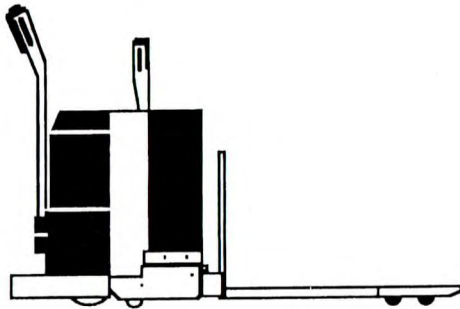


---

# Operator's Manual



P 40/60 & HWP 40/60

---

**CLARK**

Book No. 2398574  
OM-541

Record the following information pertaining to your truck.

Model No. \_\_\_\_\_  
Serial No. \_\_\_\_\_  
Customer Truck Identification No. \_\_\_\_\_  
Truck Weight, Empty \_\_\_\_\_  
Truck Rated Capacity \_\_\_\_\_  
Truck Gross Weight \_\_\_\_\_  
Truck Gross Weight, Loaded w/ Rated Load \_\_\_\_\_  
Special Equipment or Attachments \_\_\_\_\_

### IMPORTANT

**Do not expose this manual to hot water or steam.**

The following warnings are provided pursuant to  
California Health & Safety Code Sections 25249.5 et. seq:



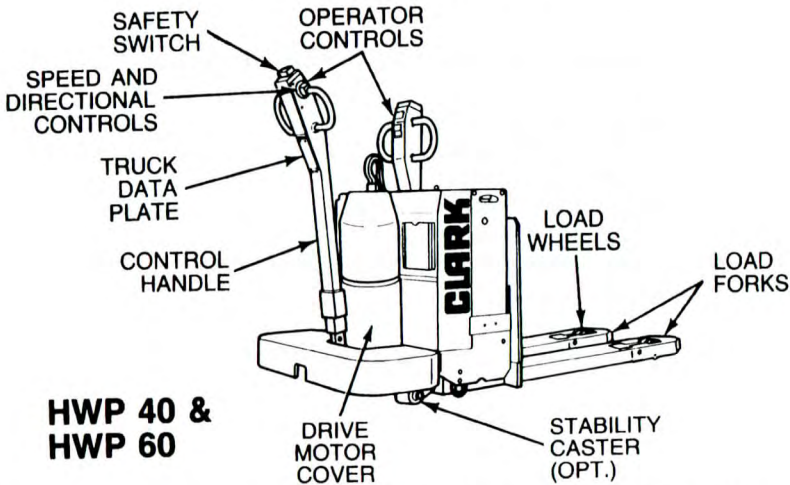
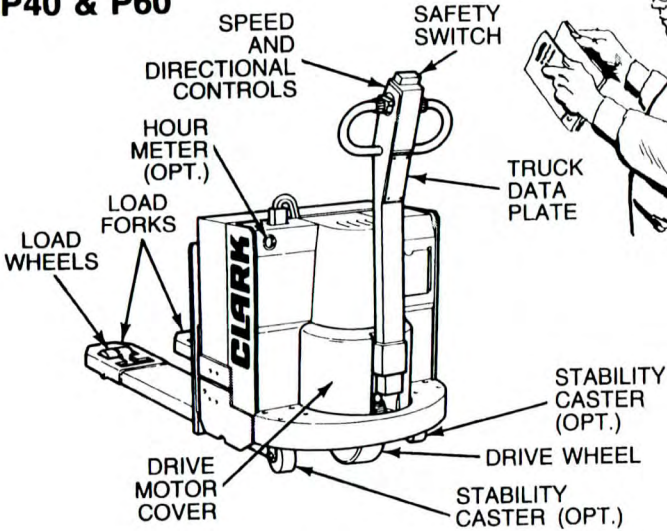
# Operator's Manual

You must be trained and authorized to operate a lift truck.

Follow these rules:

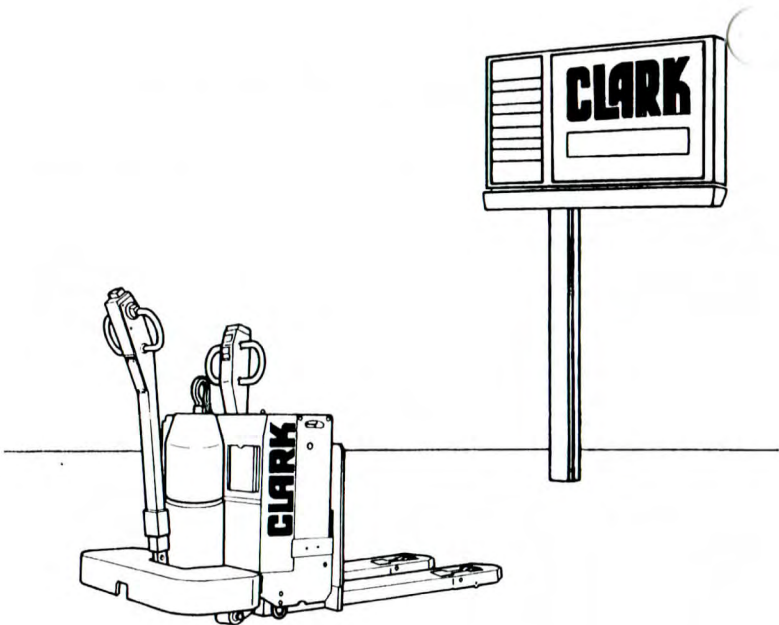
Read and understand your Operator's Manual.

## P40 & P60



## HWP 40 & HWP 60

Learn safe operating rules and practice operating your truck. Breaking these rules will cause serious or fatal injury to yourself and others.



## CONTENTS

This manual covers trucks with capacities from 4,000 to 6,000 pounds.

A MESSAGE TO CLARK LIFT TRUCK OPERATORS ..	III
TRUCK APPLICATION .....	IV
OPERATOR MAINTENANCE .....	1
GENERAL SAFETY RULES .....	2
OPERATING HAZARDS .....	3
KNOW YOUR TRUCK .....	4
OPERATING PROCEDURES .....	5
PLANNED MAINTENANCE AND LUBRICATION .....	8
SPECIFICATIONS .....	9

## **A Message to CLARK Lift Truck Operators**

Lift trucks are specialized machines with unique operating characteristics designed to perform specific jobs. Their unique function and operation requires specific instructions and rules for safe operating and maintenance.

Safe operation of lift trucks is of primary importance to CLARK. Our experience with lift truck accidents has shown that when accidents happen and people are killed or injured the causes are:

1. OPERATOR NOT PROPERLY TRAINED
2. OPERATOR NOT EXPERIENCED WITH LIFT TRUCK OPERATION
3. BASIC SAFETY RULES NOT FOLLOWED
4. LIFT TRUCK WAS NOT MAINTAINED IN A SAFE OPERATING CONDITION

For these reasons, CLARK wants you to know about the safe operation and correct maintenance of your lift truck.

This manual is designed to help you learn how to operate your lift truck safely. This manual shows and tells you about operator maintenance and the important general safety rules and hazards of lift truck operation. It describes the special components and features of the truck and their function. The correct operating procedures are shown and explained. Illustrations and important safety messages are included for clear understanding. And, finally, a section on maintenance and lubrication is included for the lift truck mechanic.

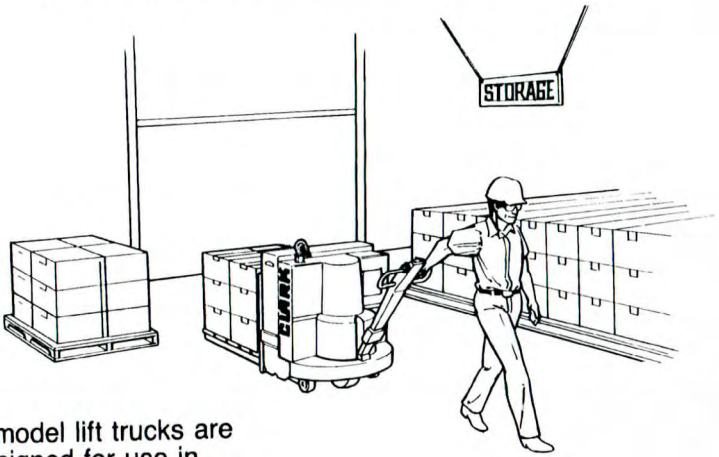
The operator's manual is not a training manual. It is a guide to help authorized operators safely operate their lift truck by illustrating the correct procedures. It cannot cover every possible situation which may result in an accident. You must watch for hazards in your work areas and correct them. It is important that you learn the information in this manual and know your company safety rules! Be sure that your equipment is maintained in a safe condition and do not operate a damaged truck. Practice safe operation every time you use your lift truck. Let's join together to set new standards in safety.

Remember, before you start operating this lift truck, be sure that you understand all driving procedures. It is your responsibility, and it is important to you and your family, to operate your lift truck safely and efficiently. And be aware that the Federal Occupational Safety and Health Act and state laws require that operators be completely trained in the safe operation of lift trucks.

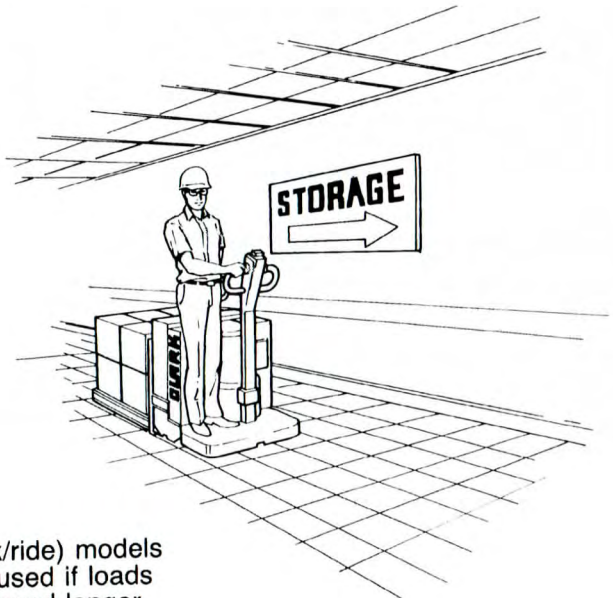
And let us make this point, CLARK lift trucks are built to take hard work, but not abuse. They are built to be dependable, but they are only as safe and efficient as the operator and the persons responsible for maintaining them. Do not make any repairs to this truck unless you have been trained in lift truck repair procedures and authorized by your employer.

# Truck Application

Each truck is designed for a specific application. Make sure you are using the correct truck for the job.



P model lift trucks are designed for use in areas where loads only need to be moved short distances.

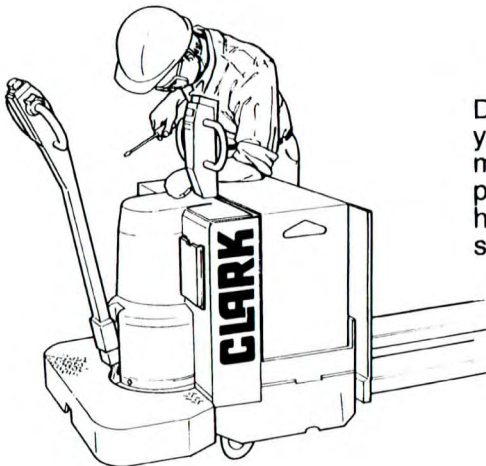
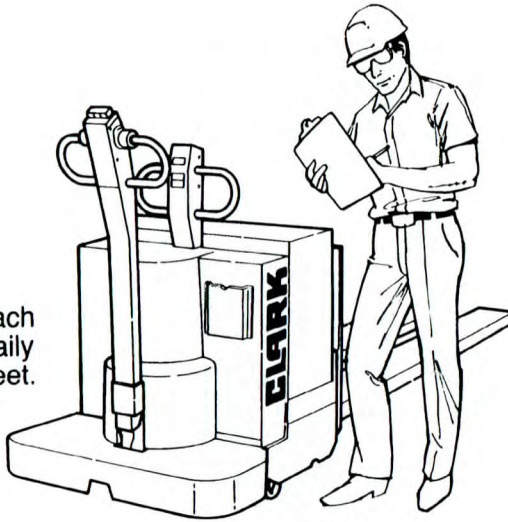


HWP (walk/ride) models should be used if loads must be moved longer distances.

# 1 Operator Maintenance

## Daily Inspection

At the beginning of each shift, fill out a daily inspection sheet.

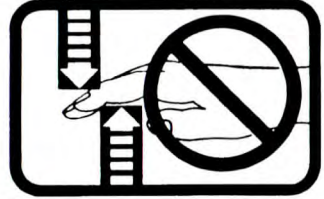
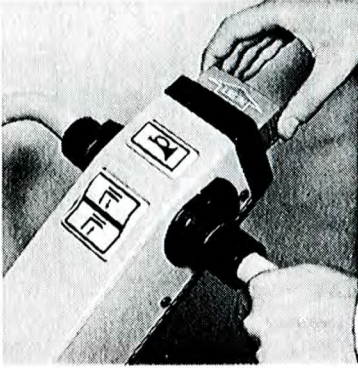


Do not make repairs yourself. Lift truck mechanics are trained professionals. They know how to make repairs safely.

# Operator Maintenance Safety Inspection

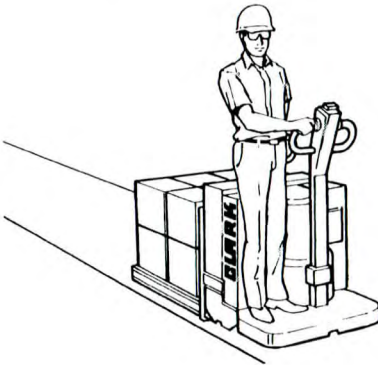
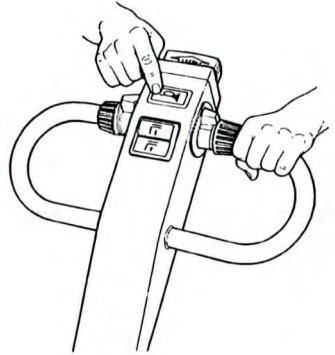
Test all safety equipment for proper operation.

Do not place any portion of your body under any part of the lift truck, or around the base of the control handle.



Safety Cut-Off switch should stop vehicle and move it backwards about one foot.

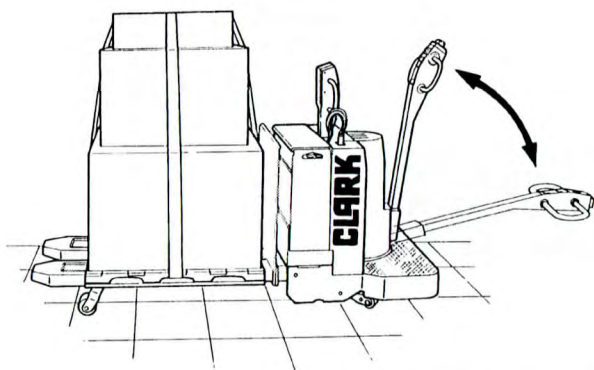
Check operation  
of horn



Check drive train operation — forward and reverse. HWP model has four forward speeds and P model has three forward speeds.

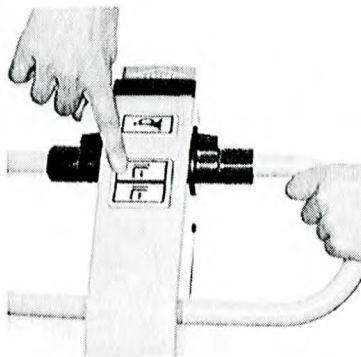


# Operator Maintenance Safety Inspection



Brakes should be applied with control handle in fully raised and fully lowered positions.

Test lift and lower switches. Fork lift limit switch should cut-off pump motor when maximum fork height is reached.

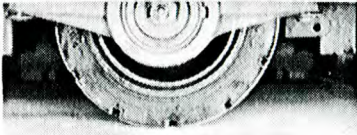


# Operator Maintenance

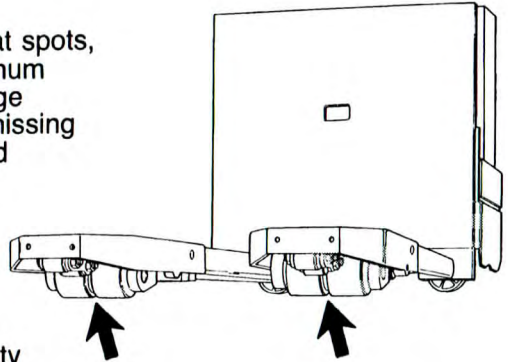
## Wheel Inspection



Check drive wheel and tire assembly for roundness and maximum wear. Check tire surface for any imbedded material or missing chunks of rubber.



Check load tires for flat spots, free movement, maximum wear and proper linkage operation. Watch for missing chunks of rubber, bond failure, or looseness.

