

# Operator's Manual

## Battery Powered Edging Trowel SC24E





## Foreword

This manual contains important instructions for this machine. These instructions must be followed during installation, operation and maintenance of the machine.

The manual provides you with information and procedures to safely operate. For your own safety and to reduce the risk of injury we advise you to carefully read, understand and observe all instructions described in this manual.

We reserve the right to change any of the contents of this manual without notice.

## Warranty

Our products are covered for a period of Six (6) months from the date of purchase against defects in material or workmanship provided that:

The product concerned has been operated and maintained in accordance with the operating instructions

Has not been damaged by accident, misuse or abuse

Has not been tampered with or repaired by any unauthorized person

Any evidence of failure to meet these conditions may result in a denial of the warranty claim.

The owner is responsible for the cost of transportation to and from the authorized repairer and the unit is at the owners risk while in transit to and from the repairer.

Impact damage is not covered under warrant. Clutches are not covered under any warranty.

Engines are officially guaranteed by the engine manufacturer. Please refer to the Annex for engine warranty.

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## 1. Technical Specification

The power trowel with battery is available with a rechargeable battery pack.

To find specifications that apply to your machine, check the information plate on the machine.

<b>Model</b>	<b>SC24E</b>
<b>Motor type</b>	<b>DC48V</b>
<b>Motor speed</b>	<b>4000</b>
<b>power</b>	<b>1.0</b>
<b>Operating weight</b> (without battery)	<b>69kg</b>
<b>Blade speed</b>	<b>0-140</b>
<b>Rotor dia</b>	<b>60cm (24")</b>
<b>Finishing blade</b>	<b>4.75"</b>
<b>Combination blade</b>	<b>4.75"</b>
<b>Float pan</b>	<b>25"</b>
<b>Battery (optional)</b>	<b>48V/50AH</b>
<b>Battery weight</b>	<b>17kg</b>
<b>Gearbox lubrication</b>	<b>400</b>



**1.2 Dimension (L x W x H) : 1700 - 800 - 800mm**

## **2. Safety information**

### **2.1 Machine description and intended use**

This machine is a walk-behind concrete finishing trowel. It consists of an engine mounted frame with electrical motor, a battery pack, a gearbox, a guard ring and a handle.

This machine is intended to be used for floating and burnishing curing concrete.

### **2.2 Operating safety**

Only trained personnel are permitted to start, operate and shut down the machine. They have received instruction on how to properly use the machine and are familiar with the required safety devices.

Read, understand and follow procedures in the Operator,s manual before attempting to operate the machine.

The machine must not be accessed or operated by children and people impaired by alcohol or drugs.

NEVER operate this machine in application for which it is not intended.

NEVER allow anyone to operate this machine without proper training. People operating this equipment must be familiar with the risks and hazards associated with it.

Do not allow anyone to stank or lean on the unit during operation.

Always keep the safety stop switch system in adjustment and good operating condition at all times. Do not operate the trowel if it does not work properly. Out of control trowels can cause serious personal injury and damage to fresh concrete surfaces. This system will automatically stop the unit if the operator loses control of it during operation.

ALWAYS make sure the safety stop switch is disengaged (lever down position) before starting the unit. Keep one hand firmly on the handle while starting and do not let go of the handle during operation.

ALWAYS wear protective clothing, safety glasses, hearing protection, safety-toes footwear to the job site while operating the machine.

ALWAYS store the machine properly when not being used. The machine should be stored in a clean, dry location out of the reach of children.

### **2.3 Safety regarding operation of machine**

Recognized official procedures have to be used to ensure the machine is operated in safe and best conditions.

Only operate this machine when all safety devices and related safety equipment are present and operational. Check the machine visually for any damage and defects at least once a day.

In the event of operational malfunctions the machine must be shut down immediately and secured.

Secure the work area around the machine in public areas providing a safety distance of at least 10m (3.3ft) from the machine.

Faults must be immediately rectified.

Carry out the switch on and switch off operations in accordance with this user guide.

Before switching on the machine make sure that no-one can be endangered when the machine starts up.

Never operate the machine when it's in its upright position.

All persons in the proximity of the machine must wear ear and eye protection as well as safety shoes. In addition the machine operator must wear close-fitting protective clothing.

Make sure there is no debris in the work area.

