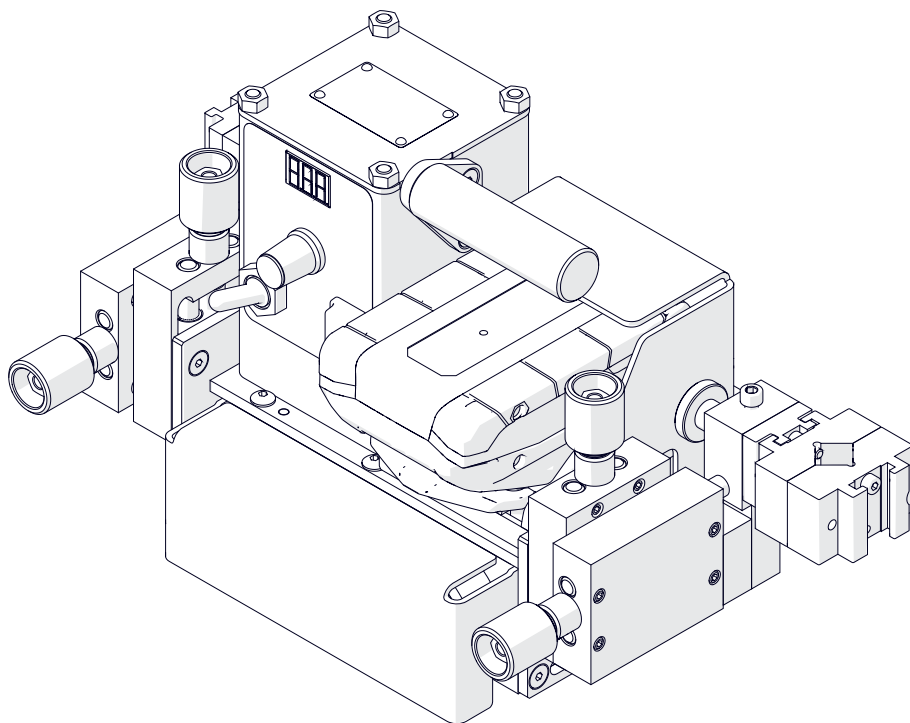


# MINI SPIDER

## OPERATOR'S MANUAL



PART NO. WA-SPIDER

Ver: 1.0



TO PREVENT SERIOUS INJURY OR DAMAGE TO YOUR WELDING CARRIAGE,  
READ AND UNDERSTAND ALL WARNINGS AND INSTRUCTIONS BEFORE USE



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### LIMITED WARRANTY

Industrial Tool & Machinery Sales (hereinafter referred to as ITMS) will, within twelve (12) months from the original date of purchase, repair or replace any goods found to be defective in materials or workmanship.

This warranty is void if the item has been damaged by accident, neglect, improper service or other causes not arising out of defects in materials or workmanship. This warranty does not apply to machines and/or components which have been altered, changed, or modified in any way, or subjected to overloading or use beyond recommended capacities and specifications. Worn componentry due to normal wear and tear is not a warranty claim. Goods returned defective shall be returned prepaid freight to ITMS or agreed repair agent, which shall be the buyer's sole and exclusive remedy for defective goods. ITMS accepts no additional liability pursuant to this guarantee for the costs of travelling or transportation of the product or parts to and from ITMS or the service agent or dealer, such costs are not included in this warranty.

Our goods come with guarantees which cannot be excluded under the Australian Consumer Law. You are entitled to replacement or refund for a major failure and to compensation for other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

### THE MANUFACTURER RESERVES THE RIGHT TO MAKE IMPROVEMENTS AND MODIFICATIONS TO DESIGN WITHOUT PRIOR NOTICE.

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## 1. GENERAL INFORMATION

### 1.1. Application

The Mini Spider is a carriage designed to weld fillet joints with MIG/MAG torches. The carriage is battery-powered and clamped with permanent magnets.

Optional magnet blocks increase the clamping force.

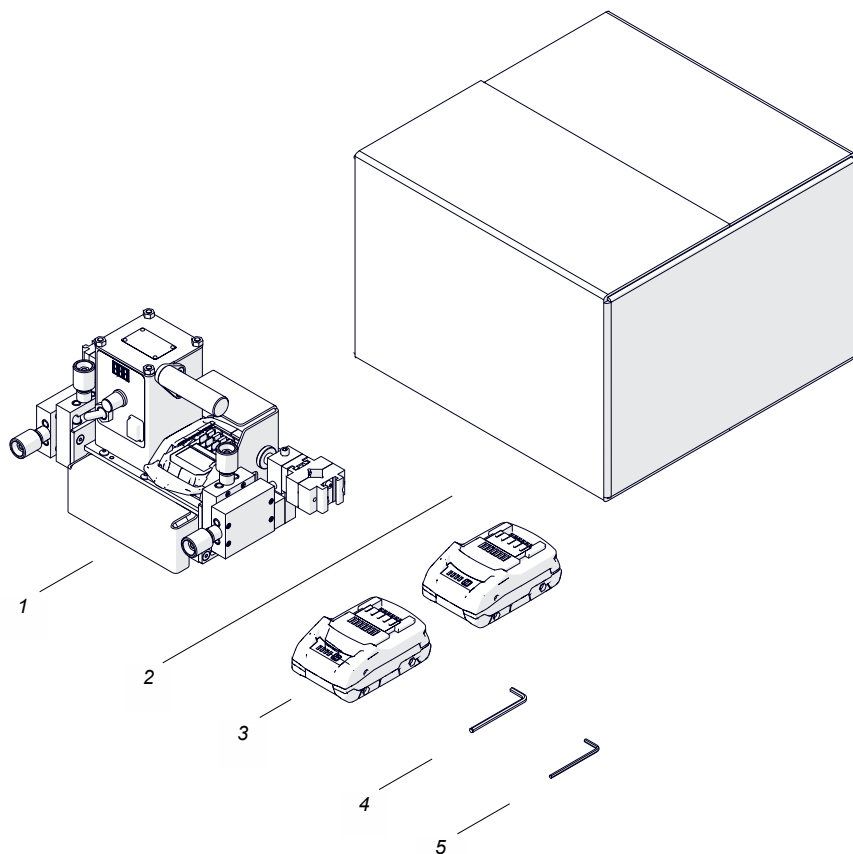
The machine is designed for use by a professional operator only.

