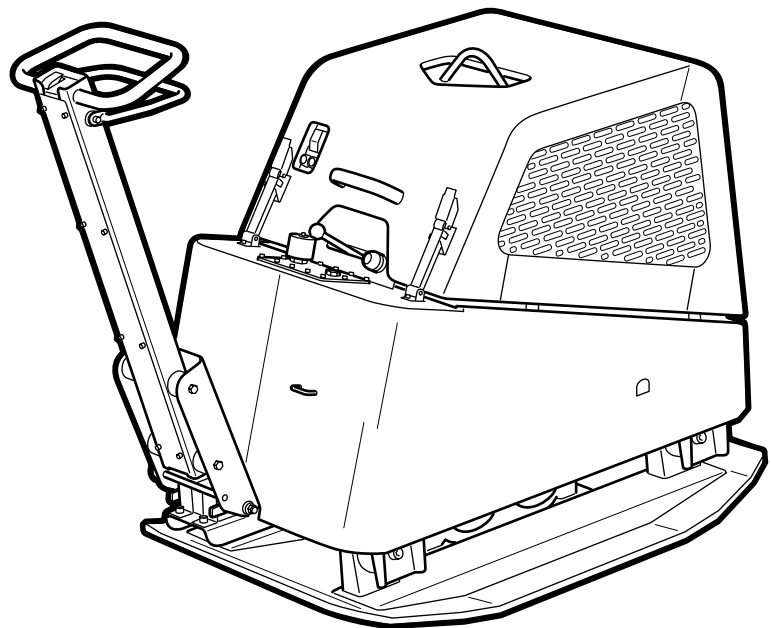
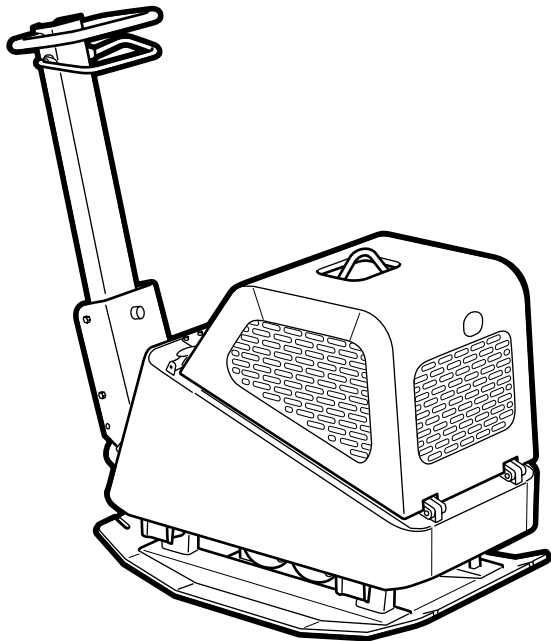


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## USER MANUAL





## USE

### **SWEPAC FB 300 / FB 450 / FB 700**

are used to pack ballast under foundations, in connection with road building, in trenches, etc. On account of the forward/reverse function, the machines are very suitable for packing in tight spaces and as a complement to larger packing equipment, for example vibrating rollers.

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## SAFETY INSTRUCTIONS

- Before using the machine, the operator must be informed of the manufacturer's safety instructions and instructions for use.
- The machine may only be used outdoors.
- The machine may not be used if protection and safety devices are not present or not working.
- The operator may not leave the machine unattended when the engine is on. When the vibrator is connected, the operator must be able to control the movement of the machine using the control handle and the start/stop controls. The machine may be operated only by a trained operator.
- During maintenance work or other interventions in the machine, the engine must always be off.
- Switch the engine off before adding fuel. Avoid fuel spillage and immediately wipe off any spilled fuel. Add fuel only in well ventilated areas.
- Avoid touching hot engine parts, for example the silencer.
- Before lifting the machine, check that the lifting device and its mounting are not damaged and that the rubber dampers on the base plate are undamaged and tightened.
- During transportation and storage, the fuel tank should be empty and the fuel cock switched off.
- When the machine is parked, ensure that it cannot tip over. The machine may not incline more than 20°.
- The operator must use ear protectors when working with the machine.
- The operator must ensure that no unauthorised persons are in the immediate vicinity of the machine.

