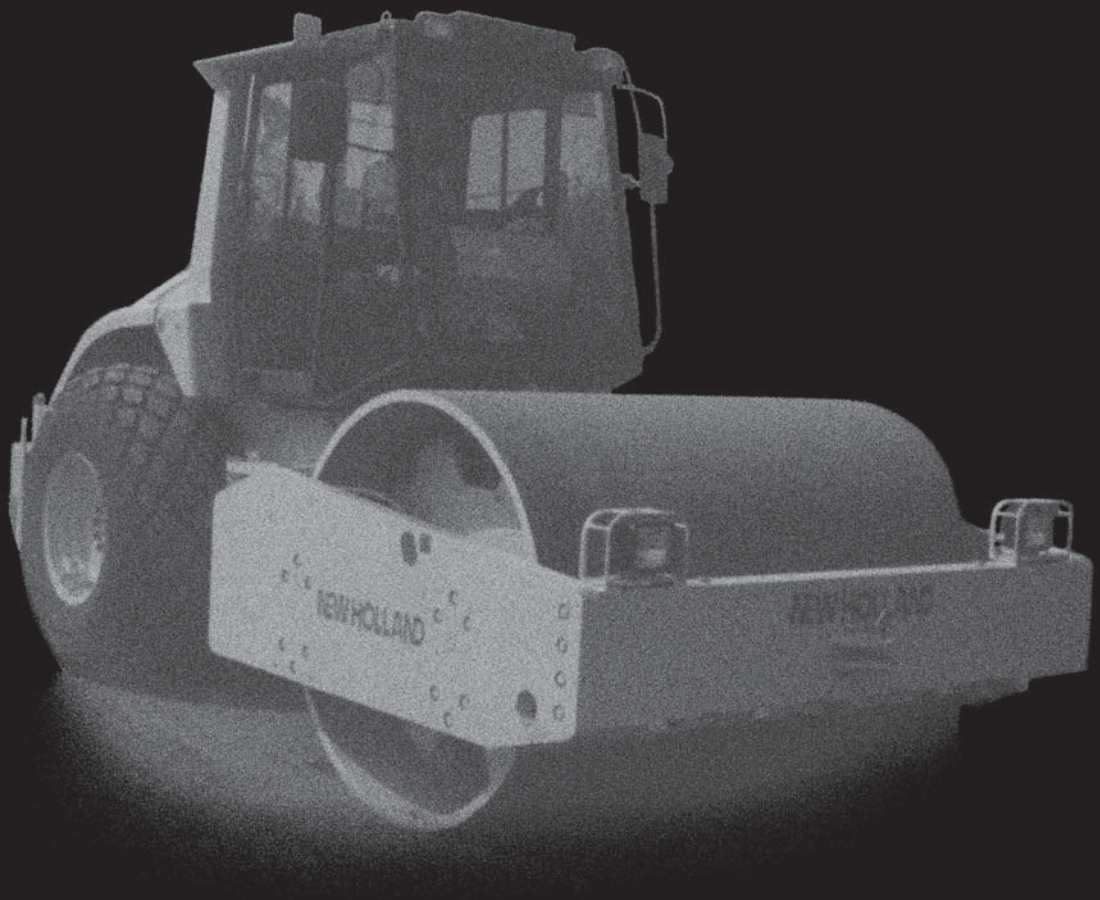
SERVICE MANUAL

Compactors CV1100 - CV1500



NEW HOLLAND
CONSTRUCTION

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COMPANY POLICY

Company policy, which is one of continuous improvement, reserves the right to change prices and to make changes in design and specification at any time without notice and without obligation to modify units previously built.
All data given in this book is subject to production variations. Dimensions and weights are approximate only and the illustrations do not necessarily show machines in standard condition. For exact information about any particular machine please consult your New Holland Construction Dealer.

PARTS AND ACCESSORIES

Genuine parts and accessories have been specifically designed for these machines.
We would like to point out that "non-genuine" parts and accessories have NOT been examined and released by the Company. The installation and or use of such products could have negative effects upon the design characteristics of your machine and thereby affect its safety. The company is not liable for any damage caused by the use of "non-genuine" parts and accessories.

MODEL CODES

The range of machines listed may not be available in all countries or markets therefore, for the latest information consult your local New Holland Construction Dealer.

MODEL	ENGINE TYPE - H.P.
CV1100	BS.9 - C148 (148 HP)
CV1500	BS.9 - C148 (148 HP)

OWNER ASSISTANCE

We at New Holland and your New Holland dealer want you to be completely satisfied with your investment. Normally any problems with your equipment will be handled by your dealer's Service Department. Sometimes, however, misunderstandings can occur. If your problem has not been handled to your satisfaction, we suggest the following.