### 1.2. Technical data

Voltage	18 V DC, 4.0 Ah
Power	25 W
Welding position (according to EN ISO 6947 and AWS/ASME)	PA/1F PB/2F
Torch type	MIG/MAG
Torch diameter	16–22 mm (0.63–0.87")
Maximum allowed cable weight for horizontal work	8 kg (18 lbs)
Minimum workpiece thickness	4 mm (0.16")
Ground clearance	4 mm (0.16")
Horizontal pulling force	150 N
Cross slides adjustment range	0–21 mm (0–0.83", up-down, left-right)
Horizontal speed*	5–110 cm/min (2–44 in/min)
Weight (without the battery)	7.6 kg (16.8 lbs)

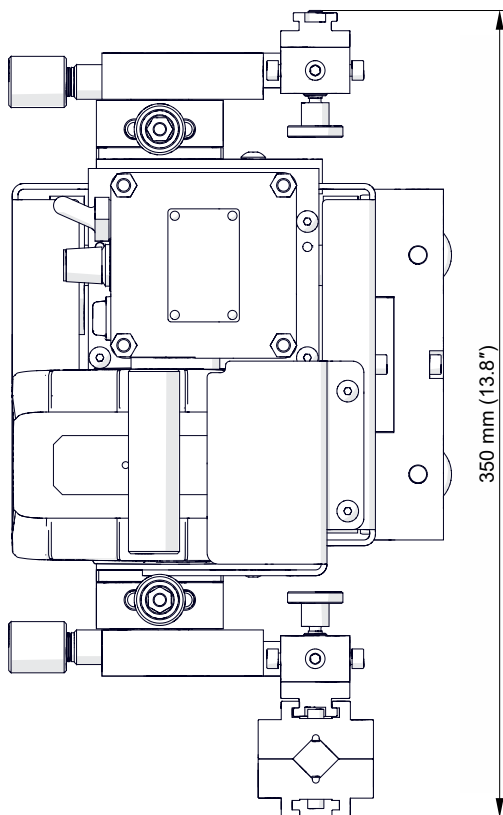
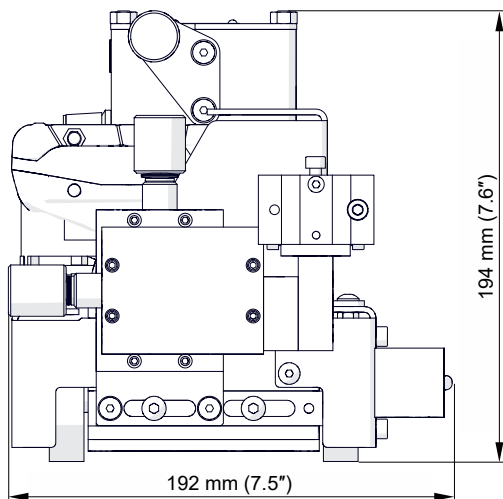
\* The maximum speed depends on the battery charge level.

### 1.3. Equipment included

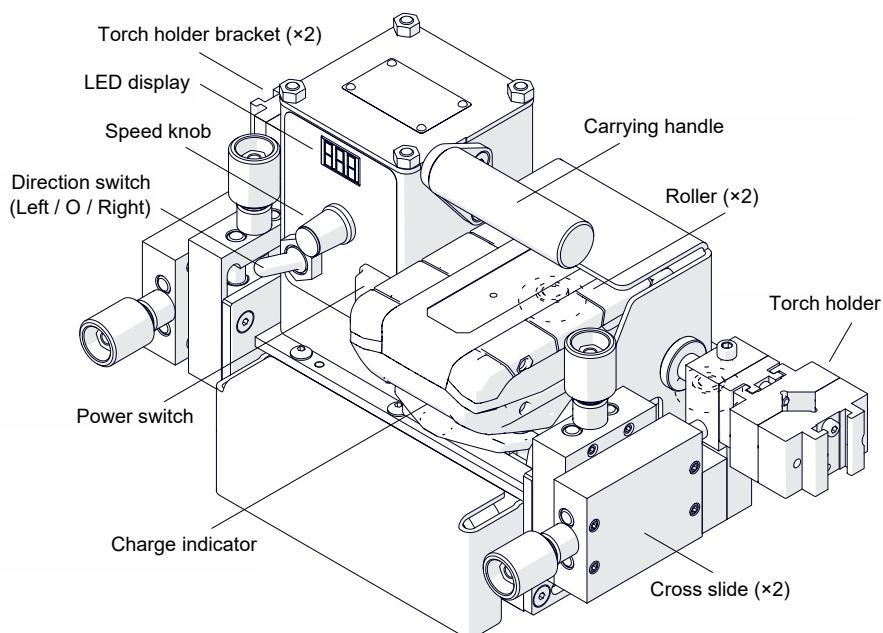


1	Carriage	1 unit
2	Cardboard box	1 unit
3	Battery 4.0 Ah	2 units
4	Hex wrench 4 mm	1 unit
5	Hex wrench 3 mm	1 unit
–	Operator's Manual	1 unit