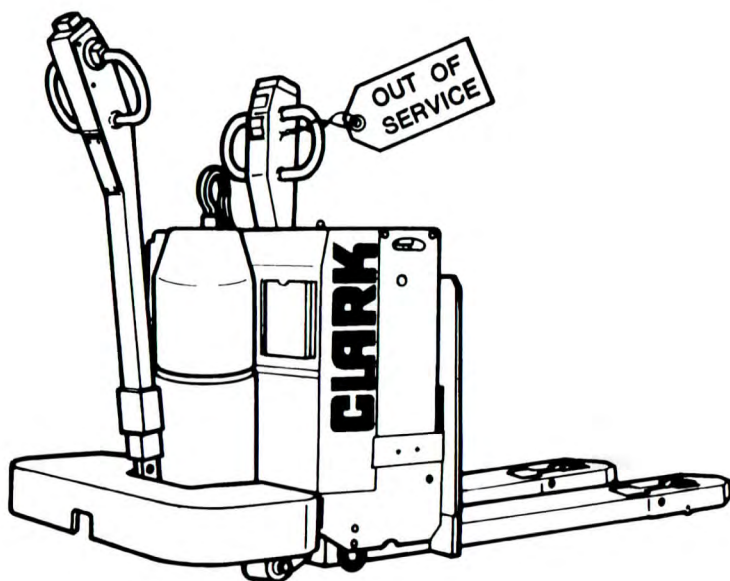


If equipped with stability casters, check for loose bearings and wheel damage.

# Operator Maintenance Maintenance Problem

**DO NOT OPERATE A LIFT  
TRUCK THAT HAS A  
MAINTENANCE PROBLEM.**

Remove the key and put  
an "Out of Service" tag  
on the truck.





# 2 General Safety Rules

## Follow the Rules



Never mix drugs and alcohol with your job.



Watch for pedestrians.



Don't block safety or emergency equipment.



Wear safety equipment when required.

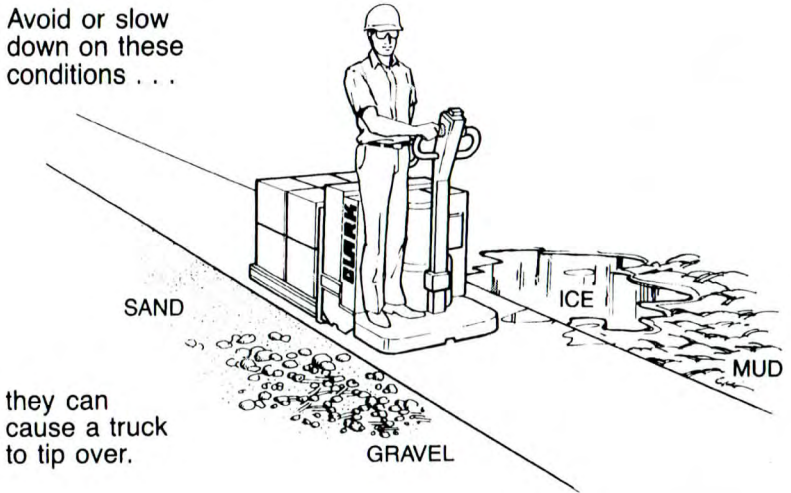


Watch those "No Smoking" areas.

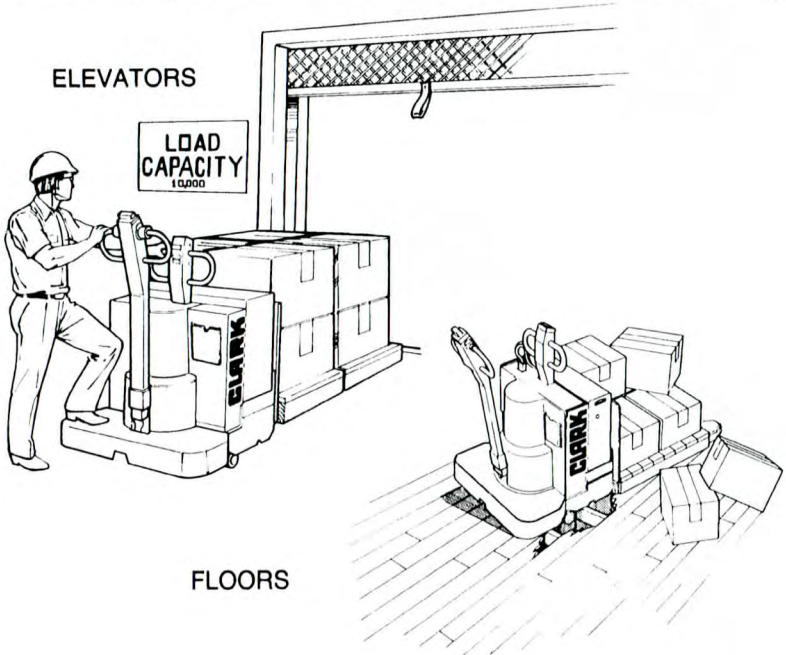
# General Safety Rules

## Surface and Capacity

Avoid or slow down on these conditions . . .



Know the weight of your truck and load. Check capacities:



# General Safety Rules

## No Riders



Always walk with P model trucks, never attempt to ride.



The operator must be the only rider on HWP model trucks.

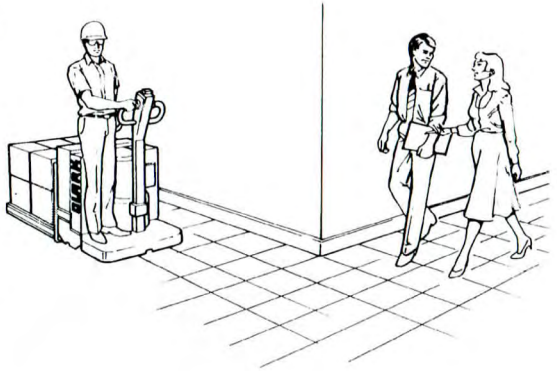
# General Safety Rules

## Pedestrians

Watch where you are going.

Pedestrians may use the same roadway you do.

Sound your horn at all intersections.



Watch for people in your work area. They may not watch for you.

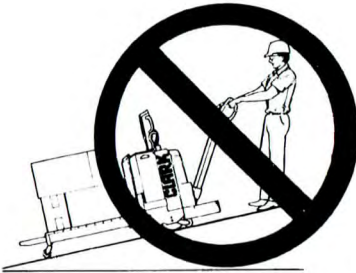
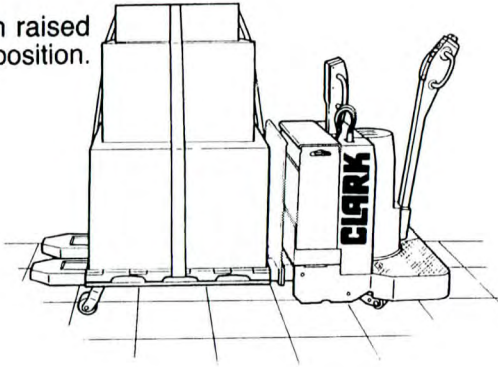




# General Safety Rules

## Travel

Carry loads in raised position.

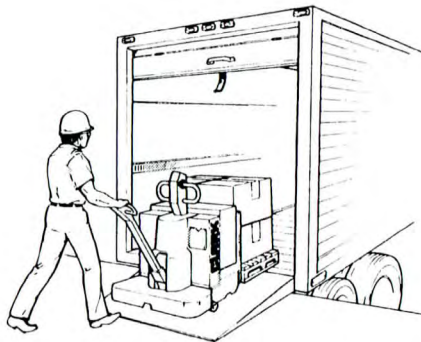


Never turn on a grade.

Enter confined areas such as semi-trailers, trucks, boxcars or elevators with load end of your truck first.

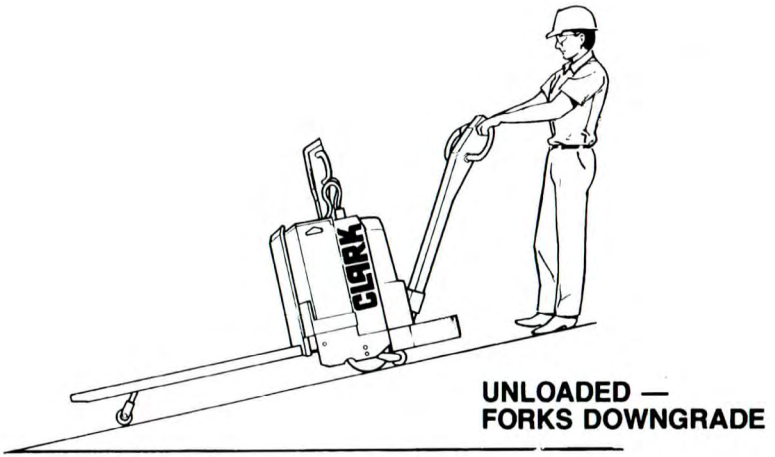
This will minimize the maneuvering necessary to exit.

If load blocks your view while traveling in reverse, make sure path is clear of personnel and obstructions.



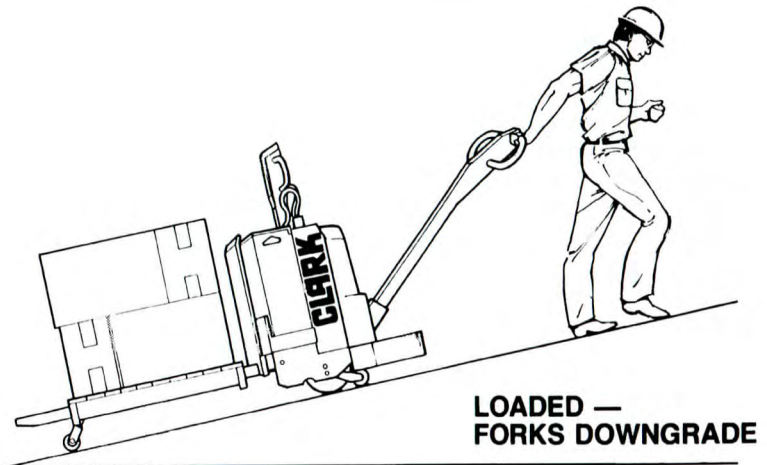
# General Safety Rules

## Grades, Ramps, Slopes and Inclines



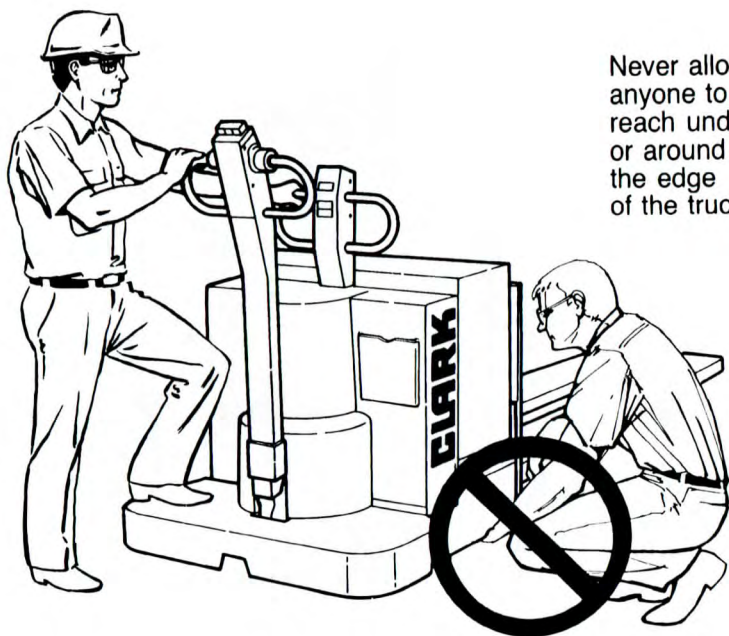
Always keep forks downgrade and in the raised position when working on a grade, and do not ride HWP models.

Trucks are designed to travel up a 6% maximum grade with load.



# General Safety Rules

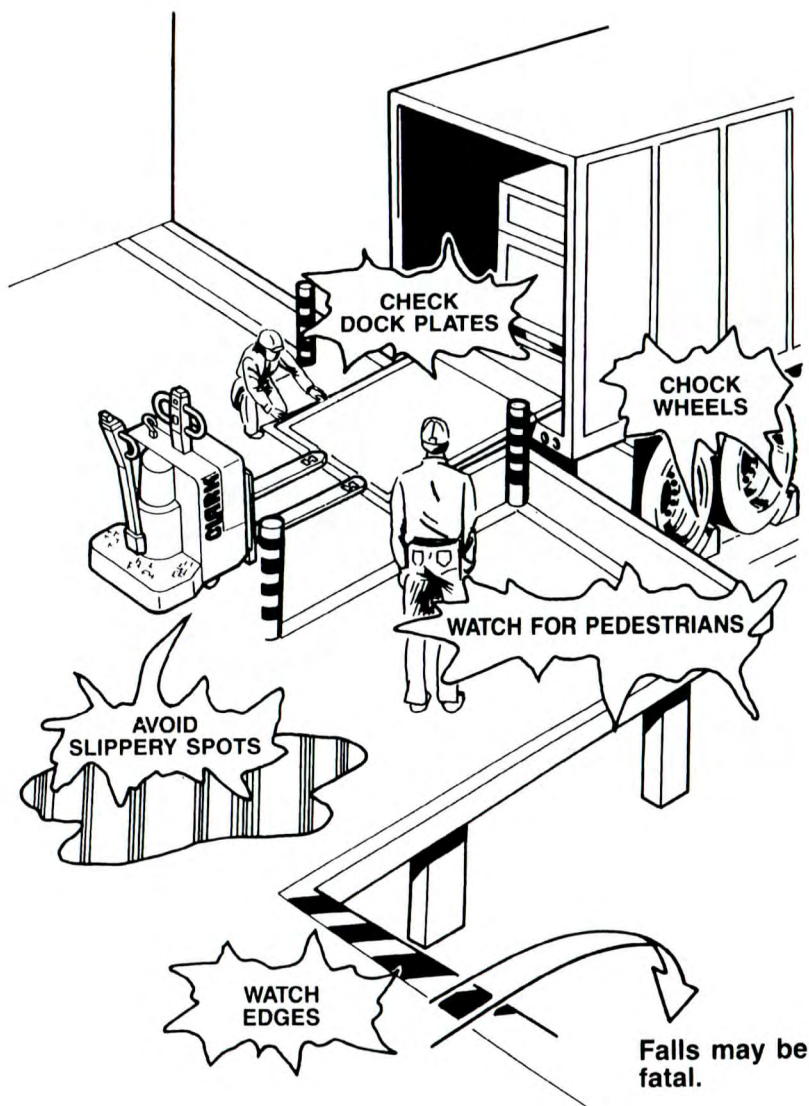
## Fork Safety



Never allow anyone to reach under or around the edge of the truck.

Be especially careful to not put any portion of your body under or around the edge of the forks.

# General Safety Rules Loading Dock

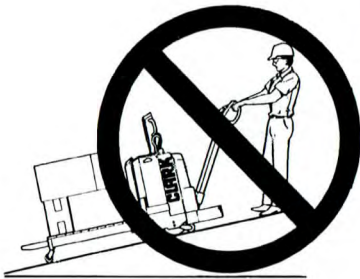
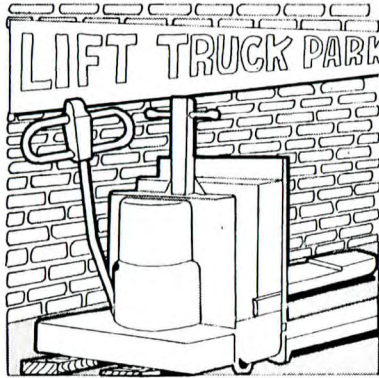


# General Safety Rules

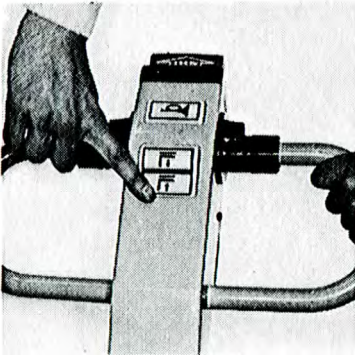
## Parking

Park trucks in designated parking areas only.

Do not obstruct traffic lanes or aisles.



Never park on a grade.



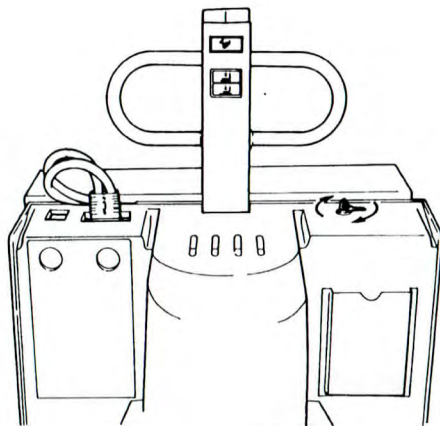
Fully lower pallet forks to floor or as near to the floor as possible.

Place control handle in full turn and raise handle to "full-up" position so that truck brake is applied.



# General Safety Rules

## Parking



Turn key off and remove (if equipped), and unplug battery connector.



Block drive wheel to prevent accidental roll.

Turn key (if equipped) in to proper authority.

13886

## 3 Operating Hazards

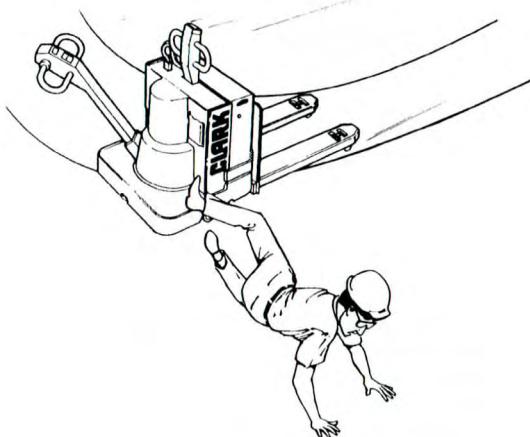


**This section shows hazards that may cause you, or someone around you, to be killed or badly hurt. As the operator, you must look for other hazards. Get your boss to help identify and avoid those hazards.**

# Operating Hazards

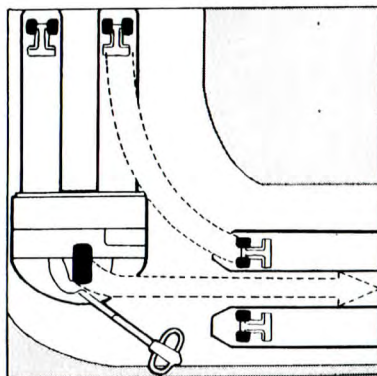
## ⚠️ **WARNING: Fast Turns**

An empty truck can tip over easier than a loaded truck. Slow down on turns.



