

DYNAPAC

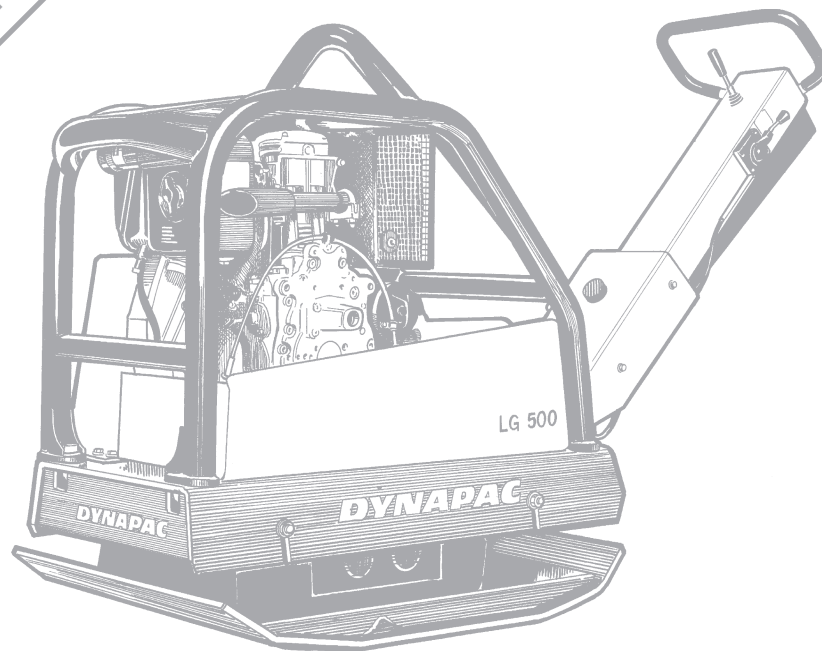
Forward and Reversing Vibrating Plate LG 500

Operation & Maintenance ILG500EN2, March 2006

**Diesel Engine:
Hatz 1D81Z**

**These instructions apply from:
LG 500 PIN (S/N) *35000050***

KEEP THIS MANUAL
AVAILABLE FOR
FUTURE USE



The LG 500 offer a heavy-duty reversible plate with high compaction performance. A powerful Diesel engine, make the LG 500 an economical attractive alternative to heavy vibratory rollers. The wide base plate is designed for fast compaction of soil and stone material on large surfaces, and also for building foundations and backfill against supporting walls.

The machine and its accessories may only be used for their intended purpose. The LG plates are designed for operation in well ventilated spaces, as all combustion engine machines.

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WARNING SYMBOLS



WARNING Indicates danger or hazardous procedure that could result in serious or fatal personal injury if the warning is ignored.



CAUTION Indicates danger or hazardous procedure that could result in damage to machine or property if the warning is ignored.

SAFETY INSTRUCTIONS



The safety instructions are included in this manual and must be studied by the operator. Always follow the safety rules and keep the manual available for future use.



Read through the entire manual before starting any maintenance operations.



Ensure good ventilation (air extraction) if the engine is run indoors.

CALIFORNIA

Proposition 65 Warning

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

GENERAL

It is important that the machine is maintained correctly to ensure proper function. It should be kept clean so that any leakage, loose bolts and loose connections can be discovered in time.

Make a habit of inspecting the machine every day before starting up by checking all round it to detect any sign of leakage or other faults.



SPARE A THOUGHT FOR THE ENVIRONMENT!
Do not let oil, fuel and other environmentally hazardous substances contaminate the environment. Always dispose of used filters, drained oil and any remaining fuel properly.

This manual contains instructions for periodic attention which should normally be carried out by the operator.

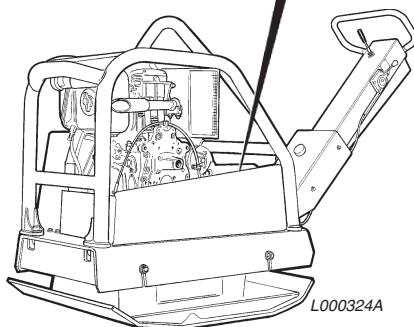


There are additional instructions relating to the engine, for which the manufacturer's instructions are detailed in the engine manual.

MACHINE PLATE

Fill in all data below, when delivering and commissioning the machine.

DYNAPAC 			
Dynapac Compaction Equipment AB Box 504, SE-371 23 Karlskrona Sweden			
Type	Operating mass kg	Rated Power kW	Year of Mfg
Product Identification Number			
			358090SE



.....
Engine Model

.....
Engine Number

SAFETY INSTRUCTIONS (FOR ALL LIGHT PRODUCTS)

Symbols

The signal words WARNING and CAUTION used in the safety instructions have the following meanings:



WARNING: Indicates danger or hazardous procedure that could lead to serious or mortal injury if the warning is neglected.



CAUTION: Indicates danger or hazardous procedure that could lead to machine or property damage if the warning is neglected.

Important rules for your safety



The machine must not be modified without the prior consent of the manufacturer. Use only original parts. Use only the accessories recommended by Dynapac. If modifications not approved by Dynapac are carried out, these could result in serious injury to yourself or other personnel.

- These recommendations are based on international safety standards.
- You must also observe any local safety regulations which may be in force. Read all instructions carefully before operating the machine. Keep the instructions in a safe place.
- Signs and stickers giving important information about safety and maintenance are supplied with every machine. Make sure that they are always legible. The ordering numbers for new stickers can be found in the spare parts list.
- Use of the machine and its accessories is restricted to the applications specified in the product literature.
- For reasons of product safety, the machine must not be modified in any way.
- Replace damaged parts immediately. Replace all wear parts in good time.

Be alert

Always pay attention to what you are doing, and use your common sense. Do not use the machine if you are tired or under the influence of drugs, alcohol or other substances which can effect your vision, reaction ability or judgement.

Safety equipment



Long exposure to loud noise without ear protectors can cause permanent damage to hearing.



