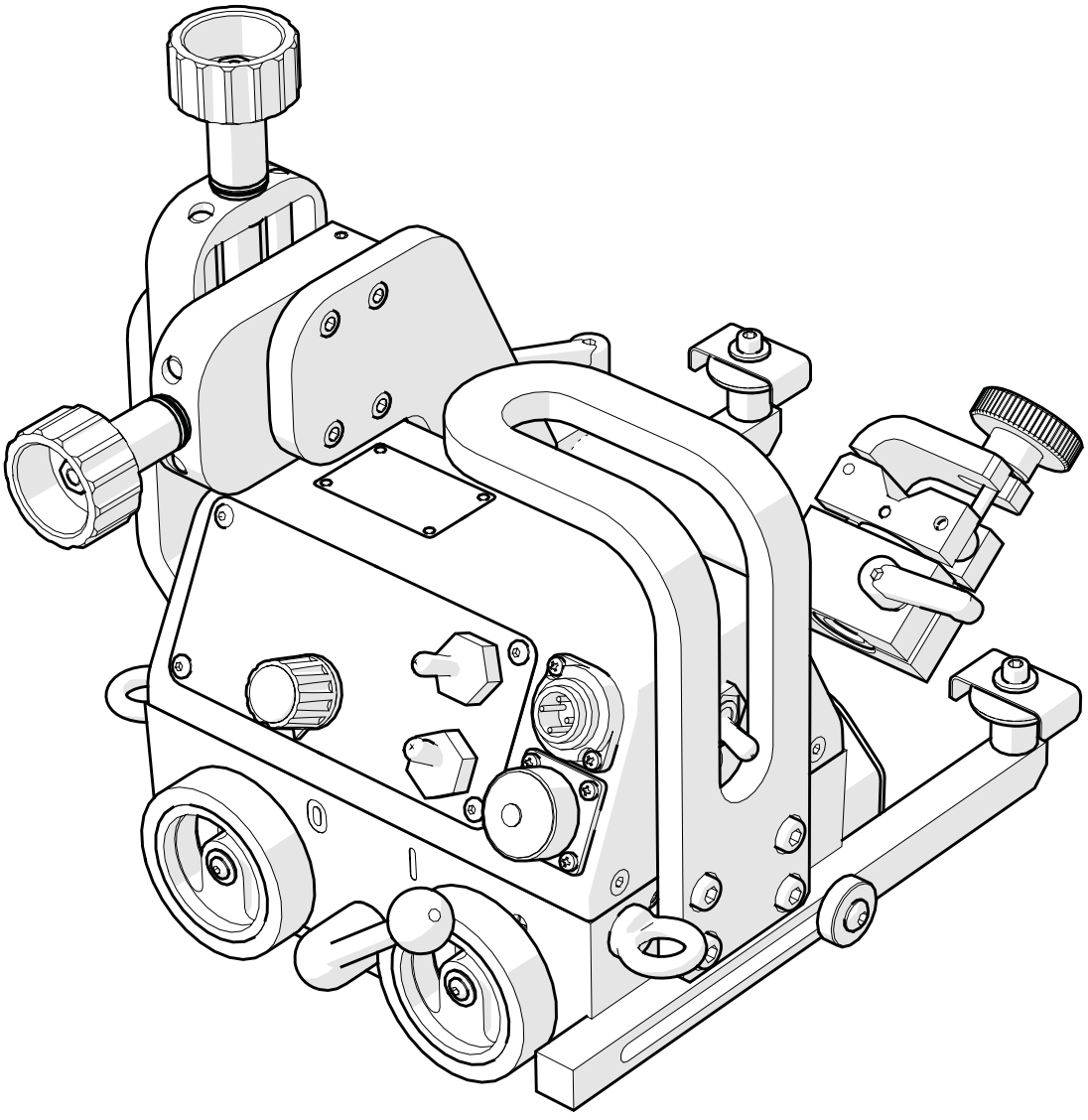
TRADEMASTER INDUSTRIAL TOOLS

GECKO

WELDING CARRIAGE

OPERATOR'S MANUAL



BEFORE USE, ENSURE EVERYONE USING THIS MACHINE READS AND UNDERSTANDS ALL SAFETY AND OPERATING INSTRUCTIONS IN THIS MANUAL .

Serial #..... Date of Purchase.....

IMPORTED & DISTRIBUTED BY

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WARRANTY TERMS

In addition to any warranties or conditions implied by applicable Statute or Regulations, Industrial Tool & Machinery Sales warrants all of it's products against defective workmanship and faulty materials for a period of twelve (12) months from the date of purchase, unless otherwise stated. At our option we will repair or replace, free of charge, any item on the condition that:

- The complete machine or tool is returned, freight prepaid to ITM or one of it's authorised service agents as directed by ITM, and is found to have a material or constructional defect.
- The machine or tool has not been subject to misuse, neglect or damage by accident.
- The fault is not a result of normal "wear and tear".
- Written permission has been received from ITM prior to commencement of repair.
- Repairs, tampering or modification carried out by unauthorised personnel will void all warranty.
- Consumable items such as cutting tools, pilot pins, saw blades, grinding wheels etc. are NOT covered by 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.

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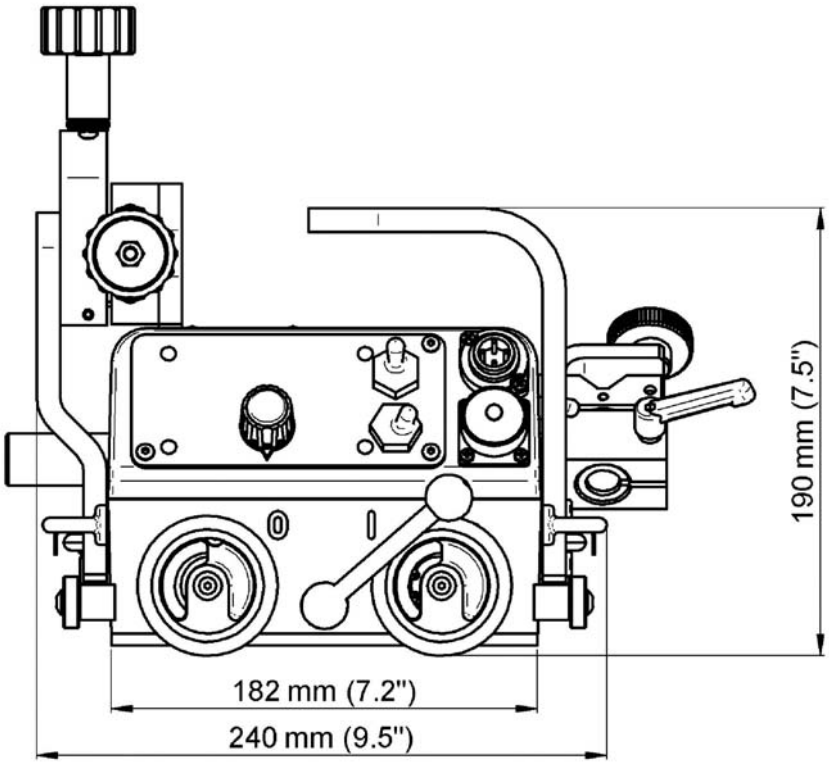
1. GENERAL INFORMATION

