

# **DYNAPAC**

## **Forward and Reversing Vibrating Plate LG140/160/200**

### **Operation & Maintenance ILG140EN4, June 2002**

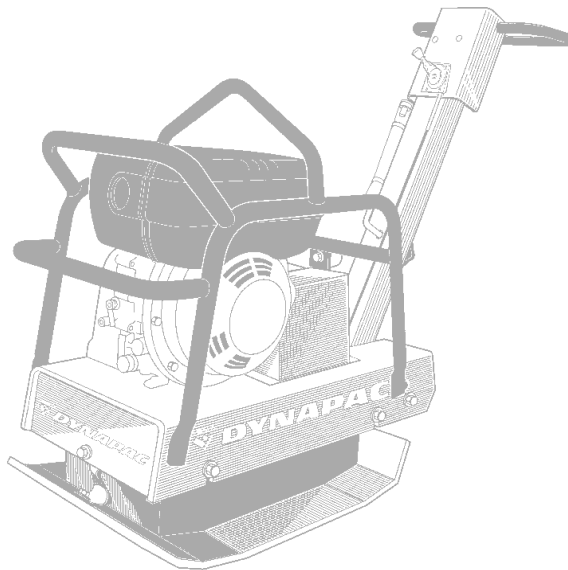
**Petrol Engine:**  
Honda GX160  
Honda GX200

**Diesel Engine:**  
Hatz 1B20

**These instructions apply from:**

|              |                  |                   |                   |
|--------------|------------------|-------------------|-------------------|
| <b>LG140</b> | <b>PIN (S/N)</b> | <b>*31400001*</b> | <b>Honda/Hatz</b> |
| <b>LG160</b> | <b>PIN (S/N)</b> | <b>*31600001*</b> | <b>Honda/Hatz</b> |
| <b>LG200</b> | <b>PIN (S/N)</b> | <b>*32000001*</b> | <b>Honda</b>      |
| <b>LG200</b> | <b>PIN (S/N)</b> | <b>*32001123*</b> | <b>Hatz</b>       |

**KEEP THIS MANUAL  
AVAILABLE FOR  
FUTURE USE**



*The Dynapac LG140/160/200 are compact Forward/Reverse Vibratory Plates with excellent compaction data. Speed and compaction depth are regulated steplessly via hydraulic servo control of the eccentric element. This gives the plate smooth motion and makes it very easy to operate.*

*All-round plates for compaction work close to piles and concrete bases. Also for floor filling and foundations as well as backfill in pipe trenches. The LG160 is ideal for compaction on block paving and patching work. The LG200 is an ideal plate for compacting sand and gravel in cable and pipe trenches, foundation work, road repairs, etc.*

*The handle is suspended on special shock absorbers to keep it free from vibrations. A protection frame with single-point lifting lug is covering all vital parts of the machine. The LG plates are designed for operation in well ventilated spaces, as all combustion engine machines.*

## CONTENTS

|  | Page   |
|--|--------|
| Machine plate .....                                | 3      |
| General .....                                      | 3      |
| Safety instructions (For all Light products) ..... | 4-6    |
| Safety when driving .....                          | 7      |
| Safety decals, Location/Description .....          | 8, 9   |
| Fuel and lubricants .....                          | 10     |
| Technical data.....                                | 11, 12 |
| Technical data – Dimensions.....                   | 13     |
| Operation – Honda GX160/GX200.....                 | 14, 15 |
| Operation – Hatz 1B20.....                         | 16, 17 |
| Operation – All engine types .....                 | 18     |
| Lifting, transportation and towing .....           | 19     |
| Maintenance – service points.....                  | 20, 21 |
| Maintenance – Every 10 hours of operation.....     | 22     |
| Maintenance – Every 100 hours of operation.....    | 23     |
| Maintenance – Every 500 hours of operation.....    | 24, 25 |

## WARNING SYMBOLS

WARNING



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

CAUTION



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

## SAFETY INSTRUCTIONS

WARNING



**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.**

WARNING



**Read through the entire manual before starting any maintenance operations.**

WARNING



**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.


CAUTION

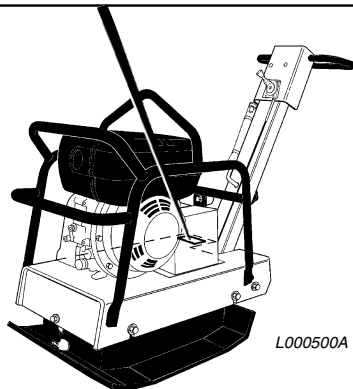


There are additional instructions relating to the engine, for which the manufacturer's instructions are detailed in the engine manual.

## MACHINE PLATE

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

|  |                   |                |             |
|--|-------------------|----------------|-------------|
| <b>DYNAPAC</b>  |                   |                |             |
| Metso Dynapac AB<br>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 affect 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's machines are equipped with vibration-relieved handles. Depending on operation, the course and duration of exposure, the recommended limit values for hand and arm vibration can be exceeded. Take suitable measures as required, eg, wear protective gloves, and do not vibrate already compacted material.

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 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 gets 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**

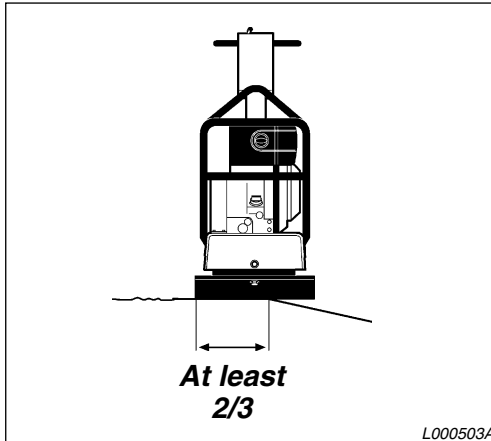
Never use a machine that is damaged. Qualified repair work requires trained personnel, please contact your nearest authorized workshop.

### **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 CO<sub>2</sub> extinguisher is also suitable.

## SAFETY WHEN DRIVING

### Driving near an edge



*Machine location when operating on edges*

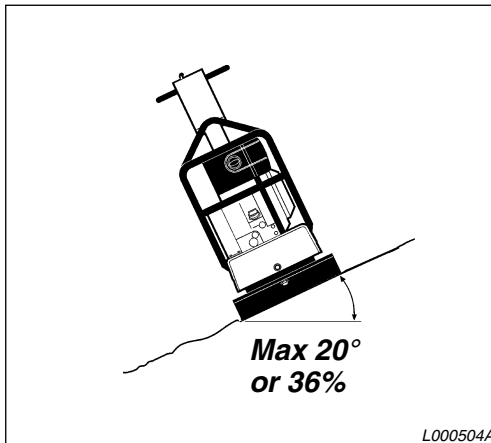
When driving near an edge, at least two thirds of the plate must be on firm solid ground.

