



SMARTLIFT

Operator's Manual For Safety Operation

Original instructions



This booklet was designed as an aid to good judgment in forklift operation for rapid but safe handling of loads.

As you know, forklift truck safety is serious business. You must look out not only for your own safety but also the safety of those around you .No

one else is going to do it . It's up to You. We feel that safety is one of the most important factors in the daily operation of a forklift truck. If the safety code given in this booklet helps you to prevent even one accident , the writing of this text has served a real purpose.

Be sure to read the Operator's Manual of each model.

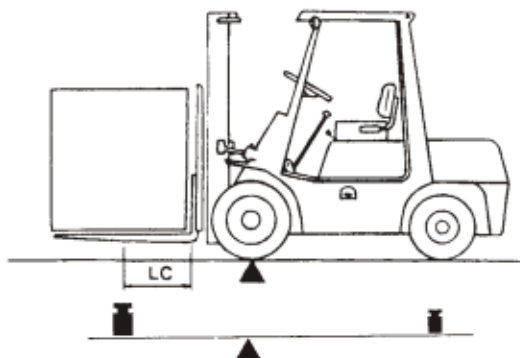
CORRECT OPERATING PROCEDURE

Here are some guidelines for operating your **SMARTLIFT** forklift so that you get the most in the way of performance, ease of handling, safety and economy.

Load and vehicle stability

Let us compare the way we lift a load with the way a forklift does. A light object can be picked up from just about any position, but to pick up a heavy one you must bend down, lowering your hips and arms. The heavier the object, the more bending you must do. The same is true of a forklift.

As seen from the diagram, the forklift front wheels act as a fulcrum upon which the load on the rear wheels (counterweight) is counterbalanced by the load on the forks. Thus, care should be taken not to disturb the balance in relation to the load center.



Even if a load less than the maximum is set far forward on the forks, or if a load exceeds the specified allowable limit, the rear wheels will tend to float and the steering wheel will be hard to turn. This is the most dangerous condition for a forklift.

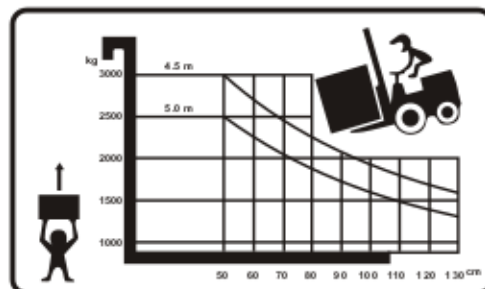
Because of this principle of leverage, a forklift's capacity is always specified by giving not only the maximum weight it can lift, but also the maximum distance between the center of the weight and the back of the forks. This is called the load center distance.



Load capacity chart

Load capacity chart shows exactly how the truck's load capacity is reduced if the load center distance is greater than normal.

The curves are given for several different maximum lift heights. The higher the lift, the lower the allowable load.



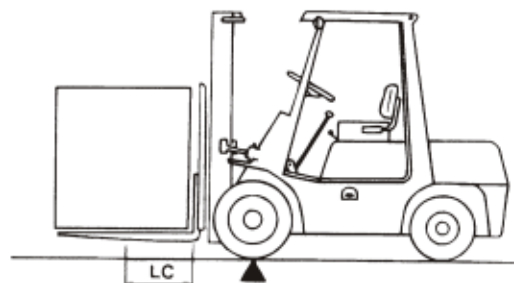
Load capacity

Load capacity is the maximum weight of material that can be handled on the forks at a specific load center.



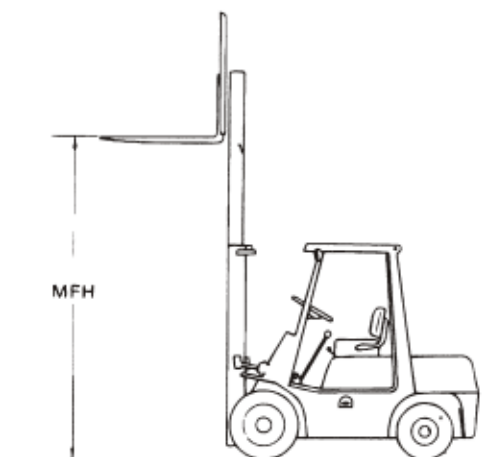
Load center

Load center is the distance between the center of weight of load and the back of the forks.



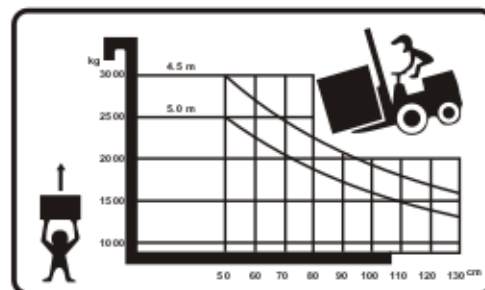
Maximum fork height

Maximum fork height (MFH) is the highest position of the forks with the mast in a vertical position.



How to read the load capacity chart

The load weights 2500 kg well below the normal capacity of a truck with 4.5m mast. However, the load center is 100cm from the back of the forks. On the chart, trace up from the 100cm load center to the upper load curve and then across to the capacity scale. According to the chart, the maximum weight that can be lifted at a 100cm load center is approximately 1800kg, and so our assumed load of 2500kg is too heavy. It must be broken down.



How to read the name plate

The load capacity is engraved on the name plate. Make sure of the load center and capacity before starting the operation.

- ① vehicle type ② Special vehicle type, Attachment type
- ③ Frame No ④ Vehicle weight ⑤ Mast lifting height
- ⑥ Front tread ⑦ Tire size ⑧ Air pressure ⑨ The year of manufacture
- ⑩ UL specification ⑪ Load capacity
- ⑫ Load center

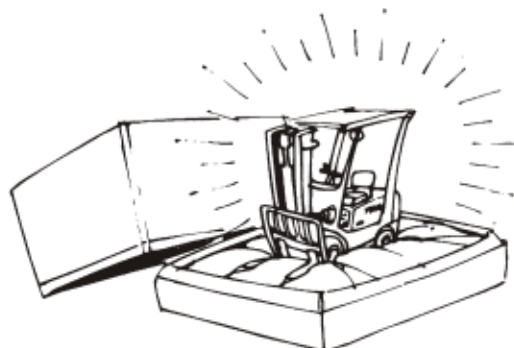
SMARTLIFT FORKLIFT TRUCK					
MODEL		①	FRONT TREAD		⑥
CODE NO. OF SPECIAL MODEL		②	TIRE SIZE OF R		⑦
FRAME NO.		③	TIRE PRESS. R		⑧
TRUCK WEIGHT		④	TIRE SIZE OF L		⑨
MAX. LIFTING HEIGHT "A"		⑤	TIRE PRESS. L		⑩
			PROD. YEAR		⑪
			TYPE		⑫
		CAPACITY (1) (2) (3)			
		CAPACITY WITH VERTICAL UPRIGHT EQUIPPED AS SHOWN (4) (5) (6)			
LOAD CENTER "B"		(1)	(2)	(3)	(4)

Handling a new forklift

The performance and service life of your SMARTLIFT Forklift depends heavily upon the way you handle it during the break-in period.

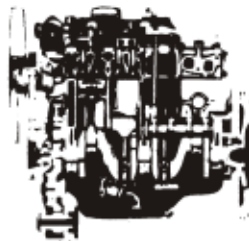
During the first 100 hours, pay especial attention to the following.