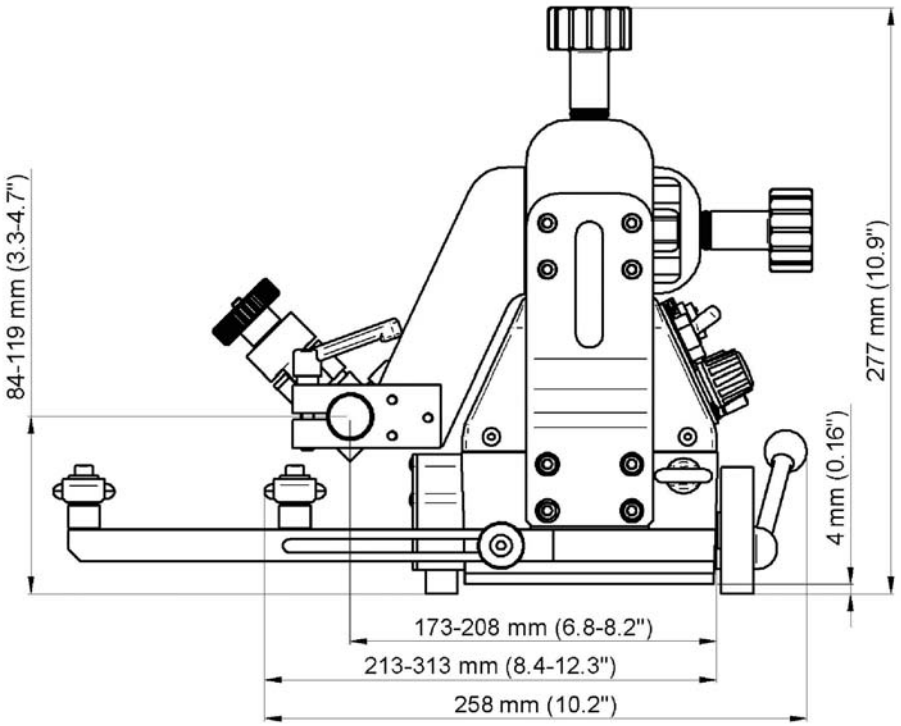
1.1. Application

The GECKO Welding Carriage produces continuous welds using MIG/MAG welding torches with handle diameter in 16–22 mm range (0.63–0.87’’). The machine can work in PA, PB, PC, and PF welding positions. It is fixed by permanent magnets and contains a four wheel drive with speed adjustment.

1.2. Technical data



TECHNICAL DATA



Welding position		~ 115–230 V, 50–60 Hz
Power		20 W
Welding position	horizontal	PA (flat), PB (horizontal vertical), PC (horizontal)
	vertical	PF (vertical up)
Minimum path convex radius		1000 mm (40”)
Minimum path concave radius		1250 mm (50”)
Torch type		MIG/MAG
Torch diameter		16–22 mm (0.63–0.87”)
Maximum torch reach		70 mm (2.76”)
Maximum weight of cables	horizontal work	8 kg (17.7 lbs)
	vertical work	13.3 lbs)
Welding material thickness		minimum 4 mm (0.16”)
Ground clearance		4 mm (0.16”)
Pulling force	horizontal work	150 N
	vertical work	100 N
Torch adjustment range		35 mm (1.38”, up-down, left-right)
Follower arm adjustment range		100 mm (3.93”)
Horizontal speed		0–110 cm/min (0–43.3”/min)
Vertical speed		0–100 cm/min (0–39.4”/min)
Dimensions		240 mm (L) × 258 mm (W) × 277 mm (H) 9.5” (L) × 10.2” (W) × 10.9” (H)
Weight		8 kg (17.7 lbs)

1.3. Design

The GECKO Welding Carriage contains a drive system with controller, cross slides, two follower arms, and torch holder. The drive system comprises a gear motor that drives four rubber wheels of high thermal resistance.

The magnetic unit with powerful permanent magnets fitted at the carriage bottom ensures proper adhesion to ferromagnetic surfaces. Toggling the magnetic unit lever (Figure 1) to position “0” reduces the intensity of the magnetic field, what helps moving the welding carriage during positioning. The cross slides enable precise control of the torch holder position in both horizontal and vertical axis. Additionally, the machine can ignite an arc through the arc ignition socket when choosing a travel direction.

