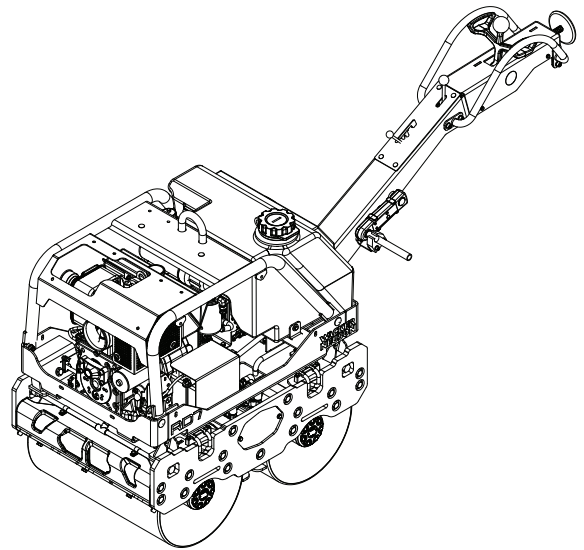


Operator's Manual

Roller

RD7



Type	RD7
Document	5200016798
Date	0121
Revision	07
Language	EN



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Trademarks	<p>All trademarks referenced in this manual are the property of their respective owners.</p>
Manufacturer	<p>Wacker Neuson America LLC</p> <p>N92W15000 Anthony Avenue</p> <p>Menomonee Falls, WI 53051 U.S.A.</p> <p>Tel: (262) 255-0500 · Fax: (262) 255-0550 · Tel: (800) 770-0957</p> <p>www.wackerneuson.com</p>
Original instructions	<p>This Operator's Manual presents the original instructions. The original language of this Operator's Manual is American English.</p>

CALIFORNIA Proposition 65 Warning



WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.



WARNING

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.



WARNING

Cancer and Reproductive Harm -
www.P65Warnings.ca.gov.



WARNING

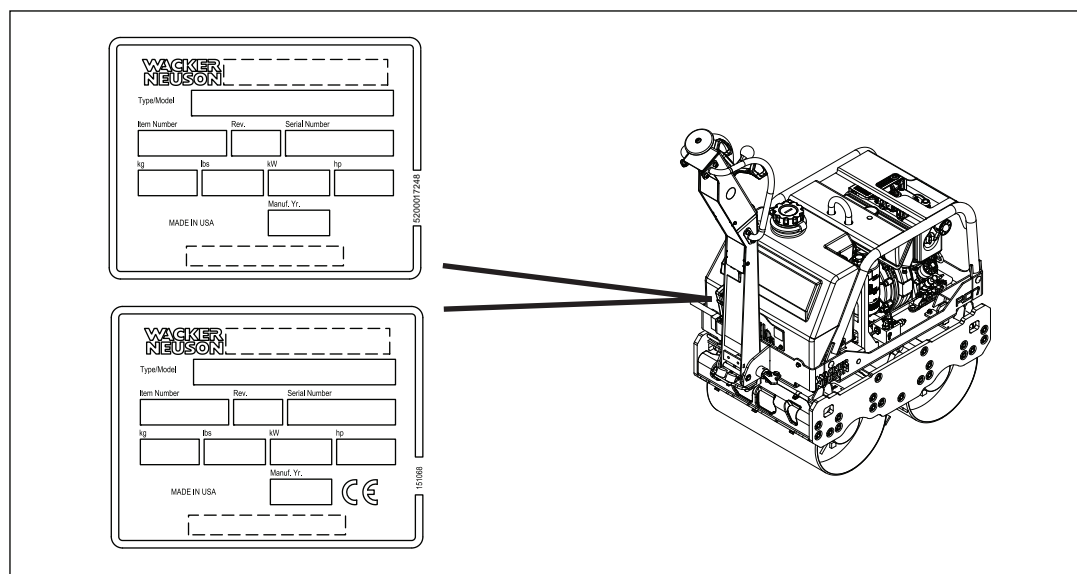
Batteries, battery posts, terminals and related accessories contain lead and lead compounds, and other chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. WASH HANDS AFTER HANDLING.

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Foreword

SAVE THESE INSTRUCTIONS—This manual contains important instructions for the machine models below. These instructions have been written expressly by Wacker Neuson America LLC and must be followed during installation, operation, and maintenance of the machines.

Machine	Item Number
RD7He	5200015241, 5200015244, 5100017193, 5100017194, 5100018451, 5100038031
RD7H	5200015242, 5200015245, 5100017195, 5100017338
RD7A	5200015243, 5200015246, 5100017196
RD7Ye	5100027116, 5100027117, 5100038032



wc_gr011530

Machine identification

A nameplate listing the model number, item number, revision number, and serial number is attached to this machine. The location of the nameplate is shown above.

Serial number (S/N)

For future reference, record the serial number in the space provided below. You will need the serial number when requesting parts or service for this machine.

Serial Number:

Machine documentation

- From this point forward in this documentation, Wacker Neuson America LLC will be referred to as Wacker Neuson.
- Keep a copy of the Operator's Manual with the machine at all times.
- For spare parts information, please see your Wacker Neuson Dealer, or visit the Wacker Neuson website at <http://www.wackerneuson.com/>.
- When ordering parts or requesting service information, be prepared to provide the machine model number, item number, revision number, and serial number.

Expectations for information in this manual

- This manual provides information and procedures to safely operate and maintain the above Wacker Neuson model(s). For your own safety and to reduce the risk of injury, carefully read, understand, and observe all instructions described in this manual.
- Wacker Neuson expressly reserves the right to make technical modifications, even without notice, which improve the performance or safety standards of its machines.
- The information contained in this manual is based on machines manufactured up until the time of publication. Wacker Neuson reserves the right to change any portion of this information without notice.
- The illustrations, parts, and procedures in this manual refer to Wacker Neuson factory-installed components. Your machine may vary depending on the requirements of your specific region.

CALIFORNIA Proposition 65 Warning

Combustion exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Laws pertaining to spark arresters

NOTICE: State Health Safety Codes and Public Resources Codes specify that in certain locations spark arresters be used on internal combustion engines that use hydrocarbon fuels. A spark arrester is a device designed to prevent accidental discharge of sparks or flames from the engine exhaust. Spark arresters are qualified and rated by the United States Forest Service for this purpose. In order to comply with local laws regarding spark arresters, consult the engine distributor or the local Health and Safety Administrator.

Manufacturer's approval

This manual contains references to *approved* parts, attachments, and modifications. The following definitions apply:

- **Approved parts or attachments** are those either manufactured or provided by Wacker Neuson.
- **Approved modifications** are those performed by an authorized Wacker Neuson service center according to written instructions published by Wacker Neuson.
- **Unapproved parts, attachments, and modifications** are those that do not meet the approved criteria.

Unapproved parts, attachments, or modifications may have the following consequences:

- Serious injury hazards to the operator and persons in the work area
- Permanent damage to the machine which will not be covered under warranty

Contact your Wacker Neuson dealer immediately if you have questions about approved or unapproved parts, attachments, or modifications.





EC Declaration of Conformity

Manufacturer

Wacker Neuson Production Americas LLC, N92W15000 Anthony Avenue,
Menomonee Falls, Wisconsin 53051 USA

Product

Product	RD7He, RD7H	RD7A	RD7Ye
Product category	Vibrating Walk-Behind Rollers		
Product function	To compact asphalt		
Item number	5200015244, 5100017194, 5200015245, 5100017338, 5100038031	5200015246	5100027117, 5100038032, 5100048340
Net installed power	6.1 kW	7.2 kW	6.09 kW
Measured sound power level	105 dB(A)		
Guaranteed sound power level	108 dB(A)		

Conformity Assessment Procedure

According to ANNEX VIII

Notified Body

Lloyds Register Verification Limited (Notified Body No 0038)
71 Fenchurch Street, London EC3M 4BS, United Kingdom

Directives and Standards

We hereby declare that this product meets and complies with the relevant regulations and requirements of the following directives and standards:

2006/42/EC, 2000/14/EC, 2005/88/EC, 2014/30/EU, EN 500-1, EN 500-4

Authorized Person for Technical Documents

Robert Raethsel, Wacker Neuson Produktion GmbH & Co. KG, Wackerstrasse 6,
85084 Reichertshofen, Germany

Menomonee Falls, WI, USA, 25.01.2019

Will Wright
Director, Product Engineering
For Wacker Neuson

Paul Sina
Manager, Product Engineering
For Wacker Neuson

CALIFORNIA Proposition 65 Warning	3
Foreword	5
EC Declaration of Conformity	7
1 Safety Information	13
1.1 Signal Words Used in this Manual	13
1.2 Machine Description and Intended Use	14
1.3 Safety Guidelines for Operating the Machine	15
1.4 Service Safety	17
1.5 Operator Safety while Using Internal Combustion Engines	19
1.6 Hydraulic Oil Safety	20
1.7 Safety Guidelines for Lifting the Machine	20
2 Labels	22
2.1 Label Locations	22
2.2 Label Meanings	23
3 Lifting and Transporting	32
3.1 Lifting the Machine	32
3.2 Tying Down and Transporting the Machine	33
4 Operation	34
4.1 Preparing the Machine for First Use	34
4.2 Machine Components	35
4.3 Machine Components Descriptions	37
4.4 Using the Back-Up Stop Pad	38
4.5 Using the Parking Brake	38
4.6 Using the Watering System	39
4.7 Using the Vibration System	39
4.8 Using the Protection Kit (Optional)	40
4.9 Adjusting the Locking Plate	41
4.10 Functions of the Throttle Lever	43
4.11 Direction and Speed Control	44
4.12 Before Starting	45
4.13 Refueling the Machine	45

4.14	Position of the Operator and Handle	46
4.15	Machine Stability	47
4.16	Operating on Slopes	48
4.17	Rollovers	48
4.18	Starting the Machine (Hatz Engine)	49
4.19	Cold Weather Starting (Hatz Engine)	51
4.20	Starting the Machine (Hatz Engine with Electric Start)	54
4.21	Stopping the Machine (Hatz Engine)	56
4.22	Starting the Machine (Honda Engine)	57
4.23	Stopping the Machine (Honda Engine)	58
4.24	Starting the Machine (Yanmar Engine)	59
4.25	Starting the Machine (Yanmar Engine with Electric Start)	61
4.26	Stopping the Machine (Yanmar Engine)	63
4.27	Emergency Shutdown Procedure	64

5 General Maintenance 65

5.1	Periodic Maintenance Schedule	65
5.2	Scraper Bars	66
5.3	Water Spray Bars	67
5.4	Lubricating the Back-up Stop Mechanism	68
5.5	Hydraulic Oil Requirements	69
5.6	Checking and Changing the Hydraulic Oil and Hydraulic Filter	70
5.7	Maintaining the Battery	73
5.8	Engine - Jump-Starting	74
5.9	Cleaning the Machine	76
5.10	Long-Term Storage	77
5.11	Machine Disposal/Decommissioning	78

6	Engine Maintenance: Hatz 1D42	79
7	Engine Maintenance: Honda GX390	81
8	Engine Maintenance: Yanmar L100N	83
9	Troubleshooting	86
10	Technical Data	88
10.1	Engine—Hatz	88
10.2	Engine—Honda	89
10.3	Engine—Yanmar	90
10.4	Roller	91
10.5	Lubrication	91
10.6	Sound Measurements	92
10.7	Vibration Measurements	92
11	AEM Safety Manual	93
12	Schematics	115
12.1	Hydraulic Schematic	116
12.2	Hydraulic Schematic Components	117
12.3	Electrical Schematic—RD7He	118
12.4	Electrical Schematic Components—RD7He	119



1 Safety Information

1.1 Signal Words Used in this Manual

This manual contains DANGER, WARNING, CAUTION, *NOTICE*, and NOTE signal words which must be followed to reduce the possibility of personal injury, damage to the equipment, or improper service.



This is the safety alert symbol. It is used to alert you to potential personal hazards.

- Obey all safety messages that follow this symbol.



DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

- To avoid death or serious injury from this type of hazard, obey all safety messages that follow this signal word.



WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

- To avoid possible death or serious injury from this type of hazard, obey all safety messages that follow this signal word.



CAUTION

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

- To avoid possible minor or moderate injury from this type of hazard, obey all safety messages that follow this signal word.

NOTICE: Used without the safety alert symbol, NOTICE indicates a situation which, if not avoided, could result in property damage.

Note: A Note contains additional information important to a procedure.

1.2 Machine Description and Intended Use

This machine is a dual drum vibratory walk-behind roller. The Wacker Neuson Walk-Behind Roller consists of an upper frame to which are mounted a diesel/ gasoline engine, a handle, a hydraulic tank, a water tank, a hydraulic system, and a hydraulic cooling system; and a lower frame which supports two steel drums, and an exciter assembly. The engine powers the hydraulics that provide machine movement and drum vibration. The vibrating drums smooth and compact the work surface as the machine moves. The operator uses the handle to manually control machine speed and direction.

This machine is intended to be used for compacting sand, gravel, soil, and asphalt on roadways, walkways, bridges, and parking lots.

This machine has been designed and built strictly for the intended use described above. Using the machine for any other purpose could permanently damage the machine or seriously injure the operator or other persons in the area. Machine damage caused by misuse is not covered under warranty.

The following are some examples of misuse:

- Using the machine as a ladder, support, or work surface
 - Using the machine to carry or transport passengers or equipment
 - Using the machine to tow other machines
 - Using the machine to spray liquids other than water (i.e., diesel fuel on asphalt)
 - Operating the machine outside of factory specifications
 - Operating the machine in a manner inconsistent with all warnings found on the machine and in the Operator's Manual
 - Operating the machine while sitting on the handle.
-

This machine has been designed and built in accordance with the latest global safety standards. It has been carefully engineered to eliminate hazards as far as practicable and to increase operator safety through protective guards and labeling. However, some risks may remain even after protective measures have been taken. They are called residual risks. On this machine, they may include exposure to:

- Heat, noise, exhaust, and carbon monoxide from the engine
- Burns from hot hydraulic fluid
- Fire hazards from improper refueling techniques
- Fuel and its fumes
- Personal injury from improper lifting techniques or operating techniques

To protect yourself and others, make sure you thoroughly read and understand the safety information presented in this manual before operating the machine.

1.3 Safety Guidelines for Operating the Machine

Operator training

Before operating the machine:

- Read and understand the operating instructions contained in all manuals delivered with the machine.
- Familiarize yourself with the location and proper use of all controls and safety devices.
- Contact Wacker Neuson for additional training if necessary.

When operating this machine:

- Do not allow improperly trained people to operate the machine. People operating the machine must be familiar with the potential risks and hazards associated with it.

Operator qualifications

Only trained personnel are permitted to start, operate, and shut down the machine. They also must meet the following qualifications:

- Have received instruction on how to properly use the machine
- Are familiar with required safety devices

The machine must not be accessed or operated by:

- Children
- People impaired by alcohol, drugs, or prescription drugs

Application area

Be aware of the application area.

- Keep unauthorized personnel, children, and pets away from the machine.
- Remain aware of changing positions and the movement of other equipment and personnel in the application area/job site.
- Remain aware of changing surface conditions and use extra care when operating over uneven ground, on hills, or over soft or coarse material. The machine could shift or slide unexpectedly.
- Use caution when operating the machine near the edges of pits, trenches, or platforms. Check to be sure that the ground surface is stable enough to support the weight of the machine with the operator and that there is no danger of the roller sliding, falling, or tipping.
- Do not operate the machine in areas that contain flammable objects, fuels, or products that produce flammable vapors.
- Keep the area around the muffler free of debris such as leaves, paper, cartons, etc. A hot muffler could ignite the debris and start a fire.

Safety devices, controls, and attachments

Only operate the machine when:

- All safety devices and guards are in place and in working order.
- All controls operate correctly.
- The machine is set up correctly according to the instructions in the Operator's Manual.
- The machine is clean.
- The machine's labels are legible.

To ensure safe operation of the machine:

- Do not operate the machine if any safety devices or guards are missing or inoperative.
- Do not modify or defeat the safety devices.
- Only use accessories or attachments that are approved by Wacker Neuson.

**Safe
operating
practices**

When operating this machine:

- Remain aware of the machine's moving parts. Keep hands, feet, and loose clothing away from the machine's moving parts.
- Operate the machine with both of your feet on the ground! Do not stand, sit, or ride on machine while in operation.
- Remain aware of changing surface conditions and use extra care when operating over uneven ground, on hills, or over soft or coarse material. The machine could shift or slide unexpectedly.
- Use caution when operating near the edges of pits, trenches or platforms. Check to be sure that the ground surface is stable enough to support the weight of the machine with the operator and that there is no danger of the roller sliding, falling, or tipping.
- Position yourself safely when operating machine in reverse or on hills. Leave enough space between yourself and the machine so you will not be placed in a hazardous position should the machine slide or tip.

When operating this machine:

- Do not operate a machine in need of repair.
- Do not subject the roller to jarring impacts by driving it off curbs or off the back of a truck or trailer.
- Do not transport the machine while it is running.
- Do not leave the machine running unattended.
- Do not use a mobile device while operating this machine.
- Do not consume the operating fluids used in this machine. Depending on your machine model, these operating fluids may include water, wetting agents, fuel (gasoline, diesel, kerosene, propane, or natural gas), oil, coolant, hydraulic fluid, heat transfer fluid (propylene glycol with additives), battery acid, or grease.

**Personal
Protective
Equipment
(PPE)**

Wear the following Personal Protective Equipment (PPE) while operating this machine:

- Close-fitting work clothes that do not hinder movement
- Safety glasses with side shields
- Hearing protection
- Safety-toed footwear



1.4 Service Safety

Service training

Before servicing or maintaining the machine:

- Read and understand the instructions contained in all manuals delivered with the machine.
- Familiarize yourself with the location and proper use of all controls and protective devices.
- Only trained personnel shall troubleshoot or repair problems occurring with the machine.
- Contact Wacker Neuson for additional training if necessary.

When servicing or maintaining this machine:

- Do not allow untrained or improperly trained people to service or maintain the machine. Personnel servicing or maintaining the machine must be familiar with the associated potential risks and hazards.

Precautions

When servicing or maintaining the machine:

- Read and understand the service procedures before performing any service to the machine.
- All adjustments and repairs must be completed before operating the machine. Do not operate the machine with a known problem or deficiency.
- All repairs and adjustments shall be completed by a qualified technician.
- Turn off the machine before performing maintenance or making repairs.
- Remain aware of the machine's moving parts. Keep hands, feet, and loose clothing away from the machine's moving parts.
- Reinstall the safety devices and guards after repair and maintenance procedures are complete.

Machine modifications

When servicing or maintaining the machine:

- Use only accessories/attachments that are approved by Wacker Neuson.
- Do not defeat safety devices.
- Do not modify the machine without the express written approval of Wacker Neuson.

Replacing parts and labels

- Replace worn or damaged components.
- Replace all missing and hard-to-read labels.
- When replacing electrical components, use components that are identical in rating and performance to the original components.
- When replacement parts are required for this machine, use only Wacker Neuson replacement parts or those parts equivalent to the original in all types of specifications, such as physical dimensions, type, strength, and material.

Cleaning

When cleaning and servicing the machine:

- Keep machine clean and free of debris such as leaves, paper, cartons, etc.
- Keep labels legible.
- Do not clean the machine while it is running.
- Never use gasoline or other types of fuels or flammable solvents to clean the machine. Fumes from fuels and solvents can become explosive.

Personal protective equipment (PPE)

Wear the following personal protective equipment (PPE) while servicing or maintaining this machine:

- Close-fitting work clothes that do not hinder movement
- Safety glasses with side shields
- Hearing protection
- Safety-toed footwear

In addition, before servicing or maintaining the machine:

- Tie back long hair.
- Remove all jewelry (including rings).

Safe service practices

- Check all external fasteners at regular intervals.
- Some service procedures require that the machine's battery be disconnected. To reduce the risk of personal injury, read and understand the service procedures before performing any service to the machine.
- Turn engine off before servicing machine. If the engine has electric start, disconnect negative terminal on battery.
- Before you start the machine, ensure that all tools have been removed from the machine and that replacement parts and adjusters are firmly tightened.

After use

- Stop the engine when the machine is not being operated.
- Close the fuel valve on engines equipped with one when the machine is not being operated.
- Ensure that the machine will not tip over, roll, slide, or fall when not being operated.
- Store the machine properly when it is not being used. The machine should be stored in a clean location out of the reach of children.

1.5 Operator Safety while Using Internal Combustion Engines

**WARNING**

Internal combustion engines present special hazards during operation and fueling. Failure to follow the warnings and safety standards could result in severe injury or death.

- Read and follow the warning instructions in the engine owner's manual and the safety guidelines below.

**DANGER**

Exhaust gas from the engine contains carbon monoxide, a deadly poison. Exposure to carbon monoxide can kill you in minutes.

- NEVER operate the machine inside an enclosed area, such as a tunnel, unless adequate ventilation is provided through items such as exhaust fans or hoses.

Operating safety

When running the engine:

- Keep the area around the exhaust pipe free of flammable materials.
- Check the fuel lines and the fuel tank for leaks and cracks before starting the engine. Do not run the machine if fuel leaks are present or the fuel lines are loose.
- Do not smoke while operating the machine.
- Do not run the engine near sparks or open flames.
- Do not touch the engine or muffler while the engine is running or immediately after it has been turned off.
- Do not operate a machine when its fuel cap is loose or missing.
- Do not start the engine if fuel has spilled or a fuel odor is present. Move the machine away from the spill and wipe the machine dry before starting.
- Do not use the machine in areas with risk of explosion or fire.

Refueling safety

When refueling the engine:

- Clean up any spilled fuel immediately.
- Refill the fuel tank in a well-ventilated area.
- Reinstall the fuel tank cap after refueling.
- Use tools specifically meant for refueling (for example, a fuel hose or funnel).
- Do not smoke.
- Do not refuel a hot or running engine.
- Do not refuel the engine near sparks or open flames.

1.6 Hydraulic Oil Safety



WARNING

Possibility of severe injury. Hydraulic oil is under high pressure and becomes very hot during operation.

- To avoid injury, obey the safety instructions listed below.

Safety instructions

- Inspect the hydraulic system thoroughly before operating the machine.
- Do not touch hydraulic oil or hydraulic components while the machine is operating. Wait until the machine is cool.
- Before disconnecting hydraulic fittings or hoses, ensure that all pressure has been bled from the circuit. Set all controls in neutral, turn the engine off, and allow the fluids to cool before loosening hydraulic fittings or attaching test gauges.
- Hydraulic oil escaping under high pressure may penetrate the skin, causing burns, blindness, or other serious injuries or infections. Contact a physician immediately for treatment if your skin has been penetrated by hydraulic oil, even if the wound seems minor.
- Fluid leaks from small holes are often practically invisible. Do not use your bare hands to check for leaks. Check for leaks using a piece of cardboard or wood.
- Hydraulic oil is extremely flammable. Stop the engine immediately if a hydraulic leak is detected.
- After servicing the hydraulics, make sure all components are reconnected to the proper fittings. Failure to do so may result in damage to the machine and/or injury to a person on or near the machine.

1.7 Safety Guidelines for Lifting the Machine

When lifting the machine:

- Make sure slings, chains, hooks, ramps, jacks, forklifts, cranes, hoists, and any other type of lifting device used is attached securely and has enough weight-bearing capacity to lift or hold the machine safely. See the *Technical Data* chapter for machine weight.
- Remain aware of the location of other people when lifting the machine.
- Only use the lifting points and tie-downs described in the Operator's Manual.
- Make sure the transporting vehicle has sufficient load capacity and platform size to safely transport the machine.

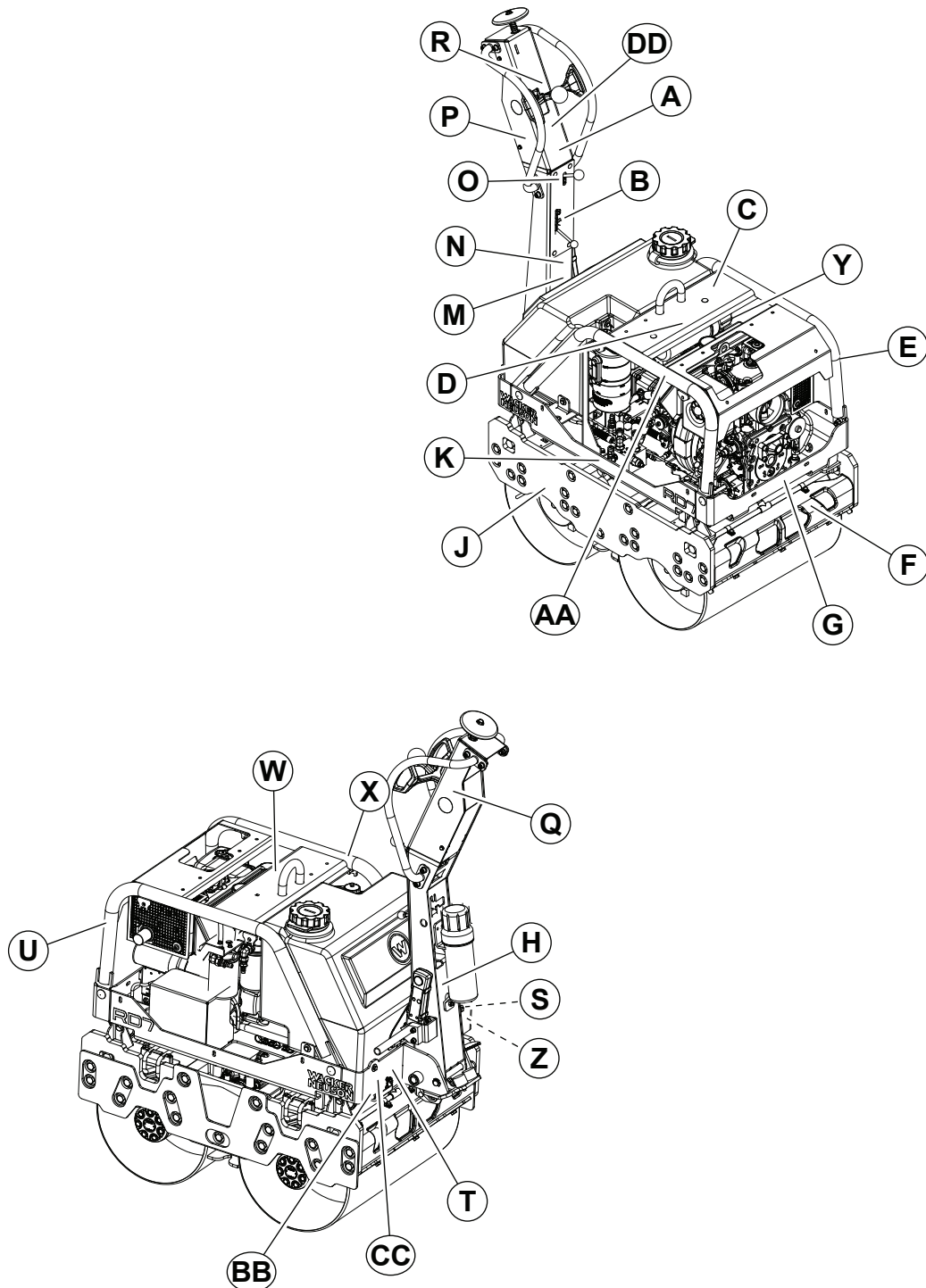
To reduce the possibility of injury:

- Do not stand under the machine while it is being lifted or moved.
- Do not get onto the machine while it is being lifted or moved.