Long exposure to vibrations can damage the hands, fingers and wrists. Do not use the machine if you experience discomfort, cramp or pain. Consult a doctor before resuming work with the machine.

Always use approved safety equipment. The operator, and people in the immediate vicinity of the working area, must wear:

- Safety helmet
- Safety goggles
- Ear protectors
- Dust mask in dusty environments
- High-visibility clothing
- Protective gloves
- Protective shoes

Avoid wearing loosely fitting clothing that might get caught in the machine. If you have long hair, cover it with a hair net. Vibrations from hand-held machines are transmitted into the hands via the handles of the machine. Dynapac machines feature a handle design that absorbs a large part of the machine vibrations. The vibrations are not eliminated entirely, but it is possible to use the machines for longer periods of time without the risk of injury.

Be alert to acoustic signals from other machines in the working area.

Working area

Do not use the machine near flammable material or in explosive environments. Sparks can be emitted from the exhaust pipe, and these can ignite flammable material. When you take a pause or have finished working with the machine, do not park it on or near flammable materials. The exhaust pipe can get very hot during operation, and can cause certain material to ignite. Make sure that there are no other personnel inside the working area while the machine is in use. Keep the worksite clean and free of extraneous objects. Store the machine in a safe place, out of unauthorized's reach, preferably in a locked container.

SAFETY INSTRUCTIONS (FOR ALL LIGHT PRODUCTS)

Filling with fuel (Gasoline/diesel)



Petrol has an extremely low flash-point and can be explosive in certain situations. Do not smoke. Make sure that worksite ventilation is good.

Keep away from all hot or spark-generating objects when handling fuel. Wait until the machine has cooled before filling the tank. Fill the tank at least 3 metres (10 ft.) away from where you intend to use the machine. Avoid spilling petrol, diesel or oil on the ground. Protect your hands from contact with petrol, diesel and oil.

Open the tank cap slowly to release any over-pressure that might exist in the tank. Do not overfill the tank. Inspect the machine for fuel leakage regularly.

Do not use a machine that is leaking fuel.

Starting the machine



Before starting read instruction book and make your self familiar with the machine and make sure that:

- All handles are free from grease, oil and dirt.
- The machine does not show any obvious faults.
- All protective devices are securely fastened in their places.
- All control levers in "neutral" position.

Start the machine according to the instruction-book.

Operation



Keep your feet well clear of the machine.



Do not operate the machine in poorly ventilated spaces. There is a risk of carbon monoxide poisoning.

Use the machine only for the purpose for which it is intended. Make sure you know how to stop the machine quickly in the event of an emergency situation.



Always take extreme care when driving the machine on slopes. Always drive straight up and down on slopes. Do not exceed the maximum gradability of the machine according to the instruction book. Stay clear of machine when operating on a slope or in a trench.

Do not touch the engine, the exhaust pipe or the eccentric element of the machine. They get very hot during operation and can cause burn injuries.

Do not touch V-belts or rotating parts during operation.

Parking

Park the machine on ground as level and firm as possible. Before leaving machine:

- Apply the parking brake.
- Shut off the engine and pull the ignition key out.

Loading/Unloading



Never remain under or in the immediate vicinity of the machine when it is lifted by a crane. Only use marked lifting points. Always make sure that all lifting devices are dimensioned for the weight of the products.

Maintenance

Maintenance work must only be carried out by skilled personnel. Keep unauthorized persons away from the machine. Do not carry out maintenance work while the machine is moving or the engine is running.

SAFETY INSTRUCTIONS (FOR ALL LIGHT PRODUCTS)

Working with the hydraulic system

Regular maintenance of the hydraulic system is important. Minor damage or a split hose or coupling can have devastating consequences. Bear in mind that the hydraulic hoses are made of rubber and can deteriorate with age, which can result in splitting. In all cases of uncertainty with regard to durability or wear, replace the hoses with new original hoses from Dynapac.

Working with battery

The battery contains poisonous and corrosive sulphuric acid. Wear protective glasses and avoid getting acid on your skin, clothes or on the machines. If you get sulphuric acid on yourself, rinse the skin with water. If you get acid in your eyes, rinse them with water for at least 15 minutes and seek immediate medical treatment. The gas that is emitted by the battery is explosive. When fitting or replacing a battery, always take care so that you do not short-circuit the battery poles.

Repair

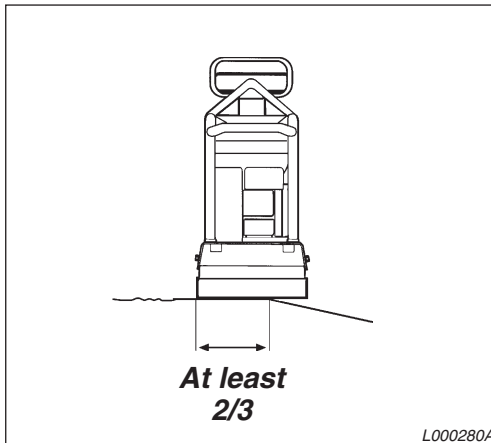
Never use a machine that is damaged. Qualified repair work requires trained personnel, please contact your nearest authorized workshop.

Extinguishing fires

If there is a fire in or on the machine, it is best to use an ABE-class fire extinguisher. However, a BE-class CO₂ extinguisher is also suitable.

SAFETY WHEN DRIVING

Driving near an edge



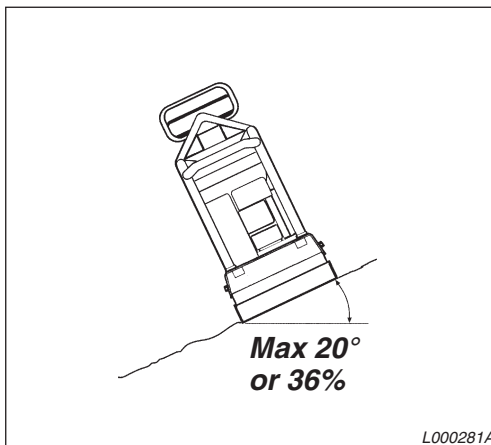
Machine location when operating on edges

When driving near an edge, at least two thirds of the plate must be on firm solid ground.