## STANDARDS

### Noise

Measurement in accordance with the standard EN 500-4 Rev. 1:1998, Annex C:

In accordance with the conditions in Directive 2000/14/EC, Annex VI, the following values are reported:

	FB 300	FB 450	FB 700
Sound pressure level at the operator's ears, L <sub>pA</sub>	92 dB (A)	94 dB (A)	93 dB (A)
Permitted sound power level, L <sub>WA</sub>	108 dB (A)	108 dB (A)	109 dB (A)
Guaranteed sound power level, L <sub>WA</sub>	108 dB (A)	108 dB (A)	109 dB (A)

As the sound pressure level at the operator's ears exceeds 85 dB (A), ear protectors must be used during operation!

### Hand/arm vibrations

The vibration acceleration was measured in accordance with the ISO 5349 standard during operation on a surface of macadam. The measurement values were translated into the maximum daily exposure time for regular usage. For additional information about vibrations, please confer the regulation AFS 2005:15 from the Swedish Work Environment Authority, effective July 1st 2005.

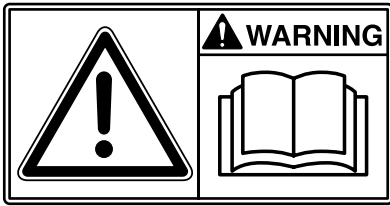
	FB 300	FB 450	FB 700
Hand/arm vibrations, m/s <sup>2</sup>	2,6	2,6	2,9
The maximum daily exposure time	7,4 h	7,4 h	5,9 h

### Exhaust Emissions

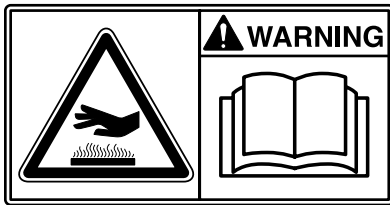
The FB 300, FB 450 and FB 700 meet the requirements for exhaust emissions in accordance with US-EPA stage 2.

## SIGNS

### Warning Signs



Before use, carefully read the manual and its safety instructions so that you can handle the machine safely. Ensure that the manual is always accessible.

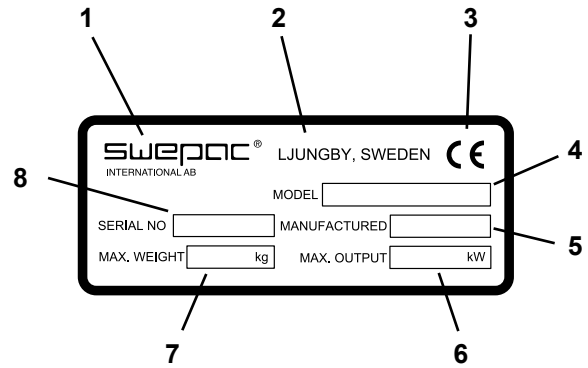


Engine, silencer: to avoid burns or discomfort, do not touch hot engine parts when the engine is on or when the machine has recently been used.



As the sound pressure level at the operator's ears exceeds 85 dB (A), ear protectors must be used when working with the machine to prevent hearing damage.

### Machine Signs



1. Manufacturer
2. Place, country of manufacture.
3. CE mark.
4. Model name.
5. Year of manufacture.
6. Max. engine power.
7. Max. weight.
8. Serial number.

## TECHNICAL DATA

### FB 300

Net weight .....	305 kg
Base plate, w x l .....	600 x 920 mm
Speed .....	approximately 25 m/min.
Permitted inclination .....	20°
Centrifugal force .....	37,000 N
Vibration frequency .....	70 Hz
Drive engine .....	Yanmar L 70AE
Engine power .....	4.9 kW
Engine RPM .....	3600 RPM
Fuel tank volume .....	3.5 litres
Fuel type .....	Diesel
Hydraulic oil volume .....	28 litres
Battery capacity .....	20 Ah
Generator power .....	180 W (15 A)
Oil quantity, crankcase.....	1,1 liter

### FB 700

Net weight .....	736 kg
Base plate, w x l .....	850 x 1175 mm
Speed .....	approximately 25 m/min.
Permitted inclination .....	20°
Centrifugal force .....	90,000 N
Vibration frequency .....	61 Hz
Drive engine .....	Hatz Supra 1 D 81 S
Engine power .....	11 kW
Engine RPM .....	3000 RPM
Fuel tank volume .....	7.25 litres
Fuel type .....	Diesel
Hydraulic oil volume .....	50 litres
Battery capacity .....	12 V - 45 Ah
Generator power .....	200 W (17 A)
Oil quantity, crankcase.....	1,9 liter

