

Instruction manual

ILG400-1EN1.pdf
Operation & Maintenance

Forward and Reversing Plate Compactor
LG400

Engine
Honda GX390 (Petrol)
Lombardini 15 LD 440 (Diesel)
Serial number
***34000001*-**

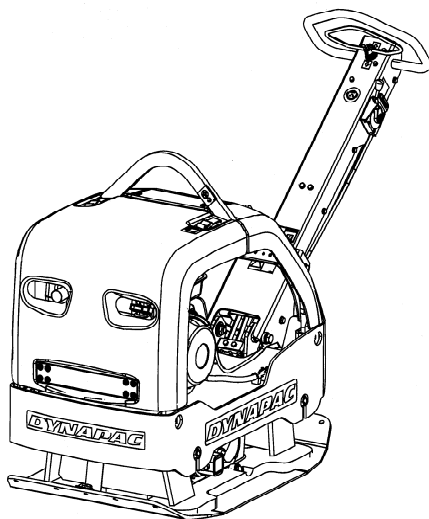


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Introduction


Warning symbols

 **WARNING !** Marks a danger or a hazardous procedure that can result in life threatening or serious injury if the warning is ignored.

 **CAUTION !** Marks a danger or hazardous procedure that can result in damage to the machine or property if the warning is ignored.

Safety information

 **We recommend that the operator reads the safety instructions in this manual carefully. Always follow the safety instructions. Ensure that this manual is always easily accessible.**

 **Read the entire manual before starting the machine and before carrying out any maintenance.**

 **Ensure good ventilation (extraction of air by fan) where the engine is run indoors.**

General

This manual contains instructions for machine operation and maintenance.

The machine must be correctly maintained for maximal performance.

The machine should be kept clean so that any leakages, loose bolts and loose connections are discovered at as early a point in time as possible.

Inspect the machine every day, before starting. Inspect the entire machine so that any leakages or other faults are detected.

Check the ground under the machine. Leakages are more easily detected on the ground than on the machine itself.



THINK ENVIRONMENT ! Do not release oil, fuel and other environmentally hazardous substances into the environment. Always send used filters, drain oil and fuel remnants to environmentally correct disposal.

This manual contains instructions for periodic maintenance normally carried out by the operator.



Additional instructions for the engine can be found in the manufacturer's engine manual.

CE marking and Declaration of conformity

(Applies to machines marketed in EU/EEC)

This machine is CE marked. This shows that on delivery it complies with the basic health and safety directives applicable for the machine in accordance with machinery directive 2006/42/EC and that it also complies with other directives applicable for this machine.

A "Declaration of conformity" is supplied with this machine, which specifies the applicable directives and supplements, as well as the harmonized standards and other regulations that are applied.

Safety - General instructions

(Also read the safety manual)

Symbols

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



WARNING! Indicates danger or hazardous procedure that could result in serious or mortal injury if the warning is disregarded.



Caution! Indicates danger or hazardous procedure that could result in damage to machinery or property if the warning is disregarded



Important rules for your safety

The machine may not be modified without the approval of the manufacturer.

Only use original parts.

Use only accessories recommended by Dynapac.

Modifications can result in serious injuries to yourself or others.

- 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 they are legible. The ordering numbers for new stickers can be found in the spare parts list.
- Machines and accessories may only be used for their intended purpose.
- For reasons of product safety, the machine must not be modified in any way.
- Replace damaged and worn parts in good time.

Always pay attention to what you are doing.

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 following requirements apply to operators and persons in the immediate vicinity of the work area.

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

Avoid loose-fitting clothing which can get caught in the machine. If you have long hair, cover it with a hair net.

Vibrations from handheld machinery are transmitted to the hands via the handles. Dynapac machines feature a handle design that absorbs much of the vibration.

Depending on the operation, ground conditions and exposure time, the recommended limits for hand/arm vibrations may be exceeded. Where necessary, take suitable measures such as wearing protective gloves or not vibrating on previously compacted material.

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

Do not use a machine that is leaking fuel or oil.

The 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.

Filling up fuel (Petrol/Diesel)

Petrol has a low flash-point and can be explosive in certain situations. Do not smoke! Make sure there is adequate ventilation.



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 to avoid fire. 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 overpressure that might exist in the tank. Always take care to use the right type of fuel. Do not overfill the tank. Inspect the machine for fuel leakage regularly.

Before starting

read the instruction manual and thoroughly familiarise yourself with the machine and all its functions, and check that:



- All handles are free from grease, oil and dirt.
- The machine has no visible faults.
- All protective devices are securely fastened into place.
- All control levers are in the 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.

Only use the machine for the purpose for which it is intended. Ensure that you know how to stop the machine in the event of an emergency.



Always exercise extreme caution when driving the machine on slopes. Always ensure that all personnel in the vicinity are higher up the slope than the machine. Always drive straight up and down on slopes. Do not exceed the maximum gradability of the machine according to the instruction book. Always stay clear of the machine when operating on slopes or in trenches.

Never touch the engine, exhaust system or eccentric element of the machine. They become extremely hot during operation and may result in burns. Do not touch the V-belts or the rotating parts during operation.

Parking

Always park the machine on ground which is as level and firm as possible.

Before leaving the machine:

- Apply the parking brake
- Turn off the engine and remove the ignition key.



Loading/Unloading

Under no circumstances remain under or in the immediate vicinity of the machine when it is being lifted by a crane or similar appliance. Only use marked lifting points. Always make sure that all lifting devices are dimensioned for the weight of the machine.

Maintenance

Maintenance work may only be carried out by skilled personnel. Never carry out any type of maintenance work while the machine is in motion or the engine running.

Working with the hydraulic system

Regular maintenance of hydraulic systems is extremely important.

Minor damage or split hoses/couplings can have devastating consequences. Bear in mind that the hydraulic hoses are made of rubber and can deteriorate with age, with the consequent risk of splitting. Whenever there are uncertainties as to durability and wear, replace hoses with new original hoses from Dynapac.

Working with batteries

The battery contains poisonous and corrosive sulphuric acid. Wear protective glasses and avoid getting acid on your skin, clothes or on the machine. 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. The battery must not be exposed to naked flames, sparks, strong heat or anything else where there is a risk of explosion.

Repairs

Never use a machine that is damaged.
As qualified repairs require trained personnel, please get in touch with your nearest authorized workshop.

Extinguishing fires

In the case of a fire in the machine, if possible use an ABE-class powder extinguisher. However, a BE-type carbon dioxide fire extinguisher may also be used.

Battery charging

Use a voltage-regulated battery charger (constant voltage). A switched two-stage charger with constant voltage is recommended. A two-stage charger automatically reduces the charging voltage (14.4 V) to trickle charging (13.3 V) when the battery is fully charged.

Suitable battery chargers for 230 Volt:

Optima Model RTC 12/7-S-230

LADAC Model LADAC 512

Tudor Model 61715 Tudor

Storage/Trickle charging

A discharged battery will freeze at a temperature of about (-7°C). A fully charged battery will freeze at (-67°C). A battery that is not being used should be fully charged before being put aside. Trickle charging is not normally required during a period of 6 to 8 months. If a battery has not been in use for a long period, it is recommended that it be fully charged before being used. Trickle charging is recommended a couple of times during the season (especially in winter).