Check the work area for screws and other hard objects in the concrete. Do not use the machine if there are any foreign objects stuck into the surface. Such objects must be removed prior to the operation of the machine.

## **2.4 Electrical safety**

Work on electrical equipment may only be undertaken by a skilled electrician or by trained persons under the supervision of a skilled electrician as well as in accordance with the local electrical engineering regulations.

The electrical equipment for the plant must be inspected regularly. Defects must be rectified immediately. Call a skilled electrician or customer services.

A second person must be in attendance whilst the electrical engineer is working on the equipment.

The work area must be secured against any third party entering the work area. Follow local electrical engineering regulations while working on the machine. Never leave a machine unattended. Use only tools that are insulated against electricity.

Only start work after you are familiar with the electrical engineering regulations that apply to the local area.

## **2.5 Service safety**

Read and understand the instructions contained in the manual delivered with the machine before servicing or maintaining.

Familiarize yourself with the location and proper use of all the controls and safety devices before servicing or maintaining.

Contact your local dealer for additional training if necessary.

Do not allow improperly trained people to service or maintain the machine. Personnel servicing or maintaining the machine must be familiar with the associated potential risks and hazards.

Do not attempt to clean or service the machine while it is running. Rotating parts can cause severe injury.

Do not remove blades while the machine is hanging overhead.

Disconnect the spark plug on machines equipped with petrol engines before servicing to avoid accidental start up.

When replacement parts are required for this machine, use only our replacement parts or those parts equivalent to the original in all types of specifications, such as physical dimensions type, strength and material.

## 2.6 Safety regarding maintenance

**Set the machine into the OFF position before beginning any work on the machine.**

Never work on the machine while power is still connected!

All parts must have come to a complete stop before beginning any work!

Adjustment, servicing and inspection work on the period of time limits. Specified in this user guide as well as any information on the replacement or parts and equipment must be undertaken and/or compiled with.

These activities may only be undertaken by qualified personnel.

The machine must not be connected to any power source while cleaning.


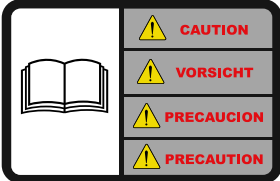


## 2.7 Label Location





## 2.8 Safety and operating labels

Our machines use international pictorial labels where needed. These labels are described below.

Label	Meaning
 <p>The label features a central graphic of a four-bladed rotating tool with a black blade guard. Above the graphic is a yellow triangle with a black exclamation mark, and the word 'WARNING' is printed in red below it.</p>	<p>WARNING! Always replace the blade guard. The rotating blades can cause major damage to an operator or by-stander.</p>
 <p>The label shows an open book icon on the left. To the right, there are four horizontal bars, each containing a yellow triangle with a black exclamation mark and a word in red: 'CAUTION', 'VORSICHT', 'PRECAUCION', and 'PRECAUCION'.</p>	<p>CAUTION! Read and understand the supplied Operator's Manual before operating the machine. Failure to do so increases the risk of injury to yourself or others.</p>
 <p>The label features a blue circular icon of a person wearing safety glasses and earplugs. Above the icon is a yellow triangle with a black exclamation mark and the word 'WARNING' in red. Below the icon are three horizontal bars, each with a yellow triangle and a word in red: 'WARNING', 'ADVERTENCIA', and 'AVERTISSEMENT'.</p>	<p>WARNING! Always wear hearing and eye protection when operating the machine.</p>
 <p>The nameplate is black with white text and fields. It reads 'Battery Power Trowel' at the top. Below are fields for 'Model', 'Kg', 'V', 'kW', 'Ah', 'Manuf. Yr.', and 'Serial No.', each with a corresponding grey box for information entry.</p>	<p>A nameplate listing the model number and serial number is attached to each unit. Please record the information found on this plate so it will be available if lost or damaged. When requesting service information the serial number should be specified as a form of identification.</p>

### 3. Operation

#### 3.1 Operating principle

The following instructions are compiled to provide information on how to enjoy long and trouble free use of the machine. Periodic maintenance of the machine is essential. Read the manual carefully and thoroughly familiarize yourself with the machine and all its functions. Failure to do so may lead to the injury of yourself or a bystander.

#### 3.2 Preparing the machine for first use

Make sure all loose packaging materials have been removed from the machine.

Check the machine and its components for damage. If there is visible damage, do not operate the machine, contact the dealer immediately for assistance.