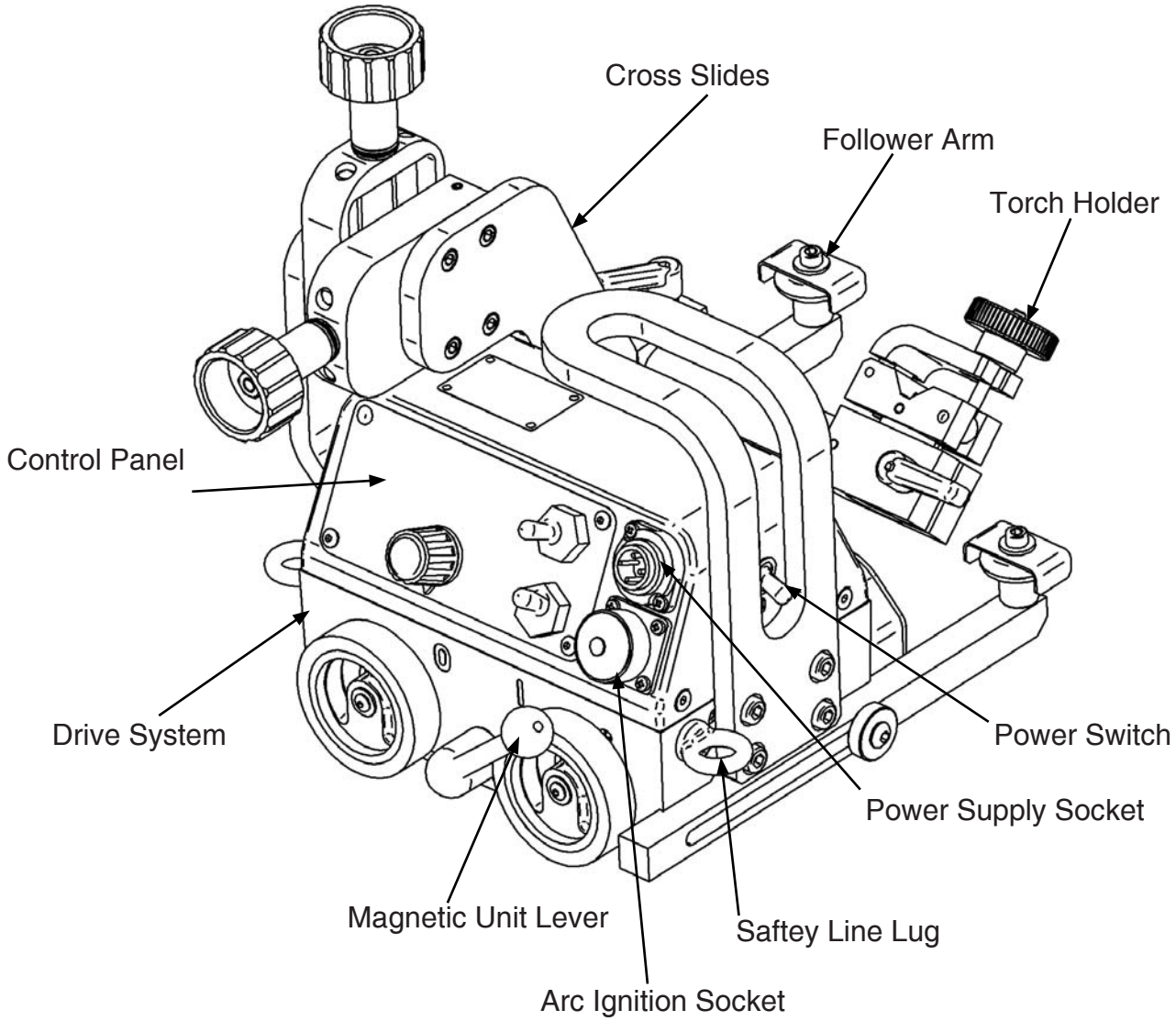


Figure 1. GECKO Operator’s Manual

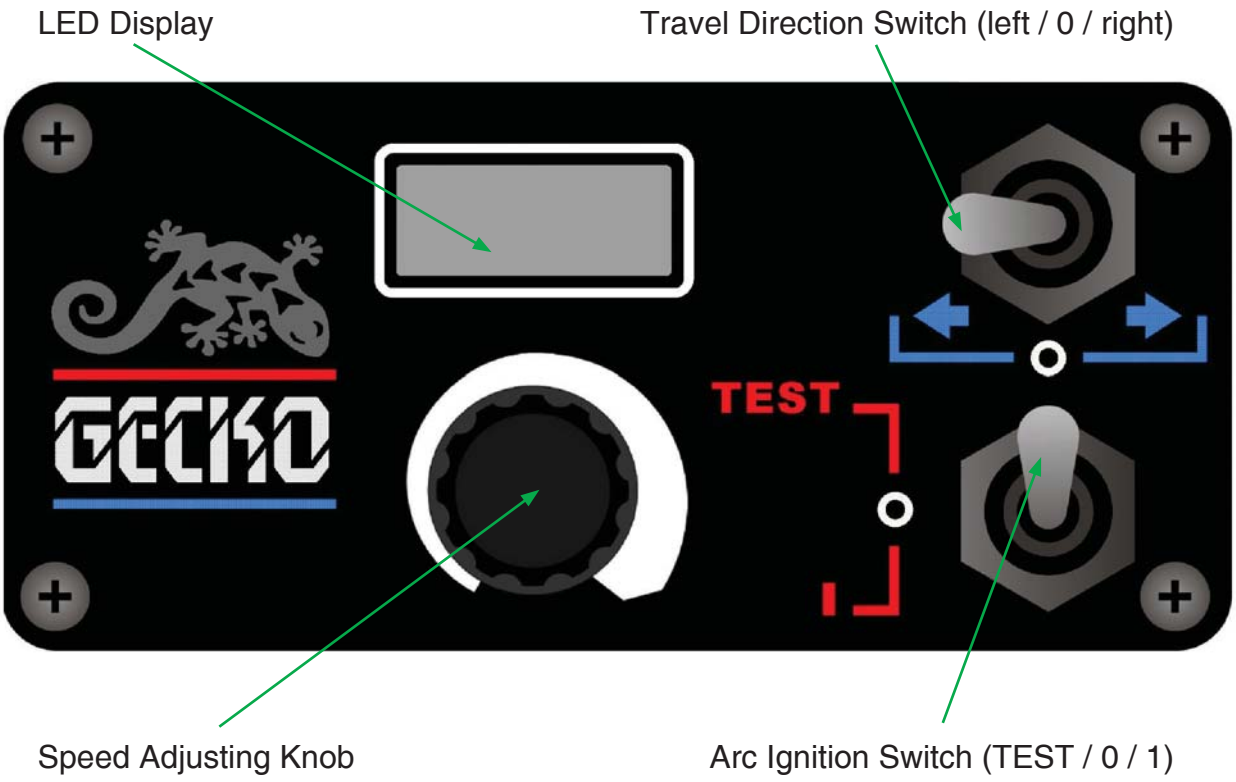


Figure 2. Control Panel Design

1.4. Equipment included

The GECKO Welding Carriage is supplied with complete standard equipment in a foam filled cardboard box. The included equipment consists of:

- welding carriage – 1 unit
- foam filled cardboard box – 1 unit
- power cord – 1 unit
- arc ignition cable – 1 unit
- torch holder – 1 unit
- 4 mm Allen key – 1 unit
- Operator's Manual – 1 unit

2. SAFETY PRECAUTIONS

1. Before start, read Operator's Manual and complete proper occupational safety and health training.
2. Machine must be used only in applications stated in Operator's Manual.
3. Machine must be complete and all parts must be genuine.
4. Power supply specifications must conform to those stated on rating plate.
5. Power supply socket must be equipped with grounding pin.
6. Never carry machine by cord or yank it to disconnect plug from socket. It may cause power cord to break and result in electric shock.
7. Bystanders must not be present in immediate vicinity of machine.
8. Before start, check condition of machine and electrical installation, including power cord, plug, control panel, and wheels.
9. Keep machine dry. Exposing it to rain, snow, or frost is prohibited.
10. Ensure proper lighting at worksite.
11. Never use machine in vicinity of flammable fluids or gases, or in explosive environments.
12. Make sure that rubber of driving wheels is clean and not damaged.
13. Never disassemble driving wheels cover.
14. Remove objects attracted to chassis by magnetic unit.
15. Transport and position machine using carrying handle, with magnetic unit lever set to position "0".
16. Place machine on ferromagnetic material in such a way that wheels always touch surface and there is no contact between surface and chassis.
17. Do not stay underneath machine placed at heights.
18. Plug power cord into mains only when power switch is set to position "0".
19. Keep power socket clean. Do not use compressed air for cleaning purposes.
20. Mounting torches other than MIG/MAG type or torches with handle diameter outside 16–22 mm range (0.63–0.87'') is prohibited.
21. Maximum torch reach must not exceed 70 mm (2.76'').
22. Keep torch cables from touching surface (they must be suspended to reduce carriage load). Use only cables which maximum weight is 8 kg (17.7 lbs) for horizontal work and 6 kg (13.3 lbs) for vertical work.
23. Operating in welding positions: PD (horizontal overhead), PE (overhead), and PG (vertical down), as well as on curvatures with convex (concave) radius lower than 1000 mm (1250 mm) is prohibited.
24. When operating at heights, use safety line to protect machine from falling down.
25. Always use eye protection (welding helmet, shield, and screen), hearing protection, gloves, and protective clothing during operation. Do not wear loose clothing.
26. Before every use, inspect machine to ensure it is not damaged. Check whether any part is cracked or improperly fitted. Make sure to maintain proper conditions that may affect machine operation.
27. Never try to manually stop motion of machine. For this purpose set travel direction switch to position "0".

28. Perform all maintenance work only with power cord unplugged from power socket.
29. Perform all repairs only in service center appointed by seller.
30. If machine falls on hard surface, from height, is wet, or has other damage that could affect technical state of machine, stop operation and immediately send machine to service center for inspection.
31. Never leave machine unattended during operation.
32. Remove from worksite and store in safe and dry location when not in use.

WARNING! Safety rules must be closely observed.

3. STARTUP AND OPERATION

WARNING! Read safety precautions before starting.

3.1. Preparation

Use carrying handle (Figure 3) for transportation and positioning at the worksite. Set all levers to position “0”: power switch, magnetic unit lever, travel direction switch, and arc ignition switch.

