ENARCO, S.A.

TEN2540- TEN2550-TEN3040- TEN3050

es

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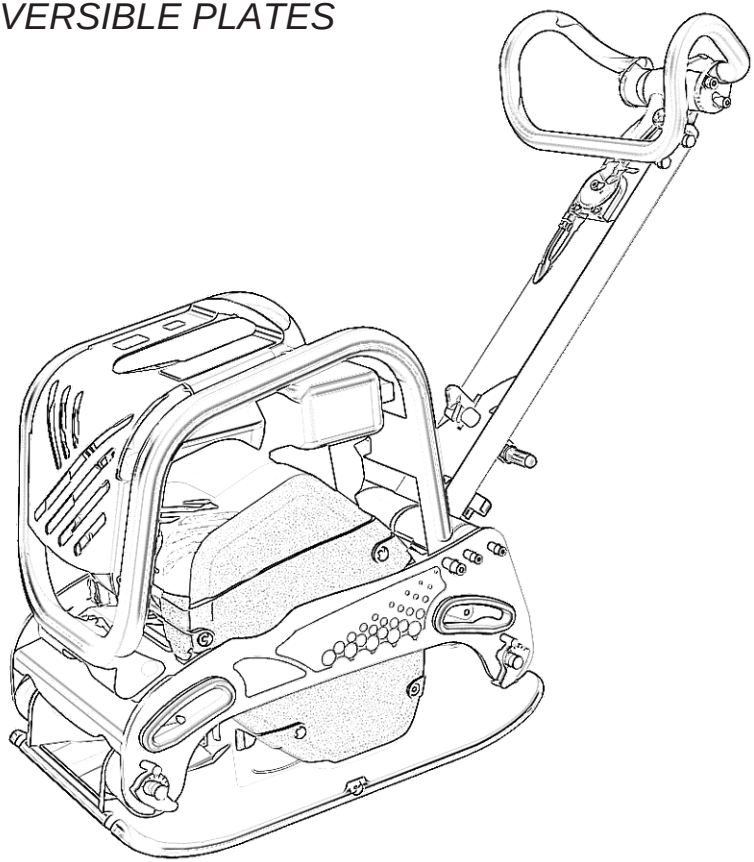
BANDEJAS REVERSIBLES
REVERSIBLE PLATES



Manual de Instrucciones
Instruction Manual

CONTENTS

1 PREFACE

We would like to thank our customers for the trust placed in the ENAR brand.

It is important to read this manual to gain a full understanding of the characteristics and functions of the compactor. Before commencing work with this machine, or performing maintenance tasks on it, read, digest and observe all the safety instructions included in this manual.

In the event of this manual becoming lost or a further copy required, this can be ordered from ENARCO or printed out direct from the ENARCO website: http://www.enar.es.

Following the correct procedures for maintenance will guarantee the long life and excellent performance of this equipment.

Although this manual provides certain specifications for the motor, we recommend consulting the instruction manual for the motor for information on maintenance and repairs.

If information concerning the operation or maintenance of this machine is required, please contact the ENARCO customer service by telephone or fax, or by sending an email to sat@enar.es or through our website in the section entitled Servicio ENAR.

2 SAFETY INFORMATION

2.1 SAFETY DURING THE OPERATION OF THE MACHINE

Improper use or maintenance of the equipment may lead to hazardous situations. Read and digest the instructions in this section before starting work with this machine. Machine operators should ensure that they know how to work the equipment safely. All queries should be dealt with by personnel familiar with the machine or else by contacting ENARCO directly.

- The motor gets very hot during operation: leave it to cool down before touching it.
- Never leave the machine unattended during operation.
- The equipment should not be used without adequate protection of the belt cover. Always make sure this is not missing and that it is in good condition.
- Operators should use protective clothing and ear muffs.
- Close off entry to the worksite for all unauthorised personnel.
- Make sure you know how to disconnect the machine before starting up the motor in case you get into difficulties.
- Make sure the machine has stopped before any attempt is made to move it.
- Do not attempt to lift the equipment unaided. Ask for help or use a lifting machine, taking hold of the equipment by the lifting handle incorporated in the assemblysurrounding the compaction plate.
- Do not use the equipment if you are not in good physical shape.
- Store the equipment properly in a clean, dry place whenever it is not going to be used. Fuels and other consumables should be kept in marked containers in accordance with the manufacturer's instructions. All current legislation concerning the storage site should also be complied with.
- Modifications and adaptations: for safety purposes, it is absolutely forbidden to modify or adapt the equipment in any way, including alterations to the number of revolutions of the motor esstablished by the manufacturer, without prior authorisation from ENARCO. ENARCO will be exempt from any liability deriving from failure to comply with this instruction.

2.2 SAFETY DURING OPERATION OF THE MACHINE

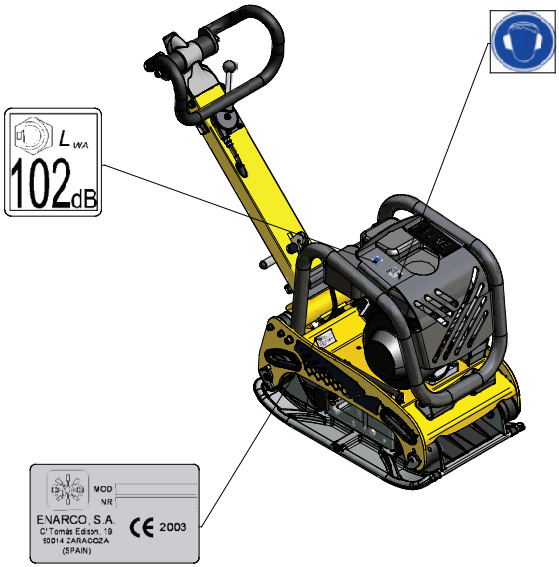
Owing to their high degree of inflammability, fuels are particularly dangerous. Improper use can cause serious damage to personnel and materials. Always observe the following safety regulations:

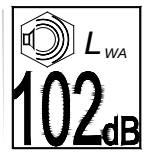
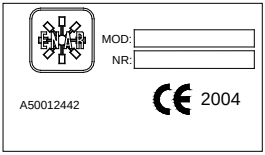
- Do not operate the machine inside a building or closed area without adequate ventilation. Failure to comply with this regulation may lead to intoxication from carbon monoxide with loss of consciousness, and even death.
- Before filling the fuel tank, stop the motor and leave it to cool down for a few minutes.
- Smoking is prohibited while the machine is in operation, or being refueled.
- Do not refill the tank near an open flame and remember to always refuel in an area that is well ventilated.
- If the fuel tank is not airtight, it should be replaced immediately, since it could lead to explosions.
- If any fuel is spilt while refueling, spread sand over the area. Change your clothes if any fuel is spilt on them.
- Make sure that the fuel tank is closed properly after refueling.
- Check that there are no cracks or leaks in the pipes or fuel tank.

