

INSTRUCTIONS AND PARTS MANUAL

MINI-VERT III LIGHTWEIGHT BATTERY POWERED TRAVEL CARRIAGE BMV-3000 (with 110 volt charger) BMV-3002 (with 220 volt charger)

Please record your equipment identification information below for future reference. This information can be found on your machine nameplate.

Model Number _____

Serial Number _____

Date of Purchase _____

Whenever you request replacement parts or information on this equipment, always supply the information you have recorded above.

LIT-BMVIII-IPM-0507



B U G - O S Y S T E M S

A DIVISION OF WELD TOOLING CORPORATION



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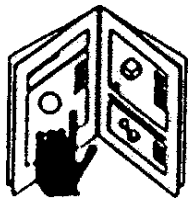
SAFETY

PROTECT YOURSELF AND OTHERS FROM SERIOUS INJURY OR DEATH. KEEP CHILDREN AWAY. BE SURE THAT ALL INSTALLATION, OPERATION, MAINTENANCE AND REPAIR PROCEDURES ARE PERFORMED ONLY BY QUALIFIED INDIVIDUALS.



ELECTRIC SHOCK can kill.

- 1) The equipment is not waterproof. Using the unit in a wet environment may result in serious injury. Do not touch equipment when wet or standing in a wet location.
- 2) The unused connectors have power on them. Always keep the unused connectors covered with the supplied protective panels. Operation of the machine without the protective panels may result in injury.
- 3) Never open the equipment without first unplugging the power cord or serious injury may result.
- 4) Verify the customer-supplied power connections are made in accordance with all applicable local and national electrical safety codes. If none exist, use International Electric Code (IEC) 950.
- 5) Never remove or bypass the equipment power cord ground. Verify the equipment is grounded in accordance with all applicable local and national electrical safety codes. If none exist, use International Electric Code (IEC) 950.



READ INSTRUCTIONS.

Read the instruction manual before installing and using the equipment.



EQUIPMENT DAMAGE POSSIBLE.

- 1) Do not plug in the power cord without first verifying the equipment is OFF and the cord input voltage is the same as required by the machine or serious damage may result.
- 2) Always verify both the pinion and wheels are fully engaged before applying power or equipment damage may occur.
- 3) Do not leave the equipment unattended.
- 4) Remove from the worksite and store in a safe location when not in use.



FALLING EQUIPMENT can cause serious personal injury and equipment damage.

Faulty or careless user installation is possible. As a result, never stand or walk underneath equipment.



MOVING PARTS can cause serious injury.

- 1) Never try to stop the pinion from moving except by removing power or by using the STOP control.
- 2) Do not remove any protective panels, covers or guards and operate equipment.

HIGH FREQUENCY WARNINGS

SPECIAL PRECAUTIONS ARE REQUIRED WHEN USING PLASMA, TIG OR ANY WELDING PROCESS THAT USES HIGH FREQUENCY TO STRIKE AN ARC.



WARNING: HIGH FREQUENCY CAN EFFECT MACHINE OPERATION AND THEREFORE, WELD QUALITY.

Read the precautions below before installing and using the equipment.

PRECAUTIONS:

- 1)** Some plasma or welding cables are strong sources of high frequency interference. NEVER lay a plasma or welding cable across the controls of the machine.
- 2)** Always physically separate the plasma or welding cable leads from the machine cables. For example, the plasma or welding cable leads should NEVER be bundled with a pendant cable or the machine power cord. Maximize the separation between any machine cables and the plasma or welding cables.
- 3)** Strictly follow the grounding procedures specified for the plasma or welding unit. NOTE: Some plasma and welding units produce exceptionally large amounts of high frequency noise. They may require a grounding rod be driven into the earth within six feet (2 meters) of the plasma or welding unit to become compatible with an automatic cutting or welding process.
- 4)** If the high frequency is produced using a spark gap, adjust the points so the gap is as small as possible. The larger the gap, the higher the voltage and the higher the interference.
- 5)** Some plasma or welding units will inject high frequency interference into the AC power line. Use separate power line branches whenever possible to power the plasma or welding source and the machine. Do not plug them into the same outlet box.
- 6)** High frequency noise may enter the machine through the plasma or welding supply remote contactor leads. Some plasma and welding sources can produce noise spikes of up to several thousand volts. These sources are not compatible with automated cutting and welding equipment. It is recommended that the remote contactor leads on these plasma or welding sources not be connected to the machine. An alternate solution is to purchase a separate remote contactor isolation box.

MINI-VERT III

LIGHTWEIGHT BATTERY POWERED TRAVEL CARRIAGE

INSTRUCTIONS AND PARTS MANUAL

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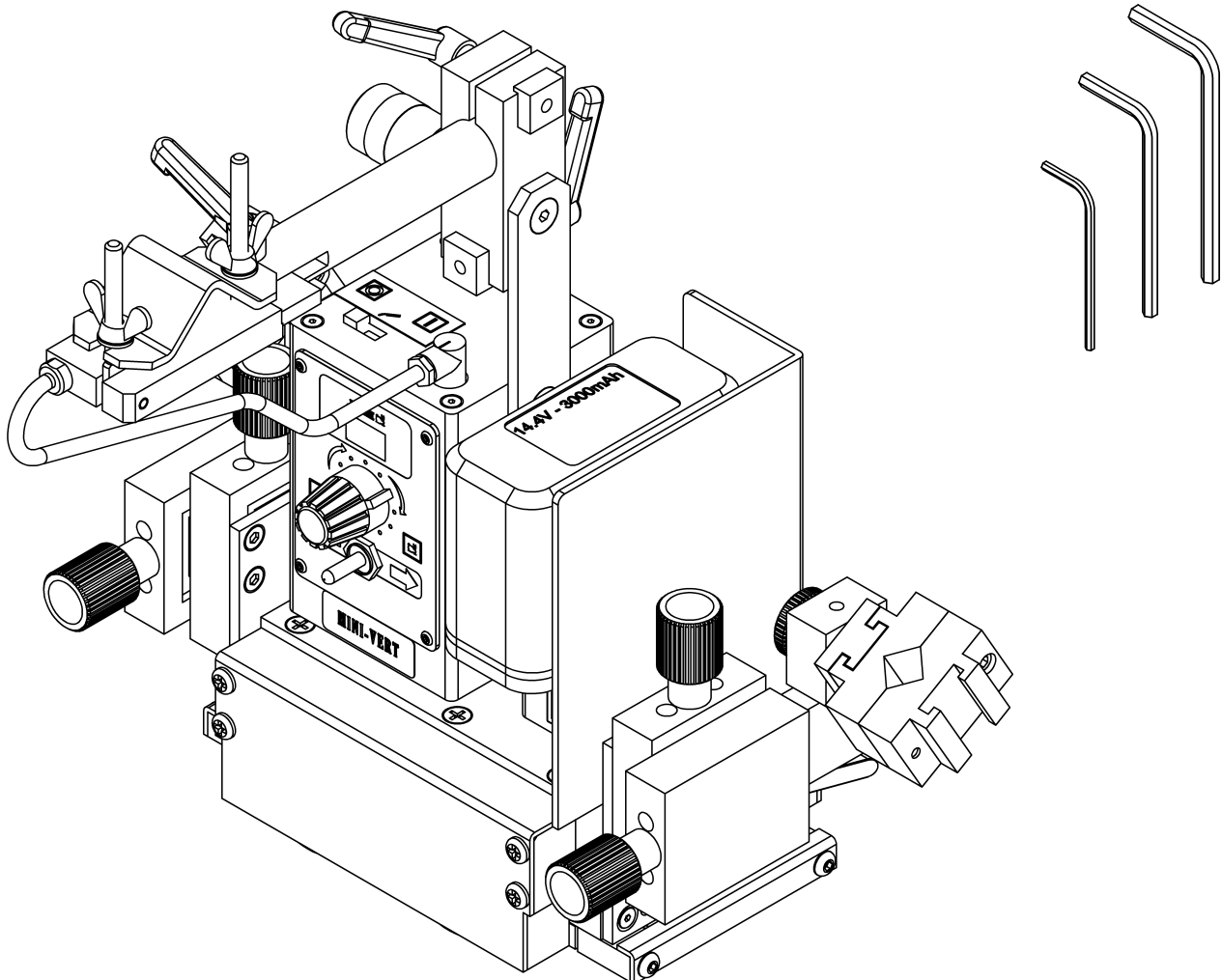
5	Introduction / Features
6	Setup
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15	C07182-010-00-00 Motor Assembly / Parts List / Exploded View
16	C1340-010-10-00 Electronic Controller Assembly / Parts List / Exploded View
17	C1340-700-40-01 Power Supply Assembly / Parts List / Exploded View
18	PRW-0340-02-00-00-0 Torch Guide-Right With Support / Parts List / Exploded View
19	C71340-020-10-00 Torch Guide Right / Parts List / Exploded View
20	PRW-0340-02-01-10-0 Torch Guide / Parts List / Exploded View
21	C07182-700-80-00 Torch Holding Assembly / Parts List / Exploded View
22	TRM-0340-03-00-00-0 Arc Sensor Assembly / Parts List / Exploded View
23	CZJ-0340-03-01-00-0 Sensor Set / Parts List / Exploded View
24	C71340-050-00-00 Torch Guide-Left With Support / Parts List / Exploded View
25	C71340-050-10-00 Torch Guide-Left / Parts List / Exploded View
26	C71340-700-70-01 Follower Assembly / Parts List / Exploded View
27	C71340-704-20-00 Clamping Blocks / Parts List / Exploded View
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INTRODUCTION:

