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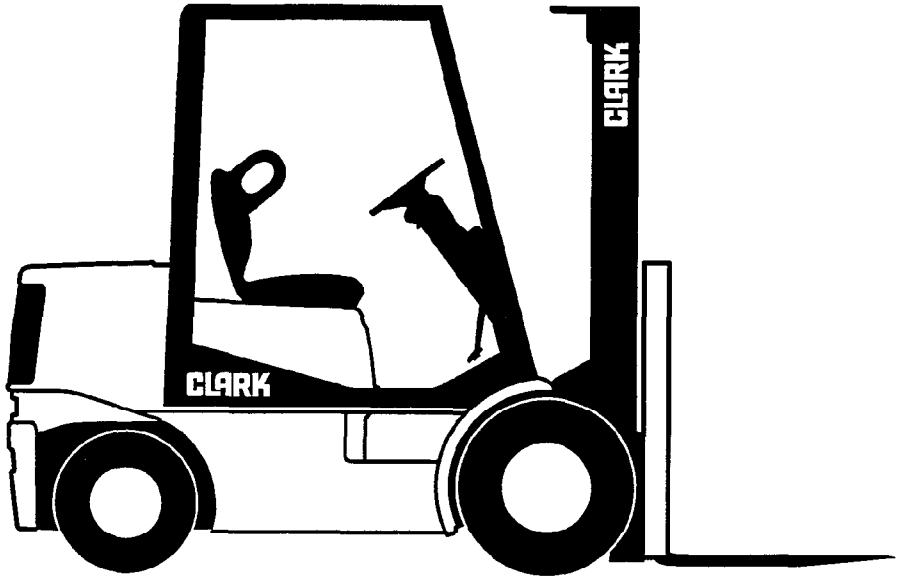
# SM-575
# C500 Y180-200-225S-225L
# 250S-250L-300S-300L-350




CLARK Technical Publications
Lexington, KY
40508

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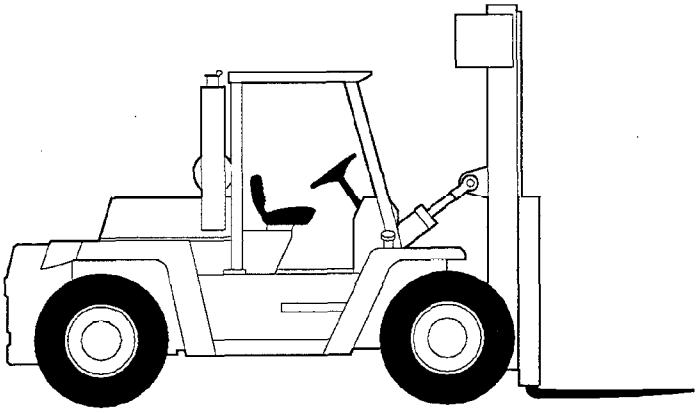
# CLARK®

# Service Manual

## C500 Y 180-200-225S-225L-250S-250L-300S-300L-350



## LIFT TRUCK

Read and understand this manual before operating truck. Pay attention to the safety instructions. Safe operation is the responsibility of the operator.
File this manual for future use.

