Li’l Runner

Portable Four Wheel Drive

Friction Drive Welding Carriage

Model: SM-WC-LR (120V) or SM-WC-LR-230 (230 V)

Steelmax Tools LLC 6200 S Troy Circle, Suite 110 Centennial, CO 80111
1-87STEELMAX - www.steelmax.com - sales@steelmax.com

Table of Contents

I. Intended use

The Li'l Runner is designed to transport various types of MIG/MAG welding torches with diameters of 5/8" – 7/8" (16-22 mm). The Li'l Runner is intended to perform continuous welds.

Caution: The Li'l Runner is not intended to be used overhead.

Mounting of MIG/MAG welding torches with chuck diameters larger than 5/8"-7/8" (16-22 mm) is not recommended.

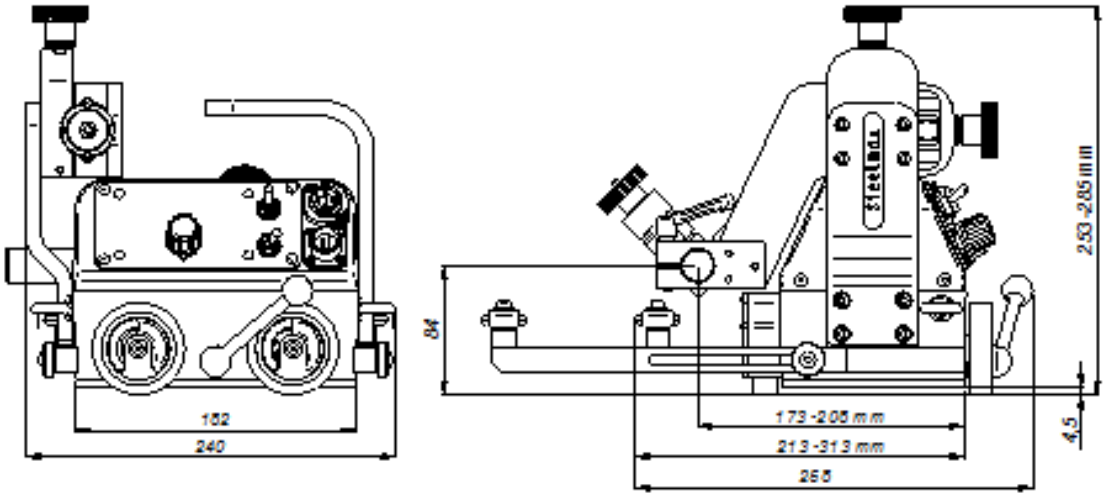
Torch cables should be supported.
Max weight of torch cables is 17lbs (8kg) for horizontal operations and 13lbs (6kg) for vertical.
Max torch overhang beyond the carriage's end 2 ¾" (70mm).

II. WC-LR properties

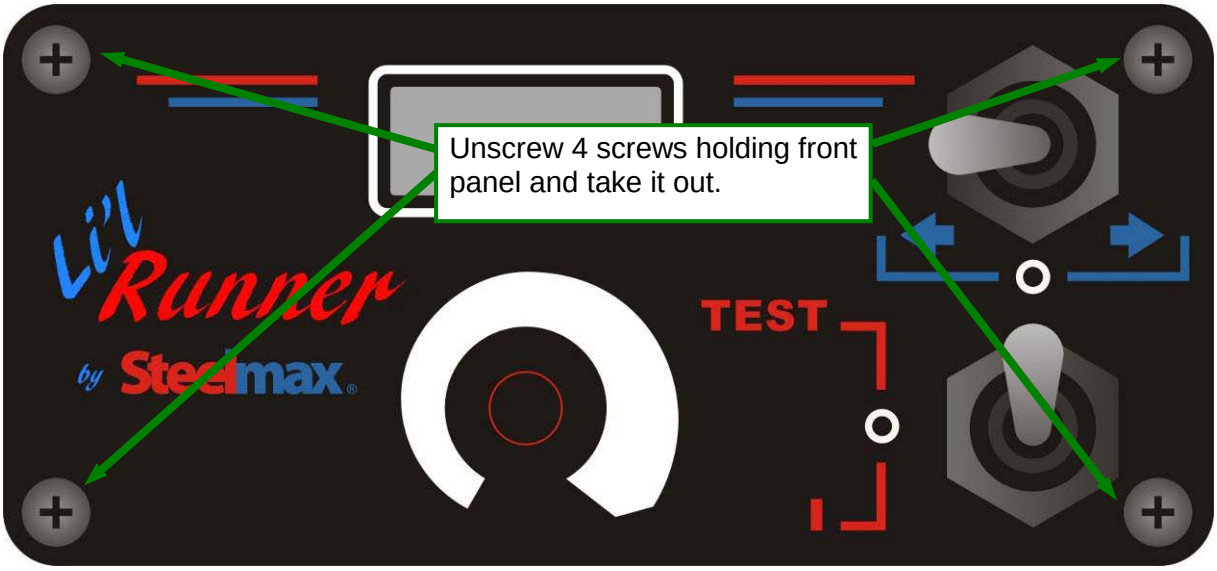
1. Lightweight and compact design.
2. Permanent magnet traction.
3. On/off magnet level allows for easier set up and adjustment to work piece.
4. Maintenance-free four-wheel drive.
5. Self locking chassis.
6. Travel speed control.
7. Quick clamping Torch Holder mechanism for different types of MIG/MAG torches.
8. Precise torch adjustment.
9. An automatic arc on/off feature.
10. Power feed of 120V or 230V from mains.
11. Easy to use.

