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Originalfassung

**DE    BETRIEBSANLEITUNG**

**RÜTTELPLATTE**

Übersetzung / Translation

**EN    USER MANUAL**

**PLATE COMPACTOR**



**ZI-RPE160C**

**EAN: 9120039232805**



**ACHTUNG: Öl kontrollieren!**

**Motor startet nicht bei Ölmenge!!**

**ATTENTION: Check Oil!**

**Engine don't start with low oil!!**





## 13 PREFACE (EN)

### Dear Customer!

This manual contains information and important instructions for the installation and correct use of the ZIPPER plate compactors ZI-RPE160C.

Following the usual commercial name of the machine (see cover) is substituted in this manual with the name "machine".



This manual is part of the product and shall not be stored separately from the product. Save it for later reference and if you let other people use the product, add this instruction manual to the product.

### **Please read and obey the security instructions!**

Due to constant advancements in product design, construction pictures and content may diverse slightly. However, if you discover any errors, inform us please.

Technical specifications are subject to changes!

**Please check the product contents immediately after receipt for any eventual transport damage or missing parts.**

**Claims from transport damage or missing parts must be placed immediately after initial product receipt and unpacking before putting the product into operation.**

**Please understand that later claims cannot be accepted anymore.**

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## 14 SAFETY

This section contains information and important notices for safe commissioning and handling of machine.



For your own safety, read these operating instructions carefully before putting the machine into operation. This will enable you to handle the machine safely and prevent misunderstandings as well as possible damage to property and persons. Also observe the symbols and pictograms used as well as the safety instructions and hazard warnings!

### 14.1 Intended use of the machine

The machine is intended exclusively for the following activities:

*For compacting (e.g. granular soils consisting of gravel and sand or mixtures of both) and for vibrating paving stones, bricks, etc. on small to medium-sized surfaces.*

The rubber mat should only be used to vibrate paving stones, bricks and the like! Other materials such as gravel, chippings etc. must be processed without a rubber mat.

**ZIPPER-MASCHINEN assumes no responsibility or warranty for any other use or use beyond this and for any resulting damage to property or injury.**

#### 14.1.1 Technical Restrictions

The machine is intended for use under the following ambient conditions:

Relative humidity:	max. 65 %
Temperature (for operation)	+5° C bis +40° C
Temperature (for storage and/or transport)	-20° C bis +55° C

#### 14.1.2 Prohibited Use / Foreseeable Misuse

- Operation of the machine without adequate physical and mental aptitude
- Operating the machine without appropriate knowledge of the operating instructions (machine + motor).
- Changes in the design of the machine
- Operating the machine in wet and rainy conditions
- Operating the machine in a potentially explosive environment
- Operating the machine indoors or in closed areas
- Operation of the machine without functioning or missing guards
- Operation of the machine in hard soil, frozen soil and mixed soil containing fragments of bricks.
- Compaction of asphalt or sticky soils with a high clay content.
- Remove the safety markings attached to the machine.
- Modify, circumvent or disable the safety devices of the machine.
- Use of the machine for the transport of persons

The prohibited/hazardous use or disregard of the information and instructions presented in this manual will result in the voiding of all warranty and damage claims against Zipper Maschinen GmbH.

### 14.2 User Qualification

Prerequisite for the use / operation of the machine is a corresponding physical and mental aptitude as well as knowledge and understanding of the instruction Manual.

**Please note that local laws and regulations may determine the minimum age of the operator and restrict the use of this machine!**

Put on your personal protective equipment before working on the machine.

**Work on electrical components or equipment may only be carried out by a qualified electrician or carried out under the guidance and supervision of a qualified Electrician.**



### 14.3 Safety instructions

In order to avoid malfunctions, damage and health hazards when working with this machine, in addition to the general rules for safe working, the following measures in particular must be observed UNCONDITIONALLY:

- Check that the machine is in perfect condition before each use. Ensure that all guards are in place and working properly and that all nuts, bolts, etc. are securely tightened. Do not take the machine into operation if you notice that parts are missing or damaged!
- Ensure sufficient lighting conditions in the working and surrounding areas of the machine.
- Keep hands and feet away from moving machine parts and always ensure a safe stand when working.
- Ensure that the area to be tamped does not contain any electric cables, gas or water lines which could be damaged by vibration.
- Remove the adjustment tool from the machine before operation.
- Never leave the running machine unattended (always stop the machine before leaving it).
- Ensure that unauthorised persons maintain a safe distance from the machine and keep children away from the machine.
- The machine may only be operated, serviced or repaired by persons who are familiar with it and who have been informed of the dangers arising during this work.
- Always wear suitable personal protective equipment (ear protection, gloves, safety shoes, close-fitting protective clothing, etc.)!
- Do not work with the machine if you are tired, not concentrated or under the influence of medication, alcohol or drugs!
- Never operate the unit in the presence of flammable liquids or gases (danger of explosion!).
- Carry out maintenance, adjustment and cleaning work only when the engine is switched off.
- Only use spare parts and accessories recommended by Zipper machines.