2.3 SAFETY DURING SERVICE

- Do not clean or inspect the equipment during operation.
- Do not start the motor up with the cylinder flooded or if the spark plug in the petrol motors has been removed.
- Do not inspect the igniter plug to see if it is sparking correctly if the cylinder is flooded with petrol or in the presence of any petrol fumes.
- Do not use dissolvents or fuels to clean the equipment, particularly in closed spaces.
- Maintain the area around the silencer clear of inflammable materials.
- Before servicing petrol-driven machines, remove the spark plug to guard against the motor starting up accidentally.
- It is not permitted to use the equipment in explosive environments. The fuel tank should be shut tight. When being transported over long distances, it is highly recommended that the fuel tank be emptied beforehand.
- The transport accessory has not been designed for standing the compaction plate on it and should only be used to move the equipment.

2.4 LABELS



LABEL	MEANING
	**Sound level in decibels(A)**
	**Specifications plate**
	**Use earmuffs**

3 RECYCLING

To help protect the environment, take the machine to a suitable recycling centre.

COMPONENT	MATERIAL
Handlebar	Steel
Cage assembly	Steel
Engine plate	Steel
Compaction plate	Steel
Handlebar cover	Rubber
Handle supports	Aluminium
Motor	Aluminium

COMPONENT	MATERIAL
Dampers	Steel and Rubber
Belt	Rubber
Frame	Aluminium
Cam box	Steel
Wheelbase	Steel
Wheels	Plastic and Rubber
Shafts	Steel

4 TECHNICAL SPECIFICATIONS

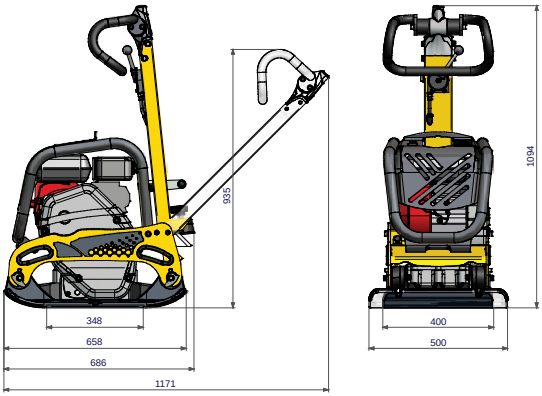
4.1 ENGINE SPECIFICATONS

	HATZ 1B20	ROBIN EX 17	HONDA GX160
FUEL	Diesel	Unleaded petrol (3.6 l)	Unleaded petrol (3.6 l)
ENGINE OIL	SAE 10W/40 (0.9 l)	SAE 10W/40 (0.6 l)	SAE 10W/40 (0.6 l)
NOMINAL POWER	3.4 kW (4.6 HP) at 3000 rpm	4.2 kW (5.7 HP) at 3600 rpm	4 kW (5.4 HP) at 3600 rpm
SPARK PLUG	------	NGK BPR6ES DENSO W20EPR-U	
GAP	------	0.7 mm - 0.8 mm	
REVOLUTIONS	3000 ± 100	3600 ± 100	
IDLING	$1100\ ^{+200}_{-150}$ r.p.m.	$1400\ ^{+200}_{-150}$ r.p.m.	
AIR FILTER	DUAL ELEMENT	DUAL ELEMENT	

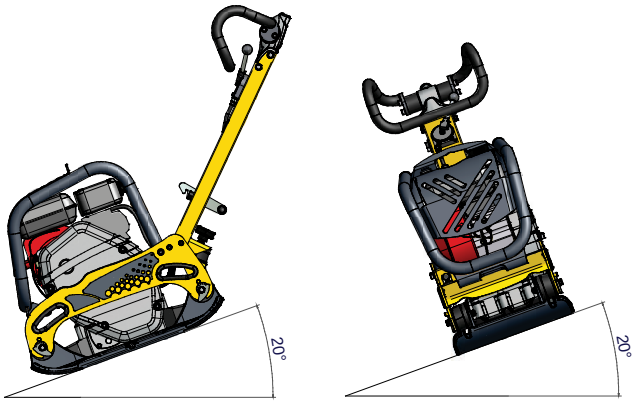
4.2 CHARACTERISTICS OF THE MACHINE

	UNIT	TEN2540GH	TEN2550GH	TEN2540DH	TEN2550DH	TEN2540GR	TEN2550GR
CENTRIFUGAL FORCE	kN	25					
OPERATING WIDTH	mm	400	500	400	500	400	500
FREQUENCY	Hz.(r.p.m.)	90 (5400)	90 (5400)	85 (5300)	85 (5300)	90 (5400)	90 (5400)
DISPLACEMENT	m/min	0-22	0-22	0-20	0-20	0-22	0-22
WEIGHT	Kg	134	140	148	155	134	140
MOTOR		HONDA GX160		HATZ 1B20		ROBIN EX17	
VIBRATOR OIL	c.c.	1000 (ISO 100)					