- (1) Do not race the engine unnecessarily.
- (2) After starting the engine, allow it to warm up fully before starting work.
- (3) Avoid rough handling and driving. Do not overwork the forklift.
- (4) Be sure that the new vehicle receives inspection service and periodic maintenance as noted in the Service Booklet.



Engine starting and post-starting procedures

- (1)Set the shift lever to neutral
 - (2)Put on the parking brake.
 - (3)Set the engine switch to GLOW and wait for the glow plug controller to indicate the red hot condition. (Diesel only)
 - (4)Turn the engine switch to ON , see that the oil warning lamp is lit ,then pump the accelerator pedal lightly .Now put the switch on START and the engine will start.
- *Do not crank the starter motor for more than five seconds at a time.



After starting

Once the engine is started, do not begin work immediately; let the engine warm up fully.

Lift cylinder warm-up

Every day ,before beginning work with the forklift ,always operate the forks with the full piston cylinder stroke several times .This will give the cylinders an even coat of oil and prevent rusting from the air drawn into them .

Vehicle operation

Takeoff

Raise the forks 15 to 20 cm off the ground, work the torque converter shift lever, release the parking brake, and gently ease into takeoff.

IMPORTANT

Do not 'ride' the brake pedal. Applying your foot to the pedal more than needed can damage the torque converter and cause rapid brake wear.

Gearshifting

- (1) Bring the vehicle to a full stop before reverting gears.
- (2) In the unloaded condition, 2nd gear may be used for takeoff and travel, but in the loaded condition, 1st gear should always be used for takeoff.

Steering

- (1) The left hand is used to turn the steering wheel by the knob. The right hand works the loading controls.
- (2) This forklift is steered by the rear wheels. The steering wheel turns easily, so watch out for exaggerated tail swing.



Picking up loads

Approach an object to be loaded carefully ,keeping the fork undersides level with the ground .Slip the forks under the load as far as the carriage , raise forks 15 to 20 centimeters , tilt mast fully backward and then transport it to the unloading point .

Unloading

Tilt the mast forward to either a vertical or forward tilt position , then lower the forks to the desired spot for unloading .Back away with the mast in one of the above conditions .smoothly withdrawing the forks from beneath the load .Raise the forks 15 to 20 cm and proceed to the next operation .



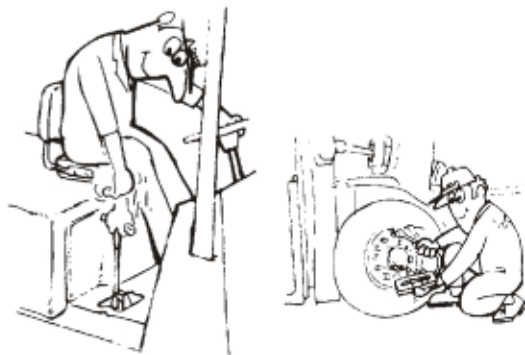
(1) If the mast is tilted backward at first when loading, the fork tips will strike the object for loading and the forks cannot be slipped underneath as far as the front of the carriage.

(2) Do not approach the load fast and strike it.

(3) When travelling with a load on the forks, keep the mast tilted backward and the forks 15 to 20 cm off the ground.

(4) Never travel with the mast tilted forward and the load raised. The load center of balance can shift and cause the load to fall off.

(5) Back down a slope slowly when carrying a load.

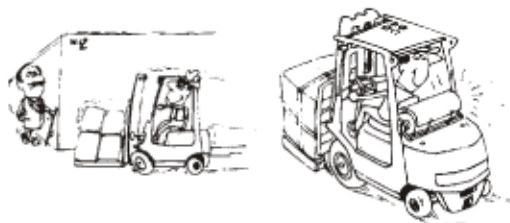


Stopping and parking

(1) To come to a stop, release your foot from the accelerator pedal, reducing speed and braking the vehicle with the foot pedal.

(2) Do not attempt to stop on a slope or incline by working the accelerator pedal with the unit in gear. This will cause the oil temperature to rise in the torque converter. (This is called the stall speed of the engine.)

(3) When parking the vehicle, stop at a place where it will not be in the way of other vehicles. Set the parking brake and lower the forks onto the floor or ground. Always



Road or surface conditions

Needless to say, forklift construction is such that travelling speed is limited by the road or surface conditions. Be particularly careful when operating the forklift over other than flat surfaces.

Snowy or frozen surfaces

Use tire chains on snowy or frozen surfaces. Since it is dangerous to go into a forward slide or side slip on such surfaces, avoid sudden braking, acceleration or sharp turning. Speed should be controlled only by means of the accelerator pedal.

*Tire chains grip the surface very well, but they are no insurance against side slippage.



Handling in hot weather

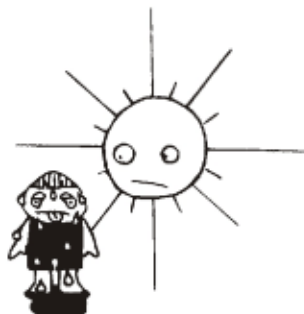
Keep the following points in mind when you handle the forklift in hot weather.

Cooling System

(1) Clogged radiator can cause overheating. Clean them out regularly with a blast of compressed air. Also check for water leakage at the same time.

(2) Check the fan belt tension and adjust to the specified tension.

(3) Even if the engine overheats and coolant boils over, let the engine idle a while until the temperature falls, before shutting it off. Long Life Coolant is mixed in with the coolant, so do not run tap water into it right away. Raise the engine hood and allow it to cool down by itself.



Cold weather vehicle handling

In the severe cold of certain climates , lubricating oils and coolant are used in much tougher conditions than in milder weather areas , Thus , the following precaution should be taken .

(1)When Fueling Up

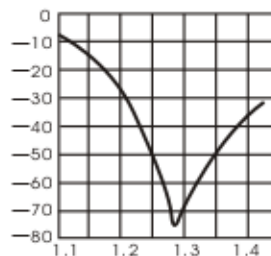
Always fill the tank up to the top . This minimizes the air within the tank and thus reduces possible freezing from moisture condensation , rust in the fuel system and hard starting .

*Make sure the cap on the fuel tank is closed tightly so that no rain or snow can enter .



(2)Battery precautions

The higher the specific gravity and the greater the charge level , the less easy it is for a battery to freeze up .By the same taken , battery effectiveness is at its peak .

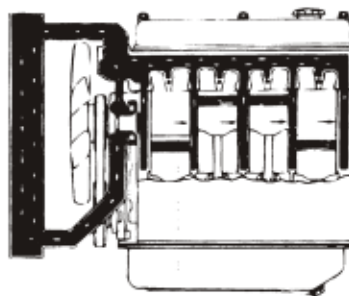


Use of anti-freeze

Before freezing weather sets in , the coolant (100% water) should be replaced by an antifreeze coolant – a mixture of water and the antifreeze compound . The mixing ratio depends on the lowest temperature expected .

Mixing ratio for anti-freeze

Lowest temperature Expected (°C)	-15°C (5°F)	-35°C (-31°F)
Anti-freeze(%)	30	50



SAFETY
INFORMATION

Conditions for Normal Vehicle Use

Work Environment

In special work environments ,it may be possible to use this forklift under its standard specifications .Consult with your **SMARTLIFT** dealer if this forklift will be used in any of the following environments:

In harbours or waterfronts where there is the risk of salt corrosion

In chemical plants where the forklift may be affected by acids or other chemicals .

