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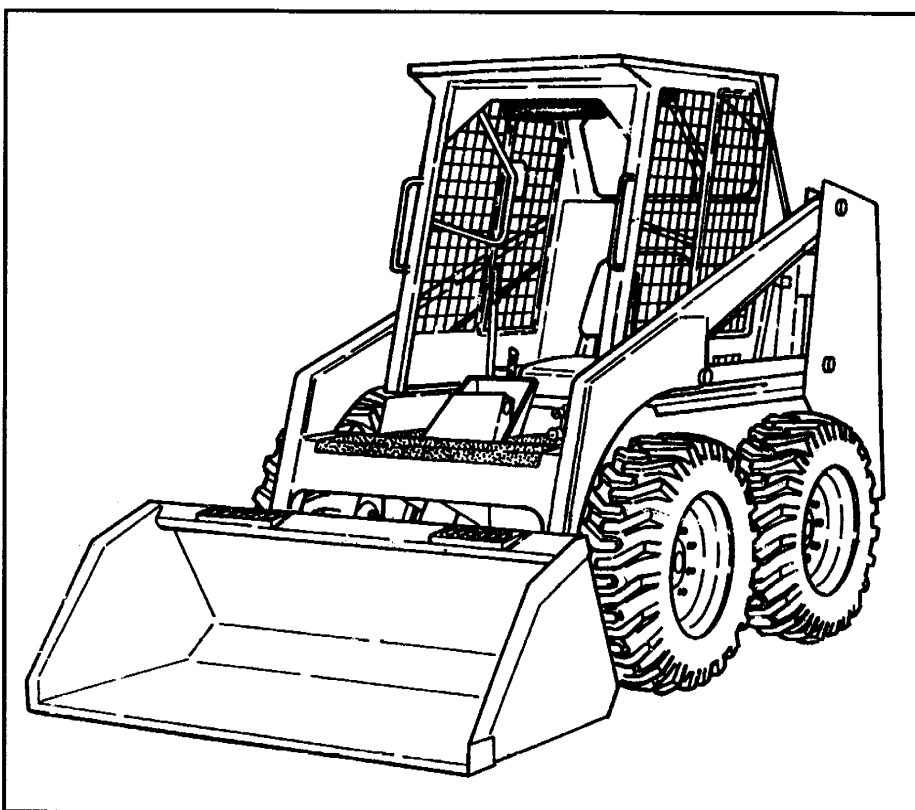
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Operation & Maintenance Manual

(S/N 502412001 & Above)



**MELROE
INGERSOLL-RAND**

6566276 (11-82) Revised (9-96)

Printed in U.S.A.



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OPERATING INSTRUCTIONS

DO NOT Operate the Bobcat loader until you have read this Operator's Manual completely.

Instructions for operating the Bobcat loader with safety and efficiency are given on the following pages.

Carefully follow these instructions to take advantage of the Bobcat loader's design.

You must remember operator safety at all times while you operate the loader.

Read the safety instructions inside the front cover of the Operator's Manual.

It is important that you use the following procedures when you operate the Bobcat loader.