	UNIT	TEN3040GH	TEN3050GH	TEN3040DH	TEN3050DH	TEN3040GR	TEN3050GR
CENTRÍFUGAL FORCE	kN	30					
OPERATING WIDTH	mm	400	500	400	500	400	500
FREQUENCY	Hz.(r.p.m.)	90 (5400)	90 (5400)	85 (5300)	85 (5300)	90 (5400)	90 (5400)
DISPLACEMENT	m/min	0-22	0-22	0-20	0-20	0-22	0-22
WEIGHT	Kg	134	140	148	155	134	140
MOTOR		HONDA GX160		HATZ 1B20		ROBIN EX17	
VIBRATOR OIL	c.c.	1000 (ISO 100)					



4.3 MAXIMUM TILT OF THE PLATE DURING OPERATION



4.4 SOUND AND VIBRATION MEASUREMENTS

- Level of acoustic power according to EN 500-4: L_{WA} 106 dB(A)
- Level of acoustic pressure according to EN 500-4: L_{pA} 93 dB(A)
- Weighted real value of axial acceleration according to EN 500-4: Ahv 3.2 m/s^2

5 OPERATING INSTRUCTIONS

5.1 DESCRIPTION OF FUNCTIONS

The vibration of the machine is generated by rotating cams in the vibrating unit, which is anchored to the base of the compaction plate. The cams are arranged on two contrarotating shafts.
By varying the difference between the contrarotating cams, we can modify the composition of the force generated in the exciter and therefore the direction of oscillation. In this way it is possible to make the machine advance, remain in the same place or go backwards. This action is regulated in a constant, progressive manner using the hydraulic control located in the head of the steering column.

The vibrating unit is activated by the machine's thermal motor, which is bolted to the engine plate. The torque generated by the motor is transmitted to the vibrating unit by the centrifugal clutch to the motor outlet and the V-belt connecting the two shafts. At low revolutions the centrifugal clutch is not activated, and therefore it is possible to start up the motor without a load and leave the machine running with the motor ticking over gently. Although the motor's rotation regime can be regulated by means of the accelerator lever, the motor needs to be on maximum regime to avoid the clutch slipping.

The underside of the compaction plate is connected to the engine plate by means of four dampers that reduce the vibrations in the upper part of the machine, thereby facilitating operations both for the user and for the machine itself.

With the handlebar turned to the furthest position, the plate moves forward at maximum speed. When it is moved backwards, the handlebar reduces the speed of the machine until it comes to a standstill. If the handlebar continues to be pulled back, the compaction plate will start to travel in reverse, until it reaches the limit of the handlebar, at which point the machine is moving in reverse at maximum speed.

5.2 APPLICATIONS

This plate compactor is suitable for compacting granular soils, gravel and cobblestones.Plates fitted with a sprinkler can be used for compacting asphalt surfaces.

Typical applications for compacting soils with granular landfill in water mains, telephone networks, ditches of average or normal width, around pipelines, foundations and paths or pavements for pedestrians and bicylces.

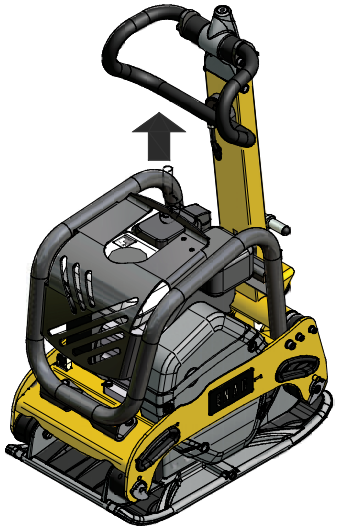
Applications for compacting asphalt surfaces include patching and repairing potholes in the road.

APPLICATION \ MODEL	Reversible plates	Non-reversible plates	Rammers
Patching areas	○	✕	○
Building foundations	✓	✕	✕
Roads and paths	○	✕	✕
Courts for tennis and other sports	○	✕	✕
Preparation of ground	✓	○	○
Final support for bridges or ramps	✓	✓	○
Level crossings	✓	✓	○
Interleaved blocks of cement	○	✓	✕
Network construction	✓	○	✓
Construction of drainage systems	✓	✕	✓
Ditch compaction	✓	✕	✓
Hole-repairs due to burst pipes, broken cables, etc.	○	✕	✓
Around pipelines, cables, drainage systems, etc.	○	○	✓
Landfill with rocks	✕	✕	✕
Gravel	✓	✓	✓
Sand or volcanic material	✓	✓	○
Mixed soils	✓	○	✓
Sludge	✓	✕	✓
Clay	✓	✕	✓
Thickness of layer 0 – 25 cm	✓	✓	✓
Thickness of layer 20 – 40 cm	✓	✕	✓
Warm mixture	○	✓	○
Cold mixture	○	✓	○
Base – tack coat 40 – 100 mm	✓	○	✓
Wearing course 25 – 60 mm	○	✓	✕

✓ Recommended ○ May be used ✕ Not recommended

5.3 TRANSPORTING THE MACHINE

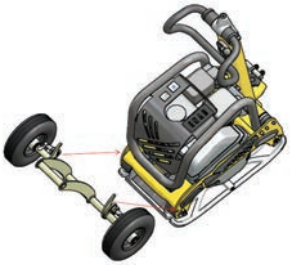
- Before transporting the compacting machine, proceed as described in point fdffdfd.
- Anchor the mast in position so that it cannot move. Never use the mast to lift the machine.
- Moving the compactor short distances or lifting it on to a van should be done by two people taking hold of the plate by means of the transport handles.
- To hoist the machine using mechanical means:
    - Check that the lifting equipment has sufficient capacity to raise the machine (see point 4.2 CHARACTERISTICS OF THE MACHINE).
    - Attach the lifting hook or sling to the anchorage point on the machine cage assembly as indicated in the following diagram.



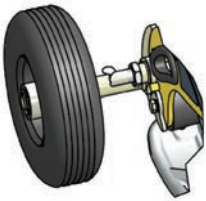
    - Never stand underneath a suspended load.
- The loading ramps should be solid and stable. Care should be taken not to place people in danger due to the possiblity of the equipment overturning or sliding, or parts of it knocking against something above or below it.
- To transport the machine inside a vehicle:
    - Let the motor cool down
    - Shut off the flow of fuel and keep the motor upright so as to avoid any fuel spillage.
    - Tie the compactor to the vehicle so as to stop it sliding or overturning.