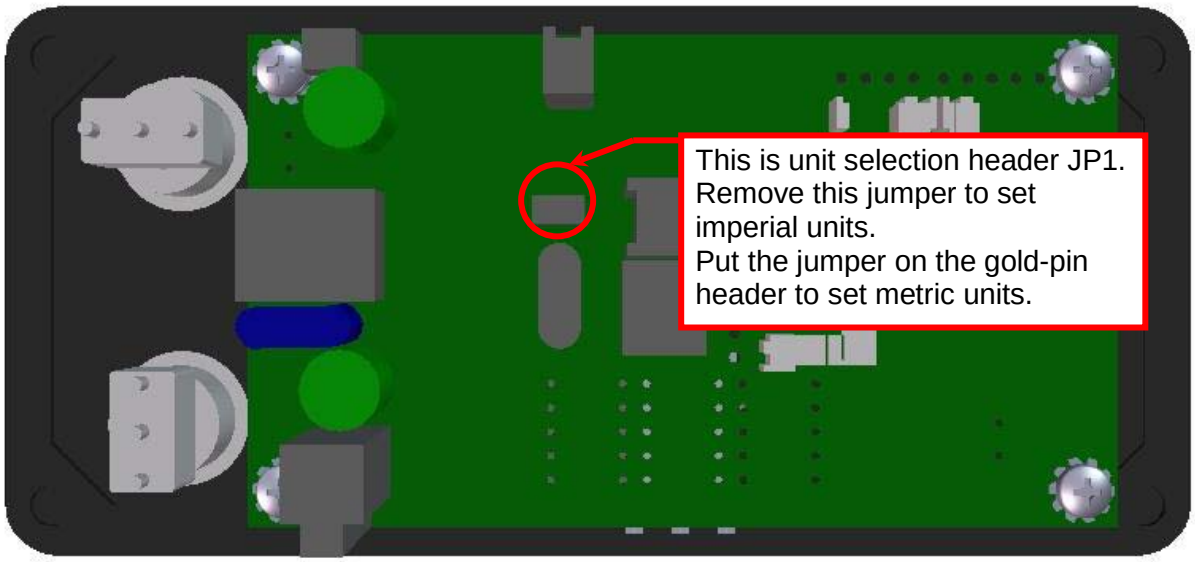
III. Technical specification SWC-8

Power supply		120-230V / 50-60Hz
Welding position		Vertical / Horizontal
Material thickness		4mm (0.16") minimum
Chassis to material clearance		4 mm (0.16")
Travel mechanism		4 rubber wheels Equipped with permanent magnet block
Tracking method		2-Guide rollers
Pulling force		100N (vertical) (22.5 lbs, 10.2 kg);150N (horizontal) (37.5 lbs, 15.3 kg)
Slide Unit Adjustment	Up-Down	35 mm (1.4")
	Left-Right	35mm (1.4")
Guide roller adjustment		100 mm (2.9")
Control panel	Switch	Power supply On/Off
	Switch	Start Left, Stop, Start Right
	Knob	Horizontal speed 0-1000 mm/min (39.4"/min)
		Vertical speed 0-1000 mm/min (39.4" /min)
Dimensions		240 (L)x258 (W)x253 (H), 9.4" (L) x 10.2" (W) x 10" (H)
Weight		8kg, 17.6 lbs.



Changing from English (Imperial) to Metric Measurement Units.





After modification you can check the current unit system in start-up mode of the carriage. If the configuration jumper is removed from the unit selection header JP1, after lamp test will appear USA on the display (displayed speed value is imperial (inch/min)), otherwise on the display will appear EUr (displayed speed value is metric (cm/min)).

IV. Work preparation.

1. Make sure that the wheels are not deformed and the silicone tires are clean.

2. Make sure that power switch is in OFF position, direction switch in central position – STOP, and magnet block lever is toggled off (left position).

3. Inspect power supply cable for damage. Repair or replace if needed.

4. Plug the power supply cable into the Power Supply.

5. Clamp the torch into the Torch Holder.

6. Connect the Arc Contactor Cable to the welder. The Arc Contactor Cable has two pairs of color coded wire. These wires will replace the trigger switch on the welding gun which initiates the wire feeder and weld contactor. A contact closure is used between like color wires and two guns can be controlled from one carriage. Connections will vary depending on the manufacturer of the welding equipment. Please see the below drawings for pin position, and consult your welding equipment manufacturer for details on the necessary connectors. Adjust Guide arm distance (Front Guide arm moved out about 3/8" (10 mm) less than Rear Guide). This will cause the carriage to run in a crab like fashion and keep the carriage in constant contact with the guiding structure.

7. Toggle the magnet block lever on (right position) – increases magnetic force to a work surface.

8. Set wanted position of the torch using knobs located on Vertical Guide and Horizontal Guide.

V. Starting up

1. Make sure that all Work preparation steps were followed according to the instructions and are not causing any danger to personnel.