1. Use the safety treads and the grab handles when you get On and Off the loader (Fig. 1).

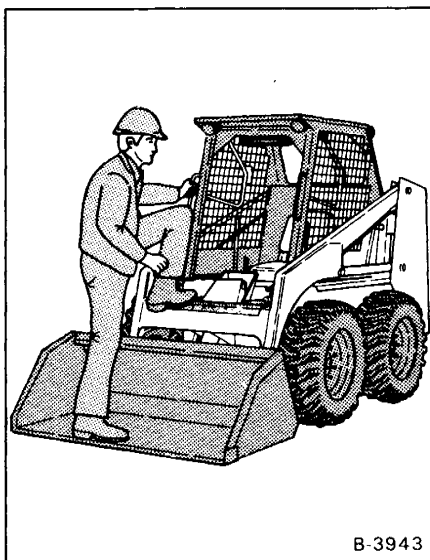


Fig. 1 Using Safety Treads & Grab Handles

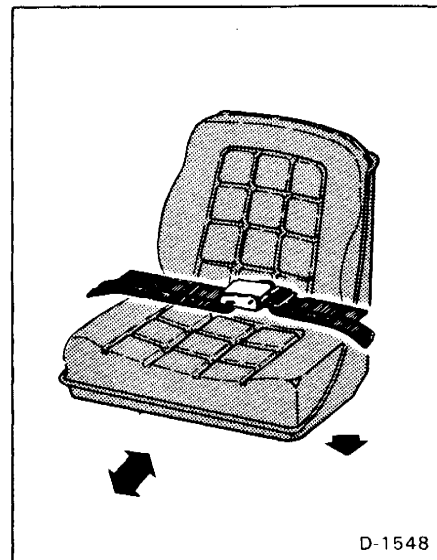


Fig. 2 Seat Adjustment

1. Use the safety treads and the grab handles when you get On and Off the loader (Fig. 1).

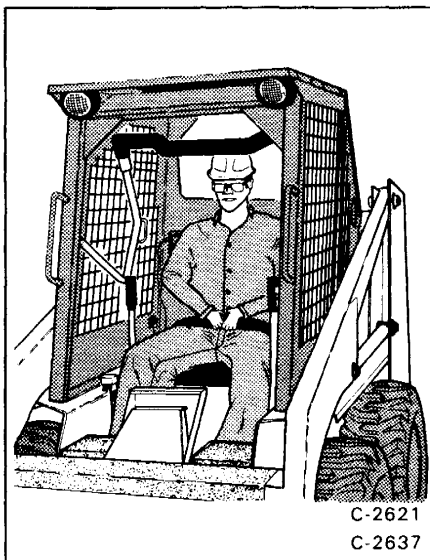


Fig. 3 Fasten Seat Belt

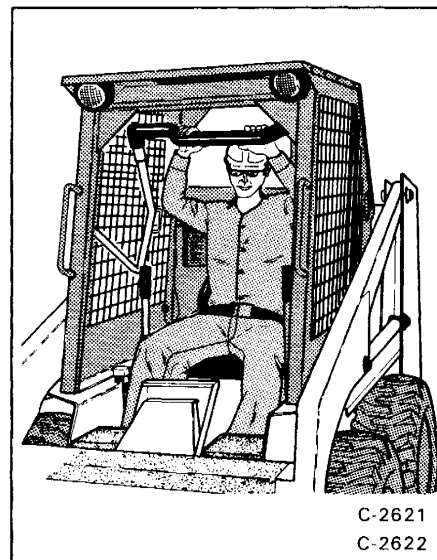


Fig. 4 Lower Seat Bar

WARNING

Remember to stop the engine, engage the parking brake and lower the lift arms before you get off the loader.

2. Adjust the seat position for easy operation of the loader (Fig. 2). Adjust and fasten the seat belt (Fig. 3) and lower the seat bar (Fig. 4, 5 & 6). Check that the parking brake is engaged before you start the engine.