This manual covers machine

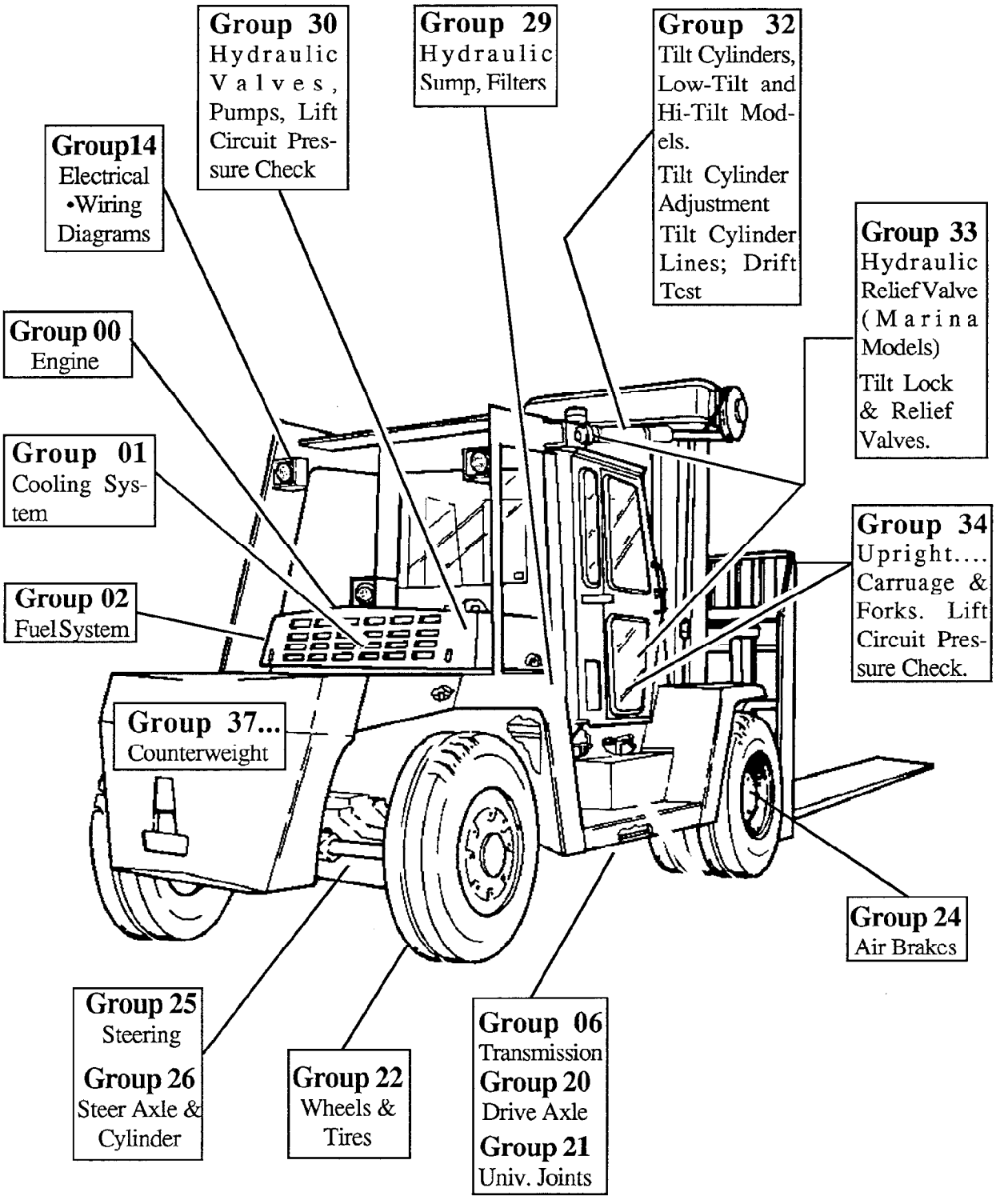
Serial No. Y2235-1-7056 & above
Serial No. Y2235HT-1-7061 & above

ALWAYS GIVE THE MACHINE SERIAL NUMBER WHEN ORDERING PARTS.

Book No. SM 575 2nd Revision

CLARK Material Handling Company

333 West Vine Street
Lexington, Kentucky 40507




**Group 39** Decal Replacement and Placement

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PM Inspection and Drivers Daily Inspection Forms

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## SAFETY SIGNS AND MESSAGES

Safety signs and messages are placed in this manual and also on the lift truck to provide instructions and to identify specific areas where potential hazards exist and special precautions should be taken. Be sure you know and understand the meaning of these instructions, signs and messages. Damage to the truck or death or serious injury to you or other persons may result if these messages are not followed.

**NOTICE**

**This message is used when special information, instructions or identification is required relating to procedures, equipment, tools, pressures, capacities and other special data.**

**IMPORTANT**

**This message is used when special precautions should be taken to ensure a correct action or to avoid damage to or malfunction of the truck or a component.**

**CAUTION**

**This message indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.**

**WARNING**

**This message indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.**

**DANGER**

**This message indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations.**

***NOTE:*** *The above terms have been adopted by Clark Material Handling Company. The same terms may be used in different context in service literature supplied directly or indirectly by vendors of truck components.*

## USER SAFE MAINTENANCE PRACTICES

The following instructions have been prepared from current industry and government safety standards applicable to industrial truck operation and maintenance. These recommended procedures specify conditions, methods, and accepted practices that aid in the safe maintenance of industrial trucks. They are listed here for the reference and safety of all workers during maintenance operations. Carefully read and understand these instructions and the specific maintenance procedures before attempting to do any repair work. When in doubt of any maintenance procedure, please contact your local Clark dealer.

1. Powered industrial trucks can become hazardous if maintenance is neglected. Therefor, suitable maintenance facilities, trained personnel and procedures must be provided.

2. Maintenance and inspection of all powered industrial trucks shall be done in conformance with the manufacturer's recommendations.

3. A scheduled planned maintenance, lubrication and inspection program shall be followed.

4. Only trained and authorized personnel shall be permitted to maintain, repair, adjust and inspect industrial trucks and in accordance with the manufacturer's specifications.