Always use caution when making a right or left turn into an aisle.

Powrworker load wheels do not follow the turn path of the drive wheel. They will tend to "cut" the corner.



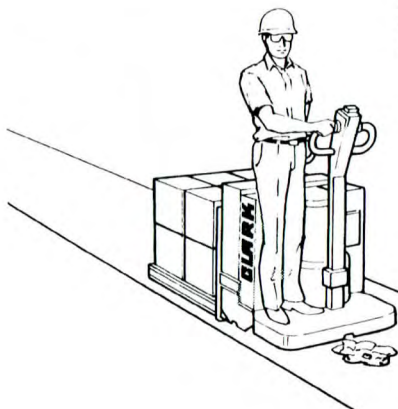


# Operating Hazards

## **⚠ WARNING: Floor Surface**

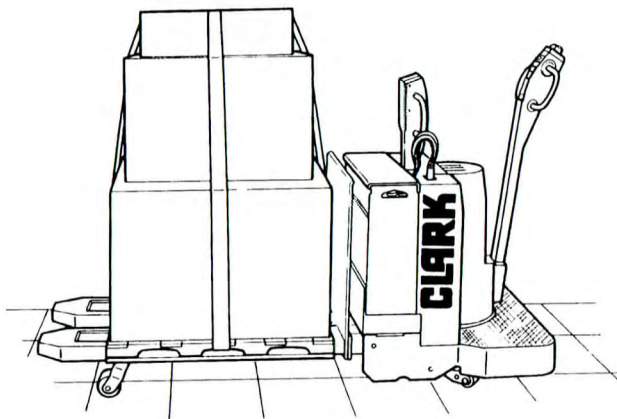
Driving into a chuck hole can damage a truck and cause the load to fall off.

Avoid rough or uneven floor surfaces.



## **⚠ WARNING: Loose Loads**

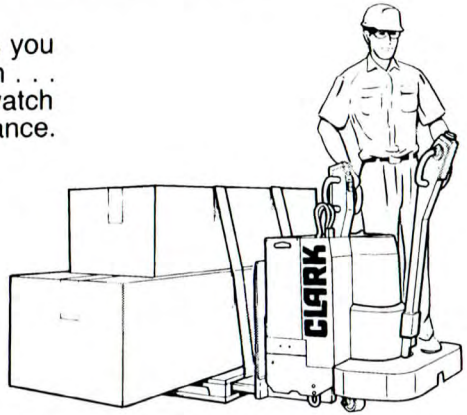
Never carry loose or uneven material. Always stack and band loose material.



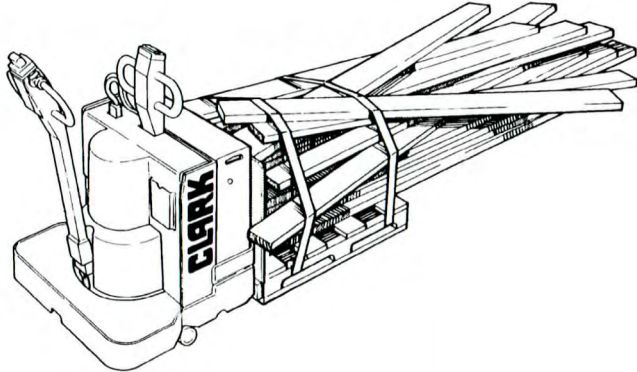
# Operating Hazards

## **⚠️ WARNING: Long & Wide Loads**

With long or wide loads you  
need more room . . .  
so . . . slow down and watch  
your clearance.



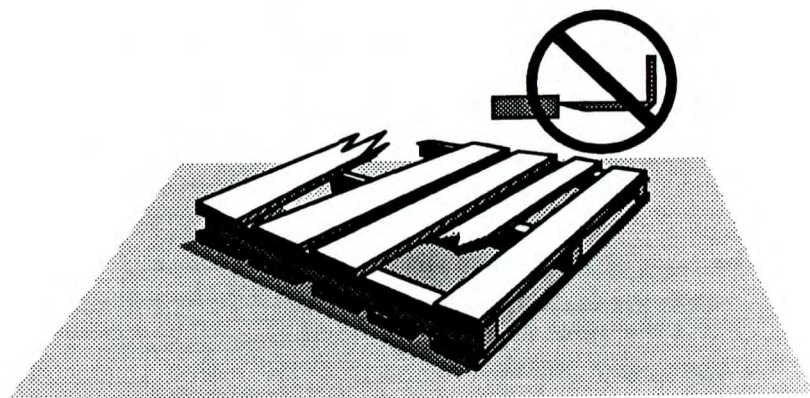
Wide loads . . . keep them low and  
watch your balance.



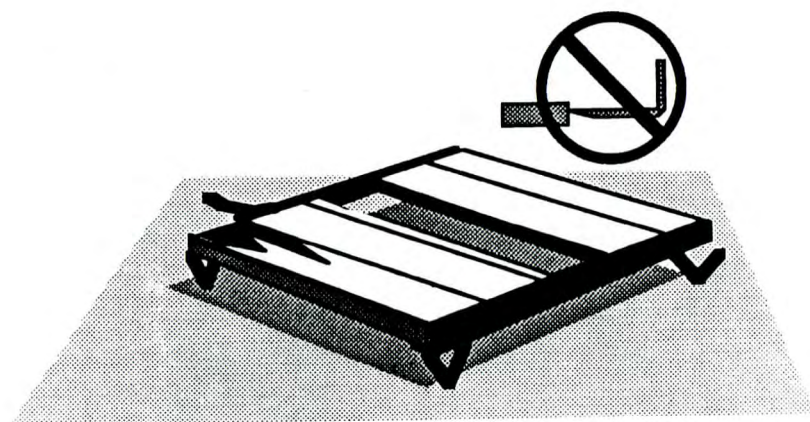
Use the correct size pallet and avoid  
handling long unstable loads.

# Operating Hazards

## **⚠️ WARNING: Poorly Maintained and/or Damaged Pallets and Skids**



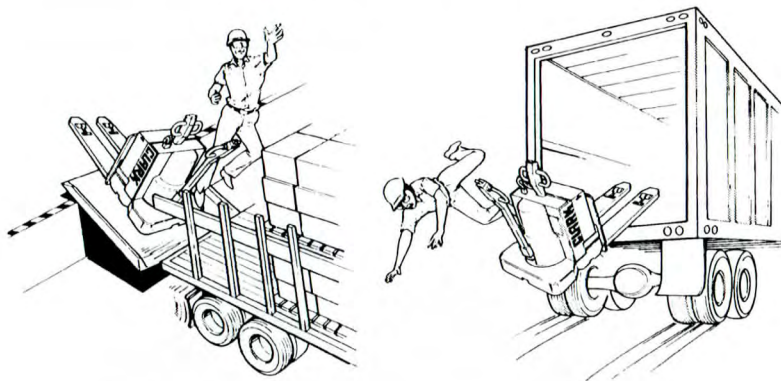
Do not move or store materials on damaged pallets or skids. Items can fall through them causing severe injury or death.



Make sure the pallet or skid you are using is in good condition and does not have defective or missing components and fasteners.

# Operating Hazards

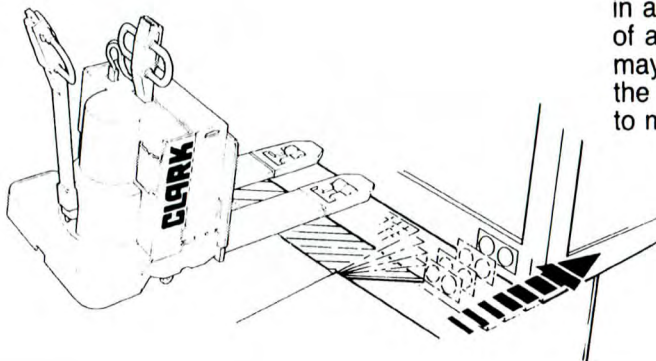
## **⚠️ WARNING: Dock or Trailer Drop-Offs**



To avoid these hazards you must:

- Talk to the truck driver yourself, make sure he does not move the trailer until you are done!
- Apply trailer brakes.
- Use wheel chocks.
- Use trailer-to-dock locking systems, if available.

## **⚠️ WARNING: Trailer Creep**



The impact of moving in and out of a trailer may cause the trailer to move.

# **4 Know Your Truck**

Operator Controls

Truck Data and Safety Plates

Product Description

Specifications

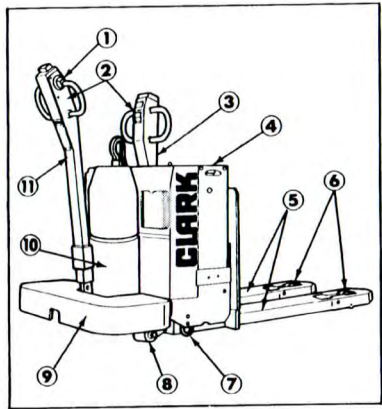
General Data

# Know Your Truck

## Operator Controls

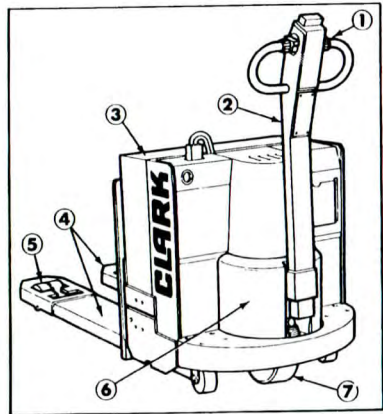
HWP 40 and HWP 60 Hi-Speed, Warehouse, Pallet Truck (4,000 lbs. [1 800 kg] and 6,000 lbs. [2 720 kg] Rated Capacity)

1. Directional and Speed Control Levers.
2. Horn, Lift, Lower and High Speed Controls.
3. Auxiliary Control Handle.
4. Battery.
5. Pallet (Load) Forks.
6. Load Wheels and Tires.
7. Skid Runner.
8. Spring Loaded Caster (Optional).
9. Rider Platform.
10. Drive Unit Cover.
11. Steering and Brake Control Handle.



P 40, P 60 Pallet Model Trucks (4,000 lbs. [1 800 kg] or 6,000 lbs. [2 720 kg] Rated Capacity)

1. Directional and Speed Control.
2. Steering Control Handle.
3. Battery.
4. Pallet (Load) Forks.
5. Load Wheels and Tires.
6. Drive Unit Cover.
7. Drive Wheel and Tire.
8. Machine Serial Location.



## Know Your Truck Truck Data and Safety Plates

Know the rated capacity of your truck and its attachment (if any) and never exceed it.

Study your truck data/capacity plate and learn the facts stamped in areas one through eight.

Know the construction type of your truck and never take an unauthorized truck into a restricted area.

### Operator Safety Warning Plate

The operator's warning plate describes basic instructions for safe operation of a lift truck. Read and understand these instructions and the other safety messages in this manual and on the lift truck.

# Know Your Truck

## Truck Data and Safety Plates

### Pinch Points

This decal is located at the base of the control handle. Do not place any portion of your body under any part of the base of the control handle.



	<b>WARNING</b>
<b>NAMEPLATES &amp; DECALS</b>	
DO NOT OPERATE A LIFT TRUCK WITH DAMAGED OR LOST DECALS AND NAMEPLATES. REPLACE THEM IMMEDIATELY. THEY CONTAIN IMPORTANT INFORMATION.	



## Know Your Truck

### Product Description

Clark P Series and HWP Series (walk/ride) pallet trucks are highly maneuverable, extremely durable, and performance proven in heavy-duty applications. Both are repeatedly selected by users who demand the same reliability from their pallet trucks as from other production equipment.

The HWP walk/ride model is particularly suited for use in large plants where travel distances are a consideration. Operators can ride to distant areas at speeds up to 6 mph. The HWP models offer the operator four speed selections, in both forward and reverse.

The P Series models are ideal for plants where shorter travel distances are required. The P Series models offer the operator three speed selections, in both forward and reverse.

#### Operator Comfort/Convenience

- Closed loop handle
- All controls at fingertips
- Three speeds forward and reverse on P Series models, and four forward and reverse speeds on HWP models
- Two-position brake
- Spacious riding platform on HWP models

The closed loop handle allows control from either side of the truck, especially important in tight work spaces.

Non-skid platform and stationary closed loop handle enable the operator to safely step on and ride HWP models.

Direction, speed, lift/lower, horn, brake and steering are all controlled at the handle.

The directional and speed control is thumb-applied butterfly type; dual designed for left or right hand operation.

The variable forward and reverse speeds, 180 degree steering, and smooth up-or-down brake application make Clark pallet trucks easy to operate.

A reversing safety switch at the end of the handle is spring loaded and designed to override the directional control, automatically reversing the truck on contact. This feature is designed to help prevent the operator from being pinned in cramped quarters.

# Know Your Truck

## Product Description

### Motors

Drive motor is 6.5-inch diameter high speed, series wound. Its design enables high torque at low travel speeds, critical for moving heavy loads up ramps or across dock plates. Drive motor is integral with the drive line to assure positive alignment. The motor is fan cooled, ventilated, and equipped with sealed ball bearings for long service life.

Hydraulic motor is 4.5-inch diameter, heavy-duty horizontally mounted and integral with pump and reservoir. This design assures positive alignment with maximum strength and rigidity of all components.

### Electrical System

- 12-Volt
- Single or double row industrial battery

Battery removal is quick and easy. Simply disconnect the battery and lift it from the truck using an insulated spreader bar and hoist. The truck is equipped with an Anderson gray SB-2 connector.

### Drive Line

- Double reduction spur gears
- Totally enclosed
- Protected location

Power from the horizontally mounted drive motor is transmitted through 22- to-1 double reduction spur gears to the drive wheel axle. The gears are mounted on ball bearings, are in constant mesh and operate totally enclosed in a bath of oil. Fluid volume is 1 pint (.473 L). Drive tire is cushion rubber on cast iron wheel, spline fitted to the axle shaft for maximum service life and easy tire replacement.

# Know Your Truck

## Product Description

### Brakes

- Double acting
- Self-adjusting

Gradual movement of the control handle up or down provides smooth, precise braking control. An external shoe-type brake on the end of the drive motor multiplies effective brake force through final gear reduction by approximately 22-to-1.

Shoes are self-centering to provide smooth operation and even wear. Bonded linings eliminate the possibility of rivets scoring the drum. As the brake is applied, a switch is actuated which automatically breaks the control circuit. The truck does not operate when the handle is in the vertical or lowered position. Additional electric braking is available by reversing the directional control.

### Hydraulic System

The hydraulic motor pump, fluid reservoir, pressure relief valve and control valve are assembled into a compact unit centrally located between two self-aligning lift cylinders. Lift and lowering of the forks is regulated by push buttons located on the truck control handle.

The system is protected from impurities by an internal return line filter and suction line screen. A fill plug in the top of the reservoir allows easy inspection of fluid level. Hydraulic sump fluid volume is 1.6 quarts (1.514 L).

### Steering

- Handle rotates drive unit 180 degrees
- Design assures positive control

The tubular steel steering handle, mounted on the drive assembly, pivots the drive wheel 90 degrees left or right for maximum truck maneuverability. A large barrel-type roller bearing supports the drive unit and effectively counteracts load forces to promote easy, low effort steering.

# Know Your Truck

## Product Description

### Frame and Chassis

The truck frame and load forks are fabricated from plate and bar steel, formed to shape and electrically welded into a unit structure, providing strength and rigidity with minimum weight. The fork elevating channels are integral with the frame. Load wheel rollers are mounted under the ends of the forks and are connected to the elevating linkage.

This linkage is so arranged that when the forks are lifted vertically the wheelbase is shortened and under clearance is increased. Pallet forks are heavy steel plate formed into tubular sections for rigidity; cast steel toes are electrically welded to these sections. The toe of each fork is provided with pallet rollers for entry and exit from double faced pallets.

# Know Your Truck

## Product Description

### Features and Options

#### P SERIES

- Standard equipment: Electric horn, grease fittings at all pivot points, single row battery compartment, 48-inch forks, roller uprights with sealed bearings, operator's manual, warning labels. Finish is high-visibility Clark green.
- Options: Power key switch, double row battery compartment, various fork lengths for special-size pallet handling, SCR, stability casters, hour meter.

#### HWP SERIES

- Standard Equipment: Electric horn, grease fittings at all pivot points, roller uprights with sealed bearings, 48-inch forks, operator's manual, warning labels. Finish is high-visibility Clark green.
- Options: Double row battery compartment for Model HWP 40, various fork lengths for special-size pallet handling, SCR, stability casters, power.

### ANSI and Insurance Classification

Standard truck meets all applicable mandatory requirements of Part II - ANSI B56.1 1969 and 1975 Safety Standard for Powered Industrial Trucks and Underwriters Laboratories requirements as to fire hazard for "E" classification. For further information contact a Clark representative.