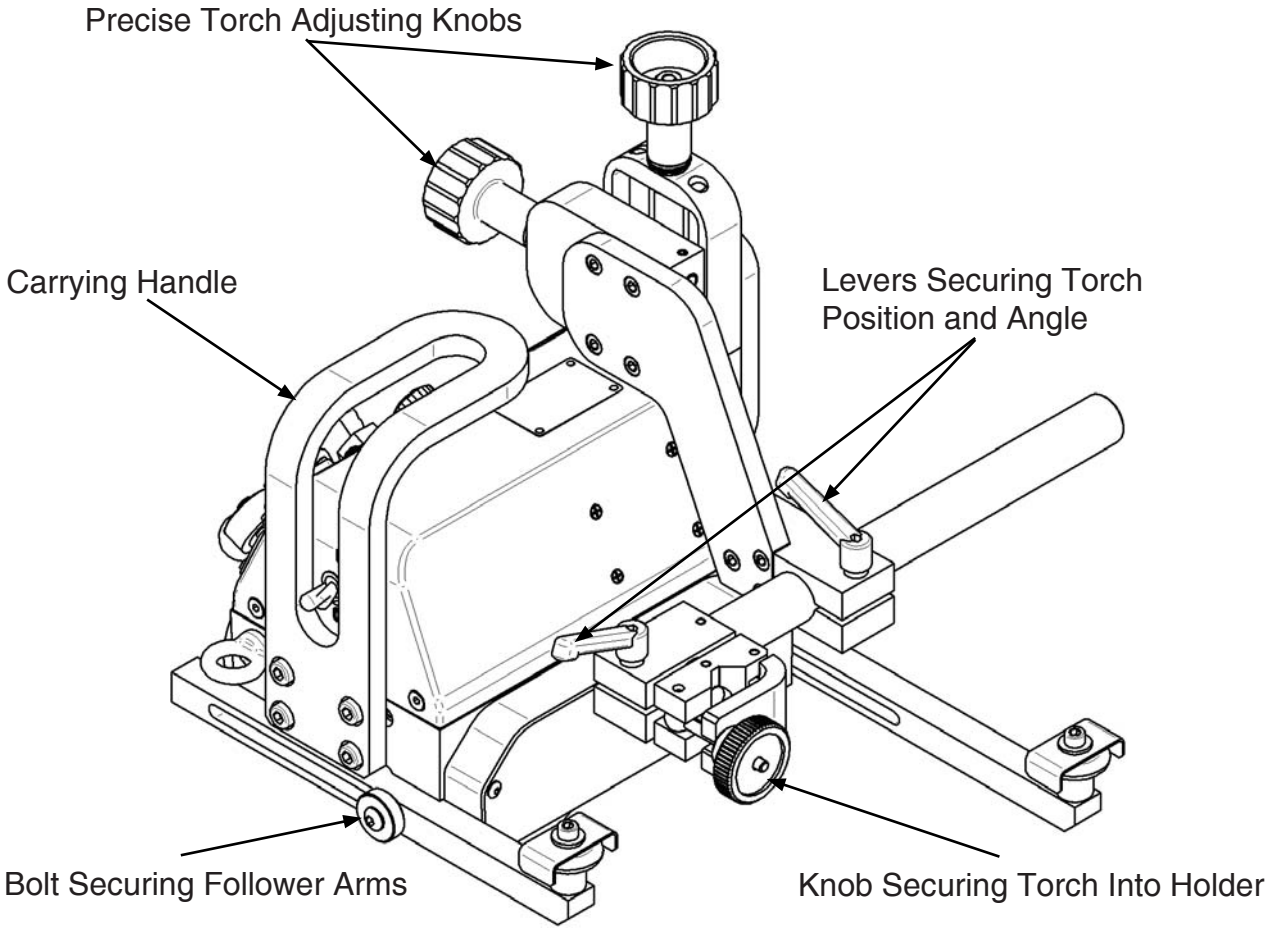


Figure 3. Control units

Plug the cord into machine power supply socket, put a torch into torch holder, and secure with knob. If the machine is to be used to control the welding device, plug supplied arc ignition cable into the arc ignition socket. The cable works as a welding gun switch and comprises two wire pairs of a different color. Connecting each pair enables to control arc ignition of one welder.

To continuously track the travel geometry, set the first follower arm 10 mm (0.4'') closer to the machine than the second one (Figure 4). For this purpose, use 4 mm Allen key to unscrew the bolt that secures the follower arms and screw the bolt after the setting has been made.

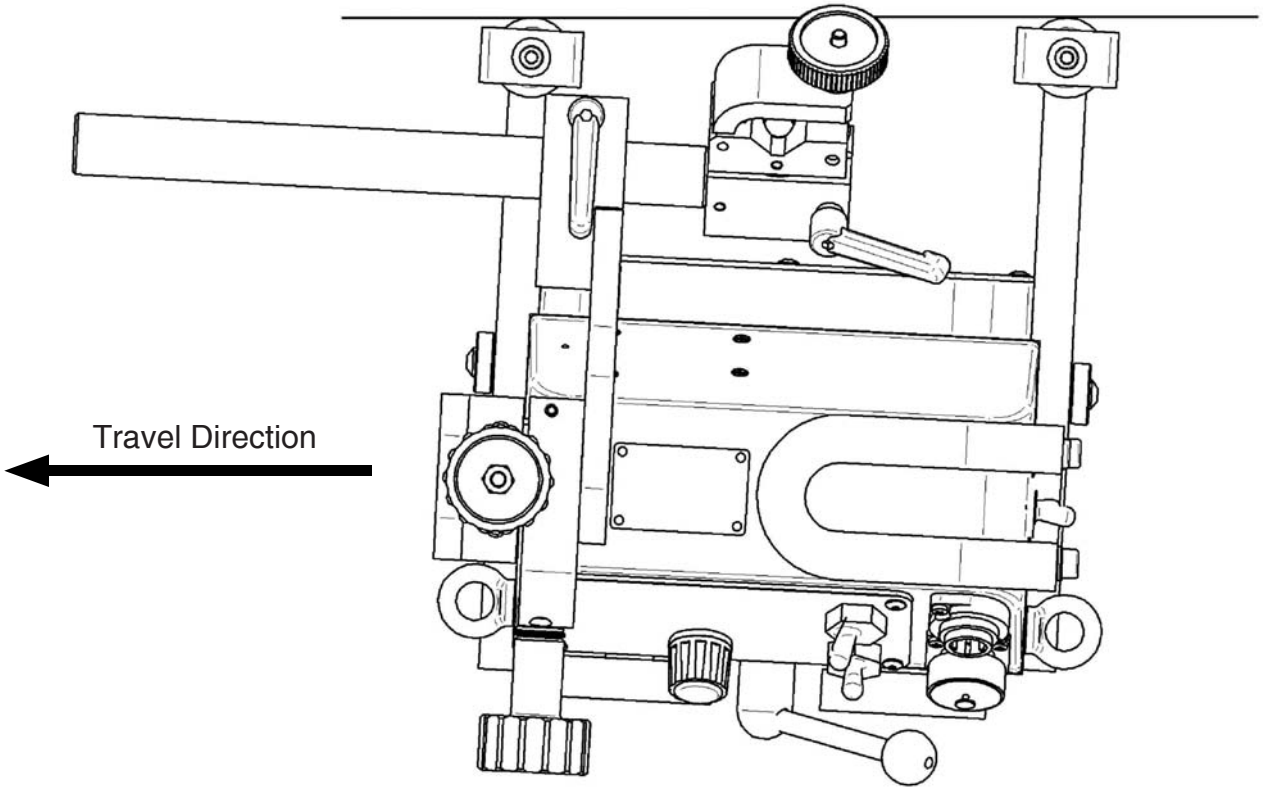


Figure 4. Proper follower arms position

Toggle the magnetic unit lever from left (“0”) to right position (“1”), what changes the machine adhesion to work surface from the minimum to maximum. Loosen the levers (Figure 3) and adjust the position and angle of the torch. Set the torch position precisely using the two knobs located at the cross slides. If the work is to be done along the vertical axis, perform welding upward (position PF according to the EN ISO 6947). When operating at heights, attach a safety line to the lug. The safety line is not included in the standard equipment.

3.2. Operation

Plug the power cord into the mains and turn on the power by toggling power switch to position “I”, which will indicated by the illuminating all the segments of the display (“888”). After a while, the indication changes to “EUr” if the unit of speed is set to centimeters per minute, or to “USA” – for inches per minute. Then, you will see the carriage speed, which you adjust by rotating the knob located on the panel. If the machine is to be used to control the torch, toggle the arc ignition switch to position “I”. To check whether the arc ignition cable is connected correctly, toggle the switch to position “TEST”.

WARNING: If the arc ignition switch is set to position “I”, the torch starts welding immediately after setting a travel direction.

Choose a motion direction using the travel direction switch. The real speed of the welding carriage shows up on the display. To stop the motion, set travel direction switch to position “0”.

3.3. Changing unit of speed

To change the unit of speed from centimeters per minute to inches per minute, or vice versa, unplug the power cord from the mains and follow steps shown in the Figure 5.

