



Operation & Maintenance Manual

FC/MC

P8000	AT40-00011-up	PD8000	AT12B-00011-up
P9000	AT29D-50001-up	PD9000	AT19D-50001-up
P10000	AT29D-80001-up	PD10000	AT19D-80001-up
P11000	AT33C-50001-up	PD11000	AT28C-50001-up
P12000	AT33C-80001-up	PD12000	AT28C-80001-up

FOREWORD

The Occupational Safety and Health Administration (OSHA) prohibits employees under the age of 18 years old from operating lift trucks, and is now mandating operator training for all lift truck operators.

SAFE and EFFICIENT OPERATION of a lift truck depends to a great extent on the skill and alertness of the operator. To develop the skill, the operator should read this manual to understand the following points.

1. Working capabilities and limitations of the lift truck
2. Make-up of the lift truck
3. Safe driving and load handling procedures

It is the employer's responsibility to make sure the operator can see, hear and has the physical and mental ability to operate the lift truck safely.

It is also important that a qualified person experienced in lift truck operation should guide new operators through several driving and load handling operations before they attempt to operate the lift truck on their own.

Note:

- This manual contains information necessary for the operation and "Do-it-yourself" maintenance of standard lift trucks.
- Optional equipment is sometimes installed; it can change some operating characteristics described in this manual. Before operating such a lift truck, make sure the necessary instructions are available and understood.
- Lift truck operator training is provided through your authorized Cat® lift truck dealer. They will be glad to help you and answer any questions you may have about operating your new lift truck. Lift trucks are NOT intended for use on public roads.
- If you resell a lift truck, be sure to attach the original Operation & Maintenance Manual to the lift truck. In some countries, strict regulations do not allow imported lift trucks for resale. For resale information, contact your authorized Cat® lift truck dealer.
- If a lift truck is resold from another country, an Operation & Maintenance Manual attached to the lift truck may not meet your country's rules and regulations. For manual information, contact your authorized Cat lift truck dealer.




HOW TO USE THIS MANUAL

The following safety signs and NOTE are used in this manual to emphasize important and critical instructions.



This is the safety alert symbol. It is used to alert you of potential personal injury hazards or damage that could occur to property or the environment. Obey all safety messages that follow this symbol to reduce the risk of serious injury, death, or damage.

Be sure to read these precautionary instructions and all safety related decals installed on your lift truck before you operate it.

 DANGER	This indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
 WARNING	This indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
 CAUTION	This indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury, or damage to your lift truck.
Note	This indicates important matters and useful information on operation and maintenance.

Mitsubishi Caterpillar Forklift America Inc. (MCFA) cannot anticipate every possible circumstance that might involve a potential hazard. The warnings in this publication and on the product are therefore not all inclusive.

If a tool, procedure, work method or operating technique not specifically recommended by MCFA is used, you must satisfy yourself that it does not pose a safety hazard to yourself and others. You should also ensure the product will not be damaged or made unsafe by the operation, lubrication, maintenance or repair procedures you choose.

All information, specifications, and illustrations in this manual are based on the latest data available at the time of publication. The specifications, torques, pressures, measurements, adjustments, illustrations, and other items can change at any time. These changes can affect the service given to the product.

Obtain the most complete and current information from your authorized Cat lift truck dealer before starting any job. Additional manuals are available from your authorized Cat lift truck dealer.

DIRECTIONAL TERMS:

The directions "Left", "Right", "Front" and "Rear" are given from the viewpoint of the operator facing forward.

Truck Models Covered in This Manual

Truck type	Truck model	Engine model	Transmission	Control lever	Wet Disc Brake
4 ton model	P8000	TB45	Powershift	MC / FC	optional
	P9000	TB45	Powershift	MC / FC	optional
	PD8000	S6S	Powershift	MC / FC	optional
	PD9000	S6S	Powershift	MC / FC	optional
5 ton model	P10000	TB45	Powershift	MC / FC	optional
	P11000	TB45	Powershift	MC / FC	optional
	P12000	TB45	Powershift	MC / FC	optional
	PD10000	S6S	Powershift	MC / FC	optional
	PD11000	S6S	Powershift	MC / FC	optional
	PD12000	S6S	Powershift	MC / FC	optional

Abbreviation

- TB45 engine symbolizes either electric controlled gasoline engine, electric controlled dual fuel gasoline / LPG engine, or LPG engine.
- S6S engine symbolizes non-electric controlled diesel engine.
- MC is short for mechanical control levers.
- FC is short for fingertip electric control levers.