# Know Your Truck

## Specifications

PRODUCT SPECIFICATION	P 40 MODEL	P 60 MODEL	HWP 40 MODEL	HWP 60 MODEL
General Information				
Load Capacity	4,000 Lb.	6,000 Lb.	4,000 Lb.	6,000 Lb.
Power Unit	12-Volt Electric		24-Volt Electric	
Vehicle Type	Pallet Walk		Pallet Walk/Ride	
Tire Type Load/Drive	Urethane/Rubber			
Wheels Front/Rear (X = Driven)	2/1X			
Basic Dimensions (1)				
Pallet Forks				
Lift Height to Top of Fork	9.25 in.			
Lowered Height	3.25 in.			
Fork Thickness	2.38 in.			
Fork Width	9.25 in.			
Fork Length (2)	48.0 in.			
Length to Fork Face	28.5 in. (3)		34.0 in.	39.5 in.
Fork Spread	27.0 in.			
Chassis Height, Forks Lowered	33.75 in.			
Turning Radius, Forks Raised	64.6 in. (4)		71.6 in.	77.1 in.
Right Angle Stack Aisle (With 40 x 48 in. Pallet Size)	68.8 in. (5)		78.4	83.9
Performance (1)				
Max. Travel Speed (MPH) With Load/Without Load	2.7/3.7	2.6/3.7	4.0/5.5	4.5/6.0
Lift Speed (Seconds) With Load/Without Load	7.2/3.3	7.8/3.9	7.2/3.3	5.2/3.9
Lower Speeds (Seconds) With Load/Without Load	1.8/3.7	1.0/3.7	1.8/3.7	1.8/3.7
Weights (1)				
Service Weight With Min. Battery Weight	1,624 Lb.	1,654 Lb.	1,650 Lb.	2,240 Lb.
Axle Loading, Lowered				
With Load Front/Rear	3,550 Lb./ 2,074 Lb.	5,065 Lb./ 2,589 Lb.	3,391 Lb./ 2,259 Lb.	5,068 Lb./ 3,172 Lb.
Without Load Front/ Rear	550 Lb./ 1,074 Lb.	565 Lb./ 1,089 Lb.	550 Lb./ 1,100 Lb.	660 Lb./ 1,580 Lb.

## Know Your Truck Specifications

PRODUCT SPECIFICATION	P 40 MODEL	P 60 MODEL	HWP 40 MODEL	HWP 60 MODEL
Chassis (1)				
Number of Tires Front/Rear	2/1			
Tire Size Front/Rear	10.5 x 6.0 x 6.5 in./3.38 x 2.63 in.			
Wheelbase	60.17 in.			
Min. Ground Clearance	.87 in.		.63 in.	
Service Brakes	Drum and Shoe			
Parking Brakes	Spring Applied			
Steering	Pivot Arm			
Drive Line (1)				
Battery Type	Lead Acid			
Battery Capacity (6 hr. Rate), Max. — KW.h/A.h	6.9/600 (6)		13.82/600	
Battery Weight, Min.	365 Lb. (6)		430 Lb.	810 Lb.
Drive Motor Diameter	6.5 in.			
Hydraulic Motor Diameter	4.5 in.			
Drive Motor Control	Resistor			
Speed Control	3-Step		4-Step	
Hydraulic Motor Control	On/Off			
Hydraulic Pressure	1950 psi			

- (1) Specifications are shown for Model HWP 40 with single row battery; HWP 60 with double row battery.
- (2) Other fork lengths available, see general data information following.
- (3) Dimension is for truck models with single row battery compartment. Dimension for double row compartment is 34.0 in.
- (4) Dimension is for truck models with single row battery. Dimension for double row battery is 70.1 in.
- (5) Dimension is for truck model with single row battery. Dimension for double row battery is 74.3 in.
- (6) Specifications are for standard single row battery.

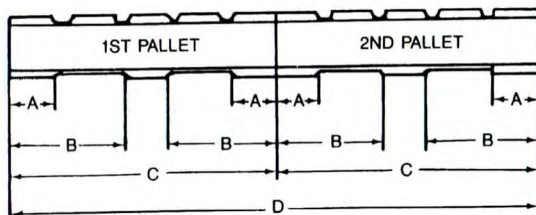
# Know Your Truck

## General Data

Battery Compartment Dimensions				
Dimension	Vehicle Type			
	P Series Single Row Battery	P Series Double Row Battery	HWP 40	HWP 60
Width	31.63 in.			
Length	8.13 in.	13.38 in.	8.13 in. (1)	13.38 in.
Height	Accepts All Heights			

(1) Add 5.5 in. for optional double row battery.

### Fork Lengths and Pallet Dimensions



Fork Lgths.	C Pallet Length	D Overall Load Length	A Bottom Board Width	B Minimum Clearance for Wheel Drop from End of Pallet
inches	inches	inches	inches	inches
<b>For Single Pallet Handling</b>				
36	36	36	6	15
42	42	42	6	15
*48	48	48	6	15
54	54	54	6	15
60	60	60	6	15

Fork Lgths.	C Pallet Length	D Overall Load Length	A Bottom Board Width	B Minimum Clearance for Wheel Drop from End of Pallet
inches	inches	inches	inches	inches
<b>For Double Pallet Handling</b>				
72	40	80	6	15
84	42	84	6	15
96	48	96	6	15

\*Standard fork length

**Performance** may vary +5% or -10% due to motor, tire, drive unit, and hydraulic efficiency tolerances and battery weight.

Clark products and specifications are subject to change without notice.

Clark is a registered trademark of Clark Equipment Company.

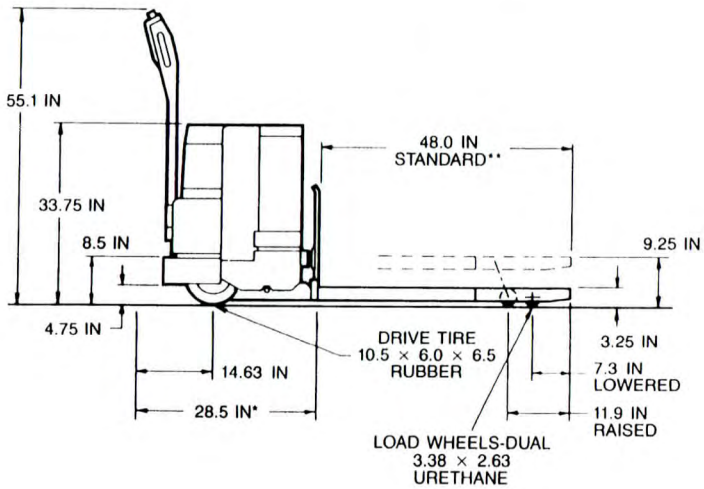
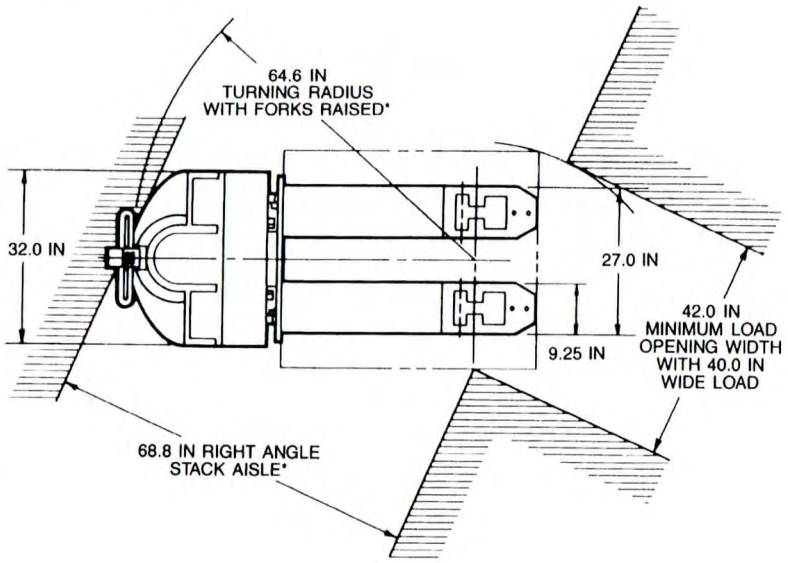
©Clark Equipment Company 1985.



# Know Your Truck

## General Data

### P Series Dimensions



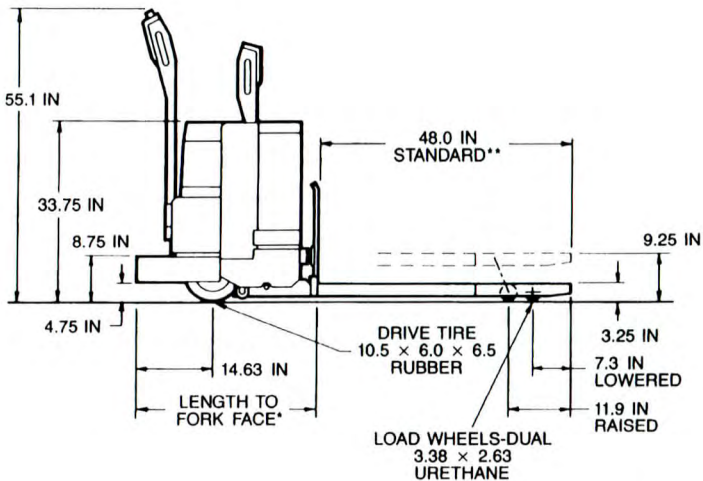
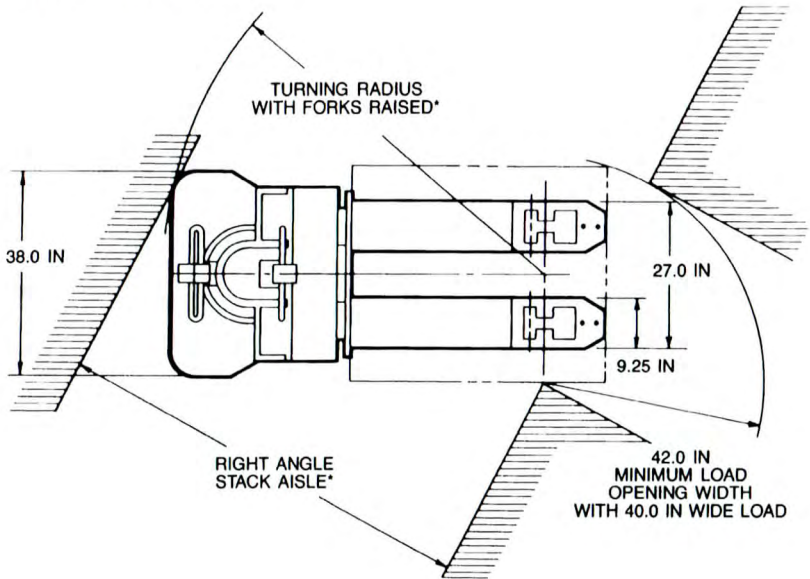
\*ADD 5.5 INCHES FOR TRUCKS WITH OPTIONAL DOUBLE ROW BATTERY COMPARTMENT.

\*\*OTHER FORK LENGTHS AVAILABLE. SEE CHART UNDER GENERAL DATA.

# Know Your Truck

## General Data

### HWP Series Dimensions



\*SEE SPECIFICATIONS CHART FOR INFORMATION.

\*\*OTHER FORK LENGTHS AVAILABLE, REFER TO GENERAL DATA.

# 5 Operating Procedures

Operator Controls

Before Operation

**How To Perform The Daily Inspection**

Operation

**How To Operate Your Truck**

Parking

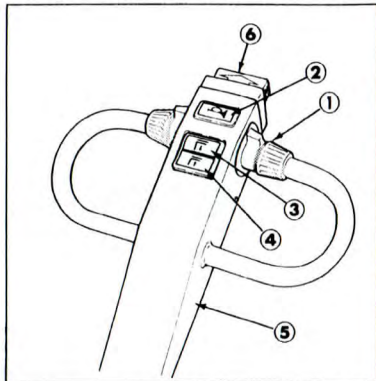
**When You Have Finished Using Your Truck**

# Operating Procedures

## Operator Controls

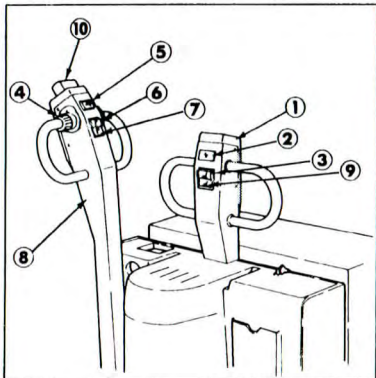
### P40 and P60 Models

1. Forward-Reverse and Speed Control.
2. Horn Button.
3. "Lift" Control Button.
4. "Lower" Control Button.
5. Steering Control Handle and Brake.
6. Safety Cut-off Switch.



### HWP40 and HWP60 Models

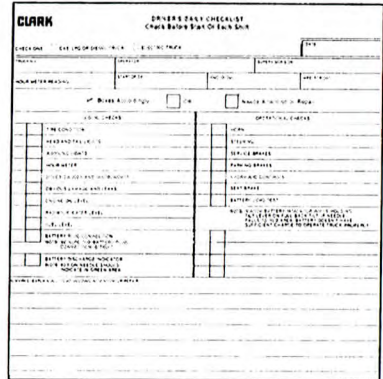
1. T-Bar Control Handle.
2. Hi-Speed Switch.
3. Auxiliary "Lift" Control Button.
4. Forward-Reverse and Speed Control.
5. Horn Button.
6. "Lift" Control Button.
7. "Lower" Control Button.
8. Steering Control Handle and Brake.
9. Auxiliary "Lower" Control Button.
10. Safety Cut-off Switch.



# Operating Procedures Before Operation

## How To Perform The Daily Inspection

1. Each shift operator must complete an operator's daily check list (available from your Clark Dealer).

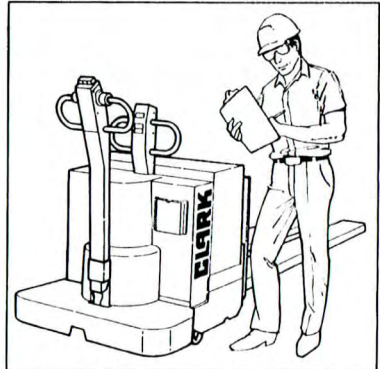


The image shows a 'CLARK DRIVER'S DAILY CHECKLIST' form. At the top, it says 'Check Before Start Of Each Shift'. The form is divided into several sections for recording information: 'DATE', 'MILEAGE', 'MACHINE NO.', 'OPERATOR'S NAME', 'CLARK DEALER', and 'MACHINE TYPE'. Below these are checkboxes for 'MACHINE READY TO OPERATE' and 'MACHINE NOT READY TO OPERATE'. The main body of the form is a grid with two columns: 'ITEMS TO CHECK' and 'OPERATIONAL STATUS'. The 'ITEMS TO CHECK' column lists various components like 'ENGINE OIL', 'HYDRAULIC OIL', 'AIR FILTER', 'WATER PUMP', 'STEERING', 'BRAKES', 'WHEELS', 'TIRE CONDITION', 'LIGHTS', 'HORN', 'BATTERY', 'SAFETY DEVICES', 'MATERIAL HANDLING DEVICES', 'OVERLOAD PROTECTION', 'MACHINE NOISE', 'MACHINE VIBRATION', 'MACHINE TEMPERATURE', 'MACHINE PRESSURE', 'MACHINE FLUIDS', 'MACHINE SAFETY', 'MACHINE SECURITY', 'MACHINE MAINTENANCE', 'MACHINE REPAIRS', 'MACHINE DAMAGE', 'MACHINE DEFECTS', 'MACHINE WEAR', 'MACHINE CORROSION', 'MACHINE PAINT', 'MACHINE CLEANLINESS', 'MACHINE STORAGE', 'MACHINE SECURITY', 'MACHINE SAFETY', 'MACHINE SECURITY', 'MACHINE SAFETY', 'MACHINE SECURITY'. The 'OPERATIONAL STATUS' column has checkboxes for 'OK' and 'NOT OK'. At the bottom, there are fields for 'OPERATOR'S SIGNATURE' and 'DATE'. A note at the bottom right states: 'NOTE: THIS CHECKLIST IS A GUIDE ONLY. IT DOES NOT COVER ALL POSSIBLE DEFECTS OR DAMAGE. ALWAYS USE COMMON SENSE AND YOUR KNOWLEDGE OF THE MACHINE TO COMPLETE THIS CHECKLIST.'

25487

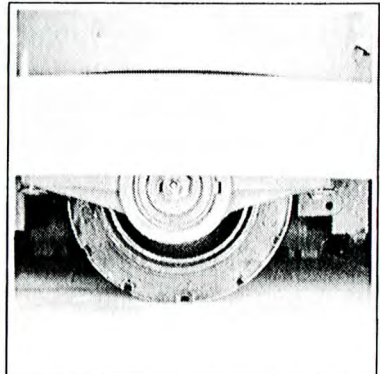
2. Walk completely around your truck and look for damage and leaks.

Note all damage and leaks on the operator's daily check list.



25488

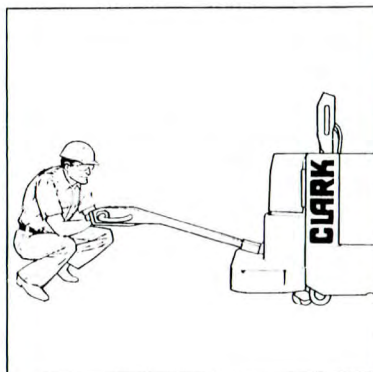
3. Check condition of drive wheel and tire assembly.