### 14.4 Special safety instructions for that machine

- The machine is designed to be operated by one person. Always operate the machine from behind. Never stand next to or in front of the machine when the engine is running.
- Longer continuous use of the vibratory plate can lead to circulatory disturbances, especially of the hands, caused by vibration. Therefore, take regular breaks from work!
- Wear suitable protective gloves to reduce the vibration intensity. The hardness of the surface to be treated, personal predisposition to circulatory disorders and low outside temperatures considerably reduce the permitted period of use.
- When working in or near excavations or building pits, make sure that the walls are stable and do not run the risk of collapsing due to vibration.
- Keep away from edges and trenches and avoid situations where the vibratory plate could tip over.
- Excessive noise can cause hearing damage and temporary or permanent hearing loss. Wear hearing protection certified to health and safety regulations to limit noise exposure.
- Do not increase the regulated idle speed of the engine above 3,500 rpm. This could result in damage to the machine or personal injury.

### 14.5 Safety instructions for machines with combustion engine

- Do not touch the engine and/or muffler during operation or immediately after switching off! These areas become hot during operation and can cause burns.
- Do not touch the spark plug connector when the engine is running (electric shock!).
- Do not operate the unit in closed areas or in poorly ventilated rooms unless there is adequate ventilation through exhaust fans or hoses. (Risk of suffocation from carbon monoxide!)
- Do not smoke while the machine is in operation.
- Do not smoke when refuelling the machine.
- Refuel the machine only in a well ventilated area.
- Do not refuel the machine when the engine is running or the machine is still hot.
- Do not refuel the machine near naked flames.
- Do not spill fuel when refuelling.



- Do not crank a gas flooded engine as long as the spark plug is removed- fuel in the cylinder sprays out of the spark plug opening.
- Do not carry out an ignition spark test on engines if the engine is flooded or gas can be smelled. A stray spark could ignite the vapours.
- Do not use fuel to clean machine parts, especially indoors. Vapours from fuels may explode.
- Always keep the area around the muffler free of foreign substances such as leaves, paper, cardboard, etc. A hot muffler could ignite these substances and cause a fire.
- Close the filler cap after refuelling.
- Check the fuel line and tank regularly for leaks and cracks. Do not operate the machine if leaks in the fuel system are known.
- Store fuel only in designated and approved containers.

## 14.6 Hazard warnings

Despite intended use, certain residual risks remain.

- **Squashing**

Keep your hands and feet away from moving parts, because they might get under the plate compactor. Wear steel-toed shoes for minimizing this danger.

You also have to take care that the machine and the operator have a good stand. The machine mustn't fall, slide or keel over during operation.

- **Damage to health by vibrations**

Longer operations lead to circulation disorder. So:

- Have breaks regularly.
- Wear safety gloves which decrease the vibration intensity.
- The hardness of the working ground, cold temperatures and personal disposition decrease the allowed operation time. Excessive operation times may cause damages of the joints and the muscles. Have breaks and restrain the operation time corresponding your state of health and your physical welfare.

- **Sources of danger of the working area**

Ensure that the walls of a trench are steady and that they won't tumble down by the vibrations.

Ensure that there are no voltage-carrying cables, gas lines or water pipes which can be damaged during operation. Be careful when you work near unprotected holes or excavations. The operation of the machine happens on your own responsibility and your discretion.

- **Burning hazard**

Touching the muffler of the exhaust may cause serious burnings when the engine is hot.

- **Fire and explosion hazards**

Petrol is flammable easily and at special conditions explosive.

NEVER refill fuel during operation or when the machine is hot.

Do not smoke and keep away flames and sparks during refilling and at places where fuel is stored.

Do not overfill the fuel tank and avoid spilling petrol. When fuel has been spilled you must clean that place before starting the machine.

Ensure that the tank cap is fastened well after refilling.

