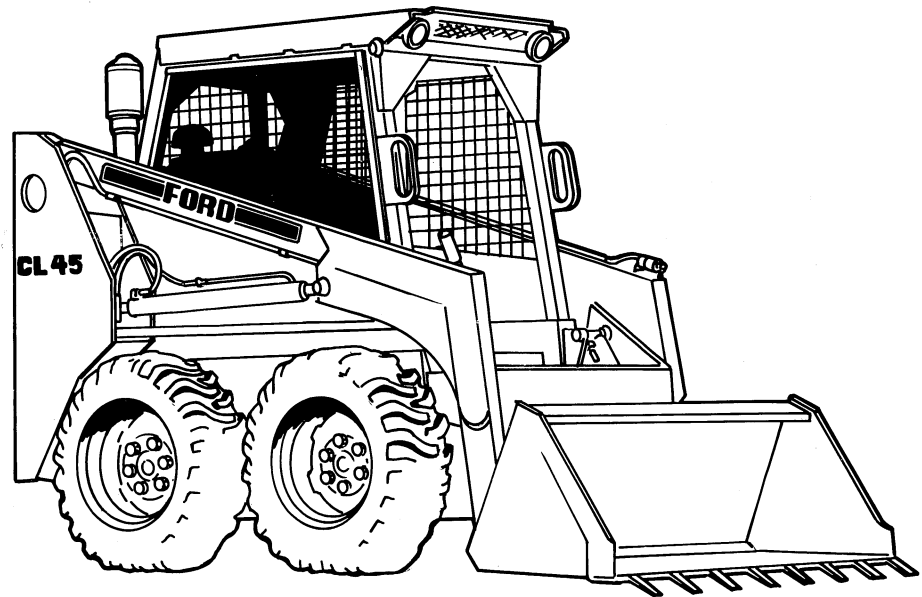


FORD

CL 35 and CL 45 Compact Loader

42003520



OPERATOR'S MANUAL

Reprinted

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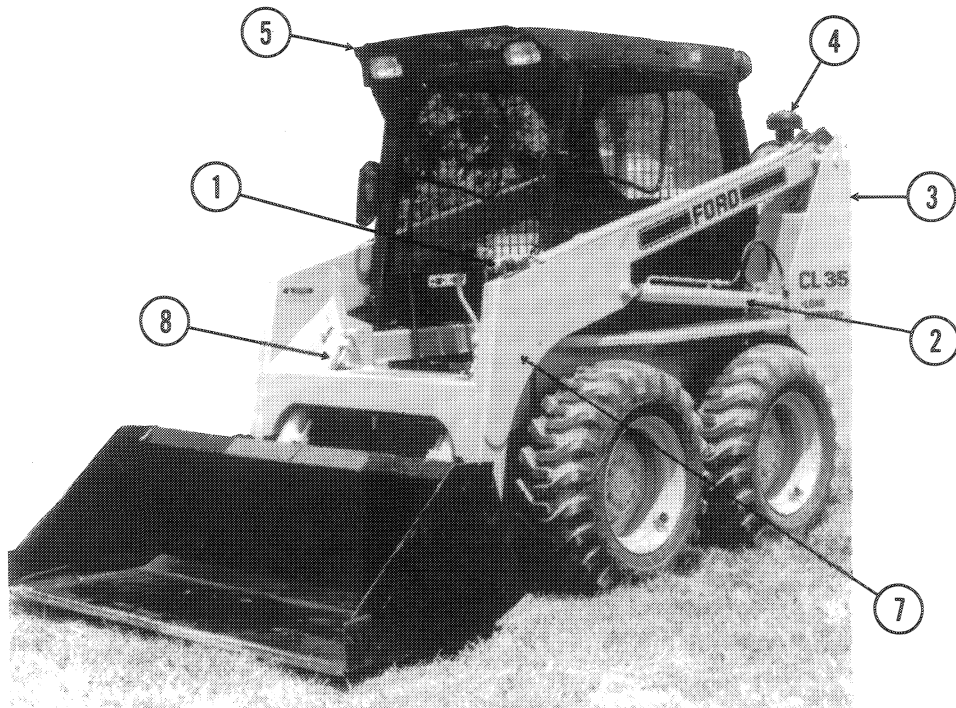
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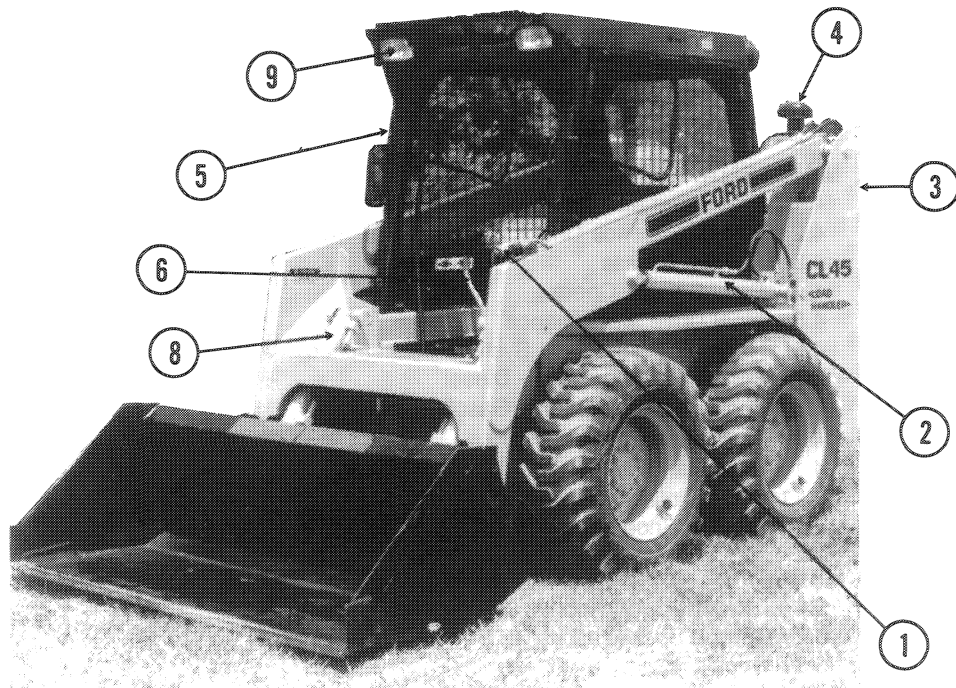
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CL35 and CL45