WARNING



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

### Tilting



*Tipping angle on side slopes*

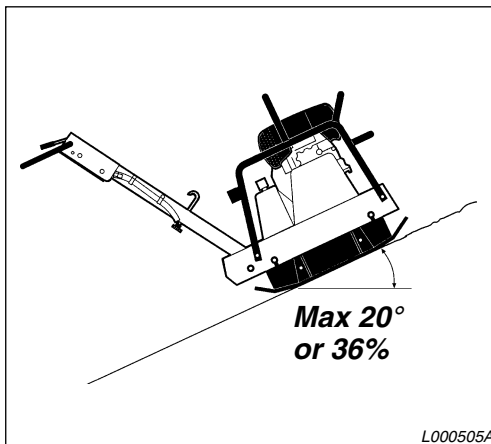
Make sure that the work site is safe. Wet and loose earth reduces manoeuvrability especially on sloping ground. Always observe particular caution on sloping and uneven terrain.

WARNING



**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).



*Driving on slopes*

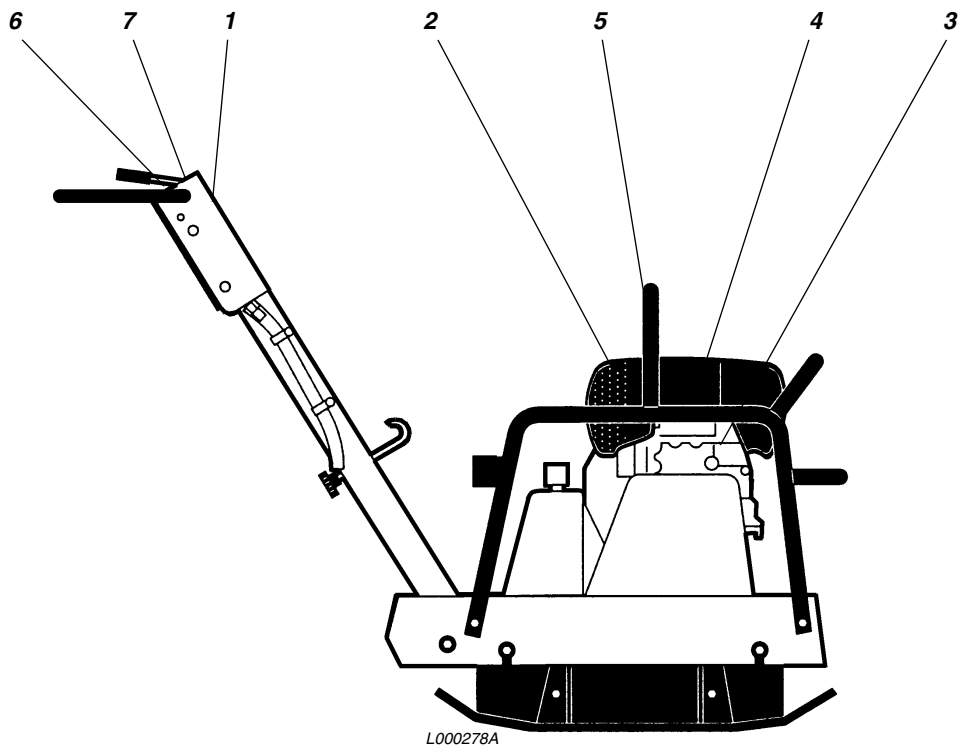
The tilting angle is measured on a hard, level surface with the machine stationary. Vibration switched OFF and all tanks full. Remember that loose ground, vibration switched ON, and driving speed can all cause the machine to topple even on a smaller slope than specified here.

WARNING



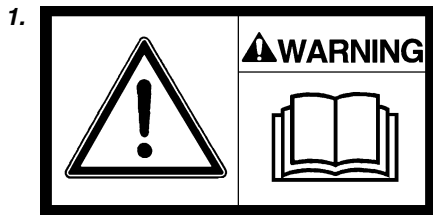
**Never leave the machine unattended with the engine running.**

**SAFETY DECALS, LOCATION/DESCRIPTION**



L000278A

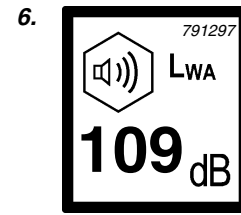
## SAFETY DECALS, LOCATION/DESCRIPTION



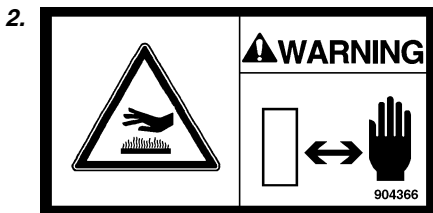
The operator must read the safety manual, and the operation and maintenance instructions before using the machine.



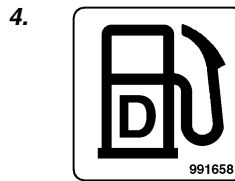
Petrol  
(Honda)



Guaranteed  
Sound Power  
level



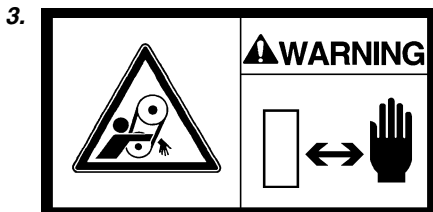
Warning - hot surfaces in the engine compartment. Do not touch.



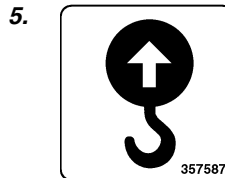
Diesel  
(Hatz)



Use ear  
protectors



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



Lifting  
point

## FUEL AND LUBRICANTS



### ENGINE OIL

Use SAE 15W / 40:  
 Honda GX160 0,6 l (0.65 qts)  
 Honda GX200 0,6 l (0.65 qts)  
 Hatz 1B20 0,9 l (0.95 qts)



### HYDRAULIC FLUID

Hydraulic fluid, recommendations:  
 LG 140 1,0 lit. Shell TX32  
 LG 160 1,0 lit. Shell TX32  
 LG 200 1,0 lit. Shell TX32



