

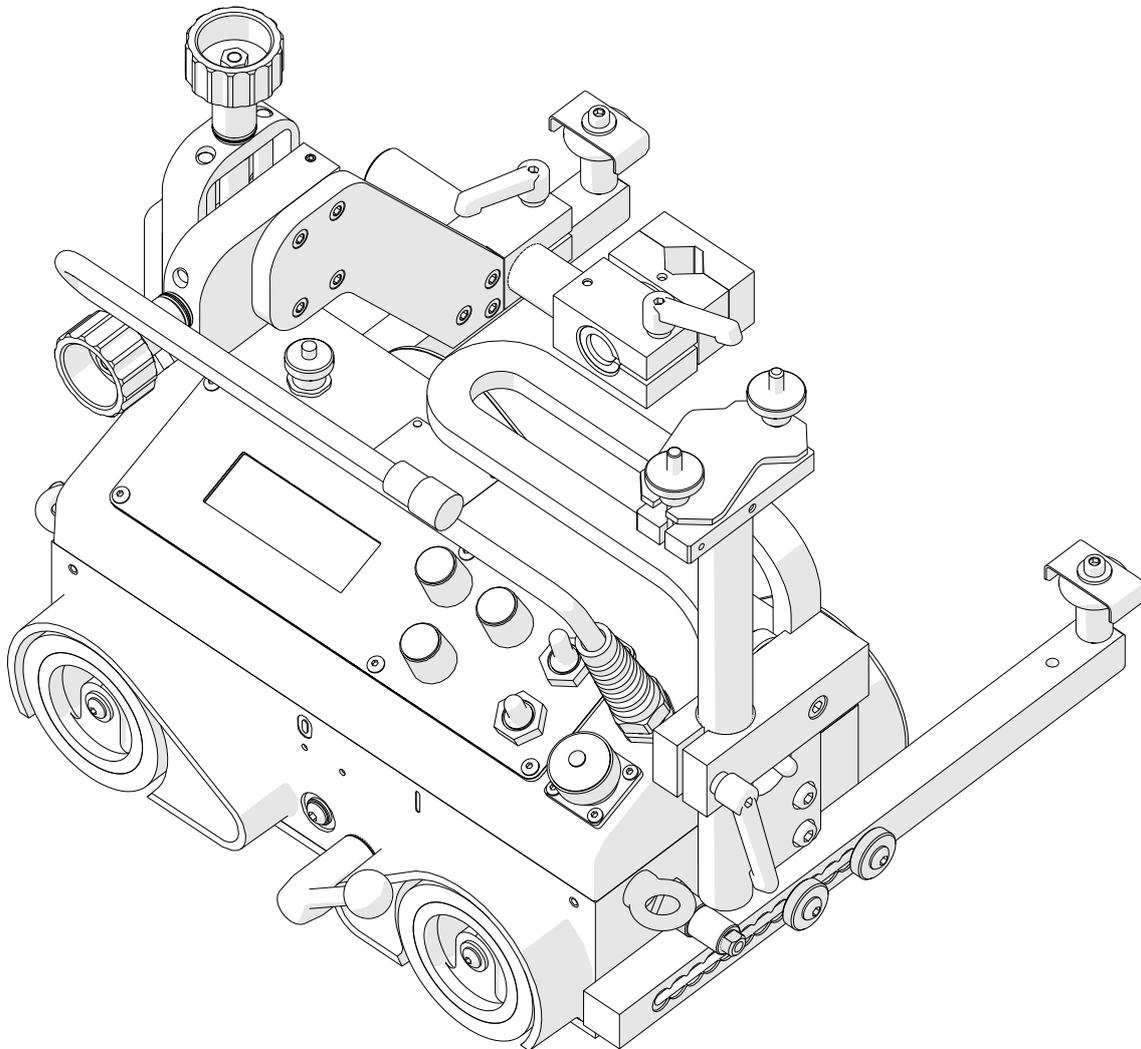


The tools of innovation.

OPERATOR'S MANUAL

ARC Runner

WELDING CARRIAGE



112 Inverness Circle East Suite F Englewood, CO 80112

1-87STEELMAX, FAX 303-690-9172

www.steelmax.com sales@steelmax.com

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1. GENERAL INFORMATION

1.1. Application

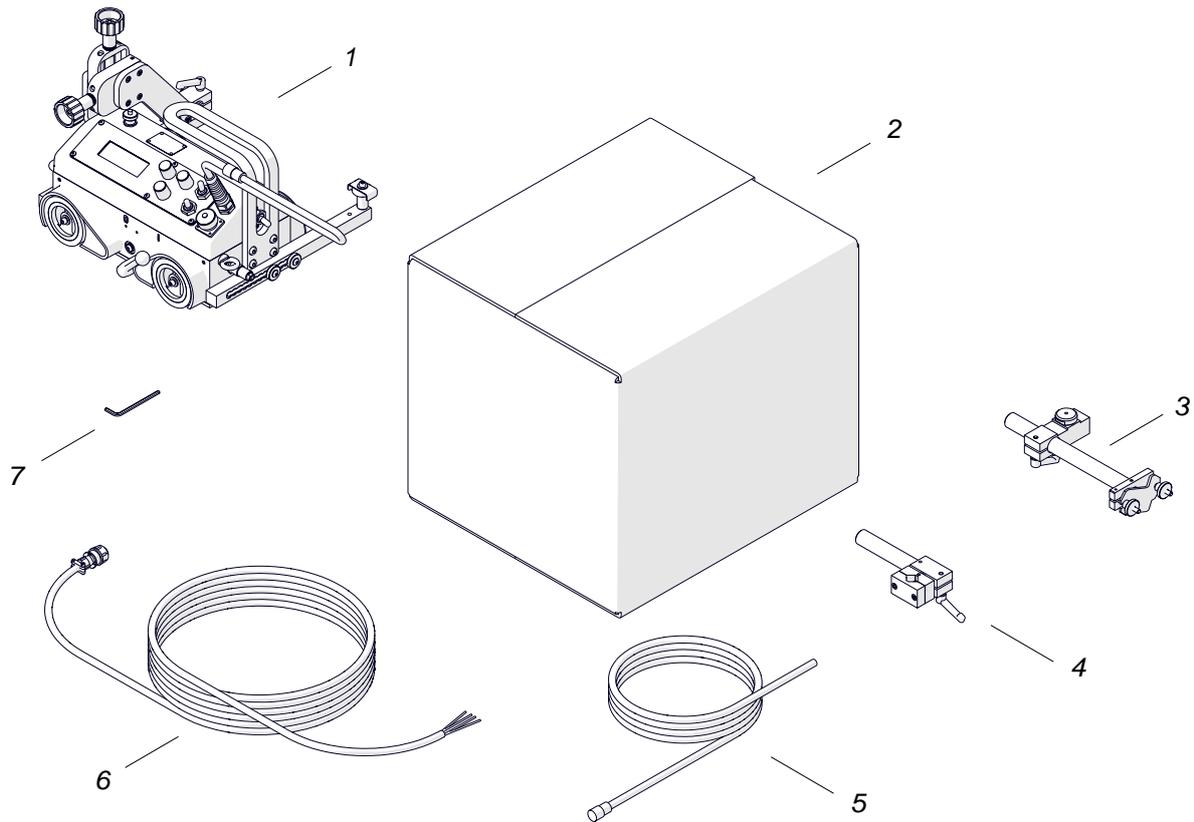
The ARC Runner is a welding carriage designed to make continuous or stitch butt and fillet welds. The carriage allows MIG/MAG torches with the handle diameter of 16–22 mm (0.63–0.87"). It is fixed by permanent magnets and can work in the following welding positions: PA/1F/1G, PB/2F, PC/2G, PD/4F, and PE/4G.

Accessories allow, for instance, welding with oscillation, using torches with the handle diameter larger than 22 mm, using two torches at the same time, and guiding the carriage along outside edges, lap joints and templates, walls low or with holes, and on ceilings, pipes, and tanks.

1.2. Technical data

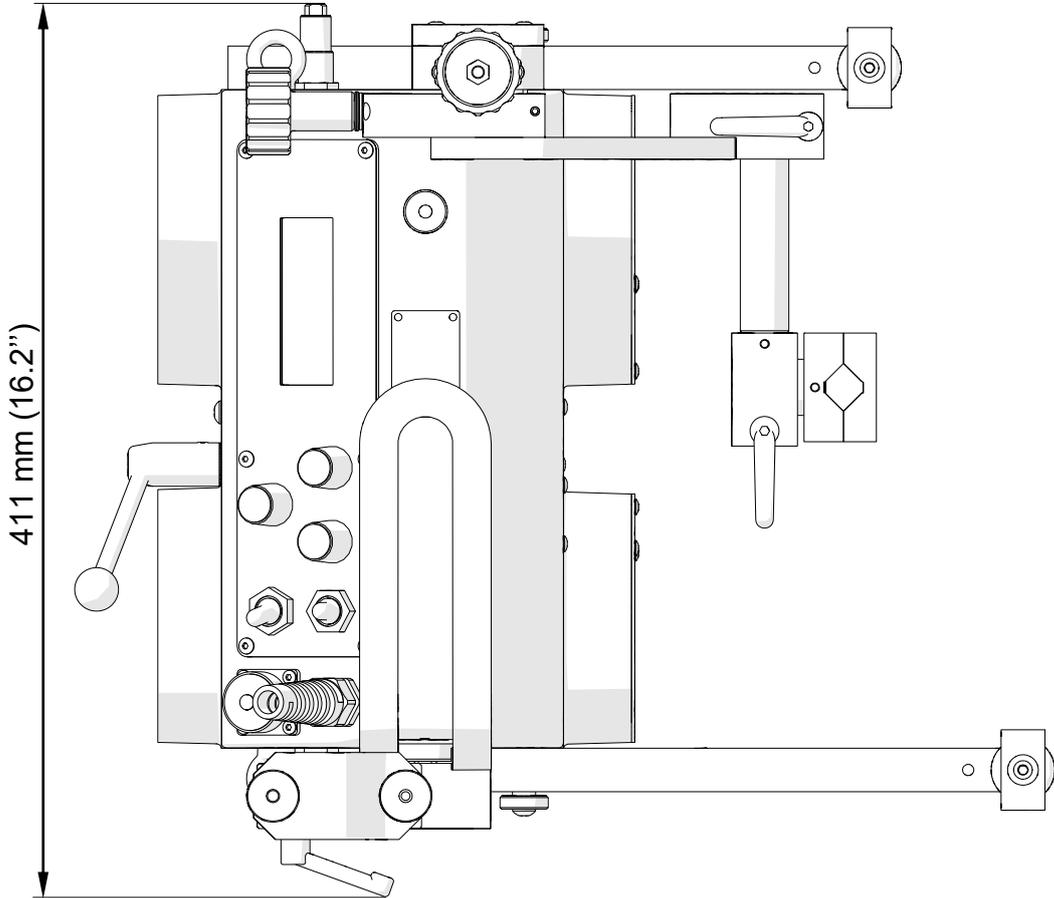
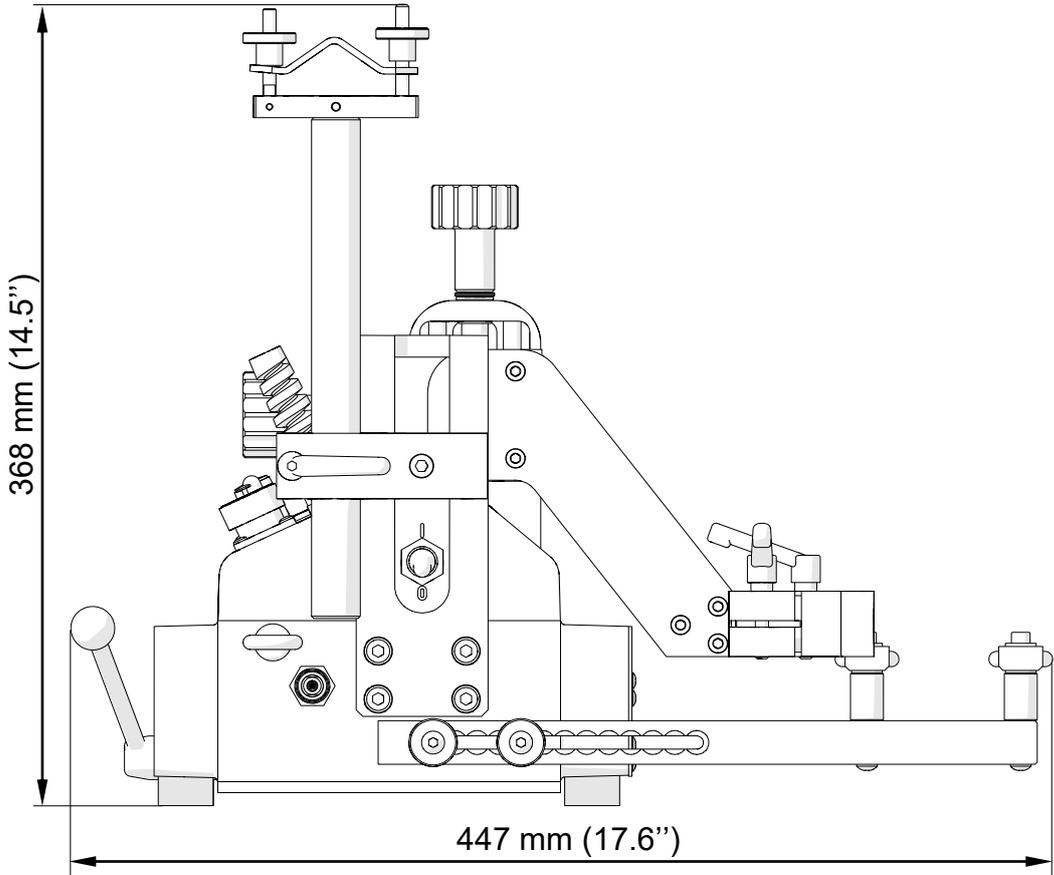
Voltage		1~ 115–230 V, 50–60 Hz 1~ 42 V, 50–60 Hz (60 V DC)
Power		25 W
Welding position (according to EN ISO 6947 and AWS/ASME)	Horizontal	PA / 1F / 1G PB / 2F PC / 2G PD / 4F PE / 4G
	Vertical	PF / 3F / 3G (with optional oscillator) PG / 3F / 3G (with optional oscillator)
Minimum path curve radius		1500 mm (5 ft)
Torch type		MIG/MAG
Torch diameter		16–22 mm (0.63–0.87")
Maximum torch reach		80 mm (3.15")
Maximum allowed cable weight	Horizontal work	12 kg (27 lbs)
	Vertical work	8 kg (18 lbs)
Minimum workpiece thickness		5 mm (0.20")
Ground clearance		5 mm (0.20")
Horizontal pulling force		220 N (48 lbs)
Vertical pulling force		150 N (33 lbs)
Cross slide adjustment range		0–35 mm (0–1.38", up-down, left-right)
Guide arm adjustment range		0–75 mm (2.95")
Horizontal speed		0–120 cm/min (0–47.2 in/min)
Vertical speed		0–110 cm/min (0–43.3 in/min)
Noise level		Less than 70 dB
Weight		14 kg (31 lbs)

1.3. Equipment included

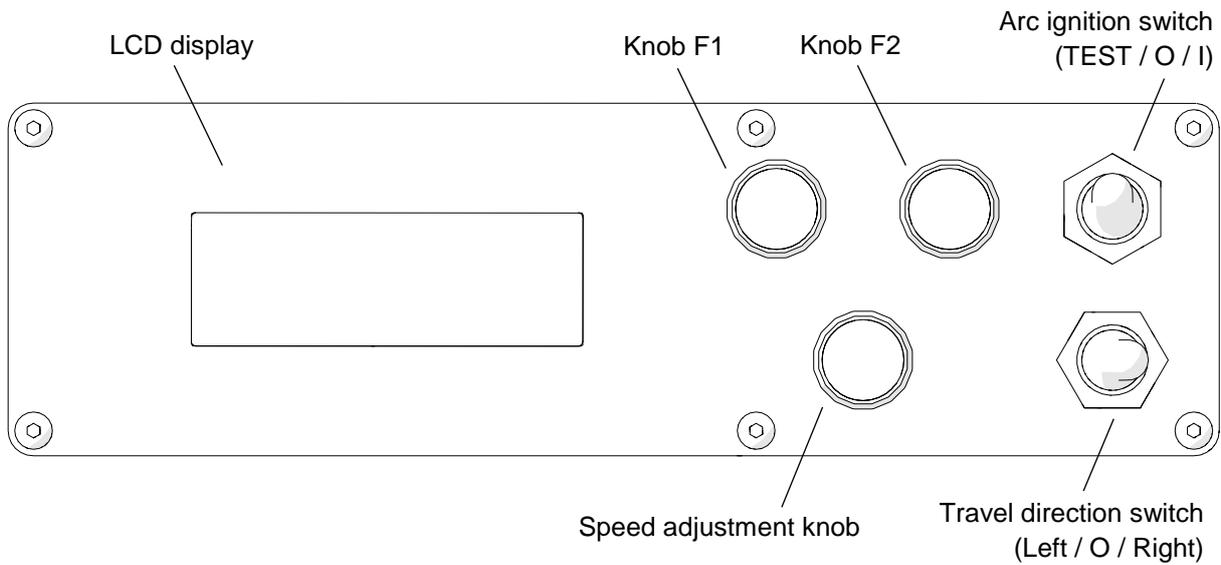
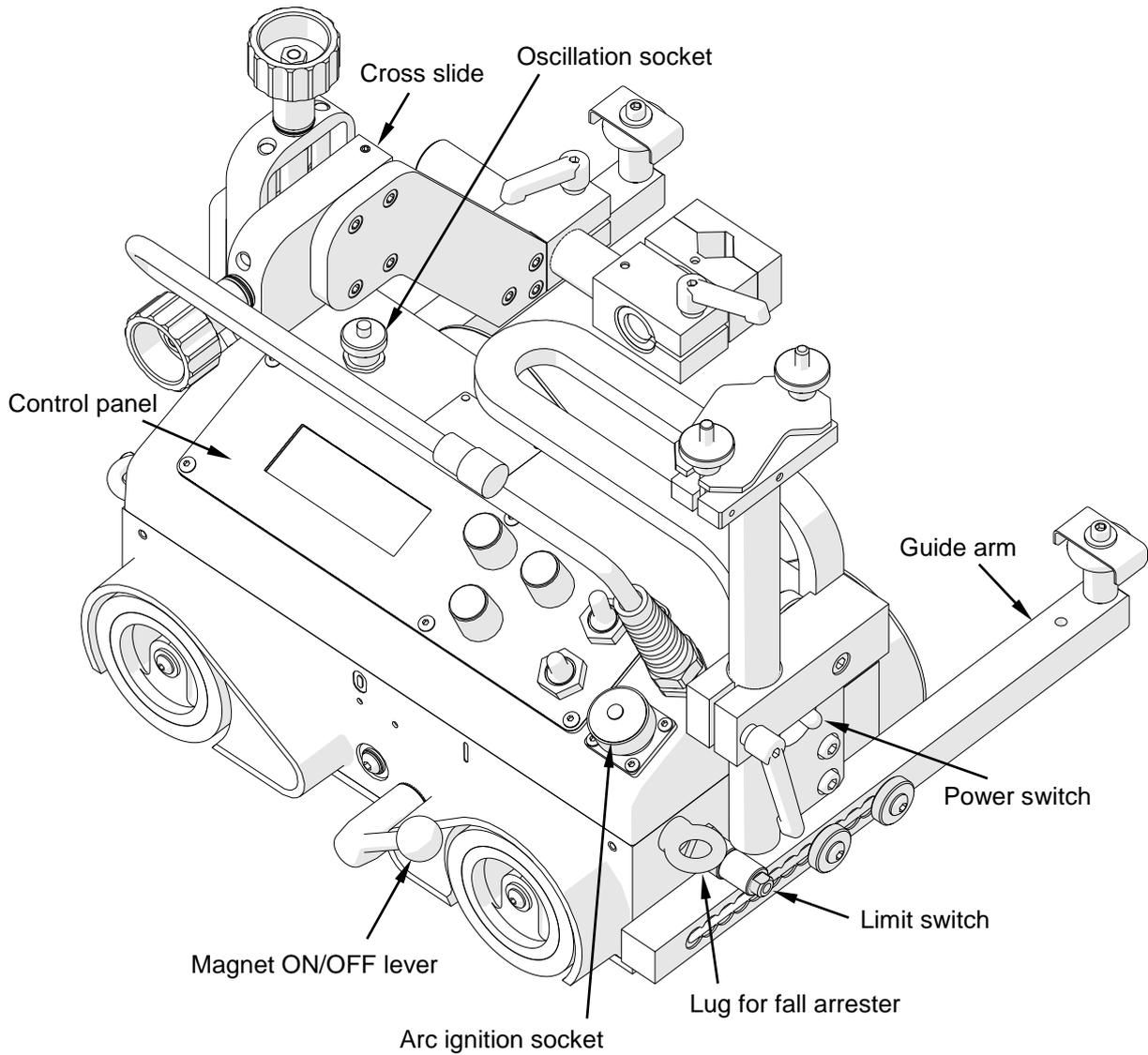


1	Carriage	1 unit
2	Foam-filled cardboard box	1 unit
3	Cable anchor	1 unit
4	Short rod torch holder with clip	1 unit
5	3 m (10 ft) power cord	1 unit
6	6.5 m (21 ft) arc ignition cable	1 unit
7	4 mm hex wrench	1 unit
–	Operator's Manual	1 unit

1.4. Dimensions



1.5. Design



2. SAFETY PRECAUTIONS

1. Before starting, read this Operator's Manual and complete proper occupational safety and health training.
2. Use the carriage only in applications specified in this Operator's Manual.
3. The carriage must be complete and all parts must be genuine and fully functional.
4. The specifications of the power source must conform to those specified on the rating plate.
5. Connect the carriage into a properly grounded power source.
6. Never carry the carriage by the cords or arc ignition cable. Never pull them because this may damage them and result in electric shock.
7. Untrained bystanders must not be present near the carriage.
8. Before starting, ensure the correct condition of the carriage, power source, cords, arc ignition cable, plugs, control panel, and wheels.
9. Keep the carriage dry, and never expose it to rain, snow, or frost.
10. Keep the work area well lit, clean, and free of obstacles.
11. Never use near flammable liquids or gases, or in explosive environments.
12. Make sure that the rubber of the wheels is clean and not damaged.
13. Never remove the cover of the wheels.
14. Remove objects attracted to the chassis by the magnet.
15. Transport and position the carriage by using the carrying handle and only when the magnet ON/OFF lever is set to 'O'.
16. Position the carriage on the ferromagnetic workpiece so that the wheels are in contact with the surface and no contact is between the surface and chassis.
17. Do not stay below the carriage placed at heights.
18. Plug the cords and arc ignition cable only when the power switch is set to 'O'.
19. Keep the sockets clean. Do not use compressed air for cleaning.
20. Install only MIG/MAG torches whose handle diameter is the same as the diameter of the torch holder in use.
21. Do not position the torch more than 80 mm (3.15") outward from the left or right side of the carriage.
22. Keep the torch cables from coming in contact with the surface. They must be suspended to reduce the load of the carriage. Use only cables whose weight is not more than 12 kg (27 lbs) for horizontal work and 8 kg (18 lbs) for vertical work.

