

# OPERATOR'S SAFETY AND SERVICE MANUAL

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## PORTAVIBE

This manual covers the following serial numbers and higher:

MBW EZVIB/H ..... 171000



## CONCRETE VIBRATOR

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# **WARNING**



## **CALIFORNIA PROPOSITION 65 WARNING**

Engine exhaust and some of its constituents are known in the state of California to cause cancer, birth defects, and other reproductive harm.

# SAFETY INFORMATION

## Introduction



This Safety Alert Symbol is used to call attention to items or operations which may be dangerous to those operating or working with this equipment. The symbol can be found throughout this manual and on the unit. Please read these warnings and cautions, along with all decals, carefully before attempting to operate the unit. Make sure every individual who operates or works with this equipment is familiar with all safety precautions.

### **WARNING**

**GENERAL WARNING.** Indicates information important to the proper operation of the equipment. Failure to observe may result in damage to the equipment and/or severe bodily injury or death.

### **CAUTION**

**GENERAL CAUTION.** Indicates information important to the proper operation of the equipment. Failure to observe may result in damage to the equipment.

## Safety Precautions



**LETHAL EXHAUST GAS:** An internal combustion engine discharges carbon monoxide, a poisonous, odorless, invisible gas. Death or serious illness may result if inhaled. Operate only in an area with proper ventilation. **NEVER OPERATE IN A CONFINED AREA!**



**DANGEROUS FUELS:** Use extreme caution when storing, handling and using fuels, as they are highly volatile and explosive in vapor state. Do not add fuel while engine is running. Stop and cool the engine before adding fuel. **DO NOT SMOKE!**



**SAFETY GUARDS:** It is the owner's responsibility to ensure that all guards and shields are in place and in working order.



**IGNITION SYSTEMS:** Breakerless, magneto, and battery ignition systems can cause severe electrical shocks. Avoid contacting these units or their wiring.



**SAFE DRESS:** Do not wear loose clothing, rings, wristwatches, etc. near machinery.



**NOISE PROTECTION:** Wear OSHA specified hearing protection devices.



**EYE PROTECTION:** Wear OSHA specified eye shields, safety glasses, and sweat bands.



**FOOT PROTECTION:** Wear OSHA specified steel-tipped safety shoes.



**HEAD PROTECTION:** Wear OSHA specified safety helmets.



**DUST PROTECTION:** Wear OSHA specified dust mask or respirator.



**OPERATOR:** Keep children and bystanders off and away from the equipment.

**REFERENCES:** For details on safety rules and regulations in the United States, contact your local Occupational Safety and Health Administration (OSHA) office. Equipment operated in other countries must be operated and serviced in accordance and compliance with any and all safety requirements of that country. The publication of these safety precautions is done for your information. MBW does not by the publication of these precautions, imply or in any way represent that these are the sum of all dangers present near MBW equipment. If you are operating MBW equipment, it is your responsibility to insure that such operation is in full accordance with all applicable safety requirements and codes. All requirements of the United States Federal Occupational Safety and Health Administration Act must be met when operated in areas that are under the jurisdiction of that United States Department.

## Safety Decals

Carefully read and follow all safety decals. Keep them in good condition. If decals become damaged, replace as required. If repainting the unit, replace all decals. Decals are available from authorized MBW distributors.

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## INTRODUCTION

We have taken care in the design, manufacture and testing of this product. Should service or spare parts be required, prompt and efficient service is available from our branches.

### General Safety Instructions for the Operation of Power Equipment

The goal of MBW is to produce power equipment that helps the operator work safely and efficiently. The most important safety device for this or any tool is the operator. Care and good judgement are the best protection against injury. All possible hazards cannot be covered here, but we have tried to highlight some of the important items, individuals should look for and obey Caution, Warning and Danger signs placed on equipment, and displayed in the workplace. Operators should read and follow safety instructions packed with each product.

Learn how each machine works. Even if you have previously used similar machines, carefully check out each machine before you use it. Get the "feel" of it and know its capabilities, limitations, potential hazards, how it operates, and how it stops.