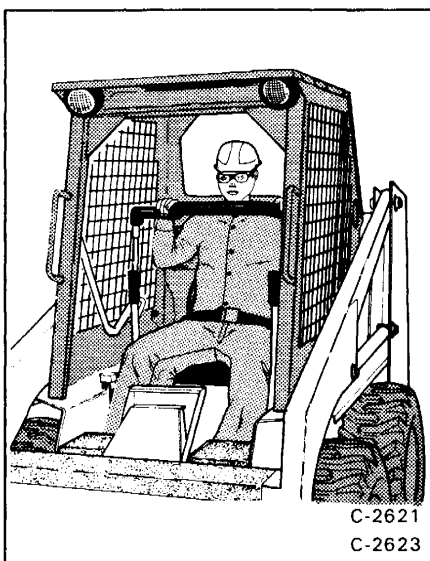


Fig. 5 Lower Seat Bar

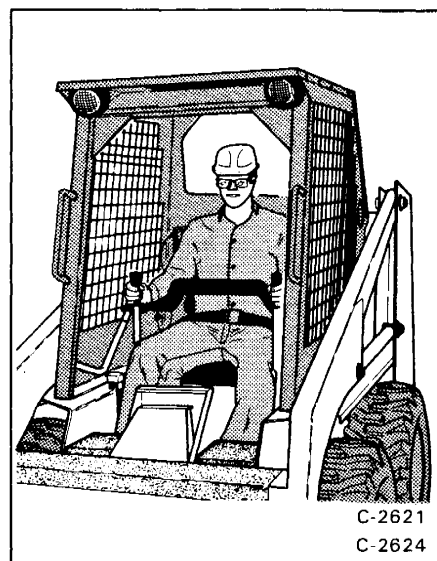


Fig. 6 Seat Bar Lowered

Normal Starting Condition

1. Adjust the seat position so that you can reach the controls of the Bobcat loader. Fasten and adjust the seat belt (Fig. 24). Lower the seat bar (Fig. 25). Engage the parking brake.
2. Make sure that the controls are in the neutral (Center) position (Fig. 26, Item A).
3. Put the throttle at 1/2 throttle position (Fig. 26, Item B). Pull the stop control fully up.
4. Turn the key switch to the "ON" position. Check that the engine and the transmission warning lights are illuminated (Fig. 26, Item C).
5. Turn the key to the left to the "Pre-Heat" position (Fig. 26, Item F). (See Chart Below)

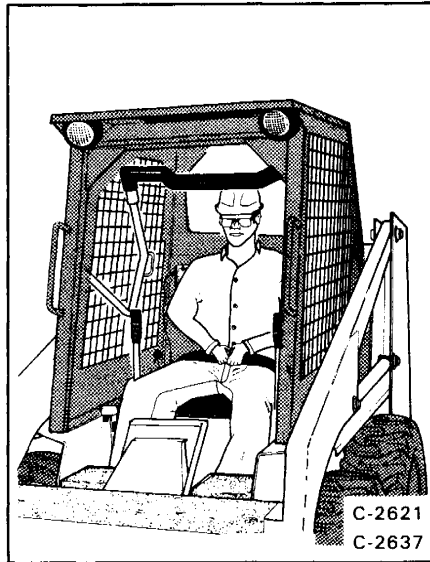


Fig. 24 Fastening Seat Belt

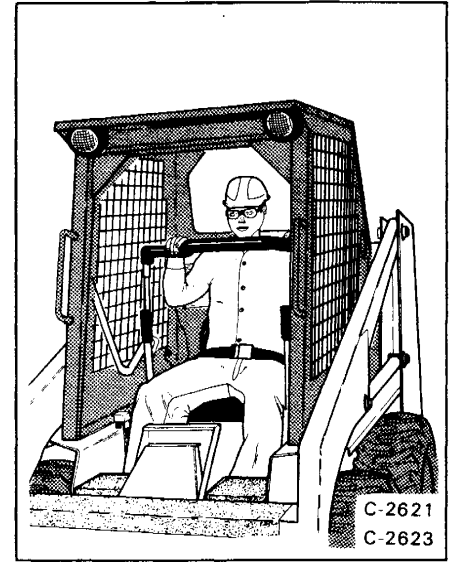


Fig. 25 Lowering Seat Bar

PRE-HEATING TIMES	
Temperature	Pre-Heating Period
86° (30°C) & Above	10 Seconds
86° (30°C) to 50°F (10°C)	15 Seconds
50° (10°C) to 32°F (0°C)	20 Seconds
32° (0°C) to 0°F (-18°C)	30 Seconds

6. Turn the key to "START" and hold it until the engine starts (Fig. 26, Item D). The engine must start within 15 seconds. If the engine does not start, pre-heat again. DO NOT run the starter more than 15 seconds. Let the starter cool for one minute before engaging the starter again.

