



OPERATING AND MAINTENANCE INSTRUCTIONS



CR 10 **Lombardini LDW 1003**



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RAMIRENT

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Preface

These operating and maintenance instructions are intended to acquaint you with your soil compactor, to assist you in the proper maintenance of the machine and to enable you to use it to the full extent of its intended capabilities.

Acting in accordance with these operating and maintenance instructions will help to avoid danger, to reduce repair costs and downtimes and to increase the reliability and life of your soil compactor.

These operating and maintenance instructions manual must be always at hand at the soil compactor's place of use.

In case of need, you will get further information from your authorized WEBER distributor or one of the contacts listed on the last page.

The valid conformity declaration is enclosed with every machine delivery.

RAMIRENT

Safety guidelines

General

All safety instructions must be read and complied with, non-compliance results in

- Danger to life and limb of the user
- Impairments to the machine or other property.

In addition to the operating manual the binding accident prevention guidelines in the country where the compactor is used must be complied with.

Proper use

The soil compactor should only be used in technically faultless condition, as intended, in a safety-conscious and hazard-conscious manner, in compliance with the instructions in the operating manual. Malfunctions that impair safety must be eliminated without delay.

The CR 10 soil compactor is designed exclusively for compacting

- Sand
- Gravel
- Crushed aggregates
- Semi-cohesive mixed material

Any other use of the soil compactor is considered to be improper use for which the owner shall be exclusively responsible. All liability is rejected if damage occurs due to non-compliance with this provision. This risk is borne solely by the user.


Easily foreseeable misuse

Any use for which the machine is not intended.

Driving

Soil compactors should only be driven by suitable personnel at least 18 years of age, Drivers must be instructed in how to guide the compactor by the owner or by owner's assigned personnel.

The machine operator must comply with traffic regulations. If instructions that affect safety are given by third persons, then the operator must be authorized to reject these instructions.

 Unauthorized persons are forbidden from being in the area of the soil compactor during the compacting process.

Protective equipment

This machine is capable of exceeding the permissible sound level of 80 dB(A). The owner might also face additional dangers when using the machine. Precautionary action must, therefore, be taken.

Protective equipment includes:



Ear protection



Hard hat



Safety shoes



Protective gloves


Operation

Prior to starting work the owner of the compactor must be familiar with the work environment. The work environment includes obstacles in the work and traffic area, the bearing capacity of the ground, as well as the necessary safeguarding of the construction site in the area adjacent to public traffic; and it includes compliance with traffic regulations.

The soil compactor should only be operated when the protective fixtures are mounted. The protective fixtures must all be in functional condition.

At least once per shift the compactor must be checked for apparent defects. If there are apparent defects then operation of the compactor must be stopped immediately and the responsible person must be informed. Prior to restarting, compactor malfunctions that have occurred must be corrected.

Operation under difficult conditions

 Never inhale the exhaust gas; it contains carbon monoxide, a colorless and odorless gas that is extremely hazardous, which if inhaled even briefly can cause unconsciousness and death.

Never operate the engines in enclosed areas or in areas that are poorly ventilated (tunnels, caves, etc.) Exercise particular caution when operating the engine in the vicinity of people and livestock.

Prior to maintenance and repair work

Only use **original Weber spare parts** to ensure reliable and safe operation for maintenance or repair work.

Hydraulic hose lines must be checked at regular intervals in accordance with standard engineering practice, or they must be replaced at appropriate intervals, even if no signs of safety-relevant defects are present.

Adjusting tasks, maintenance tasks, and inspection tasks must be executed on schedule as specified in this operating and maintenance manual. These activities should only be executed by instructed personnel.


For repair, maintenance, or inspection work the engine of the compactor must be safeguarded against unintentional starting.

All pressurized lines, particularly hydraulic lines and lines of the injection system of the drive motor must be depressurized before performing maintenance or repair tasks.

For maintenance and repair tasks the compactor must be parked on a level and stable substrate and must be secured from rolling off or tipping over.

Heavy components and subassemblies must be secured on hoisting machines with adequate bearing capacity when they are replaced. Ensure that no hazard exists related to the raised components or subassemblies.

Do not position yourself or work under suspended loads.

 If lubricating oils and fuel come into contact with skin, they can cause skin cancer. Upon contact with the skin, clean affected skin with suitable cleaning agent without delay.

Inspection

Compactors must be inspected in accordance with appropriate implementation conditions and operating conditions, as needed; however an inspection to ensure operationally safe status must be performed by an expert at least once a year. The results of the inspection must be recorded in writing and must be stored until the next inspection.

Cleaning work

Prior to cleaning the compactor with a high-pressure cleaner, protect all accessible energized switches, cable connections, etc. against water penetration by masking them off.

Cleaning tasks should only be executed in areas that suitable and approved for this purpose (oil separator).

Disposal

All operating fluids and auxiliary materials must be disposed of in an environmentally-compatible manner, in accordance with country-specific regulations.

Important information for operating and maintenance personnel is marked by pictograms.