## 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. Keep untrained bystanders away from the carriage.
5. Before each use, ensure the correct condition of the carriage, battery, cables, control parts, rollers, and wheels.
6. 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.
7. Keep the carriage and battery dry. Do not expose the carriage to rain, snow, or frost.
8. Do not expose the machine and the battery to fire or excessive temperature.
9. Keep the work area well-lit, clean, and free of obstacles.
10. Do not use in explosive environments or near flammable materials.
11. Transport and position the carriage by using the carrying handle.
12. Put the carriage so that four wheels are on the surface. Make sure that no contact is between the surface and chassis.
13. Install the battery only after you set the direction switch to the middle position.
14. Install only MIG/MAG torches whose diameter is the same as the diameter of the torch holder.
15. Keep the torch cables away from the surface. Hang the cables to decrease the load applied on the carriage. Use only cables whose weight is not more than 8 kg (18 lbs).
16. At heights, use a fall arrester not to let the carriage fall.
17. Do not stay below the carriage that is put at heights.
18. Use eye protection (helmet, shield, and screen), ear protection, gloves, and protective clothing. The clothing must not be loose.
19. Do not stop the carriage with your hand. To stop, set the direction switch to the middle position.
20. Remove the battery before you do maintenance or install/remove parts.
21. Repair only in a service center appointed by the seller.
22. If the carriage falls, is wet, or has any damage, stop the work and immediately send the carriage to the service center for check and repair.
23. Do not leave the carriage unattended during work.
24. Store the machine and battery in a safe and dry place. Do not store discharged battery.

25. Do not remove the battery during operation of the machine.
26. Use a battery and charger compatible with the machine, listed in the ACCESSORIES chapter.
27. Use only CAS (Cordless Alliance System) batteries and chargers. Batteries and chargers marked with CAS are compatible with CAS devices. Only use genuine batteries and chargers.
28. Do not open the battery and do not short-circuit its contacts.
29. Do not allow the battery to be fully discharged. Do not leave the battery in the machine.
30. Acid flammable liquid may leak from defective battery. If the liquid comes in contact with your skin or eyes, rinse them immediately with clean water and seek medical attention.
31. When you transport the battery, familiarize yourself with hazardous goods carriage regulations (UN 3480 and UN 3481).



## 3. STARTUP AND OPERATION

### 3.1. Checking the battery charge level

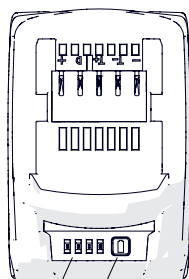
Charge the battery before first use.

To check the charge level, press the charge status button. If only one LED on the charge indicator flashes green, charge the battery.

Do not charge fully charged battery.













**Before charging the battery, read the charger manual.**



Charge status button

Charge indicator

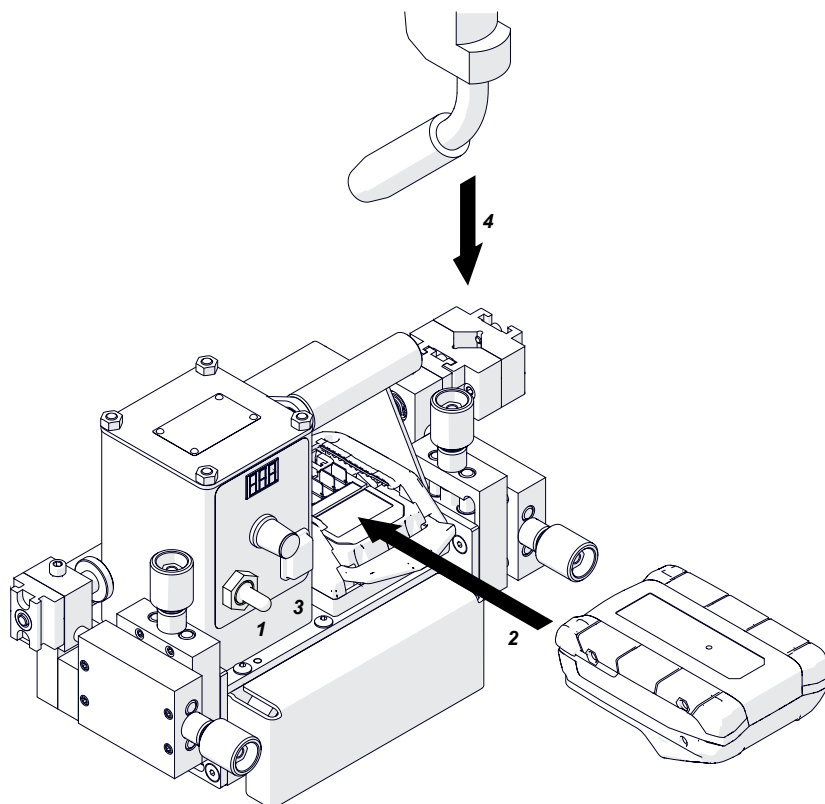
		4 LEDs light up green	≤ 100%
		3 LEDs light up green	≤ 75%
		2 LEDs light up green	≤ 50%
		1 LED lights up green	≤ 25%
		1 LED flashes green	charging required

### 3.2. Operating

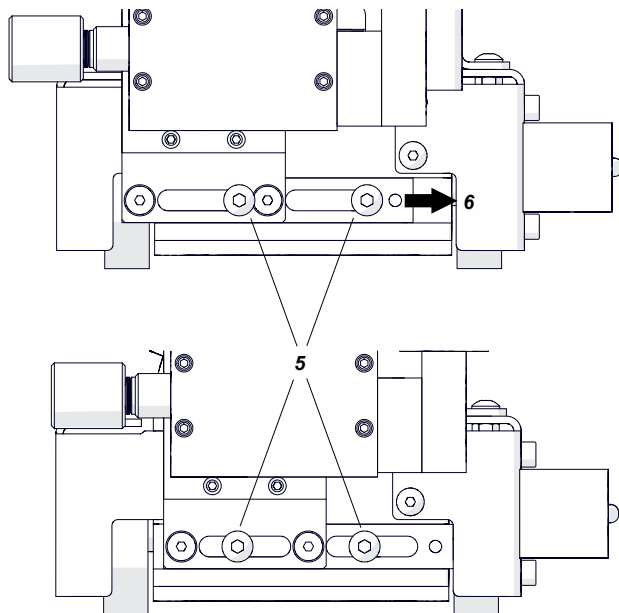
Use the carrying handle to move the carriage to the work area. Set the direction switch to the middle position (1) and put the battery into the carriage (2). Set the power switch to 'I' (3).

