| Title of Training | VIBRATOR PLATE TRAINING | |
|---|---|---|
| Equipment Info. | MAKE/MODEL/TYPE | VIBRATOR PLATE SAFETY TRAINING |
| Date of Training | | Instructor: |

# VIBRATION PLATE SAFETY

## General instructions

Vibratory plates may only be operated by persons who are at least 18 years of age are physically and mentally fit for this job have been instructed in guiding vibratory plates and proved their ability for the job to the employer may be expected to carry out the job they are charged with carefully.

The persons must be assigned the job of guiding vibratory plates by the employer.

- Vibratory plates may only be used for compaction jobs. Both the manufacturer's operating instructions and these safety instructions have to be observed.
- The persons charged with the operation of vibratory plates have to be made familiar with the necessary safety measures relating to the machine. In case of extraordinary uses the employer shall give the necessary additional instructions.
- This machine generates noise that exceeds the country-specific permissible noise levels (individual rating level). It may therefore be necessary to wear ear protection

## Operation

- The engine is started by way of an electric starter.
- When starting the diesel engine with a starter crank make sure you have assumed a proper position with respect to the engine and that your hands are placed properly on the crank.
- Only use the original engine manufacturer's safety starting crank.
- To avoid a possible return kick, turn safety starting crank through with full force until the engine starts running.
- The function of operation levers or elements is not to be influenced or rendered ineffective.
- During operation the operator may not leave the control elements.
- The operator has to stop the engine of the vibratory plate before going on breaks. The machine has to be placed such that it cannot turn over.
- Stop engine before filling fuel tank. When refilling fuel tank, do not allow fuel to come into contact with the hot part of the engine or spill onto the ground.
- Do not smoke or handle open fire near this machine.
- The tank lid must fit tightly. Shut fuel cock if available when stopping the engine. For long distance transports of machines operated by fuel or fuel - mixtures, the fuel tank has to be drained completely. Leaky fuel tanks may cause explosions and must therefore be replaced immediately.
- Do not operate this machine in areas where explosions may occur.

- Make sure that sufficient fresh air is available when operating vibratory plates equipped with combustion engines in enclosed areas, tunnels, galleries and deep trenches.
- During operation keep your hands, feet and clothes away from the moving parts of the vibration plate. Wear safety shoes, and eye protection glasses in case of trench operation where falling sand stones maybe ejected.
- When working near the edges of breaks, pits, slopes, trenches and platforms, vibratory plates are to be operated such that there is no danger of their turning over or dropping in.
- Make sure the soil or subsoil to be compacted has a high enough load carrying capacity.
- Use appropriate protective clothing while working or while carrying out maintenance work.
- When traveling backwards the operator has to guide the vibration plate laterally by its guide handle so that he will not be squeezed between the handle and a possible obstacle. Special care is required when working on uneven ground or when compacting coarse material. Make sure of a firm stand when operating the machine under such conditions
- Vibratory plates are to be guided such that hand injuries caused by solid objects are avoided.
- Vibratory plates have to be guided such that their stability is guaranteed.
- Machines with integrated transport trolley may not be parked or stored on the trolley. This device has only been designed to transport the machine

## Transport

- During transport, loading and unloading of vibration plates by means of lifting devices, appropriate slinging means or hooks have to be used on the lifting points provided for this purpose on the vibratory plate.
- The load-carrying capacity of the loading ramps has to be sufficient and the ramps have to be secure such that they cannot turn over. Make sure that no one be endangered by machines turning over by slipping or by moving machine parts.
- When being transported on vehicles, precautions have to be taken that vibration plates do not slip or turn over.

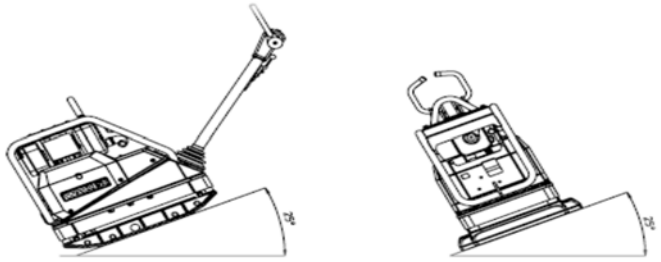
## Description

## Applications

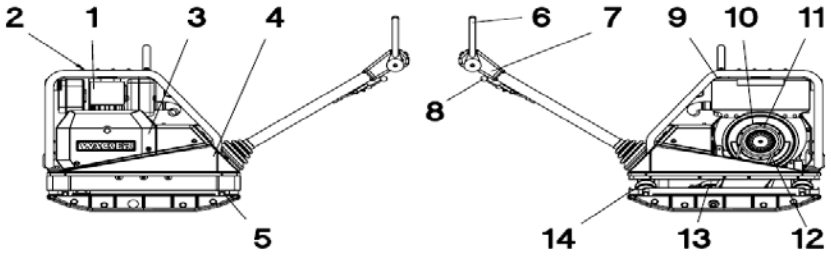
The vibratory plate has been designed for the compaction of almost every type of soil, both in trenches as well as surface compaction. In addition, it is possible to vibrate paving stones a concrete blocks by using extension plates up to 86 cm (accessories).

