

# OPERATOR'S MANUAL

## MODEL 2W7

WLX Series Walkie Pallet  
24V AC Powered Electric  
4,500 lb. Capacity



OPERATOR

# Reliability.

It's the defining trait of our company and our forklifts.

UniCarriers' roots extend back over 100 years, and over that time, strong, reliable performance has always been the hallmark of our organization, our people and our equipment.

Today, our unrivaled reliability continues to provide UniCarriers' customers with a competitive edge. And together, we move the merchandise that moves world commerce with greater efficiency, economy and reliability.

When it comes to providing forklifts that make a difference for our customers and theirs...

**We Never Quit.**

# UNICARRIERS AMERICAS OPERATOR'S MANUAL

## MODEL 2W7 TRUCK




### WARNING

- **This Original Manual contains important safety information and must be made available to the operator.**
- **Keep this manual on the truck at all times.**
- **Do not operate the forklift unless you have reviewed and fully understand the Operator's Manual. Failure to follow all of the instructions in this manual could be a violation of the Occupational Safety and Health Act.**
- **Do not operate this forklift unless you are trained and authorized by your employer. Improper operation may result in a serious or fatal injury to yourself or others.**
- **On December 1st, 1998 the Occupational Safety and Health Administration (OSHA) adopted a new and stringent Powered Industrial Truck Operator Training rule 29 CFR 1910.178(1). Based on the Industrial Truck Standards Development Foundation (ITSDF) current B56 standard, Operator Training is now explained in detail. The employer shall ensure that operators of powered industrial trucks are competent and trained in the safe and proper operation of powered industrial trucks. This training will include formal training, practical demonstrations and an on-site evaluation.**

OSHA also requires a proper pre-shift inspection, and any repair required shall be performed by a person trained and authorized to repair industrial trucks.

As the employer you should be familiar with the rules of 29 CFR 1910.178(1) as well as ANSI/ITSDF B56.1 for the user. You should also be aware of any state OSHA rules that may differ from the federal rules.

**THE FOLLOWING WARNING IS PROVIDED PURSUANT TO CALIFORNIA HEALTH AND SAFETY CODE SECTIONS 25249.5 ET. SEQ.**

 <b>WARNING</b>
<b>California Proposition 65</b> This product contains and emits chemicals known to the State of California to cause cancer, birth defects and other reproductive harm.

 **WARNING**

**An important message for the operator (for North America)**

- **Do not operate this truck unless you are trained and authorized by your employer. Improper operation may result in a serious or fatal injury to yourself or others. Make sure that you read and fully understand the Operator's Manual supplied with this truck. Failure to follow all instructions in this manual could be a violation of the Occupational Safety and Health Act.**

## A WORD TO UNICARRIERS FORKLIFT OPERATORS

This Original Manual describes operating procedures, daily checks and simple maintenance for safe usage of your UniCarriers industrial truck. We urge you to read this manual carefully before operating a UniCarriers industrial truck to familiarize yourself with the safety instructions. An operator of any industrial truck should maintain safety as the number one priority at all times. In addition, we strongly recommend that you obtain and read the Industrial Truck Standards Development Foundation (ANSI/ITSDF) B56.1 Manual entitled "Safety Standard for Low Lift and High Lift Trucks" before operating any industrial truck. These instructions will not only reduce mechanical issues with a forklift, but may also save a life.

Contact your Local Authorized Dealer to keep your industrial truck in peak operating performance. If you encounter any problems with a UniCarriers industrial truck, contact your Local Authorized Dealer and request a complete checkup. The dealership will ensure that your forklift is serviced in accordance with the latest factory approved methods.

This manual is not a training manual, it is a guide to help trained and authorized operators safely operate this forklift. Please consult your employer for proper training on the appropriate use of this forklift while performing your job. Illustrations in this manual will show the operator the correct procedures for checking, starting, operating and stopping this forklift.

OSHA 1910.178 requires that only trained and authorized operators use powered industrial trucks.

All information, specifications and illustrations in this manual are based on the latest data obtainable at the time of publication. UniCarriers Americas Corporation, hereafter referred to as UCA, reserves the right to make changes or improvements at any time without notice.

This Operator's Manual has been prepared on the assumption that your forklift is fully equipped (including all optional equipment). Thus, if you have any questions regarding equipment, please contact your Local Authorized Dealer.

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240 N. Prospect Street  
Marengo, IL 60152 USA

# TRUCK MODIFICATIONS

Unauthorized forklift modification is not permitted.

Per OSHA 1910.178, no modifications or alterations to a powered industrial truck, which may affect capacity, stability or safe operation of the forklift shall be made without the prior written approval of

UniCarriers Americas Corporation [UCA], its authorized representative or a successor thereof.

After receiving the approval of UniCarriers Americas Corporation, its authorized representative or a successor thereof, the data and capacity plate, decals, tags, operation and maintenance manuals shall also be changed appropriately.

Only in the event that UniCarriers Americas Corporation is no longer in business and there is no successor to the business, the user may arrange for a modification or alteration to a powered industrial forklift, provided however, that the user shall:

- a. Arrange for the modification or alteration to be designed, tested and implemented by an engineer(s) expert in industrial forklifts for their safety;
- b. Maintain a permanent record of the design, test(s) and implementation of the modification or alteration;
- c. Approve and make appropriate changes to the data and capacity plate(s), decals, tags, and operation and maintenance manuals;
- d. Affix a permanent and readily visible label to the forklift stating the manner in which the forklift has been modified or altered together with the date of the modification or alteration, and the name and address of the organization that performed the modification or alteration.

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## INTRODUCTION

UniCarriers model 2W7 series industrial trucks meet all applicable requirements of ITSDF B56.1 at the time of manufacture. UCA will not assume, and expressly disclaims, any liability for injuries or damage arising from or caused by the removal, disconnection or disengagement of any part from any of its forklifts. UCA recommends that all replacement parts be of OEM (Original Equipment Manufacture) origin.

UCA would like to take this opportunity to thank you for purchasing our product. Your UniCarriers industrial truck was carefully designed and manufactured to ensure maximum reliability, ease of service and reasonable cost for our customers. The purpose of this guide is to introduce and familiarize you, the operator, with the controls and features of the unit.

This manual will help you learn how to operate your powered industrial truck. This manual describes the controls, their function and some special features which may be installed on the unit. UniCarriers industrial trucks are built to work hard but not for misuse and/or abuse.

## MAINTENANCE AND SERVICING

UniCarriers industrial trucks are built to be dependable, but as with any industrial truck, they are only as efficient as the operator and the persons responsible for maintaining them. It is essential to keep your lift truck in good operating condition by following a recommended maintenance schedule. A damaged lift truck is a potential source of danger to the operator, and to other personnel around it.

### DAILY INSPECTION

OSHA 1910.178 requires a daily or per shift inspection. Before operating a lift truck it should always be inspected by the operator. This procedure is detailed in the “Daily Inspection” (refer to page 47) and the “Operator’s Daily Checklist Sample” (refer to page 48).

### PLANNED MAINTENANCE

A Periodic Planned Maintenance program is used in addition to the daily inspection of the lift truck and is performed by a trained and authorized mechanic. Planned Maintenance (PM) provides the opportunity to do a thorough inspection of the operating system and safety condition of your lift truck. This can reduce unscheduled downtime by doing necessary adjustments and repairs. Our dealers are ready to help you

with a Planned Maintenance Program by trained service personnel (refer to page 32).

## **HOW TO USE THIS MANUAL**

Included in this manual are the essentials of safe forklift operation, truck features and functions and explanation of how to maintain your lift truck. This manual is organized as follows:

### **SAFETY RULES AND PRACTICES**

Safety rules and major operating hazards you could encounter while operating a lift truck.

### **OPERATING CONTROLS AND FUNCTIONS**

Description of each major component of the 2W7 series forklifts and how the instruments, gauges, and controls operate.

### **OPERATING THE TRUCK**

Details of safe and efficient operating procedures.

### **GENERAL CARE AND MAINTENANCE**

Care and planned maintenance of the battery, forklift, forks, and optional equipment.

### **SPECIFICATIONS**

Truck specifications.

The operating instructions in this guide do not replace any other rules or laws of safety that are used in or required by federal, state, local agencies or your own operational area. The operating practices listed do not follow any order of importance but are all to be learned and used in your daily operation. Make sure that your truck is correctly equipped for use in your work area according to these rules or laws.

There may be certain hazards that may not or cannot be avoided solely by mechanical means in the everyday use of material handling trucks. Only the intelligence, good judgement and care of the operator, along with proper planned maintenance, will help assure that the unit operates correctly. It is important to have only trained, reliable personnel operating material handling trucks. Operate your lift truck safely; careful driving is your responsibility. Drive defensively and think about the safety of people who are working nearby. Know your truck's capabilities and limitations.

UCA recommends that this Operator's Manual be kept with the unit at all times or in a location easily accessed by the operator. If a replacement manual is needed, please contact your Local Authorized Dealer and a replacement will be sent for a nominal fee.

## SAFETY SIGNS AND SAFETY MESSAGES

Safety signs and Safety messages are placed in this manual and on the truck to provide instruction and identify specific areas where potential hazards exist and special precautions should be taken. Know and understand the meaning of these instructions, signs and messages. Damage to the truck, death or serious injury to you or other persons may result if these messages are not followed. If warning decals are damaged, they must be replaced.

## WARNING SYMBOLS AND LEVELS

Always follow the warnings in this Operator's Manual and any located on the truck to help avoid accidents and/or injuries from occurring.

### WARNING LEVELS

Warning text is given three levels and provides information on the risks, describes the consequences and instructs how to avoid accidents.



#### DANGER

- Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



#### WARNING

- Indicates a hazardous situation which, if not avoided, could result in death or serious injury.



#### CAUTION

- Indicates a hazardous situation which, if not avoided, may result in minor or moderate injury.

# SAFETY RULES AND PRACTICES

## OPERATOR QUALIFICATIONS



### WARNING

- Operator must be trained, evaluated and authorized to drive the forklift and must understand safety techniques and rules for forklift operation.
- Under OSHA regulations in the U.S., all operators must be formally trained and tested. These tests must be about basic forklift knowledge and in the operators work environment. Refer to OSHA regulations or you may also contact the Industrial Truck Standards Development Foundation (ANSI/ITSDF) 1750 K STREET NW, SUITE 460, WASHINGTON, DC 20006 and request a copy of B56 Safety Standard for Power Industrial Trucks "Section for the User".

## PERSONAL PROTECTIVE EQUIPMENT FOR OPERATING FORKLIFT



### WARNING

- For operation of the forklift, the protective equipment for the operator shall be dependent upon the conditions of use and the applicable provisions of the local laws and regulations.
- The working clothes worn by the operator shall be such that sleeves and cuffs fit snugly so as to prevent them from getting caught on forklift levers, etc. Personal Protective Equipment such as safety glasses, earmuffs, dust mask, helmet (hard hat) and safety shoes should also be worn, as required by the work environment, employer or local and state regulations.

# SAFETY RULES AND PRACTICES

## DAILY INSPECTION



### WARNING

- OSHA 1910.178 requires a daily or per shift inspection. Inspect the forklift before operating. Do not operate the forklift if it is in need of repair. If it is in need of repair, tag the forklift, remove the key, if equipped, and report the condition to the proper authority. Do not attempt repair unless you are trained and authorized to perform repairs (refer to "Daily Inspection" on page 47 and "Operator's Daily Checklist Sample" on page 48).

## OPERATOR RESPONSIBILITY



### WARNING

- Safe operation is the responsibility of the operator.
- The operator shall develop safe working habits and also be aware of hazardous conditions in order to protect himself, other personnel, the truck, and material being handled.
- The operator shall be familiar with the operation and function of all controls and instruments before undertaking to operate the truck.
- Before operating any truck, operators shall have read and be familiar with the operator's manual for the particular truck being operated and they shall also abide by the safety rules and practices.
- Before operating any truck, the operator shall be familiar with unusual operating conditions that may require additional safety precautions or special operating instructions.

# SAFETY RULES AND PRACTICES

## GENERAL



### WARNING

- Before starting to operate the truck conduct daily inspection.
- Do not start or operate the truck or any of its functions, from any place other than from the normal operator's position.



### WARNING

- Keep hands, feet and other parts of your body inside the operating area. Do not put any part of the body outside the operator's area of the truck.



### WARNING

- Understand truck limitations and operate the truck in a safe manner so as not to cause injury to personnel. Safeguard pedestrians at all times.
  - a. Do not drive a truck up to anyone standing in front of an object.
  - b. Ensure that personnel stand clear of the rear swing area before conducting turning maneuvers.
  - c. Exercise particular care at cross aisles, doorways, and other locations where pedestrians may step into the path of travel of the truck.

# SAFETY RULES AND PRACTICES

## GENERAL (cont'd)



### WARNING

- **A powered industrial truck is unattended when the operator is more than 8m (25ft) from the truck, which remains in his view, or whenever the operator leaves the truck and it is not in his view.**
- **Before leaving the operator's position:**
  - a. Bring truck to a complete stop.
  - b. Place directional controls in neutral (steerhandle in the vertical [upright] position), which will apply the parking brake.
  - c. Lower load carrying device (forks) fully.
  - d. If unit is unattended, turn the ignition switch OFF and remove the key, if equipped.
- **Maintain a safe distance from the edge of ramps, platforms, and other similar working surfaces. Do not move railroad cars with a powered industrial truck.**
- **When powered industrial trucks are driven on and off highway trucks or trailers, the brakes on the highway trucks or trailers shall be applied, and wheel chocks or other positive mechanical means shall be used to prevent unintentional movement.**
- **Whenever powered industrial trucks are driven on and off semitrailers not coupled to a tractor, supports may be needed to prevent upending or corner dipping.**
- **Provision shall be made to prevent railroad cars from being moved during loading and unloading. Wheel stops, hand brakes, or other recognized positive means shall be used to prevent movement of railroad cars during loading and unloading.**



### WARNING

- **Care shall be taken not to contact obstructions with any part of forklift such as lights, wiring, pipes, racking, etc.**



- **A load backrest extension shall be used when necessary to guard against a load, or part of it, from falling toward the operator.**
- **In areas classified as hazardous, use only trucks approved for use in those areas.**
- **Report all accidents involving personnel, building structures, and equipment to the supervisor or as directed.**
- **Do not block access to fire aisles, stairways, or fire equipment.**

# SAFETY RULES AND PRACTICES

## NO RIDERS



### WARNING

- Do not permit riders on any part of the truck at any time. The operator is the only one who should be on a truck.
- Do not sit on the forks (when loaded or not).

## TRAVELING



### WARNING

- Observe all traffic regulations including authorized plant speed limits. Under normal traffic conditions, keep to the right. Maintain a safe distance, based on speed of travel, from the truck ahead; and keep the truck under control at all times.
- Yield the right of way to pedestrians and emergency vehicles such as ambulances and fire trucks.
- Do not pass another truck traveling in the same direction at intersections, blind spots, or at other dangerous locations.
- Slow down and sound the audible warning device(s) at cross aisles and other locations where vision is obstructed.
- Keep a clear view of the path of travel and observe for other traffic, personnel, and safe clearances.
- If the load being carried obstructs forward view, travel in the opposite direction.