Warning against irritants or materials hazardous to health



Warning against a hazardous place



Warning against a suspended load



Wear ear protection



General regulation



Environmental protection



Hard hat

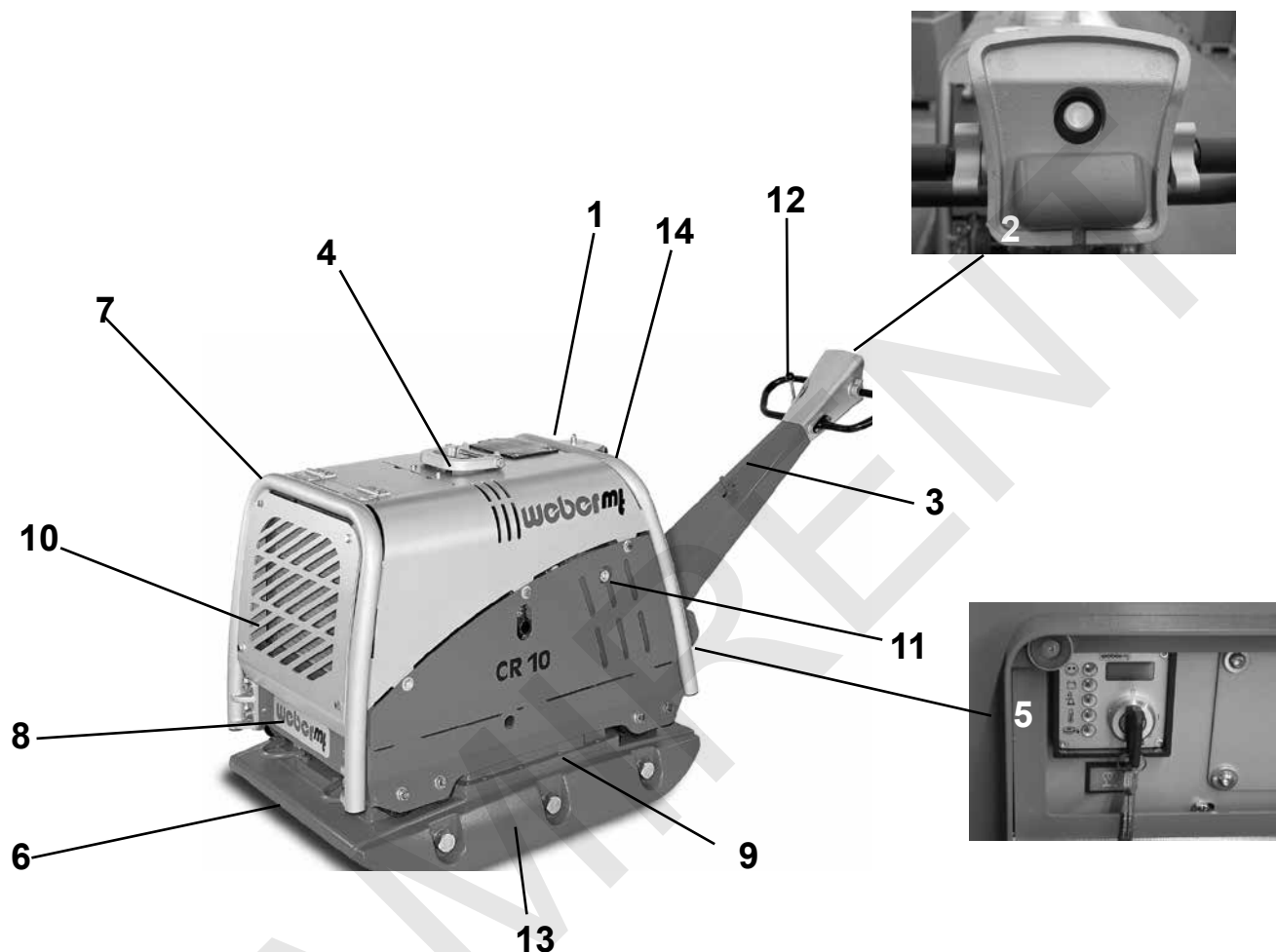


Safety shoes




Protective gloves

Technical Description

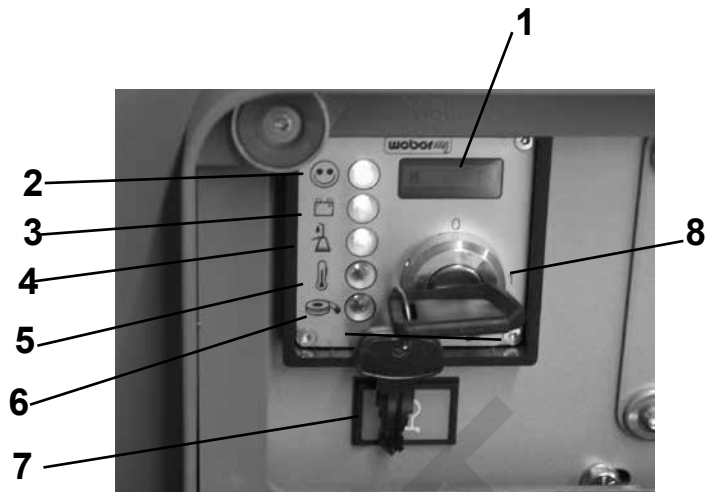


Overall view CR 10

- | | | | |
|---|-------------------------------------|----|--|
| 1 | Engine (not illustrated) | 8 | Engine console |
| 2 | Handlebar head | 9 | Vibrator |
| 3 | Handlebar | 10 | Oil cooler |
| 4 | Lifting lug | 11 | Sight glass, hydraulic oil |
| 5 | Combi-instrument with ignition lock | 12 | Engine speed adjusting lever |
| 6 | Base plate | 13 | Extension plates |
| 7 | Protective frame | 14 | Wear ear protection (Stickers)  |

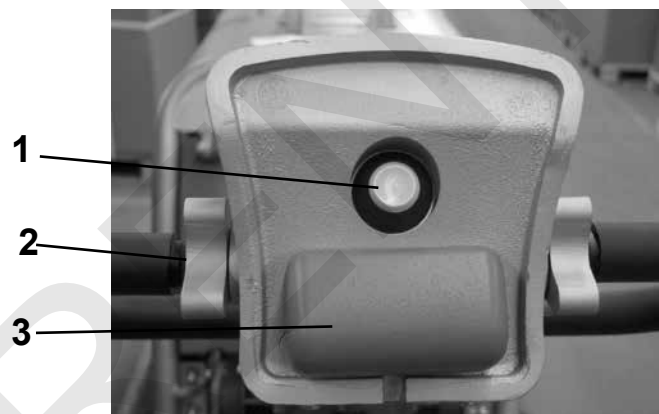
Combi-instrument

- 1 Hourmeter
- 2 Diode, engine function
- 3 Diode, alternator charge
- 4 Diode, oil pressure indicator
- 5 Diode, cooling water temperature
- 6 Diode, air filter restriction
- 7 Preheater
- 8 Ignition lock with key



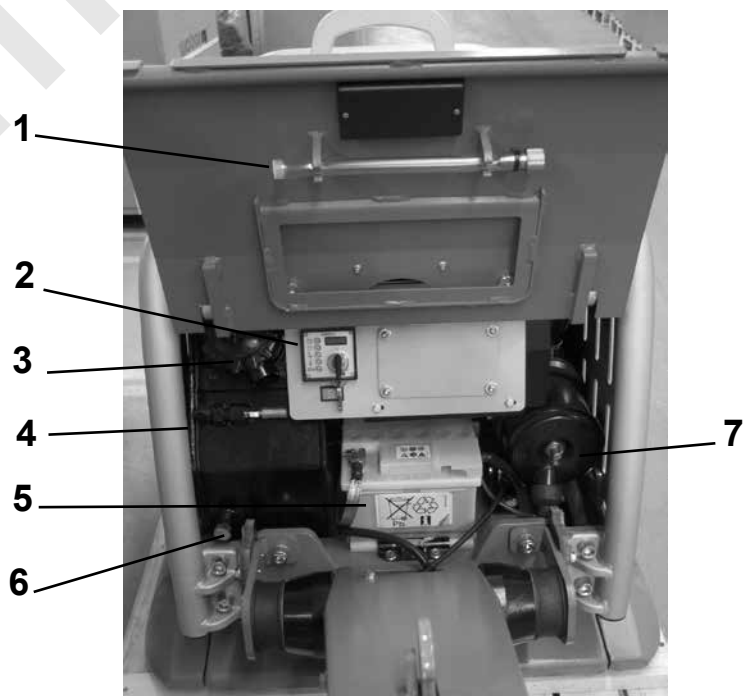
Handle bar head

- 1 Vibration ON/OFF switch
- 2 Rocker switch, forward/reverse travel
- 3 Impact plate for deadman control