### FUEL

**Honda**  
 Use ordinary grade petrol (unleaded)  
 Volume: 3,6 l (3.8 qts)



### FUEL

**Hatz**  
 Use diesel oil which satisfy EN 590 or DIN 51601  
 Volume: 3,6 l (3.8 qts)

WARNING



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

### Service parts P/N

|                           |       | <b>Honda GX160</b> | <b>Honda GX200</b> | <b>Hatz 1B20</b> |
|---------------------------|-------|--------------------|--------------------|------------------|
| Engine air filter element |       | 23 93 23           | 23 93 23           | 93 70 13         |
| Engine oil filter         |       | -                  | -                  | 93 70 01         |
| Engine fuel filter        |       | -                  | -                  | 93 69 64         |
| V-belt                    | LG140 | 28 12 53           | -                  | -                |
|                           | LG160 | 28 12 53           | -                  | -                |
|                           | LG200 | -                  | 28 13 45           | 28 12 49         |
| <b>Accessories</b>        |       |                    |                    |                  |
| Polyurethane plate cpl.   |       | LG160 P/N 280894   | LG200 P/N 280895   |                  |
| Transport wheel cpl.      |       | LG140/160/200      | P/N 281886         |                  |

## TECHNICAL DATA

|                                 | LG140<br>Honda  | LG140<br>Hatz                | LG160<br>Honda                 | LG160<br>Hatz                |
|---------------------------------|---|------------------------------|--------------------------------|------------------------------|
| <b>Weight</b>                   |   |                              |                                |                              |
| Net weight, kg (lbs)            | 152 (335)   | 164 (362)                    | 156 (344)                      | 169 (373)                    |
| Operating weight, kg (lbs)      | 154 (339)   | 166 (366)                    | 158 (348)                      | 171 (377)                    |
| <b>Compaction data</b>          |   |                              |                                |                              |
| Vibr.frequency, Hz (vpm)        | 65 (3900)   | 65 (3900)                    | 82 (4920)                      | 82 (4920)                    |
| Centrifugalforce, kN (lbf)      | 22 (4945.8)   | 22 (4945.8)                  | 35 (7868.31)                   | 35 (7868.31)                 |
| Amplitude, mm (in)              | 2,0 (0.08)  | 2,0 (0.08)                   | 1,7 (0.07)                     | 1,7 (0.07)                   |
| <b>Operating data</b>           |   |                              |                                |                              |
| Speed of travel, m/min (ft/min) | 0-25 (0-82)   | 0-25 (0-82)                  | 0-25 (0-82)                    | 0-25 (0-82)                  |
| Max. tilt, °                    | 20  | 20                           | 20                             | 20                           |
| <b>Volumes</b>                  |   |                              |                                |                              |
| Fuel tank, lit. (qts)           | 3,6 (3.8)   | 3,6 (3.8)                    | 3,6 (3.8)                      | 3,6 (3.8)                    |
| Crank case, lit. (qts)          |   |                              |                                |                              |
| SAE 15W/40                      | 0,6 (0.63)  | 0,9 (0.95)                   | 0,6 (0.63)                     | 0,9 (0.95)                   |
| Hydraulic fluid, lit. (qts)     |   |                              |                                |                              |
| Shell TX32                      | 1,0 (1.0)   | 1,0 (1.0)                    | 1,0 (1.0)                      | 1,0 (1.0)                    |
| Eccentric element, lit. (qts)   |   |                              |                                |                              |
| SAE 10W/30                      | 0,4 (0.42)  | 0,5 (0.53)                   | 0,4 (0.42)                     | 0,5 (0.53)                   |
| <b>Engine</b>                   |   |                              |                                |                              |
| Model                           | Honda<br>GX160<br>Recoil start                                    | Hatz<br>1B20<br>Recoil start | Honda<br>GX160<br>Recoil start | Hatz<br>1B20<br>Recoil start |
| Output, kW (hp)                 | 4,1 (5.5)   | 2,8 (3.8)                    | 4,1 (5.5)                      | 2,8 (3.8)                    |
| Engine speed, rpm               | 3600  | 2600                         | 3600                           | 2600                         |
| <b>Noise and Vibrations</b>     |   |                              |                                |                              |
| Noise level                     | Sound pressure level at the operator's ear according to ISO 6394: |                              |                                |                              |
| $L_{pA}$ dB (A) =               | 90  | 90                           | 92                             | 90                           |
|                                 | Sound power level according to ISO 3744:                          |                              |                                |                              |
| $L_{wA}$ dB (A) =               | 110   | 104                          | 107                            | 104                          |
| Vibration values                | The hand - arm vibration values according to ISO 5349:            |                              |                                |                              |
| a m/s <sup>2</sup> =            | 0,6   | 1,9                          | 1,4                            | 3,1                          |

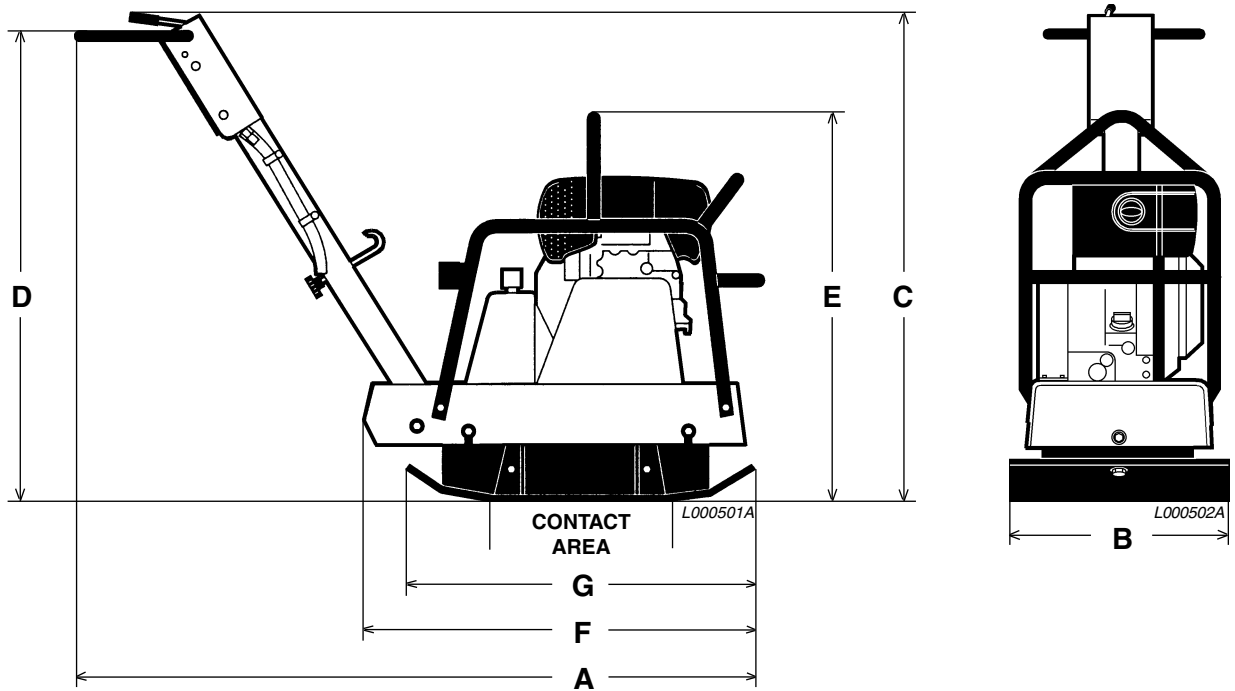
The above noise level and vibration values were determined at normal speed of the engine with vibration on. The machine was placed on an elastic base.  
During operation these values may differ because of the actual operational conditions.