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## APPLICATIONS

Civil: roadways, kerbing, pre cast beams, bridge decks, piers.

Commercial building: strip and raft foundations, stairs, walls, floors, driveways, suspended slabs, tilt panels, stack cast panels.

Residential building: floor stumps, wall cavities, house slabs, wall footings, paving slabs.

Rural: fence posts, stock troughs and pens.

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## ASSEMBLY

If the unit was supplied unassembled the following must be completed prior to operation:

The unit is supplied with the flexible shaft disconnected from the motor unit. To attach the flexible shaft, place the threaded ferrule end of the flexible shaft approximately 20 mm from the coupling housing. Engage the squared end of the flexible shaft core assembly into the squared seal sleeve adaptor.

The threaded ferrule end of the flexible shaft may now be screwed

into the motor adaptor. Rotate the ferrule end of the flexible shaft in an anti-clockwise direction to engage the left hand thread. Once tightened by hand use multigrip pliers to ensure the ferrule is tightened sufficiently to stop it from working loose and coming detached during operation.

A 100 ml container of 10W/30 engine oil is included with the unit. Engine oil capacity is 100 ml. To add oil place the unit on a level surface and remove the oil filler cap. Add oil until the oil level reaches the edge of the oil filler neck & reinstall the oil filler cap.

Fuel may now be added and the unit is ready for operation.

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## FUNCTION AND CONTROLS

### DRIVE UNIT

This portable drive unit is designed to power flexshaft drive, eccentric vibrators.

The motor is controlled by an ON/OFF push button which is mounted below the throttle lever on the handle.

The motor speed is controlled by throttle lever mounted on the handle.

A centrifugal clutch is fitted to the motor which disengages the drive to the vibrator when the motor is idling.

The clutch operates automatically and requires no adjustment.

The motor is a 4-stroke unit and must only be used with unleaded petrol.

### VIBRATOR

This vibrator is designed for the compaction of concrete by immersion of the vibrator head. Compaction improves the strength and finish of concrete by driving out entrapped air.

High frequency vibration allows the efficient compaction of low slump concrete mixes.

The vibrator head is driven by a rotating flexible drive shaft that transmits the drive from the drive unit.

The vibrator head uses an eccentric mass to produce vibration. Ball bearings support the rotor at each end.

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## HAZARDS AND RISKS

NEVER allow any person to operate equipment without adequate instruction.

ENSURE all operators read, understand and follow the operating instructions.

SERIOUS INJURY may result from improper or careless use of this machine

### ! MECHANICAL HAZARDS

DO NOT operate the machine unless all protective guards are in place.

ENSURE that the motor operation switch is in the OFF position and the spark plug ignition lead is disconnected before removing the guards or making adjustments.

KEEP hands and feet clear of rotating and moving parts as they will cause injury if contacted.

DO NOT leave the equipment in operation while it is unattended.

EXERCISE CARE when handling vibrators. Exposure to vibration or repetitive work actions may be harmful to hands and arms.

DO NOT hold the vibrator shaft in your hands while it is running.

Hold the vibrator by the "D" handle & use the supplied carry strap to help isolate your hands from the vibration.

NEVER stand on the vibrating head while it is operating.

DO NOT place your foot on the vibrator head while it is running unless it is done momentarily and the vibrator head is resting on a resilient support such as a car tyre.

BE CAREFUL not to come in contact with the muffler when the engine is hot, since it can cause severe burns.

ENSURE that repairs to machinery are carried out by COMPETENT personnel.

#### ! FIRE & EXPLOSION HAZARDS

PETROL is extremely flammable and explosive under certain conditions.

ENSURE that petrol is only stored in an approved storage container.

DO NOT refuel the motor while it is in operation or hot.

DO NOT refuel the motor in the vicinity of sparks, a naked flame or a person smoking.

DO NOT over fill the fuel tank and avoid spilling petrol when refuelling. Spilled petrol or petrol vapour may ignite. If spillage occurs, ensure that the area is dry before starting the motor.