2. Plug the power supply cable into the line power.

3. Toggle Power Switch (located inside handle on back of machine) into ON position. On the LED display “888” figure should be shown.

4. After a short while on LED display “EUR” or “USA” should be displayed (depending on the voltage 230V/120V which the carriage is supplied.

5. After digits appear on the display the speed should be adjusted using the speed knob, for EUR in cm/min. and for USA in inches/min.

6. Switch the ARC CONTROL SWITCH to the OFF Position.

   CAUTION: If the ARC CONTROL SWITCH is in the ON position, the arc will initiate immediately upon selecting the travel direction.

7. Choose desired travel direction using the Travel Direction Switch. On the display the speed will be shown – it may differ from adjusted as it depends on the Carriage load. See the maximum loads in technical specifications.

8. Revise the travel speed adequately to the appropriate welding process conditions.

VI. SAFETY.

All setting, handling and repair duties of the Carriage may only be carried out by trained personnel.

1. Read the User's Manual before using the machine and follow the instructions.
2. The machine is not waterproof. Work in damp conditions may cause damage to machine or injuries.
3. Inspect the rubber tires on the Drive Wheels for damage, sand and chips.
4. Inspect the Bottom Plate for any foreign objects.
5. Ensure the magnet is switched ON prior to welding.
6. Carry and place the carriage only when the Magnet Block is switched off. Carry only by handle (do not hold Bottom Plate – it may cause fingers injury).
7. Always place the Carriage on clean surfaces.
8. Do not connect the power until the Power Switch is in the "OFF" position.
9. Always use the original power cable or a factory supplied replacement.
10. Torch hoses should be suspended above the Carriage to decrease applied load.
11. When welding vertically and/or in vertical position use safety cords which will prevent the carriage from falling and causing injury.
12. Do not leave the machine unattended, especially during welding.
13. Do not force the Carriage to stop by hand. Always use STOP setting.
14. Do not take off the Drive Wheels Guard as the heat from welding could damage the tires.
15. Do not stand or walk underneath the machine.
16. Any assembly and disassembly of parts should only be performed when power supply is disconnected.
17. The carriage should be removed from working area and locked away in secure place when not in use.

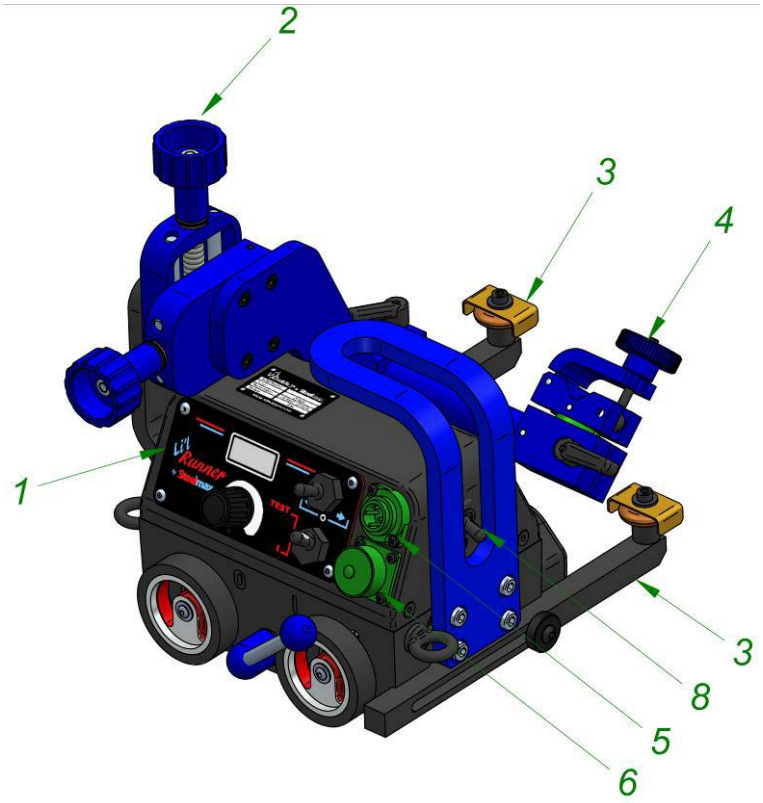
VII. General design.

The Li'l Runner welding carriage features a versatile and ergonomically correct design which allows easy access to control elements, and ease of transport to the work piece.

It consists of: **Drive Unit integrated with the Controller, Guide Assembly, Torch Adjustment** and **Torch Holder.**

Drive unit – a 16W gear motor is a part of the Drive Unit, which drives four high temperature resistant silicone wheels through a worm gear transmission. It is powered with 120V/230V depending on its version.

The Magnetic Block with powerful permanent magnets located on the bottom of the Carriage delivers proper grip to metal surfaces. Intensity of a magnetic field is reduced by toggling the Magnet Block Switch to OFF position, which makes maneuvering easier when placing on the work piece. The Torch Holder is located in the Torch Adjustment Assembly which allows precise adjustment in vertical and/or horizontal axis. The machine enables electric arc ignition for a given travel direction - the cable socket for that feature is located on a main panel of the Carriage.