Safety - when operating

Slopes

Ensure that the work area is secure. Wet and loose earth reduces manoeuvrability especially on sloping ground. Always exercise extreme caution on sloping and uneven terrain.

Never work on slopes that exceed the capabilities of the machine. The maximum slope of the machine in operation is 20° (depending on the 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 lesser slope than specified here.

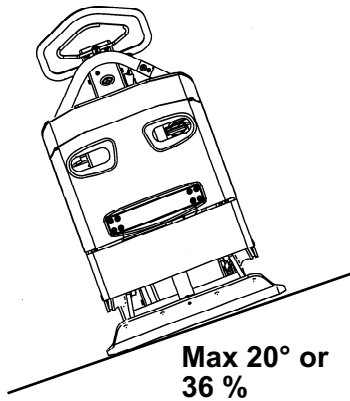


Fig. Operation on slopes

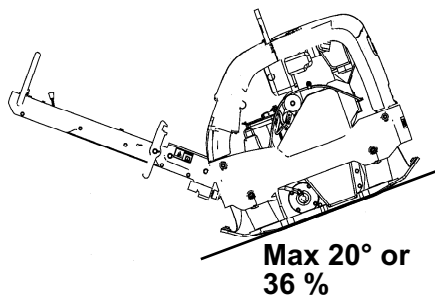


Fig. Operation on slopes



Where possible, avoid driving across slopes. Instead, drive straight up and down when working on sloping ground.



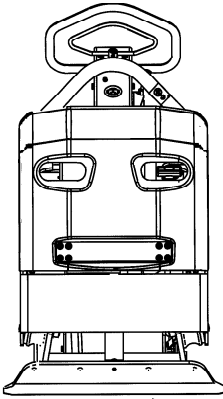
Never leave the machine with the engine running.

Driving near edges

When operating along edges, at least 2/3 of the plate should be on a surface with full bearing strength.



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



At
least
2/3

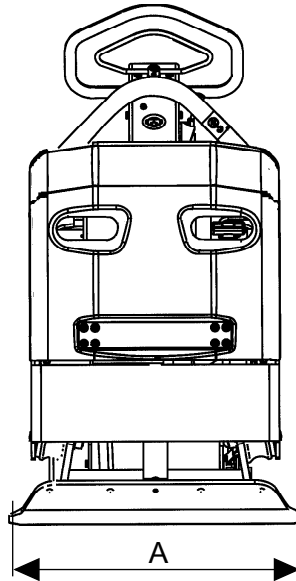
Fig. The positioning of the machine when driving near edges

**Technical specifications -
Noise/Vibrations/Electrical****Noise levels**

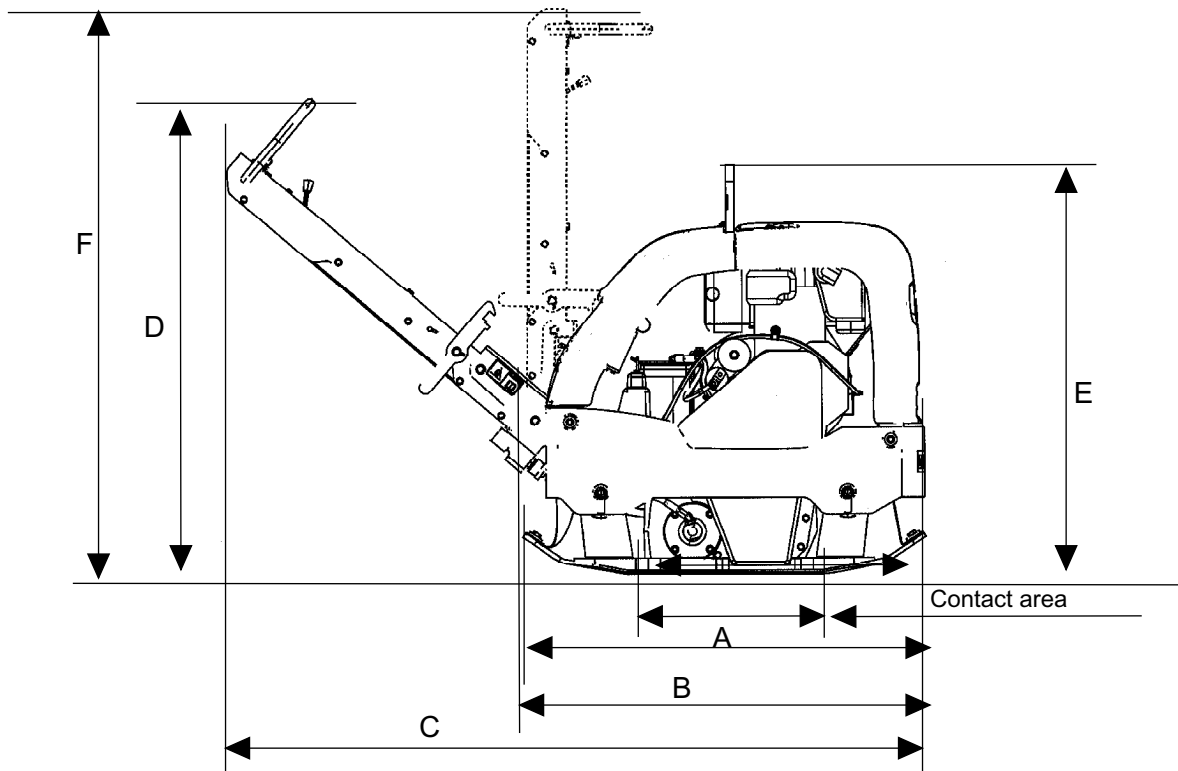
The below noise and vibration levels have been determined in accordance with the operating cycle on a macadam base described in EU Directive 2000/14/EC

	Honda	Lombardini
Measured sound power level, L_{wA} dB (A)	106	107
Guaranteed sound power level, L_{wA} dB (A)	108	108
Sound pressure level at operator's ear (EN 500-4), L_{pA} dB (A)	93,2	94,5
Hand and arm vibrations (EN500-4), a_{hv} m/s ²		
Standard handle	2,5	2,1
Low vibration handle	-	-
Hand and arm vibrations, permitted working hours per day, (calculated on action value of 2.5 m/s ² as per 2002/44/EC),		
Standard handle	8	8
Low vibration handle	-	-
Values may differ from those above depending on operating conditions.		
Uncertainty factor for gravel bed		
K_{wa} dB(A)	1,5 - 2,5	1,5 - 2,5
K_{pa} dB(A)	2,5 - 3,0	2,5 - 3,0

Technical specifications - Dimensions



Dimensions	Honda	Lombardini
A mm (in)	650 (25.5)	650 (25.5)



Dimensions	Honda	Lombardini
A mm (in)	967 (37.4)	967 (37.4)
B mm (in)	980 (38.5)	980 (38.5)
C mm (in)	1690 (66.4)	1690 (66.4)
D mm (in)	1150 (45.2)	1150 (45.2)
E mm (in)	990 (38.9)	990 (38.9)
F mm (in)	1390 (54.6)	1390 (54.6)
Contact area, m2, (sq feet)	0,28 (3.01)	0,28 (3.01)