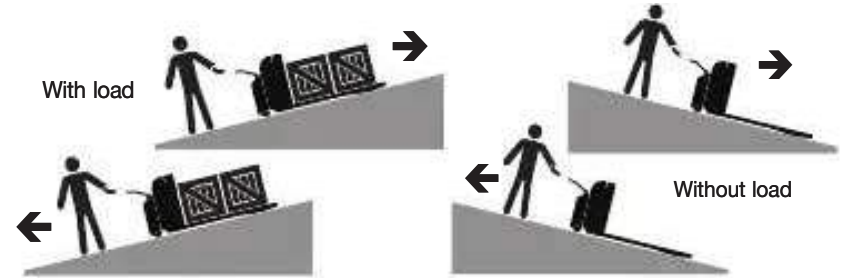
# SAFETY RULES AND PRACTICES

## TRAVELING (cont'd)



### WARNING

- When descending a grade, stopping distance will be greater than on-level operation. Methods shall be provided to allow for this condition. Some methods are: reduce speed, limit loads, allow adequate clear space at the bottom of grade, etc.



### WARNING

- **Ascend or descend grades slowly, and with caution.**
  - When ascending or descending grades, walkie trucks shall be driven with the load upgrade.
  - Unloaded trucks should be operated on all grades with the load carrying device (forks) downgrade.
  - On all grades the load and load carrying device (forks) shall be fully raised.



- Avoid turning, if possible, and use extreme caution on grades, ramps, or inclines; normally travel straight up and down.

# SAFETY RULES AND PRACTICES

## TRAVELING (cont'd)

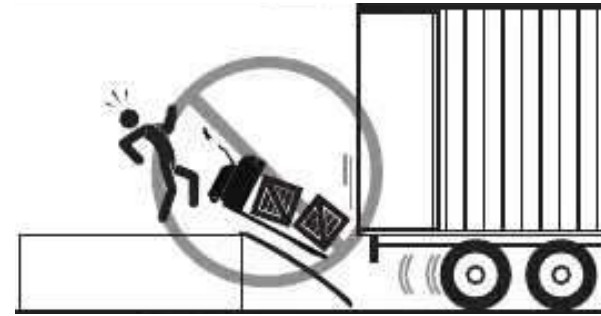


### WARNING

- Under all travel conditions, operate the truck at a speed that will permit it to be brought to a stop in a safe manner.
- Travel with load carrying device (forks) fully raised.
- Make starts, stops, turns, or direction reversals in a smooth manner so as not to cause unsafe conditions.



- Do not indulge in stunt driving or horseplay.
- Slow down for wet and slippery floors.



### WARNING

- Before driving over a dockboard or bridge plate, be sure that it is properly secured. Drive carefully and slowly across the dockboard or bridge plate, and never exceed its rated capacity.
- Do not drive trucks onto any elevator unless specifically authorized to do so. Do not exceed the capacity of the elevator. Approach elevators slowly, and then enter squarely after the elevator car is properly leveled. Once on the elevator, neutralize the controls, shut off power, and set brakes. It is advisable that all other personnel leave the elevator before truck is allowed to enter or leave.
- Avoid running over loose objects on the driving surface.
- When negotiating turns, reduce speed to a safe level consistent with the operating environment. Make the turns smoothly. Except when maneuvering at a very low speed, turn the steering control at a moderate, even rate.

# SAFETY RULES AND PRACTICES

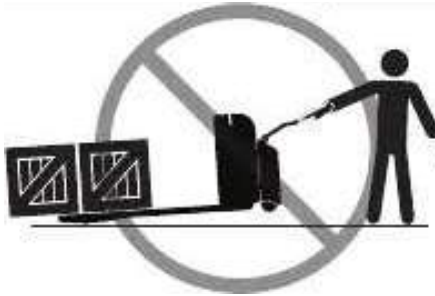
## LOADING



## WARNING

- **Handle only stable and safely arranged loads.**

- a. When handling off-center loads that cannot be centered, operate with extra caution.



- b. Handle only loads within the capacity of the truck.
- c. Handle loads exceeding the dimensions used to establish truck capacity with extra caution. Stability and maneuverability may be adversely affected.
- d. Handle loads only with the load carrying device (forks) and do not transport loads or miscellaneous items in any other areas of the truck.

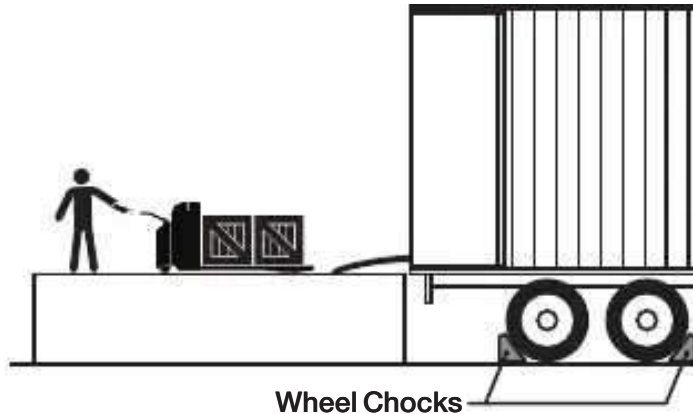


## WARNING

- **Completely engage the load with the load carrying device (forks). Fork length should be at least two-thirds of load length.**

## SAFETY RULES AND PRACTICES

### DOCKBOARDS (BRIDGE PLATES), TRUCKS AND RAILROAD CARS



#### WARNING

- Portable and powered dockboards shall be marked conspicuously (in plain sight) with their carrying capacity. The carrying capacity indicated shall not be exceeded.
- Portable dockboards shall be secured in position, either by being anchored or by being equipped with devices that will prevent unexpected movement.
- Handholds or other effective means shall be provided on portable dockboards to permit safe handling. When possible, fork loops or lugs shall be provided for handling by fork trucks.



#### WARNING

- All types of dockboards shall have a high friction surface designed to reduce the possibility of employees or trucks slipping and shall be designed and maintained so that one end will have a substantial contact with the dock (or loading platform) and the other end with the transport vehicle to prevent the dockboard from rocking or sliding.
- When powered industrial trucks are driven on and off highway trucks or trailers, the brakes on the highway trucks or trailers shall be applied, and wheel chocks or other positive mechanical means shall be used to prevent unintentional movement of highway trucks and trailers.
- Provision shall be made to prevent railroad cars from being moved during loading and unloading. Wheel stops, hand brakes, or other recognized positive means shall be used to prevent movement during loading and unloading.
- Whenever powered industrial trucks are driven on and off semitrailers not coupled to a tractor, supports may be needed to prevent upending or corner dipping.
- Maintain a safe distance from the edge of ramps, platforms, or other similar working surfaces.
- Do not move railroad cars or trailers with a powered industrial truck.

# SAFETY RULES AND PRACTICES

## SURFACE AND CAPACITY



### WARNING

- **The 2W7 model must be used on only smooth, solid floor conditions. The following conditions should be avoided at all times.**

-Sand	-Gravel
-Oil	-Ice
-Mud	-Unstable surfaces

- **Operating the truck on these surfaces may cause dangerous conditions for the operator, other personnel and equipment.**

## TRANSPORTING FORKLIFT



### WARNING

1. When using a load bridge, make sure the planks are capable of withstanding the deadweight of the forklift.
2. This unit has an electric brake which should be released before winching onto platform to reduce possible damage to drive tire and unit (refer to page 51).
3. When winching the forklift onto a load carrying platform, be sure to attach the cable to the center of the bumper. Do not ride on the forklift while it is being winched.
4. Be sure to use lashing points and firmly secure the forklift to the load carrying platform.
5. Apply parking brake (steerhead in the vertical upright position), turn OFF the ignition switch and remove key, if equipped.
6. Make sure the battery connector is disconnected.



# SAFETY RULES AND PRACTICES

## TRANSPORTING FORKLIFT (cont'd)

### FUNCTION TESTS

The functional tests are carried out to check whether the forklift functions correctly after it has been transported (over land or water),

or after it has been taken out of storage. The test covers the following items, but since exclusive tools and equipment are required for Items 1 and 2, request that your Local Authorized Dealer perform the test.

Items:

1. Those that are indicated in "Daily Inspection" (refer to page 47).
2. Dynamic tests

#### **Mobility (traveling and maneuvering) test**

Make sure the forklift moves in the direction specified by the speed/direction control lever, and that the forklift operates correctly when the brake is applied, handle in fully raised or lowered position. Also check to see that the steering feels normal and that it operates satisfactorily. Elevate and lower a test load.

#### **Lowering speed test**

Make sure the load lowers correctly.

## POSITION OF DATA AND CAPACITY PLATES AND DECALS

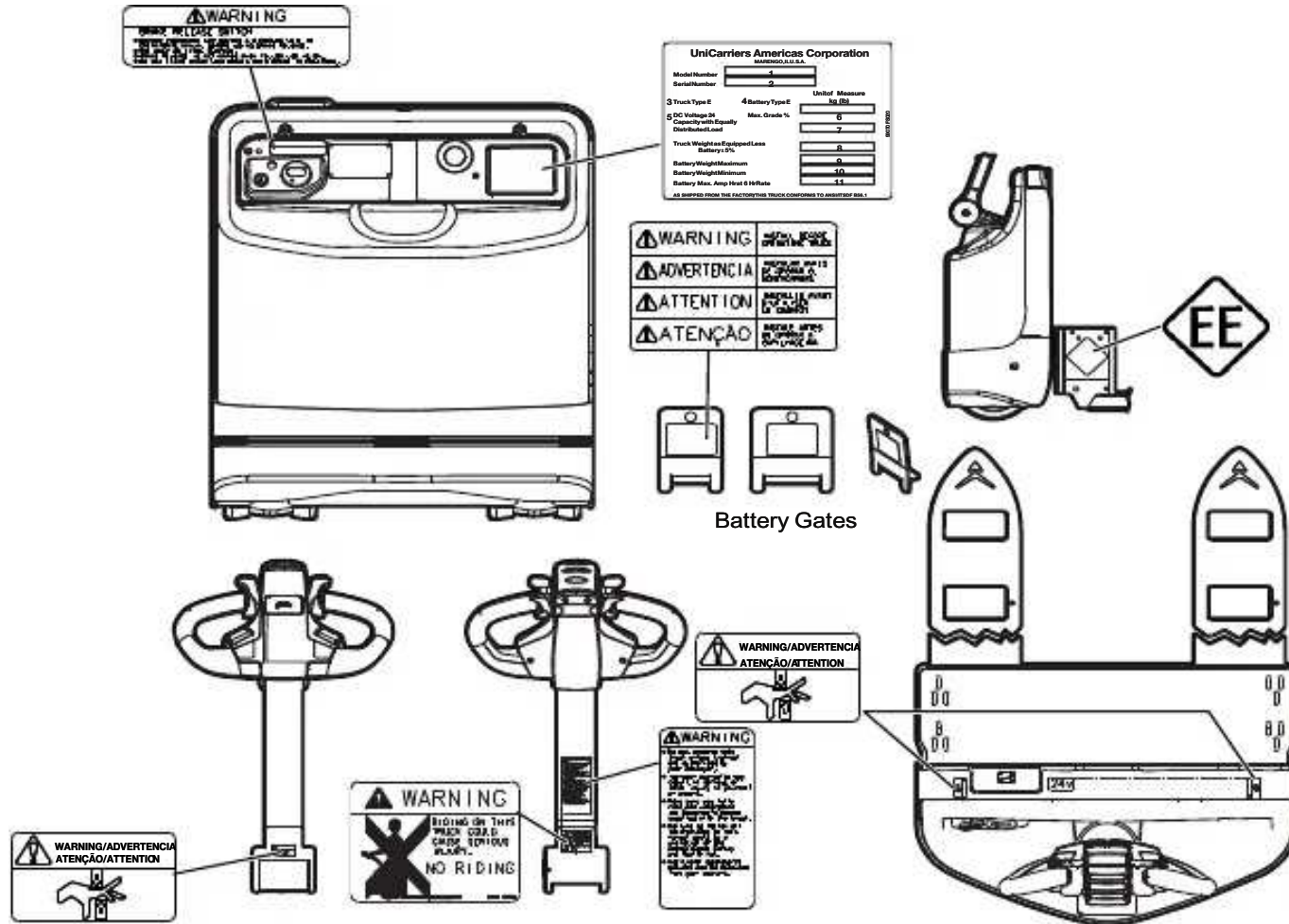


### WARNING

- **When data and capacity plates or warning and caution decals are damaged such that they cannot be read or have peeled off, they should be immediately replaced with new ones to ensure that they are constantly maintained in a legible condition. The plates and decals are available from your Local Authorized Dealer.**
- **The warning and caution decals are affixed to the designated locations of the forklift as shown in the figure at right. Before operating the forklift, be sure to take note of the details given in the decals so as to ensure proper and safe operation.**

# SAFETY RULES AND PRACTICES

## POSITION OF DATA AND CAPACITY PLATES AND DECALS



# SAFETY RULES AND PRACTICES

## DATA AND CAPACITY PLATES AND DECALS

**Know your unit.** The data plate indicates all necessary information regarding the lifting capacity, battery information, etc. Always check the unit's data plate and understand areas 1 through 11 as shown in the illustration below.

DATA PLATE		
<b>UniCarriers Americas Corporation</b> MARENGO, IL U.S.A.		
Model Number	1	
Serial Number	2	
<b>3</b> Truck Type E	<b>4</b> Battery Type E	Unit of Measure kg (lb)
<b>5</b> DC Voltage 24	Max. Grade %	6
Capacity with Equally Distributed Load		7
Truck Weight as Equipped Less Battery ± 5%		8
Battery Weight Maximum		9
Battery Weight Minimum		10
Battery Max. Amp Hr at 6 Hr Rate		11
AS SHIPPED FROM THE FACTORY, THIS TRUCK CONFORMS TO ANSI/ITSDF B56.1		

99070 F8020

- |                     |                               |
|---------------------|-------------------------------|
| 1. Model Number     | 7. Truck Capacity             |
| 2. Serial Number    | 8. Truck Weight Less Battery  |
| 3. Truck Type       | 9. Maximum Battery Weight     |
| 4. Battery Type     | 10. Minimum Battery Weight    |
| 5. Battery Voltage  | 11. Battery Maximum Amp Hours |
| 6. Percent of Grade |                               |



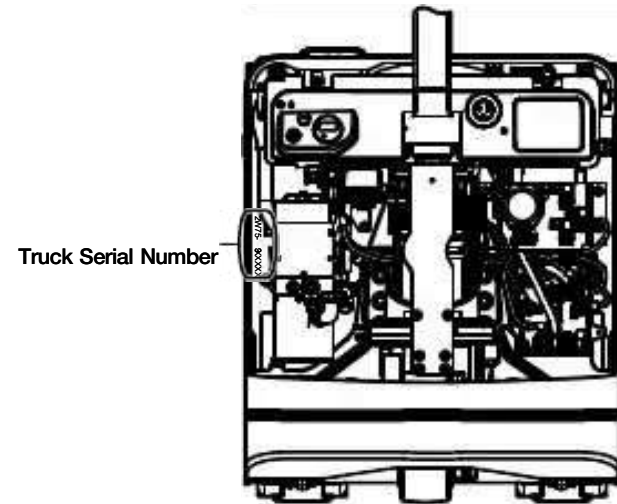
## WARNING

- **Do not exceed the actual capacity of the forklift. Note the specifications of the forklift you are using and operate the forklift accordingly.**

Knowing the model and serial number for this unit are very helpful whenever ordering repair parts. For any further information and specifications on this unit or any other, contact your Local Authorized Dealer.

