Operating and Maintenance Manual

CR 9-II CCD 2.0

0116825

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Introduction

This operating and maintenance manual is designed to facilitate familiarization with your soil compactor, and to enable you to maintain the compactor and use it for its intended purpose. When complying with the instructions in the operating and maintenance manual, you help avoid hazards, reduce repair and downtime costs, and increase the reliability and service life of your soil compactor.
This operating and maintenance manual must always be available at the implementation site of the soil compactor.
If necessary, you can obtain additional information from your authorized WEBER MT dealer, or you can obtain information from one of the contact addresses on the last page.

Information concerning the assembled Hatz diesel engine, as well as a spare-parts list for the engine is provided at **www.hatz-diesel.com**

The valid conformity declaration is enclosed with every machine delivery.

Safety guidelines

General

All safety instructions must be read and complied with, as non-compliance will result in

– danger to life and limb of the user,
– impairments to the machine or other property.

In addition to the operating manual, the accident-prevention regulations in the country where the appliance is used must be complied with.

Intended use

The soil compactor should only be used if it is in a technically faultless condition, as intended, in a safety-conscious and hazard-conscious manner, and in compliance with the instructions in the operating manual. Malfunctions that impair safety must be eliminated without delay.
The CR 9 CCD 2.0 compactor is designed exclusively for compacting

– sand,
– gravel,
– asphalt, crushed rock,
– low-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.

Operation

Soil compactors are only permitted to be operated by suitable persons of or above the age of 18. Personnel must be instructed in how to guide the compactor by the owner or by the owner's assigned personnel.
The machine operator must comply with traffic regulations. If instructions that affect safety are given by third parties, 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:

Hearing 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.
Always maintain adequate clearance to the edges of pits and embankments.
Do not drive at ninety degrees relative to the slopes to prevent the compactor from tipping over.
After work has been concluded secure the compactor in accordance with statutory regulations, particularly in the area of public traffic surfaces.

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.

Therefore, never operate the engines in enclosed areas or in areas that are poorly ventilated (tunnels, caves, covered pits, etc.).

Be particularly cautious when operating the engine in the vicinity of people and livestock.

Maintenance and repair work

Only use **original Weber MT 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 carried out on schedule as specified in this operating and maintenance manual. These activities should only be executed by instructed personnel.
For repair, service, 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 assemblies must be secured to and lifted by hoisting machines that can bear their weight, when they are replaced. Ensure that no hazard is caused by raising components or assemblies.
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 the corresponding 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 at least 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 are suitable and have been approved for this purpose (oil separator amongst others).

