

CHAPTER 5 STARTING AND OPERATING PROCEDURES

1. BEFORE OPERATING THE TRUCK

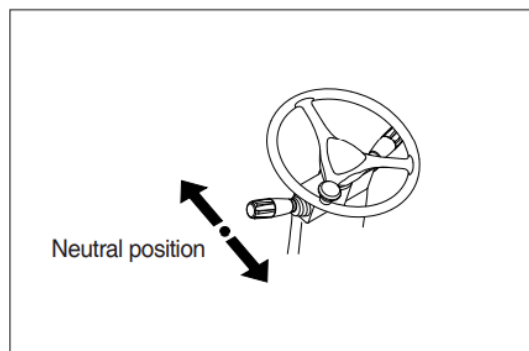
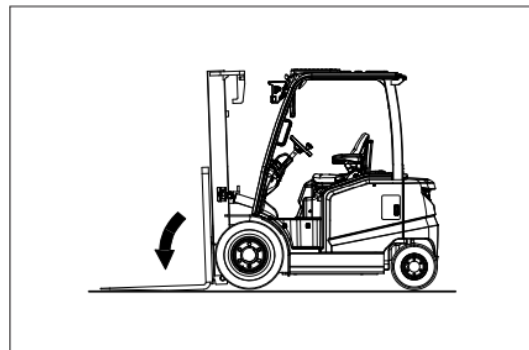
Be sure that you have read and understand the information in this Operator's Manual and are trained and authorized before operating the lift truck.

- ▲ A lift truck can be dangerous if not used properly. Safe operation is the responsibility of the operator.
- ▲ Do not start or operate the truck, or any of its functions or attachments, from any place other than the designated operator's position.
- ▲ Inspect your lift truck before operating at the start of each shift. Before putting your truck to operating, check the operation of the controls and all systems.
- ▲ Protect yourself. Do not operate truck without a DRIVER'S OVERHEAD GUARD unless conditions prevent its use. Do not remove overhead guard unless specifically authorized. Use special care if operation without this safety device is required.

2. STARTING FROM A SAFE CONDITION

Always start from a safe condition. Before operating a lift truck, make sure that:

1. The parking brake is applied.
2. The forks are fully lowered to the floor or ground.
3. You are familiar with how all the controls function.
4. All controls are in neutral or other correct position.
5. The truck has received its daily inspection and ready and safe to operate.
Put the gear selector lever in the NEUTRAL position, before starting. The truck should start only in the NEUTRAL position.

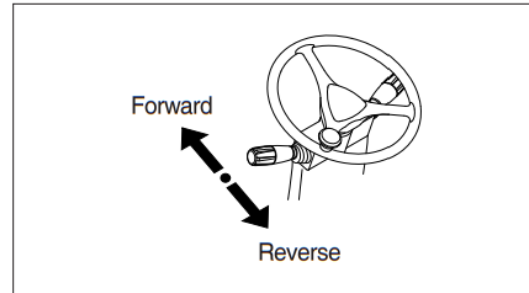


3. BEFORE OPERATING THE TRUCK

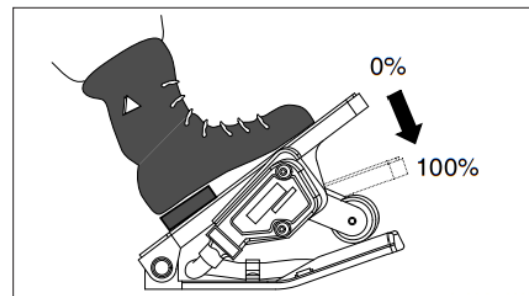
Check the aforementioned requirements, and make sure that the forward and reverse levers are on NEUTRAL position before operating the truck. Operator should sit on the operator's seat before operating the truck. Release the emergency stop switch, and turn the starting switch clockwise 5 seconds later to ON position before starting the lift truck.

1. TRAVELING

- 1) Push (or pull) the forward and the reverse lever, and then gradually press the accelerator pedal.