5. Properly ventilate work area, vent exhaust fumes and keep shop clean and floor dry.

6. Avoid fire hazards and have fire protection equipment present in the work area. Do not use an open flame to check for level or leakage of fuel, electrolyte or coolant. Do not use open pans of fuel or flammable cleaning fluids for cleaning parts.

7. Before Starting Work On Truck:

(a) Raise drive wheels off of floor or disconnect power source and use blocks or other positive truck positioning devices.
(b) Disconnect battery before working on the electrical system.

8. Before working on engine fuel system of gasoline or diesel powered trucks, be sure the fuel shut-off valve is closed.

9. Operation of the truck to check performance must be conducted in an authorized, safe, clear area.

**10.** Before Starting To Drive Truck:

(a) Be in operating position.
(b) Be sure parking brake is engaged.
(c) Put direction control in neutral.
(d) Start engine.
(e) Check functioning of direction and speed controls, steering, brakes, warning devices and any load handling attachments.

**11.** Before Leaving The Truck

(a) Stop truck.
(b) Put directional control in neutral.
(c) Apply the parking brake.
(d) Stop the engine by turning off the ignition circuit.
(e) Put blocks at the wheels if truck is on an incline.

**12.** Brakes, steering mechanisms, control mechanisms, warning devices, lights, governors, guards and safety devices and frame members must be carefully and regularly inspected and maintained in a safe operating condition.

**13.** Special trucks or devices designed and approved for hazardous area operation must receive special attention to ensure that maintenance preserves the original approved safe operating features.

**14.** Fuel systems must be checked for leaks and condition of parts. Extra special consideration must be given in the case of a leak in the fuel system. Action must be taken to prevent the use of the truck until the leak has been corrected.

**15.** The truck manufacturer's capacity, operation and maintenance instruction plates, tags or decals must be maintained in legible condition.

**16.** Batteries, motors, controllers, limit switches, protective devices, electrical conductors and connections must be inspected and maintained in conformance with good practice. Special attention must be paid to the condition of electrical insulation.

**17.** To avoid injury to personnel or damage to the equipment, consult the manfacturer's procedures in replacing contacts on any battery connection.

**18.** Industrial trucks must be kept in a clean condition to minimize fire hazards and help in the detection of loose or defective parts.

**19.** Modifications and additions that affect capacity and safe truck operation must not be done without the manufacturer's prior written approval. Capacity, operation and maintenance instruction plates, tags or decals must be changed accordingly.

**20.** Care must be taken to assure that all replacement parts, including tires, are interchangeable with the original parts and of a quality at least equal to that provided in the original equipment. Parts, including tires, are to be installed per the manufacturer's procedures. Always use genuine CLARK or CLARK-approved parts.

**21.** Use special care when removing heavy components from the truck, such as counterweight, seat deck, upright, etc. Be sure that lifting and handling equipment is of the correct capacity and in good condition.

NOTICE -- You should also be familiar with additional operating and maintenance safety instructions contained in the following publications:

ANSI/ASME B56.1 - Operator Control-Industrial Tow Tractors (Safety Standard For Powered Industrial Trucks). Published by: Society of Mechanical Engineers, United Engineering Center, 345 E. 47th Street, New York, N. Y. 10017.

NFPA 505-1982: Fire Safety Standard for Powered Industrial Trucks: Type Designations, Areas of Use, Maintenance and Operation. Available from: National Fire Protection Assoc., Inc., Batterymarch Park, Quincy, Ma 02269.

General Industrial Standards, OSHA 2206: OSHA Safety and Health Standards (29 CFR 1910), Subpart N-Materials Handling and Storage, Section 1910.178 Powered Industrial Trucks. For sale by: Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402.

# PM - PLANNED MAINTENANCE PROGRAM.

A planned maintenance program of regular, routine inspections and lubrication is important for long life and trouble-free operation of your lift truck. Make and keep records of your inspections. Use these records to help establish the correct PM intervals for your application and to indicate maintenance required to prevent major problems from occurring during operation.

### PM Report Form

As an aid in performing and documenting your PM inspections, Clark has prepared a "GAS, LPG OR DIESEL PLANNED MAINTENANCE REPORT" form. Copies of this form may be obtained from your authorized Clark dealer. We recommend that you use this form as a checklist and to make a record of your inspection and truck condition.

The periodic maintenance procedures outlined in this manual are intended to be used with the PM report form. They are arranged in groupings of maintenance work that are done in a logical and efficient sequence.

A check mark or entry is made on the PM Report Form when the PM is performed. Please note the special coding system for indicating the importance of needed repairs and/or adjustments.

When you have finished the PM inspections, be sure to give a copy of the report to the designated authority or the person responsible for lift truck maintenance.