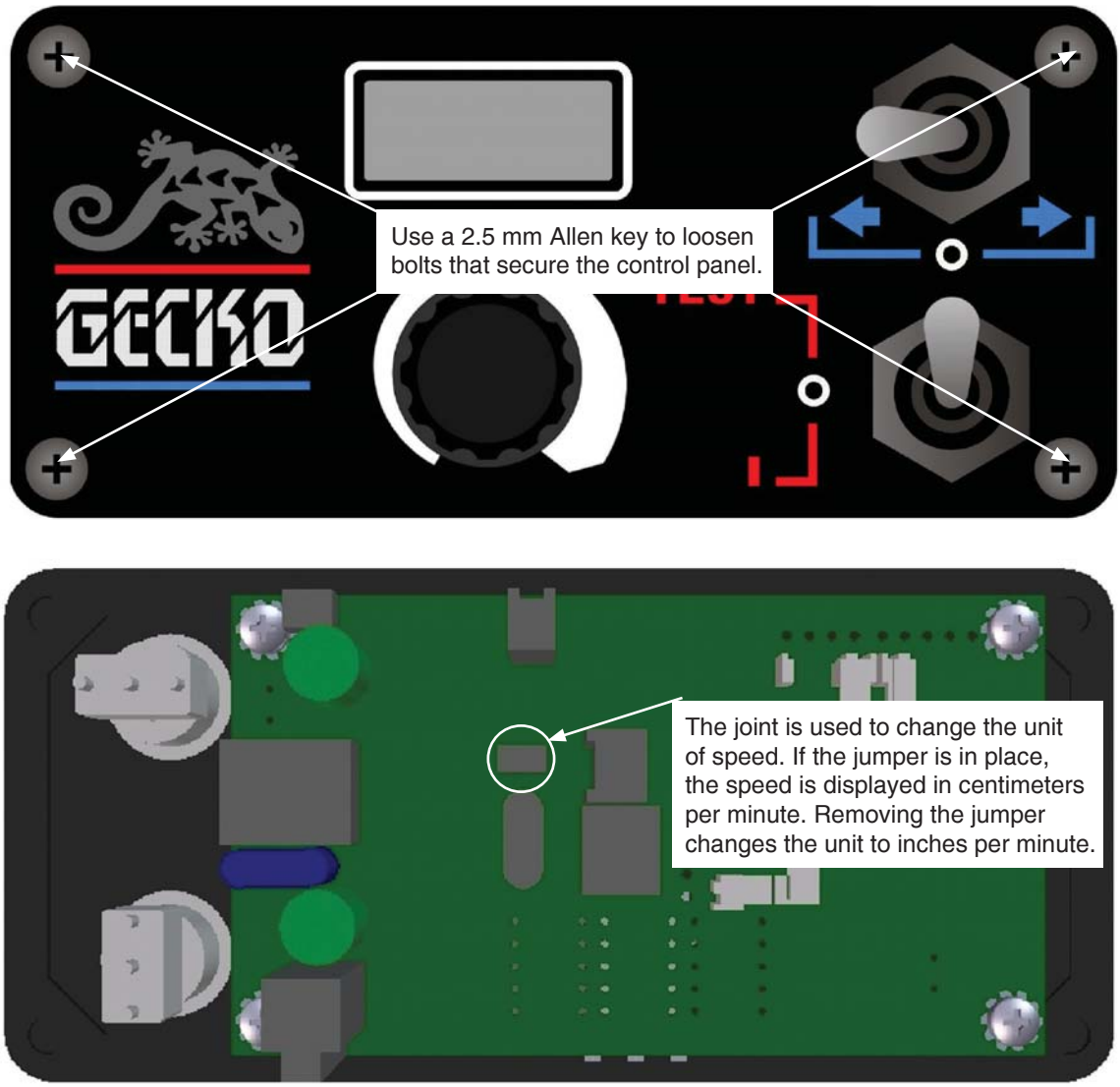


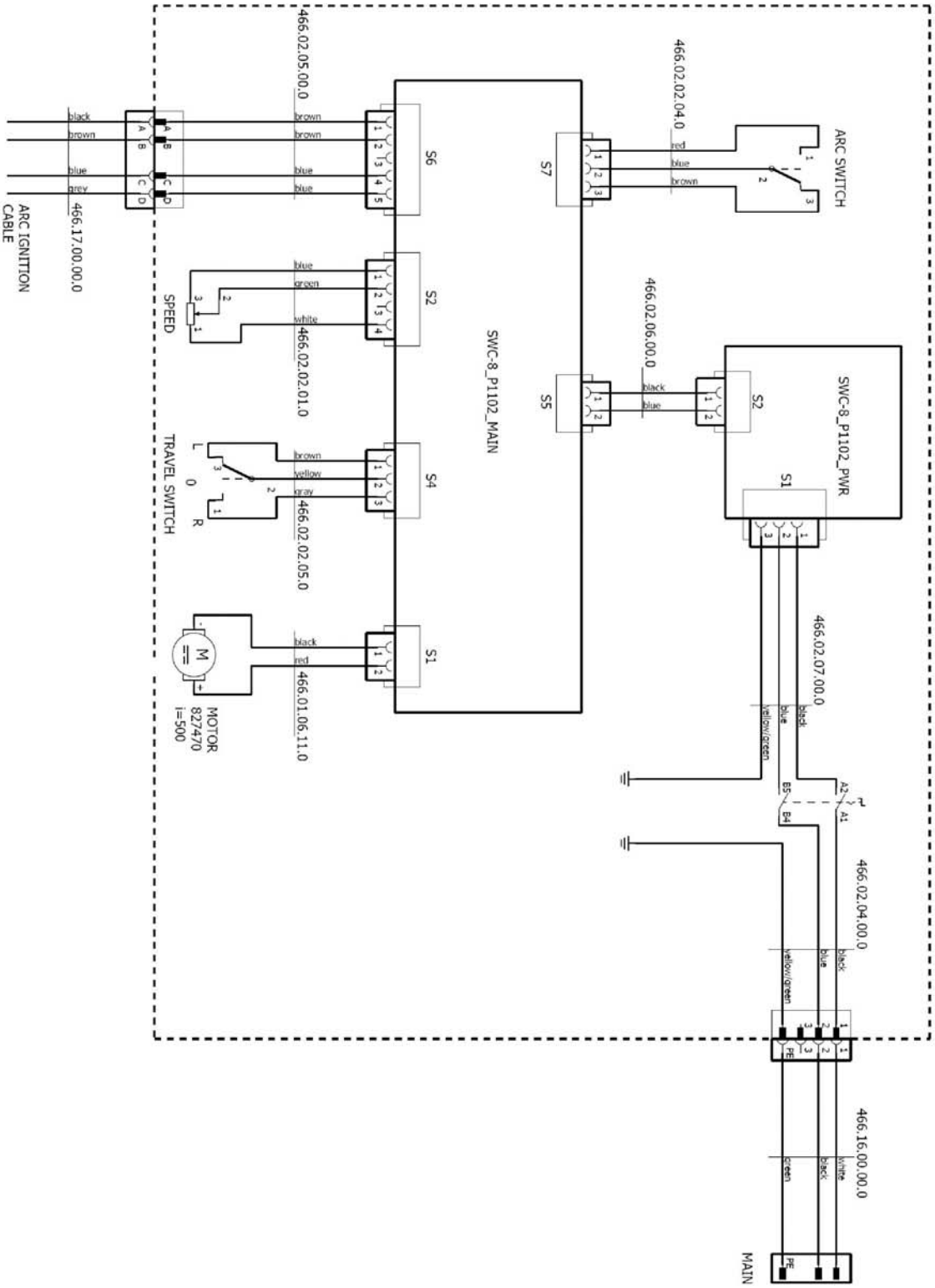
Figure 5. Method of changing the unit of speed

Once you change the unit and power the machine again, the actual unit shows up. With the jumper removed, the display shows “USA” message and the speed is indicated in inches per minute. With jumper in place, the display shows “EUr” and the speed is given in centimeters per minute. The 2.5 mm Allen key used to unscrew the control panel is not included in standard equipment.

3.4. Meaning of display messages

Message	Description	Solution
8.8.8.	Display test If some segments are not illuminated, it indicates a problem with the display.	Contact service center to investigate the problem.
EUr	Indicates that the speed is displayed in centimeters per minute.	-
USA	Indicates that the speed is displayed in inches per minute.	-
Er.S	Travel direction switch error 1. Travel direction switch is active (left or right direction chosen) when powering up. 2. If displayed during welding, it indicates a malfunction of travel direction switch or travel direction identification circuit of the controller.	1. Set travel direction switch to position “0”. 2. Contact service center. Possible switch or controller fault.
crL	Motor overload Motor safe current level exceeded. Welding carriage stops immediately.	Use welding cables that do not exceed maximum weight stated in technical data. Adjust arrangement of the cables that block carriage motion. Remove any other elements that block the carriage or its wheels. If this message still appears, contact service center.
110	Maximum speed in centimeters per minute for horizontal work.	-
43.4	Maximum speed in inches per minute for horizontal work.	-