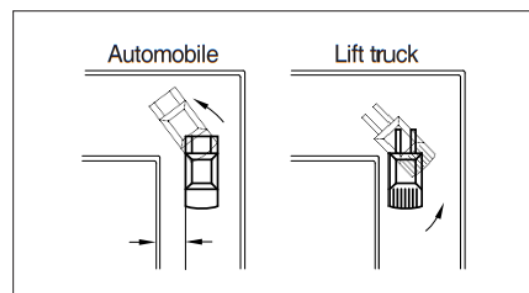
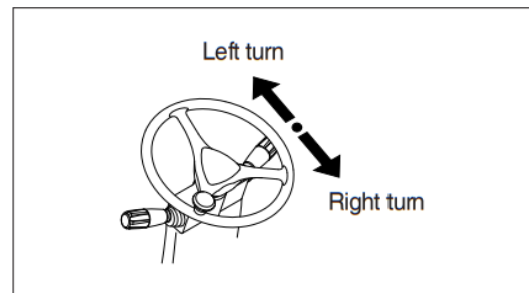


- 2) Press the pedal to start motor. Then the truck moves forward (or backward).
- 3) Speed is changed in scope of min. and max. speed dependent upon force pressing the pedal.



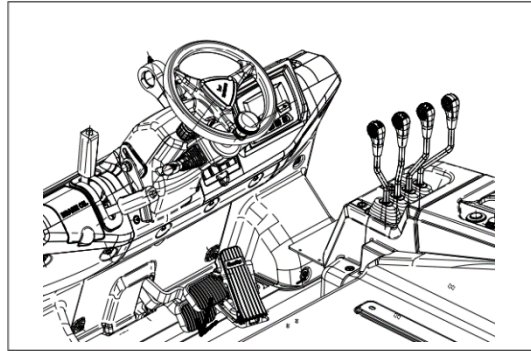
2. CHANGING TRAVEL DIRECTION

- 1) Hold the steering wheel or the knob on the wheel with the left hand, and turn travel direction.
- 2) Direction of lift truck is changed with the rear wheels.
- 3) Therefore, the truck turns inward during forward driving, and outward during reverse driving.
- 4) Care should be exercised to prevent collision of the counterweight with other object when turning direction.

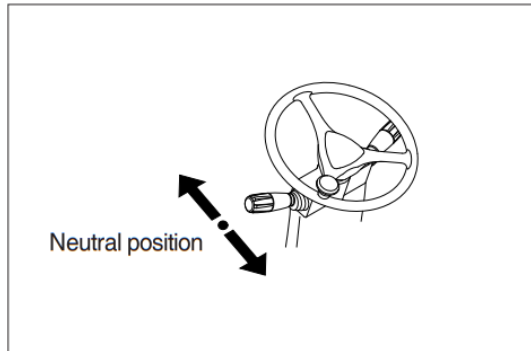


3. STOP AND PARKING

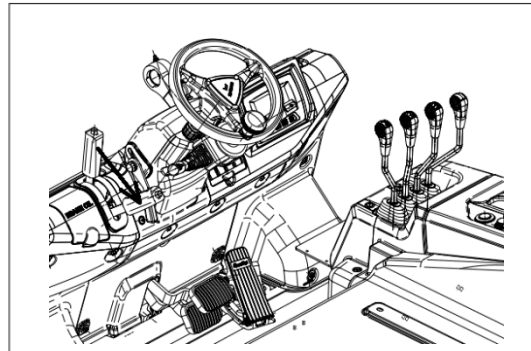
- 1) Release the accelerator pedal to reduce speed, and apply brake to stop the truck.