1. Contact the owner or General Manager of the dealership, explain the problem, and request assistance. When additional assistance is needed, your dealer has direct access to our office.

2. If you cannot obtain satisfaction by doing this, contact the New Holland Construction office and provide them with:

- Your name, address, and telephone number
- Machine model and serial number
- Dealership name and address
- Machine purchase date and amount of use
- Nature of problem

NEW HOLLAND CONSTRUCTION

245 E North Ave

Carol Stream, IL 60188

Ph # (630) 260-4000

When contacting New Holland, be aware that your problem will likely be resolved in the dealership using the dealer's facilities, equipment, and personnel. So it is important that your initial contact be with the dealer.

SPARE PARTS

To maintain operating efficiency, use NEW HOLLAND original spare parts.
When ordering parts, give the following information:

- Machine model
- Machine and engine serial numbers
- Part number from the Parts Catalog

TO THE OWNER:

The warranty coverage that is extended to your machine is explained in the Warranty and Limitation of Liability form. Your dealer will provide you with a copy of the warranty and retain a copy which you have signed. After you read the warranty, ask your dealer to explain any points that you may not understand.

The machine was designed to power and propel itself. It is intended to move material in the normal and customary applications.

Do not modify or alter or permit anyone else to modify or alter this machine or any of its components mechanical function with first consulting an authorized New Holland Construction dealer. If you have any questions regarding machine modifications, contact New Holland Construction, 245 E. North Ave., Carol Stream, IL 60188.

Your safety and the safety of those around you depend upon the care and good judgment you use while operating this equipment. Read the safety precautions carefully.

After you have operated the machine for 50 hours, take your machine and this manual to your selling dealer. He will perform the factory recommended 50-hour service. You will be responsible for the cost of lubricants, fluids, filters and other items replaced as part of normal maintenance. Prior to taking the machine to your selling dealer for service, it is recommended that you contact them to determine any other charges for which you may be responsible.

All data given in this book is subject to product variations. Dimensions and weights are approximate only and the illustrations do not necessarily show machines in standard condition. For exact information about any particular machine, please consult your New Holland Construction dealer.

CAUTION: THIS SYMBOL IS USED THROUGHOUT THIS BOOK WHENEVER PERSONAL SAFETY IS INVOLVED. TAKE TIME TO READ AND FOLLOW THE INSTRUCTIONS. BE CAREFUL!

CAUTION: PICTURES IN THIS MANUAL MAY SHOW PROTECTIVE SHIELDING OPEN OR REMOVED TO BETTER ILLUSTRATE A PARTICULAR FEATURE OR ADJUSTMENT.

BE CERTAIN, HOWEVER, TO CLOSE OR REPLACE ALL SHIELDING BEFORE OPERATING THE MACHINE.

IMPROVEMENTS

New Holland Construction is continually striving to improve its products. We reserve the right to make improvements or changes when it becomes practical and possible to do so, without incurring any obligation to make changes or additions to the equipment sold previously.

PRECAUTIONARY STATEMENTS

PERSONAL SAFETY

Throughout this manual and on machine decals, you will find precautionary statements ("CAUTION", "WARNING", and "DANGER") followed by specific instructions. These precautions are intended for the personal safety of you and those working with you. Please take the time to read them.

CAUTION: THE WORD "CAUTION" IS USED WHERE A SAFE BEHAVIORAL PRACTICE ACCORDING TO OPERATING AND MAINTENANCE INSTRUCTIONS AND COMMON SAFETY PRACTICES WILL PROTECT THE OPERATOR AND OTHERS FROM ACCIDENT INVOLVEMENT.

WARNING: THE WORD WARNING DENOTES A POTENTIAL OR HIDDEN HAZARD WHICH HAS A POTENTIAL FOR SERIOUS INJURY. IT IS USED TO WARN OPERATORS AND OTHERS TO EXERCISE EVERY APPROPRIATE MEANS TO AVOID A SURPRISE INVOLVEMENT WITH MACHINERY.

DANGER: THE WORD "DANGER" DENOTES A FORBIDDEN PRACTICE IN CONNECTION WITH A SERIOUS HAZARD.

FAILURE TO FOLLOW THE "CAUTION", "WARNING", "DANGER", AND "STOP" INSTRUCTIONS MAY RESULT IN SERIOUS BODILY INJURY OR DEATH.

MACHINE SAFETY

Additional precautionary statements ("ATTENTION" and "IMPORTANT") are followed by specific instructions. These statements are intended for machine safety.

ATTENTION: The word "ATTENTION" is used to warn the operator of potential machine damage if a certain procedure is not followed.

