

ENGLISH

# **OPERATING INSTRUCTIONS & SPARE PARTS LIST**



## **POWER TROWEL**

**ST92 - M12700.E – ELECTRIC MOTOR**

JUNE 2021



## LIMITED WARRANTY

We warrant that this product is **free from defects in material or workmanship** under normal use and maintenance. Certain components, such as normal wear parts and engines are excluded from this warranty. We will, at our option, repair or replace any defective product or part covered by the Limited Warranty, free of charge at any authorized Servicing Dealer/Center using original replacement parts, subject to the limitations and exclusions described below.

**Limited Warranty period:** We will warrant the product to the original retail purchaser from the date of retail purchase for 12 month.

**Battery:** Lead Acid Batteries only: 180 days

This Limited Warranty does not cover:

- (a) Engines; a separate warranty provided with your product might apply.  
Engines are warranted by the engine manufacture
- (b) Normal wear parts (parts and items that normally wear out with use), including without limitation spark plugs, bulbs, filters, lubricants, starter cords, belts, rubber parts, blades, and blade adapters are not covered, nor is damage due to normal wear, natural discoloration of materials, or dulling or damage to blades due to contact with abrasives, rocks, rods, or other foreign objects.
- (c) Damage related to abuse, misuse, neglect, modifications, alterations, use of unauthorized attachments, improper storage, or lack of lubrication or engine failure due to the use of oils that do not meet engine manufacturer's specifications, pressure cleaning or steam cleaning the product, excessive dirt, abrasives, salt water, moisture, corrosion, rust, or varnish.
- (d) Failure to perform required maintenance as described in the operator's manual will void this warranty.
- (e) Damage or failures due to improper set up, pre-delivery service or repair service by anyone other than an authorized servicing dealer during the warranty period.

To preserve your rights under this Limited Warranty, you must exercise reasonable care and use of the product, including following the preventive maintenance, storage, and fuel and oil usages as prescribed in the operator's manual.

In addition, you must cease using the product immediately upon any failure or damage, and take the product to an authorized servicing dealer prior to any further use.

**WARRANTY EXCLUSIONS, DISCLAIMERS, AND LIMITED RIGHTS.** WE WILL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES. YOUR REMEDY IS LIMITED TO REPAIR OR REPLACEMENT OF THE PRODUCT OR PART, AT OUR DISCRETION. THERE ARE NO EXPRESS WARRANTIES OTHER THAN THOSE SET FORTH HEREIN. ANY WARRANTY IMPLIED BY STATE LAW (WHETHER OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR OTHERWISE) IS HEREBY DISCLAIMED; WHERE SUCH A DISCLAIMER IS NOT PERMITTED BY LAW, THEN SUCH IMPLIED WARRANTY IS LIMITED FOR THE DURATION OF THE APPLICABLE LIMITED WARRANTY PERIOD. THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS BASED ON YOUR LOCALITY.

**How to obtain service.** To obtain warranty service, you must take your product to an authorized Servicing Dealer/Center.

Any costs to transport or ship the product are your responsibility. You must present proof of purchase (including date, product model and serial number) to an authorized Servicing Dealer/Center for warranty service. Proof of purchase rests solely with you.

## **EURO SHATAL ApS**

**Head Office:** Murervej 5, DK-6710 Esbjerg V, Denmark

Phone: (45) 75 168411 - Fax: (45) 75 168412 – E-Mail: [euroshatal@shatal.com](mailto:euroshatal@shatal.com)



ENGLISH



### **CE DECLARATION OF CONFORMITY**

We hereby declare that the equipment described below conforms to relevant fundamental safety and health requirements of the appropriate CE Directives, both in its basic design and construction. This declaration will cease to be valid if any modifications are made to the machine without our expressed approval.

Product: Power Trowels Electric Model : ST92

Relevant CE Machinery Safety Directives: **98/37/EC, 2004/108/EC, pr EN 12649, 2000/14/EC**  
Appropriate internal measures have been taken to ensure that series-production units conform at all times to the requirements of current CE Directives and relevant standards.  
The signatories are empowered to represent and act on behalf of the company management.

**Murervej 5  
DK-6710 Esbjerg V , Denmark  
Tel:(+45) 75168411  
Fax: (+45)75168412  
E-mail:euroshatal@shatal.com**

**GENERAL MANAGER**

  
\_\_\_\_\_  
NOVEMBER 2003



### **INDEX OF CONTENTS**

<b>OPERATION</b>	<b>PAGE</b>
SAFETY INSTRUCTIONS .....	2-4
SAFETY INFORMATION .....	5
TECHNICAL DATA DIMENSIONS .....	6
TECHNICAL DATA AND SPECIFICATION .....	7
OPERATION .....	8-12
MAINTENANCE .....	13
MAINTENANCE – SERVICE POINTS .....	14
SCHEMATIC WIRING DIAGRAM .....	15
 <b>SPARE PARTS</b>	
INSTRUCTIONS FOR ORDERING PARTS .....	16
GEAR BOX, SPIDER AND TROWELS ASSY. ....	17-18
GUARD RING AND MOTOR MOUNTING ASSY. ....	19-20
HANDLE ASSY. ....	21-22
GEAR BOX ASSY. ....	23-24

# SAFETY INSTRUCTION- QUICK GUIDE

## POWER TROWELS ST92

### ELECTRIC MOTOR

ENGLISH



Laws governing safety aspects on machinery vary between countries but the following guides will be useful to all operators:



Before starting, carefully read the machine maintenance and operating manual and follow all the instructions.



Users should carefully follow any operating instructions given.



Never operate the machine without the belt guard.



Keep hand and feet away from moving parts while the machine is running.



Do not operate the machine in closed places and inflammable environment.



Operating the machine is advisable only with good lighting conditions.