### FB 450

Net weight .....	436 kg
Base plate, w x l .....	700 x 1080 mm
Speed .....	approximately 25 m/min.
Permitted inclination .....	20°
Centrifugal force .....	58,000 N
Vibration frequency .....	68 Hz
Drive engine .....	Yanmar L 100AE
Engine power .....	7.35 kW
Engine RPM .....	3600 RPM
Fuel tank volume .....	5.5 litres
Fuel type .....	Diesel
Hydraulic oil volume .....	38 litres
Battery capacity .....	28 Ah
Generator power .....	180 W (15 A)
Oil quantity, crankcase.....	1,65 liter

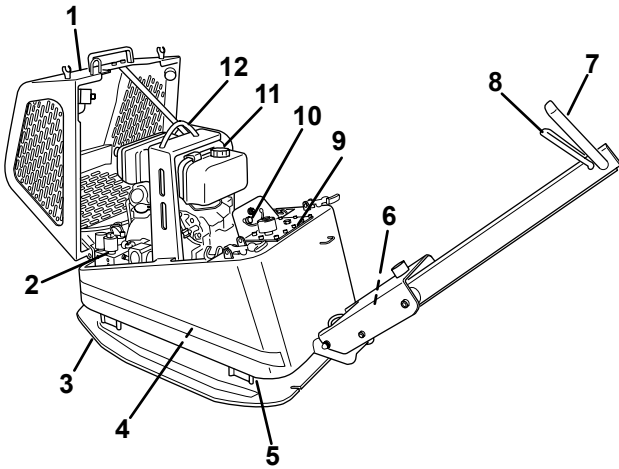
## METHOD OF OPERATION

The machine consists of a base plate with a vibration element and an upper part cushioned from the base plate. The cushioning between the base plate and the upper part consists of four rubber dampers. The upper part, on which the drive engine is mounted, is also designed as a hydraulic oil tank. The control handle is placed on the upper part and cushioned with rubber dampers. The vibration element is driven and the direction of travel is changed by means of hydraulics. The hydraulic pump, mounted on the diesel engine, supplies a hydraulic motor on the vibration element with an oil flow. The vibration element consist of two shafts on roller bearings with bias weights that are connected to gear wheels that rotate in opposite directions. One gear wheel can be released from its shaft by means of a hydraulic cylinder and locked in two different positions. This changes the phase positions of the eccentric weights and the machine therefore moves forwards or backwards.

All parts are well protected against damage in connection with use and transportation by a sturdy protective frame with a protective hood.

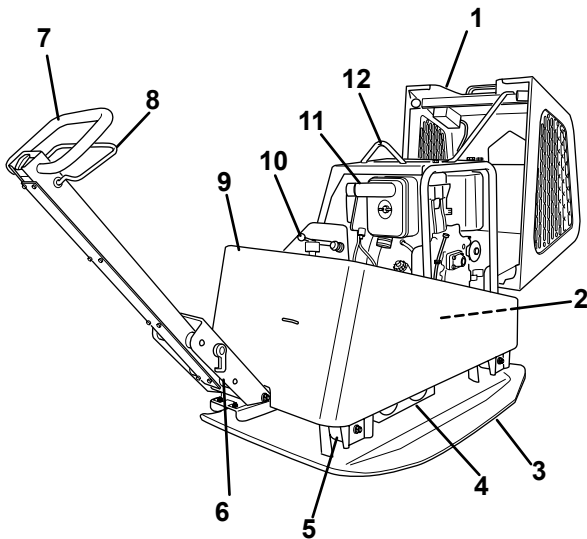
TEKNISK BESKRIVNING

FB 300 / FB 450



1. Protective hood
2. Hydraulic pump
3. Base plate
4. Vibration Element
5. Rubber damper
6. Transport locking device
7. Control handle
8. Forward/reverse control
9. Hydraulic tank
10. Throttle lever
11. Diesel engine
12. Lifting eye