Notes

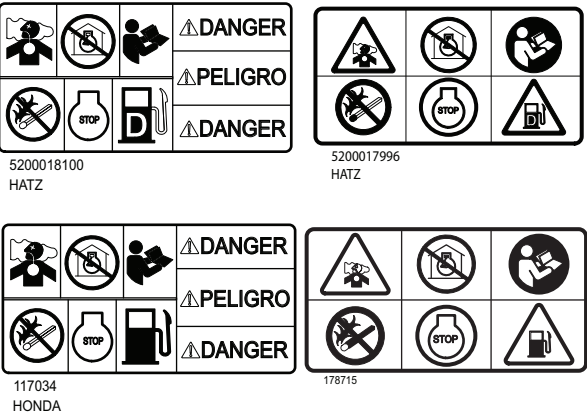
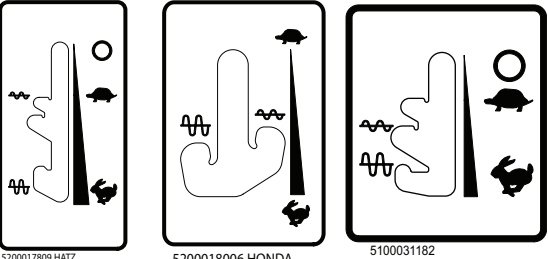
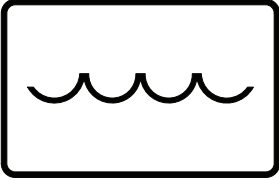
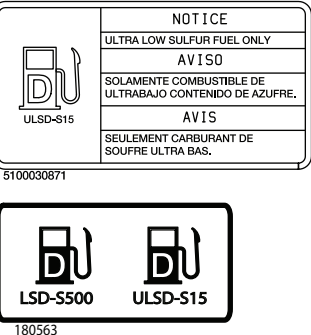

2 Labels

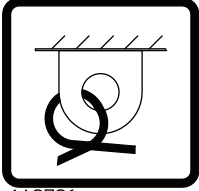
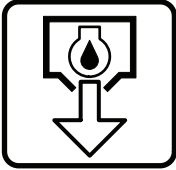
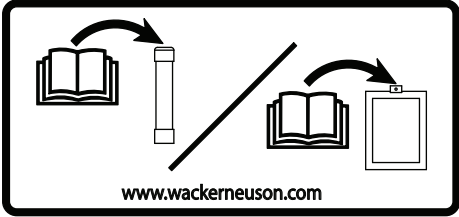
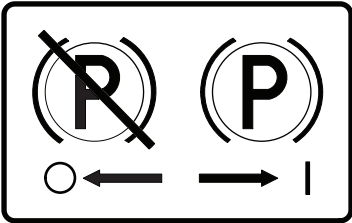
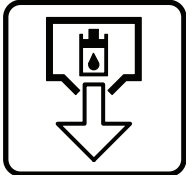
2.1 Label Locations





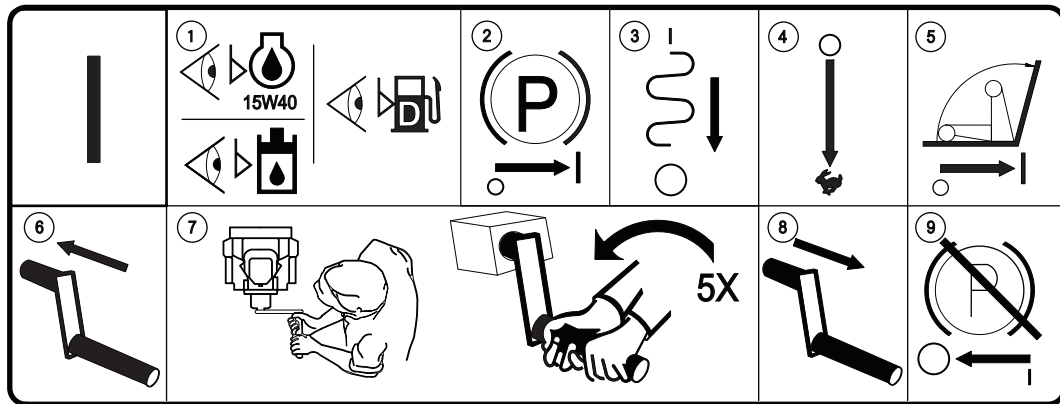
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2.2 Label Meanings

A	 <p>5200018100 HATZ</p> <p>5200017996 HATZ</p> <p>117034 HONDA</p> <p>178715</p>	<p>DANGER Asphyxiation hazard</p> <ul style="list-style-type: none"> Engines emit carbon monoxide. Do not run the machine indoors or in an enclosed area unless adequate ventilation, through such items as exhaust fans or hoses, is provided. Read the Operator's Manual. No sparks, flames, or burning objects near the machine. Stop the engine before refueling.
B	 <p>5200017809 HATZ</p> <p>5200018006 HONDA</p> <p>5100031182</p>	<p>Throttle control lever: Turtle = Idle or Slow Rabbit = Full or Fast</p>
C	 <p>173438</p>	<p>Water tank fill</p>
D	 <p>5100030871</p> <p>180563</p>	<p>Low sulfur fuel or ultra low sulfur fuel only. (Hatz powered machines only)</p>
E	 <p>111214</p> <p>178724</p>	<p>WARNING Hot surface</p>

F	 113726	Tie-down point
G	 185164	Engine oil drain
H	<p>OPERATOR'S MANUAL MUST BE STORED ON MACHINE. REPLACEMENT OPERATOR'S MANUAL CAN BE ORDERED THROUGH YOUR LOCAL WACKER DISTRIBUTOR.</p> <p>EL MANUAL DE OPERACION DEBE SER RETENIDO EN LA MAQUINA. CONTACTE A SU DISTRIBUIDOR WACKER MAS CERCANO PARA PEDIR UN EJEMPLAR ADICIONAL.</p> <p>LA NOTICE D'EMPLOI DOIT ETRE MUNIE SUR LA MACHINE. CONTACTER LE DISTRIBUTEUR WACKER LE PLUS PROCHE POUR COMMANDER UN EXEMPLAIRE SUPPLEMENTAIRE.</p> 150350  180562	Operator's Manual must be stored on machine. Replacement Operator's Manual can be ordered through your local Wacker Neuson distributor.
J	 119071	Parking brake
K	 112216	Hydraulic oil drain

M	<div data-bbox="287 184 677 512"> <p>⚠ WARNING</p>  <p>Read and understand the supplied Operator's Manual before operating this machine. Failure to do so increases the risk of injury to yourself and others.</p> <p>⚠ ADVERTENCIA</p> <p>Lea y entienda el Manual de Operación suministrado antes de operar esta máquina. Si no lo hace, incrementará el riesgo de lesionarse o lesionar a otros.</p> <p>⚠ AVERTISSEMENT</p> <p>Avant d'utiliser cette machine, lire attentivement et assimiler la Notice d'Emploi. Dans le cas contraire, le risque de se blesser ou de blesser les autres augmente.</p> </div> <p>176103</p> <div data-bbox="287 554 583 840">  </div> <p>176714</p>	<p>Read and understand the supplied Operator's Manual before operating this machine. Failure to do so increases the risk of injury to yourself or others.</p>
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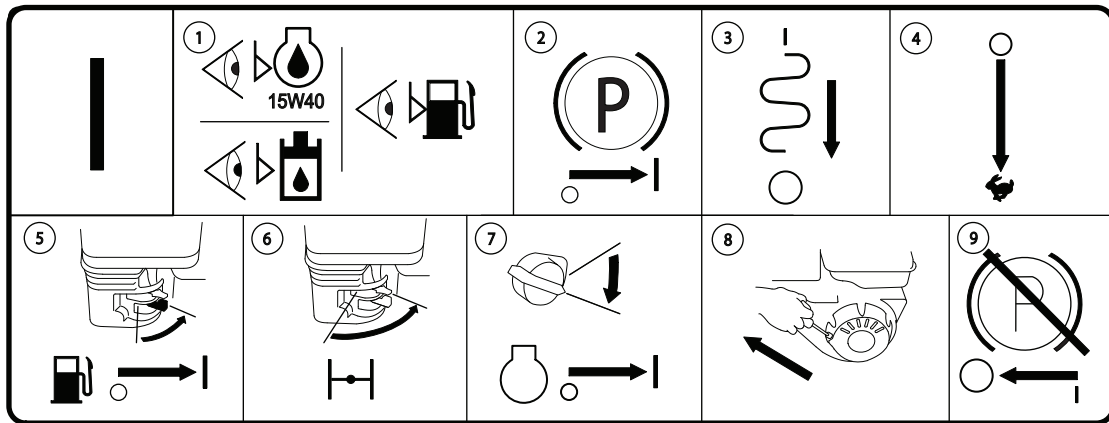
5200009756 HATZ

(Hatz powered machines only.)

N

To start the machine:

1. Check the engine oil level. Use SAE 15W40.
Check the hydraulic oil level.
Check the fuel level.
2. Engage the parking brake.
3. Turn the vibration off.
4. Move the throttle to the FAST position.
5. Pull the decompression lever up.
6. Insert the crank handle.
7. Rotate the crank handle counterclockwise 5X.
8. Remove the crank handle.
9. Disengage the parking brake.



5200018024 HONDA



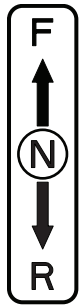
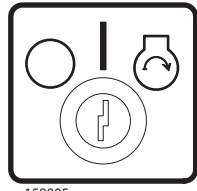
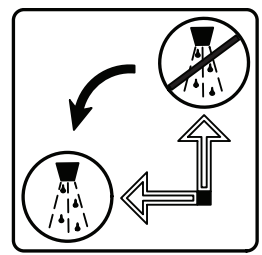


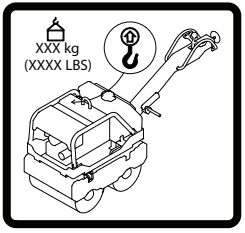
N


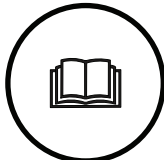
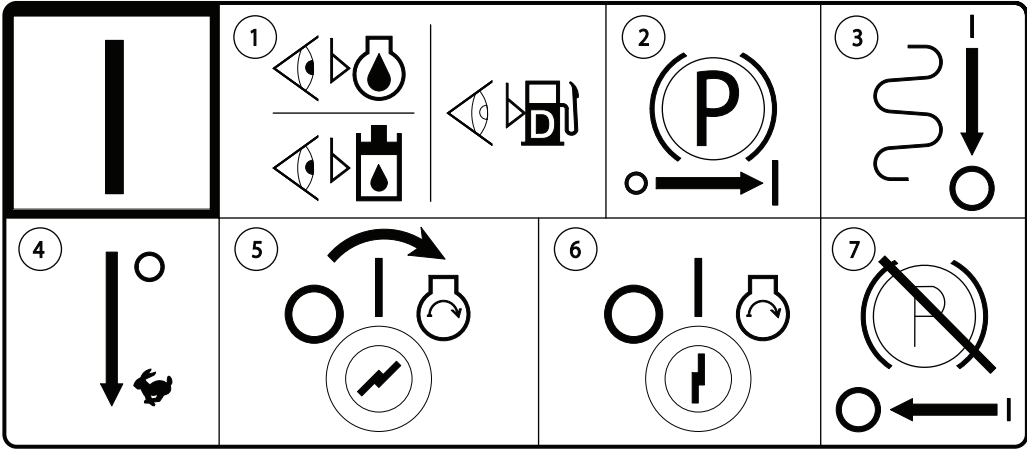

(Honda powered machines only.)




To start the machine:

1. Check the engine oil level. Use SAE 15W40.
Check the hydraulic oil level.
Check the fuel level.
2. Engage the parking brake.
3. Turn the vibration off.
4. Move the throttle to the FAST position.
5. Open the fuel valve.
6. Set the choke to the OPEN position.
7. Turn the engine switch to the ON position.
8. Pull the starter rope.
9. Disengage the parking brake.

wc_si000847gb_FM10.fm

Q	  <p>115004 178725</p>	NOTICE Not a lifting point
R	 <p>5200017839</p>	Forward / reverse lever description
S	 <p>158805</p>	Key switch, engine start: Off On Start
T	 <p>5200017950</p>	Water control valve
U	  <p>5200018101 5200017838</p>	WARNING Hot surface
W	 <p>5200017840</p>	NOTICE Lifting point

X	 111760	Hydraulic oil reservoir fill
Y	 5100013965	Operator's Manual must be stored on machine. Replacement Operator's Manual can be ordered through your local Wacker Neuson distributor.
Z	 5100018141	<p>(Hatz/Yanmar powered machines only)</p> <p>To start the machine:</p> <ol style="list-style-type: none"> 1. Check the engine oil level. Use SAE 15W40. Check the hydraulic oil level. Check the fuel level. 2. Engage the parking brake. 3. Turn the vibration off. 4. Move the throttle to the FAST position. 5. Turn the key to the start position until the engine starts. 6. Release the key to the ON position. 7. Disengage the parking brake.
AA	 117039	<p>WARNING Hot surface</p>

BB		This machine may be covered by one or more patents.
CC		Guaranteed sound power level in dB(A)
DD		California Proposition 65 Warning Cancer and Reproductive Harm - www.P65Warnings.ca.gov .

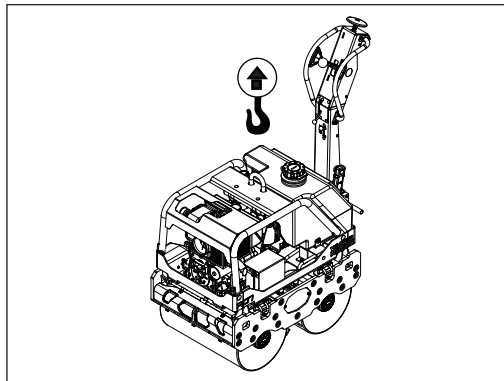
3 Lifting and Transporting

3.1 Lifting the Machine

- Requirements**
- Lifting equipment (crane, hoist, or fork truck) capable of supporting the machine's weight
 - Lifting devices (hooks, chains, and shackles) capable of supporting the machine's weight
 - Engine stopped
 - Handle in upright position

Lifting the machine

A lifting eye is used for lifting the machine.



wc_gr011532

Perform the procedure below to lift the machine.

1. Attach the lifting devices and equipment to the lifting eye. Do not attach lifting devices to any other part of the machine.
2. Lift the machine a small distance.



WARNING

Crushing hazard. An unstable machine may cause the lifting devices and equipment to fail. You may be crushed if the lifting devices and equipment fail.

- Check for stability before continuing.

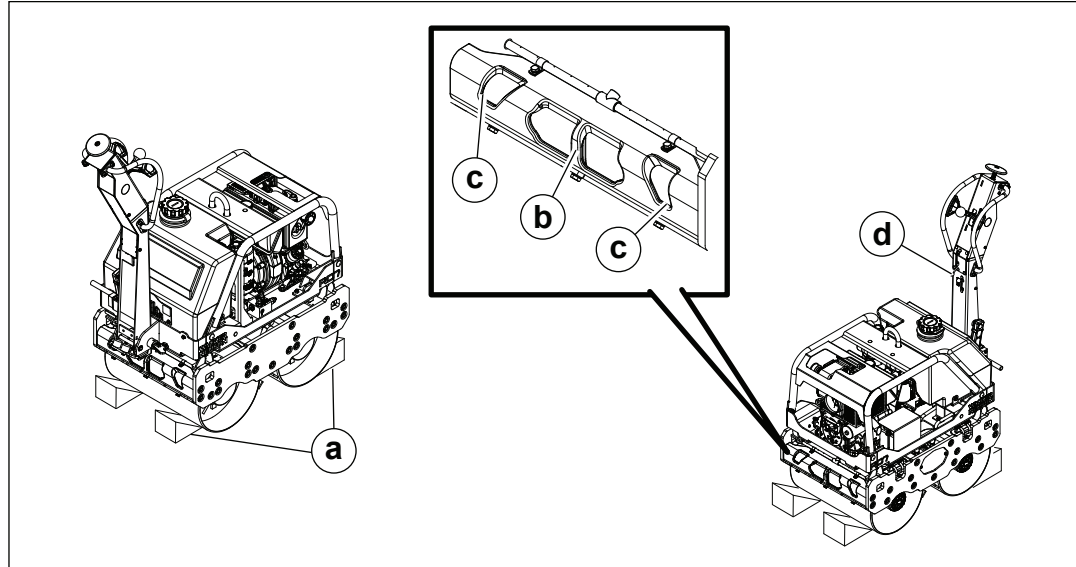
3. If the machine is not stable, lower it, reposition the lifting devices, and lift the machine a small distance again.
4. Continue lifting the machine only when it is stable.

3.2 Tying Down and Transporting the Machine

- Requirements**
- Engine shut down
 - Chocks in place
 - Steel ropes or chains

Procedure Perform the procedure below to tie down the machine.

1. Make sure that the transport vehicle is capable of handling the weight and size of the machine. See *Technical Data* for dimensions and operating weight.
2. Place chocks (a) in front of and behind each drum.



wc_gr011533

3. Attach steel ropes or chains to the front and rear 2-point tie downs (b).

Note: In addition to the 2-point tie downs, the 4-point tie downs (c) may be used. When using the 4-point tie downs, use steel ropes or chains and a hook to connect to the machine.

NOTICE: Only use the tie downs to secure the machine. Do not use any other part of the roller to tie down the machine, as severe damage to the machine may occur.

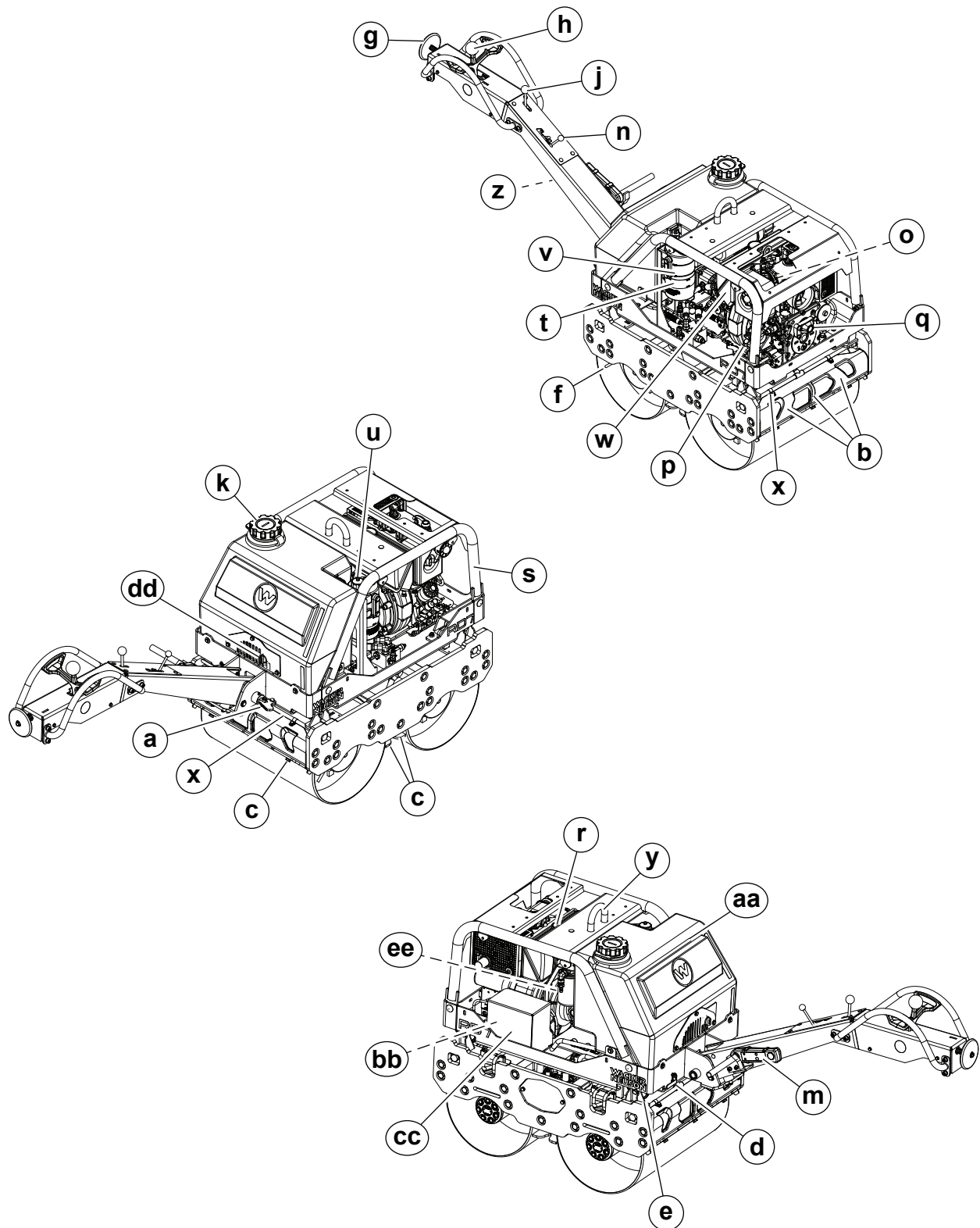
4. Attach the other end of the steel ropes or chains to the transport vehicle.
5. Place the guide handle (d) in the upright position.

4 Operation

4.1 Preparing the Machine for First Use

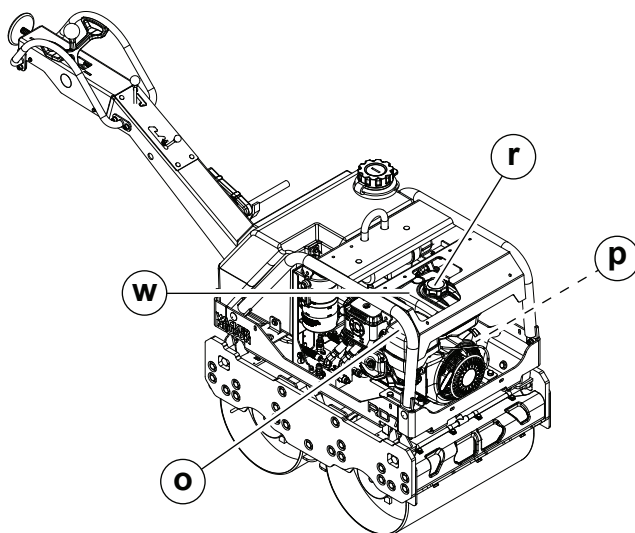
1. Make sure all loose packaging materials have been removed from the machine.
2. Check the machine and its components for damage. If there is visible damage, do not operate the machine. Contact your Wacker Neuson dealer immediately for assistance.
3. Take inventory of all items included with the machine and verify that all loose components and fasteners are accounted for.
4. Attach component parts not already attached.
5. Add fluids as needed and applicable, such as fuel and engine oil.
6. Move the machine to its operating location.

4.2 Machine Components



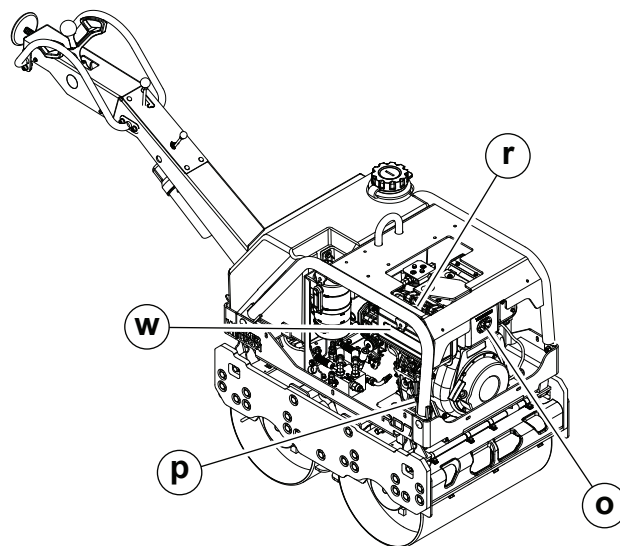
wc_gr011535

Honda



wc_gr013042

Yanmar



wc_gr013982

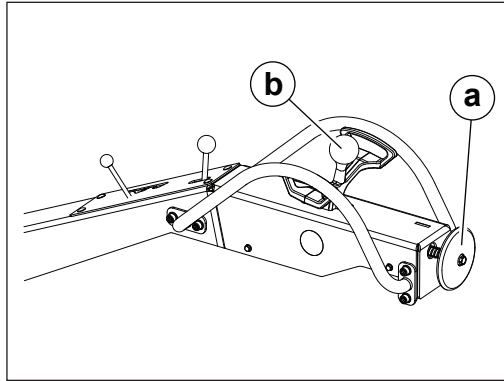
4.3 Machine Components Descriptions

Ref.	Description	Ref.	Description
a	Handle locking pin/handle release	r	Fuel tank fill cap
b	Tie-down location	s	Roll cage
c	Scraper bar (4 total)	t	Hydraulic tank
d	Water control valve	u	Hydraulic tank fill port
e	Shockmount (4 total)	v	Hydraulic oil level gauge
f	Parking brake	w	Fuel tank
g	Back-up stop pad	x	Spray bars
h	Forward/reverse control lever	y	Lifting eye
j	Exciter lever	z	Operator's Manual holder
k	Water tank fill cap	aa	Water tank
m	Crank storage location (if equipped)	bb	Battery (optional)
n	Throttle lever	cc	Battery cover (optional)
o	Air cleaner indicator	dd	Starting key
p	Oil dipstick	ee	Alarm
q	Crank guide sleeve (if equipped)	—	—

4.4 Using the Back-Up Stop Pad

A back-up stop pad **(a)** is mounted to the machine. The back-up stop pad operates in reverse only.

If the machine backs into an obstruction or if the operator becomes trapped between the machine and the obstruction, the pad will be pressed and move the control lever **(b)** into the forward position.



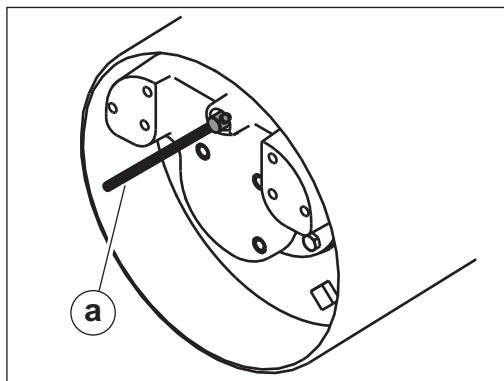
wc_gr011536

4.5 Using the Parking Brake

Introduction The parking brake ensures that the machine will not roll when the machine is not in use. The parking brake may be used with the engine on or off. The parking brake will hold the machine on inclines up to 22° (40% grade) or less.

NOTICE: Do not drive against the parking brake in the engaged position. The brake may bend and damage the machine.

Procedure To engage the parking brake:
Rotate the handle **(a)** 90° counterclockwise until it seats in the deep detent.



wc_gr001343

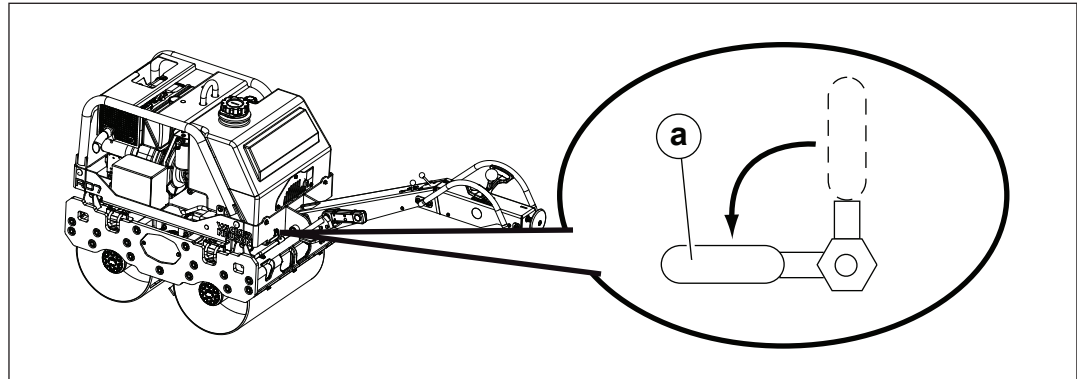
To disengage the parking brake:
Rotate the handle **(a)** 90° clockwise until it seats in the shallow detent.