Ensure that the power supply is connected to an earth leakage circuit breaker.



#### **DANGER OF ELECTROCUTION!**

Danger of electrocution or severe electrical shock is present in the trowel motor any time the motor is plugged in. Read all safety information contained in this section before operating or servicing this equipment.



No one except a trained electrician should perform repairs to the motor and switches.



**NEVER** allow anyone to operate this equipment without proper training.



**NEVER** leave the machine running unattended.

# SAFETY INSTRUCTION- QUICK GUIDE

## POWER TROWELS ST92

### ELECTRIC MOTOR

ENGLISH



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



**DO NOT** operate the trowel with the Dead Man Control Handle disabled.  
Serious injury could occur if struck by rotating trowel due to disabling this safety device.



**ALWAYS** store equipment properly when it is not being used.  
Equipment should be stored in a clean, dry location out of the reach of children.



**NEVER** operate trowel with damaged or worn electrical cord!  
When using an extension cord be sure to use one heavy enough to carry the current load.



**DO NOT** operate electrical devices in rain or snow.  
Keep motors, switch and electrical cords dry.



**DO NOT** plug in the trowel with the motor cover, or terminal box cover removed.



**NEVER** allow trowel blades to cut or become entangled in the power cord.



**ALWAYS** make sure motor switch is in “STOP” position before plugging trowel to power supply.



**ALWAYS** check the power supply before running the trowel. Using the wrong voltage supply will damage the motor.



**DO NOT** attempt to clean or service trowel while it is plugged in to the power supply.  
**DO NOT** wash trowel with electrical covers removed.  
**DO NOT** use a high pressure washer to clean electrical equipment.



Only operate the machine with a fully earthed-plug, do not operate the machine in case of doubt.

# SAFETY INSTRUCTION- QUICK GUIDE

## POWER TROWELS ST92

### ELECTRIC MOTOR

ENGLISH



When operate the machine, always wear noise reduction ear protectors and safety glasses.



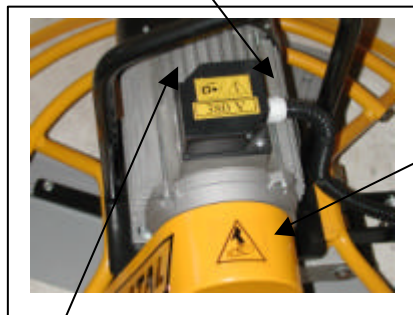
When operate the machine, always wear safety shoes and safety clothing.

# SAFETY INFORMATION POWER TROWELS ST92 ELECTRIC MOTOR

ENGLISH



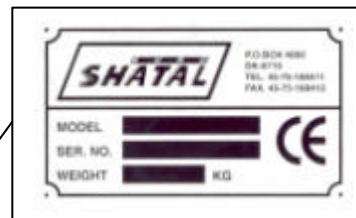
DISCONNECT VOLTAGE  
BEFORE REMOVING  
PROTECTION



**VIEW-A**



WARNING!  
HAND INJURE IF CAUGHT IN  
MOVING BELT.  
ALWAYS REPLACE  
BELT GUARD



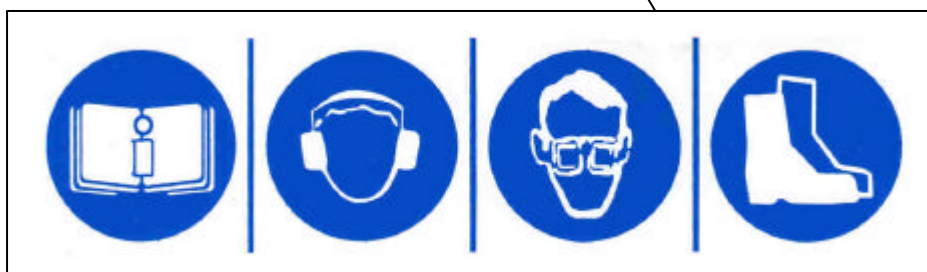
A NAMEPLATE LISTING THE  
MODEL NUMBER, ITEM  
NUMBER, IS ATTACHED TO  
EACH UNIT.  
PLEASE RECORD THE  
INFORMATION FOUND ON  
THIS PLATE SO IT WILL BE  
AVAILABLE SHOULD THE  
NAMEPLATE BECOME LOS-  
OR DAMAGED.  
WHEN ORDERING PARTS  
OR REQUESTING SEVICE  
INFORMATION, YOU WILL  
ALWAYS BE ASKED TO  
SPECIFY THE MODEL, ITEM  
NUMBER OF THE UNIT.



DANGER!  
ELECTRIC SHOCK  
HAZARD



DANGER!  
ELECTRIC SHOCK  
HAZARD



READ AND  
UNDERSTAND  
THE SUPPLIED  
OPERATOR'S  
MANUAL BEFORE  
OPERATING THIS  
MACHINE.

