JCB VIBROMAX

TÜV CERT
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VM 132 – 200 D / PD

Vibratory Single Drum Roller

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Instruction Manual

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Operators Manual

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5.0 BASIC SAFETY NOTES

WARNING NOTES AND SYMBOLS

In the instruction manual, the following designations or signs are used for especially important information:

Note: *Special information relating to economical use of the machine.*

Caution: *Special information or orders or bans for preventing damage.*

Danger: *Information or orders or bans for preventing personal injury or serious damage to property.*

BASICS; USE AS INTENDED

1. The machine is built according the state of the art and in accordance with the recognized safety rules. Nevertheless, its use can cause danger to life and limb of the user or third parties or damage to the machine and other material assets.

2. Use the machine only when it is in technically perfect condition. Use it in the manner for which it was intended. Be aware of safety measures and possible hazards. Always observe the instruction manual. In particular, immediately eliminate faults which could impair safety (or have them eliminated).

3. The machine is intended only for compacting beds of earthy building materials when running over the subgrade in the forward or reverse direction with or without vibration.

   These building materials include soil types ranging from stones to silty sand and having water contents ranging from 40% to 110% of the optimum water content according to the standard Proctor test as given in DIN 18127.

   Fine–grained soils or soils having higher water contents require a qualified trial compaction.

   The machine is intended to be used only on a subgrade gradient up to the permissible gradient.

   Definition of grade ability

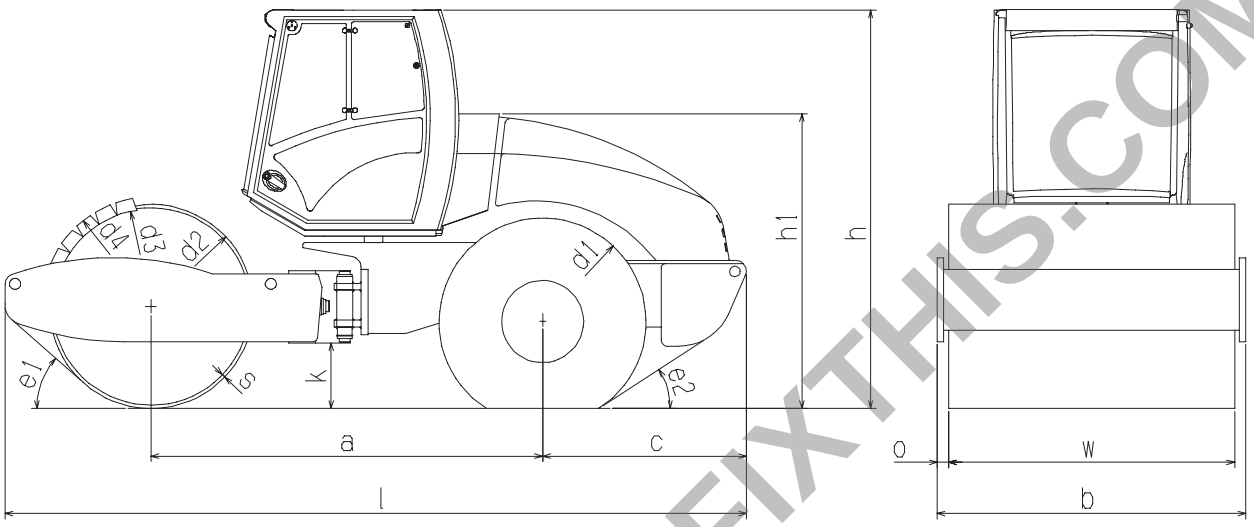
   The grade ability of a roller is the gradient angle of a firm, hard and level roadway on which a roller of the basic–equipment version with its longitudinal axis pointing in the incline direction can start in the forward and reverse directions by means of its own propulsion and then travel further for a short period.