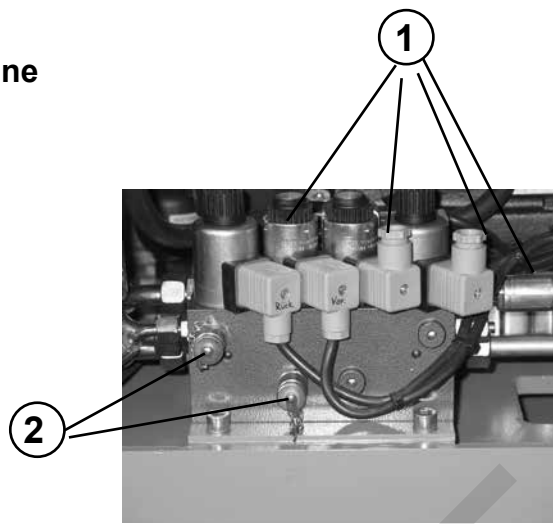
Maintenance points beneath the rear cover

- 1 Oil drain tube
- 2 Combi-instrument
- 3 Hydraulic filter
- 4 Wear indicator for hydraulic filter
- 5 Battery
- 6 Drain valve, hydraulic oil
- 7 Air filter

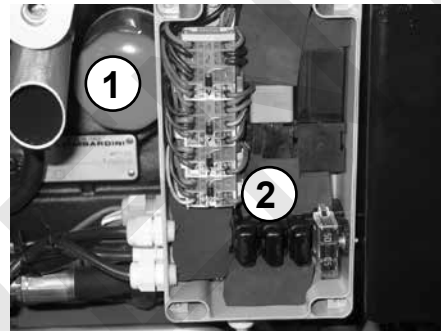


Maintenance and checking points, left machine side

- 1 Hydraulic control valves
- 2 Control ports
- 3 Sight glass, hydraulic oil (not illustrated)

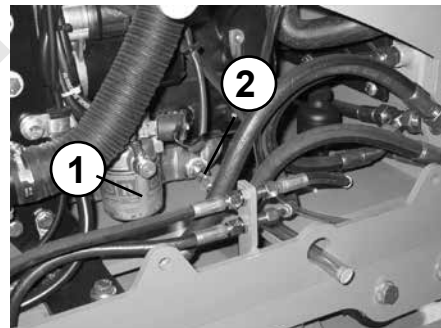


- 1 Engine oil filter
- 2 Fuse box



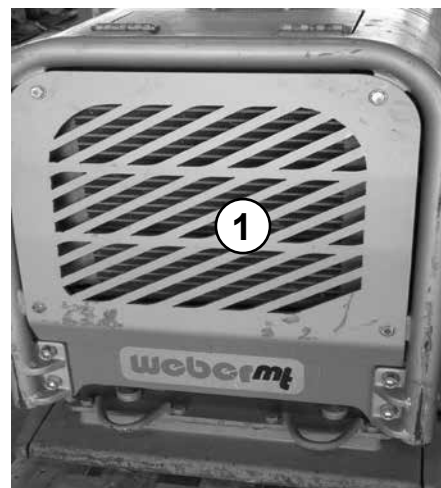
Maintenance and checking points, right machine side

- 1 Fuel filter
- 2 Drain valve for engine oil



Maintenance point, front

- 1 Oil cooler



Machine Description

The CR 10 soil compactor is used for heavy compaction work in road construction and landscape applications.

Propulsion

The machine is driven by a water-cooled 3-cylinder Lombardini diesel engine.

The power is hydraulically transmitted to the machine's vibrator by means of a hydraulic pump, flange-mounted to the engine, and a hydraulic motor fitted to the vibrator.

The speed of the diesel engine is infinitely variable from idling to full speed by means of the engine speed adjusting lever mounted to the handlebar.

Operation

The Lombardini diesel engine is started by means of an electric starter.


After the start, the vibration is turned on by means of the vibration switch. The engine speed adjusting lever allows to vary the engine speed, and thus the vibrator frequency, between idling and full speed. Rocker switches at the handlebar are provided for the infinitely variable control of forward and reverse travel.

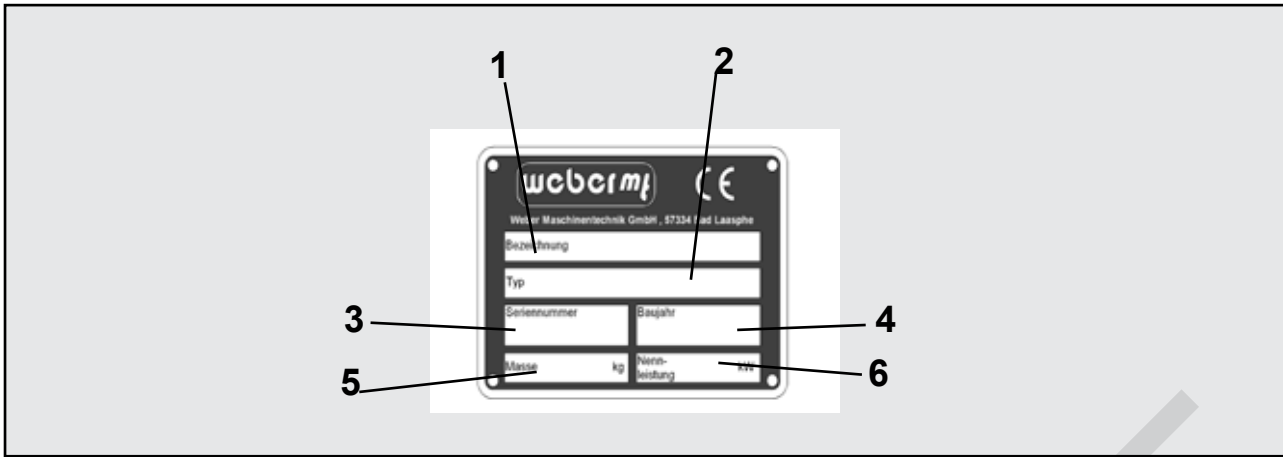
The electronic combi-instrument in the dashboard holds the ignition lock as well as light emitting diodes for alternator charge, battery, oil pressure, cooling water temperature and degree of air filter restriction.

If, during reverse travel, the operator hits the impact plate fitted to the handlebar head, the soil compactor's direction of travel is automatically changed and the machine will move forwards.