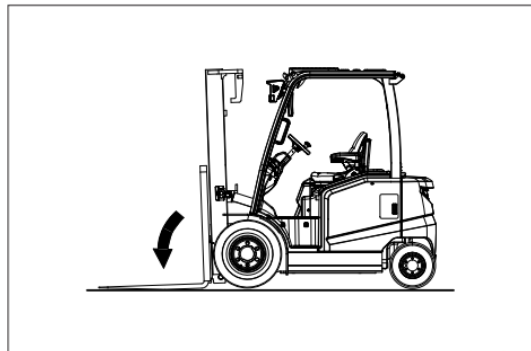
- 2) Return the forward and the reverse levers to Neutral position when parking the truck.



- 3) Fully pull the parking brake.



- 4) Fully lower, and slightly incline mast forward.



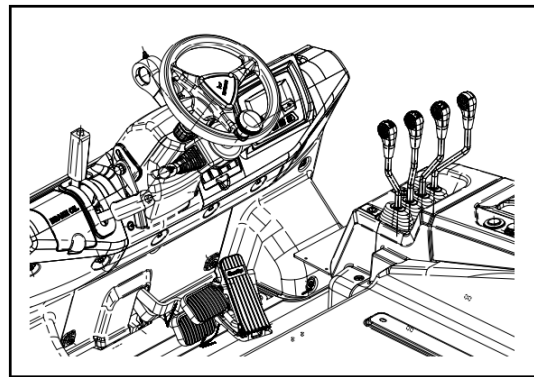
4. SPEED ADJUSTMENT

Position the forward or the reverse level on the forward or the reverse point, and gradually press the accelerator pedal until you achieve required speed.

5. BRAKE OPERATION

Release the accelerator pedal, and then press the brake pedal to stop the truck. Gradually and solidly press the brake pedal until the forklift stops.

- ⚠ **Stop the truck as slowly as possible.**
If the truck skips by sudden stop, risky situation may take place, abrasion increases, or cargo fall or the truck tips over.



6. PLUGGING

1. It is allowed to change direction by making use of **plugging** without applying the brake. When operating the forward or the reverse lever in the opposite direction during travel, the truck slowly stops, and then starts driving in the opposite direction.
 2. It is possible to adjust distance of change of direction with the accelerator pedal.
The harder you press the pedal, the smaller the distance of direction change is reduced.
- ⚠ **Sudden change of direction may cause movement of fall of cargo. Plugging function should be used with great care, accordingly.**

7. OPERATING SAFELY

Safe operation is the responsibility of the operator.

1. WATCH WHERE YOU ARE GOING. DON'T GO IF YOU CAN'T SEE.

- 1) Before driving, check all around to be sure that your intended path of travel is clear of obstructions and pedestrians.
- ▲ **LOOK WHERE YOU DRIVE. Watch out for pedestrians, other vehicles, obstructions (especially overhead), and drop-offs. If the load blocks your view, drive backwards, except up slopes.**
- 2) Do not allow anyone to stand or pass under the load or raised forks.
Watch for people in your work area even if your truck has warning lights or alarms. They may not watch for you. Perform work with safety of person as the top priority at workplace.
- 3) Sound horn at intersections and wherever vision is obstructed. Do not drive a truck up to anyone standing in front of an object.

2. PROTECT YOURSELF AND THOSE AROUND YOU

Operate the truck only from the designated operator's position. Stay within the confines of the lift truck profile dimensions. Keep all body parts inside the operator's compartment and away from the danger of passing obstructions. Keep yourself under the overhead guard while operating.

- ※ **An overhead guard and personal protection gadgets are intended to offer protection to the operator from falling objects, or other risk factors. But overhead guard cannot protect against every possible impact. Therefore, it should not be considered a substitute for good judgment and care in loading, handling, storage, etc.**
- ▲ **Keep clear of the mast and lift mechanism. NEVER reach into or put hands, arms, legs, or head near the carriage or lift chains, or into or through the mast structure. Never put any part of your body between the mast and the truck.**
Don't use the mast as a ladder. Keep all other persons clear of the load and mast mechanism while attempting to handle a load.

3. NO RIDERS

Do not carry passengers. The operator is the only one who should be on the truck.