CL 35



CL 45



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1 GENERAL INFORMATION

INTRODUCTION:

The Ford CL35 and CL45 Compact Loaders, (Fig. 1), are designed for handling construction, industrial, mining and agricultural materials. The CL35 has a rated lift capacity of *1000 lbs. (454 Kg) to a height of 109 inches (2769 mm) as measured at the quick-tach hinge pin. The CL45 has a rated lift capacity of *1300 lbs. (590 Kg) to a height of 109 inches (2769 mm). These loaders are designed to transport from one area to another, both indoors and outdoors. With the variety of attachments available, both the Ford CL35 and CL45 compact loaders can be equipped for a multitude of job site uses.

The following paragraphs contain a description of the components and systems incorporated in these loaders.

*with equipment specified in section 5.1

Engine Assembly:

CL35 — The engine assembly, Fig. 1, is located directly behind the operators seat in a completely enclosed compartment. The engine is a three cylinder, liquid cooled, 28.2 horsepower, Shibaura Model H843-TL diesel engine. The CL35 is also available with a four cylinder, air cooled, 30 H.P., Wisconsin Model VH4D gasoline engine. Standard engine accessories include a dry type air cleaner, oil filter, fuel filter, glow plugs, 12 volt alternator and starter, fuel pump and mechanical governor.

CL45 — The engine assembly, Fig. 1, is located directly behind the operators seat in a completely enclosed compartment. The engine is a four cylinder, liquid cooled, 42 horsepower, Shibaura Model LEP854A-3 diesel engine. Standard engine accessories include a dry type air cleaner, oil filter, fuel filter, glow plugs, 12 volt alternator and starter, fuel pump and mechanical governor.

Operating Controls and Instruments:

Standard instruments on the Ford CL35 and CL45 include: key ignition switch, safety override starting switch, fuel gauge, glow plug indicator, engine coolant temperature and oil pressure warning light, hydraulic oil temperature warning light, alternator light, hour meter and light switch.

