

# Towing trailers

Many companies use towing vehicles with trailers for transporting goods over longer distances.

Tractors or special towing trucks, and also forklift trucks, are used for towing. The fork lift trucks have the advantage of being able to load and unload their own trailers. However, rear wheel steered forklift trucks are not ideal tow vehicles and trailers may not be towed by rear wheel steered vehicles on public roads, unless specific permission has been obtained from the police and local authority.

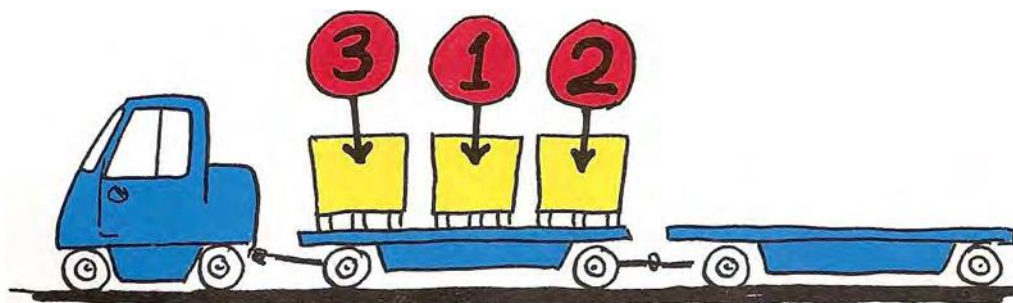


## TRAILERS

Trailers come in many different shapes and sizes, depending on how they are to be used. They can have 2 or 4 wheel steering, be fitted with brakes, have sides and/or roof etc. They can be used as a single trailer or be coupled into a trailer train.

When you are loading a trailer train, you should start by placing the heaviest loads onto the trailer, closest to the towing vehicle.

The first load should be placed in the centre of the trailer to ensure that the trailer does not overturn. Suitable loading order is shown in the figure below. Trailers must be unloaded in reverse order. There are often local rules which you must follow.



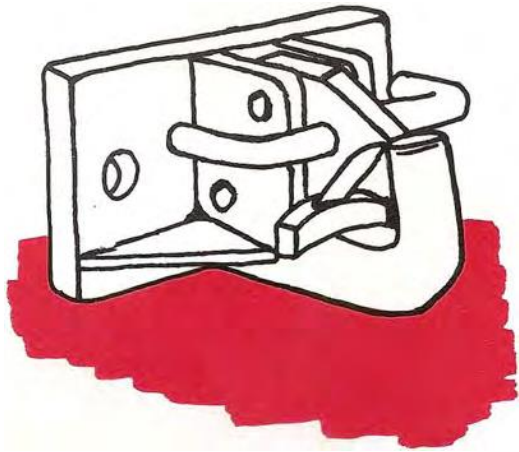
## **RESPONSIBILITY**

As the driver of a vehicle train, you are responsible for the truck, trailers and load. The load must be secure and if necessary, anchored. If another truck operator loads the trailers that you are going to tow, this operator must follow your instructions. Before you couple already loaded trailers, you must check that the loads are secure.