4. ALWAYS BE IN FULL CONTROL OF YOUR LIFT TRUCK

- 1) Never operate a lift truck or its attachments if you are not in the designated operator's position.
- 2) Never operate a lift truck when your hands and feet are wet or greasy.
- 3) Always pick the smoothest travel route for your lift truck. Avoid loose objects or obstacles in your path that may cause the truck to swerve or tip. If these conditions are unavoidable, slow down and carefully drive past them. Slow down for wet or slippery surfaces.
- 4) Avoid any sudden movement. It can cause the truck to tip-over. Start, stop, travel, steer, and brake smoothly.

- 5) Operate your lift truck under all conditions at a speed that will permit it to be brought safely to a stop.
- 6) Travel with the fork carriage tilted back and raised only enough to fully clear the ground or obstacles. In such a case, the fork carriage should fully be inclined backward. When the carriage (load) is in an elevated position the stability of the truck is reduced.
- 7) Do not elevate the load except during stacking.

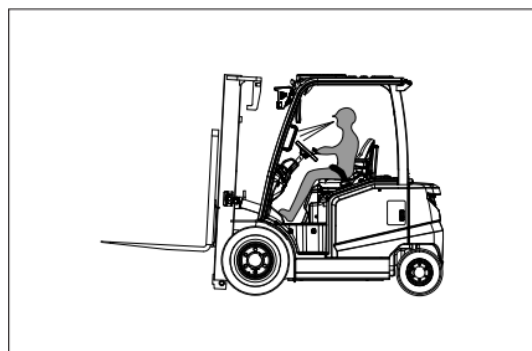
5. GRADES, RAMPS, AND INCLINES

- 1) Use special care when operating on ramps, inclines, and uneven areas. Travel slowly. Travel straight up and down. Do not turn or drive at an angle across an incline or ramp. Do not attempt to operate on grades in excess of those specified and/or recommended by the manufacturer.
- 2) When the truck is loaded, travel with the load upward. When the truck is empty, travel with lifting mechanism (mast) downward.
- 3) Always brake with the right foot pedal (Not with the inching pedal) when traveling down incline.

6. PRACTICE SAFE OPERATION EVERY TIME YOU USE YOUR TRUCK

- 1) Careful driving and operation is your responsibility. Be completely familiar with all the safe driving and load handling techniques in this Operator's Manual. Use common sense. Drive carefully; do not indulge in stunt driving or horseplay. Observe traffic rules. Watch for people and hazards. Slow down, be in full control of your lift truck at all times.
- 2) Follow the instructions in this manual to avoid damage to your truck or the possibility of injury to yourself or others.
- 3) During your work, observe all functions of your lift truck. This allows you to immediately recognize a problem or irregularity that could affect the safe operation of your truck.
- 4) Periodically check the gauges and warning indicator lights in the cluster to be sure they indicate a normal condition. If an abnormal condition appears bring the truck to a safe condition and safe location, shut off the starting switch immediately and report the problem.

- ▲ Do not continue to operate a truck that has a malfunction. Stop and have it fixed.**
- ▲ Always wear your seat belt when operating your truck.**



8. LOAD HANDLING

1. GENERAL

Handle only loads that are within the truck rated capacity as shown on the nameplate. This rating specifies the maximum load that should be lifted. However, other factors such as special load handling attachments, load having a high center of gravity, or uneven terrain may dictate that the safe working load be less than the rated capacity. Under these conditions, the operator must reduce the load carried so that the lift truck remains stable.

Handle only stable or safely arranged loads. Do not handle loads made up of loose, unevenly stacked, or unstable items that can easily shift and fall. Take the time to stack correctly and handle loose items. Center the load on the forks.

Do not lift anything that might fall on the operator or a bystander. Do not handle loads that are higher than the fork carriage unless the load is secured so that no part of it can fall backward. Avoid such work.

Keep the load back against the load backrest. Loads placed out on the ends of the forks can make the lift truck less stable and more likely to tip up.

Lift and lower with the mast vertical or tilted slightly back. Never tilt it forward.