The **MINI-VERT III** is a portable battery powered 4-wheel drive welding carriage. Strong permanent Magnets hold the machine on the work piece allowing it to travel on vertical or oblique work surfaces. Guide wheels on the **MINI-VERT III** automatically track the fillet joint. The **MINI-VERT III** is compact, lightweight and easy to position. It will accommodate most hand held welding guns. By providing consistent travel speed and path the **MINI-VERT III** produces uniform, consistent welds increasing both productivity and weld quality.

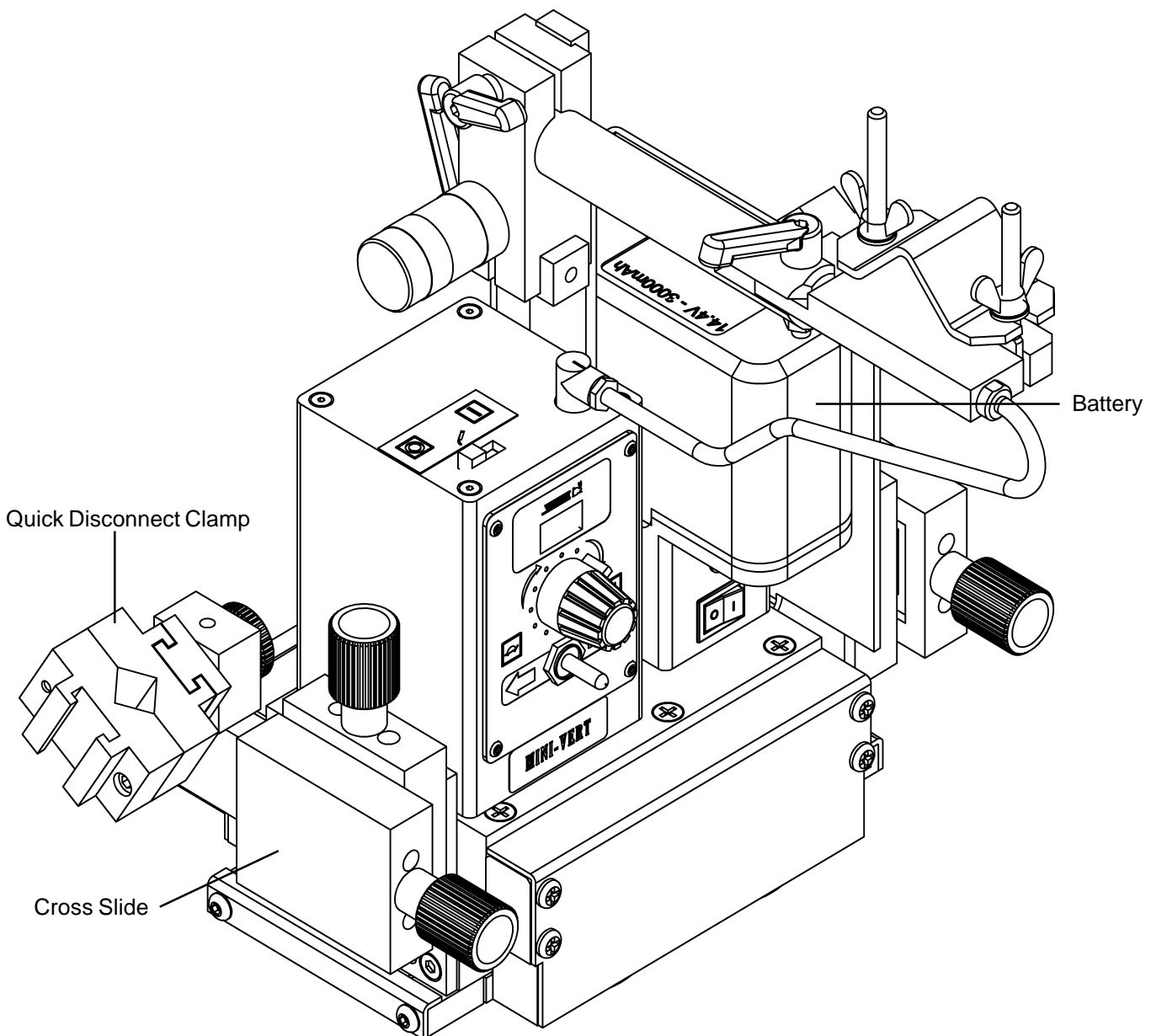
FEATURES:

- Lightweight, easy to carry design.
- Permanent magnet for powerful traction.
- Equipped with a four-wheel drive carriage.
- Dynamic braking for crisp starts and stops.
- Closed loop speed control.
- 4 to 39 ipm (100-990 mm/min) welding speed range.
- 14.4-volt rechargeable battery with battery charger.
- Spatter guard on work side wheels.
- Versatile quick disconnect gun clamp will fit most MIG guns.
- Precision micro-adjustable slides for gun positioning.
- Available in two charging voltages: 110 & 220 VAC.
- Current sensing cable anchor provides auto-travel Start/Stop.



SETUP:

1. Remove the MINI-VERT III from the shipping box. **Be sure to account for all loose parts before discarding the box.**
2. Place **Battery** in the charger, (which is included) and connect to 220/50/1 or 110/50-60/1 power outlet (depending on the model). Let the **Battery** charge for 2-3 hours. The light on the charger will “blink” while it is charging. When the light stays “on” the battery is fully charged and ready for use.
3. Place the **Battery** on the MINI-VERT III. When the **Battery** becomes ‘low”, the light on the machine will “blink”. When the light starts blinking, the **Battery** must be removed and recharged.
4. Mount the welding torch in the **Quick Disconnect Clamp** and position the torch in the joint using the **Cross Slide**.