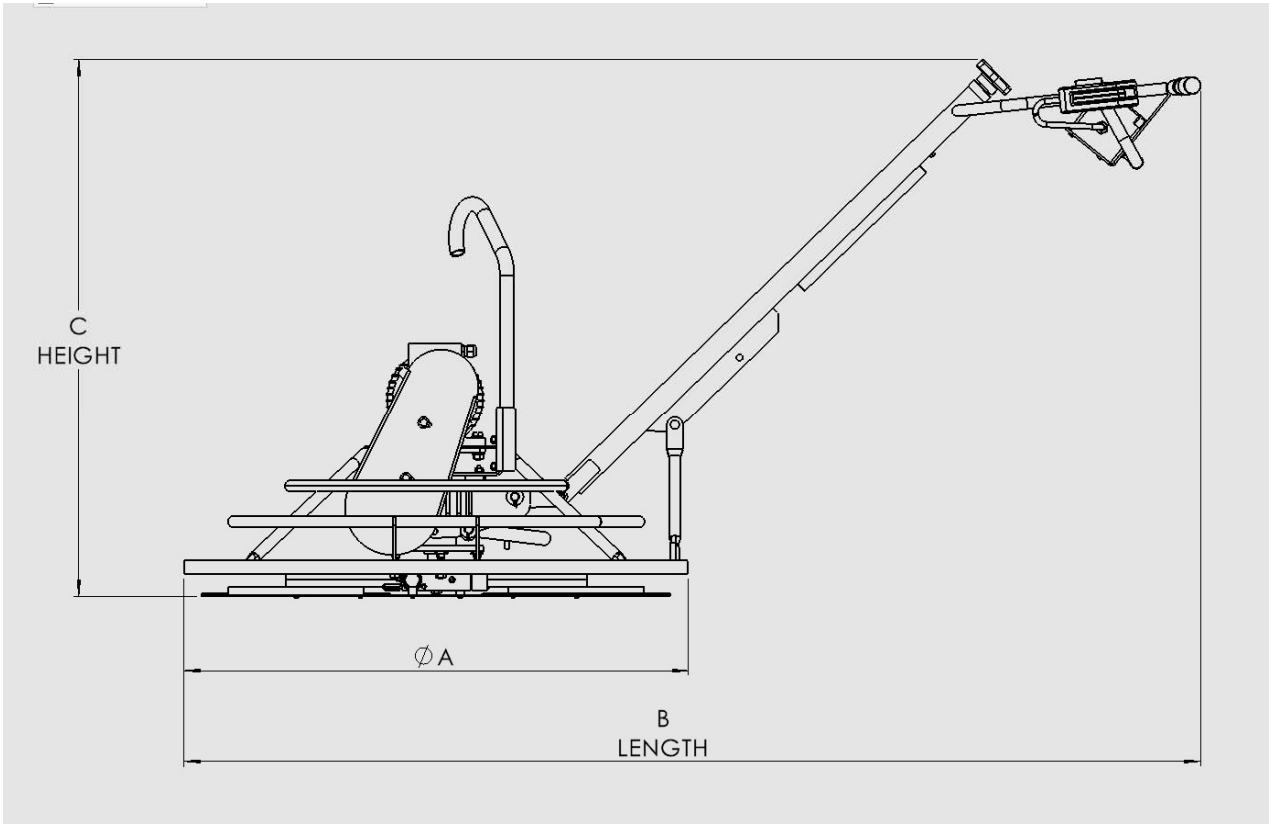
WEAR EAR  
PROTECTION

WEAR EYE  
PROTECTION

WEAR BOOTS

**TECHNICAL DATA-DIMENSIONS**  
**POWER TROWELS ST92**  
**ELECTRIC MOTOR**

ENGLISH



MODEL	ØA	B Length	C Height	Net Weight Kg
	mm	mm	mm	
ST92	950	1915	1010	87



**TECHNICAL DATA AND  
SPECIFICATION  
POWER TROWELS ST 92  
ELECTRIC MOTOR**

ENGLISH



---

**MOTOR**

Model		100LB
Motor output (low speed)	kW	2.5
(high speed)		3.3
Motor speed	rpm	1410 / 2840
Power requirements	Volts/phase	400 / 3Ø
Frequency	Hz.	50
Operating current	Amps	6 / 8
IP rating		54

**TROWEL**

Trowel Diameter		900
Number of Blades		4
Speed range	rpm	60 / 120
Pitch range	degrees	0 - 15

# OPERATION POWER TROWELS ST92 ELECTRIC MOTOR

ENGLISH



## Before starting



1. Lift the wheels.
2. Open the extension handle and adjust to a comfortable working height.

## Starting the motor



1. Place trowel on the concrete.
2. Turn the motor switch to the 1 or 2 position



3. Check that the emergency stop button is in the out position. If not rotate it clockwise to release.



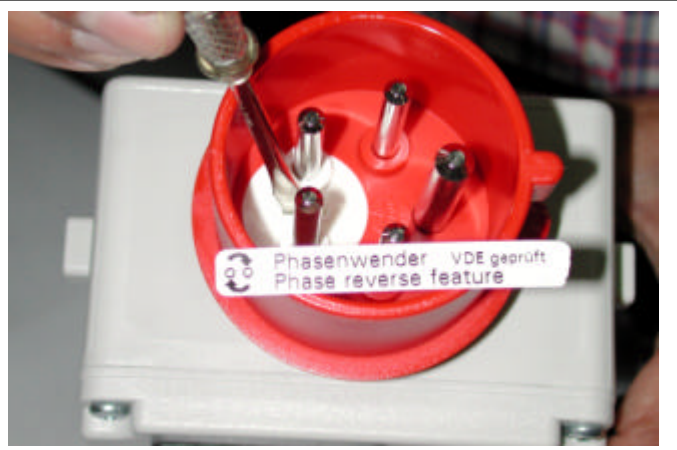
4. Press the yellow button and then press the Dead Man Control Handle.

# OPERATION

## POWER TROWELS ST92

### ELECTRIC MOTOR

ENGLISH



5. If the motor rotates and the trowel blades do not rotate the motor is rotating in the wrong direction.
6. Release the Dead Man Control Handle. Remove the plug from the control box on the machine and rotate the 2 pins inside the plug.using a screw driver press the phase chang pins in and then rotate.
7. Replace the cable and check the rotation that the blades rotate.

## Operating the trowel

### NOTE

Always operate the trowel using the Dead Man Control Handle.