## **TRAILER COUPLING**

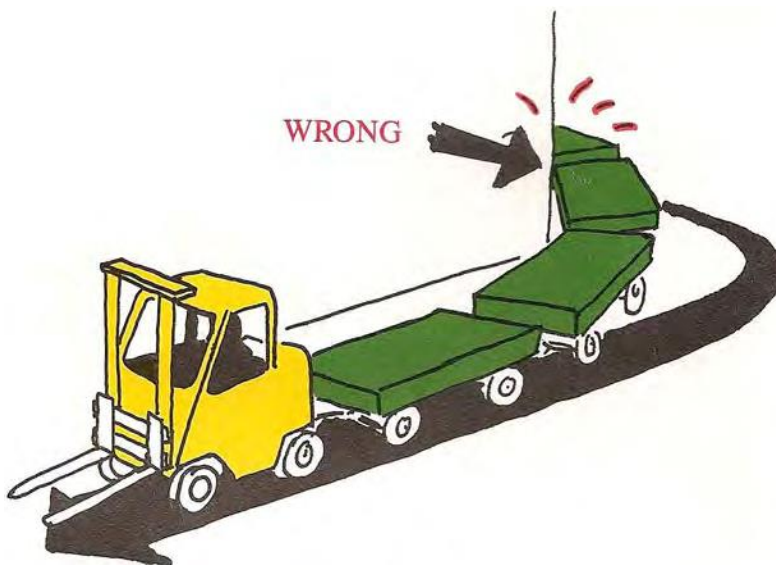
This is how you should couple a trailer: reverse the towing vehicle toward the trailer so that the couplings are aligned with one another and couple the trailer carefully. Check that all trailers are correctly coupled before you drive. Always start slowly, so that the couplings are not torn apart. If a lighting system is incorporated you must ensure that the cables are coupled correctly.



## DRIVING WITH TRAILERS

When turning corners you must take into consideration the steering system of the trailers, since two wheel steered trailers cut inwards in corners whereas four wheel steered trailers follow the line of the towing vehicle.

High speeds, especially combined with corners or driving downhill, can give rise to powerful lateral movement. This risk is especially great when driving with empty or lightly loaded trailers. Careful driving and braking is a necessity when manoeuvring a vehicle train. When driving on public roads the vehicle train must be equipped in accordance with the regulations in force.



## BRAKING AND PARKING

The crucial safety factor for a vehicle train is its capacity to stop, not the towing vehicle's capacity to tow.

Always start braking in good time, so that you can gently pull up at the required point. Remember that a vehicle train cannot be reversed into the right position. Sudden braking can cause the load to slide on the trailers and it is possible that the trailers can run into one another or overturn. Most emergency braking can be avoided if you drive carefully and at a steady speed, and take into consideration both the load and road surface conditions.

If possible, trailers should be parked on even ground. When left, the parking brakes of the trailers must be applied or chocks placed under the wheels. Brakes must be applied before the towing vehicle is uncoupled.

If the trailers have mechanical brakes, you must check that these are released before you move off with the trailer in tow.



## Safe Truck Operation

### TRAFFIC ENVIRONMENT

The word environment is used in many different connections within industry. Perhaps it is most often used in relation to noise, ventilation, lighting etc. It is seldom that we hear of traffic environment. However, despite this, it is of great importance and affects almost every employee.

What constitutes a good traffic environment? In short, it can be defined as: different categories of road users being able to carry out their work without exposing others to health or accident risks.

Your employer has a responsibility to ensure, in so far as is practicable, a safe system of work

## **DIFFERENT CATEGORIES OF ROAD USERS MUST CO-OPERATE WITH EACH OTHER**

There are many different types of road users in any industrial area. Proper roads around factories are often lacking. Driving areas and storage areas can overlap and it can be difficult to know which is which. Truck operators can easily become irritated when it is difficult to get through with their vehicles.

Rules and the co-operation of all employees are necessary in order to have a good traffic environment. This applies to both drivers of vehicles and pedestrians.

## **TRUCKS AND PEDESTRIANS**

Ideally, truck traffic and pedestrians should be separated from one another as much as possible, e.g. by means of marked pedestrian paths, separate doors and guard rails at doors to protect pedestrians. In certain cases it may be necessary to have special areas fenced off for truck traffic only. Pedestrians and cycle traffic must be completely prohibited in these special areas.

## **INFLUENCE TRAFFIC ENVIRONMENT**

As a truck operator you can through your supervisor and safety officer influence the traffic environment by pointing out risks and suggesting improvements. This can apply to both your vehicle and other areas of traffic environment.

Suggestions regarding road markings, signs and different driving procedures can be of value and can help to increase traffic safety at your place of work.

## **SIGNALLING**

If your truck is fitted with indicators, use them - or give hand signals - to indicate when you are turning, in order that other vehicles and persons in the vicinity can see where you are going. If necessary, you should use the horn to attract the attention of others.