Motor vibrations can cause an improperly tightened fuel cap to loosen or come off and spill quantities of fuel. In order to reduce risk of fuel spillage and fire, tighten fuel cap by hand with as much force as possible.

To reduce the risk of serious injury from burns, never attempt to refuel the unit until it has been stopped & completely removed from the operator.

#### ! CHEMICAL HAZARDS

DO NOT operate or refuel a petrol motor in a confined area without adequate ventilation.

CARBON MONOXIDE exhaust gases from internal combustion motor driven units can cause death in confined spaces.

#### ! NOISE HAZARDS

EXCESSIVE NOISE can lead to temporary or permanent loss of hearing.

WEAR an approved hearing protection device to limit noise exposure, as required by Occupational Health and Safety regulations.

Noise levels in excess of 85dB(A) may be produced by engines and vibrators.

#### PROTECTIVE CLOTHING

ALWAYS wear protective clothing and footwear to prevent the skin coming into contact with wet concrete.

PROTECTIVE FOOTWEAR should be worn to reduce injuries from penetration through the sole, contact with cutting objects, slipping, contact with wet concrete and electrical hazards.

GOGGLES for eye protection may also be necessary.

USE waterproof protection for hands and knees (if kneeling) when concreting. If your clothing becomes wet from concrete contact make sure you change the clothing. Do not walk about waiting for it to dry.

USE GLOVES when handling and inspecting the flexible shaft outer casing. Excessive wear of the rubber cover can expose the wire braided reinforcement, allowing it to project and cause injury.

#### ! ADDITIONAL HAZARDS

To reduce the risk of injury from loss of balance, start the motor with the unit on a flat level surface, and only pick up the unit when the engine is idling.

Slip/Trip/Fall is a major cause of serious injury or death.

Beware of the flexible shaft and water left on the walking or work

surface.

Exercise caution and ensure that the perimeter of elevated formwork or platforms is protected.

Exercise care when working in the vicinity of unprotected holes or excavations

## OPERATION

To start the motor, place the unit on a flat level surface, and only pick up the unit when the engine is idling.

To start the motor turn the engine switch to the ON position.

To start a cold engine, move the choke lever to the closed position

To restart a warm engine, leave the choke lever in the OPEN position.

Press the priming pump several times until a flow in the fuel return tube is visually noticed.

Pull the starter grip lightly until you feel resistance while holding the unit steady, then pull briskly.

Return the starter grip gently.

If the choke lever is in the CLOSED position, gradually move it to the OPEN position as the engine warms up.

The idle-up function helps the engine start by opening the throttle valve in the carburetor moderately when the engine won't start.

1. Hold down the throttle interlock.
2. Pull the throttle trigger.
3. Push the idle-knob, then release the throttle trigger and the interlock.
4. Start the engine

NOTE: This function must not be used when vibrating.

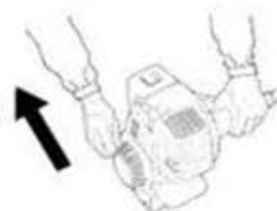
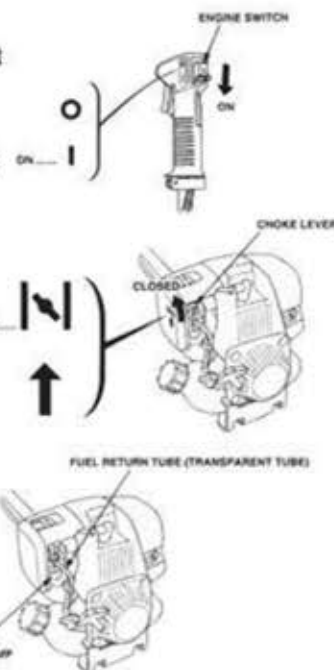
Always operate the unit at full throttle. This will ensure correct concrete compaction and avoid damage to the drive mechanism.