FB 700



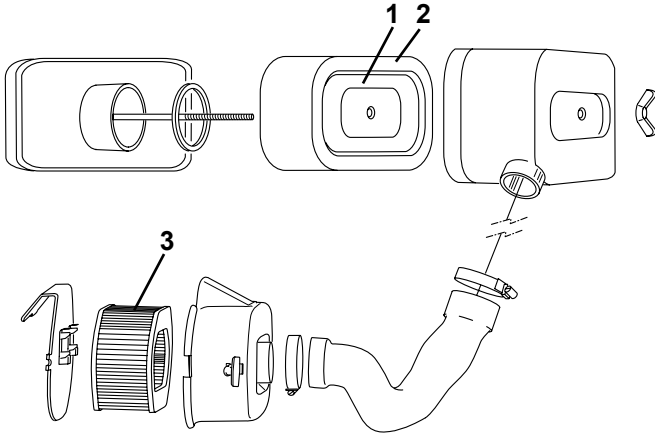
1. Protective hood
2. Hydraulic pump (front left side of engine)
3. Base plate
4. Vibration Element
5. Rubber damper
6. Transport locking device
7. Control handle
8. Forward/reverse control
9. Hydraulic tank
10. Throttle lever
11. Diesel engine
12. Lifting eye

## DAILY CHECKS

### Air Filter Check

The air filter must be checked at least once every working week. When working in dusty conditions, check daily.

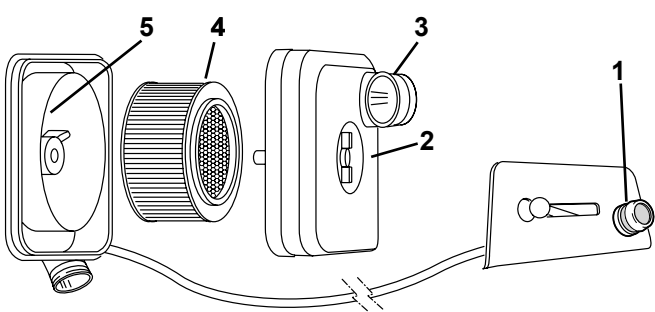
#### FB 300 / FB 450



### Cleaning

1. Remove the polyester element (3, FB 450 only) and blow it clean with compressed air or rinse it under running water and blow it dry.
2. Remove the foam plastic element (2) and the paper element and check that they are undamaged. Replace damaged parts.
3. Wash the foam plastic element in liquid with a high flashpoint and let it dry properly. Dip in engine oil and squeeze dry.
4. Strike the paper element (1) against a hard object a few times to loosen any dirt.

#### FB 700



### Daily

With the engine at full RPM, press in the indicator (1) for the air filter. If it remains depressed, clean the filter as described below. This may need to be done several times a day in dusty conditions.

1. Loosen the wing screw in the filter cap (2). Check that the dust outlet (3) is not clogged. Clean it if necessary.
2. Loosen the filter (4) and blow it clean with dry compressed air, max. 5 bar, from the inside until no more dust comes out. Replace a damaged filter.
3. Check that the filter plate (5) in the filter housing is clean.

### Fuel Check

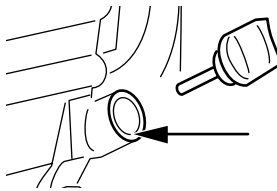
Check that there is fuel in the tank. Top up if necessary.

### Engine Oil Level Check

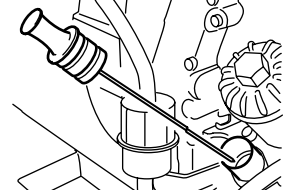
The oil level must be checked every day with the engine off and the machine on a level surface.

**FB 300 / FB 450:** The oil must reach the edge of the filling hole.

**FB 700:** The oil must reach the max mark.



FB 300 / FB 450



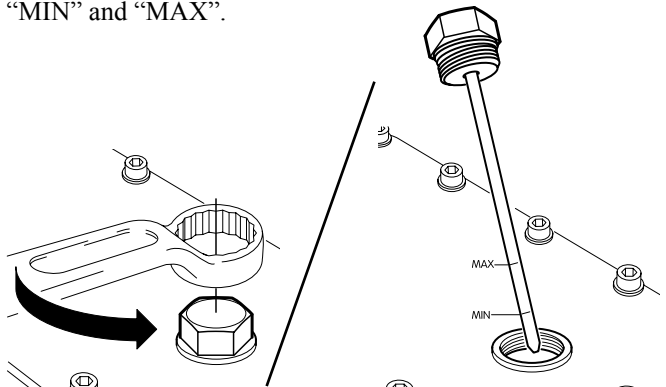
FB 700

### Oil/Fuel Leakage

Check every day that the engine is not leaking oil or fuel. If a leak is discovered, the machine may not be operated until the fault has been remedied.