Take inventory of all items included with the machine and verify that all loose components and fasteners are accounted for,

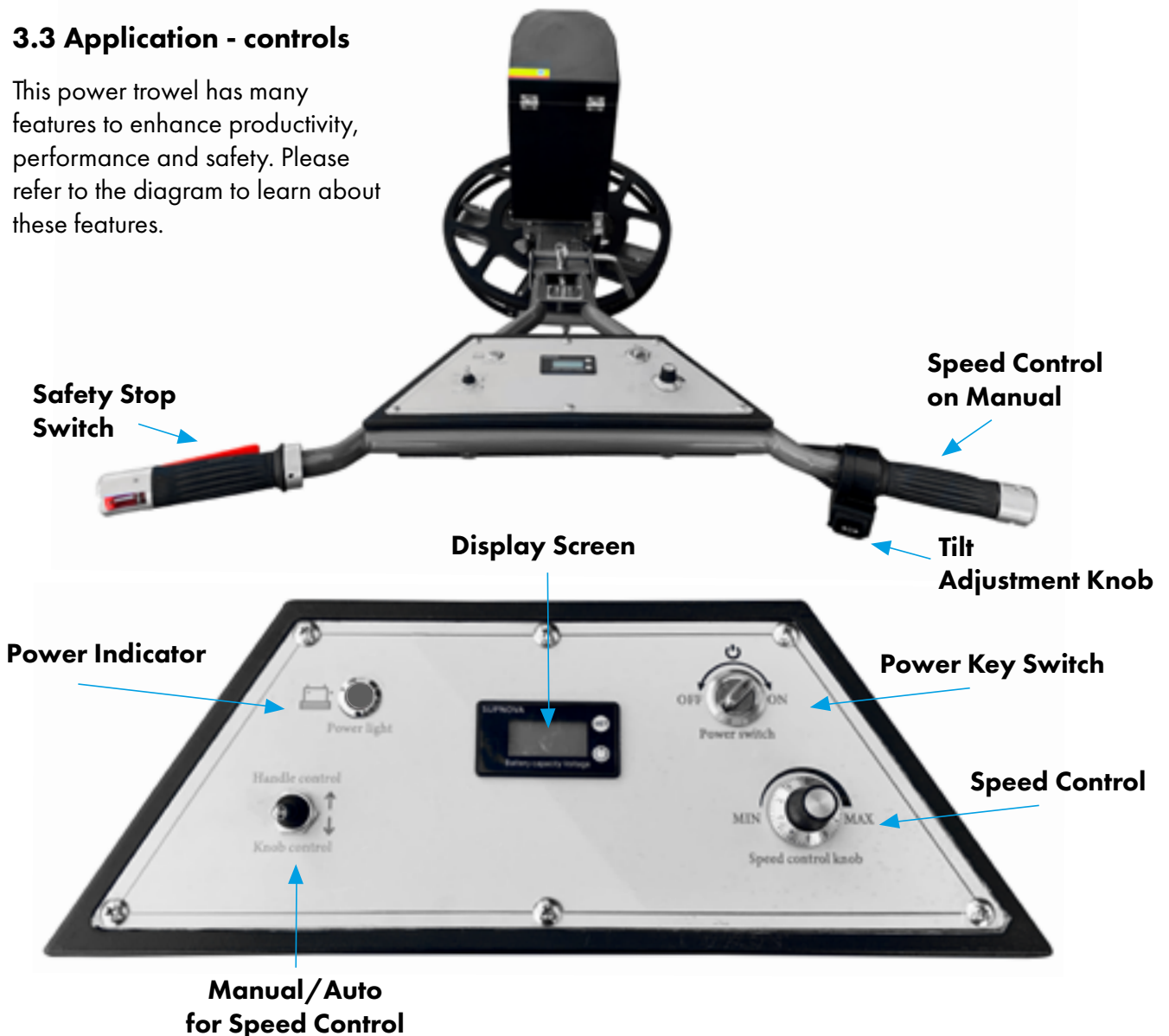
Add fluids as needed and applicable, including fuel, engine oil and battery acid.

Make sure there is no debris in the work area.

Check the work area for screws or other hard objects in the concrete. Don't use the machine if there are any foreign objects stuck out from the surface. Before operating the machine such objects must be removed,

#### 3.3 Application - controls

This power trowel has many features to enhance productivity, performance and safety. Please refer to the diagram to learn about these features.