In environments where there is a risk of explosions due to suspended particulate matter or explosive gases ,etc .

In cold regions ,hot regions , or at high altitudes

In environments with exhaust emission exceed standards .

For engine-powered forklifts

Do not use the forklift in bad weather conditions such as thunderstorms or high winds .Similarly , when dense fog arises , wait until visibility is good before using the forklift .

When working indoors ,exhaust gas (carbon monoxide) can be hazardous . Where work must be done indoors , ensure that windows or doors are open to allow adequate ventilation .

For electric-powered forklifts

Do not use the forklift outdoors

Never use the (optional) Cold Storage Model continuously in a cold storage area for more than 30 minutes . In addition ,ensure that the time spent working outside the cold storage area is at least equal to that



Work environment hazards

Slippery road surfaces

Ensure that any water , oil ,sand ,ice or snow is removed from the road surface before work begins as these may cause the operator to lose control of forklift .

Rough ground

Never operate on rough or potholed roads ,or roads with sharp objects on them , as any one of them could damage the forklift or cause it to tip over .Always ensure that the forklift will travel on a smooth surface free of hazards .

Lighting

Never work in areas with insufficient light .Provide adequate lighting for the work environment or consult with your **SMARTLIFT** dealer about installing work lights on the forklift .

Noise

Excessive peripheral noise can distract the operator and cause fatigue . There is also the risk that warnings to pedestrians and will go unnoticed .Operators must take particular care when using the forklift in noisy environments .

Conditions that apply when attachments are used

When attachments are installed on the forklift ,the rated capacity is less than that permitted under normal usage . Check with your **SMARTLIFT** dealer for the rated capacity when attachments are used .



Information on Operating the Forklift

Qualifications and training

Only those persons who have the appropriate qualifications under the laws of their country are permitted to operate this forklift. Where such laws have not been enacted, the employer should ensure that the selected operator is trained in safety measures and forklift operation before authorizing the operator to use the forklift. If more than one forklift is used, the characteristics of features such as the brakes, accelerator and load handling equipment will differ, even on forklifts with the same specifications. Ensure that operators who temporarily switch to other forklifts are trained to familiarize themselves with the characteristics of each forklift before beginning work.



Fundamental Safety Guidelines

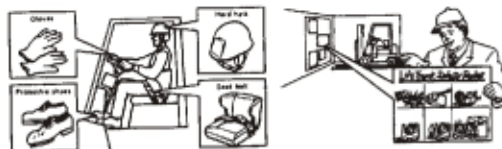
Workers

Where a seat belt is fitted, operators must wear the seat belt while operating the forklift.

Always use the proper safety equipment, such as hard hats, protective shoes, gloves, eye protection or other equipment as appropriate.

Before operating the forklift, always visually inspect for any oil leakages or other abnormalities. Do not touch any metal surfaces with the bare hand. If any abnormalities are found, contact the supervisor and do not use the forklift until repairs are completed. You must not attempt to make repairs or adjustments yourself.

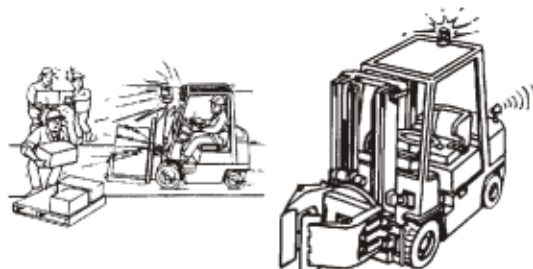
Always use the assist grips and steps when climbing in and out of the forklift.



Pedestrians

The operator has a primary responsibility to protect the safety of pedestrians . Priority must always be given to pedestrians . Take particular care when turning . Never deliberately frighten pedestrians into moving aside by flashing the lights or sounding the horn . Ensure that pedestrians are aware when the forklift is approaching, and use a warning device if necessary .

It is recommended that optional products such as a beacon light and a back-up chime be installed to give pedestrians better warning of forklift operations .



Hazards arising when attachments are used on the forklift

When attachments are installed on the forklift , the rated capacity is less than that permitted under normal usage . Check with your **SMARTLIFT** dealer for the rated capacity when attachments are used .An example of the particular considerations that apply when attachments are used is given below .

For example , when the forklift operated is equipped with the side shift attachment ,ensure that the load is centered with respect to the forklift during lifting and moving . Unbalanced loading can result in the forklift tipping over . Whether or not the forklift is equipped with an attachment , loads should never be left in a raised position . This applies particularly to forklifts equipped with the clamp attachment ; leaving a load clamped can cause it to slip out

Fuel

Fuel types

The following fuels are recommended :

unleaded gasoline should have a Research Octane Number (RON) of 91 or greater ;diesel fuel should be No.2 or greater ;and LPG should include 90% or more of propane and propylene by volume .

Use the correct fuel type for your forklift . The use of the wrong fuel will impair forklift performance and may lead to unpredictable faults or damage .

Handling of fuel

Always refuel in the designated area . For LPG , check that the supplier is equipped with proper connections to ensure a secure supply . Ensure that the refuelling area is well ventilated , is away from sparks and flames , and is equipped with appropriate fire extinguishing equipment .

The fuel is inflammable and can ignite and explode . Any flame is strictly forbidden when handling fuel .

Mistakes in fuel handling can invariably cause serious accidents . Always mop up any fuel spills .

LPG is heavier than air , and can accumulate in low areas and even on clothing . Any flame or spark can cause a fire and lead to a serious accident .



Refuelling

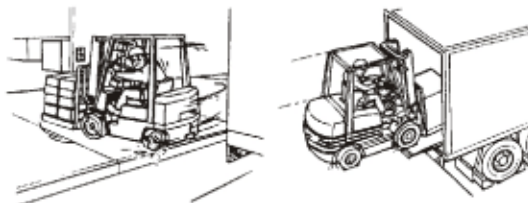
Any exposed flame is strictly forbidden at refuelling stations . Remove the ignition key and turn off the headlamps when refuelling .

Always retighten the fuel cap after refuelling .

Always exchange tanks when refuelling with LPG.

When exchanging LPG tanks , always visually check the connections for damage or other abnormalities .If a gas leak occurs , do not start the engine and request repairs immediately .

When the LPG tank needs refilling , ask the LPG station attendant to fill the tank . Never attempt to fill the tank yourself . This is extremely dangerous .



Shipping , Loading and Unloading the Forklift

Observe the following cautions when shipping the forklift by trailer or freight car :

Appoint a supervisor or overseer .

Ensure that the bed of the freight car or trailer is strong enough .

Securely apply the parking brake of the trailer and chock the wheels so that the trailer cannot move .

Use jacks to prevent the trailer from sinking when the forklift is loaded onto it .

Use ramps that can bear the weight of the forklift and can be firmly secured to the bed of the freight car or trailer .

Drive onto and off the trailer or freight car at low speed and check the strength and stability of the ramps throughout the loading process .

Never attempt to change direction while on the ramps, and proceed in accordance with the supervisor's directions.

Park the forklift in the middle of the bed of the trailer or freight car, lower the forks or attachment to the bed and apply the parking brake.

To ensure that the forklift does not move during shipment, chock the tyres and secure the forklift with steel cables.