If the machine tips over, switch off the engine before attempting to lift the machine.

Slopes



Tipping angle on side slopes

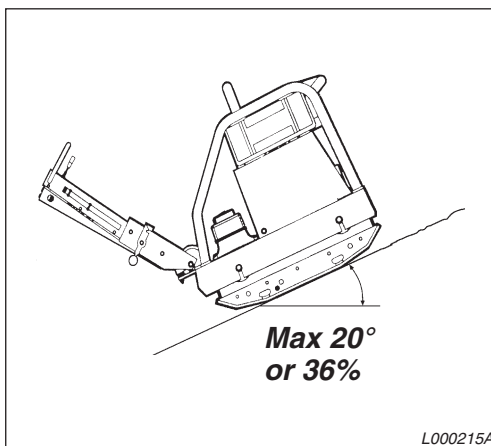
Make sure that the work site is safe. Wet and loose earth reduces manoeuvrability especially on sloping ground. Always observe particular caution on sloping and uneven terrain.



Where possible, avoid all driving across a slope. Instead, drive up and down on sloping ground.

Never work on slopes that are greater than the capability of the machine. Maximum slope of the machine in operation is 20° (depending on condition of the ground).

The tilting angle is measured on a hard, level surface with the machine stationary. Vibration switched OFF and all tanks full. Remember that loose ground, vibration switched ON, and driving speed can all cause the machine to topple even on a smaller slope than specified here.

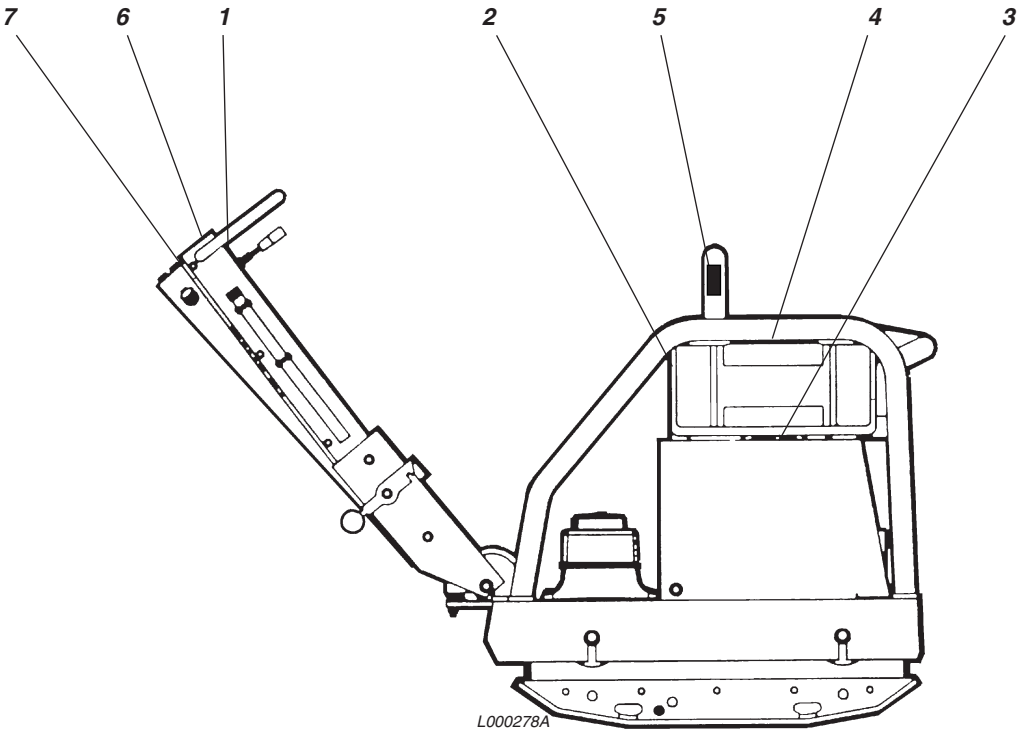


Driving on slopes



Never leave the machine unattended with the engine running.

SAFETY DECALS, LOCATION/DESCRIPTION



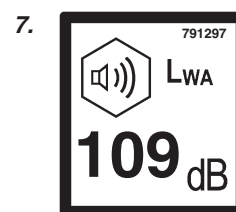
SAFETY DECALS, LOCATION/DESCRIPTION



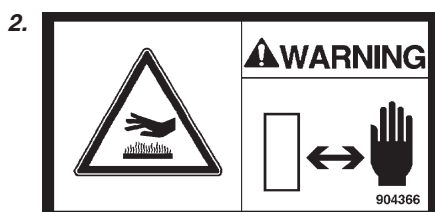
The operator must read the safety manual, and the operation and maintenance instructions before using the machine.



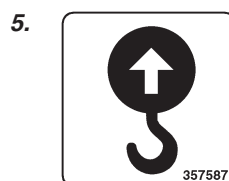
Diesel



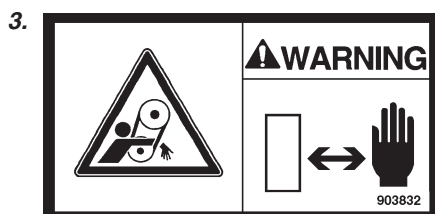
Guaranteed Sound Power level



Warning - hot surfaces in the engine compartment. Do not touch.



Lifting point



Warning, hand and arm entanglement. Never reach into the hazardous area.



Use ear protectors

FUEL AND LUBRICANTS



ENGINE OIL

Use SAE 15W / 40
Volume: 2,0 lit. (2.1 qts) Shell Universal Engine Oil TX15W-40 or equivalent



ECCENTRIC OIL

Use SAE 15W / 40
Volume: 0,5 lit. (0.5 qts) Shell Rimula TX15W-40



HYDRAULIC FLUID

Use mineral-based hydraulic fluid
Volume: 1,0 lit. (1.1 qts) Shell Tellus TX32 or equivalent



Bio-Hydr

BIODEGRADABLE HYDRAULIC FLUID

Shell Naturelle HF-X46
On delivery from the factory the machine may have been filled with biodegradable fluid. Always use the same type of oil when changing or topping off.