23. Never work on curves with convex or concave radius less than 1500 mm (5 ft).
24. At heights, use a fall arrester to protect the carriage from falling.
25. Always use eye protection (helmet, shield, and screen), hearing protection, gloves, and protective clothing during work. Do not wear loose clothing.
26. Before every use, inspect the carriage to ensure it is not damaged. Check whether any part is cracked or improperly fitted. Make sure to maintain proper conditions that may affect the operation of the carriage.
27. Never try to manually stop the travel. To stop, set the travel direction switch to 'O'.
28. Maintain only when the carriage is unplugged from the power source.
29. Repair only in a service center appointed by the seller.
30. If the carriage falls from any height, is wet, or has any other damage that could affect the technical state of the carriage, stop the work and promptly send the carriage to the service center for inspection and repair.
31. Never leave the carriage unattended during work.
32. Remove from the worksite and store in a secure and dry place when not in use.

3. STARTUP AND OPERATION

3.1. Preparing

Use the carrying handle to transport the carriage to the worksite. Then, set to 'O' all switches (power, travel direction, and arc ignition switch) and the magnet lever.

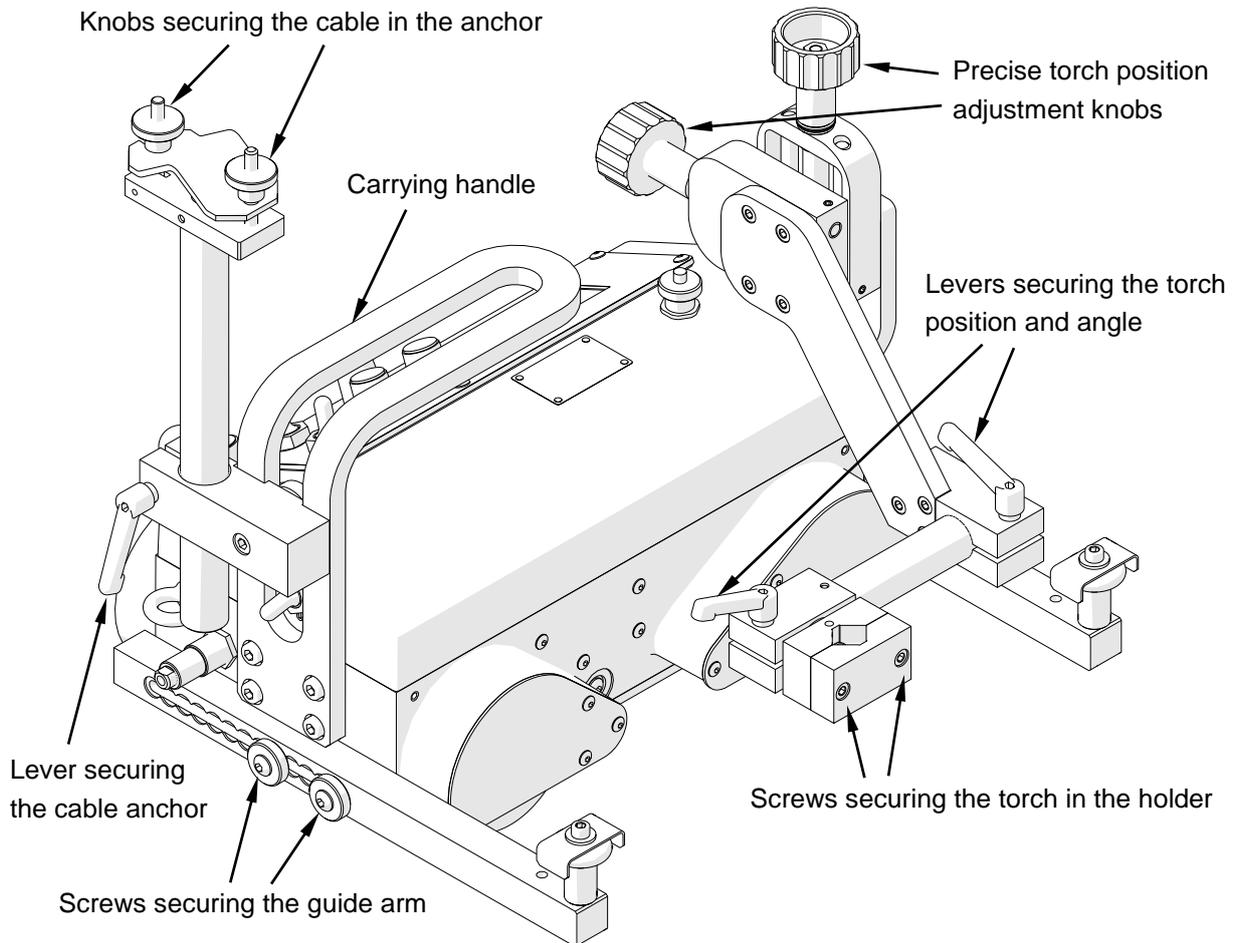


Fig. 1. View from the back side

Connect the carriage to the power source, insert the torch into the torch holder, and then secure it with the screws with the 4 mm hex wrench. Next, insert the torch cable into the cable anchor, secure it with the knobs, and then fix the anchor in the required position with the lever.

3.2. Connecting to welding circuits

The carriage can control two torches by using the arc ignition cable plugged into the arc ignition socket. To do this, according to the diagram shown in Fig. 2 connect any blue-jacketed wire to any terminal of the welding circuit. Then, connect the second blue-jacketed wire to the second terminal of the same circuit. To control the second torch, connect the green-jacketed wires to the terminals of the second welding circuit.

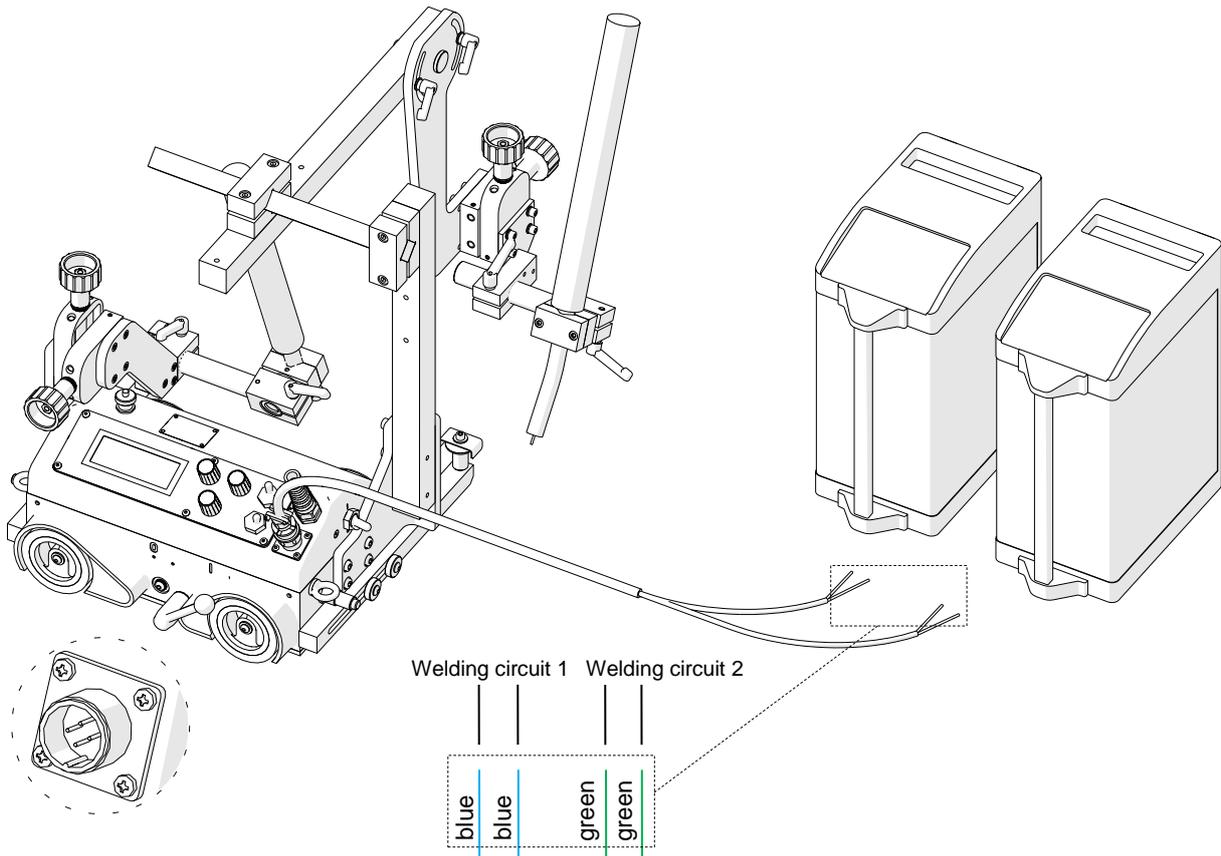


Fig. 2. Connecting the arc ignition cable to welding circuits

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

3.3. Positioning at the worksite

The guide arms must be positioned so that the carriage is in constant contact with the workpiece. They can be set by a constant step (interval adjustment), or continuously after they are swapped (continuous adjustment). To set them properly when the carriage travels to the left, use the 4 mm hex wrench to loosen the screws securing the right guide arm. Next, move out the right arm about 10 mm (0.4") or one groove more than the left arm (Fig. 3), and then retighten the screws.

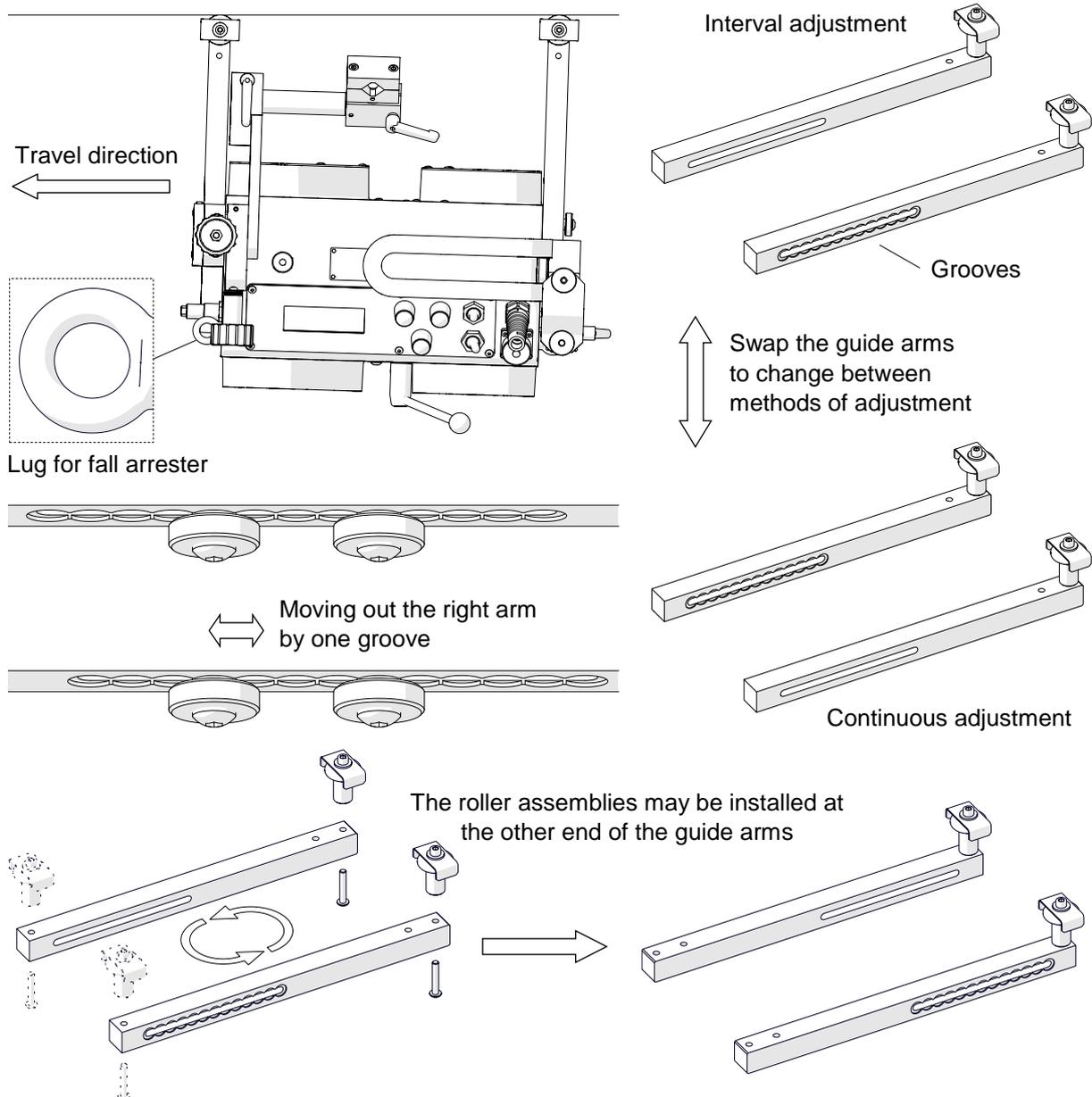


Fig. 3. Proper positioning of the guide arms

To position the carriage closer to the workpiece, use the 3 mm hex wrench to unscrew the roller assemblies. Next, install them at the other end of the guide arms, and then swap the guide arms (Fig. 3).

Switch the magnet ON/OFF lever from left ('O') to right ('I'). This will change the clamping force from minimum to maximum. Loosen the levers to adjust the position and angle of the torch. Use two knobs at the cross slide to precisely set the torch position.

At heights, attach a fall arrester (not included) to a lug (Fig. 3) to prevent the carriage from falling. This will avoid possible injury to the operator in case the carriage loses the clamping. Do not stay below the carriage placed at heights.

3.4. Starting

Plug the power cord into the power source and set the power switch to 'I' to turn on the power. Then, an initial screen with the current firmware number appears, and the carriage checks for an oscillator connected to the oscillation socket. If the oscillator is connected, Oscillator found appears. After the control system is loaded, the main menu from Fig. 4 appears.

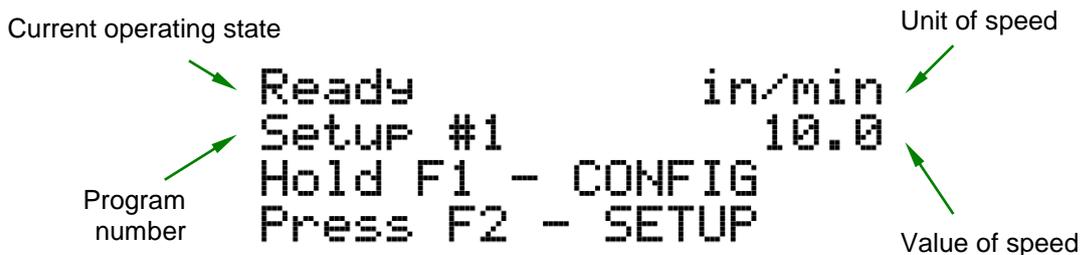


Fig. 4. Example of the main menu

Press and hold the knob F1 for about 3 seconds to go into the configuration menu and set the welding parameters.

3.5. Programming

The ARC Runner welding carriage allows defining up to 40 welding programs. After going into the configuration menu, proceed as described in Fig. 5 to move among the parameters from Tab. 1.

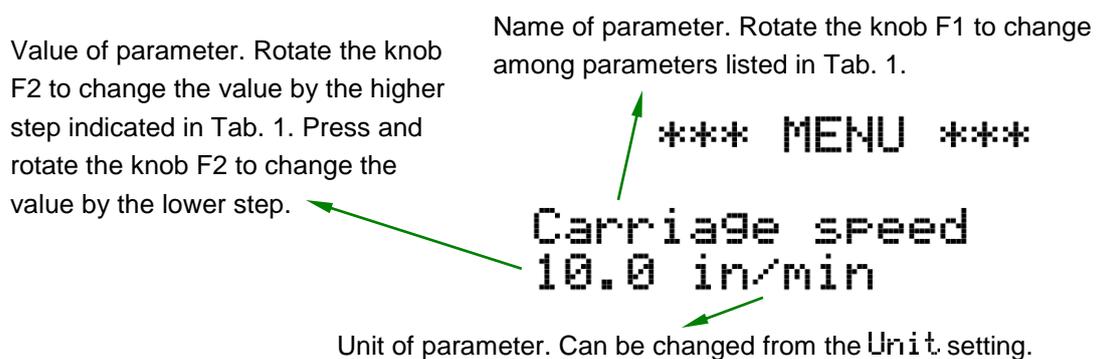


Fig. 5. Configuration menu

Parameter	Value	Description
Carriage speed	0–130 cm/min 0–52 in/min [step: 1 or 0.1]	Speed of the carriage.
Weld length	1–250 cm 1–100 in [step: 1 or 0.1]	Length of the single weld.
Skip	0–100 cm 0–40 in [step: 1 or 0.1]	Space between welds. If set to zero, 'crater fill' and 'backweld' are reset and the carriage works in the continuous welding mode.
Crater fill	0–3 s [step: 0.1]	Time of filling the crater. Inactive if 'skip' set to zero, which is indicated by the (!) sign.
Current lowering	YES NO	Function of the welding source to lower the current of the arc while filling the crater. Time of filling the crater must be set higher or equal to the time of the current lowering that is set at the welding source.
Backweld	0–2 cm 0–2 in [step: 0.1]	Length of the backweld. Shorter or equal to 'weld length'. Inactive if 'skip' set to zero, which is indicated by the (!) sign.
Total length	0–1000 cm 0–400 in infinity [step: 10 or 1]	Longer or equal to the sum of 'weld length' and 'skip'. If set to infinity, the program executes until the carriage is stopped manually.
Unit	cm in	Unit used in the menu.
Save setup	1–40	Pressing knob F2 saves the current configuration under the indicated program number.
Load setup	1–40	Pressing knob F2 loads the configuration saved under the indicated program number.
Language	ENGLISH POLISH SPANISH FRENCH PORTUGUESE TURKISH GERMAN RUSSIAN	Language of the menu.

Tab. 1. Settings available in basic version of ARC Runner

To change the language of the menu, go to `Language` setting by rotating the knob F1 to the right and then rotate the knob F2 to choose among the available languages. After the rest of the parameters from Tab. 1 is set, go to `Save setup`, choose a program number by rotating the knob F2, and press the knob to save the current values under this number. The action is confirmed by showing `Done` message for a short time. To load a previously saved program, proceed as described, but from `Load setup` setting. Then, to go back to the main menu (Fig. 4), press the knob F1 and hold it for 3 seconds. If the chosen parameters are not saved, they will be active only until the current program number is changed in the main menu.

3.6. Welding procedure

Fig. 6 shows a graphic description of the welding procedure that starts with the speed value shown in the main menu when selecting a travel direction. The first stage involves producing the weld, after which the carriage fills the crater (stage 2) for the chosen time. Next, the carriage performs the backweld (stage 3) and then moves to the starting point of the next weld (stage 4). This process is repeated until the carriage reaches the value of the total length.