13874

## Operating Procedures Before Operation

4. Move control handle vertically from "full-up" to "full-down" and return to "full-up" position while checking brake application. Truck brakes should be firmly applied at both extremes of handle travel.



25489

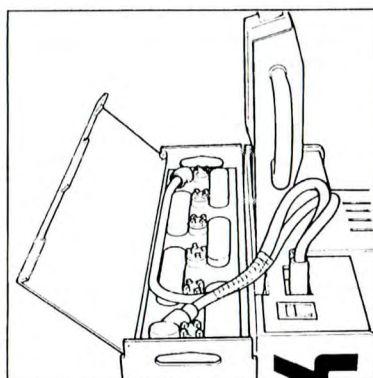
5. Lower control handle to comfortable operating position and check steering by swinging handle through full 180 degrees arc from right to left. Handle should move smoothly without noticeable binding.



25490

6. Remove hydraulics cover and look at the battery connector to make sure that battery has been properly connected.

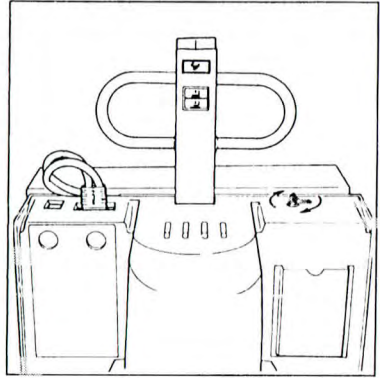
Note condition of electrical cables and wiring and report all worn, frayed or cracked cables to proper authority.



25491

## Operating Procedures Before Operation

7. Insert key into switch (if so equipped) and turn clockwise to "on" position.



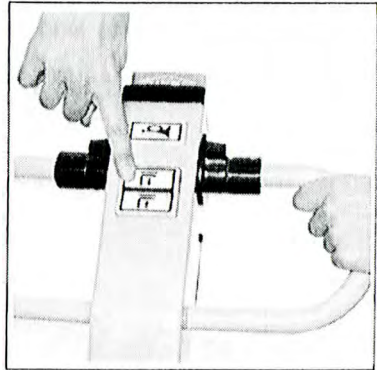
25492

8. If your truck is equipped with the optional hour meter, make certain that it is undamaged and functioning properly.



13225

9. Check to insure that pallet forks are unobstructed then press firmly on the lift switch and hold until forks have elevated to maximum height. Release pressure on the lift switch to stop fork elevation at desired height.

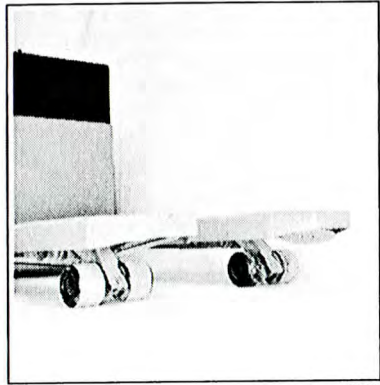


23680

# Operating Procedures

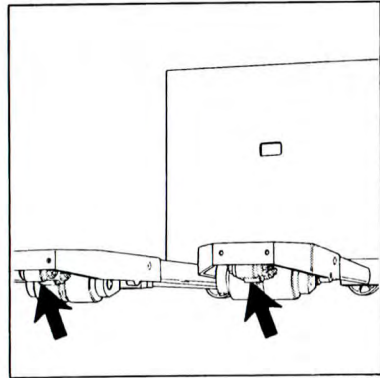
## Before Operation

10. Release the control handle in "full-up" position (to apply brakes) then walk to pallet fork end of truck and check condition of load wheels and tires.



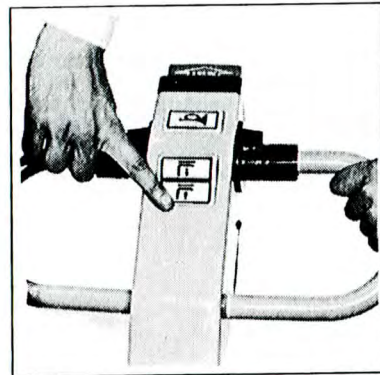
13879

11. Both P and HWP model lift trucks are equipped with pallet entry rollers (arrow) and exit rollers (located behind the load wheels).



25505

12. Return to control handle of truck and press lower switch to lower pallet forks to position near the floor. Release lower switch to stop forks at desired level.

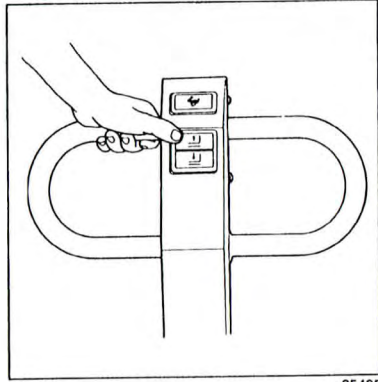


23681



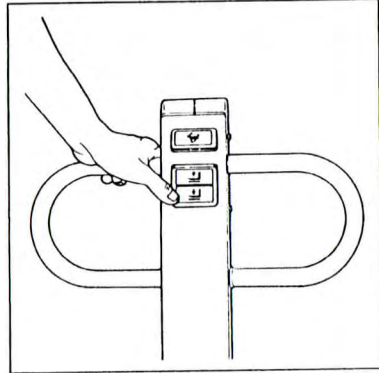
## Operating Procedures Before Operation

13. HWP (walk/ride) model trucks are equipped with an additional "lift" and "lower" control on the auxiliary handle. This button should be checked as described in item 9.



25495

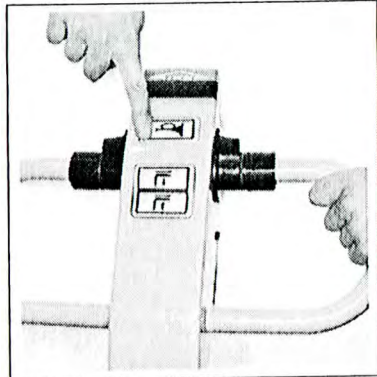
14. HWP (walk/ride) model trucks are equipped with an additional "lower" button on the auxiliary handle. This button should be checked as described in item 12.



25496

15. Press horn button (mounted on top of control handle head) to determine if horn is operational.

If horn does not function properly, note it on operator's daily check list.



23354

## Operating Procedures

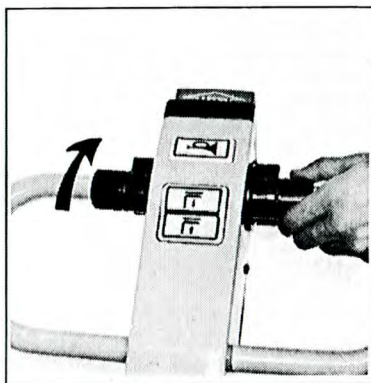
### Before Operation

16. Pull control handle down to comfortable operating level and swing into position in line with desired path of forward or reverse travel.



25490

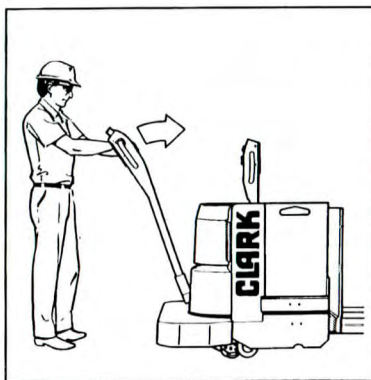
17. Put thumb of right (or left) hand on lower "wing" of directional control switch and press gently. Truck will move forward (toward you) slowly. Travel speed may be increased by further pressing of the switch "wing".



23683

18. Release thumb pressure on lower directional control "wing" and raise handle to apply truck brake and stop forward travel.

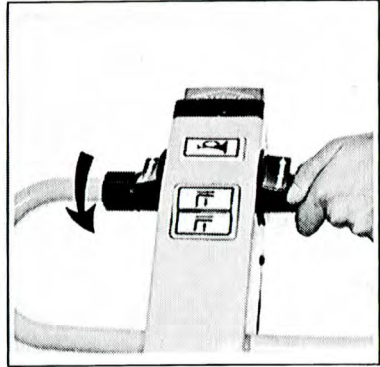
Note any unusual or faulty operation on check list.



25497

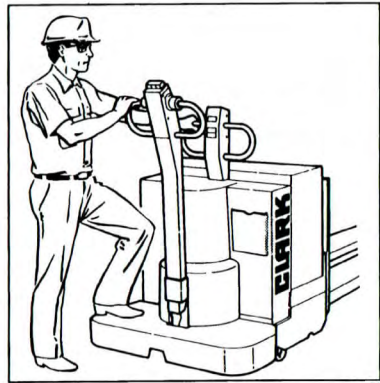
## Operating Procedures Before Operation

**19.** Lower handle to comfortable operating level and put thumb of right (or left) hand on upper "wing" of directional control switch. Press switch "wing" gently and truck will move in reverse (away from you).



23684

**20.** Apply truck brake by raising handle to the full up position.



25499

**21.** For P model trucks, advance to step number 29. For HWP models, step on the rider platform and make sure that your feet are well positioned on the rider platform and that they do not stick out beyond platform edges.



25500

# Operating Procedures

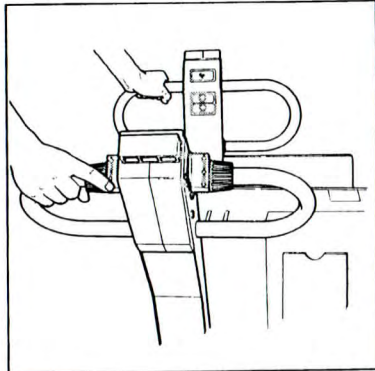
## Before Operation

**22.** Push control handle away from you to release brake.



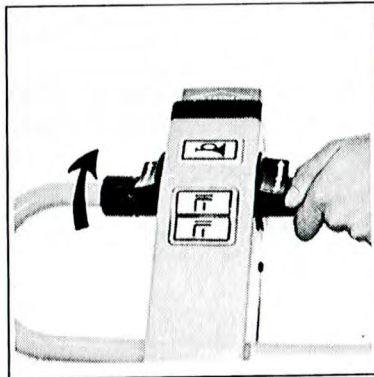
25501

**23.** Put either hand on auxiliary handle and the index finger of your other hand on the lower wing of the directional control switch.



25502

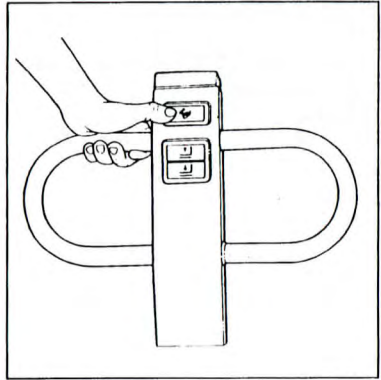
**24.** Make sure that your path of travel is unobstructed. Then slowly and smoothly press down on switch wing. Truck will begin to move forward slowly and speed will increase as switch wing is pressed further.



23683

## Operating Procedures Before Operation

**25.** When control handle switch "wing" has been fully depressed truck speed may be additionally increased by depressing "hi-speed" button located on the auxiliary handle.



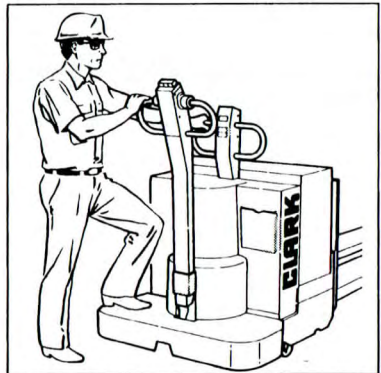
25508

**26.** Release "hi-speed" button, release pressure on directional-speed control switch "wing" and smoothly pull control handle toward you to apply brake and stop truck.



25501

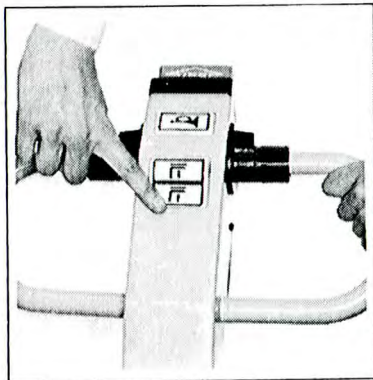
**27.** When truck comes to complete stop — carefully dismount from rider platform.



25499

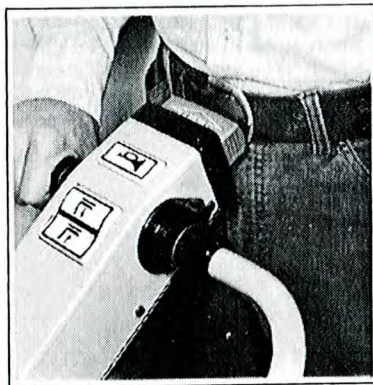
## Operating Procedures Before Operation

**28.** Lower pallet forks to floor by pressing "lower" button and holding until forks lower fully.



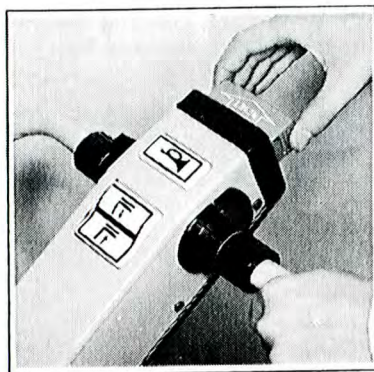
23681

**29.** Check the operation of the safety cut-off switch: move the truck in forward direction (toward you). Permit the red safety cut-off switch to make contact with your body (or hand), which pushes the switch in half way and turns off power to the truck.



23685

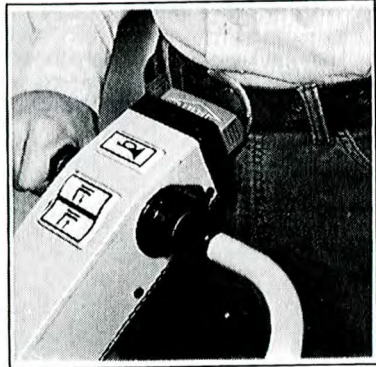
**30.** Pull the safety cut-off switch out to reset.



23686

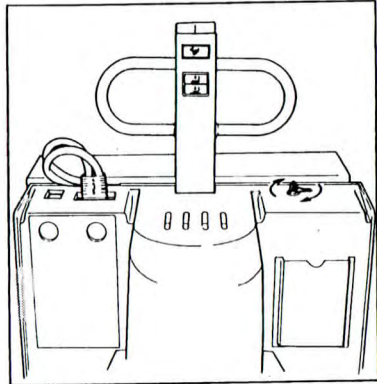
## Operating Procedures Before Operation

**31.** Again, move the truck in forward direction. Push the safety cut-off switch again, and depress it fully. The truck will move backwards about one foot and turn off power to the truck. Reset the switch.



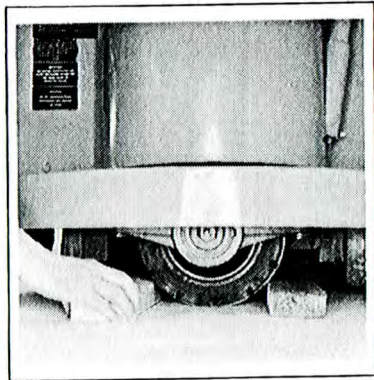
23685

**32.** Make sure that control handle is in "full-up" position to apply truck brakes. If your truck is equipped with a key switch, turn the key counterclockwise to the "off" position and remove the key from the switch.



25492

**33.** Move the control handle to a full turn position and block the drive wheel to prevent accidental roll.



13886

# Operating Procedures Before Operation

34. Then, review operator's daily check list to make certain that it has been properly marked, sign it and turn it in to the proper authority.

