

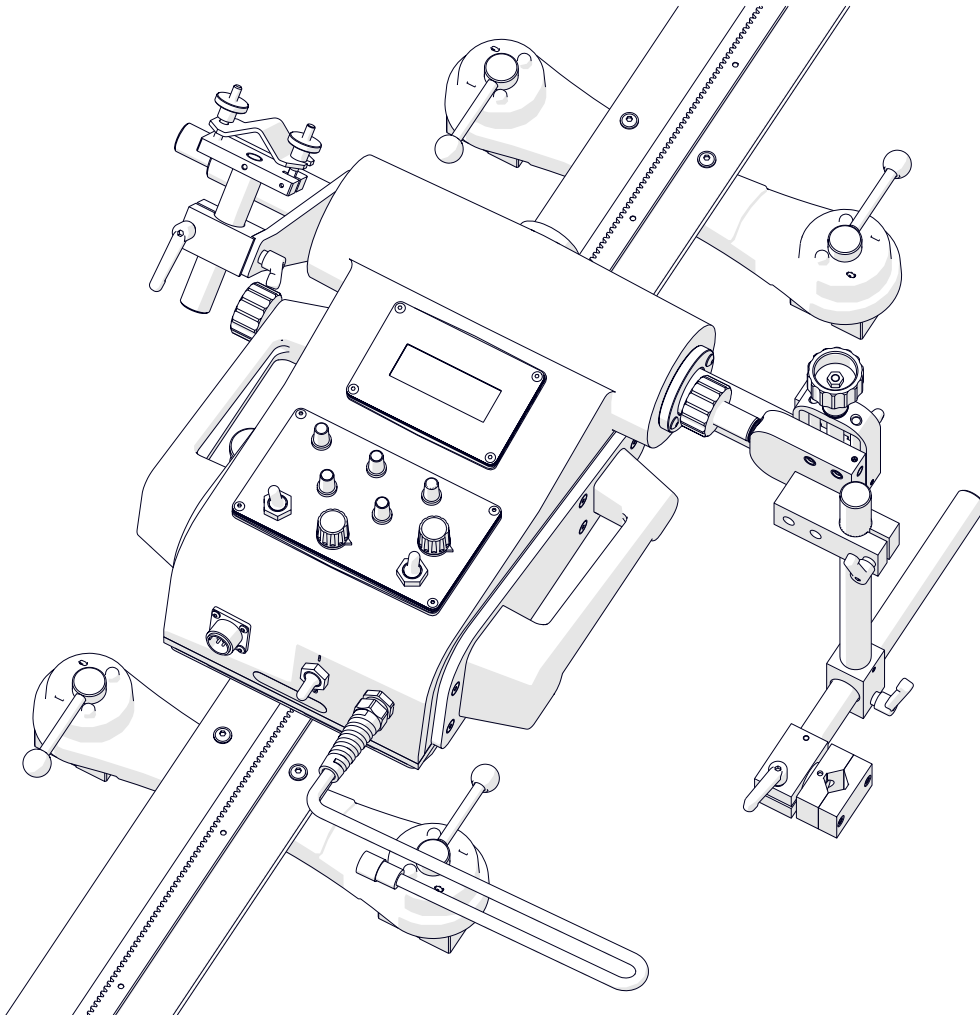


The tools of innovation.

## OPERATOR'S MANUAL

# Rail Runner

## WELDING CARRIAGE



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## 1. GENERAL INFORMATION

### 1.1. Application

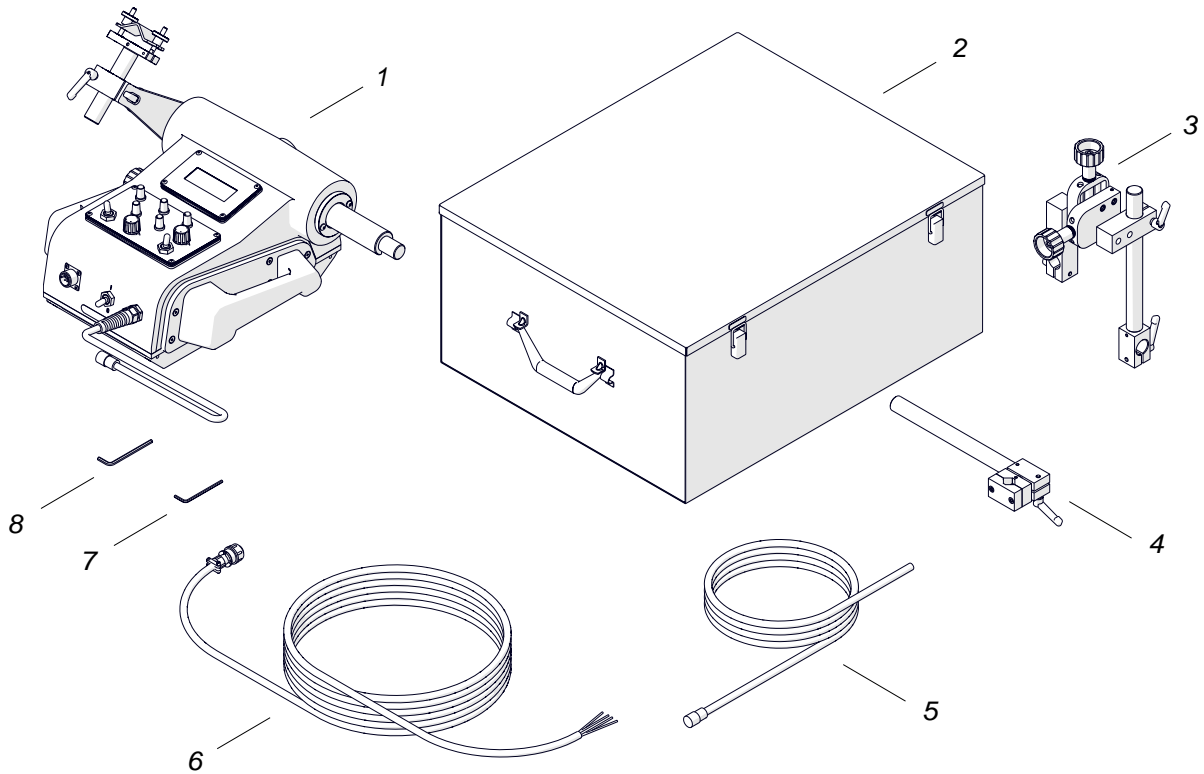
The Rail Runner is a track carriage designed to make butt and fillet welds with or without oscillation by using MIG/MAG torches. The track is fixed by using magnetic units to ferromagnetic surfaces that are flat or curved.

Accessories allow using torches with a larger diameter and guiding the carriage on a semi-flex or rigid track. Using a vacuum track system allows the track to be clamped to surfaces that are non-ferromagnetic.

### 1.2. Technical data

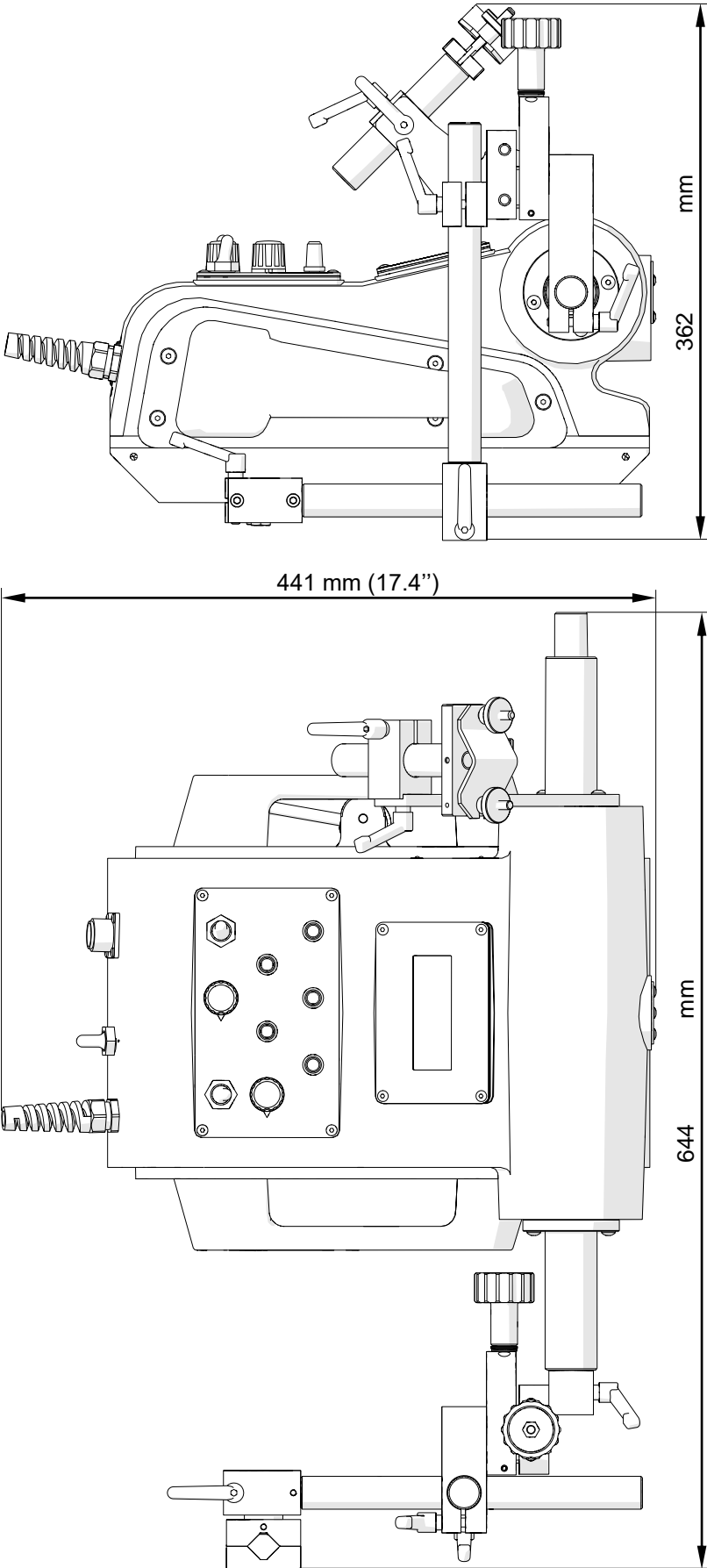
Voltage		1~ 115–230 V, 50–60 Hz 1~ 42 V, 50–60 Hz (60 V DC)
Power		100 W
Welding position (according to EN ISO 6947 and AWS/ASME)	Horizontal	PA/1F/1G PB/2F PC/2G PD/4F PE/4G
	Vertical	PF/3G PG/3F (contact your dealer) PG/3G
Minimum curve radius of a semi-flex track		5 m (16 ft)
Torch type		MIG/MAG
Torch diameter		16–22 mm (0.63–0.87")
Minimum workpiece thickness for magnetic clamping		5 mm (0.2")
Horizontal pulling force		350 N (77 lbs)
Vertical pulling force		150 N (33 lbs)
Cross slide adjustment range		0–35 mm (0–1.38", up-down, left-right)
Horizontal speed		0–120 cm/min (0–47.2 in/min)
Vertical speed		0–110 cm/min (0–43.3 in/min)
Oscillation type		Linear
Oscillation path		Trapezoid, triangle, straight line
Oscillator arm stroke		0–100 mm (0–3.9")
Oscillation width		0–50 mm (0–1.9")
Oscillation speed		0–1500 mm/min (0–59 in/min)
Oscillation dwell time at center and on ends		0–5 s
Maximum oscillator pulling force		100 N (22 lbs)
Maximum allowed ambient temperature		50°C (122°F)
Maximum allowed ambient humidity		85%
Weight		20 kg (44 lbs)

### 1.3. Equipment included

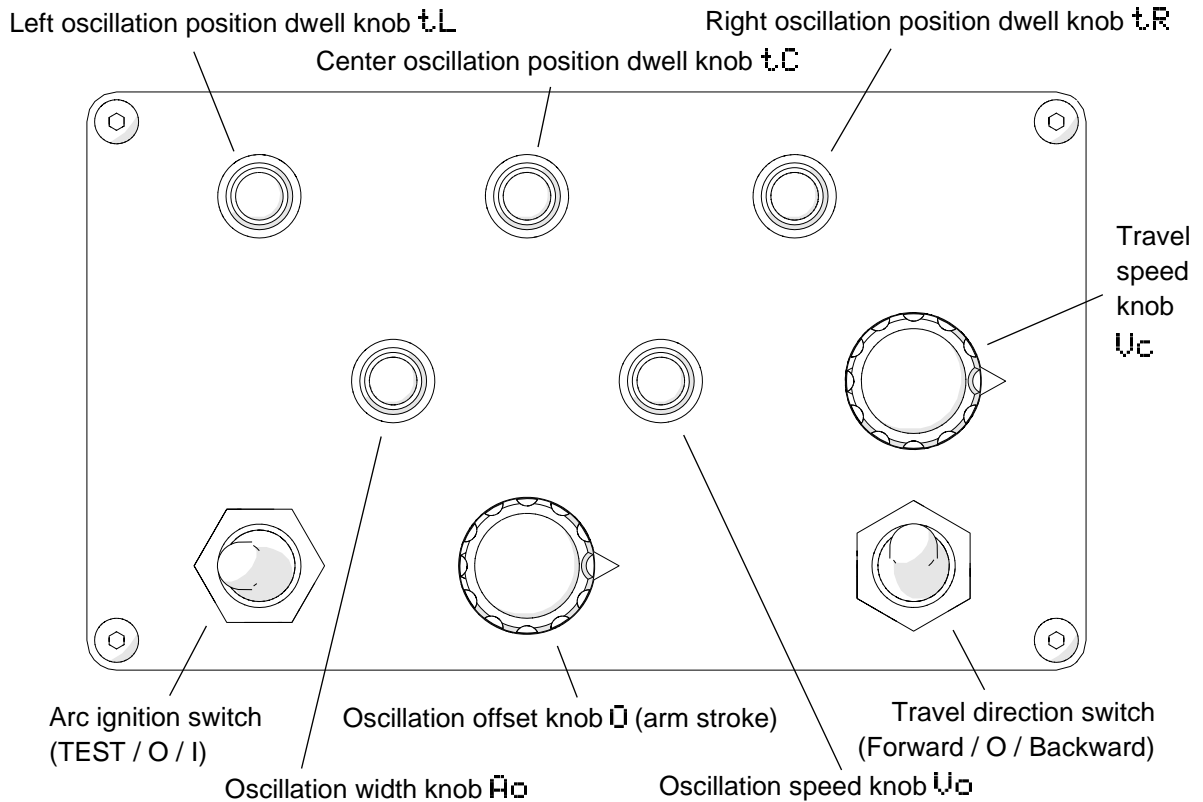
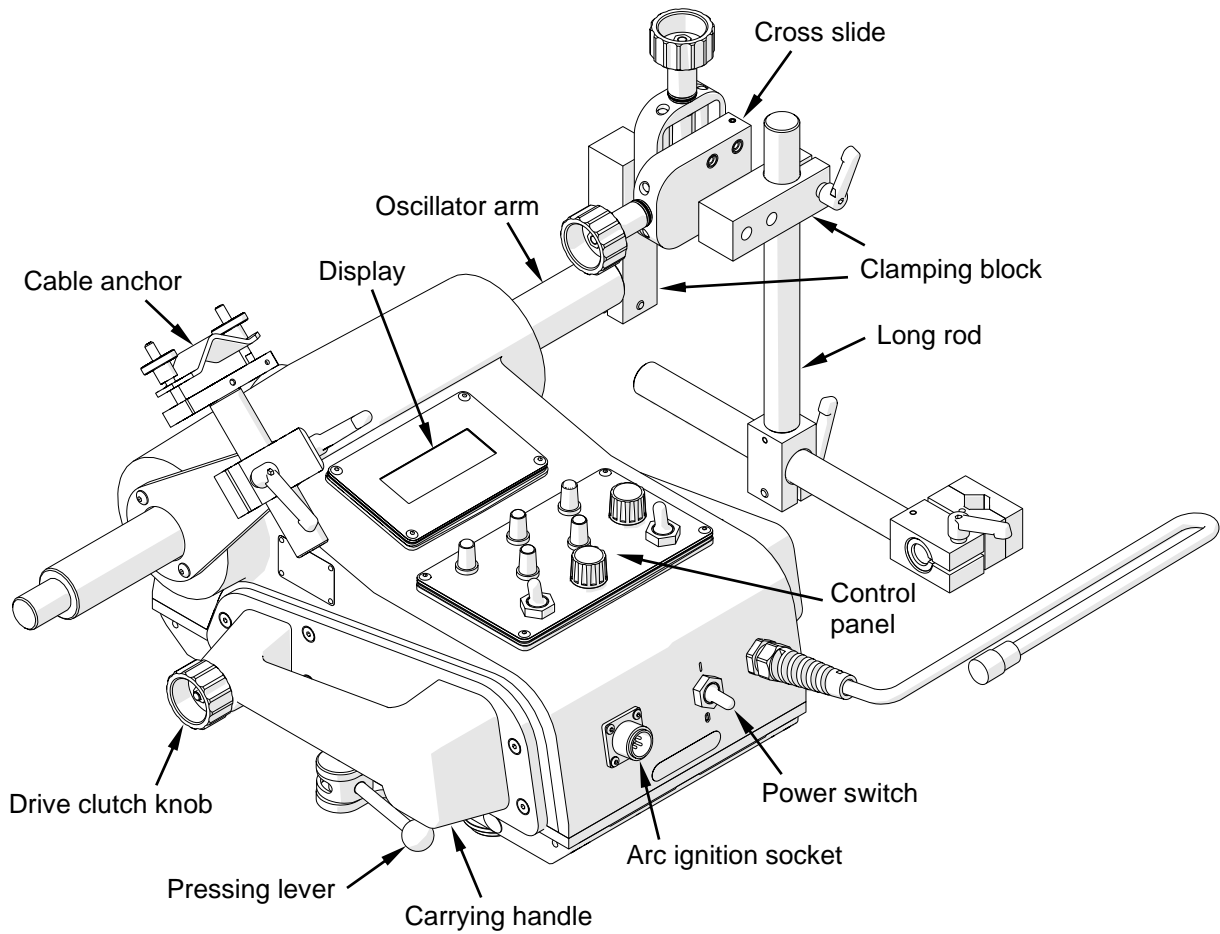