- To move the machines along the ground:

  - Secure the guide pole with its anchor device. Place the wheel unit accessory BS2549 on the front of the machine, with the fastening latches open, facing the anchor points.



  - Place the two fastening latches so that the wheel unit is firmly anchored to the machine.



  - Tilt the machine forward using the handle and with your foot on the central bar of the wheel unit (A) and move the tray (B).

(A) (B) (C)

W

When you let the machine go, do so gently, keeping your foot on the central bar to keep your balance and so as not to damage the plate (C).

6 OPERATION

6.1 BEFORE COMMENCING WORK

6.1.1. Clean off all the dirt, mud, etc. from the unit before commencing work.

Special ATTENTION should be paid to the underside of the vibrating plate and the areas adjacent to the air coolant intake for the motor, the carburettor and the air filter.

6.1.2. Check all the screws and make sure that they are tightened properly. Loose screws can damage the machine.

6.1.3. Check the tension in the V-belt. Normal oscillation should be 10 – 15 mm (1/2") when pressure is applied to the belts halfway between the two pulleys. If there is too much play in the belts, there may be a lack of impact or uncontrolled vibration, causing damage to the machine.

6.1.4. The state of the air filter.

6.1.5. Check the oil level in the motor, and if low, top it up. The motor has a 0.6 l oil capacity. SAE10W/40 engine oil should be used.

6.1.6. Make sure that the compaction plate is level during inspection. The oil level in the vibrator should reach the level of the stopper. Change the oil once a month or after every 200 hours' work. The vibrator has a 1000 cc capacity.

IMPORTANT USE SAE 100 OIL

Change the oil while it is hot. In order to make it easier for the used oil to come out, tilt the machine and tap the vibrator.

6.1.7. Normal unleaded petrol should be used in the motor. When re-filling the petrol tank, make sure the filter is in use.

6.2 STARTUP

- HONDA GX160 / ROBIN EX17 MOTOR

6.2.1. Open the fuel cock by moving the lever to the half-open position. In order to start up the motor when it is cold, move the lever for regulating the air to the closed position. When the motor is hot, the air regulator should be either half or completely open. If it is difficult to start the motor up, make sure that the lever for regulating the air is half open to stop the carburettor from flooding due to an excessive amount of fuel.

6.2.2. When pulling on the ignition cord, do not pull it all the way, since this could damage the recuperator spring. Do not let go of the cord suddenly to repeat the startup procedure once the motor has been ignited: keep hold of the handle and slowly let go until it retracts completely.

6.2.3. After starting up the motor, gradually open up the air control lever again. Leave the motor to warm up at minimum speed for 3-5 minutes. This procedure for warming up the motor with minimum revolutions is particularly important during the cold season. While the motor is warming up, the machine should be given a general inspection to detect any anomalies.

- HATZ 1B20 MOTOR

6.2.4. Move the OPEN/ CLOSE fuel lever entirely to the right, so as to let the fuel flow through.

6.2.5. First of all, move the lever for adjusting the revolutions to the STOP position.

6.2.6. Move the lever for adjusting the revolutions to the 1/2 START position or else to the START position, according to whichever one is considered to be more convenient. Starting up the machine at low revolutions will help reduce the exhaust fumes.

6.2.7. Pull on the ignition cable by means of the handle until a slight resistance is noted. Let the cable return to its position: this will enable the entire length of the cable to be used for starting up the motor.

6.2.8. Hold the handle in both hands. Begin by pulling firmly and increasingly faster on the ignition cable until the motor starts up.

6.2.9. Repeat this procedure until the motor starts up.

6.2.10. If, after several attempts to start the motor, white smoke begins to come out of the exhaust, move the speed control lever to the STOP position and pull on the ignition cable slowly 5 times. Repeat the startup procedure.

6.3 WORK

6.3.1. The throttle, located on the handle, controls the work of the compactor. Activate the throttle from the idling position until the accelerator reaches full throttle. When the speed of the motor reaches approximately 2,300 r.p.m., the centrifugal clutch should be engaged. If the speed of the motor increases really slowly, it may be due to the clutch slipping. Do not activate the throttle too slowly.

IMPORTANT: At the moment when the centrifugal clutch reaches the cutting speed, vibration begins in the cam box.

6.3.2. While working with the compactor, care should be taken not to activate the anchoring ratchet on the handlebar.

6.3.3. For the compaction of asphalt, it is advisable to impregnate the underside of the vibrating plate with diesel fuel. This will help prevent the plate from sticking to the asphalt.

6.3.4. For the compaction of cobblestones, the damper (reference ENARCO C0028) should be used to avoid causing damage to the cobblestones.

6.3.5. In order to suppress the vibrations, move the lever swiftly from ON to OFF.

6.3.6. WORKING ON SLOPES

- For the compaction of soils on a slope, the operator should always stand on higher ground than the machine.
- It is not permitted to operate the machine on slopes with a gradient above the maximum capacity of the machine, as indicated on the technical specifications plate.
- When working on slopes, be extremely careful and always work up or down the slope, never partly or completely sideways on.
- Always begin working from the bottom of the slope.
- Damp or excessively loose soils stop the compaction plate from holding firmly, which increases the risk of accident.

6.3.7. When going backwards, the operator should stand to one side of the equipment to avoid being trapped between the equipment and an obstacle. Where this is not possible, for instance, in narrow ditches, extreme care should be taken to guard against becoming trapped or losing control of the machine.

6.3.8. Extreme care should be taken in compacting uneven ground or with thick materials. The operator should stand on safe, firm ground.

6.4 STOPPING THE MOTOR

- HONDA GX160 / ROBIN EX17 MOTOR

6.4.1. Before stopping the motor, leave it idling for 2-3 minutes and then press the stop button on the mast of the compactor until the motor comes to a complete standstill.

6.4.2. Shut off the fuel.

- HATZ 1B20 MOTOR

6.4.3. To stop the motor, move the throttle to the idling position, then press the red stop button until the motor stops. Check that when released, the button returns to its original position.