IMPORTANT: The word "IMPORTANT" is used to inform the reader of something he needs to know to prevent minor machine damage if a certain procedure is not followed.

SAFETY RULES

This symbol is your safety alert sign. It means **ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!**

Read and heed all safety instruction carrying the signal words **WARNING** and **DANGER**.

STUDY THE OPERATION AND MAINTENANCE INSTRUCTION MANUAL THROUGHLY BEFORE STARTING, OPERATING, MAINTAINING, FUELING OR SERVICING THIS MACHINE.

MOST ACCIDENTS ARE CAUSED BY FAILURE OF SOME INDIVIDUAL TO FOLLOW SIMPLE AND FUNDAMENTAL SAFETY RULES OR PRECAUTION. FOR THIS REASON MOST ACCIDENTS CAN BE PREVENTED BY RECOGNIZING THE REAL CAUSE AND DOING SOMETHING ABOUT IT BEFORE ACCIDENT OCCURS. REGARDLESS OF THE CARE USED IN THE DESIGN AND CONSTRUCTION OF ANY TYPE OF EQUIPMENT THERE ARE MANY CONDITIONS THAT CAN'T BE COMPLETELY SAFEGUARDED AGAINST WITHOUT INTERFERING WITH REASONABLE ACCESSIBILITY AND EFFICIENT OPERATION.

CALIFORNIA

PROPOSITION 65 WARNING

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

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INTRODUCTION

This series of Vibratory Rollers is suitable for compaction of all kinds of ground and for large and average-scale groundwork in highway construction (construction of motorways, railways, aiports), in hydro-engineering (construction of dams), in building construction (industrial areas, ports), and the like.

These machines are manufactured in compliance with the latest developments and standards, which ensure their safe function.

If the machine is used incorrectly, by untrained operators or for other purposes than those stipulated within, there is a danger of an accident damage to the equipment or injury to personnel.

The main purpose of this manual is to give the information necessary for carrying out assembly and disassembly of the machine as well as service repairs of main assemblies of the equipment. It contains technical and installation data, instructions on how to adjust the machine and how to use special tools, fixtures and aids.

The manufacturer continuously seeks to make product improvements on the basis of experience and latest developments in the field.

For this reason, the manufacturer may make some changes in drawings, descriptions and designs in this manual.

RIGHT, LEFT, FRONT AND REAR OF THE MACHINE

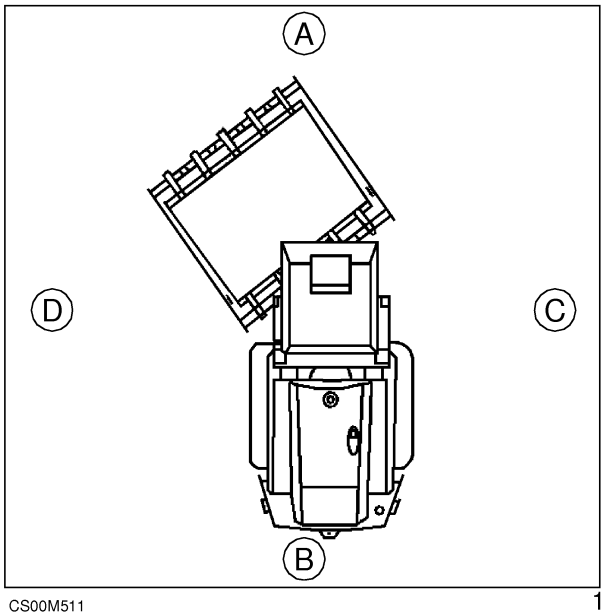
As used in this manual, the terms “right”, “left”, “front” and “rear” indicate the sides of the machine as seen from the operator’s seat.

A. FRONT

B. REAR

C. RIGHT-HAND SIDE

D. LEFT-HAND SIDE



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SAFETY INSTRUCTIONS

GENERAL SAFETY INSTRUCTIONS

The following safety instructions must be observed by ALL personnel repairing the machine.

1. Repairs may be carried out by skilled, trained and experienced personnel only.
2. When performing repairs, always use our shop manual. Special instructions for the assembly work are given in individual chapters of this manual.
3. Before putting the machine into operation familiarize yourselves with the machine controls as explained in the “Operator’s Manual” and make sure that you are perfectly familiar with the machine.
4. Do not use the machine if you do not fully understand all controls and until this know how the machine works.
5. Familiarize yourself with the area where you will work.
6. Do not carry out any redesign work or modifications on the machine because this could compromise the safety of the equipment.
7. Original parts and accessories have been designed especially for this machine.
8. Installation and use of spare parts not supplied by the manufacturer of the machine or not authorized by them can have negative effects on operational characteristics and safe operation of the machine.