### Hydraulic Oil Level Check

Check every day that the hydraulic connections do not leak or wear during operation. Check the oil level with the dipstick on the top of the tank. The level must be between "MIN" and "MAX".



### Vibration Element

Check regularly that there is no oil leak. If you suspect a leak, check the level at the level screw on the vibration element. If necessary, add oil up to the lower edge of the level hole when the vibrator is horizontal. Seal any leaks. Note! Machines must never be operated if a leak is suspected.

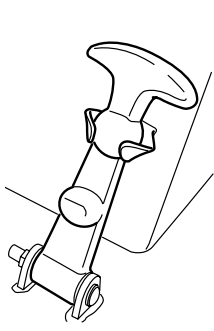
### Rubber Dampers

Check the condition of the rubber dampers regularly. Replace damaged dampers.

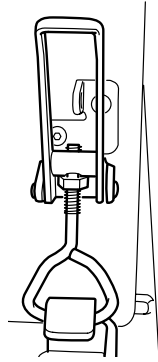
## FUEL and OIL RECOMMENDATIONS

Fuel .....	Diesel
Engine oil .....	SAE 10W-30
Hydraulic oil .....	Viscosity Grade ISO VG 32

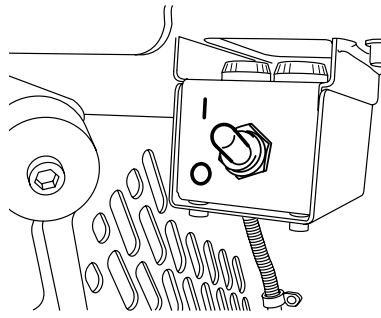




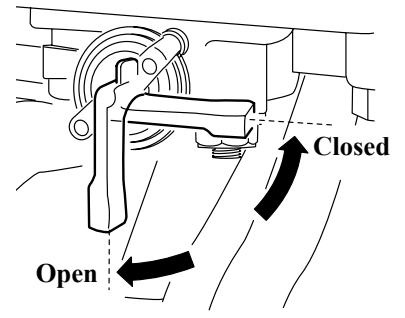
Hood lock FB 300



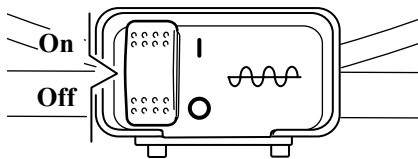
Hood lock FB 450



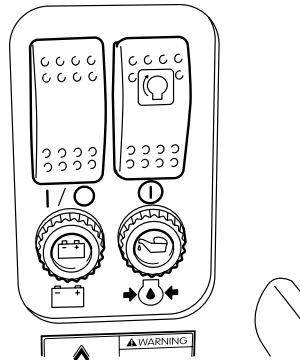
Main power switch



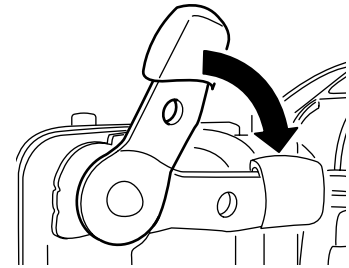
Fuel cock



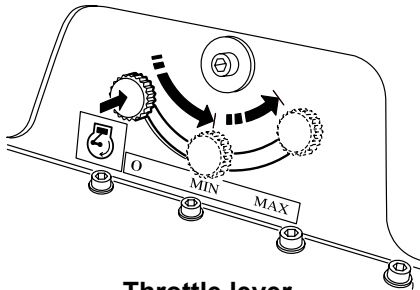
Vibration power switch



Engine power switch/  
start button



Decompression handle



Throttle lever

## BEFORE STARTING

See Daily Checks on page 8.

### STARTING - FB 300 / FB 450

Open the hood, (throttle lever in “O” position). Switch on the main power switch, “I” position.  
Open the fuel cock.

Close and lock the hood.