Be careful starting and or revving the unit on loose gravel as it may be sucked into the flywheel cooling fins causing damage to the unit.

Avoid sharp bends in the flexshaft, particularly when it is in use.

Do not use a eccentric-type immersion vibrator head as an external vibrator by applying it to the outside of formwork.

Do not operate the vibrating head out of concrete for extended periods. Do not leave it running while you wait for fresh supplies of concrete to be placed. Vibrator heads are designed to be cooled by the concrete in which they are immersed.



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## CARE AND PREVENTIVE MAINTENANCE

Keep the unit clean and free of concrete residue.

Check the oil level in the engine crankcase daily, it should reach the edge of the oil filler neck. The engine oil capacity is only 100 ml and running the engine with a low oil level will cause serious engine damage.

Vibrators must be handled with care, and be properly maintained in order to avoid unnecessary breakdowns. Check regularly for signs of wear and rectify any faults immediately.

The exterior of the flexshaft and the vibrator head are subject to abrasion and wear. If the vibrator is operated unchecked, concrete will eventually enter the vibrator head or the flexshaft.

Naturally, the cost of repairing a vibrator which has been allowed to deteriorate in this way will be greater.

Regular inspection of the vibrator and the flexible shaft will avoid these problems.

Check the flexible shaft for kinks and external damage by laying it out straight on a workbench or the floor. Although it still operates, a badly kinked flexible shaft may result in a broken inner core.

Check the outer casing rubber cover for damage where it enters the ferrule at the vibrator head. Damage is caused by operators using a crane to retrieve a vibrator trapped in concrete reinforcing bars.

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## SERVICE

Replace the oil in the motor crankcase regularly with 10W/30 oil.

The air cleaner element fitted is a wet foam type. Service the air cleaner element regularly by washing the element in a non flammable solvent and let it dry thoroughly. Soak the element in clean engine oil, squeeze out the excess oil and reinstall the air cleaner element.

A fuel tank strainer is fitted to the unit. A clogged filter may cause poor engine performance requiring the fuel filter to be removed from the fuel tank and cleaned.

Inspect, clean and/or replace the spark plug regularly.

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## CLEANING AND STORAGE

It is advisable to wash the vibrator head and flexshaft with clean water after use each day and before storing. This will ensure that concrete does not accumulate on the exterior.