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SAFETY RULES FOR LIFT TRUCK OPERATORS

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◆ General

The safety rules and regulations in this section are representative of some, but not all rules and regulations that apply to lift trucks. Rules are paraphrased without representation that they have been reproduced verbatim.

Your lift truck was manufactured in accordance with the National Fire Protection Association (NFPA) No. 505 and the American National Standards Institute, Inc. / Industrial Truck Standards Development Foundation (ANSI/ITSDF) B56.1, Safety Standard for Low and High Lift Trucks. Operate this lift truck in accordance with local regulations. See www.itsdf.org web site for more information on the B56.1 Safety Standards for Low Lift and High Lift Trucks.

The most effective way of reducing the risk of serious injuries, or even death, to you and others, is for you to know how to operate the lift truck properly. Drive alertly and avoid maneuvers or conditions that could cause accidents.
Be professional.

Do not operate a lift truck if it is in need of maintenance, repair or appears to be unsafe in any way. Report all unsafe conditions immediately to your supervisor, then contact your authorized lift truck dealer.
Do not attempt any adjustments or repairs unless you are trained and authorized to do so.

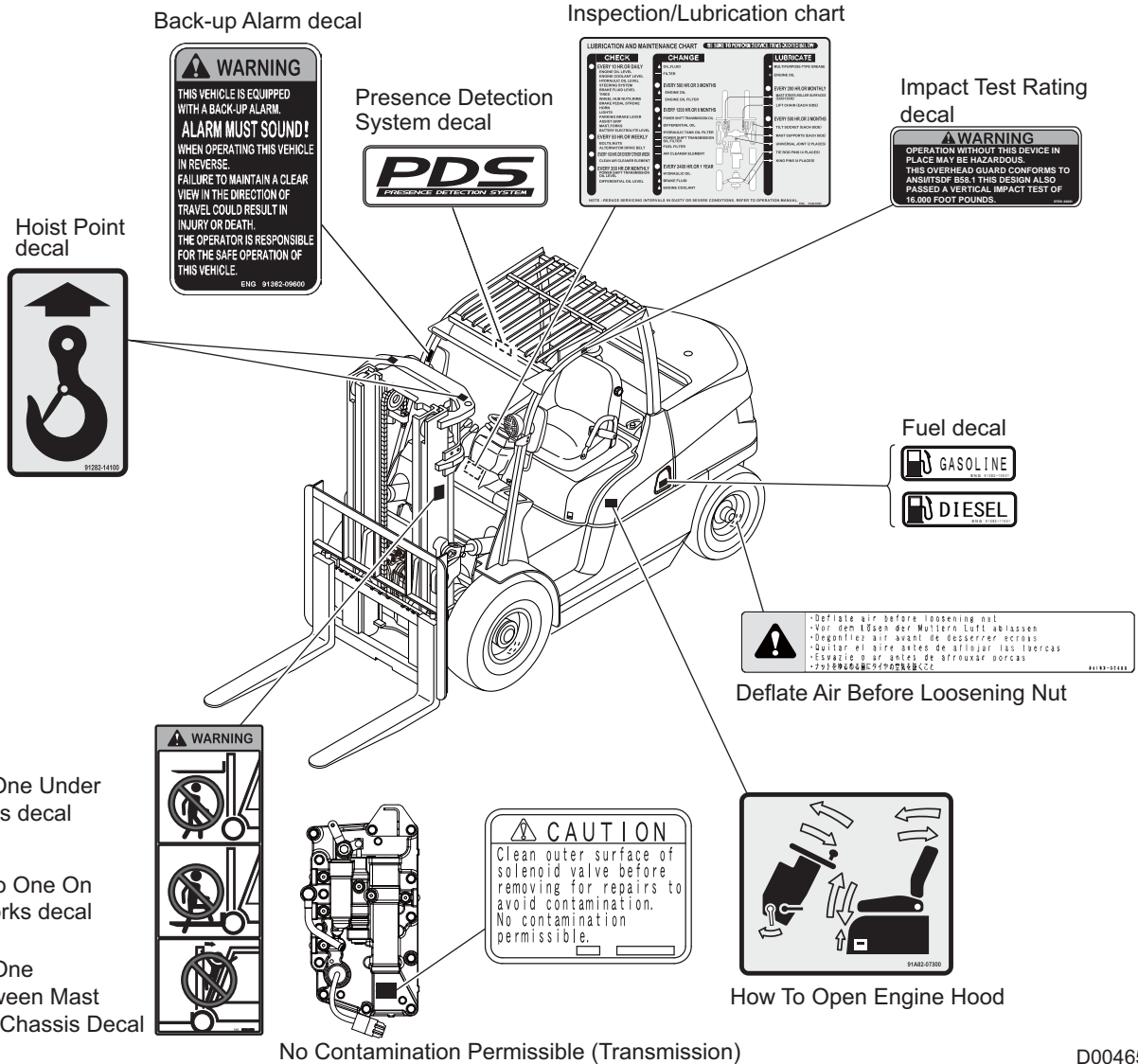
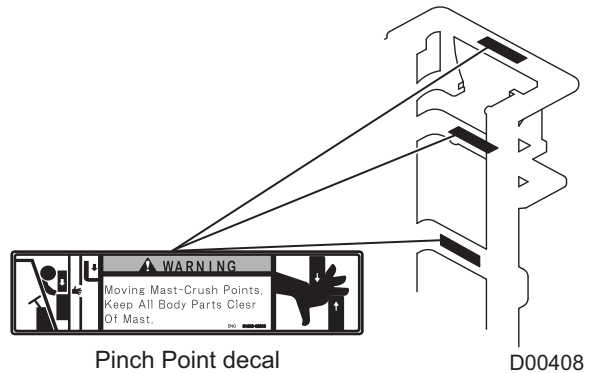
Continuing improvement and advancement of product design may have caused changes to your lift truck, which are not included in this publication. Whenever a question arises regarding your lift truck, or this publication, please consult your authorized Cat lift truck dealer for the latest available information.