1. Drive Unit with Control Panel
2. Cross Slide Torch Adjustment
3. Guide Arms
4. Torch Holder
5. Power Supply
6. Arc Ignition
7. Magnet Block Lever
8. On/off power switch

Control Panel

P1	3-digit LED display
P2	ARC CONTROL SWITCH ON/OFF/TEST
P3	Speed adjustment knob
P4	Travel direction switch (Left-Stop-Right)

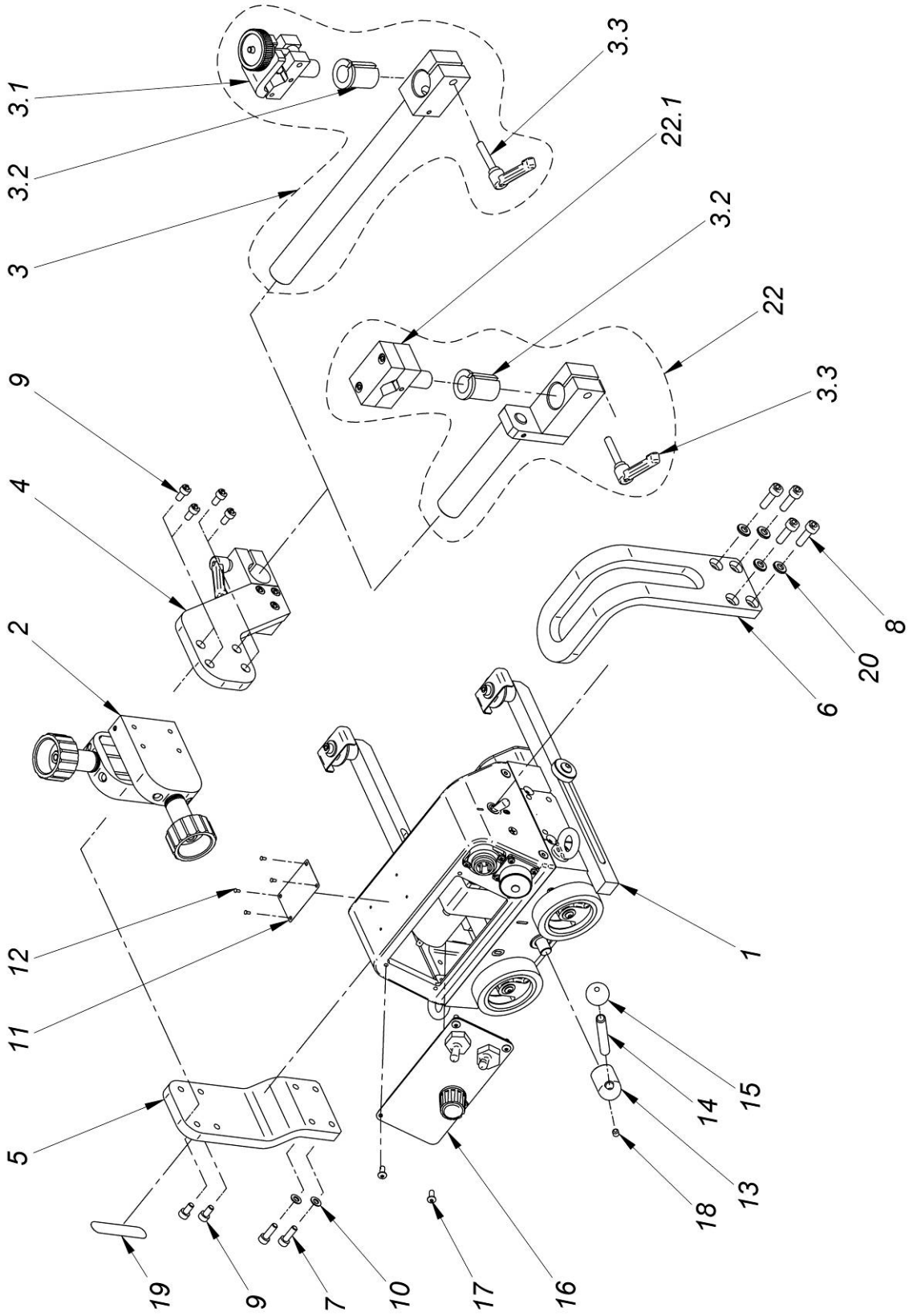
VIII. Signification of messages displayed on the Control Panel

Message	Description	Solution
88.8	Lamp test – test of display's digits. If some of the LED segments are not lit it means that there is a problem with the display.	O.K. Contact service to investigate the malfunction.
USA	The configuration type or actual speed value is given in "inches/min".	O.K.
EUr	The set type or actual speed value is given in "cm/min".	O.K.
ErS	Travel direction switch error. 1. The Travel Direction Switch is activated during starting up of the carriage. 2. If displayed during a welding operation it means that there is a malfunction of the Travel Direction Switch.	1. Set the travel direction switch to middle position. 2. Replace the faulty switch. Contact the service.
crL	Motor power cut-off activated. In some cases it may appear when the carriage stops suddenly and this message appears on the display.	1. Check if any elements around the Carriage are jamming or obstructing the Wheels. 2. Check the weight and position of the welding hoses. 3. Check the carriage in idle state (no load applied to the carriage). If message still appears on the display , please call for service.