Specifications

	CR 10
Weight	
Operating weight CECE w/o extension plates (in kg)	895
Dimensions	
Length above all (in mm)	2100
Width without extension plates (in mm)	700
Width with extension plates (in mm)	800/950
Height with handlebar folded down (in mm)	1130
Base plate length (contact length in mm)	600
Propulsion	
Engine manufacturer	Lombardini
Type	LDW 1003
Performance at operating speed in accordance with ISO 3046-1 (kW)	16,5
Type of combustion	4-stroke, diesel
Operating speed	2880
Driving speed (according to type of soil, in m/min)	27
Gradeability (according to type of soil, in %)	30
Surface output (in m ² /h)	1311
System	two-shaft vibrator
Type of drive	hydraulic
Frequency (in Hz)	52
Centrifugal force (in kN)	100

	CR 10
Noise emissions in accordance with 2000/14/EC	
Sound pressure level L_{PA} ascertained in accordance with EN 500, in dB (A)	96
Sound power level L_{PA} ascertained in accordance with EN ISO 3744 and EN 500, in dB (A)	109
Vibration values	
Root-mean-square acceleration value for hand-arm vibration ascertained in accordance with EN 500 in m/s ²	5,3
 In accordance with directive 2006/42/EC, complying with the vibration values is the owner's responsibility.	



1 Description

.....

3 Serial-Number

.....

5 Mass

2 TYPE

.....

4 Year of construction


.....


6 Rated power KW


Activities prior to starting work

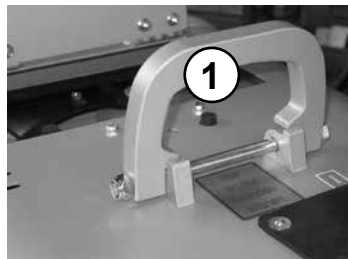
Transport

Engage the crane hook into the folding lifting lug (1) and lift the machine on the desired means of transport.

 When transporting the soil compactor on a vehicle, secure it with suitable restraints.

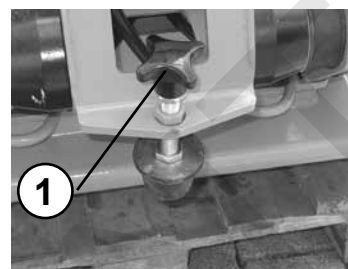
 Only use a lifting tackle with a minimum load bearing capacity of 1,000 kg.

 Do not step under suspended loads.



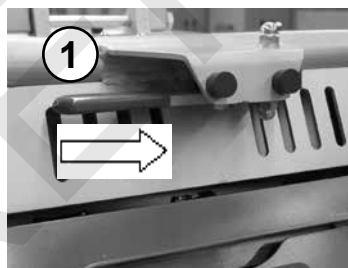
Adjusting the handlebar

Adjust the desired working height of the handlebar by means of the star grip screw (1).



Opening the maintenance access door

Pull the lever (1) to the front to open the maintenance access door of the engine console.



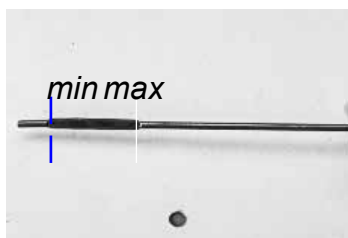
Checking the engine oil level

Pull the oil dipstick out of the crankcase.




Correct oil level between the "min" and "max" marks.


If the oil level is too low, add oil according to the fluid chart.



Checking the fuel level

In order to check the fuel level - open the cover (1), unlock and remove the tank cap (2), check the fuel level and, if required, fill the tank up with clean diesel fuel to the bottom edge of the filler neck.

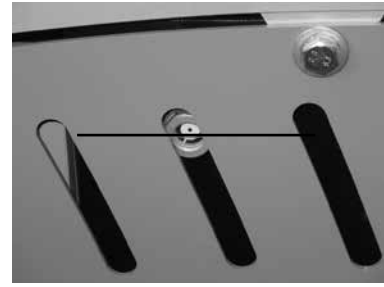
 For work at the fuel system, have a suitable fire-extinguishing agent at the ready.

 Fire, naked light, and smoking is forbidden!



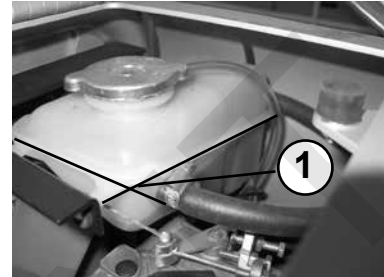
Checking the hydraulic oil level

The hydraulic oil level must be checked when the machine is at operating temperature. The correct oil level is achieved as soon as the oil level reaches the middle of the sight glass.



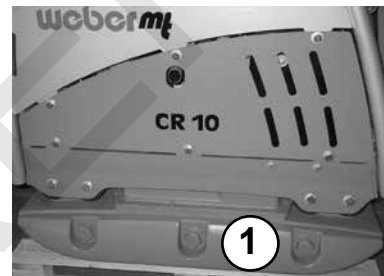
Checking the cooling water level

The cooling water level should reach to the seam in the middle of the tank (1).



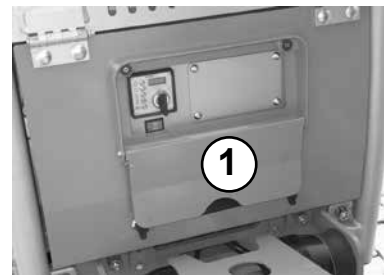
Fitting the extension plates

Fasten the screws of the extension plates with a torque of 1450 Nm.



Starting

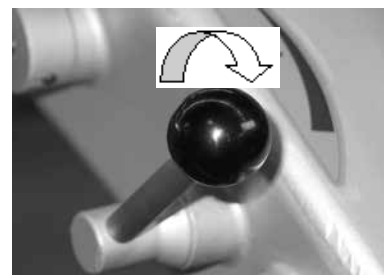
Open the anti-vandalism cover (1).




Turn the ignition key to position "1" and the pilot lamps (1) including the preheating pilot lamp (2) will light up.

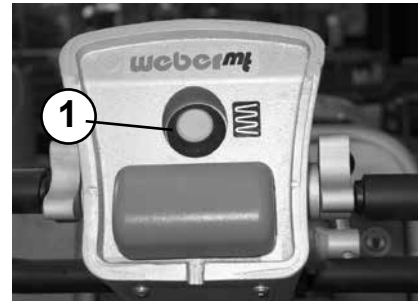


Put the engine speed adjusting lever to full speed position.





If required, turn off the vibration by means of the push-button switch (1).

 With the vibration turned on, the engine will not start.



When the preheating pilot lamp has gone out, turn the ignition key to position 2 and start the engine. When the engine has started, the pilot lamps (1) must go out.

 If the pilot lamps do not go out - stop the engine immediately and repair the failure.

 If the ignition key does not return automatically to position 1, put the machine out of operation immediately - risk of starter damage because of starter working during machine operation.