All lift truck users should be familiar with their Local, Regional, and National regulations. United States users should be familiar with the Occupational Safety and Health Administration (OSHA), and ANSI/ITSDF B56.1, Safety Standard for Low and High Lift Trucks. See www.osha.gov web site for more information on Regulations (Standards – 29 CFR) Powered industrial trucks – 1910.178.

You should also be familiar with areas of use of different types of lift trucks as specified in the National Fire Protection Association (NFPA) 505.

◆ Warning Decals, Location

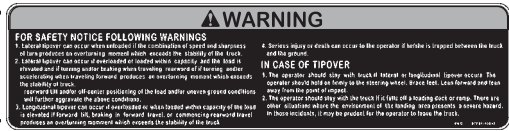
- There are several specific warning decals on your lift truck. Their exact location and description of the potential hazard are reviewed in this section. Please take the time to familiarize yourself with these decals.
- Make sure you can read all warning and instruction decals. If you cannot, clean or change them. Use a cloth and soap and water to clean them.
- You must change a decal if it is damaged, missing or cannot be read. If a decal is on a part that is changed, make sure a new decal is placed on the new part. Contact your authorized Cat lift truck dealer for new decals.



Fasten Seat Belt decal



Survive in Tipover decal



No Riders Warning decal



Operation Warning decal



Operation with OMM decal

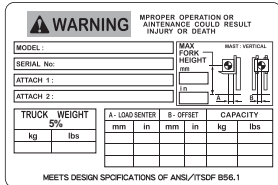


Located on Back of Seat

Operator Restraint System decal

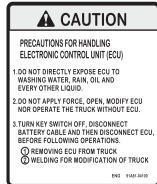


Capacity Plate

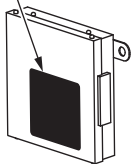


CAPACITY SPECIFIED FOR THE TRUCK REQUIRES TIRES AUTHORIZED BY THE MANUFACTURER

Requirement Tires Authorized



Precautions for Handling E.C.U. decal



(Inside of Right Step)