4.6 Using the Watering System

The RD 7 is equipped with a water spray system which allows for wet or dry operation. The water is gravity-fed to the nozzles when the water control valve is in the OPEN (horizontal) position **(a)**.

NOTICE

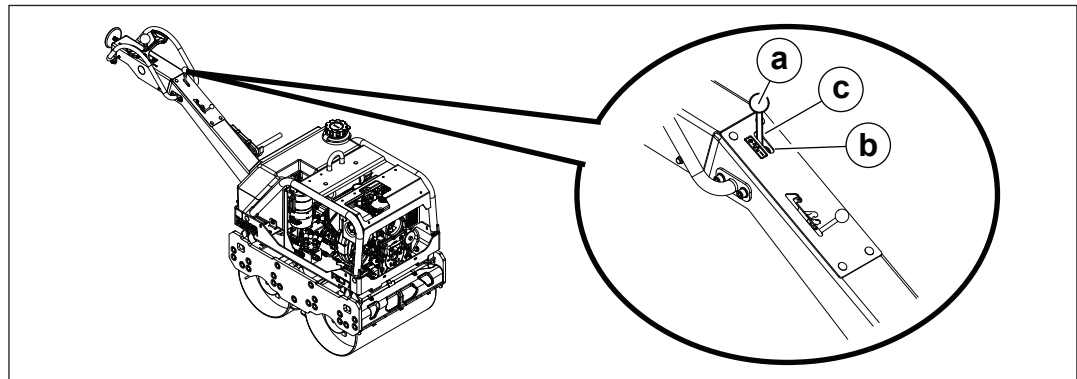
- Use only clean water when filling the water tank.
- If temperatures fall below freezing, drain remaining water from the water tank.



wc_gr011538

4.7 Using the Vibration System

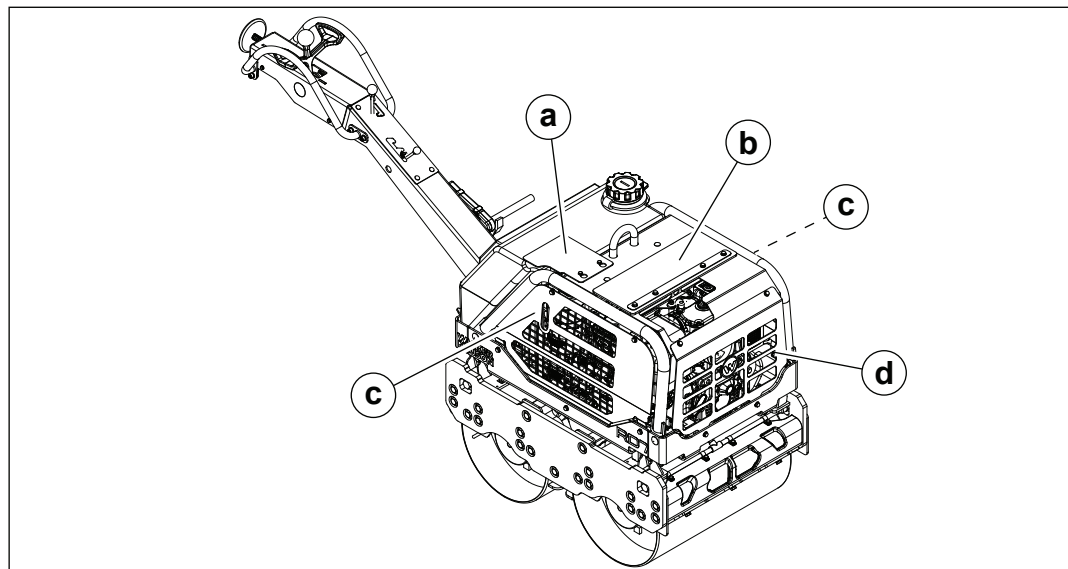
The vibration system consists of a drive motor within each of the machine's two drums. The exciter lever **(a)** activates/deactivates the vibration system. When the exciter lever is in the ON position **(b)**, the vibration system is activated and will remain activated no matter the direction of travel (forward, neutral, or reverse), until the exciter lever is set to the OFF position **(c)**.



wc_gr011688

4.8 Using the Protection Kit (Optional)

The protection kit is used to protect the machine from damage, such as rocks or debris.



wc_gr012949

Ref.	Component
a	Hydraulic cover
b	Rubber flap
c	Protection guard side
d	Protection guard front

4.9 Adjusting the Locking Plate

Background The machine is equipped with a locking plate. This locking plate can be adjusted so that the machine's handle can be:

- locked in the transport position and unlocked in the operating position, or
- locked in both the operating and the transport position.

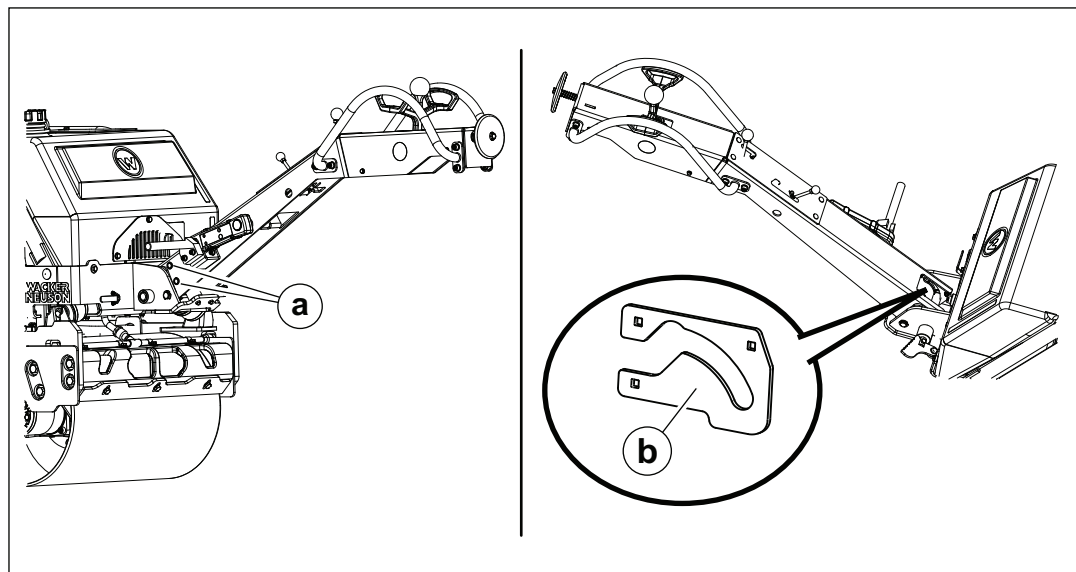
Requirements

- Machine stopped
- Machine standing on a level surface

Adjusting the locking plate

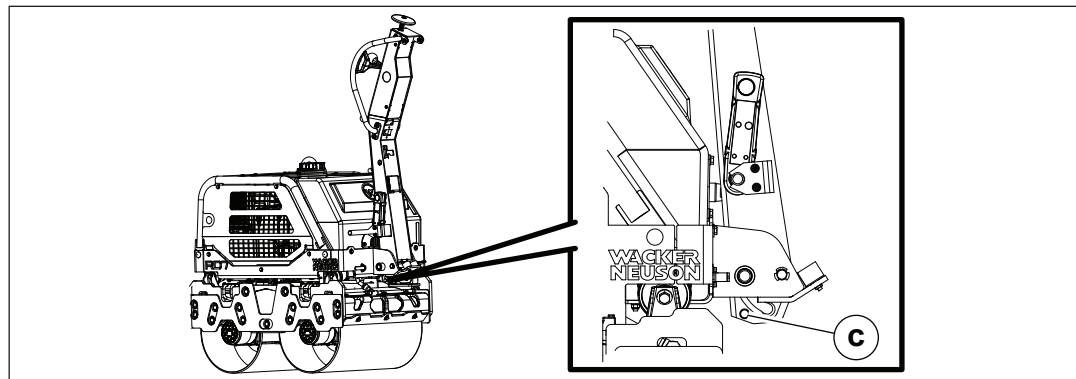
Perform the procedure below to adjust the locking plate.

1. With the handle in the operating position, remove the two bolts **(a)**. This loosens the locking plate **(b)**.



wc_gr013056

2. Raise the handle to the transport position.
3. Remove the lower bolt **(c)** and remove the locking plate.



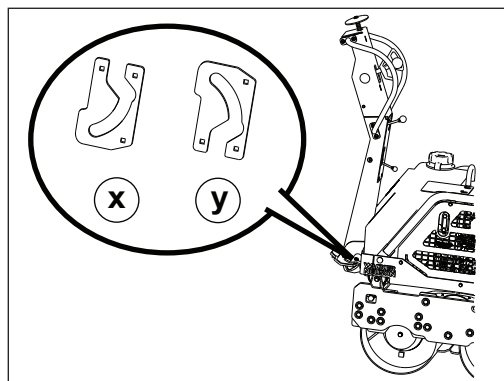
wc_gr013057

This procedure continues on the next page.

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4. Position the locking plate in the desired orientation and set it back into the lower handle.

Ref.	Description
X	Handle locks in both the storage position and the operating position
Y	Handle locks in the storage position only



wc_gr013070

5. With the handle in the transport position, re-install the lower bolt.
6. Lower the handle to the operating position.
7. With the handle in the operating position, re-install the two bolts.

Note: *The handle reacts differently based on the position of the locking plate and the type of environment or terrain the machine is operated on. Familiarize yourself with how the handle reacts before fully operating the machine.*

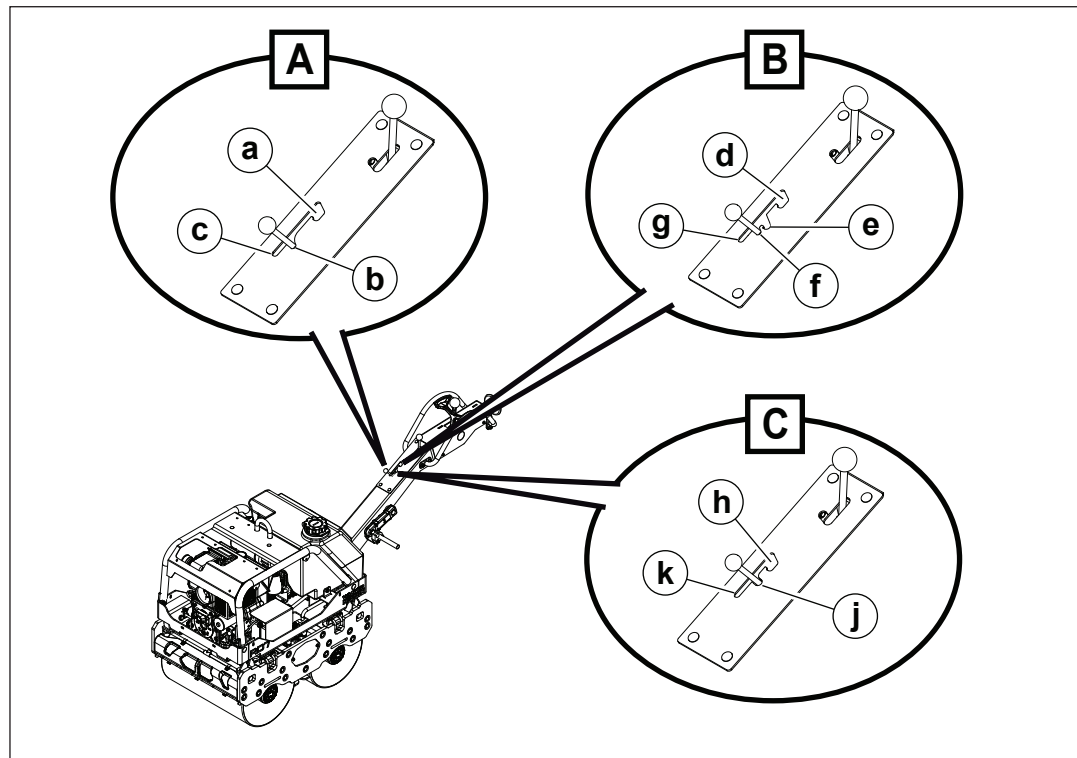
Result

The locking plate has now been adjusted.

4.10 Functions of the Throttle Lever

The engine throttle lever has three or four positions.

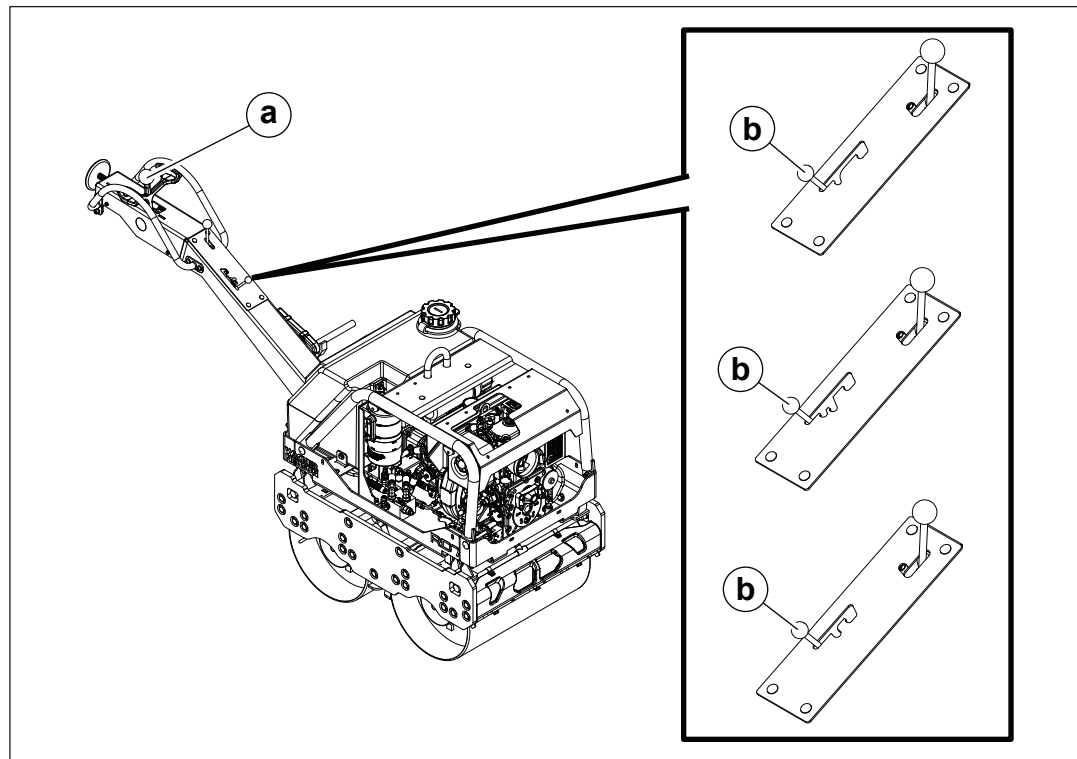
	Ref.	Position	Function
A	a	High	Starting and running the machine, high vibration
	b	Idle	Periods of long idling
	c	Off	Shutting the machine off
B	d	High	Starting and running the machine, high vibration
	e	Low	Running the machine, low vibration
	f	Idle	Periods of long idling
	g	Off	Shutting the machine off
C	h	High	Starting and running the machine, high vibration
	j	Low	Running the machine, low vibration
	k	Idle	Periods of long idling



wc_gr012562

4.11 Direction and Speed Control

Introduction Travel direction and speed are controlled by the forward/reverse control lever **(a)**.



wc_gr011674

Direction From the neutral position:

- To move forward, push the forward/reverse control lever away from the operator.
- To move in reverse, pull the forward/reverse control lever towards the operator.



WARNING

Possible loss of machine control. Holding the handle loosely may cause the machine to pivot rapidly during operation.

- Hold the handle with both hands while operating the machine.

Speed

Speed is varied by the movement of the control lever. The farther the forward/reverse control lever is pushed in either direction, the faster the roller will travel in that direction.



WARNING

Possible loss of machine control. If the linkage separates from the forward/reverse control lever while the machine is running, the roller could “run away” and cause injury.

- If the linkage separates, set the throttle control **(b)** to the OFF/IDLE position.

4.12 Before Starting

Before starting the machine, check the following:

- Engine oil level
- Air cleaner maintenance indicator
- Fuel level
- Hydraulic fluid level
- Water tank level

4.13 Refueling the Machine

- Requirements**
- Machine shut down
 - Engine cool
 - Machine/fuel tank level with the ground
 - Fresh, clean fuel supply

Procedure Perform the procedure below to refuel the machine.



WARNING

Fire hazard. Fuel and its vapors are extremely flammable. Burning fuel can cause severe burns.

- Keep all sources of ignition away from the machine while refueling.
 - Do not refuel if the machine is positioned in a truck fitted with a plastic bed liner. Static electricity can ignite the fuel or fuel vapors.
 - Refuel only when the machine is outdoors.
 - Clean up spilled fuel immediately.
-

1. Remove the fuel cap.
 2. Fill the fuel tank until it is full.
-



CAUTION

Fire and health hazard. Fuel expands when heated. Expanding fuel in an over-filled tank can lead to spills and leaks.

- Do not overfill the fuel tank.
-

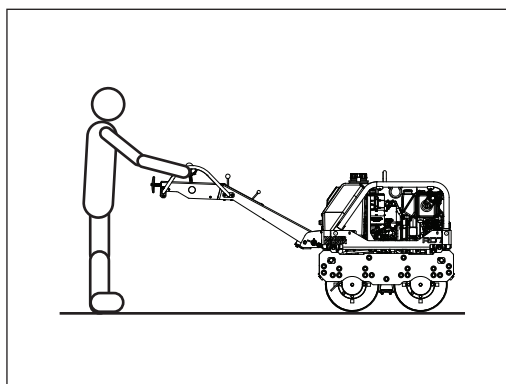
3. Reinstall the fuel cap.

4.14 Position of the Operator and Handle

Safe and efficient use of this machine is the operator's responsibility. Full control of the machine is not possible unless the operator maintains the proper working position at all times.

While in the operating position, the operator must:

- stand or walk behind the machine, facing forward with the handle directly ahead;
- hold the handle with both hands, remove only one hand when necessary to adjust the forward/reverse control lever.



wc_gr013058

4.15 Machine Stability



WARNING

Crushing hazards. Certain job site conditions or operating practices may adversely affect machine stability.

- ▶ Follow the instructions below to reduce the risk of tipping or falling incidents.
-

Surface conditions

Pay attention to changing surface conditions while operating the machine. Adjust speed and travel direction as necessary to maintain safe operation.

- Machine stability and traction may be severely reduced when operating on uneven or rough terrain, rocky soils, or wet or loosely packed surface material.
 - The machine may suddenly tip, sink, or fall when moved onto surfaces that have been newly filled with earth.
-

Travel speed

A fast moving machine is more likely to tip or fall over while making turns or changing direction.

- ▶ Reduce travel speed before turning the machine.
-

Drum overhang

The machine can tip suddenly if more than half of the drum width extends beyond the edge of the elevated surface.

- ▶ Reduce travel speed and watch the drum position carefully when operating along the edge of an elevated surface.
 - ▶ Keep as much of the drum on the elevated surface as possible.
-

Vibrating on a compacted surface

Activating the vibratory system on a fully compacted surface may cause the drums to rebound and momentarily lose contact with the ground. If this occurs while the machine is on an incline, the machine may slide.

- ▶ If the drums rebound on the compacted surface, reduce vibration speed or stop vibration entirely.

4.16 Operating on Slopes

Background When operating on slopes or hills, special care must be taken to reduce the risk of personal injury or damage to the machine.

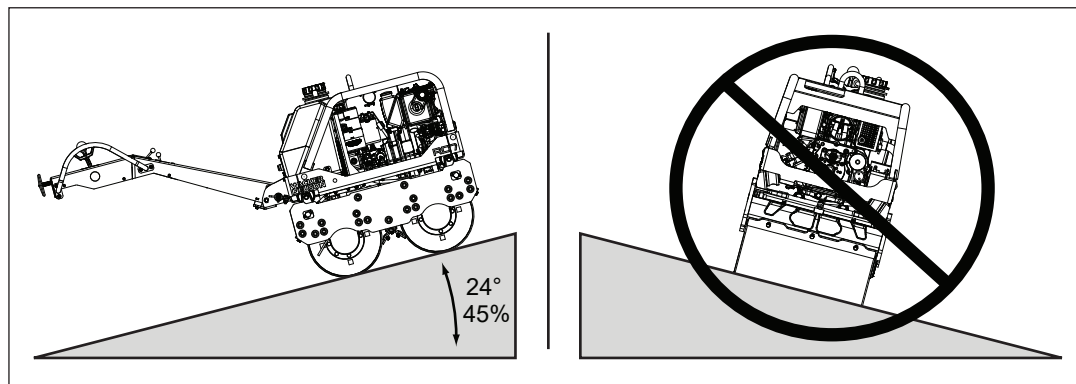
Procedure Always operate the machine up and down slopes rather than from side to side. For safe operation and for protection of the engine, continuous duty use should be restricted to slopes of 24° (45% grade) or less.



WARNING

Crushing hazard. Never operate the machine sideways on slopes. The machine may tip or roll over even on stable ground.

► Operate the machine straight up and down slopes.



wc_gr011677

4.17 Rollovers

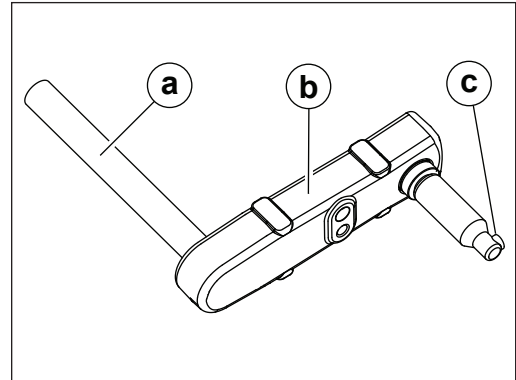
Proper operation of the machine on slopes will prevent rollovers. Read and follow safety instructions in the chapter *Operating Safety* and the topic *Operating on Slopes*. If a machine rollover does occur, care must be taken to prevent damage to the engine. If the machine has rolled over, oil from the engine crankcase can flow into the combustion chamber, which can severely damage the engine the next time it is started. If the machine has rolled on its side, immediate steps should be taken to position the machine upright.

NOTICE: To prevent damage to the engine after a rollover, the machine must NOT be started, AND it must be serviced to remove any oil that may have been trapped in the combustion chambers. Contact your local Wacker Neuson dealer for instructions or servicing.

4.18 Starting the Machine (Hatz Engine)

- Requirements**
- Machine is in serviceable condition and has been properly maintained
 - Fuel in the tank

Background The engine crank is equipped with kick-back damping to protect the operator from injury should the engine backfire. During a backfire, the brief reverse rotation at the handle tube (a) separates the link between the crank lug (b) and the driving dog (c).



wc_gr011541

Procedure Perform the procedure below to start the machine.

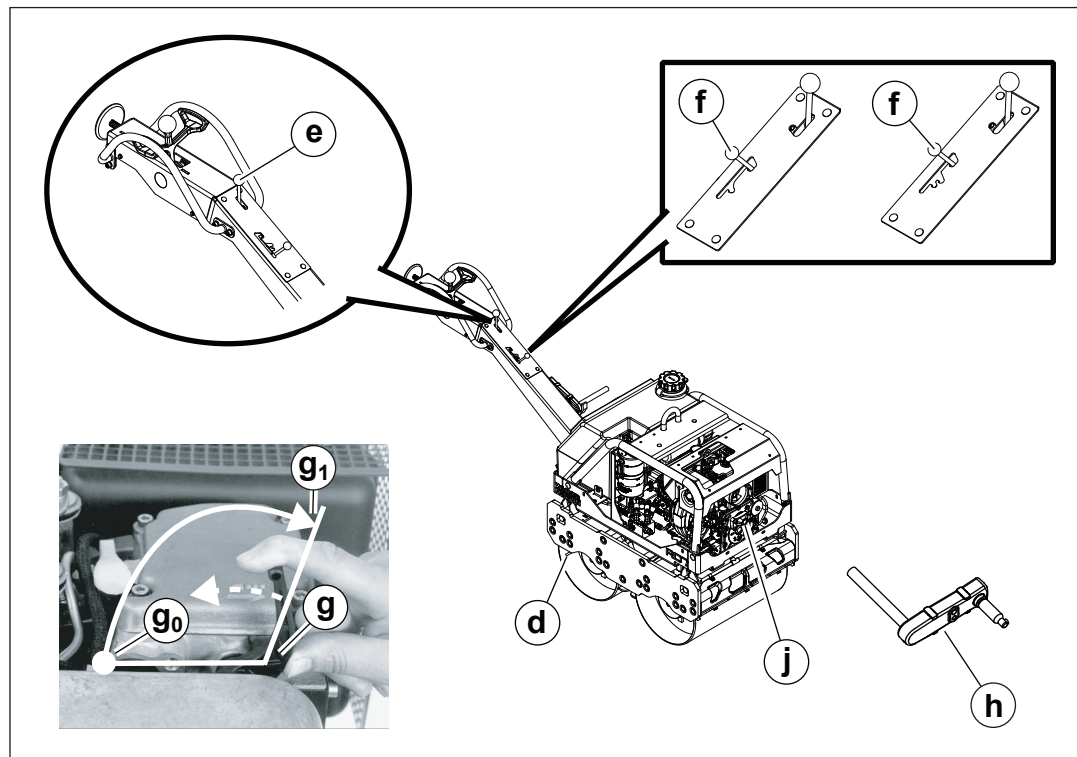


WARNING

Personal injury hazard. Starting the machine with the exciter lever in the ON position could result in personal injury.

- Only start the machine when the exciter lever is set to the OFF position.

1. Engage the parking brake (d).



wc_gr011678

This procedure continues on the next page.

Continued from the previous page.

2. Check that the exciter lever **(e)** is in the OFF position.
3. Set the throttle lever **(f)** to the high position.
4. Turn the decompression lever **(g)** until stop **(g₁)** is reached. In this position, the automatic decompression system is heard to engage.
5. Insert the engine crank **(h)** into the guide sleeve **(j)**.



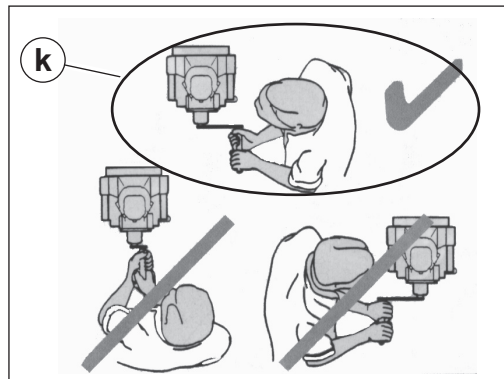
WARNING

Personal injury hazard. Injury may result if the engine should backfire.

- ▶ Stand alongside the engine, facing the back of the machine. Do not stand in any other position.
- ▶ Maintain turning force during the entire hand starting operation.

6. Stand alongside the engine, facing the back of the machine **(k)** and grasp the engine crank with both hands. Turn the engine crank five turns to build up pressure.

Note: *Keep constant contact between the engine crank and the engine during this process.*



wc_gr011687

7. Turn the engine crank slowly until the pawl engages the ratchet, then increase the turning force to build up speed until the engine starts.