To avoid damage to the forklift's paintwork or operator's seat when securing the forklift with cables, etc, protect those areas with strong timber or heavy cardboard, etc.

Drive the freight car or trailer smoothly, and stop periodically to check the cables and shackles for looseness.

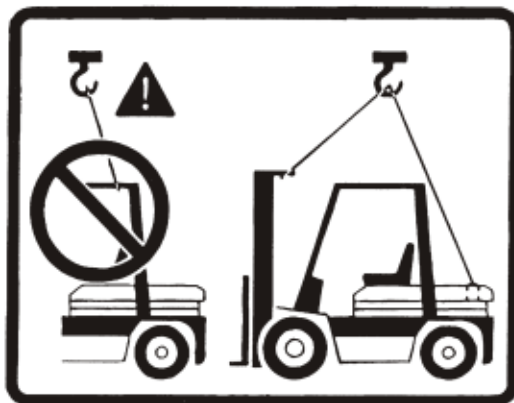
Observe the following cautions when lifting the forklift:

Do not lift the forklift with a cable attached to the counterweight or drawbar. Lift the forklift by the hooking points indicated on the caution plate affixed to the forklift.

Use a cable with ample strength for the job.

Never use a cable that has kinks, distortions, fraying or friction damage.

Never walk under a suspended forklift.



Assembling the forklift and mounting attachments

Ask your **SMARTLIFT** dealer to assemble a forklift that has been delivered disassembled.

If the mast and/or counterweight must be removed for shipping or other reasons, remove the mast first and then remove the counterweight. To reattach the mast and counterweight, use the reverse order, attaching the counterweight first and then the mast.

When installing a battery in a battery-less forklift, use batteries that match the weight and capacity of the forklift (electric-powered forklifts).

When an attachment has been replaced, operate it without a load and (visually) inspect for oil leaks or other

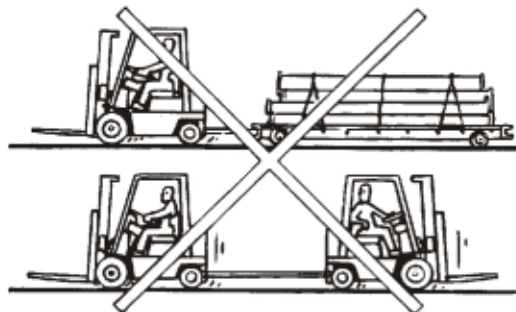


Towing the forklift and moving incomplete forklifts

Use a trailer or freight car to move the forklift to another location. Do not tow the forklift or push it from behind.

The drawbar is located behind the counterweight. Use the drawbar to extricate the forklift when it has become stuck and cannot move, or when the forklift is being loaded or winched onto a trailer. Do not use the forklift as a towing tractor to tow other forklifts or other vehicles.

Use moving equipment (a crane or forklift) to move incomplete forklifts.



Leaving the forklift idle and long-term storage

When the forklift is to be left idle ,store the forklift with the mast extended to its highest point . When performing periodic checks , raise and lower the mast three or four times to lubricate the insides of the cylinders .

Care of Engine Room

The engine and engine compartments can become rusted from moisture , dirt and the like . Therefore , you should inspect the engine room once a month to remove rust build-up and to touch up spots or apply rust repellent as required .

Maintenance of Brake System

If storage conditions permit ,the parking brake should be completely released .

Check the brake fluid level and the fluid quality in the reservoir tank once a month , keeping the brake system in normal operation condition at all times .

Brake fluid must be changed when the truck is stored for more than six months .

Maintenance of Hydraulic System

As far as possible unpack the truck and store it with the mast fully raised in the maximum backward tilt position .

Once a month , perform the lift , lowering , forward and backward tilt operations over three times .

Inspect the hydraulic oil once a month , checking for leakage , contamination and viscosity .

Battery Care

A battery check should be run once a month so as not to allow any loss of battery performance .

The battery electrolyte level should be all the way up the specified level mark .

Repeated charging is necessary when the specific gravity goes down below 1.230 (or 1.250 with an electric lift truck) .

Drive System Maintenance

To prevent rust from developing inside , it is good to operate the truck once a month in forward and reverse over a travel distance of 50 meters or more .

Careful performance of the above-mentioned inspection and maintenance will assures customers delivery of our **SMARTLIFT** Industrial Trucks in the best possible condition .

Inspection of Industrial Trucks while in Storage

Inspection Period (A Summary)

In order to maintain the quality of vehicles in storage and to deliver trucks to customers in satisfactory condition , the following inspection must be performed periodically .

Inspection & Service Items		Inspection & Service Times		
		Reception	Monthly	6 Monthly
Vehicle exterior	Paint condition	○	○	○
	Rust condition	○	○	○
	Damage (each part)	○	○	○
	Tires	○	○	○
	Cleanliness	○	○	○
Engine compartment	Rust condition	○	○	○
	Cleanliness	○	○	○
	Functional parts operation	○	○	○
	50m travel	○	○	○
	Engine oil	○		●
	Brake fluid	○		●
	Hydraulic oil	○	○	○
	Tire pressure	○	○	○
	Electrolyte	○	○	○

(1) ○ = inspection

(2) ● = replacement

(3) Reception = inspection when the truck is received by the dealer .

(4) Monthly = one month from the inspection performed upon reception .

(5) 6 Monthly = six month after reception by the dealer .

Inspection Items
<Vehicle exterior>

Inspection	Description	Remedy
Paint Finish	Peeling Discoloration Damage	Touch up. Repaint.
Rust	<p>Check each truck part for rusting . Important Checkpoints Overhead guard , tilt cylinder rod , shift lever , steering post , torque converter shift rod , back rest , mud guard , underside , all edges and protrusions or indentations</p> <p>Check underside for rusting . Important Checkpoints Front axle housing , steering linkage , power steering cylinder rod</p>	<p>Remove rust and touch up . Repaint . Rust preventative</p> <p>Remove rust and touch up . Repaint . Rust preventative</p>

Inspection Items
<Vehicle exterior>

Inspection	Description	Remedy
Damage	Damage during transport Damage while in stock	Touch up . Replace parts . Body repair . Repaint .
Tires	Dirty Damage	Clean Replace
Cleanliness	Exterior extremely dirty Foreign matter adhering	Clean & wash truck Repaint . (1)Be sure to wipe completely dry after washing. (2)Clean an electric truck with a damp cloth ; do not use water .

Inspection Items
<Engine compartment>

Inspection	Description	Remedy
Cleanliness	Engine or engine compartment extremely dirty	Blow off dirt with compressed air ; clean ; wash
Rust	Engine or engine compartment rusting Important Checkpoints Engine mounting cylinder head , cylinder head bolts , cylinder block , transmission , machined surfaces , all joints and connections , counterweight	Remove rust , blow with compressed air ; wash , touch up , rust preventative .

Inspection Items
<Functional parts>

Inspection	Description	Remedy
Operation of functional parts Hydraulic system	Raise , lower and tilt mast both forward and backward more than 3 times .	Inspect , adjust , repair .
Gauges	With the ignition switch or all switches ON ,check operation with the engine running .	Inspect , adjust , repair , replace .
50m travel	Drive both forward and reverse for more than 50 meters .	Inspect , adjust , repair .
Engine oil	Inspect the oil level with the level gauge . Check cleanliness , viscosity and possible deterioration . (Do not check oil immediately after turning off engine)	Replenish after assuring cleanliness . If truck has been in stock over six months , change oil before delivering to customer .