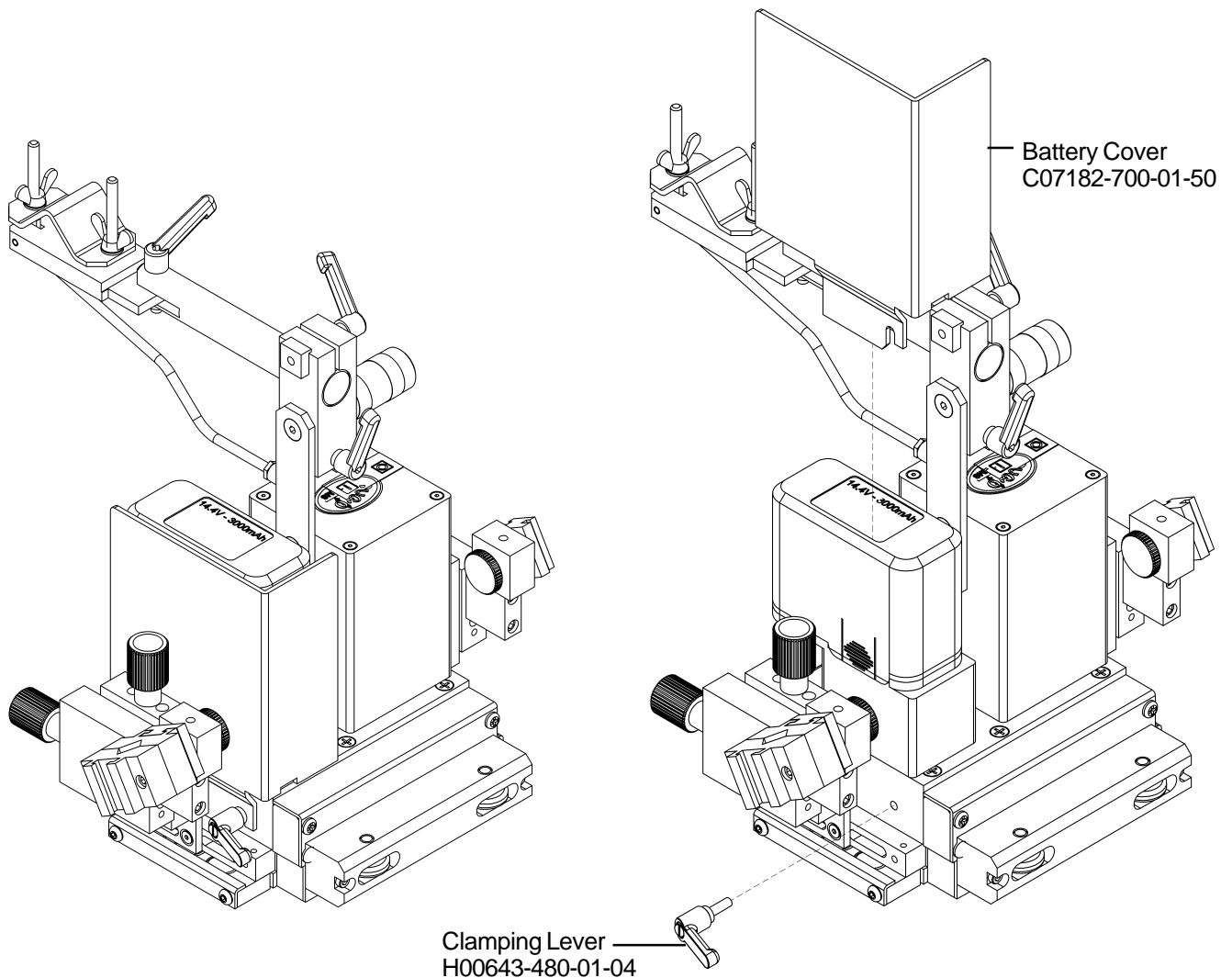


BATTERY COVER:

A **Battery Cover** is provided with each Bug-O Systems MINI-VERT III. This cover is provided to help protect the battery from welding spatter and heat. It is left to the customer's discretion to use the cover or to remove it from the MINI-VERT III.

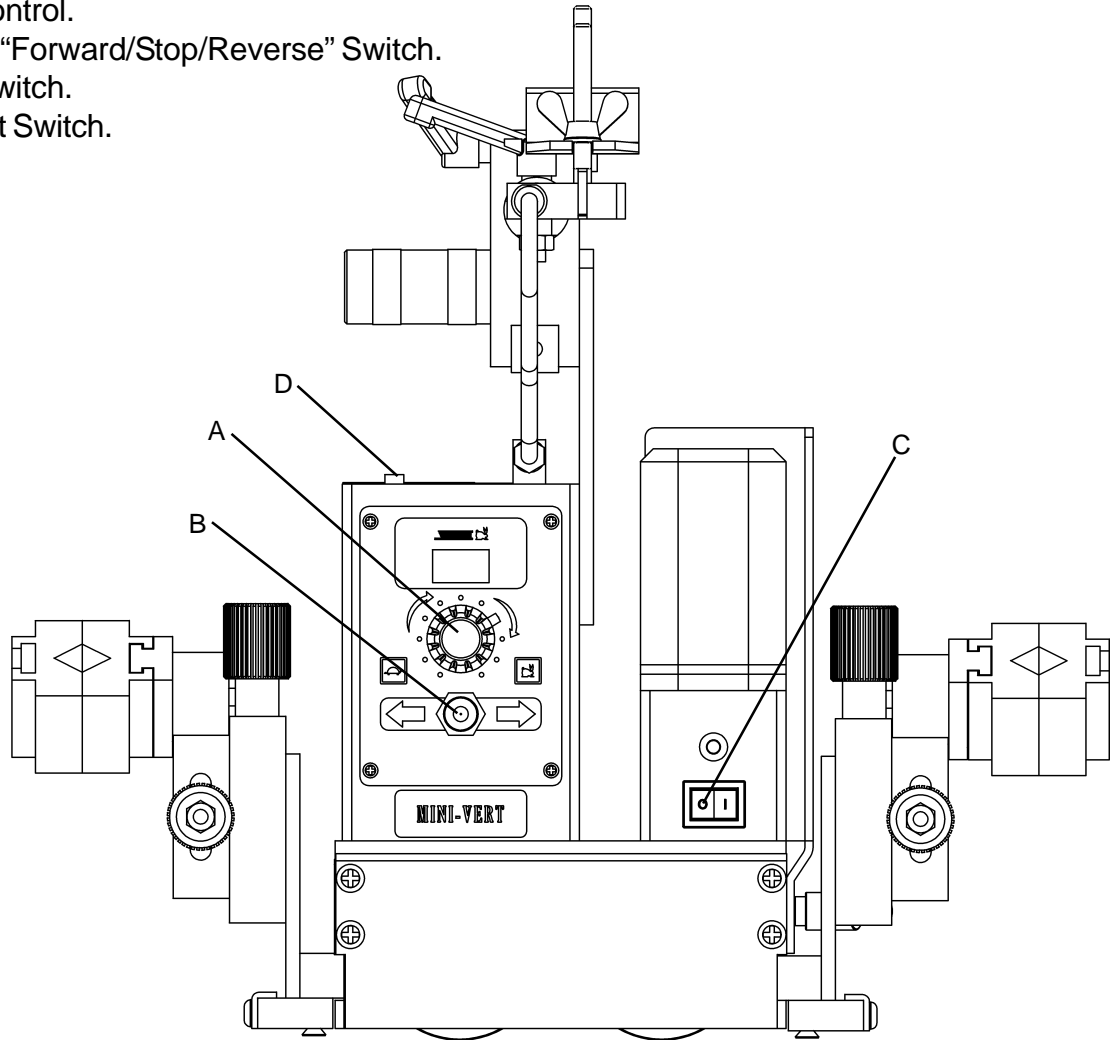
INSTALLATION AND REMOVAL:

1. Slide the **Battery Cover** down along the side of the battery as shown. Align the slot in the cover with the hole in the base of the MINI-VERT III.
2. Insert the **Clamping Lever** into the base hole and tighten to secure the **Battery Cover**.
3. To remove the **Battery Cover** simply loosen or remove the **Clamping Lever** and pull away the **Battery Cover**.



CARRIAGE CONTROLS:

- A. Travel Speed Control.
- B. Travel Direction “Forward/Stop/Reverse” Switch.
- C. Power On/Off Switch.
- D. Auto-Travel Start Switch.