FUEL

Use diesel oil which satisfy EN 590 or DIN 51601
Volume: 7,0 lit. (7.4 qts)



Stop the engine before refilling the fuel tank. Never refuel near an open flame or sparks, which could start a fire. Don't smoke. Use pure fuel and clean filling equipment. Take care not to spill fuel.

Service parts P/N

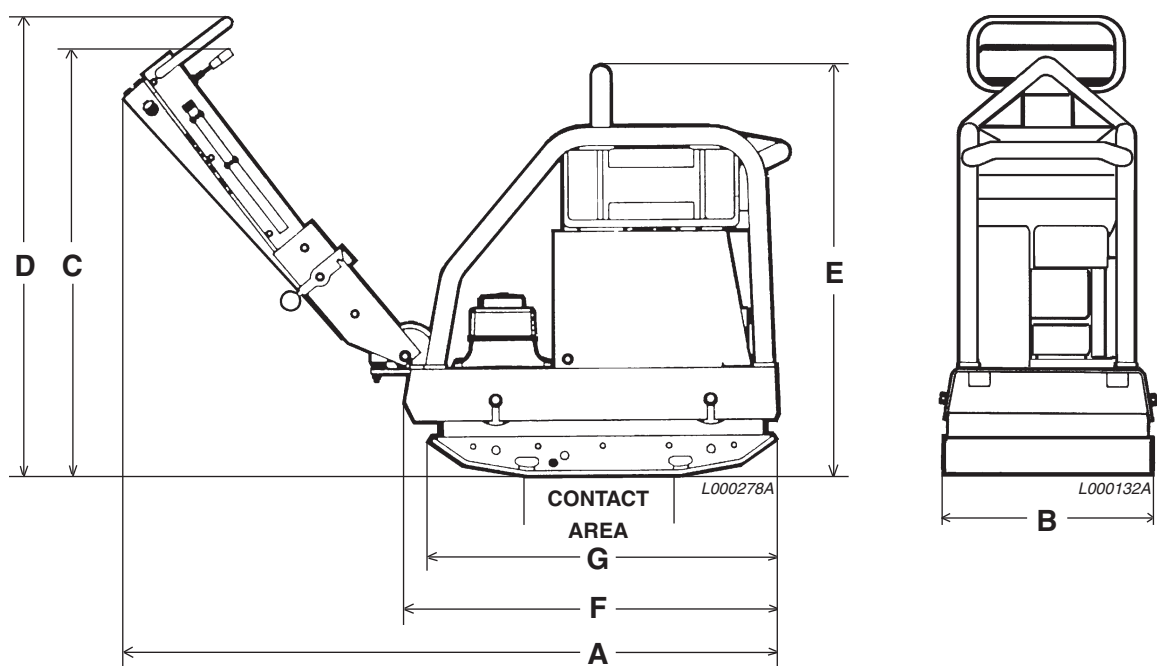
Hatz 1D81Z

Engine air filter element	23 94 23
Engine oil filter	23 93 26
Engine fuel filter	23 83 60
V-belt	28 12 35
Hydraulic filter	23 96 27

TECHNICAL DATA

	LG 500	LG 500	LG 500
Weight			
Nettovikt, kg (lbs)	463 (1.021)	498 (1.099)	535 (1.180)
Operating weight, EN500, kg (lbs)	465 (1.025)	500 (1.102)	537 (1.184)
Compaction data			
Vibr. frequency, Hz	60	60	60
Vibr. frequency, vpm	3600	3600	3600
Centrifugal force, kN (lbf)	60 (13.500)	60 (13.500)	60 (13.500)
Amplitude, mm (in)	2,1 (0.08)	2,1 (0.08)	2,1 (0.08)
Operating data			
Speed of travel, m/min (feet/min)	0-24 (0-79)	0-24 (0-79)	0-24 (0-79)
Max. tilt, °	20	20	20
Volymes			
Fuel tank, lit. (qts)	7,0 (7.4)	7,0 (7.4)	7,0 (7.4)
Crank case, lit. (qts)	2,0 (2.1)	2,0 (2.1)	2,0 (2.1)
Hydraulic fluid, lit. (qts)	1,0 (1.1)	1,0 (1.1)	1,0 (1.1)
Eccentric element, lit. (qts)	0,8 (0.8)	0,8 (0.8)	0,8 (0.8)
Engine			
Model	Hatz Supra 1D81Z	Hatz Supra 1D81Z	Hatz Supra 1D81Z
	Recoil start	El. start	El. start
Output, kW (hp)	8,2 (11)	8,2 (11)	8,2 (11)
Engine speed, rpm	2200	2200	2200
Fuel consumption, l/h (qts/h)	1,8 (1.9)	1,8 (1.9)	1,8 (1.9)
Noise and Vibrations			
The following sound levels and vibration levels are determined based on the operating cycle on a macadam course as described by EU directive 2000/14/EC.			
Guaranteed acoustic power level L_{wA} dB (A)	109	109	109
Sound-pressure level at the operator's ear (ISO 6396) L_{pA} dB (A)	96	96	96
Hand and arm vibration (ISO 5349-1) a_{hv} m/s ²	3,4	2,1	2,1
These values may differ during operation due to the specific operational conditions.			