## IDENTIFICATION NUMBERS

The serial number of the forklift is stamped on the inner frame behind the hood as shown below.



## Truck Serial Number

2W75 - 9300001

<https://www.forkliftpdfmanuals.com/>



# SAFETY RULES AND PRACTICES

## DATA AND CAPACITY PLATES AND DECALS (cont'd)

### WARNING DRIVE DECAL (TRAINED AND AUTHORIZED)



#### WARNING

- Operator must be trained and authorized to drive the forklift, and must understand safety techniques and rules for the forklift operation.
- Make sure that you read and fully understand the Operator's

Manual supplied with this forklift. Failure to follow all instructions in this manual could be a violation of the Occupational Safety and Health Act.



### PINCH POINT DECAL



#### WARNING

- This decal instructs the operator to keep fingers away. Do not reach into the battery compartment area or behind the steer tiller. Personal injury may occur if any part of your body is between moving parts of the unit.

### NO RIDING DECAL



#### WARNING

- This decal instructs the operator that no personnel should be riding on the unit.

# SAFETY RULES AND PRACTICES

## DATA AND CAPACITY PLATES AND DECALS (cont'd)

### BRAKE RELEASE SWITCH DECAL (OPTION)



### WARNING

- This decal instructs the operator that this unit is equipped with an electronic brake release switch.
- Use only on level surfaces.
- If the yellow LED is illuminated the brake function is disabled. Do not try to operate the unit.
- Refer to brake release switch on page 32.

### BATTERY GATE DECAL

WARNING	INSTALL BEFORE OPERATING TRUCK
ADVERTENCIA	INSTALAR ANTES DE OPERAR EL MONTACARGAS
ATTENTION	INSTALLER AVANT D'UTILISER LE CHARIOT
ATENÇÃO	INSTALAR ANTES DE OPERAR O EMPILHADOR



### WARNING

- Battery gates must be installed before operating the truck.

### EE DECAL (OPTION)



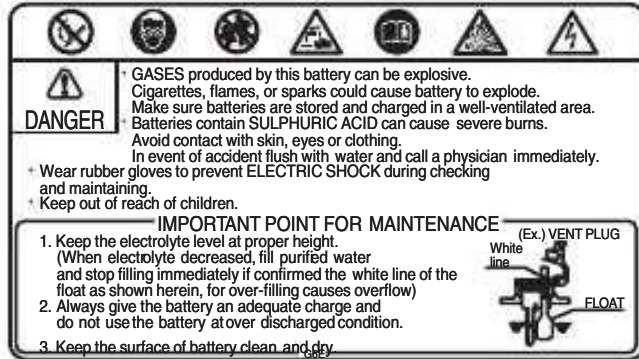
### WARNING

- "EE" labeled and classified forklifts require special equipment and enclosures.
- These include but are not limited to; static strap, enclosed fuse(s), contactors, motors and switches. The battery compartment is reinforced with battery covers that can be locked.
- Refer to NFPA 505 for specific location classifications and application guidelines.
- To maintain this classification of electrical protection, all guards, covers and enclosures must be in good working order and in place whenever the forklift is in operation. Lock battery covers should only be removed when servicing or in approved battery charging areas.
- If damaged in any way, the unit must be taken out of service until repaired or replaced.

# SAFETY RULES AND PRACTICES

## DATA AND CAPACITY PLATES AND DECALS (cont'd)

### BATTERY DECAL (SAMPLE)



## DANGER

- **"GASES produced by this battery can be explosive. Cigarettes, flames, or sparks could cause battery to explode. Make sure batteries are stored and charged in a well-ventilated area.**
- **Batteries contain SULFURIC ACID, which can cause severe burns. Always use personal protective equipment. Avoid contact with skin, eyes or clothing. In event of accident flush with water and call a physician immediately.**
- **Wear rubber gloves to reduce a possible ELECTRIC SHOCK during checking and maintaining.**
- **Keep out of reach of children.**

# OPERATING CONTROLS AND FUNCTIONS

## APPLICATIONS

The 2W7 can only be operated in a walkie mode.

The trucks are equipped with a 24 Volt electrical system. Travel and lifting speeds are transistor controlled to provide smooth operations. In addition, the travel function and the different hydraulic functions have additional controls which further enhance these features. Different speeds can be set by a trained service technician.

## APPLICATION AREA FOR UNICARRIERS TRUCKS

UniCarriers Industrial Trucks are solely designed and manufactured to handle goods. The truck should only be fitted with the appropriate accessories relevant to the application.

## PROHIBITED APPLICATIONS FOR UNICARRIERS TRUCKS

It is not permitted to use these trucks for other purposes including the following:

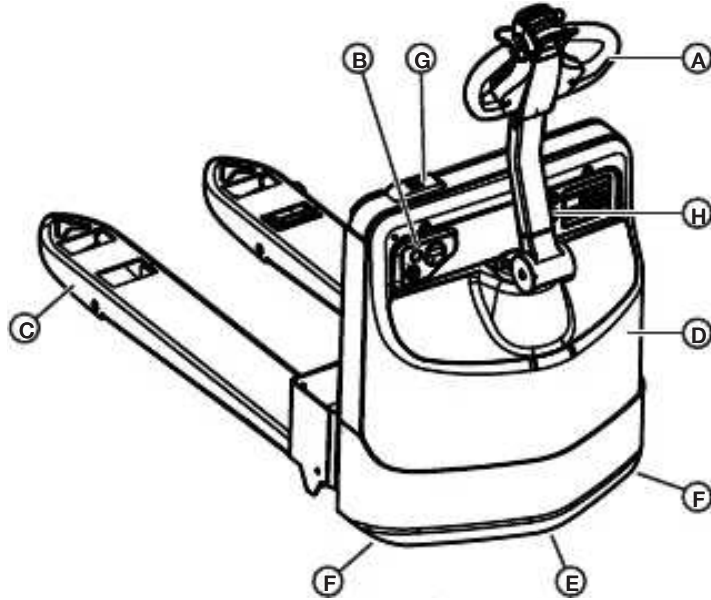


### WARNING

- **Do not operate in areas that contain gases which can cause fire or explosions unless rated to operate in those areas (i.e. EE). Unit must be rated EE on data plate**
- **Do not use as a towing truck for trailers**
- **Not to be used for pushing applications**
- **Do not tow other lift trucks**
- **Do not transport or lift passengers**
- **Do not drive on any non-paved areas (refer to page 19)**

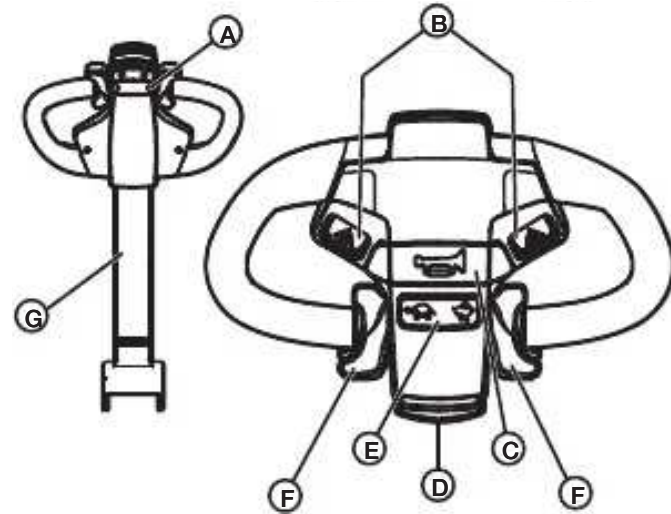
# OPERATING CONTROLS AND FUNCTIONS

## MAIN COMPONENTS



- A. Steerhead and Tiller Assembly:** This assembly controls the steering and speed.
- B. Ignition Switch and Meter Panel:** Location of ignition switch, optional toggle switch, MDI, and optional brake release switch.
- C. Load Carrying Mechanism:** Used to carry rated loads not people. Includes forks and load wheels.
- D. Power Head Frame:** Houses the transmission, motor and electronics.
- E. Drive Wheel (Under Hood)**
- F. Outrigger Stabilizers/ Optional Torsion Bar Casters**
- G. Battery Connector (Red)**  
**On-Board Charger:** Optional on-board charger

## STEERHEAD AND TILLER ASSEMBLY



### A. TILLER UP (CREEP SPEED) DRIVE BUTTON

Continuously depress this button to drive at creep speed with the handle in the vertical (upright) position (refer to page 30).

### B. LIFT/LOWER ROCKER SWITCH

Lifting (raising the load carrying mechanism) is controlled by pushing the rocker button backwards (towards operator) and lowering (lowering the load carrying mechanism) is controlled by pushing the rocker button forward (towards forks), on either side of steerhead. This device will continue to raise or lower as long as the button is held in position or until the load carrying mechanism activates the lift limit function or until the lowering stops are reached. Releasing the button will automatically stop the function.

# OPERATING CONTROLS AND FUNCTIONS

## STEERHEAD AND TILLER ASSEMBLY (cont'd)

### C. HORN BUTTON

Pushing the button located on top of the steering control handle will sound the horn. You may push the button anywhere including the wings.

### D. SAFETY REVERSE BUTTON

This red button is provided to reverse the travel direction should the operator get caught between the steerhead and a fixed object. If the button contacts the operator, the truck will immediately and automatically reverse moving away from the operator at full throttle for about one second and then reduce to slow speed as long as the button is depressed. This button will override all forward travel.

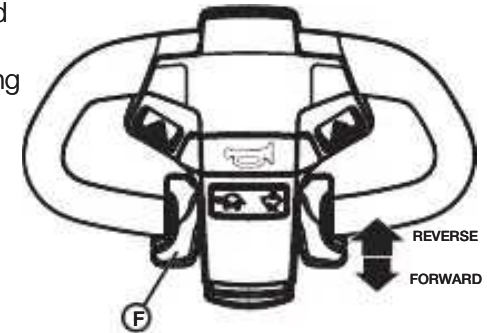
### E. SPEED SELECT BUTTON

This button is used to select between low speed (turtle) and high speed (rabbit). This allows the operator to select travel speed based on the operating area (refer to page 31).

### F. SPEED / DIRECTION CONTROLS

On each side of the steerhead you will find a 3-point speed/direction control lever. Rotating

these levers will cause the unit to move in the direction of rotation. The amount of rotation you apply to either lever determines the speed of the unit. When using the tiller up (creep speed) drive button speed is automatically reduced to creep speed.



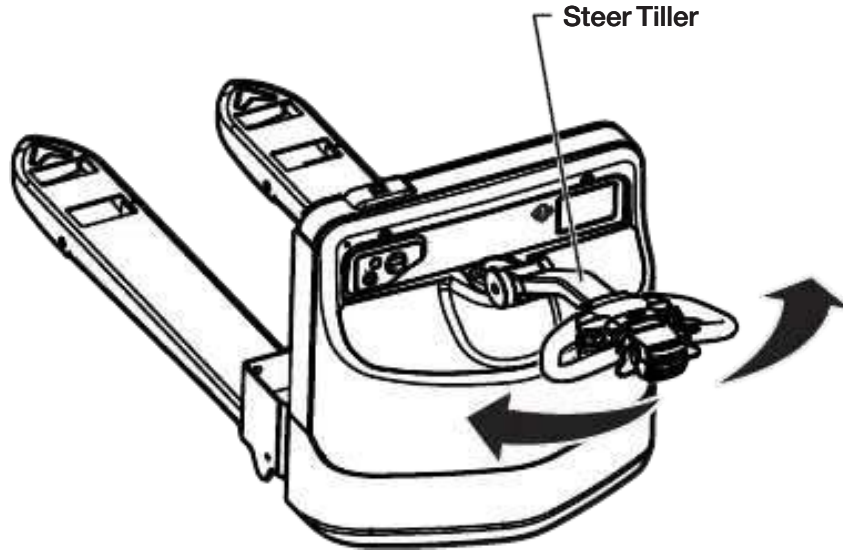
- **Controlled reversing can be performed during normal operating conditions to slow down and/or stop an electric powered industrial truck. To activate controlled reversing simply rotate the speed/direction control lever from one direction of travel to the opposite direction. The unit should come to a smooth stop. If the operator should continue to hold the speed/direction control lever in the changed direction, the unit will begin to accelerate in that new direction. The unit has a de-acceleration mode. This means that any time the operator releases the speed/direction control lever the unit will begin to slow down automatically.**

# OPERATING CONTROLS AND FUNCTIONS

## STEERHEAD AND TILLER ASSEMBLY (cont'd)

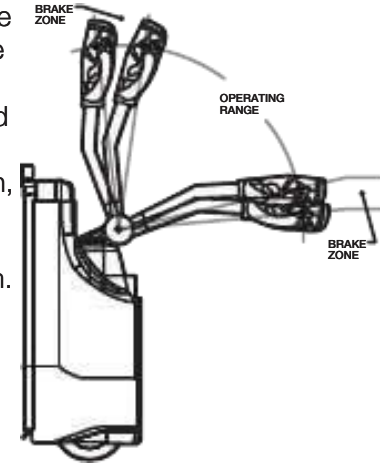
### G. STEER TILLER

The steerhead is connected to the steer tiller. The tiller controls steering direction and braking.



### Braking and Brake Positions

Pulling the steerhead down to mid-range disengages the brake system. There are two ways to apply the brakes, either by pushing the steer tiller to its fully lowered position or by releasing the steer tiller which will return it to the vertical position, applying the brakes.



This unit has an electronic brake system. If for any reason the tiller handle or steerhead controls are not operated for approximately three (3) seconds the

brake will apply. To release the brake

simply operate the speed/direction control lever or raise or lower the steer tiller handle back within the operating range .

### Braking by (Controlled Reversing) (Plugging)

Plugging is a normal operation to slow down and/or stop a powered industrial truck. Braking by plugging is a method in which the speed/direction control lever is switched to the opposite direction in which the forklift is traveling (refer to page 28).