- **Chemical dangers**

Never refill or operate a combustion engine in a closed room without enough air circulation.

Carbon monoxide from the combustion engine can cause the death or can damage your health by breathing in. That's why you're only allowed to operate the machine in good ventilated rooms and outdoors.

Due to the design and construction of the machine, hazardous situations may occur which are identified as follows in these operating instructions:



**DANGER**

A safety instruction designed in this way indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

**WARNING**

Such a safety instruction indicates a potentially hazardous situation which, if not avoided, may result in serious injury or even death.

**CAUTION**

A safety instruction designed in this way indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

**NOTICE**

A safety note designed in this way indicates a potentially dangerous situation which, if not avoided, may result in property damage.

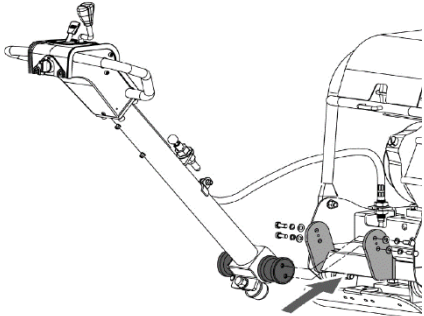
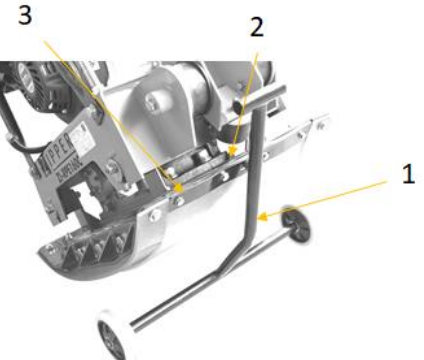
Irrespective of all safety regulations, their sound common sense and corresponding technical suitability/training are and remain the most important safety factor in the error-free operation of the machine. **Safe working depends first and foremost on you!**

**15 ASSEMBLY****15.1 Check scope of delivery**

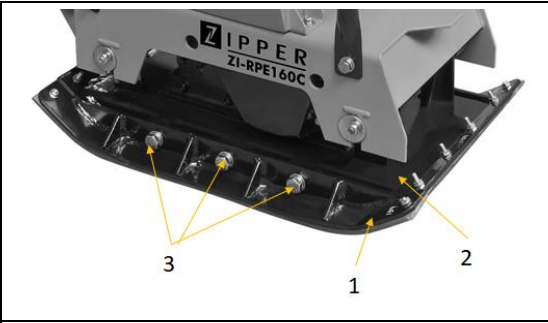
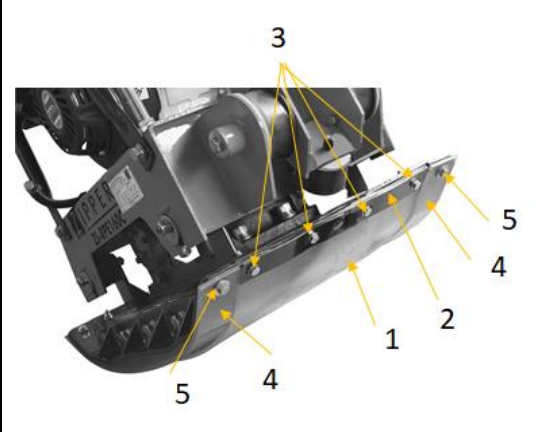
After delivery, check the machine immediately for transport damage and missing Parts.

**15.2 Assembly**

The machine is delivered pre-assembled. The parts that have been dismantled for transport must be assembled before commissioning / use.

	<p><b>1. Handle bar assembly:</b> Insert the handle bar into the holder and fix it with M10X25 hexagonal bolts, spring washers and washers.</p>
	<p><b>2. Transport wheel assembly (if used)</b></p> <ul style="list-style-type: none"><li>- Tilting the machine up</li><li>- Hook the transport wheels (1) with the bolt (2) into the base plate (3) of the machine.</li><li>- Gently tilt the machine back onto the transport wheels</li></ul>



	<p><b>3. Plate extension assembly (if used)</b> Fix the plate extension (1) on both side of the machine with three screws/washer (3) onto the base plate (2).</p>
	<p><b>4. Rubber mat assembly (if used)</b> Attach the rubber mat (1) by means of fixation bar (2) and four screws/washers (2) onto the machine on both sides and attach the rubber mat extension (4) if used by means of one screw / washer (5) each side onto the plate extension (4).</p>

## 15.1 Checklist before each use

### NOTICE



**The use of paint thinners, petrol, aggressive chemicals or abrasives leads to material damage to the surfaces! Therefore use only mild detergents for cleaning!**

- Clean the machine and remove dirt and dust if necessary.
- If the air filter is dirty, blow the filter cartridge from the inside by moving a jet of dry compressed air up and down. Continue until all dust has been removed. Replace the air filter with a new one if necessary.
- Check the carburettor for external dirt and dust and clean it with dry compressed air if necessary.
- Check the nuts and bolts for tightness. (Screws or bolts loosened by vibrations can lead to accidents!)