Operate lift and tilt controls slowly and smoothly. Never tilt the mast forward when the carriage (load) is raised, except to pick up or deposit a load over a rack or stack.

- ▲ Slack chains mean rail or carriage hang-up. Raise the mast before you move. If the mast malfunctions in any way or becomes stuck in a raised position, operate the lift control to eliminate any slack chains by raising the carriage. DO NOT go under a raised mast or forks to attempt repairs. DO NOT climb the mast or the truck.**

Remember your truck is designed to carry loads forward of the front wheels so that the weight of the load is counterbalanced by the weight of the truck.

The farther the load is carried from the pivot point (Center of front wheels), the less the weight on the steer wheels (rear wheels). Therefore, always carry the load as close to the front wheels as possible (Back and flush against the face of the forks).

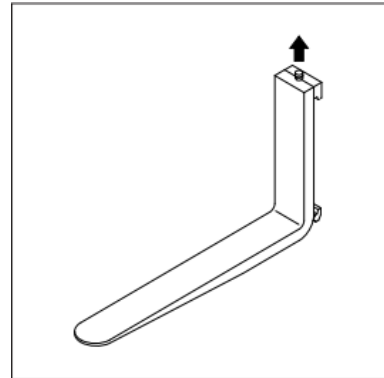
The capacity load shown on the nameplate is represented by a cube in weight is evenly distributed, with the center of gravity located a standard distance from the face of the forks. If the weight of the actual load to be handled is not evenly distributed, put the heaviest part closest to the carriage.

2. ADJUSTING THE LOAD FORKS

The load forks are adjustable on the hanger or the carriage. Forks should be spaced as far apart as the load will allow. Both forks should always be the same distance from the center of the fork carriage for ensure stability.

To adjust the forks, raise the carriage slightly, and tilt the mast fully forward to reduce friction and make the fork slide easier. Then, unlock the fork locking pins. Position the forks by pushing them away from you. Secure the fork locking pins.

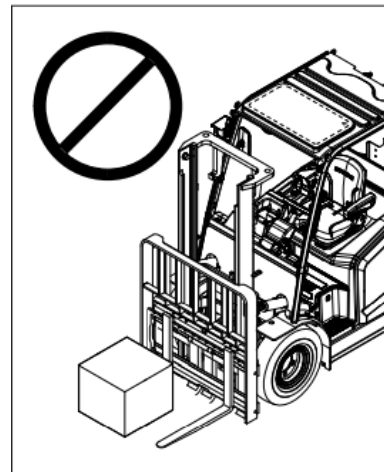
- ▲ **Make sure the load backrest or fork retaining bolts are fasten securely in place.**



3. LOAD ON FORKS

- 1) Do not elevate the load with one fork.

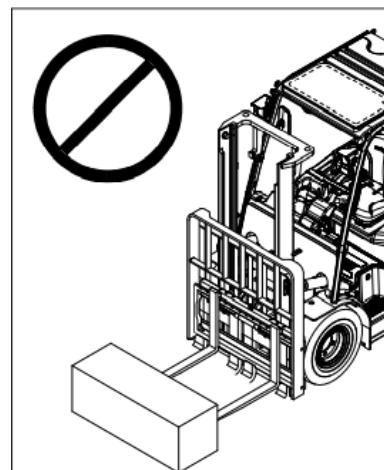
Loading with one fork can cause the tip over and serious injury or death of operator, and height difference between both fork tips due to overload.



- 2) Do not elevate the load with the ends of the forks.

This can cause height difference between both fork tips due to overload in the end of the forks resulted from farther center of gravity of load.

The load should be loaded at least over 2/3 of fork length.



4. TRAVELING WITH LOAD

Travel with load or carriage as low as possible and tilted back. Never travel with the load or carriage raised (elevated) in a high position. Do not elevate the load except during stacking.

Observe all traffic regulations and watch for other traffic, pedestrians, and safe clearances. Always look in the direction of travel. Keep a clear view of the path of travel and when the load blocks your visibility, travel in reverse with load trailing (Except when climbing an incline).