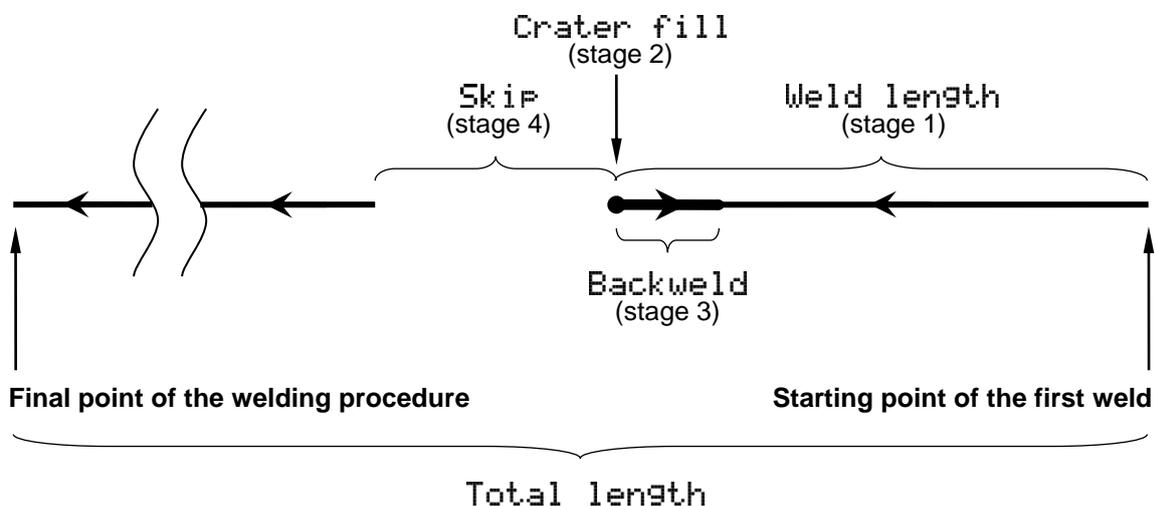


Fig. 6. Visualization of the welding procedure according to parameters from Tab. 1

3.7. Operating

Set the power switch to 'I' to turn on the carriage. To control the torch via the carriage, set the arc ignition switch to 'I'.



If the arc ignition switch is set to 'I', the torch will start welding promptly after selecting a travel direction.

With `Ready` state shown on the main menu (Fig. 4) the current program `Setup #1` can be changed by pressing and rotating the knob F2. Use the speed adjustment knob to change the current welding speed. Right rotation increases the speed by the step of 0.1, and left rotation decreases the speed by the same step.

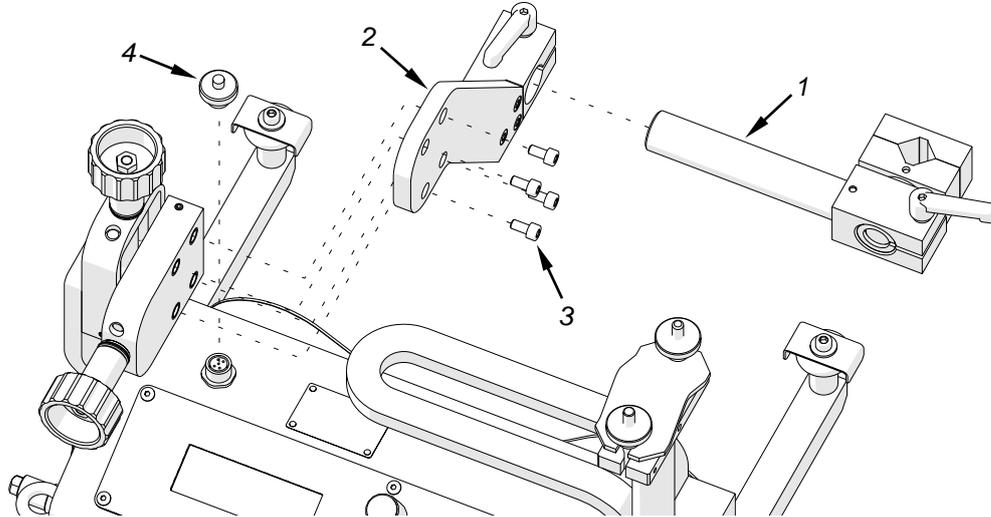
Use the travel direction switch to select a direction of travel. The carriage will start moving according to the chosen program parameters. The indication of the current operating mode will show on the display during program execution. The carriage speed can be changed during work with the speed adjustment knob. The new speed will be saved only if the current program does not change in the meantime.

The carriage stops after reaching the total length and `Job's done` message shows on the display. Then, set the travel direction switch to 'O' to go into the main menu. After the work is finished, use the power switch to turn off the power, and then unplug the carriage from the power source.

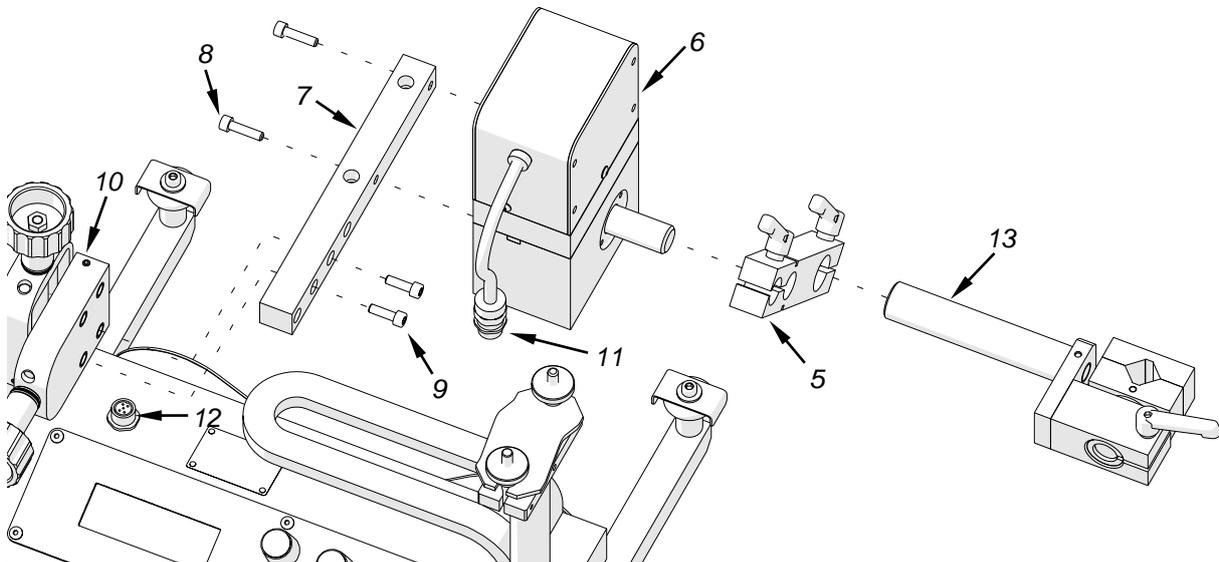
3.8. Using oscillator (accessory)

3.8.1. Installing

Install the oscillator according to the following instructions.



- Remove the torch holder 1.
- Remove the torch holder plate 2 by unscrewing screws 3 with 4 mm hex wrench.
- Unscrew the cap 4.



- Fix the arm 5 to the oscillator 6.
- Fix the oscillator 6 to the bracket 7 with two M5x20 screws 8.
- Fix the bracket 7 to the cross slide 10 with two M5x16 screws 9.
- Fix the oscillator plug 11 to the oscillation socket 12.
- Fix the low torch holder 13 to the oscillator arm 5.

3.8.2. Welding with oscillation

If the oscillator is connected to the ARC Runner welding carriage, several new settings will appear in the menu (Tab. 2). Welding with oscillation is performed in the standard manner; however, produced welds form a shape similar to the shape shown in Fig. 7 instead of the straight line from Fig. 6.

Parameter	Value	Description
Osc. amplitude	0–100% [step: 10% or 1%]	Relative amplitude of the oscillation.
Osc. speed	0–100% [step: 10% or 1%]	Relative speed of the oscillation. The higher the speed, the shorter the oscillation period.
Osc. delay 1	0–5 s [step: 1 or 0.1]	Dwell time in the top position of the oscillation.
Osc. delay 2	0–5 s [step: 1 or 0.1]	Dwell time in the bottom position of the oscillation.
Dwell times lock	YES NO	Choosing YES locks the capability of changing dwell times during welding.

Tab. 2. Additional settings available with connected oscillator

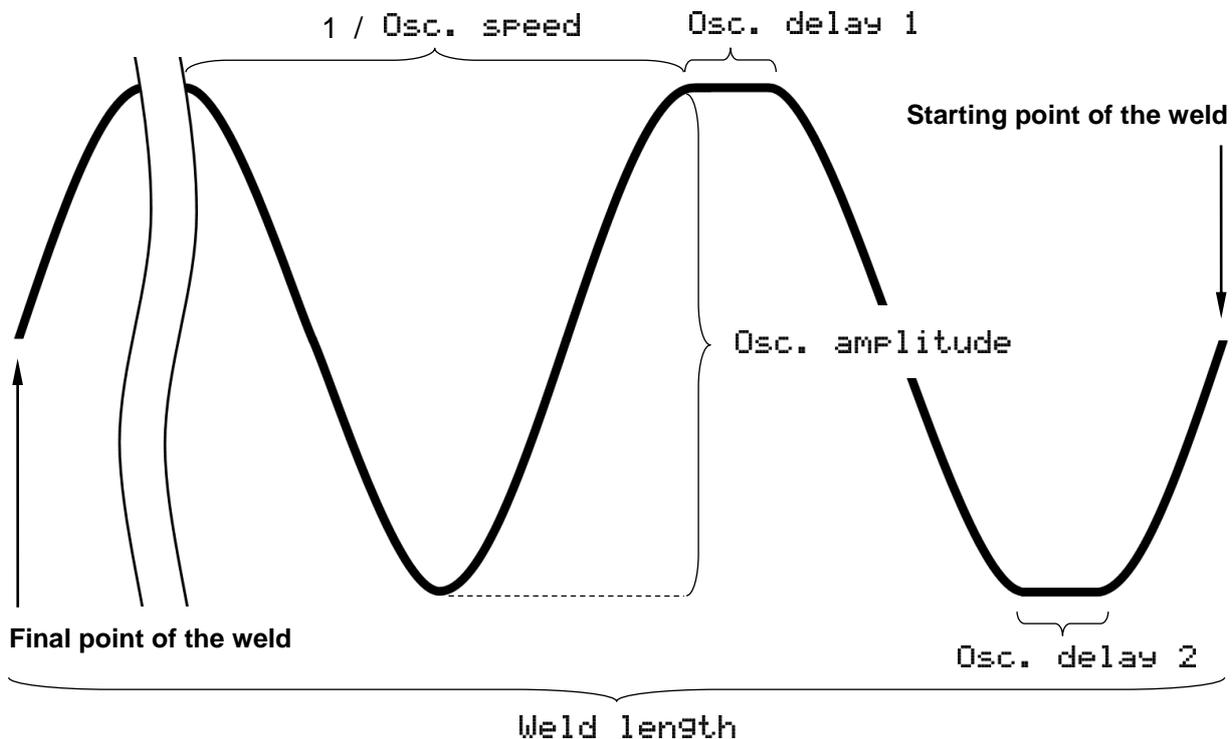


Fig. 7. Graphic description of the oscillation parameters from Tab. 2

3.8.3. Operating

The ARC Runner welding carriage with connected oscillator is operated similarly to operating without the oscillator. During welding with the oscillator, the menu indicated in Fig. 8 is shown on the display.

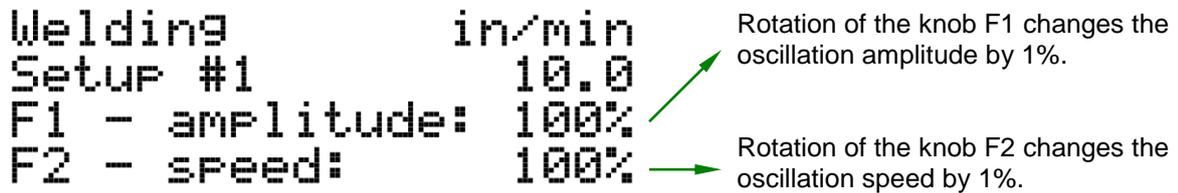


Fig. 8. Menu shown during welding with the oscillator

If Dwell times lock parameter is set to YES, pressing the knob F1 or F2 during work will not trigger any action. Otherwise, the delay parameters will show on the display and can be adjusted online (Fig. 9).

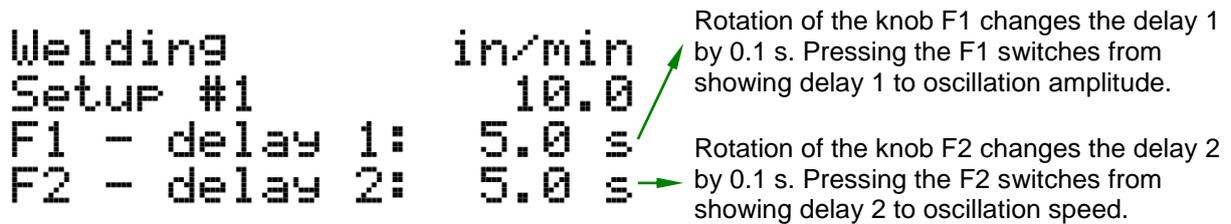


Fig. 9. Menu for changing the oscillator dwell times

3.9. Troubleshooting

Problem	Cause	Solution
Dark LCD display after powering.	Malfunction of the power cord, power switch, power supply unit, or controller.	Contact service center for inspection and repair.
Anomalies on the LCD display. Values illegible.	Malfunction of the display or power supply unit.	Contact service center for inspection and repair.
*** FATAL ERROR *** FRONT limit switch activated	Carriage reached the obstacle at the front.	Remove the obstacle blocking the travel or choose the opposite travel direction.
*** FATAL ERROR *** REAR limit switch activated	Carriage reached the obstacle at the rear.	Remove the obstacle blocking the travel or choose the opposite travel direction.
*** FATAL ERROR *** Travel switch incorrect signal	Too fast switching between left and right travel direction.	Set the travel direction switch to 'O'.
Set travel switch to zero	<ol style="list-style-type: none"> 1. Travel direction switch not set to 'O' when powering. 2. Displayed during travel indicates a malfunction of the travel direction switch or travel direction identification circuit of the controller. 	<ol style="list-style-type: none"> 1. Set the travel direction switch to 'O'. 2. Contact service center for inspection and repair.

4. MAINTENANCE

Daily:

1. Clean the chassis and wheels.
2. Clean the rollers of the guide arms and make sure that the rollers rotate freely.
3. Clean the torch nozzle. Replace if damaged.

Monthly:

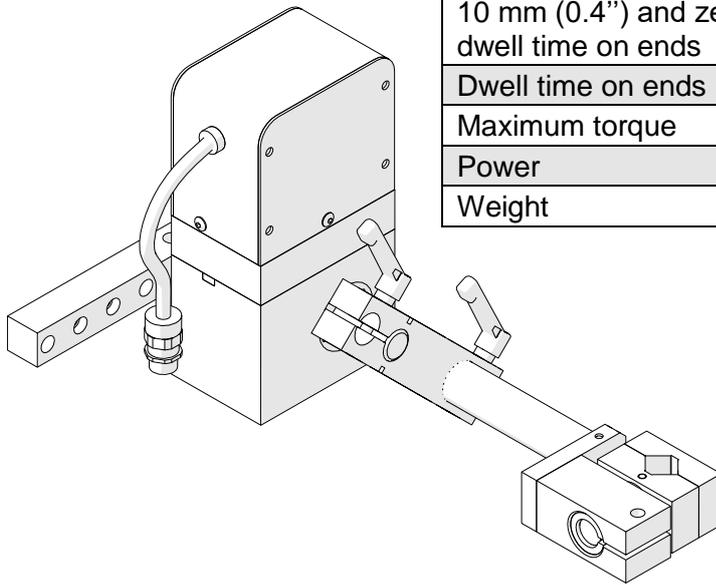
1. Check whether the knobs and the switches work as intended. Replace if loose or damaged.
2. Inspect cables, cords, and hoses. Replace if damaged.
3. Tighten screws if loose.

5. ACCESSORIES

5.1. Oscillator

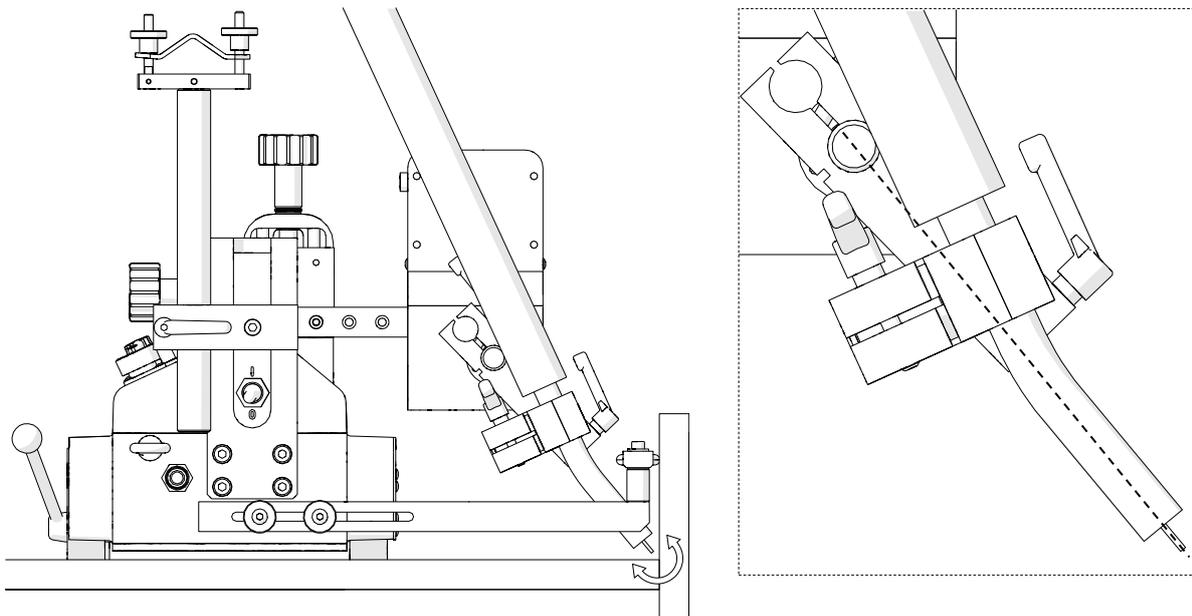
Allows welding with oscillation. Can be installed either vertically to use a short rod low torch holder with clip (included) or horizontally to use a torch holder with clip (in standard).

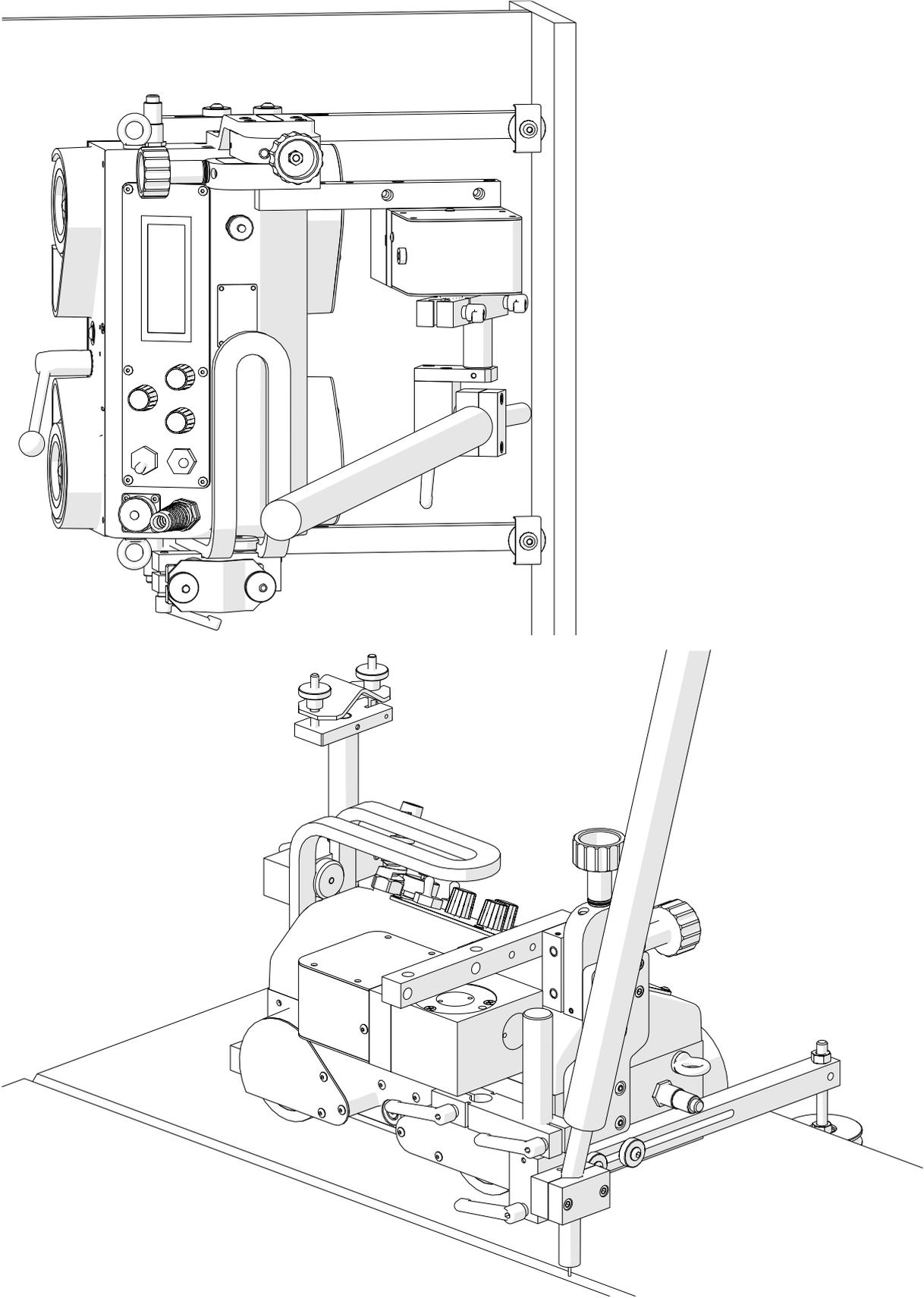
Part number:
ZSP-0477-24-00-00-0
(includes: short rod low
torch holder with clip)



Oscillation type	Pendulum (maximum 11°)
Oscillation amplitude at r=150 mm (5.9")	1–30 mm (1–100%)
Oscillation speed at oscillation amplitude of 10 mm (0.4") and zero dwell time on ends	7–164 cycles/min (1–100%)
Dwell time on ends	0–5 s
Maximum torque	5 Nm (3.7 lb-ft)
Power	12 W
Weight	2.6 kg (5.7 lbs)

To obtain the proper shape of oscillation, the axis of the oscillator's output shaft must cross with the axis of the torch.