When the engine has started, the warning lights must go "OFF" (Fig. 26, Item E). Stop the engine if the warning lights do not go off. Check for the cause of the problem (See the "Troubleshooting" section of this Operator's Manual).

Cold Temperature Starting Condition

If the starting temperature are below 32°F. (0°C.), use the following procedures to make the starting easier:

- a. Replace the engine oil with the correct type and viscosity for the anticipated starting temperature (See the "Oil Specifications", on page 25).
- b. Make sure the battery is at full charge.
- c. Install a block heater on the engine.

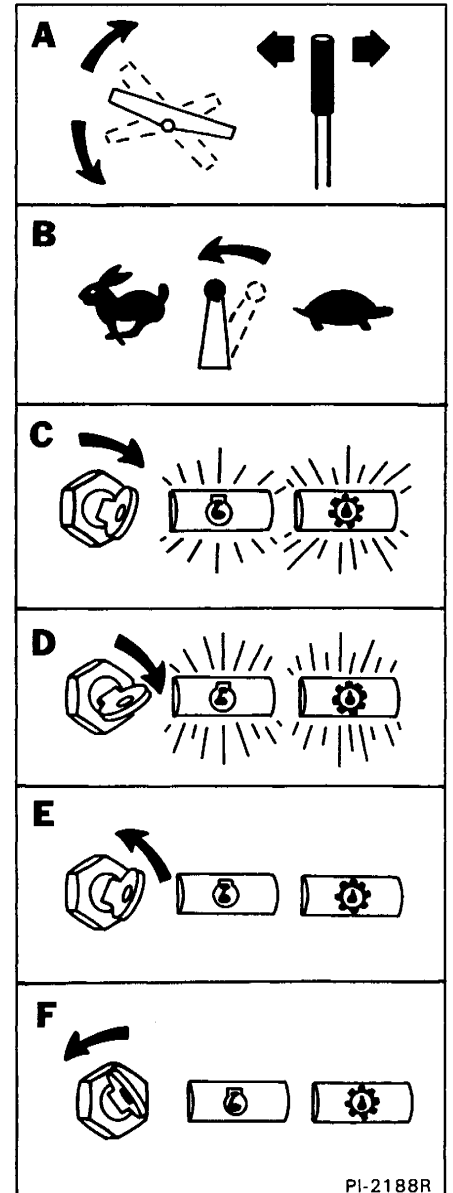


Fig. 26 Starting Procedure

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PREVENTIVE MAINTENANCE

WARNING

Instructions are necessary before doing service on this loader. See all instructions and warnings in this manual. Check warnings at the beginning of this manual. After doing service, always check the loader for correct function. Failure to obey warnings can cause injury or death.

ELECTRICAL SYSTEM (Fig. 62 & 63)

The Bobcat has a 12 volt, negative ground alternator charging system.

To service the electrical system:

1. Check to see that the battery cables are clean and tight. Remove any acid or corrosion from the battery and cables with a baking soda and water solution (Fig. 64). Cover the terminals with Clark Battery Saver to prevent corrosion. Install the covers on the terminals.
2. Two 25 ampere fuses are installed in the dash panel. If the fuses become damaged, replace them with same type and size fuses.