Controls consist of hand lever throttle and diesel shut-off, hand lever speed, direction control, parking brake, and foot pedal boom lift, bucket dump and auxiliary hydraulic controls.

Hydrostatic Drive:

Two engine driven, in line axial variable displacement piston hydrostatic pumps supply oil to two hydraulic torque drive motors. One drive motor for each side of the loader powers the wheels. The final drive assembly, of each side of the unit, is sealed inside a dust proof case and consists of a single ASA 80 roller chain on the CL35 and a single ASA 100 roller chain drive on the CL45 running in an oil bath.

Steering:

Steering consists of two hand control levers, each connected through a linkage arrangement to a variable displacement

hydrostatic piston pump. Each pump supplies oil to only one torque motor to drive the wheels on one side of the loader. The further a control lever is moved in the desired direction of travel, increases the volume of oil supplied to the motor driving the wheels of that side of the loader, thus increasing the speed of those wheels. Moving both hand control levers an equal amount will provide straight line travel. Varying the lever movements results in one side driving faster or slower than the other and produces turning. With one lever full forward and the other full back, a pivot or skid-steer turn is obtained.

Braking is accomplished by returning the control levers to their neutral position or slightly beyond.

Hydraulic System:

Separate hydraulic circuits provide power for operating both the loader drive and hydraulic systems. A gear pump supplies oil to a three spool series type control valve. Two, double acting cylinders provide lifting and lowering action of the loader boom arms. Two, double acting bucket cylinders, dump or curl the bucket or provide for tilting of attachments. A hydraulic oil reservoir, separate from all chain drives, two 100 micron suction elements, a 10 micron hydraulic filter and an oil cooler complete the hydraulic system. The hydraulic system has a capacity of 8 gal. (30.3 l).

Safety Equipment:

The Ford CL35 and CL45 provide a combination foot pedal lock and loader controls neutral centering device. The loader cannot be started unless the foot pedals are locked and the hand control levers centered in neutral. When the engine has started the seat bar can be lowered in position which automatically unlocks the foot pedals and steering control levers. Other standard safety equipment includes: safety belt, boom locks, quick-tach lock, override starting switch, ROPS, side screens and parking brake.

IMPORTANT

Do not remove or modify any safety equipment. Failure to observe these instructions could result in injury or death to the operator.

Wheels and Tires:

The Ford CL35 and CL45 are equipped with heavy duty 15 inch (38.1 cm) wheels and 7.00 x 15, 6 ply nylon tires with Chevron tread.

Frame Assembly:

The frame assembly of both the CL35 and CL45 are constructed of heavy steel plates, welded into an integral unit and reinforced to create maximum resistance to stress and strain.

SAFETY PRECAUTIONS

The following precautions are suggested to help prevent accidents.

A careful operator is the best operator. Most accidents can be avoided by observing certain precautions. Read and take the following precautions before operating this loader to help prevent accidents. Equipment should be operated only by those who are responsible and instructed to do so.

THE LOADER

1. Read this manual carefully before using the loader. Working with unfamiliar equipment can lead to accidents.
2. Do not allow anyone to ride on the loader with the operator.
3. Make sure the control locks and the seat bar are installed and functioning at all times.
4. Never run the engine in a closed building without adequate ventilation, as the exhaust fumes can cause death.
5. Always fasten the seat belt before starting the engine.
6. Never attempt to start the engine while standing beside the unit. Start the engine only while sitting in the operator's seat with the seat belt fastened. Always check to make certain that the seat cushion is secured to the frame.
7. Keep the operator's platform free of debris.
8. Never enter or leave the loader while the engine is running. Always lower the lift arms down against the frame, drop the bucket down to contact the ground, set the parking brake and shut off the engine prior to leaving the loader.
9. If the unit is equipped with a cab enclosure kit always close the door prior to operating the loader lift arms.