Technical specifications - Weights and volumes

Weights	Honda	Lombardini
Net weight, kg (lbs)	396 (873.1)	434 (956.8)
Operating weight EN500, kg (lbs)	398 (877.5)	436 (956.8)

Technical specifications - General

Engine	Honda	Lombardini
Manufacture/Model	Honda GX 390 4-stroke Manual start	Lombardini 15 LD440 4-stroke
Power	7.7 kW (10,5 hp)	6.4 kW (8.7 hp)
Rated Speed	3100 rpm	3100 rpm

Fluid volumes	Honda	Lombardini
Fuel tank, liters (qts)	6,1 (6.4)	5 (5.3)
Crank case, l (qts)	1,1 (1.16)	1,5 (1.59)
Hydraulic fluid, liters (qts)	1 (1.06)	1 (1.06)
Eccentric element, liters (qts)	0.75 (0.79)	0.75 (0.79)
Fuel consumption liters/hour (qts/h)	-	1.7 (1.80)

Compaction data	Honda	Lombardini
Vibration frequency, Hz (rpm)	60 (3600)	60 (3600)
Centrifugal force, kN (lbf)	52 (11690)	52 811690)
Amplitude, mm (in)	1,8 (0.07)	1,8 (0.07)

Performance	Honda	Lombardini
Working speed m/min (feet/min)	25 (82)	25 (82)
Max tilt°	20	20

Machine plate - Identification

Machine plate

Fill in all data below when delivering and commissioning the machine

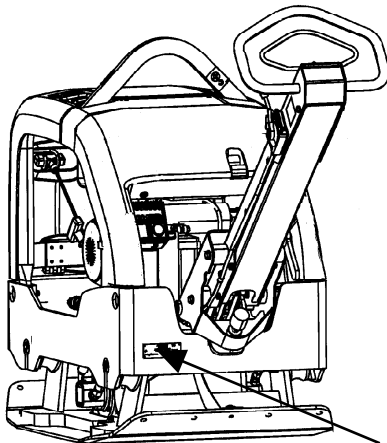
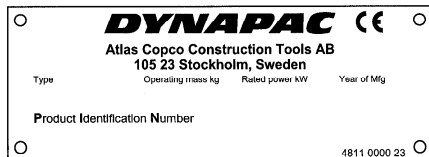
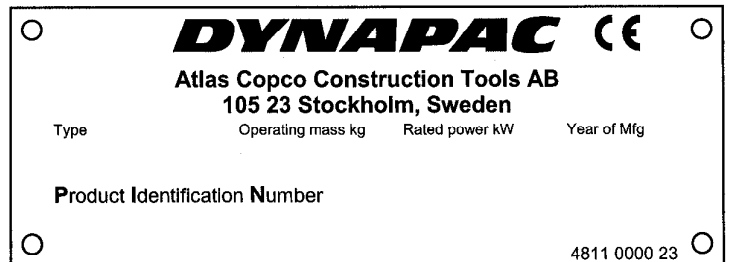


Fig. Location of machine plate.



Engine model

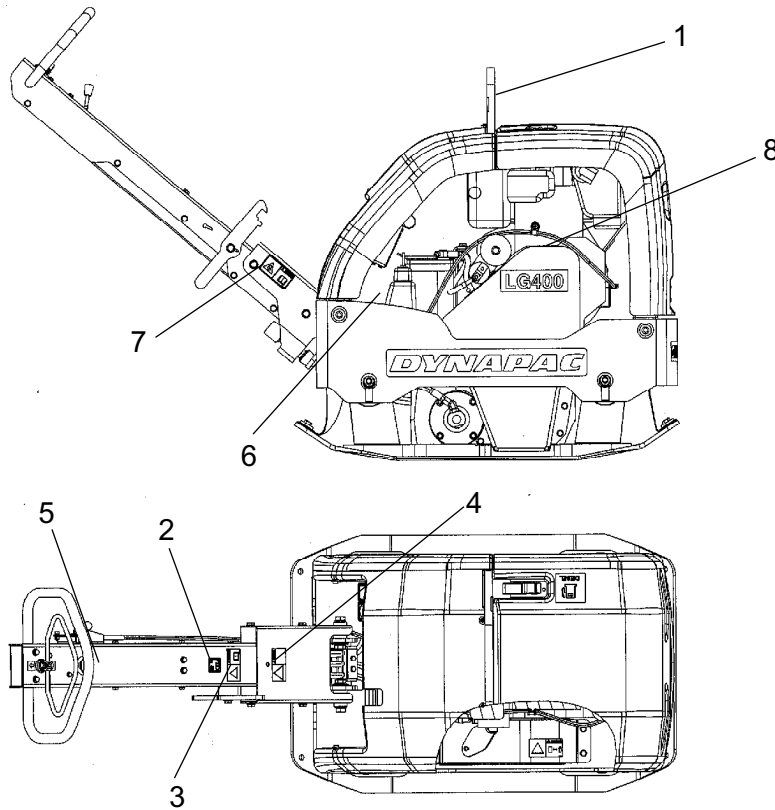
Engine number

The plate specifies the manufacturer's name and address, the type of machine, the PIN product identification number (serial number), operating weight, engine power and year of manufacture. (on machines supplied to outside the EU, there are no CE markings and in some cases no year of manufacture.)

When ordering spare parts specify the machine's PIN number.

**Safety decals
Machine specifications- Decals**

Location of decals

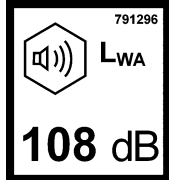


1. Lifting point	Item no.	4700357587	2. Guaranteed Sound Power level	Item no.	4700791296
3. Warning decal	4700904680	4. Warning decal	4700904785		
5. Use ear protectors	4700281898	6. Hydraulic fluid level	4700272323		
7. Warning, lock the handle when transporting.	4700908229	8. Warning, hand and arm entanglement.	4700903832		

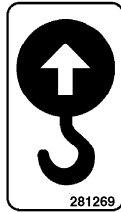
Always make sure that all safety decals are completely legible, and remove dirt or order new decals if they have become illegible. Use the part number specified on each decal.

Info-decals

Noise power level



Lifting point



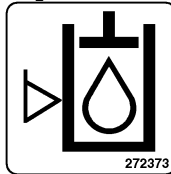
Hearing protection



Diesel (Lombardini)

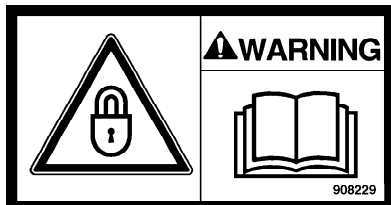


Hydraulic fluid



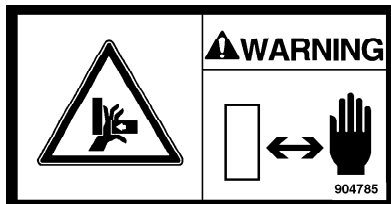
904680
Warning, Instruction Manual

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



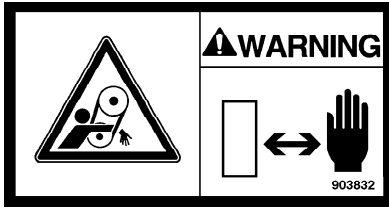
908229
Warning - Locking

Lock the handle during transport.