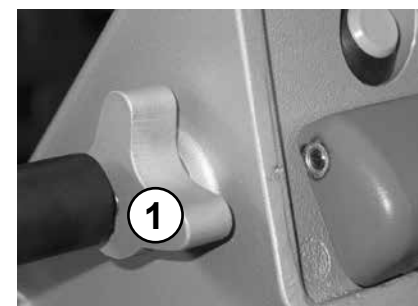
Compaction Work

Turn the vibration (1) on.

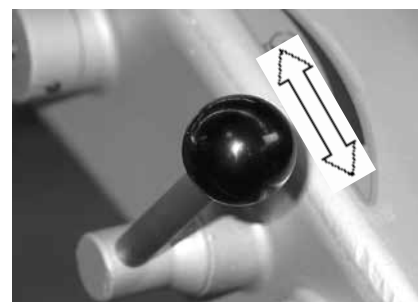


The driving speed as well as the direction of travel are controlled by means of the rocker switch (1).

 Only run machine within reach of the manual guidance rod.



The engine speed and the vibrator frequency are controlled with the engine speed adjusting lever.

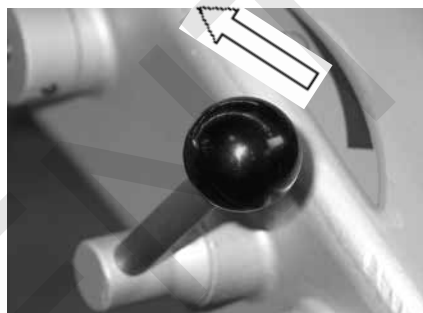


Putting the machine out of operation

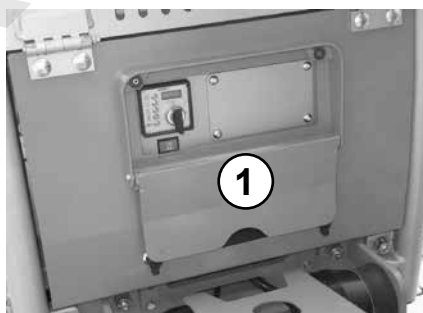
Turn off the vibration by means of switch (1).



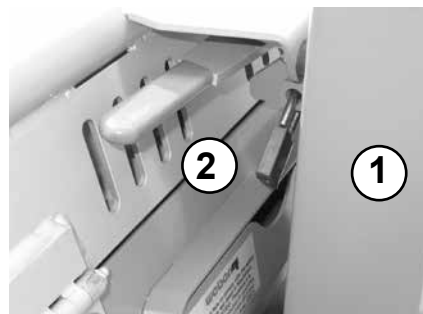
Put the engine speed adjusting lever to idling position.



Turn the ignition key to the "0" position, remove the ignition key. Close the anti-vandalism cover (1).



Lock the handlebar (1) in vertical position and secure it by means of the padlock (2).









⚠ During breaks—even if they are short—the machine must be shut down.

⚠ Parked devices that represent an obstacle must be safeguarded against conspicuously.

Maintenance Survey

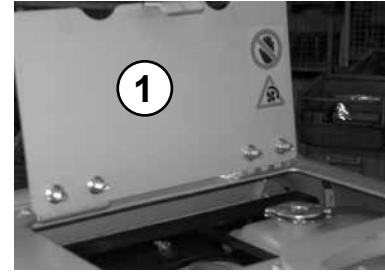
Maintenance Interval	Maintenance Point	Maintenance Work
After the first 25 operating hours	Engine	- Check the engine oil level - Retighten all accessible screwed connections
Every 8 operating hours/daily	Air filter	Clean the air filter element, - check it for damage and replace it if required
Every 150 operating hours/quarterly	Engine Battery Oil cooler	- Change the engine oil - Replace the fuel filter - Replace the oil filter - Check the cooling water - Check the electrolyte level, if required top up with distilled water - Clean the oil cooler
Every 500 operating hours/once a year	Hydraulics Vibrator	- Replace the hydraulic oil filter and change the oil - Change the oil

-  In addition to the aforementioned maintenance work, the engine manufacturer's regulations must be complied with.
-  Work must be carried out using regulation tools and the operating and maintenance manual must be complied with for all work.
-  All maintenance work: select a collection vessel that is large enough to prevent oil from spilling onto the ground. Dispose of waste oil in an environmentally friendly manner (regulation on waste oils).
-  Dispose of oils, oil-soaked cloths, and parts replaced and smeared with oil in an environmentally friendly manner.
-  If lubricating oils and fuel come into contact with skin, they can cause skin cancer. Upon contact with the skin, clean affected skin with suitable cleaning agent without delay.
-  If accessible during maintenance, check the condition and stability of all screws.

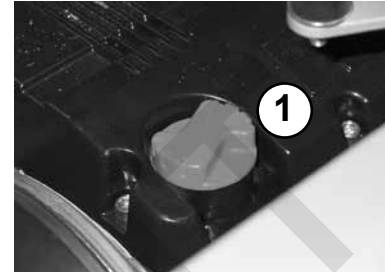
Maintenance work

Changing the engine oil


Open the maintenance access door (1).

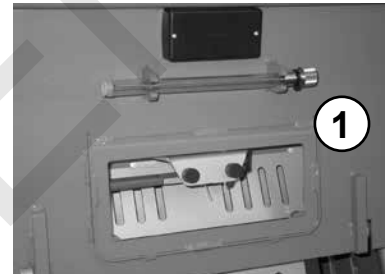


Open the cap (1) of the oil filler neck.



Take the oil drain tube with the valve (1) out of the holder beneath the rear cover.

 Only drain engine oil when at operating temperature:

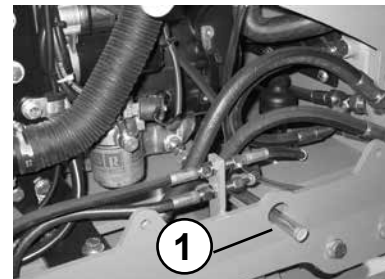


Screw the oil drain tube (1) down to the engine's drain valve and drain the oil.

When all the oil has drained, remove the oil drain tube from the drain valve and add oil according to the specifications.


 When working in the area of the engine compartment there is danger of burn injury!

 Danger of scalding due to hot oil.

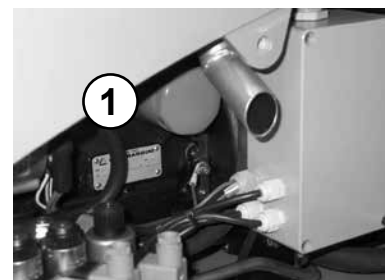


Replacing the engine oil filter

Completely drain the engine oil as described above. Unscrew the filter cartridge (1). Apply oil on the sealing lip of the new filter. Fit the engine oil filter.

 When working in the area of the engine compartment there is danger of burn injury!

 Danger of scalding due to hot oil.

