cause the truck to tip on the front blocks and forward.

(3) Put the jack under side frame near the center of the truck.

※ **Be sure to put the jack squarely and fully under the main side structure of the frame. Do not put the jack under the outer covers which enclose the fuel and hydraulic sump tanks.**

(4) Carefully raise the truck one side at a time, only as high as necessary to do the maintenance work and more than a maximum of 150 mm (6 in) total.



(5) Put blocks under the side frame at each side of the jack. Spread the blocks close to the steer and drive wheels for maximum stability.

(6) If using one jack, lower the truck onto the blocks and move the jack to the opposite side. Repeat the lifting procedure.

(7) Put the same size blocks under each side of the truck so it will be level.

△**Be sure to put the jack squarely and fully under the main side structure of the frame. Do not put the jack under the outer covers which enclose the fuel and hydraulic sump tanks.**

(8) When maintenance work is completed, lower the entire truck to the floor by reversing the lifting procedure. Lower the truck one side at a time, while carefully removing the blocks. Check to be sure no tools or equipments are under the truck or wheels.

※ **Depending on jack height, shims under the tires may be needed for clearance to allow removal of jack.**

8) SHIPPING TIE-DOWN INSTRUCTIONS

(1) Front of Truck

① With mast and Carriage Installed

a. Lower the carriage fully.

b. Put a tie down (e.g., chain) between the carriage fork bars.

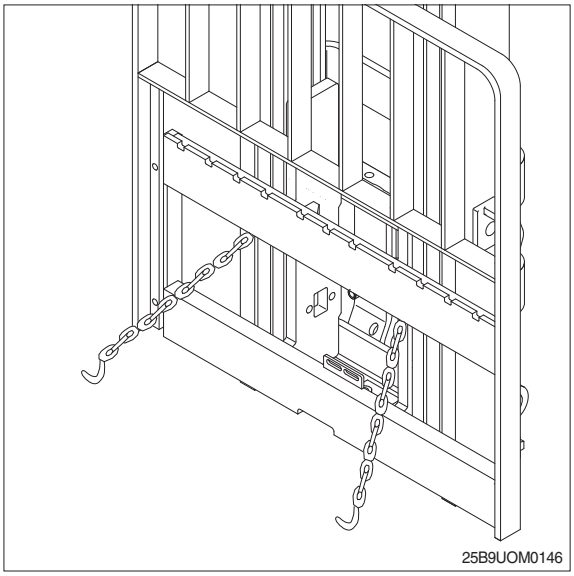
② Without a mast and Carriage Installed

a. Put a chain across the truck floor plate.

※ **Protect truck from chain damage by using covered chain or protective material under the chain at contact points.**

(2) Rear of Truck

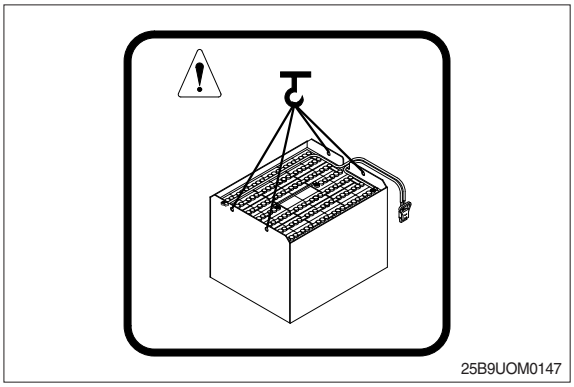
① Attach the tie down to pocket in bottom of counterweight.



15. LOADING AND UNLOADING BY CRANE

1) Check the specification of the truck when you are going to hoist the truck.

⚠ **Before loading the truck, battery must be removed. Refer to page 7-21 for a safe battery removal.**



2) Use long wire rope and stay to keep the distance with the machine as it should avoid touching with the truck body.

3) Put a rubber plate where the wire rope contact with the truck's body to prevent damage.

4) Place crane on the proper place.

5) Install the wire rope and stay like the illustration.

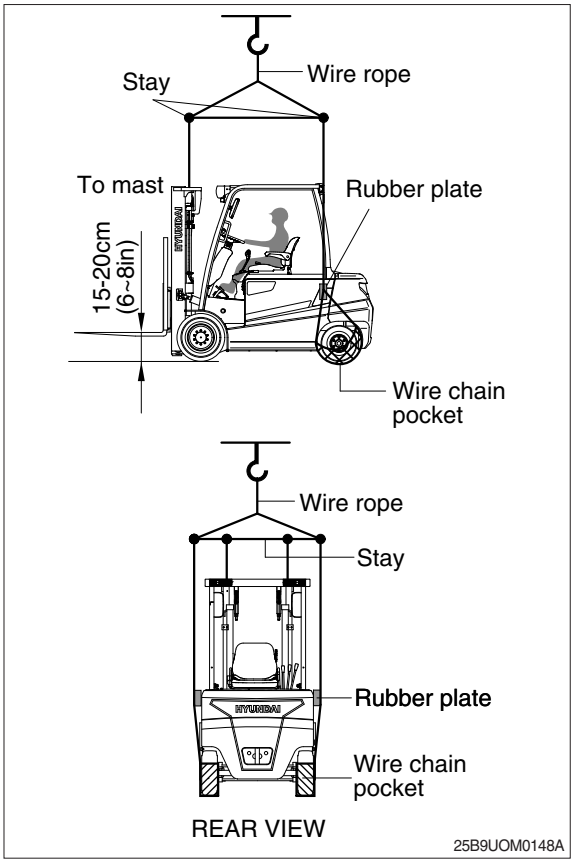
⚠ **Make sure wire rope is proper size.**