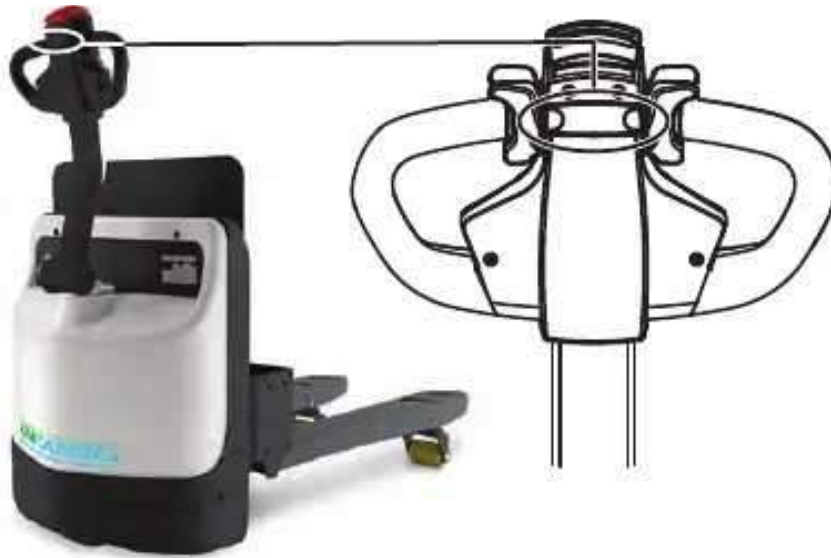
# OPERATING CONTROLS AND FUNCTIONS

## STEERHEAD AND TILLER ASSEMBLY (cont'd)

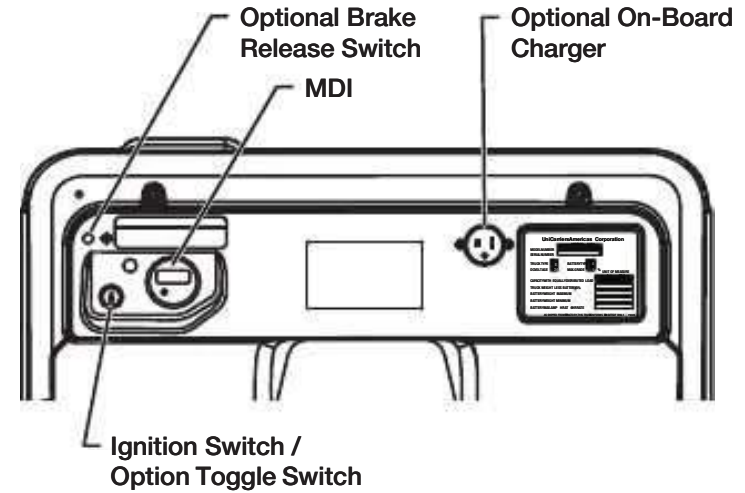
### G. STEER TILLER (cont'd)

#### Tiller Up (Creep Speed) Drive Operation

This feature was designed to allow the unit to be used in close quarters with the tiller arm in a vertical position, such as in a truck trailer. The operation requires the operator to depress and hold the tiller up drive button in and then rotate the speed/direction control lever. Tiller up drive overrides the brake function and the unit will only travel in creep speed.



## IGNITION SWITCH AND METER PANEL



### IGNITION SWITCH

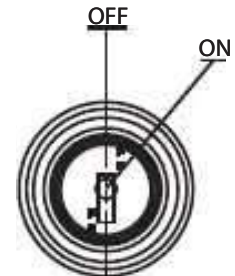
The ignition switch must be in the OFF position to remove the key, if equipped.

When the ignition switch is in the ON position the MDI will display hours in the rectangular LED.

The optional toggle switch has the same ON and OFF positions.

#### Operational Note:

If the optional electric brake release has been activated, the ignition switch will not turn the system on (refer to page 32).



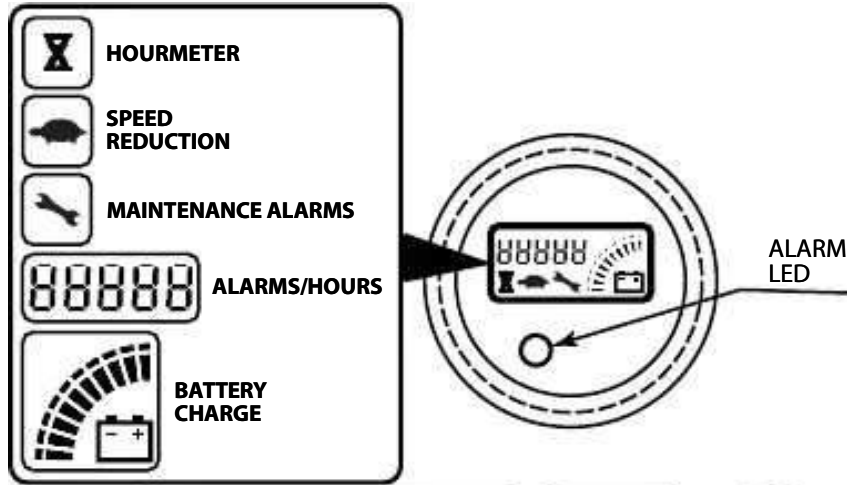


# OPERATING CONTROLS AND FUNCTIONS

## IGNITION SWITCH AND METER PANEL (cont'd)

### MDI (MULTI-FUNCTION DIGITAL INDICATOR)

This MDI is standard on all units for ease in determining planned maintenance schedules. This meter shows operating hours, low battery and lift lockout. It will indicate slow and creep speed mode and display fault codes.



The rectangular LED displays hours from when the ignition switch is first turned on. It displays the remaining percentage of charge in the battery and finally it displays fault codes when detected. The red Alarm LED blinks when the unit is going into pump lockout or when a fault is detected.

### Hour Meter (Hourglass Symbol)

An alpha-numeric liquid crystal display in the center of the MDI unit shows the hours worked. Hourglass symbol blinks when the hour meter is working.



### Speed Reduction (Turtle Symbol)

This symbol is normally on unless the high speed (rabbit) button is activated (refer to page 28).



### Maintenance Alarm (Wrench Symbol)

This symbol is normally off, when it appears it shows a request for service.



### Alarms

An alpha-numeric liquid crystal display in the center of the MDI unit indicates the alarm state, showing a code corresponding to the type of alarm. When an alarm is generated, the red Alarm LED will start blinking to alert the operator. The wrench symbol will also be displayed.



# OPERATING CONTROLS AND FUNCTIONS

## IGNITION SWITCH AND METER PANEL (cont'd)

### MDI (MULTI-FUNCTION DIGITAL INDICATOR) (cont'd)

#### Common Error Codes

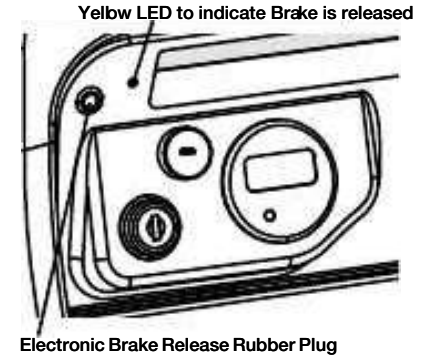
Code	Indication	Correction
02 66	Low Battery	Change or charge battery as soon as possible.
02 79	Incorrect Start on Traction	Code will appear during operation if Safety Reverse Button is pressed (activated).
05 79	Incorrect Start on Pump	Lift or Lower Button is pressed at key on. Make sure none of the hydraulic function buttons are being pressed at key on.
EPXXX	No Code	MDI software
EPXXX	No Code	Controller software

## BRAKE RELEASE SWITCH (OPTION)

An optional brake release switch is available which makes it possible to manually move the unit in the event of a discharged battery or maintenance issues where the brake has been engaged.

Release the brake as follows:

1. Keep the battery connected to the truck.
2. Turn the ignition switch to the OFF position.
3. Insert a small pen or screwdriver into the brake release switch cover located on the dash. The yellow LED located near the brake release switch will illuminate when the travel controls have been released.



Once the brake has been released, the unit can be manually moved to the appropriate battery charging or maintenance location.

#### Notes:

- The brake may also be manually released (refer to page 51).
- When the battery is disconnected, the brake will automatically be applied.
- The brake release switch must be pressed again to re-engage the brake and travel controls before the unit can returned to operational mode.

# OPERATING CONTROLS AND FUNCTIONS

## IGNITION SWITCH AND METER PANEL (cont'd)

### ON-BOARD CHARGING (OPTION)

Refer to page 43.

## LOAD CARRYING MECHANISM

### OPTIONAL LOAD BACKREST

#### Bolt-On Type

The bolt-on load backrest extension provides a strong, rugged, reinforced load stabilizing backrest to help steady higher loads. The bolt-on design allows for easy service replacement, if the backrest should become damaged.

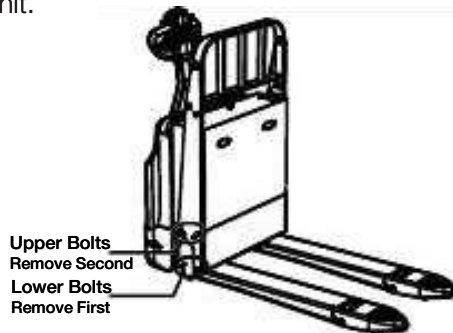


### CAUTION

- **Load backrest could be heavy, always follow your company's policy for lifting objects to help reduce the risk of injury.**

To remove this backrest extension, fully lower the forks and turn OFF the ignition switch. Support the backrest extension and loosen all bolts and nuts. Remove the lower bolts first and then the upper bolts. Lift

backrest off unit.



## OPERATING THE TRUCK

The following are the recommended procedures that should be followed before and while operating a UniCarriers forklift.

Since the Occupational Safety and Health Act (OSHA) 29 CFR 1910.178(1) requires that “**only trained and authorized operators shall be permitted to operate a powered industrial truck**”, it is the owner/end user’s responsibility to comply. The following is intended as a guide in training operators in safe truck operation; it is not a training manual nor is it intended to preclude good judgment and common sense.

For a complete listing of what should be covered in a training program, obtain a copy of ANSI/ITSDF B56.1 Safety Standard for Low Lift and High Lift Trucks.(www.itsdf.org).

## INSPECTION BEFORE OPERATING

The OSHA regulation requires that the operator completely checks the unit at the beginning of **each shift or work period**. Ensure that all of the Daily Inspection checks (refer to page 47, also refer to page 48 for Sample Operator’s Daily Checklist) have been made before operating the unit.

## FORKLIFT OPERATING PRECAUTIONS

**1. Safety stop system:** This system is designed to stop the forklift when malfunctions occur in the electric system which controls forklift speed. If this system should be activated, turn the ignition switch OFF; then turn it ON again and resume driving the forklift. If the safety stop system begins to operate frequently while starting the forklift or operating the forklift, record all codes on meter panel and contact your Local Authorized Dealer.

**2. Low voltage protection system:** When battery voltage drops below a certain level, this system will activate causing the red Alarm LED to blink, causing the forklift to lockout hydraulic lift functions. At this time, the wrench symbol and an alarm code will be displayed on the MDI. The battery must be recharged or replaced before further forklift operation is possible. If the operator continues to drive on low battery at reduced performance, the controller will reduce travel and could stop all functions and no further operation is possible (refer to page 31).



### WARNING

- **When the low voltage system becomes active, immediately have the forklift moved to a service area and replace the existing battery with a fully-charged battery.**



### CAUTION

- a. The low voltage protection system is not a device which warns of a weak battery, but rather one that prevents possibly erroneous operation of electrical parts. Always determine whether or not the battery should be recharged by referring to the battery capacity meter.**
  - b. After the low voltage protection system has activated, take sufficient time to recharge the battery so that the specific gravity of the electrolyte is resumed.**
- 3. Prohibit overloading the traction motor:** Do not overload the forklift by climbing a steep slope. This will cause a high current in motor and controller resulting in high temperatures, which will cause the control system to go into thermal cut-back. Continued operation could cause damage to the motor or controller.

# OPERATING THE TRUCK

## FORKLIFT OPERATING PRECAUTIONS (cont'd)

**4. Action to be taken in an emergency:** In an emergency, either turn OFF the ignition switch or disconnect the battery by pulling on red battery connector handle

- The mechanical emergency/parking brake will be applied and if the truck was traveling it will come to an abrupt stop.
- Do not tow this unit, it has an electric brake which can only be released by mechanical means (refer to page 51) or by an optional electric means (optional) (refer to page 32).

## PRECAUTIONS FOR OPERATING IN COLD STORAGE

This unit has been designed to operate in cold storage and freezer operations as follows:

Standard unit can be operated:

Continuous to -4°F (-20°C)

Intermittent to -20°F (-28°C) for 20 minutes

### Note:

Keep in mind that the battery must be charged correctly to avoid damage or poor truck performance.

## CONDENSATION

Condensation can be seen on forklifts coming out of a cold storage: condensed water is frozen on the forklift. This can cause a number of problems. After some time outside the cold storage, the frost melts to water and when the forklift enters the cold storage again, any water remaining on the forklift will freeze to ice again.

## OPERATIONAL PROCEDURES

There are certain hazards that cannot be avoided solely by mechanical means in the everyday use of material handling trucks. Only the intelligence, good sense, and care of the operator, along with proper maintenance, will assure that the trucks are operated properly. It is important to have trained, reliable personnel operating your units. If, at any time, the operator finds that the unit is not performing properly, discontinue operation of the truck and report the condition to your supervisor for correction.

When operating the forklift under severe climatic conditions such as high temperature, high altitudes, in cold storages, when handling explosives and combustibles, and in areas where the forklift is apt to cause radio interference, make sure that the forklift is manufactured and approved as conforming to the local specifications, laws and regulations.

Proper operation of this unit is with the forks (load carrying device) in the fully raised position, except when parked and when entering or leaving a pallet. Always look in the direction of travel.

Operate the unit from the operator's position after assuring that the operation will not endanger the operator or any other person. Do not operate a truck in hazardous areas. Make sure that the forks and/or load have clearance to lower and do not "hang-up".

# OPERATING THE TRUCK

## OPERATIONAL PROCEDURES (cont'd)

Before plugging in the battery

- Make sure that the ignition switch is in the "OFF" position
- Make sure the steer tiller is in the vertical position (brake on)

1. Plug in the battery connector.
2. Turn the ignition switch to the ON position.
3. Check MDI operation (refer to page 31).
4. Check to see what condition of charge the battery is in. If the gauge shows low, the battery must be charged or replaced before operating.
5. Check horn operation, if it does not work do not operator the truck. Always sound the horn at blind corners and intersections before proceeding to travel.
6. Check lift/lower functions. Report any malfunctions.



### WARNING

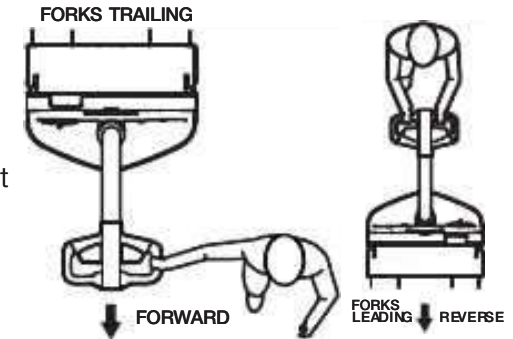
- **Always perform operation checks in a clear area.**
7. Always travel with the load carrying device fully raised whether loaded or unloaded, except when entering or leaving a pallet.