## Assembly of the float disc



1. Place the trowel on to the float disc.
2. Rotate the blades so that the blades move underneath the 4 L shaped brackets.
3. Rotate the blade adjustment knob so that the blades rise.
4. Ensure that there is sufficient pressure on the blades and that the disc is tightly attached to the trowel.

# OPERATION POWER TROWELS ST92 ELECTRIC MOTOR

ENGLISH



## **NOTE**

The trowel is to be used only by experienced operators. They must have the knowledge of when the concrete is ready to be troweled, the angle of the blades and the operating speed.

These instructions should be used as general guidance only.

Ref.	B = Working condition of concrete	C = Suggested working pitch
1	Wet surface working stage	Flat (no pitch)
2	Wet to plastic working stage	Slight pitch (5°)
3	Plastic working stage	Additional pitch (10°)
4	Semi-hard working stage to hard finishing stage (burnishing)	Maximum pitch (15°)

## **Floating concrete**

Use the float disc or the blades set at a small angle for floating.

The concrete should be sufficiently set before the floating operation takes place. This must be determined by the operator.

Floating is done at a low speed. To have the machine move to the right bear down slightly on the handle. Lift gently on the handle to have machine move to the left. Do not operate machine in one spot but keep it moving over the surface for either floating or finishing of concrete. If machine is allowed to stand in one spot while not operating, lift up on the handle to break loose the suction on the trowels and move to a new spot before starting to operate the machine.

## **Finishing concrete**

The finishing operation is carried out with the blades set at a large angle and at a high speed.

**STOPPING:**



1. Release the Dead Man Control Handle.

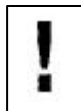


2. Turn the motor switch to the “OFF” position.

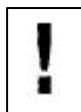
**INSTRUCTIONS FOR LIFTING MACHINE**



Never walk or stand under a machine being lifted.



Use only the frame lifting hook (1) for lifting the machine.



Use only tested and authorised lifting equipment.

## **EXTENSION CORDS**

When choosing an extension cord, make sure it has adequate wire size for safety. An undersized cord will cause a drop in line voltage resulting in a loss of power and overheating. The table below shows the correct wire size to use depending on cord length. If in doubt, use the next heavier cord size. On motors being used outdoors, use extension cords rated for outdoor use.

**Improper use of extension cords can cause overheating and create serious fire or shock hazards. NEVER use worn or damaged cords!**

Extension cord length (meters)	Minimum extension cord size (mm <sup>2</sup> )
	400 V / 3Ø / 7.3 Amp
0-20	1.0
20-40	1.5
40-80	1.5
80-100	2.5

# MAINTENANCE POWER TROWELS ST92 ELECTRIC MOTOR

ENGLISH



## TROUBLESHOOTING

Problem / Symptom	Reason / Remedy
Trowel does not develop full speed.	<ul style="list-style-type: none"><li>• Power supply is not proper voltage.</li><li>• Clean debris from moving parts and trowel blades.</li></ul>
Motor run, poor trowel operation.	<ul style="list-style-type: none"><li>• Check belt for wear or damage. Tighten belt if necessary.</li><li>• Clean debris from moving parts and trowel arms.</li></ul>
Motor does not run, or runs erratically.	<ul style="list-style-type: none"><li>• Check motor on/off switch position.</li></ul>
Motor stops, won't restart.	<ul style="list-style-type: none"><li>• Motor overload switch has tripped. Contact a certified electrician.</li><li>• Check fuse in control box. Replace if necessary.</li></ul>
Motor runs but blades do not rotate.	<ul style="list-style-type: none"><li>• Motor rotating in wrong direction. Remove plug and rotate phase change pins.</li><li>• Broken / Missing v-belt. Replace.</li></ul>

# MAINTENANCE – SERVICE POINTS

## POWER TROWELS ST92

### ELECTRIC MOTOR

ENGLISH



- ★ Only carry out maintenance work with the engine switched off.
- ★ Observe all relevant laws and regulations governing the handling and disposal of used oil , filters and cleaning agents.
- ★ When maintenance work has been completed , check that all tools have been removed from the engine and all protective guards refitted.

## GREASE

Gear Box and Spider	Grease	Spider	Sheel	Alvania grease
			EP 2	
			Esso	Beacon EP 2
		Gearbox	Mobil	mobilplex 47
			Shell	Simnia EP 0
			Mobil	Mobiplex 45
			BP	Energreas HT 0