### 15.1.1 Checking the engine oil level

### NOTICE

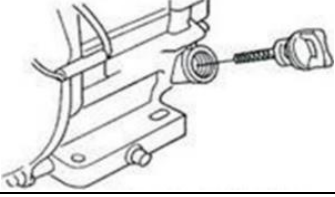
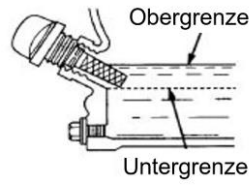


**Too low oil level will damage the engine and shorten the life of the machine.** Therefore, check the engine oil level before every start and top up the engine oil if necessary.



1. To check the engine oil level, place the machine on a safe, level surface. Switch off the engine and allow the machine to stand for ten minutes so that the circulating oil can collect in the oil pan.
2. Unscrew the oil dipstick and wipe with a clean, lint-free cloth or a non-fibrous paper towel.



	<ol style="list-style-type: none"><li>3. Push the dipstick into the opening, but do not screw it in. (Make sure that the dipstick has really been pushed in completely).</li></ol>
	<ol style="list-style-type: none"><li>4. Pull out the oil dipstick again and read off the oil level. There are two markings for this - see illustration on the left.</li><li>5. If the oil level is low, refill the recommended oil up to the upper edge (max. filling volume refer to the tech. data).</li><li>6. Push in the oil dipstick again and tighten.</li></ol>

### 15.1.2 Checking the fuel tank level

## NOTICE



**Observe the safety regulations for fuel control.** Filter the fuel during refuelling to prevent foreign particles from entering the combustion chamber. Wipe up leaked fuel.

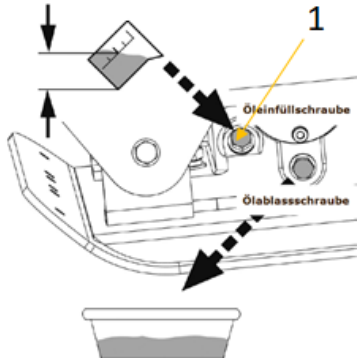
- Screw on the tank cap (sits on the fuel tank).
- Level check in the form of a visual inspection. If necessary, top up with fuel with the appropriate octane number (RON 95).
- Close the fuel filler cap tightly after refuelling.

### 15.1.3 Checking exciter oil level

## NOTICE



**Too low oil level will damage the machine and shorten the life of the machine.** Therefore, check the exciter oil level before every start and top up the exciter oil if necessary.

	<ol style="list-style-type: none"><li>1. place the machine horizontally</li><li>2. open the oil filler plug (1).</li><li>3. check the oil level. Oil should reach to the beginning of the thread of the filling hole.</li><li>4. top up exciter oil if necessary</li><li>5. mount and tighten the oil filler plug (1).</li></ol>
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## 16 OPERATION

- Save the working environment before you start compressing.
- Only put the machine into operation after you have read and understood the safety instructions and carried out the necessary measures before initial commissioning.
- The correct moisture content of the soil is very important for correct compaction. Compaction of dry materials is facilitated by moistening the material. Too much moisture, on the other hand, leaves water-filled cavities which weaken the load-bearing capacity of the soil.
- Wetness or excessive irrigation can lead to overloading and engine death.





## 16.1 Information on Initial Start-up

### NOTICE



**Note that the machine is delivered without engine oil and fuel.** Make sure that this equipment is filled up before the machine is put into operation for the first time.

**ATTENTION: The machine does not start until the engine oil has been refilled to the upper limit.**

#### 16.1.1 Test Run Initial Start-up

- Let the machine run idle for about 3 minutes.
- Pay attention to abnormal noises.
- Pay attention to the exhaust fumes (too black, too white)?