Inspection Items
<Functional parts>

Inspection	Description	Remedy
Brake fluid	Check the amount of brake fluid in the master cylinder reservoir tank . (Fluid should be up to stepped position of reservoir tank) Foreign matter , extreme dirtiness or discoloration	Replenish after assuring cleanliness . If truck has been in stock over six months , change fluid before delivering to customer . Remove foreign matter and change fluid .
Hydraulic oil	Check the level with the oil level gauge . Check cleanliness viscosity , ingress of foreign matter .	Replenish after assuring cleanliness . Replace oil .
Tire pressure	Check inflation pressure with tire pressure gauge . Specified Inflation Pressure is listed in Pre-delivery Inspection Procedures of Operator's Manual .	Add air

Inspection Items
<Functional Parts >

Inspection	Description	Remedy
Electrolyte	Electrolyte level Specific gravity See battery maintenance heading	Replenish . Charge .

<Other>

Inspection	Description	Remedy
Plating , aluminum die cast	Rust on plating of tilt cylinder rod , power steering rod , etc ;rust on carburetor , water outlet ,etc .	Remove rust , replace . Remove rust , replace , rust preventative .

Battery Maintenance

Item	Gasoline , Diesel Truck	Electric Truck
Electrolyte level check	Should be up to specified level	Should be up to specified level
Specific gravity check	Measure at the second cell for battery plus (+)terminal . Specific gravity :1.260	Measure at cells . Use the middle cell as a pilot check cell for specific gravity index at the second month , Check all cells at 6 months and use the worst one for the pilot cell thereafter . Should be less than 0.05 deviation between them . Specific gravity 1.280
Lower limit of specific gravity	1.230 (20°C). Remove battery and recharge if below this level .	1.250(20°C). Remove battery and recharge if below this level .
Charging	Do not perform quick charge . Measure specific gravity of each cell after charging.	Measure specific gravity of each cell after charging .

Measure specific gravity of each cell after charging .

Convert the specific gravity of electrolyte into what it would be at a fluid temperature of 20 °C

$$S_{20}=S_t +0.0007 (t-20)$$

S₂₀: Specific gravity at 20°C

S_t : Actual specific gravity measured

t : Temperature of electrolyte when measured

Rustproofing

The engine compartment , chassis and undersides should be cleaned , touched up and rust removed . A rust preventative should be applied to long-term storage trucks .

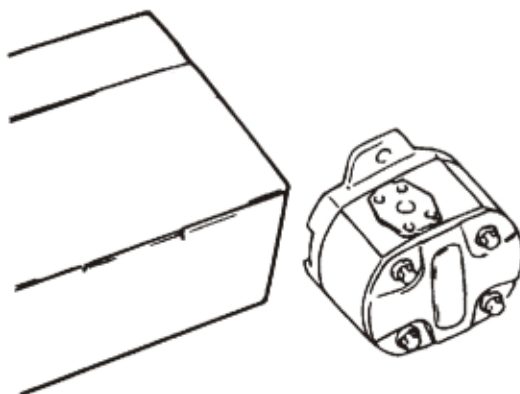
Service Requirements

Genuine **SMARTLIFT** Replacement Parts

There are Genuine **SMARTLIFT** Parts for all parts to be replaced on the forklift. Contact your nearest **SMARTLIFT** dealer. Refer also to the User Parts Catalog supplied with your forklift.

Disposing of engine oil and batteries

To avoid damage to the environment, do not dispose of used engine oil, batteries, filters, etc. yourself. Dispose of such waste products in accordance with the laws of your country, or use an authorized waste treatment agency.



Safe work practices

Ask your **SMARTLIFT** dealer about inspections other than routine per-work and weekly inspections. Your **SMARTLIFT** dealer has qualified staff who are fully trained in the equipment you use. Repair manuals are also available from your **SMARTLIFT** dealer for information on service requirements.



Notes on daily equipment checks

Always use safety equipment (safety helmet , safety shoes , safety goggles , gloves , etc .).

Always use the correct tool for the job .

Perform forklift maintenance on level ground with firm footing .

Remove the ignition key and disconnect the battery plug .

Lower the forks and other moving parts to the ground .

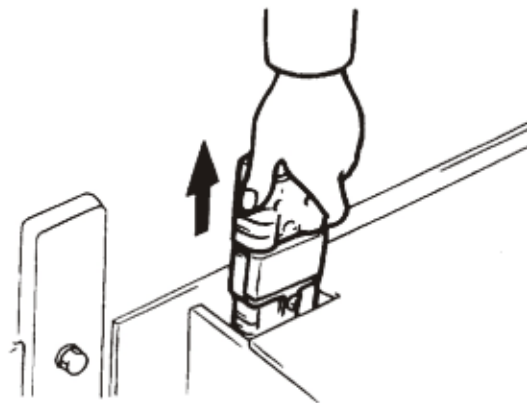
Wear goggles and a respirator when using compressed air .

Visually inspect for oil leaks . Never use your bare hands .

When performing maintenance checks with the forks raised ,use some measure to prevent the forks from falling .

Mop up oil or grease spills immediately .

Exposed flames are strictly forbidden when handling flammable materials such as oil-soaked cloths .



Forklift inspection (function tests)

Once all inspections and repairs are completed , check for any oil leaks , unusual noise or abnormal operation in any of the components .

The Forklift , Forklift Equipment and

Attachments

Main options and attachments

Option

Back-up chime .

Rear-view mirror

Rear combination lamp

Beacon light

LPG vehicle (engine-powered models)

Upswept exhaust (engine-powered forklifts)

High-capacity battery

Charger (electric-powered forklifts)

Attachment

Side shift fork

Hinged fork

Roll clamp

Bale clamp

Safety Equipment and Warning Labels

Caution plates are installed on all **SMARTLIFT** industrial forklifts. Never operate the forklift improperly. Always properly inspect and maintain the forklift. The information on the caution plates provides guidelines for safe operation. Make sure you fully understand and follow the information provided on them. Replace caution plates that are damaged or defaced and are no longer legible with new caution plates. Your **SMARTLIFT** dealer can provide new caution plates.

Moving parts warning

Never place hands or other body parts in this area.

Fork movement warning

Never use the forks to lift people. Never enter the range of movement of the forks.

Rotating fan warning

Beware of rotating fan. Do not touch.

Lift Points

Always use the lift points and follow the guidelines on the caution plate.

Operation Cautions

Always read these notes before operating the forklift.

Changing Batteries(electric-powered forklifts only)

Battery Handling(electric-powered forklifts only)

Other Notes

When parking LPG forklifts for the night, check that the LPG valve is closed, the fuel supply is cut, and the engine is stopped before turning off and removing the ignition key.

Handling the Battery Safely

Never allow an open flame near the battery . The battery gives off hydrogen gas which can catch fire and/or explode .

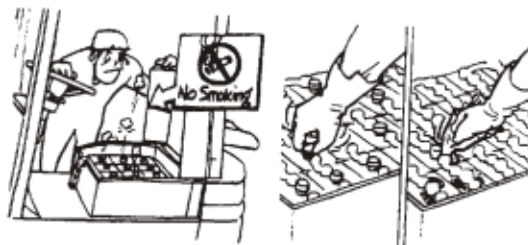
Always use protective gear such as rubber gloves and/or rubber-soled shoes when handling the battery . The battery produces a high-voltage current which can cause electric shocks and/or burns if the battery comes into contact with a part of the body during installation , maintenance or inspection .