TECHNICAL DATA – DIMENSIONS



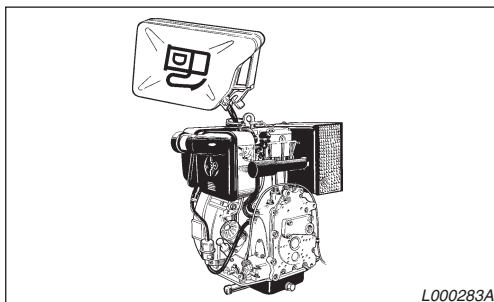
	LG 500 man/ext	LG 500 el/ext	LG 500 el/no ext
A mm (inch)	1658 (65,28)	1658 (65,28)	1658 (65,28)
B mm (inch)	550 ¹⁾ (21,65)	550 ¹⁾ (21,65)	750 (31,89)
C mm (inch)	1208 (47,56)	1208 (47,56)	1208 (47,56)
D mm (inch)	1208 (47,56)	1208 (47,56)	1208 (47,56)
E mm (inch)	1075 (42,32)	1075 (42,32)	1075 (42,32)
F mm (inch)	972 (38,27)	972 (38,27)	972 (38,27)
G mm (inch)	900 (35,43)	900 (35,43)	900 (35,43)
Contactarea m ² (inch ²)	0,2125 (329,4) ²⁾	0,2125 (329,4) ²⁾	0,2985 (462,7)
Accessories			
Extensionplates			
Width, mm (inch)	2x150=300 (2x5.9=11.8)	2x150=300 (2x5.9=11.8)	
Weight, kg (lbs)	37 (81.6)	37 (81.6)	
Contactarea m ² (inch ²)	0,1194 (185,07)	0,1194 (185,07)	

LG 500 770503, 770504 ¹⁾ = With extensions = 850 mm (33,46 inch)

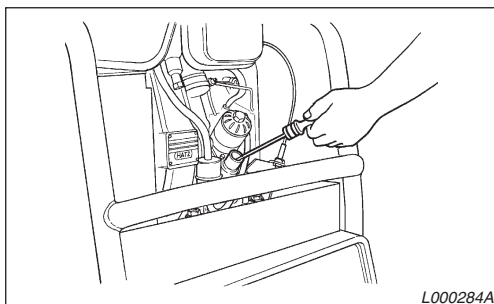
LG 500 770503, 770504 ¹⁾ = 0,3319 m² (514,5 inch²)

OPERATION – CRANK START

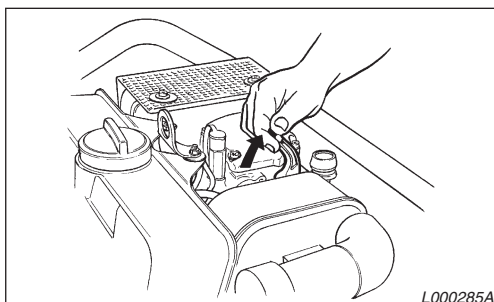
BEFORE START



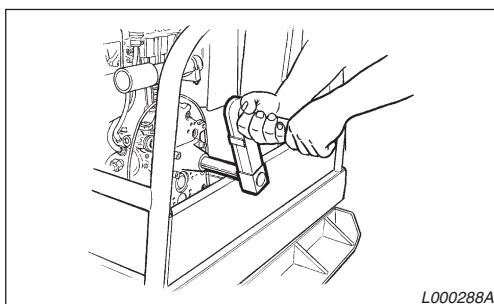
1. Fill fuel tank with diesel.
Volume: 7,0 lit. (7.4 qts)
2. Check the oil level in engine crank case.



Starting the engine

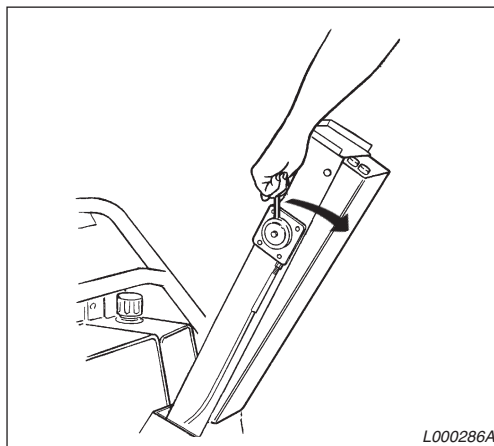


1. Pull automatic decompression device to top position.
2. Turn engine over with starting crank.
3. Run engine at idle before using full power.



OPERATION – CRANK START

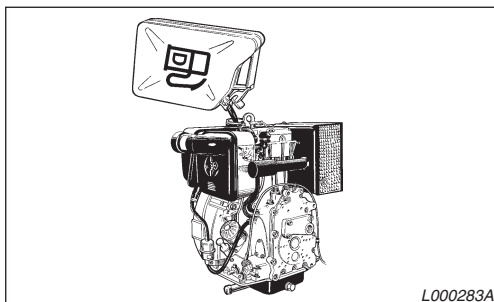
Stopping the engine (Crank start)



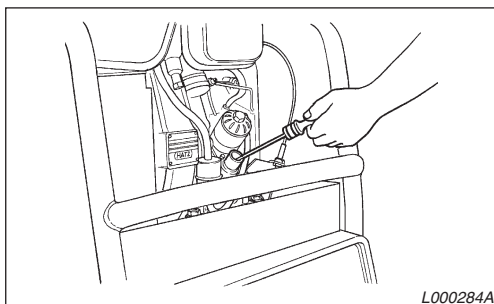
1. Throttle in neutral position. Let the engine idle a few minutes.
2. Throttle in stop position.