904785
Warning - Crush zone

Keep your hands at a safe distance from the danger zone.



903832
Warning - Rotating V-belts

Keep your hands at a safe distance from the danger zone.

The machine's range of applications

The machine's range of applications

Dynapac LG vibratory plate compactors are designed for the compaction of fill. The LG plate compactor can be used for most applications in its class, round concreted foundations and structural units, floors and other foundations, and to refill trenches.

It is also useful for paving applications together with polyurethane matting.

The LG compactor must only be used in well-ventilated areas, as is the case with all combustion engine machines.

When operating the LG compactor, follow the instructions in the manual; do not sit or stand on the machine when it is working. This will interfere with the machine's functionality and can also damage the machine.

The LG compactor must not be towed behind vehicles.

Do not operate on steeper slopes than recommended in this manual.

Operation - Starting

Before starting, Honda

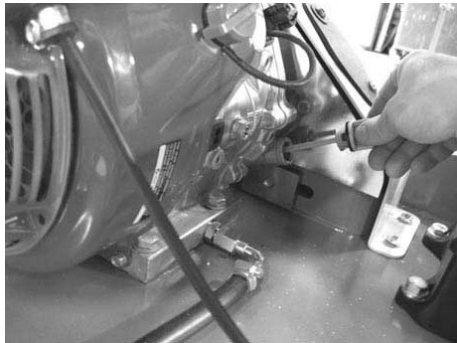
Follow the general safety precautions supplied with the machine on delivery. Check that daily maintenance has been carried out.

We recommend that you also read the detailed motor instructions supplied with the machine.

1. Check the engine oil level.
2. Fill the fuel tank with fuel.
3. Check that all operating controls are working.
4. Ensure that there is no leakage of oil and that all bolted joints are tight.

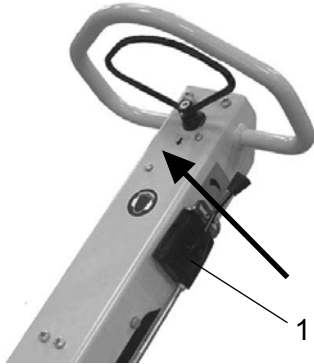


On new machines the oil must be changed after 20 working hours.

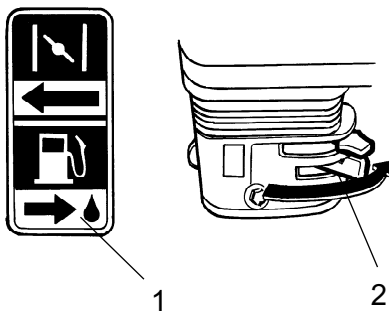


Starting the engine, Honda

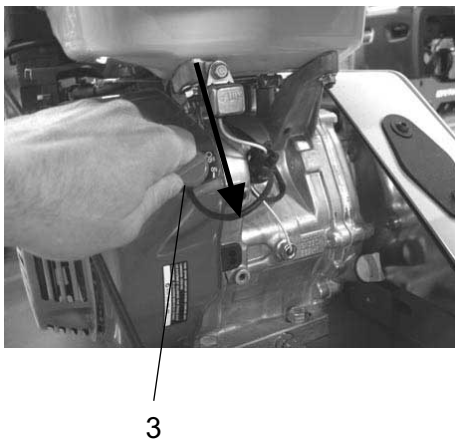
1. Open the fuel cock and set the throttle to half revs.

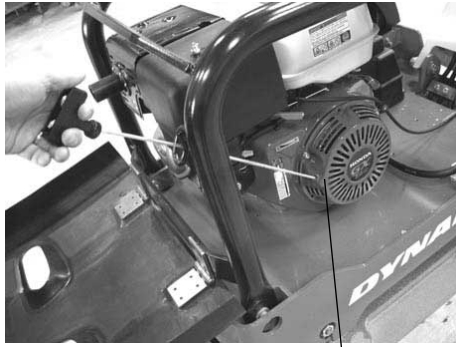


2. Close the choke valve if the engine is cold. If the engine is warm or the ambient temperature is high, close the choke halfway or leave it open.



3. Turn the start button to position 1.





The plate moves backward when started.

4. Grip the handle of the magna pull start and turn over the engine until there is resistance. Return the handle to the initial position, then pull briskly until the engine starts. Then gradually move the choke valve to the fully open position.

5. Allow the engine to idle a few minutes before revving up to full power.

Before starting, Lombardini

Follow the general safety instructions enclosed with the machine on delivery. Check that the daily maintenance has been carried out.

We also recommend that you read the Instruction Manual for the engine, which is supplied with the machine.

1. Check the engine oil level.
2. Fill the fuel tank with fuel.
3. Check that all the controls are working.
4. Make sure that there is no oil leakage, and that all bolted joints are tight.



On new machines the oil must be changed after 20 working hours.



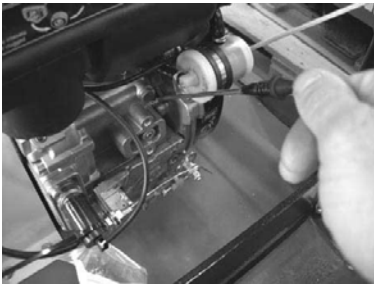
If after several attempts at starting the exhaust begins to emit white smoke, move the speed control to the stop position and slowly pull the starting cable out 5 times. Repeat the starting procedure.



When you have started the engine, leave speed control in the idling position for a few minutes to warm up the engine without loading it. The plate begins to move when the hydraulic system is connected, which takes place when the throttle is moved to the working position (full revs).

Starting Lombardini engine, Electric start

1. Check the engine oil level.



2. Set the throttle to half revs.

3. Insert the starter key and turn it to position 1.
The charging and oil lamps light up.



4. Turn the starter key from position 1 to 2. Release the key as soon as the engine starts.



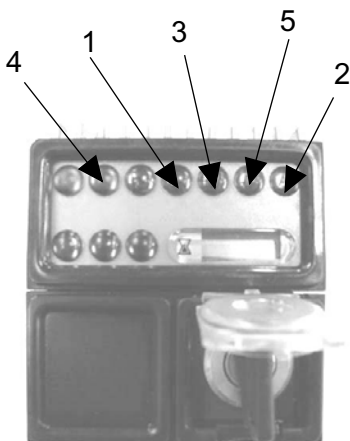
The plate moves backward when started.



The charging and oil pressure lamps must go off during normal operation. If the lamps do not go off, stop the machine and trouble shoot.



Make sure that the key remains in position 1 so that the battery is charged.