Extremely cohesive as well as frozen soils are not suitable for compaction. An authorized specialist must give permission for the ground in question to be compacted.

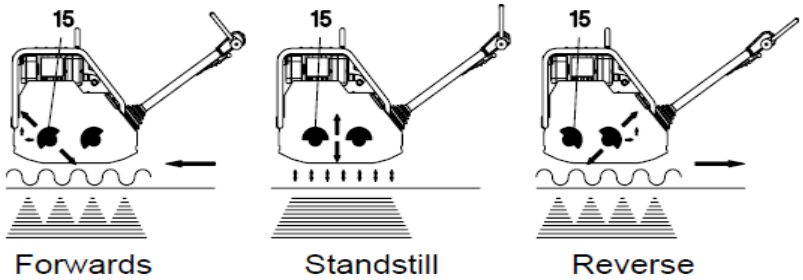
## Max. Admissible Inclination



## Description of function

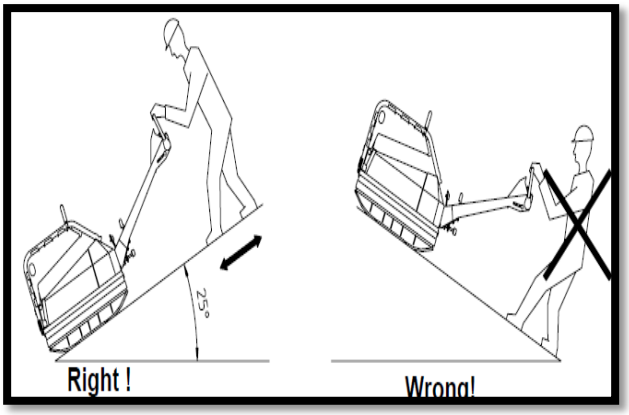



The vibration required for compaction is produced by the exciter (13) which is firmly joined to the lower mass (5). This exciter (13) is designed as a central vibrator with aligned vibrations. Such a principle permits the direction of vibration to be changed by turning the eccentric weights (15). In this way an infinitely variable transition between Vibration in forward motion, at standstill and in reverse motion is possible. This process is hydraulically controlled with the operating control handle (6) on the center pole head (7).




- The drive engine (1) anchored to the upper mass (4) drives the exciter (13). The torque is transmitted by means of a friction connection through the centrifugal clutch (11) and the exciter V-belt (12).

- The centrifugal clutch (11) interrupts flow of power to the exciter (13) at low engine speed and thus permits perfect idling of the drive engine
- The automatic V-belt pulley (10) combined with the centrifugal clutch (11) ensures optimum tension of the exciter V-belt (12) during operation and relief of the tension of the exciter V-belt (12) when the machine is being relocated or transported.
- Moreover, the automatic V-belt pulley (10) automatically adapts to the V-belt flanks in line with the wear and thus makes the entire drive from the engine (1) to the exciter (13) maintenance-free.
- The speed of the drive engine (1) can be infinitely varied by remote control on the throttle control lever (8). The upper (4) and lower (5) masses are connected to each other by 4 vibration-damping rubber metal shock mounts (14). This damping system prevents the very high frequencies from being transmitted to the upper mass (4). As a result the function ability of the drive engine (1) is retained in spite of the high compaction performance. The drive engine (1) works on the diesel principle; it is started electrically by a pinion starter (3), draws in the combustion air through an air filter, dry (9) and is air-cooled.
- To facilitate the starting procedure (at very low temperatures, with hand start) the drive engine (1) has an automatic decompression mechanism (2). It ensures that compression is very low during the cranking operation but steadily increases after a few revolutions when it then switches over to full compression




## Recommendations on compaction

### Ground conditions

The max.compaction depth depends on several factors relating to the ground condition, such as moisture, grain distribution etc, it is therefore not possible to specify exact values.