OPERATION – ELECTRIC START

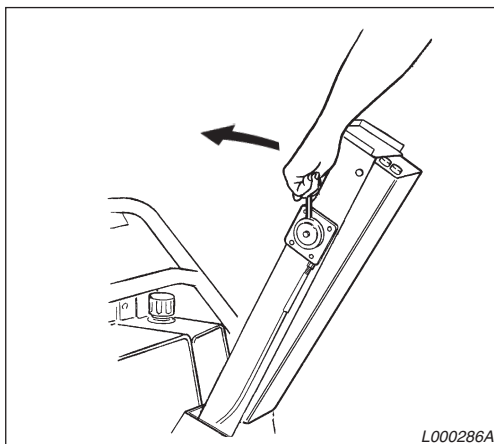
BEFORE START



1. Fill fuel tank with diesel.
2. Check the oil level in engine crank case.



Starting the engine

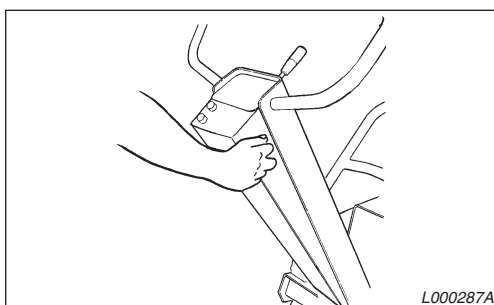


1. Open throttle fully
2. Turn the starter key to the position I. Charging and oil pressure indicators light up.
3. Turn the ignition key past position II to position III and release the key as soon as the engine starts. If the engine does not start within 10 seconds, wait a few seconds before making a new attempt.



The engine is fitted with a start block module. The start block module prevents renewed attempts to start within 4-8 seconds.

Cold start

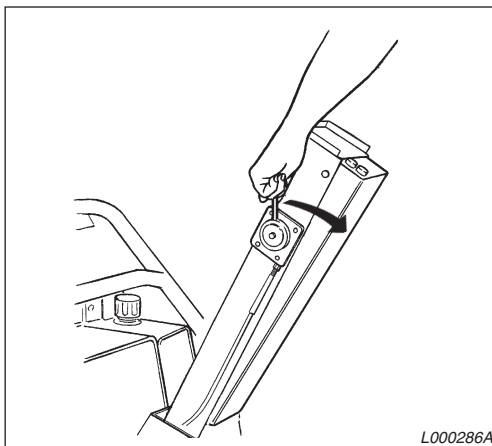


4. Turn the switch key to position II for approx. 1 minute until the preheater indicator will glow.

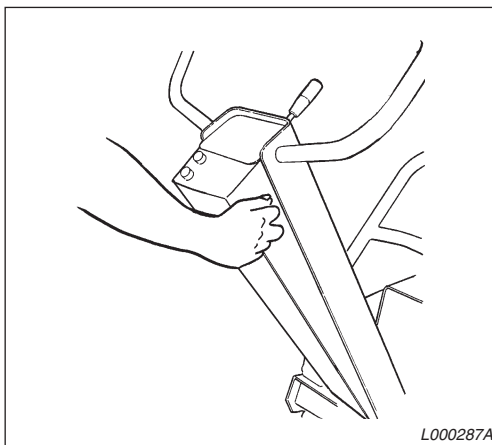
Run engine at idle before using full power.

OPERATION – ELECTRIC START

Stopping the engine (Electric start)



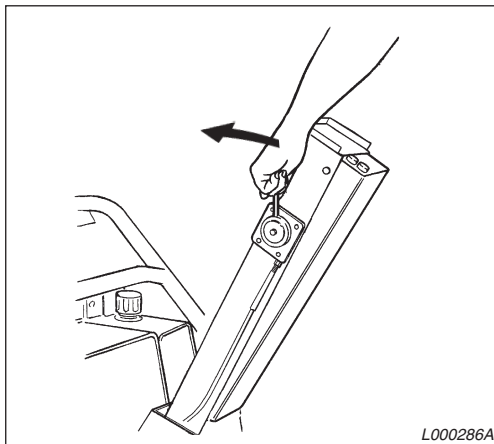
1. Throttle in neutral position. Let engine run a few minutes.
2. Throttle in stop position.



3. Turn the key to the OFF (O) position.

OPERATION – ALL ENGINE TYPES

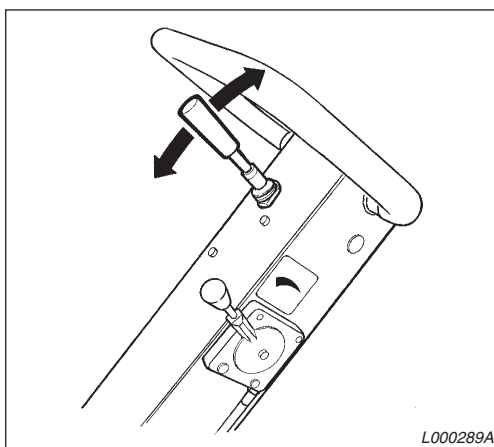
Operating



1. Open throttle fully.



During compaction work the engine must always run at full throttle.

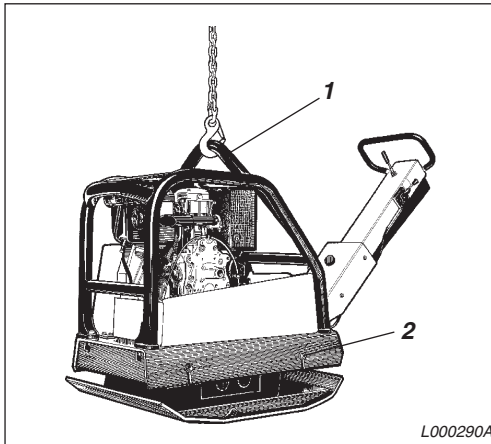


Drive direction and speed are infinitely variable with the hydraulic lever.

1. Forward (the hydraulic lever is pushed forward with small movements).
2. Reverse (the hydraulic lever is pushed backwards with small movements).
3. Stationary (the hydraulic lever is moved with small movements in the opposite direction until the machine is stationary).

LIFTING, TRANSPORTATION AND TOWING

Lifting/Towing



Never walk or stand under a hanging machine.

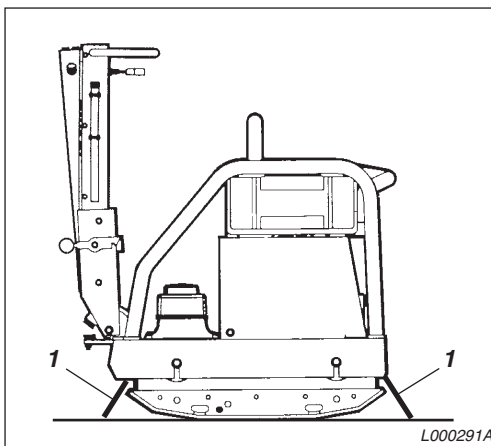


Use only the frame lifting hook (1) for lifting the machine.