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

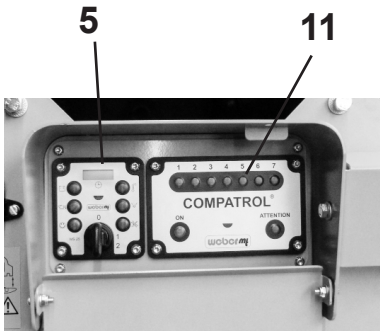
 Environmental protection

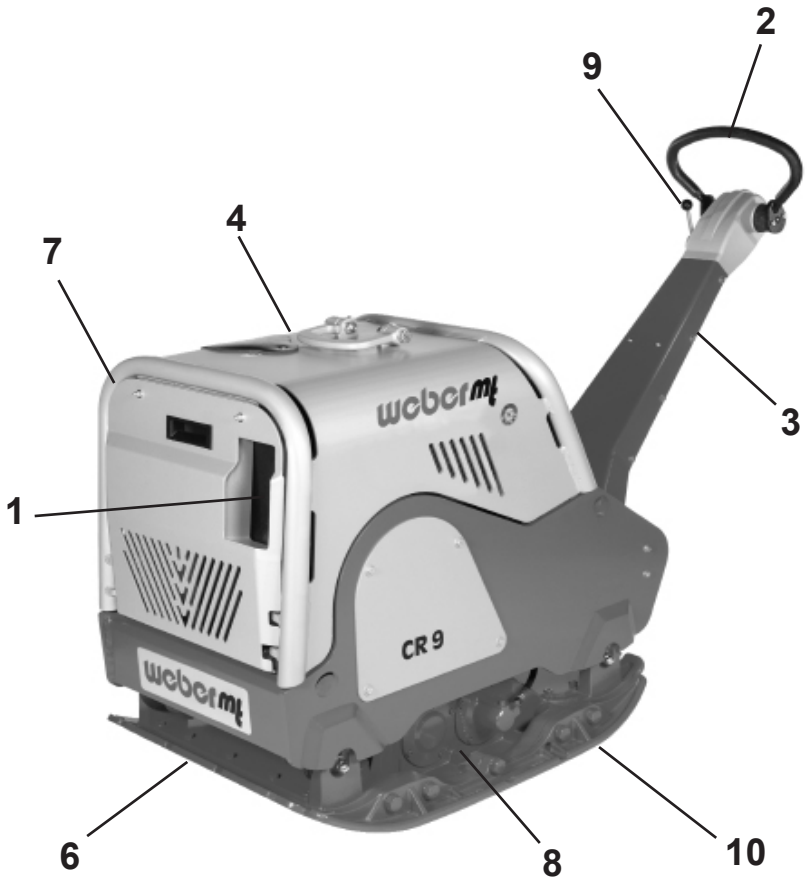
 Hard hat

 Safety shoes

 Protective gloves

Graphic presentation





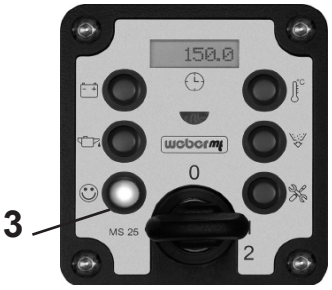
Overall view CR 9-II CCD 2.0

1	Engine (no image)
2	Drive lever
3	Guide bar
4	Lifting ring
5	MDM motor protection
6	Base plate
7	Protective frame
8	Exciter
9	Gas lever
10	Attachment plates
11	COMPATROL®
12	Hearing protection (sticker)

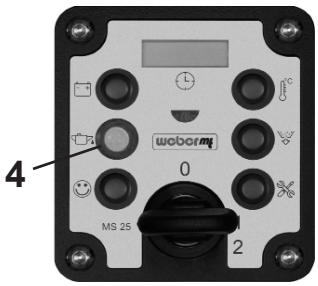
Graphic presentation – MDM motor protection

When the ignition is switched on, the LED (1) will light up 10 hours prior to the next scheduled maintenance.
In addition, the operating hours (2) until the next maintenance will be displayed.
After approx. 3 seconds, the operating hours display changes to the total operating hours.

The LED display (3) lights up, indicating that the engine is in operation.
Operating status: OK!



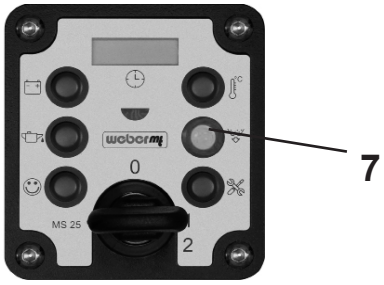
Oil pressure indicator (4) is illuminated. Oil pressure too low.
Engine shuts down immediately.
Error must be corrected prior to restart.



Charge level LED (5) is illuminated.
Charging voltage too low or not available.
Battery is not being charged.
Engine does not switch off.

Temperature LED (6) is illuminated.
Engine temperature too high.
The engine is shut down 3 minutes after the LED comes on.

Ail filter LED (7) is illuminated.
Air filter is fouled up.
The engine is shut down 10 minutes after the LED comes on.



Device description

The CR 9-II CCD 2.0 compactor is used for heavy-duty road-building and landscaping compaction tasks.

Drive
The compactor is propelled by an air-cooled Hatz diesel engine.

Force is transferred to the exciter mechanically via a V-belt.

Operation
Start the Hatz diesel engine via the electrical start device. After starting, vibration is switched on via the centrifugal clutch attached to the engine. Use the gas lever to vary the engine speed between idle and full throttle.
The guide bar is used to steer the soil compactor.

Forward and reverse is variably controlled via the drive lever attached to the guide bar.

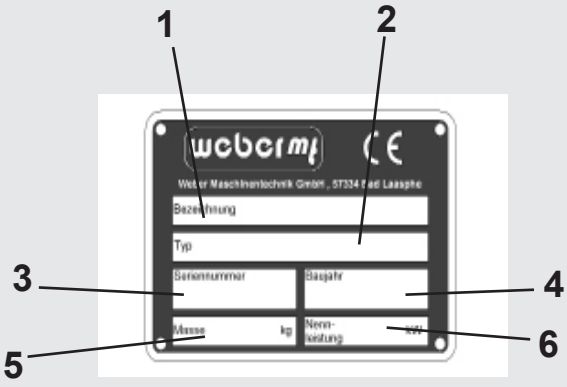
Function of the engine start module MDM
Among other things the MDM engine start module installed on the dashboard is used to monitor the engine function and visually display error messages or the next scheduled maintenance via LEDs or the operating hours counter.

Function of the COMPATROL®
Soil compaction achieved is measured and visually indicated via LEDs on the COMPATROL® electronic instrument cluster attached in the dashboard.