6.4.4. Shut off the flow of fuel by moving the OPEN/CLOSE lever for the carburettor to the left.

7 MAINTENANCE

7.1 MAINTENANCE SCHEDULE

Intervals	Maintenance area	Maintenance tasks	Point
Once a day or every 8 hours	Motor	- Check oil level - Inspect air filter	7.4 7.3
	Hatz motor	- Check water separator	
	Machine	- Check for damage, leaks, or similar problems - Clean underside of vibrating plate.	
After first 20 hours	Motor	- Change engine oil - Check threaded connections - Clean air filter	7.4 7.3
	Hatz motor	- Check and adjust valve clearance	
	Machine	- Inspect and adjust V-belt	7.10
Once a week or every 50 hours	Motor	- Check threaded connections - Cleaning cooling system	
	Machine	- Inspect rubber buffers - Check oil level for vibrator - Inspect and adjust V-belt	 7.12
Monthly or every 250 hours	Motor	- Change engine oil	7.4
	Hatz motor	- Clean grating on exhaust - Check and adjust valve clearance	
	Honda / Robin motor	- Clean sediment bowl - Inspect spark plug	7.7 7.2
	Machine	- Check and tighten up screws - Hydraulic control: check level and top up as necessary.	 7.13
Once every six months or every 500 hours	Hatz motor	- Change fuel filtration element	7.8
	Honda / Robin motor	- Check and adjust setting for carburettor - Inspect and adjust valve clearance - Change vibrator oil	7.6 7.12
Once a year or every 1000 hours	Hatz motor	- Clean oil filter	7.9
	Honda / Robin motor	- Clean combustion chamber - Clean fuel tank and filter - Inspect fuel pipe	
	Machine	- Remove dirt and used grease and replace rusty components	

Storage: When the compactor is to be stored for a lengthy period of time:

A. - *Completely empty out the fuel from the tank, the fuel pipe and the carburettor*

B. - *Remove the spark plug and pour a few drops of engine oil in the cylinder. Turn the motor several times by hand to distribute the oil over the inner surface of the cylinder.*

C. - *Clean the outer surface with a cloth soaked in oil, cover the unit and keep in a place that is free of dust and damp.*

7.2 CHARACTERISTICS OF THE SPARK PLUG AND SERVICE (HONDA / ROBIN MOTOR).

Apart from the weekly maintenance prescribed in the maintenance schedule, clean or replace the spark plug whenever necessary so that the motor can work properly. Instructions for doing this are provided in the manual with explanations on the motor supplied with the compactor.

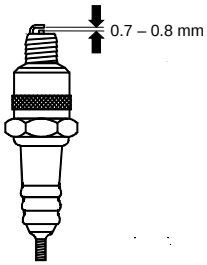
Consult point 4.1 ENGINE SPECIFICATONS to select the spark plug and ascertain the gap required.

7.2.1. Remove the cover from the spark plug and use a suitable plug spanner to extract the spark plug.

7.2.2. Look at the spark plug to see if it needs replacing due to wear and tear or if the insulator is split or cracked.

7.2.3. If the spark plug is correct, clean it with a wire brush.

7.2.4. Check that the gap is between 0.7 and 0.8 mm.



7.2.5. Check that the washer on the spark plug is in good condition and put the spark plug back by hand so as not to distort the thread.

7.2.6. Then tighten up with the plug spanner to compress the washer.
When fitting a new spark plug, give it a 1/2 turn once it is in place. If the spark plug has been used already, tighten with 1/8 to 1/4 of a turn after placing it in position.
PRECAUTION: the spark plug should be really tight, otherwise will heat up and may damage the motor.

7.3 MAINTENANCE OF THE AIR FILTER

A dirty air filter can cause the carburettor to malfunction. Clean the filter on a regular basis and more frequently if a lot of dust forms while the machine is working.

PRECAUTION: Never use the motor without the air filter, since this will cause a lot of wear and tear to the motor.

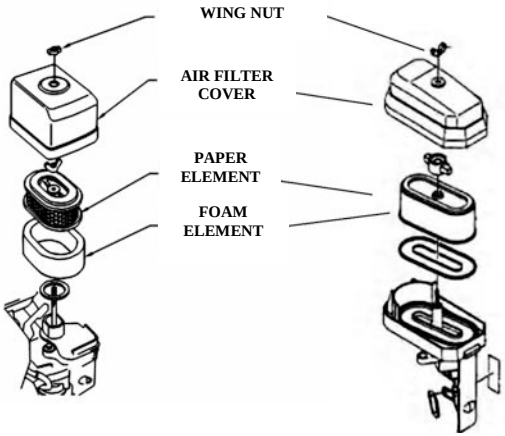
Never clean the filter elements of the motor with fuels or solvents with a low flash point, since these could cause an explosion or fire.

HONDA / ROBIN MOTOR:

7.3.1. Unscrew the wing nut and remove the cover from the air filter. Remove the elements, check them and replace if there are any holes or cracks in them.

7.3.2. Foam element: wash with a soapy solution and rinse thoroughly in clean water. Alternatively, it can also be washed with non-flammable solvents. Leave it to dry out. Soak the element in clean engine oil and squeeze out the excess oil.

7.3.3. Paper element: tap several times against a hard surface to get rid of the excess dirt, or else apply compressed air from the inside, spraying outwards.



Honda GX160 motor filter

Robin EX17 motor filter

7.3.4. Re-assemble the cartridge using the same procedure in reverse.

Hatz motor

7.3.5. Remove the screw from the filter cover.
7.3.6. Remove the filter cartridge from the air filter housing. Shake it or blow it with low pressure.
7.3.7. Replace the filter.
7.3.8. Put the cover back on the housing and screw back into position.

PRECAUTION:

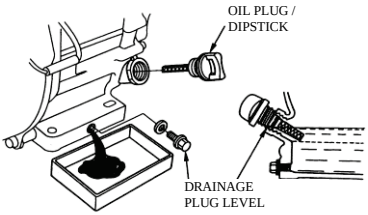
- Where it is not possible to clean the filter satisfactorily using this procedure (eg. wet or greasy dirt), a new filter cartridge should be inserted instead.
- Ensure that the gasket on the cartridge is not damaged.
- Check there are no cracks in the filter cartridge or any other type of damage in the paper filter, by placing up against the light or shedding light on it from another source.