## TECHNICAL DATA

|                                 | LG200<br>Honda  | LG200<br>Hatz                | LG200<br>Hatz El.        |
|---------------------------------|---|------------------------------|--------------------------|
| <b>Weight</b>                   |   |                              |                          |
| Net weight, kg (lbs)            | 220 (485)   | 231 (509)                    | 248 (547)                |
| Operating weight, kg (lbs)      | 222 (489)   | 233 (514)                    | 250 (551)                |
| <b>Compaction data</b>          |   |                              |                          |
| Vibr.frequency, Hz (vpm)        | 65 (3900)   | 65 (3900)                    | 65 (3900)                |
| Centrifugal force, kN (lbf)     | 36 (8093.12)  | 36 (8093.12)                 | 36 (8093.12)             |
| Amplitude, mm (in)              | 1,9 (0.08)  | 1,9 (0.08)                   | 1,9 (0.08)               |
| <b>Operating data</b>           |   |                              |                          |
| Speed of travel, m/min (ft/min) | 0-25 (0-82)   | 0-25 (0-82)                  | 0-25 (0-82)              |
| Max. tilt, °                    | 20  | 20                           | 20                       |
| <b>Volumes</b>                  |   |                              |                          |
| Fuel tank, lit. (qts)           | 3,6 (3.8)   | 3,6 (3.8)                    | 3,6 (3.8)                |
| Crank case, lit. (qts)          |   |                              |                          |
| SAE 15W/40                      | 0,6 (0.65)  | 0,9 (0.95)                   | 0,9 (0.95)               |
| Hydraulic fluid, lit. (qts)     |   |                              |                          |
| Shell TX32                      | 1,0 (1.0)   | 1,0 (1.0)                    | 1,0 (1.0)                |
| Eccentric element, lit. (qts)   |   |                              |                          |
| SAE 10W/30                      | 0,4 (0.42)  | 0,5 (0.53)                   | 0,5 (0.53)               |
| <b>Engine</b>                   |   |                              |                          |
| Model                           | Honda<br>GX200<br>Recoil start                                    | Hatz<br>1B20<br>Recoil start | Hatz<br>1B20<br>El.start |
| Output, kW (hp)                 | 4,8 (6.4)   | 3,1 (4.2)§                   | 3,1 (4.2)                |
| Engine speed, rpm               | 3600  | 3000                         | 3000                     |
| <b>Noise and Vibrations</b>     |   |                              |                          |
| Noise level                     | Sound pressure level at the operator's ear according to ISO 6394: |                              |                          |
| $L_{pA}$ dB (A) =               | 90  | 90                           | 90                       |
|                                 | Sound power level according to ISO 3744:                          |                              |                          |
| $L_{wA}$ dB (A) =               | 105   | 106                          | 106                      |
| Vibration values                | The hand - arm vibration values according to ISO 5349:            |                              |                          |
| a $m/s^2$ =                     | 0,6   | 0,8                          | 0,8                      |

The above noise level and vibration values were determined at normal speed of the engine with vibration on. The machine was placed on an elastic base.  
During operation these values may differ because of the actual operational conditions.

## TECHNICAL DATA – DIMENSIONS

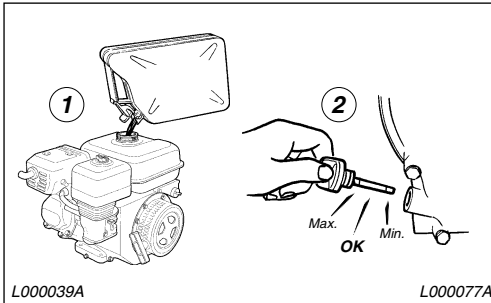


|   | LG140                    | LG160                                  | LG200                                  |
|---|--------------------------|--|--|
| <b>A</b> mm (in)  | 1265 (49.8)              | 1265 (49.8)                            | 1315 (51.8)                            |
| <b>B</b> mm (in)  | 330 <sup>*)</sup> (13.0) | 450 (17.7)                             | 500 (19.7)                             |
| <b>C</b> mm (in)  | 1115 (43.9)              | 1115 (43.9)                            | 1065 (41.9)                            |
| <b>D</b> mm (in)  | 1000 (39.4)              | 1000 (39.4)                            | 1000 (39.4)                            |
| <b>E</b> mm (in)  | 800 (31.5)               | 800 (31.5)                             | 780 (30.1)                             |
| <b>F</b> mm (in)  | 765 (30.1)               | 765 (30.1)                             | 800 (31.5)                             |
| <b>G</b> mm (in)  | 650 (25.6)               | 650 (25.6)                             | 700 (27.6)                             |
| <b>Contact area</b><br>m <sup>2</sup> (in <sup>2</sup> )<br>(268.9) | 0,09834                  | (152.4) 0,1341                         | (207.9) 0,1735                         |
| <b>Accessories</b>  | Transport device<br>-    | Transport device<br>Polyurethane plate | Transport device<br>Polyurethane plate |

<sup>\*)</sup>Total width LG140 = 385 mm (15.2 in)

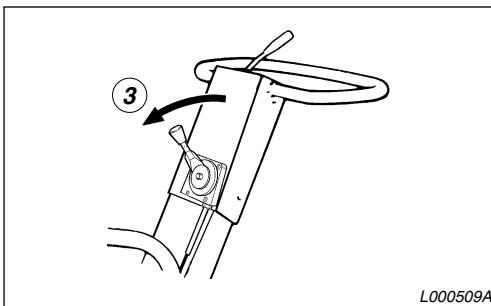
## OPERATION – HONDA GX160/GX200

### Before start

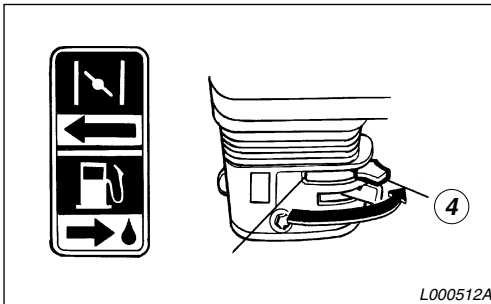


1. Fill fuel tank.  
Tank volume 3,6 lit. (3.8 qts)
2. Check oil level in engine crank case.  
Oil volume 0,6 lit. (0.65 qts)