Technical data

	CR 9-II CCD 2.0
Weight	
Operating weight CECE in kg	740
Dimensions	
Overall length (in mm)	1867
Working width – basic device (in mm)	650
Working width – basic device with attachment plates (in mm)	750 / 900
Height with folded guide bar (in mm)	1167
Base plate length (base in mm)	450
Drive	
Engine manufacturer	Hatz
Type	1 D 90
Performance at operating speed in accordance with ISO 3046-1 (kW)	11
Combustion process	4-stroke diesel
Operating speed (1/min)	2900
Operating speed (ground-dependent in m/min)	28
Incline capacity (ground-dependent in %)	35
Vibration	
System	Two-wave vibrator
Drive concept	Mechanical
Frequency (in Hz)	65
Centrifugal force (in kN)	100

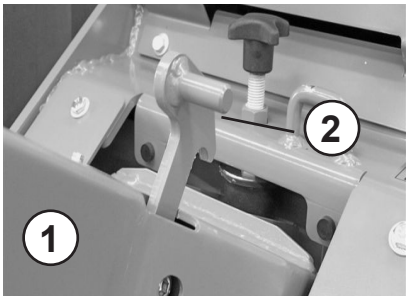
	CR 9-II CCD 2.0
Noise emissions in accordance with 2000/14/EC	
Sound pressure level L_{PA} ascertained in accordance with EN 500, in dB (A)	99
Sound power level L_{WA} ascertained in accordance with EN ISO 3744 and EN 500, in dB (A)	109
Vibration values	
Root-mean-square acceleration value for hand-arm vibration ascertained in accordance with EN 500 in m/s²	2.4
The owner must comply with Directive 2006/42/EC.	



1 Designation	**2 TYPE**
.....	.....
3 Serial number	**4 Year of construction**
.....	.....
5 Mass	**6 Rated power kW**
.....	.....

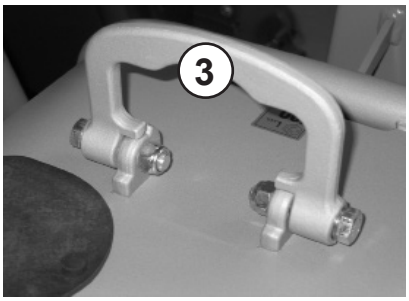
Activities prior to starting work

Transporting



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

Arrest the guide bar (1) with the spring bolt (2).

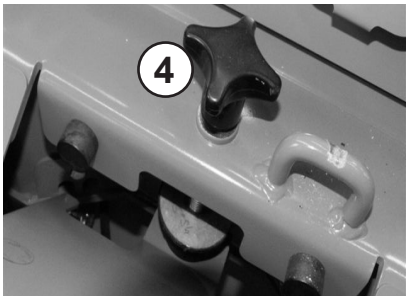


Fit the crane hook into the lifting ring (3) and lift the machine onto the desired means of transport.

Only use lifting machines with a minimum bearing capacity of 1000 kg.

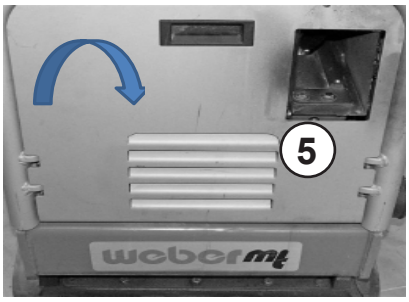
Do not step under suspended loads.

Adjusting the guide bar

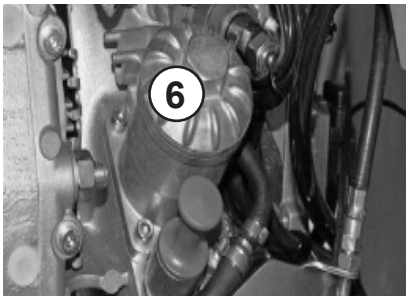


Adjust the desired work height of the guide bar with the set screw (4).

Checking the engine oil level

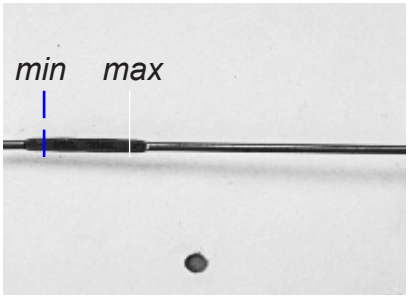


Open the maintenance cover (5) (fold forward).



Pull the oil dip stick (6) out of the crankcase.