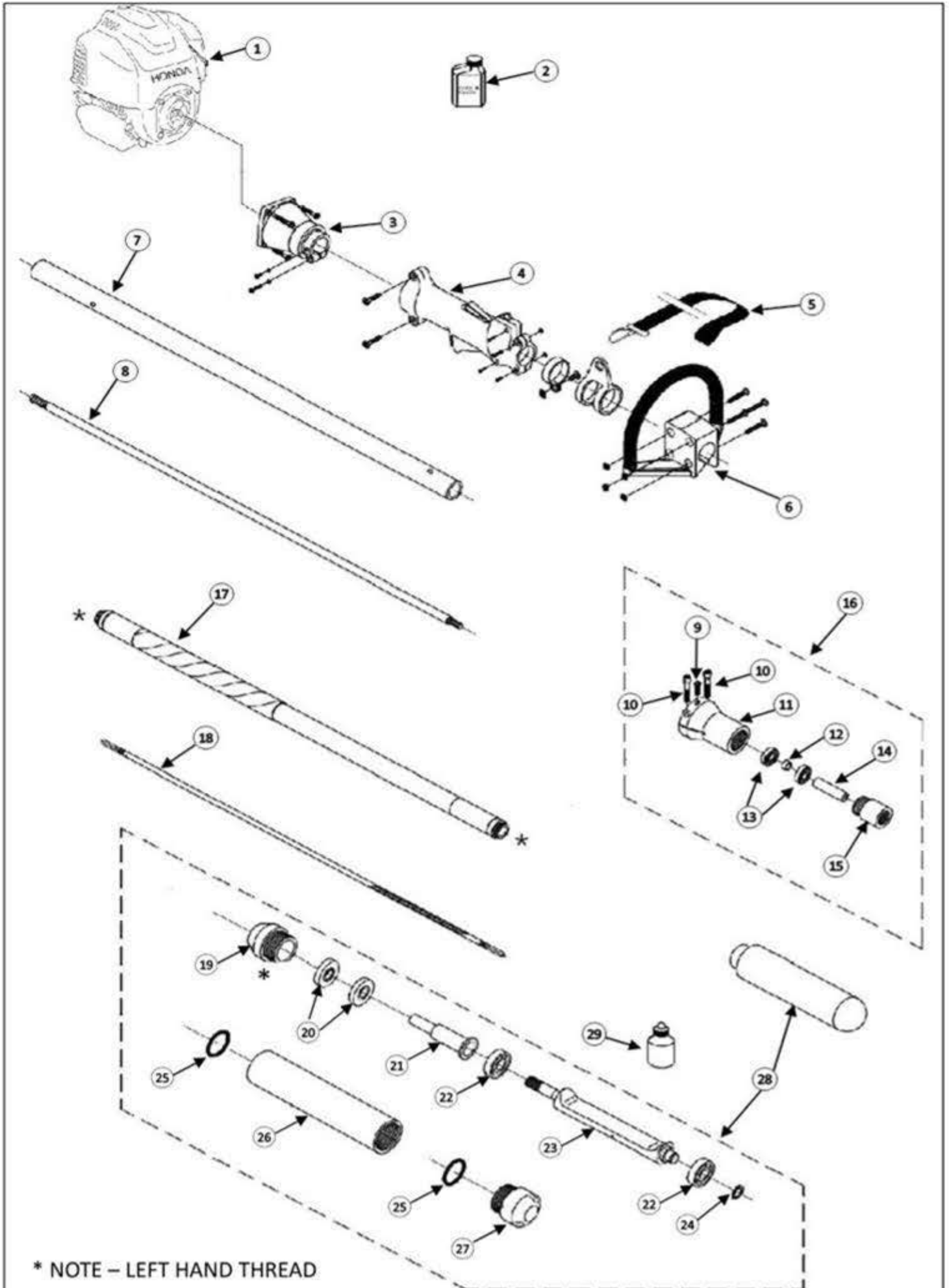
Ensure the cooling fins on the motor are kept unobstructed.

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## SPECIFICATIONS

MOTOR	Honda, 35 cc 4-stroke petrol
MOTOR OIL CAPACITY	100 ml
MODEL	EZVIB-H
TYPE	Hard Nose
FREQUENCY	9,000
AMPLITUDE	2.8 mm
HEAD DIA.	44 mm
WEIGHT	11 kg

MBW PortaVibe





Item No.	Part No.	Description	Qty
1	F03318	Honda GX35 Engine	1
2	F03332	Engine Oil - 10w30 - 100 ml	1
3	22260-VK9-A02	Clutch Housing Assy	1
4	F03020	Throttle Assy - c/w Throttle cable	1
	32100-VF9-V41	Throttle Cable - c/w Wiring Harness	1
5	F03025	Shoulder Strap	1
6	F03026	Handle Assy	1
7	F03333	Drive Tube	1
8	F03334	Drive Shaft	1
9	F042005BCS	Button Head Cap Screw 1/4 - 20 x 5/8" LG	1
10	F042008SCS	Socket Head Cap Screw 1/4 - 20 x 1" LG	2
11	F02982	Housing - PortaVibe Coupling	1
12	F03281	Spacer - PortaVibe Coupling	1
13	F01515	Bearing - 22mm x 8mm x 7mm (NSK 608T1XVVMC3E)	2
14	F08870	Seal Sleeve - PortaVibe, Unground	1
15	F05359	Adaptor	1
16	F03282	Coupling Assy - (Includes Items 9-15)	1
17	F03001	Casing Assy	1
18	F03002	Core - Inner	1
19	F09329	Adaptor - Barrel	1
20	F07508	Seal - 0.626" x 1.125" x 0.250"	2
21	F06609	Adaptor - Spindle	1
22	F09330	Bearing - 15mm x 35mm x 16mm - 2-Row (NSK 5202)	2
23	F09332	Rotor	1
24	F04180	Circlip - External Diam 15mm	1
25	F04850	O-Ring - 1.296" x 0.139"	2
26	F09331	Barrel	1
27	F09333	Nose Cap - Hard Nose	1
28	F09328	Vibrator Head Assy	1
29	F06700	Oil - Tellus 46 - 35ml	1