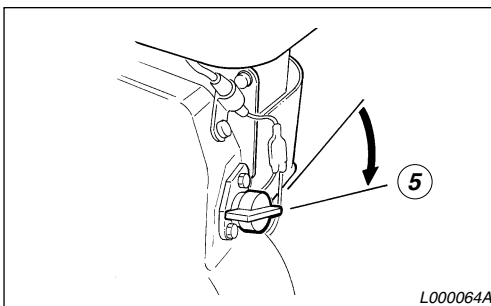
### Starting the engine



3. Open the fuel cock and open the throttle fully.

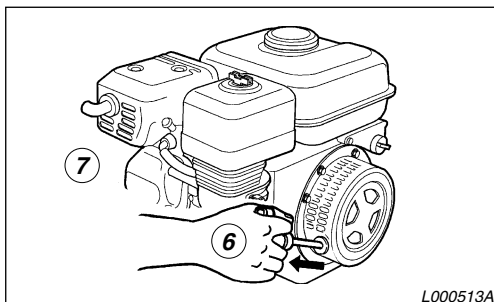


4. Open throttle fully. Move the choke valve to the close position. Do not use the choke if the engine is warm or the air temperature is high.



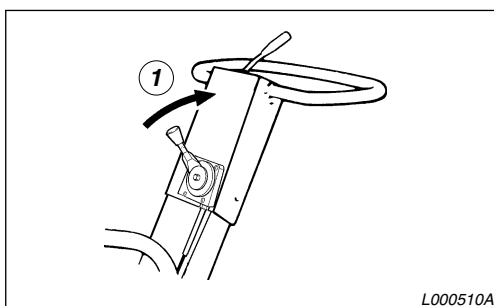
5. Turn the start button to position I.

## OPERATION – HONDA GX160/GX200

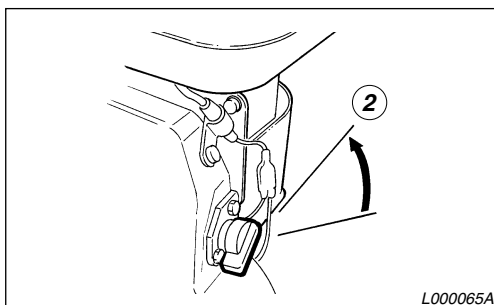


6. Pull out the handle to the point where you feel strong resistance and then return it to the initial position, then pull briskly. As the engine warms up, gradually move the choke valve to the open position.
7. After the engine starts, set the speed lever to the low speed position and warm it up without load for a few minutes.

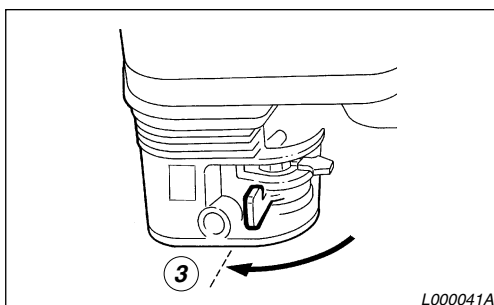
### Stopping the engine



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



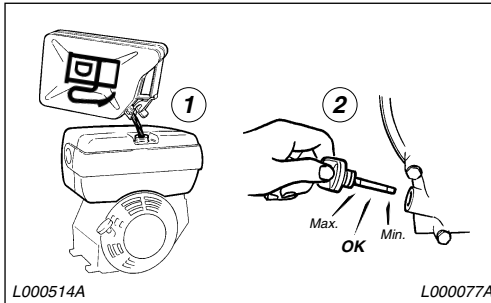
2. Turn the start button to position **O**.



3. Close the fuel cock.

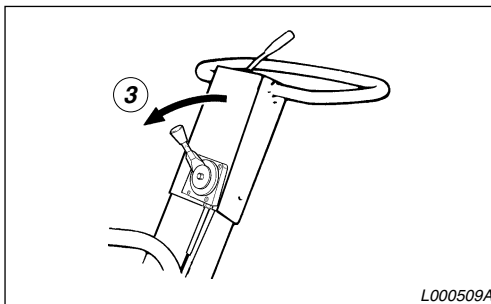
## OPERATION – HATZ 1B20

### Before start

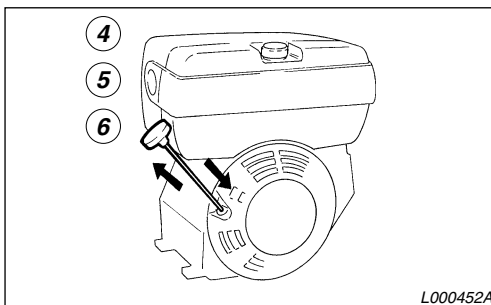


1. Fill fuel tank.  
Tank volume: 3,6 lit. (3.8 qts)
2. Check oil level in engine crank case.  
Oil volume: 1,0 lit. (1.06 qts)

### Starting the engine



3. Set speed control lever either 1/2 START or max. START position, as desired or necessary. Starting at a lower speed will help to prevent exhaust smoke.



### Manual start

4. Pull the starting cable out by the handle until you feel a slight resistance. Let the cable run back; in this way the entire length of the starting cable can be used to start the engine.
5. Grip the handle with both hands.
6. Commence pulling the starting cable vigorously and at an increasing speed (do not jerk it violently) until the engine starts.

#### CAUTION



If after several attempts of starting the exhaust begins to emit white smoke, move the speed control lever to the stop position and pull the starting cable out slowly 5 times. Repeat the starting procedure.

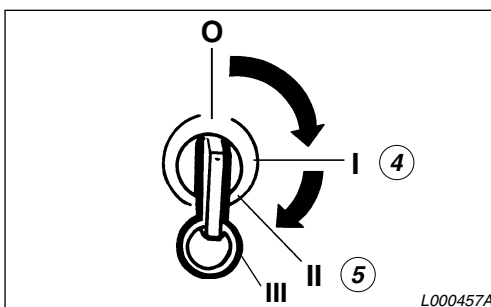
### El. start

4. Insert the starter key and turn it to position I. Charging and oil pressure indicators light up.
5. Turn the starter key through position II to III. Release the key as soon as the engine runs.