1	Carriage	1 unit
2	Metal box	1 unit
3	Cross slide assembly	1 unit
4	Long rod torch holder with clip	1 unit
5	3 m (10 ft) power cord	1 unit
6	6.5 m (21 ft) arc ignition cable	1 unit
7	3 mm hex wrench	1 unit
8	4 mm hex wrench	1 unit
–	Operator's Manual	1 unit

**1.4. Dimensions**



**1.5. Design**



## 2. SAFETY PRECAUTIONS

1. Before use, read this Operator's Manual and complete a training in occupational safety and health.
2. Use only in applications specified in this Operator's Manual.
3. Make sure that the carriage has all parts and they are genuine and not damaged.
4. Make sure that the specifications of the power source are the same as those specified on the rating plate.
5. Connect the carriage to a correctly grounded power source.
6. Do not carry the carriage by the cords or arc ignition cable, and do not pull them. This can cause damage and electric shock.
7. Keep untrained bystanders away from the carriage.
8. Before each use, ensure the correct condition of the carriage, power source, cords, arc ignition cable, plugs, control panel, rollers, and gear.
9. Before each use, make sure that no part is cracked or loose. Make sure to maintain correct conditions that can have an effect on the operation of the carriage.
10. Keep the carriage dry. Do not expose the carriage to rain, snow, or frost.
11. Keep the work area well lit, clean, and free of obstacles.
12. Do not use near flammable materials, or in explosive environments.
13. Transport and position the carriage by using the carrying handles.
14. Install the carriage only on the supplied track.
15. Make sure that the gear and rollers are clean.
16. Connect the cords and the arc ignition cable only after you set the power switch to 'O'.
17. Keep the sockets clean. Do not use high pressure during cleaning.
18. Install only torches whose diameter matches the diameter of the torch holder.
19. Hang the cables to decrease the load applied on the carriage.
20. Do not bend the semi-flex track to a radius less than 5 m (16 ft).
21. Use the rigid track only on flat surfaces.
22. At heights, protect the carriage and the track from falling. To do this, use chains (not included) to attach the leftmost and rightmost magnetic units of the track to a stable structure. To protect the carriage, attach a chain to a carrying handle. Make sure that the chains are not loose.

23. Do not stay below the carriage or the track that is put at heights.
24. Use eye protection (helmet, shield, and screen), ear protection, gloves, and protective clothing. Do not use loose clothing.
25. Do not stop the carriage by hand. To stop, set the travel direction switch to 'O'.
26. Do the maintenance only after you unplug the carriage from the power source.
27. Repair only in a service center appointed by the seller.
28. If the carriage falls, is wet, or has any damage, stop the work and promptly send the carriage to the service center for check and repair.
29. Do not leave the carriage unattended during work.
30. If you are not going to use the carriage, remove it from the work area and keep in a safe and dry place.

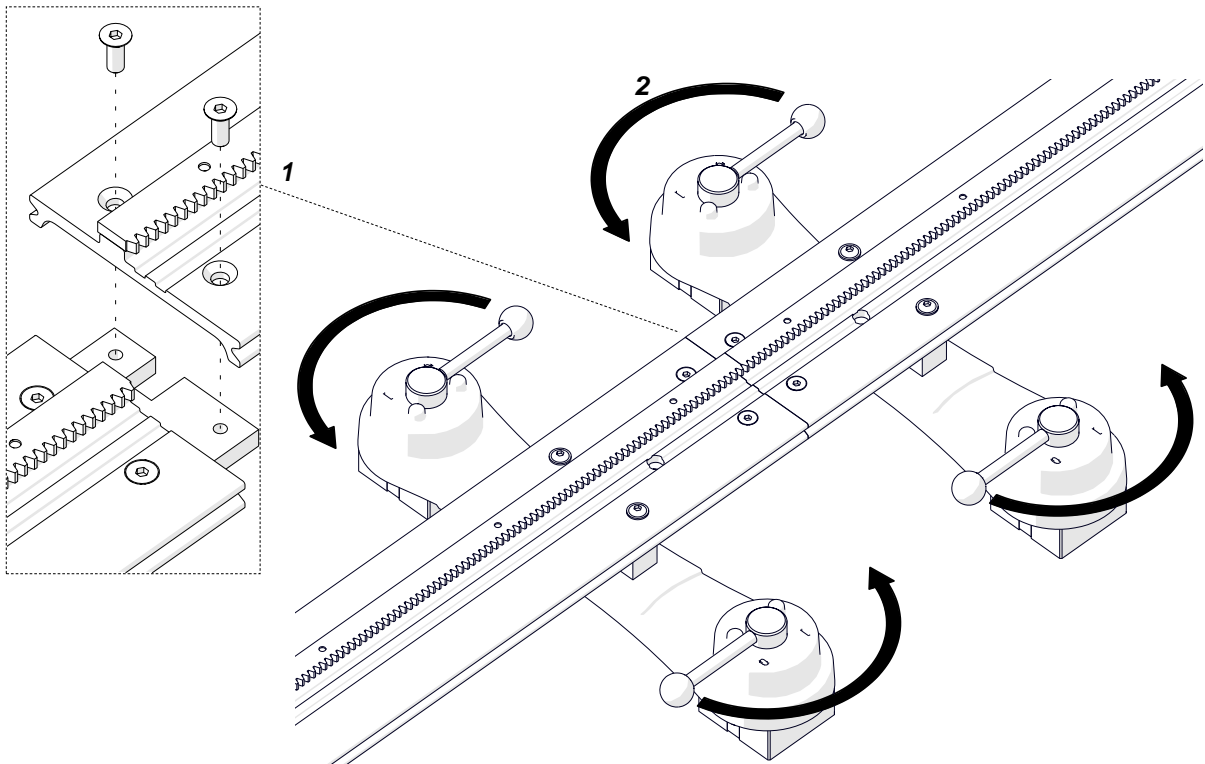


### 3. STARTUP AND OPERATION

#### 3.1. Assembling the track

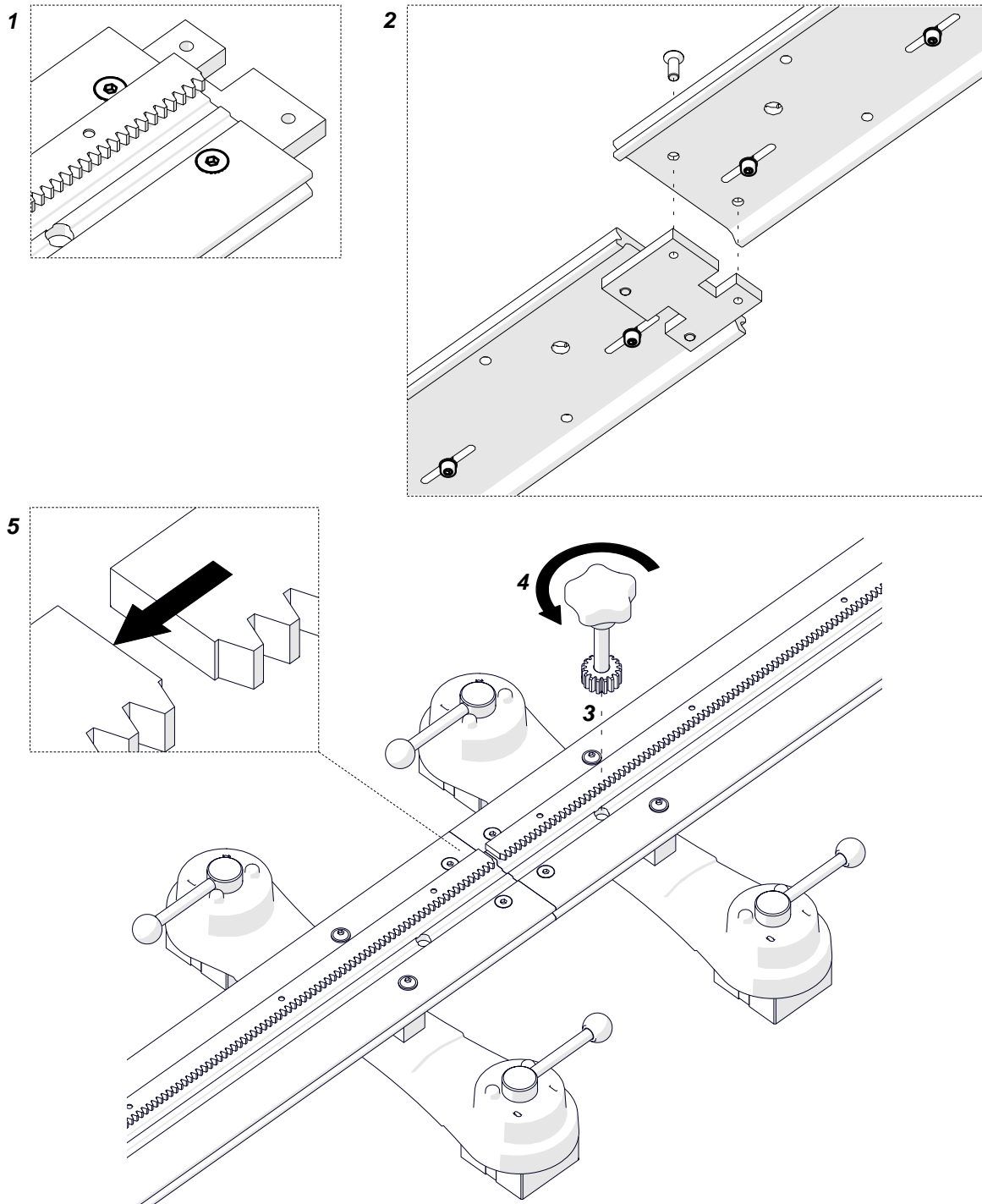
Attach magnetic units to the rail, and put it on the workpiece. Use the 4 mm hex wrench to attach more rails (1, Fig. 1). Then, set the levers of the magnetic units to 'I' (2). This will clamp the track to the surface.

When working in PC/2G welding position, put the track so that the teeth of the racks point down.



**Fig. 1.** Connecting the rails and clamping the magnetic units to the surface

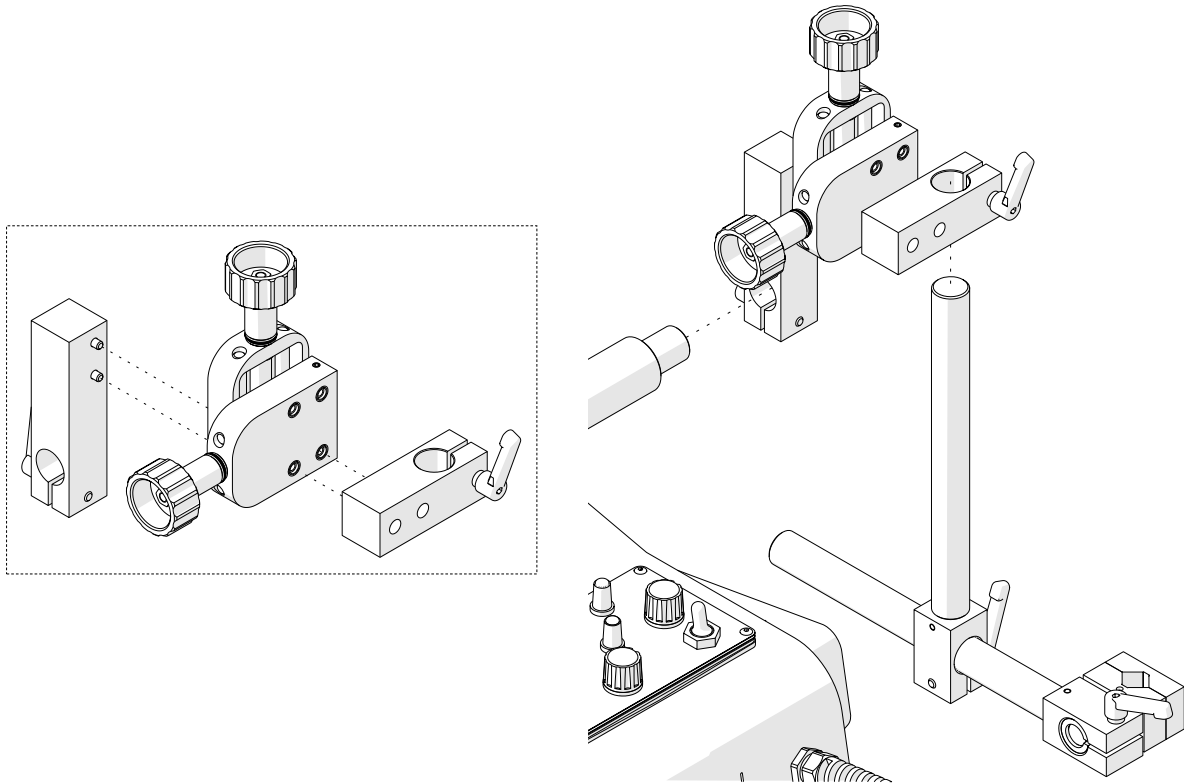
If a semi-flex rail is put on a curve, before you attach more rails use the 4 mm hex wrench to loosen the screws of the connecting plates (1, Fig. 2) and of the racks (2). Next, attach the rails, clamp them with levers, and then tighten the connecting plates. Put the rack adjustment tool (not included) into the hole (3), and rotate the tool to the left (4) to remove the gap (5) between the racks. Then, tighten the leftmost screw and the rightmost screw of each rack (2).