### 3.3 Application - controls

**Power indicator** - when the indicator light is on this indicates that the circuit breaker and the power switch are turned on normally.

**Power (key switch) ON/OFF switch.**

**Speed control on auto** - in the automatic speed mode, adjust the motor speed suitable for the immediate working condition, increase clockwise, decrease counter-clockwise. MIN (0 min/n). Max (120 min/n).

**Manual / auto for speed control** - when dial switch is turned to **Knob Control**, it means that speed control is in auto mode. When the dial is set at **Handle Control** it means that the speed control is in manual working mode.

**Safe stop switch** - the switching mechanism of the switch should operate freely and should always be kept in this condition. With the switch in the **Off** position the engine should not start or run. The purpose of this switch is to stop the engine in a runaway situation (i.e. the operator releasing the handle during operation).

**Speed control on manual** - turn the handle to adjust the speed.

**Display screen** - accurate real time display of working current A, voltage V, power W, remaining time, battery capacity percentage and accurately understand the working status of the battery at any time.

**Tilt adjustment knob** - this adjusts the angle of the blades for different curing stages and conditions of the concrete. Press and hold the switch to the **UP** position, the blades will rise and the reverse will cause the blades to fall.

### 3.4 Unfolding the handle

To unfold and secure the handle assembly with a new machine which should arrive with the handle in the folded position. Unfold the handle into the straightened position, locate the hinge screw and turn this until the handle is firmly locked into place.



### **3.5 Before starting**

Before starting the machine, check the following items:

All handles are free from grease, oil and dirt.

All control levers are in a neutral position.

All bolted joints are tightened.

Oil level in gearbox.

Condition of ring guard.

Condition of trowel arms and blades.

**Notice:** Check the oil level in the machine before starting. The warranties are VOID if the machine is run without oil.

### **3.6 To start**

Before starting the machine you must be aware of the locations for all controls.

Make sure the safety stop switch is in the stop position. If it is not, push the lever down to the stop position before attempting to start the engine.

### **3.7 To stop**

Turn the switch to the left to the stop position.