#### CAUTION

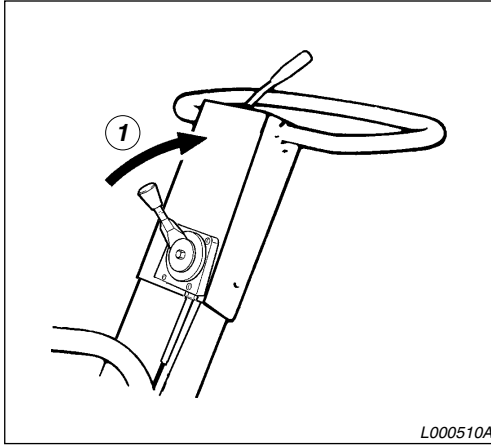


Make sure that the key remains at position II so that the battery is charged.

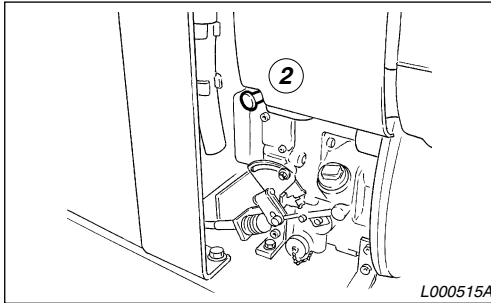


## OPERATION – HATZ 1B20

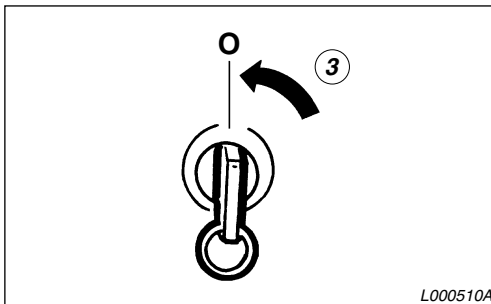
### Stopping the engine



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



2. Push the engine switch to OFF.



### El. start

2. Turn the starter key to position **O** and remove it. All indicator lights must go out.



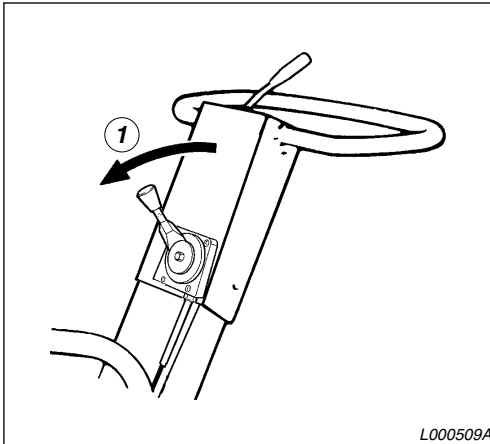
**CAUTION** The ignition key must be turned to **O**, or else the machine will consume electric power.



**WARNING** Always remove the key when you leave the machine, and keep it in a safe place. This will make it difficult for any unauthorized person to start and drive the machine.

## OPERATION – ALL ENGINE TYPES

### Operating

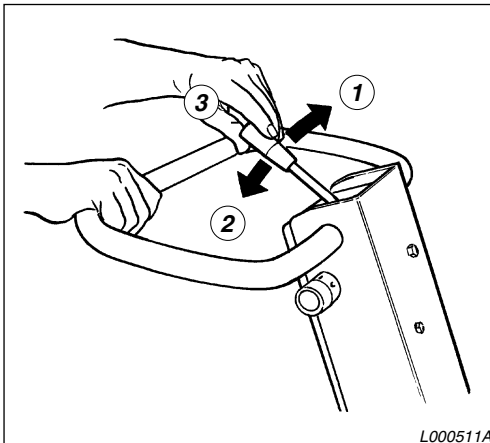


1. Open throttle fully.

CAUTION



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

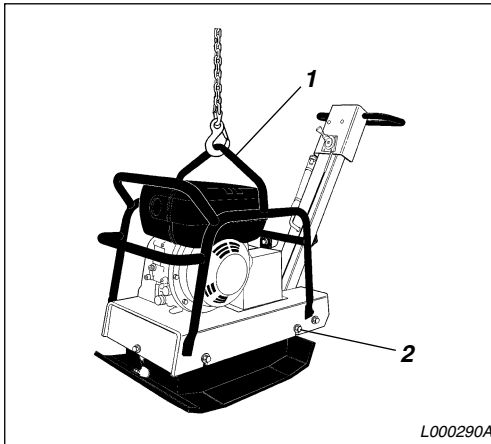


Drive direction and speed are infinitely variable with the hydraulic lever.

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



WARNING



**Never walk or stand underneath a hoisted machine**

CAUTION



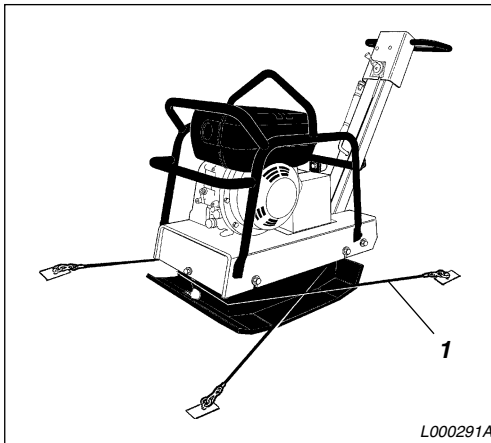
Use only the frame lifting hook (1) for lifting the machine.

CAUTION



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

## Transportation



WARNING

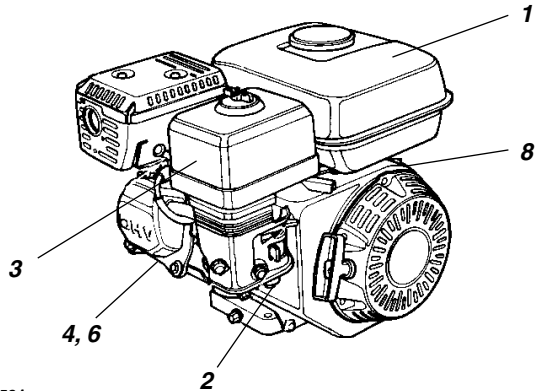


**Always secure the machine firmly during all transportation. Place lashing band in a U shape around the bottom plate and secure both front and rear**