REPAIRING AND INSPECTING THE MACHINE

1. Wear working clothes and boots.
2. Use gloves when handling oils, fuel or coolant.
3. Protect your eyes with goggles with side shields or a face shield when handling the battery.
4. Place the equipment on a flat, firm surface before starting repair. Secure the machine to prevent spontaneous movement.
5. Secure the frame of the machine and the drum to prevent rotation using a locking pin and a draw bar.
6. Before starting work remove the ignition key, disconnect the batteries and let hot parts cool down.
7. Attach a "Do not operate" warning note to the steering wheel and leave it there for the duration of the service work.
8. Wash the equipment thoroughly. If you use steam, do not expose electrical components and insulation directly to the steam, otherwise cover them beforehand.
9. Keep all parts absolutely clean when dismantling, mounting, and servicing each assembly. Protect removed parts from getting soiled.
10. Clean the surface of dismantled parts and do the necessary to ensure adequately dust-free working conditions and a suitable storage area.
11. Be careful when handling cleaning agents. Do not use fuel or other easy inflammable materials for cleaning.
12. Dry the cleaned parts and immediately cover with anti-corrosive protective oil, never install corroded parts.
13. Tools, hoists, safety equipment on chains, and other additional items must be serviceable and in good condition.
14. Use hoists and fasteners (ropes, chains) that have sufficient lifting capacity and are in good condition.
15. Make sure that there is enough fresh air supply when starting up the equipment in an enclosed area.

16. Before operating the equipment make sure there is nobody on the machine or close by. Starting up of the machine must always be announced with an audible alarm, also after any pause in operation before the equipment is restarted. Those present on the machine and dangerously close by must leave the machine after the alarm has been sounded.
17. Do not adjust moving equipment.
18. When working (adjusting) on a running engine, avoid touching hot and rotating parts. During work on a running engine, another person must be present that can easily access the emergency switch and must be in contact at all times with the person performing the adjustment, to be able to switch off the engine immediately when necessary.
19. Use only approved makes of motor, gear and hydraulic oil and coolant.

WORKING ON HYDRAULIC CIRCUITS

1. Make sure that no hydraulic circuit is under pressure before opening it. Hydraulic oil leaks under pressure may penetrate your skin and cause serious injury.
2. Mark all parts, hoses and pipes before removing them.
3. Do not operate hydraulic pumps and hydraulic motors without oil.
4. There is danger of being scalded when handling hot oil.
5. Do not warm oil to temperatures above 160°C (320°F), oil or its fumes may ignite.
6. For cleaning and wiping hydraulic parts use lint free material.
7. When reassembling parts use hydraulic oil, not grease, as a lubricant.
8. Clean screws and bolts carefully before installation, wash hoses and pipes and blow through them using compressed air.
9. Always use new seals and packing in sealing areas during re-installation.
10. Fill new components with hydraulic oil before installation.
11. Rinse the hydraulic circuit after replacing a hydraulic component; clean the hydraulic reservoir as well.
12. Replace the oil filter cartridge.
13. Fill the hydraulic circuit with pure oil of the recommended viscosity, but only when the engine has been stopped.
14. Wipe off excess oil.
15. Check connections for tightness and any oil leaks, before applying pressure to the system.
16. Do not adjust safety valves.
17. After all work has been finished, recheck all connections and replace all safety items.
18. After finishing the work put all protective devices back in place.
19. After putting the machine into operation.
    - Check the level in the hydraulic reservoir.
    - Check the output pressure of hydraulic pumps if they have been replaced as well as safety valve pressure. Carry out the measurements at a temperature of 40°C (104°F).

WORKING ON THE FUEL SYSTEM

Mixtures of gasoline and diesel (winter fuel) are as inflammable as gasoline.

1. Do not refuel in closed areas.
2. Wipe off excess fuel.
3. Do not smoke when working on the fuel system and do not use open frames. There is a danger of fire.