Never allow the electrolyte to come into contact with the skin , clothing or eyes . The electrolyte used in the battery is diluted sulfuric acid and can cause burns and/or blindness .

Never clean or dust the top of the battery and/or the connection terminals with a dry cloth , and do not cover the battery with a plastic sheet . This can result in a buildup of static electricity and cause an explosion .

Do not place flat pieces of metal on top of the battery as this can short circuit the battery and cause a fire or ignite an explosion .

Do not store the battery close to equipment that emits heat , such as transformers , or that emits sparks , such as switches , fuses or welding equipment .



Notes on charging

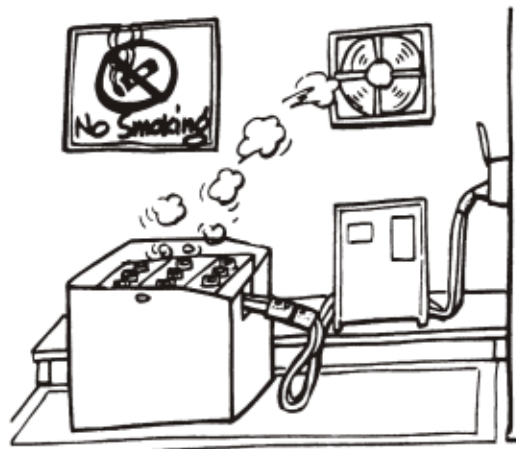
When charging the battery while it is in the forklift, keep the battery cover open.

Ensure that a "No Exposed Flames" sign is prominently displayed when charging the battery.

To prevent the hydrogen gas from igniting during battery charging, observe the prohibition on open flames.

Do not stop charging by disconnecting the charging plug or battery plug.

There is a risk that sparks will be generated that can cause accidents. Always use the controls on the switch panel to stop charging. Do not stop charging by disconnecting the switch breaker at the power source as this will cause the battery charger to assume that a power failure has occurred and result in abnormal operation.



Notes on Other Hazards

Chocking the wheels to prevent runaways

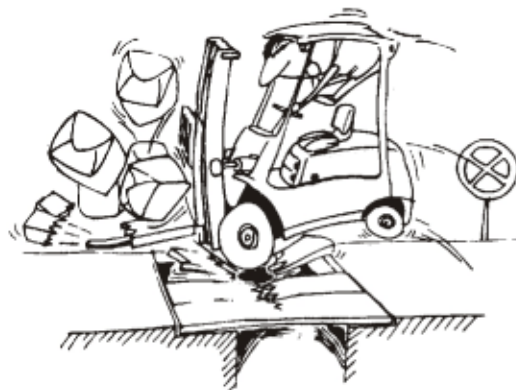
The edges of wharfage and platforms are dangerous. Chock the wheels to prevent the forklift from rolling off the edge.

Take appropriate safety measures in hazardous locations.

Employ the safety measure necessary to ensure safety when working on road shoulders and edges of cliffs or where landslides may occur. Do not work close to the road shoulders or the edges of cliffs as the ground is

Check the load-bearing strength of ramps and other structures .

The weight of a laden forklift is the weight of the forklift itself plus the weight of the load being carried . Check the strength of the floor when working on ramps and other structures . Also check the strength of the ramp girders before crossing the ramp , and drive in the middle of the ramp . When using an elevator to lift the forklift , ensure that the elevator is designed for lifting forklifts and only use the elevator when the forklift is unladen .



Do not turn on inclined surfaces .

When carrying loads up or down a slope , go forwards up the slope and backwards down the slope . Do not turn on a slope as this may cause the forklift to tip over .

Do not use the charger to operate the forklift or to lift loads .(Electric-powered models)

Do not use any power source other than the battery

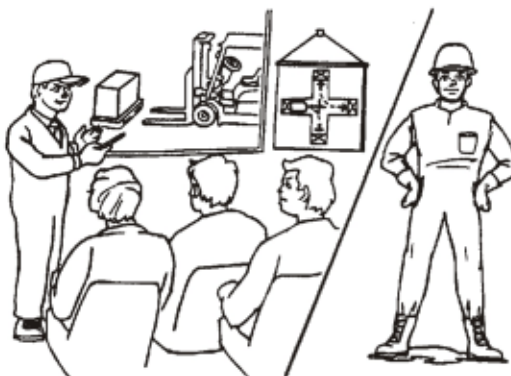


SAFETY TIPS FOR FORKLIFT TRUCK DRIVERS

1

Only properly trained and authorized drivers should operate forklift trucks

Are you qualified to be a forklift truck driver ? Are you familiar with the forklift truck you operate ? Do you wear a safety helmet and proper clothing on the job ?



2

Before starting work , check the condition of the forklift truck

Stop and think safety before starting the day's work . No truck should be operate unless it is in good working condition . Refuse to operate a forklift truck which in your opinion is unsafe .



3

Immediately report to your supervisor any obvious defects or required repairs

A defective forklift truck or one requiring repairs should be taken out of service until it has been restored to safe operating condition . Remember , safe handling begins with a safe forklift truck .



4

Don't overload

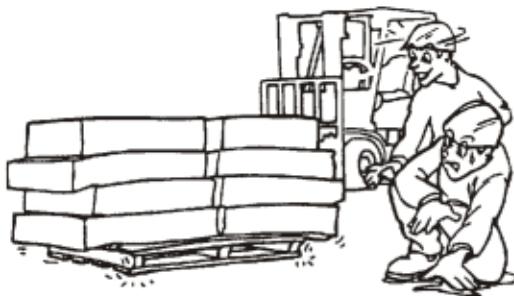
Check load weights and handle only within the rated capacity of your forklift truck . Before picking up a load , be sure of how much it weights and where its load center is located . Safe operation requires understanding and observing the forklift truck's rated load capacity .



5

Always use the proper size pallet

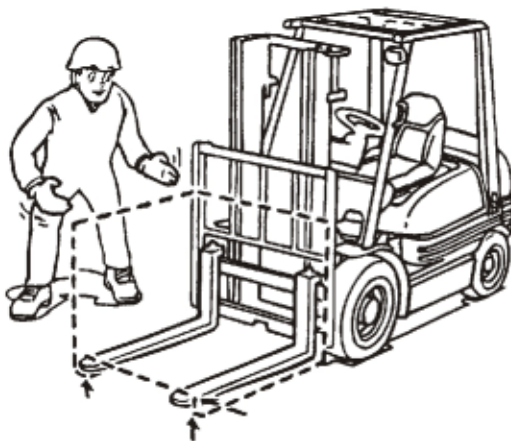
Check the condition and safe loading capacity of the pallet .
The sudden collapse of block stacking often results from a faulty pallet .



6

Set the forks to the maximum possible width

Before picking up a load , make sure that the forks are as wide apart as the pallet or load will allow . Wide fork spacing keeps the load stable .



7

Watch for loose loads

Handle only stable , safely arranged loads .