### WARNING

- **Be sure that the area being used for test running is clear of pedestrians and obstructions. Operate unit with no load.**
- **Operation at full speed should only be attempted after complete familiarity with all operations or loss of control and serious personal injury may result. Always exercise caution and good judgement while running this unit.**

8. When operating as a walkie with the load carrying device trailing the vehicle, always walk to the side of the unit. Maximum speed is set at approximately 3.5 mph. When operating the unit with forks leading, always use two hands on the steerhead. If you can't see don't go, pick another direction which gives you a better view of your operating path.



## STOPPING AND PARKING THE TRUCK

1. Park the truck in designated parking areas only.
2. Make sure the truck does not block fire aisles, fire equipment, stairways or walkways.
3. Depress the lower button to lower the load carrying device to the floor.
4. Set the parking brake (handle in the vertical position [upright]).
5. Turn ignition switch to the "OFF" position and remove the key, if equipped.
6. Disconnect the battery.
7. Block the drive wheel securely to prevent accidental movement on uneven surfaces.



### WARNING

- **To prevent unauthorized use, always remove the key, if equipped, from the ignition switch when left unattended unless you are within sight or of less than 6 m (20 ft) from the truck.**

## GENERAL CARE AND MAINTENANCE

### BATTERY AND BATTERY CHARGING EQUIPMENT FOR INDUSTRIAL LEAD-ACID BATTERY



#### CAUTION

The following is general information regarding the best methods for using and maintaining the battery and is not intended to address details regarding every manufacturer of batteries/chargers. The specific battery or charger manufacturer should always be contacted to ensure their recommended procedures and operation methods of the equipment are followed.

In cases of a battery not taking a charge, make sure the charger is

being attached to the battery connector and not to the connector on the unit. A battery which does not take a proper charge should be referred to the battery manufacturer's representative for service.

### BATTERY CARE AND MAINTENANCE

Refer to the appropriate manuals attached to the battery for information about how to handle and maintain the battery. Proper care and servicing of the battery is vital to ensure satisfactory operation and life

of this electric truck. Battery acid is extremely corrosive and should be washed off the unit if any spills occur.



#### CAUTION

- **Do not allow alkaline solution to fall into the battery cell as this will result in a dead or weak battery.**
- **Check with local and state regulations on the storing, charging and cleaning of corrosive materials. There may be conditions locally which will not permit the simple washing off of acid spills.**



#### WARNING

- **Only trained and authorized personnel should conduct maintenance or servicing of this unit and its battery.**
- **Always turn the ignition switch off and disconnect the battery before doing any servicing of the battery.**
- **Always wear personal protective equipment (PPE), i.e. safety goggles, rubber gloves and boots, when servicing the battery. Battery acid will cause severe burn or injury.**
- **The battery generates highly explosive hydrogen gas. A short circuit resulting in sparks or even a lit cigarette in the vicinity of the battery can cause a serious explosion. Do not permit smoking, open flames or sparks near the battery or battery maintenance area. Be particularly careful during battery charging and for the first 30 minutes following battery charging.**
- **Battery fluid contains highly corrosive sulfuric acid. If acid contacts skin or clothing, flush the area immediately with large amounts of clean fresh water. If acid enters the eyes, immediately wash out eyes with large amounts of clean fresh water and contact a physician. If acid is accidentally swallowed, immediately contact a physician.**
- **If a large quantity of battery fluid is spilled, neutralize it with an equivalent quantity of basic neutralizing agent (baking soda, calcium hydroxide, or sodium carbonate). Wash away the resulting solution with large quantities of clean fresh water. Always follow any and all local, state and federal regulations for hazardous material spills.**

# GENERAL CARE AND MAINTENANCE

## BATTERY CARE AND MAINTENANCE (cont'd)



### WARNING

- When changing industrial batteries, replacement batteries shall be of the service weight that falls within the minimum/maximum range specified on the truck data plate by the truck manufacturer.
- Do not place tools or other metallic objects on the top surface of the battery where they may come in contact with the battery terminals and cause an electrical short. This electrical short may cause sparking. The sparking may ignite the hydrogen gas escaping from the battery resulting in a serious explosion. It may cause some nearby object to burn.
- Battery fluid exhaustion (gases) creates the danger of explosion. Replenish the battery fluid frequently to maintain the specified fluid level. During battery charging, the proportion of water in the battery fluid decreases. Before battery charging, always check to ensure the battery fluid level is above plates. If the fluid level is low, replenish it with distilled water to cover the plates. Do not overfill to standard level.
- After charging is complete fill cells to the standard fill level.
- During battery charging, there is a high risk of hydrogen gas explosion. To reduce this risk, always perform battery charging in a well-ventilated room or area. Continue ventilation for at least 30 minutes after the completion of charging.
- Do not attempt to recharge a frozen battery; this may cause it to rupture or explode.



### WARNING

- Cleaning the battery upper surface and connections with certain types of dry cloth or laying a dust cover or vinyl sheet across these areas may create a static electricity charge that can lead to dangerous sparking. An explosion can result. Do not use dust covers or vinyl sheets to protect the battery. Use only a slightly damp cloth to clean battery surfaces.



### CAUTION

- Do not allow a battery to overly or completely discharge. Recharge the battery immediately after the red Alarm LED begins to blink and the wrench symbol and alarm code display on the MDI (refer to page 31). Do not operate the forklift until it simply stops running and then recharge the battery. This technique will result in greatly reduced battery service life. After completing forklift operations, park the forklift and immediately begin battery charging. Do not store a discharged battery for an extended period of time. Recharge a battery before storing.
- The battery and its surroundings should be kept clean and dry at all times. Keep the battery plugs tightly closed to prevent the leakage of battery fluid. Battery fluid leakage will result in battery corrosion.



# GENERAL CARE AND MAINTENANCE

## BATTERY CARE AND MAINTENANCE (cont'd)

### Adding Water (Industrial or non-maintenance free batteries)

Routinely after every 50 hours of operation, remove the battery vent caps and inspect the electrolyte level. The water in the electrolyte

solution evaporates at high temperatures or with excessive charging rates. Always refer to the battery manufacturer's specifications for fill levels. Always replenish to the proper level with distilled water **after charging**.

### Cleaning Terminals and Cable Connections

The top of the battery must be kept clean. Tighten the vent caps and clean the battery with a brush dipped in an alkaline solution (ammonia or baking soda and water). After the foaming has stopped, flush top of

battery with clean water. If terminals and cable clamps are corroded, disconnect the cables and clean them with the same solution.

## BATTERY REPLACEMENT

### Battery Selection

Use only batteries that meet the specifications listed on the data plate (refer to page 22).

## BATTERY CHARGERS

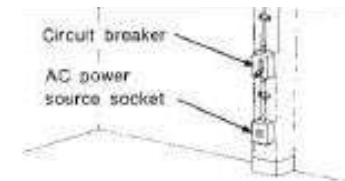
The off-truck type charger is a separate entity. The battery charger may or may not be included with the truck.



### WARNING

**Determine the type of battery charger that is used for the forklift you are using. Operate the forklift accordingly.**

- **Alternating current power source voltage will vary with the area in which the forklift is used. Determine the local voltage before attempting to charge the battery. Use the appropriate transformer tap on the battery charger.**
- **Tap adjustment requires specialized knowledge and expertise.**
- **Tap configuration must be set before battery charging. For full charging, select a time frame in which minimum voltage fluctuation occurs, then select the appropriate transformer tap. If the wrong tap is selected, over-charging or under-charging will result. If you have any questions, contact your Local Authorized Dealer.**
- **A current or over-current circuit breaker (hereafter referred to simply as breaker) must always be connected to the AC power supply side of the battery charger.**
- **Always use charging equipment that is appropriate for the forklift battery being charged.**



# GENERAL CARE AND MAINTENANCE

## BATTERY CHARGERS (cont'd)



### WARNING

- **If multiple industrial battery chargers are in use, each battery charger must be equipped with its own circuit breaker.**
- **Alternating current requires high-capacity units. Set the charging equipment power source to the appropriate level.**
- **Specialized knowledge and expertise is required. For information on the legal requirements of your country, contact a Local Authorized Dealer.**

## BATTERY CHARGE CLASSIFICATIONS

### Normal Battery Charge

The normal battery charge is used to restore the battery to its original power level.

### Equation Battery Charge

When the normal battery charge is applied many times, the voltage level and the battery fluid specific gravity of the individual cells will show a wide variation. This wide variation will prevent full charging of the battery. Equation battery charge is used to equalize individual cell voltage and battery fluid specific gravity and make full battery charging possible again.

As a general rule, a battery charged and discharged on a daily basis should have equation charging applied after every 10 or 15 charge/discharge cycles.

Additionally, equation charging should be performed as soon as possible if any of the following conditions occur.

- a. Battery discharge is in excess of the specified limit.
- b. Battery charging following discharge is delayed for an extended time period.
- c. A battery short circuit has occurred.
- d. A battery that has not been used for an extended time period is readied for use.



### CAUTION

- **Equation battery charging is used to restore a battery to its full potential. However, it should not be performed too frequently. Frequent equation battery charging will result in a greatly reduced battery service life.**

### Notes:

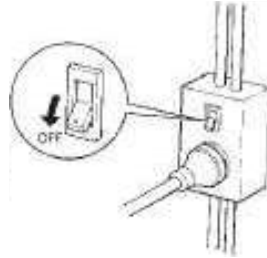
- The battery consists of lead cells connected in series to one-another. Each cell has a capacity of approximately 2 volts. There are several dozen cells. The connected cells are contained in the battery case. When there is significant variation in voltage and battery fluid specific gravity between individual battery cells, full charging will not be possible.
- With some battery charging equipment, equation battery charging occurs automatically after some specified number of charge/discharge cycles. With these types of battery chargers, manual selection of the equation battery charging mode is not required.

# GENERAL CARE AND MAINTENANCE

## BATTERY CHARGERS (cont'd)

### CHARGING PREPARATIONS

1. Move the forklift to the charging area and park it.
2. Check the battery fluid level. Replenish the battery fluid with distilled water to just over battery plates if needed. Only replenish to normal level after charging is completed and battery is cooled down.
3. Check to ensure the circuit breaker on the AC power supply side is OFF.



### WARNING

- **During battery charging, large quantities of highly-explosive hydrogen gas may be released from the battery. To minimize the danger of an explosion, battery charging should be performed in a well-ventilated area protected from direct sunlight. Remove all objects that might ignite the gas from the immediate area before beginning charging.**

#### Notes:

- Transformer tap selection is required before beginning charging. Measure the charger power supply voltage. Select the appropriate transformer tap.
- Selection of the wrong tap will result in battery over-charging or under-charging. Contact a Local Authorized Dealer for more detailed information if required.

## HOW TO CHARGE BATTERY (OFF-FORKLIFT TYPE)

Charge the battery according to the manual supplied with the charger being used.

1. Ensure the supply side voltage corresponds with the charger input voltage.

#### Note:

The battery chargers are preset to the following input voltages at the time of delivery:

110V ... 100-volt charger

220V ... 200-volt charger

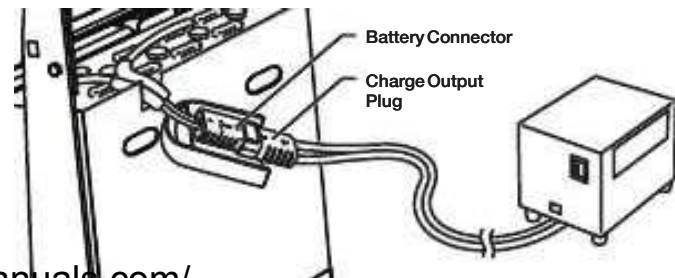
440V ... 400-volt charger

2. If the charger input voltage does not correspond with the supply voltage, the input side voltage is adjustable using the tap changer located inside the charger. This should only be done by an authorized service person.

### WARNING

- **Unplug the charger before adjustment. Serious injury or death can occur by electrical shock.**

3. Connect the charger output plug to the battery plug



# GENERAL CARE AND MAINTENANCE

## HOW TO CHARGE BATTERY (OFF-FORKLIFT TYPE) (cont'd)



### CAUTION

- **Do not connect the charger output plug to the body harness connection. The battery will not charge through this connection.**
4. Connect the charger input plug to the wall outlet.



### CAUTION

- **To prevent a short circuit, install a no-fuse breaker on the wall outlet side (in the service shop) to connect the charger input plug.**
5. Push the NORMAL or EQUAL button to select normal or equalizing charge, respectively.

When an equalizing charge is desired, press the EQUAL button to set the charger in that mode. The NORMAL pilot lamp will go out and the EQUAL pilot lamp will come on.

Make sure only the pilot lamp of the selected charging mode is lit.

At this time, charging will be started automatically.

### Notes:

- Push the NORMAL or EQUAL button for about 2 seconds. Do not push it more than 5 seconds. If the button is pushed for extended periods of time, the timer will enter test mode. The test lamp will come on. The test mode will end in 10 seconds to 2 minutes and the test lamp will go off. When the test mode is operating, charging will not start because the charging mode is not selected.
- After charging is started, it is not possible to change the charging mode (NORMAL or EQUAL). If it is necessary to change the mode, stop charging (push the STOP button), and then select the charging mode again.
- It is advisable to charge the battery using the equalize charging mode at least two or three times a month.
- 6. While charging, the charge indicator lamp will come on sequentially and remain lit. Firstly, the Initial (1st) lamp comes on, then the 2nd lamp, and they remain lit. Finally, the Final lamp will come on.

### Note:

When the FINAL lamp comes on, the timer will activate, charging is complete.

7. Shut off charger and then disconnect it from the battery. Now reconnect the battery to the truck.

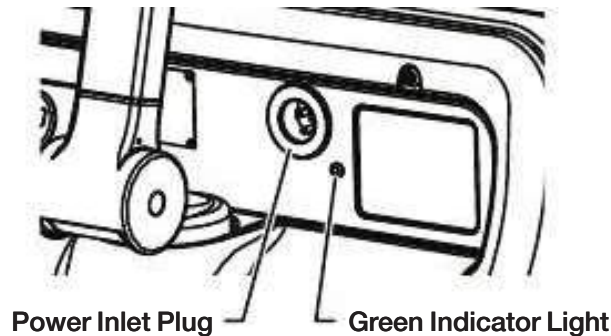
## GENERAL CARE AND MAINTENANCE

### OPTIONAL ON-BOARD CHARGING

This unit may have an optional on-board charger, which can support opportunity charging cycles and, depending on the battery, will move through several charging stages finishing with a trickle charge.

The on-board charger is sealed from dust and moisture and built into the truck frame.

As shown below, a three prong standard US type NEMA 5-15 power plug is located on the dash for easy access using a 16-AWG extension cord from any 120V AC power supply.



### CAUTION

- **Do not use an extension cord longer than 25 feet.**

A green charge indicator light is located near the dash plug for visual status of charging. The light will flash at various intervals while charging is in progress and will remain illuminated when charging is complete.