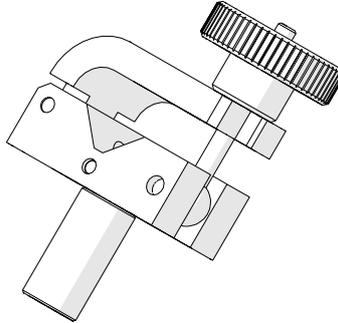


5.2. Torch clamps

5.2.1. 16–22 mm torch clamp

Allows using a torch with the handle diameter of 16–22 mm (0.63–0.87”).

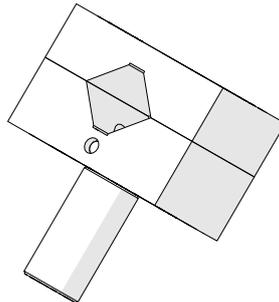
Part number:
ZRZ-0466-04-01-00-0



5.2.2. 16–22 mm torch clip

Allows using a torch with the handle diameter of 16–22 mm (0.63–0.87”). Use the 4 mm hex wrench to tighten the torch in the clip.

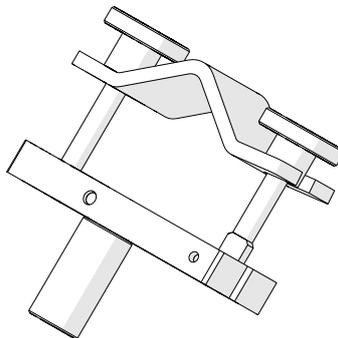
Part number:
ZCS-0476-06-01-00-0



5.2.3. 22–35 mm torch clamp

Allows using a torch with the handle diameter of 22–35 mm (0.87–1.38”).

Part number:
ZRZ-0466-19-00-00-0

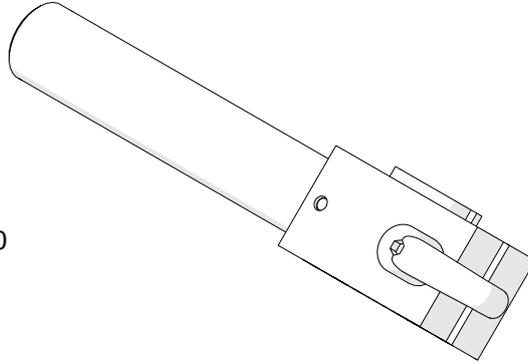


5.3. Rods

5.3.1. Short rod

Provides a 120 mm (4.72") reach.

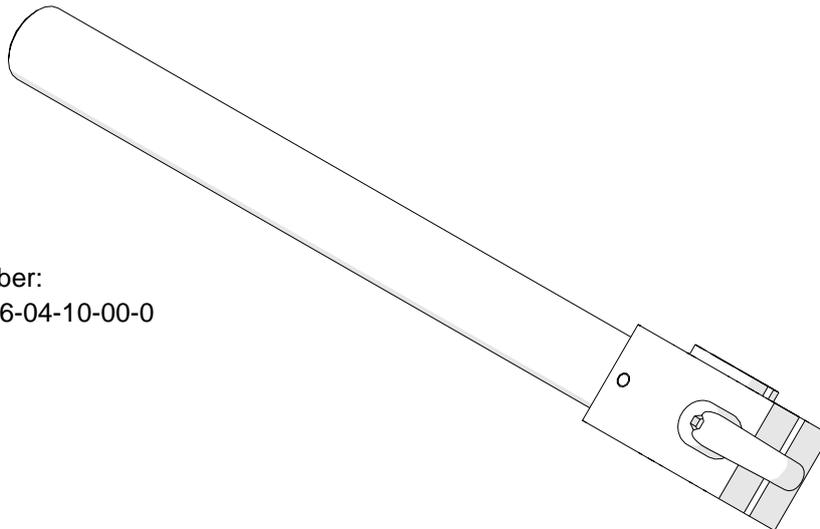
Part number:
WLK-0476-20-01-00-0



5.3.2. Long rod

Provides a 240 mm (9.45") reach.

Part number:
WLK-0466-04-10-00-0

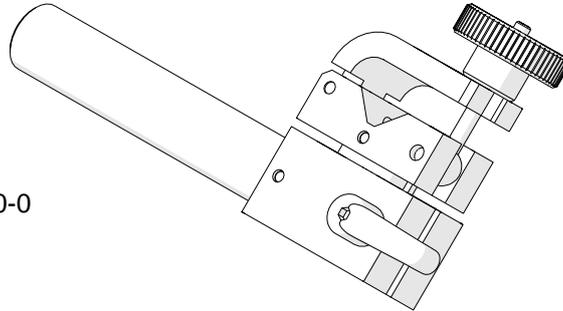


5.4. Torch holders

5.4.1. Short rod torch holder with clamp

Allows using a torch with the handle diameter of 16–22 mm (0.63–0.87”).

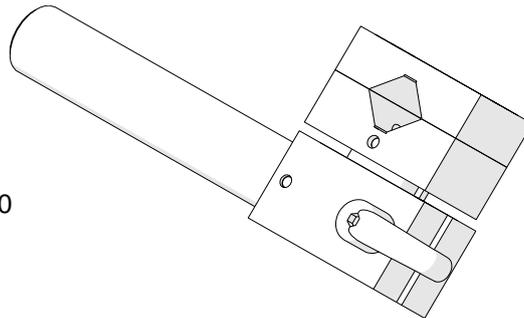
Part number:
UCW-0476-20-00-00-0



5.4.2. Short rod torch holder with clip

Allows using a torch with the handle diameter of 16–22 mm (0.63–0.87”). Use the 4 mm hex wrench to tighten the torch in the clip.

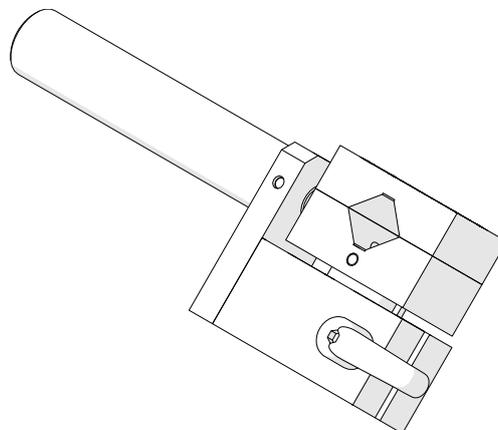
Part number:
UCW-0476-27-00-00-0



5.4.3. Short rod low torch holder with clip

Allows using a torch with the handle diameter of 16–22 mm (0.63–0.87”). Use the 4 mm hex wrench to tighten the torch in the clip.

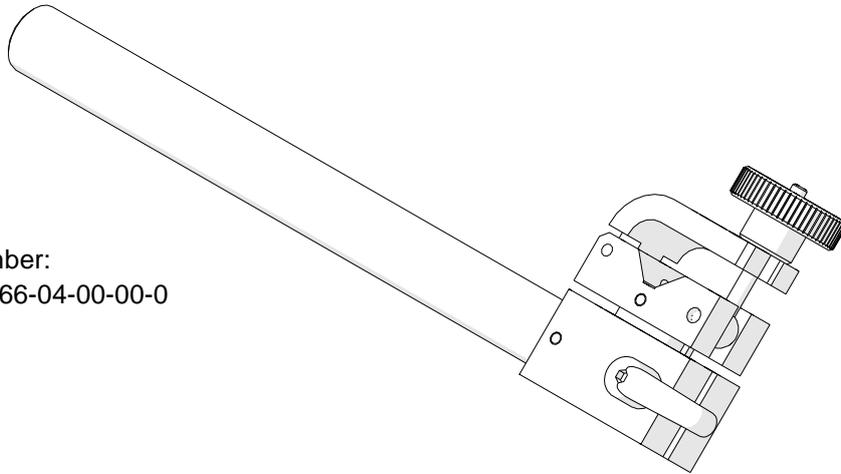
Part number:
UCW-0476-06-00-00-0



5.4.4. Long rod torch holder with clamp

Allows using a torch with the handle diameter of 16–22 mm (0.63–0.87”).

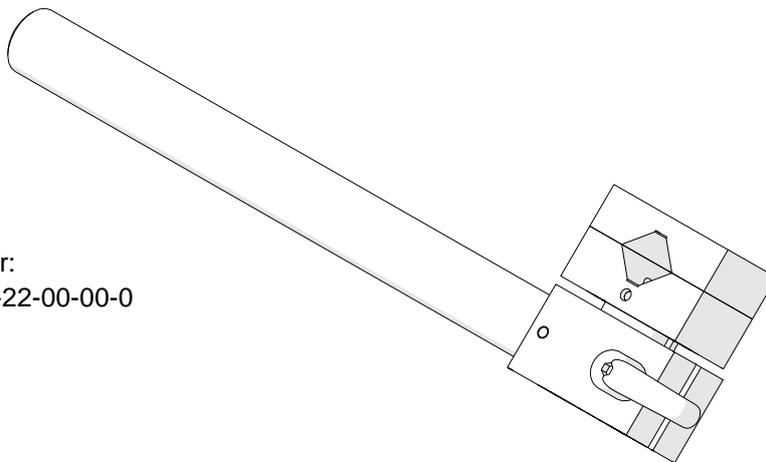
Part number:
UCW-0466-04-00-00-0



5.4.5. Long rod torch holder with clip

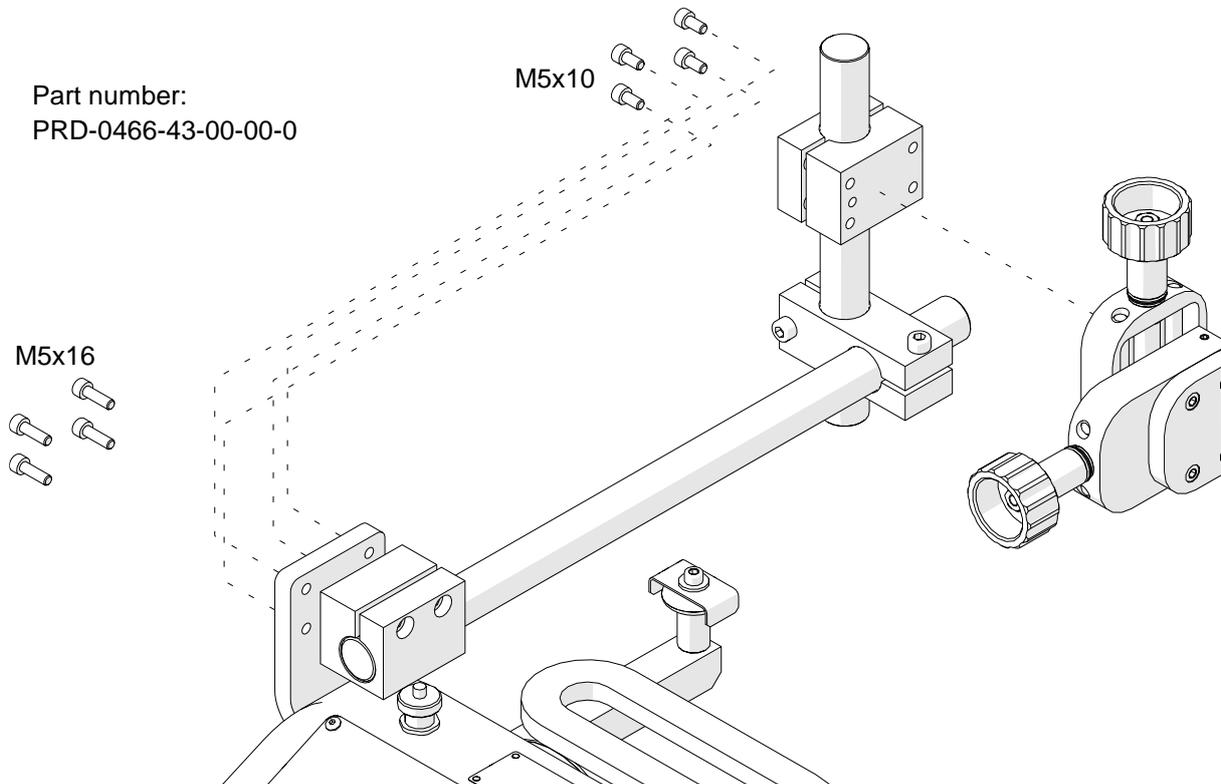
Allows using a torch with the handle diameter of 16–22 mm (0.63–0.87”). Use the 4 mm hex wrench to tighten the torch in the clip.

Part number:
UCW-0466-22-00-00-0



5.5. Torch extension arm

Extends the reach of the torch. Use the 4 mm hex wrench to unscrew the M5x10 screws fixing the cross slide. Next, use the same screws to fix the cross slide at the end of the arm as shown in the figure. Then, use M5x16 screws to fix the arm to the carriage.

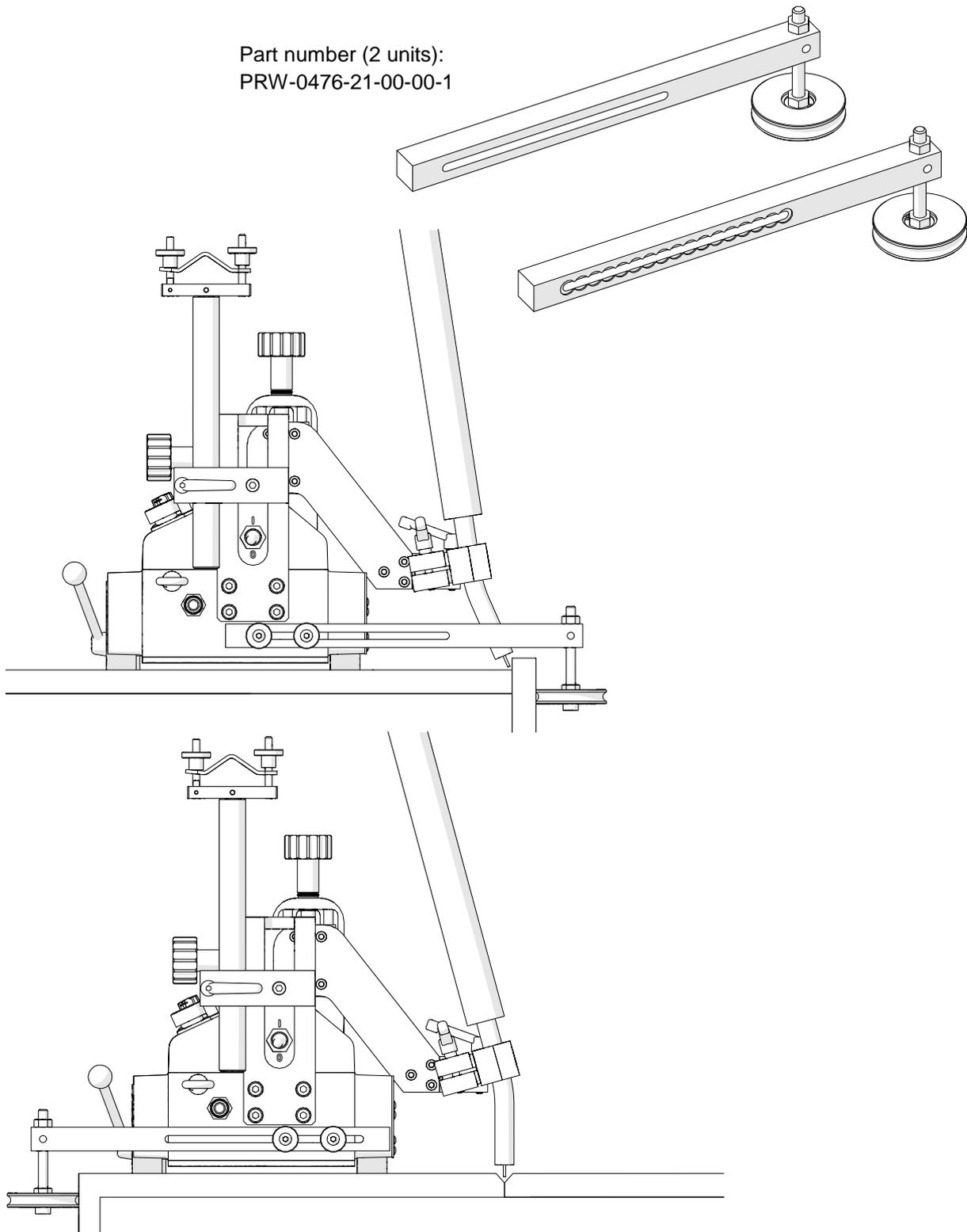


5.6. Guide arms

5.6.1. Edge following guide arms

Allow guiding the carriage along outside edges. Use the 4 mm hex wrench to unscrew the standard guide arms and install the new guide arms.

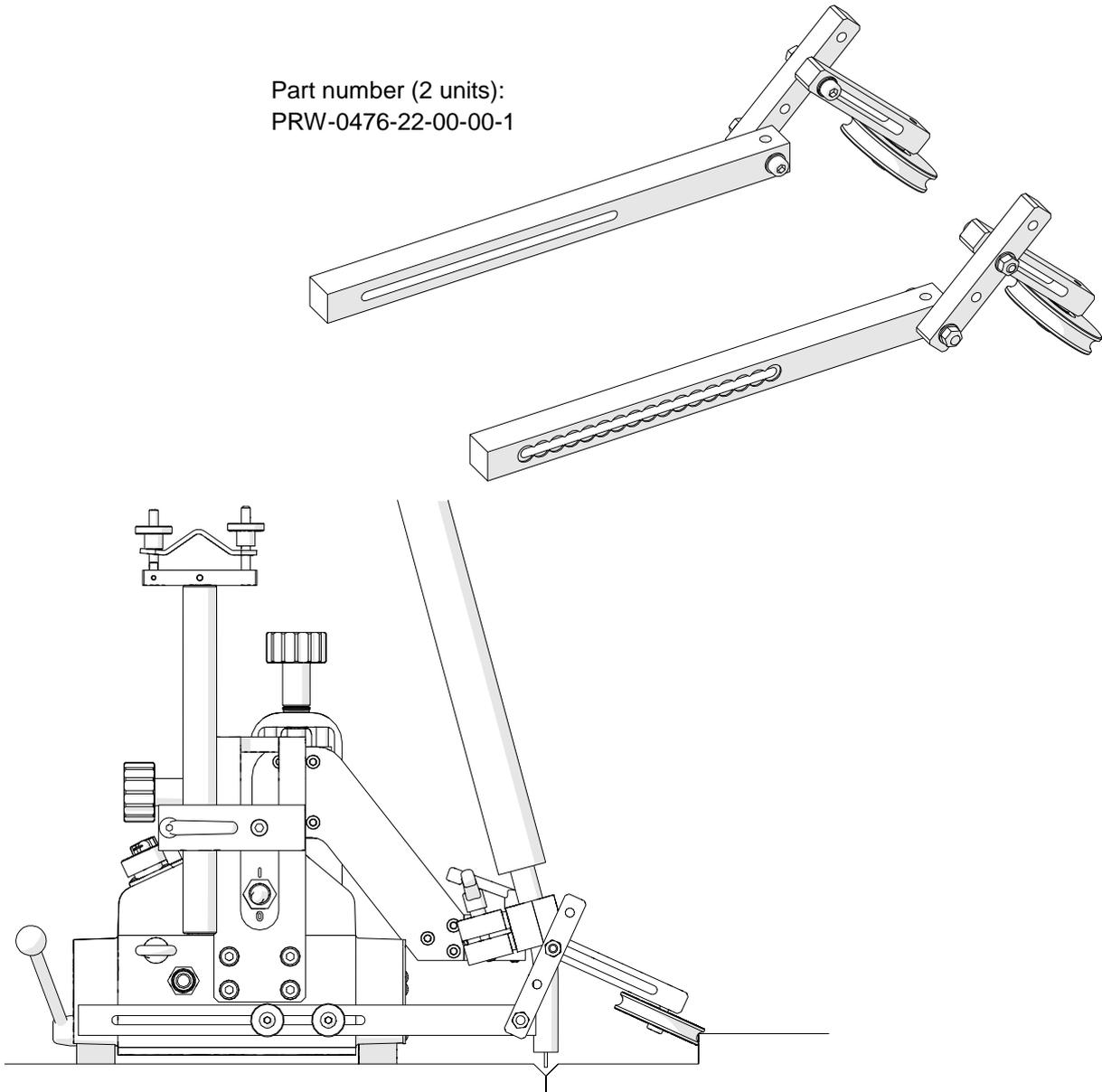
Part number (2 units):
PRW-0476-21-00-00-1



5.6.2. Adjustable guide arms

Allow guiding the carriage along lap joints and templates. Use the 4 mm hex wrench to unscrew the standard guide arms and install the new guide arms.