## Maintenance chart:

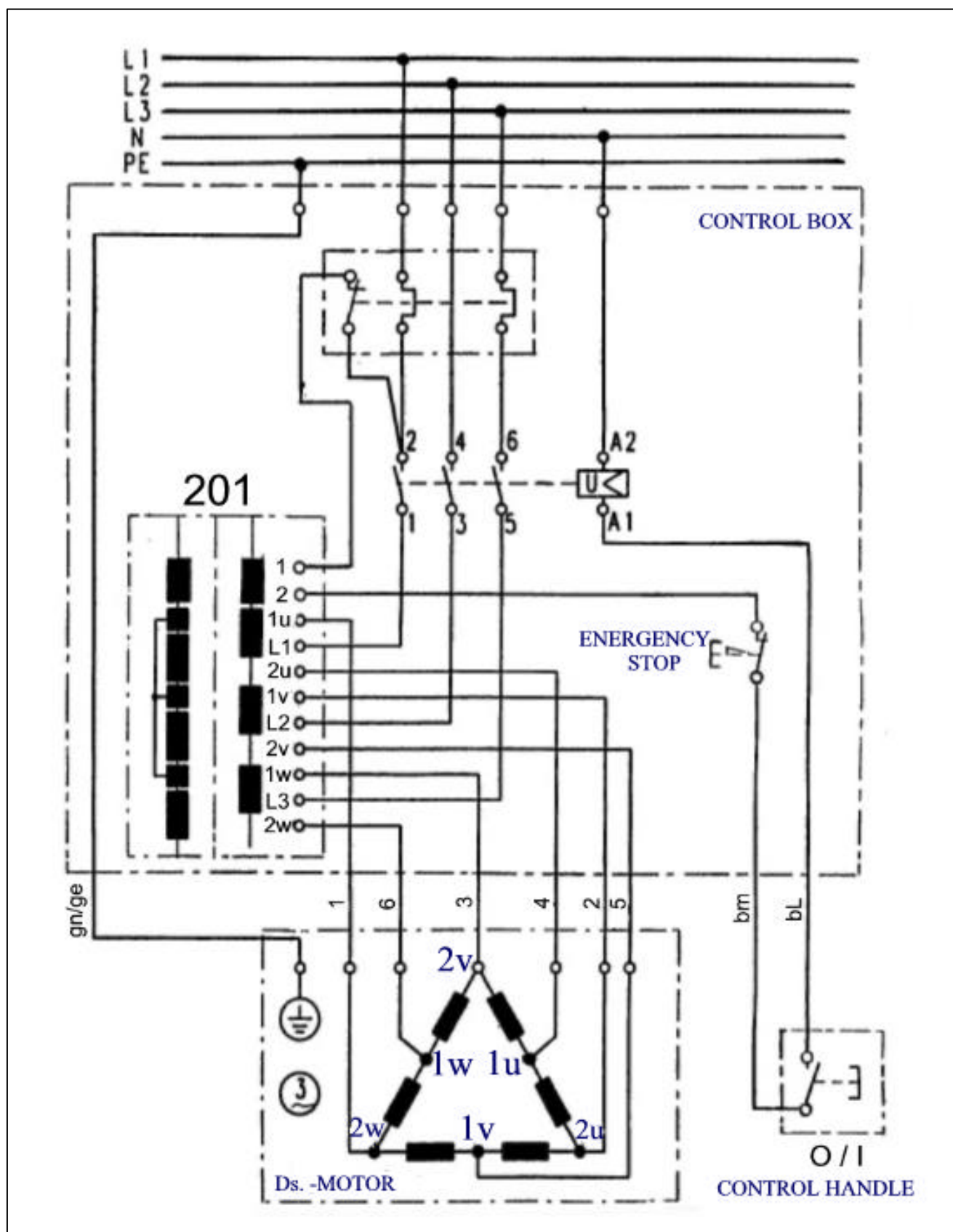
See engine Manufactures instruction Manual

Maintenance interval	Maintenance work required
After use	<ul style="list-style-type: none"> <li>★ Clean the machine well.</li> </ul>
Every 250 Operating hours	<ul style="list-style-type: none"> <li>★ Clean cooling air area.</li> <li>★ Check that all bolts are tight.</li> <li>★ Apply grease to the 4 grease nipples on the spider block.</li> </ul>



# SCHEMATIC WIRING DIAGRAM POWER TROWEL ST-92 ELECTRIC MOTOR

ENGLISH



---

## Please State Machine Details in the Following Sequence:

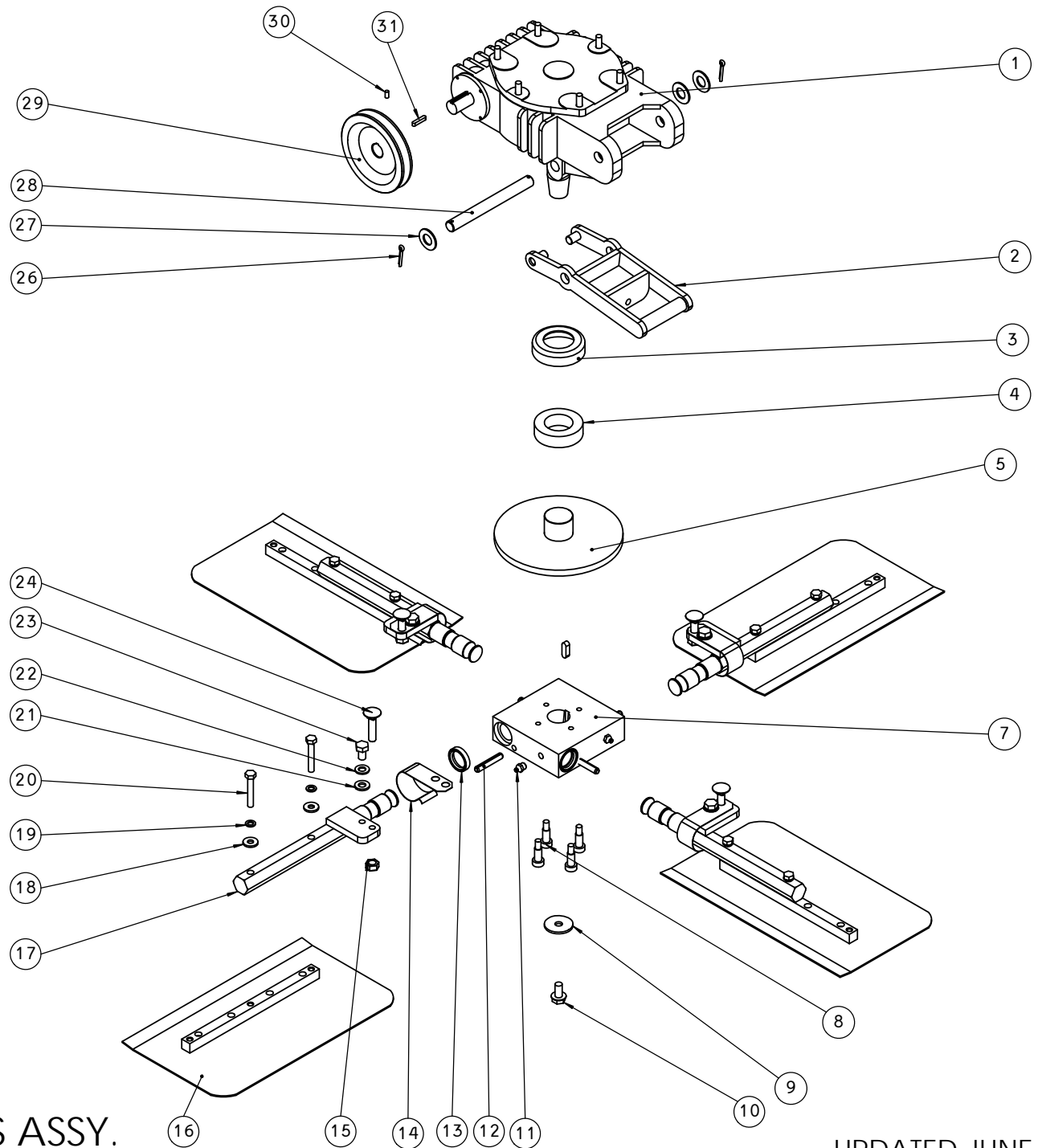
- ☐ Machine Serial Number
- ☐ Part Number, Description and Quantity of Parts
- ☐ Full Delivery Address