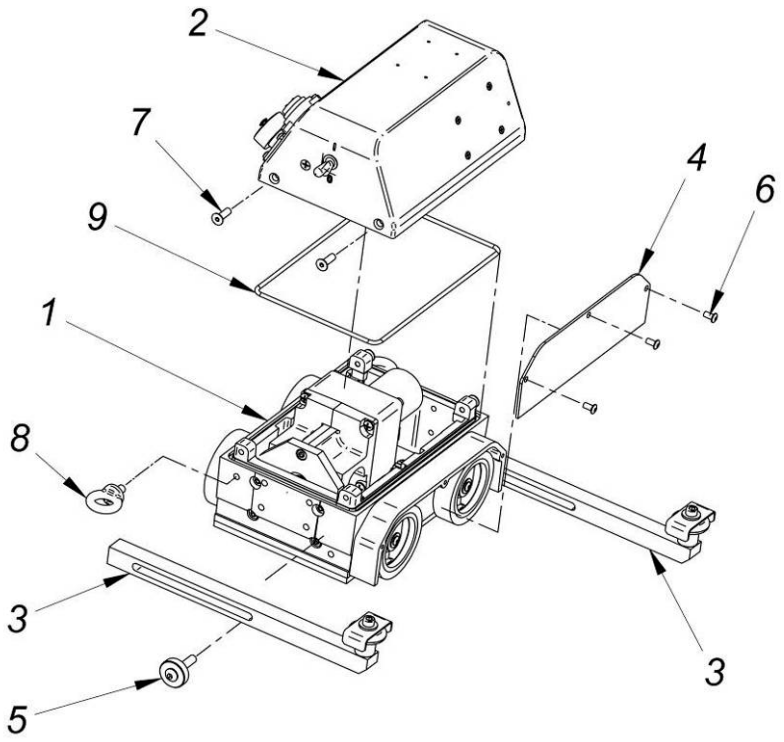
IX. Parts List and Exploded Drawings

WOZ-0466-24-20-00-0			Steelmax Li'l Runner /230V	
WOZ-0466-24-00-00-0			Steelmax Li'l Runner /115V	
ITEM	**PART NUMBER**	**VERSION**	**DESCRIPTION**	**Q-TY**
1	WOZ-0466-11-00-00-0	2060	DRIVE SYSTEM ASSY	1
2	ZSP-0466-03-00-00-0	2063	CROSS SLIDES ASSY	1
3	UCW-0466-04-00-00-0	2065	TORCH HOLDING ASSY	1
3.1	ZRZ-0466-04-01-00-0	2092	TORCH CLAMP ASSY	1
3.2	TLJ-0419-04-02-03-0		INSULATION SLEEVE	1
3.3	RKJ-000036		HANDLEVER GN 300-45-M6-32-SW,	1
4	PLY-0466-05-00-00-0	2067	TORCH PLATE COMPLATE	1
5	WSP-0466-07-00-00-0	2069	SLIDE BRACKET	1
6	RKJ-0466-08-00-00-0	2071	HANDLE	1
7	SRB-000083		HEX SOCKET BOLT M5x16	4
8	SRB-000114		HEX. SOCKET BOLT M6x20	4
9	SRB-000075		HEX SOCKET BOLT M5 x 10	8
10	PDK-000018		WASHER 5.3	8
11	TBL-0466-15-00-01-0		NAME PLATE Li'l Runner by Steelmax	1
12	NIT-000010		ROUND HEAD RIVET 2x6	4
13	GLK-0466-12-00-00-0	2142	HANDLE KNOB	1
14	DZW-0419-01-04-13-0		LEVER	1
15	KUL-0466-13-00-00-0	2144	BALL LEVEL	1
16	PNL-0466-02-02-00-1	2637	CONTROL PANEL ASSEMBLY	1
17	WKR-000092		SOCKET BUTTON HEAD CAP SCREW M4x10	4
18	WKR-000048		SOCKET SET SCREW M5 x 6	1
19	NKL-0466-15-00-02-0		LOGO LABEL "STEELMAX"	1
20	PDK-000021		ROUND WASHER 6,4	4
22	UCW-0476-06-00-00-0	2073	LOW TORCH HOLDING ASSY	1
22.1	ZCS-0476-06-01-00-0	2109	CLAMPING BLOCKS	
23*	ZST-0466-25-00-00-0	2491	EQUIPMENT SET	1
23.1*	PWD-0466-18-00-00-0		POWER CORD 230V	1
23*	ZST-0466-25-00-00-0	2119	EQUIPMENT SET	1
23.1*	PWD-0466-16-00-00-0		POWER CORD 115V	1
23.2*	KBL-0466-17-00-00-0		CONTROL CABEL START-STOP	1
23.3*	KLC-000007		HEX. WRENCH S=4	1
23.4*	INS-0239-55-00-00-2		OPERATORS MANUAL	1