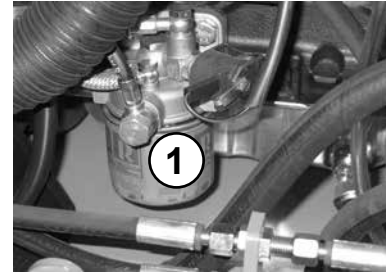


Replacing the fuel filter

Unscrew the filter cartridge (1) and replace it by a new cartridge.



If lubricating oils and fuel come into contact with skin, they can cause skin cancer. Upon contact with the skin, clean affected skin with suitable cleaning agent without delay.



Checking the cooling water/antifreeze

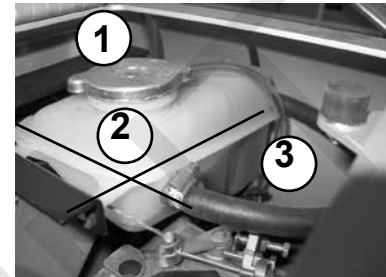


Check the cooling water/antifreeze level with cold engine only - risk of scalds!

Remove the cap (1) of the cooling water tank (2). The cooling water level should reach to the seam (3) in the middle of the tank.

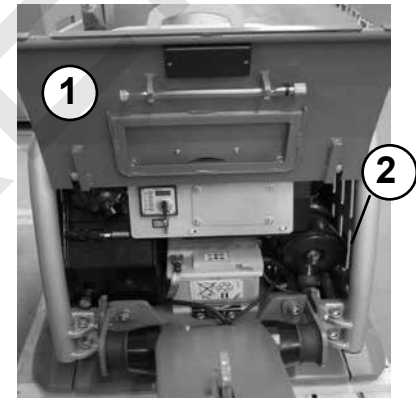


Use an appropriate tester to check the antifreeze. If required add an appropriate antifreeze.

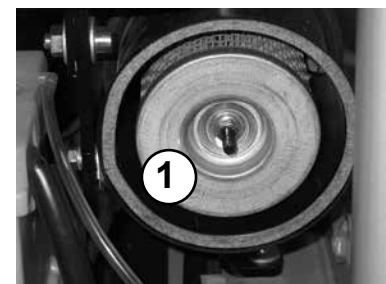


Cleaning/replacing the air filter cartridge

Fold the cover (1) to the top. Unscrew the air filter cover (2).



Take the air filter element (1) out of the air filter housing. Clean the air filter element according to the instructions of the engine manufacturer. Replace the air filter element if it is damaged or extremely dirty.



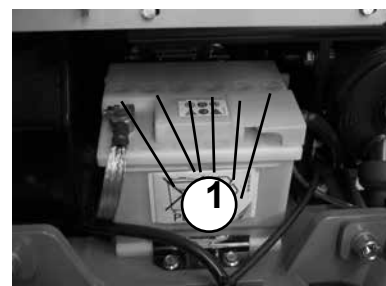
Checking the battery/electrolyte level



Battery acid is highly corrosive. Protect your hands and eyes by wearing appropriate safety goggles and gloves.


Remove the cover (1).

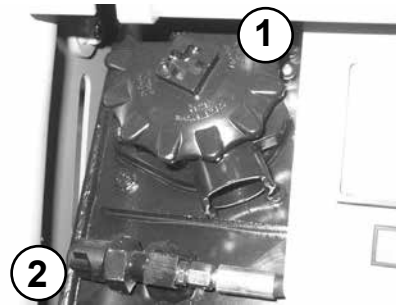
Check the electrolyte level, if the electrolyte level is too low, top up with distilled water to the "max" mark.



Replacing the hydraulic oil filter

Unscrew the filter cover (1) and pull out the filter cartridge.
Replace the filter cartridge by a new cartridge.

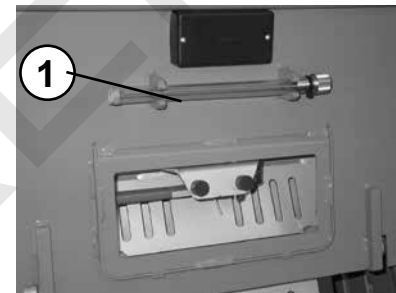
 The degree of restriction of the hydraulic filter is indicated on the gauge (2) shown on the photo.



Put the cover on the filter again and firmly close it.

Changing the hydraulic oil

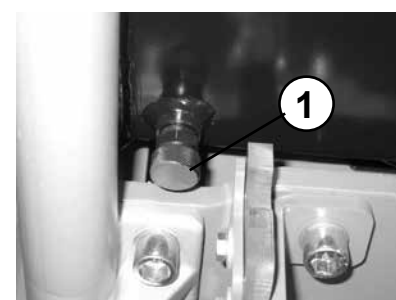
Take the oil drain hose (1) out of the holder.



Unscrew the filter cover (1).

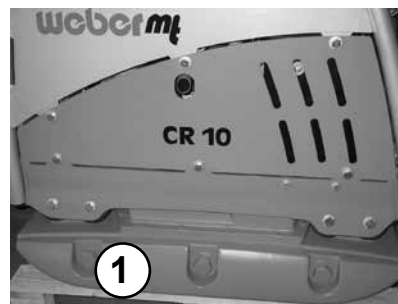


Screw the hose down to the drain valve of the hydraulic tank (1) and drain the oil.





Changing the oil in the vibrator

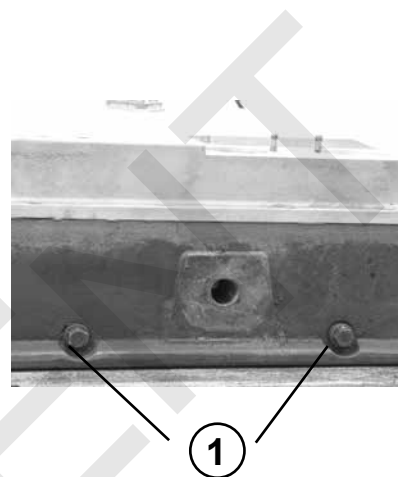
Remove the extension plate (1).



Remove both oil drain screws (1) and drain the oil. To refill, slightly tilt the machine and add fresh oil through the drain hole according to the fluid chart.

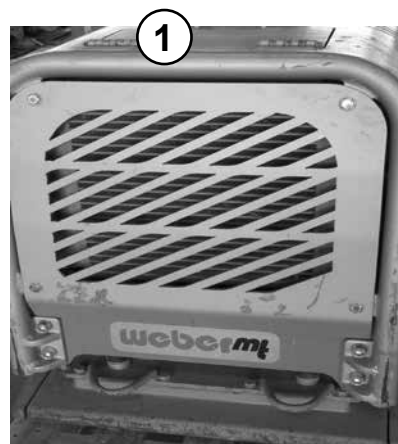
 All maintenance work: select a collection vessel that is large enough to prevent oil from spilling onto the ground. Dispose of waste oil in an environmentally friendly manner (regulation on waste oils).