USING AN EXTRA BATTERY (Jump Starting)

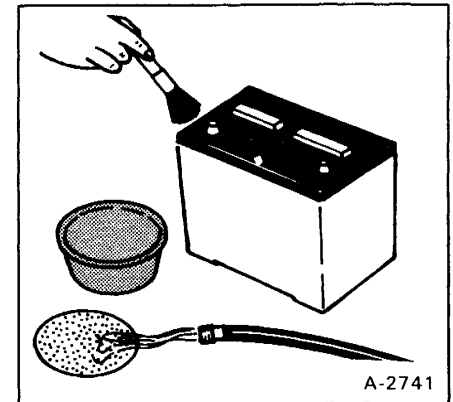


Fig. 64 Cleaning Battery

WARNING

Lead-acid batteries produce flammable and explosive gases. Keep arcs, sparks, flames and lighted tobacco away from the battery. Make a "jump" start connection as recommended by the manufacturer. When connecting extra battery for "jump" start always make the last connection (negative cable) to the engine (never at the battery). When removing the "jump" start cables, always remove the negative cable from the engine first.

If it is necessary to use an extra battery to start the engine, BE CAREFUL! This is a two person operation. There must be one person in the operator's seat and one person to connect and disconnect the battery cables.

WARNING

Lead-acid batteries contain sulfuric acid which will damage the eyes or skin on contact. Always wear goggles to avoid acid in the eyes. If acid contacts the eyes, wash immediately with much clean water and get medical attention. Wear rubber gloves and protective clothing to keep acid off the skin. If acid contacts the skin, wash off immediately with clean water.

1. The ignition must be in the off position.
2. The battery to be used must be of the same voltage.
3. Battery terminals have identification marks. The positive terminal is marked (+) and negative terminal is marked (-).
4. The negative terminal (-) of the battery must be connected to the engine.