WORKING ON ELECTRICAL WIRING

1. Disconnect the battery when carrying out any repairs on the charging circuit to avoid accidental short-circuits.
2. When dismantling, first disconnect the cable from the negative pole (-), then the cable from the positive one (+).
3. Do not disconnect batteries when the engine is running.
4. Connect the “minus” pole of the battery to the chassis and the “plus” pole to terminal “B+” from the alternator. In case of opposite connection the whole semi-conductor device can be destroyed.
5. When starting with an auxiliary external supply, do not disconnect the supplywhile the starter is running. Make sure of the starting voltage of the auxiliary external supply, (for 24 V).
6. Do not put the alternator into no-load operation, i. e. with the wire disconnected from the “+” terminal and connected to the “D+” terminal.
7. Do not check the presence of voltage in the wire by sparking it on the chassis of the equipment.
8. Do not do anything that produces sparks.
9. When handling batteries, use protective rubber gloves and goggles.
10. Protect your skin and clothes from stains caused by electrolyte or lead particles.
11. If electrolyte gets into your eyes, rinse them with running water for 15 minutes. Then see a doctor as soon as possible.
12. When electrolyte stains your skin or clothes, take off your clothes, wash the stained area with soapy water or with a solution of baking soda and water and see a doctor.
13. In the event of accidentally swallowing electrolyte, drink as much milk or water as possible or a solution of milk of magnesia and immediately see a doctor.
14. Never pour distilled water into the cells unless the operation of the machine or charging outside the machine follows. In this case the battery would discharge rapidly.
15. Never add sulfuric acid (H_2SO_4).
16. Do not overturn the batteries because electrolyte could run out of the air vents in the battery.
17. If acid (electrolyte) is spilled, rinse the area with water and neutralize it with lime.
18. When the batteries are being charged, hydrogen is released and, mixed with air, makes an explosive, easily combustible mixture. Do not use open flames and do not smoke.

WELDING ON THE MACHINE

Before starting arc welding, disconnect all parts with semi-conductors from electrical wiring, i.e.:

- engine alternator,
- hourmeter,
- control unit under the instrument panel,
- ground both the supply and the machine that is being repaired,
- protect the supply point against moisture,
- place the ground terminal close to the welded joint,
- when parts are welded or when the machine is in the suspended position, insulate the point of current transfer to avoid current entering the hoist, or use a non-conducting rope.

SEALS

1. Always use new seals.
2. You can obtain seal kits in spare part form.

HARDWARE TORQUE

1. Use a torque wrench to obtain correct hardware torque.
2. Fastening screw and nut of the given grade are tightened according to the table.
3. Screw grades are normally on the screw head.
4. Hardware torque is given in the tables.
5. Threaded connections for hydraulics are tightened as specified in the tables.
6. The given hardware torque specifications are valid for dry screw threads.
7. Use new self-locking nuts only.

ENVIRONMENTAL MEASURES AND HEALTH PRECAUTIONS

When repairing the machine, observe the general principles of health protection and environment protection, along with all laws, regulations, and guidelines related to these problems, as applicable to the territory where the machine is used.

HYGIENE

1. Oil products, coolants, battery acids, and paints including thinners can be harmful to your health and they can cause serious injury.
2. It is necessary to always observe safety and health instructions enclosed with products and use personal protective aids when handling them.
3. Personnel in contact with these products during servicing must observe the general principles relating to conservation and keep in mind safety and health guidelines as given by manufacturers of such products, especially the following:
   - protect the eyes and skin when working with batteries,
   - protect the skin when handling oil products, paint, and coolants,
   - workers should wash their hands properly after finishing their work and apply proper healing hand lotions,
   - when working with the cooling system it is necessary to observe the instructions in the manuals supplied with the machine.
4. Oil products, coolants, batteries, and paint including organic thinners as well as cleaners and preservatives should be always stored in their original packaging and properly labeled. Do not store such products in unlabeled bottles and other containers because there is a danger of confusion. Confusion with food or drinks is especially dangerous.
5. If your skin or eyes are accidentally splashed or fumes inhaled, apply first aid immediately. In case of accidental consumption of such products see your doctor immediately.

ECOLOGICAL PRECAUTIONS

1. Contents of machine systems and some parts of the machine, when no longer in use, represent great risks to the environment.
2. The following products especially belong to this category:
   - both organic and synthetic lubricating materials, oils and fuel,
   - coolants,
   - battery acids and batteries themselves,
   - cleaning agents and preservatives,
   - all removed filters and filter elements,
   - all used and discarded hydraulic and fuel hoses, rubber - metals and the other elements exposed to the above products.
3. The above parts and materials must be handled, after they had been discarded, in accordance with prevailing national/regional, regulations on environmental protection and in conformance with directives relating to health conservation.
4. When hydraulic liquids, fuel, cooling systems and their components are being removed it is necessary to prevent spillage on the ground by using retaining vessels and by plugging all openings.
5. In the event of leakage, the contaminated area-must be immediately dried with sawdust, or similar absorbing material.
6. Contaminated earth must be removed to prevent further contamination. The soil and absorbing material must be disposed of safely.