### WARNING

- **Never use the charger for any other purpose other than its intended purpose of charging lead-acid batteries.**
- **Always park the unit in an assigned charging area.**
- **Lower the load carry to the floor.**
- **The Steer Tiller Handle should be in the vertical position (brake on).**
- **Turn the ignition switch OFF.**

### USING THE ON-BOARD CHARGER

After the truck is parked in an assigned charging area:

- Ensure nothing prevents ventilation above the battery.
- Connect the extension cord to the charger plug on the dash (shown on left).
- Plug the extension cord into a 110-120 volt wall outlet.



### CAUTION

- **Ensure the extension cord is fully seated into the dash charger plug.**
- **Always ensure the extension cord is not in a traffic area where it could be run over or damaged.**
- **Always ensure the extension cord does not pose a trip hazard for pedestrians.**

# GENERAL CARE AND MAINTENANCE

## DURING CHARGING OPERATION (GREEN LED INDICATOR LIGHT)

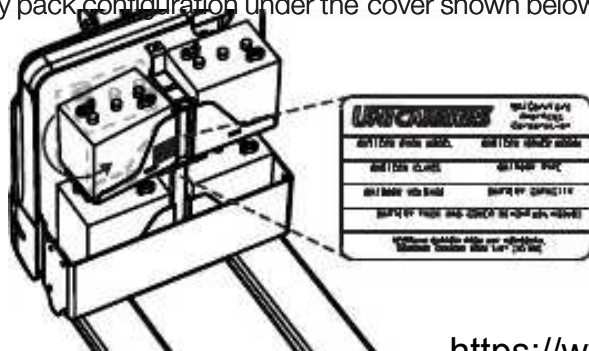
- Charging - Flashing at 2Hz
- Charging over 80% - Flashing at 5Hz
- Fully Charged (100%) - Steady green
- Error/Warning - Flashing 3 times at 5Hz and then off for 1 second, repeatedly.
- Charger not plugged into the wall - OFF
- The truck cannot be powered while charging.

## BATTERY OPTIONS

There are 3 battery options for the 2W7 pallet truck:

1. Industrial: Will require the larger battery box on the load carry device (9.8").
2. Wet Cell 160Ah: Battery pack has 4, 6-volt batteries with swing out upper trays for easy access maintenance of water levels in all 4 batteries.
3. Maintenance Free (VRLA 195Ah): Battery pack has 4, 6-volt maintenance free batteries mounted in a fixed tray.

Battery pack configuration under the cover shown below.



## WARNING

- **Always wear appropriate safety equipment when working around batteries.**
- **Batteries can emit hydrogen gases under some conditions. Charge in a well ventilated area and keep open flames and sparks away from batteries.**
- **Lift the battery or battery pack with a hoist, crane, lift truck, or similar equipment. Move batteries on trucks, conveyors, or rollers. Make sure equipment is of ample strength and properly installed before using.**
- **Disconnect the battery from the truck when performing maintenance and repair on the motor or electrical system.**
- **Open, or "break" the battery circuit before attempting repairs to the charging plug or receptacles.**
- **Familiarize yourself with the battery or battery pack and procedures for charging and handling. Contact a local representative for information.**
- **Assign battery and charger care to properly trained personnel.**
- **Review company safety regulations and familiarize yourself with industry and government guidelines (OSHA, ANSI, ect.) to help reduce personal accidents and equipment damage.**
- **Do not mix old with new batteries.**
- **Use only batteries of the same size power rating, do not mix.**

## GENERAL CARE AND MAINTENANCE

### WET CELL BATTERY PACK

Batteries are rated in ampere-hours and are selected to perform a specific work load in an established period of time. Increasing the work load or time period could result in over discharging, thus shortening

battery life. Generally, all lead-acid batteries should not be discharged to more than 80 percent of its six-hour rated capacity.

### MAINTENANCE FREE BATTERY PACK

Being a low maintenance battery, little is required regarding maintenance operations. The top of the battery should be kept clean and dry and may be washed to remove any accumulated foreign matter. In the unlikely event of accidental contamination with electrolyte,

wash with a neutralizing solution (or one gallon of water mixed with one pound of baking soda). Follow with a rinse using clear water. Always follow state and local regulations for cleaning batteries.



#### CAUTION

- **Never attempt to add water to the battery. It has been designed to function without any such additions over its entire life. Any attempt to remove the cover from the battery shall void the warranty.**

#### Note:

The Battery Packs should not be discharged below 1.90 volts per cell (80% Depth-of-Discharge).

### REMOVAL AND INSTALLATION OF INDUSTRIAL BATTERY WITH LOAD BACKREST

The bolt-on backrest was designed for ease of removing the industrial battery.



#### CAUTION

- **Industrial backrests are heavy, always follow your company's policy for lifting objects to help reduce the risk of injury.**
- **Park the unit on level surface.**
- **Ensure the lifting device is rated to lift the battery weight.**

1. Remove the upper bolts on load backrest.



#### CAUTION

- **Support the upper part of the load backrest.**
2. Loosen the bottom bolts to tilt the backrest toward the forks, as shown below.
  3. Connect the lift device to the battery and remove the battery from truck.

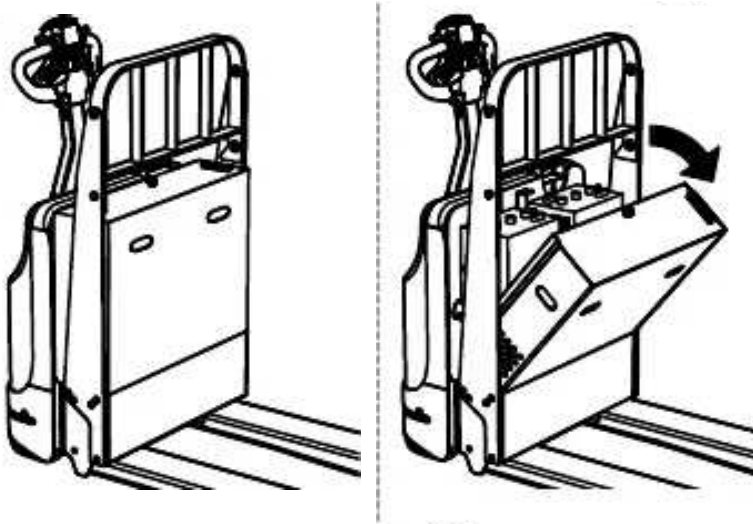


4. Install in the reverse order.

## OPERATING CONTROLS AND FUNCTIONS

### REMOVAL AND INSTALLATION OF WET CELL AND MAINTENANCE-FREE BATTERY PACKS WITH LOAD BACKREST

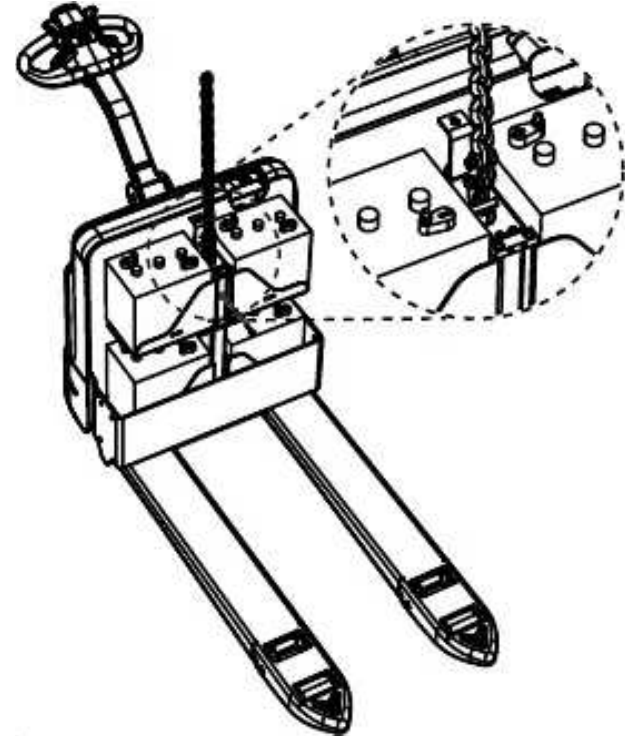
1. Remove the battery cover by tilting it toward fork side and lifting it upward from the battery compartment.



2. Remove battery pack hold down bolt in the center of battery tray.
3. **Wet cell with swing out trays:** For battery pack removal, tilt the upper backrest by removing upper bolts (see page 45).

**Maintenance-free fixed trays:** With a fixed tray, the backrest must be completely removed from the truck.

4. A center lift pin is used to connect the lifting device on both types of battery packs.



5. Install in the reverse order.



# GENERAL CARE AND MAINTENANCE

## DAILY INSPECTION

To maintain your forklift in proper condition and ready for safe operation, be sure to perform the daily checks indicated below. If you note any malfunction, notify your supervisor or Local Authorized Dealer.

1. Check battery fluid level (wet cell batteries only).
2. Check hydraulic oil level and for oil line leaks.
3. Check for full motion and proper function of all the steering and travel controls.
4. Check the condition of tires and wheels. Check for looseness, wear, or damage of wheel nuts and bolts.
  - Remove objects that are embedded in the tread.
  - Check for damage and friction of wheels and for bends and cracks in the wheel hub
5. Check that all guards, horn, lights, limit switches, warning and safety devices, indicators, etc. are functional
6. Check safety start systems operation.
7. Check lift mechanism for the following items:
  - Smooth lifting and lowering
  - Check operation of hydraulic pump
  - Lift linkage
  - Load wheel link
8. Conduct an operational check, including braking functions and plugging distance (Controlled reversing).
9. Check forks and frame for cracks, breaks, bend, and wear.
10. Check the backrest, if equipped, for proper installation and function.
11. Inspect the condition of battery connectors, electrical cables and wiring. Make a report of any found to be worn or cracked.
12. Check that the battery gates (retainers), if used, are in place and working properly.

13. Check additional options, i.e. attachments or special equipment as specified by the manufacturer or employer.
14. Check that capacity plates and decals are legible, if not replace.



## WARNING

- **If the truck is found to be in need of repair or in any way unsafe, or contributes to an unsafe condition, or if during operation the truck becomes unsafe in any way, the matter shall be reported immediately to your designated authority, and the truck shall not be operated until it has been restored to safe operation condition**
- **Do not make repairs or adjustments unless specifically authorized to do so**
- **Do not use open flames when checking electrolytes level in storage batteries**
- **Be certain that your truck is the correct UL safety rating type for the area in which you are working. The proper type designation for the industrial truck is on the data plate. In areas classified as hazardous, use only trucks approved for use in those areas. All hazardous areas should have classified markings. If you are unsure of the classification of the area you wish to enter, ask your designated authority before entering**

# GENERAL CARE AND MAINTENANCE

## OPERATOR'S DAILY CHECKLIST (SAMPLE)



### WARNING

Carry out the daily checks as per "Daily Inspection" in this Operator's Manual on page 47 and the applicable provisions of laws and regulations of your country. (In U.S. OSHA 29CFR1910.178)

#### Operator's Daily Checklist and Safety Inspection (sample) I.T.A. Class III

IMPORTANT: Check each of the following items before the start of each shift. Notify your supervisor and/or maintenance department if there are any problems with the forklift.

DO NOT OPERATE A FORKLIFT WITH ANY MALFUNCTION.

#### FORKLIFT DETAILS:

Electric Sit-down    Electric Stand-up    Electric Pallet    Serial/Unit Number: \_\_\_\_\_    Hour Meter Reading: \_\_\_\_\_    Date of Inspection: \_\_\_\_\_    Operator: \_\_\_\_\_    Supervisor's OK: \_\_\_\_\_

Please review the list below and mark each item accordingly. Please provide any additional explanation as necessary.

#	OK	NG	Visual Check Items	#	OK	NG	Operational Checks
01			Forks: bent, cracked, fork stops in place, fork locks work properly	01			Horn Operation: sounds when activated, correct tone
02			Load Backrest: missing, bent, cracked, mounting bolts secure	02			Brakes: do they hold truck in place once activated
03			Tires/Wheels: worn, damaged, hubs cracked, nuts/bolts loose or missing	03			Tires/Wheels: roll smoothly
04			Battery/Battery Connectors: connectors loose, cracked, missing and free of corrosion, fill level correct, hold down secure	04			Steering: full motion, no slack or tight spots
05			Hydraulic Oil: proper level, discolored, leaks	05			Control Levers: function activates when operated
06			Covers/Sheet Metal: deformed, cracked, missing, latches work properly	06			Directional Controls: direction activates and moves unit
07			Warning Decals/Operator's Manual: missing, legible	07			Head/Tail/Working Lights: illuminate, bulbs dim or burned out
08			Data Plate/Capacity Plate: incorrect: correct, legible, missing	08			Warning Lights: illuminate properly
09			Brake Fluid: proper level, discolored, leaks	09			Back-Up Alarm: does alarm sound
10			Gauges/Instruments/Lights: damaged, mounting secure	10			Gauges/Instruments: work properly, indicator lights come on
11			Mast/Carriage/Attachments: damaged, rollers missing, chains lubricated, everything mounted securely, fork notch wear, leaks	11			Drive Axle: noise, unit move in direction selected
12			Tilt/Drive Axle: leaks	12			Parking Brake: hold unit in place, adjustment correct
13			Direction Controls/Control Levers: move smoothly	13			Mast: smooth lifting/lowering and roller rotation, does mast drift down
14			Battery Retainers/Gates: damaged, in place, working properly	14			Tilt: tilt back and forth easily, mast drift down or backward
15			Battery Disconnect Switch: operation	15			Carriage and Attachments: roller rotation, chain adjustment correct, operation
16			Outriggers: bent or loose	16			Battery Test: indicator shows full charge after replacement

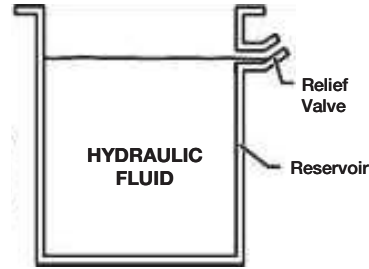
Additional explanation of problems marked above: \_\_\_\_\_

# GENERAL CARE AND MAINTENANCE

## MAINTENANCE AND INSPECTION

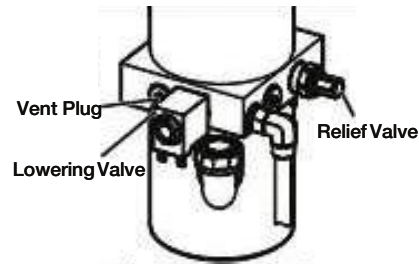
### HYDRAULIC OIL LEVEL

Check the oil level in the reservoir. The oil level should be at the bottom of the elbow for the breather cap (fill tube) when the forks are fully lowered.



### REFILLING HYDRAULIC OIL

When filling the pump reservoir, make sure the cylinder is fully lowered.



Remove the vent plug (as shown). This is a vent which will allow the reservoir to be filled more easily.

The reservoir takes approximately 1.5 quarts (1.42 liters) of hydraulic fluid. When filled, the fluid should be visible in the bottom of the elbow for the breather cap.