With Load Backrest Extension decal

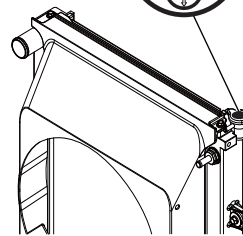
UL Plate



Parking Brake Adjustment decal



Radiator Cap Warning decal



No Access with Engine Running decal

D00466

◆ Decals for LPG Fuel and Dual Fuel Only

LPG decal

WARNING
LPG FUEL CYLINDER REPLACEMENT PROCEDURE
LPG FUEL IS HIGHLY FLAMMABLE.

1. NO SMOKING - DO NOT REPLACE FUEL CYLINDER IN AREAS THAT HAVE A SOURCE OF FUEL IGNITION.
2. CLOSE CYLINDER FUEL SUPPLY VALVE AND RUN ENGINE UNTIL IT STOPS PRIOR TO DISCONNECTING THE FUEL HOSE FROM THE TANK.
3. REPLACE THE FUEL CYLINDER. BE SURE THAT THE FUEL SUPPLY VALVE IS CLOSED AND THAT THE SIZE AND TYPE ARE PER THE CYLINDER DESCRIPTION PLATE. SECURELY MOUNT AND POSITION WITH LOCATING PIN THROUGH POSITIONING HOLE IN COLLAR. CYLINDER SHALL NOT EXTEND OUTSIDE THE PLAN PROFILE OF THE TRUCK.
4. CONNECT FUEL HOSE. OPEN VALVE SLOWLY SO THE HOSE AND TANK PRESSURE CAN EQUALIZE OR THE EXCESS FLOW CHECK VALVE MAY SLUG. SHOULD LEAKAGE OCCUR, CLOSE VALVE AND HAVE QUALIFIED PERSONNEL MAKE REPAIRS.
5. USE FUEL MANUFACTURED TO THE NATIONAL GAS PROCESSORS ASSOCIATION "ND-5" SPECIFICATION.

ENGLISH 93165-19200

Gasoline/LPG Changeover decal

WARNING
FUEL CHANGEOVER INSTRUCTIONS
DUAL FUEL SYSTEM
FLAMMABLE LIQUIDS. WHEN SWITCHING FROM LP-GAS TO GASOLINE. BE SURE THAT THERE IS NO SPILLAGE OF FUEL FROM THE GASOLINE FUEL LINES.

1. SHUT OFF BOTH FUEL LINES COMPLETELY BY PLACING SWITCH IN THE OFF POSITION.
2. START ENGINE AND RUN UNTIL SYSTEM IS PURGED OF ALL FUEL STOPS.
3. TURN SWITCH TO DESIRED FUEL SELECTION, LPG OR GASOLINE.
4. START ENGINE AS USUAL.

ENGLISH 93165-19200

Maintenance decal

WARNING
RECOMMENDED SAFETY MAINTENANCE PROCEDURE
FOR LP-GAS FUELED FORKLIFT TRUCKS

1. LP-GAS is a combustible fuel that is heavier than air. Escaping gas may accumulate in low areas which could cause a fire/explosion.
2. The fuel cylinder shall be mounted so that it does not extend outside the plan profile of the truck and shall be properly positioned with the locating pin through positioning hole in collar.
3. The fuel supply valve shall be turned off when the machine is not in service.
4. Cast fittings shall not be used in the LP-GAS system.
5. All pipe threaded fittings shall be installed using an approved sealing compound.
6. Fuel lines should be supported by clamps to minimize chafing and wear.
7. The LP-GAS solenoid valve shall be wired to an automatic shut off switch (oil pressure or vacuum) to prevent leakage of gas in the event the ignition is on without the engine running.
8. Check the propane solenoid or vacuum shutoff valve for leakage as follows:
 - a. Turn cylinder fuel supply valve off, start and run engine until it stops.
 - b. Install a 0 to 30 PSI pressure gauge to the primary test port of the regulator.
 - c. Turn cylinder fuel supply valve on. The pressure gauge shall maintain a zero reading. If it does not, the solenoid valve or vacuum shutoff valve must be repaired or replaced. An odor is added to LP-GAS to help detect leaks. If gas odor is detected, the cylinder fuel supply valve and engine shall be turned off. Remove all sources of ignition, and ventilate the area. Make all of the necessary repairs before turning the fuel supply on.
9. The complete LP-GAS system shall be inspected periodically. Check all hoses for wear, connections for leaks, and all parts for damage.