CLARK		DRIVER'S DAILY CHECKLIST	
Check Before Start Of Each Shift			
OPERATOR	DATE	TIME	DAY
VEHICLE NO.	PLANT NO.	SHIFT	NO.
<input type="checkbox"/> All items checked <input type="checkbox"/> Some items not checked			
<input type="checkbox"/> All items checked <input type="checkbox"/> Some items not checked			
<input type="checkbox"/> OPERATOR'S NAME <input type="checkbox"/> OPERATOR'S SIGNATURE <input type="checkbox"/> OPERATOR'S TITLE <input type="checkbox"/> OPERATOR'S PHONE NO. <input type="checkbox"/> OPERATOR'S ADDRESS <input type="checkbox"/> OPERATOR'S CITY <input type="checkbox"/> OPERATOR'S STATE <input type="checkbox"/> OPERATOR'S ZIP CODE <input type="checkbox"/> OPERATOR'S SOCIAL SECURITY NO. <input type="checkbox"/> OPERATOR'S MARITAL STATUS <input type="checkbox"/> OPERATOR'S NUMBER OF DEPENDENTS	<input type="checkbox"/> OPERATOR'S SIGNATURE <input type="checkbox"/> OPERATOR'S TITLE <input type="checkbox"/> OPERATOR'S PHONE NO. <input type="checkbox"/> OPERATOR'S ADDRESS <input type="checkbox"/> OPERATOR'S CITY <input type="checkbox"/> OPERATOR'S STATE <input type="checkbox"/> OPERATOR'S ZIP CODE <input type="checkbox"/> OPERATOR'S SOCIAL SECURITY NO. <input type="checkbox"/> OPERATOR'S MARITAL STATUS <input type="checkbox"/> OPERATOR'S NUMBER OF DEPENDENTS	<input type="checkbox"/> OPERATOR'S SIGNATURE <input type="checkbox"/> OPERATOR'S TITLE <input type="checkbox"/> OPERATOR'S PHONE NO. <input type="checkbox"/> OPERATOR'S ADDRESS <input type="checkbox"/> OPERATOR'S CITY <input type="checkbox"/> OPERATOR'S STATE <input type="checkbox"/> OPERATOR'S ZIP CODE <input type="checkbox"/> OPERATOR'S SOCIAL SECURITY NO. <input type="checkbox"/> OPERATOR'S MARITAL STATUS <input type="checkbox"/> OPERATOR'S NUMBER OF DEPENDENTS	<input type="checkbox"/> OPERATOR'S SIGNATURE <input type="checkbox"/> OPERATOR'S TITLE <input type="checkbox"/> OPERATOR'S PHONE NO. <input type="checkbox"/> OPERATOR'S ADDRESS <input type="checkbox"/> OPERATOR'S CITY <input type="checkbox"/> OPERATOR'S STATE <input type="checkbox"/> OPERATOR'S ZIP CODE <input type="checkbox"/> OPERATOR'S SOCIAL SECURITY NO. <input type="checkbox"/> OPERATOR'S MARITAL STATUS <input type="checkbox"/> OPERATOR'S NUMBER OF DEPENDENTS

25487



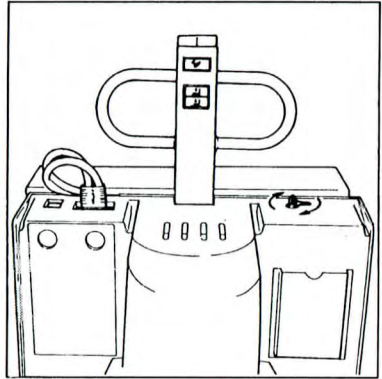
# Operating Procedures

## Operation

### How To Operate Your Truck

1. Remove blocks from drive wheel and swing control handle from full turn position to center of truck.

If your truck is equipped with a key switch, insert key and turn clockwise to "on" position.



25492

2. Lower control handle to comfortable operating level and check to be sure that desired path of travel is unobstructed.

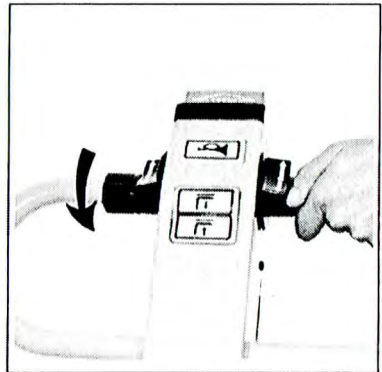
Press "lift" button and hold until pallet forks have raised to maximum height.



25490

3. Put thumb of right (or left) hand on directional control switch "wing" for desired direction of travel. Upper "wing" for reverse (away from you) or lower "wing" for forward (toward you).

When switch "wing" is depressed truck will begin to move. Truck speed will increase as switch "wing" is further depressed.



23683

# Operating Procedures

## Operation

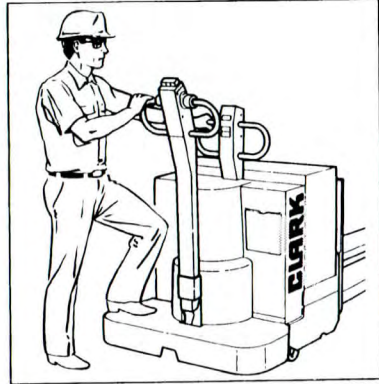
4. To stop truck release directional control switch "wing" (allowing switch to return to neutral) and raise control handle to near vertical position. (This will activate switch cutting power to drive motor and apply brakes).

For P model trucks, procede to step number 11.



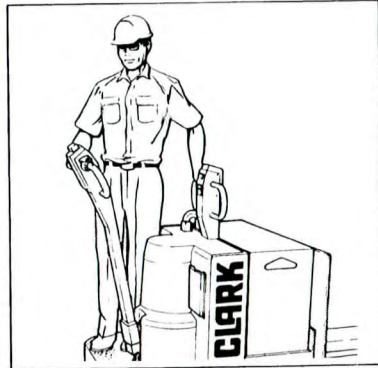
25497

5. Remember to wait until truck comes to a complete stop before attempting to step up onto the rider platform, then step onto platform with caution.



25499

6. Make sure that your feet are well back from the rider platform edge and push forward (away from you) on the control handle to release truck brake.

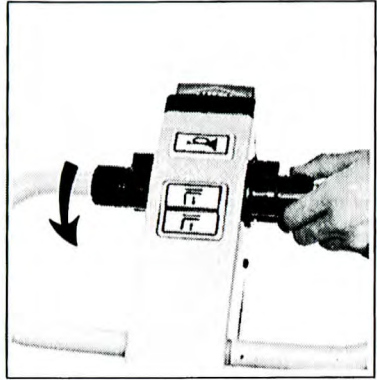


25500

## Operating Procedures

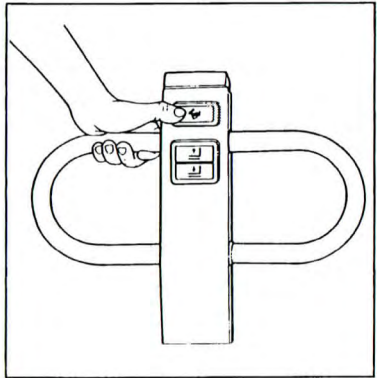
### Operation

7. With index finger of hand on control handle slowly press down on lower "wing" of directional-speed control switch. Continue to press switch "wing" until truck has accelerated to desired speed.



23683

8. If additional truck travel speed is required at this point, press the "hi-speed" button with thumb of whichever hand you have on the auxiliary handle.



25508

9. Release thumb pressure on "hi-speed" switch button, release index finger pressure on directional-speed control switch "wing" and gently pull control handle toward you to apply brake and smoothly stop truck.

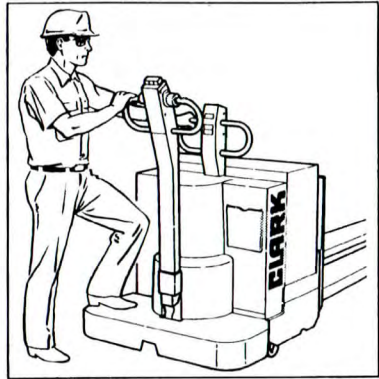


25500

# Operating Procedures

## Operation

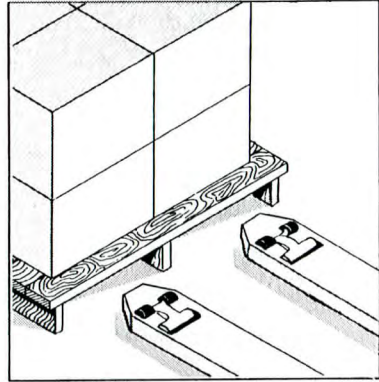
10. When truck comes to complete stop, carefully dismount from rider platform. Walking control of HWP models is strongly recommended when negotiating ramps, picking up or depositing loads and when maneuvering the truck in close quarters.



25499

11. Lower pallet load forks before entering load and remember to center load on forks as you approach it.

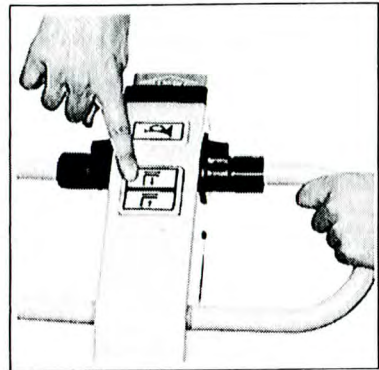
Always enter the load as far as possible.



14680

12. Before lifting the load make sure that the lifting area is unobstructed.

Then, press "lift" button and hold until load reaches full lift height.

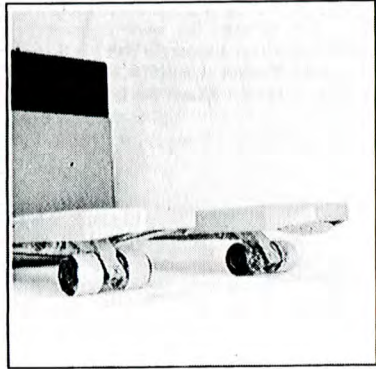


23680

## Operating Procedures

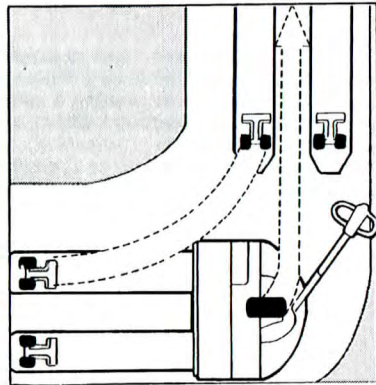
### Operation

**13.** Remember to travel with load fully elevated to provide maximum clearance. This will reduce the possibility of load pallet contact with the floor and its irregularities (if any).



13879

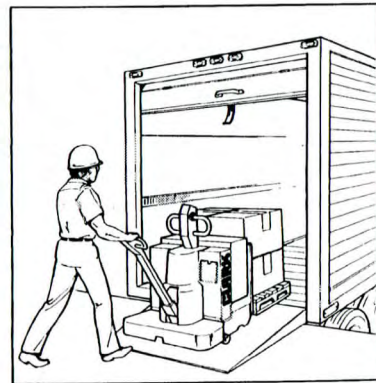
**14.** Always use caution when making right or left turn into aisle. Load wheels do not follow the turn path of the drive wheel. They will tend to "cut" the corner.



14689

**15.** Enter confined areas such as semi-trailers, trucks, boxcars or elevators with load end of your truck first.

This will minimize the maneuvering necessary to exit.

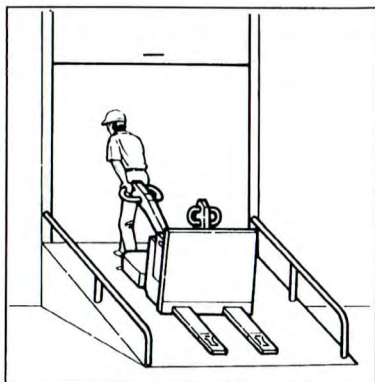


25516

## Operating Procedures

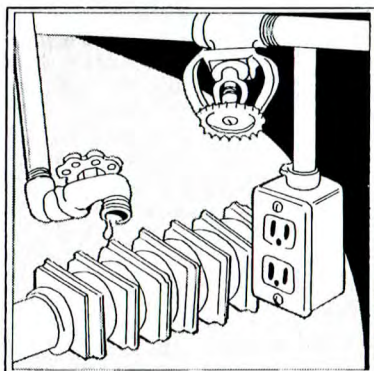
### Operation

**16.** When moving up or down a grade, the forks should be kept downgrade with or without a load on the truck. The operator should control the truck from a walk position when on a grade.



25517

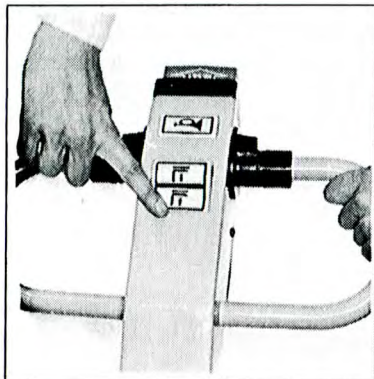
**17.** Always approach load deposit areas squarely and cautiously. Be especially careful when placing loads near water pipes, electrical wiring or outlets, steam pipes, heaters and other fragile or dangerous equipment or material.



13104

**18.** When load to be deposited has been positioned as desired, press "lower" button and hold until pallet forks are lowered as far as possible.

Hold "lower" button for 1-2 additional seconds before exiting from pallet.



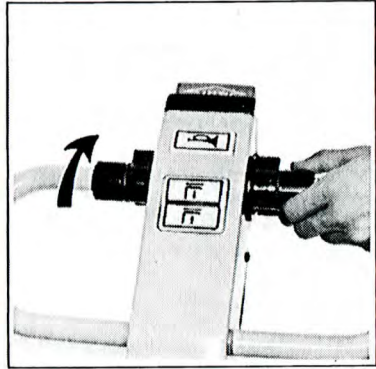
23681

## Operating Procedures

### Operation

19. Pull control handle down to comfortable operating level, depress directional control switch lower "wing" gently.

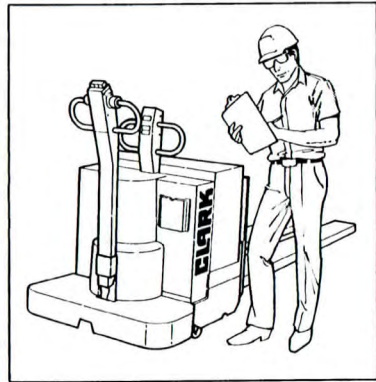
Truck will move forward (toward you), withdrawing the truck forks from the pallet.



23683

20. Be alert for unusual or erratic truck operation.

Report any malfunction immediately so that required adjustments or repairs may be performed by thoroughly trained and qualified personnel.



25488

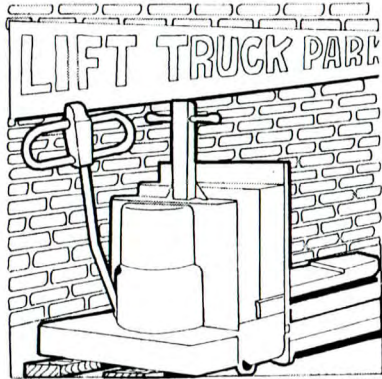
# Operating Procedures

## Parking

### When You Have Finished Using Your Truck

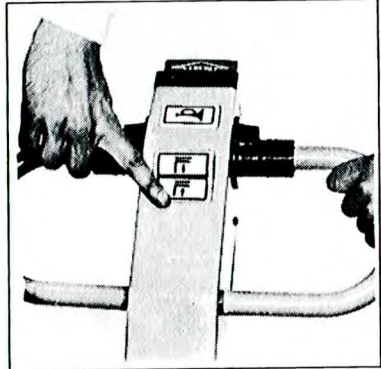
1. Park lift trucks in designated parking areas only.

Do not obstruct traffic lanes, aisles, or access to safety areas.



15210

2. Fully lower pallet forks.



23681

3. Put control handle in full turn position and raise the handle to "full-up" position so that truck brake is applied.



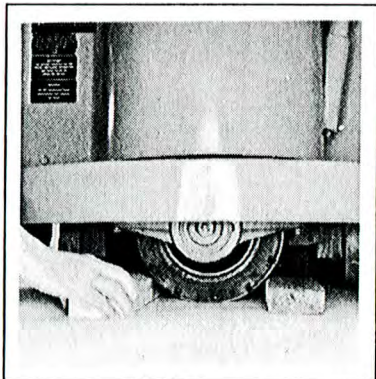
25497



## Operating Procedures

### Parking

4. Block drive wheel to prevent accidental roll. Disconnect battery, and remove key (if so equipped) and turn it into the proper authority.




13886



# 8 Planned Maintenance and Lubrication

Recommended Planned Maintenance Intervals

Maintenance Procedures

 <b>WARNING</b>
<b>LIFT TRUCK MAINTENANCE</b>
DO NOT WORK ON THIS TRUCK UNLESS YOU ARE TRAINED AND AUTHORIZED AND KNOW THE CORRECT MAINTENANCE PROCE- DURES.

## Planned Maintenance and Lubrication

Regular maintenance and care of your lift truck is essential for economy and utilization reasons, but most important for your safety. A faulty lift truck is a potential source of danger to the operator, and to other personnel working near it.

Lift trucks should be inspected daily, or at the start of each shift. This daily inspection should include a visual check for leaks and any obvious damage which may have been caused by operation during the last shift. Check the tires and wheel bolts. Check the forks. Look for loose bolts and fittings. Check all of the controls. Make sure that all systems are functioning correctly. Check the drive unit and the hydraulic sump oil level. Make sure that all instruments, warning lights and the horn are operating correctly and that your truck is safe to operate. Use the daily inspection sheet as a check list and record of your findings.

In addition, Clark recommends that you set up and follow a planned maintenance and inspection program. Performed on a regular basis, the program will provide the opportunity to make thorough inspections and checks on the safe operating condition of your lift truck. Necessary adjustments and repairs are made as needed. The schedule for these planned maintenance (PM) inspections will depend on the conditions of your particular application and lift truck use. Recommended periodic inspection and maintenance items are listed in the Maintenance and Lubrication section. Your local Clark dealer is prepared to help you with your Planned Maintenance and Inspection Program if you want assistance. He has specially trained service personnel who are authorized to check your lift truck according to the respective safety regulations.

Also, in the Maintenance and Lubrication section, you will find a listing of useful specifications for fuel and lubricants, critical bolt torques, refill capacities and settings for your truck.

If you have the need for more information on the care and repair of your truck, see your Clark dealer.

# Planned Maintenance and Lubrication

## Recommended Planned Maintenance Intervals

### Operating Conditions

Time intervals between maintenances are largely determined by operating conditions. For example, operation in sandy, dusty locations requires shorter maintenance intervals than operation in clean warehouses. The indicated intervals are intended for normal operation. To allow better understanding of this aspect, the following clarification should be made:

**Ensure  
Operational  
Safety**

### NORMAL OPERATION:

Basically, eight-hour material handling, mostly in buildings or in the open air.

### SEVERE OPERATION:

Prolonged operating hours or constant usage.