OPERATION:

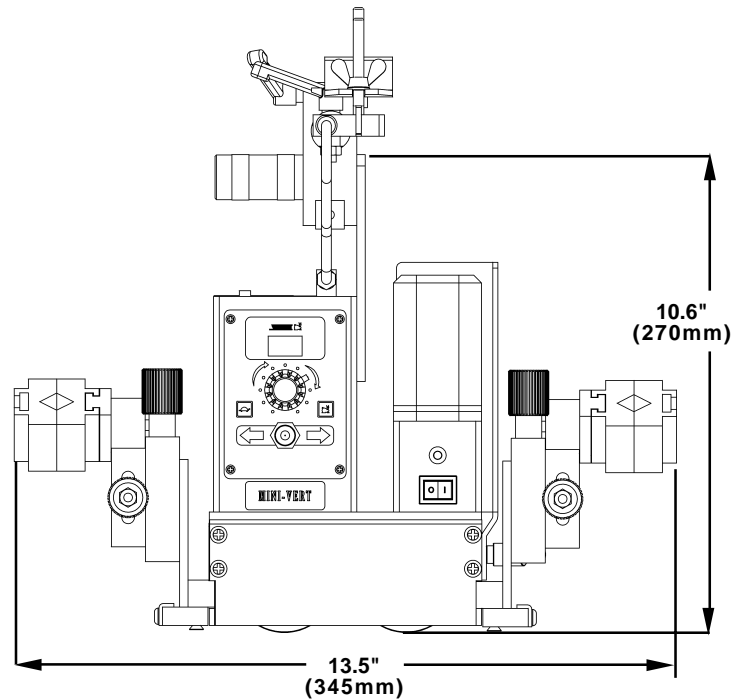
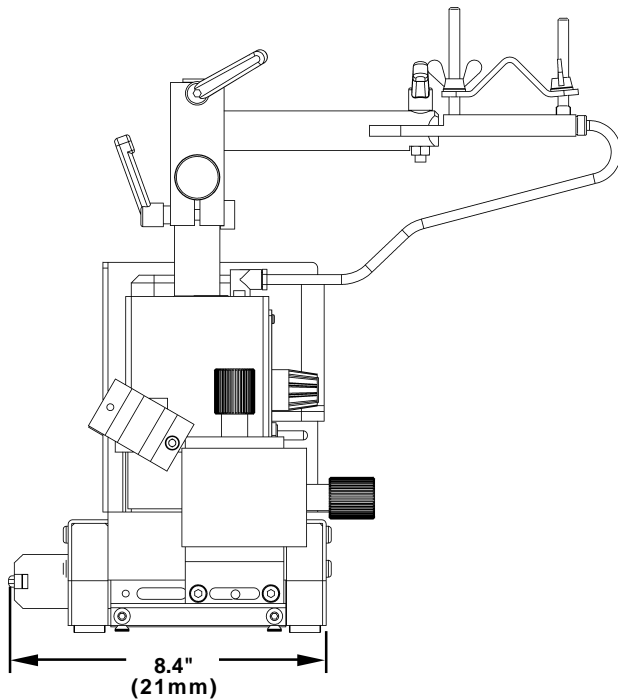
NOTE: Refer to the controls page in the manual for reference letter callouts.

1. Toggle the **Power On/Off Switch (C)** to the “On” position.
2. Toggle the **Travel Direction Switch (B)** to the set direction of travel.
3. Regulate the speed of travel by rotating the **Travel Speed Knob (A)**. A counter-clockwise rotation will decrease the speed of the machine while a clockwise rotation will increase the speed of the machine.
4. Travel speed and torch position may be adjusted during welding operation.
5. To stop welding toggle the **Travel Direction Switch (B)** to the “Stop” position.
6. Switch **(D)** activates auto-travel start when gun cable is routed through the cable anchor.

CAUTION: CONNECT A SAFETY LINE TO THE TOP OF THE MACHINE BEFORE **WELDING IN THE VERTICAL POSITION**. The welding cable should be supported beside the machine, to reduce the load on the machine.

TECHNICAL DATA:

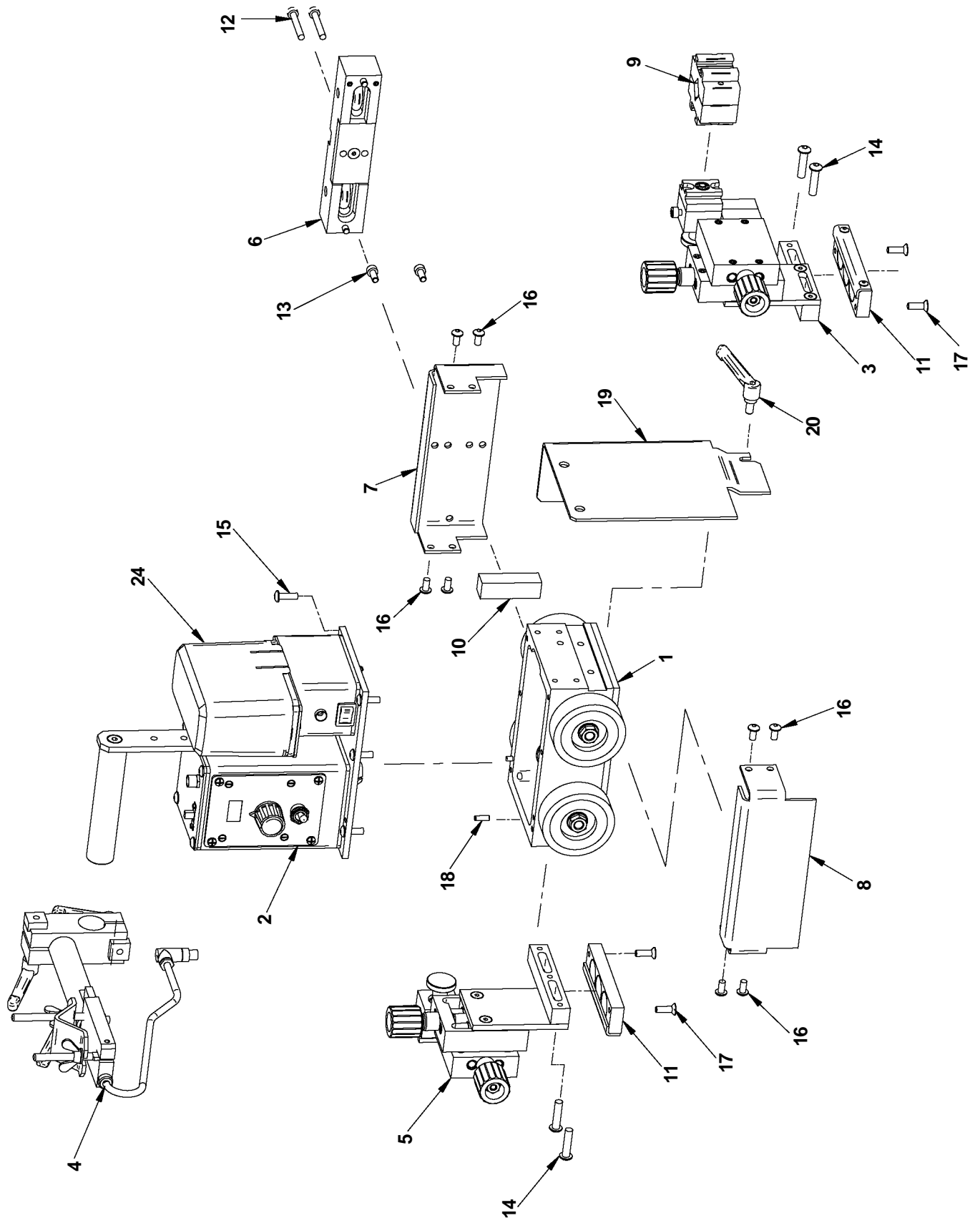
Power Requirements:	BMV-3000 110 VAC Includes 1 Battery and 1 Charger BMV-3002 220 VAC Includes 1 Battery and 1 Charger
Power Supply:	14.4 Volt, 3Ah Rechargeable Battery
Drive:	4 Wheel Drive
Clearance:	3/32" (2.4mm)
Manual Torch Adjustment:	Horizontal/Vertical 3/4"-3/4" (20-20mm)
Carrying Capacity:	Wall Vertical 15 lbs. (7kg) Wall Horizontal 15 lbs. (7kg) Downhand/flat position 50 lbs. (22.7kg)
Travel:	Bi-directional
Speed:	3.9-39 ipm (10-99cm/min)
Net Weight:	16 lbs. (7.2kg)