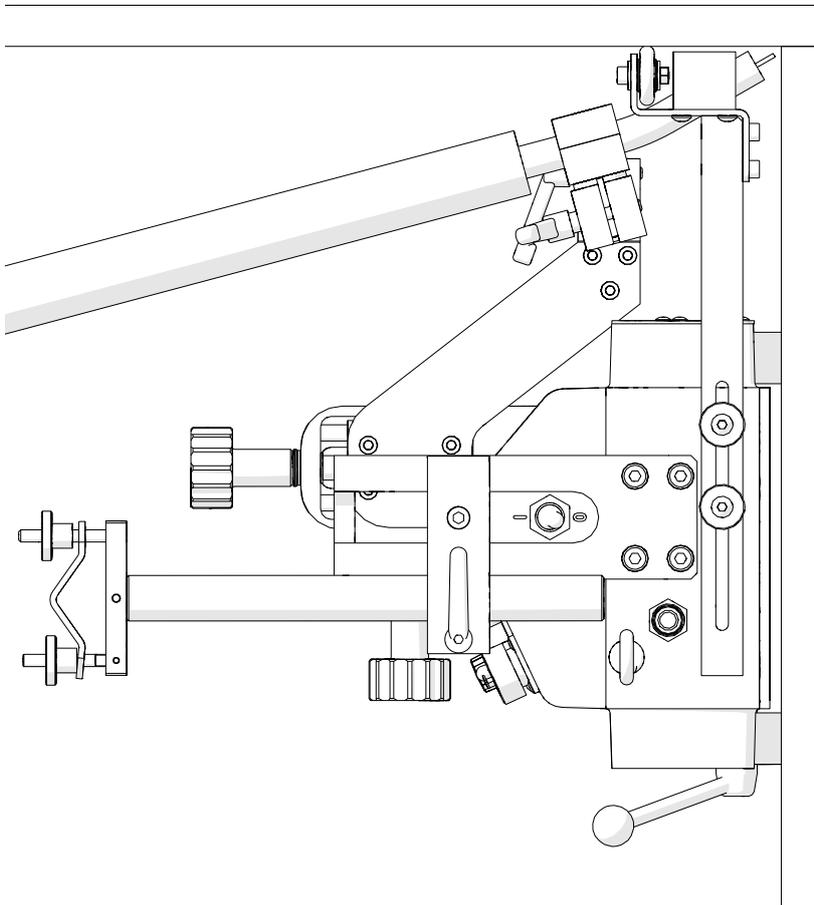
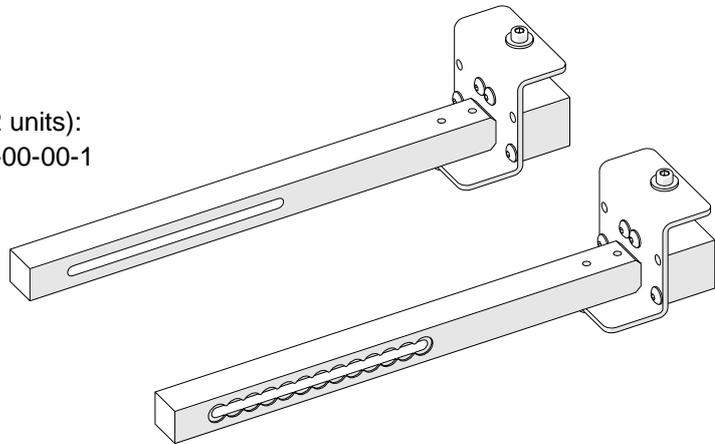
Part number (2 units):
PRW-0476-22-00-00-1



5.6.3. Magnet guide arms

Allow guiding the carriage on ceilings. Use the 4 mm hex wrench to unscrew the standard guide arms and install the new guide arms.

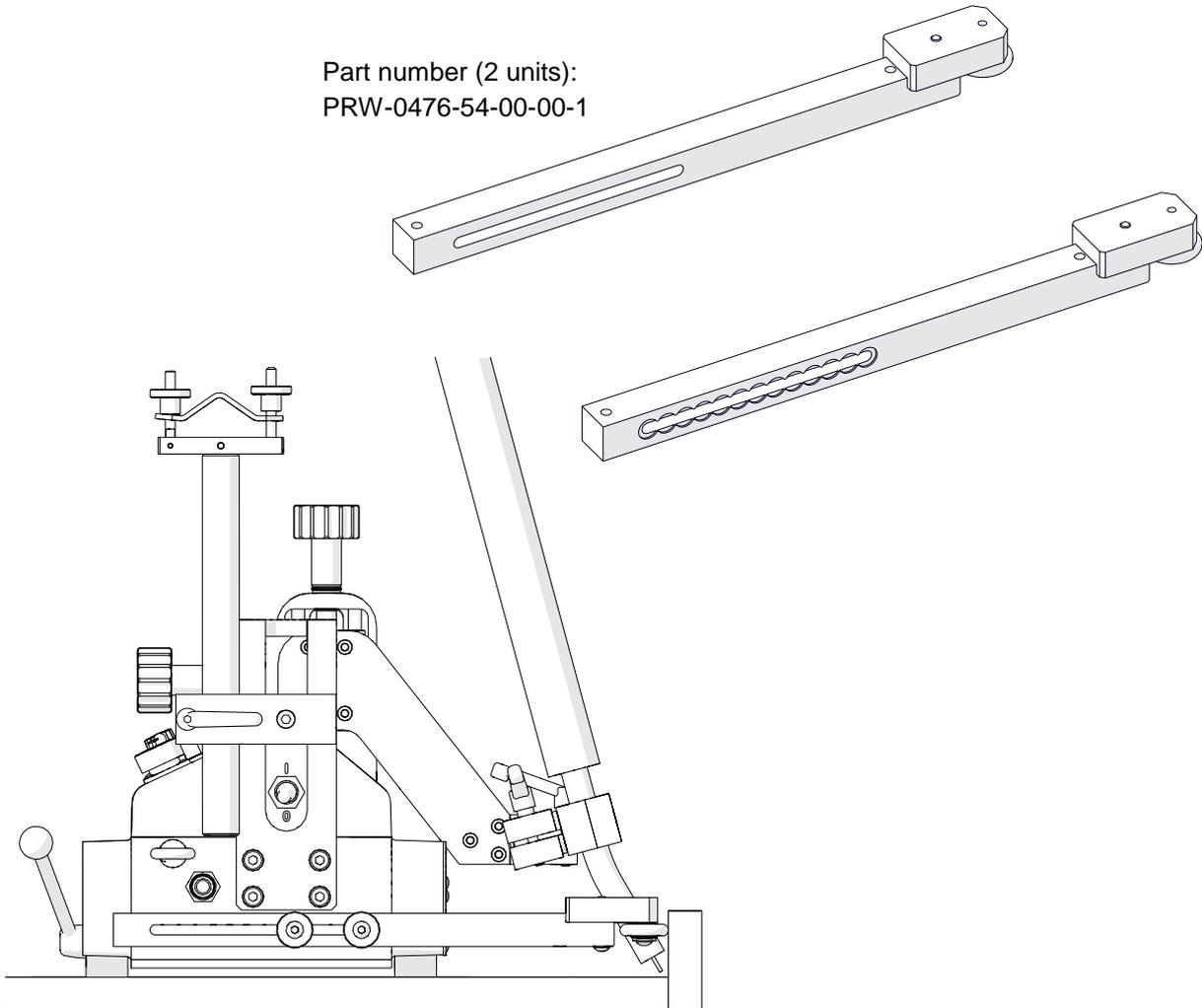
Part number (2 units):
PRW-0476-52-00-00-1



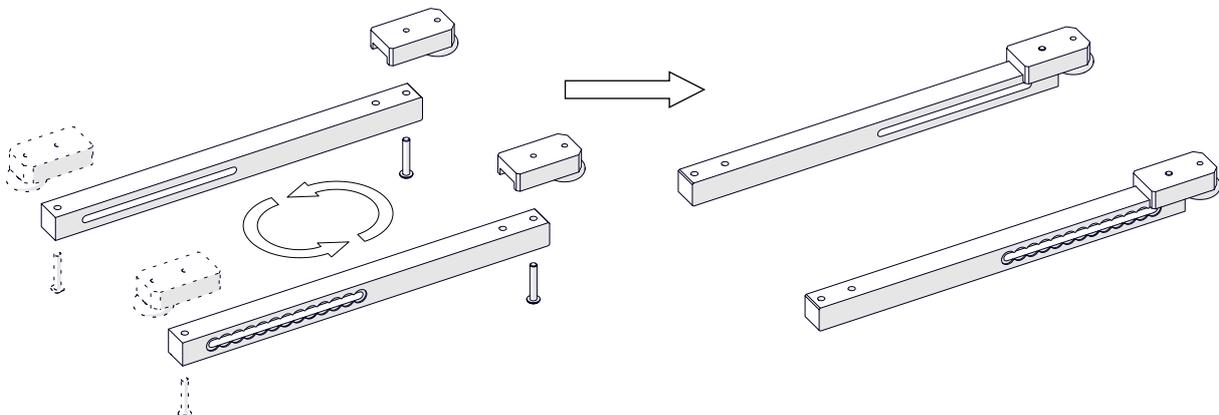
5.6.4. Low guide arms

Allow guiding the carriage along low walls. Use the 4 mm hex wrench to unscrew the standard guide arms and install the new guide arms.

Part number (2 units):
PRW-0476-54-00-00-1



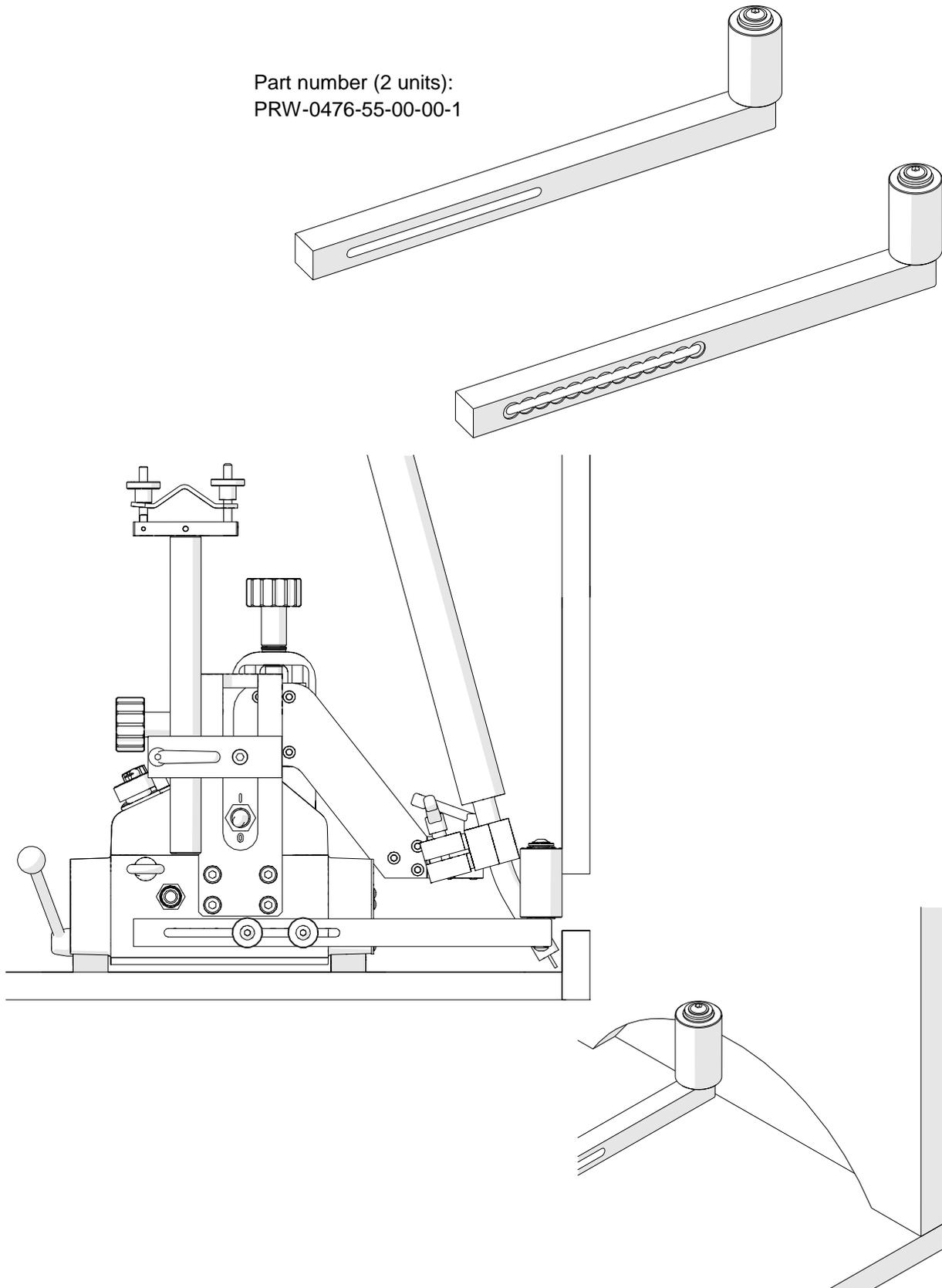
To position the carriage closer to the workpiece, use the 3 mm hex wrench to unscrew the roller assemblies. Next, install them at the other end of the guide arms, and then swap the guide arms.



5.6.5. High guide arms

Allow guiding the carriage along walls with holes. Use the 4 mm hex wrench to unscrew the standard guide arms and install the new guide arms.

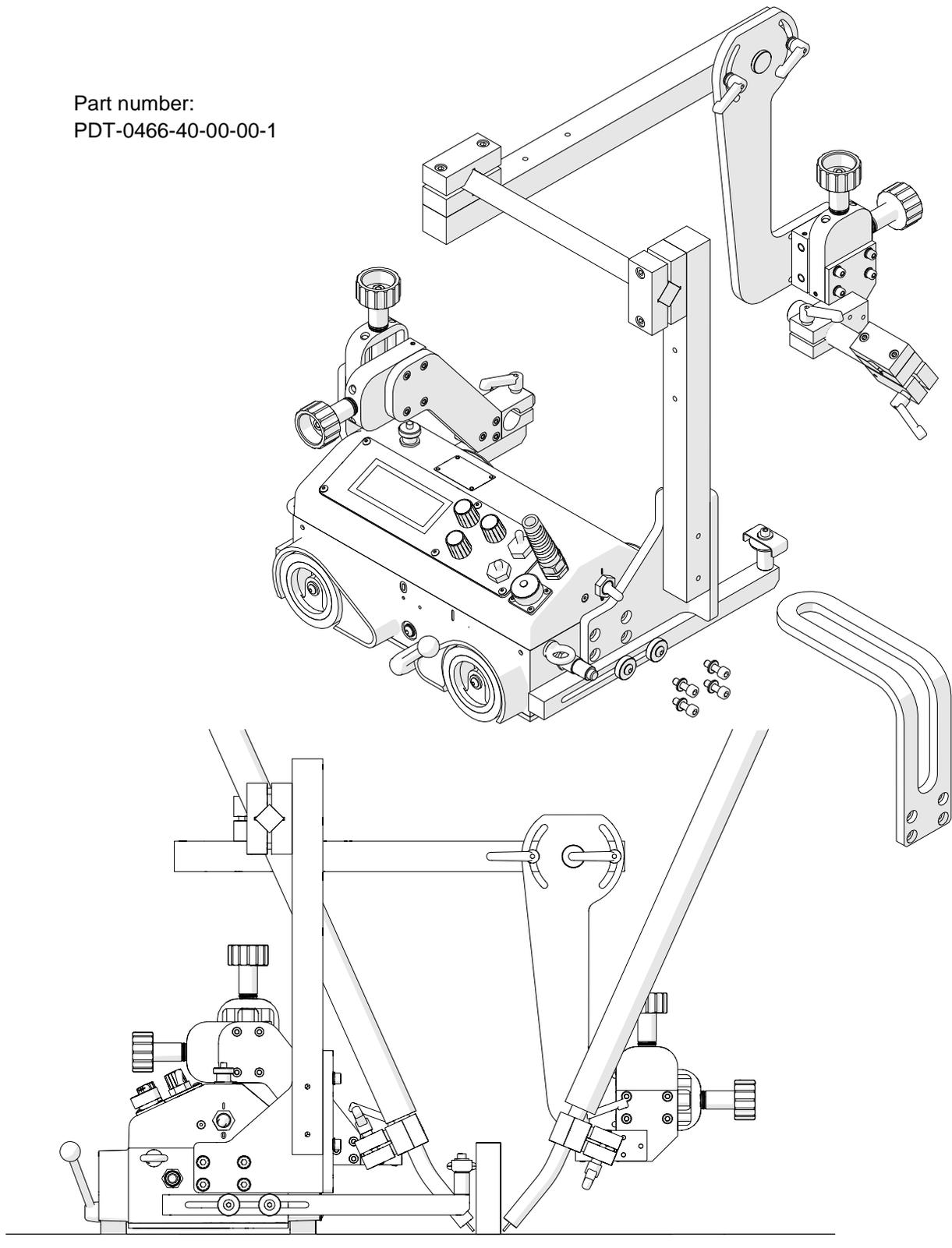
Part number (2 units):
PRW-0476-55-00-01



5.7. Dual torch mount

Allows using a second torch. Use the 5 mm hex wrench to unscrew the M6x20 screws and washers fixing the carrying handle. Next, use the same screws and washers to fix the mount to the carriage.

Part number:
PDT-0466-40-00-00-1



5.8. Flexible guide set

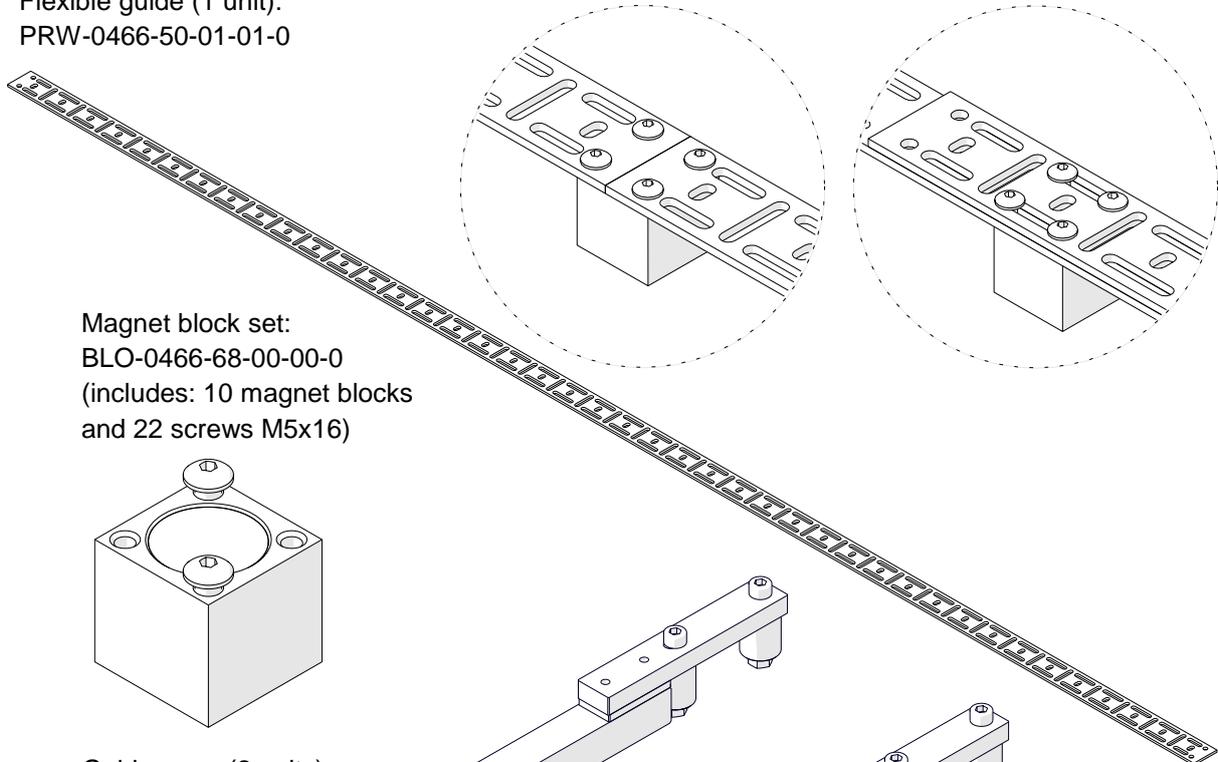
Allows guiding the carriage on planes along a straight line, and on pipes and tanks. A single flexible guide is 1.85 m (6 ft) long, and its minimum curve radius is 1 m (3.3 ft). The holding force of a magnet block placed on a 5 mm (0.2”) thick ferromagnetic surface is 90 N (20 lbs) up to a temperature of 100°C (212°F). At 180°C (356°F) the force decreases to 54 N (12 lbs).

Connect two guides with the 3 mm hex wrench and M5x16 screws to form a butt or lap joint. Next, use the 4 mm hex wrench to remove the standard guide arms and install the new guide arms.