8

Position loads evenly on the forks for proper balance

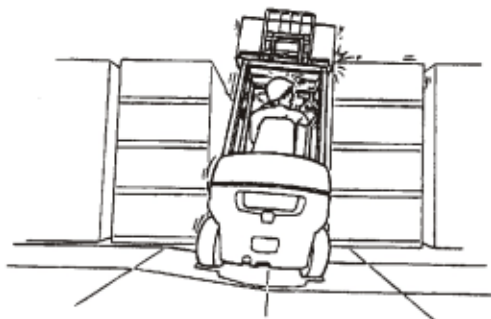
When handling wide loads , or off-center loads that cannot be centered , operate with caution to prevent tipping over the forklift truck . Also use caution when handling long lengths of bar stock , lumber , etc .



9

Never elevate a load with the forklift truck on an incline

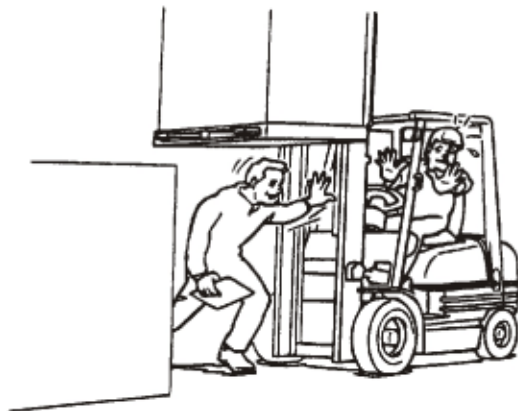
When on an incline always watch the condition of the surface . When operating on an incline with the load lifted high , just a slight bump or hole in the floor would be



10

Do not permit anyone to stand between elevated forks

Never stand or pass, or permit anyone else to stand or pass under the elevated forks whether empty or loaded.



11

Keep hands and feet out of the mast assembly

Never reach through the mast assembly for ANY reason. Just one small mistake could result in serious injury.



12

Always use the loads backrest extension and overhead guard for high stacking

Be especially alert for falling objects when high stacking .
Make sure no loose articles are lying on top of the load .



13

Do not elevate the load with the mast tilted forward

The mast should always be vertical or tilted backward when lifting a load , never tilt forward beyond the vertical .
An elevated load may be tilted forward only when putting it on the stack or directly over the unloading area .



14

Carry loads as close to the floor as possible

Keep the forks low, 100 to 150 mm (4 to 6 inches) off the floor in most cases. Never travel with the load raised higher than necessary for adequate clearance.



15

Keep the load against the backrest, with the mast tilted backward

Never lift or lower loads with the forklift truck in motion. And be sure that the full length of the forks is under the load, with the load against the load backrest.



16

Always look before starting

Before starting, first make sure that the direction lever is in position for the desired direction of travel and then make sure that the road is clear.



17

Start and stop g-r-a-d-u-a-l-l-y and s-l-o-w-l-y

Avoid quick or jerky starts and stops , particularly when loaded or when stacking . And never turn sharply at high speed . Bring the forklift truck to a gradual full stop before reversing .



18

Keep your forklift truck under control
at all times

Always drive at a safe speed considering all conditions .
Be sure you understand your limitations .



19

Always keep a safe distance from other vehicles

Keep a safe distance behind other moving vehicles to
allow sufficient space for safe stopping under any
condition .



20

Never overtake other vehicles

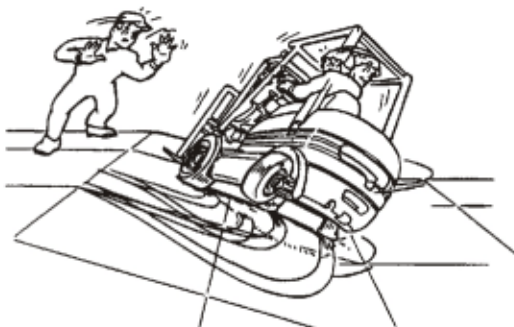
Never pass other vehicles moving in the same direction at intersection blind spots and other dangerous places . Always expect the unexpected !



21

Avoid stunt driving and horseplay

Safety is the matter of your own attitude . This is difficult to measure but quickly becomes evident once you are behind the wheel . It's not your forklift truck . It's you who invites trouble !



22

Don't daydream ! Stay alert !

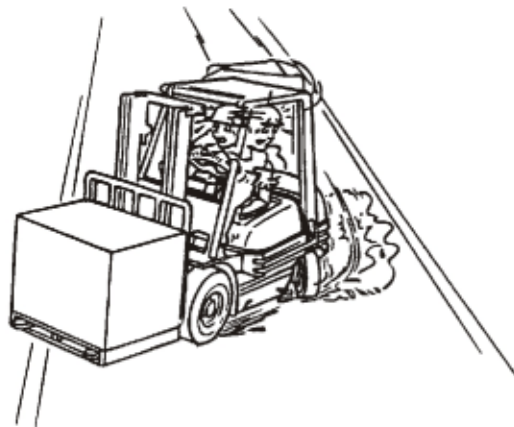
Keep your eyes open while driving . Always watch where you are going .



23

Slow down for wet , slippery areas

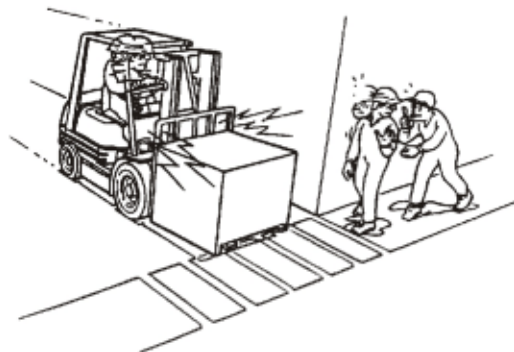
You know how easy it is to lose control of your forklift truck on wet , slippery places . Driving forklift truck is not for winning a Safari Rally , in spite of similar road conditions .



24

Go slow and sound the horn at corners

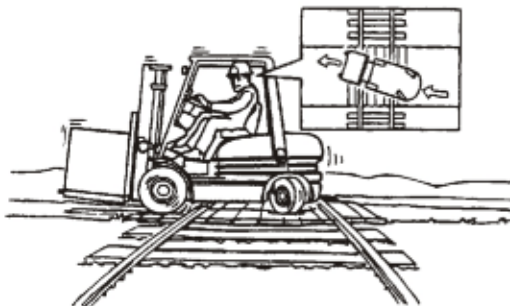
Go slow wherever vision is limited or obstructed . If your plant has traffic mirrors , use them . Observe stop signs , stop your forklift truck completely , sound the horn if necessary and then proceed with extreme caution .



25

Cross railroad tracks slowly and diagonally whenever possible

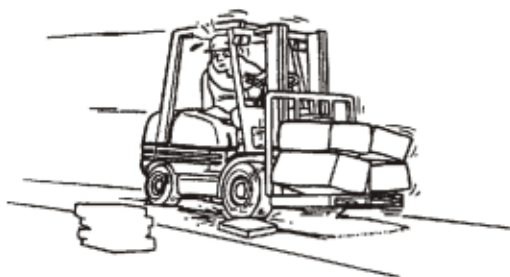
A railroad crossing can give a loaded forklift truck a real jolt . For smoother crossing , cross the railroad diagonally



26

Avoid running over loose objects

Remove hazardous loose objects rather than driving over or around them . Avoid holes and bumps that might disturb your load .