FIRE PRECAUTIONS

1. From a fire risk point of view, the inflammable liquids used are divided into the following risk classes

   II. Risk class

   - oil

   IV. Risk class

   - mineral oils

   - lubricants

   - antifreeze

2. The place where oil is being changed must not be situated in an area where there is danger of explosions or fire.

3. Notices showing that smoking and open flames are not allowed must be installed there.

4. The receptacles used to catch drained inflammable liquids must be of adequate capacity.

5. Portable fire-extinguishers must be available.

6. Oil and oil products should be handled in special containers, e.g. metal barrels, drums or cans.

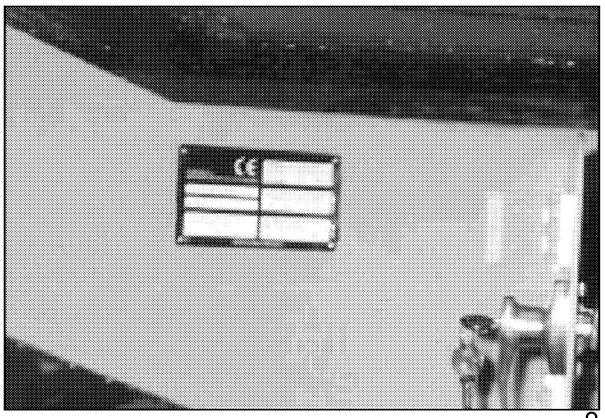
7. Liquid containers must be properly shut and sealed when stored.

8. The containers should have an air vent. They should be always be stored with the air vent up and there must be measures taken to prevent leakage.

9. The containers must be labeled with indelible inscriptions showing their contents and flammability class.

PRODUCT IDENTIFICATION

Serial and type numbers are important for machine identification and/or in case of warranty claims. A name plate with basic machine data is attached to the left side of the frame below the cab.



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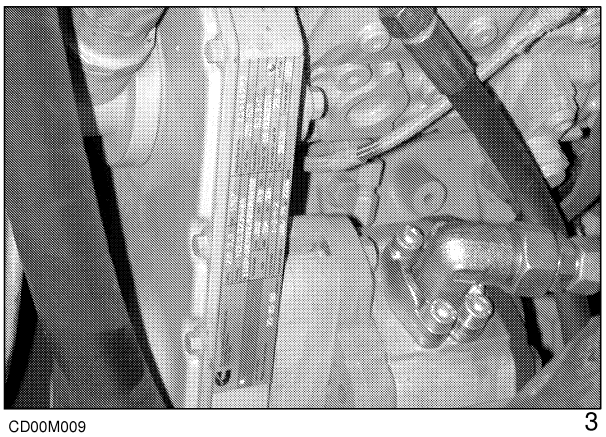
A plate with the serial number of the Cummins engine is attached to the fuel injection pump drive housing.

Serial numbers and data relating to major components may be found on the components concerned.



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TORQUE SPECIFICATIONS

FASTENING HARDWARE

Inspection and re-tightening

1. Regularly check that hardware is not loose.
2. Use torque limiting wrenches to tighten screws and nuts.

Screws with metric threads

Screw size	Torque					
	For screws 5.8 (5 S)		For screws 8.8 (8 G)		For screws 10.9 (10 K)	
	Nm	lb-ft	Nm	lb-ft	Nm	lb-ft
M4	2	1	3	2	4	3
M5	4	3	6	4	8	6
M6	7	5	10	7	14	10
M8	16	12	22.5	17	32.5	24
M10	31.5	23	44	32	62	46
M12	53	39	75	55	105	77
M14	79	58	118	87	165	122
M16	113	83	165	122	226	167
M18	172	127	245	181	343	253
M20	226	167	314	232	441	325
M22	284	209	392	289	559	412
M24	392	289	549	405	755	557

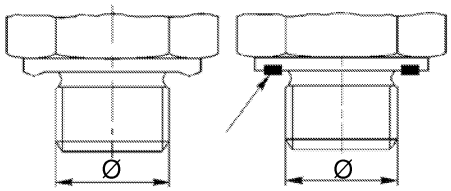
NOTE: *Lock nuts may be used a maximum of three times when approved.*

SCREW TYPE HOSE CONNECTIONS

			Screw type connections with “O” Rings					
			Nm			lb-ft		
Wrench size	Thread	Hose	Nominal	Min	Max	Nominal	Min	Max
14	M12x1.5	6	20	15	25	15	11	18
17	M14x1.5	8	38	30	45	28	22	33
19	M16x1.5	8	45	38	52	33	28	38
		10						
22	M18x1.5	10	51	43	58	38	32	43
		12						
24	M20x1.5	12	58	50	65	43	37	48
27	M22x1.5	14	74	60	88	55	44	65
		15						
30	M24x1.5	16	74	60	88	55	44	65
32	M26x1.5	18	105	85	128	77	63	92
36	M30x2	20	135	115	155	100	85	114
		22						
41	36x2	25	166	140	192	122	103	142
46		28						
50	M42x2	30	240	210	270	177	155	199
50	M45x2	35	290	255	325	214	188	240
	M52x2	38	330	280	380	243	207	280
		42						