4. WIRING DIAGRAM

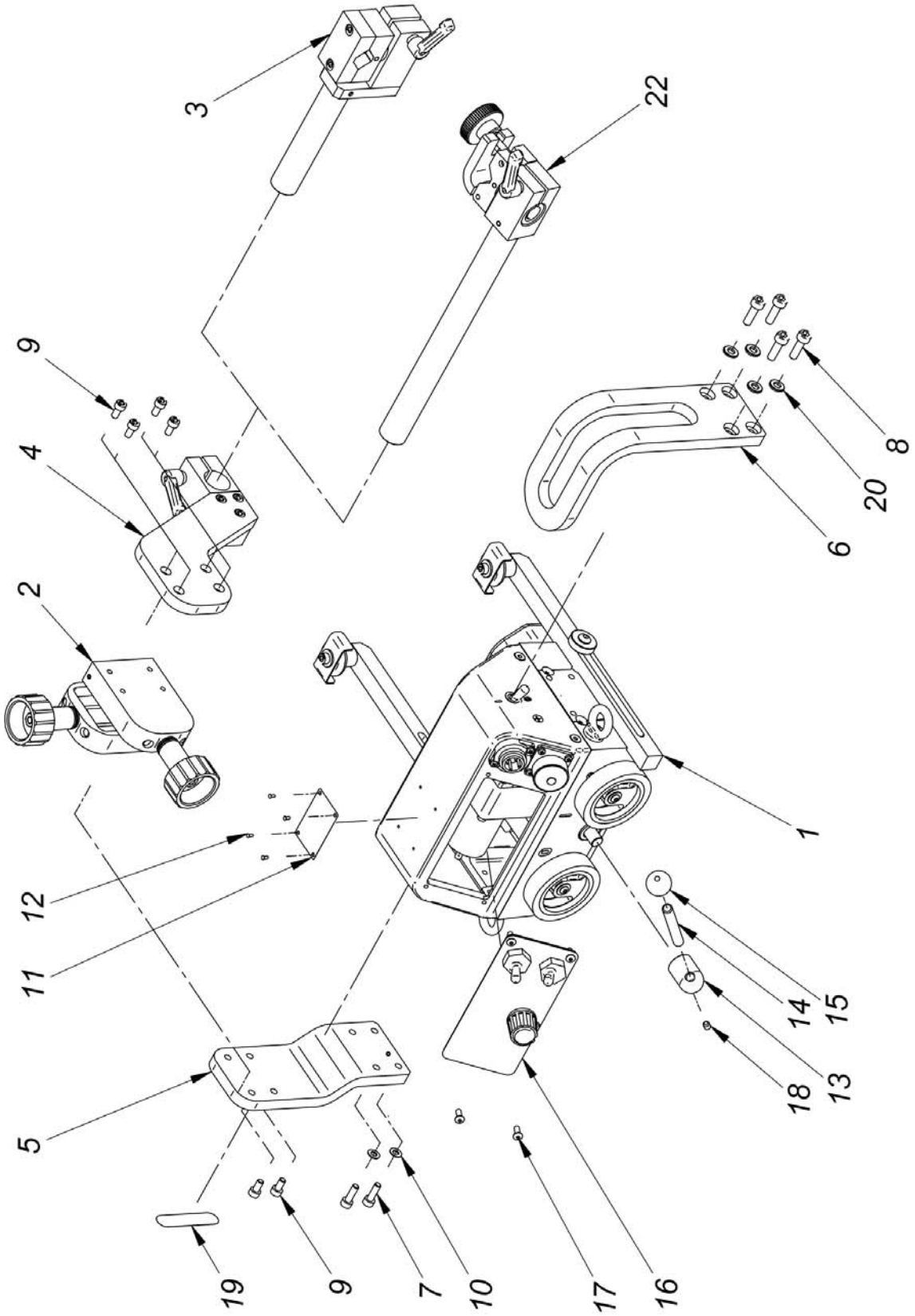


PARTS LIST - GENERAL ASSEMBLY

WOZ-0466-10-20-00-0			GECKO /230V	
WOZ-0466-10-10-00-0			GECKO /115V	
ITEM	**PART NUMBER**	**VERSION**	**DESCRIPTION**	**Q-TY**
1	WOZ-0466-11-00-00-0	2060	DRIVE SYSTEM ASSY	1
2	ZSP-0466-03-00-00-0	2062	CROSS SLIDES ASSY	1
3	UCW-0466-04-00-00-0	2064	TORCH HOLDING ASSY	1
4	PLY-0466-05-00-00-0	2066	TORCH PLATE COMPLATE	1
5	WSP-0466-07-00-00-0	2068	SLIDE BRACKET	1
6	RKJ-0466-08-00-00-0	2070	HANDLE	1
7	SRB-000083		HEX SOCKET BOLT M5x16	4
8	SRB-000114		HEX. SOCKET BOLT M6x20	4
9	SRB-000075		HEX SOCKET BOLT M5x10	8
10	PDK-000018		WASHER 5.3	8
11	TBL-0466-15-01-03-0		NAME PLATE	1
12	NIT-000010		ROUND HEAD RIVET 2x6	4
13	GLK-0466-12-00-00-0	2141	HANDLE KNOB	1
14	DZW-0419-01-04-13-0		LEVER	1
15	KUL-0466-13-00-00-0	2143	BALL LEVER	1
16	PNL-0466-02-02-00-1	2636	CONTROL PANEL ASSEMBLY	1
17	WKR-000092		SOCKET BUTTON HEAD CAP SCREW M4x10	4
18	WKR-000048		SOCKET SET SCREW M5 x 6	1
19	NKL-0466-15-00-02-0		LOGO LABEL “STEELMAX”	1
20	PDK-000021		ROUND WASHER 6,4	4
22	UCW-0476-06-00-00-0	2072	LOW TORCH HOLDING ASSY	1
23*	ZST-0466-25-00-00-0	2492	EQUIPMENT SET	1
23.1*	PWD-0466-18-00-00-0		POWER CORD 230V	1
23*	ZST-0466-25-00-00-0	2121	EQUIPMENT SET	1
23.1*	PWD-0466-16-00-00-0		POWER CORD 115V	1
23.2*	KBL-0466-17-00-00-0		CONTROL CABEL START-STOP	1
23.3*	KLC-000007		HEX. WRENCH S=4	1
23.4*	INS-0239-55-00-00-1		OPERATORS MANUAL	1