**Fig. 2.** Removing the gap between the racks of a semi-flex track

### 3.2. Assembling the holder

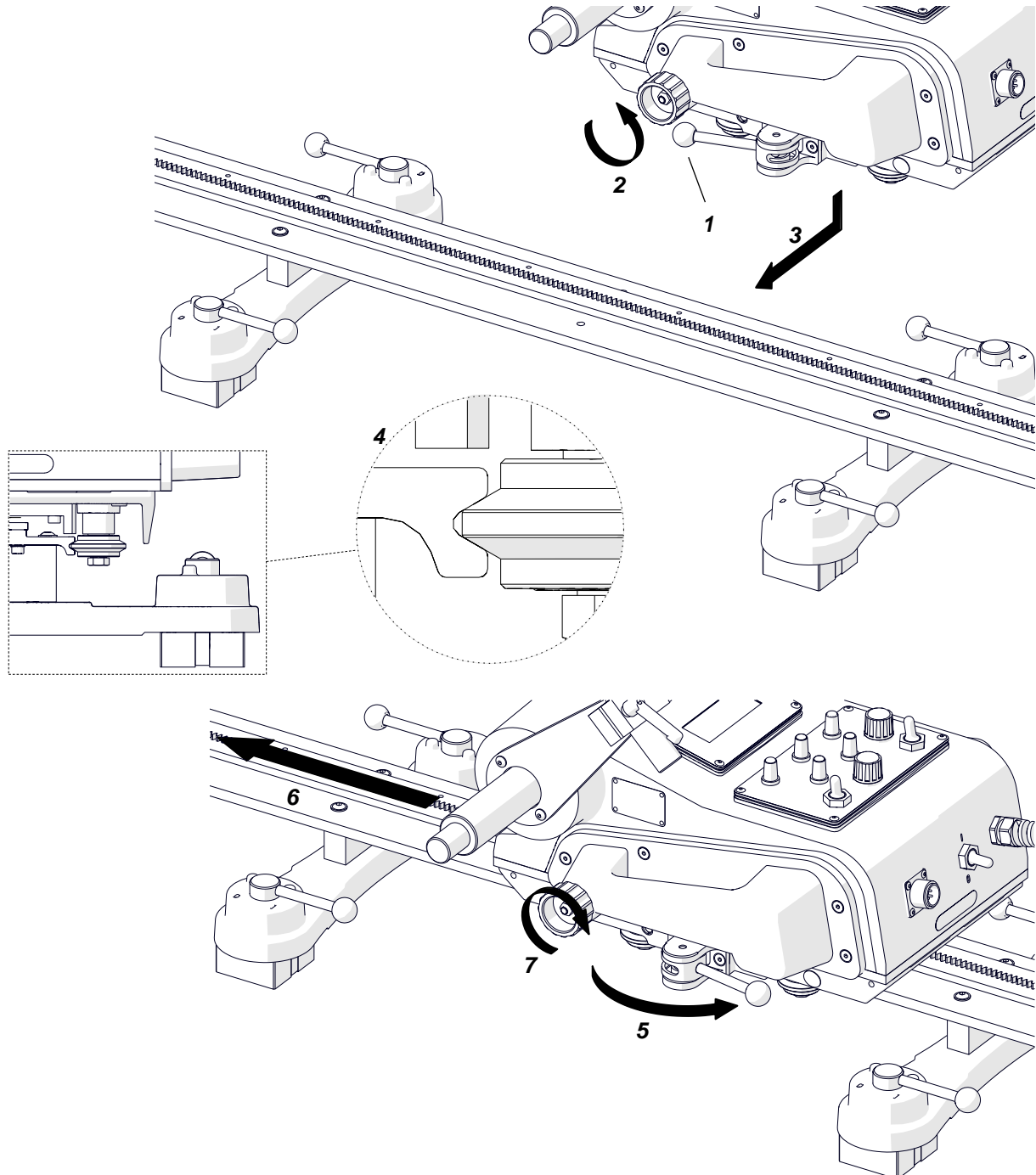
Use the 4 mm hex wrench to attach the clamping blocks to the cross slide with four M5x20 screws as shown in Fig. 3. The parts shown can be assembled in many ways to form different configurations. However, note that the oscillator moves in and out during startup. Thus, to allow correct startup, install the torch holder and the cross slide so that they will not collide with the carriage side or obstacles.



**Fig. 3.** Sample method of assembling the torch holder

### 3.3. Positioning

Set the power switch, arc ignition switch, and travel direction switch to 'O'. Next, set the lever to OFF (1, Fig. 4), and then loosen the knob (2) fully. Then, put the carriage onto the track (3) so that the back rollers are in the groove (4).



**Fig. 4.** Putting the carriage on the track

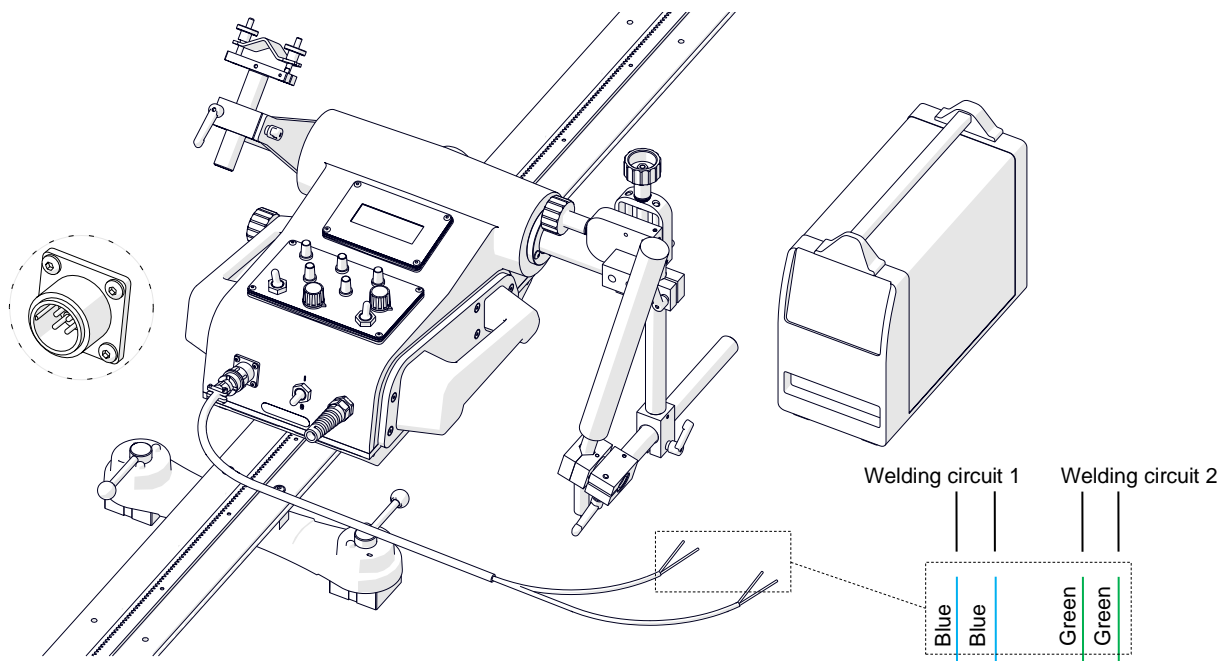
Set the lever to ON (5) to press the front rollers to the track. Move the carriage to the required position (6), and fully tighten the knob (7) to engage the gear of the carriage with the rack of the rail. Then, loosen the knob by 1/4 rotation.

At heights, protect the carriage and the track from falling. To do this, use chains (not included) to attach the leftmost and rightmost magnetic units of the semi-flex or rigid track to a stable structure. To protect the carriage, attach a chain to a carrying handle. Make sure that the chains are not loose.

Connect the carriage to the power source. Then, put the torch and torch cables into the holders.

### 3.4. Connecting to the welding circuits

The carriage can control two torches by using the arc ignition cable plugged into the arc ignition socket. To do this, refer to the diagram from Fig. 5 and connect one blue-jacketed wire to one terminal of the welding circuit. Then, connect the other blue-jacketed wire to the other terminal of the same circuit. To control the second torch, connect the green-jacketed wires to the terminals of the second welding circuit.

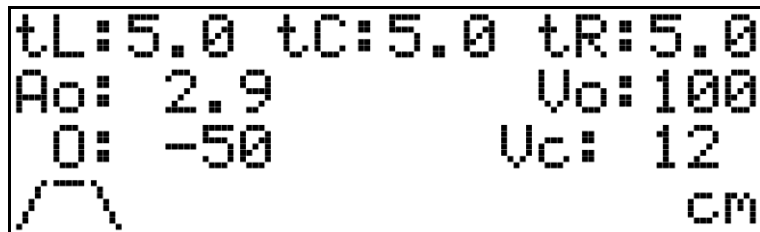




**Fig. 5.** Connecting the arc ignition cable to welding circuits

Make sure that the arc ignition cable is connected correctly. To do this, turn on the power of the carriage, and then set the arc ignition switch to TEST. This should enable the arc for a while.

### 3.5. Operating

Set the power switch to 'I' to turn on the carriage. If ERROR #1 shows on the display, set the travel direction switch to 'O'. Then, use the knobs on the control panel to set the required process parameters (Tab. 1). Right rotation increases the value of the parameter. Left rotation decreases the value.



Parameter	Value	Description
tL	0–5 s [step: 0.1]	Dwell time in left position of the oscillation.
tC	0–5 s [step: 0.1]	Dwell time in center position of the oscillation.
tR	0–5 s [step: 0.1]	Dwell time in right position of the oscillation.
Ao	0–5 cm 0–2 in [step: 0.1 cm/0.02 in]	Oscillation width. Set 0 to weld without oscillation.
Uo	0–100% [step: 1%]	Relative oscillation speed.
O	–100% to 100% [step 1%]	Oscillation offset. If Ao exceeds the value of the parameter O, the parameter O is calculated again automatically.
Uc	0 5–140 cm/min 2–55 in/min	Carriage speed. Setting to 0 during travel stops the main motor. Then, the oscillator goes into the test mode to allow for correct selection of the width and speed of the oscillation (Ao, Uo).
Welding path	 (trapezoid)  (straight line)	Trapezoid is default. To weld according to the triangular pattern, set all dwell times (tL, tC, tR) to 0. To weld along a straight line, set Ao to 0.
Unit	CM in	Unit set by the jumper cap (Fig. 7).

**Tab. 1.** Configuration parameters

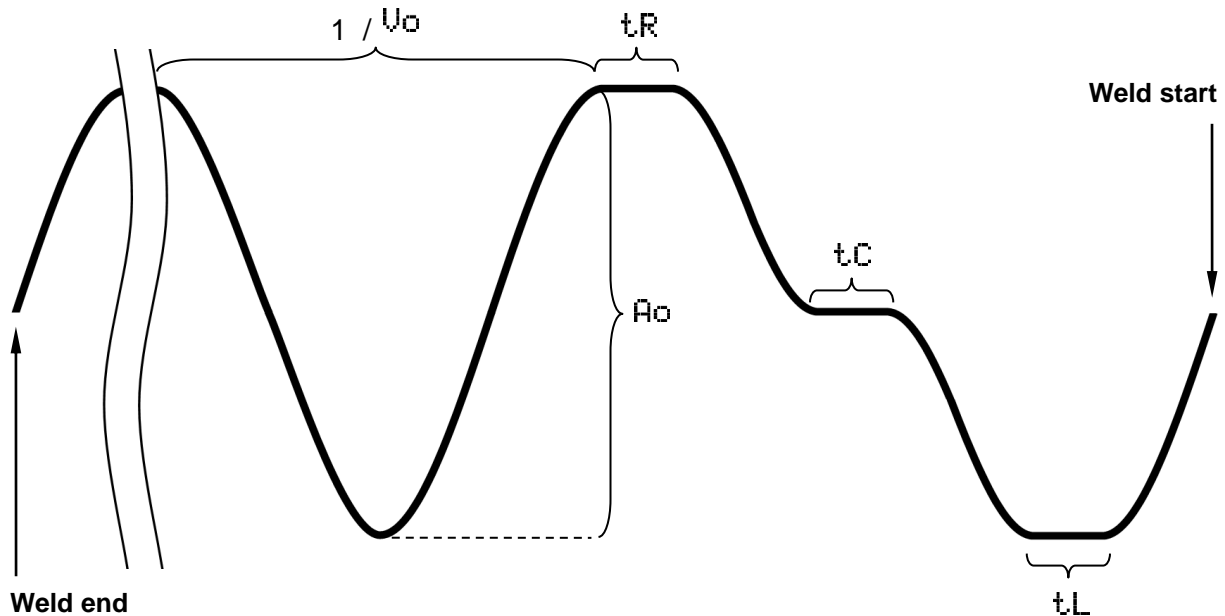
To control the torch through the carriage, set the arc ignition switch to 'I'.



**If the arc ignition switch is set to 'I', the torch starts welding promptly after you select a travel direction.**

Use the travel direction switch to select a direction of travel. Then, the travel starts with the parameters shown on the display. You can adjust the parameters with the knobs at any time.

The produced welds have a shape similar to that shown in Fig. 6.



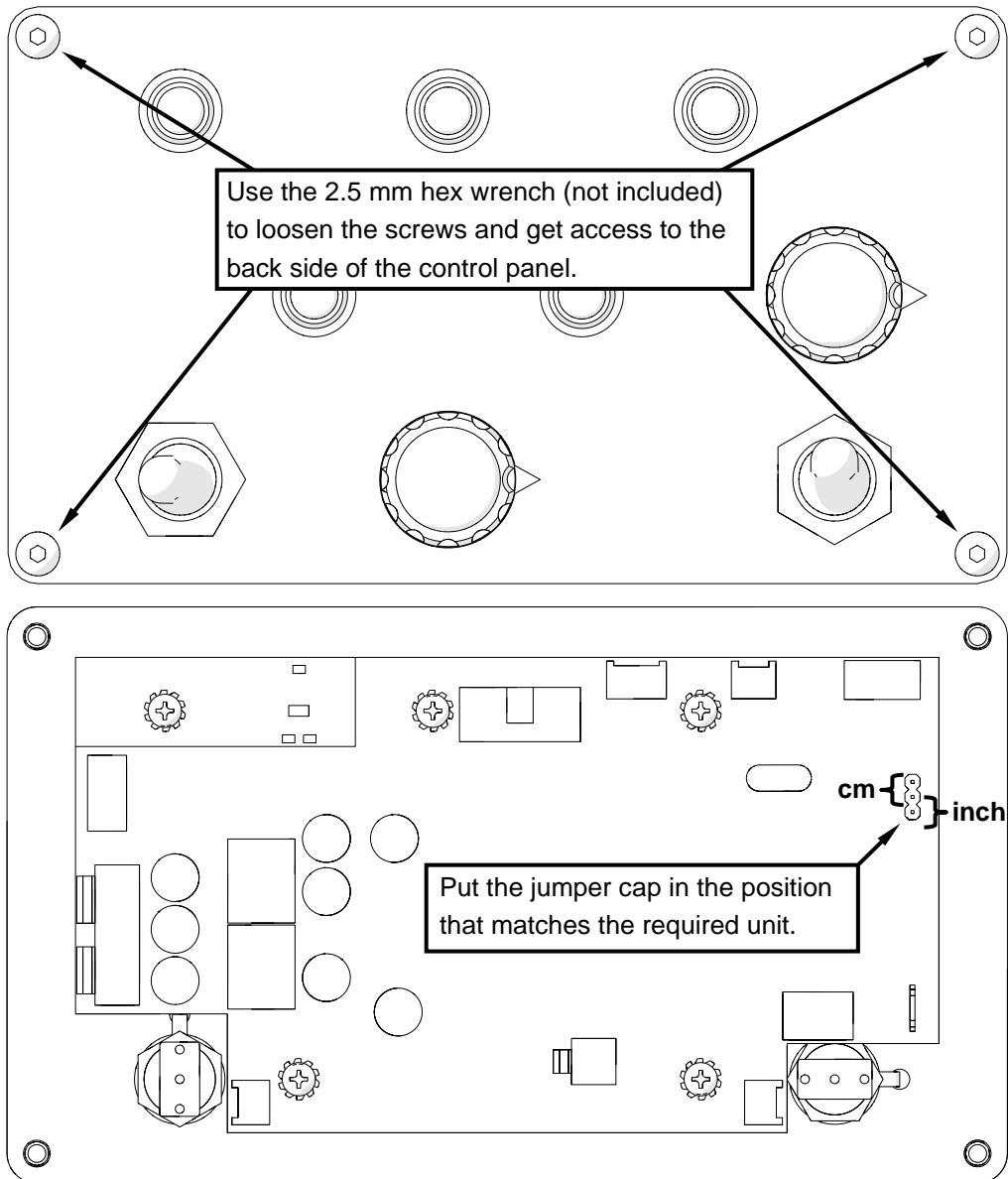
**Fig. 6.** Graphic description of the oscillation parameters from Tab. 1

To stop the travel and save the values shown on the display, set the travel direction switch to 'O'.