 Dispose of oils, oil-soaked cloths, and parts replaced and smeared with oil in an environmentally friendly manner.



Cleaning the oil cooler

Remove the protective grating of the oil cooler. Use a pressure washer to thoroughly clean the oil cooler.



Consumables and Quantities

Assembly Group	Consumables		Quantity
	Summer	Winter	CR 10
			Quality
Engine Engine oil	SAE 10 W 40 (-10 ~ + 50 °C) API - CD CE-CF-CG or SHPD or CCMC - D4 - D5 - PD2		2.5 l
Fuel tank	Diesel Diesel according to DIN 51601-DK or BS2869-A1/A2 or STM D975-1D/2D		16.0 l
Vibrator	Fully synthetic gear oil API GL-5/GL-4 Initial filling Fuchs Titan SINTOPOID LS SAE 75W-90		3.5 l
Hydraulic system	Fuchs Titan Hyd MR 32 MC or equivalent		12.0 l
Cooling water system	Water/antifreeze down to -20 ° C		5.0 l
Battery	Distilled water		as required

Trouble Shooting

Failure	Possible Cause	Remedy
Soil compactor does not start	Vibration is turned on	Turn off the vibration, start the machine as described
	Lack of fuel	Check the fuel level, if necessary, top up with fuel.
	Dirty fuel filter	Replace the fuel filter
	Dirty air filter	Clean/replace the air filter element
	Battery defective/ discharged	Remove/charge the battery
Soil compactor does not switch	Hydraulic oil level in the hand guidance rod is not correct	Check oil level Correct oil level

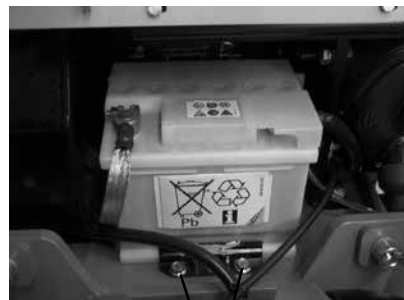
Replacing the battery

Loosen the battery holder (1).

Remove at first the minus terminal and then the plus terminal.
When installing the battery: connect at first the plus terminal and then the minus terminal.



Battery acid is highly corrosive. Protect your hands and eyes by wearing appropriate safety goggles and gloves.

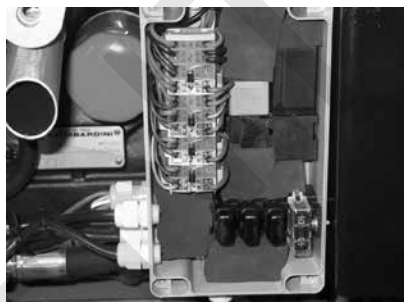


1

Checking/replacing the fuses

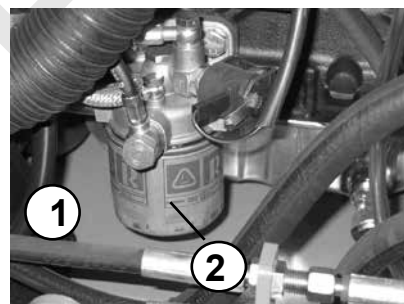
Remove the cover of the fuse box.

Check the fuses - if damaged, replace the corresponding fuse by a new one of the same rating.

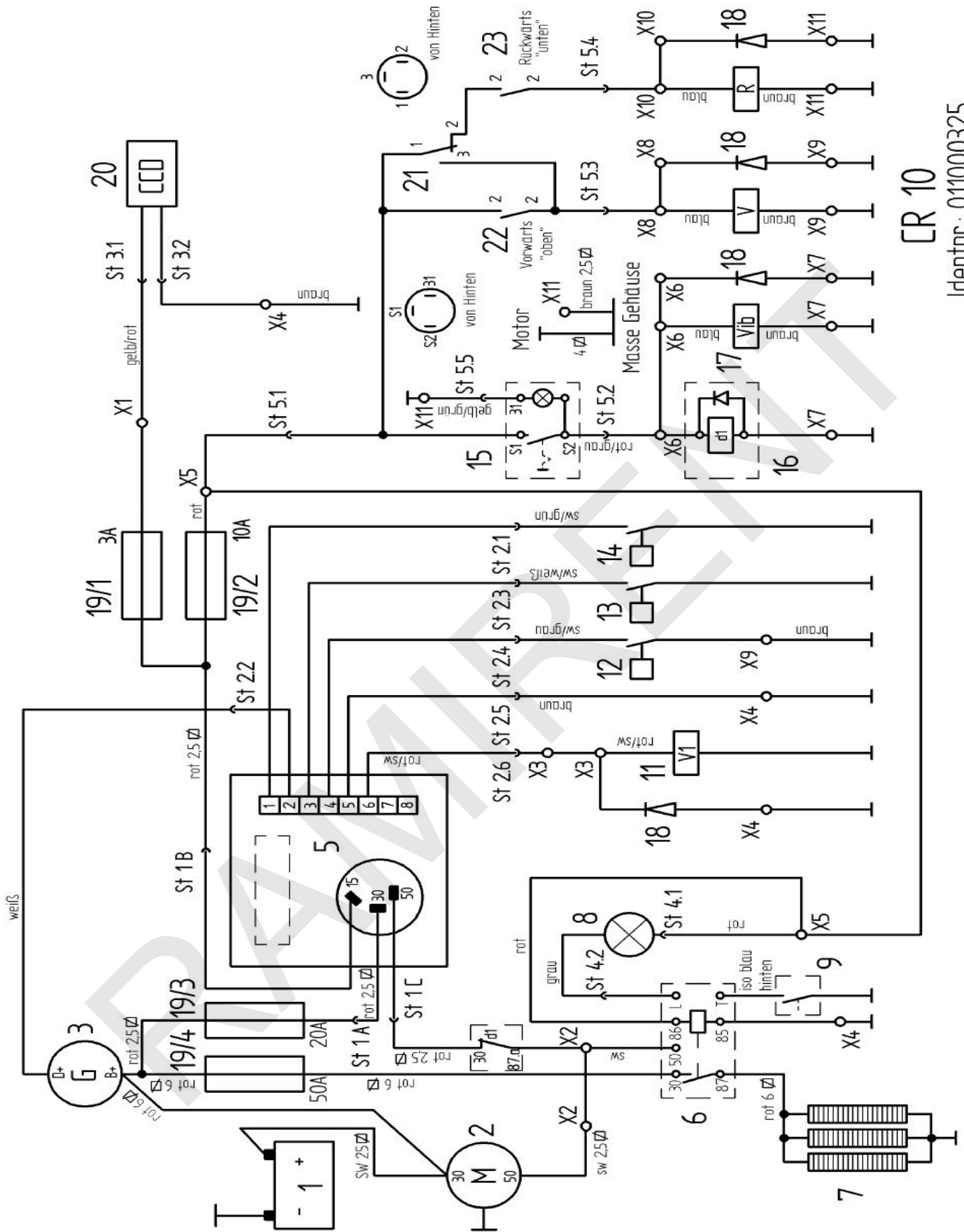


Checking the hydraulic pressure

The pressure in the control line (1) is 25 bars. The working pressure (2) is 200 bars.