OPERATING THE LOADER

1. Always drive the loader at speeds compatible with safety, especially when operating over rough ground, crossing ditches, or when turning.
2. Avoid jerky turns, starts, stops, or reverses.
3. Use care when operating on steep grades to maintain proper stability.
4. Do not turn the unit while the lift arms are in the raised position.
5. Be careful when driving through door openings or under overhead objects. Always make sure there is sufficient clearance for the operator's guard.
6. When travelling on public roads use accessory lights and devices for adequate warning to operators of other vehicles.
7. Always be sure of water, gas, sewage and electrical line locations before you start to dig.
8. Watch out for overhead and underground high-voltage electrical lines when operating the loader.
9. Never leave the loader when it is parked on an incline. Always park the loader on level ground where possible. If the loader is to be parked on an incline, always lower the bucket so that the cutting lip contacts the ground and set the parking brake.
10. Do not leave the loader when it is in motion.

OPERATING THE LOADER

1. Do not dismount from the loader and leave the loader lift arms raised. Always lower the lift arms down against the frame and drop the bucket down to contact the ground prior to leaving the loader.
2. Always be watchful of bystanders when operating the loader.
3. Always carry the bucket low for maximum stability and visibility, whether the bucket is loaded or empty.
4. Exercise extreme caution when operating the loader with a raised, loaded bucket or fork.
5. Never attempt to lift loads in excess of loader capacity.

MAINTENANCE

1. Stop the engine before performing any service on the loader.
2. Never refuel the loader while smoking or with the engine hot or running.
3. Replace all missing, illegible, or damaged safety and warning decals. See section 5.3 for list.
4. Do not modify or alter, or permit anyone to modify or alter this equipment or any of its components or any tractor function without first consulting a Ford Tractor Equipment Dealer.
5. Do not bypass the starter safety system. Consult your Ford Tractor-Equipment Dealer if your safety starter controls are malfunctioning. Use jumper cables only in recommended manner.
6. Do not make mechanical adjustments while the unit is in motion or when the engine is running. However, if minor engine adjustments must be made, securely block the loader wheels, and use extreme caution.
7. Do not attempt to repair or tighten hydraulic hoses when the system is under pressure, when the engine is running, or when the lift arms are raised.
8. Do not get under the bucket or lift arms or reach through the lift arms when the loader is raised.
9. Never attach chains or ropes to the operator's guard for pulling purposes, as the loader can tip over.
10. Whenever servicing or replacing pins in cylinder ends, buckets, etc., always use a brass drift and a hammer. Failure to do so could result in injury from flying metal fragments.
11. Cooling system operates under pressure which is controlled by the radiator cap. It is dangerous to remove the cap while system is hot. Always turn cap slowly to the first stop and allow the pressure to escape before removing the cap entirely.

Whenever you see this symbol



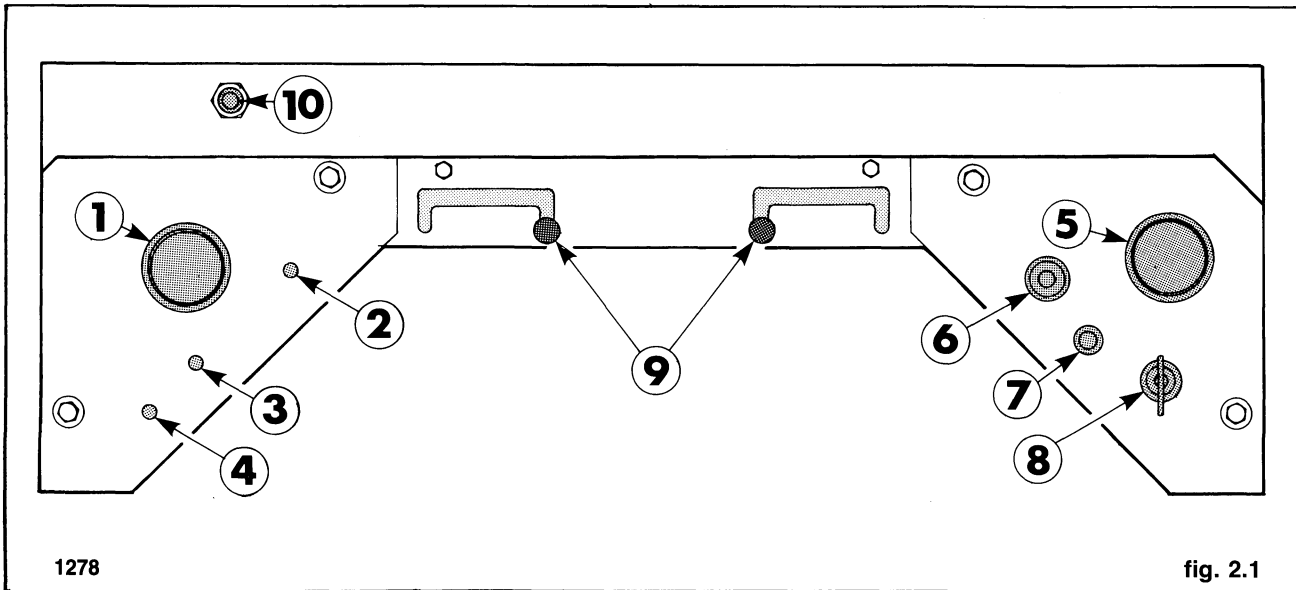
it means:

ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

2 CONTROLS

- 2.1 Instrument Panel
- 2.2 Seat and Seat Belt
- 2.3 Seat Bar
- 2.4 Throttle, Stop and Choke
- 2.5 Steering Controls
- 2.6 Foot Pedals
- 2.7 Quick-Tach
- 2.8 Boom Lock
- 2.9 Parking Brake

2 CONTROLS



2.1 INSTRUMENT PANEL

1. Fuel Gauge:

The fuel gauge indicates the quantity of fuel in the fuel tank. The fuel tank capacity is 16.8 gal. (64 l). The diesel engine must not be allowed to run out of fuel otherwise air will have to be removed from the fuel (see section 4.7.8).



2. Alternator Light:

The alternator light will come on if the alternator is not producing sufficient current. Refer to the engine manual for test procedures.

3. Hydraulic Oil Temperature Light:

The hydraulic oil temperature sender measures the temperature of the hydraulic oil. If the light comes on during operation shut off the engine and determine cause of overheating. Check the hydraulic oil cooler for air flow restriction. Refer to section 4.11 trouble shooting.

4. Engine Warning Light:

The engine warning light serves the dual function of

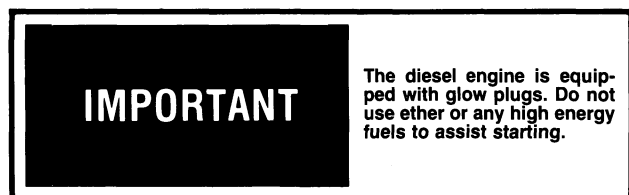
monitoring both the engine oil pressure and engine coolant temperature. If the light comes on during operation or fails to go out after starting shut-off the engine immediately and determine cause.

5. Hour Meter:

The hour meter records the number of engine operating hours and has a total read out of 9999.9 hours. The clock winds approximately every 12 seconds and will run a short time after the engine has been shut off.

6. Engine Pre-Heat Indicator (Diesel Only):

The diesel engine is equipped with glow plugs to assist in starting. The glow plugs are activated by turning the ignition key counter clockwise as far as possible and held in this position. The pre-heat indicator will turn red when the air in the combustion chamber has reached the proper temperature for starting.



7. Light Switch:

The light switch is an on-off switch. Pulling the switch out will turn on the headlights and rear work lights. Pushing the switch in will shut the lights off.

2 CONTROLS

8. Ignition Switch:

The ignition switch is a four position switch, off, pre-heat (diesel only), run and start. Turning the key counter clockwise will engage the engine pre-heat. To engage the starter turn the key clockwise. When the key is released it will return to run position.



9. Boom Locks:

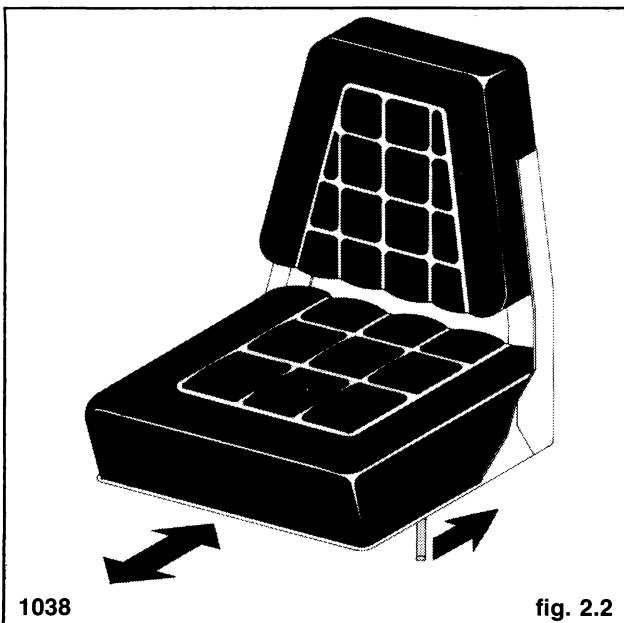
For safety while performing regular service or maintenance work the loader is equipped with boom locking pins. For details of operation refer to section 2.8.