### EXTREME OPERATION:

1. In sand or dusty locations, i.e. cement plant, lumber or flour mills, coal dust or stone crushing sites.
2. High-temperature locations, i.e. steel mills, foundries, etc.
3. Sudden temperature changes (constant trips from buildings into the open air), e.g. refrigeration plant.

If your fork-lift truck is used in extreme operating conditions, you must shorten the maintenance intervals accordingly.

## Planned Maintenance and Lubrication

### **Recommended Planned Maintenance Intervals**

Every 50-250 Operating Hours:

- Lubricate steer handle grease fittings
- Lubricate radial thrust collar grease fitting
- lubricate drive unit thrust roller grease fittings
- Lubricate lift linkage grease fittings
- Lubricate drive wheel grease fitting
- Lubricate load wheel grease fittings
- Lubricate entry roller grease fittings
- Lubricate stability caster (if equipped) grease fittings

Every 2000 Operating Hours or Once a Year:

- Change drive unit fluid
- Change hydraulic system fluid and clean sump strainer element
- Check drive motor brushes and commutator condition
- Check hydraulic pump motor brushes and commutator condition

Every Third PM:

- Air clean contactor panel and enclosed drive motors

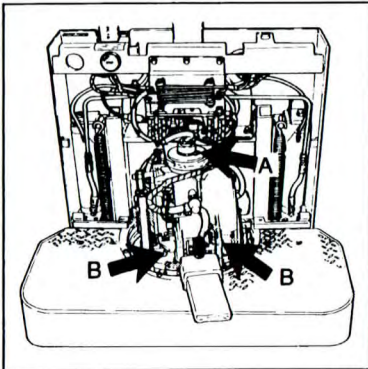
# Planned Maintenance and Lubrication

## Maintenance Procedures

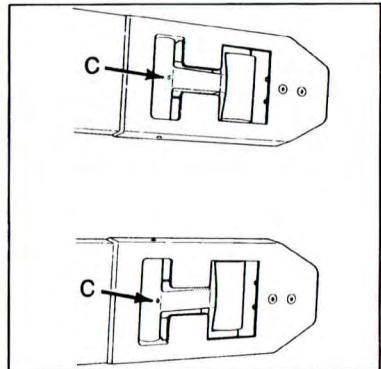
### Lubrication

Lubricate the following fittings with the recommended lubricant every 50-250 operating hours:

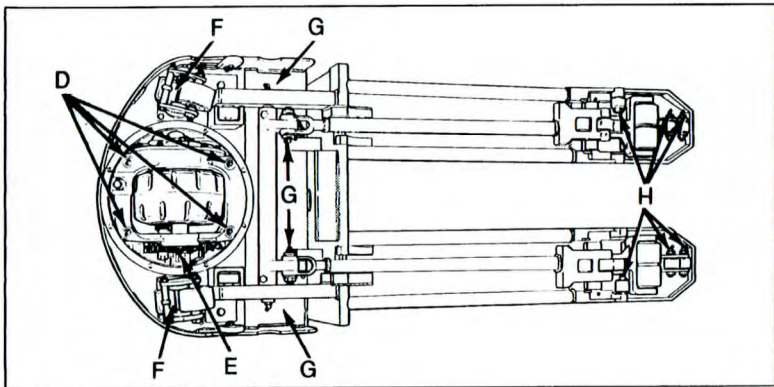
- A. Radial thrust collar grease fitting
- B. Steer handle grease fittings
- C. Load wheel grease fittings
- D. Drive unit thrust roller grease fittings
- E. Drive wheel grease fittings
- F. Stability caster grease fittings (if equipped)
- G. Lift linkage grease fittings
- H. Entry roller grease fittings



25520



25521



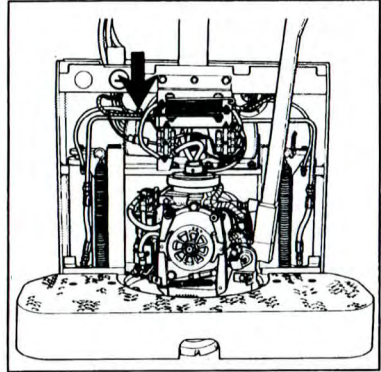
25522

# Planned Maintenance and Lubrication

## Maintenance Procedures

### Hydraulic Unit Fluid Level Check

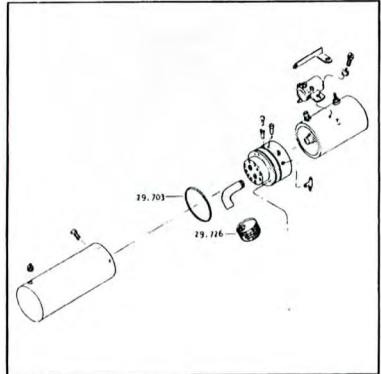
With the truck on a level floor, remove the fill plug, and check the hydraulic tank fluid level. The fluid should be 1/2 - inch (13 mm) from the fill plug hole. Add the recommended fluid as required.



25549

### Hydraulic Unit Fluid Change

It is recommended to change the hydraulic unit fluid and clean the strainer element every 2000 operating hours or once a year, whichever comes first.

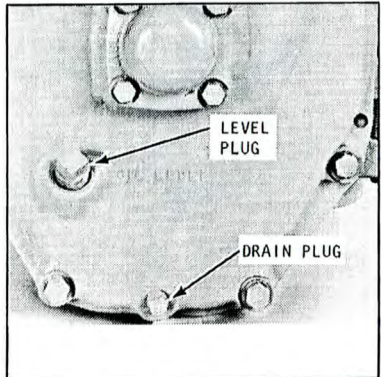


25524

### Drive Unit Fluid Level Check

With the truck on a level floor, check the drive unit fluid level. The fluid should be slightly below the fluid fill hole. Add the recommended fluid if the level is low.

Check the drive unit vent. It must be open at all times.



12690

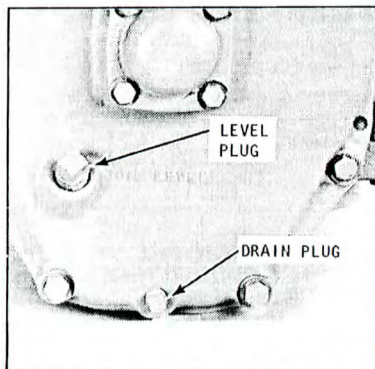


# Planned Maintenance and Lubrication

## Maintenance Procedures

### Drive Unit Fluid Change

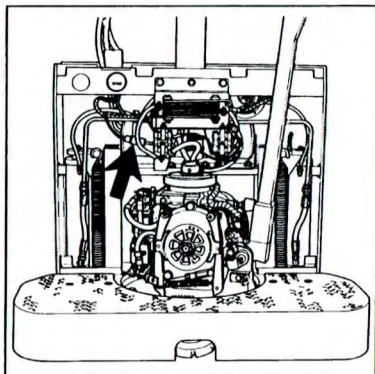
It is recommended to change the drive unit fluid every 2000 operating hours or once a year, whichever comes first.



12690

### Fuse Check

Remove the hydraulics cover. Disconnect the fuse holder and check the holder and fuses for cracks, burns and damage. Replace as required.



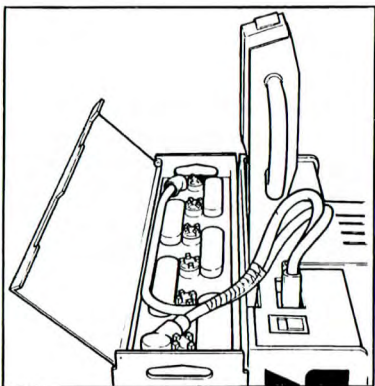
25526

### Battery and Cable Condition Check

Check battery and cable condition. Inspect the cables, connectors and terminals for corrosion, fraying and damage. Remove any minor corrosion from the battery.

### IMPORTANT

DO NOT WASH THE BATTERY WHEN IT IS IN THE TRUCK.



25491

# Planned Maintenance and Lubrication

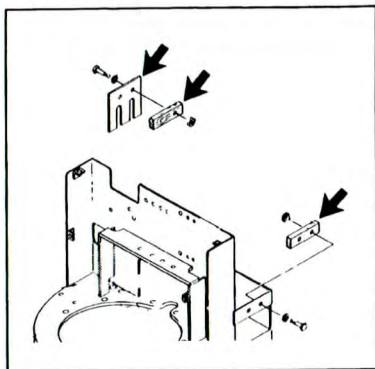
## Maintenance Procedures

### Battery Stop Check

Next, check the battery stops for damage, correct adjustment and installation.

#### NOTE

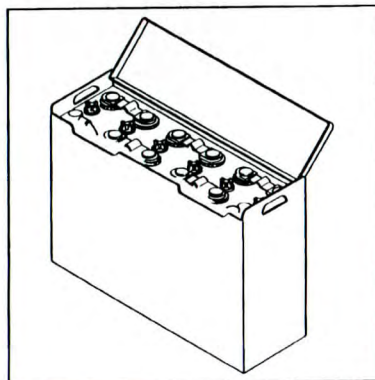
DEPENDING ON THE BATTERY LENGTH, SOME BATTERY STOPS HAVE WOODEN BLOCKS ATTACHED TO THEM. CHECK THESE WOODEN BLOCKS FOR SECURITY OF MOUNTING AND DAMAGE. BATTERY STOP BLOCKS SHOULD BE INSTALLED SO BATTERY MOVEMENT IS 1/2-INCH (13 MM) MAXIMUM (HORIZONTALLY).



12676

### Battery Electrolyte Level Check

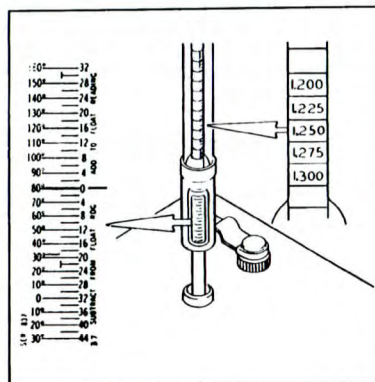
Check the battery electrolyte level (especially before charging). The electrolyte should be slightly below the lower lip of the vent hole. Add water as necessary but do not overfill. Overfilling causes loss of electrolyte.



12677

### Specific Gravity Check

Check the specific gravity of the battery fluid. Check at least six cells with a hydrometer. The specific gravity should be no less than 1.250. Install (or close) the battery cover before proceeding with further operations.



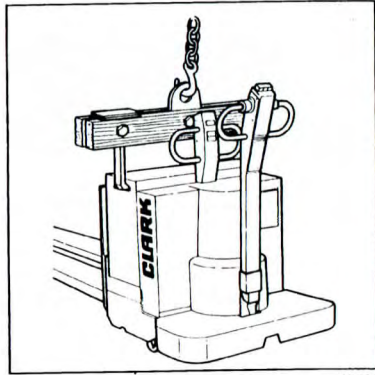
17593

# Planned Maintenance and Lubrication Maintenance Procedures

## Battery Removal

<b>!</b> <b>WARNING</b>
<b>SULFURIC ACID</b>
THE BATTERY CONTAINS CORROSIVE ACID WHICH CAN CAUSE INJURY. IF ACID CONTACTS YOUR EYES OR SKIN, FLUSH IMMEDIATELY WITH WATER AND GET MEDICAL ASSISTANCE.

Put the truck in the designated area, turn off key switch, if equipped, and disconnect the battery. Remove the battery with an insulated battery spreader bar.



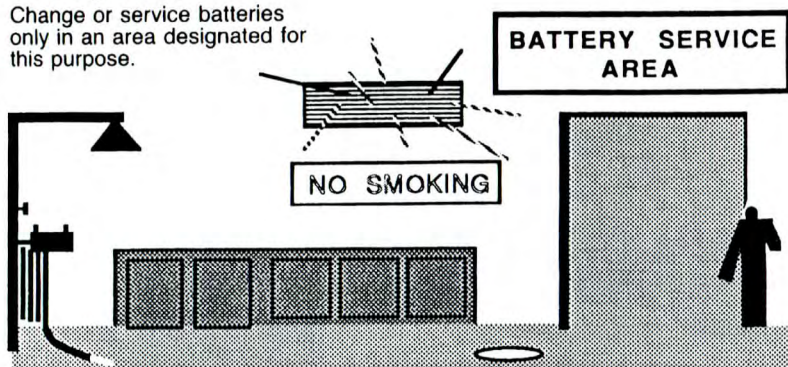
25527

## Planned Maintenance and Lubrication

### Maintenance Procedures

#### Handling Battery

Change or service batteries only in an area designated for this purpose.

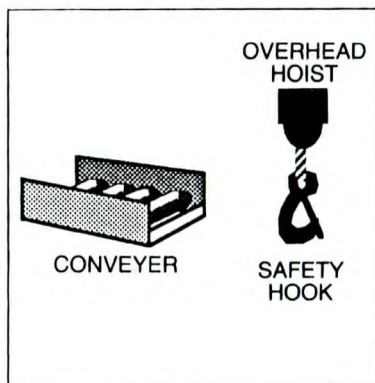


25528

Be sure this area has provisions to flush and neutralize spillage, to ventilate fumes from gassing batteries and provisions for fire protection.

Before attempting to change or charge a battery, the truck shall be positioned in the designated battery service area and the brake applied so the truck cannot move.

Be sure the area is equipped with material handling equipment designed for the purpose of removing and replacing batteries such as a conveyer or overhead hoist equipped with safety hooks.

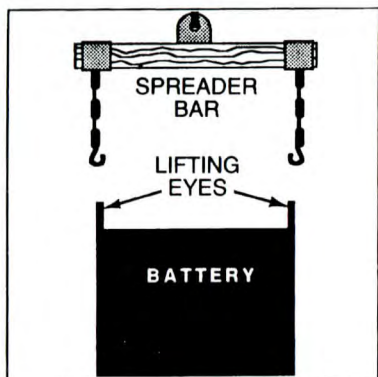


25529

## Planned Maintenance and Lubrication Maintenance Procedures

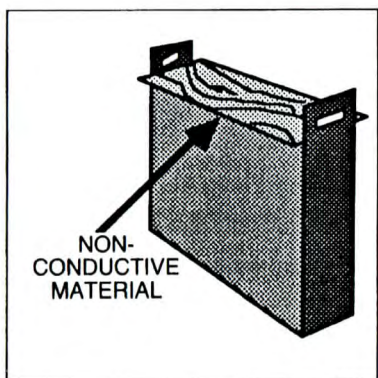
When using an overhead hoist, be sure an insulated spreader bar or similar lifting device is used so the lifting force is vertical.

To avoid side forces from damaging the battery, the distance between the chains must be the same as the distance between the battery lifting eyes: Make sure the lifting hooks are the correct size to fit the lifting eyes of the battery.



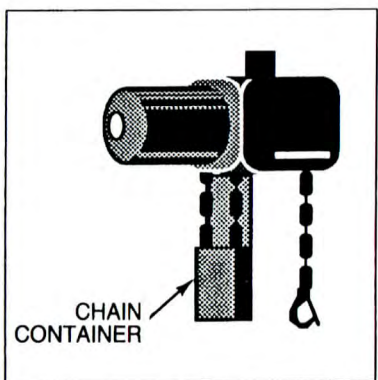
25530

If the battery does not have a cover of its own, cover the battery with a non-conductive material (sheet of plywood) prior to attaching a battery lifting device.



25531

When using a power hoist, be sure the hoist is equipped with a chain container to accumulate the excess lifting chain.

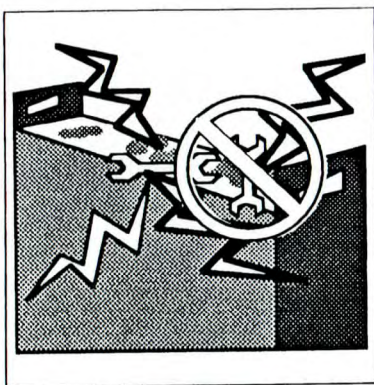


25532

## Planned Maintenance and Lubrication

### Maintenance Procedures

Keep all tools and other metallic objects away from the terminals.



25533

Persons maintaining storage batteries must wear protective clothing such as face shield, long sleeves and gauntlet gloves.



25534

Hydrogen emissions from charging batteries are flammable. No smoking shall be allowed in the charging area. Do not check the electrolyte level with an open flame. Do not allow open flame, sparks or electric arcs in battery charging area.

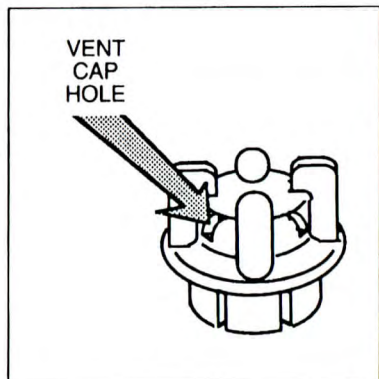


25535

## Planned Maintenance and Lubrication

### Maintenance Procedures

When charging batteries, the vent caps must be kept in place to avoid electrolyte spray. Care must be taken to assure that vent caps are functioning. The vent cap holes must be open to allow the battery to breathe. The battery, or battery compartment cover(s) must be open to dissipate heat.



25536

#### **IMPORTANT:**

IF BATTERIES DISCHARGE RAPIDLY DURING NORMAL OPERATION OR DO NOT CHARGE TO THE CORRECT SPECIFICATIONS, CONTACT A QUALIFIED BATTERY SERVICE TECHNICIAN TO CHECK THE BATTERY FOR YOU. DO NOT ADD ELECTROLYTE OR ATTEMPT TO SERVICE THE BATTERY.