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6.0 TECHNICAL DATA

Machine Dimensions



	VM 132 D/PD	VM 146 D/PD	VM 166 D/PD	VM 200 D/PD
a	2996 mm	2996 mm	2996 mm	3076 mm
b	2270 mm	2270 mm	2270 mm	2270 mm
c	1651 mm	1651 mm	1651 mm	1660 mm
d_1	1520 mm	1520 mm	1520 mm	1520 mm
d_2	1500 mm	1500 mm	1500 mm	1600 mm
d_3	1400 mm	1400 mm	1400 mm	1400 mm
d_4	1600 mm	1600 mm	1600 mm	1600 mm
h	2935 mm	2935 mm	2935 mm	2985 mm
h_1	2160 mm	2160 mm	2160 mm	2245 mm
k	447 mm	447 mm	447 mm	497 mm
l	5722 mm	5722 mm	5847 mm	5996 mm
o	85 mm	85 mm	85 mm	85 mm
s	25 mm	35 mm	35 mm	40 mm
w	2100 mm	2100 mm	2100 mm	2100 mm
e_1	41º	41º	36º	35º
e_2	29º	29º	29º	29º

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VM 132 D/PD

Filling quantities

Fluids and lubricants . . . . . See page 60

Electrical system

Type of construction . . . . . 12 V–system with negative mass
Battery . . . . . (1) 12 V; 143 Ah

Engine

Manufacturer and model . . . . . CUMMINS B 5.9 – 150 C
Type . . . . . Six–cylinder, water–cooled, four–storke,
. . . . . turbo–charged diesel engine with charge air cooler
Injection sequence 1–5–3–6–2–4
Bore x stroke . . . . . 102 x 120 mm
Capacity . . . . . 5880 cm^3
Diesel fuel . . . . . See page 58
Power B DIN 6271 . . . . . 112 kW (150HP) at 2200 rpm

Engine speeds
Operating speed . . . . . 2200 rpm
Idling speed . . . . . 675 – 725 rpm

Weights

	VM132D	VM132PD
Operating axle load, front	7300	7700 kg
Operating axle load, rear (with tyre ballast)	5700	5700 kg
Operating weight, max.	13000	13400 kg

Speed

	VM132D	VM132PD
1 st gear, forward and reverse	0–7,7	0–7,7 km/h
2 nd gear, forward and reverse	0–12,7	0–12,7 km/h