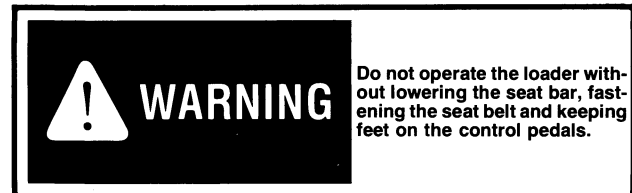
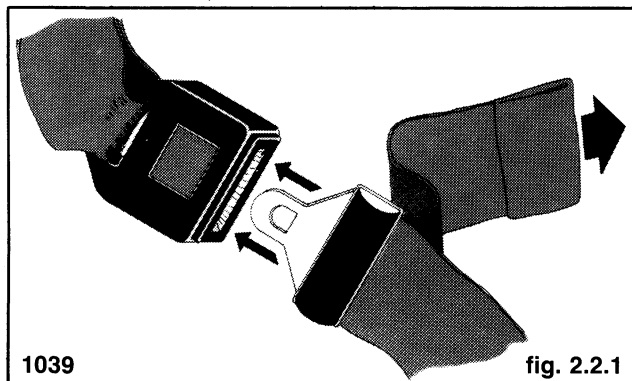
10. Over-Ride Starting Switch: See Section 3.1.4

2.2 SEAT AND SEAT BELT

The loader is equipped with a deluxe seat. The seat can be adjusted forward or back for operator comfort. (Fig. 2.2).



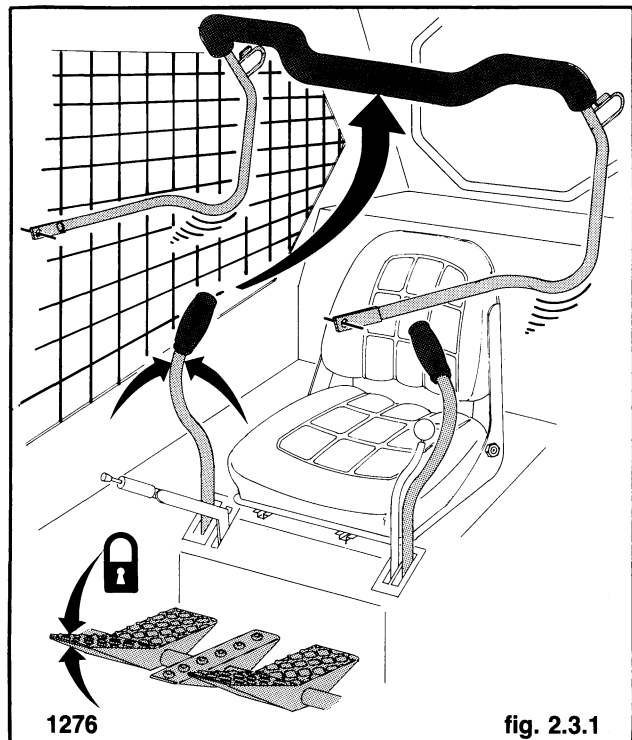
For your safety the loader is equipped with a seat belt. Before starting the loader adjust and fasten the seat belt. (Fig. 2.2.1).



2.3 SEAT BAR

For operator protection the loader is equipped with a seat bar. The seat bar prevents the loader from being started unless the foot control pedals are locked and the steering control levers are centered in neutral.

To raise the seat bar, lift up on the bar until it locks in the up position (fig. 2.3.1). In the up position, the seat bar automatically centers the steering controls in neutral position and locks the foot pedals to prevent accidental movement. The loader must be started with the operator seated in the loader and with the seat bar in the up position.



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