After the work is finished, use the power switch to turn off the carriage. Then, unplug the carriage from the power source.

### 3.6. Changing the unit of measure

To change the unit of measure between centimeters and inches, unplug the carriage from the power source and follow the steps shown in Fig. 7.



**Fig. 1.** Changing the unit of measure

When the jumper cap connects the top and center pin, the measurement system will be metric after restart. When the jumper cap connects the center and bottom pin, the system will be imperial.



### 3.7. Troubleshooting

Message	Problem	Solution
ERROR #1	Travel direction switch not set to 'O' when powering.	Set the travel direction switch to 'O'.
ERROR #2	Malfunction of the direction switch wire set or the controller.	Contact service center for check and repair.
ERROR #3	Power not supplied to the main motor or malfunction of the main motor encoder.	Contact service center for check and repair.
ERROR #4	Oscillator move blocked or power not supplied to the oscillator motor.	Remove obstacles that block the oscillator. If this message still shows, contact service center for check and repair.
ERROR #5	Malfunction of the oscillator motor encoder or the controller.	Contact service center for check and repair.
ERROR #6	Malfunction of the oscillator sensor.	Contact service center for check and repair.
ERROR #7	Malfunction of the encoder board.	Contact service center for check and repair.

## **4. MAINTENANCE**

### **Each day:**

1. Clean the gear of the carriage and the rack of each rail.
2. Clean the rollers. Make sure that the rollers rotate freely.
3. Clean the torch nozzle and replace if damaged.

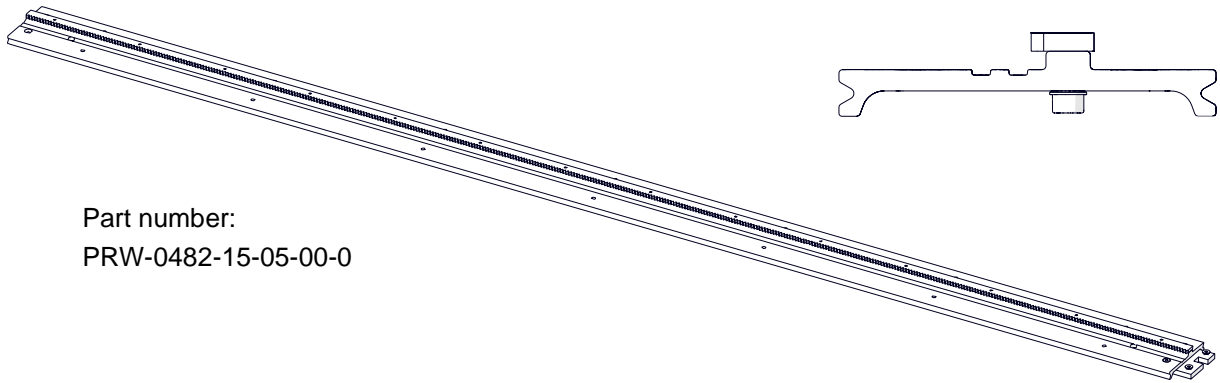
### **Each month:**

1. Make sure that the knobs and the switches work as intended. Replace if they are loose or damaged.
2. Examine cables and cords, and replace if damaged.
3. Tighten screws if loose.

## 5. ACCESSORIES

### 5.1. Semi-flex track

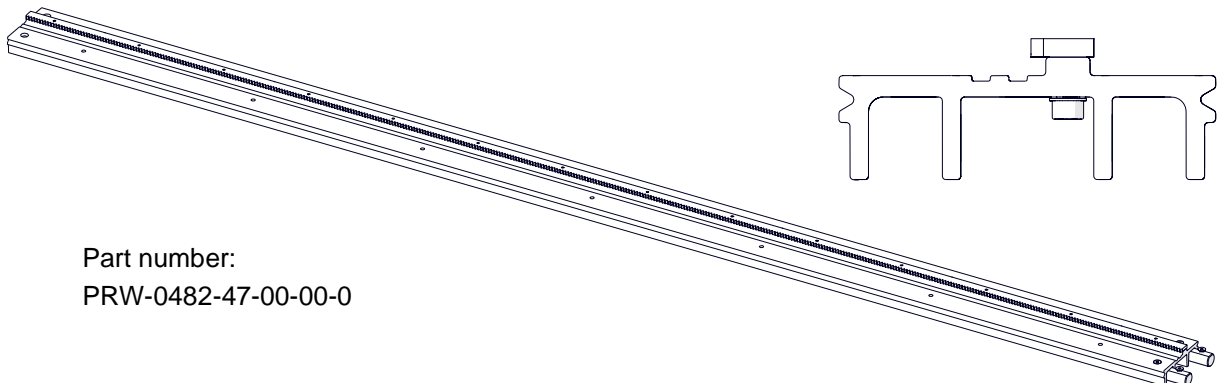
Allows guiding the carriage along a curve. The length of a single rail is 2 m (6.5 ft). The minimum bend radius is 5 m (16.5 ft).



Part number:  
PRW-0482-15-05-00-0

### 5.2. Rigid track

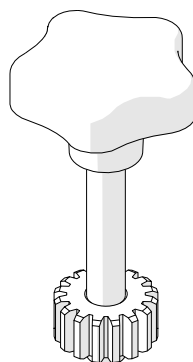
Allows guiding the carriage along a straight line. The length of a single rail is 2 m (6.5 ft).



Part number:  
PRW-0482-47-00-00-0

### 5.3. Rack adjustment tool

Removes the clearance between the racks of two semi-flex rails that are put on a curve.

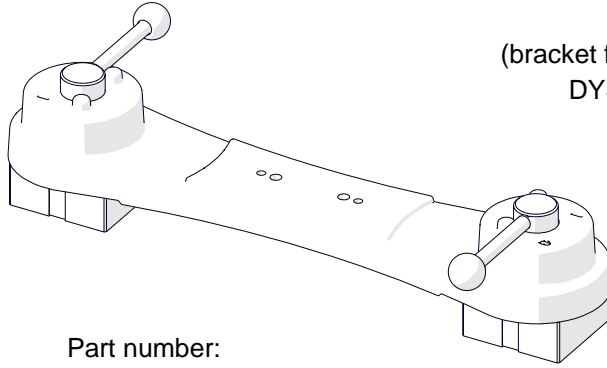


Part number:  
PKT-0341-13-00-00-0

## 5.4. Magnetic units

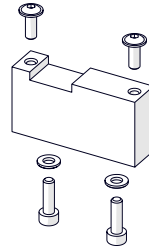
### 5.4.1. Magnetic unit

Allows clamping a semi-flex or rigid track to ferromagnetic surfaces.

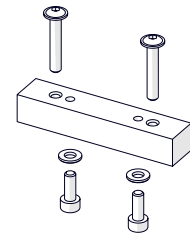


Part number:  
 ZSP-0475-44-00-00-0 (magnetic unit)  
 ZSP-0475-44-00-00-1 (heat-resistant magnetic unit)

Part number  
 (bracket for semi-flex track):  
 DYS-0482-19-00-00-0

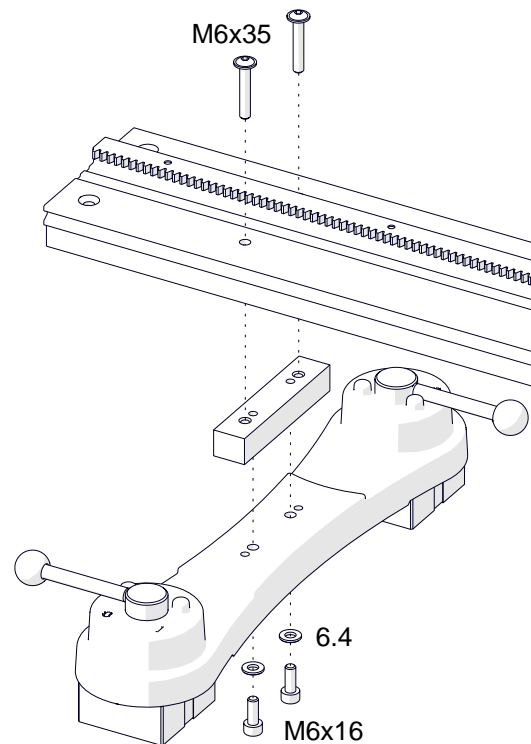
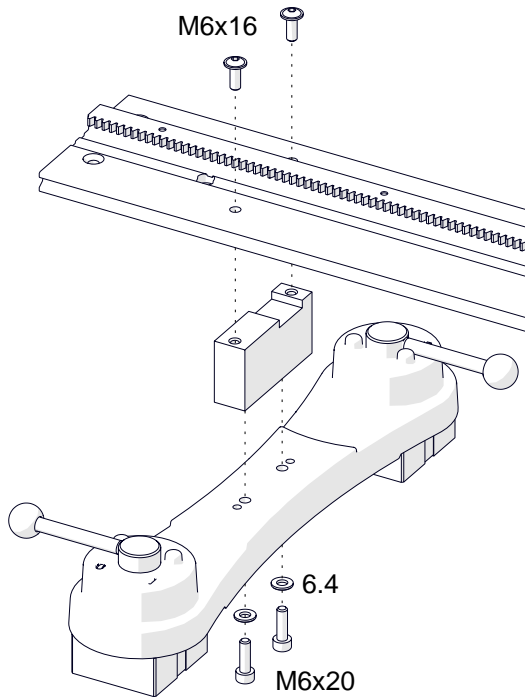


Part number  
 (bracket for rigid track):  
 DYS-0482-21-00-00-0



Holding force on a 5 mm (0.2") thick surface	Temperature	
	Magnetic unit	Heat-resistant magnetic unit
100% (1200 N)	20°C (68°F)	20°C (68°F)
75% (900 N)	80°C (176°F)	160°C (320°F)
50% (600 N)	120°C (248°F)	200°C (392°F)

Use the 4 mm hex wrench to attach the unit to the tracks as shown in the figures.



**5.4.2. Pivoting magnetic unit**

Allows clamping a semi-flex or rigid track to ferromagnetic surfaces that are concave or convex, to pipes with outer diameters of at least 800 mm (31.5"), and to surfaces that differ in height up to 80 mm (3.1").

Part number:

ZSP-0475-85-00-00-0

Part number

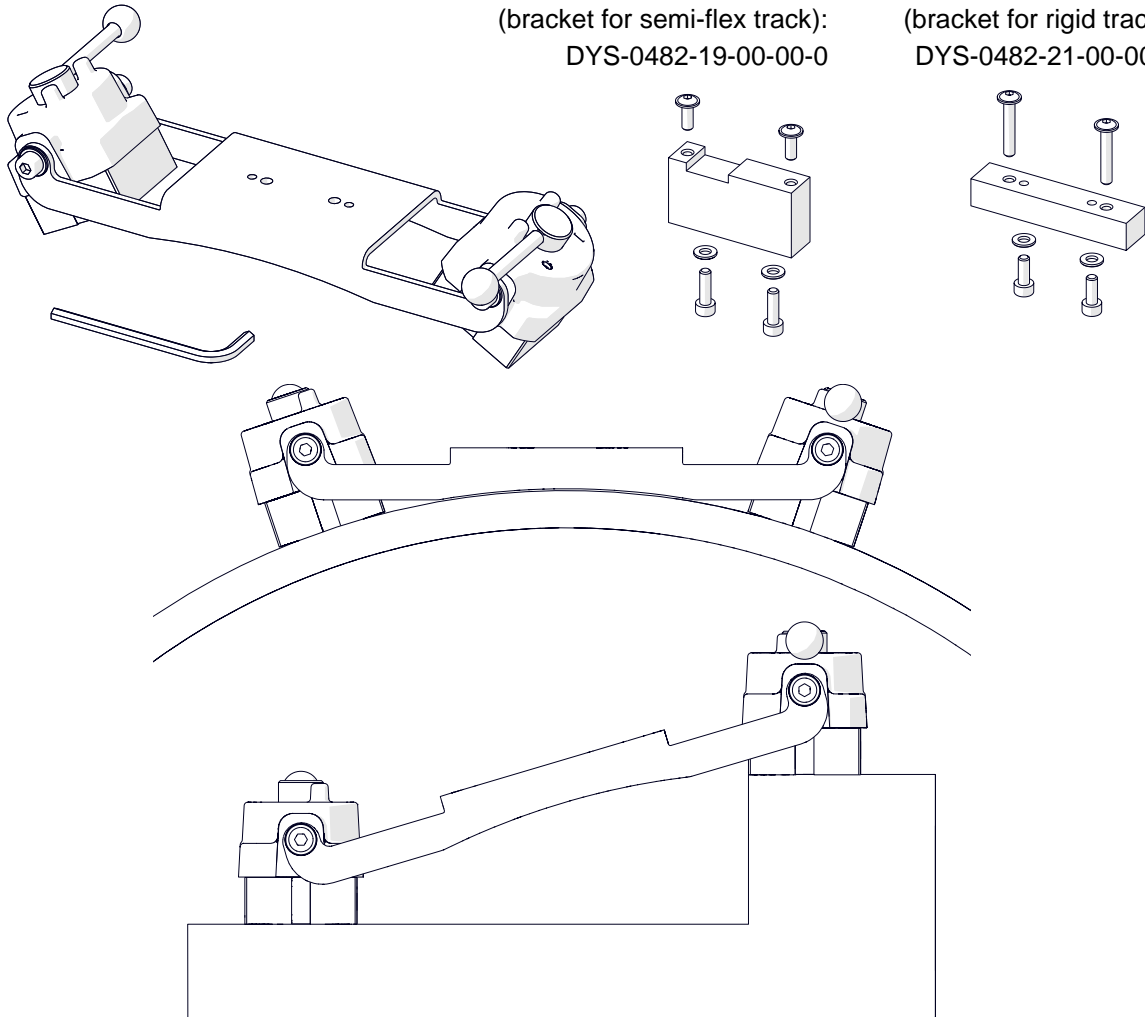
(bracket for semi-flex track):

DYS-0482-19-00-00-0

Part number

(bracket for rigid track):

DYS-0482-21-00-00-0



Holding force on a 5 mm (0.2") thick surface	Temperature
100% (1200 N)	20°C (68°F)
75% (900 N)	80°C (176°F)
50% (600 N)	120°C (248°F)

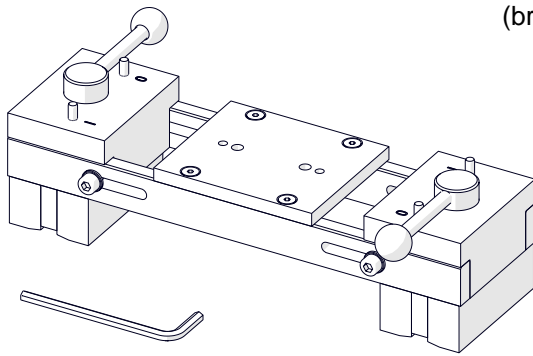
Install the unit in the same way as the magnetic unit is installed. To adjust the angle, use the 6 mm hex wrench and loosen four side screws.

### 5.4.3. Spacing-adjustable magnetic unit

Allows clamping a semi-flex track or rigid track to two ferromagnetic pipes with diameters of 25–230 mm (1–9") and with distance between pipe axes of 170–230 mm (6.7–9.1").