Description of control box:

1. Operating lamp, goes on when engine is running.
2. Charging lamp, goes of if there are charging problems.
3. Oil pressure, goes of for low oil pressure.
4. Engine temperature, goes on for overheating. Not used.
5. Indicates blocked air filter. Not used.

Operation - Driving

Operating

1. Open throttle fully.

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

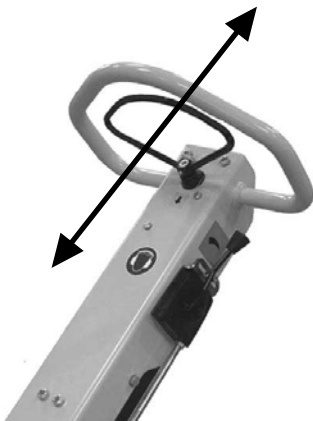


Drive direction and speed are infinitely variable with the hydraulic lever. @@

1. Forward
(the hydraulic lever is pushed forward with @@ small movements).

2. Reverse
(the hydraulic lever is pushed backwards with small movements).

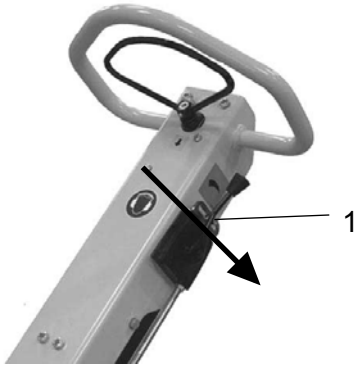
3. Stationary
(the hydraulic lever is moved with small movements in the opposite direction until the machine is stationary).



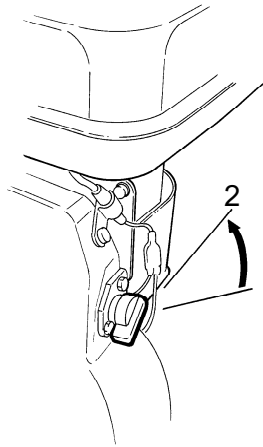
Operating - Stopping

Stopping the engine, Honda

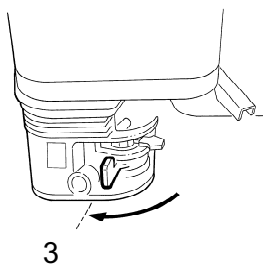
1. Press in the throttle. Let the engine idle a few minutes. (1).



2. Turn the start button to position 0 (2).

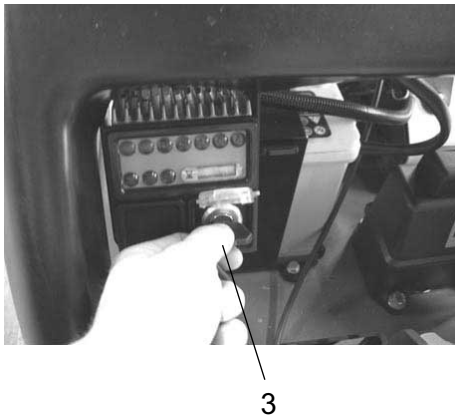
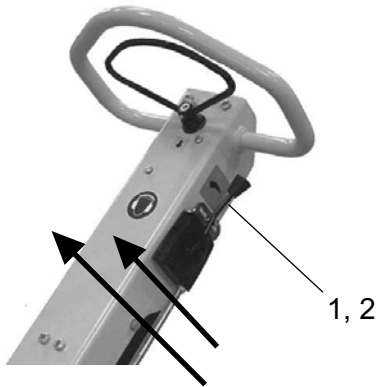


3. Close the fuel cock. (3).



Stopping the engine, Lombardini Electric start

1. Put the throttle in the idling position. Let engine run for a few minutes on idle to cool it down.
2. Put the throttle in the stop position.
2. Turn the starter key to position 0 and remove it. All the indicator lamps must go off.



The starter key must be turned to 0, or else the machine will consume current.



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 operate the machine.

Miscellaneous

Lifting

Lifting/Towing



Never walk or stand under a lifted machine.



Use only the safety frame lifting point (1) for lifting the machine.



The lifting equipment must be in dimensioned in order to fulfill all regulations. Before lifting check that rubber elements (2) and safety frame (1) are correctly attached and not damaged.

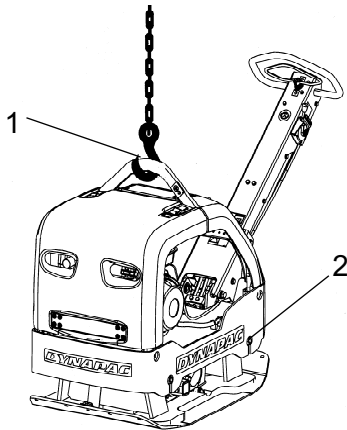


Fig. Machine ready for lifting

1. Lifting hook
2. Rubber element

Transport

Transporting the machine



Always secure the machine for all transportation. Place lashing strap in a U shape around the bottom plate and secure both front and rear.



Lock the handle (2).

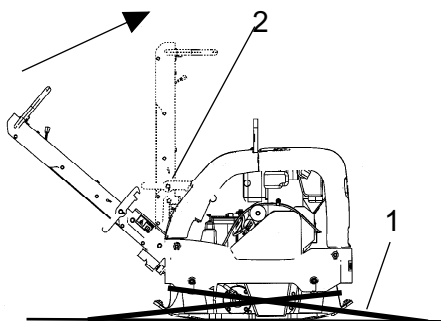







Fig. Machine ready for transportation

1. Lashing strap
2. Locking device

Maintenance - Lubricants and symbols

	ENGINE OIL	Use SAE 15W/40, Shell Rimula R3 U 15W-40 or equivalent Honda GX 390, Volume: 1.1 l Lombardini 15LD440, Volume 1.5 l
	ECCENTRIC ELEMENT OIL	Use SAE 15W/40, Shell Universal Engine Oil TX15W-40 Volume 0.75 lit.
	HYDRAULIC FLUID	Shell Tellus TX32 Volym 1.0 l
	FUEL	Honda: Use normal grade petrol Volym 6.1 l.
	FUEL	Lombardini Use diesel oil that complies with EN 590 or DIN 51601 Volume 5.0 l.