BMV-1000-P MINI-VERT III CARRIAGE / PARTS LIST

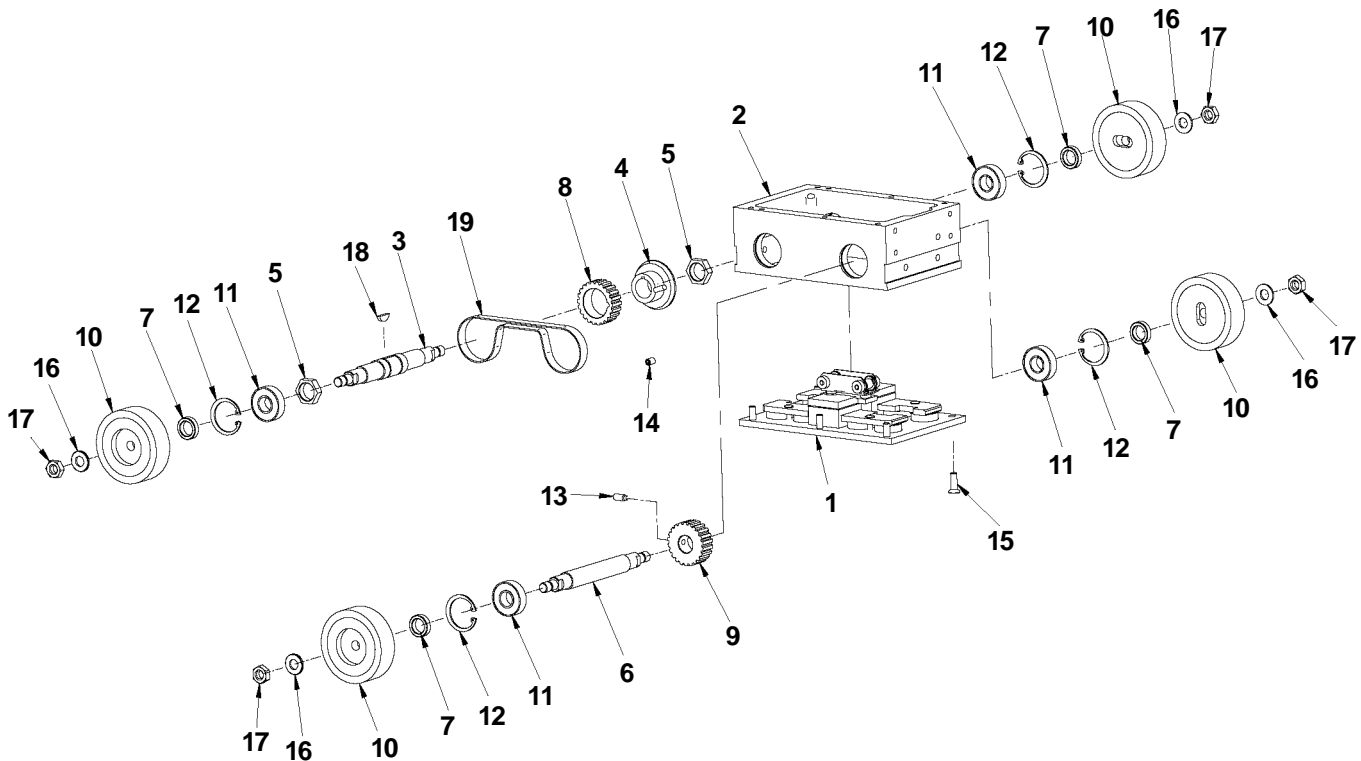
ITEM	PART NUMBER	DESCRIPTION	QTY
1	C07182-700-10-01	DRIVE SYSTEM	1
2	C71340-010-00-00	MOTOR ASSEMBLY	1
3	PRW-0340-02-00-00-0	TORCH GUIDE - RIGHT WITH SUPPORT	1
4	TRM-0340-03-00-00-0	ARC SENSOR ASSY	1
5	C71340-050-00-00	TORCH GUIDE - LEFT WITH SUPPORT	1
6	C707182-700-70-01	FOLLOWER ASSEMBLY	1
7	C07182-703-30-00	WHEEL SHIELD - RIGHT	1
8	C07182-703-20-00	WHEEL SHIELD - LEFT	1
9	C07182-704-20-00	CLAMPING BLOCKS	1
10	C07182-700-00-60	BAR	1
11	C07182-701-00-00	BLOCK WITH MAGNETS ASSY	2
12	SRB-000091	M5x.8x35 SHCS	2
13	N18230-205-12-00	HEX SOCKET BOLT M5X12	2
14	WKR-000104	BUTTON HD SOC SCREW M6X30	4
15	WKR-000098	BUTTON HD SOC SCREW M5X16	6
16	N60738-005-10-02	SCREW M5x10	8
17	N60799-105-16-02	SCR, M5 x 16 FHSCS	4
18	N18502-104-12-00	PIN 4x12	2
19	C07182-700-01-50	GUARD	1
20	H00643-480-01-04	HANDLEVER GN 300-45-M6-12-0	1
21	C07182-500-30-70	LABEL - CHARGER PART NUMBER	1
22	C07182-500-30-60	LABEL - BATTERY PART NUMBER	1
23	H01113-001-01-03	CHARGER - 120V	1
23	H01113-001-01-02	CHARGER - 230V	1
24	H01134-001-01-02	BATTERY	1
25	H00643-502-01-00	HEX. WRENCH S=2,5	1
26	H00643-504-01-00	HEX. WRENCH 4	1
27	H00643-505-01-00	HEX. WRENCH S=5	1

BMV-1000-P MINI-VERT III CARRIAGE / EXPLODED VIEW



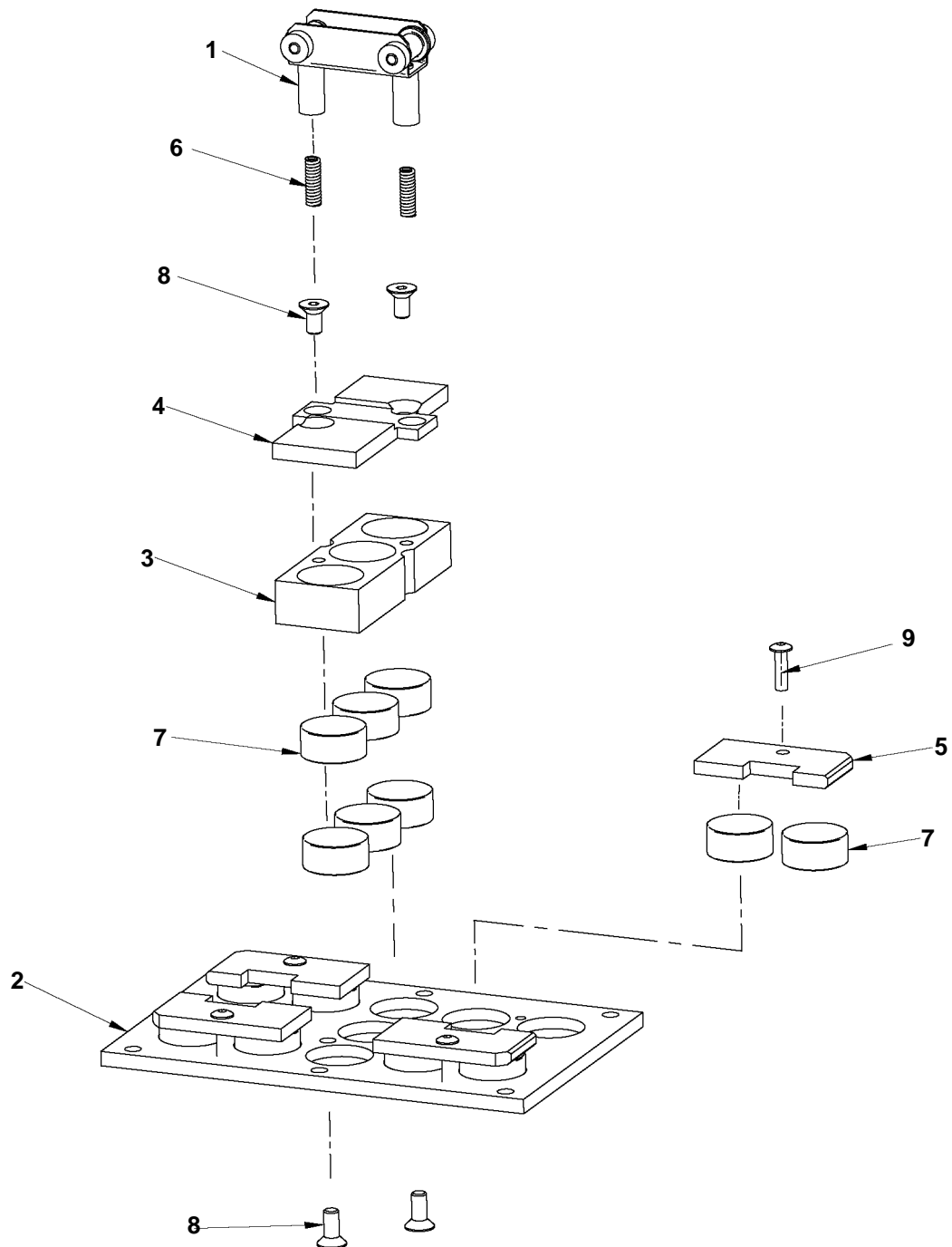
C07182-700-10-01 DRIVE SYSTEM / PARTS LIST / EXPLODED VIEW