Part number:

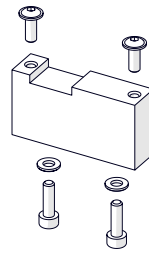
ZSP-0523-19-00-00-0



Part number

(bracket for semi-flex track):

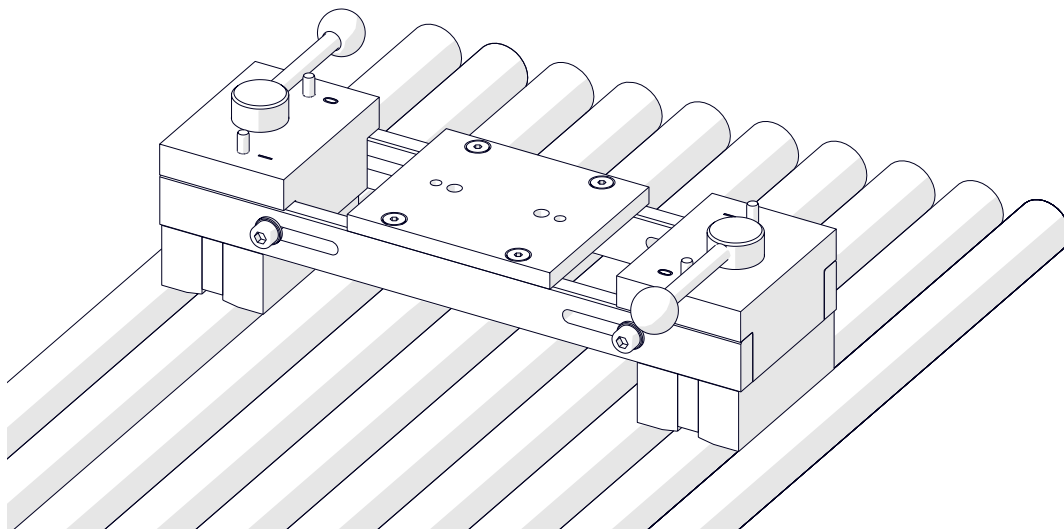
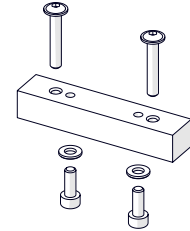
DYS-0482-19-00-00-0



Part number

(bracket for rigid track):

DYS-0482-21-00-00-0



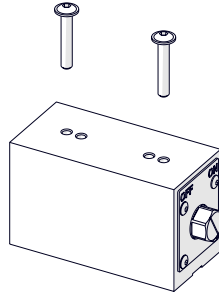
Holding force on a 5 mm (0.2") thick surface	Temperature
100% (1200 N)	20°C (68°F)
75% (900 N)	80°C (176°F)
50% (600 N)	120°C (248°F)

Install the unit in the same way as the magnetic unit is installed. To adjust the spacing, use the 5 mm hex wrench and loosen four side screws.

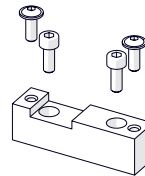
**5.4.4. Narrow magnetic unit**

Allows clamping a semi-flex track or rigid track to ferromagnetic surfaces.

Part number:  
PDS-0582-10-00-02-0

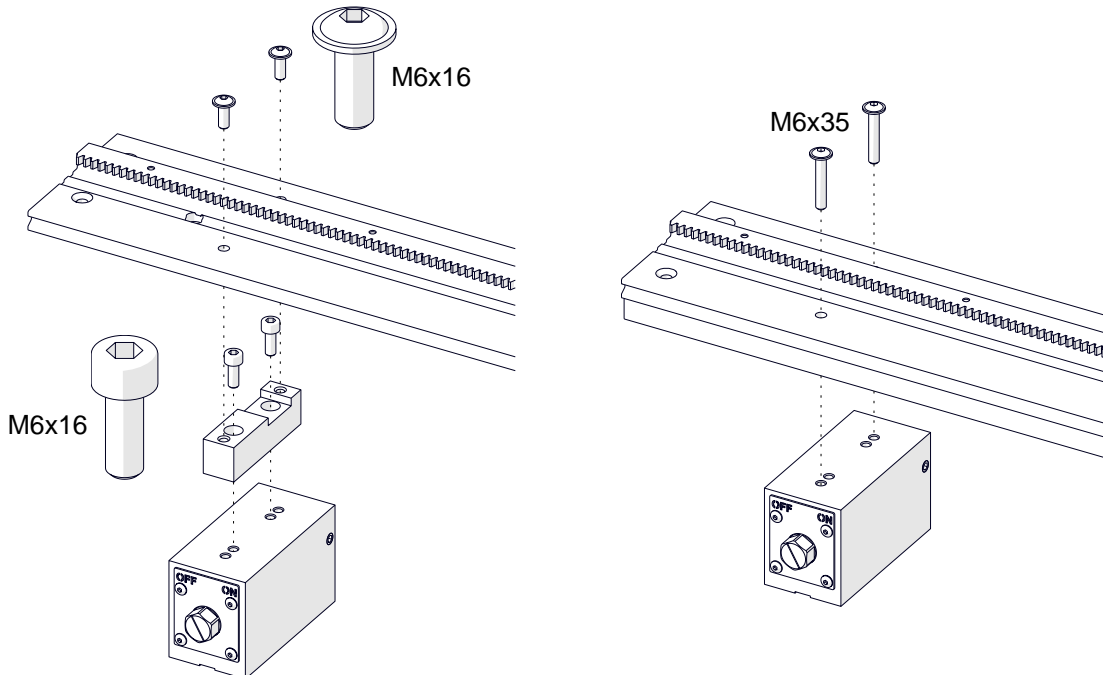


Part number  
(bracket for semi-flex track):  
DYS-0582-10-00-00-0



Holding force on a 5 mm (0.2") thick surface	Temperature
100% (1000 N)	20°C (68°F)
75% (750 N)	80°C (176°F)
50% (500 N)	120°C (248°F)

Use the 4 mm hex wrench to attach the unit to the tracks as shown in the figures.

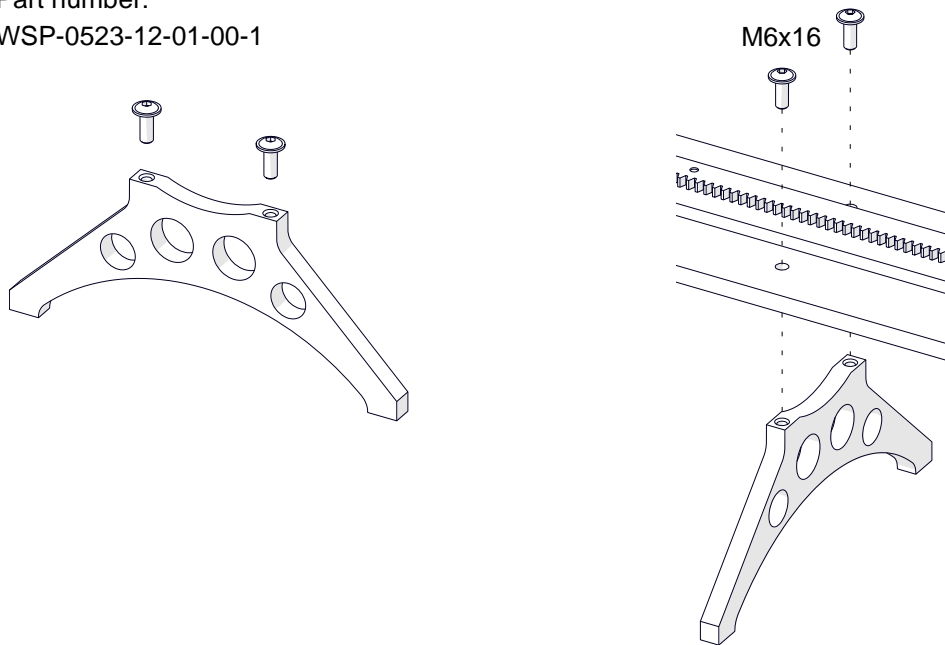


To clamp the unit to the surface, use the 17 mm flat wrench (not included) and set the side screw to ON.

### 5.5. Semi-flex track support

Allows supporting a semi-flex track by using the support instead of a magnetic unit or narrow magnetic unit. Use the 4 mm hex wrench to attach the support.

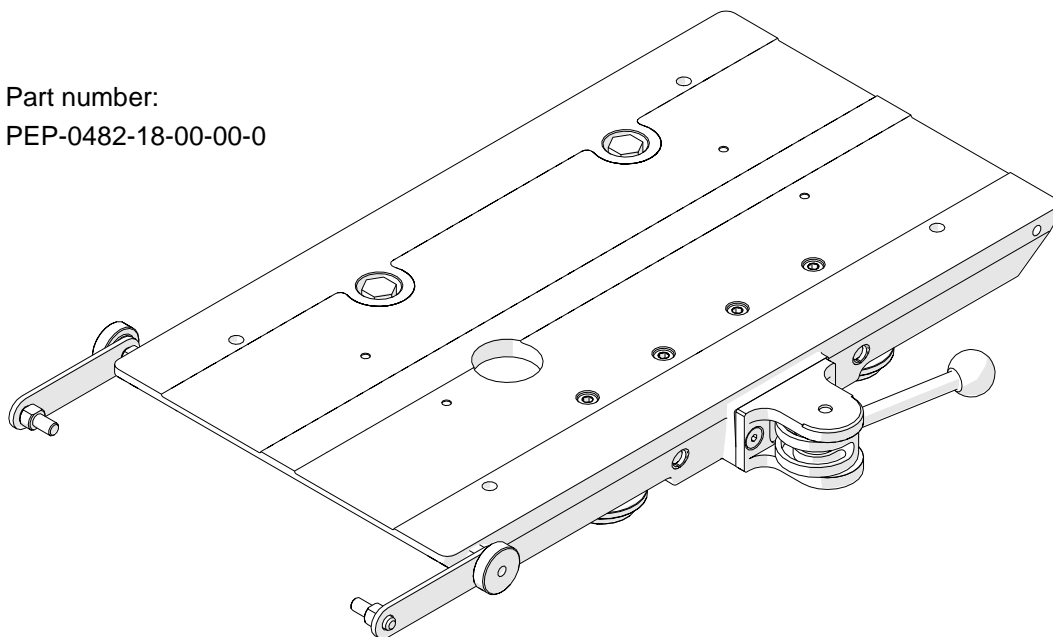
Part number:  
WSP-0523-12-01-00-1



### 5.6. Transport attachment

Allows transporting the wire feeder.

Part number:  
PEP-0482-18-00-00-0

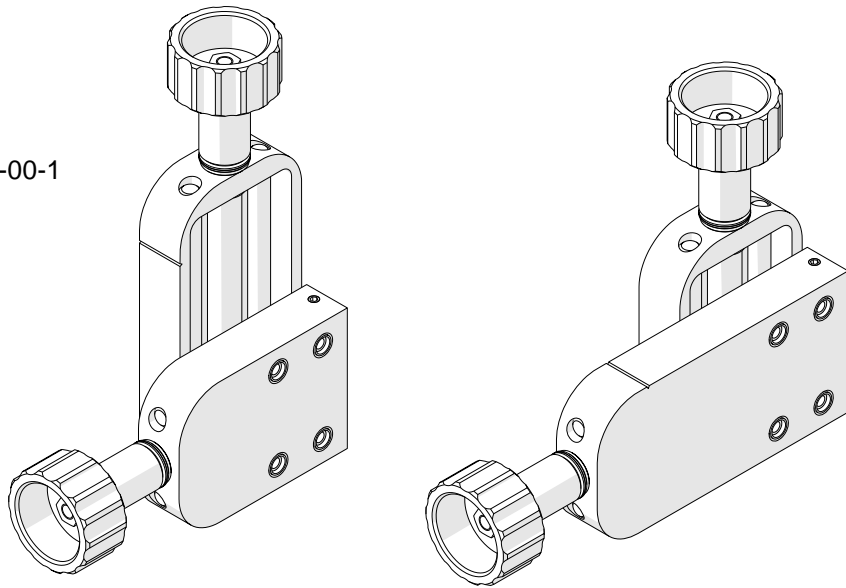




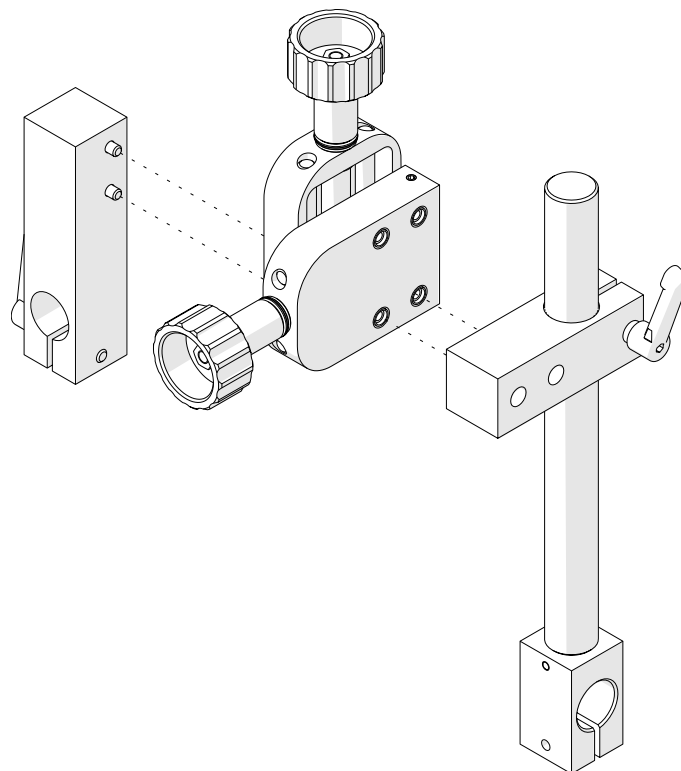
### 5.7. 76 mm cross slide

Increases up-down or left-right adjustment range from 0–35 mm (0–1.38") to 0–76 mm (0–3").

Part number:  
ZSP-0466-46-00-00-1

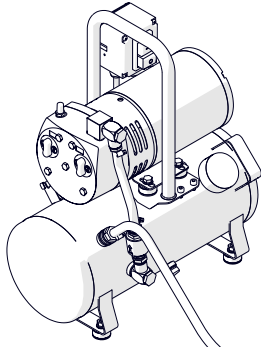


Install in place of the standard cross slide after removing four screws with the 4 mm hex wrench.



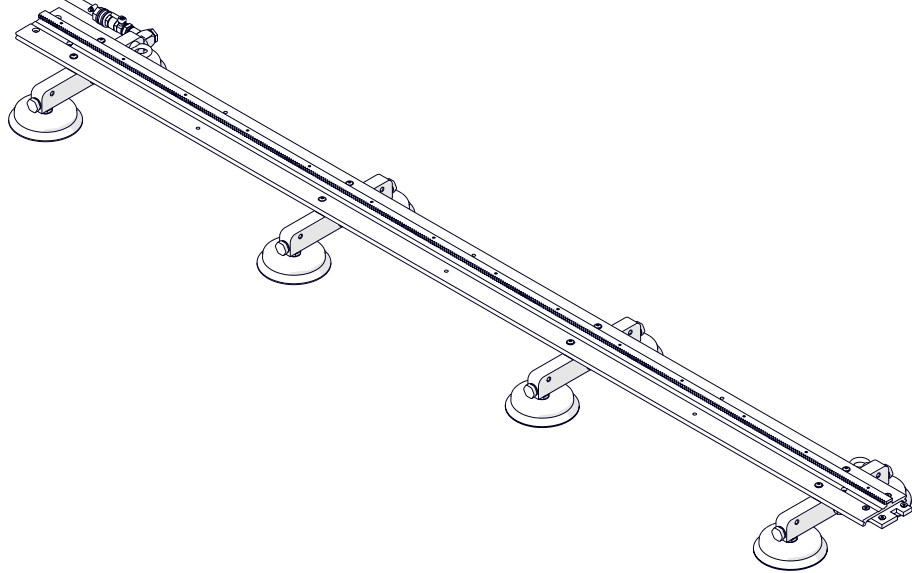
## 5.8. Vacuum track system

Allows clamping the track to non-ferromagnetic surfaces.