⚠ **The wrong hoisting method or installation of wire rope can cause damage to driver and truck.**

⚠ **Do not load abruptly.**

⚠ **Keep area clear of personnel.**

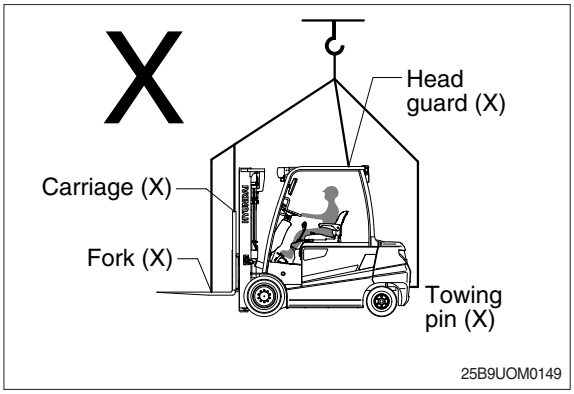
⚠ **Recommend to manufacture the stays separately as per lifting conditions.**



⚠ **Do not install the wire to unsafe position such as forks, carriage, head guard, counterweight, lifting hole or towing pin, etc. It can cause serious damage to driver and truck.**

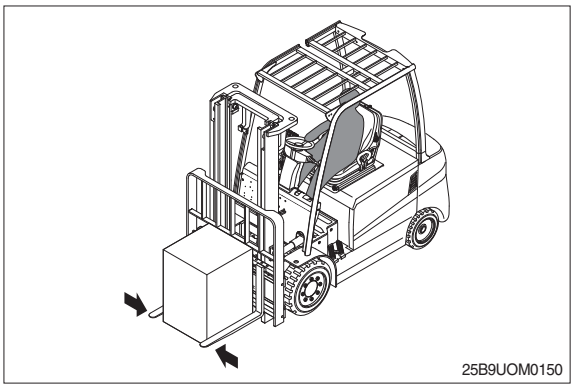
⚠ **If there is any problem to lift a truck, please contact your dealer.**

⚠ **Perform the lifting service with skilled service man.**



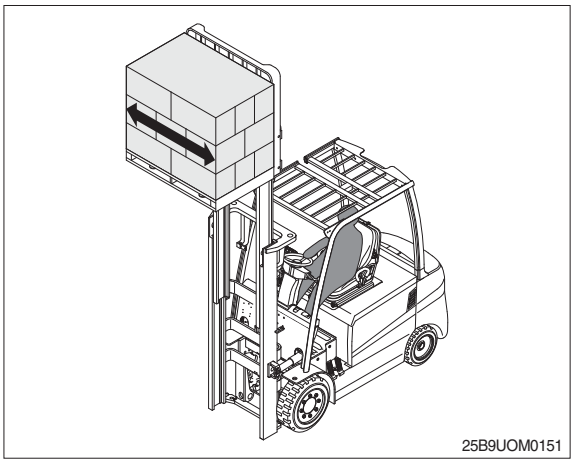
16. SIDE SHIFT

⚠ Do not put side loads on forks.



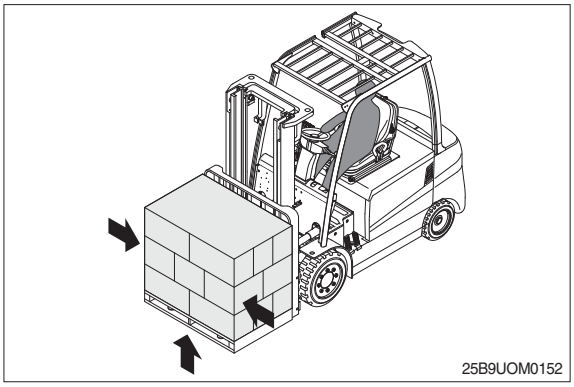
⚠ Restrict the sideshift movement with raised load.

Abrupt sideshifting under such condition will dramatically reduce the stability of machine and may cause over-turning.



⚠ Avoid overloading or uneven loading.

Load on forks according to load capacity mentioned on machine name plate when sideshift is applied. Uneven loading will deteriorate the stability of machine when load is raised.



⚠ Top of load should not extend above backrest.