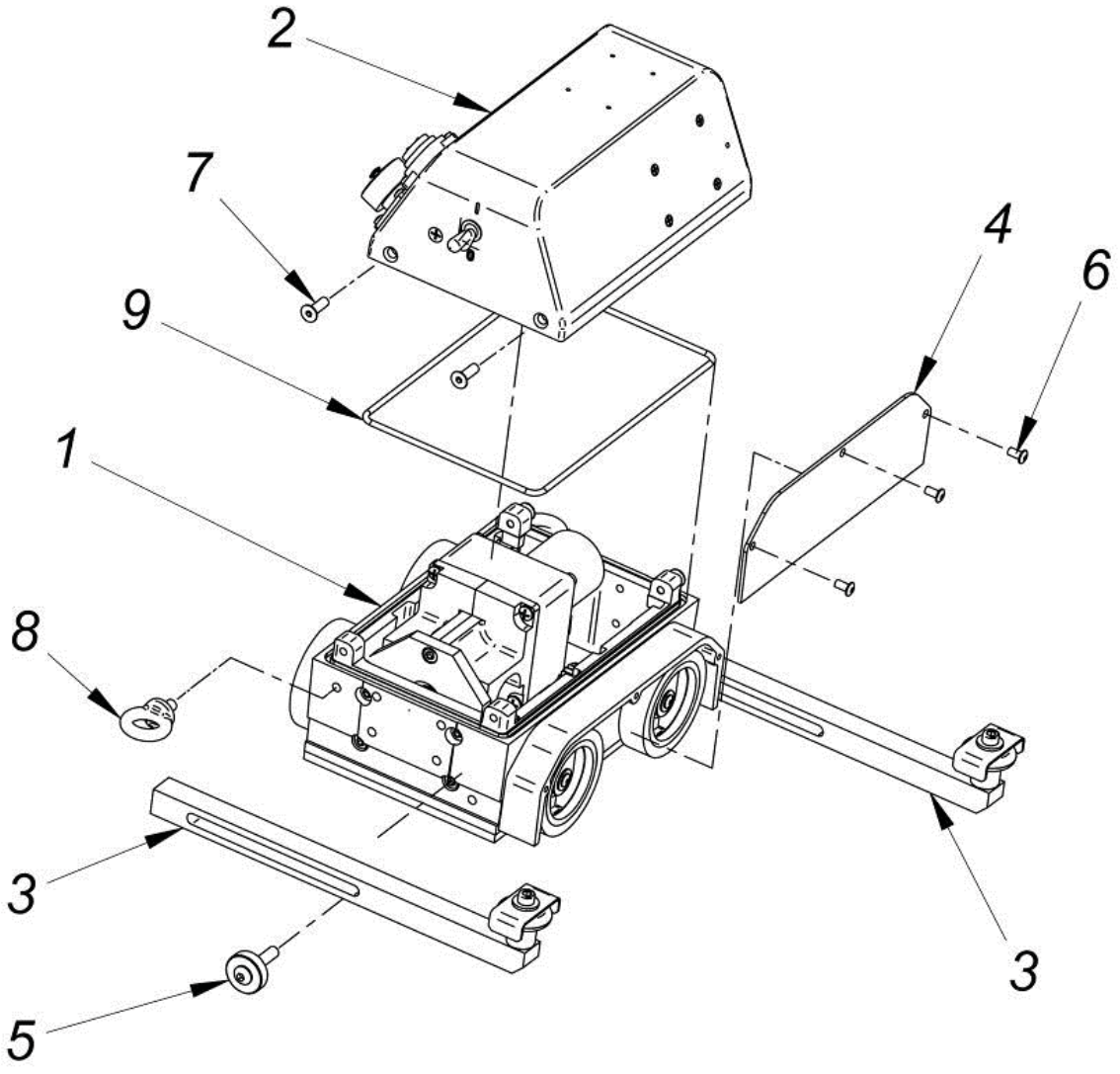
* - not shown on drawing

PARTS LIST - GENERAL ASSEMBLY



PARTS LIST - DRIVE SYSTEM ASSEMBLY

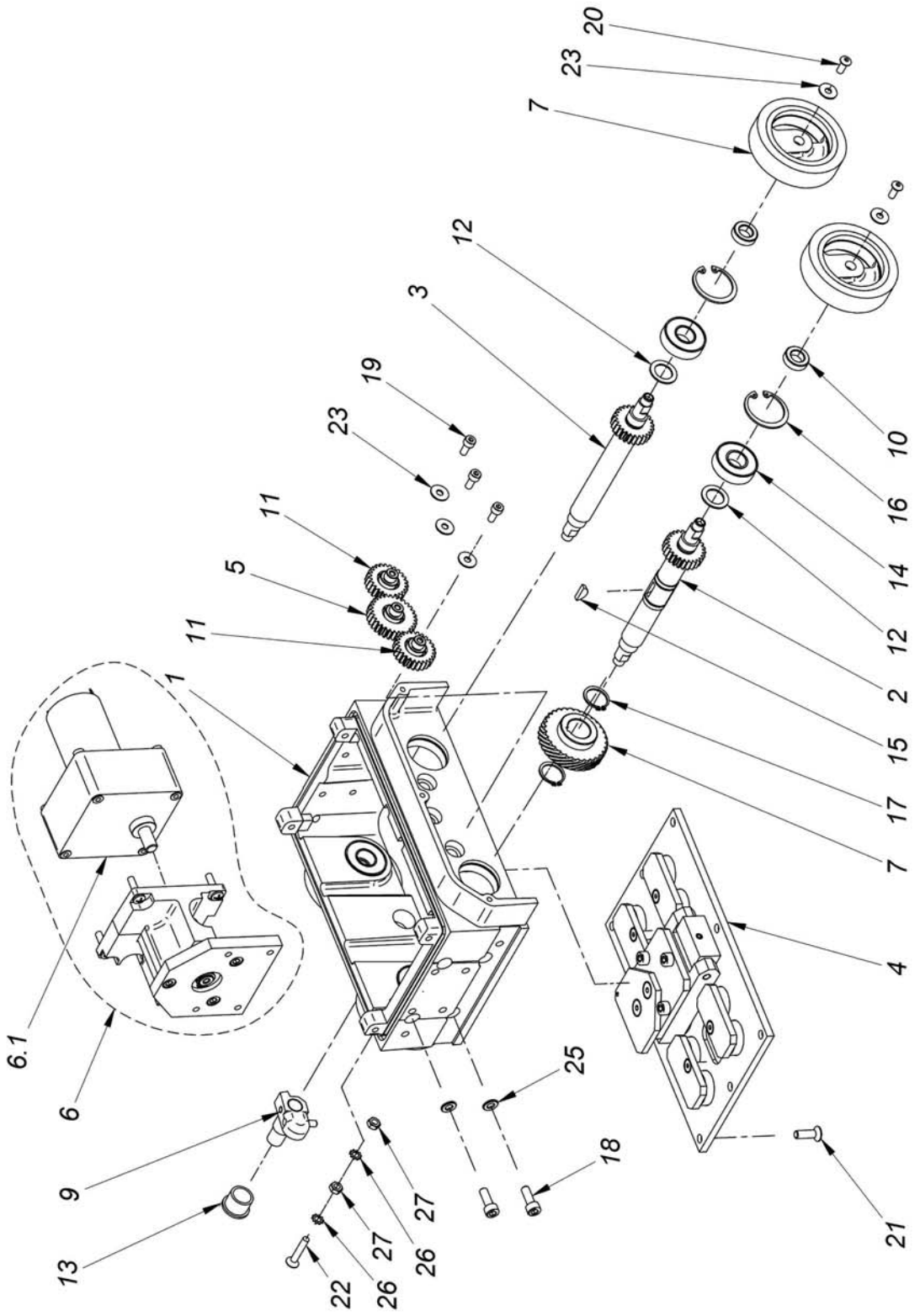
WOZ-0466-11-00-00-0			DRIVE SYSTEM ASSY	
ITEM	**PART NUMBER**	**VERSION**	**DESCRIPTION**	**Q-TY**
1.1	ZSP-0466-01-00-00-0	2074	DRIVE SYSTEM	1
1.2	OBD-0466-02-00-00-0	2490	CONTROLLER HOUSING COMPLETE	1
1.3	PRW-0466-06-00-00-0	2076	FOLLOWER ASSEMBLY	2
1.4	OSL-0466-09-00-00-0	2077	WHEEL GUARD	1
1.5	SRB-0466-10-00-00-0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