## Manufacturers Liability and the Use of Genuine Spare Parts

Liability for this machine is accepted only when the machine is defective from the outset. Liability is reduced or nullified in the event that the user fails to comply with the operating and maintenance instructions and uses spare parts which are not guaranteed.

## Contents

Gear box , Spider and trowels Assy. -----	17-18
Guard Ring and Motor Mounting Assy. -----	19-20
Handle Assy. -----	21-22
Gear Box Assy. -----	23-24



POWER TROWEL ST-92  
(WITH ELECTRIC MOTOR)

GEAR BOX, SPIDER AND TROWELS ASSY.  
(SEE PARTS LIST PAGE 18)

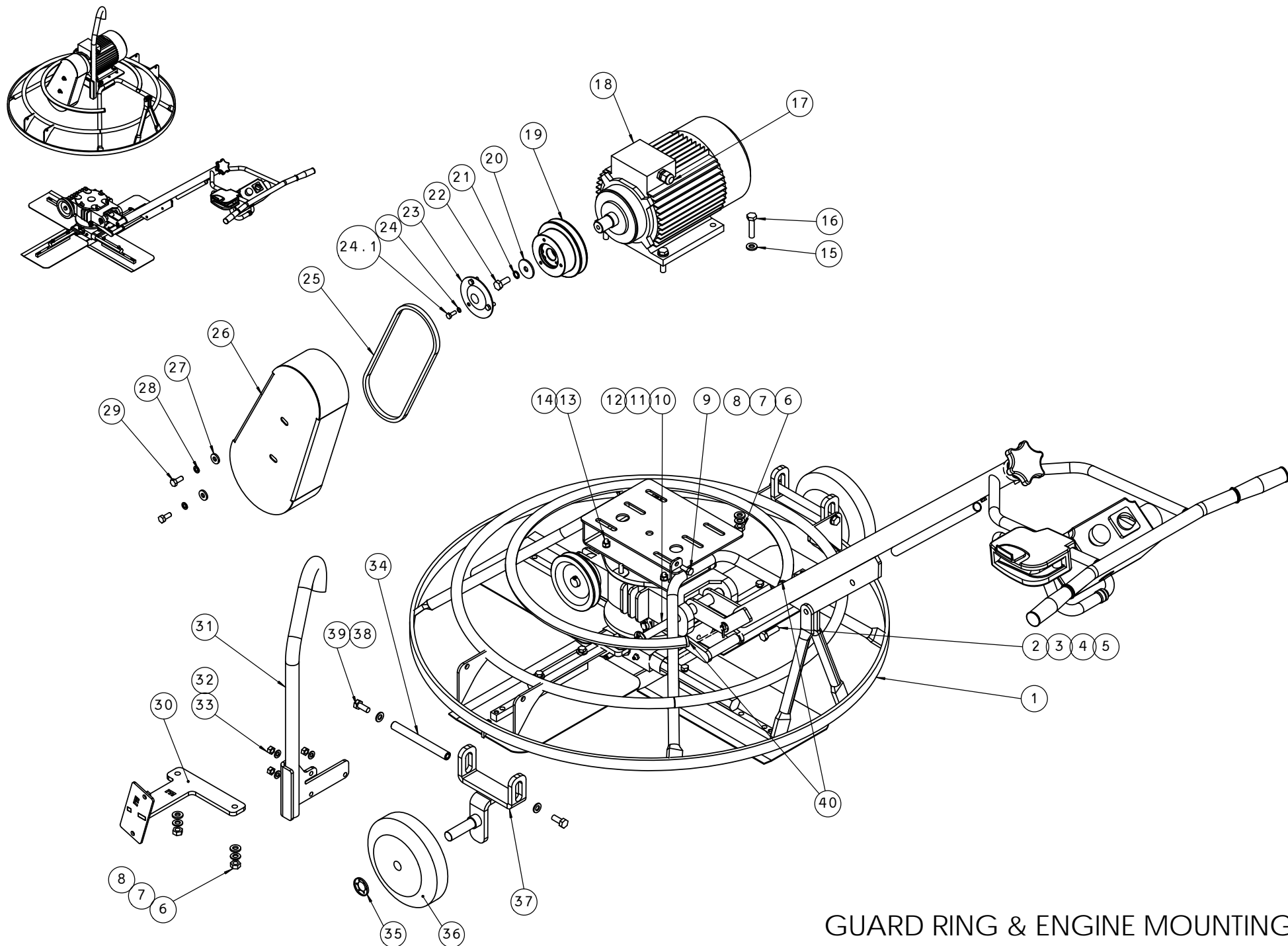
**POWER TROWEL ST-92  
(WITH ELECTRIC MOTOR)  
SPARE PARTS LIST  
GEAR BOX, SPIDER & TROWELS ASSY.**