ITEM	PART NUMBER	DESCRIPTION	QTY
1	C07182-701-10-00	PLATE ASSEMBLY	1
2	C07182-700-10-11	FRAME	1
3	C07182-700-10-51	DRIVE SHAFT I	1
4	C07182-700-10-61	BEVEL GEAR z=32	1
5	C07182-700-10-81	ADJUST NUT	2
6	C07182-700-10-91	DRIVE SHAFT II	1
7	C07182-700-11-20	DISTANCE WASHER	4
8	C07182-700-11-30	PULLEY I	1
9	C07182-700-11-40	PULLEY II	1
10	C07182-360-00-30	DRIVE WHEEL	4
11	H00636-300-01-15	BEARING 6001 ZZ	4
12	N18511-120-28-00	INTERNAL RETAINING RING 28W	4
13	N18231-605-12-02	SOCKET SET SCREW M5 x 12	1
14	N60091-305-10-00	SOCKET SET SCREW M5 x 10	1
15	N60799-105-16-02	SCR, M5 x 16 FHSCS	6
16	N18200-608-04-01	ROUND WASHER 8.4	4
17	N18215-308-00-01	HEX NUT (SHORT)-M8	4
18	C03681-700-02-20	WOODRUFF KEY 3x5x13	1
19	H01374-001-01-04	BELT 126XL 037	1



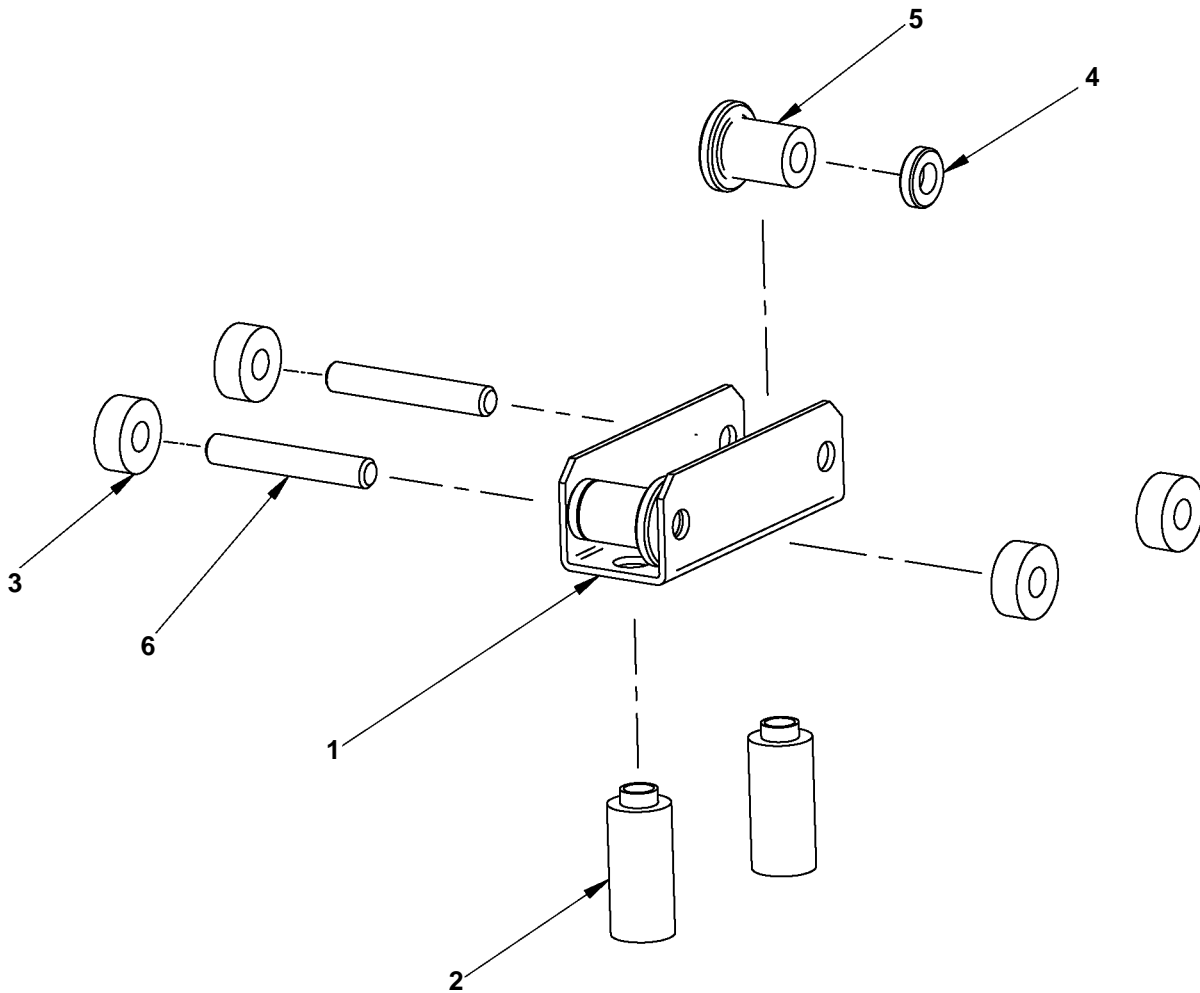
C07182-701-10-00 PLATE ASSEMBLY / PARTS LIST / EXPLODED VIEW

ITEM	PART NUMBER	DESCRIPTION	QTY
1	C07182-701-40-00	TIGHTENER	1
2	C07182-701-10-10	PLATE	1
3	C07182-701-10-20	MAGNET HOUSING	1
4	C07182-701-10-30	MAGNET PLATE I	1
5	C07182-701-10-40	MAGNET PLATE II	4
6	C07182-701-10-50	SPRING	2
7	H01158-333-01-02	MAGNET	14
8	N60799-105-10-02	SCR, M5 x 10 FHSCS	4
9	N60738-004-14-02	SCREW M4x14	4