27

Always watch load and mast overhead clearance

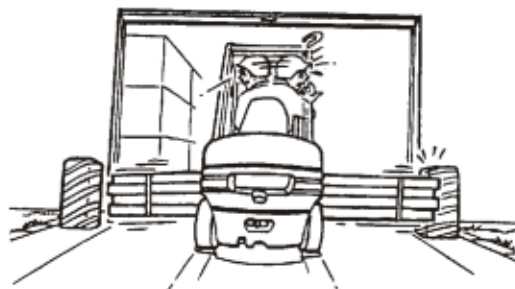
Be sure of sufficient headroom under overhead installations such as lights , wiring , pipework , sprinkler systems , doorway lintels , conveyors . Keep the mast as low as possible in all areas where overhead clearances are limited .



28

Watch side clearance

Watch your side clearance , especially with wide loads . Where possible , drive in the center of the aisle to avoid endangering personnel or equipment .



29

Keep hands and feet inside the truck

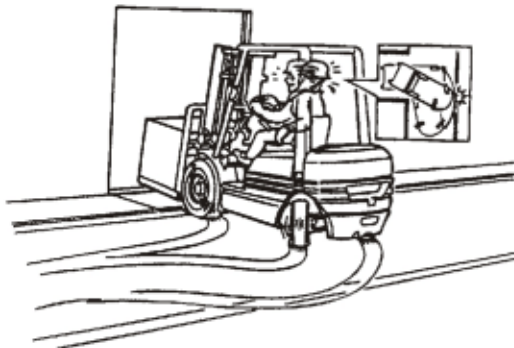
While driving , do not put your arms or legs outside the forklift truck . You only have one set of each . Take care of them .



30

Watch rear end swing

Because the rear wheels steer your truck , the rear end swings wide when you turn . Use care in aisles and other tight places .



31

Do not allow the fork tips to strike objects

Extreme care should be exercised when driving near anyone in front of any fixed object . And always keep the forks down .



32

For better vision with bulky loads , drive backward

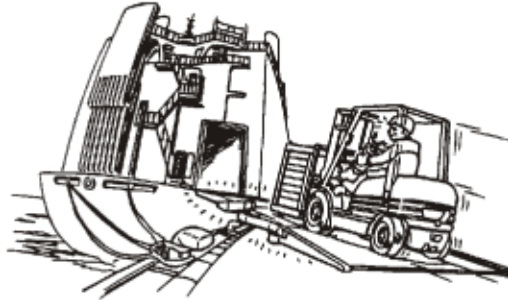
If your front view is obstructed by an extra wide load , drive in reverse so you can see where you are going . Better still , have a co-worker guide you .



33

Observe floor loading limits

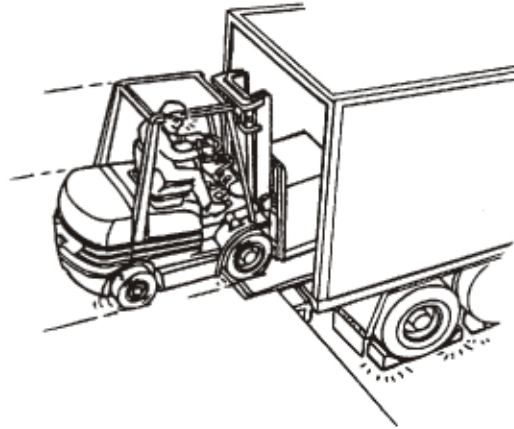
Never assume that any surface over which your forklift truck is to operate is strong enough to support the weight with or without a load . Make sure the dockboards are securely fastened and are strong enough to take this moving load safely .



34

Have brakes set and wheel blocks in place while loading and unloading

When working on a loading dock , make sure that the brakes of the trucks or trailers are set to prevent movement when you drive on . If a truck should roll forward , a serious accident could happen .



35

Always drive with the load uphill on a ramp

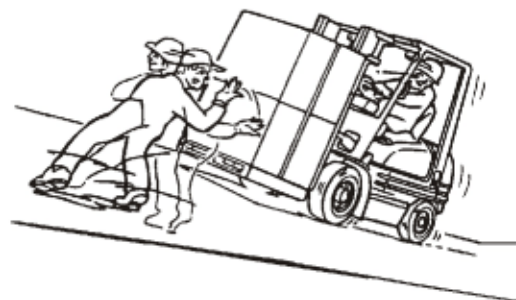
Travel forward going up and in reverse coming down to keep the load from falling off . Don't descend with the load in front . Always go up and down grades slowly .



36

Use an assistant when going up or down a ramp with a bulky load

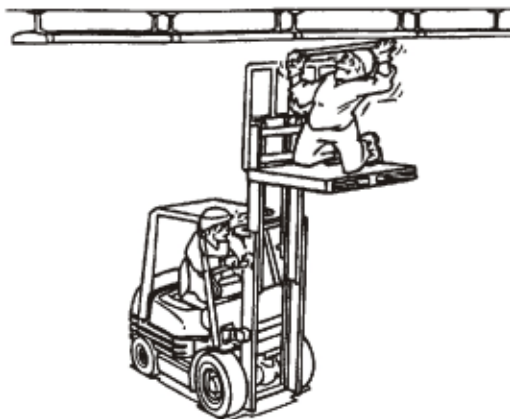
When driving forward up a ramp with a load so big you can't see ahead , get someone to guide you and make sure the way is clear .



37

Don't use your forklift truck as a personnel lift

This is extremely dangerous . Your forklift truck was designed for smooth , safe handling of things – not for elevating people .



38

Don't carry passengers

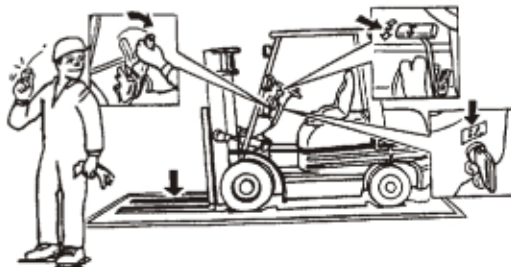
Again , don't use your forklift truck for moving loads for which it was not designed . There is NO safe place on a forklift truck for a passenger to ride .



39

Shut off your forklift truck when leaving it unattended

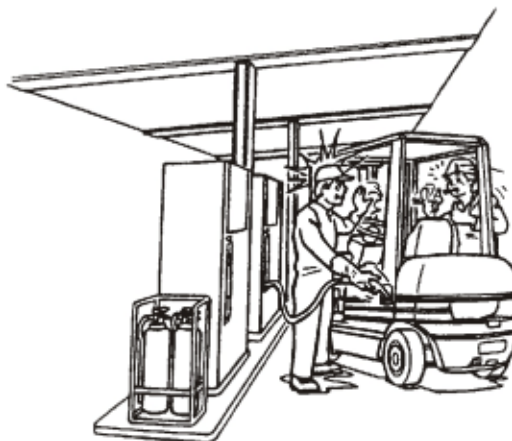
Always park on level ground with the forks flat on the floor so no one will run into them. Make sure that the brakes are set, the controls in neutral and the starter key or battery plug removed.



40

No smoking while refueling

Turn off the engine when refueling the forklift truck or when checking the battery – and don't smoke! Remember, the driver's seat is not a smoking seat.



41

Check the condition of your forklift truck after the day's work

Keep your forklift truck in the best of health . Your personal care will not only prevent costly repairs and reduce downtime but will also make you safer ,as well as the people and equipment around you . Report any faulty performance without delay .



42

Know your forklift truck and think safety

Make safety a matter of attitude . Expect the unexpected and use sound judgement whenever you are behind the wheel . And enjoy operating your **SMARTLIFT** FORKLIFT TRUCK !





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