Note: *The highest speed must be reached when the decompression lever **(g)** returns to the **(g₀)** position.*

8. As soon as the engine starts, pull the engine crank out of the guide sleeve.

Note: *If the engine begins to run backwards after backfiring (smoke emerges from air cleaner), release the crank handle immediately and stop the engine.*

9. To restart the engine, wait until it has come to a standstill, then repeat the starting procedures.

10. Disengage the parking brake.

11. Allow the engine to warm up for a few minutes before operating the machine.

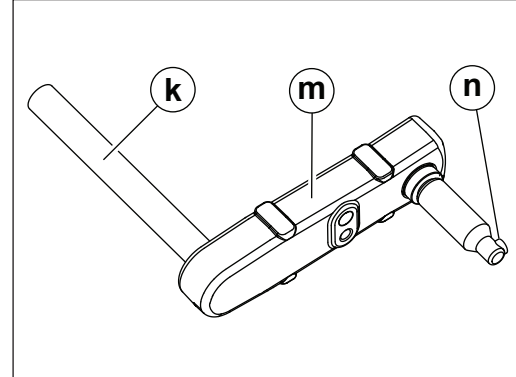
Note: *Always operate the machine in the operating position.*

4.19 Cold Weather Starting (Hatz Engine)

- Requirements**
- Machine is in serviceable condition and has been properly maintained
 - Fuel in the tank
 - Free-flowing lubricating oil

Background

The engine crank is equipped with kick-back damping to protect the operator from injury should the engine backfire. The brief reverse rotation at the handle tube (**k**) separates the link between the crank lug (**m**) and the driving dog (**n**).



wc_gr011513

Procedure

Perform the procedure below to start the machine at temperatures below approximately -5°C (23°F). Always turn the engine over to ensure that it rotates freely.

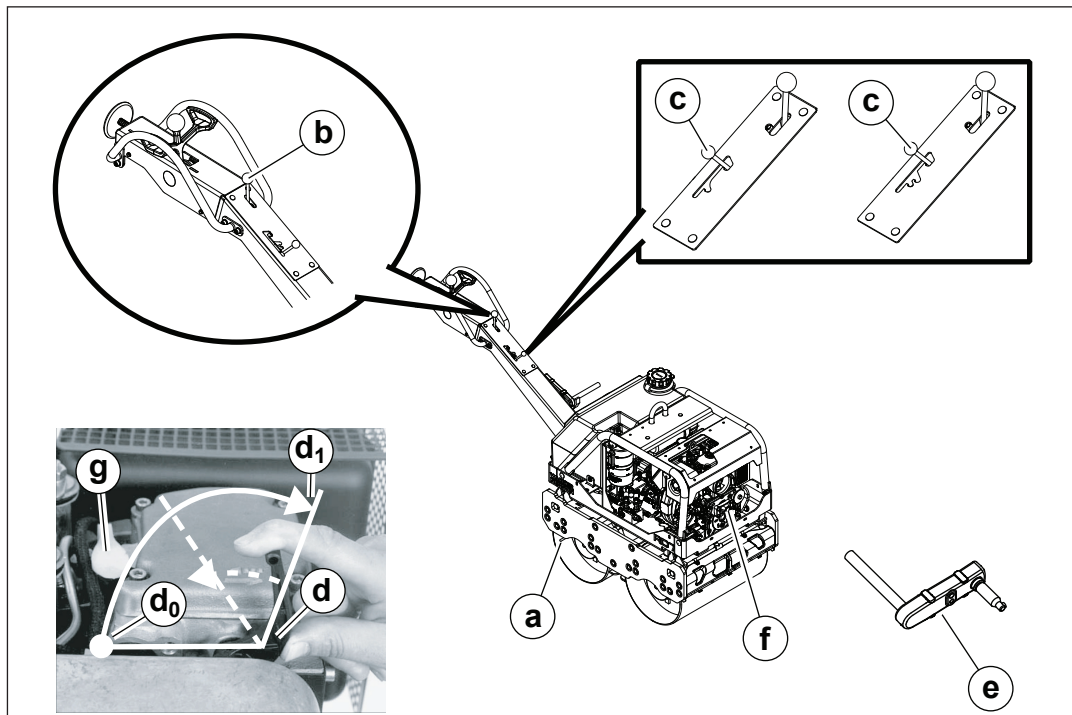


WARNING

Personal injury hazard. Starting the machine with the exciter lever in the ON position could result in personal injury.

- Only start the machine when the exciter lever is set to the OFF position.

1. Engage the parking brake (**a**).



wc_gr011679

2. Check that the exciter lever **(b)** is in the OFF position.
3. Set the throttle lever **(c)** to the high position.
4. Move the decompression lever **(d)** to a position that is approximately halfway between **(d₀)** and **(d₁)**.
5. Insert the engine crank **(e)** into the guide sleeve **(f)**.



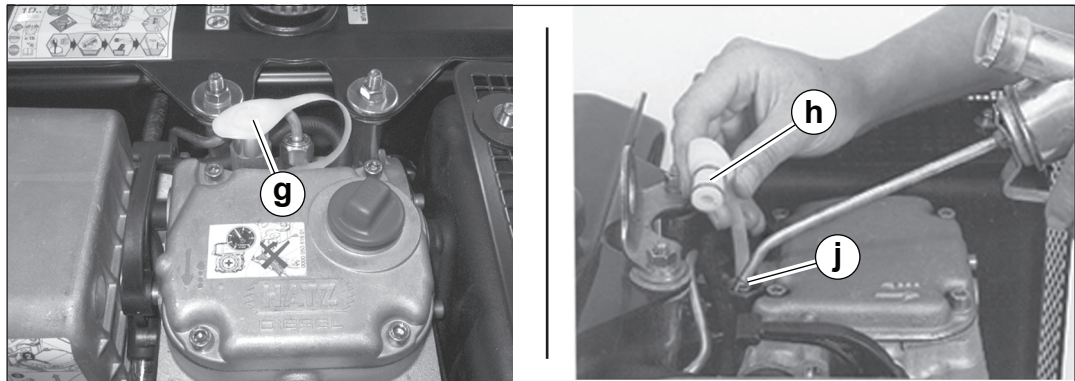
WARNING

Personal injury hazard. Injury may result if the engine should backfire.

- ▶ Stand alongside the engine, facing the back of the machine. Do not stand in any other position.
- ▶ Maintain turning force during the entire hand-starting operation.

6. Turn the engine over with the engine crank until it is felt to rotate more freely (10–20 turns of the engine crank).
7. Clean around the cover of the metering device **(g)**, then:
 - ▶ remove the cover **(h)**
 - ▶ fill with free-flowing lubricating oil **(j)** until the level reaches the upper rim
 - ▶ press the cover on firmly

Note: *Two filling operations in succession are needed.*



wc_gr010225

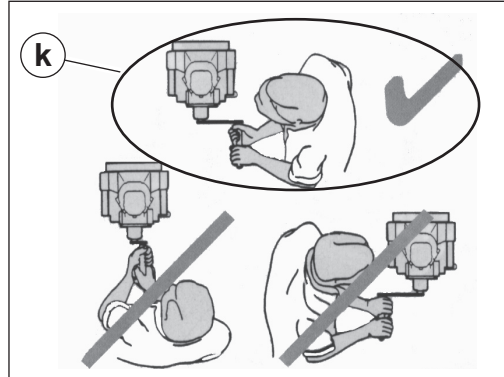
8. Turn the decompression lever until limit stop **(d₁)**.

This procedure continues on the next page.

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9. Stand alongside the engine, facing the back of the machine **(k)** and grasp the engine crank with both hands.

Note: *Keep constant contact between the engine crank and the engine during this process.*



wc_gr010234

10. Turn the engine crank slowly until the pawl engages the ratchet, then increase the turning force to build up speed until the engine starts.

Note: *The highest speed must be reached when the decompression lever **(d)** returns to the **(d₀)** position.*

11. As soon as the engine starts, pull the engine crank out of the guide sleeve.

Note: *If the engine begins to run backwards after backfiring (smoke emerges from air cleaner), release the engine crank immediately and stop the engine.*

12. To restart the engine, wait until it has come to a standstill, then repeat the starting procedures.

13. Disengage the parking brake.

14. Allow engine to warm up for a few minutes before operating machine.

Note: *Always operate the machine in the operating position.*

4.20 Starting the Machine (Hatz Engine with Electric Start)

- Requirements**
- Machine is in serviceable condition and has been properly maintained
 - Fuel in the tank

Procedure Perform the procedure below to start the machine.

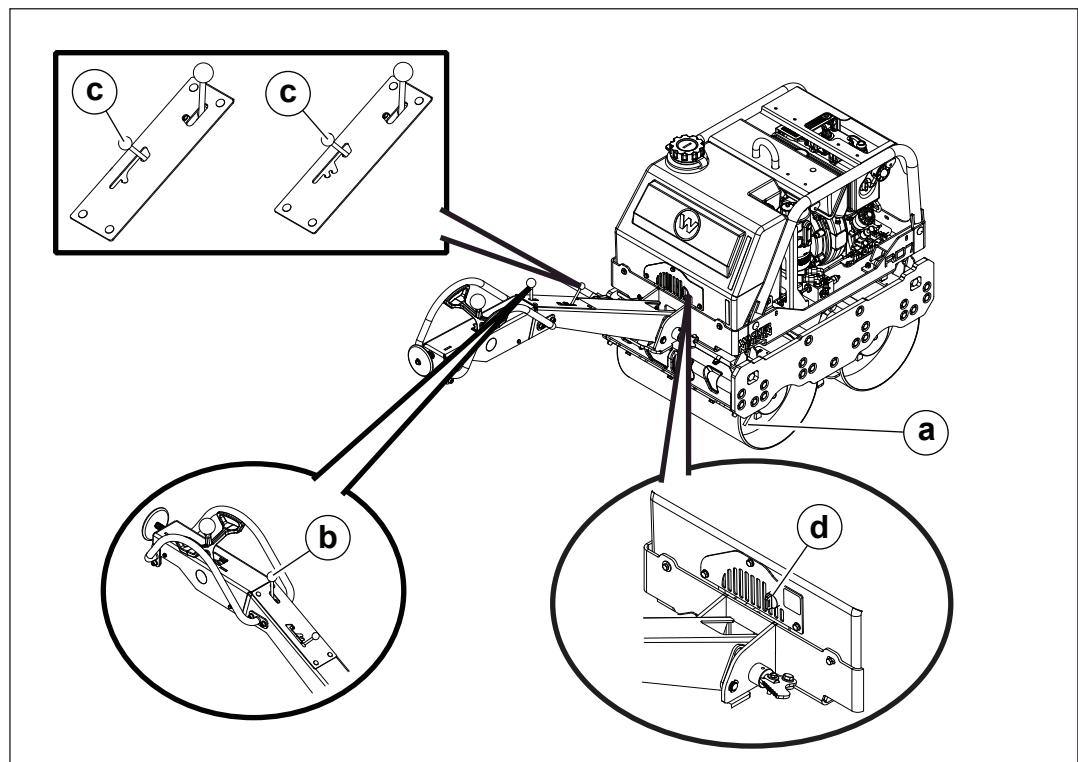


WARNING

Personal injury hazard. Starting the machine with the exciter lever in the ON position could result in personal injury.

- Only start the machine when the exciter lever is set to the OFF position.

1. Engage the parking brake **(a)**.



wc_gr011680

2. Check that the exciter lever **(b)** is in the OFF position.
3. Set the throttle lever **(c)** to the high position.

This procedure continues on the next page.

Continued from the previous page.

4. Turn the starting key **(d)** to crank the engine.

NOTICE

- When the key is in the ON position, an alarm will sound. The alarm is a reminder to turn the key to the OFF position when the machine is not in use. Failure to do this will result in a dead battery. The alarm will stop when proper oil pressure is reached.
 - Do not crank the engine starter for more than 15 seconds at one time. Cranking the engine longer than 15 seconds could lead to starter damage. Allow 30 seconds between cranking attempts.
-

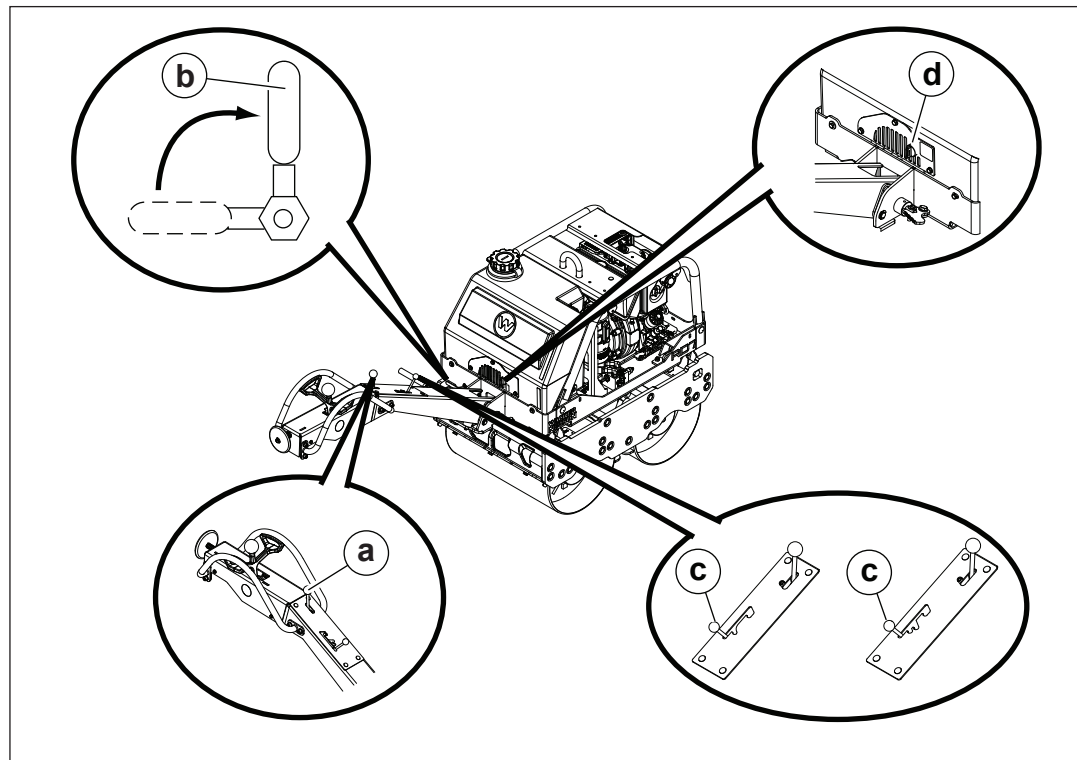
5. Allow the engine to warm up for a few minutes before operating the machine.

Note: *Always operate the machine in the operating position.*

4.21 Stopping the Machine (Hatz Engine)

Procedure Perform the following procedure to stop the machine.

1. Set the exciter lever **(a)** in the OFF position.



wc_gr011683

2. Close the water control valve **(b)**.
3. Set the throttle lever **(c)** to the OFF position to stop the engine.



CAUTION

Possible loss of machine control. If the throttle control fails, the engine may get stuck in the high position.

- Pull up on the decompression lever to stop the engine.
- Decompression lever may be hot. Wear protective gloves to prevent injury.

4. On electric-start machines, turn the start key **(d)** to the OFF position.
5. Engage the parking brake.
6. Clean the scraper bars before storing the machine.

4.22 Starting the Machine (Honda Engine)

- Requirements**
- Machine is in serviceable condition and has been properly maintained
 - Fuel in the tank

Procedure Perform the procedure below to start the machine.

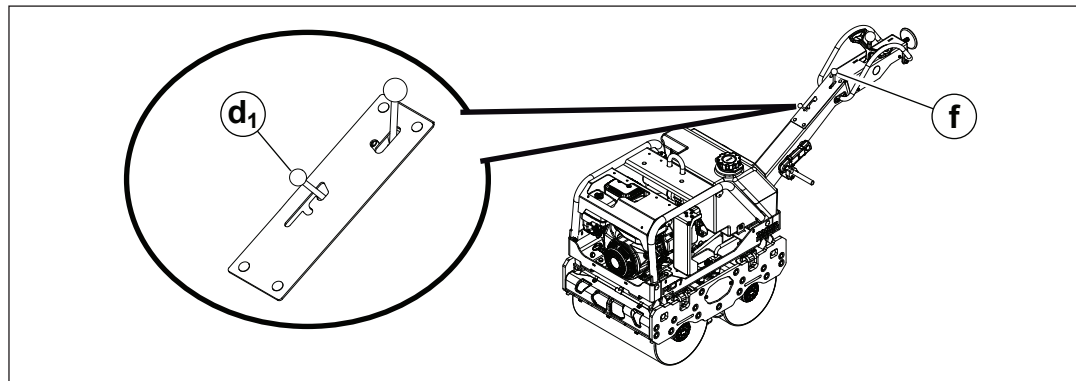


WARNING

Personal injury hazard. Starting the machine with the exciter lever in the ON position could result in personal injury.

- Only start the machine when the exciter lever is set to the OFF position.

1. Check that the exciter lever (**f**) is in the OFF position.

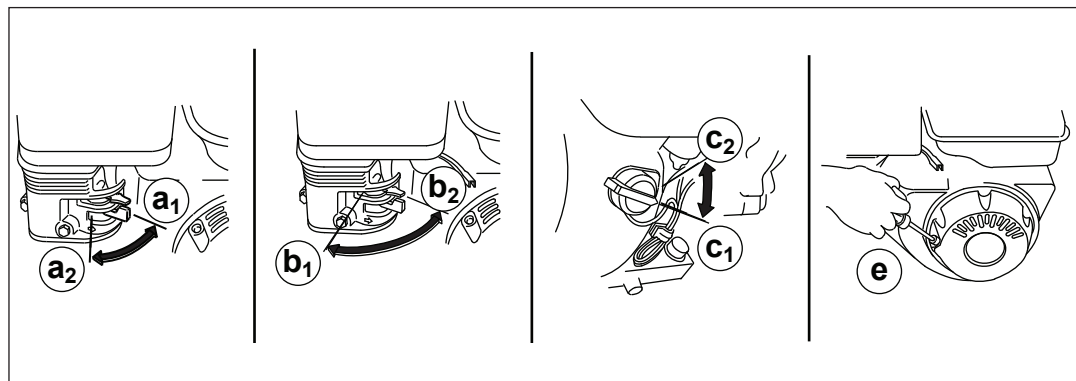


wc_gr011682

2. Set the throttle lever to the high position (**d₁**).

3. Open the fuel valve by moving the lever to the right (**a₁**).

Note: If the engine is cold, move the choke lever to the closed position (**b₁**). If the engine is hot, set the choke to the open position (**b₂**).



wc_gr011681

4. Turn the engine switch to the ON position (**c₁**).

5. Pull the starter rope (**e**).

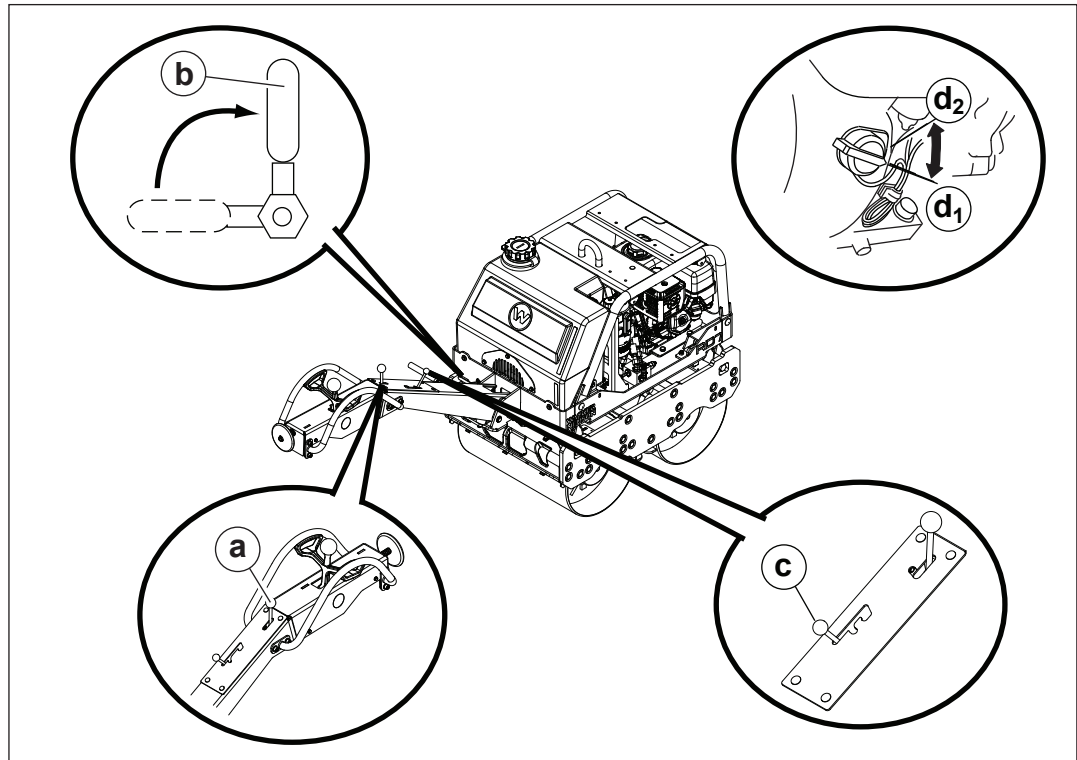
6. Open the choke as the engine warms (**b₂**).

Note: Always operate the machine in the operating position.

4.23 Stopping the Machine (Honda Engine)

Procedure Perform the following procedure to stop the machine.

1. Set the exciter lever **(a)** in the OFF position.



wc_gr012564

2. Close the water control valve **(b)**.
3. Set the throttle lever **(c)** to the OFF position.
4. Turn the engine switch to the OFF position **(d₂)**.



CAUTION

Possible loss of machine control. If the throttle control fails, the engine may get stuck in the high position.

- Pull up on the decompression lever to stop the engine.
- Decompression lever may be hot. Wear protective gloves to prevent injury.

5. Engage the parking brake.
6. Clean the scraper bars before storing the machine.

4.24 Starting the Machine (Yanmar Engine)

- Requirements**
- Machine is in serviceable condition and has been properly maintained
 - Fuel in the tank

Procedure Perform the procedure below to start the machine.

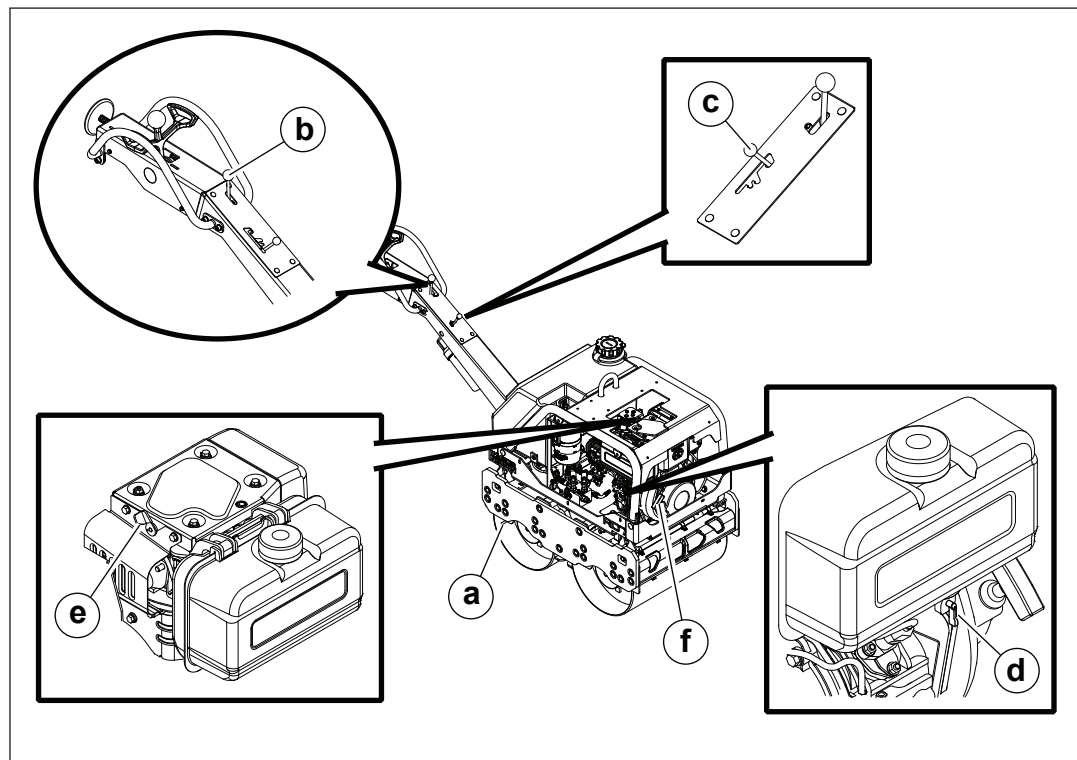


WARNING

Personal injury hazard. Starting the machine with the exciter lever in the ON position could result in personal injury.

- Only start the machine when the exciter lever is set to the OFF position.

1. Engage the parking brake **(a)**.



wc_gr013986

2. Check that the exciter lever **(b)** is in the OFF position.
3. Set the throttle lever **(c)** to the high position.
4. Open the fuel valve **(d)**.
5. Turn the decompression lever **(e)** until stop is reached. In this position, the automatic decompression system is heard to engage.
6. Pull the starter rope **(f)**.

This procedure continues on the next page.

Continued from the previous page.

7. To restart the engine, wait until it has come to a standstill, then repeat the starting procedures.
8. Disengage the parking brake.
9. Allow the engine to warm up for a few minutes before operating the machine.

Note: *Always operate the machine in the operating position.*

4.25 Starting the Machine (Yanmar Engine with Electric Start)

- Requirements**
- Machine is in serviceable condition and has been properly maintained
 - Fuel in the tank

Procedure Perform the procedure below to start the machine.

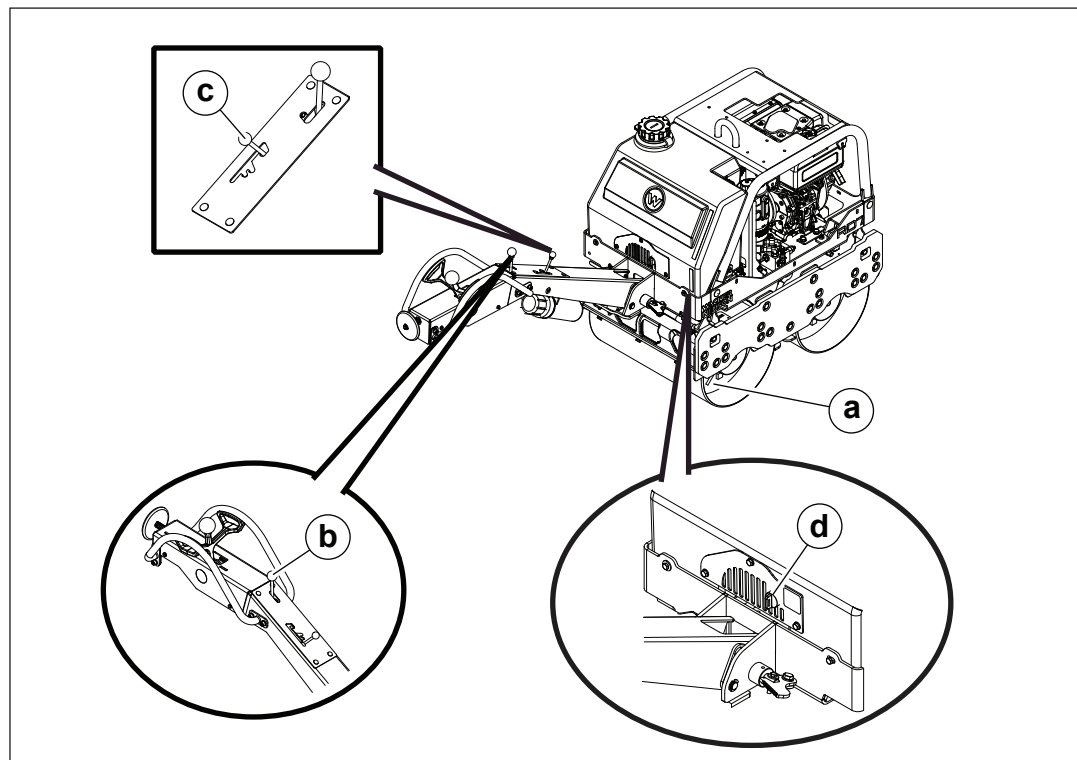


WARNING

Personal injury hazard. Starting the machine with the exciter lever in the ON position could result in personal injury.