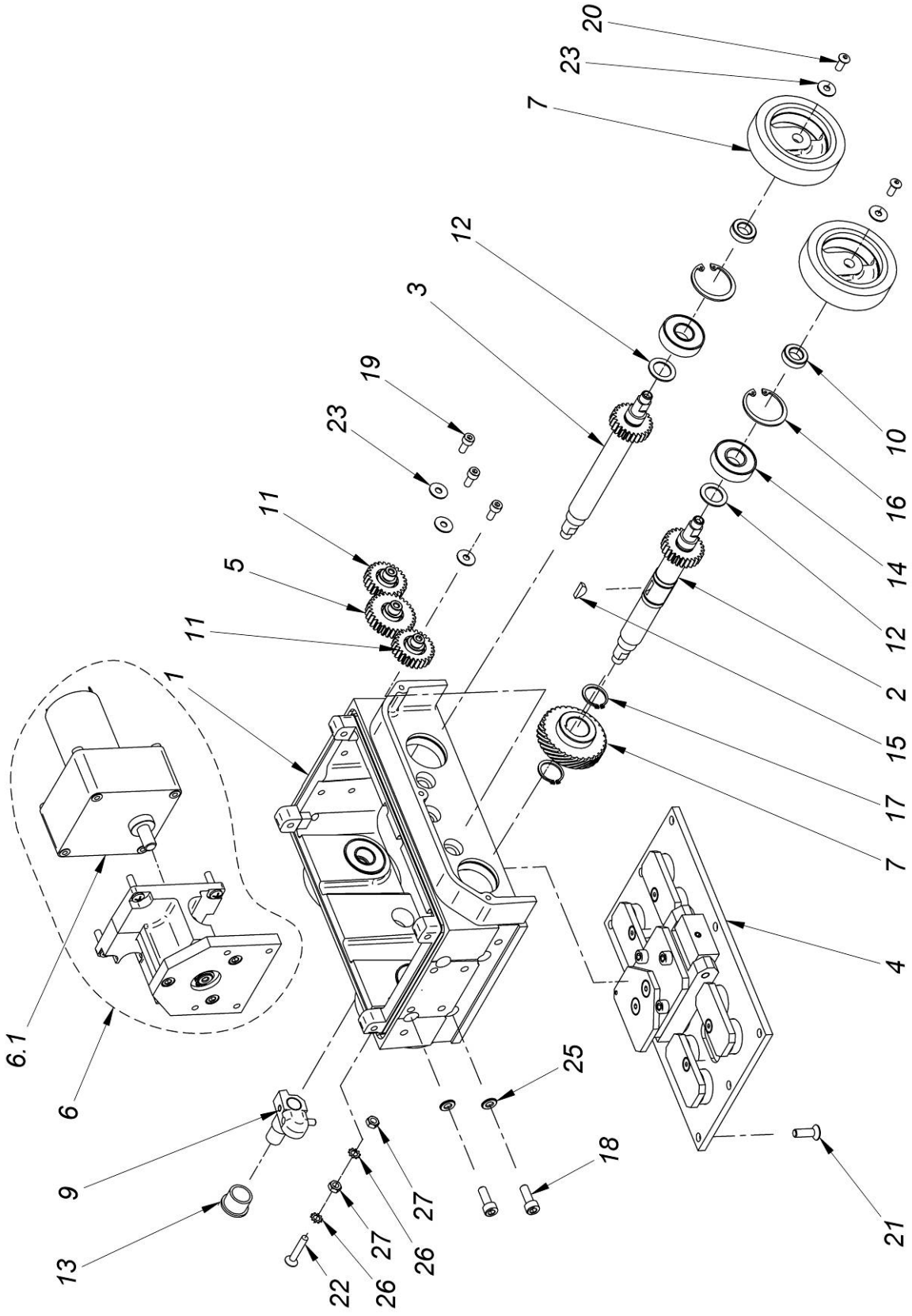
* Not shown on drawing


3.1
3.2
3
3.3
22.1
3.2
22
3.3
9
4
2
8
20
6
12
11
1
5
15
14
13
18
19
9
7
10
17
16

WOZ-0466-11-00-00-0			DRIVE SYSTEM ASSY	
ITEM	**PART NUMBER**	**VERSION**	**DESCRIPTION**	**Q-TY**
1.1	ZSP-0466-01-00-00-0	2074	DRIVE SYSTEM	1
1.2	OBD-0466-02-00-00-0	2490	CONTROLLER HOUSING COMPLATE	1
1.3	PRW-0466-06-00-00-0	2076	FOLLOWER ASSEMBLY	2
1.4	OSL-0466-09-00-00-0	2077	WHEEL GUARD	1
1.5	SRB-0466-10-00-00-0		FOLLOWER SCREW	2
1.6	WKR-000091		SOCKET BUTTON HEAD CAP SCREW M4x8	3
1.7	WKR-000136		SCR, M5 x 16 FHSCS	4
1.8	SRB-000278		EYE BOLT M6,	2
1.9	PRS-000266		SEAL O-RING 173x3	1