All lifting devices must be dimensioned in order to fulfil all regulations. Before lifting check that shock absorbers (2) and protecting frame are correctly attached and not damaged.

Transportation



Always lash the machine securely for all transportation. Use the front and rear towing attachments to lash the machine.

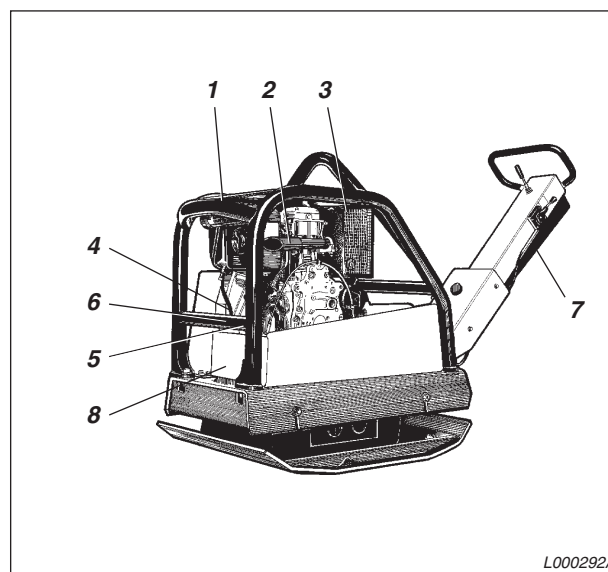
Clamp down the machine with the lashing strap (1) in the front and rear of the machine; decals indicate the fixing points.

Machine ready for transportation

1. Lashing strap

MAINTENANCE – SERVICE POINTS

1. Fuel tank
2. Intake filter
3. Air filter
4. Engine oil filter
5. Oil dipstick
6. Fuel filter
7. Battery
8. Oil drain plug



L000292A

Fig 1

Every 10 hours of operation (daily)

Item in fig. 1	Maintenance	see page	Comments
1	Check and replenish fuel oil	21	
5	Check and replenish lube oil	21	
	Check for oil leakage	21	
	Check and tighten engine parts	21	
2	Clean / replace air cleaner elements	21	

The first 20 hours of operation

Item in fig. 1	Maintenance	see page	Comments
	Change lube oil	22	
4	Clean / replace oil filter	22	
2	Clean / replace air cleaner elements	22	
	Check and adjust the engine valve clearance		See engine manual.

MAINTENANCE – SERVICE POINTS

Every 100 hours of operation

Item in fig. 1	Maintenance	see page	Comments
2	Change lube oil	22	
	Clean / replace air cleaner elements	22	

Monthly

Item in fig. 1	Maintenance	see page	Comments
	Check: oil level in hydraulic tank, v-belt, battery fluid	22	

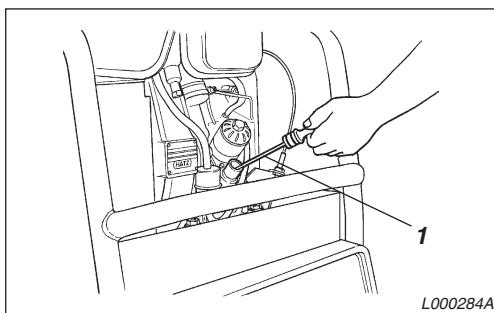
Every 500 hours of operation

Item in fig. 1	Maintenance	see page	Comments
	Change engine oil	22	
	Change eccentric element oil	24	
	Change hydraulic fluid	24	
4	Clean / replace oil filter	22	
2	Clean / replace air cleaner elements	22	
	Check fuel injection pump		See engine manual
	Check fuel injection nozzle		See engine manual
	Adjust valve head clearance for intake and exhaust valves		See engine manual

Every 1000 hours of operation

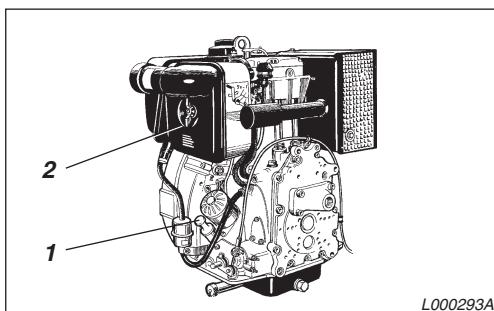
Item in fig. 1	Maintenance	see page	Comments
	Lap intake and exhaust valves		See engine manual
	Replace pistong rings		See engine manual

MAINTENANCE – EVERY 10 HOURS OF OPERATION



1. Oil dipstick

1. Check oil level (1) engine's crankcase.

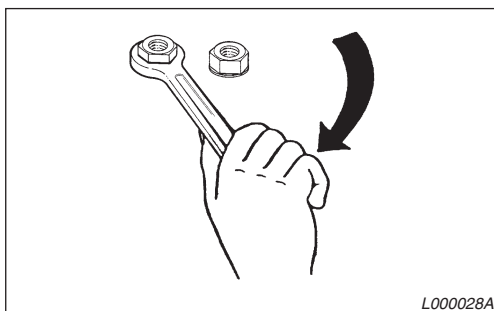


1. Oil dipstick
2. Air cleaner

2. Check air cleaner (2).

3. Check the battery (Hatz electrical start).

We recommend reading the detailed motor instructions supplied with the machine.