#### 16.1.2 Notes on the first 20 operating hours

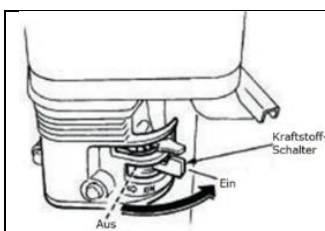
In order to optimize the life expectancy of your machine, the following points should be observed:

- Do not operate the engine for the first 20 operating hours @ maximum load (this also applies to used engines after extensive maintenance). This means lower speed and lower maximum working load than during normal operation.
- Change the engine oil after the first 20 hours of operation.

## 16.2 Operating Instructions

- Never use the recoil-starter while the engine is running. This will damage the engine.
- The pull mechanism for changing the engine speed is limited by an adjusting screw. This is factory set. Never change this setting on your own, you could overload the motor.
- Do not operate the machine on slopes of more than 20°, as even with an optimum oil level the engine may not be supplied with sufficient lubrication.
- In the direction of the vibratory plate and within a range of one meter around the vibrator, nobody but the operator must stand.
- During the compaction the soil should first be compacted about 10 to 15 cm inside the edge two to three times, then the edge should be compacted.
- When working inside the building, the vibrating plate or eccentric block must not attach the walls.
- If several vibrator plates are used simultaneously on one surface, the parallel distance between the machines should not be less than five metres and the distance between the front and rear machines should not be less than ten metres.
- If the machine is working in an environment e.g. on soft or uneven ground, make sure to reduce the horsepower to the lowest level to prevent the machine from sinking. On slopes (max. 20° allowed!!!), make sure that the machine does not tilt.
- Pay particular attention to the following particularly dangerous areas:
  - During tunnel work, good ventilation must be provided to prevent accidents. In addition, the ventilation must be monitored.
  - There is a risk of electric shock near overhead lines. Persons not in control of the machine should not be in the near or far working area.
  - The stability of the machine should be taken into account when working and parking the machine in order to avoid hazards. During tunnel work, good ventilation must be provided to prevent accidents. In addition, there must be a functioning control system for the functioning of the fresh air supply.

## 16.3 Starting the machine



1. Turn the fuel tap to Position „On“



	<p>2. Set the engine ON/OFF switch (ignition switch) also to the "On" position</p>
	<p><b>Note:</b> The closed position of the choke lever enriches the fuel mixture for starting a cold engine. The open position provides the correct fuel mixture for normal operation after starting and for restarting a warm engine.</p> <p>3. Turn the choke lever to the "Closed" position, only for cold engine.</p>
	<p>4. Set the throttle lever to "half throttle" (= middle position between "fast" and "slow").  <b>Note:</b> Do not pull the starter rope through to the end and do not let it rewind after pulling, but only rewind it quickly.</p> <p>5. Grab the starter handle and pull it out slowly. The resistance becomes strongest at a certain point. This point corresponds to the compression point. Let the rope roll back a little from this point and then pull it out powerfully.</p> <p>6. Turn the choke lever to "Open" when the engine is running.</p> <p>7. Open throttle further machine will start compacting.</p>

## 16.4 Stopping the machine

### 16.4.1 In Emergency situation

In the case of danger and/or in an emergency situation, set the throttle to the lowest position and the ignition switch to the OFF position immediately.

### 16.4.2 Normal switch-off

1. Set the upper throttle lever to "minimum" and let the engine run idle for approx. 3 minutes at low engine speed.
2. Then set the engine ON/OFF switch (ignition switch) to the OFF position.
3. Close the fuel tap.
4. Wait until the engine has cooled down before storing the machine.

## 16.5 Moving the machine forwards / backwards

	<p><b>Forward (F):</b> Push directional lever forward</p>
	<p><b>Reverse (R):</b> Push directional lever forward</p>



## 17 MAINTENANCE

### WARNING



Hot surfaces and rotating machine parts while the engine is running can cause serious injury or even death. Always stop the machine before carrying out any conversion, adjustment, cleaning or maintenance work and secure it against unintentional restarting.

### 17.1 Maintenance and Servicing Plan

#### 17.1.1 Table of Measures

What to do?	Frequency
Check fuel level	before each start-up
Check engine oil level	before each start-up
Control of the operating elements	before each start-up
Check for damaged parts	before each start-up
Checking for loose or lost screws	before each start-up
Change engine oil	After first 20h, then every 100h
Check V-belt	every 50 h; replacement after 300 h or 1 year
Change exciter oil	After first 50h, then every 200h
Air filter cleaning	every 50 h, replacement after 300 h or 1 year
Spark plug test	every 100 h; replacement after 300 h or 1year

The specified intervals refer to working under "normal" operating conditions. Depending on the load, a change/exchange may also be necessary at an earlier point in time.