Tyre pressure

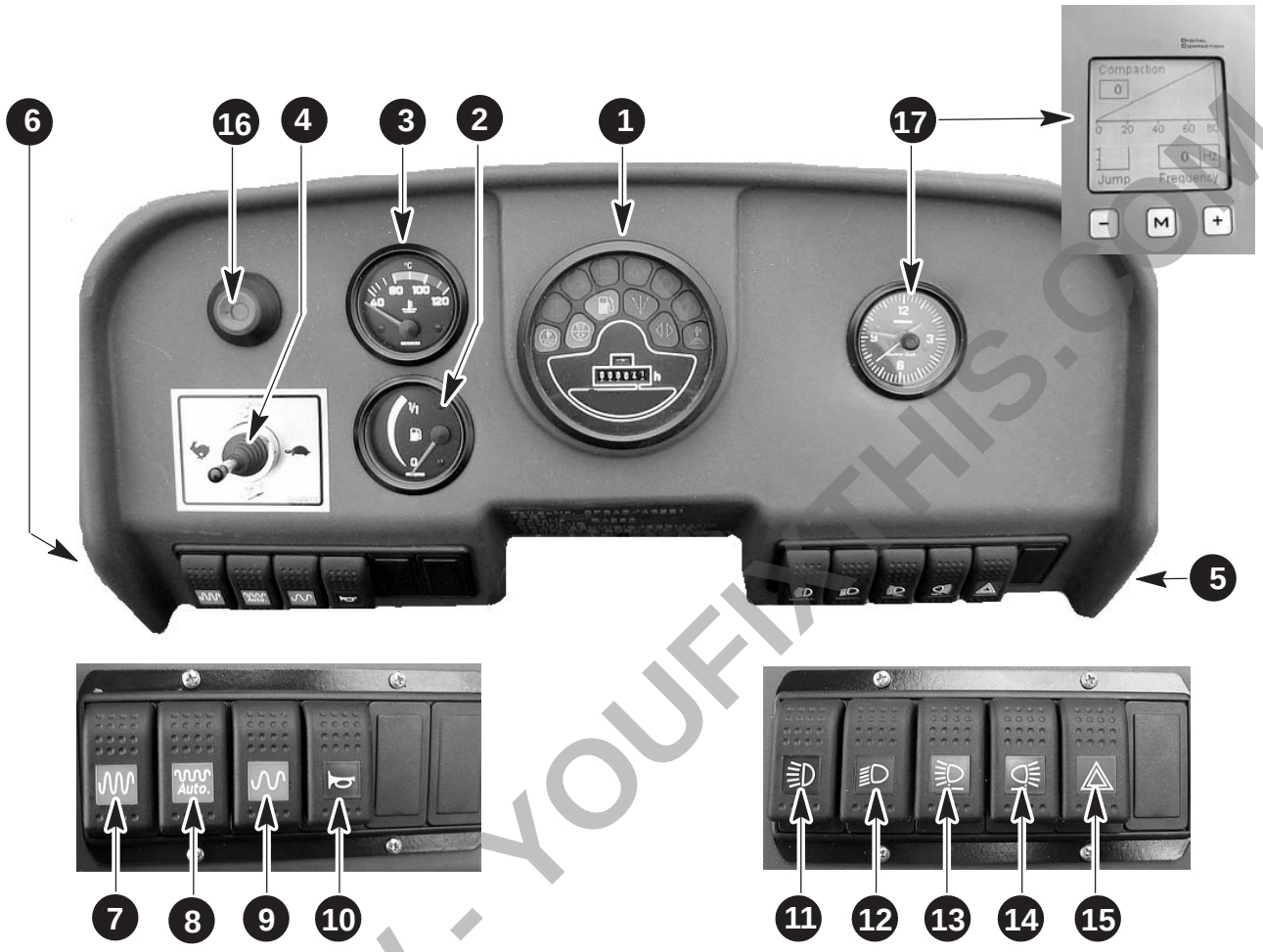
	VM132D	VM132PD
Tyre size	23.1 – 26/8 PR AWT	23.1 – 26/8 DT II
Tyre layers	8	8
Tyre profile	cross–country tread PR–AWT	cleat tread profile PR–TSG
Tyre pressure	0,9 to 1,4 bar	0,9 to 1,4 bar

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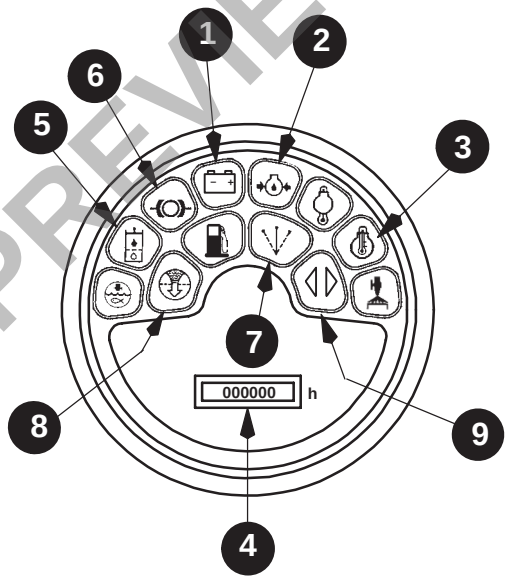
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9.0 OPERATOR'S STAND

Overview



1. Combination indicator



– 1. Charging current indicator light

This light comes on when the key is in the ON position or there is a fault in the charging current circuit. If this light comes on while the engine is running, stop the engine and repair the fault.

– 2. Engine oil pressure warning light

This light comes on when the key is in the ON position or when the engine oil pressure is too low. If this light comes on while the engine is running, stop the engine and repair the fault.

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14.0 MACHINE OPERATION

General instructions

General practical advice concerning this machine is given below. Ask a VIBROMAXdealer if you require additional information regarding specific problems or special applications.



Using vibration on hard, compaction–averse surface can cause heavy dama–ges and is not permitted!