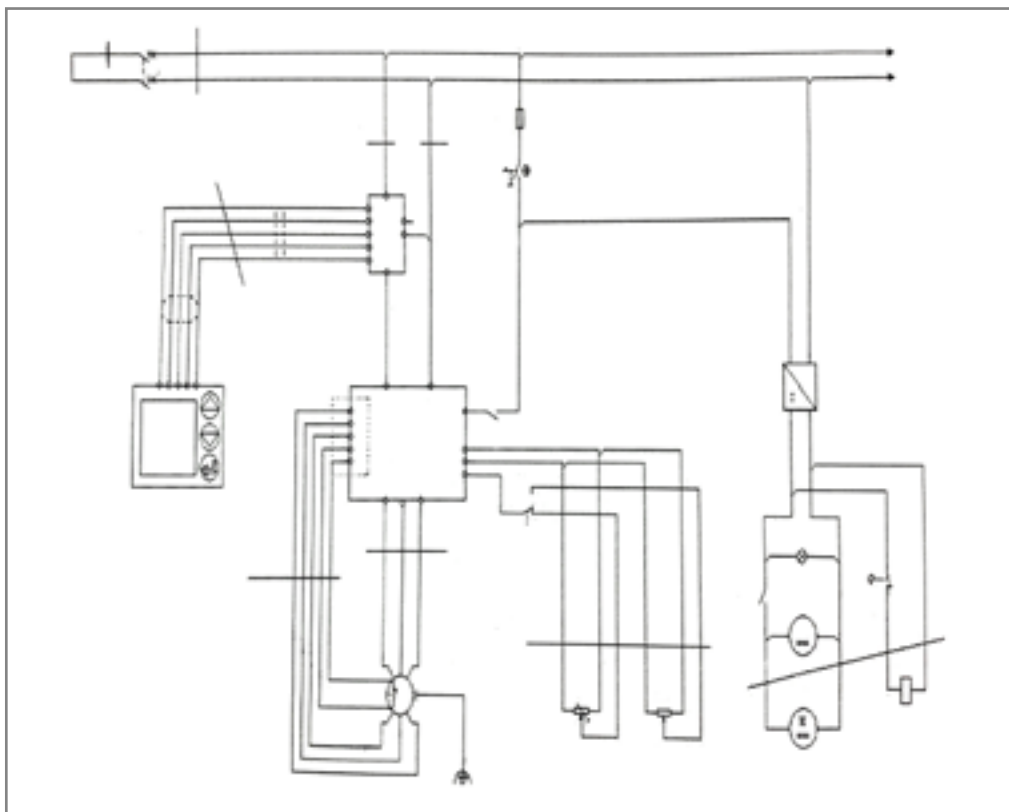
### **3.8 Initial operation**

Hold the machine firmly and with your free hand turn the switch to the ON position. Please take note of the speed control dial which will give you an indication of the spin speed you will experience when the trowels start rotating.

### **3.9 Finishing operation**

After floating, allow the concrete to set until it will support the weight of the trowel. Set the pitch to approximately 1/4" to 3/8" on the blades. If the blades start to dig into the concrete decrease the amount of pitch.

## 4. Electrical schematic



## 5 Maintenance

### 5.1 Periodic maintenance schedule

The chart below lists basic trowel and motor maintenance.

	Daily	Every 20 hours	Every 50 hours	Every 100 hours	Every 200 hours	Every 300 hours
Check external hardware	●					
Clean trowel after each use to remove concrete splatter	●					
Grease blade arms		●				
Adjust blade speed						●
Replace oil in gearboxes						●

## 5.2 Battery maintenance

To retain the capacity of the batteries it is very important that the following handling instructions are observed.

After each use, the batteries must always immediately be completely recharged.

This recharging is particularly necessary if the batteries will then be lying unused for around 3 weeks or longer.

Repeated storage without prior recharging will result in the batteries losing more and more charge power, this can lead to the charge power capacity dropping by 20 -30% of the batteries original capacity.



## 5.3 Directions for the battery charger

Connect the charger to the battery via the charging contact.

Connect the mains cable to the wall socket.

The red connection light comes on when charging commences.

The green light comes on when the battery is ready for use.

When the green and red lights are both on, the charger is continuing with adjustment/ maintenance charging and it should thus remain connected until the battery is used.

Disconnect the mains cable from the wall socket.

Disconnect the charger from the battery.

**Caution:** The battery emits explosive gases during charging, so avoid flames and sparks.

The charger must not be exposed to water.

The machine must not be connected to any power source while cleaning.

## 5.4 Lubrication

The long life and successful operation of any machinery with moving parts is dependent on frequent and thorough lubrication. Before using the machine always check the oil and use the correct oil type as recommended.

NOTICE: DO NOT mix types of oil in the gearbox and DO NOT overfill the oil. Damage to the machine may occur if oils are mixed or overfilled. See technical data for oil, quantity and type.

## 5.5 Transporting trowels

Before lifting the machine, ALWAYS turn off the engine, removing the battery is always good practice.

Make sure that the lifting device has enough capacity to hold the machine (see identification plate on the machine for the weight).

DO NOT lift the machine overhead with a float pan attached.

NEVER lift the machine only by the handle.

Use straps when lifting the machine.

## 5.6 Trouble shooting

Symptom	Remedy
<b>The machine won't start.</b>	<p>Check whether the power switch is turned on.</p> <p>Check the control circuit fuse found inside where the battery sits.</p> <p>Check if the transformer secondary coil has 24V output.</p> <p>Check the safety stop switch.</p> <p>Check the relay.</p> <p>Check the speed control switch.</p>
<b>The power indicator does not light up.</b>	<p>Check the key.</p> <p>Check the control circuit fuse.</p> <p>Check if the transformer secondary coil has 24V output.</p> <p>Check the indicator.</p>
<b>The fan does not work.</b>	<p>Check the control circuit fuse.</p> <p>Check if the transformer secondary coil has 24V output.</p> <p>Check the safety stop switch.</p> <p>Check the relay.</p>

## 6. Machine accessories

Item NO.	Accessories	Model	QTY
1	Allen wrench	1.2-10mm	1 set
2	Double-ended wrench	8 x 10, 13 x 16, 17 x 19	1 set
3	Adjustable wrench	200mm	1 PC
4	Phillips screwdriver	5 x 100	1 PC
5	Phillips screwdriver	#0 x 75	1 PC
6	Slotted screwdriver	3.2 x 75	1 PC
7	Fuse	5 x 20-6A	2 PCs



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