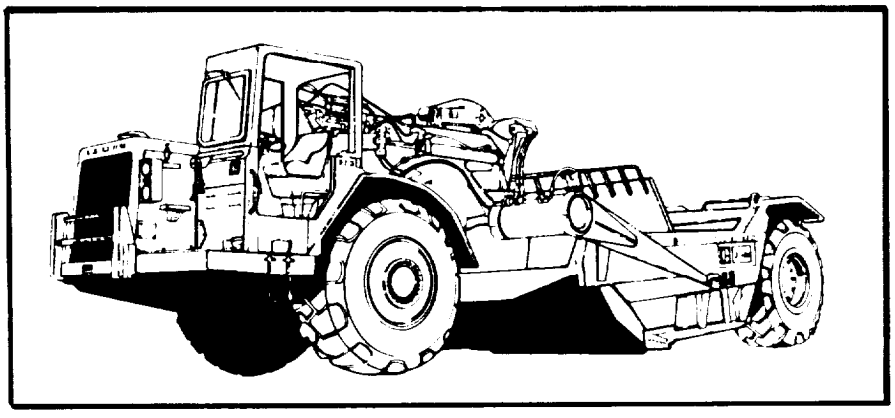
TECHNICAL MANUAL

FOR

SCRAPER, EARTH MOVING, MOTORIZED DIESEL ENGINE DRIVEN

NSN 3805-01-153-1854



OPERATION

HEADQUARTERS, DEPARTMENT OF THE ARMY
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REPORTING OF ERRORS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms) or DA Form 2028-2 located in the back of this manual direct to: Commander. US Armv Tank-Automotive Command, ATTN: AMSTA-MBP, Warren, Ml 48397-5000. A reply will be furnished direct to you.

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This technical manual is an authentication of the manufacturers commercial literature and does not conform with the format and content specified in AR 310-3, Military Publications. This technical manual does, however, contain available information that is essential to the operation and maintenance of the equipment.

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Safety Practices

⚠ WARNING

Do not operate this machine until you have read and understand the instructions in the Operator's Guide. Improper operation is dangerous, and could result in injury or death.

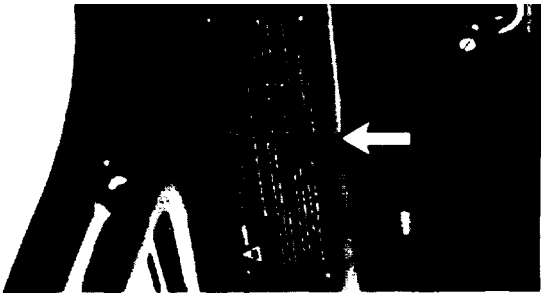
⚠ WARNING

Actuation of the control cause movement - reducing hitch clearances suddenly.

⚠ WARNING

Use steps and grab irons located on the machine. Face the machine when mounting or dismounting. Do not jump off the machine.

Do not use the steering wheel as a handhold. The machine could articulate.



⚠ WARNING

To avoid possible weakening of the Rollover Protective Structure (ROPS), consult a Caterpillar dealer before altering the ROPS in any way.

The protection offered by the ROPS will be impaired if it has been subjected to structural damage.

General

Wear a hard hat, protective glasses and other protective equipment as required by job conditions.

Do not wear loose clothing or rings that can catch on controls or parts of the machine.

Keep the steps and walkways free of foreign material Secure all loose items such as lunch boxes, tools, etc.

Know hand signals and who gives them Accept signals from one person only.

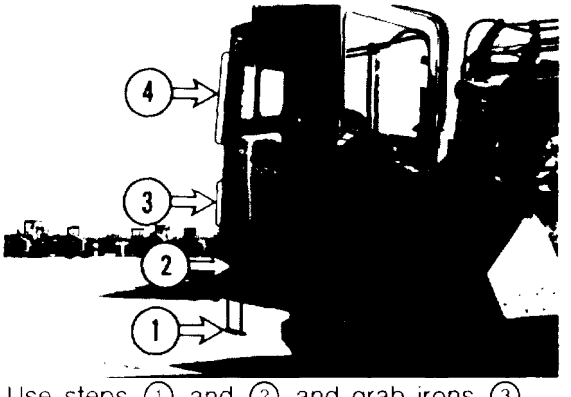
Mounting and Dismounting

Climb on or off the machine only where steps and/or grab irons are provided. Never jump on or off of the machine.

Use both hands and face the machine when mounting or dismounting.

Never get on or off of a moving machine.

Learn the location of the emergency exits.



Use steps ① and ② and grab irons ③ and ④ when entering or leaving the operator's compartment.

Preparing to Start the Engine.

Inspect the condition of the seat belt Replace it if it is worn or damaged.

Make certain all protective guards and covers are secured in place.

Inspect the machine for potential fire hazards.

Make sure the machine is equipped with proper lighting as required by job conditions.

Inspect the machine for potential hazards.