PLUGS AND NECKS

Table of tightening torques for necks and plugs with tightening edge, or with flat packing:



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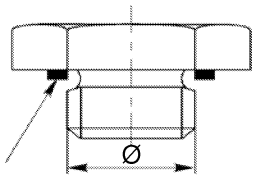
	Neck torque	
Ø	Nm	lb-ft
G 1/8“	25	18
G 1/4“	40	30
G 3/8“	95	70
G 1/2“	130	96
G 3/4“	250	184
G 1“	400	295
G 11/4“	600	443
G 11/2“	800	590
M 10x1	25	18
M 12x1.5	30	22
M 14x1.5	50	37
M 16x1.5	60	44
M 18x1.5	60	44
M 20x1.5	140	103
M 22x1.5	140	103
M 26x1.5	220	162
M 27x1.5	250	184
M 33x1.5	400	295
M 42x1.5	600	443
M 48x1.5	800	590



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	Plugs torque	
Ø	Nm	lb-ft
G 1/8“	15	11
G 1/4“	33	24
G 3/8“	70	52
G 1/2“	90	66
G 3/4“	150	111
G 1“	220	162
G 11/4“	600	443
G 11/2“	800	590
M 10x1	13	10
M 12x1.5	30	22
M 14x1.5	40	30
M 16x1.5	60	44
M 18x1.5	70	52
M 20x1.5	90	66
M 22x1.5	100	74
M 26x1.5	120	89
M 27x1.5	150	111
M 33x1.5	250	184
M 42x1.5	400	295
M 48x1.5	500	369

NOTES

SECTION 00 - MAINTENANCE

Chapter 2 - General Specifications

CONTENTS

DESCRIPTION OF THE MACHINE

This vibratory roller is a self-propelled compaction machine consisting of two articulated sections, i.e. the drum and the towing unit.

Drum unit

This consists of the frame in which the drum with the travel drive and vibration drive is placed. Two levels of amplitude, which can be selected together with the corresponding frequency, make it possible to compact materials with different characteristics. Two scrapers placed on the front side of the beam and on the rear side on the cross member of the drum frame are provided for removing any soil adhering to the drum.

Articulation

Connects both units of the roller and enables independent horizontal and vertical movement of both sections.

Towing unit

This consists of a welded frame with the articulation support and hydraulic travel motors in front and the fuel tank, batteries and tool box to the rear. The hydraulic reservoir, operator's compartment and ROPS frame are mounted on top.

The static linear load and dynamic parameters for this machine place it in the heavy vibratory roller category.

ATTACHMENTS

Tamping segments

These segments make it possible to convert a smooth drum for tamping compaction duties.

Dozer blade

This attachment is useful for spreading bulk soil and for leveling the area being compacted. The arms of the blade are pendular and fixed to the frame of the drum. The blade is lifted and lowered using two bracket-mounted linear hydraulic cylinders on the right and left side drum frame members.

The ROPS protection frame

This protects the driver in case of the machine overturning. Data concerning the frame is to be found on the plate.

ASC lock

This makes it possible to negotiate rough terrain (grades) with better traction and helps when loading on a trailer or trying to free the machine in mud, etc.

FLUIDS AND LUBRICANTS

Lubricants must have the correct properties for each application.

⚠ WARNING ⚠

The conditions of use for individual fluids and lubricants must be respected.

ENGINE OIL

IMPORTANT: *Use high quality oil and follow the oil changing intervals so as to ensure maximum engine life.*

Categories of oil to be used: API CE - CCMC D5

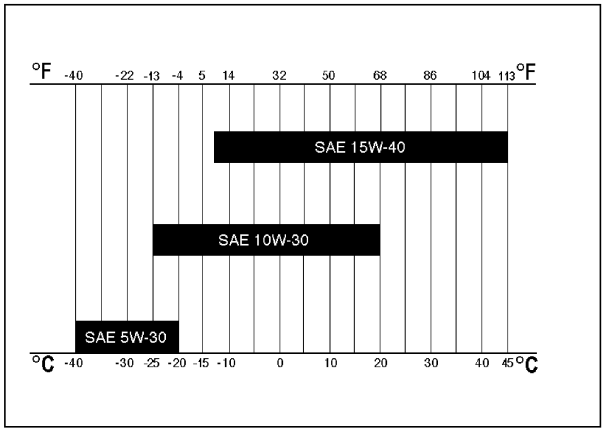
NOTE: *In certain countries, if CE grade oils are not to be found, it is possible to use CC/CD grade oils, but in this case the oil must be changed more frequently.*

The type of oil to use depends on ambient temperature:

- SAE 15W40: All seasons
- SAE 10W30: Winter
- SAE 5W30: Arctic

The following table gives the temperature ranges for different oils, depending on their viscosity.