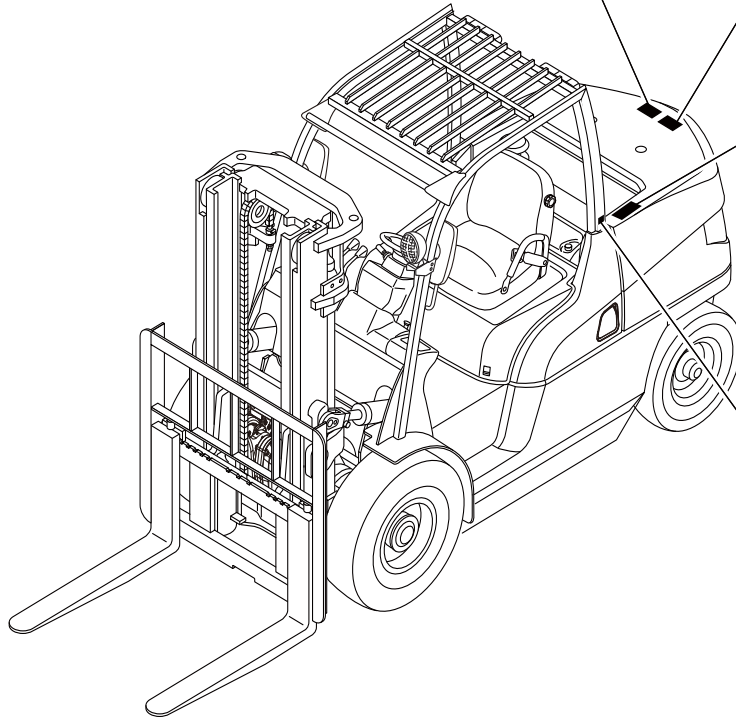
NOTE: Fuel hoses have a limited life expectancy. They shall be checked for cracking and drying due to age. Hoses with visible signs of age shall be replaced. Use only Underwriters Laboratories or Factory Mutual listed LP-GAS hose assemblies where pressure fuel lines are required.
10. Contact the manufacturer for detailed service information.

NOTE: The above information is provided as a guide. Consult National Fire Protection Association pamphlet 58, NFPA 505 and local governmental safety regulations for the safe storage and handling of liquefied petroleum gases.

SERVICE WORK SHOULD BE PERFORMED BY QUALIFIED PERSONNEL ONLY

ENGLISH 93165-19200

Fuel decal

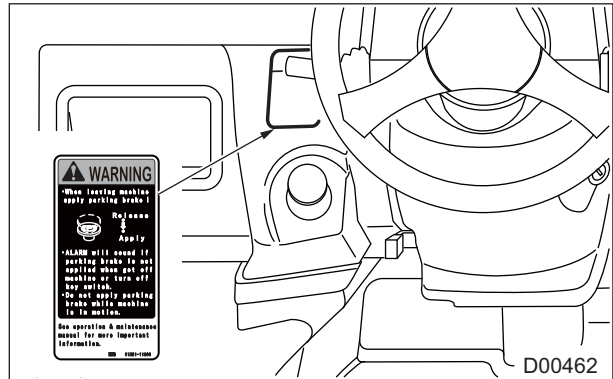


◆ Warning Decals, Description

•Parking Brake

WARNING

- When leaving machine, apply parking brake!
- ALARM will sound if parking brake is not applied when operator gets off the machine or turns off the key switch.
- Do not apply parking brake while machine is in motion.