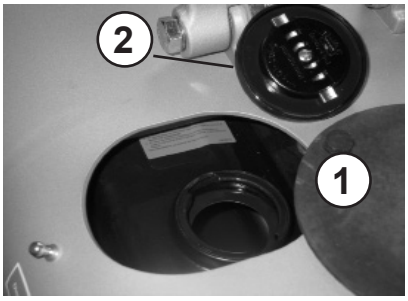
The correct oil level is between the min. and max. marks.



When reaching the min. mark engine operation must be stopped immediately, and the oil level must be topped up to the max. mark. Risk of engine damage if the oil level drops below the minimum oil level in unfavorable operating conditions.

Checking the fuel level

Open the cover (1), remove the gas cap (2), check the fill level and, if necessary, top up with clean fuel to the lower edge of the filler neck in accordance with the specification.



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

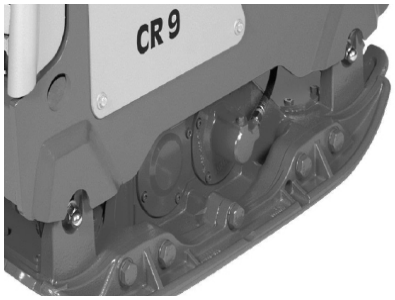
Fire, naked light, and smoking is forbidden!

Checking the hydraulic oil level

Check the hydraulic oil level when the machine is at operating temperature. The guide bar must be in the transport position – i.e. folded up. The correct oil level is reached when the oil is in the middle of the view glass.

Mounting the attachment plates

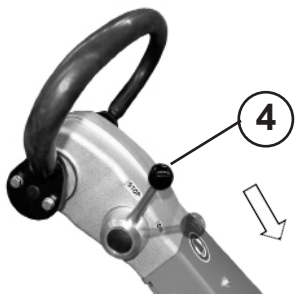
Tighten the screws of the attachment plates with a torque of 425 Nm.



Starting

Open the vandalism flap (3).

Bring the gas lever (4) into full-throttle position.



Insert the ignition key (1) and turn to position 1.

10 hours prior to the next scheduled maintenance the LED (2) lights up permanently.

The operating hours until the next maintenance will be displayed.

Turn the ignition key (1) to position 2.

Release the ignition key as soon as the engine starts.

The ignition key must return to pos. 1 and remain in this position during operation. The charge level (3), temperature (4), air filter (5) and oil pressure indicator (6) must go out immediately after starting.

The LED indicator (7) is continuously illuminated, indicating that the engine is in operation.

The operating hours counter (8) will keep counting the operating hours as long as the ignition is switched on.

If the ignition key does not spring back to pos. 1 – turn off the machine immediately – danger of starter damage due to the starter also running during operation.

Start for a maximum of 20 seconds without interruption. If the engine does not start, repeat start procedure after one minute. If the engine does not start after two start procedures, look for the cause in the fault table.

Once the ignition is switched on, the COMPATROL® compaction system will perform a function test. All LEDs (9) light up.

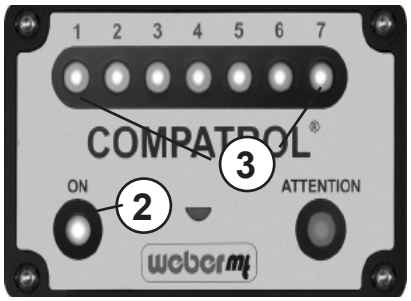
Compacting

Bring the gas lever (10) into full-throttle position.

Control the direction of travel with the drive lever (1).

Only run machine within reach of the guide bar.

The green LED (2) will be illuminated as soon as the operating frequency has been reached, indicating that the COMPATROL® compaction measurement system is ready for operation.



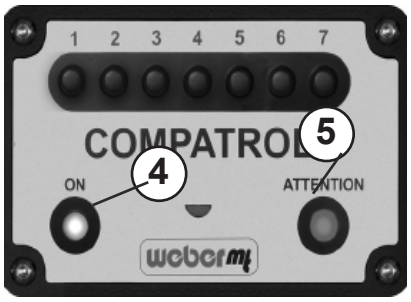
During the compaction work, compaction is continuously measured and displayed visually via the yellow LEDs 1 – 7 (3). Maximum possible compaction is reached as soon as there is no noticeable increase in the illuminated LEDs.

If all LEDs (2 + 3) are illuminated then compaction must be stopped immediately.
Maximum compaction is achieved.

It is possible to loosen the material that will be compacted.

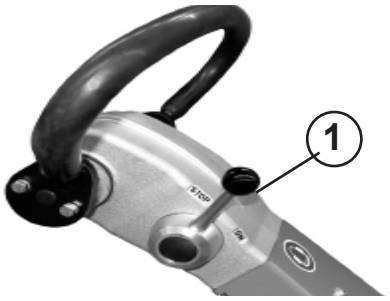
If the substrate is too hard, the possibility of machine damage cannot be excluded.