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

Maintenance - Maintenance schedule

Service and service points

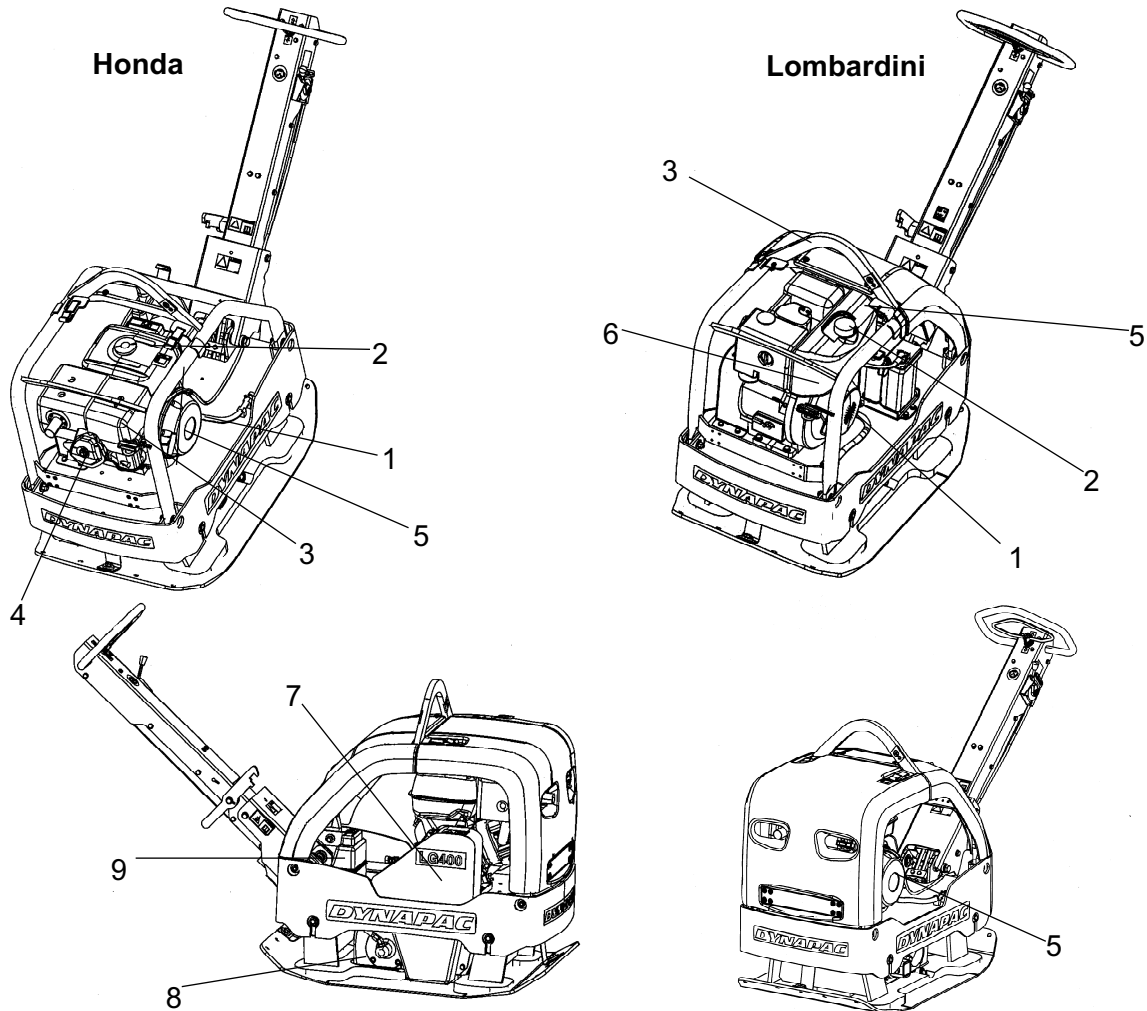


Fig. Service and service points

- | | |
|-------------------|------------------------|
| 1. Engine oil | 7 V-belt |
| 2. Fuel tank | 8 Eccentric element |
| 3. Air filter | 9 Hydraulic reservoir |
| 4. Spark plug | 15 Hydraulic reservoir |
| 5. Cooling system | |
| 6. Fuel filter | |



Study the engine instruction book and also follow the maintenance instructions.

Maintenance - Maintenance schedule

Every ten operating hours (Daily)

Please consult the list of contents for page and section references!

Action	Comment
Before the first start of the day	
Check and replenish fuel	
Check and replenish lube oil	
Check for oil leaks	
Check the air cleaner's drain valve	For engines equipped with cyclone Refer to the engine manual
Clean / replace air filter	
Check the tightness of all nuts and bolts	
Keep the machine clean	
Check / Clean the engine's cooling flanges	Refer to the engine manual
Check the engine's air filter indicator	Refer to the engine manual
Check that the controls are not damaged or do not jam	
Checking the oil level in the springloaded leg	Applies to DYNAPAC's LT series

After the first 20 hours of operation

Please consult the list of contents for page and section references!

Action	Comment
Change lube oil	
Clean / replace air cleaner elements	
Change the oil in the eccentric element/springloaded leg.	Only for oil-lubricated eccentric element.
Check the engine speed	
Check and adjust valve clearance	Applies to diesel engines Refer to the engine manual

Maintenance - Maintenance schedule

Every 100 hours of operation

Please consult the list of contents for page and section references!

Action	Comment
Change engine oil	Applies to petrol engines Refer to the engine manual
Check and clean the spark plug	Applies to petrol engines Refer to the engine manual
Check the vibration dampers	
Check the engine speed	
Check the V-belt	Applies to belt-driven machines
Clean the carburettor's fuel cock	Applies to petrol engines Refer to the engine manual
Clean the silencer's spark catcher	Applies to petrol engines Refer to the engine manual

Every 250 hours of operation

Please consult the list of contents for page and section references!

Action	Comment
Clean / replace air filter	Applies to diesel engines Refer to the engine manual
Check the injection pump	Applies to diesel engines Refer to the engine manual
Check the fuel injector	Applies to diesel engines Refer to the engine manual
Check adjustment of the engine's valve clearance	
Clean fuel tank and fuel filter	Applies to petrol engines Refer to the engine manual
Change the engine oil	Applies to diesel engines Refer to the engine manual
Clean the engine's cooling flanges	
Clean the engine's exhaust pipe	Applies to diesel engines Refer to the engine manual
Checking and tightening screws / nuts	
Lubricate controls and links	
Check all rubber elements. Replace as required	
Check that the battery terminals are clean and tightened.	
Check the hydraulic fluid	

Maintenance - Maintenance schedule

Every 500 hours of operation (Yearly)

Please consult the list of contents for page and section references!

Action	Comment
Adjust valve head clearance for intake and exhaust valves	Refer to the engine manual
Clean / check fuel filter / tank	Refer to the engine manual
Replace air filter	
Changing the oil in the eccentric element	Only for oil lubricated eccentric elements.
Clean the engine's cooling flanges	Refer to the engine manual
Clean and adjust the carburettor	Applies to petrol engines Refer to the engine manual
Check the fuel injection pump	Applies to diesel engines Refer to the engine manual
Check the fuel injection nozzle	Applies to diesel engines Refer to the engine manual
Change the oil in the engine	Refer to the engine manual
Drain the fuel system of water	Applies to diesel engines Refer to the engine manual
Replace the fuel filter.	Applies to diesel engines Refer to the engine manual
Clean the oil filter	Applies to diesel engines Refer to the engine manual

Maintenance - 10h

Checking the engine, Honda

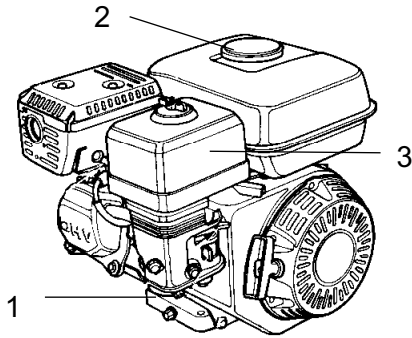


Fig. Engine 1. Oil dipstick
2. Fuel cap
3. Air filter

1. Check the oil level (1)
2. Check the fuel level (2)
3. Check for oil leaks
4. Check the air filter (3)



Save the oil and dispose of it in an approved manner.