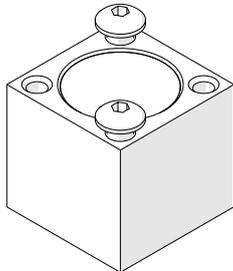
Flexible guide (1 unit):
PRW-0466-50-01-01-0

Butt joint

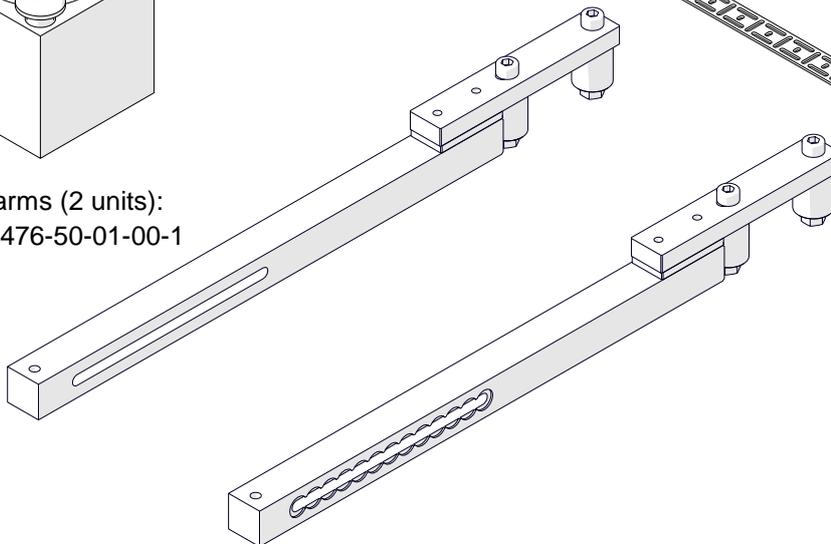
Lap joint

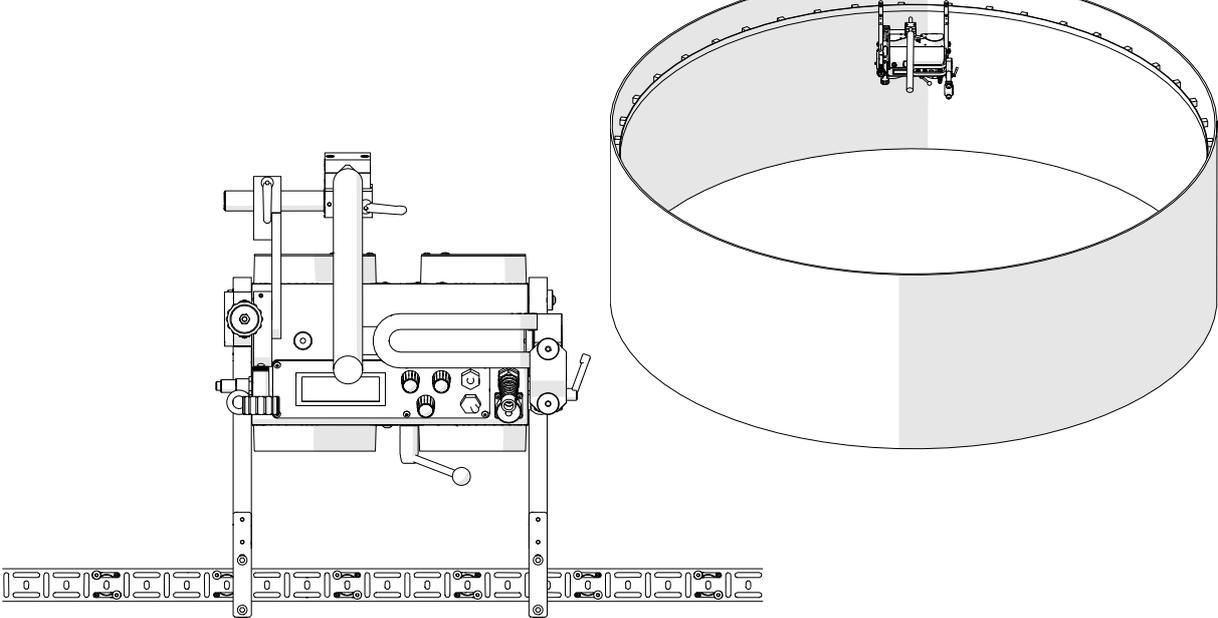
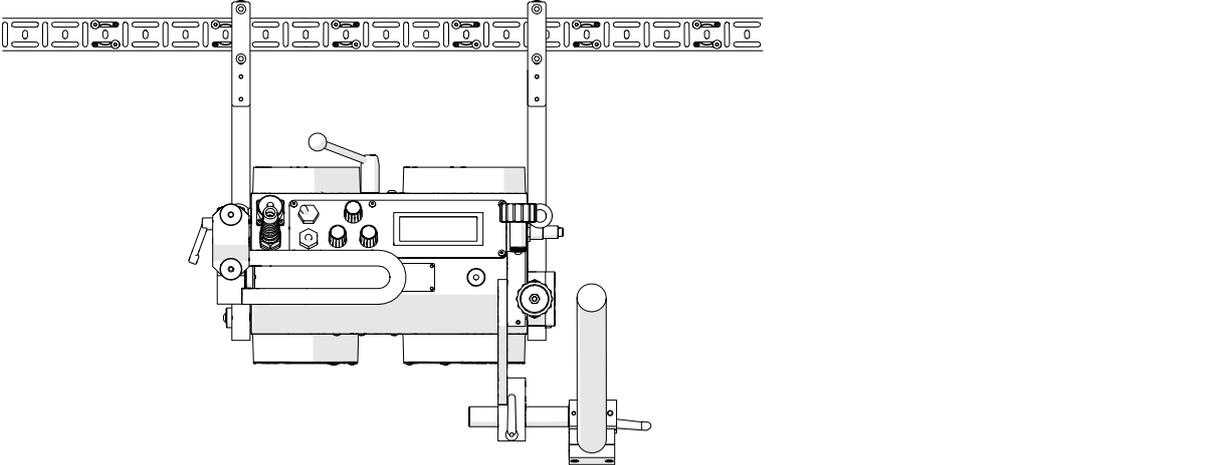
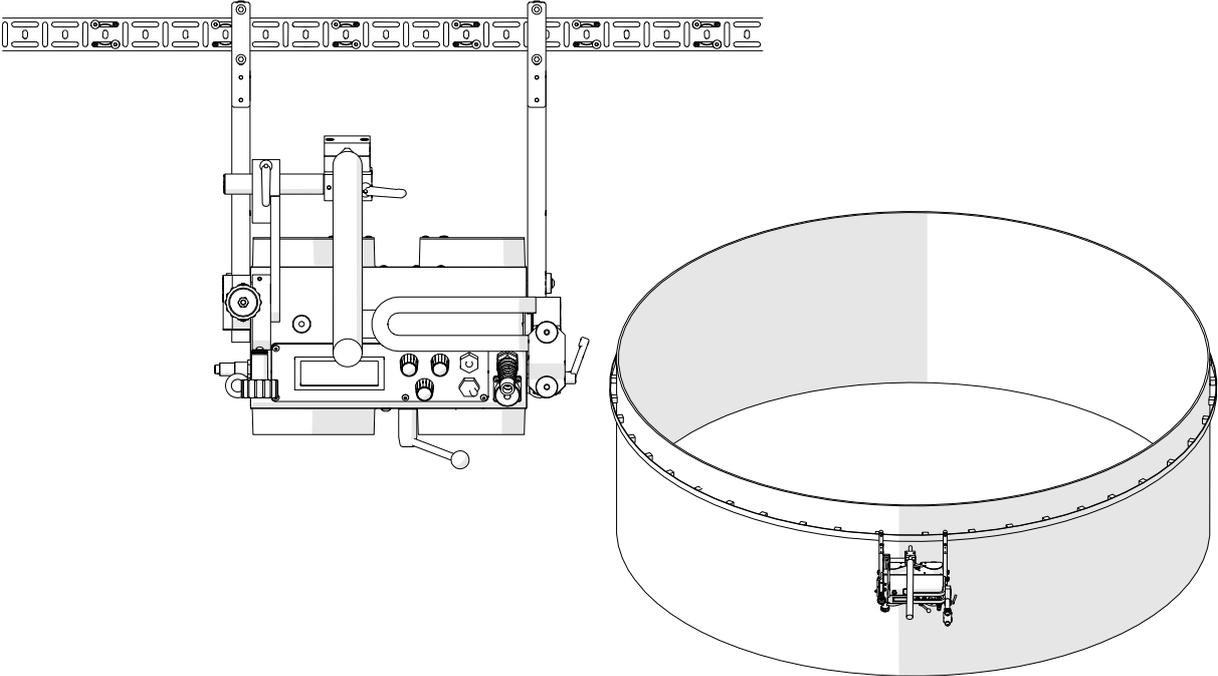


Magnet block set:
BLO-0466-68-00-00-0
(includes: 10 magnet blocks
and 22 screws M5x16)



Guide arms (2 units):
PRW-0476-50-01-00-1

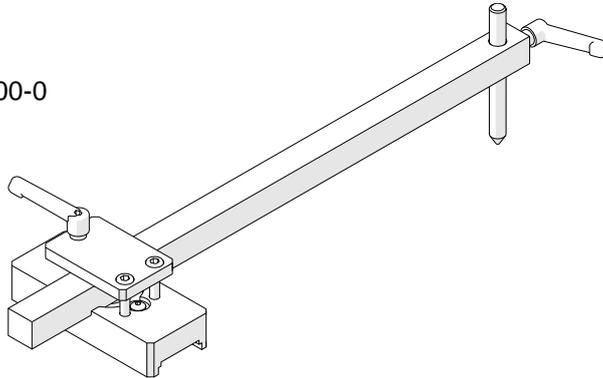




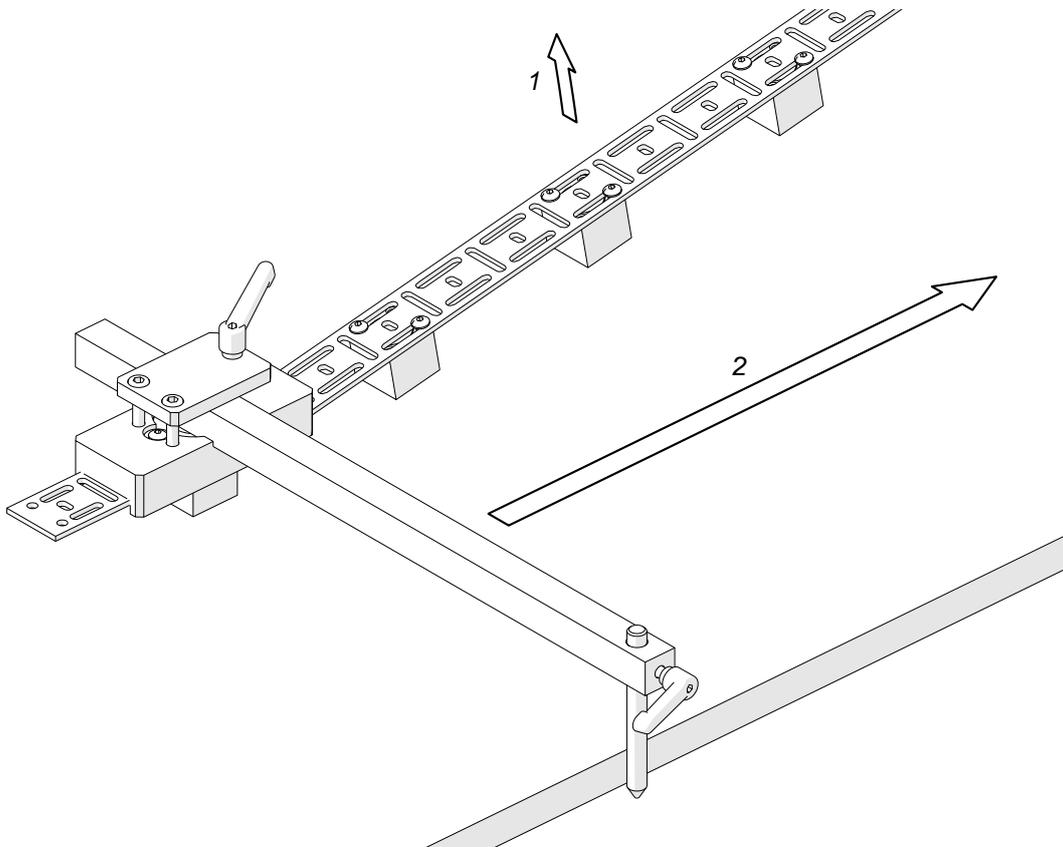
5.9. Guide adjustment tool

Allows the guide to be positioned parallel to an outside edge or a groove.

Part number:
UST-0466-53-00-00-0



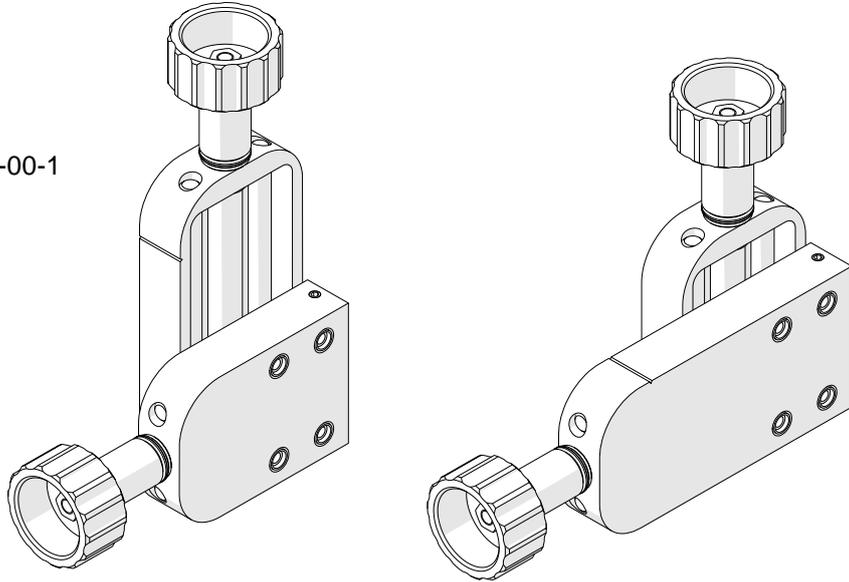
Fix the magnets to the guide, and position the guide on the workpiece along the direction of welding. Loosen the levers and put the tool onto the first magnet, resting the side of the pilot pin on an outside edge or placing the tip of the pilot pin in a groove. Then, lock the levers in this position and pull the further part of the guide off the workpiece (1). Next, start moving the tool along the guide (2) to clamp the successive magnets to the workpiece.



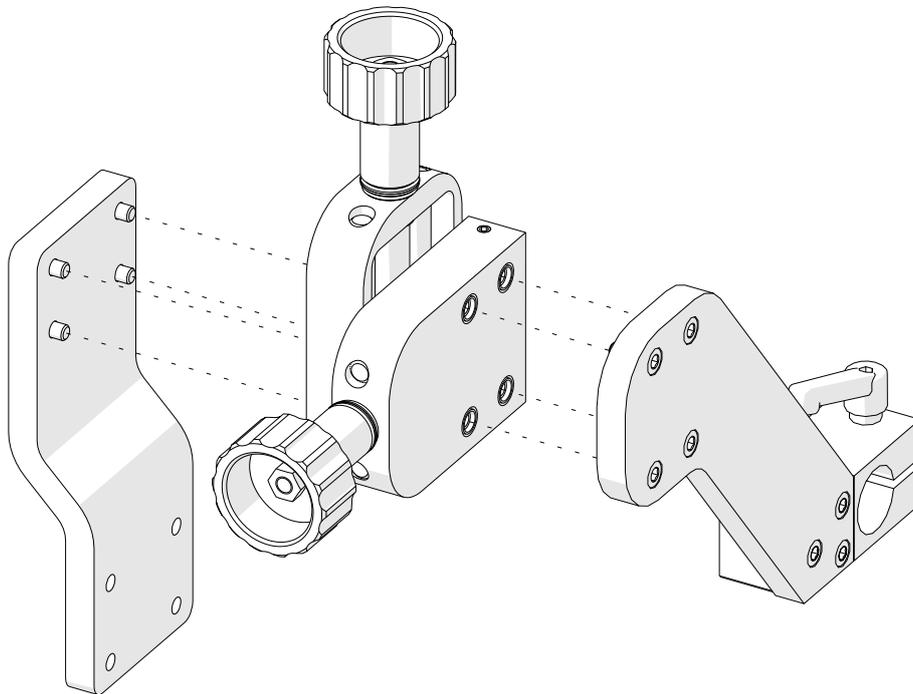
5.10. 76 mm cross slide

Extends either 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



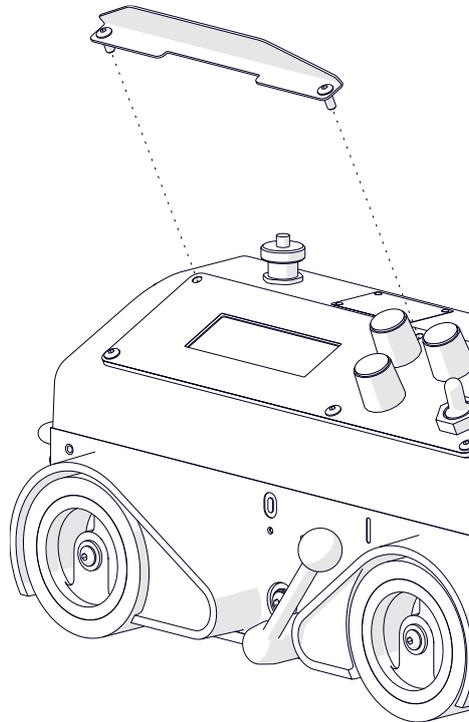
Use the 4 mm hex wrench to remove the standard cross slide and install the new cross slide.



5.11. Display protection shield

Protects the display from dirt. Use the 2.5 mm hex wrench to unscrew the top screws of the panel, and use them to tighten the shield.

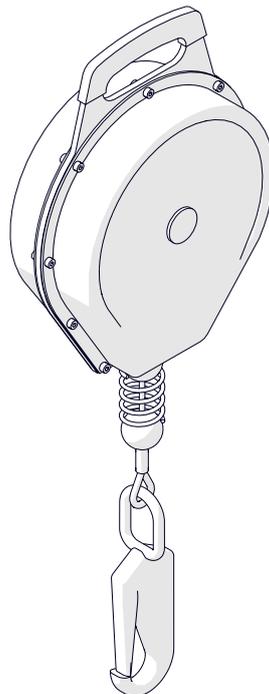
Part number:
OSL-0476-23-00-00-0



5.12. Fall arrester

Protects the carriage from falling. The length of the line is 10 m (33 ft).

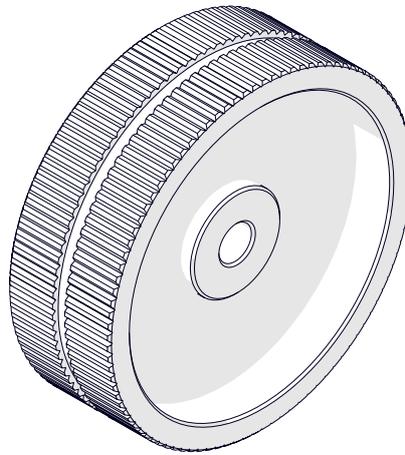
Part number:
URZ-000001



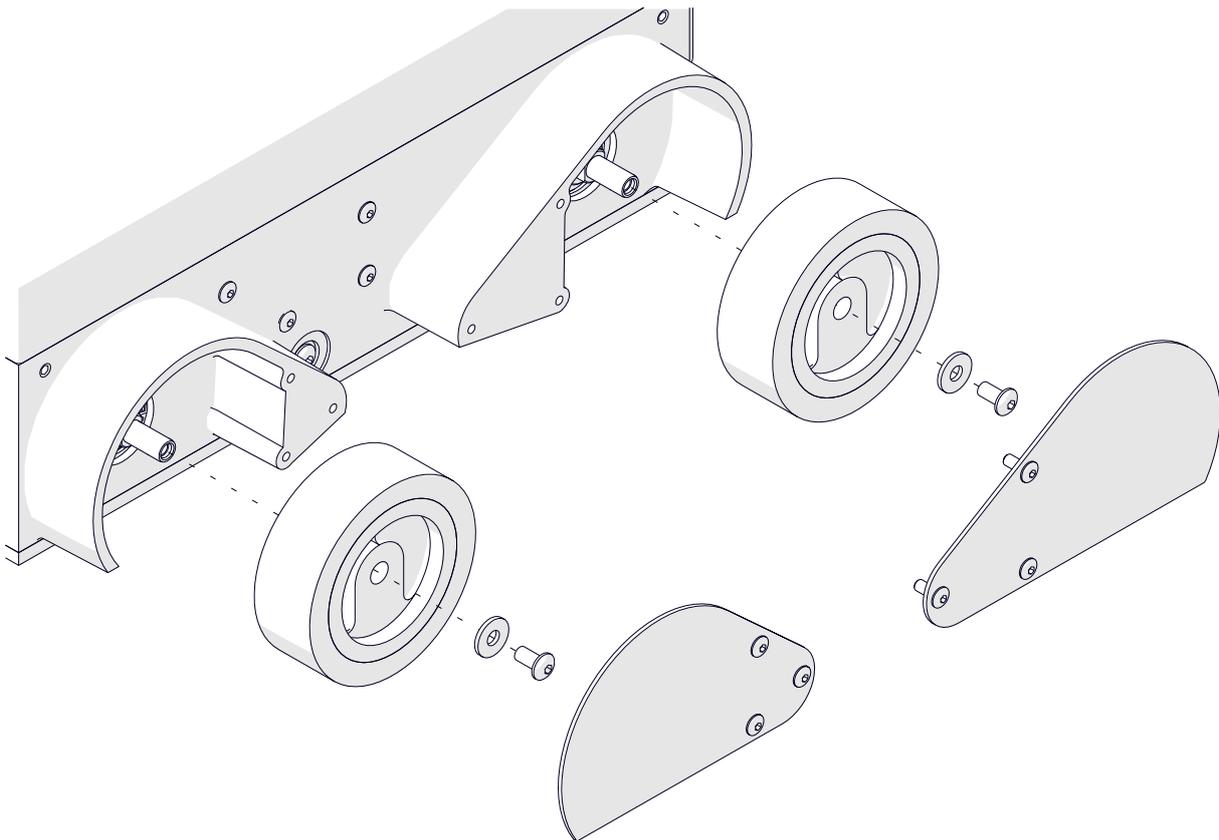
5.13. Stainless steel wheels

Allow working in horizontal position on a preheated plate.