## **POOR OR RESTRICTED VISIBILITY**

Drive slowly when visibility is poor or restricted, and use the horn to let others know you are coming. It is better to sound the horn once too often rather than too little.

If the load obstructs your view, you must reverse in order to be able to see where you are going.

If you are driving up an incline where the load must lead, get a colleague to walk ahead and give you signals.

## **LOADED TRUCKS SHOULD HAVE PRIORITY**

A loaded truck should be given right of way over an unloaded truck at crossings and in narrow passages. In other cases, the rules which apply in normal traffic are to be followed.

## **PARKING**

A truck must never be left unguarded other than in its allotted parking space. There are often local parking regulations, but the following general rules should always be kept in mind:

Do not park where the truck will create an obstruction

Apply the parking brake

Tilt the mast forward and lower the forks so that they rest evenly on the ground. This reduces the likelihood of anyone tripping over them. If the truck is laden level the load and lower it to the floor

Engage neutral

Turn off the motor and remove the key

## **ACCIDENTS INVOLVING TRUCKS**

Very many people are injured and too many killed every year as a result of accidents involving trucks. Most of these accidents are caused by someone breaking the safety rules. Increased legal demands on trucks and operators have resulted in a drop in the number of accidents. In order that this improvement should continue it is important that prescribed rules and regulations are followed.

Collisions with pedestrians are the most common type of accident and account for almost 50% of the total number of accidents. This shows the importance of being observant and careful when driving a truck. Some 80% of all body injuries are to arms, legs, hands, or feet. Injuries to ankles and feet are easily the most common of these

## **THE EMPLOYER'S OBLIGATIONS**

The employer is obliged by law to inform his employees on special health and accident risks related to their work and on how risks may be avoided. It is the responsibility of the employer to see that an employee who lacks the necessary experience to carry out a particular task, does not attempt to do so before he has received the required training and supervision.

## **THE EMPLOYEE'S OBLIGATIONS**

The employee must cooperate in creating a satisfactory work environment. He must follow directives given and use the protective equipment supplied. He must also take adequate care where necessary in order to prevent accidents and reduce risks.

Anybody who, without good reason, knowingly removes protective equipment or deliberately ignores safety rules can be prosecuted.

## **Operators responsibilities**

### **BASIC REQUIREMENTS**

A forklift truck must only be operated by specially trained operators who have the necessary authority. Ideally, an operator must be at least 18 years of age and have the physical and mental qualities required for such work.

### **WHEN NOT TO OPERATE A TRUCK**

If the operator's state of health constitutes a safety risk, he or she must not be allowed to operate a truck. If you are ill, tired or feel you are not up to doing your job for some other reason, you must refuse to operate your truck. It is stupid to tempt fate and place your own life and the lives of your workmates at risk.

We have now gone through quite a number of safety regulations which you as a tow truck operator must know. Your company may have many more.

It is impossible to draw up rules and regulations to cover all conceivable situations that you might find yourself in. Therefore, you must have good judgement and must keep an eye out for every situation that could constitute a safety risk. By doing this, you should be able to avoid dangerous situations.

When you are driving your truck, safety depends on you!

## Operator Requirements.

The tow tractor is a piece of industrial equipment and has inherent safety risks. As such, the operator of the tow tractor is expected to have a fork truck or similar licence, or be otherwise trained in the usage of material handling equipment.

The operator should read this manual fully before operating the tow tractor. The operator should be familiar with all aspects of the tow tractor before operating it.

**Operator Workstation** Your tow tractor features an ergonomically designed operator's workstation.

This is the only operator workstation on the tractor.

Do not sit on or stand on the tractor outside of this area.

The operator should be seated with the seatbelt secured when starting or moving the tractor.

The operator (and any passengers) should keep all extremities within the perimeter of the tractor's frame to avoid injury.