Note! The vibration power switch on the handle must be in the “O” position. Otherwise the engine cannot be started.

Press and pull the throttle lever to the “MIN” position or a slightly increased idle.

Switch the engine power switch (left power switch) to the “I” position. The charging lamp and oil pressure lamp light up.

Press the start button – the lamps go out.

Note! Never run the starter motor for longer than 10 seconds at a time. If the engine does not start, wait 15 seconds before trying to start it again.

In very cold weather or if the battery capacity is low for a different reason, starting can be facilitated using the

decompression handle in connection with the valve housing. Press the lever down and hold it down until the flywheel has reached its maximum RPM.

Press and pull the throttle lever to “MAX” and run the engine warm for around 5 minutes.  
Switch the vibration power switch to the “I” position – the machine starts to move.

## STOPPING

Switch the vibration power switch to the “O” position.

Switch the engine to idle, “MIN”, and let it run for a few minutes.

Switch the throttle lever to the “O” position – the engine stops. The charging and battery lamps light up.

Switch the engine power switch to the “O” position.

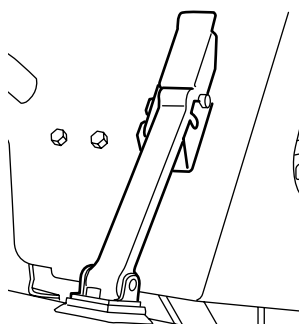
### At the End of the Day

Open the hood.

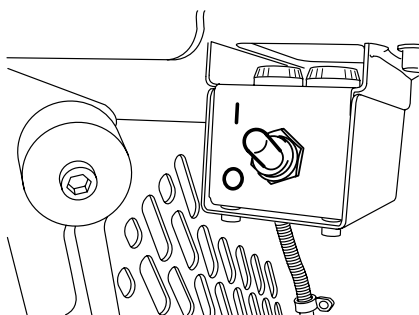
Switch off the main power switch, “O” position.

Close the fuel cock.

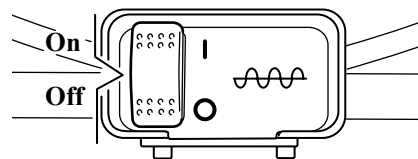
Close and lock the hood.



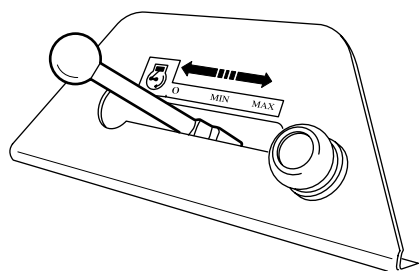
Hood lock FB 700



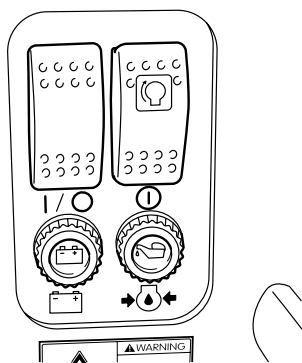
Main power switch



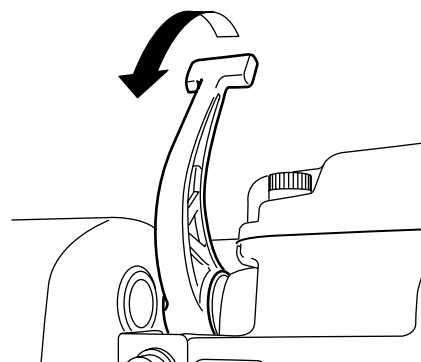
Vibration power switch



Throttle lever



Engine power switch/  
start button



Decompression handle

## BEFORE STARTING

See Daily Checks on page 8.

## STARTING - FB 700

Open the hood, (throttle lever in “O” position). Switch on the main power switch, “I” position.

Close and lock the hood.

**Note! The vibration power switch on the handle must be in the “O” position. Otherwise the engine cannot be started.**

Pull the throttle lever to the “MIN” position or a slightly increased idle.

Switch the engine power switch (left power switch) to the “I” position. The charging lamp and oil pressure lamp light up.

Press the start button – the lamps go out.

**Note! Never run the starter motor for longer than 10 seconds at a time. If the engine does not start, wait 15 seconds before trying to start it again.**

In very cold weather or if the battery capacity is low for a different reason, starting can be facilitated using the decompression handle in connection with the valve housing. Press the lever down and hold it down until the flywheel has reached its maximum RPM.