Starting the Engine

Do not start the engine or move any of the controls if a DO NOT OPERATE or warning tag is attached to the controls.

Make sure no one is working on, under, or close to the machine before starting the engine.

Move all implement controls to hold or neutral before starting the engine.

Shift the transmission control lever to neutral and engage the transmission neutral lock and parking brake.

Start and operate the engine only in a well ventilated area in an enclosed area, vent the engine exhaust to the outside.

Preparing to Operate

Adjust the seat so that full brake pedal travel can be obtained with the operator's back against the seat back.

Fasten the seat belt securely.

Safety

Check all controls and protective devices to make sure they are working properly while moving slowly in an open area

1. Steering
2. All brakes
3. Governor control
4. Hydraulic functions
5 .Devices such as lights, travel alarm, horn. etc.

See the “Service Manual” for adjustments if they are needed.

Operating

Operate the controls only while seated.

Do not allow riders on the machine unless an additional seat, seat belt and rollover protection is provided for each rider.

The operator must satisfy himself that no one will be endangered before moving the machine.

Be careful to avoid tipping when working on hills, banks or slopes and also when crossing ditches, ridges or other obstructions.

Stay a safe distance from the edge of cliffs, overhangs or slide areas.

If the machine begins to slide on a grade dispose of the load Immediately and turn the machine downhill.

Know the exact location of buried cables and pipes. Mark them clearly.

Parking the Machine

Lower the equipment to the ground with slight down pressure. Move the transmission control to neutral and engage the lock Apply the parking brake. Stop the engine. Turn off the disconnect switch and remove the key.

If the machine must be parked on a steep grade, block all wheels.

Fire Prevention

Do not smoke while refueling or when near batteries.

Always have a fire extinguisher on hand and know how to use it inspect and service the extinguisher as recommended on the instruction plate.

Do not start the machine or move any of the controls if there is a warning tag attached to the controls or starter switch.

Do not carry flammable fluids such as starting fluid (ether), gasoline or fuel on the machine in loose containers.

Before operating, inspect for trash or leaks which could cause a fire. See “Before Starting” for the walk-around inspection procedure.

Loose or damaged lines, tubes or hoses which leak, can cause fires.

Do not bend or strike high pressure lines. Do not install bent or damaged lines, tubes or hoses.

Inspect all lines, tubes and hoses carefully. Tighten all connections to the recommended torque.

Make sure that all clamps, guards and heat shields which protect hot exhaust components from oil or fuel spray, are installed correctly. This will help to prevent vibration, rubbing against other parts , or excessive heat during operation. And it will help prevent fires in the event of a line. tube or seal failure.

⚠ WARNING

Explosions of air-inflated earthmoving tires have resulted from heat-induced gas combustion inside the tires. The heat generated by welding or heating rim components, external fire, or excessive use of brakes, can cause gaseous combustion.

A tire explosion is much more violent than a blowout. The explosion can propel the tire, rim, and final drive components as far as 460 m (1500 feet) or more from the machine. Both the force of the explosion and the flying debris can cause personal injury or death, and property damage.

Although the risk of an explosion is very low, the hazard is very great, particularly with large tires used on wheel tractor-scrapers.

All personnel should be made aware of this danger and the actions to take to minimize the risk.

Heat from any source is transferred to the tire causing deterioration of the bead. Normally, the burned bead causes loss of air, and the tire goes flat without hazard to anyone in the vicinity.

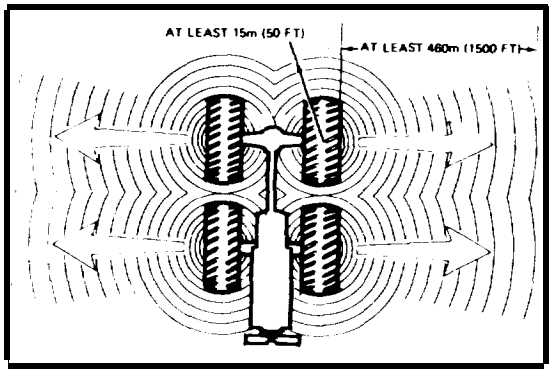
Bead burning can result in the release of an explosive gaseous mixture inside the tire. In some cases the gaseous mixture inside the tire ignites. The internal burning causes a rapid increase in pressure, resulting in a violent tire explosion. The explosion produces a blowout at the tire bead which reacts against the machine to propel the tire, rim assembly and final drive components a considerable distance from the machine.

The danger of a tire explosion is greatest after the machine stops, because of the loss of the cooling effect of the circulating air due to wheel rotation.

If smoke, excessive heat, the smell of burning rubber or hot brakes, or other indications of bead burning are noticed, take action to prevent personal injury.

Move the machine to a remote area, but only if it can be done without endangering the operator or other personnel in the area

Remove all personnel from the area where the machine is located.



⚠ WARNING

Do not approach a tire closer than the outside of the area represented by the shaded area in the above drawing.