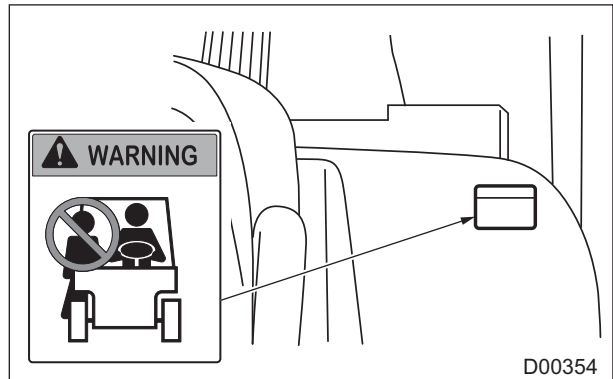


D00462

•No Rider

WARNING

To avoid serious injury, DO NOT carry passengers. This lift truck is designed for only one operator and no riders.

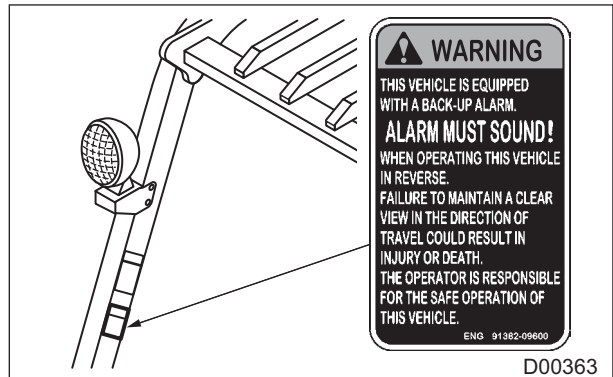


D00354

•Back-up Alarm

WARNING

This vehicle is equipped with a back-up alarm. Alarm must activate when operating this vehicle in reverse. Failure to maintain a clear view in the direction of travel could result in injury or death. The operator is responsible for the safe operation of this vehicle.

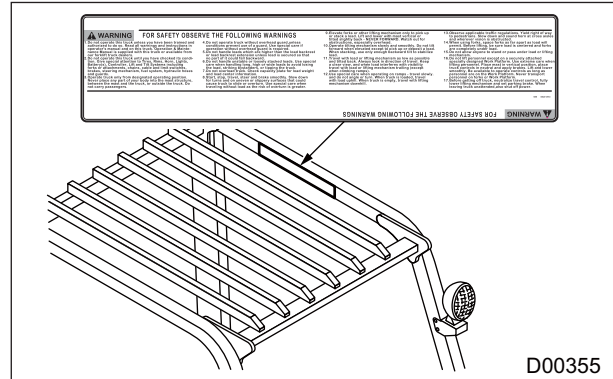


D00363

•For Safety Observe the Following Warnings

WARNING

1. Do not operate this truck unless you have been trained and authorized to do so. Read all warnings and instructions in operator manual and on this truck. Operation & Maintenance Manual is supplied with this truck or available from our forklift truck dealers.
2. Do not operate this truck until you have checked its condition. Give special attention to Tires, Rims, Horn, Lights, Battery(s), Controller, Lift and Tilt Systems including forks or attachments, chains, cable and limit switches, brakes, steering mechanism, fuel system, hydraulic hoses and guards.
3. Operate truck only from designated operating position. Never place any part of your body into the mast structure, between the mast and the truck, or outside the truck. Do not carry passengers.
4. Do not operate the truck without the overhead guard, unless conditions prevent use of a guard. Use special care if operation without overhead guard is required.
5. Do not handle loads which are higher than the load backrest or load backrest extension unless load is secured so that no part of it could fall backward.
6. Do not handle unstable or loosely stacked loads. Use special care when handling long, high or wide loads to avoid losing the load, striking bystanders, or tipping the truck.
7. Do not overload truck. Check capacity plate for load weight and load center information.
8. Start, stop, travel, steer and brake smoothly. Slow down for turns and on uneven or slippery surfaces that could cause truck to slide or overturn. Use special care when traveling without load as the risk of overturn is greater.
9. Elevate forks or other lifting mechanism only to pick up or stack a load. Lift and lower with mast vertical or tilted slightly back—**NEVER FORWARD**. Watch out for obstructions, especially overhead.
10. Operate tilting mechanism slowly and smoothly. Do not tilt forward when elevated except to pick up or deposit a load. When stacking, use only enough backward tilt to stabilize load.