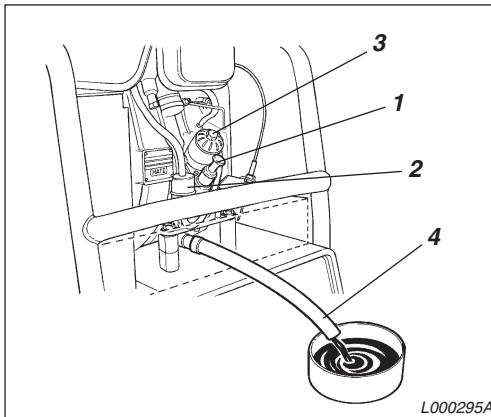


4. Check and, where necessary, tighten screws and nuts.



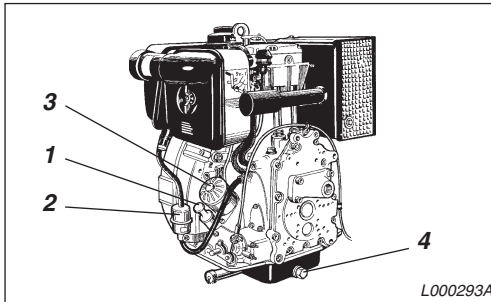
5. Keep machine clean.

MAINTENANCE – EVERY 100 HOURS OF OPERATION

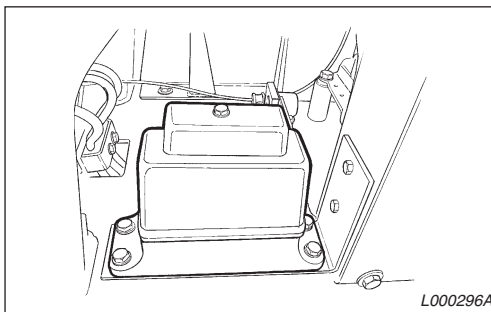


1. Oil dipstick
2. Fuel filter
3. Oil filter
4. Oil drain plug/drain hose

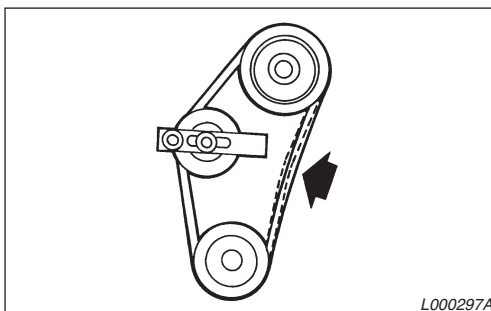
1. Change oil (first change after 20 hours, together with engine filter).
Volume: 2,0 lit. (2.1 qts)



2. Lubricate controls.

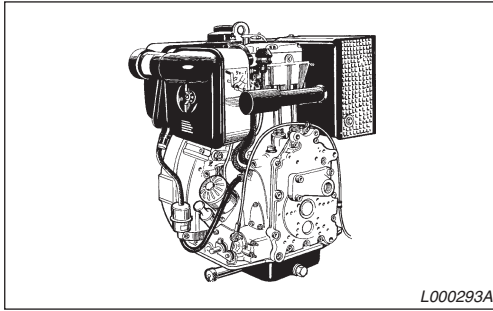


3. Check oil level in hydraulic tank.
Volume: 3,5 lit. (3.7 qts)



4. Check the V-belt.
5. Check level battery fluid.

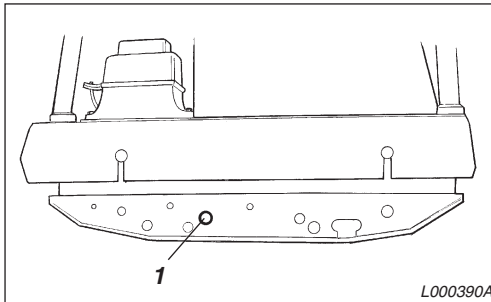
MAINTENANCE – EVERY 500 HOURS OF OPERATION



1. Replace fuel filter. (See engine manual)
2. Change oil. (See engine manual)
3. Replace oil filter. (See engine manual)
4. Replace air cleaner element. (See engine manual)

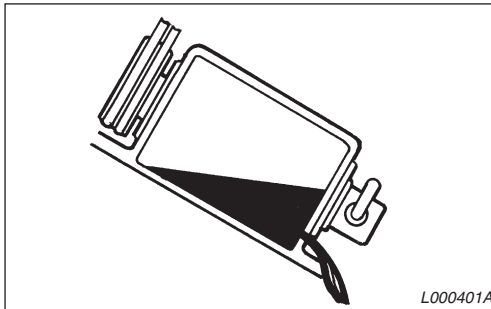
MAINTENANCE – EVERY 500 HOURS OF OPERATION

Changing oil in eccentric element

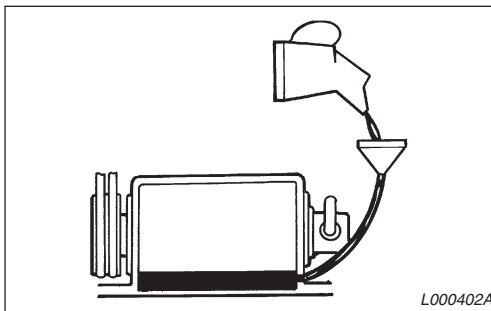


1. Oil level plug

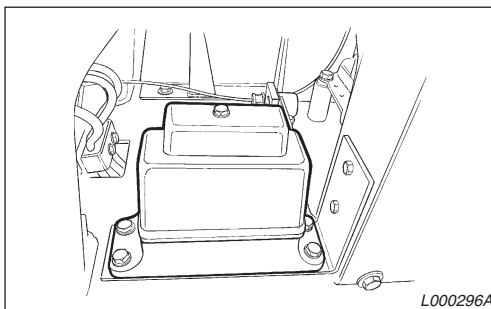
Recommended oil: SAE 15W/40
Volume: 0,8 lit. (0.85 qts)



1. Slant the machine and drain oil from eccentric.
2. Clean sealing surfaces.
3. Fill with oil.
4. Tighten oil plug.



Changing oil in hydraulic system



Recommended oil: Shell Tellus TX32
Volume: 1,0 lit. (1.1 qts)

Lubricating of controls and wires

1. Remove old grease.
2. Lubricate all parts. Apply grease generously.

Recommended lubricant: Shell Alvania EP2

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