**Do not make repairs or adjustments unless authorized to do so.**

Remove all jewelry (watch, rings, bracelets, etc.) before working on the truck.

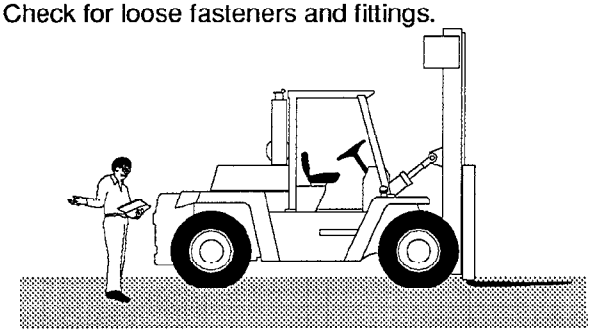
Disconnect the battery ground cable (-) from the engine or frame before working on electrical components.

Always wear safety glasses. Wear a safety (hard) hat in industrial plants and in special areas where protection is necessary or required.

### HOW TO PERFORM THE PM PERIODIC INSPECTION AND MAINTENANCE

### Visual Inspection

First, perform a visual inspection of the lift truck and its components. Walk around the truck and take note of any obvious damage and maintenance problems. Check for loose fasteners and fittings.



Check to be sure all capacity, safety and warning plates and decals are attached and legible.

NOTICE: Do not operate a lift truck with damaged or missing decals and nameplates. Replace them immediately. They contain important information.

Inspect the truck, before and after starting engine, for any signs of external leakage: fuel, engine oil or coolant, transmission fluid, etc.

Check for hydraulic oil leaks and loose fittings. DO NOT USE BARE HANDS TO CHECK. Oil may be hot or under pressure.

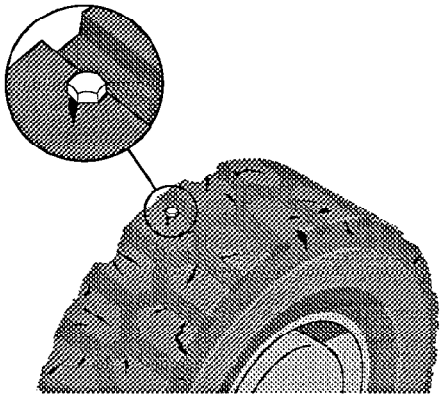
**CAUTION**

HYDRAULIC FLUID PRESSURE

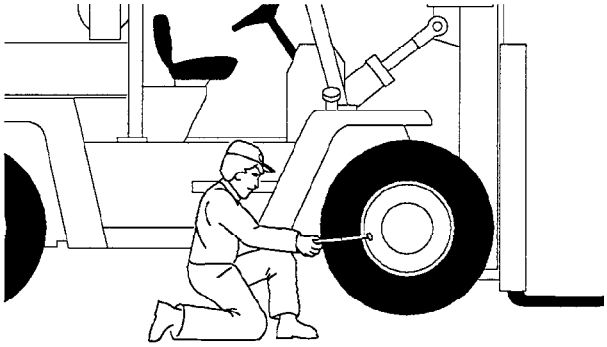
**Do not use your hands to check for hydraulic leakage. Fluid under pressure can penetrate your skin and cause serious injury.**

### Wheels and Tires

Check the condition of the drive and steer wheels and tires. Remove objects that are embedded in the tread. Inspect the tires for excessive wear or breaks or "chunking out".



Check all wheel lug nuts or bolts to be sure none are loose or missing. Have missing bolts or lug nuts replaced and tightened to the the correct torque before operating truck. Torque to 100-120 lbf ft [135,6 - 162,7 N•m].



**WARNING**

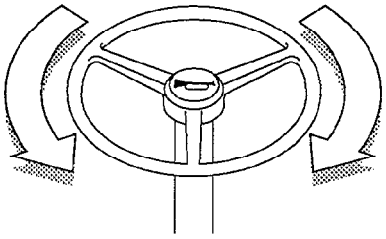
**Check tire pressure from a position facing the tread of the tire, not the side. Use a long handled gauge to keep your body away from the side. If tires are low, do not add air. Check with a mechanic. The tire may require removal and repair. Incorrect (low) tire pressure can reduce stability of your lift truck. Proper cold inflation is 100 p.s.i.**

### Function Tests

**Now be sure that all controls and systems are functioning correctly.**

After checking that the parking brake is set, test horn, lights and all other safety equipment and accessories. Be sure they are properly mounted and working correctly.

Press the horn button to check horn function. If the horn or any other part does not operate, report the failure and have it repaired before the truck is put in operation.



Check the operation of the neutral start switch by placing direction control lever in forward or reverse and turning key switch to START position. Starter must not engage until direction control lever is moved to NEUTRAL position.