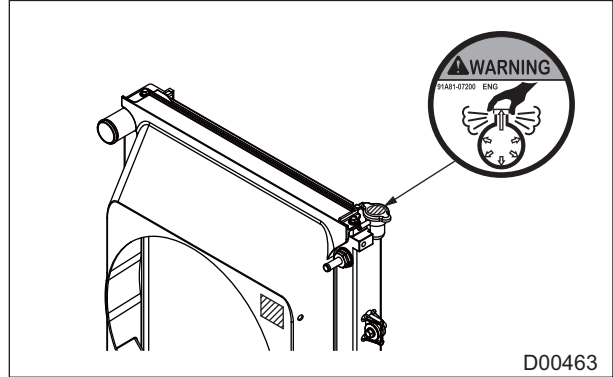
WARNING

11. Travel with load or lifting mechanism as low as possible and tilted back. Always look in direction of travel. Keep a clear view, and when load interferes with visibility travel with load or lifting mechanism trailing (except when climbing ramps).
12. Use special care when operating on ramps—travel slowly, and do not angle or turn. When truck is loaded, travel with load uphill. When truck is empty, travel with lifting mechanism downhill.
13. Observe applicable traffic regulations. Yield right of way to pedestrians. Slow down and sound horn at cross aisles and wherever vision is obstructed.
14. When using forks, space forks as far apart as load will permit. Before lifting, be sure load is centered and forks are completely under load.
15. Do not allow anyone to stand or pass under load or lifting mechanism.
16. Do not lift personnel except on a securely attached specially designed Work Platform. Use extreme care when lifting personnel. Place mast in vertical position, place truck controls in neutral and apply brakes. Lift and lower smoothly. Be available to operate controls as long as personnel are on the Work Platform. Never transport personnel on forks or Work Platform.
17. Before getting off truck, neutralize travel control, fully lower lifting mechanism and set parking brake. When leaving truck unattended, also shut off power.

•Radiator Cap

WARNING

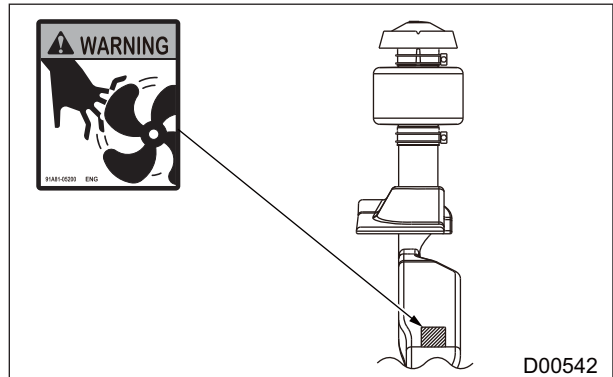
Check the coolant level only after the engine has been stopped and the filler cap is cool enough to touch with your hands. Remove the filler cap slowly to relieve pressure.



•Cooling Fan

WARNING

To avoid serious injury, stay clear of the moving fan.



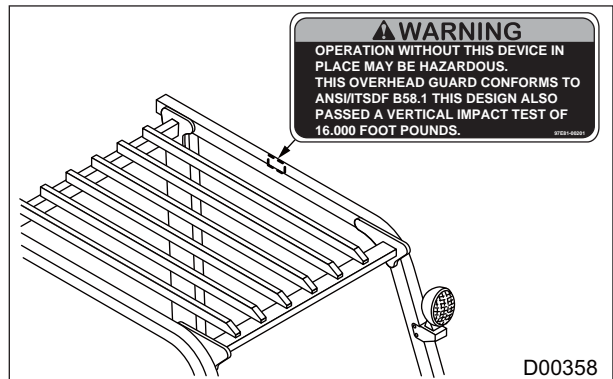
•Overhead Guard

WARNING

Operation without this device in place could be hazardous.

WARNING

DO NOT remove the overhead guard.



•No One under / on Forks

WARNING

- DO NOT stand or ride on the forks.
- DO NOT stand or ride on a load or pallet on the forks.
- DO NOT stand or walk under the forks.
- DO NOT place any part of your body between the mast and the lift truck chassis.