- Only start the machine when the exciter lever is set to the OFF position.

1. Engage the parking brake **(a)**.



wc_gr013992

2. Check that the exciter lever **(b)** is in the OFF position.
3. Set the throttle lever **(c)** to the high position.

This procedure continues on the next page.

Continued from the previous page.

4. Turn the starting key **(d)** to crank the engine.

NOTICE

-
- When the key is in the ON position, an alarm will sound. The alarm is a reminder to turn the key to the OFF position when the machine is not in use. Failure to do this will result in a dead battery. The alarm will stop when proper oil pressure is reached.
 - Do not crank the engine starter for more than 15 seconds at one time. Cranking the engine longer than 15 seconds could lead to starter damage. Allow 30 seconds between cranking attempts.
-

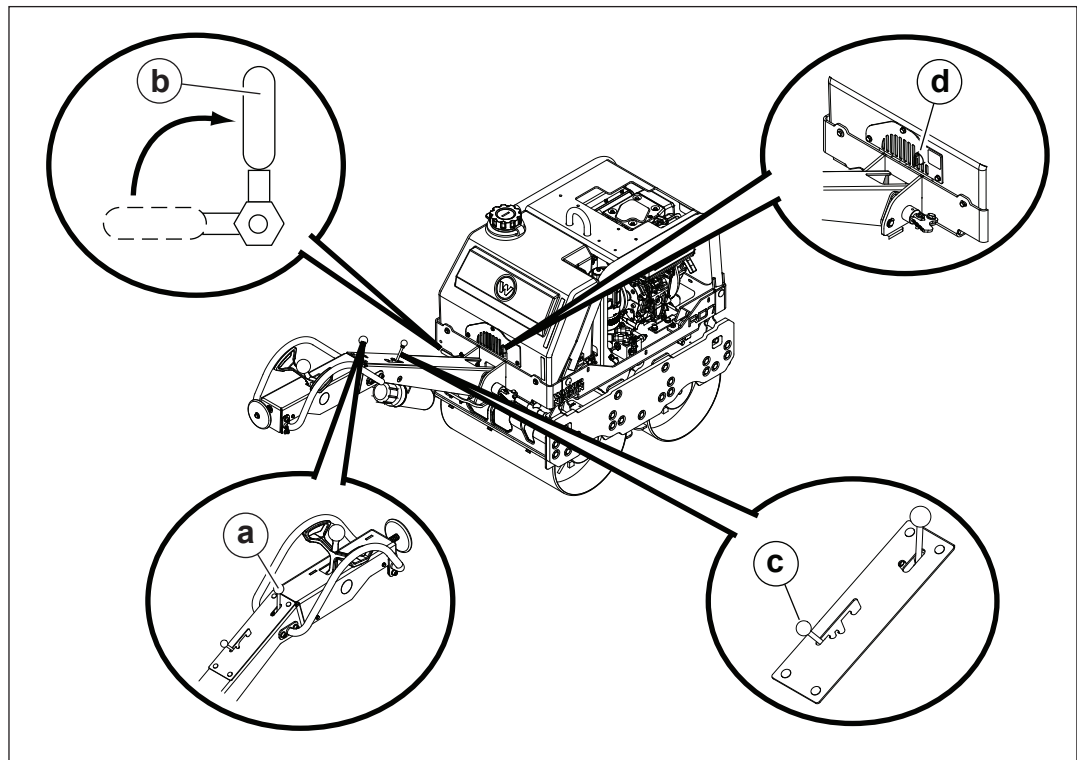
5. Allow the engine to warm up for a few minutes before operating the machine.

Note: *Always operate the machine in the operating position.*

4.26 Stopping the Machine (Yanmar Engine)

Procedure Perform the following procedure to stop the machine.

1. Set the exciter lever **(a)** in the OFF position.



wc_gr013990

2. Close the water control valve **(b)**.
3. Set the throttle lever **(c)** to the OFF position to stop the engine.



CAUTION

Possible loss of machine control. If the throttle control fails, the engine may get stuck in the high position.

- Pull up on the decompression lever to stop the engine.
- Decompression lever may be hot. Wear protective gloves to prevent injury.

4. On electric-start machines, turn the start key to the OFF position.
5. Engage the parking brake.
6. Clean the scraper bars before storing the machine.

4.27 Emergency Shutdown Procedure

If a breakdown or accident occurs while the machine is operating, follow the procedure below:

1. Stop the engine.
2. Close the fuel valve.
3. Allow the machine to cool.
4. Contact the rental yard or machine owner for further instructions.

5 General Maintenance

5.1 Periodic Maintenance Schedule

The table below lists basic machine maintenance. Tasks designated with check marks ✓ may be performed by the operator. Tasks designated with square bullet points ■ require special training and equipment.

	Daily	Every 500 hours
Check external hardware.	✓	
Clean the machine. ³	✓	
Check air cleaner maintenance indicator.	✓	
Check hydraulic oil level.	✓	
Clean the scraper bars.	✓	
Check function of back-up stop pad and forward/reverse control lever.	✓	
Check lubrication of the back-up stop mechanism.	✓	
Check and adjust scraper bars.		■
Clean battery terminals (RD 7H-ES). ³		■
Change hydraulic oil and filter. ^{1,3}		■
Check linkage components. ^{2,3}		■

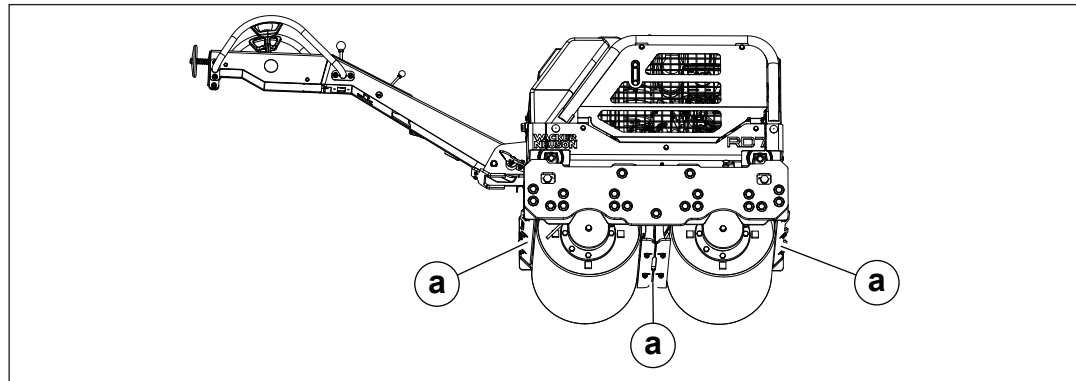
¹Change the hydraulic filter after first 100 hours.

²Maintain linkages more frequently in dusty environments. Lubricating linkages is not recommended. However, if necessary, use a dry lubricant that does not attract dust.

³Remove the protection kit (if equipped).

5.2 Scraper Bars

Check the four scraper bars **(a)** for wear. Replace the scraper bars as needed.



wc_gr012951

Cleaning the scraper bars

The scraper bars should be cleaned daily after use or as often as needed to remove built-up dirt, mud, and tar.

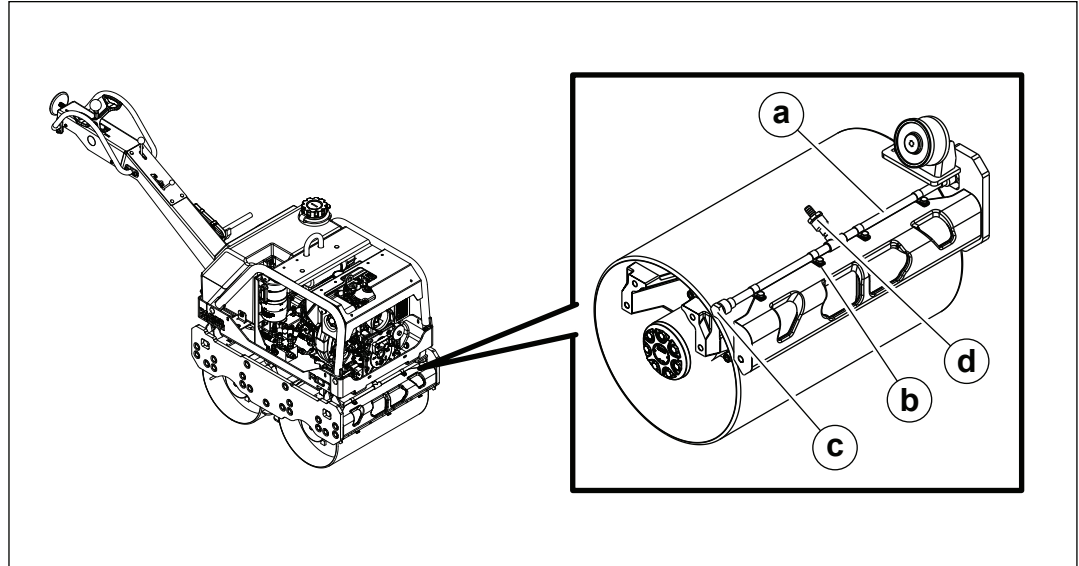
Use a high-pressure water jet and a strong brush if needed.

5.3 Water Spray Bars

Background Clogged or dirty spray bars can prevent water from spraying onto the drums. If water spray is noticeably reduced or absent even though there is water in the tank, then clean the spray bars.

Procedure Follow the procedure below to clean the spray bars.

1. The spray bars **(a)** are located above the drum scrapers.



wc_gr012950

2. Start the machine. Activate the spray system and check for free flow of water through each spray hole **(b)**.
3. If any of the spray holes are blocked, use a small pointed object (i.e. a stiff piece of wire) to remove the blockage.
4. Rinse the spray bars with clean water and dry with a soft, clean cloth.

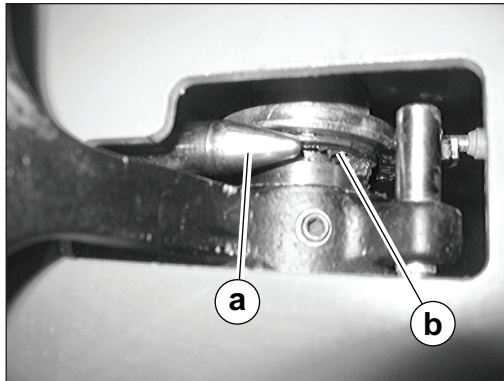
NOTICE: The cap **(c)** and fitting **(d)** are not removable.

5.4 Lubricating the Back-up Stop Mechanism

When Check daily. Clean and reapply grease as necessary.

Overview To ensure proper operation and component life of the back-up stop mechanism, apply grease to the metal components at the base of the forward/reverse control lever. Regular cleaning and lubrication is essential for keeping the machine in serviceable condition.

- Procedure**
1. Pull the forward/reverse control lever towards the operator to the reverse position.
 2. Press down the back-up stop pad to expose the travel plunger **(a)**.



wc_gr014148

3. Clean any dirt or debris from the base of the forward/reverse control lever and the drive disconnect **(b)**.
4. Apply grease to the tip of the travel plunger **(a)** and between the drive disconnect **(b)**.

5.5 Hydraulic Oil Requirements

Wacker Neuson recommends the use of a premium grade, petroleum-based hydraulic oil with anti-wear and anti-foam characteristics. Good anti-wear oils contain additives to reduce oxidation, prevent foaming, and provide for good water separation. These oils offer superior motor and pump life.

When selecting hydraulic oil for your machine, be sure to specify anti-wear properties. Wacker Neuson offers a premium grade hydraulic oil for use in this machine.

Avoid mixing different brands and grades of hydraulic oils.

Oil Viscosity

Most hydraulic oils are available in different viscosities. The SAE number for an oil is used strictly to identify viscosity. It does not indicate the type of oil (engine, hydraulic, gear, etc.). The higher the SAE number, the thicker the oil.

For normal applications use a good non-detergent, anti-wear, hydraulic oil with a viscosity rating of SAE 10W30.

5.6 Checking and Changing the Hydraulic Oil and Hydraulic Filter

When

- ▶ Check the hydraulic oil level daily.
- ▶ Change the hydraulic filter after the first 100 hours of operation.
- ▶ Change the hydraulic oil and hydraulic filter every 500 hours.

Requirements

- Machine stopped
- Parking brake engaged
- Machine standing on a level surface
- Container of suitable size to collect drained oil
- Fresh oil (10W30)

**WARNING**

Most used oil contains small amounts of materials that can cause cancer and other health problems if inhaled, ingested, or left in contact with skin for prolonged periods of time.

- ▶ Take steps to avoid inhaling or ingesting used engine oil.
- ▶ Wash skin thoroughly after exposure to used engine oil.

Hydraulic oil requirements

Wacker Neuson recommends the use of a premium grade, petroleum-based hydraulic oil with anti-wear and anti-foam characteristics. Good anti-wear oils contain additives to reduce oxidation, prevent foaming, and provide for good water separation. These oils offer superior motor and pump life.

When selecting hydraulic oil for your machine, be sure to specify anti-wear properties. Wacker Neuson offers a premium grade hydraulic oil for use in this machine.

Avoid mixing different brands and grades of hydraulic oils.

Oil viscosity

Most hydraulic oils are available in different viscosities. The SAE number for an oil is used strictly to identify viscosity. It does not indicate the type of oil (engine, hydraulic, gear, etc.). The higher the SAE number, the thicker the oil.

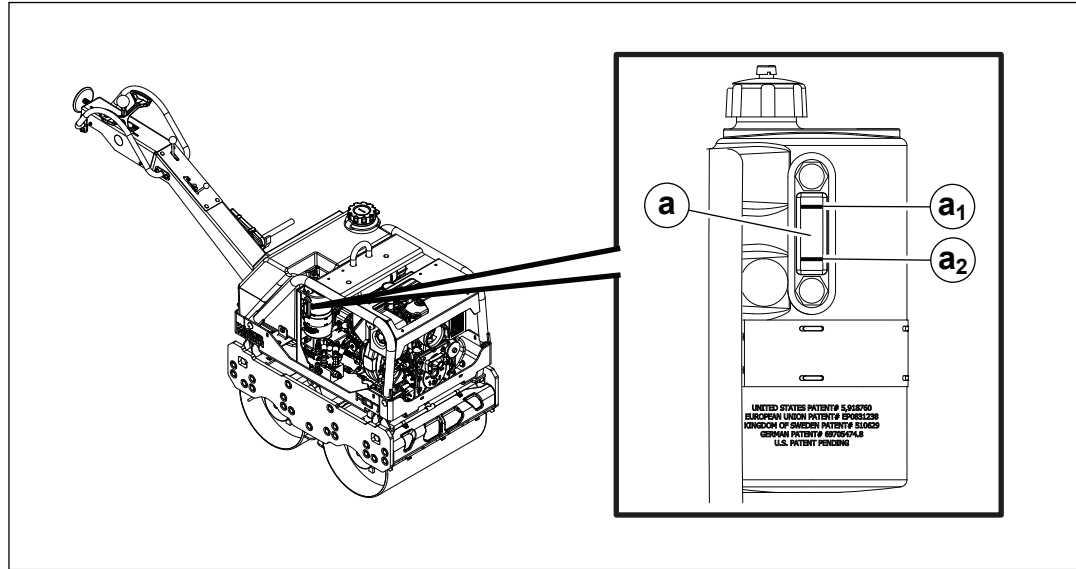
For normal applications use a good non-detergent, anti-wear, hydraulic oil with a viscosity rating of SAE 10W30.

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Checking the hydraulic oil level

A hydraulic oil level sightglass (a) is located on the hydraulic tank.



wc_gr012809

Check the oil level with the machine standing on a level surface. The oil level should be at or near the MAX (**a₁**) mark on the sightglass. If the hydraulic oil level is low, add hydraulic oil as necessary.

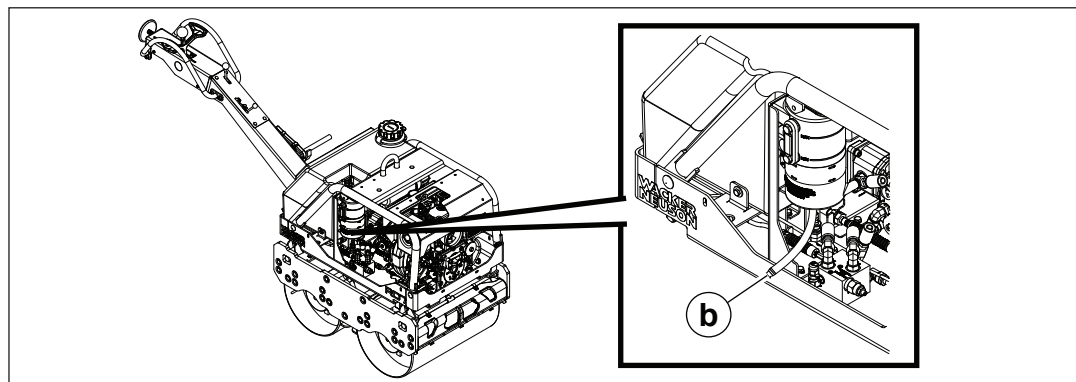
If hydraulic oil continually needs to be added, inspect the hoses and connections for possible leaks. Repair hydraulic leaks immediately to prevent damage to the hydraulic components.

Changing the hydraulic oil and hydraulic filter

Perform the procedure below to change the hydraulic oil and hydraulic filter.

1. Remove the drain plug (**b**) from the drain hose that is attached to the hydraulic oil tank. Then, drain the oil into a suitable container.

Note: *In the interests of the environment protection, place a plastic sheeting and a container under the machine to collect the liquid which drains off. Dispose of drained oil in accordance with the environmental protection legislation.*



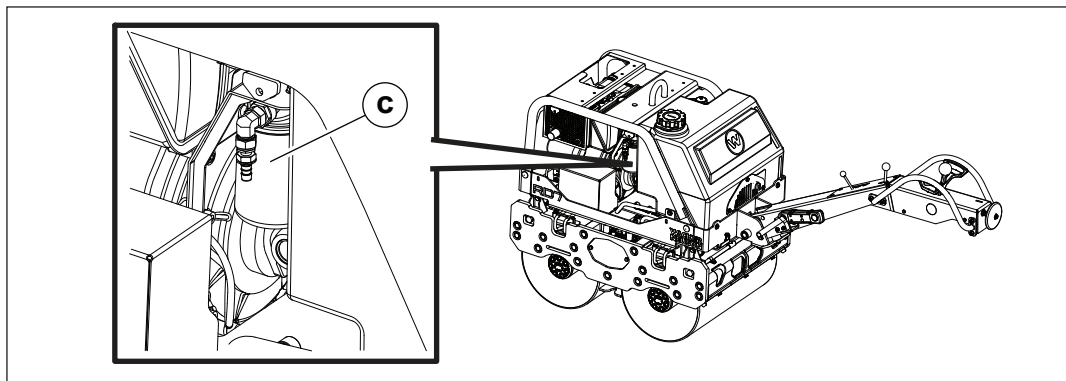
wc_gr012810

2. Re-install the drain plug after all the oil has drained out.

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3. Place a plastic bag around the hydraulic filter **(c)** to contain any oil spillage.



wc_gr012811

4. Unscrew and remove the old hydraulic filter.
5. Install a new hydraulic filter.
6. Fill the hydraulic tank with oil until the oil level reaches the MAX mark on the sightglass.
7. Operate the machine at low idle, while checking the oil level. As the oil level approaches the MIN (**a₂**) mark on the sightglass, immediately stop the machine.
8. Top off the hydraulic tank with oil until it reaches the MAX mark on the sightglass.
9. Repeat steps 7 and 8 until the oil level remains at the MAX mark.
10. Operate the machine in high idle. Then, stop the machine and check for leaks.
11. Check the oil level on the sightglass and top off if necessary.

Result

The hydraulic oil has now been checked and changed.

5.7 Maintaining the Battery



WARNING

Explosion hazard. Batteries can emit explosive hydrogen gas.

- ▶ Keep all sparks and flames away from the battery.
 - ▶ Do not short-circuit battery posts.
-

Safety precautions

Observe the following safety precautions to prevent serious damage to the electrical system.

- Do not disconnect the battery while the machine is running.
 - Do not attempt to run the machine without a battery.
 - Do not attempt to jump-start the machine.
 - In the event that the machine has a discharged battery, either replace the battery with a fully charged battery or charge the battery using an appropriate battery charger.
 - Dispose of waste batteries in accordance with local environmental regulations.
-

Battery connections

To connect the battery:

1. Place all electrical switches in the OFF position.
2. Connect the red positive (+) battery cable to the battery.
3. Connect the black negative (-) battery cable to the battery.

To disconnect the battery:

1. Stop the engine.
 2. Place all electrical switches in the OFF position.
 3. Disconnect the black negative (-) battery cable from the battery.
 4. Disconnect the red positive (+) battery cable from the battery.
-

Maintaining battery condition

- Follow the battery manufacturer's maintenance recommendations.
- Keep battery terminals clean and connections tight.
- When necessary, tighten the cables and grease the cable clamps with petroleum jelly.
- Maintain the battery at full charge to improve cold weather starting.

5.8 Engine - Jump-Starting

Background Jump-starting may occasionally be required if a battery is discharged. If jump-starting is necessary, the following procedure is recommended to prevent starter damage, battery damage, and personal injuries.

**WARNING**

Personal injury hazard. Jump-starting a battery incorrectly can cause the battery to explode, resulting in severe personal injury or death.

- ▶ Keep all arcs, sparks, flames, and lighted tobacco away from the battery.
 - ▶ Do not jump-start a frozen battery.
 - ▶ Keep all arcs, sparks, flames, and lighted tobacco away from the battery.
 - ▶ Do not jump-start a frozen battery.
 - ▶ Do not short circuit battery posts. Do not touch the frame or the negative terminal when working on the positive terminal.
 - ▶ Wear safety glasses and gloves while using cables.
-

**WARNING**

Battery fluid is poisonous and corrosive.

- ▶ In the event of ingestion or contact with skin or eyes, seek medical attention immediately.
-

NOTICE:

Observe the following precautions to prevent serious damage to the electrical system.

Jump-starting a shorted or defective battery will cause the voltage regulator to supply higher than normal voltage. This can severely damage the digital electronics that control machine operation. If there is any doubt as to the battery's condition, a replacement battery should be used or an attempt should be made to charge the battery before starting the machine.

- Do not connect the negative clamp to a carburetor, fuel lines, or sheet metal body parts.
 - Do not attempt to operate the machine without a battery.
 - Dispose of waste batteries in accordance with local environmental regulations.
-

**CAUTION**

Electrical arcing can cause severe personal injury.

- ▶ Do not allow positive and negative cable ends to touch
-

This procedure continues on the next page.

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Procedure

Perform the procedure below to jump-start the battery.

1. In very cold weather, check the condition of the electrolytes. If it seems slushy or frozen, do not try jump-starting until it thaws.

NOTICE: If a battery sits in extreme cold, the electrolytes inside the battery can freeze. Attempting to jump-start a frozen battery can cause it to rupture.

2. Disconnect engine load.
3. Use a booster battery of the same voltage as is used with your engine system.
4. Attach one end of the positive cable clamp (red) to the positive (+) terminal of the dead battery. Attach the other end of the positive cable clamp to the positive terminal of the booster battery.
5. Attach the negative cable clamp (black) to the negative (-) terminal of the booster battery. Attach the other end of negative cable clamp to a solid chassis ground on your engine or unpainted portion of the machine frame away from the "discharged" battery.
6. Start the engine on the machine that is being used as a power source.
7. Wait for a minimum of two minutes while the battery in the stalled machine partially charges.
8. Turn the engine key switch and hold it until the engine starts.

NOTICE: Cranking the engine for more than five seconds can cause starter damage. If the engine fails to start, release the key switch and wait 10 seconds before operating the starter again. If the engine still fails to start see *Troubleshooting*.

9. Immediately after the stalled engine starts, disconnect the negative cable clamp first from the previously dead battery and then the negative cable clamp of the booster battery.
10. Disconnect the positive cable clamp from the booster battery and then the positive cable clamp from the previously dead battery.
11. When using light or high amperage draw accessories, idle the engine for a period of 20 minutes to bring the battery to charge state.

Result

The machine has now been jump-started.

5.9 Cleaning the Machine

When Clean the machine after each use.

Overview Regular cleaning is essential for keeping the machine in serviceable condition. It is important to remove built-up dirt, mud, and tar from the machine as soon as possible after work has been completed.

Requirements

- Machine stopped and cool to touch
- Fresh, clean water supply
- Pressure washer
- Clean, soft cloths

Procedure Perform the procedure below to clean the machine.

1. Use a pressure washer to remove dirt and debris from between the upper and lower frame, and around the drums.

NOTICE: Direct, high water pressure at close range will damage certain components on the machine. The following components should be wiped clean by hand using a damp, clean cloth. Do not apply high pressure spray to these components:

- Oil cooler, fan, and connecting hoses
- Hydraulic manifold
- Electrical connectors (if equipped)
- Labels

5.10 Long-Term Storage

Extended storage of equipment requires preventive maintenance. Performing these steps helps to preserve machine components and ensures the machine will be ready for future use. While not all of these steps necessarily apply to this machine, the basic procedures remain the same.

When Prepare your machine for extended storage if it will not be operated for 30 days or more.

Preparing for storage Perform the procedures below to prepare your machine for storage.

- Complete any needed repairs.
- Replenish or change oils (engine, exciter, hydraulic, and gearcase) per the intervals specified in the Scheduled Maintenance table.
- Grease all fittings and, if applicable, repack bearings.
- Inspect engine coolant. Replace coolant if it appears cloudy, is more than two seasons old, or does not meet the average lowest temperature for your area.
- If your machine has an engine equipped with a fuel valve, start the engine, close the fuel valve, and run the engine until it stops.
- Consult the engine owner's manual for instructions on preparing the engine for storage.

Stabilizing the fuel After completing the procedures listed above, fill the fuel tank completely and add a high-quality stabilizer to the fuel.

- Choose a stabilizer that includes cleaning agents and additives designed to coat/protect the cylinder walls.
- Make sure the stabilizer you use is compatible with the fuel in your area, fuel type, grade, and temperature range. Do not add extra alcohol to fuels which already contain it (for example, E10).
- For engines with diesel fuel, use a stabilizer with a biocide to restrict or prevent bacteria and fungus growth.
- Add the correct amount of stabilizer per the manufacturer's recommendations.

Storing the machine Perform these remaining steps to store your machine.

- Wash the machine and allow it to dry.
- Move the machine to a clean, dry, secure storage location. Block or chock the wheels to prevent machine movement.
- Use touch-up paint as needed to protect exposed metal against rust.
- If the machine has a battery, either remove or disconnect it.

NOTICE: Allowing the battery to freeze or completely discharge is likely to cause permanent damage. Periodically charge the battery while the machine is not in use. In cold climates, store and charge the battery indoors or in a warm location.

- Cover the machine. Exposed rubber items should be protected from the weather. Either cover them or use a protectant.

5.11 Machine Disposal/Decommissioning

This machine must be properly decommissioned at the end of its service life. Responsible disposal prevents toxic chemicals and materials from harming the environment. This machine contains several components that may be considered hazardous waste in many areas:

- Operating fluids, including fuel, engine oil, grease, and hydraulic oil
- Batteries
- Electronic components, such as circuit boards, control panels, LEDs, and joysticks

Before decommissioning this machine, read and follow local safety and environmental regulations pertaining to the disposal of construction equipment.

Preparation

Perform the following tasks to prepare the machine for disposal.