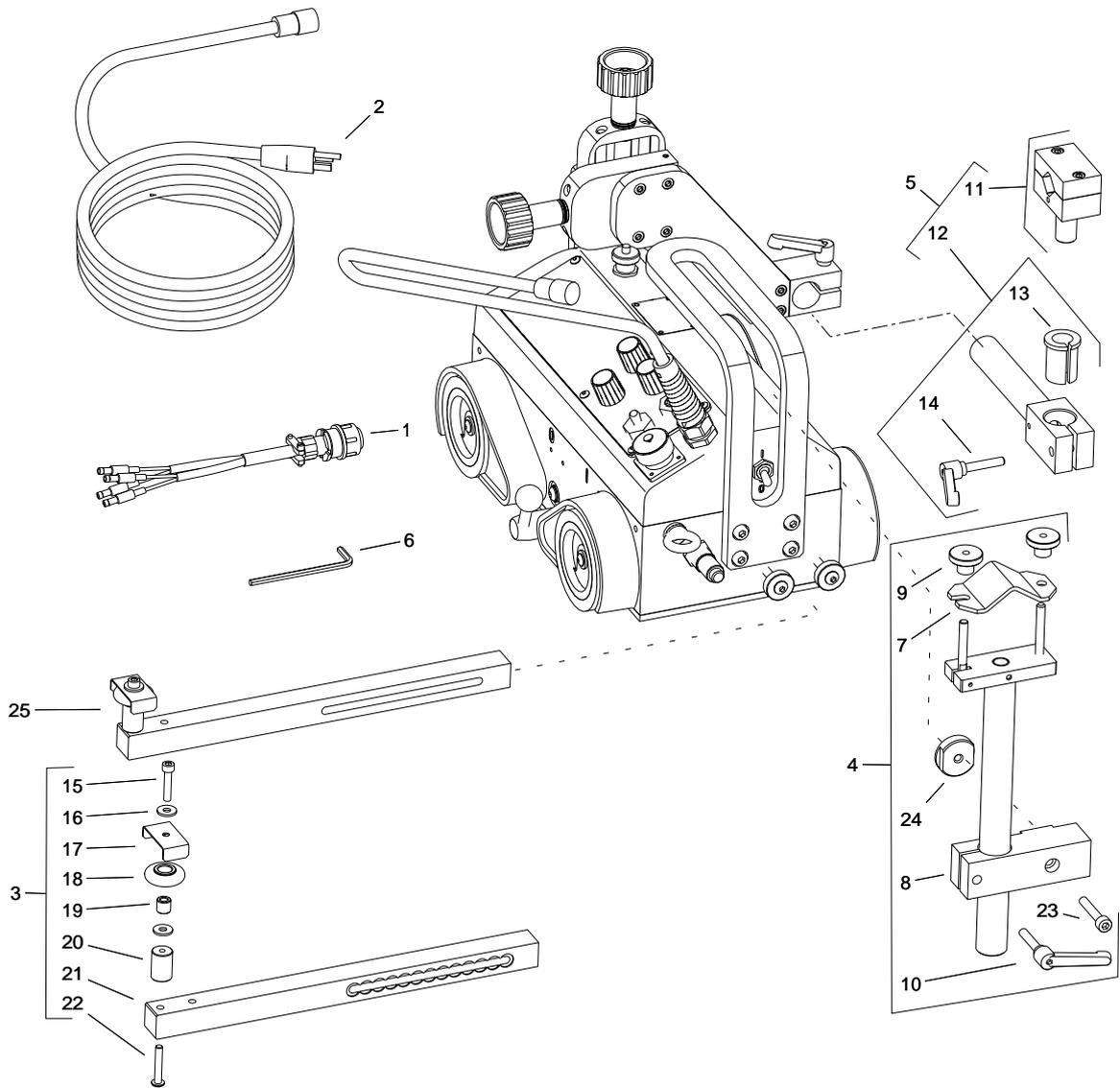
Part number (1 unit):
KOL-0476-57-00-00-0



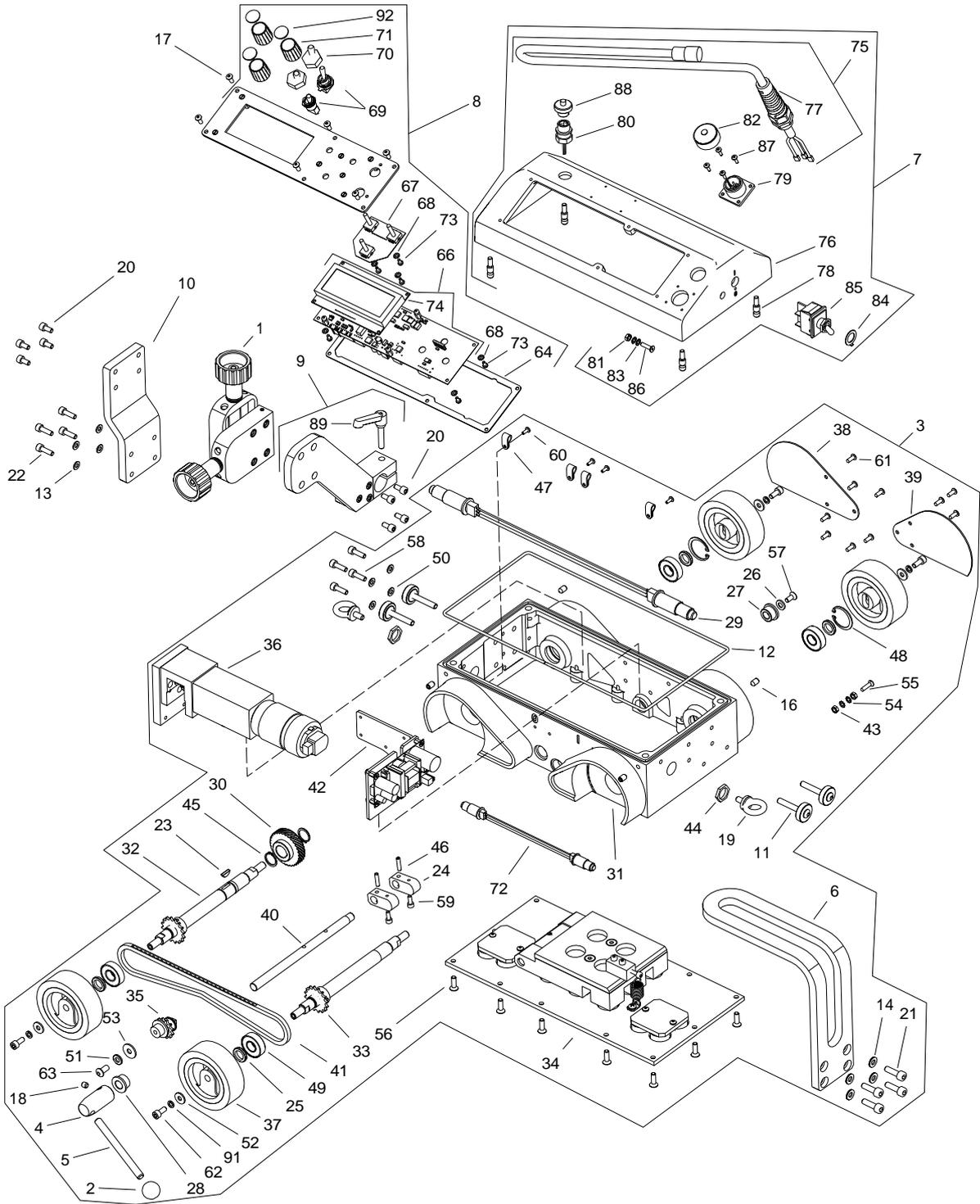
As shown in the figure, use the 2.5 mm hex wrench to remove the cover and use the 3 mm hex wrench to remove four wheels. Install in reverse order.



6. 115–230 V EXPLODED VIEWS AND PARTS LIST



ITEM	PART NUMBER	DESCRIPTION	Q-TY
1	KBL-0466-17-00-00-0	START-STOP ARC IGNITION CABLE 6.5 M (20 FT)	1
2	PWD-0466-18-00-00-0	POWER CORD 230V (CEE)	1
2	PWD-0466-21-00-00-0	POWER CORD 230V (AU)	1
2	PWD-0466-23-00-00-0	POWER CORD 120V (UK type G)	1
2	PWD-0466-16-00-00-0	POWER CORD 120V (USA)	1
2	PWD-0466-24-00-00-0	POWER CORD 3x1.5 – WITHOUT PLUG	1
3	PRW-0476-04-00-02-0	LEFT GUIDE ARM ASSY	1
4	PDT-0466-55-00-00-0	CABLE ANCHOR ASSY	1
5	UCW-0476-27-00-00-0	SHORT ROD TORCH HOLDER WITH CLIP ASSY	1
6	KLC-000007	4 MM HEX WRENCH	1
7	TRM-0219-06-16-00-0	CLAMP PLATE I	1
8	KST-0466-55-01-00-0	ANCHOR CLAMPING BLOCK	1
9	NKR-000121	KNURLED NUT M6	2
10	RKJ-000036	HANDLEVER M6-32	1
11	ZCS-0476-06-01-00-0	TORCH CLIP ASSY	1
12	WLK-0476-20-01-00-0	SHORT ROD ASSY	1
13	TLJ-0419-04-02-03-0	INSULATION SLEEVE	1
14	RKJ-000036	HANDLEVER M6-32	1
15	SRB-000177	HEX SOCKET HEAD CAP SCREW M5x22	2
16	PDK-000036	ROUND WASHER 5.5	4
17	OSL-0466-06-02-00-0	ROLLER COVER	2
18	RLK-0221-01-19-00-0	GUIDE ARM ROLLER	2
19	TLJ-0419-06-03-00-0	ROLLER SLEEVE	2
20	TLJ-0476-04-02-00-0	GUIDE ARM SLEEVE	2
21	RAM-0476-04-01-00-2	GUIDE ARM	2
22	WKR-000473	HEX SOCKET BUTTON HEAD SCREW M5x30	2
23	SRB-000123	HEX SOCKET HEAD CAP SCREW M6x35	1
24	NKR-0466-55-02-00-0	ANCHOR NUT	1
25	PRW-0476-04-00-01-0	RIGHT GUIDE ARM ASSY	1

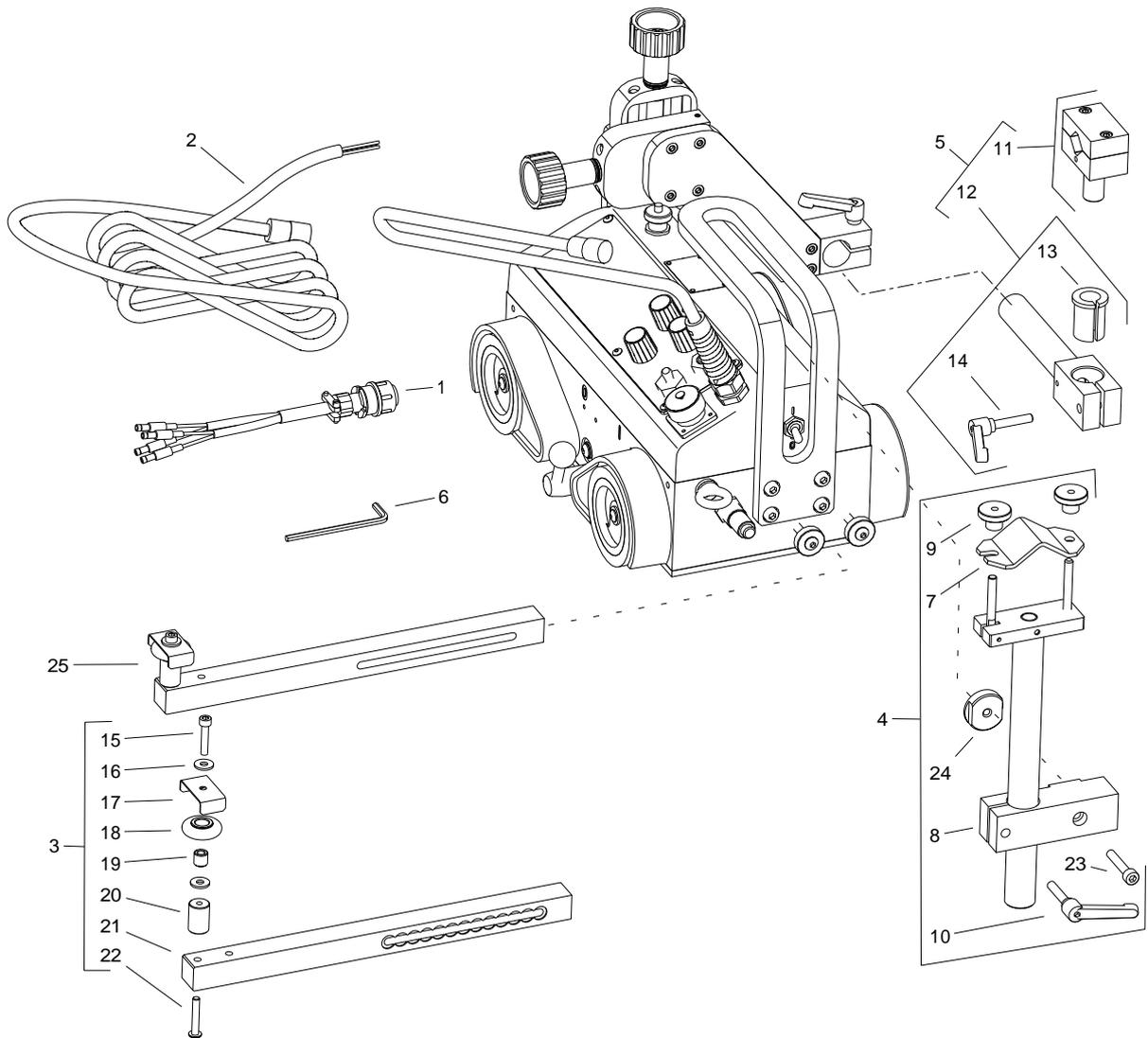


ITEM	PART NUMBER	DESCRIPTION	Q-TY
1	ZSP-0466-03-00-00-1	CROSS SLIDE ASSY	1
2	KUL-0466-13-00-00-0	LEVER BALL	1
3	ZSP-0476-01-00-00-0	DRIVE SYSTEM	1
4	GLK-0476-01-11-00-0	LEVER HOLDER	1
5	DZW-0476-01-12-00-0	LEVER	1
6	RKJ-0476-01-13-00-0	CARRYING HANDLE	1
7	PKR-0476-02-00-00-0	CONTROLLER HOUSING ASSY	1
8	PNL-0476-02-20-00-0	CONTROL PANEL ASSY	1
9	PLY-0476-03-00-00-0	TORCH HOLDER PLATE	1
10	WSP-0476-05-00-00-1	SLIDE BRACKET	1
11	SRB-0476-08-00-00-0	GUIDE ARM SCREW	4
12	USZ-0476-09-00-00-0	SEAL	1
13	PDK-000017	ROUND WASHER 5.3	4
14	PDK-000021	ROUND WASHER 6.4	4
16	WKR-000066	HEX SOCKET SET SCREW WITH CONE POINT M6x10	4
17	WKR-000092	HEX SOCKET BUTTON HEAD SCREW M4x10	6
18	WKR-000057	HEX SOCKET SET SCREW WITH FLAT POINT M6x6	1
19	SRB-000278	EYE BOLT M6	2
20	SRB-000075	HEX SOCKET HEAD CAP SCREW M5x10	8
21	SRB-000114	HEX SOCKET HEAD CAP SCREW M6x20	4
22	SRB-000083	HEX SOCKET HEAD CAP SCREW M5x16	4
23	WPS-0170-00-22-00-1	KEY 3x5x13	1
24	KRZ-0233-01-16-00-0	CAM	2
25	PDK-0233-01-21-00-0	DISTANCE WASHER 12.1x19x3	4
26	PDK-0233-01-23-00-0	WASHER 6.4x12x1.6	1
27	TLJ-0233-01-27-00-0	SLEEVE BEARING 9x16x10	1
28	TLJ-0233-01-28-00-0	SLEEVE BEARING 12x16x10	1
29	ZSP-0476-01-16-00-0	LIMIT SWITCH ASSY	1
30	KOL-0466-01-08-00-0	BEVEL GEAR z30	1
31	KRP-0476-01-01-00-1	BODY	1
32	WLK-0476-01-02-00-0	FRONT DRIVE SHAFT ASSY	1
33	WLK-0476-01-03-00-0	BACK DRIVE SHAFT ASSY	1
34	BLO-0476-01-04-00-0	MAGNET BLOCK ASSY	1
35	NPN-0476-01-05-00-0	CHAIN TENSIONER	1
36	RDK-0476-01-06-00-0	GEARBOX ASSY	1
37	KOL-0476-01-07-00-0	DRIVE WHEEL	4
38	OSL-0476-01-08-00-0	WHEEL GUARD RIGHT	1
39	OSL-0476-01-09-00-0	WHEEL GUARD LEFT	1
40	OSK-0476-01-10-00-0	SHAFT	1
41	LNC-0476-01-14-00-0	ROLLER CHAIN	1
42	ZSL-0476-01-15-00-0	POWER SUPPLY ASSY	1
43	NKR-000013	HEX NUT M4	2
44	NKR-000115	NUT M16x1.5	2
45	PRS-000005	EXTERNAL RETAINING RING 15z	2
46	KLK-000013	SPRING DOWEL PIN 4x16	2
47	OBJ-000002	HOLDER FOR FIXING LEADS 4	4
48	PRS-000018	INTERNAL RETAINING RING 28w	2
49	LOZ-000038	BALL BEARING 12x28x8	4