Avoid sudden movements when carrying a load. Start, stop, travel, steer, and brake smoothly. Steer clear of bumps, holes, and loose materials or debris on the ground. Lift and tilt slowly and smoothly. Go slowly when turning. Cross railroad tracks slowly and at an angle wherever possible.

Use special care when handling and traveling with long, high, or wide loads—to avoid losing the load, striking bystanders or obstructions, or tipping the truck.

Watch clearances around the truck and load as you travel. Raise the forks or attachment only to pick up or stack a load. Look out for obstructions, especially overhead.

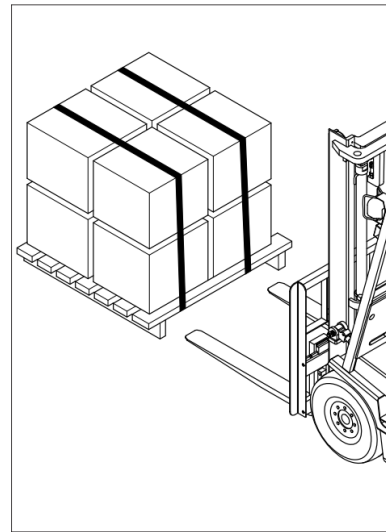
Be aware that exaggerated tail swing, when turning while traveling forward, is a characteristic of lift trucks that are steered by the rear wheels. Accordingly, you need to become accustomed to tail swing and always check the tail swing area of the counterweight to be sure it is clear before you turn.

Always be concerned about the stability of your lift truck. When attachments are used, extra care should be taken in securing, manipulating, positioning, and transporting the load. Because attachments generally add extra weight and complexity to the truck, operate trucks equipped with attachments as partially-loaded trucks when not handling load.

5. PICKING UP AND MOVING LOADS

When picking up a load from the ground, approach the load slowly and carefully align the truck square with the load. The forks should be adjusted to fit the load or pallet being handle and spread as wide as possible to provide good stability and balance. Before lifting, be sure the load is centered and the forks are fully under and supporting the load. Fork length should be at least $\frac{2}{3}$ of load length. With the lift and tilt controls, adjust the forks to the correct height and angle for freely engaging the load pallet. Move forward until the forks are squarely and completely under the load.

- ▲ Be sure that the forks do not extend beyond the load, causing damage or tipping of other adjacent loads or materials behind the load being moved.**



If the forks are longer than the load, move the tips partially under the load without extending beyond the load. Raise the load to clear the ground. Back out several inches, or whatever distance is necessary, then set the load down and move forward until the load is positioned against the carriage.

Raise the load from the ground or stack by tilting the mast back just enough to lift the load from the surface. When stacking or tiering, use only enough backward tilt to stabilize the load.

Then raise the load to traveling height and tilt fully back to travel (Except for loads that must be transported as level as possible).

6. UNLOADING

To deposit a load on the floor after being moved into the correct position, tilt the mast forward to a vertical position and lower the load.

Adjust the fork height and tilt the mast forward slightly, as necessary, for smooth removal of the forks from the load (Pallet).

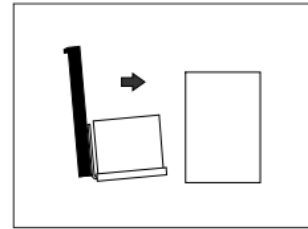
Carefully back away to clear the forks from the load.

Raise the forks to traveling height and tilt forks to a level position 150~200 mm (6-8 in) off the floor.

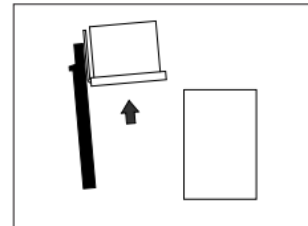
7. STACKING

1) To put a load on a stack

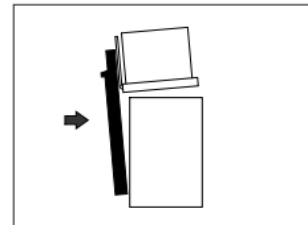
- ① Approach slowly and align the lift truck and load squarely with the stack.