- ☐ Move the machine to a protected location where it will not pose any safety hazards and cannot be accessed by unauthorized individuals.
- ☐ Ensure that the machine cannot be operated from the time of final shutdown to disposal.
- ☐ Drain all fluids, including fuel, engine oil, and hydraulic oil.
- ☐ Seal any fluid leaks.
- ☐ Remove the battery.

Disposal

Perform the following tasks to dispose of the machine.

- ☐ Disassemble the machine and separate all parts by material type.
- ☐ Dispose of recyclable parts as specified by local regulations.
- ☐ Dispose of all non-hazardous components that cannot be recycled.
- ☐ Dispose of waste fuel, engine oil, and hydraulic oil in accordance with local environmental protection regulations.

6 Engine Maintenance: Hatz 1D42

The information in this chapter comes from copyrighted Hatz material.

The viscosity of the engine oil is an important factor when determining the correct engine oil to use in your machine. Use an engine oil of appropriate viscosity based on the expected outside air temperature. See the following table.

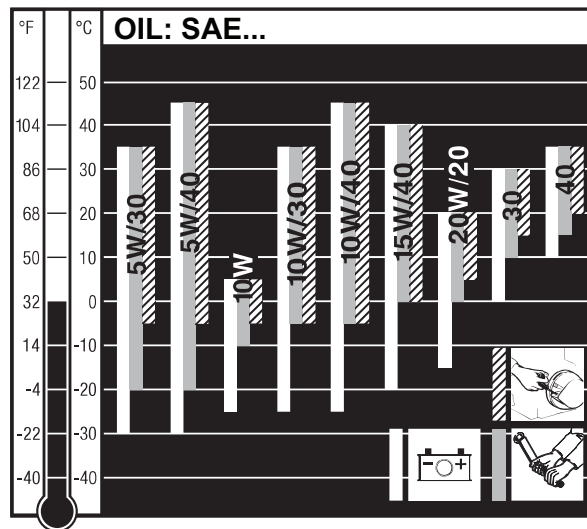


WARNING

Most used liquids from this machine such as oil, gasoline, grease, etc., contain small amounts of materials that can cause cancer and other health problems if inhaled, ingested, or left in contact with skin for prolonged periods of time.

- Take steps to avoid inhaling or ingesting used liquids.
- Wash skin thoroughly after exposure to used liquids.

Oil viscosity



Please select the recommended viscosity depending on the ambient temperature at which the engine is operated.

Inappropriate engine oil may shorten the engine's service life significantly.

770093




The engine maintenance schedule(s) in this chapter are reproduced from the engine owner's manual. For additional information, see the engine owner's manual.

Maintenance



The engine must be stopped before any maintenance work is attempted.
Comply with legal requirements when handling and disposing of old oil, filters and cleaning materials.
Keep the engine's starting key and starting handle out of reach of unauthorized persons.
To immobilize engines with an electric starter, disconnect the negative battery terminal.
At the end of the maintenance work, check that all tools have been removed from the engine and all safety guards, covers etc. replaced in their correct positions.
Before starting the engine, make sure that nobody is in the danger area (engine or driven machinery).

5.1. Maintenance summary

	Maintenance intervals	Maintenance work required
	Every 8 – 15 operating hours or before daily starting.	Check oil level. Check area round combustion air input. Check the air cleaner maintenance indicator. Check the cooling air zone. Check the water trap. Check the lower part of the oilbath air cleaner for correct oil level and freedom from dirt; renew oil if sludge has formed.
	Every 250 operating hours	Maintenance of oil bath air filter. Replace engine oil and oil filter. Check and adjust tappet clearance. Clean cooling air system. Examine screw connections. Cleaning mesh insert in exhaust silencer
	Every 500 operating-hours	Replace fuel filter. Maintenance of dry-air filter.

770094

7 Engine Maintenance: Honda GX390

The information in this chapter comes from copyrighted Honda material.

The viscosity of the engine oil is an important factor when determining the correct engine oil to use in your machine. Use an engine oil of appropriate viscosity based on the expected outside air temperature. See the following table.



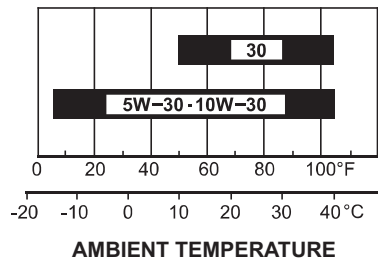
WARNING

Most used liquids from this machine such as oil, gasoline, grease, etc., contain small amounts of materials that can cause cancer and other health problems if inhaled, ingested, or left in contact with skin for prolonged periods of time.

- Take steps to avoid inhaling or ingesting used liquids.
- Wash skin thoroughly after exposure to used liquids.

Recommended Oil

Use 4-stroke motor oil that meets or exceeds the requirements for API service category SJ or later (or equivalent). Always check the API service label on the oil container to be sure it includes the letters SJ or later (or equivalent).



SAE 10W-30 is recommended for general use. Other viscosities shown in the chart may be used when the average temperature in your area is within the indicated range.

770079

Engine Maintenance: Honda GX390

The engine maintenance schedule(s) in this chapter are reproduced from the engine owner's manual. For additional information, see the engine owner's manual.

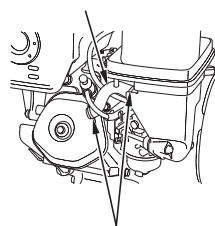
MAINTENANCE SCHEDULE

REGULAR SERVICE PERIOD (3) Perform at every indicated month or operating hour interval, whichever comes first.		Each Use	First Month or 20 Hrs	Every 3 Months or 50 Hrs	Every 6 Months or 100 Hrs	Every Year or 300 Hrs	Refer to Page
ITEM							
Engine oil	Check level	○					9
	Change		○		○		9
Reduction case oil (applicable types)	Check level	○					9-10
	Change		○		○		10
Air cleaner	Check	○					10
	Clean			○ (1)	○ *(1)		11-12
	Replace					○ **	
Sediment cup	Clean				○		12
Spark plug	Check-adjust				○		12
	Replace					○	
Spark arrester (applicable types)	Clean				○ (4)		13
Idle speed	Check-adjust					○ (2)	13
Valve clearance	Check-adjust					○ (2)	Shop manual
Combustion chamber	Clean	After every 1000 Hrs. (2)					Shop manual
Fuel tank & filter	Clean				○ (2)		Shop manual
Fuel tube	Check	Every 2 years (Replace if necessary) (2)					Shop manual

- * • Internal vent carburetor with dual element type only.
Cyclone type every 6 months or 150 hours.

INTERNAL VENT
CARBURETOR TYPE

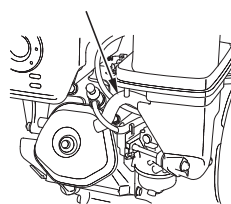
BREATHER TUBE



TUBE CLIP

STANDARD TYPE

BREATHER TUBE



- ** • Replace paper element type only.
• Cyclone type every 2 years or 600 hours.

- (1) Service more frequently when used in dusty areas.
- (2) These items should be serviced by your servicing dealer, unless you have the proper tools and are mechanically proficient. Refer to the Honda shop manual for service procedures.
- (3) For commercial use, log hours of operation to determine proper maintenance intervals.
- (4) In Europe and other countries where the machinery directive 2006/42/EC is enforced, this cleaning should be done by your servicing dealer.

Failure to follow this maintenance schedule could result in non-warrantable failures.

770080

8 Engine Maintenance: Yanmar L100N

The information in this chapter comes from copyrighted Yanmar material.

The viscosity of the engine oil is an important factor when determining the correct engine oil to use in your machine. Use an engine oil of appropriate viscosity based on the expected outside air temperature. See the following table.



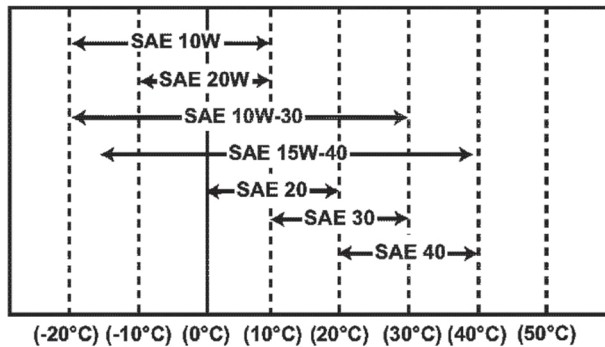
WARNING

Most used liquids from this machine such as oil, gasoline, grease, etc., contain small amounts of materials that can cause cancer and other health problems if inhaled, ingested, or left in contact with skin for prolonged periods of time.

- Take steps to avoid inhaling or ingesting used liquids.
- Wash skin thoroughly after exposure to used liquids.

Engine Oil Viscosity

Select the appropriate engine oil viscosity based on the ambient temperature and use the SAE service grade viscosity chart in **Figure 2**.



770103

Engine Maintenance: Yanmar L100N

The engine maintenance schedule(s) in this chapter are reproduced from the engine owner's manual. For additional information, see the engine owner's manual.

PERIODIC MAINTENANCE

PERIODIC MAINTENANCE SCHEDULE

Daily and periodic maintenance is important to keep the engine in good operating condition. The following is a summary of maintenance items by periodic maintenance intervals. Periodic maintenance intervals vary depending on engine application, loads, diesel fuel and engine oil used and are hard to establish definitively. The following should be treated only as a general guideline.

NOTICE

Establish a periodic maintenance plan according to the engine application and make sure you perform the required periodic maintenance at intervals indicated. Failure to follow these guidelines will impair the engine's safety and performance characteristics, shorten the engine's life and may affect the warranty coverage on your engine. *See YANMAR LIMITED WARRANTY on page iii.*

Consult your authorized YANMAR industrial engine dealer or distributor for assistance when checking items marked with a ●.

Periodic Maintenance Chart

○: Check ◇: Replace ●: Contact your authorized YANMAR industrial engine dealer or distributor for these maintenance services

System	Check item	Daily	Periodic maintenance interval					
			Every 50 hours	Every 200 hours	Every 400 hours	Every 1000 hours	Every 1500 hours	Every 2000 hours
Air intake	Clean or replace air cleaner element - may need more frequent service in dusty conditions			○ 100 hours	◇ 500 hours			
Cylinder head	Adjust intake/exhaust valve clearance		○ 1st time		●			
	Check compression					●		
Electrical equipment	Check battery and add water as necessary	○ Before operation						
	Check battery indicator (if equipped) and other driven machine indicators (if equipped)	○ When engine is started						
Fuel injector	Inspect, clean and test fuel injection nozzle						●	

770104



Engine Maintenance: Yanmar L100N

○: Check ◇: Replace ●: Contact your authorized YANMAR industrial engine dealer or distributor for these maintenance services

System	Check item	Daily	Periodic maintenance interval					
			Every 50 hours	Every 200 hours	Every 400 hours	Every 1000 hours	Every 1500 hours	Every 2000 hours
Engine oil	Check engine oil level and add engine oil as necessary	○ Before operation						
	Drain and refill engine oil			◇ 2nd and after				
	Clean engine oil filter - replace if damaged May need more frequent service in dusty conditions		◇ 1st time		◇ 2nd and after			
	Check for engine oil leakage	○ Before and after operation						
Engine speed control	Check for proper operation Verify adjustment	○ 1st time		○ 2nd and after				
Exhaust system	Check spark arrestor for clogging	○ Before operation						
Fuel	Check fuel tank level and add fuel as necessary	○ Before operation						
	Drain and clean fuel tank			○				
	Clean inlet fuel screen		○					
	Replace outlet fuel filter			○	◇			
	Check for fuel leakage	○ Before and after operation						
Hoses	Replace fuel system hose(s)							● or every 2 yrs. whichever comes first

9 Troubleshooting

Problem / Symptom	Reason	Remedy
Engine does not start	Fuel tank is empty	Refill fuel tank.
	Wrong type of fuel	Drain tank, change fuel filter, and refill with the proper fuel.
	Old fuel	Drain tank, change fuel filter, and refill with fresh fuel.
	Fuel filter is restricted or clogged	Replace fuel filter.
	Battery connections are loose or corroded, or battery is dead	Check battery connections or replace battery as needed.
	Plugged air cleaner or filter elements	Clean air cleaner or replace filter elements.
	Defective starter motor	Repair or replace.
Engine stops by itself	Fuel tank is empty	Refill fuel tank.
	Fuel filter is restricted or clogged	Clean or replace.
	Loose or broken fuel lines	Check connections and tighten or repair as needed.
No vibration	Defective vibration switch or poor connection	Check components and tighten or repair as needed.
	Low oil level in hydraulic reservoir	Fill hydraulic reservoir.
No travel, or travel only in one direction	Parking brake is on	Release parking brake.
Water leaking from spray nozzles when machine is shut off	One or both of the diaphragm valves is not completely closed	Close the diaphragm valve(s) completely.
	The diaphragm is worn	Replace the diaphragm.

Notes

10 Technical Data

10.1 Engine—Hatz

Machine		RD7He	RD7H
Engine type		One cylinder, 4-stroke, air cooled, diesel engine	
Engine make		Hatz	
Engine model		1D42S	
Max. rated power @ rated speed ¹	kW (hp)	6.1 (8.2) @ 2600 rpm	
Operating speed	high low	2600 rpm 2000 rpm	
Valve clearance (cold) intake: exhaust:	mm (in.)	0.10 (0.004) 0.20–0.25 (0.008–0.010)	
Battery	V	12 VDC	—
Air cleaner	type	Dry-pleated paper element	
Engine lubrication	oil grade	15W40 SG, SF/CC, CD	
Engine oil capacity	L (qt)	1.2 (1.25)	
Fuel	type	No. 2 diesel Low sulfur or ultra-low sulfur only	
Fuel tank capacity	L (gal)	5.0 (1.3)	
Fuel consumption	L (gal)/hr	1.4 (0.37)	

¹Net power rating per ISO 3046/1-IFN. Actual power output may vary due to conditions of specific use.

10.2 Engine—Honda

Machine		RD7A
Engine make		Honda
Engine model		GX390OUT2 SXQ4
Max. rated power @ rated speed ¹	kW (hp)	8.7 (11.7) @ 3600 rpm
Operating speed	rpm	2600
Spark plug	type	NGK BPR 6ES
Electrode gap	mm (in)	0.7–0.8 (0.28–0.31)
Valve clearance (cold) intake: exhaust:	mm (in.)	0.15 (0.006) 0.20 (0.008)
Air cleaner	type	Duel element
Engine lubrication	oil grade	SAE 10W30 SG or SF
Engine oil capacity	L (qt)	1.1 (1.16)
Fuel	type	Regular unleaded gasoline
Fuel tank capacity	L (gal)	6.0 (1.58)
Fuel consumption	L (gal)/hr	1.7 (0.44)

¹Net power rating per ISO 3046/1-IFN. Actual power output may vary due to conditions of specific use.

10.3 Engine—Yanmar

Machine		RD7Ye
Engine type		Vertical cylinder, 4-stroke, air cooled, diesel engine
Engine make		Yanmar
Engine model		L100N
Max. rated power @ rated speed ¹	kW (hp)	6.22 (8.34) @ 2600 rpm
Operating speed	high low	2700 rpm 2000 rpm
Valve clearance (cold) intake / exhaust:	mm (in.)	0.15 +/- 0.005 (0.006 +/- 0.002)
Battery	V	12 VDC
Air cleaner	type	Dry-pleated paper element
Engine lubrication	oil grade	10W30 API CD or higher
Engine oil capacity	L (qt)	1.6 (1.7)
Fuel	type	Diesel
Fuel tank capacity	L (gal)	5.4 (1.43)
Fuel consumption	L (gal)/hr	—

¹Net power rating per ISO 3046/1-IFN. Actual power output may vary due to conditions of specific use.

10.4 Roller

Machine		RD7He	RD7H	RD7A	RD7Ye
Overall dimensions - handle up (l x w x h)	mm (in.)	1286 x 698 x 1834 (50.6 x 27.5 x 72.2)			
Overall Dimensions - handle down (l x w x h)	mm (in.)	2366 x 698 x 1162 (93.1 x 27.5 x 45.8)			
Operating weight with protection kit	kg (lb)	751.42 (1656.60)	731.42 (1612.50)	700.84 (1545.10)	740.50 (1632.52)
Operating weight without protection kit	kg (lb)	736.41 (1623.50)	716.40 (1579.40)	685.83 (1512.00)	725.50 (1599.45)
Area capacity	m ² (ft ²)/hr	2890 (31,108)			
Forward speed (max)	km/h (mph)	0–4.5 (0–2.8)			
Reverse speed (max)	km/h (mph)	0–2.5 (0–1.6)			
Vibration frequency high	Hz (vpm)	62.1 (3725)			
Vibration frequency low	Hz (vpm)	47.5 (2850)			
Hydraulic system lubrication	type	SAE 10W30 hydraulic oil ¹			
Hydraulic system capacity	L (gal)	4.7 (1.2)			
Gradeability with vibration	%	40			
Gradeability without vibration	%	45			

¹See "Hydraulic Oil Requirements"

10.5 Lubrication

Machine		RD7
Hydraulic system	type	Premium grade, anti-wear hydraulic fluid 10W30
Exciter bearing	type	Mobil XHP222
Front/rear drum—non-drive side bearing	type	Mobil XHP222

10.6 Sound Measurements

The required sound specification, Paragraph 1.7.4.f of 89/392/EEC Machinery Directive, is:

- the sound pressure level at operator's location (L_{pA}) = 87.2 db(A)
- the guaranteed sound power level (L_{WA}) = 108.0 db(A).

These sound values were determined according to ISO 3744 for the sound power level (L_{WA}) and ISO 11204 for the sound pressure level (L_{pA}) at the operator's location.

10.7 Vibration Measurements

Products are tested for hand/arm vibration (HAV) level in accordance with ISO 5349. The weighted effective acceleration value is approximately:

Machine	HAV m/sec ²
RD7He	6.31
RD7H	
RD7A	6.83
RD7Ye	7.75

HAV Uncertainties

Hand-transmitted vibration was measured per ISO 5349-1. This measurement includes an uncertainty of 1.5 m/s².

Note: The sound and vibration measurements were obtained with the machine operating on hard asphalt at maximum RPM and top speed.



SAFETY MANUAL

FOR OPERATING AND MAINTENANCE PERSONNEL

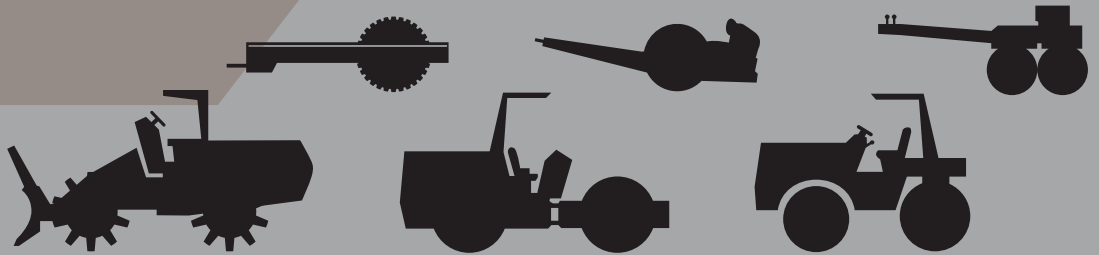


Table of Contents

Acknowledgment.....	2
Foreword	3
Safety Alerts.....	4
A Word to the User/Operator	5
Types of Roller Compactors.....	6
Follow a Safety Program.....	7
Prepare for Safe Operation.....	12
Start Safely.....	17
Operate Safely	20
Shut Down Safely	30
Perform Maintenance Safely	31
Final Word to the User	43

Acknowledgment

We wish to thank the members of the Association of Equipment Manufacturers for their invaluable contributions in preparing this Safety Manual.

NOTICE OF COPYRIGHT PROTECTION

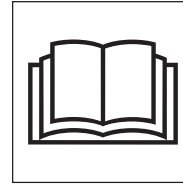
Copyright 2014, by the Association of Equipment Manufacturers. All rights reserved. This work may not be reproduced or disseminated in whole or in part by any means without the prior written permission of the Association of Equipment Manufacturers.

Foreword

This safety manual is intended to point out some of the basic safety situations that may be encountered during the normal operation and maintenance of your machine and to instruct you in safety practices for dealing with these conditions. This manual is **NOT** a substitute for the manufacturer's operator's manual(s).

Additional precautions may be necessary, or some instructions may not apply, depending on equipment, attachments and conditions at the jobsite or in the service area. The manufacturer has no direct control over equipment application, operation, inspection or maintenance. Therefore, it is **YOUR** responsibility to use good safety practices in these areas.

The information provided in this manual supplements the specific information about your machine that is contained in the manufacturer's operator's manual(s). Other information that may affect the safe operation of your machine may be contained on safety signs or in insurance requirements, employer's safety and training programs, safety codes, local, state/provincial and federal laws, rules and regulations.



**Read and understand
manuals before
operating**

IMPORTANT! Before you operate this machine, make sure you have the manufacturer's manual(s) for this machine and all attachments. If the manufacturer's manuals are missing, obtain replacements from your employer, equipment dealer or directly from the manufacturer. Keep this safety manual and the manufacturer's manuals with the machine at all times. Read and understand all manuals.

Safety videos and other training resources are available from some manufacturers and dealers. Operators are encouraged to periodically review these resources.

3

Safety Alerts

Safety Alert Symbol

This Safety Alert Symbol means: "**ATTENTION! STAY ALERT! YOUR SAFETY IS INVOLVED!**"



The Safety Alert Symbol identifies important safety messages on equipment, safety signs, in manuals or elsewhere. When you see this symbol, be alert to the possibility of death or personal injury. Carefully read the message that follows and inform other operators. Follow instructions in the safety message.

Signal Words

Signal words are distinctive words that will typically be found on safety signs on the roller compactor and other jobsite equipment. These words may also be found in this manual and the manufacturer's manuals. These words are intended to alert the operator to a hazard and the degree of severity of the hazard.



DANGER indicates a hazardous situation that, if not avoided, will result in death or serious injury.



WARNING indicates a hazardous situation that, if not avoided, could result in death or serious injury.



CAUTION indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.



NOTICE indicates a property damage message.

A Word to the User/Operator

It is **YOUR** responsibility to read and understand this safety manual and the manufacturer's manuals before operating this equipment. This safety manual takes you step by step through the working day.

Graphics have been provided to help you understand the text.

Hazard recognition and accident prevention depend upon you being alert, careful and properly trained in the inspection, operation, transport, maintenance and storage of this equipment.



Read and understand all safety signs – replace damaged signs

Remember that **YOU** are the key to safety. Good safety practices not only protect you but also protect the people around you. Study this manual and the manufacturer's manuals for the specific machine. Make them a working part of your safety program. Keep in mind that this safety manual is written only for the types of roller compactors covered.

After studying the manufacturer's manuals and this safety manual, please contact the equipment manufacturer with any remaining questions.

Practice all usual and customary safe working precautions and remember:

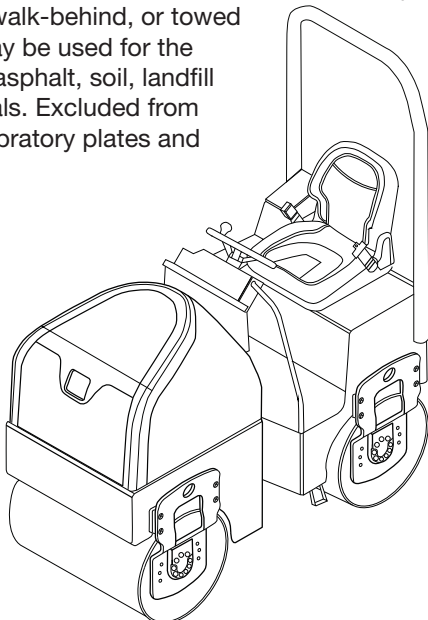
SAFE OPERATION IS UP TO YOU!

YOU CAN PREVENT DEATH OR SERIOUS INJURY CAUSED BY UNSAFE WORK PRACTICES!

5

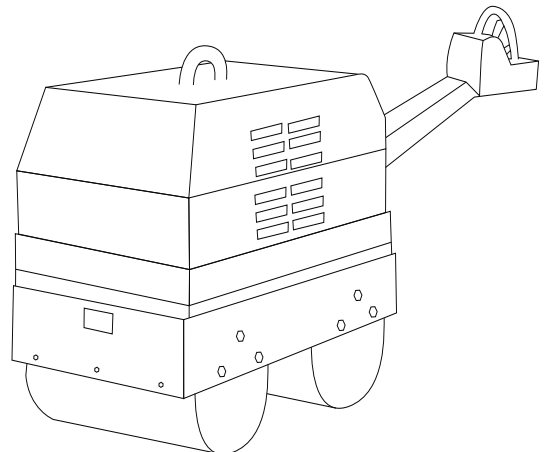
Types of Roller Compactors

This safety manual covers many different types of roller compactors including: steel wheel rollers, vibratory rollers, rubber-tired rollers, segmented pad/sheepsfoot soil compactors and landfill compactors. These may be either ride-on, walk-behind, or towed rollers. They may be used for the compaction of asphalt, soil, landfill or other materials. Excluded from coverage are vibratory plates and hand rammers.



Ride-on

Regardless of which machine you operate, it is your responsibility to study and understand this safety manual, and to see that a copy remains with your machine. Manufacturers produce machines with many built-in safety features. Employers provide accident prevention programs. Yet, the ultimate responsibility to operate and maintain your machine with the skill, care and knowledge essential for safety is yours.



Walk-behind

Follow a Safety Program

For Safe Operation

You must be a qualified and authorized operator for safe operation of this machine. You must clearly understand the written instructions supplied by the manufacturer, be trained — including actual operation — and know the safety rules and regulations for the jobsite. It is a good safety practice to point out and explain safety signs and practices to others, and to make sure they understand the importance of following these instructions.



Never operate while impaired by alcohol or drugs

⚠ WARNING! Drugs and alcohol affect operator alertness and coordination, and the ability to safely operate the equipment. **Never operate the machine while impaired by use of alcohol or drugs. Never knowingly allow anyone to operate the machine when their alertness or coordination is impaired.**

An operator taking prescription or over-the-counter medication must consult a medical professional regarding any side effects of the medication that would hinder their ability to safely operate this equipment.

Be Alert!

Know where to get assistance. Keep emergency numbers for doctors, ambulance service, hospital and fire department near your telephone. Know how to use a first aid kit and fire extinguisher/fire suppression system; know their location and practice getting to them. Ensure they have been properly tested and maintained.

Let others know where you will be working, and what time you will be returning. In case of an emergency, you want others to know where to find you.

Be Aware!

Take advantage of training programs offered.

Know the proper response to a fire or chemical spill on your machine.

7

Follow a Safety Program

Be Careful!

Human error is the result of many factors: carelessness, fatigue, sensory overload, preoccupation, unfamiliarity with the machine or attachments, or drugs and alcohol, to name a few. You can avoid death or serious injury caused by these and other unsafe work practices. Be careful; never assume accidents cannot happen to you.

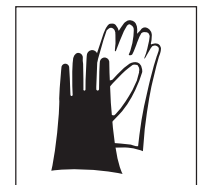
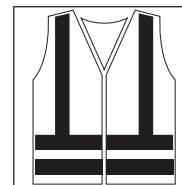
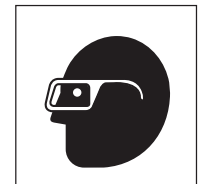
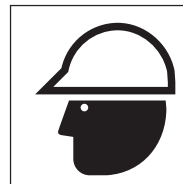
For your safety and the safety of others, act safely and encourage your fellow workers to act safely as well.

Protect Yourself

Wear all the personal protective clothing and Personal Protective Equipment (PPE) issued to you or called for by job conditions.

You may need:

- Hard hat.
- Safety shoes.
- Safety glasses, goggles or face shield.
- Heavy duty gloves.
- Hearing protection.
- Reflective clothing.
- Wet weather gear.
- Respirator or filter mask.