NO.	DESCRIPTION	PART NO.	QTY.
* 1	GEAR BOX	P12130.C	1
2	TILTING YOKE	128167	1
3	CAP-THRUST COLLAR	50967	1
4	THRUST BEARING	P50966	1
5	PRESSURE PLATE	128113	1
6			
7	SPIDER	128117	1
8	HEXAGON SOCKET HEAD SHOULDER SCREW	128926	4
9	WASHER	127962	1
10	SELF LOCKING HEXAGON SCREW	128942	1
11	GREASE NIPPLE	128950	4
12	ROLL PIN	128922	4
13	OIL SEAL	128927	4
14	SPRING	128920	4
15	HEXAGON NUT	321993	4
16	COMBINATION BLADE	P12102.HD	4
17	TROWEL ARM	127320	4
18	WASHER	115903	8

NO.	DESCRIPTION	PART NO.	QTY.
19	SPRING WASHER	1171902	8
20	HEXAGON HEAD SCREW	3111136	8
21	WASHER	127954	4
22	SPRING WASHER	1171910	4
23	HEXAGON HEAD SCREW	115902	4
24	MUSHROOM HEAD SQ.NECK SCREW	128921	4
25			
26	SPLIT PIN	128936	2
27	WASHER	128938	2
28	SHAFT FOR CONNECTING GEAR TO YOKE	128174	1
29	DRIVEN PULLEY	P51192	1
30	HEXAGON SOCKET SET SCREW	128940	2
31	KEY	128939	1

SEE ILLUSTRATION PAGE - 17

\* SEE ILLUSTRATION PAGE-23



# GUARD RING & ENGINE MOUNTING ASSY.

SEE PARTS LIST PAGES 20

ST-92 ELECTRIC



ENGLISH

**POWER TROWEL ST- 92  
(WITH ELECTRIC MOTOR)  
SPARE PARTS LIST  
GUARD RING AND  
MOTOR MOUNTING ASSY.**

NO.	DESCRIPTION	PART NO.	QTY.
1	GUARD RING	1271180	1
2	HEXAGON HEAD SCREW	1171925	1
3	WASHER	127953	1
4	SPRING WASHER	1171910	1
5	HEXAGON NUT	321993	1
6	HEXAGON NUT	321993	4
7	SPRING WASHER	1171910	4
8	WASHER	127953	4
9	HEXAGON HEAD SCREW	1171901	3
10	SHAFT FOR CONNECTING GEAR TO HANDLE	128174	1
11	WASHER	128938	2
12	SPLIT PIN	128936	2
13	HEXAGON NUT	115901	4
14	SPRING WASHER	1171902	4
14.1	WASHER	115903	4
15	WASHER	127953	4
16	HEXAGON HEAD SCREW	140912	4
17	PVC FITTING	127958	1
18	ELECTRIC MOTOR	I 50595.2	1
19	V-BELT PULLEY	P 51207	1
20	WASHER	1171903	1

NO.	DESCRIPTION	PART NO.	QTY.
21	SCHNORR SPRING LOCKING DISC	116901	1
22	HEXAGON HEAD SCREW	1171900	1
23	BELT PULLEY COVER	127360	1
24	SCHNORR SPRING LOCKING DISC	110056	3
24.1	HEXAGON HEAD SCREW	1171914	3
25	BELT	50831.A	1
26	BELT GUARD	127385	1
27	WASHER	127955	2
28	SPRING WASHER	1171902	2
29	HEXAGON HEAD SCREW	1171901	2
30	GUARD BASE ASSY.	1271190	1
31	LIFTING HOOK ASSY.	1271185	1
32	SPRING WASHER	1171902	3
33	HEXAGON NUT	115901	3
34	SHAFT FOR WHEEL ASSY.	128155	2
35	STAR LOCK	118435	2
36	WHEEL	51700	2
37	WHEEL AXLE	127314	2
38	HEXAGON HEAD SCREW	1171900	4
39	SPRING WASHER	1171910	4
40	PIPE PLASTIC PLUG	320926	2