Know the limits of the machine. Keep the machine under control at all times. Do not perform too many operations at once.

Always pay attention. Keep the work area clear of persons who are not entitled to be in the vicinity of the machine. Know the positions of authorized persons in the work area.

If the operator looses control of a machine, injury or death can result. The operator must decide if the weather and the soil conditions permit safe handling on a slope, a gradient or uneven ground. On a slope, a gradient or uneven ground, the machine may be driven only at a low speed.

If the machine starts to move without an operator, injury or death can result. Before leaving the operator's platform, actuate the parking brake and stop the engine. See PARKING THE MACHINE in the instruction manual.

When compacting a new road bed or a new road surface, drive on the filling material or the bituminous layer with the full width of the machine. The machine can tip over if it is not resting on the surface with its full width.

Operation on a gradient can be dangerous. Rain, snow, loose crushed rock, soft ground etc. change the soil conditions. The operator must judge whether the machine can be driven on a gradient or ramp. Thus, before driving on a gradient or ramp, inspect the work area and then drive at low speed, as the machine can otherwise go out of control and tip over.

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16.0 TOWING THE MACHINE

If the machine is damaged, the machine operator must decide whether it can be moved without being damaged further.

Note: *If possible, repair the machine at the building site.*

If the machine has to be towed, read the following instructions and proceed with caution.

Tow the machine with a suitable towing vehicle. See the instruction manual for the towing vehicle.

Note: *Ensure that the towing vehicle has sufficient tractive force and braking power to move and brake the damaged machine.*

Note: *Do not tow the machine faster than 3 km/h or further than 1 km.*

Note: *For distances greater than 1 km, transport the machine on a suitable vehicle. See PREPARING THE MACHINE FOR TRANSPORT.*

1. Attach a tow–bar to the front or rear of the machine.

Note: *Rollers may be towed only with adequately dimensioned tow–bars attached at the points provided for this purpose by the manufacturer.*

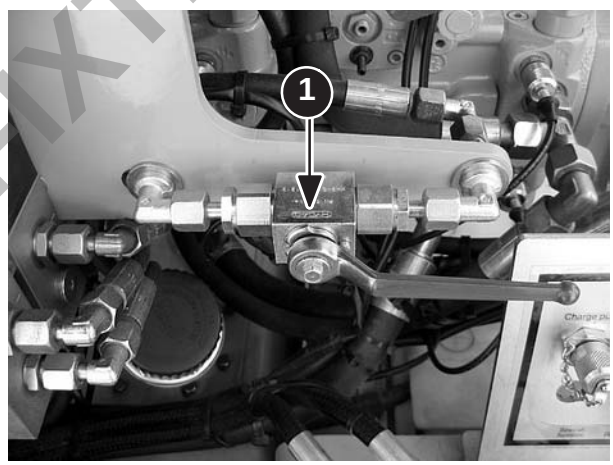
This machine may be towed only with a tow–bar.

2. Ensure that the transport mounting is in the DRIVE position.

3. Turn in the bypass screw of the multi–ple function valve as far as possible. (see page 90)



DRIVE position



Towing valve in DRIVE POSITION.

4. Turn the towing valve (1) into TOWING POSITION (2).

   For this loosen the screw of the towing valve lever (s=8) detach the lever to–gether with the washer from square end and turn the washer 180^{o}. After that set the washer and lever again on the square end and tighten the screw firmly.