Then the display comes on (888). Next, if the speed unit is set to centimeters per minute, *E<sub>ur</sub>* shows. If the unit is set to inches per minute, *I<sub>5</sub>* shows.

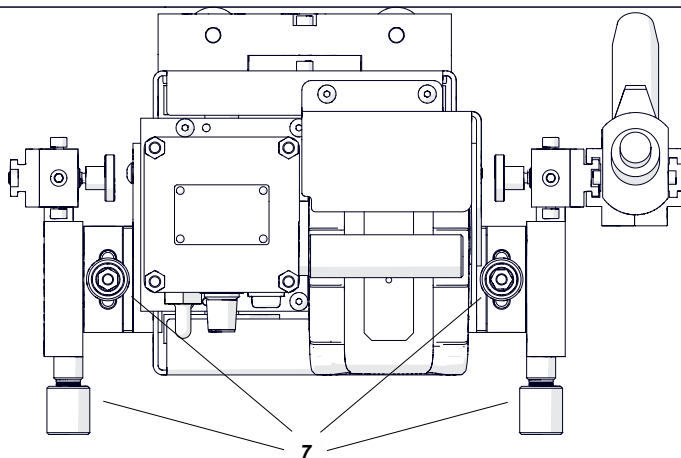
Use the 3 mm and 4 mm hex wrenches to tighten the torch in the holder (4).



To allow work in narrow spaces, adjust the position of the cross slides. On the two sides, loosen the screws (5). Then, move the cross slides (6) and tighten the screws (5).



Put the carriage so that the rollers are on the workpiece. Then, use the knobs (7) to put the torch in the weld joint.



Use the speed knob to set the required speed. Use the direction switch to select a travel direction. Then, the carriage travel starts with the speed shown.

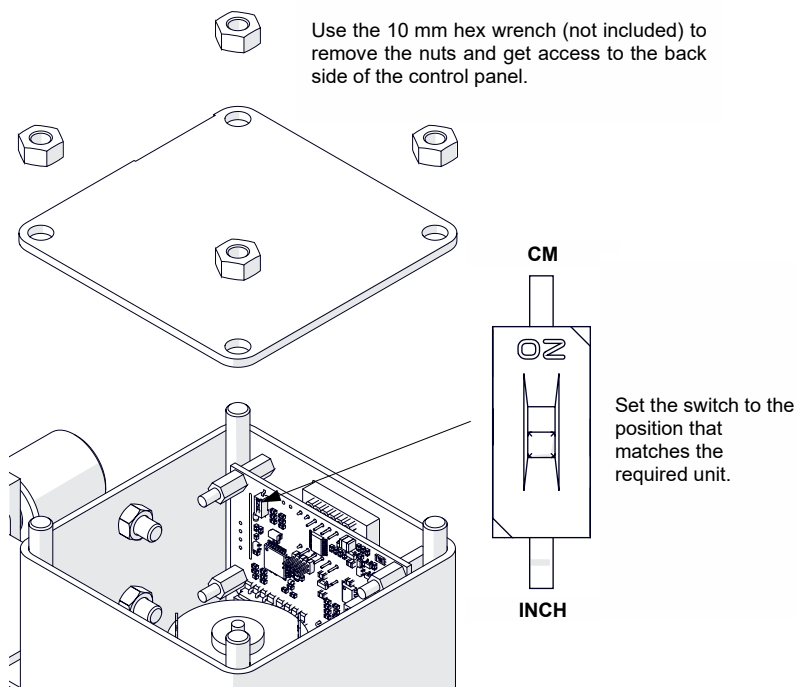
To stop the movement, set the switch to the middle position.

If you do not use the carriage for 45 seconds, it turns off. To turn on the carriage then again, set the power switch to 'O' and then to 'I'. When the battery is discharged, the carriage stops. Then, charge the battery.

After use, set the power switch to 'O' and remove the battery.

### 3.3. Changing the speed unit

To change the unit of speed between centimeters per minute and inches per minute, remove the battery and follow the steps shown in the figure below.



After you change the unit and supply the power to the carriage, the current unit of measure shows. When the switch is set to 'CM', the display shows  $EUR$  and the speed is shown in centimeters per minute. When the switch is set to 'INCH', the display shows  $USA$  and the speed is shown in inches per minute.

### 3.4. Troubleshooting

Message	Problem	Solution
-	Black display even though that the power switch is set to 'I'. The carriage was not used for 45 seconds and then it turned off.	Set the power switch to 'O' and then to 'I'.
7.54.	Display not fully on when powering.	Contact the service center for check and repair.
Eur	Speed shown in centimeters per minute instead of inches per minute.	Contact the service center.
US	Speed shown in inches per minute instead of centimeters per minute.	Contact the service center.
Err	Direction switch not set to the middle position when powering.	Set the direction switch to the middle position.
E.01	Battery voltage too low.	Charge the battery or replace to a fully charged.
E.02	Battery voltage too high.	Replace the battery.
E.10	Short circuit.	Clean the battery contacts. If the error continues, replace the battery. If the error continues after replacement, contact the service center.
E.20	No electrical connection.	
E.30	Battery internal error.	Replace the battery.
E.40	Battery overheated.	Wait until the temperature of the battery decreases.
E.50	Battery temperature too low.	Move the battery to a warmer place and wait until the temperature of the battery increases.

## 4. MAINTENANCE

### Each day:

1. Clean the chassis, rollers, and wheels.
2. Make sure that the rollers turn freely.
3. Clean the torch nozzle and replace if damaged.
4. Examine the battery and replace if damaged.