Electrical Wiring Diagram



CR 10
Identnr.: 011000325

02.05.2011

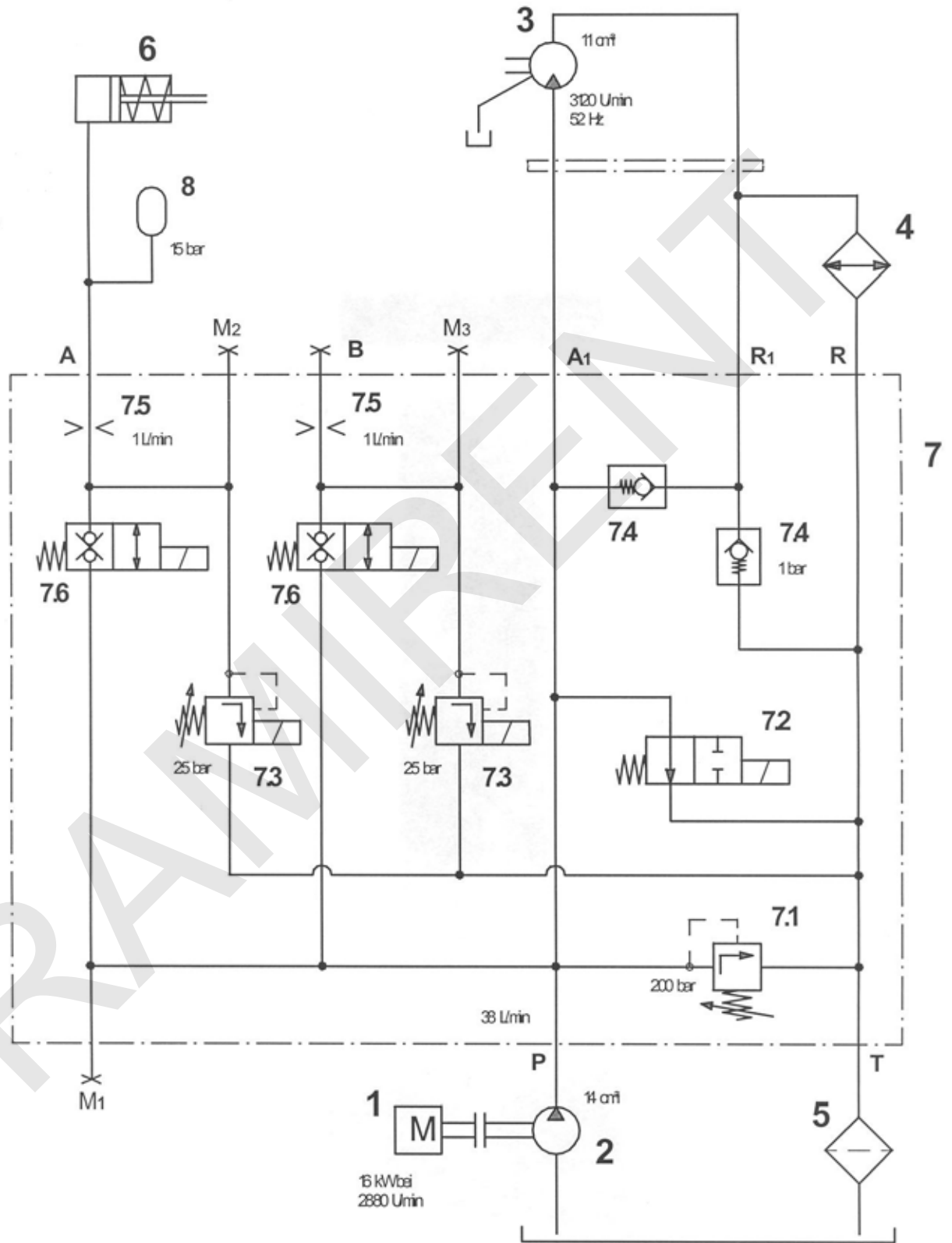
Colour code:
 braun brown
 gelb yellow
 grau gray
 grün green
 iso blau iso blue

rot red
 sw black
 weiß white

CR10, Components, Electrical Wiring Diagram 011000325

1	Battery
2	Starter
3	Alternator
5	Starter Module
6	Glow relay
7	Glow plugs
8	Pilot lamp, preheating
9	Water temperature, preheating
11	Diesel stop valve
12	Switch, air filter
13	Switch, water temperature
14	Switch, oil pressure
15	Switch, vibration
16	Relay, engine start
17	Valve, vibration
18	Quenching diode 1N5404
19)1	Fuse CCD 3A
19)2	Fuse engine/vibration 10A
19)3	Fuses, starting 20A
19)4	Fuse, preheating 50A
20	Compatrol module
21	Switch, safety
22	Switch, direction of travel, forward
23	Switch, direction of travel, reverse
V	Valve, forward
R	Valve, reverse


Hydraulic Circuit Diagram



- | | | | |
|----|------------------|-----|------------------------|
| 1 | Dieselmotor | 7 | Steuerblock |
| 2 | Zahnradpumpe | 7.1 | Druckbegrenzungsventil |
| 3 | Zahnradmotor | 7.2 | 2/2 Wegeventil |
| 4 | Kombikühler | 7.3 | Druckbegrenzungsventil |
| 5 | Rücklauffilter | 7.4 | Rückschlagventil |
| 6 | Hydraulizylinder | 7.5 | Blende |
| M1 | Messanschluss | 7.6 | 2/2 Wegeventil |
| M2 | Messanschluss | 8 | Membranspeicher |
| M3 | Messanschluss | | |

Measures to be taken if stored for long periods (longer than one month)

Entire soil compactor	<ul style="list-style-type: none"> - Clean thoroughly - Check watertight - If there are leaks, correct defect
Fuel tank	<ul style="list-style-type: none"> - Empty fuel and fill with clean fuel up to the lower edge of filler neck
Engine	<ul style="list-style-type: none"> - Check oil level, if necessary fill to upper oil-level mark - Check air filter, clean, replace if necessary - Check fuel filter, change if necessary
All bare parts/accelerator/accelerator control cable/fastening bolts	<ul style="list-style-type: none"> - Oil/grease
Starter battery (if there is one)	<ul style="list-style-type: none"> - Remove battery - Check acid level; if it is too low, fill with distilled water up to max. mark of the battery - Store above freezing in a storage room - Attach permanent charger

 If the machine is to be stored for longer than six months, then contact the Weber service organization to discuss additional measures.

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For problems, questions and further information refer to one of the following addresses:			
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