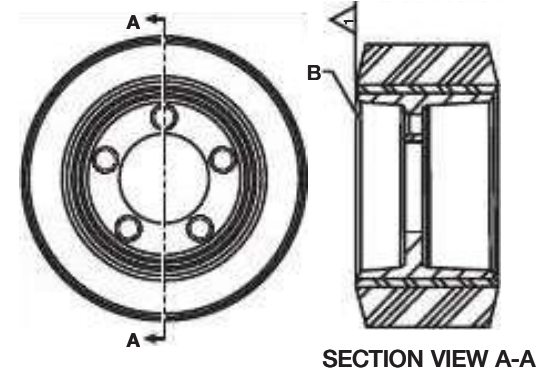
### TIRE REPLACEMENT

#### Note:

The drive tire is to be pressed flush  $\pm 0.5\text{mm}$

to the face  $\triangle 1$  with the wheel hub (B) as shown.

There are many different sizes and compounds of drive tires used. Our standard size tire is 10" x 4" x 6-1/2".



### CAUTION

- **Caution must always be exercised when pressing a new tire onto the hub. The dimensions from the face of the hub to the edge of the tire is very important in the operation of the truck, to clear the transmission housing.**

If pressing dimensions are not maintained and the tire does rub the transmission, this could cause any of the following to occur:

- A bond failure from heat.
- Transmission housing could be worn beyond repair causing gears to fail.
- Drive motor damage due to excessive amp. draw.
- Electrical components fail due to excessive amp. draw and/or heat.

# GENERAL CARE AND MAINTENANCE

## MAINTENANCE AND INSPECTION (cont'd)

### TIRE REPLACEMENT (cont'd)

There are many different compounds of tires used on our equipment. We have standard components that we use on the various models of trucks. Just because we use something as a standard, it does not necessarily mean that compound is the best for your application. If there are complaints of traction or failures, etc., your application may require another type of tire. Always use only OEM tires and sizes. Contact your local authorized dealer for more information.

### TIRE ASSEMBLY INSTALLATION

In order to install the tire assembly to the transmission, there are five nuts that are used for mounting to the output shaft. Tighten the five nuts in a pattern of every other nut. This will ensure the assembly is flush with the output shaft.

All wheel nuts must be torqued to 108-132 Nm/79.7-97.4ft-lbs.

After the nuts are torqued, look into the center of the wheel hub and make sure the hub is flush against the output shaft.

### FORK INSPECTION

Ensure the forks and linkage are not damaged or loose.



## WARNING

- **Forks in use shall be inspected at intervals of not more than 12 months.**

### FORK REPAIR

**Repair** - Only the manufacturer of the fork or an expert of equal competence shall decide if a fork may be repaired for continued use, and the repairs shall only be carried out by such parties.

### CHECKING HORN

Check the horn for proper operation.

### CHECKING SAFETY START SYSTEM OPERATION

Check the safety start system in a clear area away from other forklifts and personnel.

In order to check the system, ensure the battery is connected, rotate thumb control to either the forward or reverse direction, and then move the tiller handle into the operation position. The unit should not move but will display an alarm code in the screen panel.

If unit starts to travel shut it down, put break in the "On" position, unplug the battery and take it out of service. Contact your Local Authorized Dealer to repair unit.

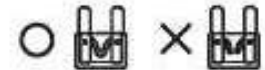
### FUSES



## WARNING

- **Remove all jewelry.**
- **Make sure the ignition switch is "OFF" and disconnect the battery before changing any components or disconnecting any wiring. This will reduce the possibility of damage to the controller system.**

Visually check if the fuse is blown. Before replacing any malfunctioning fuse, check and correct the cause of the malfunction. Use a fuse of the specified rating which is clearly shown on the label.



# GENERAL CARE AND MAINTENANCE

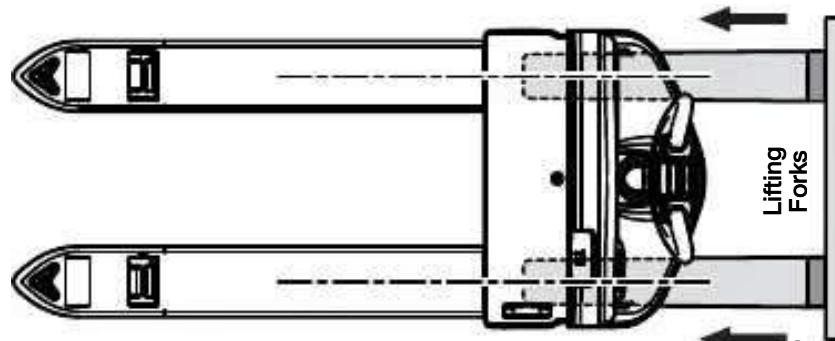
## MAINTENANCE AND INSPECTION (cont'd)

### MOVING A DISABLED UNIT



#### WARNING

- **Do not tow this unit. Unit has an electric brake which can be released by mechanical means (at right) or by an optional electric means (refer to page 32).**
- **To avoid serious damage to the unit and possible serious personal injury only have an authorized technician with the proper tools and training carry out this procedure.**
- **If the unit must be moved follow the below procedure:**
  1. Remove the load from the unit.
  2. If possible remove the battery/battery pack.
  3. If there is **not an authorized trained technician** to release the brake and manually move the unit you must use another forklift to lift the unit.
  4. Always ensure that the forklift to be used has a greater lifting capacity than that of the unit and battery if not removed.
  5. Only raise the unit high enough to clear the floor and move to designated area for repairs.



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### MECHANICAL BRAKE RELEASE METHOD

The truck has a mechanical spring-applied brake that is electronically released.

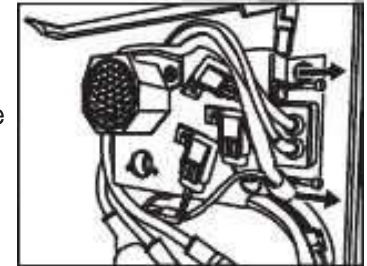
If the unit cannot be moved in normal operation mode, it is possible to mechanically release the brake, and then manually move the unit for repairs or battery charging.



#### CAUTION

- **If unit is not on a level surface, block unit from moving before releasing brake.**

UCA has supplied two M5 screws to mechanically release the brake. These screws are located under the hood on the right side of the horn bracket, as shown.



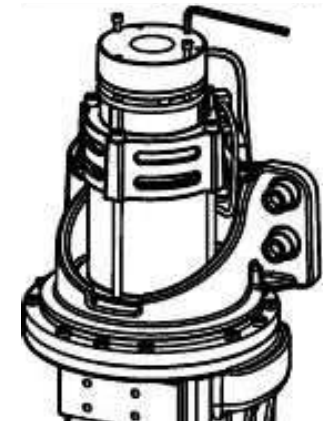
To release the brake, install the two screws into the top of brake as shown (motor isolated for clarity).

Using a 5mm Allen (Hex) Wrench, evenly cross-tighten the screws until the unit can be easily moved.



#### CAUTION

- **Always remember to loosen and completely remove screws before putting the truck back into operation.**



# GENERAL CARE AND MAINTENANCE

## PERIODIC MAINTENANCE AND LUBRICATION SCHEDULE

Before delivery of your new forklift, your dealer provides a pre-delivery inspection and adjustment service specified by the factory and designed to ensure satisfactory performance.

The following tables list the servicing required to keep your forklift operating in good mechanical condition. The forklift should be attended to as indicated, preferably by your Local Authorized Dealer.



### WARNING

- **Do not inspect any part of the system while the battery is being charged.**
- **Before checking any part of the system, be sure to disconnect connectors from the battery.**
- **When it is necessary to check with the battery connected, raise the drive wheels. Be extremely careful to prevent electric shocks.**

#### Note:

- Periodic maintenance should be performed after specified intervals have elapsed in months or hours, whichever comes first.
- Under dusty, dirty or heavy operation, more frequent maintenance is necessary. All items listed must be maintained in order to meet and keep control systems operating at design level. Failure to maintain the systems could compromise the warranty.
- The inspection/service intervals shown are based on the assumption that the vehicle is operated in a clean and dry environment for 400 hours or less in a 2 month period. When determining the inspection/service intervals, consider the actual working conditions of the vehicle.

# GENERAL CARE AND MAINTENANCE

## PERIODIC MAINTENANCE AND LUBRICATION SCHEDULE (cont'd)

Inspection Items			Interval											How to check		
			Months	2	4	6	8	10	12	14	16	18	20		22	24
			Hundreds of hours	4	8	12	16	20	24	28	32	36	40		44	48
Dr e system	Motor	Motor (dust)	C		C		C		C		C		C		Clean	
		Wiring, bolts and nuts	I		I		I		I		I		I		Visual	
		Amp draw reading for lift pump and drive motor							T					T	Test	
	Controlle r	Resistance between forklift body and +/- terminal of battery/controller			I				I				I		Measure resistance	
		Contactors operation	I		I		I		I		I		I		Visual	
		Contactors tips	I		I				I				I		Visual	
		Resistance contactor coil												I	Measure	
Electric system	Wiring, bolts and nuts	I		I				I				I		Visual		
	Controller surface	C		C	C			C	C		C	C		Clean		
	Truck Harness and connectors	I		I				I				I		Visual		
	Switches	I	I	I	I	I	I	I	I	I	I	I	I	Visual/Test		
	Horn/Buzzer	I	I	I	I	I	I	I	I	I	I	I	I	Test		
Electric system	Gauge, indicators, warning and safety devices	I	I	I	I	I	I	I	I	I	I	I	I	Test		
	Check speed of truck and plugging distance (approx. the length of the truck including forks, unloaded)	T		T		T		T		T		T		Test		

Abbreviations: I = Inspect (correct or replace if necessary), D: Drain, R: Replacement, A: Adjustment, C: Clean, T: Test, L: Lubricate/Grease

# GENERAL CARE AND MAINTENANCE

## PERIODIC MAINTENANCE AND LUBRICATION SCHEDULE (cont'd)

Inspection items			Interval												How to check	
			Months	2	4	6	8	10	12	14	16	18	20	22		24
			Hundreds of hours	4	8	12	16	20	24	28	32	36	40	44		48
Chassis and body maintenance	Transmission/ drive unit	Crack, damage and leakage		I		I		I		I		I		I	Visual	
		Drive tire nut torque to 108-132 Nm / 79.7-97.4ft-lbs		I		I		I		I		I		I	Test	
	Lifting mechanism	Hydraulic oil pump operation		I		I		I		I		I		I	Test	
		Cracks or damage to chassis and fork area		I		I		I		I		I		I	Visual	
		Lift linkage and tie rod for worn bearings				I		I		I		I		I	Visual	
		Hydraulic system for leaks		I	I	I	I	I	I	I	I	I	I	I	Visual	
		Hydraulic oil level (forks fully lowered)		I	I	I	I	I	I	I	I	I	I	I	Visual	
		Hydraulic oil replacement							R						R	Replace
		Suction oil filter							C						C	Replace
		Lift cylinder							I						I	Visual
	Wheels/tires	Wheels and tires: wear, damage and foreign material		I	I	I	I	I	I	I	I	I	I	I	I	Visual
		Caster wheel (optional)		I		I		I		I		I		I	Adjust	
		Wheel bearing grease		L	L	L	L	L	L	L	L	L	L	L	L	Grease

Abbreviations: I = Inspect (correct or replace if necessary), D: Drain, R: Replacement, A: Adjustment, C: Clean, T: Retighten, L: Lubricate/Grease



# GENERAL CARE AND MAINTENANCE

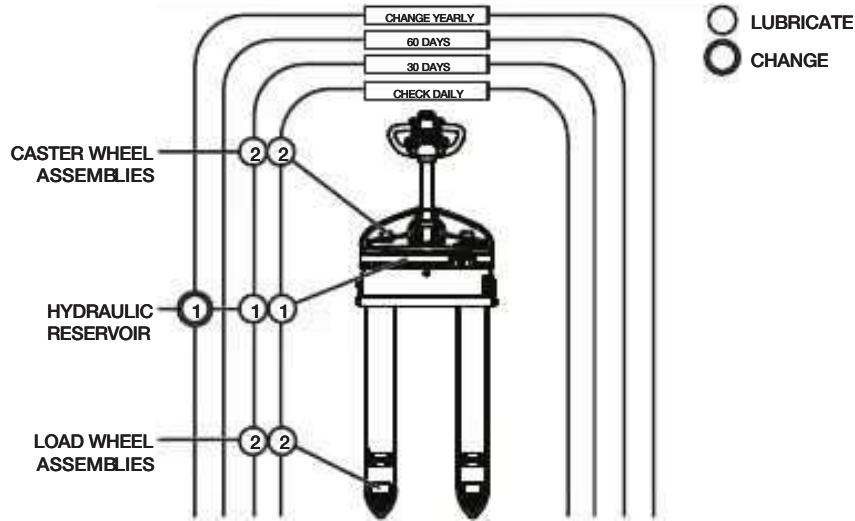
## PERIODIC MAINTENANCE AND LUBRICATION SCHEDULE (cont'd)

Inspection items		Interval												How to check	
		Months	2	4	6	8	10	12	14	16	18	20	22		24
		Hundreds of hours	4	8	12	16	20	24	28	32	36	40	44		48
Chassis and body maintenance	Steering system	Function of steering system	I	I	I	I	I	I	I	I	I	I	I	I	Test
		Mounting of steer tiller handle (movement and play)	I	I	I	I	I	I	I	I	I	I	I	I	Visual
	Brake system	Function of brake, tiller return to full up position smoothly (with brake on)	I	I	I	I	I	I	I	I	I	I	I	I	Test
		Brake rotor air gap	I		I			I			I			I	Test
		Brake function/effort, stopping distance (approx. the length of the truck including forks, unloaded)	I		I			I			I			I	Test
Battery system		Battery mounting, level and specific gravity	I	I	I	I	I	I	I	I	I	I	I	I	Visual/Test
		Clean battery terminals	C	C	C	C	C	C	C	C	C	C	C	C	Clean
		Battery connectors and cables	I	I	I	I	I	I	I	I	I	I	I	I	Visual
		Battery charger operation and connections (optional)	I	I	I	I	I	I	I	I	I	I	I	I	Visual/Test

Abbreviations: I = Inspect (correct or replace if necessary), D: Drain, R: Replacement, A: Adjustment, C: Clean, T: Retighten, L: Lubricate/Grease

# GENERAL CARE AND MAINTENANCE

## LUBRICATION CHART



Item #	Description	Lub. Points	Type of Lubricant	Interval
1	Hydraulic Reservoir	(1)	*Daphne Fluid AW32 BH-U	12 Months; 2400 Hours
2	Wheel Assemblies	(6)	*Chevron LC Grease EP	2 Months; 400 Hours

# GENERAL CARE AND MAINTENANCE

## PUTTING FORKLIFT IN STORAGE

Putting the forklift in storage involves storing the forklift at the end of each working day or storing the forklift over a long period of time.

Be sure to observe the precautions for forklift storage.

### DAILY STORAGE

At the end of the working day, check the forklift for oil leakage and other malfunctions. Always park it in the designated location. Put chocks under the tires to prevent the forklift from moving by itself.

Make it a habit to always keep the forklift clean.