SEE ILLUSTRATION PAGE -19



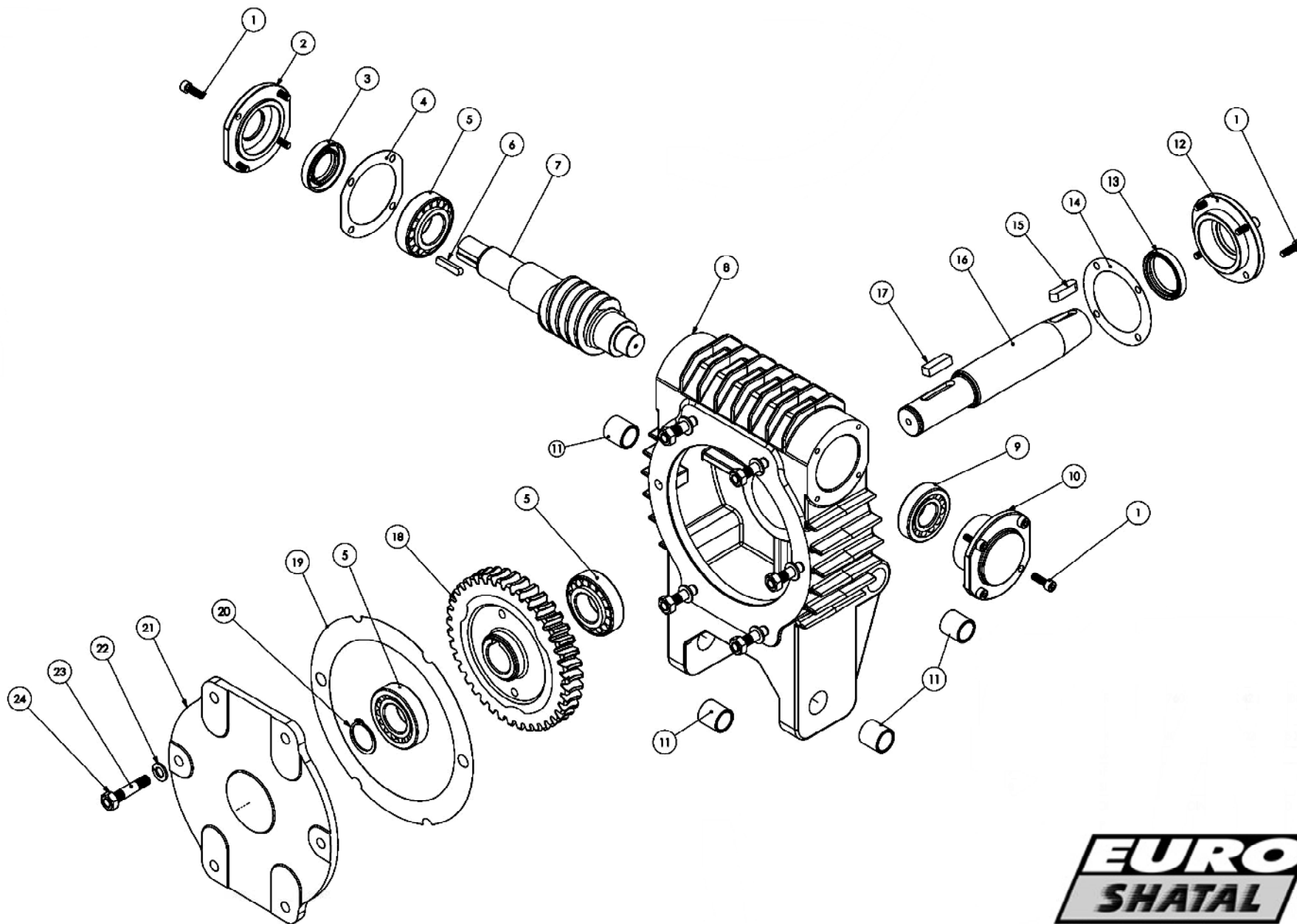
**POWER TROWEL ST- 92  
(WITH ELECTRIC MOTOR)  
SPARE PARTS LIST  
HANDLE ASSEMBLY**

NO.	DESCRIPTION	PART NO.	QTY.
1	SPLIT PIN	128931	2
2	WASHER	127954	2
3	CABLE PULLEY SHAFT	128179	1
4	CABLE PULLEY	128175	1
5	HANDLE (LOWER END)	1271225	1
6	HEXAGON SOCKET HEAD CAP SCREW	11401925	1
7	SPACER	128166	1
8	HEXAGON SOCKET HEAD CAP SCREW	128932	1
9	CONTROL CABLE	128181	1
10	ROLL PIN	128934	1
11	HANDLE CONTROL SHAFT NUT	128165	1
12	HEXAGON SOCKET SET SCREW WITH CUP POINT	128933	1
13	HANDLE BUSH	128163	1
14	BEARING HOUSING	128162	1
15	THRUST BEARING	128906	1

NO.	DESCRIPTION	PART NO.	QTY.
16	HANDLE CONTROL SHAFT	128164	1
17	KNOB	128161	1
18	HEXAGON SOCKET SET SCREW WITH CUP POINT	128935	1
19	ELECTRIC SWITCH	127956	1
20	CROSS RECESSED PAN HEAD SCREW	127946	4
21	PVC FITTING	127958	1
22	PVC ELBOW FITTING	127972 +127973	1
23	FLEXIBLE PVC PIPE	127971	1
24	STARTER SWITCH	127901	1
25	CROSS RECESSED PAN HEAD TAPPING SCREW	129986	2
26	RUBBER HAND GRIP	14020	2

SEE ILLUSTRATION PAGE -21





POWER TROWEL ST92;ST92L (ELECT.)  
 GEAR BOX ASSEMBLY  
 (SPARE PARTS LIST PAGE 24)



ENGLISH

**POWER TROWEL  
ST-92;ST92L (ELECT.)  
SPARE PARTS LIST  
GEAR BOX ASSEMBLY**

NO.	DESCRIPTION	PART NO.	QTY.
1	HEXAGON SCREW	/	12
2	OIL SEAL COVER (OPEN)	1213001	1
3	OIL SEAL	1213014	1
4	INPUT SHIM	1213002	2
5	BALL BEARING	P50963	3
6	KEY	1213003	1
7	WORM GEAR SHAFT	12113	1
8	GEAR BOX HOUSING	/	1
9	BALL BEARING	P50962	1
10	OIL SEAL COVER (CLOSED)	1213004	1
11	SPACER	1213005	4
12	OIL SEAL COVER (OPEN)	1213006	1
13	OIL SEAL	1213015	1
14	OUTPUT SHIM-OPEN	1213007	1
15	KEY	1213008	1

NO.	DESCRIPTION	PART NO.	QTY.
16	VERTICAL SHAFT	128116	1
17	KEY	1213009	1
18	WORM WHEEL	12112	1
19	OUTPUT SHIM-CLOSED	1213010	1
20	CIRCLIP	1213011	1
21	GEAR BOX COVER	1213012	1
22	SPRING WASHER	/	6
23	STUD	1213013	6
24	HEXAGON NUT	/	6

SEE ILLUSTRATION PAGE -23