**Recommendation:**
In each case determine the max. Compaction depth with compaction tests and soil samples.

### Compaction on slopes

The following points are to be observed when compacting on sloped surfaces (slopes, embankments):

- Only approach gradients from the bottom (a gradient which can be easily overcome upwards, can also be compacted downwards without any risk).
- The operator must never stand in the direction of descent.

- The max. gradient of 25o must not be exceeded.
- A tilt in excess of this angle could lead to a stopping of the engine due to the automatic low oil shut-off system.
- A restarting of the engine can only take place after the valve lever at the oil filter housing has been actuated once.

**STOPPING**

- MOVE THE THROTTLE CONTROL LEVER TO THE STOP POSITION.
- WHEN THE ENGINE IS ATA STANDSTILL, TURN THE IGNITION KEY TO THE STOP POSITION. THE CONTROL LAMP WILL GO OFF.
- STORE IN A SAFE AND DRY LOCATION. CAUTION: DO NOT START OR OPERATE THE VIBRATORY
- PLATE ON CONCRETE OR ON EXTREMELY HARD, DRY, COMPACTED SURFACES. THE PLATE WILL
- JUMP RATHER THAN VIBRATE AND COULD CAUSE DAMAGE TO THE PLATE AND ENGINE.

**OPERATING SAFETY**

- ALWAYS WEAR YOUR PERSONAL PROTECTIVE EQUIPMENT, HARDHAT, AND SAFETY GLASSES ANDHEARING PROTECTION DURING THE OPEMTION OF THIS MACHINE.
- DURING OPERATION THE OPERATOR MAY NOT LEAVE THE CONTROL ELEMENTS.
- THE OPEMTOR HAS TO STOP THE ENGINE OF THE VIBMTORY PLATE BEFORE GOING ON BREAKS THE MACHINE HAS TO BE PLACED SUCH THAT IT CANNOT TURN OVER.
- STOP ENGINE BEFORE FILLING THE FUEL TANK. WHEN REFILLING THE FUEL TANK, DO NOT ALLOW FUEL TO COME INTO CONTRACT WITH HOT PARTS OF THE ENGINE OR SPILL ONTO THE GROUND.
- DO NOT SMOKE OR HANDLE OPEN FIRE NEAR THIS MACHINE?
- DO NOT OPERATE THE MACHINE IN AREAS WHERE EXPLOSIONS MAY OCCUR.
- MAKE SURE THAT SUFFICIENT FRESH AIR IS AVAILABLE WHEN OPERATING VIBRATORY PLATES WITH COMBUSTION ENGINES IN ENCLOSED AREAS.
- DURING OPERATION KEEP YOUR HANDS, FEET AND CLOTHES AWAY FROM MOVING PARTS OF THE VIBRATION PLATE.
- WHEN WORKING NEAR THE EDGES OF BREAKS, PITS, SLOPES, TRENCHES AND PLATFORMS, VIBRATORY PLATES ARE TO BE OPERATED SUCH THAT THERE IS NO DANGER OF THEIR TURNING OVER OR DROPPING IN.
- WHEN TRAVELING BACKWARDS THE OPERATOR HAS TO GUIDE THE VIBRATION PLATE LATERALLY BY ITS GUIDE HANDLE SO THAT HE WILL NOT BE SQUEEZED BETWEEN THE HANDLE AND A POSSIBLE OBSTACLE.

SPECIAL CARE IS REQUIRED WHEN WORKING ON UNEVEN GROUND OR WHEN COMPACTING COARSE MATERIAL. MAKE SURE OF A FIRM STAND WHEN OPERATING THE MACHINE UNDER SUCH CONDITIONS.

- ❖ VIBRATOR PLATES MAY ONLY BE OPERATED WITH ALL SAFETY DEVICES INSTALLED.

**Hands on Field Exercises**

- Pre-trip
- Proper operations
- Shutdown

**A. Participant Field Exercises**

**Participants will partake in the following hands-on activities**

a. Perform a pre-trip inspection of the Wacker Vibration Plate
b. Demonstrate proper Wacker Roller control operations
c. Completing a serpentine course
d. Completing a 360 degree turn around course
e. Completing a figure 8 course

*Note:* **This STT does not necessarily cover all possible hazards associated with this equipment and should be used in conjunction with other references (Owner's Manual & Brieser Safety Manual). It is designed as a guide to be used to compliment training and as a reminder to users prior to equipment use.**

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| **EMPLOYEE NAME (Print or Type)** | **EMPLOYEE SIGNATURE** | **TRADE** | **JOB TITLE** |
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