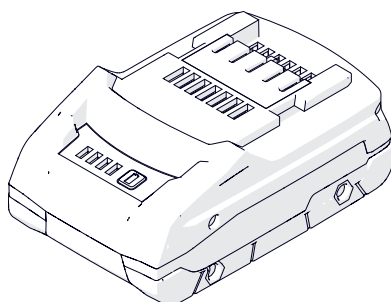
### Each month:

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

## 5. ACCESSORIES

### 5.1. Battery 4.0 Ah

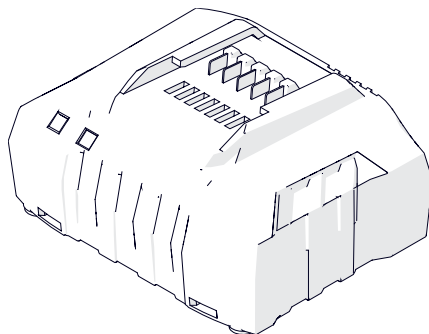
Part number:  
AKM-0738-10-00-01-0



### 5.2. Charger

Charges the battery from the power source.

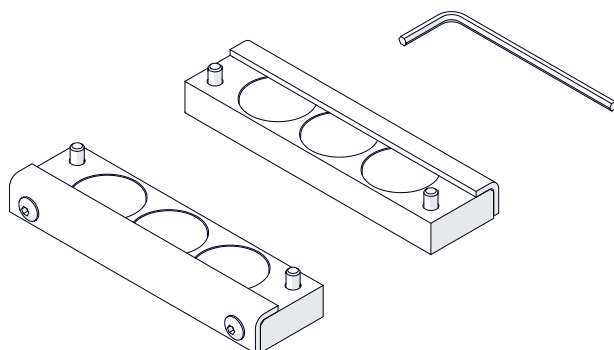
Part number:  
LDW-0738-06-00-30-0 (AUS/NZ)



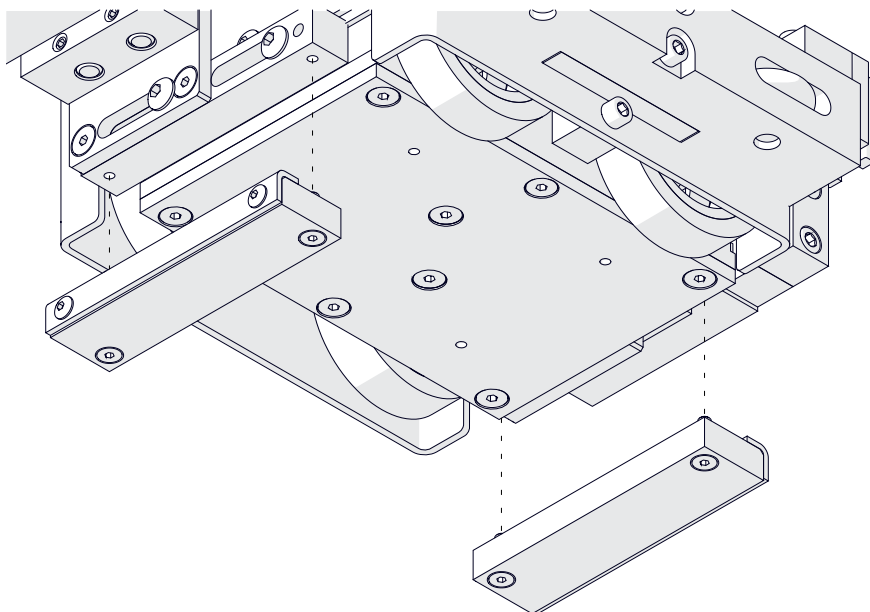
### 5.3. Auxiliary magnet blocks

The blocks increase the clamping force of the carriage to the surface.

Part number:  
ZST-0655-09-00-00-0  
(clamping force: 2×50 N)



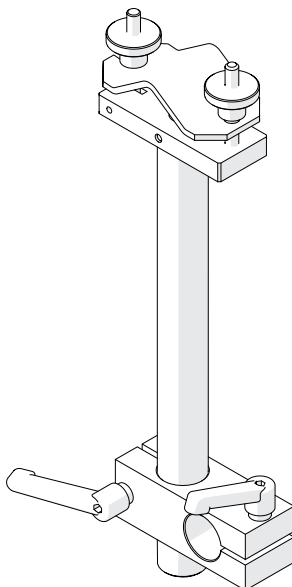
Use the 2.5 mm hex wrench to tighten the blocks to the carriage.



## 5.4. Cable anchor

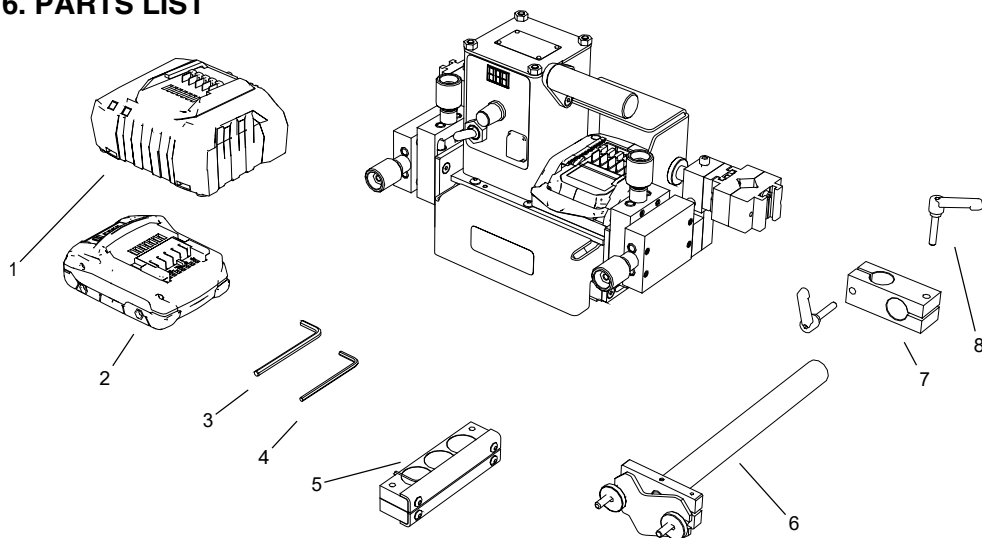
Attaches the gas cables to decrease the load applied on the torch holder. Install on the carrying handle.