Wear whatever is needed to protect yourself — don't take chances.

⚠ WARNING! Avoid death or serious injury from entanglement. **Do not wear loose clothing or accessories that could catch on moving parts or controls.** Examples of items to avoid include flopping cuffs, dangling neckties and scarves, wallets attached to chains, jewelry and wrist watches.

Follow a Safety Program

Know the Rules

Most job sites have rules governing equipment use and maintenance. Before you start work at a new location, check with the supervisor or safety coordinator. Ask about the rules you will be expected to obey.

OSHA enforces federal laws within the United States that apply to the safe operation, application and maintenance of equipment on some jobsites. It is the employer's responsibility to comply with these laws. A federal representative may periodically inspect a jobsite to see that these laws are being followed.

There may be other local, state/provincial, federal laws or international organizations that regulate the use of this equipment, along with specific jobsite or employer rules. It is important that you know and comply with all applicable laws and rules, **including those requiring operator training and certification.**

These are some of the rules you must work by:

- Only qualified and authorized individuals may operate this equipment.
- Inspect your machine and attachments before each use as specified by the manufacturer and your employer.

- Know the capacity and operating characteristics of your equipment. Do not misuse it.
- Wear proper clothing and PPE. Check that others are also wearing appropriate clothing.
- All shields, guards, air filters, access panels and doors must be properly installed before each use.
- Know the rules regarding traffic at your jobsite. Know what all signs, flags, and markings mean. Know hand, flag, horn, whistle, siren, or bell signals, if used.
- Never modify or remove any part of the machine (except for service; then make sure the part is re-installed or replaced if defective or worn out).



Know and understand
rules of operation



Understand
jobsite
signals

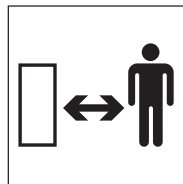
9

Follow a Safety Program

- **Never allow children to play near, ride on, or operate the equipment.**
- Keep bystanders well clear of the operation.
- Know the work area before you use the equipment. Be aware of possible hazards, including those overhead and underground.
- Only use attachments and parts that are approved by the manufacturer.
- Do not allow riders.
- Fasten seat belt or operator restraint before starting.
- Drive forward whenever possible.
- Always look in the direction of travel.
- Check correct mirror settings, if available.
- Look before backing up.
- Never leave the operator's seat without stopping the engine and removing the ignition key, if equipped. (See page 30, **Safe Shutdown.**)
- Use three-point contact (handholds and steps) and face the equipment when mounting or dismounting. (See page 17, **Mount and Dismount Properly.**)



Fasten seat belt
or operator restraint



Keep bystanders
away

Follow a Safety Program

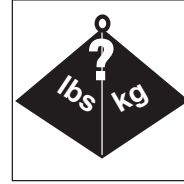
Know the Equipment

Read and understand the DANGER, WARNING, CAUTION and NOTICE safety labels and other informational signs on the machine and the attachments, and in the manufacturer's operating manuals. Ask your supervisor or dealer to explain any information you do not understand. Failure to obey safety instructions could result in death or serious injury.

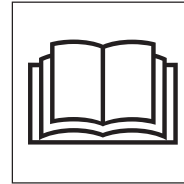
Know the following about your equipment:

- Function, purpose and use of all controls.
- Correct operation speeds.
- Slope and uneven terrain capabilities and proper operation under all conditions.
- Braking and steering characteristics.
- Turning radius and clearances.
- How to quickly stop equipment in an emergency.
- Rated operating capacity.

Keep in mind that rain, snow, ice, loose gravel, soft ground, slopes, and other site conditions can affect your machine's operating capabilities. Make sure you are thoroughly familiar with your machine's stability, braking, traction, and other handling characteristics under any conditions you are likely to encounter.



Know machine capacity and operating characteristics



Read and understand manuals before operating

11

Prepare for Safe Operation

Check and Use All Available Safety Devices

To protect you and others around you, your machine may be equipped with the safety equipment listed below. Additional equipment may be required or some items may not apply, depending on attachments used, jobsite conditions or applicable jobsite rules. Check that each required item is securely in place and in operating condition:

- Falling Object Protective Structure (FOPS).
- Rollover Protective Structure (ROPS).
- Safety Guards.
- Seat Belt.
- Operator seat/restraint bar(s)/interlock control system.
- Cab side-screens or windows.
- Special enclosures or accessories required for specific applications or jobsite conditions.
- Alternate exit (window).
- Grab handles.
- Guard Rails.
- Articulated joint locks
- Lights.
- Mirrors.

- Anti-skid tread/steps.
- Safety signs.
- Horn.
- Guards.
- Back-up alarm.
- Emergency stop control.
- Fire extinguisher.
- First aid kit.
- Rotating beacon.
- Windshield wiper/defroster.

Use them! Never remove or disconnect any safety device. Replace any damaged, missing, or non-functional safety devices before resuming machine operation.

⚠ WARNING! Never remove or modify a ROPS or FOPS. Serious injury or death could result.



Fasten your seat belt

Prepare for Safe Operation

Check the Machine

Before beginning your work day, inspect the machine and have all systems in good operational condition.

- Perform daily and periodic service procedures as instructed by the equipment manufacturer.
- Check for broken, missing, loose, or damaged parts. Make necessary repairs.
- Check that all drum mounting bushes are pliable and free from damage.
- Check the water sprinkler system. Open the valve and make sure water flows through every hole in each spray bar.
- Check the tires for cuts, missing lugs, bulges, and correct pressure.
- Keep the steps and handholds clean and free of grease, oil, dirt, snow or ice.
- Check the parking brake for proper operation.
- Check condition and operation of any attachments.
- Ensure shielding is properly installed and in good condition. Repair or replace if damaged or missing.
- Ensure work lights (if equipped) are kept clean. Check that all lights work properly.
- Ensure the horn and back-up alarm (if equipped) are operating correctly. Repair or replace if damaged.

- Ensure any Slow Moving Vehicle (SMV) signs, reflectors and warning lights are in good condition and can be clearly seen. Repair or replace if damaged.
- Ensure all tools or loose objects are removed or securely fastened while operating the machine.
- Check for damaged or leaky hydraulic systems. Repair or adjust as needed.



**Inspect
the machine before
each work shift**

Hydraulic Fluid Injection Hazard

⚠ WARNING! Accidental injection of high-pressure oil into the hands or body is dangerous and could result in death or serious injury. **Use caution when checking hydraulic leaks as pressurized hydraulic fluid has enough force to penetrate skin, causing serious personal injury.**

13

Prepare for Safe Operation

If a leak is discovered:

- Ensure engine is turned off; relieve pressure in hydraulic circuit.
- Wear proper hand and eye protection.
- Visually examine the hydraulic hose or fluid lines in the vicinity of the leak for breaks or cracks. **Do not** use your hand to check for leaks.
- Repair or replace hydraulic lines per manufacturer's recommendation.

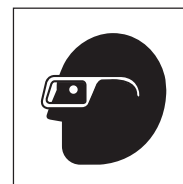
Fluid injection injuries are not always obvious. Victims have reported such injuries feel like a bee sting or splinter under the skin. If you suspect you have a fluid injection injury, do not take chances. Seek proper medical care immediately. If any fluid is injected into the skin, it must be surgically removed within a few hours by a doctor familiar with this type of injury.

Check the Cooling System

When checking the cooling system, make sure the engine is turned off and is cool. Remove the key to prevent fans from unexpectedly starting. Ensure the coolers and engine compartment are clean and free from debris, which could ignite and cause a fire.

If the machine is air-cooled, be sure the cooling unit has an unobstructed air flow. If it is liquid-cooled, check coolant level (at overflow tank, if provided).

⚠ WARNING! Allow the radiator to cool before checking the level. Hot radiator fluids could escape as steam and burn you. (See page 36, **Engine Coolant Hazards.**)



**Wear
eye protection**



**High pressure
fluid can inject
into the body**

Prepare for Safe Operation

Clean Up

Clean windows, lights, mirrors, and safety signs.

Make sure the operator's area, steering levers, pedals, joysticks, steps, and grab handles are clean. Oil, grease, snow, ice, mud, or debris in these areas could cause you to slip and fall, or lose control of the machine. Clean your boots of excess mud before entering the machine.

Remove all personal items or other objects from the operator's area. Secure these items in a toolbox or remove them from the machine.

Use Caution When Fueling

⚠ WARNING! Avoid injury from fire or explosion. **Never fill the fuel tank in poorly ventilated areas, with the engine running, while smoking, or when near an open flame.**

Never overfill the tank or spill fuel. If fuel is spilled, clean it up immediately.

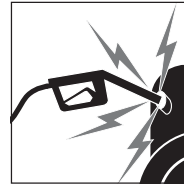
Be sure to use the correct type and grade of fuel.

Ground the fuel funnel or nozzle against the filler neck to prevent sparks that could ignite fuel vapors. Be sure to replace the fuel fill cap (if equipped) when you are done.

Ultra-Low Sulfur Diesel (ULSD) Fuel Hazard

Avoid Static Electricity Risk When Fueling

⚠ WARNING! Ultra-Low Sulfur Diesel (ULSD) poses a greater static ignition hazard than earlier diesel formulations with higher sulfur content. Avoid death or serious injury from fire or explosion; **consult with your fuel or fuel system supplier to ensure the delivery system is in compliance with fueling standards for proper grounding and bonding practices.**



Static discharge
during fueling can
cause explosion

15

Prepare for Safe Operation

Know the Working Area

Learn as much about your working area as possible.

Check at Ground or Floor Level

Inspect the surface over which you will travel. Look for holes, drop-offs and obstacles. Look for rough spots or hidden obstacles on surfaces which could cause a collision or loss of control. Look for weak spots on docks, ramps or floors. Look for oil spills, wet spots, and slippery surfaces. Look for soft soil, deep mud or standing water. Watch for anything that might make you lose control or cause the machine to roll over.

When operating inside a building, make certain you are within weight limitations of floors and ramps. Be aware of overhead clearances, doorways, aisles, etc. Plan travel routes ahead of time, in order to make sure you can see and protect bystanders. Pick up debris that can puncture tires.

Be observant of other workers, bystanders, and other machines in the area.

Remember, the danger of sliding and/or tipping on steep slopes is always present, regardless of how heavy or stable your machine may appear to be. Always use seat belts if a ROPS is equipped.

Check Overhead

Check the clearances of doorways, canopies, and overheads. Know exactly how much clearance you have under power and telephone cables.

⚠ DANGER! Contact with energized power lines will cause serious injury or death. **Never approach overhead power lines with any part of your machine unless all local, state/provincial and national (OSHA) required safety precautions have been taken.** Always use extreme caution around power lines.

Know your margin of safety. If possible, have power to lines disconnected. If not possible, request a signal person for guidance.

⚠ DANGER! Electrocution will result from touching or being near a machine that is in contact with, or near, an electrical source. **Stay away from any machine in contact with electrical wires until you are told it is safe to approach.**

Start Safely

Mount and Dismount Properly

Always use three-point contact when mounting or dismounting the machine. Three-point contact means one hand and two feet, or two hands and one foot, in contact with the machine at all times.

Never mount or dismount while carrying tools or objects that prevent three-point contact. Put parts or tools down. Maintain proper contact, climb or dismount, and then pick up the object.

Face the machine when you enter or leave the machine.

Clean shoes and wipe hands. Clean steps and handholds of chemical residue, snow, ice, mud or oil.

During mounting and dismounting:

- Use handholds and step plates.
- Never use steering wheels, joysticks or controls as handholds.
- Never jump on or off the machine.
- Never mount or dismount from a moving machine.

Warn Personnel Before Starting

Before starting, walk completely around the machine.

Make sure no one is under the machine, on it, or close to it. Let others know you are starting up and don't start until everyone is completely clear of the machine. As the equipment operator, you are responsible for the safe use of the machine, so always make sure you have communicated your work plans to others on the site.



Use three points of contact when mounting or dismounting



Avoid falls, clean up slippery areas

17

Start Safely

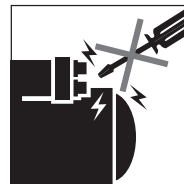
Starting the Engine

⚠ WARNING! Start the engine from the operator's seat only. **Never attempt to start the engine by shorting across starter terminals.** The machine may move unexpectedly, which could cause serious injury or death to anyone in its path.

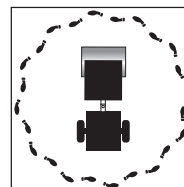
Before starting, walk completely around compactor. Know the exact starting procedure for your machine. See the manufacturer's operating manual(s) for starting.

- Sit in the operator's seat and adjust the seat so you can operate all the controls properly.
- Fasten the seat belt/operator restraint.
- Familiarize yourself with warning devices, gauges and operating controls.
- Make sure controls are in the neutral/locked position.
- Clear the area of all persons.
- Start the engine following the instructions in the manufacturer's operating manual(s).
- If necessary to run the engine or operate the machine within an enclosed area, be sure there is adequate ventilation.

⚠ WARNING! Exhaust fumes can kill. **Do not breathe exhaust fumes!**



Never start engine by shorting across starter terminals



Before starting, walk completely around compactor

Starting Aids

Ether/cold start fluid is **HIGHLY FLAMMABLE**. Before using it, always read the instructions on the ether/cold start fluid container and the instructions in the manufacturer's operating manual(s).

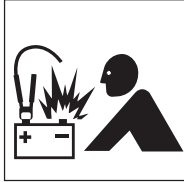
⚠ WARNING! Avoid injury from explosion or fire. If the engine is equipped with a glow plug pre-heater or other intake manifold type pre-heater, follow manufacturer's instructions before using ether/cold start fluid.

If you have trouble starting the engine and need to use jumper cables, follow the instructions in manufacturer's

Start Safely

operating manual(s). **Jump-starting is a two-person operation.** The operator must be in the operator's seat when jump-starting so the machine will be under control when the engine starts. Wear appropriate PPE before attempting to jump-start your machine.

⚠ WARNING! A battery explosion or a run-away machine could result from improper jump-starting procedures. (See page 38, **Battery Hazards**.)



To avoid explosion,
follow proper jump-
starting procedures

After Starting Engine

Observe gauges, instruments, and warning lights to assure that they are functioning and their readings are within the operating range.

Run an Operating Check

Do not use a machine that is not in proper operating condition. It is your responsibility to check the condition of all systems and to run the check in a safe area.

Test Controls

Roller compactors come equipped with various control configurations, patterns and operating modes, each with their own handling characteristics. Some have selectable or configurable controls, to suit personal preferences or specific applications. Make sure that you know which control pattern you have selected and that you understand how the machine will handle when using that control pattern.

Make sure the machine is operating properly by doing the following:

- With the control levers or joysticks in neutral, test engine speed control.
- Operate each pedal, lever or joystick to make sure all functions are correct.
- Operate the travel control lever(s) or joysticks to ensure correct operation in forward and reverse. Test steering to the right and to the left, while moving slowly in a clear, safe area.

⚠ WARNING! Before operating the machine under working conditions, **be certain you can control both the speed and direction of the machine.** Any loss of control could result in death or serious injury.

19

Operate Safely

Masked Visibility Areas

Machines have areas where the operator's visibility of the job site can be affected by the machine itself. ROPS posts, attachments, a drum, even items in the cab, could limit your view of the surrounding area and possibly mask hazards or people around you. These masked visibility areas vary from machine to machine, and it is very important you be aware of these areas before operating your machine.

Follow these safety precautions to reduce the hazards posed by masked visibility areas:

- Look around the machine before operating. Objects near the machine and close to the ground can be difficult to see from the cab.
- Always look in the direction of travel, including reverse. A back-up alarm is no substitute for looking behind you when operating the machine in reverse.
- Keep bystanders away, even if your machine is equipped with a back-up alarm.

Remember These Rules

Never allow untrained, unqualified, or unauthorized personnel to operate your machine.

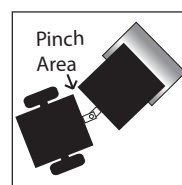
Never allow other personnel to ride on your machine unless appropriate seating is provided, and then, only if authorized to do so.

Never abuse your machine. Misuse or abuse can cause an accident.

Articulated Machines

Never enter or place any part of your body in the "hitch area" or "pinch areas" of an articulated machine while the engine is running, or when there is any chance another person could start the machine.

If available, use the articulated joint lock during maintenance work, transportation, etc.



Keep body parts away
from pinch area

Operate Safely

Work on Slopes Safely

When working on slopes, avoid side-hill travel whenever possible. It is generally safer to operate up and down the slope. Remember the danger of sliding and/or tipping on steep slopes is always present, regardless of how heavy or stable your machine may appear to be.

Always use seat belts if your machine is equipped with a ROPS. If equipped, make sure foldable ROPS is upright. Keep your hands and feet inside the cab at all times.

When climbing or descending steep grades, select the proper gear before starting on the slope, to assure adequate power or engine braking.

If your machine has a gear shift, select a low gear. If your machine has a hydrostatic drive, the speed control should be in the slow travel position, close to neutral, not in the fully displaced position.

On machines that have a gear shift and a hydrostatic control, both controls must be in their slow travel position.

Always be sure that manually operated gear type transmissions are fully engaged before starting onto a grade. Do not attempt to change the gear selection while traveling on a grade. See the manufacturer's manual for specific instructions.

Watch Out for Hazardous Working Conditions

Be alert for hazards. Know where you are at all times. Watch for overhead obstacles. Look up as well as down.

Avoid operating your machine too close to an overhang, deep ditch or hole. If your machine inadvertently gets close to a tipping condition or drop-off, STOP and get off the machine after applying the parking brake. Plan your moves carefully before proceeding. Reversal is often the best move.

⚠ WARNING! Never operate the machine close to the edge of an overhang or gully. The edges could collapse or a slide could occur causing serious injury or death.

Stay Alert! Rough Terrain Can be Hazardous!

Be alert to obstacles and excessively rough terrain. Back away from them and go around.

Always travel slowly over rough terrain and hillsides. Maintain a speed consistent with the working conditions.

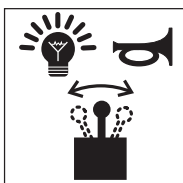
21

Operate Safely

Follow Safe Operating Practices

Make these safe practices part of your daily routine:

- Keep your seat belt/operator restraint fastened.
- Never leave the operator's seat without having the unit come to a complete stop and applying the breaks.
- Operate the controls smoothly — don't jerk the steering levers or joysticks.
- Avoid sudden stops, starts or turns.
- Use care and good judgment.
- Never attempt to operate the controls unless properly seated in the cab.
- To shut down the machine, stop the engine and remove the ignition key, if equipped. (See page 30, **Safe Shutdown.**)



Operate
instruments
and controls
smoothly

⚠ WARNING! Avoid Serious injury or death! **Keep your entire body inside the operator's cab while operating the machine.** Never work with your head, arms, feet or legs beyond the operator's compartment.

Traveling on Jobsite

Take it slow and easy when traveling through congested areas. Traffic courtesy pays off.

Give the right-of-way to loaded machines. Maintain a safe distance from other machines. Pass cautiously.

Don't obstruct your vision when traveling or working. (See page 20, **Masked Visibility Areas.**) Operate at speeds slow enough so you have complete control at all times. If possible, avoid travel over rough, slippery or uneven terrain, and on hillsides.

Travel Safely

When roading the machine, know your approximate stopping distance at any given speed.

Travel at controlled speeds, especially around corners.

Look in all directions before reversing your direction of travel.

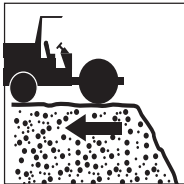
Never coast in neutral.

Operate Safely

Avoid steep slopes or unstable surfaces. If you must drive on a slope, travel at an appropriate speed and with extreme caution. Do not drive across an excessively steep slope under any circumstances. Travel straight up and down the slope. Before operating on slopes, check the surface conditions for adequate traction. Loss of traction can cause the machine to slide and tip.

⚠ WARNING! Avoid death or serious injury. **Travel up and down slopes with the heavy end of the machine pointed uphill.**

Check machine manufacturer's recommendations.



Operate perpendicular to banks – stay back from the edge



Use caution – stay safely away from bank or excavation edge

Rules of the Road

When traveling on public roads or streets, obey all traffic regulations applicable to machine use and classification.

Make sure lights and warning signs are in place and visible. Make sure a SMV emblem is installed and visible to any vehicle approaching from the rear.

Find out if you must use an escort vehicle. Approach intersections with caution; observe speed and traffic control signs. Avoid panic stops and sharp turns.

Like any responsible operator, be considerate of other drivers. If traffic backs up behind you, it is a good idea to pull over periodically and allow traffic to pass when it is safe to do so.

Stop at all railroad crossings and look both ways before proceeding. Never park in traffic areas. If it is necessary to stop at night, pull off the road and set up flares or reflectors. When driving at night, use appropriate lights.

Watch Out for Obstacles

Adjust your speed to conditions. Avoid crossing ditches, curbs or exposed railroad tracks. If obstacles are unavoidable, reduce speed and cross at an angle.

23

Operate Safely

Keep your machine under control. Keep speed to a minimum when visibility is poor.

Before entering underpasses, tunnels or bunkers, check for oncoming traffic or obstructions.



Obey traffic regulations

Work at Night Safely

Night operations require additional precautions to stay safe. Pay close attention and stay alert. Others passing through the work site may not be aware of hazards.

Plan the job, communicate the plan and inspect the work area during daylight. Mark obstacles ahead of time with reflective material.

Wear appropriate reflective apparel at all times – for operators and crew on night operations.

Ensure visibility of gauges and controls.

Ensure adequate lighting to illuminate work zone in compliance with state and local regulations and requirements.

Ensure adequate hazard lights (strobe or flashing/rotating lights) in compliance with state and local regulations and requirements.

Utilize direct line of sight, not mirrors, when working at night. Use spotters when direct line of sight is not possible. Lights can reflect in mirrors, causing a hazard to be unseen, or a masked visibility area.

Lack of natural light will impact visibility and may increase the risk of being backed over by vehicles or equipment.

Adjust work lights to minimize glare for traffic and workers.

Know where the other workers are at all times. Tell others where you are going.

Beware of fatigue. Check on crew members.

Stay in assigned work zones.

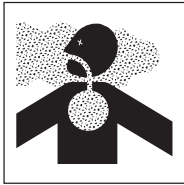
Enter and exit machine on side away from traffic, if possible.

Operate Safely

Exhaust Fumes in a Closed Space Can Kill

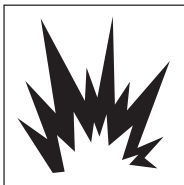
Vent exhaust and assure a flow of fresh air when an internal combustion engine is used in a closed space.

⚠ WARNING! Exhaust fumes can kill. **Do not breath exhaust fumes from any kind of engine.**



Operating in Flammable/Explosive Atmospheres

⚠ WARNING! A roller compactor cannot be operated in flammable or explosive atmospheres. Use in explosive atmospheres can result in fires and/or explosions which could cause serious injury or death.



Loading and Unloading Safely

Always wear your seat belt/operator restraint when loading or unloading your machine from a transport device, such as a flatbed truck.

When transporting a compactor, follow the manufacturer's recommended loading and unloading procedures.

Extreme care should be exercised when loading or unloading a walk-behind roller. It is generally best to stand behind and off to one side rather than directly behind a machine moving up or down a ramp.

Several precautions are applicable to all machines:

- Never load or unload a machine by yourself.
- Keep bystanders away.
- Load and unload on a level surface.
- Maintain proper visibility by loading or unloading in well-lit areas, and away from other vehicles, equipment or buildings.
- Block transport vehicle with wheel chocks so it cannot move.
- Ensure trailer bed and ramps are in good condition.
- Use ramps of adequate size and strength, with a low angle and proper height.

25

Operate Safely

- Rear of trailer must be blocked or supported.
- Keep trailer bed and ramps free of clay, oil, ice, snow, and other materials which could become slippery.
- Chain and block the machine securely for transport. Use tie-down points as marked on the machine by the manufacturer. Follow the manufacturer's instructions in the operator's manual for tying down.
- Cover or remove rear-facing SMV sign on the roller compactor, if equipped, to avoid confusing drivers following the transport vehicle.
- Unload the machine by driving off in the opposite direction; do not turn the machine around.

Transporting Safety Tips

General

When towing a machine on a trailer, or a machine equipped with "portability or transport wheels," always use a hauling vehicle of sufficient weight, horsepower and braking capacity to maintain proper control.

Never attempt to tow a trailer or machine if the hitching devices are of insufficient or questionable capacity, improperly matched in size or shape, or positioned at improper heights.

When towing a machine equipped with portability or transport wheels, always follow the manufacturer's towing instructions.

Before Towing

When connecting a trailer to a hauling vehicle, block under the trailer's tongue before attempting to make the connection. Never attempt to lift heavy tongues or move heavy trailers by hand. Never get any part of your body under the tongues when hitching or unhitching.

Make sure the hitch pin is of the proper size and securely locked in place before towing.

If the roller is designed to hang from the tailgate of a vehicle when being transported, be certain the hook brackets meet the roller manufacturer's specifications.

Use tow bars between the hauling vehicle and trailer or towed machine. Be sure the chains are properly and securely connected at both ends. Cross the chains under the tongues when connecting to the hauling vehicle.

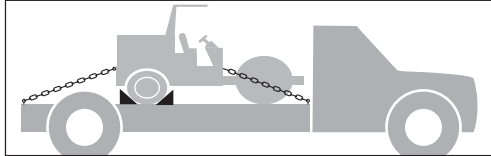
Make sure electrical and other connections between the hauling vehicle and trailer or towed machine are properly and securely made. After connecting, check the lights for proper operation. If the towed trailer or

Operate Safely

machine is equipped with brakes operable from the hauling vehicle, check to make sure they are operating properly.

Always be sure the portability or transport wheels, on machines so equipped, are locked in the lowered position.

Check all tires for proper pressure, excessive or abnormal wear, and potentially dangerous cuts, bruises or bulges. Have any problems corrected before proceeding.



**Chain and block
compactor securely
for transport**

Towing

Use care when towing a trailer or machine when:

- Maneuvering in tight places
- Backing (visibility is reduced, and jackknifing must be avoided)
- Towing on steep grades.

Know and obey all local, state and federal laws and regulations.

Do not travel at speeds above those recommended by the manufacturer.

Do not allow anyone to ride on a trailer or towed machine.

When necessary to disconnect and park a trailer or towed machine, select a location that is level and, if possible, where children are unlikely to be present. Before disconnecting a trailer, block the front AND rear of the wheels and block under the tongues.

27

Operate Safely

Walk-Behind Rollers

Start-up

Only operate a walk-behind roller if you are thoroughly familiar with the manufacturer's operating instructions. If you have any questions or uncertainty, consult the manufacturer or dealer before attempting to operate it.

Always follow the manufacturer's instructions for starting the engine. All controls must be in the correct position before attempting to start the engine

Starting fluid is not recommended when hand starting an engine, because the engine may kick back, causing injury.

Operation

When operating a walk-behind roller, exercise extreme care to avoid having your feet or clothing caught under the dolly wheels or roller. When possible, stand behind and off to one side of the machine, rather than directly behind it.

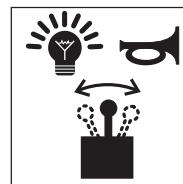
Particular care must be exercised when operating near obstructions and on slippery surfaces, grades and side slopes. Wear slip-resistant safety shoes or boots.

Do not ride on a walk-behind roller unless it is designed to accommodate riders and an appropriate seat is provided.

Do not attempt to shift on a grade if the roller has a mechanical transmission.

Do not operate a walk-behind roller in unshored trenches or near steep, unsupported banks. The vibrations could cause a cave-in.

Uneven grades can cause the handle to raise or lower unexpectedly, striking the unwary operator.