The only time it is appropriate to leave the operator's compartment when the tractor engine is running is while the tractor is stopped, the transmission gear selector is in park, and the parking brake is applied.

## Pre-Operation Inspection Checklist

The following inspections should be conducted each day prior to the first operation of the tractor.

Additional inspections may be required due to unusual operating conditions.

### Walk Around Inspection

Look for evidence around and under tractor for oil, water or fuel leaks.

Check that fuel cap is securely in place.

Check tire rims and wheel stud nuts for possible damage.

Check tires for underinflation, cuts, breaks or excessive wear and remove any objects stuck in treads.

Wipe clean, if necessary, all lights, mirrors and reflectors.

Open engine compartment hood and check; Oil and coolant levels.

Condition of all drive belts (for cracks or fraying).

Condition of all wiring, hoses and tubing for leaks, kinks or excessive wear.

Visually check fuel filters and drain the water if necessary

### Inside Drivers Compartment

With the transmission in PARK and the hand brake set, start the engine. –



Check oil pressure and voltage gauges to be sure they are indicate a reading in the normal range. Subject to motive power  
Check fuel gauge to determine if fuel should be added / placed on charge.  
Sound the horn and test for excessive play in the steering wheel.  
Turn on all lights and flashers.  
Then exit tractor to verify they are operating properly.  
If the tractor is equipped with a rotating beacon, check if it is functioning.  
With the engine running, check the transmission fluid level under the hood.

## Cab Inspection

If the tractor is equipped with a cab:  
Check that all mirrors are properly adjusted and clean.  
Test windshield wipers / washers.  
Check all windows for cracks or chips.  
Be sure windows are clean for best visibility  
Check that heater and heater fan are functioning correctly.  
Check defrost fan for proper operation.

## Load Towing Safety

If towing a load, check to see that:  
The towed load is securely connected to the hitch of the tractor.  
Be sure hitch is locked/fastened into the closed position.  
The towed cargo load is secure and within the exterior frame of the vehicle that is carrying the load.  
For maximum stability and control of the tractor and towed load, as well as maximum towing power, be sure the tongue of the trailer is parallel to the ground when connected to the tractor's hitch.  
Watch and verify that the trailer's rear swing clears any obstructions when cornering.

Load Pushing Safety If pushing a load:  
Be sure the tractor is designed for and intended to be used to push the load.  
If using the tractor for "pushback" of an aircraft, be sure the tow bar is securely fastened to both the aircraft and the tractor and that the tractor hitch is in the locked position if applicable.

# General Safety Guidelines

Always stop the tractor, turn the engine off, put in "PARK" and apply the parking brake when making any adjustments or servicing the unit.

Never refuel the tractor when the engine is running.

## DO NOT SMOKE WHEN REFUELING.

Do not overfill the fuel tank.

Do not fill beyond bottom of fuel filler screen.

Clean off any spilled fuel immediately. Keep fuel stored well away from open flames, possible sparks or sources of excessively high temperatures.

Do not ever remove the radiator cap when the engine is hot, as serious burns may result.

Always check coolant level and add coolant at the overflow reservoir.

Avoid touching a hot engine, exhaust, coolant pipes or hydraulic components as serious burns may occur.

If the tractor comes factory equipped with a sealed "maintenance free" battery.

Do not endeavor to service the battery.

When connecting or disconnecting battery cables, always first remove the cable on the negative terminal (-) and when reconnecting, replace it last.

This will prevent sparks from accidental grounding.

## PREVENT BATTERY EXPLOSIONS.

Do not smoke near the battery.

Fumes from batteries are explosive.

Keep away from all sparks, open flames etc... Remove bracelets; watch bands etc. prior to installing, removing or servicing a battery.

Do not short the battery terminals. **AVOID ACID BURNS.** The battery acid is poisonous and is strong enough to burn skin, eat holes in clothing and cause blindness if splashed in the eyes.

If battery acid is spilled or splashed, always immediately wash your skin and clothing. Apply lime or baking soda to help neutralize the acid. Seek medical assistance.