If the red and green LEDs (4 + 5) light up, the material cannot be compacted. The substrate should be replaced with material that can be compacted.



Shutting down

Push back the gas lever (1) all the way.



Turn the ignition key (2) from position “1” back to position “0”.
Pull out the ignition key.

Close the vandalism flap (3) and lock with a padlock.

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

Parked devices that represent an obstacle must be safeguarded via conspicuous measures.

Maintenance overview

Maintenance interval	Maintenance point	Maintenance activity
After the first 25 operating hours	Engine	– Change the engine oil – Check valve play; adjust if necessary – Re-tighten all accessible threaded connections
Every 8 operating hours / daily	Air filter	– Clean air filter insert, check for damage, replace if necessary
Every 150 operating hours / every 6 months	Engine Battery Gearshift	– Change the engine oil – Change the fuel filter – Change the oil filter – Check acid level, top up with distilled water if necessary – Check the oil level
Every 150 operating hours / every year	Gearshift Exciter	– Change oil – Change oil
Every 250 operating hours	Engine	– Check valve play; adjust if necessary

The regulations of the engine manufacturer must be complied with in addition to the above maintenance overview!

Tasks must be executed using proper tools, and the safety instructions of this operating and maintenance manual must be complied with for all tasks.

All maintenance work: select collection vessels 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, greases, cloths soaked in oil, and replaced parts with oil on them in an environmentally friendly manner.

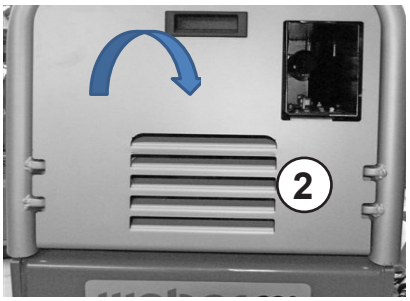
If lubricating oils and fuel come into contact with skin, they can cause skin cancer. Upon contact with the skin, clean affected skin with suitable cleaning agent without delay.

If accessible during maintenance, check the condition and stability of all screws.

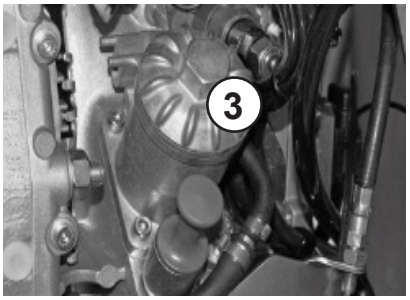
Maintenance work

Changing the engine oil

Remove the left side cover (1) as viewed from the guide bar.
Open the maintenance cover (2) (fold forward).

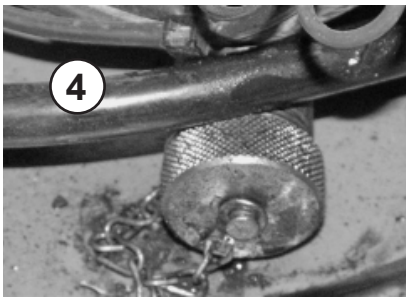


Pull out oil dipstick (3).

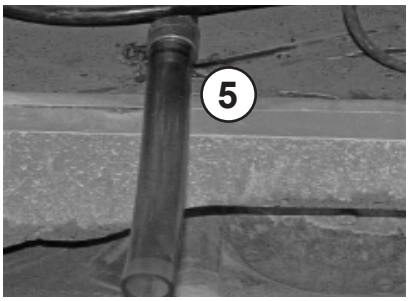


⚠ Only drain engine oil when at operating temperature.

⚠ When working in the area of the engine compartment there is danger of being burned!



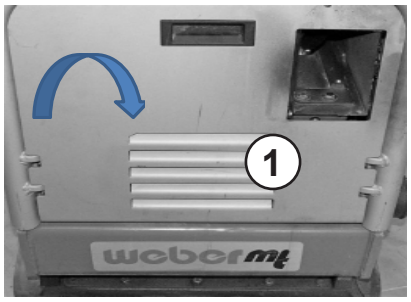
Screw the oil drain pipe (5) onto the engine drain valve (4) and drain the oil.
After emptying completely, unscrew the oil drain pipe from the drain valve; screw the cover cap onto the drain valve.
Top up oil as specified.