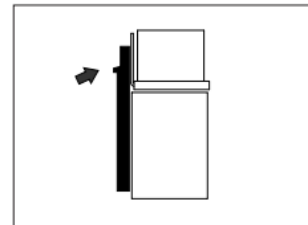
- ② Raise the load as the lift truck nears the stack.



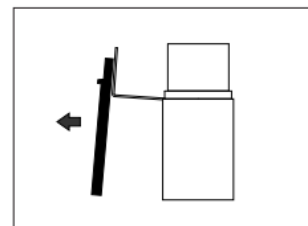
- ③ Move forward slowly until the load almost touches the stack. The leading edge and sides of the load pallet should line up exactly with the near edge and side of the load or rack on which you are stacking.



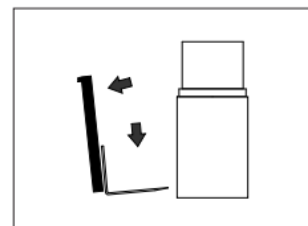
- ④ Stop close to the stack and further lift the load high enough to clear the top of the stack. Slowly move the load into position. Use care not to damage or move adjacent loads.
- ⑤ When the load is aligned with the stack beneath it, tilt the mast to the vertical position and carefully lower the load onto the top of the stack.



- ⑥ Lower the forks slightly to clear the load pallet. Tilt the forks forward slightly, if necessary.



- ⑦ Check your travel path, then carefully back away until the forks are clear of the stack. Stop and lower the forks to the travel position (150–200 mm) above the ground], then tilt back for travel



2) To move a load from a stack

Approach the stack carefully, truck lined up squarely with the load. With mast vertical, raise the forks to the correct height for freely engaging the load pallet. Adjust fork angle as necessary to fit squarely under the load.

Be sure that the forks do not extend beyond the load, causing damage or tipping of other e sure that the forks do not extend beyond the load adjacent loads or materials behind the load being moved. If the forks are longer than the load, move the tips partially under the load without extending beyond the load.

Raise the load to clear the ground. Back out several inches, then set the load down and move forward until the front face of the forks contacts the load. Be careful that the fork tips now clear the adjacent load or material behind the load being moved.

Raise the load from the stack by tilting the mast back just enough to lift the load from the surface.

Or, with the mast still vertical, raise the forks until they begin to lift the load. At this point, apply the minimum back tilt that will stabilize the load.

Check your travel path, slowly back up until clear of the stack, stop, and then lower the load to the travel position (150-200 mm off the ground). Tilt full back to travel (Except for certain loads that may have to be transported as level as possible). Be sure the load is back flush against the carriage or front face of the forks.

※ **Certain loads must be transported as level as possible.**

9. SHUT DOWN PROCEDURE

※ Always leave your lift truck in a safe condition.

1. WHEN YOU LEAVE YOUR TRUCK, OR PARK IT, FOLLOW THESE SAFETY RULES

- 1) Park in a safe area away from normal traffic.
- 2) Never park on a grade.
- 3) Never park in areas that block emergency routes or equipment, access to fire aisles, or stairways and fire equipment.

2. BEFORE LEAVING THE OPERATOR'S POSITION

- 1) Fully stop the lift truck.
- 2) Return the forward and reverse levers to the neutral position.
- 3) Apply the parking brake.
- 4) Lower the lifting mechanism-carriage and forks or attachment fully to the ground.

3. IN ADDITION, WHEN LEAVING THE TRUCK UNATTENDED

- 1) Tilt the mast forward until the forks are level and flat on the ground. Let the engine run at idle speed.
- 2) Turn the start switch to the OFF position and remove the key.
- 3) Block the wheels, if the truck must be left on an incline or you have any doubt about the truck moving from a safe position.