7.4 CHANGING THE ENGINE OIL

7.4.1. THE MOTOR SHOULD BE LEVEL AND STOPPED.
7.4.2. Drain the oil while the motor is still warm to help it empty out quickly and completely.
7.4.3. Place a receptacle underneath the motor to collect the oil.

HONDA MOTOR :

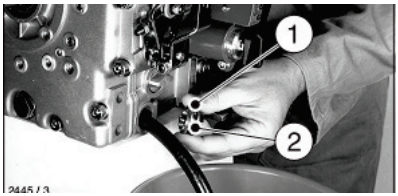
7.4.4. Unscrew the filler plug and the drainage plug and empty out into a receptacle.
7.4.5. Screw the drainage plug up tightly.
7.4.6. Pour the recommended oil in until it reaches the level (see point 4.1 ENGINE SPECIFICATONS)
7.4.7. Screw the filler plug tightly into place.



Honda/Robin motor

HATZ MOTOR:

7.4.8. Place a receptacle underneath the motor to collect the oil.
7.4.9. Remove the drain plug and wait until all the oil has drained out.
7.4.10. Clean the drain plug, fit a new washer and tighten up again (50Nm).
7.4.11. Add engine oil. (see section on technical specifications)



Hatz motor

PRECAUTION: Use current standard procedures for managing the residual oil.

To check the oil level, remove the dipstick, clean off, replace screwing back the plug and finally take it out again and check the level on the dipstick. Where necessary, refill up to the maximum level.

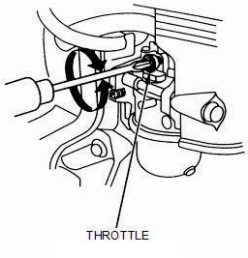
7.5 ADJUSTING THE SPEED OF THE MOTOR (HONDA / ROBIN MOTOR)

The motor should run with full load at 3600±100 r.p.m.

7.5.1. Place the motor on top of a mattress
7.5.2. Start up the motor and let it warm up a few minutes
7.5.3. Place on full throttle by pushing the lever inwards to increase the speed and then release to reduce the speed reached. Check that the accelerator reaches full throttle when measuring the r.p.m.

7.6 ADJUSTING THE CARBURETTOR (HONDA / ROBIN MOTOR)

ATTENTION: When working on the combustion system, do not expose to flames without protection; do not smoke.



7.6.1. Start up the motor and wait until it has reached the working temperature.
7.6.2. Leave the motor idling and turn the throttle until the standard idling speed is reached: 1400 $^{+200}_{-150}$ r.p.m.

OPERATION AT HIGH ALTITUDES:

At high altitudes, the mixture of air and fuel in the normal carburettor will be much too rich. The machine's performance will diminish and its fuel consumption will rise.

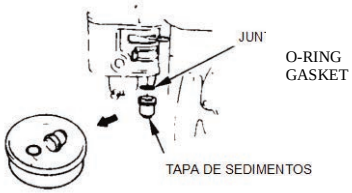
Performance at higher altitudes can be improved by carrying out specific modifications on the carburettor. If the motor always operates at altitudes of more than 1,500m above sea level, ask your authorized Honda dealer to carry out these modifications on the carburettor.

Even in the case of an appropriate carburettor, the power of the engine will be reduced by approximately 3.5% for every 300-metre increase in height. The effect of the altitude on the power of the motor will be all the greater if the carburettor is not modified.

ATTENTION: Operation of the pump at an altitude that is lower than the one for which the carburettor has been adjusted may lead to an inferior rate of performance, overheating, and serious damage to the motor caused by the air and fuel mixture flowing too fast.

7.7 CLEANING THE SEDIMENT BOWL (HONDA / ROBIN MOTOR)

7.7.1. Shut off the fuel valve.
7.7.2. Remove the sediment bowl with the O-ring gasket.
7.7.3. Wash them in non-flammable solvent, dry out and put back firmly in position.
7.7.4. Open the fuel valve, check there are no leaks and that the area is dry before proceeding to start up the motor.



7.8 CHANGING THE FUEL FILTER (HATZ MOTOR)

The maintenance intervals for the fuel pump filter depend on the purity of the diesel fuel that is used. Where necessary, the interval should be reduced to 250 hours.

ATTENTION:

- When working on the combustion system, never expose it to naked flames without any protection; do not smoke.

IMPORTANT:

- Make sure that jobs are carried out cleanly, so as to avoid any dirt from entering the fuel pipe.
- Fuel particles may cause damage to the injection system.

7.8.1. Take the cover off the tank and remove the fuel filter from its housing inside the tank, with the aid of the cord.
7.8.2. Unscrew fuel pipe “1” from filter “2” and fit a new filter.
7.8.3. Fit the filter back in place and replace the cover on the fuel tank.
7.8.4. The fuel injection system will commence purging automatically.

7.9 CLEANING THE OIL FILTER (HATZ MOTOR)

The oil filter should be cleaned at the same time as the oil is changed, since there may be a loss of oil when this filter is changed.

ATTENTION:

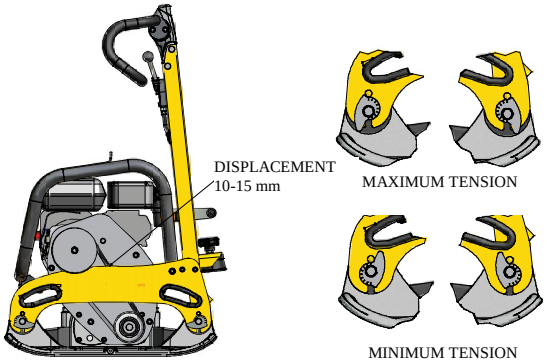
- The motor should remain at a standstill and in a horizontal position.
- Danger of burns caused by hot oil!
- Use current standard procedures for managing the residual oil.