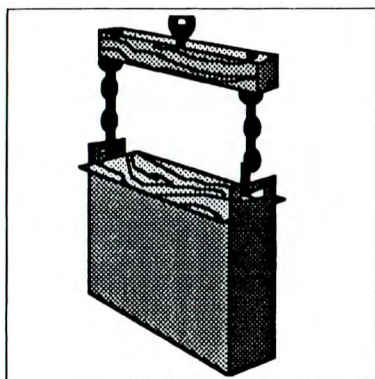
# Planned Maintenance and Lubrication

## Maintenance Procedures

### Battery Cleaning

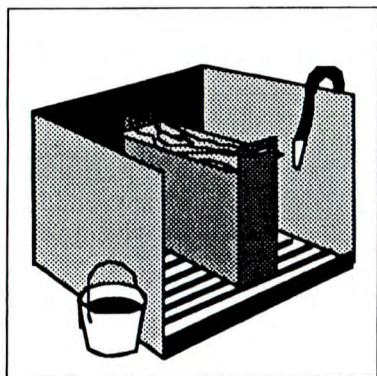
<b>!</b> <b>WARNING</b>
<b>BATTERY SERVICE</b>
BATTERY SERVICE MUST BE DONE BY TRAINED PERSONNEL. BATTERY ACID CAN CAUSE SEVERE BURNS AND INJURY.

Once the battery is out of the truck . . . a lifting device equipped with an insulated spread bar and safety hooks can be used to transport this style battery.



25537

The easiest and most satisfactory method of cleaning a battery is to wash it occasionally with a low pressure cold water spray. The top can also be washed off with a solution of baking soda (add a box of baking soda to a pail of water and stir until dissolved) and rinsed with clear water. It is wise to have this solution around a battery room at all times. Be sure all vent caps are tightly in place during cleaning operation.



25538



# Planned Maintenance and Lubrication

## Maintenance Procedures

### Battery Life, Records, and Installation

#### BATTERY MAINTENANCE:

Refer to the battery vendor for their recommended procedures.

#### KEEPING BATTERY RECORDS:

Some type of records shall be kept to get the best service out of your battery and truck. Select a pilot cell, take readings of specific gravity and temperature before and after charging, and record with date. It is best to change the pilot cell occasionally to distribute any electrolyte loss over the battery in taking the readings. Every two to three months, take complete battery readings . . . check specific gravity, temperature and voltage . . . and record them.

#### HOW TO GET MAXIMUM LIFE FROM THE BATTERY:

- DO NOT ADD ACID TO A BATTERY. Only a qualified battery representative should determine if this is necessary.
- Lift only with a carefully constructed lifting device which will not put pressure on the battery tray.
- Battery shall be checked before each charge for electrolyte level. Add water before charge, but do not overfill. Overfilling causes loss of electrolyte. The level should be slightly below the lower lip of the filling vent hole.
- Keep battery clean and dry. Wash down as needed.
- Do not overcharge.
- Keep battery records as indicated above.
- Keep metal objects and tools away from top of battery to prevent short circuits.
- Keep open flames away from top of battery to prevent explosions.

#### INSTALL BATTERY:

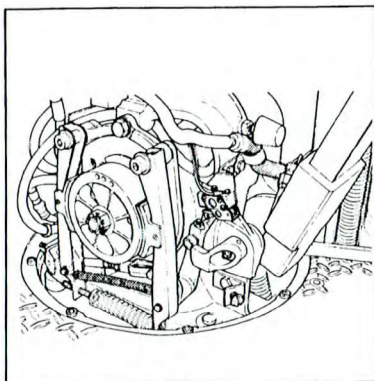
Install the battery in the truck (as explained previously) and secure it.

# Planned Maintenance and Lubrication

## Maintenance Procedures

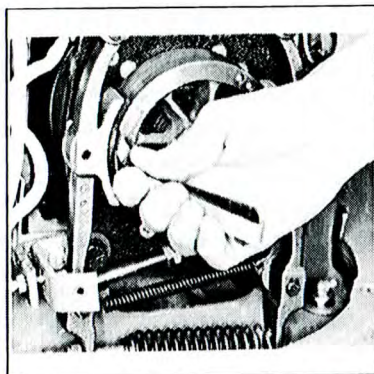
### Brake Shoe Clearance Check

Put the steer handle in a position so that the brakes are released. Hold handle in this position.



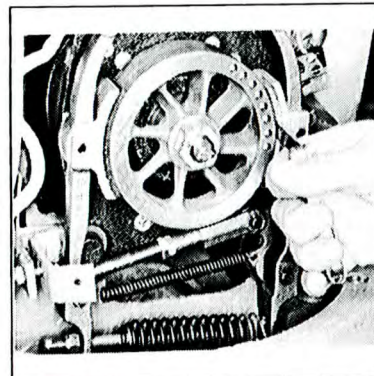
25539

Check for a clearance of 0.015-0.020 inch (0.38-0.50 mm) between the left hand shoe and the drum. If required, adjust the setscrew for the left arm until the correct clearance is obtained.



12712

Check for a clearance of 0.015-0.020 inch (0.38-0.50) between the right hand shoe and drum. If not to this clearance, loosen the locknut and adjust the jam nut until the correct clearance is obtained. Tighten the lock nut.



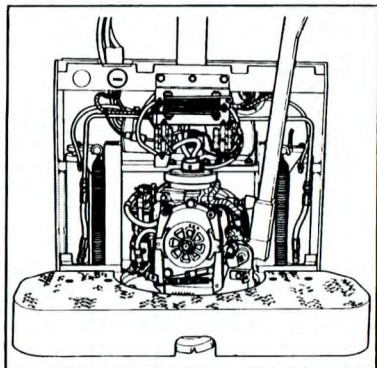
12713

# Planned Maintenance and Lubrication

## Maintenance Procedures

### Cam Follower Adjustment Check

Remove the drive unit cover. Put and hold the steer handle 10 degrees from the vertical (brake applied) position.

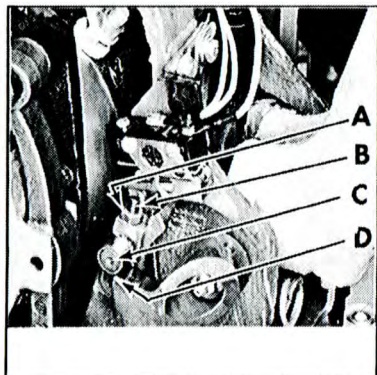


25540

Check to see if the cam follower (C) is correctly positioned on cam surface (D) as shown. If not, with handle at 10 degrees from vertical:

- A. Loosen jam nut (A)
- B. Back out set screw (B)
- C. Loosen cam follower (C) and correctly position the roller cam surface as shown at (D), tighten cam follower

Rotate set screw (B) until it makes contact with the cam follower shaft. Tighten jam nut (A).



12715

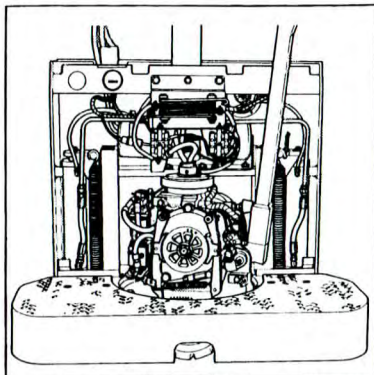
# Planned Maintenance and Lubrication

## Maintenance Procedures

### Drive Motor (Brake) Cut-Off Switch Adjustment

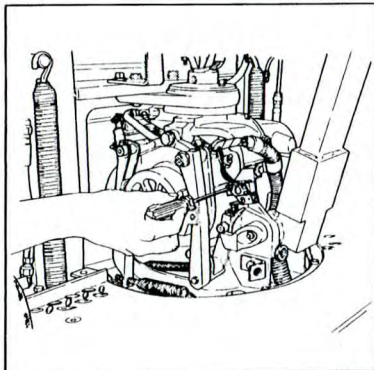
The drive motor (brake) cut-off switch cuts electrical current to the drive motor before the brake shoes contact the drum. Adjust the brake motor cut-off switch as follows:

Remove the drive unit cover. Raise the steer handle 10 degrees from the vertical (brake applied) position. A click should be heard from the switch. If not, adjust the switch using the following procedure:



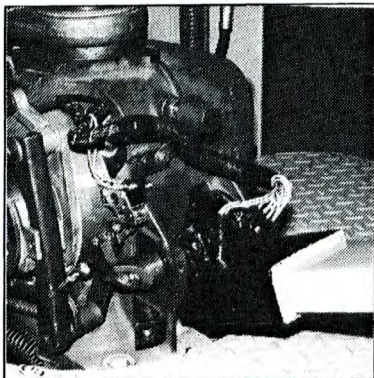
25540

Loosen the switch mounting screws. Move the switch so that when the handle reaches 10 degrees from vertical, the switch clicks. Tighten the mounting screws.



12990

Check operation of the switch by moving the steer handle from full vertical to full horizontal position. The switch should click 10 degrees before the full vertical and full horizontal positions. If the switch does not actuate at both points, re-adjust the switch until the correct operation is obtained.



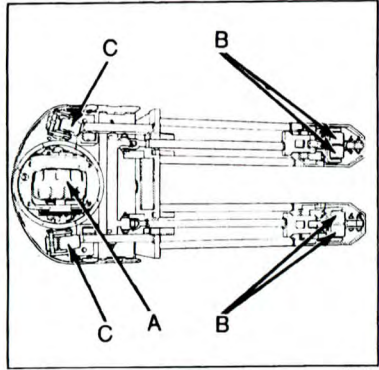
25550

# Planned Maintenance and Lubrication

## Maintenance Procedures

### Wheel and Tire Check

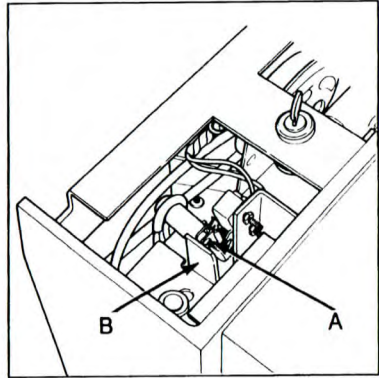
Check the condition of the drive wheel (A), load or trail wheels (B) and stability casters (C). Remove embedded objects. Inspect the tires for excessive wear, breaks, separation or "chunking" and check that they are fastened securely.



25543

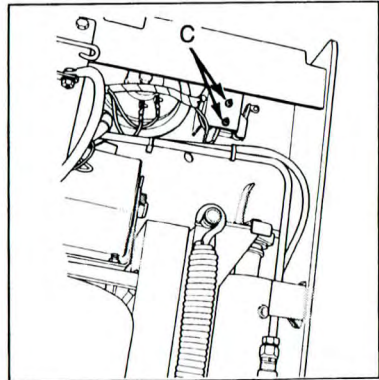
### Lift Limit Switch Adjustment Check

Raise the forks to the fully raised position. At six inches of fork upward travel, the lift limit switch (A) should be activated by the lift cylinder top (B) and stop electrical current to the pump motor.



25544

To adjust the switch, loosen the mounting bolts and nuts (C) and move the switch to the correct position. Tighten the mounting bolts and nuts.



25545

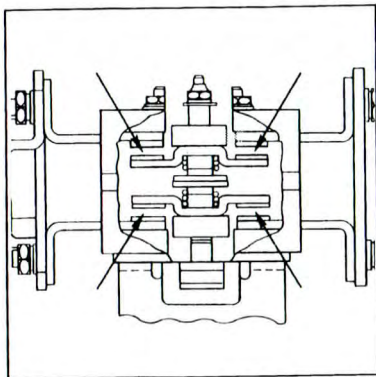
# Planned Maintenance and Lubrication

## Maintenance Procedures

### Contactors Check

The following checks should be made to the contactors:

- A. Check contact surfaces for burns and contact surface wear. If contacts are dirty and pitted, clean with "00" sandpaper to remove surface defects.
- B. Operate the moveable contact assembly mechanically making sure it moves smoothly.
- C. Check all connections to make sure they are tight.
- D. Check contact tip gap and tip alignment to see if adjustment is needed. To adjust lower contact (normally open) gap, shims (metal washers) are used. Increase the number of shims to increase the gap. Remove shims to decrease the gap. To adjust the upper contact (normally open) gap, remove shims (non metal) washers to increase the gap. Increase the number of shims to decrease the gap.



20408

# 9 Specifications

## NOTICE

---

CLARK PRODUCTS AND SPECIFICATIONS ARE SUBJECT TO IMPROVEMENTS AND CHANGES WITHOUT NOTICE OR OBLIGATION.

# Specifications

## Truck Specifications

Load Capacities	
P 40 .....	4,000 Lb.
P 60 .....	6,000 Lb.
HWP 40 .....	4,000 Lb.
HWP 60 .....	6,000 Lb.
Battery	
Specific Gravity Minimum .....	1.250
Specific Gravity (Fully Charged) .....	1.275
Capacity (6 Hour Rate Maximum)	
P 40, P 60, HWP 40 .....	6.9/500 (KW.h/A.h)
HWP 60 .....	13.82/600 (KW.h/A.h)
Battery Minimum Weight	
P 40, P 60 .....	365 Lb.
HWP 40 .....	430 Lb.
HWP 60 .....	810 Lb.
Brakes	
Shoe-to-Drum Clearance .....	0.015-0.020 in.
Hydraulic System	
Hydraulic Pressure .....	1950 psi
Fluid Capacities	
Hydraulic Sump Tank .....	1.6 quart
Drive Motor .....	1 pint
Drive Motor Current Draw: (Top Speed — Free Wheeling)	
P 40, P 60 .....	38 Amps
HWP 40 .....	38 Amps
HWP 60 .....	32 Amps
Pump Motor Current Draw: (at By-Pass)	
P 40, P 60, HWP 40 .....	200 Amps
HWP 60 .....	165 Amps



## Specifications Lubricant Specifications

Lubricant	Specification	Application
General Purpose Grease for Normal Application	Use grade NLGI #2 meeting Clark specification MS-107B.	Stabilizer, steer control handle, vertical thrust bearing on top of the drive unit, drive unit thrust rollers (4 rollers and fittings), all grease fittings (pivot pins, cylinder yoke pins, etc.), and trail wheel shaft(s)
General Purpose Grease for Cold Storage Application	Use grade NLGI #1 which meets specification MIL-G-23827-A.	Stabilizer, steer control handle, vertical thrust bearing on top of the drive unit, drive unit thrust rollers (4 rollers and fittings), all grease fittings (pivot pins, cylinder yoke pins, etc.), and trail wheel shaft(s)
Dexron® or Dexron® II Automatic Transmission Fluid	Dexron® or Dexron® II Automatic Transmission fluid. Clark part number 879804. Must pass requirements of pump wear test ASTM D-2882.	Drive unit
Spline Grease	Use grade NLGI #2. Clark part number 1800531.	Axle shaft and motor-to-pump drive tang at overhaul
Hydraulic Fluid for Normal Application	Must meet Clark specification MS-68. Clark part number 885385.	Hydraulic sump tank
Hydraulic Fluid for Cold Storage Application	Must meet specification MIL-H-5606A per Clark specification MS-226.	Hydraulic sump tank

## Specifications

### Torque Specifications

Item	Torque
Trail Wheel Set Screw	25-38 lb-ft 34-38 N•m
Lift Linkage Adjusting Nut	190-220 lb-ft 260-300 N•m
Clevis to Pull Rod Nut and Bolt	125-140 lb-ft 170-190 N•m
Auxiliary Handle to Frame Nut and Bolt	25-28 lb-ft 34-38 N•m
Pull Rod to Bar Bolt	65-70 lb-ft 85-95 N•m
Pallet Entry Roller Bracket to Frame	25-38 lb-ft 34-38 N•m
Pallet Entry Roller to Bracket Nut	125-140 lb-ft 170-190 N•m
Drive Unit Collar to Frame Nut and Bolt	60-70 lb-ft 81-95 N•m
Brake Arm to Drive Unit Hex Head Bolt	37-41 lb-ft 50-56 N•m
Brake Drum to Drive Motor Shaft Nut (1)	200-250 lb-ft 271-338 N•m
Drive Wheel to Drive Unit Bolt	200-220 lb-ft 271-300 N•m
Stability Caster to Frame Nut and Bolt	95-120 lb-ft 129-163 N•m
Access Cover to Drive Unit Bolts	10-15 lb-ft 14-20 N•m
Pinion Cover to Access Cover Bolts	22-25 lb-ft 31-34 N•m
Pinion to Drive Motor Shaft Nut (1)	200-250 lb-ft 271-338 N•m
Drive Gear to Bearing Nut (2)	200-250 lb-ft 271-338 N•m

**NOTES:**

- (1) Tighten to specified torque, advance to next castellation and install cotter pin.
- (2) Use new nut, tighten to specified torque and stake nut.

For Handy Reference  
**Record the following information  
pertaining to your truck:**

Model No ..... \_\_\_\_\_

Serial No ..... \_\_\_\_\_


Attachments ..... \_\_\_\_\_

Truck Weight — Empty ..... \_\_\_\_\_

Truck Rated Capacity ..... \_\_\_\_\_

Gross Truck Weight (W/Rated Load) ..... \_\_\_\_\_

Customer Truck Identification No ..... \_\_\_\_\_



Additional copies of this manual may be purchased from  
YOUR AUTHORIZED CLARK DEALER

---

---

**CLARK**

Lexington, KY 40511  
Printed in USA