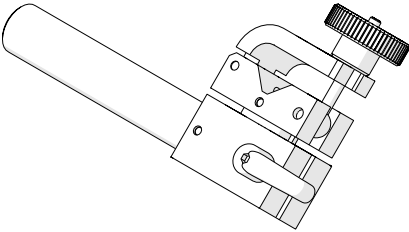
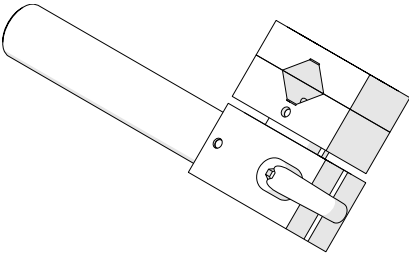
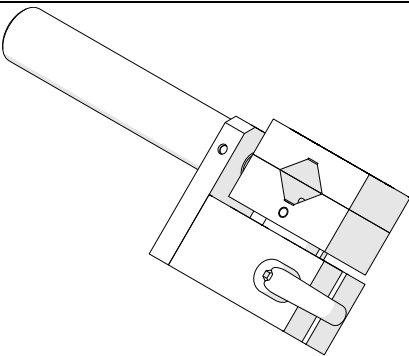
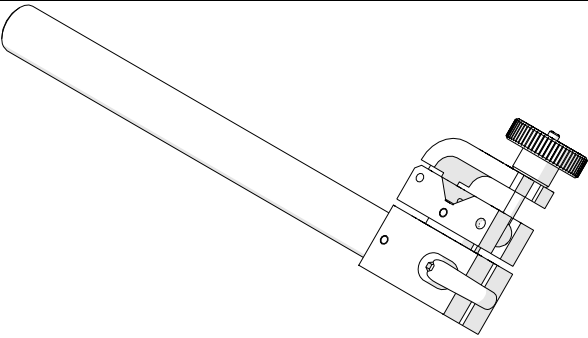
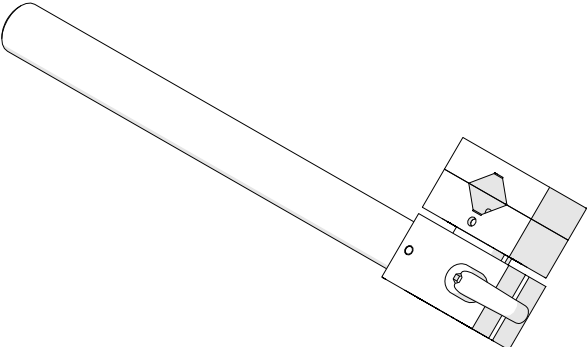


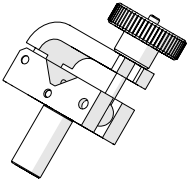
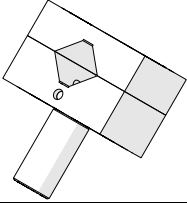
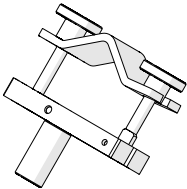
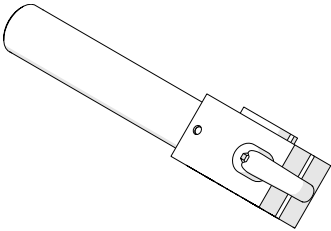
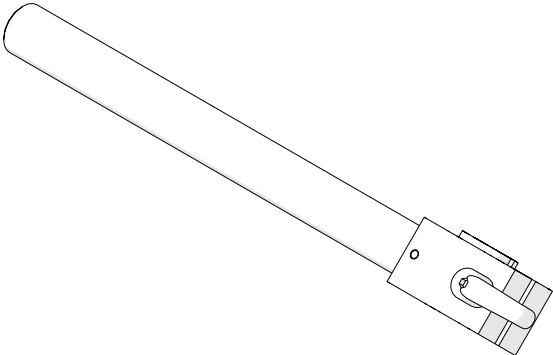
Part number (vacuum pump with safety reservoir):  
AGR-0541-24-10-00-0 (115 V US)  
AGR-0541-24-20-00-0 (230 V CEE)

Other parts of the system are described in a separate manual.

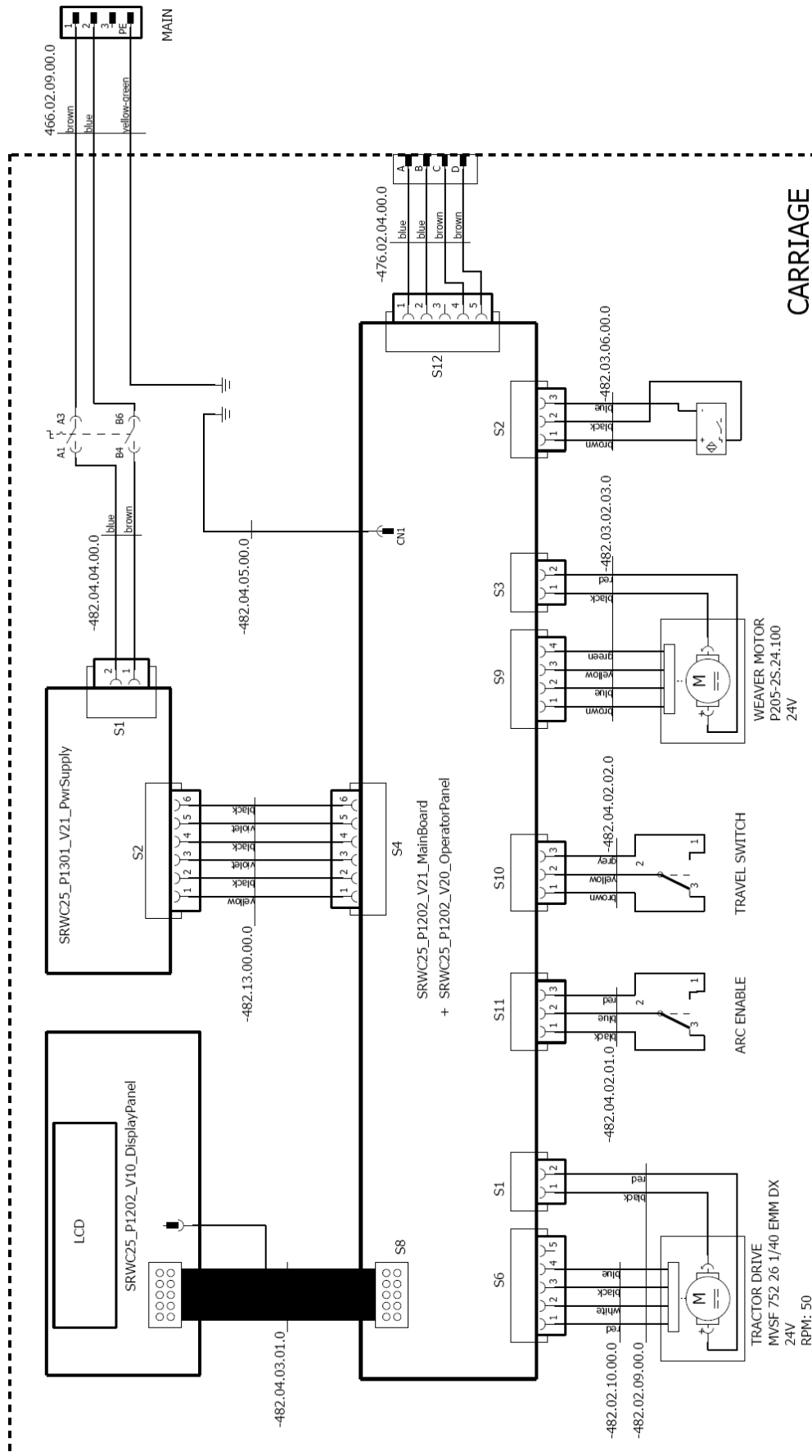


**5.9. Torch holders, clamps, and rods**

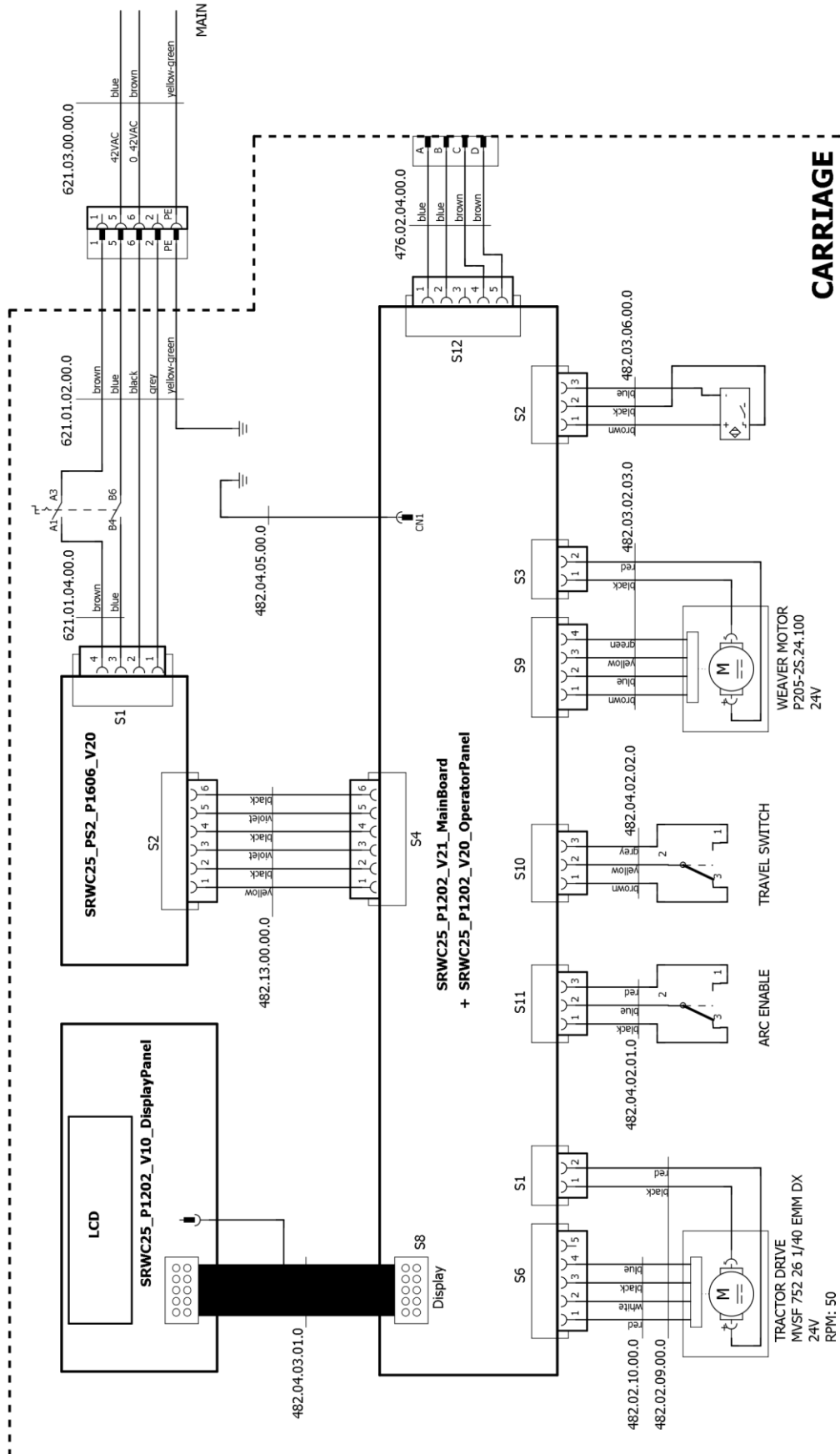
<b>Short rod torch holder with clamp 16–22 mm</b>	
	Part number: UCW-0476-20-00-00-0
<b>Short rod torch holder with clip 16–22 mm</b>	
	Part number: UCW-0476-27-00-00-0
<b>Short low rod torch holder with clip 16–22 mm</b>	
	Part number: UCW-0476-06-00-00-0
<b>Long rod torch holder with clamp 16–22 mm</b>	
	Part number: UCW-0466-04-00-00-0
<b>Long rod torch holder with clip 16–22 mm</b>	
	Part number: UCW-0466-22-00-00-0

<b>Torch clamp 16–22 mm</b>	
	Part number: ZRZ-0466-04-01-00-0
<b>Torch clip 16–22 mm</b>	
	Part number: ZCS-0476-06-01-00-0
<b>Torch clamp 22–35 mm</b>	
	Part number: ZRZ-0466-19-00-00-0
<b>Short rod</b>	
	Part number: WLK-0476-20-01-00-0
<b>Long rod</b>	
	Part number: WLK-0466-04-10-00-0