**Set all controls to
correct position
before starting the
engine**

Operate Safely

Towed Rollers

Most general safety precautions covered earlier in this manual are also applicable to towed roller operation. There are many precautions specific to towed rollers that must be taken. Study your manufacturer's manual for instructions on your specific towed roller. Consult the manufacturer or dealer with any concerns.

Use a tow tractor of sufficient weight, drawbar horsepower and braking capacity to properly control the towed roller. Proper weight balance and distribution is also essential.

Block under the tongues of the towed roller before attempting to connect it to the towing vehicles or machine. Do not attempt to lift heavy tongues or move towed rollers by hand. Do not get any part of your body under the tongues when hitching or unhitching.

Make sure the hitch pin is of the proper size, and is securely locked in place before towing. If safety chains are provided, make sure they are properly and securely connected at both ends. Cross the chains under the tongues when connecting to the towing vehicle. Make sure all electrical or hydraulic connections are made properly and securely.

Landfill Compactors

Operators of landfill compactors should carefully handle materials that could be picked up and thrown by the wheels, become lodged in the machine, or that are highly flammable.

Frequent checks should be made for wire, cable or other material wound around the axle members. Remove them immediately.

Travel with the blade as low as possible.

Maintain good operator visibility. Keep all mesh and windows free of accumulated materials.

When parking the machine, always lower the blade.

29

Shut Down Safely

Select a Proper Parking Site

Park in an off the road area, out of traffic, or as instructed. If necessary to park in a traffic lane, use the appropriate flags, barriers, flares, lights and warning signals. Provide advance warning signals in the traffic lane to warn approaching traffic.

Park on level ground whenever possible. When that's not possible, position the machine at right angles to the slope. Make sure the machine is on a firm footing, and that there is no danger of sliding. Do not leave your machine until you are sure it is safely blocked in both directions and parking brakes are firmly applied.

⚠ WARNING! Avoid death or serious injury. **Never leave the compactor unattended with the engine running.**

Safe Shutdown

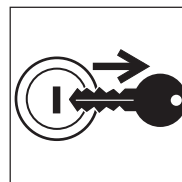
Know the proper shutdown procedure for your machine. As with the starting procedure, this varies with the type and model of machine.

If equipped, always lower the dozer blade when parking.

Follow the manufacturer's operation manual for your machine. Remove the key(s) to prevent unauthorized starting and movement, and position and lock any antivandalism devices.

Dismount Properly

Make sure your machine is fully stopped and shut off before dismounting. When you leave the compactor, always maintain three-point contact with the steps and grab handles. Face the compactor as you dismount. Never jump off a machine.



Shut engine off,
remove key



Use three points
of contact when
mounting or
dismounting

Perform Maintenance Safely

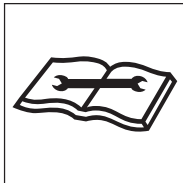
Know What You're Doing

Maintenance on this type of machine is not for inexperienced or untrained personnel. It can be hazardous unless performed properly. Be sure you have the necessary skill, information, correct tools and proper equipment to do the job safely.

Be sure to maintain the equipment according to the manufacturer's instructions. Regularly check the operation of the protective and safety devices.

Do not perform any work on a machine unless you are authorized and qualified to do so.

If you have been authorized to perform maintenance, **read the manufacturer's operating and service manuals.** Study the instructions. Check the lubrication charts and examine all the instruction messages on the machine.



Maintain equipment

Protect Yourself

Wear all the personal protective clothing and PPE issued to you or called for by job conditions or your supervisor.

You may need:

- Hard hat.
- Safety shoes.
- Safety glasses, goggles or face shield.
- Heavy duty gloves.
- Hearing protection.
- Reflective clothing.
- Wet weather gear.
- Respirator or filter mask.

Wear whatever is needed to protect yourself. Do not take chances.

31

Perform Maintenance Safely

⚠ WARNING! Avoid death or serious injury from entanglement. **Do not wear loose clothing or accessories. Stay away from all rotating components when the engine is running.** Contact, wrapping or entanglement with rotating or moving parts could result in death or serious injury.

Wear a rubber apron and rubber gloves when working with corrosives. Wear gloves and safety shoes when handling wooden blocks or sharp-edged metal.

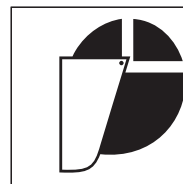
Always use safety glasses, goggles or a face shield. They provide eye protection from fluids under pressure, during grinding and while servicing batteries. Protection is also needed from flying debris, liquids and loose material produced by equipment, tools and pressurized air/water.

Wear a face shield and follow manufacturer's instructions when you disassemble spring-loaded components or work with battery acids. Keep pockets free of all objects that could fall out and drop into machinery.

Handle tools and heavy parts sensibly, with regard for the safety of yourself and others. Lower items; don't drop them.



Avoid rotating parts



Wear eye protection



Do not
loosen
radiator cap
until cool

Perform Maintenance Safely

Prepare the Work Area

- Position the machine on a level area out of the way of other working equipment.
- Make sure there is adequate light, ventilation and clearance.
- Remove oil, grease or water and dry slippery surfaces.
- Clean around the area to be serviced to minimize contamination.

Prepare the Machine

Stored energy sources (electrical, mechanical, hydraulic, pneumatic, chemical, thermal, etc.) must be controlled or reduced to a practical minimum before performing any maintenance, repair, or service procedures.

Safety practices to prevent potential injuries from energy-releasing sources include:

- Place controls in NEUTRAL or LOCKED position before shutting off engine.
- Set parking brake or block wheels.
- Allow all moving parts to stop.
- Shut off engine.
- Relieve hydraulic system pressure by moving controls several times in all directions or per manufacturer's instructions.



Avoid falls, clean slippery surfaces

- Lock out the unit according to the manufacturer's manual.
- Attach a "DO NOT OPERATE" warning tag to the control levers.
- Lock ignition, remove key (if equipped) and take it with you.
- Look and listen for evidence of moving parts before dismounting.
- Shut off master electrical switch (if equipped).
- Disable the battery switch (if equipped).
- Securely support or block up machine or other components with approved locking devices before working underneath them.
- Relieve pressure before disconnecting or disassembling any pressurized system.
- Block or relieve spring pressure before disassembling any spring-loaded mechanism.
- Avoid flames, sparks, or smoking near any fuel, hydraulic fluid or other flammable material such as spraying debris.

33

Perform Maintenance Safely

⚠ WARNING! Unsupported raised machines or other equipment may drop unexpectedly. **Never go under equipment when raised unless supported by an approved support device(s).** Death or serious crushing injury could result from falling equipment.

Remove only guards or covers that provide access to the area being serviced. Replace all broken or missing guards and covers when work is complete.

⚠ WARNING! Avoid injury or death. **Never work on machinery with the engine running unless instructed by the manufacturer's manuals for specific service.**



Use a "DO NOT OPERATE" tag



Ventilate work area

Common Maintenance Safety Practices

Use Proper Ventilation

If it is necessary to run an engine in an enclosed area, remove the exhaust fumes from the area with an exhaust pipe extension.

If you do not have an exhaust pipe extension, make sure you open doors and windows to get plenty of outside air into the area.

⚠ WARNING! Exhaust fumes contain carbon monoxide which could be deadly if inhaled. **Never operate any type of engine without proper ventilation. EXHAUST FUMES CAN KILL.**

Perform Maintenance Safely

Use Jacks and Hoists Carefully

Safety stands or blocks must be located on a rigid part of the machine. Do not position stands under axles or wheel supports that may rotate. Refer to manufacturer's manual.

⚠ WARNING! Prevent crushing injury. **Never use concrete blocks for supports. They could collapse under even light loads.**

If you must work beneath raised equipment, always use wood blocks, jack-stands or other rigid and stable supports. When using jacks or hoists, always be sure they are adequately supported.

Make sure the hoists or jacks you use are in good repair. Never use jacks with cracked, bent, or twisted parts. Never use frayed, twisted or pinched cables. Never use bent or distorted hooks.



**Avoid crushing,
use proper support for
raised equipment.**

Fuel Hazards

⚠ WARNING! Avoid serious injury or death. **Always use approved fuel containers and/or fuel dispensing equipment to reduce the risk of explosion or fire.**



**No smoking and no
open flames**

Always observe these practices to reduce the possibility of a serious accident:

- Shut off engine and ignition during refueling.
- Always ground the fuel nozzle against the filler neck to avoid sparks.
- Keep sparks and open flames away from fuel.
- Do not smoke while refueling or when handling fuel containers.
- Do not cut or weld on or near fuel lines, tanks or containers.
- Do not overfill the tank or spill fuel. Clean up spilled fuel immediately.

35

Perform Maintenance Safely

Ultra-Low Sulfur Diesel (ULSD) Hazard

⚠ WARNING! Ultra-Low Sulfur Diesel (ULSD) poses a greater static ignition hazard than earlier diesel formulations. Avoid death or serious injury from fire or explosion; **consult with your fuel or fuel system supplier to ensure the delivery system is in compliance with fueling standards for proper grounding and bonding practices.**

Engine Coolant Hazards

⚠ WARNING! Avoid serious injury or death. Liquid cooling systems build up pressure as the engine gets hot, so **use extreme caution before removing the radiator cap.**

- Stop the engine and wait for the system to cool.
- Wear protective clothing and safety glasses.
- Turn the radiator cap slowly to the first stop to allow the pressure to escape before removing completely.



**Remove radiator
cap slowly**

Hydraulic System Hazards

Be sure to follow manufacturer's instructions for relieving fluid pressure before performing any maintenance. The hydraulic system is pressurized whenever the engine is on and may hold pressure even after the engine is shut off. Cycle hydraulic controls, including auxiliary hydraulic control (if equipped), after the engine is shut off.



**Check for
leaks and inspect
hoses**

During inspection of the hydraulic system:

- Wait for fluid to cool before disconnecting the lines. Hot hydraulic fluid can cause SEVERE BURNS.
- Wear appropriate eye protection. Hydraulic fluid can cause permanent eye injury.
- When venting or filling the hydraulic system, loosen the filler cap slowly and remove it gradually.
- **Never** reset any relief valve in the hydraulic system to a pressure higher than recommended by the manufacturer.

Perform Maintenance Safely

Hydraulic Fluid Injection Hazard



High pressure fluid
can inject into
the body

⚠ WARNING! Accidental injection of high-pressure oil into the hands or body is dangerous and could result in death or serious injury. **Use caution when checking hydraulic leaks as pressurized hydraulic fluid has enough force to penetrate skin, causing serious personal injury.**

If you discover a leak:

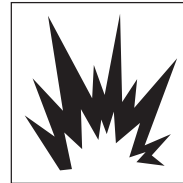
- Ensure engine is turned off; relieve pressure in hydraulic circuit.
- Wear proper hand and eye protection.
- Visually examine the hydraulic hoses or fluid lines in the vicinity of the leak for breaks or cracks. **Do not** use your hand to check for leaks.
- Repair or replace hydraulic lines according to the manufacturer's recommendations.

Fluid injection injuries are not always obvious. Victims have reported such injuries feel like a bee sting or splinter under the skin. If you suspect you have a fluid injection injury, do not take chances. Seek proper medical care immediately. If any fluid is injected into the skin, it must be surgically removed within a few hours by a doctor familiar with this type of injury.

Diesel Particulate Filter Hazard

You may need to run an active regeneration on some machines with a diesel particulate filter (DPF). Running an active regeneration to clean a DPF can create extremely high temperatures. Consult your operator's manual for the proper procedure for running an active regeneration.

⚠ WARNING! Extremely high temperatures can cause a fire or explosion, so **do not run an active regeneration in an explosive or flammable atmosphere.**



Do not operate in
explosive/flammable
atmosphere

37

Perform Maintenance Safely

Electrical System Hazards

Light Bulbs and Illumination

Some machines are equipped with High-Intensity Discharge (HID) Xenon light bulbs which operate at very high voltage. Do not begin installation of HID-Xenon lamps unless the lamps are turned off, the engine is turned off, the key is removed (if equipped), and you are wearing appropriate eye protection.

⚠ WARNING! Do not look directly into HID-Xenon lamps. Eye damage could occur.

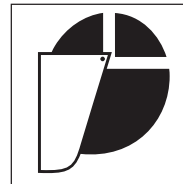
Wear gloves and safety glasses when handling bulbs. Dangerous voltage sparks may occur and cause injury or damage to the connector. See manufacturer's warnings packaged with replacement bulbs.

Before working on the electrical system, either hit the main power disconnect switch, if equipped, or disconnect the battery cable(s).

- Remove the battery negative (-) cable(s) first.
- When reconnecting the battery, connect the battery negative (-) cable(s) last.

Battery Hazards

The liquid in batteries contains acid, which is a POISON and could cause SEVERE CHEMICAL BURNS.



Wear face
protection

Avoid injury:

- Wear a face shield to prevent contact with your eyes.
- Wear chemical-resistant gloves and clothing to keep liquid off your skin and regular clothing.

⚠ WARNING! Liquids in batteries will damage eyes or skin on contact. **Always wear a face shield to avoid getting liquid in your eyes.**

If liquid from the battery contacts your eyes, flush immediately with clean water and get medical attention. **Wear chemical-resistant gloves and protective clothing to keep liquid off your skin.** If liquid contacts skin or clothing, wash off immediately with clean water. **If liquid is ingested,** drink large quantities of water or milk. **DO NOT** induce vomiting. Seek medical attention immediately.

Perform Maintenance Safely

Avoid Explosion

⚠ WARNING! Avoid serious injury from explosion. Lead-acid batteries produce extremely explosive gases especially when being charged. **Keep arcs, sparks, flames and lighted tobacco away.**

- **Do not** smoke near batteries.
- Keep them away from arcs, sparks and open flames.
- Provide adequate ventilation.

Never check the battery by placing a metal object across the battery posts. The resulting spark could cause an explosion.

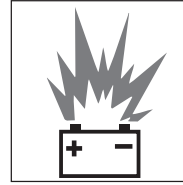
⚠ WARNING! Avoid serious injury from battery explosion. **Do not charge a battery or jump-start the engine if the battery is frozen.**

Warm to 60°F (15.5°C) or the battery may explode and could cause serious injury.

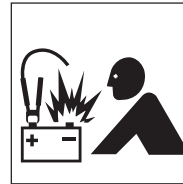
Safety rules during battery jump-starting:

- Follow the instructions for proper battery jump-starting, as specified in the manufacturer's manual.
- Be sure the machines are not touching.
- Observe the polarity of the batteries and connections.

- Make the final cable connection to the engine or the furthest ground point away from the battery. Never make the final connection at the starter or dead battery. Sparks may ignite the explosive gases present at the battery.
- When disconnecting cables, remove the cables in reverse order of connection (e.g., final connection first).



Avoid sparks and open flames near batteries



When jump-starting, observe polarity and make final connection at ground point

Toxic Chemical Disposal

For the safety of others and the environment, consult with your operator's manual or site supervisor for proper disposal of batteries and any chemicals or fluids.

39

Perform Maintenance Safely

Tire and Wheel Maintenance

Check your tires and wheels daily, if equipped, because the stability of the machine can be dramatically affected by tire pressure or damage to tires or wheels.

Check tires for:

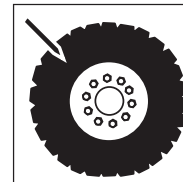
- Correct pressure.
- Cuts and bulges.
- Nails or other punctures.
- Uneven or excessive wear.
- Condition of valve stems and caps.

Check wheels for:

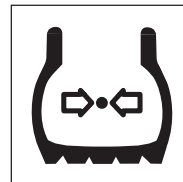
- Damage to the rims.
- Missing or loose lug nuts or bolts.
- Misalignment.

All tire service should be performed by a qualified tire service center or by an authorized service person who has been properly trained in the procedures and use of safety equipment designed for tire servicing.

⚠ WARNING! The types of wheels and tires usually found on this equipment require special care when servicing to prevent death or serious injury. **Do not inflate the tires above the recommended pressure.**



Check tires and wheels for damage



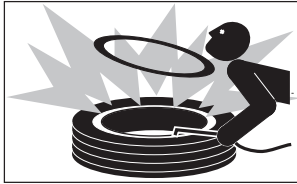
Maintain proper tire pressure

Perform Maintenance Safely

Keep wheel lug nuts tightened to manufacturer's recommendations.

An increase in tire pressure during operation is normal, and should NOT be reduced.

Never reinflate a tire that has been run flat or seriously under-inflated without removing the tire from the wheel. Have the tire and wheel closely inspected for damage before remounting.



Avoid tire explosion

When adding air to a tire, do so from a distance. Always use a long hose with a self-attaching chuck; stand away from the tire sidewall and to one side as far as possible.

Do not inflate tires with flammable gases or from systems using an alcohol injector.

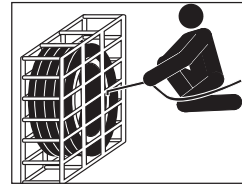
Never cut or weld on a wheel with an inflated tire mounted on it. This could cause explosive decompression.

Check that the tire size and wheel are correctly matched.

When replacing the tires, ensure the tires are of the appropriate rating specified by the manufacturer.

⚠ WARNING! Avoid death or serious injury. **Always use a safety cage or cable restraints when reinflating a repaired tire.**

Tires should not be operated at speeds higher than their rated speed.



Use safety devices when reinflating tires

41

Perform Maintenance Safely

Roll-Over Protective Structure (ROPS) and Falling Object Protective Structure (FOPS) Safety Precautions

Do not remove the ROPS/FOPS except for service. Reinstall them correctly before allowing the machine back into service.

Do not modify ROPS/FOPS in any manner.

Unauthorized modifications such as welding, drilling, cutting or adding attachments could weaken the structure and reduce your protection. Replace ROPS/FOPS if subjected to rollover or damage. Do NOT attempt to repair them. See the manufacturer's manual(s) for complete instructions and inspection requirements.

If your machine is equipped with a foldable ROPS, make sure it is upright whenever the machine is in use.

Complete Service and Repairs Before Machine is Released

Tighten all bolts, fittings, and connections to torques specified by the manufacturer.

Are there any missing cotter pins, washers, locknuts, etc.? Are there any parts left over?

Start the engine and check for leaks. (See page 36, **Hydraulic System Hazards**.) Operate all controls to make sure the machine is functioning properly. Test the machine if necessary. After testing, shut down and check the work you performed.

Recheck all fluid levels before releasing the equipment for operation.

All parts should be inspected during repair and replaced if worn, cracked or damaged. Excessively worn or damaged parts could fail and cause injury or death.

Install all guards, covers, and shields after servicing. Refill and recharge pressure systems only with manufacturer-approved or recommended fluids.



Verify service work when completed

Final Word to the User

You have just finished reading the AEM Roller Compactor Safety Manual. It is impossible for this manual to cover every safety situation that you may encounter on a daily basis. Your knowledge of these safety precautions and your application to the basic rules of safety will help to build good judgment in all situations. Our objective is to help you develop, establish and maintain good safety habits to make operating a roller compactor easier and safer for you.

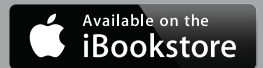
Many pictorials in this safety manual can be downloaded at <http://pictorials.aem.org>.

For additional publications, visit our website at www.safetymaterials.org.

43



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This manual is one in a series on the safe operation of machinery, published by AEM.



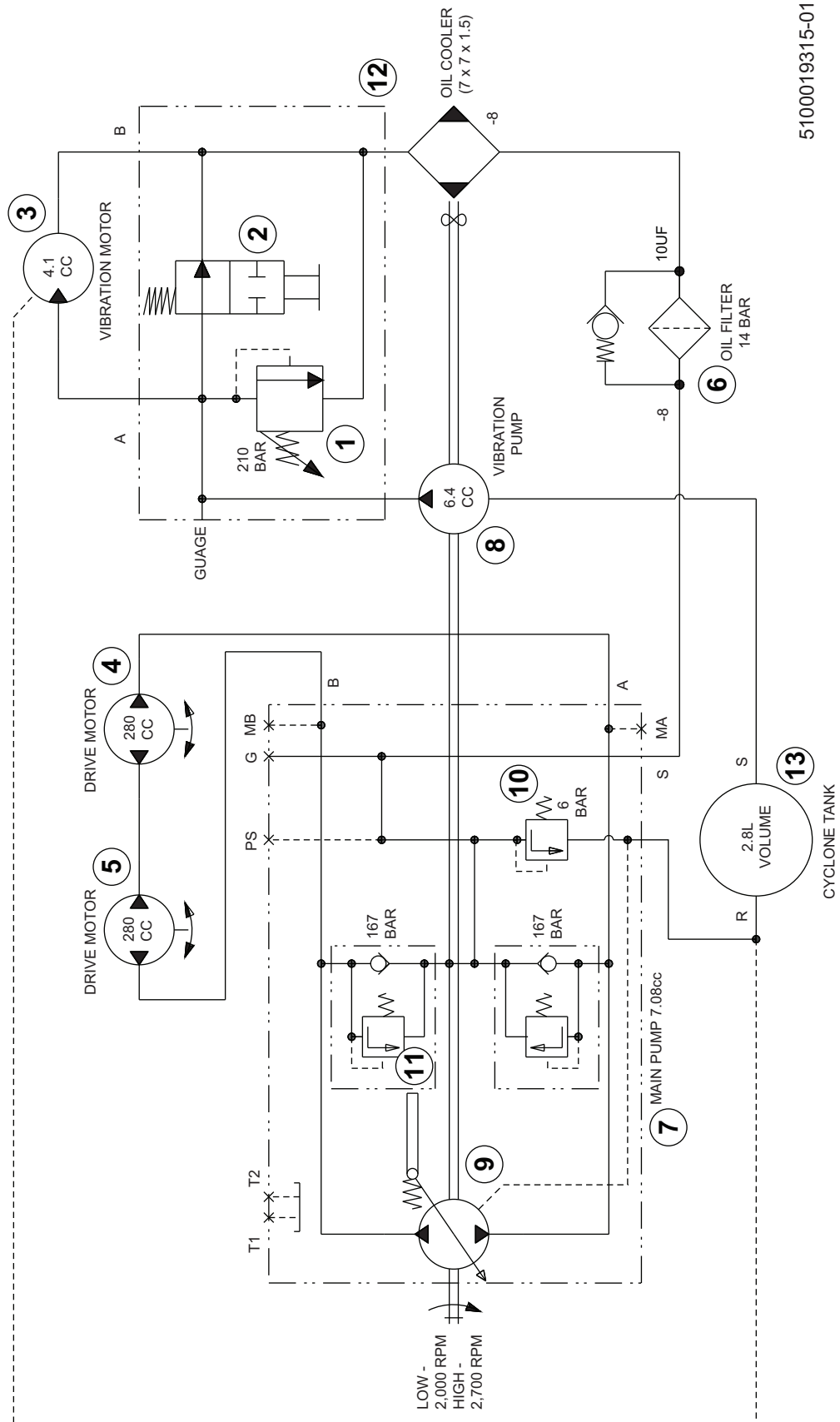
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visit www.safetymaterials.org.



12 Schematics

Notes

12.1 Hydraulic Schematic

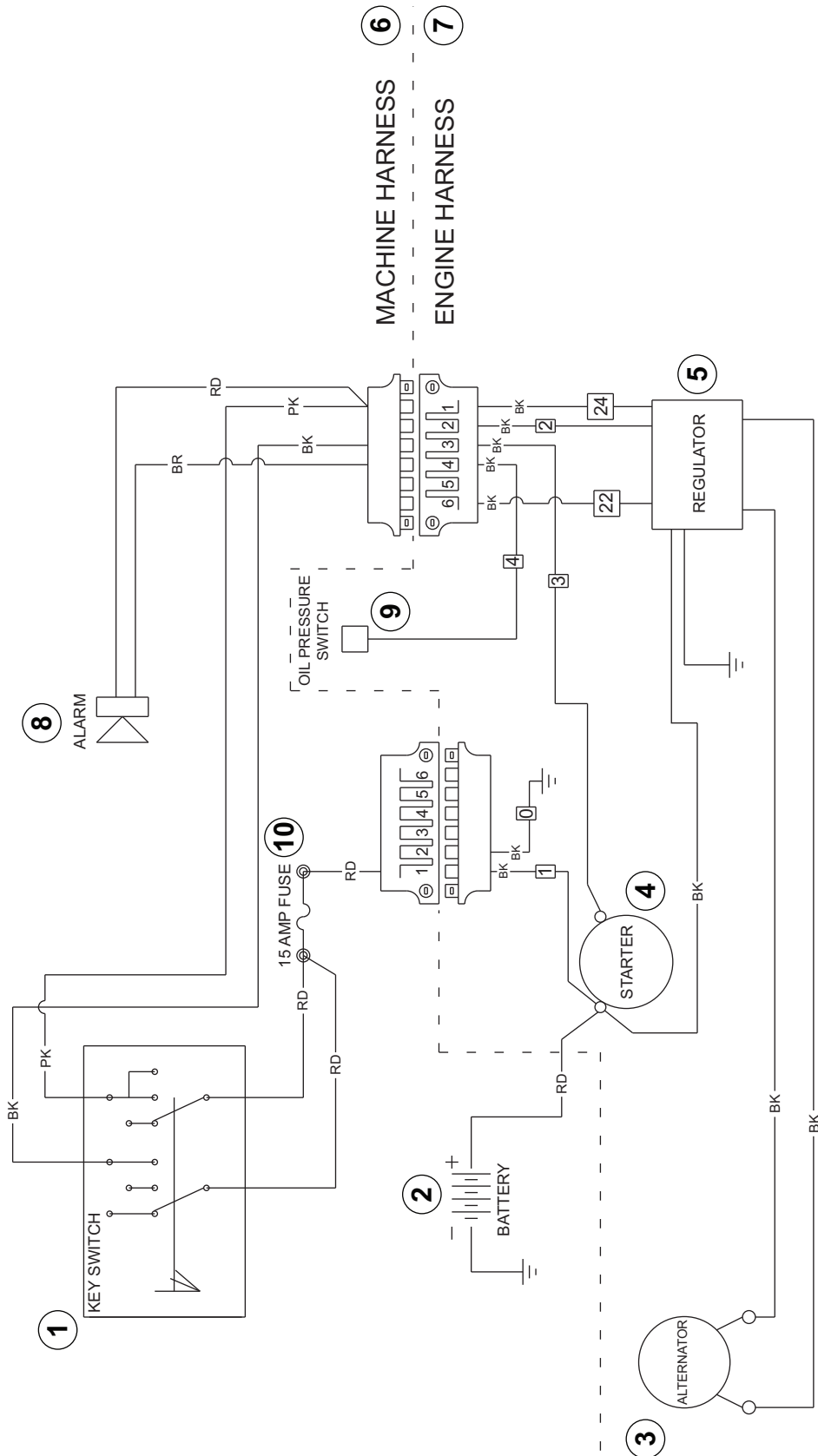


5100019315-01

12.2 Hydraulic Schematic Components

Ref.	Description	Ref.	Description
1	Exciter relief valve	8	Exciter pump
2	Exciter control valve	9	Drive pump
3	Exciter motor	10	Charge pressure relief valve
4	Rear drive motor	11	Internal drive pump relief valves
5	Front drive motor	12	Manifold
6	Return filter	13	Tank
7	Pump assembly	—	—

12.3 Electrical Schematic—RD7He



5100019316_01

12.4 Electrical Schematic Components—RD7He

Ref.	Description	Ref.	Description
1	Key switch	6	Machine harness
2	Battery	7	Engine harness
3	Alternator	8	Alarm
4	Starter	9	Oil pressure switch
5	Regulator	10	15A fuse

Wire Colors							
BK	Black	RD	Red	YL	Yellow	OR	Orange
GN	Green	TN	Tan	BR	Brown	PU	Purple
BU	Blue	VIO	Violet	CL	Clear	SH	Shield
PK	Pink	WH	White	GY	Gray	LB	Lt. blue

Important: For spare parts information, please see your Wacker Neuson Dealer, or visit the Wacker Neuson website at <http://www.wackerneuson.com/>.

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