7.9.1. Loosen nut “1” (approximately 5 turns).
7.9.2. Remove the filter from its housing.
7.9.3. Use compressed air from the inside spraying outwards to eliminate dirt from the filter.
7.9.4. Check the state of gasket “1”, and replace if damaged.
7.9.5. Check that gasket “2” is in good condition and inserted in the correct position, if necessary, change the oil filter.
7.9.6. Lubricate the gasket before fitting in position.
7.9.7. Insert the filter and press home.
7.9.8. Make sure that ends “1” of the tension springs are next to the oil filter before tightening up the nut.
7.9.9. Check the oil level with the dipstick and, if necessary, fill up with oil until it reaches the MAX level.

7.10 CORRECT TENSION AND SPECIFICATION OF THE BELT

Check the tension in the belt when the machine is new or when it has been replaced and during the next five hours when the compactor is in service. When the machine is working normally, check and adjust as necessary after every 50 hours' service or on a weekly basis.

Tightening the belt: the belt can be tightened by means of the cams for adjusting the distance between the compaction plate and that of the motor.



7.10.1. Unscrew the three lockscrews on the top belt cover and remove.
7.10.2. Loosen the lockscrews for the adjustment cams.
7.10.3. Place the cams in such a way that when they are all in the same position the belt is tightened so that when a small amount of pressure is exerted on it in the middle it flexes 10-15 mm.
7.10.4. Tighten up the four lockscrews again on the adjustment cams.
7.10.5. Replace the upper belt cover and tighten up the two screws for the cover.

7.11 CHANGING THE V-BELT

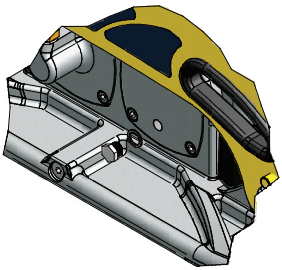
ATTENTION: The machine should be stopped or out of service.

If the machine had been working, the transmission unit will be hot. Check that the machine has cooled down before carrying out this operation.

7.11.1. Loosen the screws on the upper (1) and lower (2) belt cover and remove the belt covers.
7.11.2. Adjust the cams to the minimum tension position so that the belt can be removed easily (4).
7.11.3. Remove the belt and fit a new one. The belt specification for the Honda GX160 motor is B (17× 11) 930 and for the 1B20 motor is B (17× 11) 910.
7.11.4. Adjust the cams so that when pressed lightly in the centre, the belt will flex 10-15 mm
7.11.5. ATTENTION: Check that the 4 tension plates remain in the same position to ensure that the machine is well-balanced.
7.11.6. Replace the upper and lower belt covers.

7.12 MAINTENANCE OF THE VIBRATING UNIT

Check the oil level after every 50 hours working with the compactor. Place the equipment on a flat, horizontal surface. Unscrew the oil plug and washer. If the oil level is below the thread, top up with oil and screw the oil plug back into place.



Change the oil after every 300 hours of operation.

ATTENTION: The machine should be stopped or out of service.
Only empty out the oil when the machine is warm.
Danger of burns caused by hot oil!
Use current standard procedures for managing the residual oil.

7.12.1. Tilt the machine slightly to the opposite side from the one on which the oil is going to be emptied out.
7.12.2. Remove the drainage plug for the vibrating oil (1).
7.12.3. Now tilt the machine to the other side and wait until all the oil has drained out.
7.12.4. Tilt the machine back the other way and refill with 1 L. of Shell MORLINA 100 oil.
7.12.5. Replace the plug.

7.13 MAINTENANCE OF THE HYDRAULIC CONTROL

Check the level of the circuit once a month or every 250 hours.

7.13.1. Return the mast to the out-of-service position.
7.13.2. Remove the control plug for the handlebar casing.
7.13.3. Check that the oil reaches the inside edge of the hole

ATTENTION: The machine should be stopped or out of service.

To top up the circuit.

7.13.4. Remove the upper plug from the pump housing in the handlebar (2).
7.13.5. Push the handle to its forwardmost position.
7.13.6. Top up through the hole in the oil pump with Shell MORLINA 100 oil and using the handle, pump to make the oil go down. Repeat this operation until the whole circuit is full of oil.
7.13.7. Close the control port.
7.13.8. Close the fill port.

7.14 TROUBLESHOOTING: LOCATION AND REPAIR OF FAULTS

PETROL MOTOR

Will not start:

- There is fuel in the tank but the igniter plug will not spark

- There is electricity in the high-tension cable
  - *There is electricity in the high-tension cable*
  - *Spark plug shorts out*
  - *Carbon deposits on igniter plug*
  - *Shortcircuit due to faulty insulation of the igniter plug*
  - *Incorrect separation between electrodes*

- There is no electricity in the high-tension cable
  - *Shortcircuit of stop button switch*
  - *Faulty ignition coil*
  - *Faulty insulation or shortcircuit of condenser*
  - *Ignition coil broken or shortcircuiting*

- Compaction satisfactory
  - *Incorrect fuel*
  - *Water or dust has got inside*
  - *Faulty air filter*

- There is fuel in the tank and the igniter plug sparks correctly

- *Incorrect compaction*
  - *Intake or exhaust valve is stuck or faulty*
  - *Piston ring or cylinder is worn*
  - *Cylinder head or spark plug not adjusted properly*
  - *Head gasket or gasket on spark plug faulty*

- *The clutch is blocked making the vibrator turn when attempting to start*
- *There is no fuel in the carburettor*
  - *Fuel tank is empty*
  - *The fuel cock is not open properly*
  - *Fuel filter is blocked*
  - *Air vent in the tank cover is blocked*
  - *Air retained in the fuel pipe*
  - *Carburettor intake valve is stuck*

No power:

- Insufficient power

- *Compaction normal and no fault observed in the starting mechanism*
  - *Faulty air filter*
  - *Carbon deposits in the cylinder*
  - *Fuel level in the carburettor is incorrect*
- *Inadequate compaction*
  - *(See* "Incorrect compaction" *above)*
- *Compaction is correct but startup is deficient*
  - *There is water in the fuel*
  - *The spark plug is dirty*
  - *The ignition coil is faulty*
  - *The ignition coil often shortcircuits*