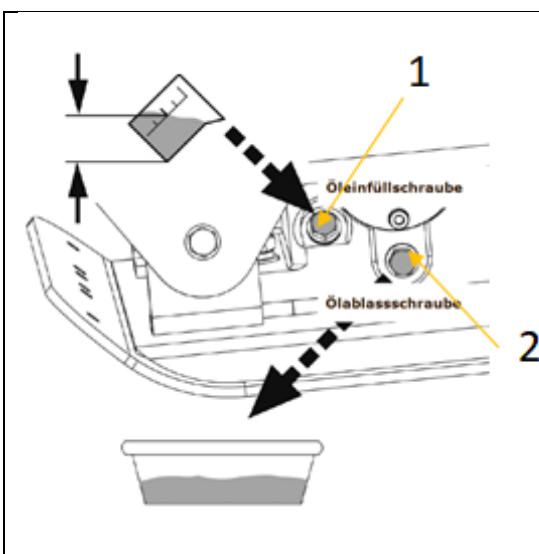
### 17.2 Changing the exciter oil

#### NOTICE



**Waste oils are toxic and must not be released into the environment!**  
Contact your local authorities for information on proper disposal.

#### 17.2.1 Exciter oil check / change



##### Check

1. place the machine horizontally
2. open the oil filler plug (1).
3. check the oil level. Oil should reach to the start of the thread of the filling hole.
4. top up exciter oil if necessary
5. mount and tighten the oil filler plug (1).

##### Change

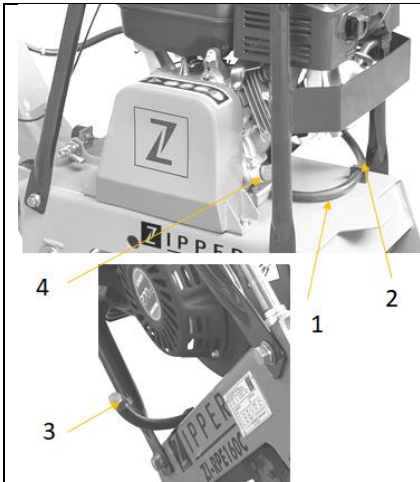
1. open oil filler plug (1) and oil drain plug (2).
  2. tilt the machine and keep it tilted until the oil has run out. Collect oil in a suitable container!
  3. place the machine horizontally and fit and tighten the oil drain plug (2).
  4. fill in exciter oil through the oil filling hole (~400ml).
- Fit oil filler plug (1) and tighten securely.

### 17.3 Changing the engine oil

#### NOTICE

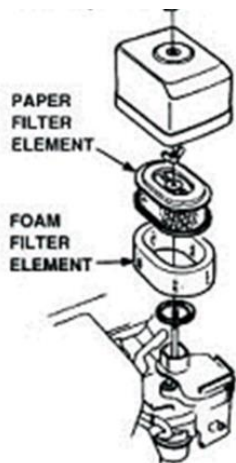


**Waste oils are toxic and must not be released into the environment!**  
Contact your local authorities for information on proper disposal.



1. remove the hose (1) from the holder (2) to drain the oil.
2. Remove the screw on the hose (3) for draining. Collect the drained oil in a container and dispose of it properly!
3. tighten the oil drain plug again after draining.
4. Fill up with new oil through the opening (4) (see section Check engine oil level). Use only high-quality engine oil, e.g. SAE30 or 15W40 or comparable

### 17.4 Changing the air filter



A contaminated air filter can contribute to problems starting the machine, loss of performance during operation and shorten engine life.

Zipper Machines does not accept any liability for engine damage caused by failure to clean the air filter regularly.

To clean the air filter, first loosen the wing nut on the air filter housing, remove the cover (foam filter element) and remove the air filter cassette (paper filter element). Clean both elements mechanically with a soft brush.

If only the air filter cassette is to be cleaned, blow a dry jet of compressed air from the inside against the filter until all dust has been removed.

An air filter change is necessary when:

- The engine power drops and the fuel consumption increases at the same time.
- the oil consumption increases
- the starting of the engine becomes more difficult

### 17.5 Checking and replacing V-belt and coupling

#### WARNING



**Warning of danger of detection/trapping in!** Never attempt to check the V-belt while the engine is running. Your hands could get caught between the V-belt and the clutch. Serious hand injuries are the result.