### CAUTION

- **The forklift has many electrical parts, do not wash with water. However, the battery can be washed with water after removing it from the forklift, but it must be completely dry before use.**
- **Always follow all local, state or federal laws when washing batteries.**
- **Blow off dust and dirt using compressed air with OSHA air nozzle or wipe with a wet cloth to clean the forklift.**



### WARNING

- **As soon as a malfunction is detected, immediately report it to the appropriate personnel or contact your Local Authorized Dealer for repair. Do not operate the forklift until the malfunctions is repaired.**

## STORAGE OVER A LONG PERIOD OF TIME

When the operation of the forklift is completely suspended for a given period of time, take the following measures and store the forklift in a dry area.

### Notes:

- When the forklift cannot be stored indoors, park it on level ground. Cover with a waterproof sheet or protective cover.
- When storing for a long period of time, be sure to consult your Local Authorized Dealer.



### WARNING

- **Do not use a protective covering or waterproof sheet made of vinyl which is liable to produce static electricity. Static electricity may cause the battery to explode.**

## PRE-STORAGE SERVICING

1. Lubricate the forklift (refer to page 56). Change the oil and coat all exposed areas of hydraulic cylinders with corrosion resistant grease.
2. Charge the battery and leave it disconnected from the forklift. If unit has an optional Battery Pack remove it from the truck and store in a low fire risk area.

## SERVICING THE FORKLIFT IN STORAGE

1. Periodically check the specific gravity and level the battery fluid. Charge and replenish as necessary. Perform uniform charge on the battery every 2 months. If equipped, the optional Battery Pack should be charged once a month.
2. Check various sections of the forklift for stains or corrosion. Clean such areas and coat with a corrosion preventive agent.

# **GENERAL CARE AND MAINTENANCE**

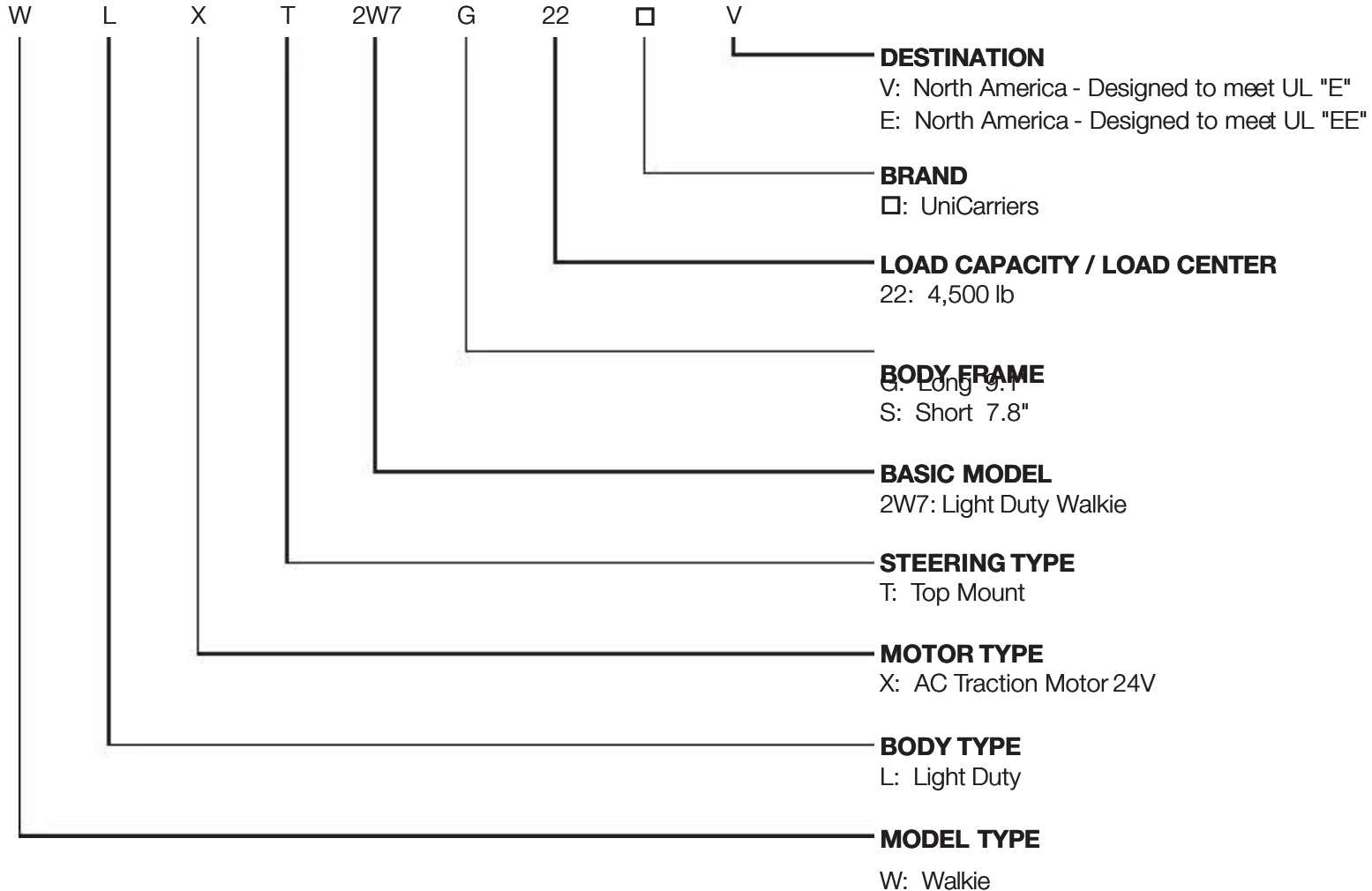
## **PUTTING FORKLIFT IN STORAGE (cont'd)**

### **POST-STORAGE SERVICING**

1. Wipe anticorrosive grease off the outer parts of the hydraulic cylinder.
2. Lubricate each part.
3. Check the battery fluid level and specific gravity. Fully charge the battery.
4. Turn the ignition switch to "ON" and check the MDI, warning lights and indicators.
5. Perform daily checks (refer to page 47).

# SPECIFICATIONS

## MODEL VARIATION (LONG MODEL CODE) BREAKDOWN



# SPECIFICATIONS

## MAIN TRUCK - 2W7

Item		Model code	2W7	
Long Model Code			WLXT2W7S22V/E	WLXT2W7G22V/E
Rated Load Capacity		lb (kg)	Refer to Truck Data Plate	
Truck Weight		lb (kg)	Refer to Truck Data Plate	
Power Type - Electric			24 Volt	
Overall Dimensions	Head Length	in (mm)	21.1 (535)	22.4 (569)
Chassis Width		in (mm)	28.3 (720)	
Tires / Wheels	Drive tire-dia. x width	in (mm)	10 x 4 (254 x102)	
	Caster wheel-dia. x width	in (mm)	NA	
	Load wheel-dia. x width	in (mm)	3.25 x 4.5 (83 x 114)	
Lifting Speed (Full Lift)	Full Load	sec	3.5	
	Empty	sec	2.4	
Lowering Speed	Full Load	sec	NA	
	Empty	sec	NA	
Travel Speed	Full Load	mph (kph)	3.7 (6)	
	Empty	mph (kph)	3.7 (6)	
Gradeability	Maximum Full Load	%	10	
Battery Compartment Size	Length (X) x Width (Y) x Height (Z)	in (mm)	7.8 x 27 x 24.5 (197 x 685 x 622)	9.1 x 27 x 24.5 (231 x 685 x 622)
Amp Hr Capacity	Max (6-hr) Industrial Battery	Ah	300	
Weight	Min / Max	lb (kg)	400 / 610 (180 / 275)	
Lead Length	Position "B"	in (mm)	20 (508)	

# SPECIFICATIONS

## MAIN TRUCK - 2W7 (CONT'D)

Fork Size	Outside Spread (Standard)	in (mm)	26.4 (670)
Fork Height	Raised Position	in (mm)	9.2 (235)
	Lowered Position	in (mm)	3.3 (83)
Individual Fork Width	Width/Thickness (Max)	in (mm)	6.7 (170) /3.1 (78)

# SPECIFICATIONS

## FORK AND AISLE - 2W7

### WLXT2W7S22V/E

		Single Pallet						
Fork Length	Nominal	in (mm)	32 (810)	36 (915)	42 (1065)	48 (1220)	54 (1370)	60 (1525)
	Actual	in (mm)	29.2 (742)	33.1 (842)	39.2 (997)	45.2 (1147)	51.3 (1302)	57.2 (1452)
Overall Truck Length		in (mm)	50.3 (1278)	54.2 (1378)	60.3 (1553)	66.2 (1683)	72.4 (1838)	78.3 (1988)
Face of Forks to Center of Load Wheel	Forks Raised	in (mm)	20.3 (515)	24.2 (615)	30.3 (770)	36.2 (920)	42.3 (1075)	48.2 (1225)
	Forks Lowered	in (mm)	23.1 (587)	27.0 (687)	33.1 (842)	39.0 (992)	45.2 (1147)	51.0 (1297)
Center of Load Wheel to Tip of Forks	Forks Raised	in (mm)	8.9 (227)					
	Forks Lowered	in (mm)	6.1 (155)					
Wheelbase	Forks Raised	in (mm)	35.3 (896)	39.2 (996)	45.3 (1151)	51.2 (1301)	57.3 (1456)	63.2 (1606)
	Forks Lowered	in (mm)	38.1 (968)	42.0 (1068)	48.1 (1223)	54.1 (1373)	60.2 (1528)	66.1 (1678)
Grade Clearance	Approach angle (chassis)	%	60.1					
	Breakover Angle <sup>1</sup>	%	66.4	58.2	49.0	42.4	37.4	33.5
	Departure Angle (Forks) <sup>1</sup>		44.5					
Turning Radius <sup>2</sup>		in (mm)	43.5 (1104)	47.4 (1204)	53.5 (1359)	59.4 (1509)	65.5 (1664)	71.4 (1813)
Right Angle Stacking Aisle <sup>3</sup>	40" Load Width	in (mm)	51.7 (1314)	55.7 (1415)	61.7 (1568)	67.7 (1720)	73.7 (1873)	79.7 (2025)
90°Equal Intersecting Area <sup>3</sup>	40" Load Width	in (mm)	45.7 (1161)	51.8 (1317)	55.0 (1398)	58.1 (1476)	61.6 (1566)	63.7 (1619)

<sup>1</sup>Forks raised, includes pallet underhang.

<sup>2</sup>Forks raised handle vertical and rotated 90°. For forks lowered, and 2.8" (72 mm).

<sup>3</sup>Add 6-8" (152-203 mm) for ease of operation. Includes 1" (25 mm) of clearance.



# SPECIFICATIONS

## FORK AND AISLE - 2W7

### WLXT2W7G22V/E

		Single Pallet						
Fork Length	Nominal	in (mm)	32 (810)	36 (915)	42 (1065)	48 (1220)	54 (1370)	60 (1525)
	Actual	in (mm)	29.2 (742)	33.1 (842)	39.2 (997)	45.2 (1147)	51.3 (1302)	57.2 (1452)
Overall Truck Length		in (mm)	51.6 (1312)	55.6 (1412)	61.7 (1567)	67.6 (1717)	73.7 (1872)	79.6 (2022)
Face of Forks to Center of Load Wheel	Forks Raised	in (mm)	20.3 (515)	24.2 (615)	30.3 (770)	36.2 (920)	42.3 (1075)	48.2 (1225)
	Forks Lowered	in (mm)	23.1 (587)	27.0 (687)	33.1 (842)	39.0 (992)	45.2 (1147)	51.0 (1297)
Center of Load Wheel to Tip of Forks	Forks Raised	in (mm)	8.9 (227)					
	Forks Lowered	in (mm)	6.1 (155)					
Wheelbase	Forks Raised	in (mm)	36.3 (930)	40.5 (1030)	46.7 (1185)	52.6 (1335)	58.7 (1490)	64.3 (1640)
	Forks Lowered	in (mm)	39.4 (1002)	43.4 (1102)	49.5 (1257)	55.4 (1407)	61.5 (1562)	67.4 (1712)
Grade Clearance	Approach angle (chassis)	%	60.1					
	Breakover Angle <sup>1</sup>	%	62.5	55.9	47.3	41.2	36.4	32.7
	Departure Angle (Forks) <sup>1</sup>		44.5					
Turning Radius <sup>2</sup>		in (mm)	44.8 (1138)	48.7 (1238)	54.8 (1393)	60.7 (1543)	66.8 (1698)	72.7 (1848)
Right Angle Stacking Aisle <sup>3</sup>	40" Load Width	in (mm)	53.0 (1348)	56.9 (1446)	63.1 (1602)	69.0 (1754)	75.1 (1907)	81.1 (2059)
90° Equal Intersecting Area <sup>3</sup>	40" Load Width	in (mm)	49.8 (1265)	51.1 (1229)	54.3 (1380)	57.4 (1459)	61.3 (1558)	65.2 (1655)

<sup>1</sup>Forks raised, includes pallet underhang.

<sup>2</sup>Forks raised handle vertical and rotated 90°. For forks lowered, and 2.8" (72 mm).

<sup>3</sup>Add 6-8" (152-203 mm) for ease of operation. Includes 1" (25 mm) of clearance.

# SPECIFICATIONS

## OIL CAPACITY

Model	2W7
Hydraulic Oil Tank Qt (L)	1.5 (1.42)

## BATTERY CHARGER

Operation	120VAC 60Hz 240VAC 50Hz
Operating Temperature Range	-30°C to +80°C
Storage Temperature Range	-40°C to +85°C
Humidity Range	10% RH to 100% RH
Waterproof Grade	IP65
Regulation	Designed and Approved to UL1564

## BATTERY PACK

Wet Cell		4 - 6 Volt golf cart type batteries
	Ah	Rated at 210 Amp Hr
	Weight with Cover	328 lbs (149 kg)
Maintenance Free VRLA		4 - 6 Volt Deep Cycle VRLA
	Ah	Rated at 195 Amp Hr
	Weight with Cover	338 lbs (153 kg)

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## UNICARRIERS GENUINE PARTS

### Always use UniCarriers Genuine Parts

**At first glance, it's hard to tell one part from another. The truth is, all replacement parts aren't created equal.** UniCarriers Genuine Parts satisfy the same technical specifications (engine performance, sound quality, reliability, etc.) as the original parts fitted on the vehicle, providing original equipment performance, durability and reliability. This way you can ensure that your UniCarriers industrial truck will always perform at its best. This is one of the many things that make UniCarriers Genuine Forklift Parts the best choice to help maintain the value of your UniCarriers industrial truck.

So make sure, next time your truck needs service:

**Demand** The Brand<sup>®</sup>

**UNI CARRIERS**<sup>®</sup>  
GENUINE PARTS

## DISPOSAL OF PARTS AND MATERIALS



### WARNING

- Used parts and materials such as lubricants, oils, paint, rags, battery fluid and batteries shall be disposed of as per the applicable provisions of the laws and regulations of your country, state or local regulations.
- Also consult your Local Authorized Dealer.



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