**Machine ready for transportation**  
1. Lashing strap

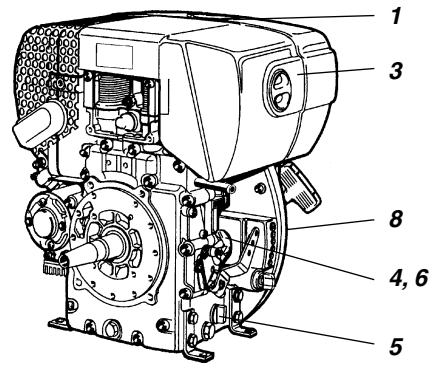
# MAINTENANCE – SERVICE POINTS

**Honda GX160, GX200 – Petrol Engine**



L000253A

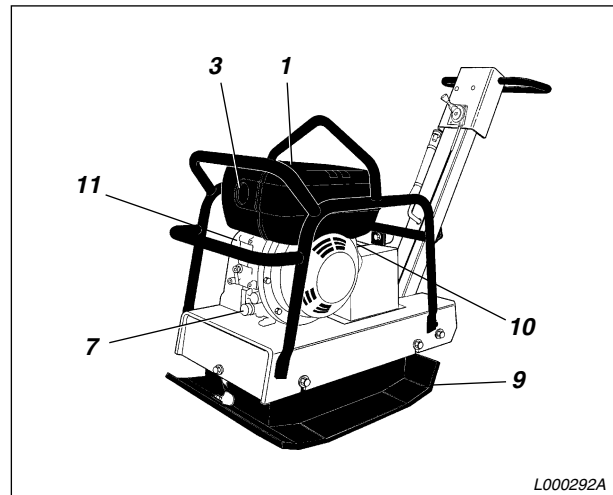
**Hatz 1B20 – Diesel Engine**



L000252A

**Fig. 1 Honda GX160, GX200 – Hatz 1B20**

- 1. Fuel tank
- 2. Fuel filter
- 3. Air filter
- 4. Engine oil
- 5. Engine oil filter
- 6. Oil dipstick
- 7. Oil drain plug
- 8. Engine cooling system



L000292A

**Fig. 2**

- 1. Fuel tank
- 3. Air filter
- 7. Oil drain plug
- 9. Eccentric element,  
level/drain plug
- 10. Hydraulic reservoir
- 11. V-belt

## Every 10 hours of operation (daily)

| Item in fig. | Maintenance                          | see page | Comments |
|--------------|--------------------------------------|----------|----------|
| 1            | Check and replenish fuel             |          |          |
| 4            | Check and replenish lube oil         | 22       |          |
|              | Check for oil leakage                |          |          |
|              | Check and tighten engine parts       | 22       |          |
| 3            | Clean / replace air cleaner elements |          |          |

## MAINTENANCE – SERVICE POINTS

### The first 20 hours of operation

| Item in fig. | Maintenance                                 | see page | Comments   |
|--------------|---|----------|--|
| 5            | Change lube oil                             | 23       | See engine manual.<br>See engine manual.<br>See engine manual. |
| 3            | Clean / replace oil filter                  |          |  |
|              | Clean / replace air cleaner elements        |          |  |
|              | Check and adjust the engine valve clearance |          |  |

### Monthly

| Item in fig. | Maintenance                            | see page | Comments |
|--------------|--|----------|----------|
| 10           | Check oil level in hydraulic reservoir | 23       |          |
| 11           | Check V-belt                           | 23       |          |

### Every 100 hours of operation

| Item in fig. | Maintenance                          | see page | Comments           |
|--------------|--------------------------------------|----------|--------------------|
| 7            | Change lube oil                      | 23       | See engine manual. |
| 3            | Clean / replace air cleaner elements |          |                    |

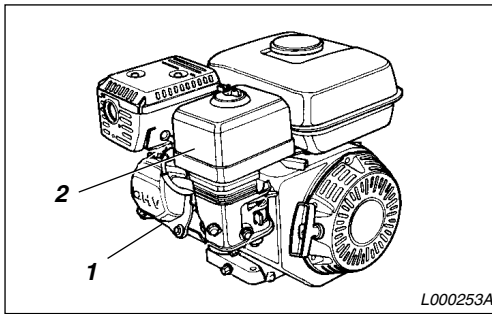
### Every 500 hours of operation

| Item in fig. | Maintenance   | see page | Comments   |
|--------------|---|----------|--|
| 7            | Change engine oil   | 23       | See engine manual.<br>See engine manual.<br>See engine manual.<br>See engine manual.<br>See engine manual.<br>See engine manual. |
| 9            | Change eccentric element oil                              | 25       |  |
| 10           | Change hydraulic fluid                                    | 25       |  |
| 5            | Clean / replace oil filter                                |          |  |
| 3            | Clean / replace air cleaner elements                      |          |  |
|              | Check fuel injection pump                                 |          |  |
|              | Check fuel injection nozzle                               |          |  |
|              | Adjust valve head clearance for intake and exhaust valves |          |  |

### Every 1000 hours of operation

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

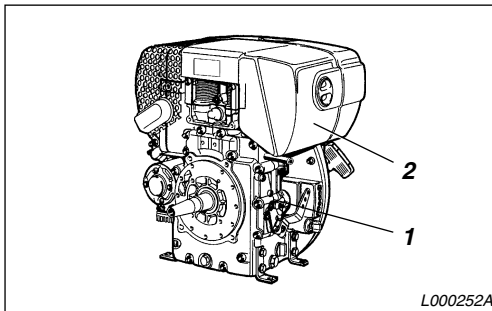
## MAINTENANCE – EVERY 10 HOURS OF OPERATION



1. Oil dipstick
2. Air cleaner

L000253A

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

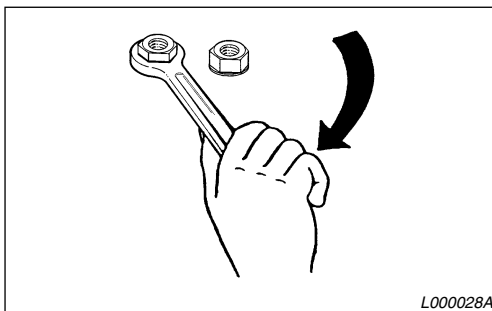


1. Oil dipstick
2. Air cleaner

L000252A

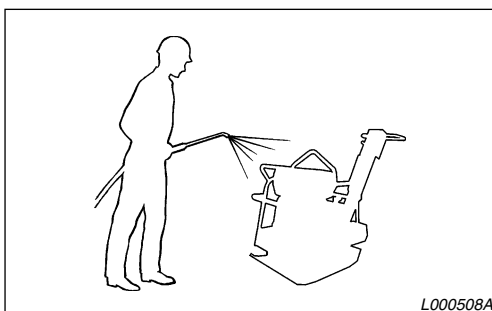
2. Check air cleaner (2).
3. Check the battery (Hatz electric starter).

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



L000028A

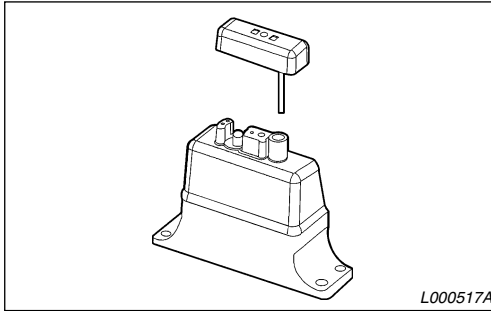
4. Check and, where necessary, tighten screws and nuts.