5. Unbrake the machine by actnating the handpump producing hydraulic pressure in the brake system.

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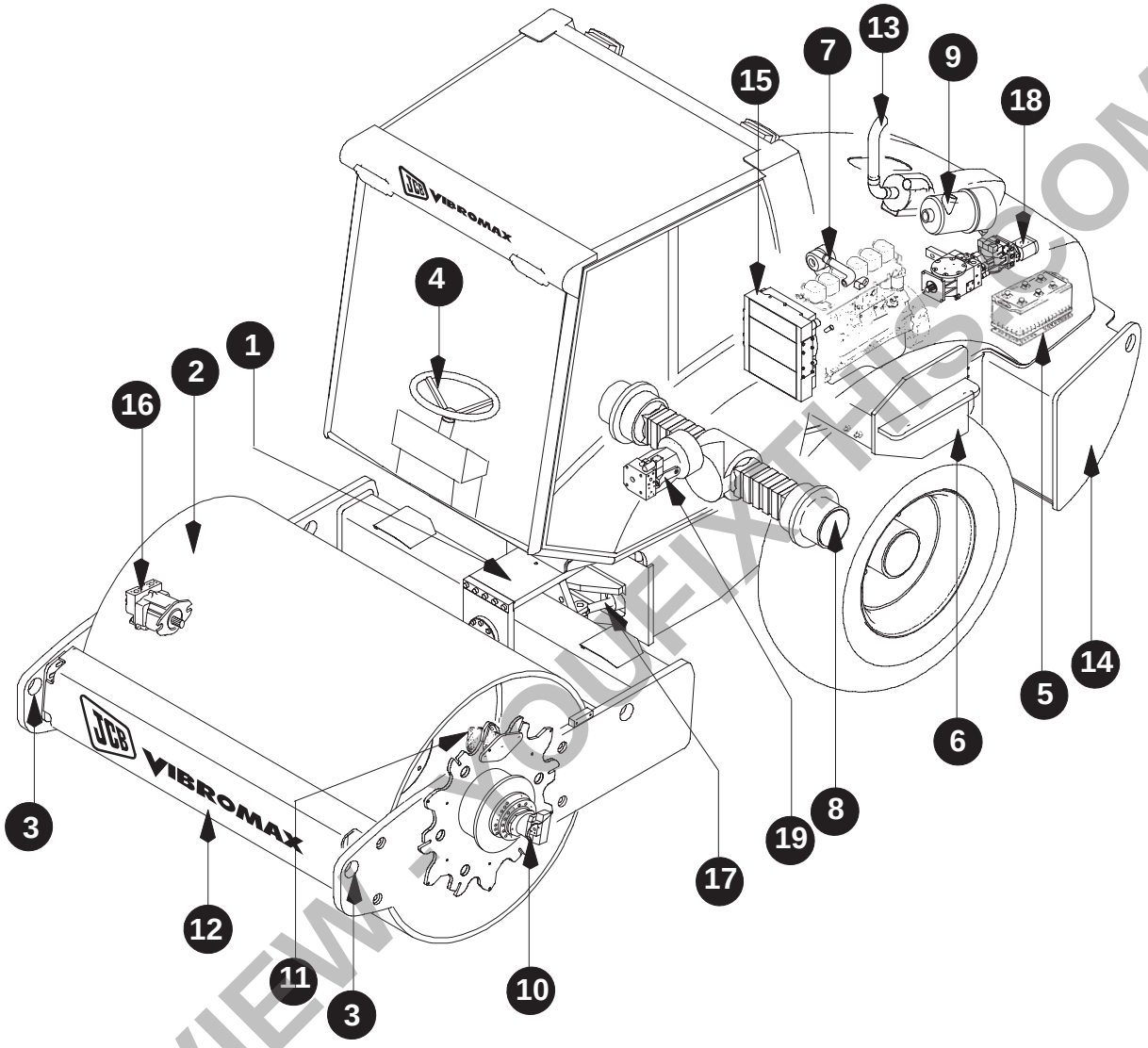
VM 200 D/PD

Machine part	Capacity	Specification
Fuel tank	320 l	Diesel fuel . . . . . see pages 58–59
Crank case	14,5 l	Engine oil API–classification: . . . . . CI–4; CI – 4/SK . . . . . CH–4; CH–4/SJ International classifications: . . . . . ACEA E–5 Global . . . . . DHD–1 Multigrade engine oil: . . . . . SAE 15 W–40
Hydraulic system Reservoir	80 l 55 l	HLP 46 DIN 51524 Tropics . . . . . HLP 68 DIN 51524
Rear axle Drum drive gear box	15 l 3,6 l	SAE 90 API GL–5 LS Oil according CLP 220 DIN 51517
Vibration system	12 l	Oil according CLP 150 DIN 51517
Battery	As required	Distilled water
Lubricating nipple	As required	KP3K DIN 51502
Coolant	19 l	50% ethylene glycol and 50% water
Tyres		see page 25 up to 26