### Service Kit

Item No.	Part No.	Description	Qty
n/a	F09328-SK	PortaVibe Head - Service Kit Includes items 20, 22, 24, 25.	1

# WARRANTY

**WHAT DOES THIS WARRANTY COVER?** MBW, Incorporated (MBW) warrants each New Machine against defects in material and workmanship for a period of twelve (12) months. "New Machine" means a machine shipped directly from MBW or authorized MBW dealer to the end user. This warranty commences on the first day the machine is sold, assigned to a rental fleet, or otherwise put to first use.

MBW warrants each Demonstration Machine against defects in material and workmanship for a period of six (6) months. "Demonstration Machine" means a machine used by MBW or its agents for promotional purposes. This warranty commences on the first day the machine is sold, assigned to a rental fleet, or otherwise put to first use.

This warranty covers the labor cost for replacement or repair of parts, components, or equipment on New Machines or Demonstration Machines, and MBW shall pay labor costs at MBW's prevailing rate to affect the warranted repair or replacement. MBW reserves the right to adjust labor claims on a claim-by-claim basis.

This warranty covers the shipping cost of replacement parts, components, or equipment via common ground carriers from MBW to an authorized MBW dealer. Air freight is considered only in cases where ground transportation is not practical.

**MAY THIS WARRANTY BE TRANSFERRED?** This warranty is non-transferable and only applies to the original end user of a new machine or demonstration machine.

## **WHAT DOES THIS WARRANTY NOT COVER?**

1. This warranty does not cover any Used Equipment. "Used Equipment" means any MBW machine or equipment that is not a New Machine or a Demonstration Machine. All Used Equipment is sold **AS IS/WHERE IS WITH ALL FAULTS**.

2. This warranty does not cover any New Machine, Demonstration Machine, or their equipment, parts, or components altered or modified in any way without MBW's prior written consent. This warranty does not cover the use of parts not specifically approved by MBW for use on MBW products. This warranty does not cover misuse, neglect, shipping damage, accidents, acts of God, the operation of any New Machine or Demonstration Machine in any way other than recommended by MBW in accordance with its specifications, or any other circumstances beyond MBW's control. This warranty does not cover any New Machine or Demonstration Machine repaired by anyone other than MBW factory branches or authorized MBW distributors.

3. This warranty does not cover, and MBW affirmatively disclaims, liability for any damage or injury resulting directly or indirectly from design, materials, or operation of a New Machine or Demonstration Machine or any other MBW product. MBW's liability with respect to any breach of warranty shall be limited to the provisions of this document and in no event shall exceed an amount equal to the purchase price of the New Machine or Demonstration Machine purchased from MBW.

4. This warranty does not cover engines, motors, and other assemblies or components produced by other manufacturers and used on a New Machine or Demonstration Machine, as said engines, motors, and other assemblies or components may have warranties provided by the manufacturer thereof. This warranty does not apply to consumable items, such as v-belts, filters, trowel and screed blades, seals, shock mounts, batteries, and the like, all of which are sold **AS IS/WHERE IS WITH ALL FAULTS**.

5. This warranty does not cover the cost of transportation and other expenses which may be connected with warranty service but not specifically mentioned herein.

6. This warranty does not cover any updates to any New Machine, Demonstration Machine, or any other MBW product. MBW reserves the right to improve or make product changes without incurring any obligation to update, refit, or install the same on New Machines or Demonstration Machines previously sold.