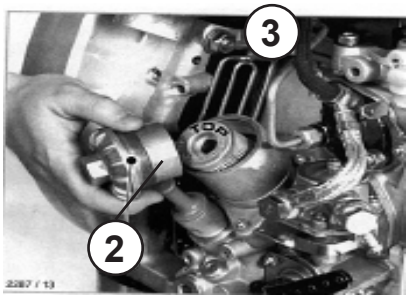
⚠ Risk of scalding due to hot oil.

Changing the engine oil filter

Open the maintenance cover (1) (fold forward).



Drain engine oil completely as described above.
Remove the cover cap (2).
Replace oil filter (3) with a new element.
After replacing the filter element, seal the filter enclosure with the cover cap (2).



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.

When working in the area of the engine compartment there is danger of being burned!

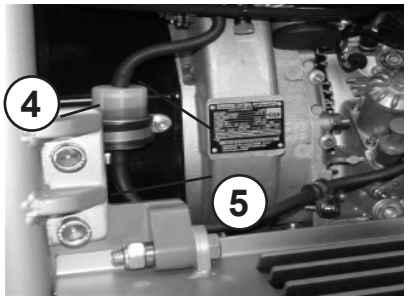
Risk of scalding due to hot oil.

Select collection vessels large enough to prevent oil from spilling onto the ground. Dispose of waste oil in an environmentally friendly manner (regulation on waste oils).

Wipe up / off oil slick and oil residue and dispose of fuel-soaked cleaning cloths in an environmentally responsible manner.

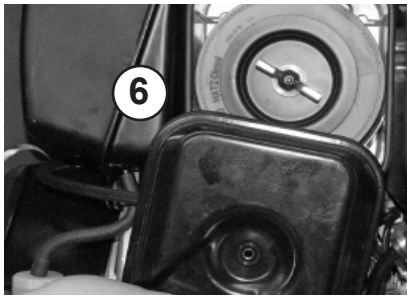
Changing the fuel filter

Pull the fuel line (5) off the fuel filter (4) on both sides.
Replace the filter with a new filter element.

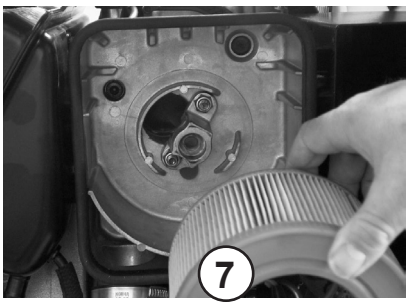


Cleaning / changing air filter cartridge

Unscrew the air filter cover (6).



Remove the air filter insert (7) from the air filter enclosure.
Clean air filter insert as specified by the engine manufacturer if there is damage or if it is extremely dirty.



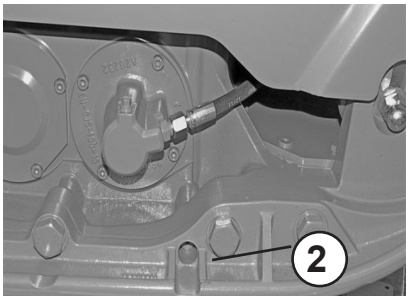
Checking the battery / acid level

Battery acid is extremely caustic. Protect hands and eyes with suitable protective goggles and gloves.

Remove the cover cap (1).
Check acid level. If insufficient, fill to max. mark with distilled water.

Changing the oil in the exciter

Remove the oil drain screw (2) and drain oil.



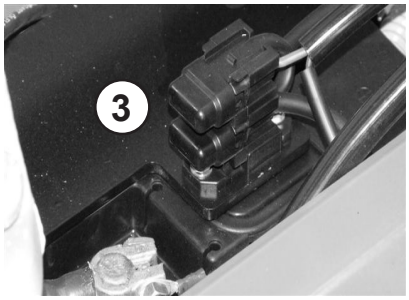
Select collection vessels large enough to prevent oil from spilling onto the ground. Dispose of waste oil in an environmentally friendly manner (regulation on waste oils).

Wipe up / off oil slick and oil residue and dispose of fuel-soaked cleaning cloths in an environmentally responsible manner.

To fill – tilt the machine slightly and fill with fresh oil through the drain opening in accordance with the fill level table.

Changing the fuse

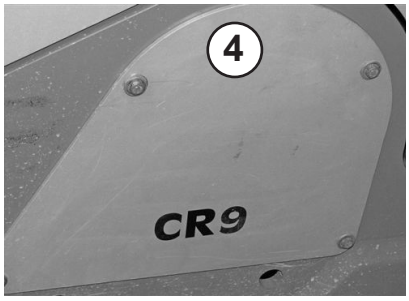
Remove the protective cap (3) of the fuse holder.
Insert new fuses with rated values of 20 A / 10 A.



The fuse is located on the battery, behind the dashboard carrier.