Checking the engine, Lombardini



Fig. Engine 1. Oil dipstick
2. Fuel cap
3. Air filter

1. Check the oil level (1)
2. Check the fuel level (2)
3. Check for oil leaks
4. Check the air filter (3)



Save the oil and dispose of it in an approved manner.

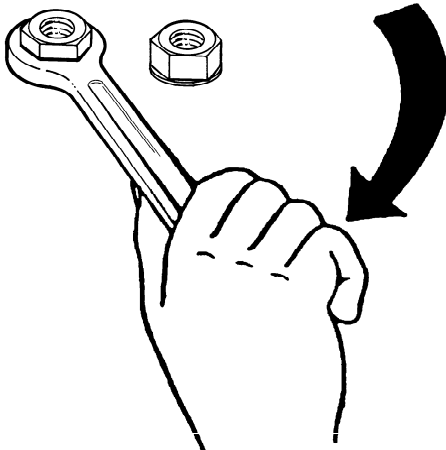


Fig. Checking bolted joint

Checking bolted joint

Check and, where necessary, tighten screws and nuts.



Fig. Replacing air filter.

Replacing air filter, Honda

Clean or replace the air filter, depending on its condition.



Fig. Replacing air filter.

Replacing air filter, Lombardini

Clean or replace the air filter, depending on its condition.



Fig. Cleaning the machine.

Cleaning the machine.

Keep machine clean.



Never aim a water jet directly at the fuel filler cap. This is particularly important when using a high-pressure cleaner.

Do not spray water directly onto electrical components or the instrument panels. Place a plastic bag over the fuel filler cap and secure with a rubber band. This will prevent water from entering the venting hole in the filler cap. This could otherwise cause operational disturbances, such as clogged filters.

Checking controls

Check that the machine's controls are not damaged or do not jam



Honda

2



Lombardini

2

Fig. Checking controls
1. Throttle
2. Controls, engine

The first 20 hours of operation

Replacing engine oil, Honda

Change the oil in the engine.

Check the engine speed



Use the oil drainage hose on machines that are equipped with this.



Save the oil and dispose of it in an approved manner.

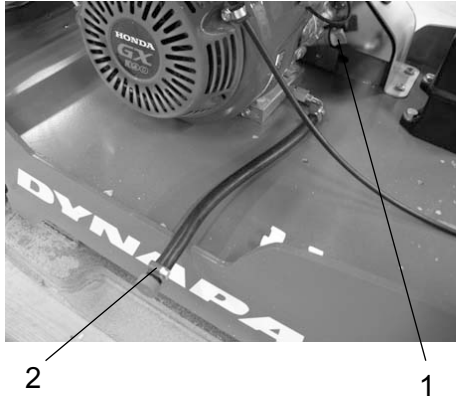


Fig. Engine
1. Oil dipstick/Filling
2. Drainage plug

Replacing air filter, Honda

Clean or replace the air filter, depending on its condition.

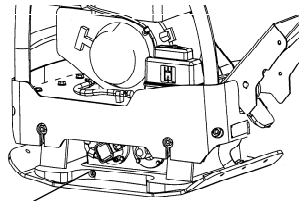


Fig. Replacing air filter.

Changing oil in the eccentric element



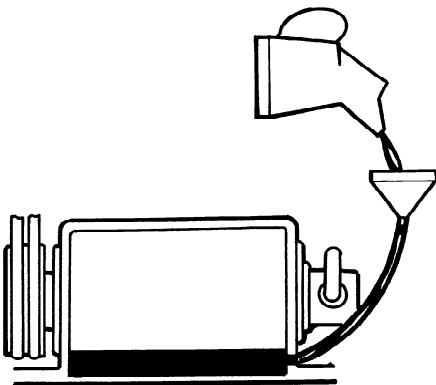
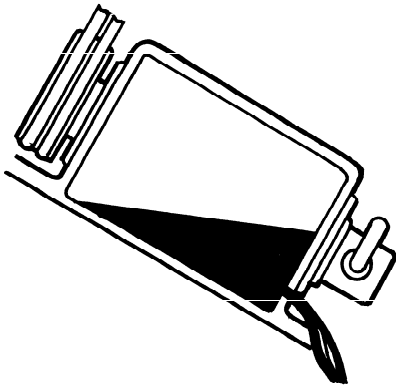
Save the oil and dispose of it in an approved manner



1

1. Drainage/Filler plug

1. Incline the machine and drain the oil from the eccentric element.
2. Clean the sealing surfaces.
3. Fill with oil
4. Screw in the plug



Replacing engine oil, Lombardini

Change the oil in the engine.

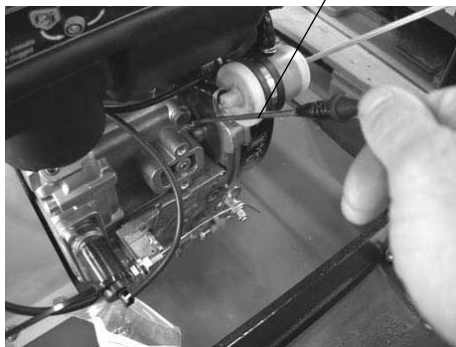
Check the engine speed



Use the oil drainage hose on machines that are equipped with this.



Save the oil and dispose of it in an approved manner.



2
Fig. Engine
1. Oil dipstick/Filling
2. Drainage plug

Replacing air filter, Lombardini

Clean or replace the air filter, depending on its condition.



Fig. Replacing air filter.

Maintenance - 100h

Replacing engine oil, Honda

Change the oil in the engine.

Check the engine speed



Use the oil drainage hose on machines that are equipped with this.



Save the oil and dispose of it in an approved manner.

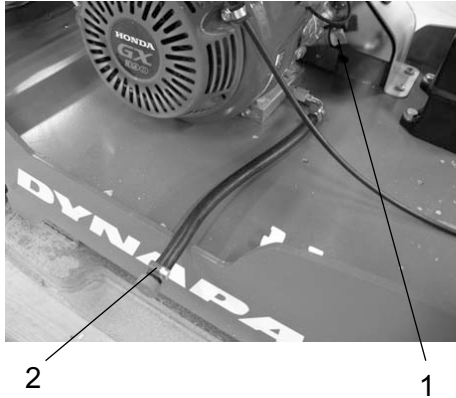


Fig. Engine
1. Oil dipstick/Filling
2. Drainage plug

Checking spark plug

1. Check and clean/replace the spark plug.

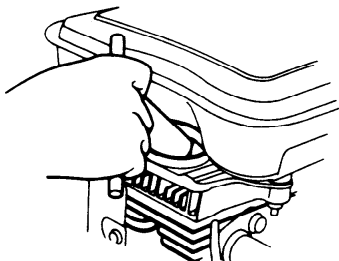


Fig. Replacing spark plug.