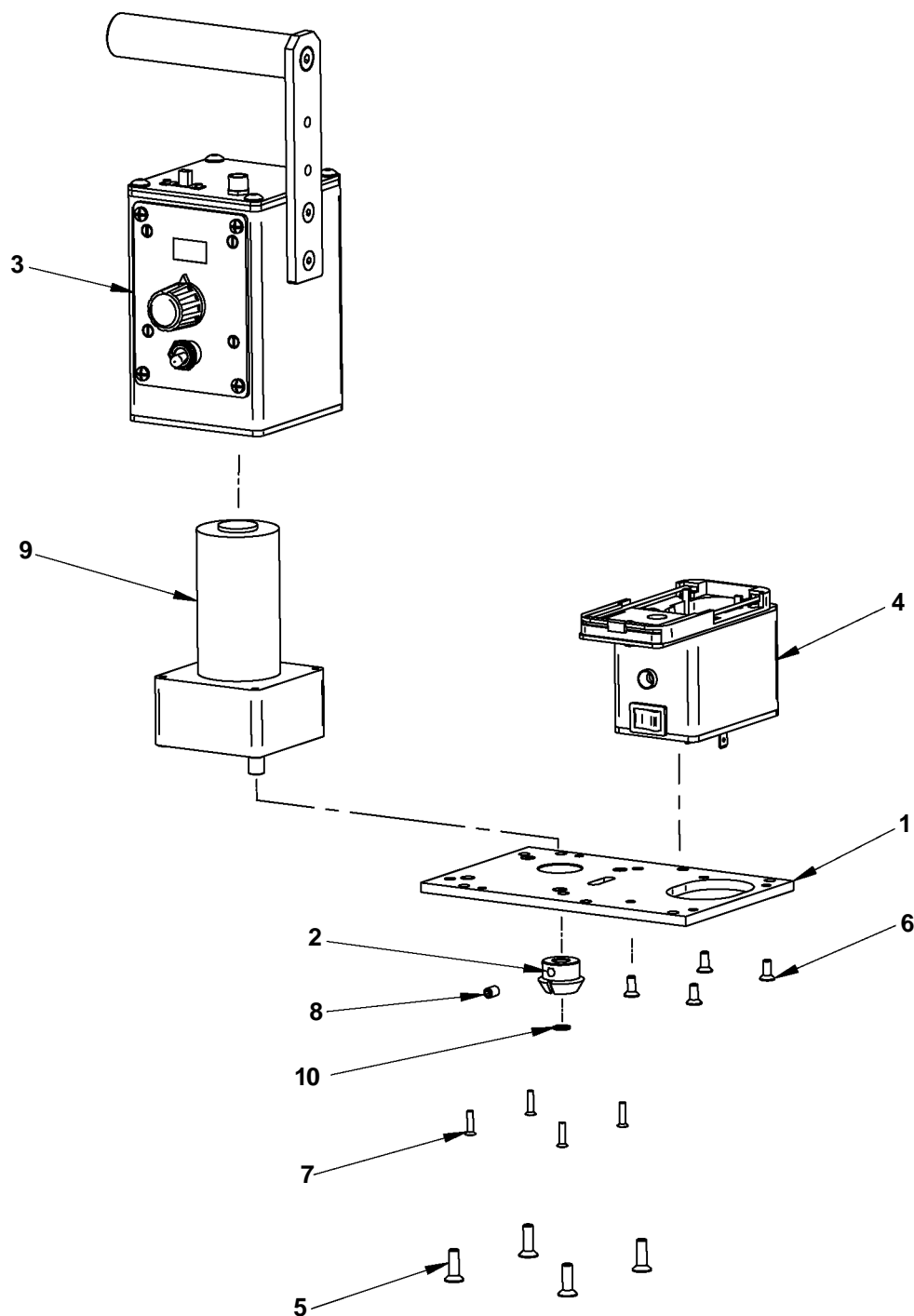
C07182-701-40-00 TIGHTENER / PARTS LIST / EXPLODED VIEW

ITEM	PART NUMBER	DESCRIPTION	QTY
1	C07182-701-40-10	TIGHTENER FRAME	1
2	C07182-701-40-20	BAR	2
3	C07182-701-40-30	SLEEVE	4
4	C07182-700-11-20	DISTANCE WASHER 4.1X12X1.5	2
5	H01362-001-01-04	SELF LUBRICATING SLEEVE 4x8x12	2
6	N18502-104-25-10	PIN 4x25	2



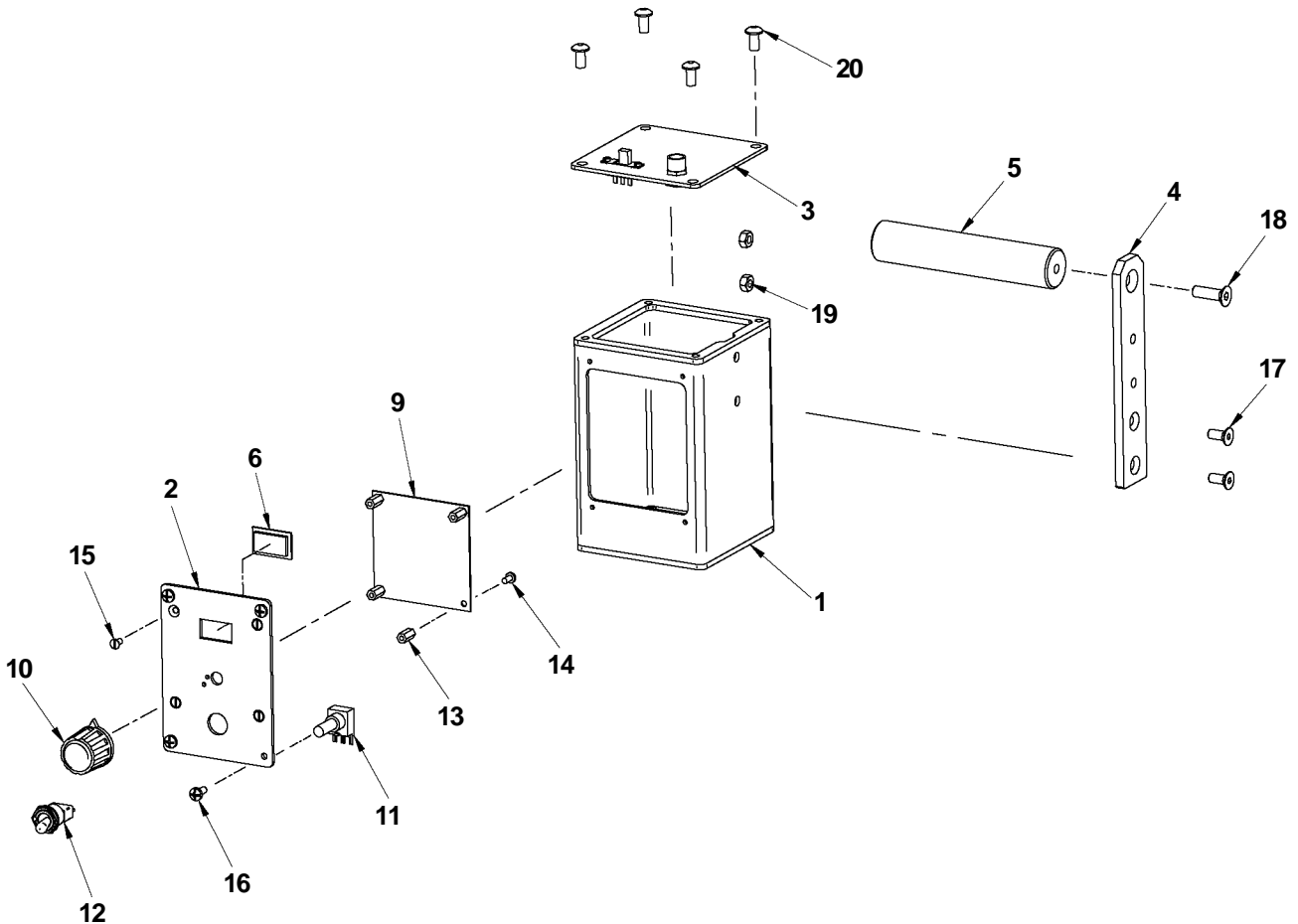
C71340-010-00-00 MOTOR ASSEMBLY / PARTS LIST / EXPLODED VIEW

ITEM	PART NUMBER	DESCRIPTION	QTY
1	C07182-700-20-11	MOTOR PLATE	1
2	C07182-700-20-21	BEVEL GEAR z=17	1
3	C71340-010-10-00	ELECTRONIC CONTROLLER ASSY	1
4	C07182-700-40-01	POWER SUPPLY ASSEMBLY	1
5	N60799-105-16-02	SCR, M5 x 16 FHSCS	4
6	N60799-104-12-02	SCR, M4 x 12 FHSCS	4
7	N18220-203-12-01	CROSS RECESSED SCREW M3x12	4
8	N18227-205-08-00	SOCKET SET SCREW M5 x 8	1
9	H01111-403-01-00	MOTOR	1
10	N18511-120-08-00	INTERNAL RETAINING RING 8W	1