Part number:  
PDT-0526-21-00-00-0

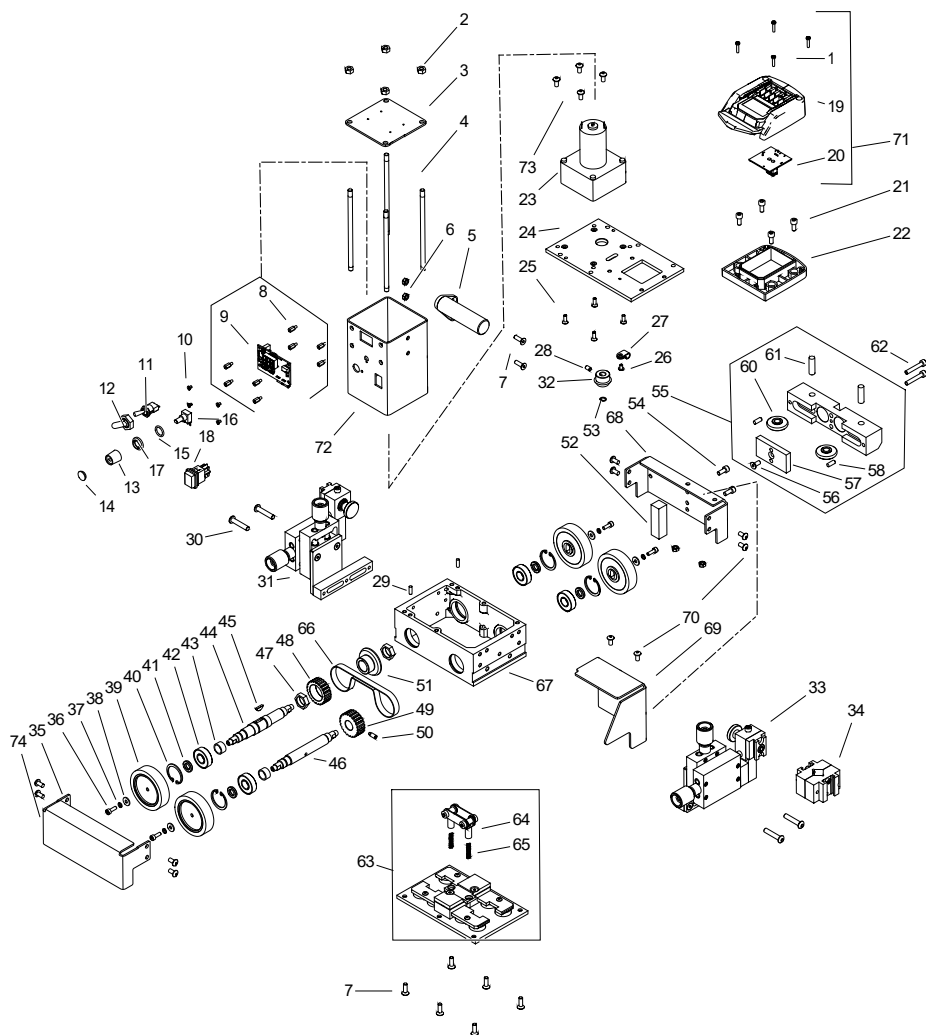




## 6. PARTS LIST



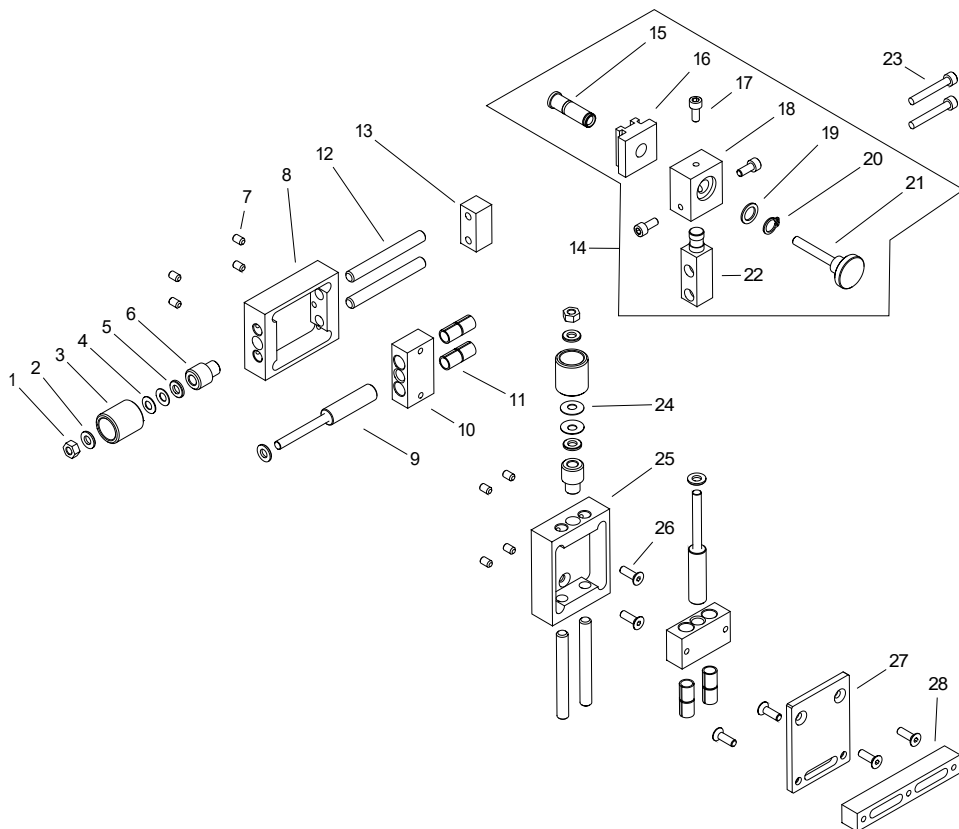
ITEM	PART NUMBER	DESCRIPTION	Q-TY
1	LDW-0738-06-00-30-0	BATTERY CHARGER (AUS/NZ)	1
2	AKM-0738-10-00-01-0	BATTERY LiHD 18 V - 4.0 Ah	1
3	KLC-000007	4 MM HEX WRENCH	1
4	KLC-000006	3 MM HEX WRENCH	1
5	ZST-0655-09-00-00-0	MAGNET SET ASSY	1
6	PDT-0526-21-00-00-0	WIRE HOLDER	1
7	KST-0466-43-04-00-0	HOLDER BLOCK	1
8	RKJ-000036	ADJUSTABLE HANDLE	2