Checking the V-belt

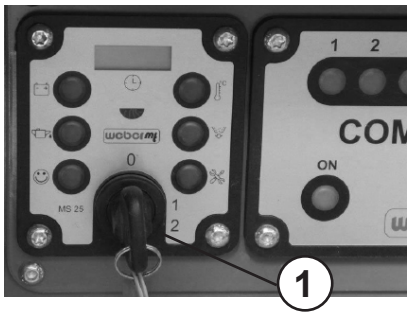
Remove the right side cover (4) as viewed from the guide bar.



Check the V-belt (5) for cracks, damaged flanks, and wear.
If there is excessive wear – replace the V-belt as specified in the repair manual.

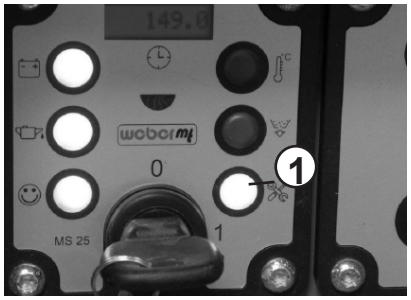
Resetting the maintenance interval in MS 15/MS 25 engine starting modules

Insert the ignition key (1) into the ignition lock.



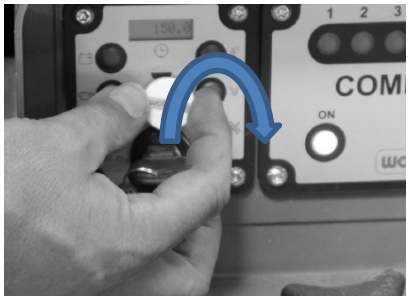
Turn the ignition key to position “1”.

Once the maintenance interval (150 operating hours) has been reached, the maintenance control indicator (1) on the MS 25 engine starting module will light up.



The indicator on the MS 15 engine starting module will merely show the operating hours that will elapse until the next maintenance.

Proceed as follows to reset the maintenance interval:
Turn the ignition key to pos. “1”.
For 5 seconds, the display panel will show the time until the next maintenance. During this time, place the reset magnet onto the display and turn in clockwise direction.
Once the reset has been completed successfully, the operating hours until the next maintenance will be displayed.



Operating fluids and fill levels

Assembly	Operating material Summer Winter Quality	Quantity CR 9-II CCD 2.0
Engine Engine oil	SAE 10 W 40 (– 10 ~ + 50 °C) API – CD CE-CF-CG or SHPD or CCMC – D4 – D5 – PD2	1.9 l
Fuel tank	**Diesel** Diesel in accordance with DIN 51601-DK or BS2869-A1/A2 or STM D975-1D/2D	10.0 l
Exciter	Fully-synthetic transmission fluid API GL-5/GL-4 First filling Fuchs Titan SINTOPOID LS SAE 75W-90	1.25 l
Gearshift	Transmission fluid DEXRON II-D-ATF First filling Fuchs Titan ATF 3000 or equivalent	As necessary
Battery	Distilled water	As necessary

Troubleshooting

Fault	Possible cause	Remedy
Soil compactor does not start	Operating error	Execute start process as prescribed
	Lack of fuel	Check the fuel level
	Fuel filter fouled	Change the fuel filter
	Mech. oil pressure monitor enabled	See Hatz operating manual, section 4.1.4.
	Air filter fouled	Clean / change air filter cartridge
	Battery defective / discharged; fuse defective	Remove / charge battery; replace fuse
No vibration / no forward motion or insufficient forward motion	Vibrator V-belt defective	Change vibrator V-belt
Unit switches with a delay	Air trapped in the hydraulic transmission system	Bleed the transmission system

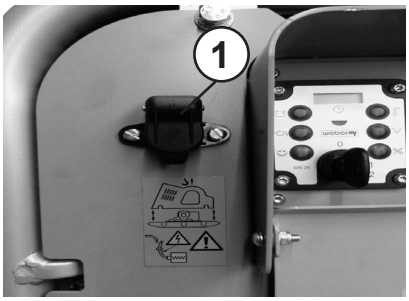
Actions to be taken before long-term storage (longer than 1 month)

Entire soil compactor	– Clean thoroughly – Check for leaks – If there are leaks, correct defects
Fuel tank	– Empty fuel and fill with clean fuel up to the lower edge of filler neck
Engine	– 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 / gas lever / accelerator control cables / fastening bolts	– Oil / grease
Starter battery (if there is one)	– Remove battery – Check acid level; if it is too low, top up with distilled water up to max. mark of the battery – Store above freezing in a storage room – Connect to a permanent charger

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

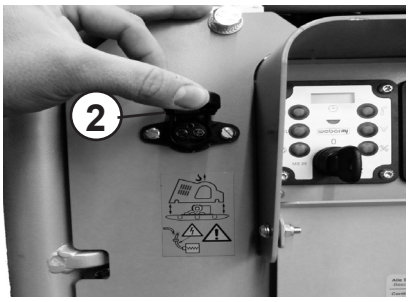
Charging the starter battery in the machine with the permanent charger

Open protective cover (1) of the charging socket.