Pull the throttle lever to “MAX” and run the engine warm for around 5 minutes.

Switch the vibration power switch to the “I” position – the machine starts to move forwards.

## STOPPING

Switch the vibration power switch to the “O” position.

Switch the engine to idle, “MIN”, and let it run for a few minutes.

Switch the throttle lever to the “O” position – the engine stops. The charging and battery lamps light up.

Switch the engine power switch to the “O” position.

## At the End of the Day

Open the hood.

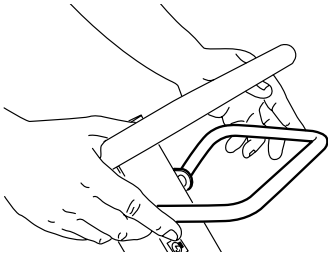
Switch off the main power switch, “O” position.

Close and lock the hood.

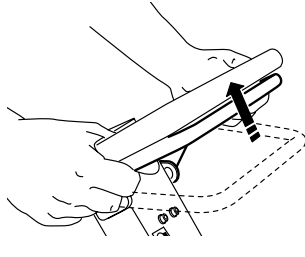
## OPERATING INSTRUCTIONS

The machine's vibration element is started and stopped with the power switch on the handle. The best packing is achieved at full engine RPM (throttle lever at "MAX"). Avoid running the engine at other RPM.

To move forwards, do not touch the forward/reverse control. To reverse, pull the hoop towards the control handle.



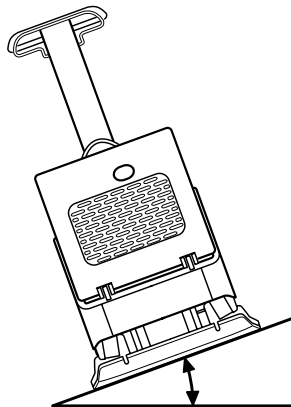
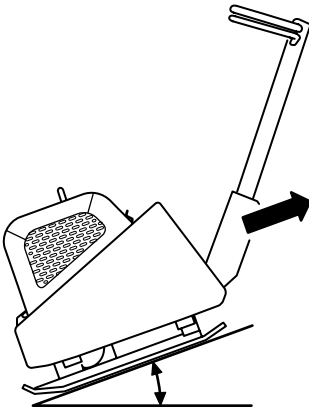
**Moving forwards**



**Reversing**

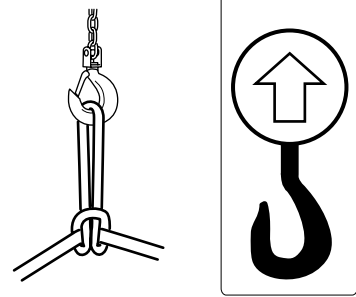
The machine is only designed to be used outdoors. Work with the machine in daylight or other adequate lighting. Ballast must be wetted or naturally damp. All other use is discouraged.

Note! When moving up a slope, the machine should be reversed. The machine may not incline more than 20° when in use or parked.

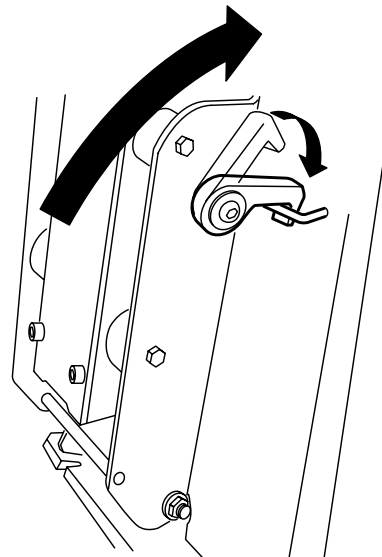


## TRANSPORTATION

The machine has a lifting eye that can be used for a hook or hawser.



Check before lifting that the lifting eye and its mounting on the machine are undamaged. Check also that the base plate's rubber dampers are undamaged and firmly attached. For transportation by vehicle, the handle must be folded forwards and locked with the transport locking device. The machine must then be secured with, for example, approved straps. Note! Secure it by the base plate and not the rubber-cushioned upper part.



**SWEPAC**®  
INTERNATIONAL AB

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Internet **www.swepac.se**