ITEM	PART NUMBER	DESCRIPTION	Q-TY
1	WKR-000566	TORX HEAD SCREW 3X14	4
2	NKR-000017	HEX M6 NUT	4
3	PKR-0735-02-04-00-0	COVER	1
4	WSP-0735-02-03-00-0	CAMLEVER	4
5	RKJ-0735-02-02-01-0	HANDLE	1
6	NKR-000016	HEX M5 NUT	4
7	WKR-000136	HEX SOCKET COUNTERSUNK HEAD SCREW M5x16	2
8	TLJ-000110	MOUNTING SLEEVE	8
9	MDL-0735-80-01-00-0	ELECTRONIC MODULE	1

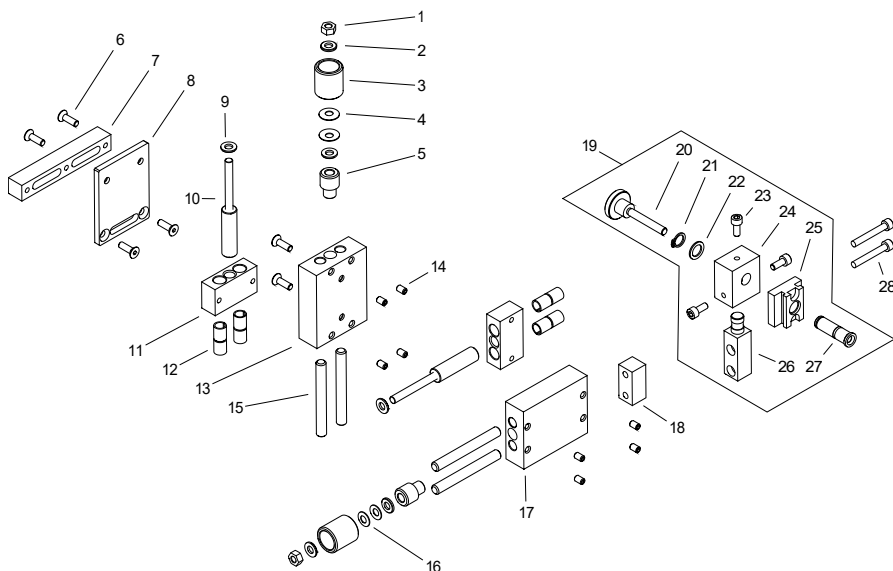
ITEM	PART NUMBER	DESCRIPTION	Q-TY
10	WKR-000372	CROSS SOCKET COUNTERSUNK HEAD SCREW M3x5	4
11	WZK-0526-02-02-03-0	TRAVEL DIRECTION SWITCH WIRE SET	1
12	OSL-000036	SWITCH COVER	1
13	PKT-000040	POTENTIOMETR KNOB	1
14	OSL-000196	KNOB LID	1
15	PRS-000119	SEAL	1
16	WZK-0735-02-02-06-0	POTENTIOMETR WIRE SET	1
17	PKR-000053	KNOB COVER	1
18	WZK-0735-02-02-05-0	POWER SWITCH WIRE SET	1
19	GNZ-0734-01-05-01-0	BATTERY SOCKET	1
20	MDL-0734-80-02-00-0	BATTERY SOCKET MODUL	1
21	SRB-000078	HEX SOCKET HEAD CAP SCREW M5X12	6
22	ADT-0734-01-06-00-0	BATTERY SOCKET ADAPTER	1
23	SLN-0735-02-06-00-0	MOTOR ASSY	1
24	PLY-0735-02-01-00-0	MOTOR PLATE	1
25	WKR-000131	HEX SOCKET COUNTERSUNK HEAD SCREW M4x12	4
26	WKR-000292	HEX SOCKET BUTTON HEAD SCREW M4X6	1
27	OBJ-000004	WIRE CLAMP FI 4MM	1
28	WKR-000026	HEX SOCKET SET SCREW WITH FLAT POINT M5X8	1
29	KLK-000033	DOWEL PIN 4n6x12	2
30	WKR-000104	HEX SOCKET BUTTON HEAD SCREW M6x30	4
31	PRW-0655-04-00-00-0	LEFT GUIDE ASSY	1
32	KOL-0270-02-02-00-1	BEVEL GEAR Z17	1
33	PRW-0655-03-00-00-0	RIGHT GUIDE ASSY	1
34	ZCS-0270-42-00-00-0	CLAMPING BLOCKS	1
35	OSL-0655-06-00-00-0	LEFT COVER	1
36	SRB-000062	HEX SOCKET HEAD CAP SCREW M4x12	4
37	PDK-000042	SPRING WASHER 4.1	4
38	PDK-000108	ROUND WASHER 4.3	4
39	KOL-0752-01-04-00-0	DRIVE WHEEL ASSY	4
40	PRS-000018	INTERNAL RETAINING RING 28w	4
41	PDK-000301	WASHER	4
42	LOZ-000038	BALL BEARING 12x28x8	4
43	TLJ-0655-01-04-00-0	SLEEVE	2
44	WLK-0655-01-02-00-0	FRONT SHAFT	1
45	WPS-0170-00-22-00-1	KEY 3x5x13	1
46	WLK-0655-01-03-00-0	REAR SHAFT	1
47	NKR-0270-01-08-00-1	ADJUST NUT	2
48	KOL-0270-01-13-00-0	PULLEY I	1
49	KOL-0270-01-14-00-0	PULLEY II	1
50	WKR-000014	HEX SOCKET SET SCREW WITH DOG POINT M5x12	1
51	KOL-0270-01-06-00-1	BEVEL GEAR z=32	1
52	SLP-0270-00-06-00-0	BAR	1
53	PRS-000040	INTERNAL RETANING RING 8W	1
54	WKR-000098	HEX SOCKET HEAD CAP SCREW M5x16	4
55	ZSP-0270-07-00-00-2	FOLLOWER ASSY	1
56	WKR-000134	HEX SOCKET COUNTERSUNK HEAD SCREW M5x12	1
57	MGT-0270-07-02-00-1	MAGNET PLATE	1
58	KLK-000045	DOWEL PIN 5n6x12	2
60	RLK-0270-07-03-00-1	GUIDE ROLLER	2
61	KLK-000071	DOWEL PIN 8n6x26	2
62	SRB-000089	HEX SOCKET HEAD CAP SCREW M5x30	2