PARTS LIST - DRIVE SYSTEM

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

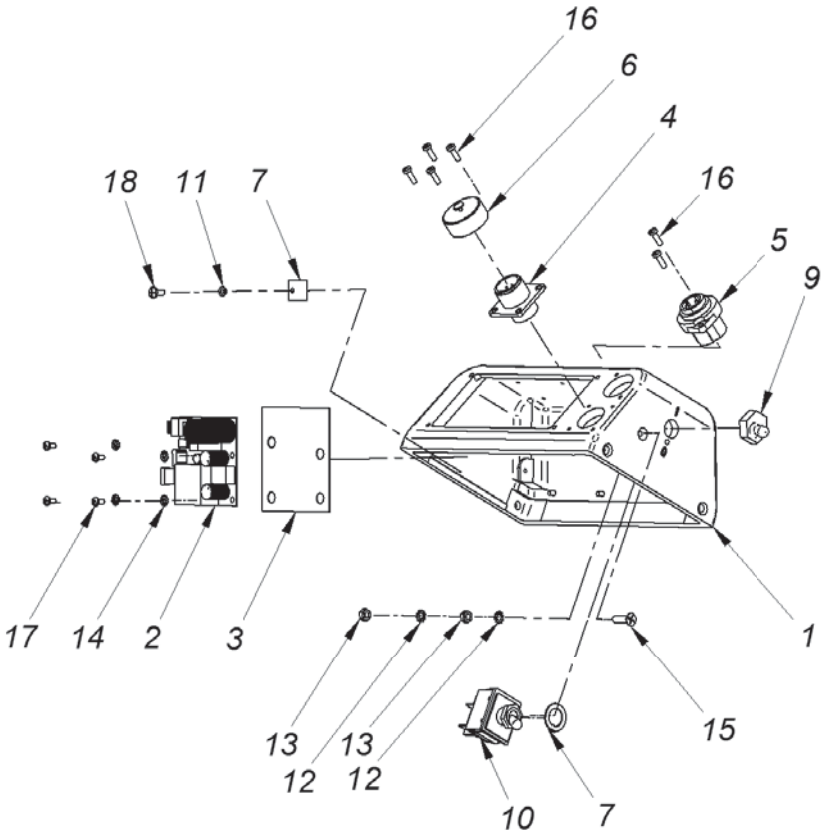
PARTS LIST - DRIVE SYSTEM



PARTS LIST - CONTROLLER HOUSING COMPLETE

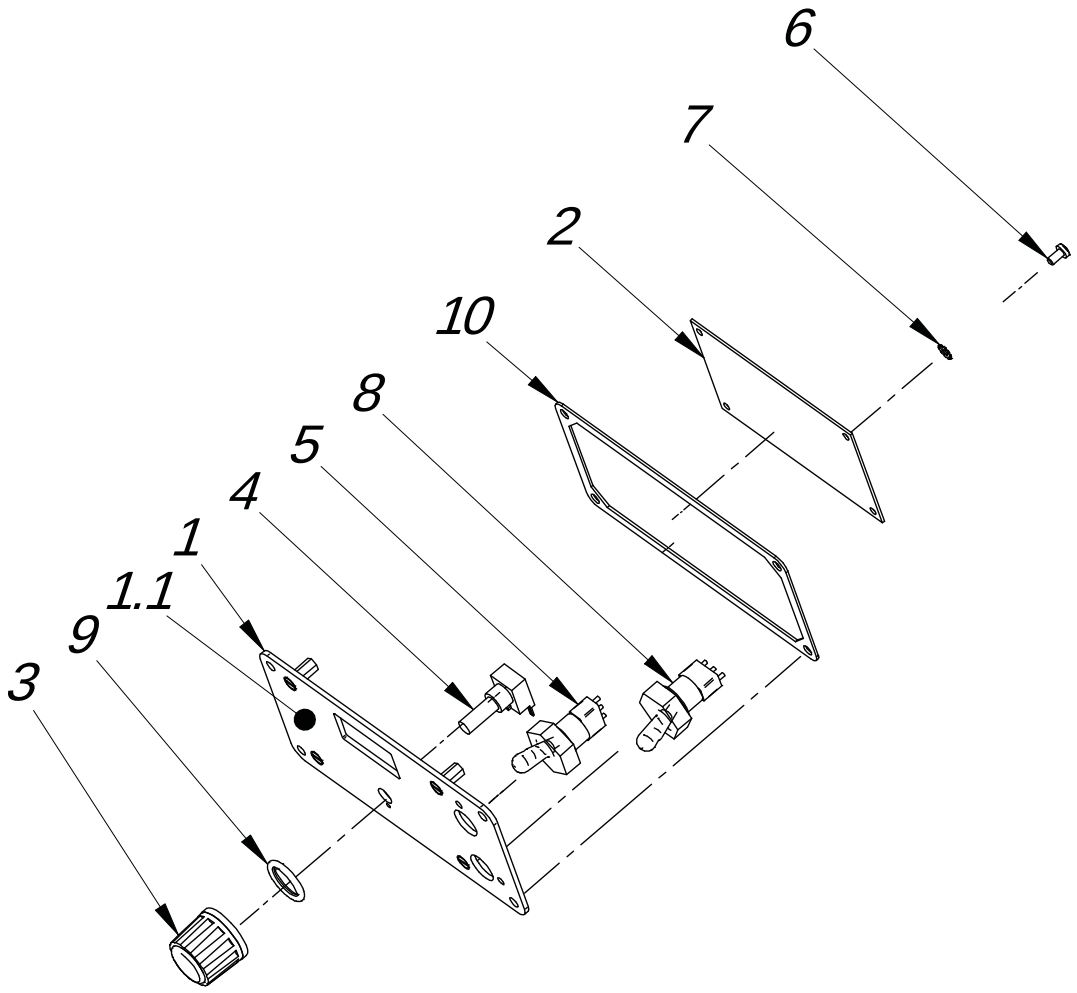
OBD-0466-02-00-00-0			CONTROLLER HOUSING COMPLATE	
ITEM	**PART NUMBER**	**VERSION**	**DESCRIPTION**	**Q-TY**
1.2.1	PKR-0466-02-01-00-0	2082	CONTROLLER HOUSING COVER	1
1.2.2	MDL-0466-02-03-00-0		POWER SUPPLY ELECTRONIC CONTROLLER ASSY	1
1.2.3	PLY-0466-02-08-00-0		INSULATING PLATE	1
1.2.4	WZK-0466-02-05-00-0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

* - not shown on drawing



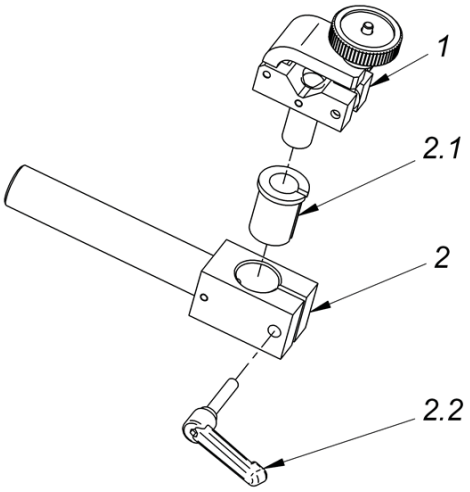
PARTS LIST - PANEL ASSEMBLY

PNL-0466-02-02-00-1			PANEL ASSEMBLY	
ITEM	**PART NUMBER**	**VERSION**	**DESCRIPTION**	**Q-TY**
16.1	MSK-0466-02-02-10-1	2638	PANEL PLATE ASSY	1
16.1.1	NKL-0466-15-01-01-1		PANEL PLATE LABEL	1
16.2	STR-0466-02-02-02-0		ELECTRONIC CONTROLLER	1
16.3	PKT-000028		POTENCIOMETER KNOB	1
16.4	WZK-0466-02-02-01-0		POTENCIOMETER WIRE SET	1
16.5	WZK-0466-02-02-04-0		IGNITION WIRE SET	1
16.6	WKR-000181		CROSS RECESSED SCREW M3x6	4
16.7	PDK-000058		WASHER, LOCK, INTERNAL STAR M3	4
16.8	WZK-0466-02-02-05-0		DIRECTION OF MOTION WIRE SET	1
16.9	PRS-000095		O-RING 12x2	1
16.10	USZ-0466-02-02-03-0		PANEL PLATE SEAL	1



PARTS LIST - TORCH HOLDING ASSEMBLY & LOW TORCH HOLDING ASSEMBLY

UCW-0476-20-00-00-0			TORCH HOLDING ASSY	
ITEM	**PART NUMBER**	**VERSION**	**DESCRIPTION**	**Q-TY**
10.1	ZRZ-0466-04-01-00-0	2093	TORCH CLAMP ASSY,	1
10.2	WLK-0466-04-10-00-0	2708	LONG TORCH BRACKET ASSY	
10.2.1	TLJ-0419-04-02-03-0		INSULATION SLEEVE,	1
10.2.2	RKJ-000036		HANDLEVER GN 300-45-M6-32-SW,	1



UCW-0476-06-00-00-0			LOW TORCH HOLDING ASSY	
ITEM	**PART NUMBER**	**VERSION**	**DESCRIPTION**	**Q-TY**
22.3.1	ZCS-0476-06-01-00-0	2108	CLAMPING BLOCKS	1
22.3.2	TRM-0476-06-10-00-0	2811	TORCH BRACKET ASSY	
22.3.2.1	TLJ-0419-04-02-03-0		INSULATION SLEEVE	1
22.3.2.2	RKJ-000036		HANDLEVER GN 300-45-M6-32-SW	1