L000508A

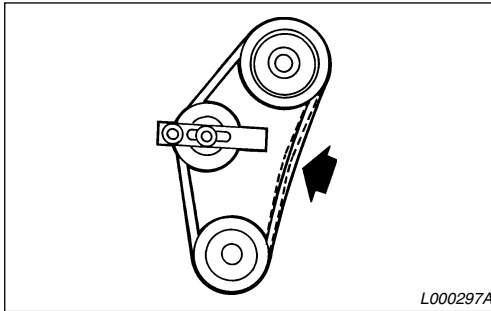
5. Keep machine clean.

## MAINTENANCE – MONTHLY



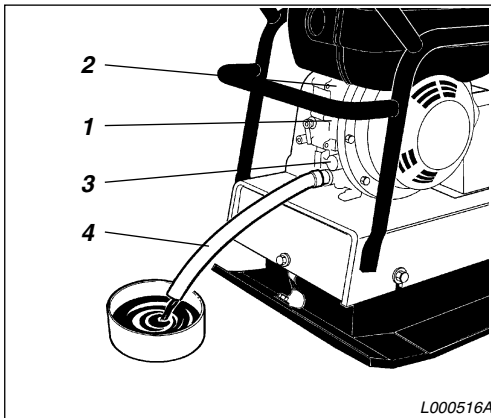
Dipstick

1. Check oil level in hydraulic tank.  
Check oil level on the dipstick.



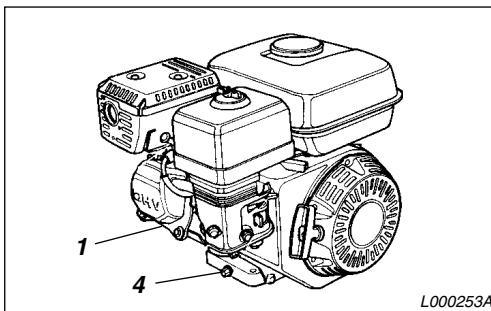
2. Check the V-belt.

## MAINTENANCE – EVERY 100 HOURS OF OPERATION



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

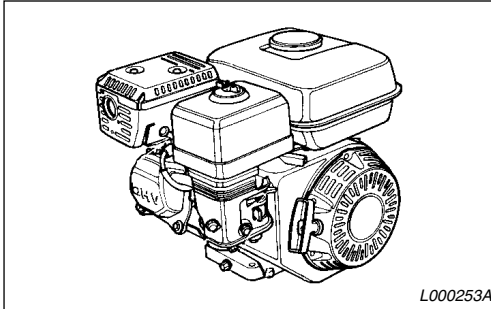
1. Change oil (first change after 20 hours, together with engine filter).



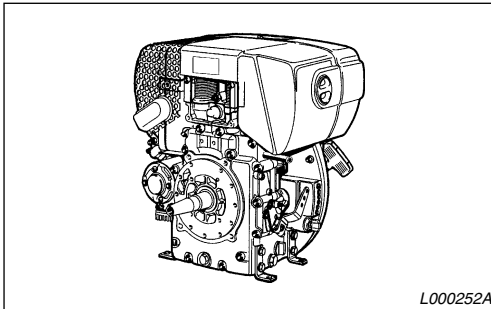
1. Oil dipstick
4. Oil drain plug

2. Lubricate controls.

## MAINTENANCE – EVERY 500 HOURS OF OPERATION

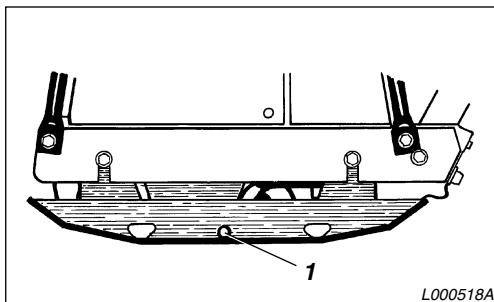


1. Replace fuel filter. (See engine manual)
2. Change oil. (See engine manual)
3. Replace oil filter. (See engine manual)
4. Replace air cleaner element. (See engine manual)



## MAINTENANCE – EVERY 500 HOURS OF OPERATION

### Changing oil in eccentric element



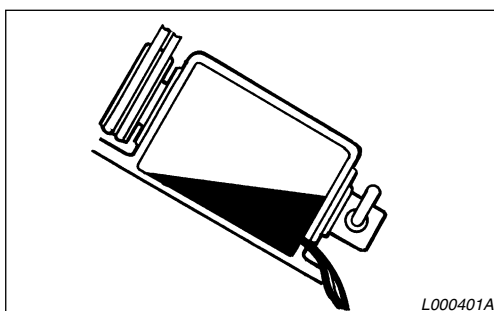
1. Oil level plug

Recommended oil: SAE 10W/30.

LG140 0,4 lit.

LG160 0,4 lit.

LG200 0,5 lit.

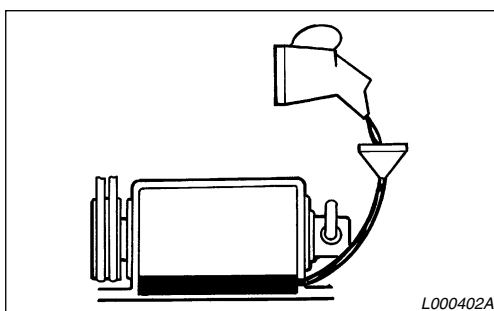


1. Slant the machine and drain oil from eccentric.

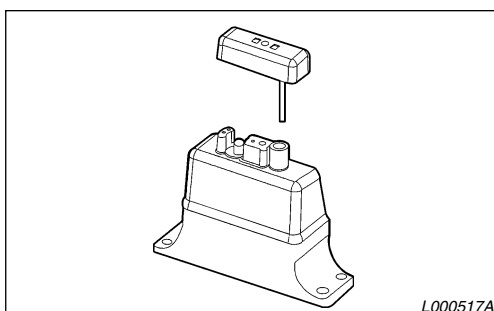
2. Clean sealing surfaces.

3. Fill with oil.

4. Tighten oil plug.



### Changing oil in hydraulic system



Recommended oil:

LG140 1,0 lit. Shell TX32

LG160 1,0 lit. Shell TX32

LG200 1,0 lit. Shell TX32

### Lubricating of controls and

1. Remove old grease.

2. Lubricate all parts. Apply grease generously.

Recommended lubricant: Shell Alvania EP2.

***DYNAPAC***

Box 504, SE-371 23 Karlskrona, Sweden

Phone: +46 455 30 60 00

Fax: +46 455 30 60 30

[www.dynapac.com](http://www.dynapac.com)