ITEM	PART NUMBER	DESCRIPTION	Q-TY
63	ZSP-0270-11-00-00-0	PLATE ASSY	1
64	NPR-0270-14-00-00-0	TIGHTENER	1
65	SPR-0270-11-05-00-0	SPRING	2
66	PAS-000003	TOOTHED BELT	1
67	KRP-0735-01-01-00-0	HOUSING	1
68	OSL-0735-03-01-00-0	LOWER COVER	1
69	OSL-0735-03-02-00-0	TOP COVER	1
70	WKR-000096	HEX SOCKET BUTTON HEAD SCREW M5x10	10
71	GNZ-0734-01-05-00-0	BATTERY SOCKET ASSY	1
	WZK-0735-02-05-00-0	BATTERY SOCKET WIRE SET	1



ITEM	PART NUMBER	DESCRIPTION	Q-TY
1	NKR-000017	HEX NUT M6	2
2	PDK-000021	ROUND WASHER 6.4	2
3	PKT-0247-01-05-00-0	HANDWHEEL	2
4	SPR-000010	DISC SPRING 6.2x12.5x0.6	2
5	PDK-000020	ROUND WASHER 6.4	4
6	TLJ-0247-01-04-00-0	SLEEVE	2
7	WKR-000026	HEX SOCKET SET SCREW WITH FLAT POINT M5x8	8

ITEM	PART NUMBER	DESCRIPTION	Q-TY
8	KRP-0340-02-01-11-0	TORCH GUIDE FRAME I	1
9	SRB-0340-02-01-20-0	BOLT ASSY	2
10	KST-0340-02-01-13-0	FEED BLOCK	2
11	TLJ-000048	SLIDE BUSHING 8x10x12	8
12	KLK-000075	DOWEL PIN 8n6x70	4
13	SLP-0270-05-03-00-0	DISTANCE BAR	1
14	UCW-0655-03-02-00-0	TORCH HOLDER ASSY	1
15	TLJ-0246-05-04-00-0	SLEEVE	1
16	KST-0246-05-03-00-1	ROTATE BLOCK	1
17	SRB-000078	HEX SOCKET HEAD CAP SCREW M5x12	3
18	KST-0340-02-02-02-0	CLAMP BLOCK	1
19	PDK-0211-00-15-00-0	WASHER 10.1x15x1	1
20	PRS-000002	EXTERNAL RETAINING RING 10z	1
21	SRB-000187	SPECIAL BOLT M6x40	1
22	SLP-0655-03-02-01-0	BAR	1
23	SRB-000091	HEX SOCKET HEAD CAP SCREW M5x35	2
24	SPR-000012	DISC SPRING 8.2x16x0.6	2
25	KRP-0340-02-01-01-0	TORCH GUIDE FRAME II	1
26	WKR-000136	HEX SOCKET COUNTERSUNK HEAD SCREW M5x16	6
27	PLY-0655-03-01-00-0	GUIDE PLATE	1
28	SLP-0270-05-02-00-0	HORIZONTAL BAR	1



ITEM	PART NUMBER	DESCRIPTION	Q-TY
1	NKR-000017	HEX NUT M6	2
2	PDK-000021	ROUND WASHER 6.4	2
3	PKT-0247-01-05-00-0	HANDWHEEL	2
4	SPR-000012	DISC SPRING 8.2x16x0.6	2
5	TLJ-0247-01-04-00-0	SLEEVE	2
6	WKR-000136	HEX SOCKET COUNTERSUNK HEAD SCREW M5x16	6

ITEM	PART NUMBER	DESCRIPTION	Q-TY
7	SLP-0270-05-02-00-0	HORIZONTAL BAR	1
8	PLY-0655-03-01-00-0	GUIDE PLATE	1
9	PDK-000020	ROUND WASHER 6.4	4
10	SRB-0340-02-01-20-0	BOLT ASSY	2
11	KST-0340-02-01-13-0	FEED BLOCK	2
12	TLJ-000048	SLIDE BUSHING 8x10x12	8
13	KRP-0340-02-01-01-0	TORCH GUIDE FRAME II	1
14	WKR-000026	HEX SOCKET SET SCREW WITH FLAT POINT M5x8	8
15	KLK-000075	DOWEL PIN 8n6x70	4
16	SPR-000010	DISC SPRING 6.2x12.5x0.6	2
17	KRP-0340-02-01-11-0	TORCH GUIDE FRAME I	1
18	SLP-0270-05-03-00-0	DISTANCE BAR	1
19	UCW-0655-03-02-00-0	TORCH HOLDER ASSY	1
20	SRB-000187	SPECIAL BOLT M6x40	1
21	PRS-000002	EXTERNAL RETAINING RING 10z	1
22	PDK-0211-00-15-00-0	WASHER 10.1x15x1	1
23	SRB-000078	HEX SOCKET HEAD CAP SCREW M5x12	3
24	KST-0340-02-02-02-0	CLAMP BLOCK	1
25	KST-0246-05-03-00-1	ROTATE BLOCK	1
26	SLP-0655-03-02-01-0	BAR	1
27	TLJ-0246-05-04-00-0	SLEEVE	1
28	SRB-000091	HEX SOCKET HEAD CAP SCREW M5x35	2

# WIRING DIAGRAM