**WHAT MUST YOU DO TO OBTAIN WARRANTY COVERAGE?** Each New Machine or Demonstration Machine is accompanied by a Warranty Registration Card. You must sign, date, and return the Warranty Registration Card to the place of origin of the New Machine or Demonstration Machine, either to MBW, Inc. at P.O. Box 440, Slinger, Wisconsin 53086 or MBW Europe Ltd. at Units 2 & 3 Cochrane Street, Bolton BL3 6BN, United Kingdom, within ten days after purchase assignment to a rental fleet, or first use.

This signed warranty card is the buyer's affirmation that he has read, understood, and accepted the warranty at the time of purchase. Failure to return the warranty card as specified herein renders the warranty null and void. In order to receive warranty coverage consideration, warranty claims must be submitted within thirty (30) days after the New Machine or Demonstration Machine fails. Warranty claims must be submitted to MBW, Inc., MBW (UK), Ltd. or MBW FRANCE SARL, and written authorization for the return of merchandise or parts under the warranty must be obtained before shipment to MBW.

**WHAT WILL MBW DO?** MBW's obligation under this warranty is limited to the replacement or repair of parts for a New Machine or Demonstration Machine at MBW factory branches or at authorized MBW distributors, and such replacement or repair is the exclusive remedy provided hereunder. Labor must be performed at an authorized MBW distributor. MBW reserves the right to inspect and render a final decision on each warranty case, and MBW's repair or replacement is solely within the discretion of MBW.

**IT IS EXPRESSLY AGREED THAT THIS SHALL BE THE SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY. UNDER NO CIRCUMSTANCES SHALL MBW BE LIABLE FOR ANY COSTS, LOSS, EXPENSE, DAMAGES, SPECIAL DAMAGES, INCIDENTAL DAMAGES, OR PUNITIVE DAMAGES ARISING DIRECTLY OR INDIRECTLY FROM THE USE OF THE NEW MACHINE OR DEMONSTRATION MACHINE WHETHER BASED UPON WARRANTY, CONTRACT, NEGLIGENCE, STRICT LIABILITY, OR ANY OTHER LEGAL THEORY.**

**THE FOREGOING WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR USE, AND FITNESS FOR A PARTICULAR PURPOSE, AND ALL OTHER OBLIGATIONS OR LIABILITY ON MBW'S PART. MBW NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PERSON TO ASSUME ON BEHALF OF MBW ANY OTHER LIABILITY OR WARRANTY IN CONNECTION WITH THE SALE OR SERVICE OF ANY NEW MACHINE, DEMONSTRATION MACHINE, OR ANY OTHER MBW PRODUCT.**

## **EXTENDED RAMMER WARRANTY - MODELS R422, R442, R482 & R483.**

This extended warranty commences on the last day of MBW's standard, one year, "limited warranty" and runs for an additional four years (48 months). This extended warranty is limited to part replacement and shipping costs of rammer **bellows and non-metallic slide bearings only**. This extended warranty does not cover labor, down time, or any other cost beyond that of component replacement and freight. This extended warranty is subject to all limitations set fourth in MBW's "limited warranty", above.

# EC Declaration of Conformity

*Manufacturers Name:* MBW Europe Ltd.

*Manufacturers Address:* Units 2&3 Cochrane Street  
Bolton  
BL3 6BN  
United Kingdom

*Declares that this product:* Portavibe MBW/EZVIB-H Serial Number 171000 and above

*Description of Equipment:* Concrete Vibrator

*Conforms to the following Directive:* 2006/42/EC  
Also produced in accordance with standards EN500-1 & EN500-4

*Engine Power:* 1.21Kw

*Contact Details for Manufacturers:*   
Greig Sandiford  
Managing Director  
MBW Europe Ltd.

*Notified Body:* AV Technology Ltd.  
AVTech House  
Arkle Avenue  
Stanley Green Trading Estate  
Handforth  
SK9 3RW  
United Kingdom

*Place of Declaration:* Bolton, United Kingdom

*Date:* 31st January 2019