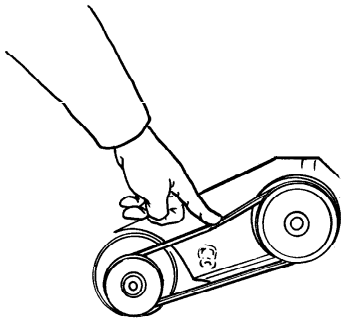


Fig. Checking the V-belt
1. V-belt

Checking the V-belt

1. Take off the protective cover and inspect the V belt.
2. To adjust belt tension, loosen the four engine-plate bolts and slide it backwards.
3. Check the ruling, tighten the screws and reinstall the protective cover.



Never run the machine without the protective cover over the V belt.

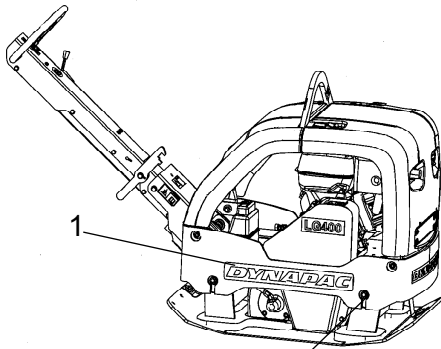


Fig. Vibration dampers.
1. Vibration dampers

Checking the vibration dampers

1. Check the vibration dampers

Maintenance - 250h

Checking the battery

1. Disconnect the battery cables.
2. Check that the battery is not damaged. Clean the battery terminals
3. Refit the battery cables.

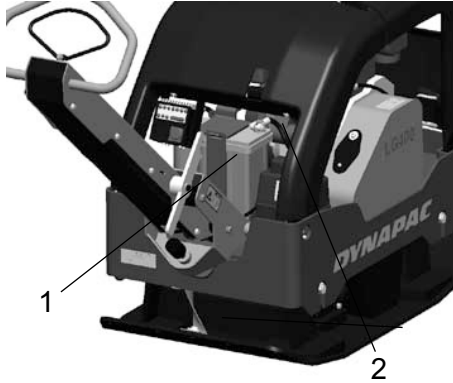


Fig. Checking the battery.
1. Battery
2. Battery cables

Checking bolted joint

Check and, where necessary, tighten screws and nuts.

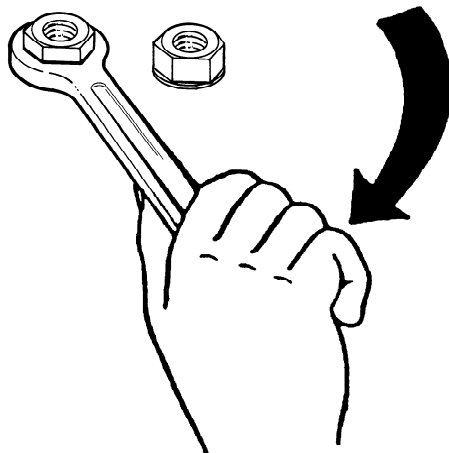


Fig. Checking bolted joint

Checking controls

Check that the machine's controls are not damaged or do not jam



Honda

2



Lombardini

2

Fig. Checking controls
1. Throttle
2. Controls, engine

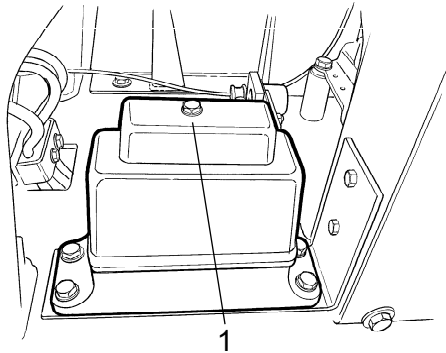


Fig. Hydraulic oil tank
1. Oil dipstick

Check hydraulic oil level

1. Check oil level in hydraulic tank.

Top up with oil if necessary

Checking the vibration dampers

1. Check the vibration dampers

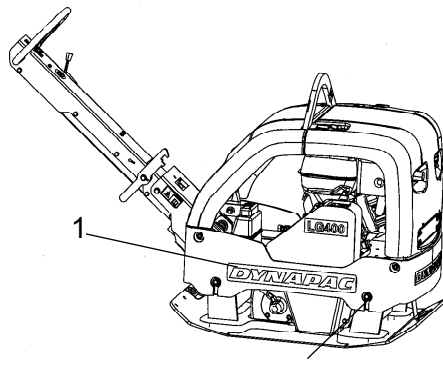


Fig. Vibration dampers. 1
1. Vibration dampers

Maintenance - 500h

Checking the engine, Honda

1. Check the oil level (1)
2. Check the fuel level (2)
3. Check for oil leaks
4. Check the air filter (3)



Save the oil and dispose of it in an approved manner.

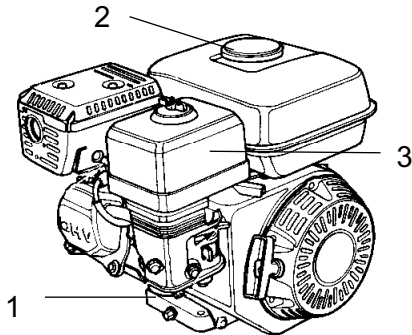


Fig. Engine 1. Oil dipstick
2. Fuel cap
3. Air filter



Fig. Replacing air filter.

Replacing air filter, Honda

Clean or replace the air filter, depending on its condition.

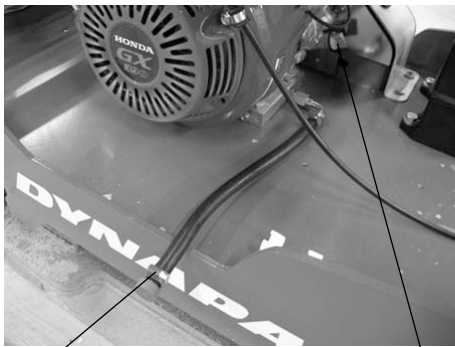


Fig. Engine
1. Oil dipstick/Filling
2. Drainage plug

Replacing engine oil, Honda

Change the oil in the engine.

Check the engine speed



Use the oil drainage hose on machines that are equipped with this.



Save the oil and dispose of it in an approved manner.



Fig. Replacing air filter.

Replacing air filter, Lombardini

Clean or replace the air filter, depending on its condition.

Replacing engine oil, Lombardini

Change the oil in the engine.

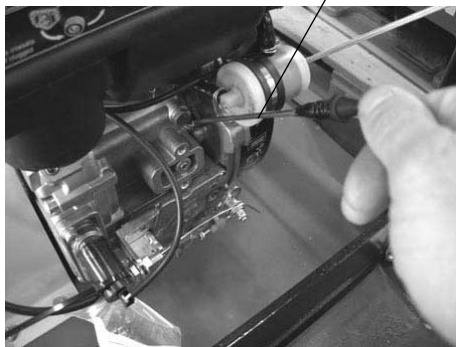
Check the engine speed



Use the oil drainage hose on machines that are equipped with this.



Save the oil and dispose of it in an approved manner.



2
Fig. Engine
1. Oil dipstick/Filling
2. Drainage plug

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