#### NOTICE

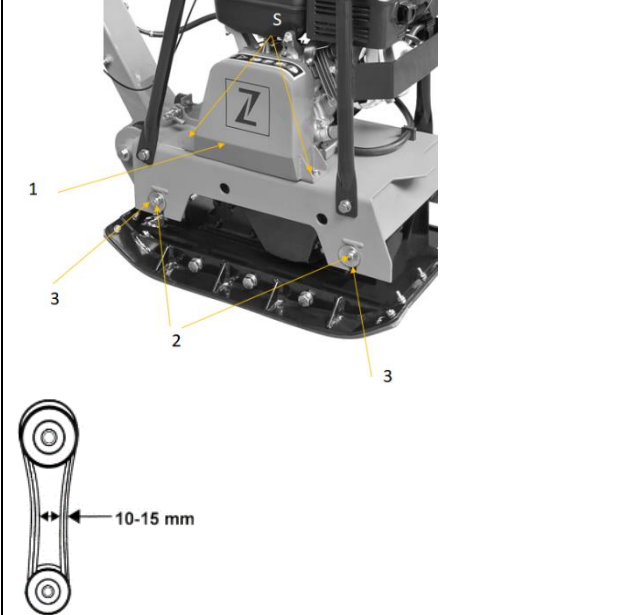


If the vibratory power of the machine - regardless of the number of operating hours - suddenly decreases or stops completely during normal operation, first of all check the V-belt and clutch.

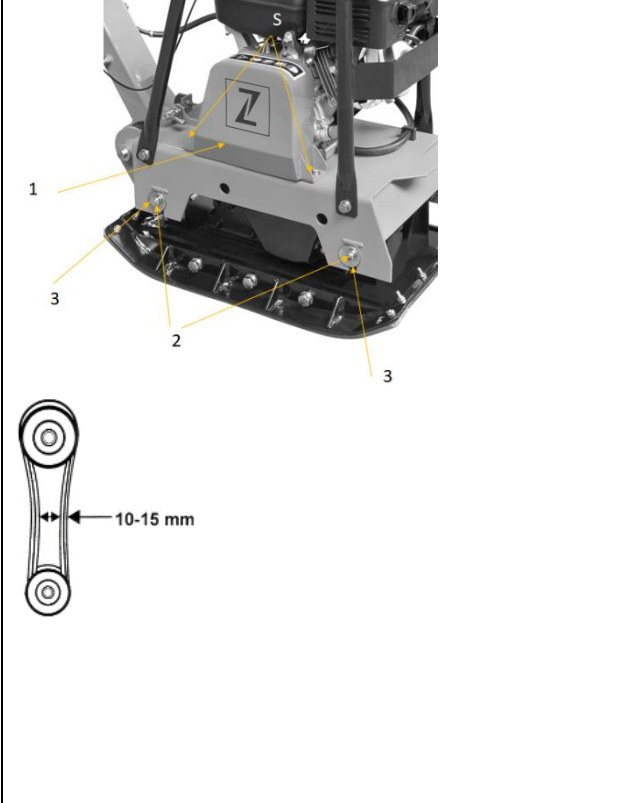


Loose or worn V-belts reduce power transmission efficiency, result in poor compaction performance and shorten the service life of the belt itself. Therefore, always check the V-belt tension at the specified intervals.

### 17.5.1 Checking the V-Belt tension

	<p>Loosen screws (S) of the V-belt cover (1) and remove the V-belt cover. Use thumb pressure to check the flexibility of the V-belt.</p> <p>If this is within approx. 10-15mm no action is necessary. If the flexibility is higher, the V-belt must be retightened (V-belt tensioning) or replaced.</p>
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### 17.5.2 Tensioning / change of V-Belt