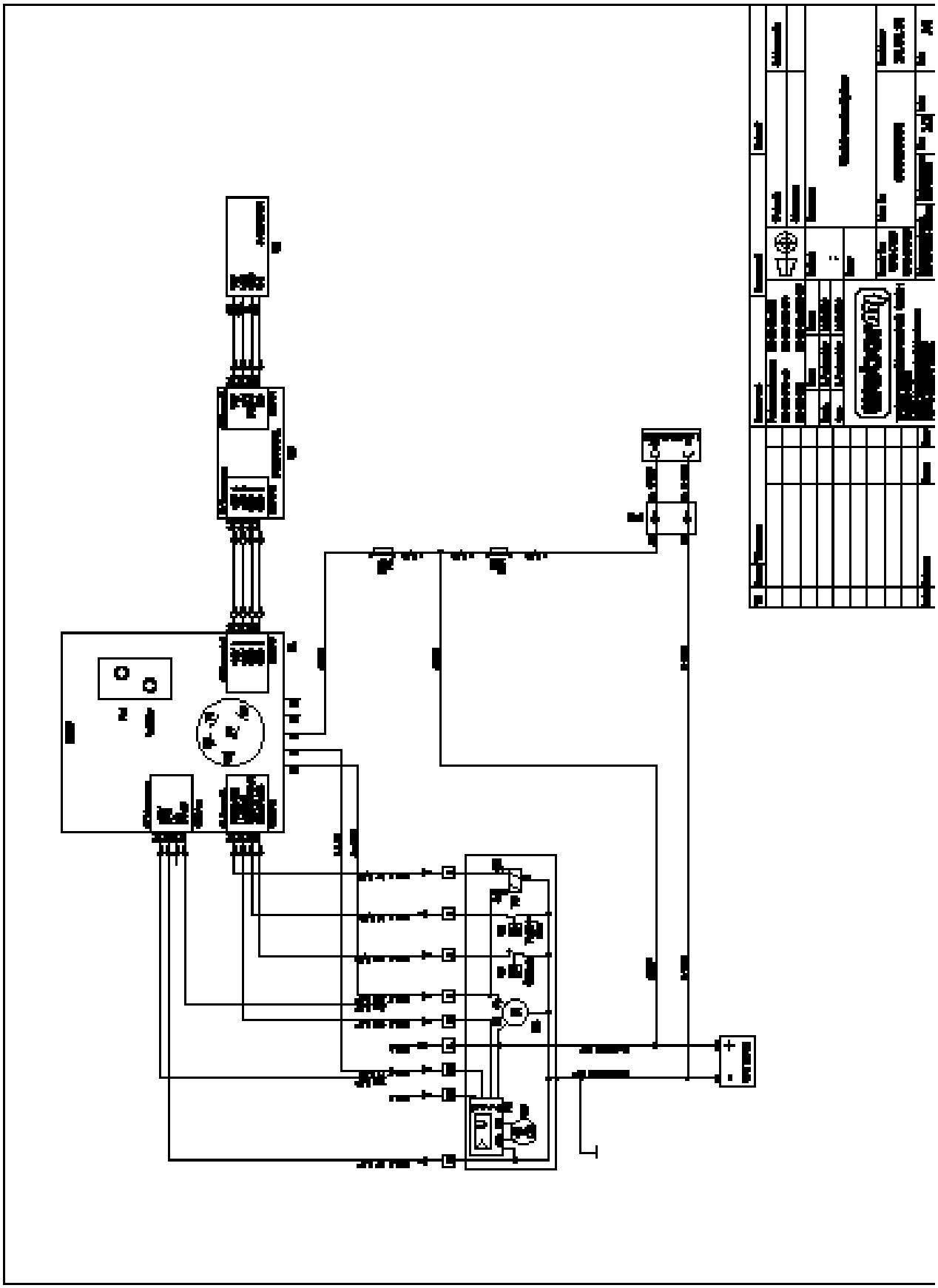
Insert plug (2) into the charging socket.

Connect the battery charger to the mains.



Comply with the device manufacturer's operating manual for use of the battery charger. The operating manual of the charger is enclosed in the packaging of the battery charger. The battery charger is available under order no. 021000603.

Circuit diagram



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Original instructions