## 6. 115–230 V WIRING DIAGRAM

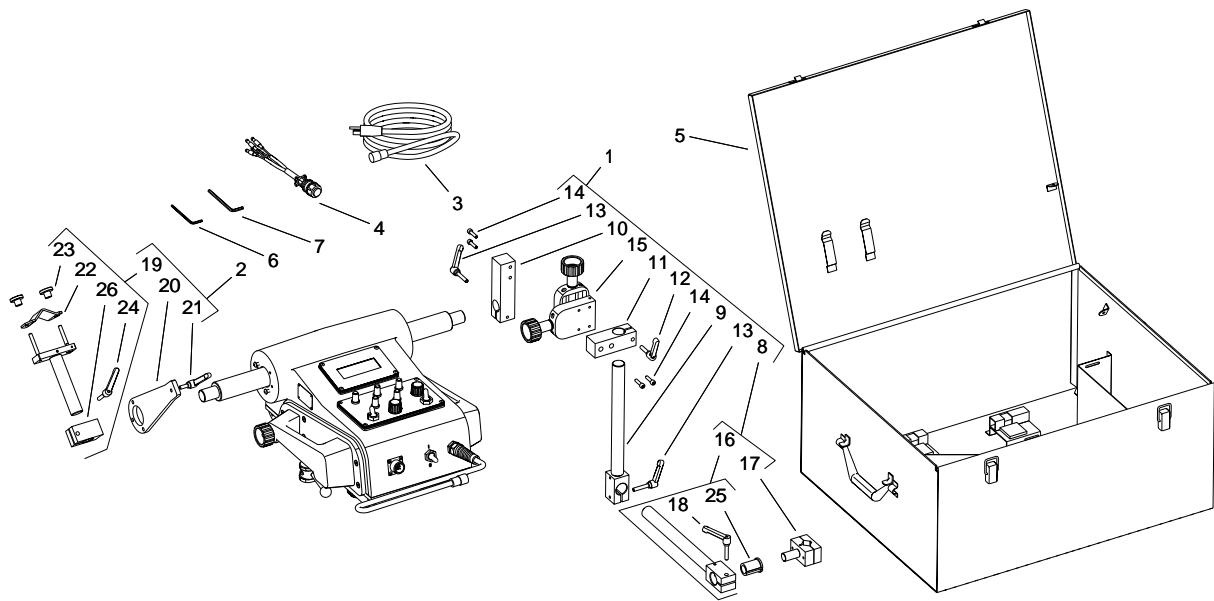


# 7. 42 V WIRING DIAGRAM

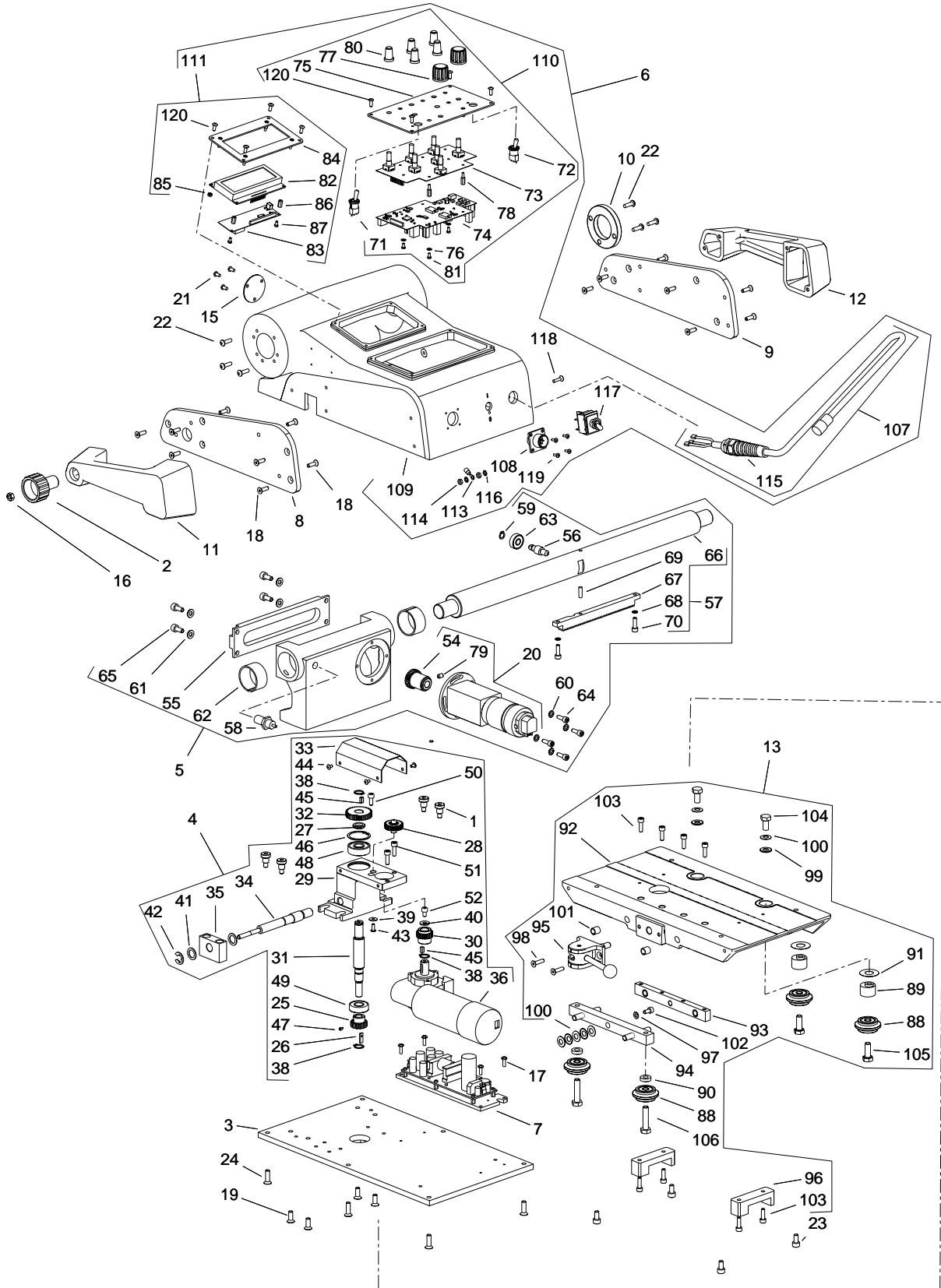


**CARRIAGE**

## 8. 115–230 V EXPLODED VIEWS AND PARTS LIST



ITEM	PART NUMBER	DESCRIPTION	Q-TY
1	PRW-0482-11-00-00-0	TORCH GUIDE ASSY	1
2	UCW-0482-17-00-00-0	CABLE ANCHOR ASSY WITH ARM	1
3	PWD-0466-18-00-00-0	POWER CORD 230V (CEE)	1
3	PWD-0466-16-00-00-0	POWER CORD 120V (USA)	1
4	KBL-0466-17-00-00-0	START-STOP ARC IGNITION CABLE 6.5 M (20 FT)	1
5	SKR-0482-20-00-00-0	METAL BOX	1
6	KLC-000006	3 MM HEX WRENCH	1
7	KLC-000007	4 MM HEX WRENCH	1
8	UCW-0466-22-00-00-0	LONG ROD TORCH HOLDER WITH CLIP ASSY	1
9	WLK-0482-04-10-00-0	LONG ROD WITHOUT SLEEVE ASSY	1
10	KST-0482-11-01-00-0	CLAMPING BLOCK I	1
11	KST-0482-11-02-00-0	CLAMPING BLOCK II	1
12	RKJ-000043	HANDLEVER M6-25	1
13	RKJ-000036	HANDLEVER M6-32	2
14	SRB-000086	HEX SOCKET HEAD CAP SCREW M5x20	4
15	ZSP-0466-03-00-00-1	CROSS SLIDE ASSY	1
16	WLK-0466-04-10-00-0	LONG ROD ASSY	1
17	ZCS-0476-06-01-00-0	TORCH CLIP ASSY	1
18	RKJ-000036	HANDLEVER M6-32	1
19	UCW-0476-07-00-00-0	CABLE ANCHOR ASSY	1
20	RAM-0482-17-01-00-0	CABLE ANCHOR ARM	1
21	RKJ-000006	HANDLEVER M6-16	1
22	TRM-0219-06-16-00-0	CLAMP PLATE I	1
23	NKR-000121	KNURLED NUT M6	2
24	RKJ-000036	HANDLEVER M6-32	1
25	TLJ-0419-04-02-03-0	INSULATION SLEEVE	1
26	KST-0476-07-01-00-0	ANCHOR CLAMPING BLOCK	1





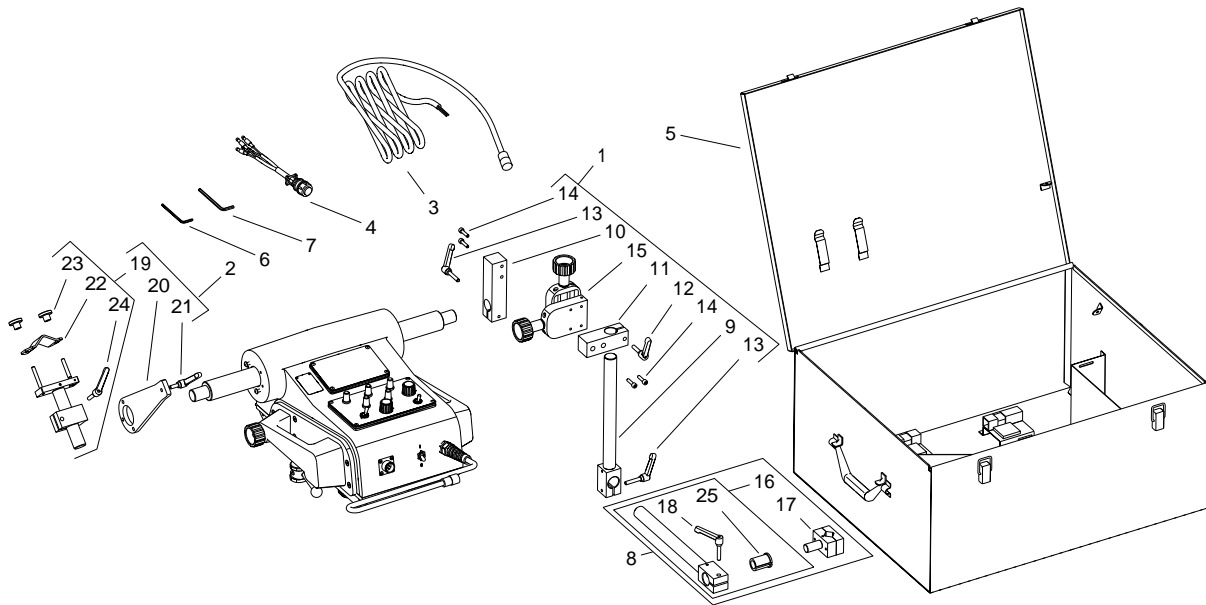
ITEM	PART NUMBER	DESCRIPTION	Q-TY
1	SRB-0341-02-10-00-0	MOUNTING SCREW	4
2	PKT-0466-03-01-03-0	KNOB	1
3	PLY-0482-01-00-00-0	CARRIAGE PLATE	1
4	ZSP-0482-02-00-00-0	MOTOR ASSY	1
5	ZSP-0482-03-00-00-0	OSCILLATOR	1
6	KRP-0482-04-00-00-2	BODY ASSY	1
7	ZSP-0482-05-00-00-0	DRIVE POWER SUPPLY 120-230V	1
8	PLY-0482-06-00-00-0	LEFT SIDE PLATE	1
9	PLY-0482-07-00-00-0	RIGHT SIDE PLATE	1
10	PRS-0482-08-00-00-0	MASKING RING	1
11	RKJ-0482-09-00-00-1	LEFT HANDLE	1
12	RKJ-0482-10-00-00-1	RIGHT HANDLE	1
13	PRW-0482-12-00-00-0	CHASSIS ASSY	1
14*	WZK-0482-13-00-00-0	POWER SUPPLY-CONTROL PANEL WIRE SET	1
15	ZLP-0482-16-00-00-0	PLUG	1
16	NKR-000017	HEX NUT M6	1
17	WKR-000185	CROSS RECESSED PAN HEAD SCREW M4x12	4
18	WKR-000136	HEX SOCKET COUNTERSUNK HEAD SCREW M5x16	18
19	WKR-000142	HEX SOCKET COUNTERSUNK HEAD SCREW M6x16	4
20	MTR-0482-03-02-00-0	GEAR MOTOR ASSY	1
21	WKR-000091	HEX SOCKET BUTTON HEAD SCREW M4x8	3
22	WKR-000098	HEX SOCKET BUTTON HEAD SCREW M5x16	7
23	SRB-000103	HEX SOCKET HEAD CAP SCREW M6x12	4
24	WKR-000143	HEX SOCKET COUNTERSUNK HEAD SCREW M6x20	6
25	KOL-0341-02-01-09-0	DRIVE GEAR z14	1
26	WPS-0341-02-01-10-0	KEY	1
27	PDK-0233-01-21-00-0	DISTANCE WASHER 12.1x19x3	1
28	KOL-0456-01-05-00-1	IDLE GEAR WHEEL ASSY z25	1
29	KRP-0482-02-01-00-1	MOTOR BODY	1
30	KOL-0482-02-02-00-0	GEAR z22	1
31	WLK-0482-02-03-00-0	DRIVE GEAR SHAFT	1
32	KOL-0482-02-04-00-0	GEAR z36	1
33	OSL-0482-02-05-00-0	GEAR COVER	1
34	SRB-0482-02-07-00-0	FEED SCREW	1
35	WSP-0482-02-08-00-0	SCREW BRACKET	1
36	MTR-0482-02-09-00-0	DRIVE GEAR MOTOR WITH WIRE SET	1
37*	WZK-0482-02-10-00-0	DRIVE MOTOR ENCODER WIRE SET	1
38	PRS-000003	EXTERNAL RETAINING RING 12z	3
39	PDK-000108	ROUND WASHER 4.3	1
40	PDK-000036	ROUND WASHER 5.5	1
41	PDK-000164	SPACER WASHER 12x18x1	2
42	PLY-000060	STOPPER PLATE 9	1
43	WKR-000092	HEX SOCKET BUTTON HEAD SCREW M4x10	1
44	WKR-000292	HEX SOCKET BUTTON HEAD SCREW M4x6	4
45	WPS-000082	KEY 4x4x8	2
46	PRS-000022	INTERNAL RETAINING RING 32w	1
47	WKR-000012	HEX SOCKET SET SCREW WITH DOG POINT M4x6	1
48	LOZ-000062	BALL BEARING 12x32x10	1
49	LOZ-000038	BALL BEARING 12x28x8	1
50	SRB-000078	HEX SOCKET HEAD CAP SCREW M5x12	1
51	SRB-000083	HEX SOCKET HEAD CAP SCREW M5x16	2

ITEM	PART NUMBER	DESCRIPTION	Q-TY
52	SRB-000098	HEX SOCKET HEAD CAP SCREW M5x8	1
53	KRP-0482-03-01-00-1	OSCILLATOR BODY	1
54	KOL-0482-03-02-02-0	GEAR z26	1
55	LST-0482-03-03-00-0	GUIDING BAR	1
56	WLK-0482-03-04-00-0	BEARING SHAFT	1
57	WLK-0482-03-05-00-0	OSCILLATOR SHAFT ASSY	1
58	WZK-0482-03-06-00-0	INDUCTION SENSOR WIRE SET	1
59	PRS-000041	EXTERNAL RETAINING RING 8z	1
60	PDK-000017	ROUND WASHER 5.3	4
61	PDK-000021	ROUND WASHER 6.4	4
62	TLJ-000109	SLEEVE	2
63	LOZ-000053	BALL BEARING 8x22x7	1
64	SRB-000082	HEX SOCKET HEAD CAP SCREW M5x14	4
65	SRB-000105	HEX SOCKET HEAD CAP SCREW M6x14	4
66	WLK-0482-03-05-01-0	OSCILLATOR SHAFT	1
67	LST-0482-03-05-02-0	GEAR RACK	1
68	PDK-000045	SPRING WASHER 5.1	2
69	KLK-000047	DOWEL PIN 5n6x16	1
70	SRB-000083	HEX SOCKET HEAD CAP SCREW M5x16	2
71	WZK-0482-04-02-01-0	ARC IGNITION SWITCH WIRE SET	1
72	WZK-0482-04-02-02-0	TRAVEL DIRECTION SWITCH WIRE SET	1
73	MDL-0482-04-02-03-0	ENCODER MODULE	1
74	MDL-0482-04-02-04-0	MAIN MODULE	1
75	MSK-0482-04-02-10-1	PANEL MASKING COVER WITH OSCILLATION ASSY	1
76	PDK-000058	EXTERNAL TOOTH LOCK WASHER 3	4
77	PKT-000028	POTENTIOMETER KNOB 23	2
78	TLJ-000051	HEX SLEEVE	4
79	WKR-000058	HEX SOCKET SET SCREW WITH FLAT POINT M6x8	1
80	PKT-000015	POTENTIOMETER KNOB K85/6D	5
81	WKR-000181	CROSS RECESSED PAN HEAD SCREW M3x6	4
82	MDL-0476-02-02-22-2	DISPLAY	1
83	MDL-0482-04-03-02-1	DISPLAY MODULE	1
84	MSK-0482-04-03-10-1	DISPLAY MASKING COVER ASSY	1
85	NKR-000146	HEX NUT M3	2
86	TLJ-000111	DISTANCE SLEEVE M3x10	2
87	WKR-000339	SELF-TAPPING SCREW M3x6	2
88	RLK-0341-01-02-00-0	PRESSURE ROLLER ASSY	4
89	WLK-0341-01-04-00-0	ECCENTRIC SHAFT	2
90	TLJ-0341-01-05-00-0	DISTANCE SLEEVE I	2
91	PDK-0341-01-07-00-0	SLIDE WASHER	2
92	PLY-0482-12-01-00-1	CHASSIS PLATE	1
93	LST-0482-12-02-00-0	RESISTIVE BAR ASSY	1
94	LST-0482-12-03-00-0	PRESSURE BAR ASSY	1
95	ZCS-0482-12-04-00-0	CAM CLAMP ASSY	1
96	ZDR-0482-12-05-00-0	BUMPER	2
97	PDK-000017	ROUND WASHER 5.3	1
98	WKR-000137	HEX SOCKET COUNTERSUNK HEAD SCREW M5x20	2
99	PDK-000022	ROUND WASHER 8.4	2
100	SPR-000012	DISC SPRING 8.2x16x0.6	7
101	TLJ-000048	SLIDE SLEEVE 8x10x12	2
102	SRB-000075	HEX SOCKET HEAD CAP SCREW M5x10	1