	<p><b>Tensioning</b></p> <ul style="list-style-type: none"><li>- Remove the V-belt cover (1).</li><li>- Loosen all four nuts (2) two on each side</li><li>- Turn the eccentric disc (3) upwards to increase the distance between the two pulleys and thus the belt tension.</li><li>- retighten all four nuts (2)</li><li>- Check V-belt tension</li><li>- If suitable, refit the V-belt cover (1) and fix it with the screws (S). Otherwise readjust the belt tension.</li></ul> <p><b>Change</b></p> <ul style="list-style-type: none"><li>- Remove the V-belt cover (1).</li><li>- Loosen all four nuts (2) two on each side</li><li>- Reduce belt tension by turning the eccentric discs (3) downwards (distance between the pulleys is minimised).</li><li>- pull the old belt from the pulley and replace it with a new one.</li><li>- Tensioning the belt</li><li>- Retighten all four nuts (2)</li><li>- Check V-belt tension</li><li>- If suitable, refit the V-belt cover (1) and fix it with the screws (S). Otherwise readjust the belt tension.</li></ul>
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### 17.5.3 Checking the clutch

Check the clutch at the same time as the V-belt. With the belt removed, visually check the outside for seizure and the "V" groove for wear and damage. Clean the V-groove as required. If the clutch shoe is worn, the power transmission becomes insufficient.





## 17.6 Cleaning the spark plug

1. Pull out the spark plug cap and remove impurities from the outside of the spark plug.
2. Unscrew the spark plug using the spark plug wrench.
3. Check the ceramic insulation, clean the electrodes (metal tips) and check the distance between the contacts. It should be 0.7 to 0.8 mm.
4. Reinstall the cleaned (or replaced) spark plug and replace the spark plug cap.

## 18 TRANSPORT

### WARNUNG



Never lift or transport the machine with the engine running!

### 18.1 Transport over shorter distances

For transport over short distances, use the hand holder and the mounted transport wheels:

1. place the transport device in the hole on the base plate.
2. place the machine on the transport device.
3. move machine with handle and transport device

*Move the machine only on level and firm ground!*

### 18.2 Lifting and transporting with separate devices

### HINWEIS



**There are two persons required to lift and park the machine on another transporting devices. - one person to operate the hoist and one person to keep the machine in balance..**

1. fold the handle forward as far as possible for transport over longer distances.
2. make sure that the lifting device including accessories is suitable for loads greater than the weight of the machine.
3. check the welding connection on the lifting frame and the fixing of the lifting frame before lifting.
4. first lift the machine only a few centimetres to check the lifting capacity.
5. then lift the machine as gently as possible to the desired position.
6. secure the load properly for transport

## 19 STORAGE

If the machine is not used for a longer period of time (>30 days):

1. Empty the oil tanks or fuel tank.
2. Remove the spark plug and pour a few drops of engine oil into the cylinder. Using a rope starter, turn the engine a few times so that the oil is well distributed inside the cylinder. Clean the spark plug and replace it.
3. Cover the cooled machine and store it out of the reach of children and unauthorised persons in a well-ventilated, dry and frost-free environment.

## 20 DISPOSAL



Do not dispose of your machine in residual waste. Contact your local authorities for information on available disposal options. If you buy a new vibratory plate or equivalent from your dealer, he is obliged in certain countries to dispose of your old machine properly.



## 21 TROUBLESHOOTING

### WARNING



Hot surfaces and rotating machine parts while the engine is running can cause serious injury or even death. Always stop the machine before carrying out troubleshooting work and secure it against unintentional restarting.

If you feel unable to carry out necessary repairs properly and/or do not have the required skills to do so, always call in a specialist to solve the problem.

Fault	Possible cause / remedy
<b>Motor does not start</b>	<ul style="list-style-type: none"><li>▪ Check ON/OFF switch and make sure it is positioned to "ON".</li><li>▪ Check fuel supply.</li><li>▪ Check engine oil level (a sensor prevents starting if oil level is too low).</li><li>▪ Make sure that the spark plug ignition cable is connected.</li><li>▪ Check spark plug</li><li>▪ Check carburettor and air filter and make sure they are clean.</li></ul>
<b>Motor stops</b>	<ul style="list-style-type: none"><li>▪ Check fuel supply.</li><li>▪ Check that the fuel tap is open.</li><li>▪ Check oil levels.</li><li>▪ Check the condition of the air filter.</li></ul>
<b>Engine does not deliver enough power:</b>	<ul style="list-style-type: none"><li>▪ Check fuel supply.</li><li>▪ Check that the fuel tap is open.</li><li>▪ Check the condition of the air filter.</li><li>▪ Check throttle position</li></ul>
<b>Insufficient vibration</b>	<ul style="list-style-type: none"><li>▪ Check whether the V-belt slips or is lost.</li><li>▪ Check throttle position</li></ul>
<b>Machine does not move freely</b>	<ul style="list-style-type: none"><li>▪ Check the underside of the disc for buildup.</li></ul>