NOTE: *Do not put any Performance Additive or other additive in the sump. Oil change intervals shown in this manual are based on tests carried out on lubricants.*



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HYDRAULIC FLUID

Use high quality hydraulic fluid which is suitable for use at high pressures.

The type of fluid use depends on ambient temperature:

ISO VG46: Temperate climates (-8°C to +40°C) (17°F to 104°F)
ISO VG68: Hot climates (0°C to +80°C) (32°F to 176°F)

TRANSMISSION OIL

Use extreme pressure type oil, of the API GL5 SAE 80W90 category.

GREASE

Use extreme pressure grease of the NLGI grade 2 category.

FUEL

Use fuel which is to ASTM (American Society for Testing and Materials) D975 standard.

Use grade No.2 fuel. The use of other types of fuel can result in a loss of power and may cause high fuel consumption.

When the temperature is very cold, the use of a mixture of No.1 and No.2 fuel is permitted. See your fuel vendor for winter fuel requirements in your area.

If the temperature falls below the fuel cloud point (point at which wax begins to form) the wax crystals will cause power loss or will prevent the engine from starting.

IMPORTANT: *In cold weather, fill the fuel tank at the end of the day's work, in order to prevent the formation of condensation.*

Long storage can lead to the accumulation of impurities and condensation in the fuel. Engine trouble can often be traced to the presence of water in the fuel.

The storage tank must be placed outside and the temperature of the fuel should be kept as low as possible. Drain off water and impurities regularly.

ANTI-FREEZE/ANTI-CORROSION

Use anti-freeze in all seasons to protect the cooling system from corrosion and freezing.

For areas where ambient temperature is over -36°C (-33°F), use a blend of 50% ethylene-glycol based anti-freeze.

For areas where the temperature is below -36°C (-33°F), it is advisable to use a blend of 40% water and 60% anti-freeze.

FLUID AND LUBRICANT CAPACITIES AND SPECIFICATIONS

Components	Fluids and lubricants	Capacity
Engine	SAE 15W40 - API CE/SGE, ACEA E1-E2, CCMC D2-D3 - 10W30 - 5W30 oil	16.3 litres (4.3 gal US)
Hydraulic system	ISO VG46 - VG48 oil	90 litres (23.8 gal US)
Transmission	API GL5 - SAE 80W90 oil	4.2 litres (1.1 gal US)
Axle	API GL5 - SAE 80W90 oil	2.8 litres (0.74 gal US)
Fuel system	Grade N°2 fuel	410 litres (108.3 gal US)
Machine articulation	NLGI grade 2 grease	as needed
Cooling system	Coolant - Water - Anti-freeze	25 litres (6.6 gal US)
Drum vibration	SAE 15W40 - 10W30 - 5W30 oil	8 litres (2.1 gal US)
Batteries	Distilled water	as needed
Windshield washers	Water - Anti-freeze	2.75 litres (0.72 gal US)

ENVIRONMENT

Before carrying out any maintenance operation on this machine and before disposing of used fluids or lubricants, always think of the environment. Never throw oil or fluid on the ground and never place it in leaking receptacles.

Contact your local ecological recycling center or your New Holland Dealer to obtain information on the correct method of disposing of these materials.

SPECIFICATIONS

	CV1100	CV1500

ENGINE

Make	Cummins
Type	B5.9 - C148
Power rating	110.0 kW (148 HP)
Standard	ISO 3046/1 (DIN 6271)
Rated speed	2200 RPM

STEERING

Oscillation angle	±10°
Steering angle	±36°
Turning radius:	
Inner (edge)	3050 mm (120.08 in) (10 ft)
Outer (overall)	5370 mm (211.4 in) (17.6 ft) 5395 mm (212.4 in) (17.7 ft)

CAPACITIES

Fuel tank	410 litres (108.3 gal US)
Engine oil	16.3 litres (4.3 gal US)
Cooling system	25 litres (6.6 gal US)
Hydraulic system	90 litres (23.8 gal US)
Drum gearbox	2 litres (0.53 gal US) ..... 4.2 litres (1.1 gal US)
Vibrating drum	8 litres (2.1 gal US)

ELECTRICAL SYSTEM

Voltage	24 Volts
Batteries	2 x 100 Ah

WHEELS

Size of tires	23.1 x 26"
Tread	UK5 10 PR
Average ground contact pressure	304 kPa (44.1 psi)
Tire inflation	160 kPa (23.2 psi)