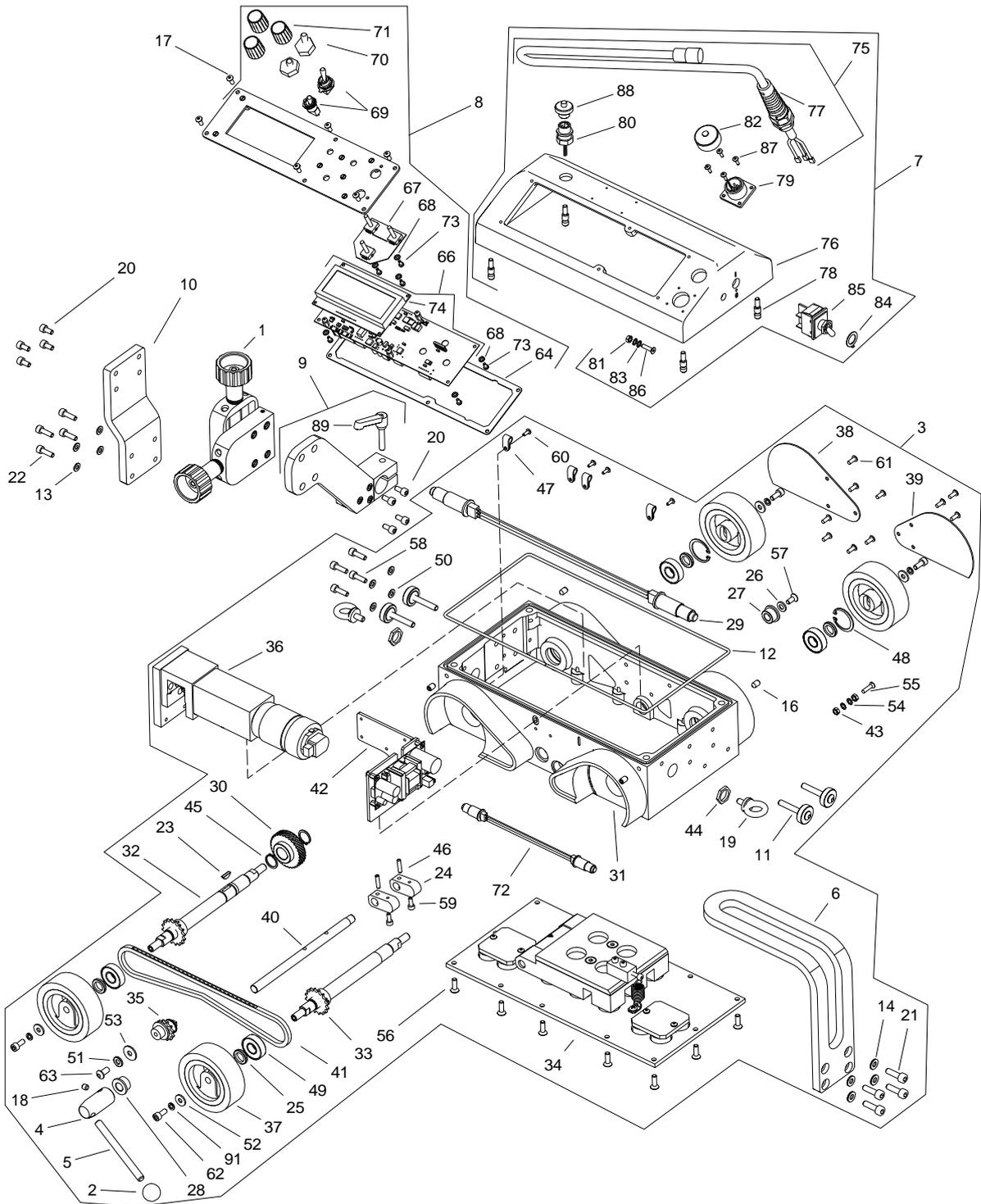
ITEM	PART NUMBER	DESCRIPTION	Q-TY
50	PDK-000017	ROUND WASHER 5.3	4
51	PDK-000021	ROUND WASHER 6.4	1
52	PDK-000036	ROUND WASHER 5.5	4
53	PDK-000037	ROUND WASHER 6.5	1
54	PDK-000060	EXTERNAL TOOTH LOCK WASHER 4.3	2
55	WKR-000152	CROSS RECESSED COUNTERSUNK HEAD SCREW M4x16	1
56	WKR-000136	HEX SOCKET COUNTERSUNK HEAD SCREW M5x16	18
57	WKR-000097	HEX SOCKET COUNTERSUNK HEAD SCREW M5x12	1
58	SRB-000083	HEX SOCKET HEAD CAP SCREW M5x16	4
59	SRB-000061	HEX SOCKET HEAD CAP SCREW M4x10	2
60	WKR-000091	HEX SOCKET BUTTON HEAD SCREW M4x8	4
61	WKR-000092	HEX SOCKET BUTTON HEAD SCREW M4x10	10
62	SRB-000078	HEX SOCKET HEAD CAP SCREW M5x12	4
63	WKR-000290	HEX SOCKET BUTTON HEAD SCREW M6x12	1
64	USZ-0476-02-02-01-0	PANEL PLATE SEAL	1
65	MSK-0476-02-20-10-0	PANEL PLATE ASSY	1
66	MDL-0476-02-02-21-2	ELECTRONIC CONTROLLER ASSY	1
67	MDL-0476-02-02-30-1	ENCODER MODULE	1
68	PDK-000058	EXTERNAL TOOTH LOCK WASHER 3.2	7
69	WZK-0476-02-02-02-0	TRAVEL DIRECTION AND ARC IGNITION WIRE SET	1
70	OSL-000036	LEVER SWITCH COVER	2
71	PKT-000016	POTENTIOMETER KNOB	3
72*	WZK-0476-02-07-00-0	POWER SWITCH WIRE SET	1
73	WKR-000181	CROSS RECESSED PAN HEAD SCREW M3x6	7
74	MDL-0476-02-02-22-2	DISPLAY MODULE	1
75	WZK-0466-02-09-00-0	POWER WIRE SET	1
76	PKR-0476-02-01-00-1	CONTROLLER HOUSING	1
77	DLW-000007	CABLE GLAND WITH STRAIN RELIEF PG11	1
78	SZP-0476-02-03-00-0	PIN	4
79	WZK-0476-02-04-00-0	ARC IGNITION SOCKET WIRE SET	1
80	WZK-0476-02-06-00-0	OSCILLATION SOCKET WIRE SET	1
81	NKR-000013	HEX NUT M4	1
82	NKR-000120	SOCKET CAP	1
83	PDK-000060	EXTERNAL TOOTH LOCK WASHER 4.3	2
84	PDK-000165	LOCK WASHER 12/19	1
85	PNK-000026	LEVER SWITCH 641H/3	1
86	WKR-000435	HEX SOCKET COUNTERSUNK HEAD SCREW M4x16	1
87	WKR-000287	HEX SOCKET BUTTON HEAD SCREW M3x10	4
88	ZLP-000025	PLUG M12	1
89	RKJ-000036	HANDLEVER M6-32	1
90*	PWD-0476-10-00-00-0	GROUNDING WIRE	1
91	PDK-000045	SPRING WASHER 5.1	4
92	ZLP-000007	CAP	3

* not shown in the drawing

7. 42 V EXPLODED VIEWS AND PARTS LIST



ITEM	PART NUMBER	DESCRIPTION	Q-TY
1	KBL-0466-17-00-00-0	START-STOP ARC IGNITION CABLE 6.5 M (20 FT)	1
2	PWD-0621-03-00-00-0	POWER CORD 42V	1
3	PRW-0476-04-00-02-0	LEFT GUIDE ARM ASSY	1
4	PDT-0466-55-00-00-0	CABLE ANCHOR ASSY	1
5	UCW-0476-27-00-00-0	SHORT ROD TORCH HOLDER WITH CLIP ASSY	1
6	KLC-000007	4 MM HEX WRENCH	1
7	TRM-0219-06-16-00-0	CLAMP PLATE I	1
8	KST-0466-55-01-00-0	ANCHOR CLAMPING BLOCK	1
9	NKR-000121	KNURLED NUT M6	2
10	RKJ-000036	HANDLEVER M6-32	1
11	ZCS-0476-06-01-00-0	TORCH CLIP ASSY	1
12	WLK-0476-20-01-00-0	SHORT ROD ASSY	1
13	TLJ-0419-04-02-03-0	INSULATION SLEEVE	1
14	RKJ-000036	HANDLEVER M6-32	1
15	SRB-000177	HEX SOCKET HEAD CAP SCREW M5x22	2
16	PDK-000036	ROUND WASHER 5.5	4
17	OSL-0466-06-02-00-0	ROLLER COVER	2
18	RLK-0221-01-19-00-0	GUIDE ARM ROLLER	2
19	TLJ-0419-06-03-00-0	ROLLER SLEEVE	2
20	TLJ-0476-04-02-00-0	GUIDE ARM SLEEVE	2
21	RAM-0476-04-01-00-2	GUIDE ARM	2
22	WKR-000473	HEX SOCKET BUTTON HEAD SCREW M5x30	2
23	SRB-000123	HEX SOCKET HEAD CAP SCREW M6x35	1
24	NKR-0466-55-02-00-0	ANCHOR NUT	1
25	PRW-0476-04-00-01-0	RIGHT GUIDE ARM ASSY	1



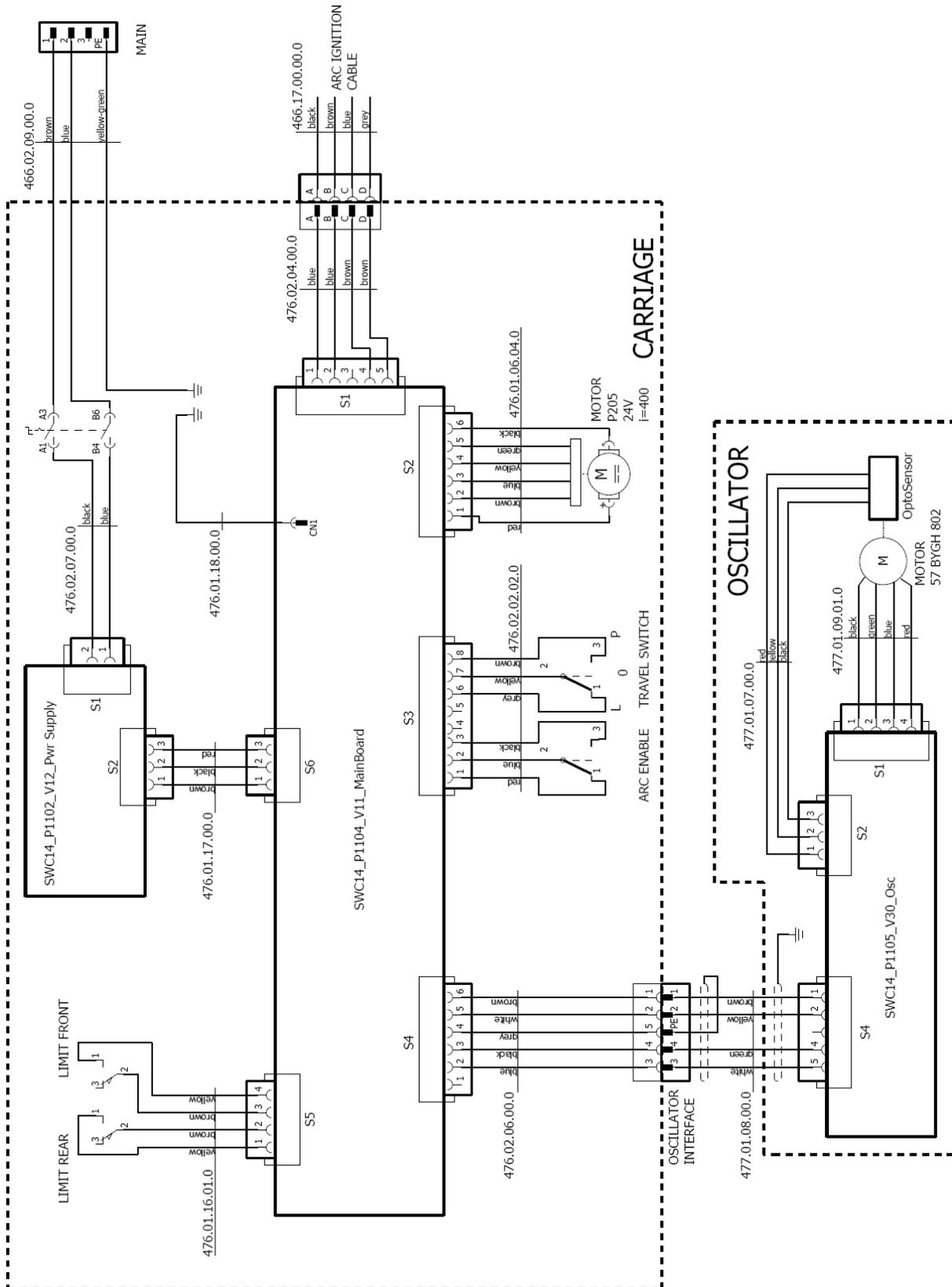
ITEM	PART NUMBER	DESCRIPTION	Q-TY
1	ZSP-0466-03-00-00-1	CROSS SLIDE ASSY	1
2	KUL-0466-13-00-00-0	LEVER BALL	1
3	ZSP-0623-01-00-00-0	DRIVE SYSTEM 42V	1
4	GLK-0476-01-11-00-0	LEVER HOLDER	1
5	DZW-0476-01-12-00-0	LEVER	1
6	RKJ-0476-01-13-00-0	CARRYING HANDLE	1
7	PKR-0623-02-00-00-0	CONTROLLER HOUSING ASSY 42V	1

ITEM	PART NUMBER	DESCRIPTION	Q-TY
8	PNL-0476-02-20-00-0	CONTROL PANEL ASSY	1
9	PLY-0476-03-00-00-0	TORCH HOLDER PLATE	1
10	WSP-0476-05-00-00-1	SLIDE BRACKET	1
11	SRB-0476-08-00-00-0	GUIDE ARM SCREW	4
12	USZ-0476-09-00-00-0	SEAL	1
13	PDK-000017	ROUND WASHER 5.3	4
14	PDK-000021	ROUND WASHER 6.4	4
16	WKR-000066	HEX SOCKET SET SCREW WITH CONE POINT M6x10	4
17	WKR-000092	HEX SOCKET BUTTON HEAD SCREW M4x10	6
18	WKR-000057	HEX SOCKET SET SCREW WITH FLAT POINT M6x6	1
19	SRB-000278	EYE BOLT M6	2
20	SRB-000075	HEX SOCKET HEAD CAP SCREW M5x10	8
21	SRB-000114	HEX SOCKET HEAD CAP SCREW M6x20	4
22	SRB-000083	HEX SOCKET HEAD CAP SCREW M5x16	4
23	WPS-0170-00-22-00-1	KEY 3x5x13	1
24	KRZ-0233-01-16-00-0	CAM	2
25	PDK-0233-01-21-00-0	DISTANCE WASHER 12.1x19x3	4
26	PDK-0233-01-23-00-0	WASHER 6.4x12x1.6	1
27	TLJ-0233-01-27-00-0	SLEEVE BEARING 9x16x10	1
28	TLJ-0233-01-28-00-0	SLEEVE BEARING 12x16x10	1
29	ZSP-0476-01-16-00-0	LIMIT SWITCH ASSY	1
30	KOL-0466-01-08-00-0	BEVEL GEAR z30	1
31	KRP-0476-01-01-00-1	BODY	1
32	WLK-0476-01-02-00-0	FRONT DRIVE SHAFT ASSY	1
33	WLK-0476-01-03-00-0	BACK DRIVE SHAFT ASSY	1
34	BLO-0476-01-04-00-0	MAGNET BLOCK ASSY	1
35	NPN-0476-01-05-00-0	CHAIN TENSIONER	1
36	RDK-0476-01-06-00-0	GEARBOX ASSY	1
37	KOL-0476-01-07-00-0	DRIVE WHEEL	4
38	OSL-0476-01-08-00-0	WHEEL GUARD RIGHT	1
39	OSL-0476-01-09-00-0	WHEEL GUARD LEFT	1
40	OSK-0476-01-10-00-0	SHAFT	1
41	LNC-0476-01-14-00-0	ROLLER CHAIN	1
42	ZSL-0623-01-01-00-0	POWER SUPPLY ASSY 42V	1
43	NKR-000013	HEX NUT M4	2
44	NKR-000115	NUT M16x1.5	2
45	PRS-000005	EXTERNAL RETAINING RING 15z	2
46	KLK-000013	SPRING DOWEL PIN 4x16	2
47	OBJ-000002	HOLDER FOR FIXING LEADS 4	4
48	PRS-000018	INTERNAL RETAINING RING 28w	2
49	LOZ-000038	BALL BEARING 12x28x8	4
50	PDK-000017	ROUND WASHER 5.3	4
51	PDK-000021	ROUND WASHER 6.4	1
52	PDK-000036	ROUND WASHER 5.5	4
53	PDK-000037	ROUND WASHER 6.5	1
54	PDK-000060	EXTERNAL TOOTH LOCK WASHER 4.3	2
55	WKR-000152	CROSS RECESSED COUNTERSUNK HEAD SCREW M4x16	1
56	WKR-000136	HEX SOCKET COUNTERSUNK HEAD SCREW M5x16	18
57	WKR-000097	HEX SOCKET COUNTERSUNK HEAD SCREW M5x12	1
58	SRB-000083	HEX SOCKET HEAD CAP SCREW M5x16	4
59	SRB-000061	HEX SOCKET HEAD CAP SCREW M4x10	2

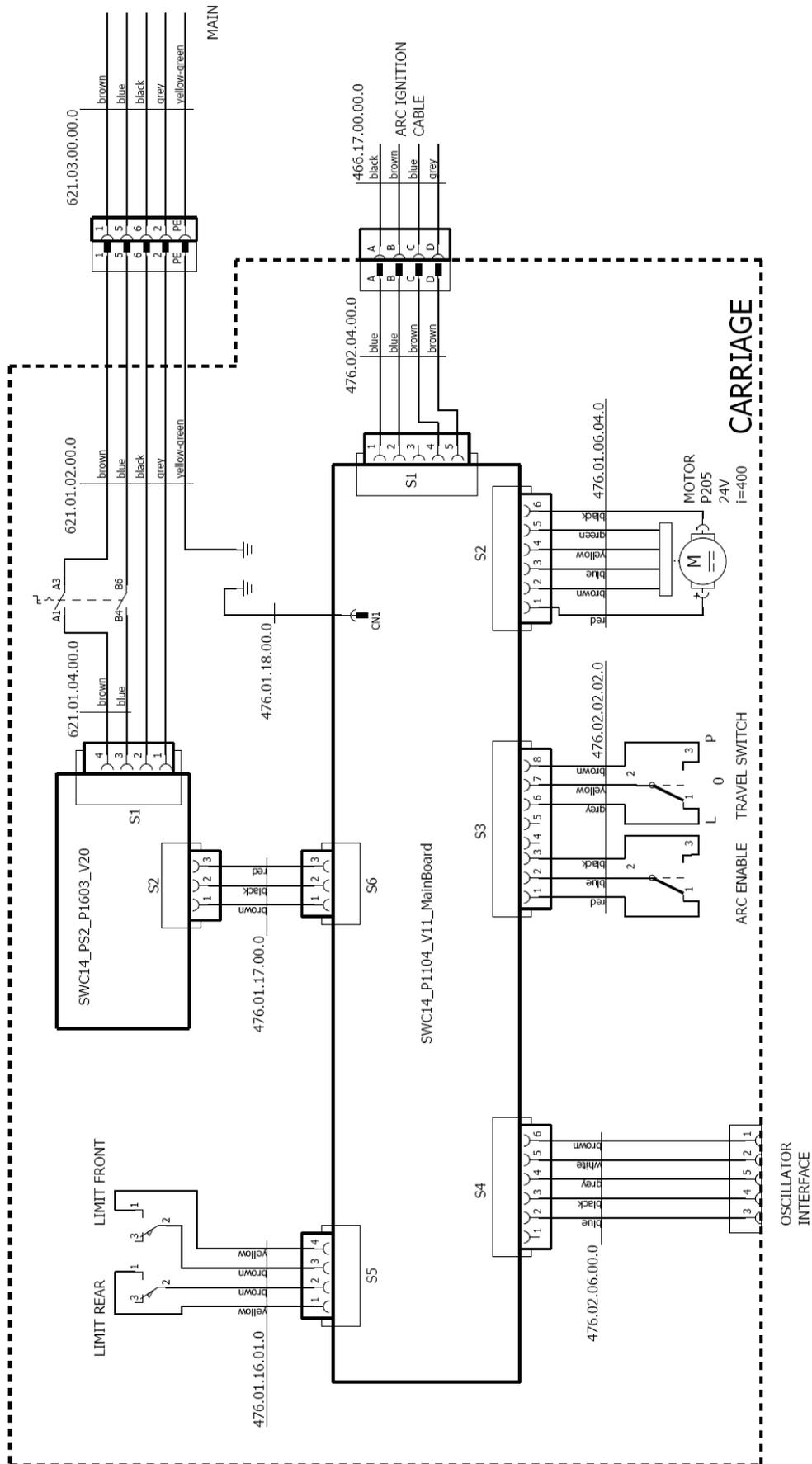
ITEM	PART NUMBER	DESCRIPTION	Q-TY
60	WKR-000091	HEX SOCKET BUTTON HEAD SCREW M4x8	4
61	WKR-000092	HEX SOCKET BUTTON HEAD SCREW M4x10	10
62	SRB-000078	HEX SOCKET HEAD CAP SCREW M5x12	4
63	WKR-000290	HEX SOCKET BUTTON HEAD SCREW M6x12	1
64	USZ-0476-02-02-01-0	PANEL PLATE SEAL	1
65	MSK-0476-02-20-10-0	PANEL PLATE ASSY	1
66	MDL-0476-02-02-21-2	ELECTRONIC CONTROLLER ASSY	1
67	MDL-0476-02-02-30-1	ENCODER MODULE	1
68	PDK-000058	EXTERNAL TOOTH LOCK WASHER 3.2	7
69	WZK-0476-02-02-02-0	TRAVEL DIRECTION AND ARC IGNITION WIRE SET	1
70	OSL-000036	LEVER SWITCH COVER	2
71	PKT-000016	POTENTIOMETER KNOB	3
73	WKR-000181	CROSS RECESSED PAN HEAD SCREW M3x6	7
74	MDL-0476-02-02-22-2	DISPLAY MODULE	1
75	WZK-0621-01-02-00-0	POWER WIRE SET 42V	1
76	PKR-0476-02-01-00-1	CONTROLLER HOUSING	1
77	DLW-000007	CABLE GLAND WITH STRAIN RELIEF PG11	1
78	SZP-0476-02-03-00-0	PIN	4
79	WZK-0476-02-04-00-0	ARC IGNITION SOCKET WIRE SET	1
80	WZK-0476-02-06-00-0	OSCILLATION SOCKET WIRE SET	1
81	NKR-000013	HEX NUT M4	1
82	NKR-000120	SOCKET CAP	1
83	PDK-000060	EXTERNAL TOOTH LOCK WASHER 4.3	2
84	PDK-000165	LOCK WASHER 12/19	1
85	PNK-000026	LEVER SWITCH 641H/3	1
86	WKR-000435	HEX SOCKET COUNTERSUNK HEAD SCREW M4x16	1
87	WKR-000287	HEX SOCKET BUTTON HEAD SCREW M3x10	4
88	ZLP-000025	PLUG M12	1
89	RKJ-000036	HANDLEVER M6-32	1
90*	PWD-0476-10-00-00-0	GROUNDING WIRE	1
91	PDK-000045	SPRING WASHER 5.1	4

* not shown in the drawing

8. 115–230 V WIRING DIAGRAM



9. 42 V WIRING DIAGRAM



10. DECLARATION OF CONFORMITY

EC Declaration of Conformity

We

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

declare with full responsibility that:

ARC RUNNER WELDING CARRIAGE

is manufactured in accordance with the following standards:

- EN 12100
- EN 60745-1
- 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



Białystok, 4 March 2015

Marek Siergiej
CEO

11. QUALITY CERTIFICATE

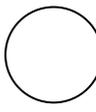
**Machine control card
ARC RUNNER WELDING CARRIAGE**

- 115–230 V**
- 42 V**

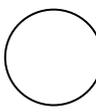
Serial number

Electric test

Type of test	Result	Name of tester
Insulation electrical strength test (1000 V, 50 Hz)	 Date
Continuity test of the protective earth system Ω Signature

Quality control 

Adjustments, inspections

Quality control 

12. WARRANTY CARD

WARRANTY CARD No.....

..... in the name of Manufacturer warrants the ARC 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 wheels as well as damage or wear that arise from misuse, accident, tempering or any other causes not related to defects in workmanship or material.

Date of production

Serial number

Date of sale

Signature of seller.....

2.13 / 29 November 2017

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