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4.0 IDENTIFYING THE MACHINE PARTS



1. Articulation joint
2. Smooth drum
3. Lifting and towing eyes
4. Operator's stand
5. Battery
6. Hydraulic oil tank
7. Diesel engine
8. Axle
9. Air filter
10. Drum drive gear box (Drum)
11. Buffer pad
12. Scraper
13. Exhaust
14. Fuel tank
15. Cooler
16. Vibration motor
17. Steering cylinder
18. Hydropump block
19. Hydraulic motor (Axle)

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21.0 OPERATOR'S STAND

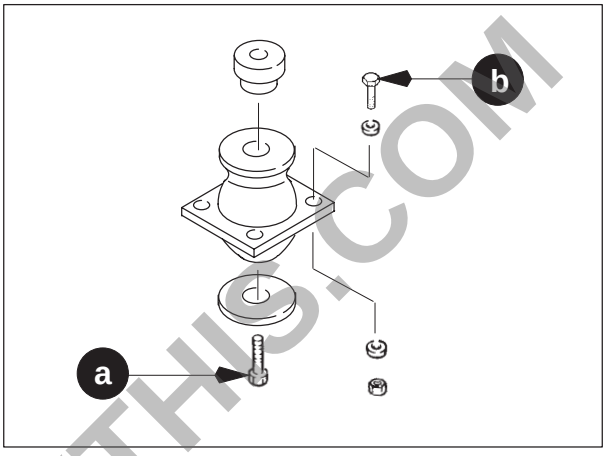
Maintenance

Check the rubber pads on the operator's stand for tears and damage every 250 hours of operation.
If necessary, consult a VIBROMAX dealer regarding replacement of the rubber pads.



Tightening torques

The operator's stand is held on the frame by means of four rubber buffer.



a) Tightening torque 210 Nm
b) Tightening torque 49 Nm

ROLL–OVER PROTECTION STRUCTURE

Before operating the machine, ensure that the ROPS is fastened properly and is not damaged in any way.

Maintenance

Carry out the following work every 1000 hours:

1. Check the tightness of the fastening screws and, if necessary, tighten the screws.

2. Check the ROPS for damage.

Damage

If the ROPS has been damaged by the machine rolling over, by striking an obstruction during transport etc., the damaged parts must be replaced before the machine is operated again.

After such damage has occurred, check the following:

– Check the ROPS for compression, bend ing, notches, cracks etc.

– Inspect the fastening screws of the ROPS and check their tightening torques.

– Inspect the operator's seat and the seat belt and their mounting parts. Check the tightening torques.

Before operating the machine again, replace all damaged parts (see the spare parts catalogue) or see a VIBROMAX dealer regarding the correct parts.

Do not attempt to weld or straighten the ROPS.

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Jump start

First make sure, that the vehicle (and it's battery), that gives you jump start, has a voltage of 12 V.

Carry out the following steps:

1. Connect the positive battery poles.
2. Connect the negative battery poles.
3. Start the vehicle, that gives jump start.
4. Start the vehicle, that receives jump start.
5. Set down the vehicle, that gives jump start.
6. Disconnect the negative poles.
7. Disconnect the positive poles.

STARTING THE ENGINE

1. Ensure that the transport mounting is in the driving position.
2. Ensure that there are no blocks under the machine.
3. Ensure that the drive lever is in the ZERO position.
4. Ensure that the vibration switch is in the OFF position.
5. Push brake butten (the parking break must be engaged).
6. Turn the ignition key to the ON position.
7. Check the following indicator lights on the combinations indicator and replace them if they do not shine:
   - Charging current indicator light
   - Engine oil pressure warning light
   - Parking brake light
   - ZERO position light
8. If engine is not at operating temperature set throttle control to full speed!



Note: *If the air temperature is less than 4°C, use cold–start spray agent as a starting aid.*

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