- *Vibrator full of excess oil*

- Motor overheating

- *Carbon deposits in the combustion chamber or in the exhaust port*
- *Incorrect calorific value of the igniter plug*
- *Cooling fins dirty*

- Rotation speed fluctuates

- *Incorrect setting*
- *Incorrect adjusting spring*
- *Inadequate flow of fuel*
- *Air penetrating the intake manifold*

Incorrect operation of the reverse travel starter

- Dust adhering to the rotating part

- Fault in the helical spring

DIESEL ENGINE (air-cooled)

Faulty startup:

A.- Incorrect compaction

- *Zero compaction*
  - *Faulty suction or exhaust valve*
  - *Incorrect adjustment of the decompression system*
- *Hardly any or very low compression*
  - *Faulty contact of valve seat*
  - *Piston ring is worn*
  - *Cylinder is worn*
  - *Incorrect surface adjustment of cylinder or cylinder head*
  - *Loose injector seat*

B.- Fuel not injected correctly in combustion chamber

- *Insufficient or zero flow of fuel*
  - *Air vent in cover of tank is blocked*
  - *Fuel filter is blocked up and filter screen is blocked*
  - *Fuel filter spigot closed*
  - *Air retained in fuel pipe (particularly when the tank is empty)*
- *No fuel is injected into the combustion chamber*
  - *Cylinder of the injection pump or piston is stuck*
  - *Injector is blocked*
  - *Injector needle is stuck*
- *Fuel tank empty*
- *Water or dust have got inside*

C.- Combustion and compression system, etc are normal, but it won't start

- *Fails to reach startup speed*
  - *Incorrect startup procedure*
  - *High viscosity or excessive contamination of engine oil*
  - *Air retained in fuel pipe*

Insufficient output power. Incorrect compaction:

- *Motor overheating and exhaust dirty*
  - *Cooling fins dirty*
  - *Water in fuel filter*
  - *Carbon deposits in combustion chamber in exhaust port*
  - *Incorrect adjustment of fumes*
  - *Overload*
  - *Incorrect adjustment of injection speed*
  - *Injector blocked*
- *Fluctuating speed*
  - *Incorrect contact between control fork and hose*
  - *Incorrect adjusting spring*
  - *Vibrating arm and other sliding parts worn or not working properly*
- *The motor does not increase speed correctly*
  - *Incorrect synchronization of the valve*
  - *Exhaust port or silencer blocked*
  - *Overload*
- *Defective startup together with white exhaust fumes*
  - *Piston, Cylinder, Ring worn*
  - *Injector blocked*
  - *Upper or lower piston rings installed the wrong way round*
  - *Incorrect setting for injection speed*
  - *Incorrect synchronization of the valve*
  - *Loose gasket on injection pump*
- *High fuel consumption (dark exhaust fumes observed)*
  - *Leak in fuel pipe*
  - *Air filter element blocked*
  - *Defective fuel due to presence of impurities*
  - *Overload*
- *Sliding element worn out or piston ring stuck*
  - *Defective oil is being used*
  - *The need to change the oil has been neglected*
  - *Air filter element is defective or dirty*
- *Stops suddenly with a strange noise*
  - *Engagement or damage or the piston or rod*
- *Diluted lubricating oil, increasing its volume*
  - *Body of the injection pump piston is worn*
- *The motor does not stop, even when the fuel supply is cut off (or causes overdrive)*
  - *Too much oil*
  - *Incorrect installation of adjustment system*
  - *Displacement of the injection pump frame*

OPERATING THE MACHINE

It moves on the skew

- *Insufficient engine capacity*
- *The clutch is slipping*
- *The V-belt is slipping*
- *Too much vibrating oil*
- *Internal parts of the vibrator are faulty*

It does not advance

- *V-belt uncoupled or slipping*
- *The clutch is slipping*
- *Mechanical fault in the cam box: contact technical department (SAT) at Enarco.*
- *It vibrates but does not move. The vibrator may be on a slippery, wet surface. Try on the right surface.*

Moves back very slowly

- *Lack of oil in the hydraulic control unit for the compactor: top up with oil following the instructions given in point 7.13.*
- *Air in the hydraulic control circuit: purge the circuit.*

Moves forward very slowly

- *Too much oil in the hydraulic control unit: remove oil from the circuit until it reaches the control level.*

Hydraulic oil leaks

- *Loss of oil-tightness, flaws in hydraulic hose: replace the faulty components.*

8 IN CASE OF FAILURE

8.1 INTRUCTIONS FOR ORDERING PARTS

1. In all orders placed for parts, THE CODE NO. GIVEN IN THE LIST OF PARTS SHOULD BE INCLUDED FOR THE PART CONCERNED. It is advisable to include the MACHINE'S SERIAL NUMBER.
2. The specifications plate with the serial numbers and MODEL are on the top of the engine plate.
3. Please supply the correct instructions for transport, including the preferred route, address and complete name of the consignee.
4. Do not return parts to the factory unless you have been given written permission to do so. All authorized items should be returned carriage paid.

8.2 INTRUCTIONS FOR REQUESTING GUARANTEES

1. The guarantee is valid for one year from the date the machine was purchased. The guarantee covers the parts with manufacturing faults.
2. In no case will the guarantee cover a fault caused by improper use of the equipment.
3. In all requests for guarantees, THE MACHINE SHOULD BE SENT TO ENARCO, S.A. OR AN AUTHORIZED WORKSHOP, always indicating the complete name and address of the consignee.
4. The Technical Department (S.A.T.) will notify you immediately if the guarantee has been accepted and, if requested, can also send out a technical report.
5. No piece of equipment will be covered by guarantee if it has been manipulated previously by personnel not connected to ENARCO, S.A.

9 USEFUL ADDRESSES

ENARCO, S.A.

- Address: C/ Burtina, 16
  50197 ZARAGOZA, SPAIN
- Telephone: (34) 976 464 090
- Fax: (34) 976 471 470

WEBSITE: http://www.enar.es

TECHNICAL DEPT: sat@enar.es

NOTE: ENARCO, S.A. reserves the right to modify any information in this manual without prior notice