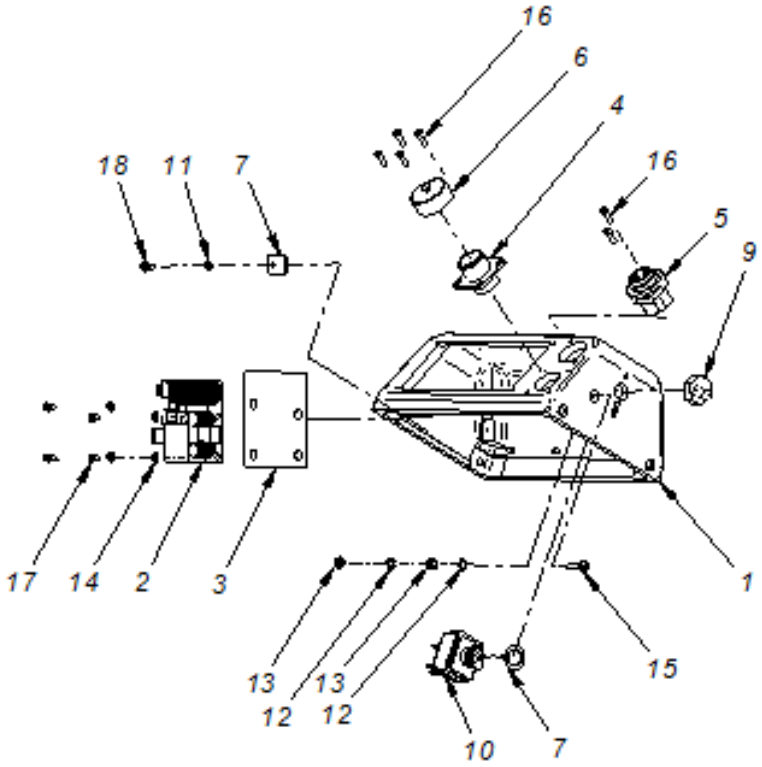


ZSP-0466-01-00-00-0			DRIVE SYSTEM	
ITEM	**PART NUMBER**	**VERSION**	**DESCRIPTION**	**Q-TY**
1.1.1	KRP-0466-01-01-00-1	2078	FRAME	1
1.1.2	WLK-0466-01-02-00-0		FRONT DRIVE SHAFT ASSY	1
1.1.3	WLK-0466-01-03-00-0		BACK DRIVE SHAFT ASSY	1
1.1.4	BLO-0466-01-04-00-0	2079	MAGNET BLOCK ASSEMBLY	1
1.1.5	KOL-0466-01-05-00-0		INDIRECT GEAR WHEEL ASSY z30	1
1.1.6	MTR-0466-01-06-00-0		MOTOR ASSEMBLY	1
1.1.6.1	SLN-0466-01-06-10-0		MOTOR	1
1.1.7	KOL-0466-01-07-00-0	2080	DRIVE WHEEL	4
1.1.8	KOL-0466-01-08-00-0		BEVEL GEAR z30	1
1.1.9	ZSP-0466-01-09-00-0		LEVER ASSEMBLY	1
1.1.10	PDK-0466-01-10-00-0		SPACER WASHER	4
1.1.11	KOL-0456-01-05-00-0		INTERMEDIATE GEAR ASSY	2
1.1.12	PDK-000164		ROUND WASHER 12x18x1	2
1.1.13	TLJ-000088		SALFE-LUBRICATING BRUSHUNG FLANGE	1
1.1.14	LOZ-000038		BEARING 6001 ZZ	4
1.1.15	WPS-000027		WOODRUFF KEY 3x5x13	1
1.1.16	PRS-000018		INTERNAL RETAINING RING 28W	4
1.1.17	PRS-000005		EXTERNAL RETAINING RING 15z	2
1.1.18	SRB-000082		HEX. SOCKET BOLT M5x14	3
1.1.19	SRB-000061		HEX SOCKET BOLT-M4X10	1
1.1.20	WKR-000092		SOCKET BUTTON HEAD CAP SCREW M4x10	4
1.1.21	WKR-000136		SCR, M5 x 16 FHSCS	8
1.1.22	WKR-000434		FHSCS M4x20	1
1.1.23	PDK-000108		ROUND WASHER 4,3	7
1.1.25	PDK-000017		ROUND WASHER 5,3	3
1.1.26	PDK-000060		SPRING WASHER 4,3	2
1.1.27	NKR-000031		NUT M4 SHORT	2