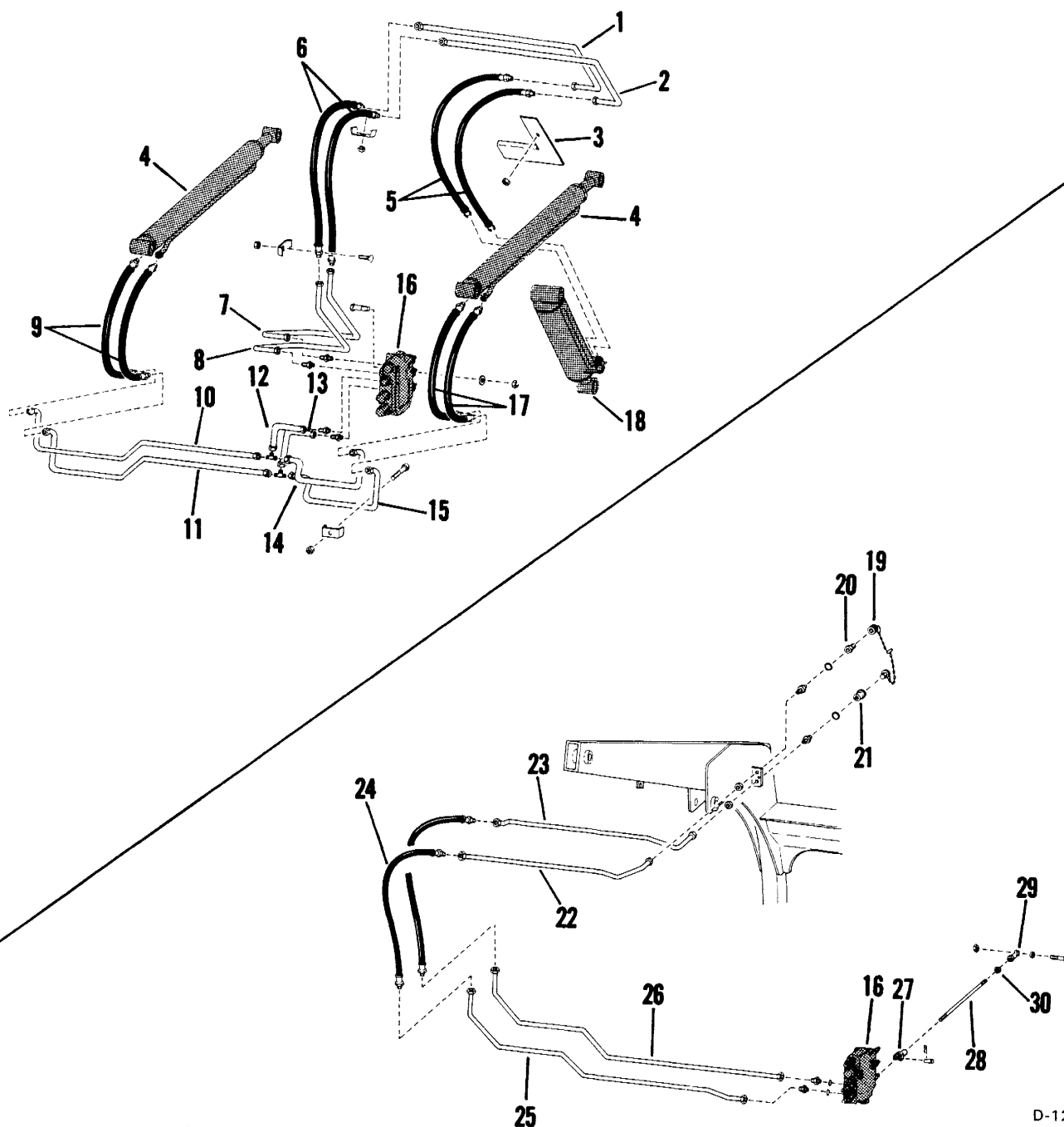
WARNING

DO NOT charge a frozen battery because it can explode and cause personal injury. Let the battery warm to 60°F. (15.5° C.) before putting on a charger.

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**TROUBLE—
SHOOTING**



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HYDRAULIC SYSTEM

Ref.	Description	Ref.	Description	Ref.	Description
1.	Tube	11.	Tube	21.	Coupler
2.	Tube	12.	Tube	22.	Tube
3.	Cover	13.	Tube	23.	Tube
4.	Cylinder, lift	14.	Tube	24.	Hose
5.	Hose	15.	Tube	25.	Tube
6.	Hose	16.	Valve	26.	Tube
7.	Tube	17.	Hose	27.	Yoke
8.	Tube	18.	Cylinder, tilt	28.	Rod
9.	Hose	19.	Cap	29.	Swivel
10.	Tube	20.	Coupler	30.	Nut

WARNING DECAL

This warning decal is located on the rear door, on the engine, or at a place near the engine.

Failure to obey warnings, may cause injury or death.

WARNUNGS-AUFKLEBER (GERMAN)

Dieser Warnungs-Aufkleber ist an der hinteren Wartungsklappe, am Motor oder in Motornähe angebracht.

Motorhaube nur zur Wartung öffnen.

Motor abstellen, abkühlen lassen und von allen leichtentzündlichen Fremdstoffen säubern.

Berühren von elektrischen Kontakten vermeiden. Lose Kleidung und los Gegenstände (Schmuck, etc.) von beweglichen oder heißen Teilen und vom Auspuff fernhalten.

Lader nicht in der Nähe von explosivem Staub, Gasen oder sonstigen leichtentzündlichen Materialien einsetzen.

Batteriesäure kann Ätzverletzungen verursachen. Schutzbrille tragen. Wenn Säure in die Augen gelangt, Augen schnell mit Wasser auswaschen und sofort ärztliche Hilfe aufsuchen.

Batteriegase sind leichtentzündlich. In Batterienähe Funken und offenes Licht vermeiden und nicht rauchen.

Beim Starten mit Überbrückungskabeln den letzten Anschluss am Laderrahmen vornehmen (niemals an der Batterie). Nach dem Anlassen Kabelanschluss am Laderrahmen zuerst lösen.

Abgase können tödlich sein. Stets für genügende Entlüftung sorgen.

Nichtbeachtung von Warnungshinweisen kann zu schweren oder tödlichen Verletzungen führen.