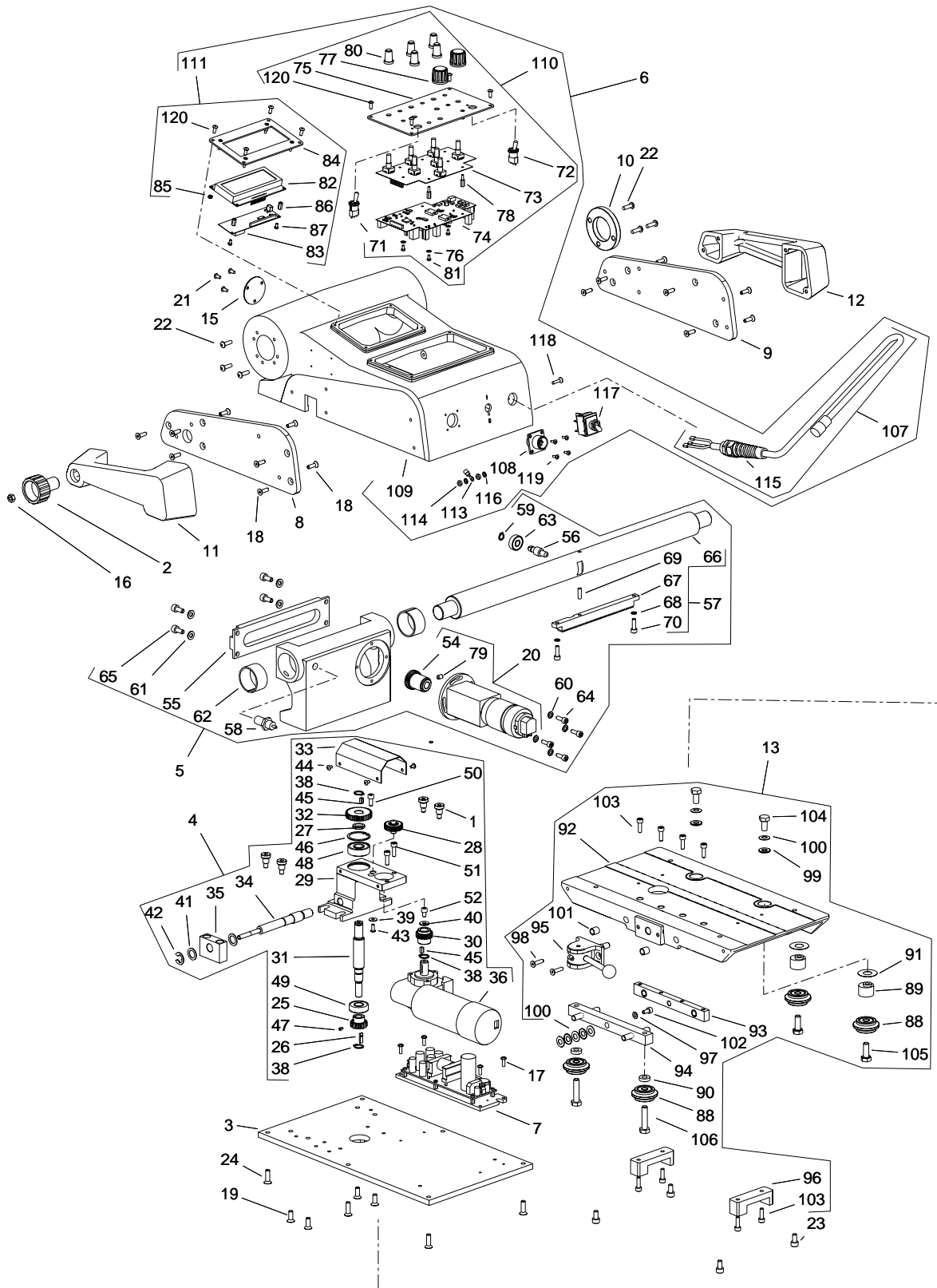
ITEM	PART NUMBER	DESCRIPTION	Q-TY
103	SRB-000083	HEX SOCKET HEAD CAP SCREW M5x16	8
104	SRB-000361	FULL THREAD HEX HEAD SCREW M8x16	2
105	SRB-000202	FULL THREAD HEX HEAD SCREW M8x22	2
106	SRB-000351	FULL THREAD HEX HEAD SCREW M8x35	2
107	WZK-0466-02-09-00-0	POWER WIRE SET ASSY	1
108	WZK-0476-02-04-00-0	ARC IGNITION SOCKET WIRE SET	1
109	KRP-0482-04-01-00-1	BODY	1
110	PNL-0482-04-02-00-1	CONTROL PANEL WITH OSCILLATION ASSY	1
111	WYS-0482-04-03-00-1	DISPLAY ASSY	1
112*	WZK-0482-04-04-00-0	POWER SWITCH WIRE SET	1
113	PWD-0482-04-05-00-0	CONTROL PANEL GROUNDING WIRE ASSY	1
114	NKR-000013	HEX NUT M4	2
115	DLW-000007	CABLE GLAND WITH STRAIN RELIEF PG11	1
116	PDK-000060	EXTERNAL TOOTH LOCK WASHER 4.3	2
117	PNK-000026	LEVER SWITCH 641 H3	1
118	WKR-000152	CROSS RECESSED COUNTERSUNK HEAD SCREW M4x16	1
119	WKR-000385	HEX SOCKET BUTTON HEAD SCREW M3x8	4
120	WKR-000092	HEX SOCKET BUTTON HEAD SCREW M4x10	8

\* not shown in the drawing

## 9. 42 V EXPLODED VIEWS AND PARTS LIST



ITEM	PART NUMBER	DESCRIPTION	Q-TY
1	PRW-0482-11-00-00-0	TORCH GUIDE ASSY	1
2	UCW-0482-17-00-00-0	CABLE ANCHOR ASSY WITH ARM	1
3	PWD-0621-03-00-00-0	POWER CORD 42V	1
4	KBL-0466-17-00-00-0	START-STOP ARC IGNITION CABLE 6.5 M (20 FT)	1
5	SKR-0482-20-00-00-0	METAL BOX	1
6	KLC-000006	3 MM HEX WRENCH	1
7	KLC-000007	4 MM HEX WRENCH	1
8	UCW-0466-22-00-00-0	LONG ROD TORCH HOLDER WITH CLIP ASSY	1
9	WLK-0482-04-10-00-0	LONG ROD WITHOUT SLEEVE ASSY	1
10	KST-0482-11-01-00-0	CLAMPING BLOCK I	1
11	KST-0482-11-02-00-0	CLAMPING BLOCK II	1
12	RKJ-000043	HANDLEVER M6-25	1
13	RKJ-000036	HANDLEVER M6-32	2
14	SRB-000086	HEX SOCKET HEAD CAP SCREW M5x20	4
15	ZSP-0466-03-00-00-1	CROSS SLIDE ASSY	1
16	WLK-0466-04-10-00-0	LONG ROD ASSY	1
17	ZCS-0476-06-01-00-0	TORCH CLIP ASSY	1
18	RKJ-000036	HANDLEVER M6-32	1
19	UCW-0476-07-00-00-0	CABLE ANCHOR ASSY	1
20	RAM-0482-17-01-00-0	CABLE ANCHOR ARM	1
21	RKJ-000006	HANDLEVER M6-16	1
22	TRM-0219-06-16-00-0	CLAMP PLATE I	1
23	NKR-000121	KNURLED NUT M6	2
24	RKJ-000036	HANDLEVER M6-32	1
25	TLJ-0419-04-02-03-0	INSULATION SLEEVE	1
26	KST-0476-07-01-00-0	ANCHOR CLAMPING BLOCK	1



ITEM	PART NUMBER	DESCRIPTION	Q-TY
1	SRB-0341-02-10-00-0	MOUNTING SCREW	4
2	PKT-0466-03-01-03-0	KNOB	1
3	PLY-0482-01-00-00-0	CARRIAGE PLATE	1
4	ZSP-0482-02-00-00-0	MOTOR ASSY	1
5	ZSP-0482-03-00-00-0	OSCILLATOR	1
6	KRP-0624-01-00-00-0	BODY ASSY 42V	1
7	ZSP-0624-02-00-00-0	DRIVE POWER SUPPLY 42V	1
8	PLY-0482-06-00-00-0	LEFT SIDE PLATE	1
9	PLY-0482-07-00-00-0	RIGHT SIDE PLATE	1
10	PRS-0482-08-00-00-0	MASKING RING	1
11	RKJ-0482-09-00-00-1	LEFT HANDLE	1
12	RKJ-0482-10-00-00-1	RIGHT HANDLE	1
13	PRW-0482-12-00-00-0	CHASSIS ASSY	1
14*	WZK-0482-13-00-00-0	POWER SUPPLY-CONTROL PANEL WIRE SET	1
15	ZLP-0482-16-00-00-0	PLUG	1
16	NKR-000017	HEX NUT M6	1
17	WKR-000185	CROSS RECESSED PAN HEAD SCREW M4x12	4
18	WKR-000136	HEX SOCKET COUNTERSUNK HEAD SCREW M5x16	18
19	WKR-000142	HEX SOCKET COUNTERSUNK HEAD SCREW M6x16	4
20	MTR-0482-03-02-00-0	GEAR MOTOR ASSY	1
21	WKR-000091	HEX SOCKET BUTTON HEAD SCREW M4x8	3
22	WKR-000098	HEX SOCKET BUTTON HEAD SCREW M5x16	7
23	SRB-000103	HEX SOCKET HEAD CAP SCREW M6x12	4
24	WKR-000143	HEX SOCKET COUNTERSUNK HEAD SCREW M6x20	6
25	KOL-0341-02-01-09-0	DRIVE GEAR z14	1
26	WPS-0341-02-01-10-0	KEY	1
27	PDK-0233-01-21-00-0	DISTANCE WASHER 12.1x19x3	1
28	KOL-0456-01-05-00-1	IDLE GEAR WHEEL ASSY z25	1
29	KRP-0482-02-01-00-1	MOTOR BODY	1
30	KOL-0482-02-02-00-0	GEAR z22	1
31	WLK-0482-02-03-00-0	DRIVE GEAR SHAFT	1
32	KOL-0482-02-04-00-0	GEAR z36	1
33	OSL-0482-02-05-00-0	GEAR COVER	1
34	SRB-0482-02-07-00-0	FEED SCREW	1
35	WSP-0482-02-08-00-0	SCREW BRACKET	1
36	MTR-0482-02-09-00-0	DRIVE GEAR MOTOR WITH WIRE SET	1
37*	WZK-0482-02-10-00-0	DRIVE MOTOR ENCODER WIRE SET	1
38	PRS-000003	EXTERNAL RETAINING RING 12z	3
39	PDK-000108	ROUND WASHER 4.3	1
40	PDK-000036	ROUND WASHER 5.5	1
41	PDK-000164	SPACER WASHER 12x18x1	2
42	PLY-000060	STOPPER PLATE 9	1
43	WKR-000092	HEX SOCKET BUTTON HEAD SCREW M4x10	1
44	WKR-000292	HEX SOCKET BUTTON HEAD SCREW M4x6	4
45	WPS-000082	KEY 4x4x8	2
46	PRS-000022	INTERNAL RETAINING RING 32w	1
47	WKR-000012	HEX SOCKET SET SCREW WITH DOG POINT M4x6	1
48	LOZ-000062	BALL BEARING 12x32x10	1
49	LOZ-000038	BALL BEARING 12x28x8	1
50	SRB-000078	HEX SOCKET HEAD CAP SCREW M5x12	1

ITEM	PART NUMBER	DESCRIPTION	Q-TY
51	SRB-000083	HEX SOCKET HEAD CAP SCREW M5x16	2
52	SRB-000098	HEX SOCKET HEAD CAP SCREW M5x8	1
53	KRP-0482-03-01-00-1	OSCILLATOR BODY	1
54	KOL-0482-03-02-02-0	GEAR z26	1
55	LST-0482-03-03-00-0	GUIDING BAR	1
56	WLK-0482-03-04-00-0	BEARING SHAFT	1
57	WLK-0482-03-05-00-0	OSCILLATOR SHAFT ASSY	1
58	WZK-0482-03-06-00-0	INDUCTION SENSOR WIRE SET	1
59	PRS-000041	EXTERNAL RETAINING RING 8z	1
60	PDK-000017	ROUND WASHER 5.3	4
61	PDK-000021	ROUND WASHER 6.4	4
62	TLJ-000109	SLEEVE	2
63	LOZ-000053	BALL BEARING 8x22x7	1
64	SRB-000082	HEX SOCKET HEAD CAP SCREW M5x14	4
65	SRB-000105	HEX SOCKET HEAD CAP SCREW M6x14	4
66	WLK-0482-03-05-01-0	OSCILLATOR SHAFT	1
67	LST-0482-03-05-02-0	GEAR RACK	1
68	PDK-000045	SPRING WASHER 5.1	2
69	KLK-000047	DOWEL PIN 5n6x16	1
70	SRB-000083	HEX SOCKET HEAD CAP SCREW M5x16	2
71	WZK-0482-04-02-01-0	ARC IGNITION SWITCH WIRE SET	1
72	WZK-0482-04-02-02-0	TRAVEL DIRECTION SWITCH WIRE SET	1
73	MDL-0482-04-02-03-0	ENCODER MODULE	1
74	MDL-0482-04-02-04-0	MAIN MODULE	1
75	MSK-0482-04-02-10-1	PANEL MASKING COVER WITH OSCILLATION ASSY	1
76	PDK-000058	EXTERNAL TOOTH LOCK WASHER 3	4
77	PKT-000028	POTENTIOMETER KNOB 23	2
78	TLJ-000051	HEX SLEEVE	4
79	WKR-000058	HEX SOCKET SET SCREW WITH FLAT POINT M6x8	1
80	PKT-000015	POTENTIOMETER KNOB K85/6D	5
81	WKR-000181	CROSS RECESSED PAN HEAD SCREW M3x6	4
82	MDL-0476-02-02-22-2	DISPLAY	1
83	MDL-0482-04-03-02-1	DISPLAY MODULE	1
84	MSK-0482-04-03-10-1	DISPLAY MASKING COVER ASSY	1
85	NKR-000146	HEX NUT M3	2
86	TLJ-000111	DISTANCE SLEEVE M3x10	2
87	WKR-000339	SELF-TAPPING SCREW M3x6	2
88	RLK-0341-01-02-00-0	PRESSURE ROLLER ASSY	4
89	WLK-0341-01-04-00-0	ECCENTRIC SHAFT	2
90	TLJ-0341-01-05-00-0	DISTANCE SLEEVE I	2
91	PDK-0341-01-07-00-0	SLIDE WASHER	2
92	PLY-0482-12-01-00-1	CHASSIS PLATE	1
93	LST-0482-12-02-00-0	RESISTIVE BAR ASSY	1
94	LST-0482-12-03-00-0	PRESSURE BAR ASSY	1
95	ZCS-0482-12-04-00-0	CAM CLAMP ASSY	1
96	ZDR-0482-12-05-00-0	BUMPER	2
97	PDK-000017	ROUND WASHER 5.3	1
98	WKR-000137	HEX SOCKET COUNTERSUNK HEAD SCREW M5x20	2
99	PDK-000022	ROUND WASHER 8.4	2
100	SPR-000012	DISC SPRING 8.2x16x0.6	7
101	TLJ-000048	SLIDE SLEEVE 8x10x12	2



ITEM	PART NUMBER	DESCRIPTION	Q-TY
102	SRB-000075	HEX SOCKET HEAD CAP SCREW M5x10	1
103	SRB-000083	HEX SOCKET HEAD CAP SCREW M5x16	8
104	SRB-000361	FULL THREAD HEX HEAD SCREW M8x16	2
105	SRB-000202	FULL THREAD HEX HEAD SCREW M8x22	2
106	SRB-000351	FULL THREAD HEX HEAD SCREW M8x35	2
107	WZK-0466-02-09-00-0	POWER WIRE SET ASSY	1
108	WZK-0476-02-04-00-0	ARC IGNITION SOCKET WIRE SET	1
109	KRP-0482-04-01-00-1	BODY	1
110	PNL-0482-04-02-00-1	CONTROL PANEL WITH OSCILLATION ASSY	1
111	WYS-0482-04-03-00-1	DISPLAY ASSY	1
113	PWD-0482-04-05-00-0	CONTROL PANEL GROUNDING WIRE ASSY	1
114	NKR-000013	HEX NUT M4	2
115	DLW-000007	CABLE GLAND WITH STRAIN RELIEF PG11	1
116	PDK-000060	EXTERNAL TOOTH LOCK WASHER 4.3	2
117	PNK-000026	LEVER SWITCH 641 H/3	1
118	WKR-000152	CROSS RECESSED COUNTERSUNK HEAD SCREW M4x16	1
119	WKR-000385	HEX SOCKET BUTTON HEAD SCREW M3x8	4
120	WKR-000092	HEX SOCKET BUTTON HEAD SCREW M4x10	8

\* not shown in the drawing



## 10. DECLARATION OF CONFORMITY

### *Declaration of Conformity*

***PROMOTECH sp. z o.o.  
ul. Elewatorska 23/1  
15-620 Białystok  
Poland***

We declare with full responsibility that:

### **Rail Runner Welding Carriage**

is manufactured in accordance with the following standards:

- EN 50144-1
- EN 60974-10

and satisfies safety regulations of the guidelines: 2004/108/EC, 2006/95/EC, 2006/42/EC.

Person authorized to compile the technical file:

Marek Siergiej, ul. Elewatorska 23/1, 15-620 Białystok, Poland



Białystok, 22 February 2013

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Marek Siergiej  
CEO

**11. WARRANTY CARD**

**WARRANTY CARD No.....**

..... in the name of Manufacturer warrants the Rail Runner Welding Carriage to be free of defects in material and workmanship under normal use for a period of 12 months from the date of sale.

This warranty does not cover rollers as well as damage or wear that arise from misuse, accident, tempering, or any other causes not related to defects in workmanship or material.

Serial number .....

Date of sale .....

Signature of seller.....

**2.17 / 11 September 2019**

***WE RESERVE THE RIGHT TO MAKE CHANGES IN THIS MANUAL WITHOUT NOTICE***