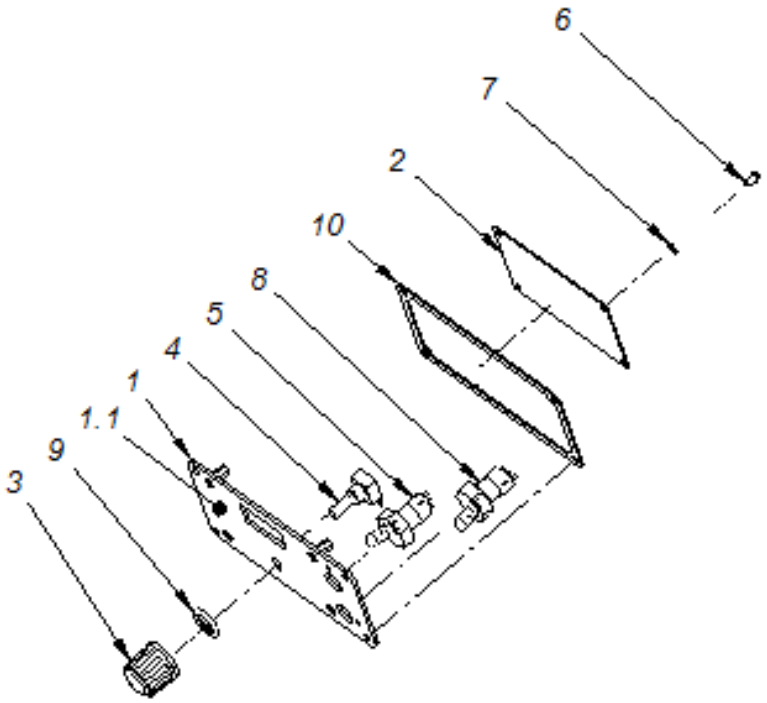

20
23
7
12
3
19
23
11
5
11
1
6.1
6
9
13
22
26
27
27
26
25
18
21
4
7
17
15
2
12
14
16
10

OBD-0466-02-00-00-0			CONTROLLER HOUSING COMPLATE	
ITEM	**PART NUMBER**	**VERSION**	**DESCRIPTION**	**Q-TY**
1.2.1	PKR-0466-02-01-00-0	2082	CONTROLLER HOUSING COVER	1
1.2.2	MDL-0466-02-03-00-0		POWER SUPPLY ELECTRONIC CONTROLLER ASSY	1
1.2.3	PLY-0466-02-08-00-0		INSULEITING PLATE	1
1.2.4	WZK-0466-02-05-00-0		IGNITION SOCKET WIRE SET	1
1.2.5	WZK-0466-02-04-00-0		POWER SOCKET WIRE SET	1
1.2.6	NKR-000120		SAFETY NUT	1
1.2.7	PDK-000098		SILICONES WASHER 20x15,	1
1.2.8	PDK-000165		LOCKING WASHER 12/19	1
1.2.9	OSL-000036		LEVER KEY COVER	1
1.2.10	PNK-000026		LEVER KEY, 641 H/3	1
1.2.12	PDK-000060		SPRING WASHER 4,3	2
1.2.13	NKR-000013		HEX NUT M4	2
1.2.14	PDK-000058		WASHER,LOCK,INTERNAL STAR M3	4
1.2.15	WKR-000152		SCREW M4 x 16	1
1.2.16	WKR-000427		CROSS RECESSED SCREW M3x8	6
1.2.17	WKR-000428		CROSS RECESSED SCREW M3x8	4
1.2.18	WKR-000414		LOTTED PAN HEAD MACHINE SCREWS M3x8	1
1.2.19*	WZK-0466-02-06-00-0		PANEL WIRE SET	1
1.2.20*	WZK-0466-02-07-00-0		POWER WIRE SET	1

* Not shown on drawing



PNL-0466-02-02-00-1			PANEL ASSEMBLY	
ITEM	**PART NUMBER**	**VERSION**	**DESCRIPTION**	**Q-TY**
16.1	MSK-0466-02-02-10-1	2639	PANEL PLATE ASSY	1
16.1.1	NKL-0466-15-00-03-1		PANEL PLATE LABEL	1
16.2	STR-0466-02-02-02-0		ELECTRONIC CONTROLLER	1
16.3	PKT-000028		POTENTIOMETER KNOB	1
16.4	WZK-0466-02-02-01-0		POTENTIOMETER WIRE SET	1
16.5	WZK-0466-02-02-04-0		IGNITION WIRE SET	1
16.6	WKR-000181		CROSS RECESSED SCREW M3x6	4
16.7	PDK-000058		WASHER,LOCK,INTERNAL STAR M3	4
16.8	WZK-0466-02-02-05-0		DIRECTION OF MOTION WIRE SET	1
16.9	PRS-000095		O-RING 12x2	1
16.10	USZ-0466-02-02-03-0		PANEL PLATE SEAL	1



X. EC DECLARATION OF CONFORMITY

Declaration of compatibility

We

PROMOTECH Ltd.
Elewatorska Street 23/1
15-620 Bialystok, Poland

declare with full responsibility that product:

Li'l Runner Welding Carriage

which the declaration applies to is in accordance with the following standard(s) placed below:

EN 50144-1, EN 55014 and satisfies safety regulations of guidelines: 2004/108/EC, 2006/95/EC, 2006/42/EC

Bialystok, 2011-10-05

_____
Prezes

XI. MACHINE TEST CERTIFICATE

Machine control card

☐ **SM-WC-LR**

☐ **SM-WC-LR -230**

Serial No. _____

Date of test: _____

Electric test results:

Test	Result
Test with sinusoidal voltage of 1000 V and frequency 50 Hz	
Resistance of the protective circuit [Ω]	

The above-mentioned product meets the requirements of safe usage as prescribed in standard IEC-745

Name of tester _____

Quality Control_____

XII. WARRANTY CARD

WARRANTY CARD No.....

Steelmax Tools LLC in the name of Manufacturer warrants the Drilling Machine to be free of defects in material and workmanship under normal use for a period of twelve months from date of original sale to the end user.

This warranty does not cover cutters, damage or wear arises from misuse, accident, tempering or any other causes not related to defects in workmanship or material.

Date of Production ..... Serial No .....

Quality Control: .....

Date of Purchase: .....

Signature of Seller……