CALCOMANIA DE ADVERTENCIA (SPANISH)

Esta calcomanía de advertencia está colocada en la puerta trasera del motor o en un lugar cercano al motor.

Abra la puerta de acceso al motor solamente para darle servicio.

Pare el motor, déjelo enfriar y límpielo de cualquier material inflamable.

No toque con el cuerpo, con objetos sueltos o con la ropa, los circuitos eléctricos, las piezas móviles o el tubo de escape.

No utilice el cargador en lugares con polvo explosivo o gas o materiales inflamables cerca del tubo de escape.

El ácido de la batería puede producir lesiones en los ojos en la piel. Lleve anteojos de seguridad. Si el ácido entra en los ojos, lávelos con agua rápidamente u vea a un médico.

La batería forma gases inflamables y explosivos. Mantenga la batería separada de las chispas, llama y cigarrillos encendidos.

Para el arranque con cables auxiliares, conecte último el cable en el bastidor del cargador. (Nunca en la batería). Después del arranque auxiliar, saque primero la conexión del bastidor.



WARNING AMONESTACION WARNUNG AVERTISSEMENT

Keep door closed except for service.

Stop, cool, and clean engine of flammable material.

Keep body, loose objects and clothing away from electrical contacts, moving parts, hot parts and exhaust.

Do not use loader in space with explosive dusts or gases or with flammable material near exhaust.

All exhaust gases can kill. Always ventilate.

Battery acid will burn eyes or skin. Wear goggles. If acid gets into eyes, wash eyes with water fast and see doctor.

Battery makes flammable and explosive gas. Keep arcs, sparks, flames and lighted cigarettes away.

For jump start, connect last cable at the engine of loader (never at the battery). After jump start, remove connection at the engine first.

See Operator's Manual for more instructions.

Failure to obey warnings may cause injury or death.

Weitere Instruktionen sind in der Bedienungsanleitung.

Missachtung dieser Regeln kann Verletzung verursachen und kann tödlich sein.

Consulte el Manual del Operador para más instrucciones.

El no obedecer estos avisos puede causar heridas o ser fatal.

Se reporter au manuel de l'opérateur pour plus d'enseignements.

Le non-respect des préceptes peut entraîner des blessures ou la mort.

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Todos los gases del escape son mortalmente venenosos. Mantenga siempre una buena ventilación.

El no obedecer estos avisos puede causar heridas o ser fatal.

DECALCOMANIE D'ATTENTION

(FRENCH)

Cette décalcomanie d'attention est située sur la porte arrière du moteur ou à un endroit situé à proximité du moteur.

La porte d'accès au compartiment moteur doit rester fermée, sauf pour les travaux d'entretien.

Arrêter le moteur, le laisser refroidir et enlever toute trace de matériaux inflammables.

Tenir le corps, les objets ou vêtements à l'écart de contacts électriques, de organes mobiles, des pièces chaudes ou du circuit d'échappement.

Ne pas utiliser la chargeuse dans une atmosphère chargée de poussières ou de gaz explosifs ou dans des endroits où l'échappement peut entrer en contact avec des matériaux inflammables.

L'acide de batterie peut attaquer les yeux ou la peau. Toujours porter des lunettes de protection. Si de l'acide venait à atteindre les yeux, rincer immédiatement à grande eau et consulter d'urgence un médecin.

Les batteries dégagent des gaz inflammables et explosifs. Tenir les arcs électriques, les étincelles, les flammes et les cigarettes à l'écart des batteries.

Lors du branchement d'une batterie de relais pour un démarrage par «pontage», effectuer le dernier branchement (câble négatif) au châssis de la chargeuse, jamais à la batterie. Pour débrancher les câbles de démarrage, toujours déconnecter le câble négatif du châssis en premier lieu.

Tous les gaz d'échappement sont mortels. Toujours assurer une bonne ventilation.

Le non-respect de consignes peut provoquer des blessures et même la mort.

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