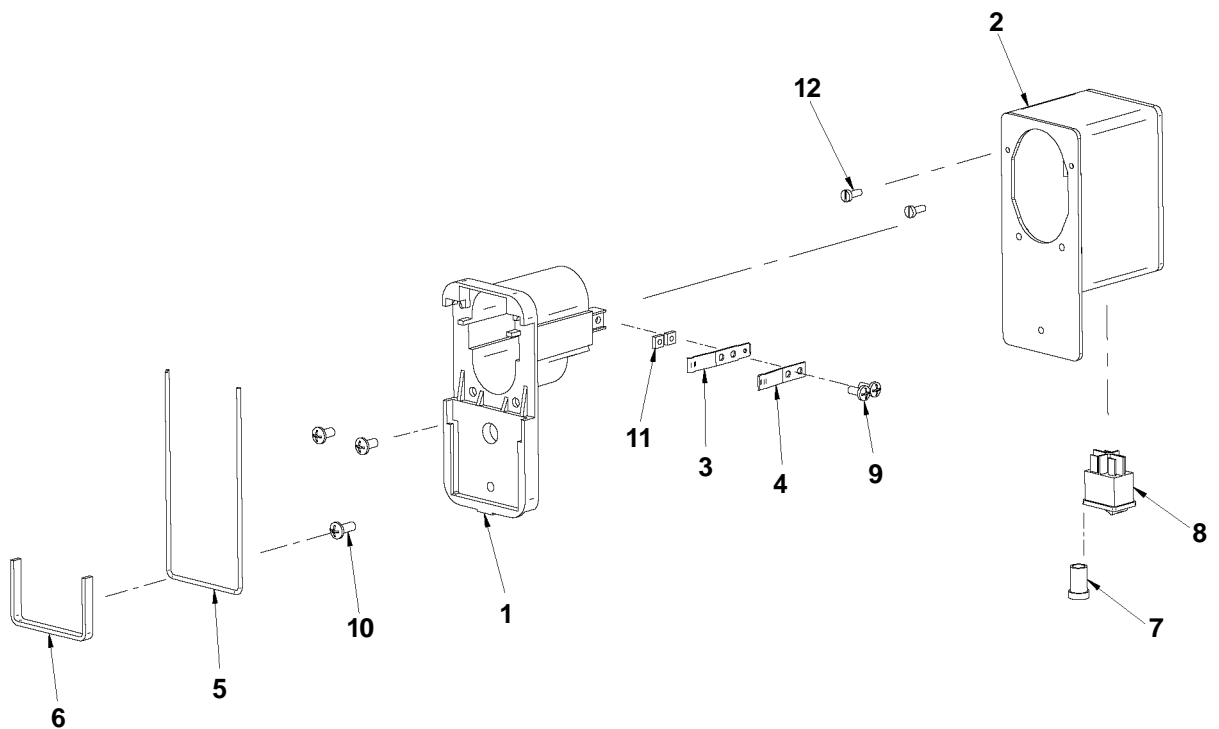
C1340-010-10-00 ELECTRONIC CONTROLLER ASSEMBLY / PARTS LIST / EXPLODED VIEW

ITEM	PART NUMBER	DESCRIPTION	QTY
1	C07182-700-30-11	MOTOR HOUSING	1
2	C07182-700-30-20	PANEL PLATE	1
3	PKR-0340-01-01-10-0	MOTOR HOUSING COVER ASSY	1
4	C07182-700-30-40	HAND LEVER	1
5	C71340-010-10-20	HOLDER	1
6	C07182-700-30-50	SCREEN	1
9	C07182-700-31-10	ELECTRONIC CONTROLLER	1
10	PKT-000002	HANDWHEEL 23	1
11	C07182-701-60-00	POTENTIOMETER ASSEMBLY	1
12	C07182-701-70-00	LEVER SWITCH ASSEMBLY	1
13	TLJ-000023	SLEEVE M3 x 10	4
14	N18220-203-06-01	CROSS RECESSED SCREW M4x8	4
15	N18220-703-06-00	CROSS RECESSED SCREW M3x6	4
16	N18221-903-08-00	SCREW M3x8	4
17	N60799-105-12-02	SCR, M5 x 12 FHSCS	2
18	N60799-106-20-02	SCR, M6 x 20 FHSCS	1
19	N18214-406-00-01	HEX. NUT M6	2
20	N60738-005-10-02	SCREW M5x10	4



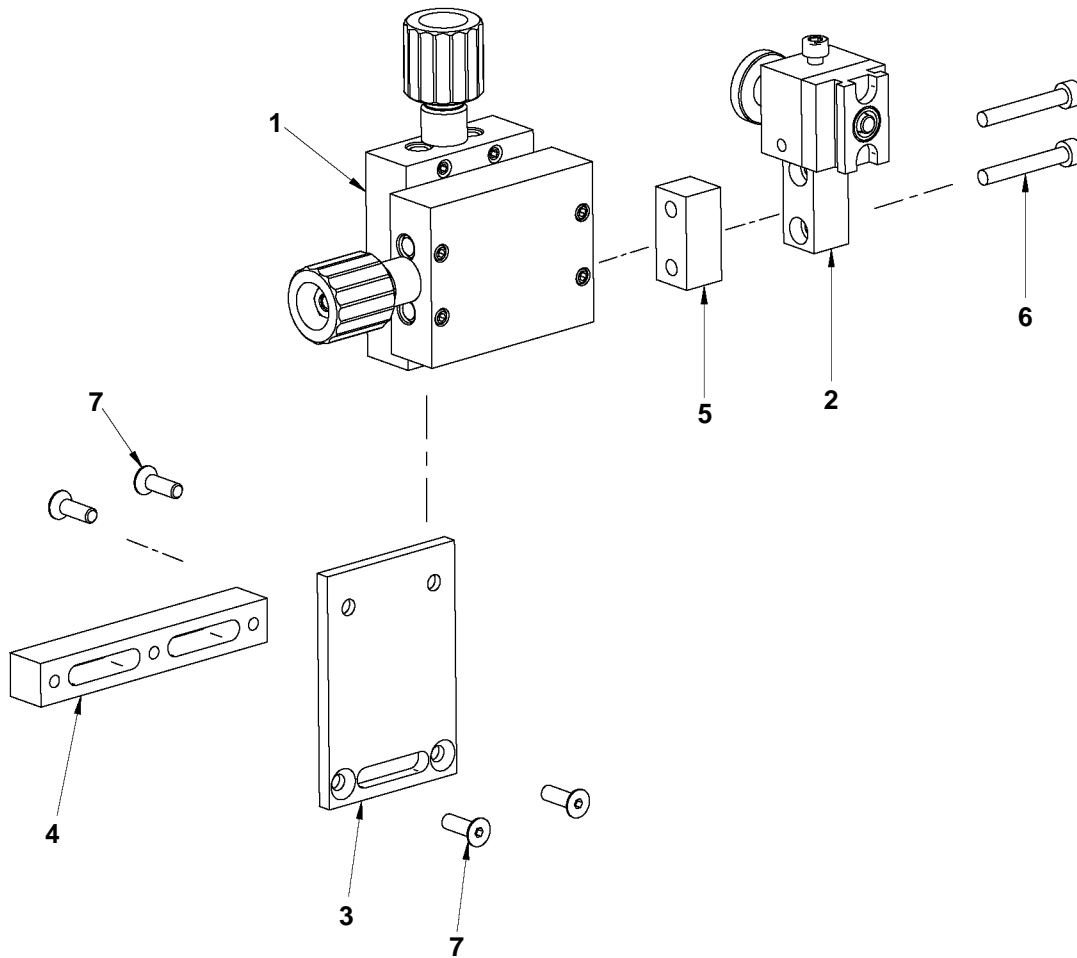
C1340-700-40-01 POWER SUPPLY ASSEMBLY / PARTS LIST / EXPLODED VIEW

ITEM	PART NUMBER	DESCRIPTION	QTY
1	C07182-460-70-10	CONTACTS SOCKET	1
2	C07182-701-20-00	BATTERY HOUSING	1
3	C07182-500-30-30	CONTACTS LONG	2
4	C07182-500-30-40	CONTACTS SHORT	2
5	C07182-500-30-50	CATCH	1
6	C07182-500-30-80	SPRING BLOCKING	1
7	H01156-114-01-01	LED SOCKET	1
8	H0115-170-01-01	SWITCH	1
9	N18220-203-08-01	CROSS RECESSED SCREW M3x8	4
10	N60738-004-10-02	SCREW M4x10	4
11	N18215-103-00-00	SQUARE NUT	4
12	N18221-903-08-00	SCREW M3x8	2



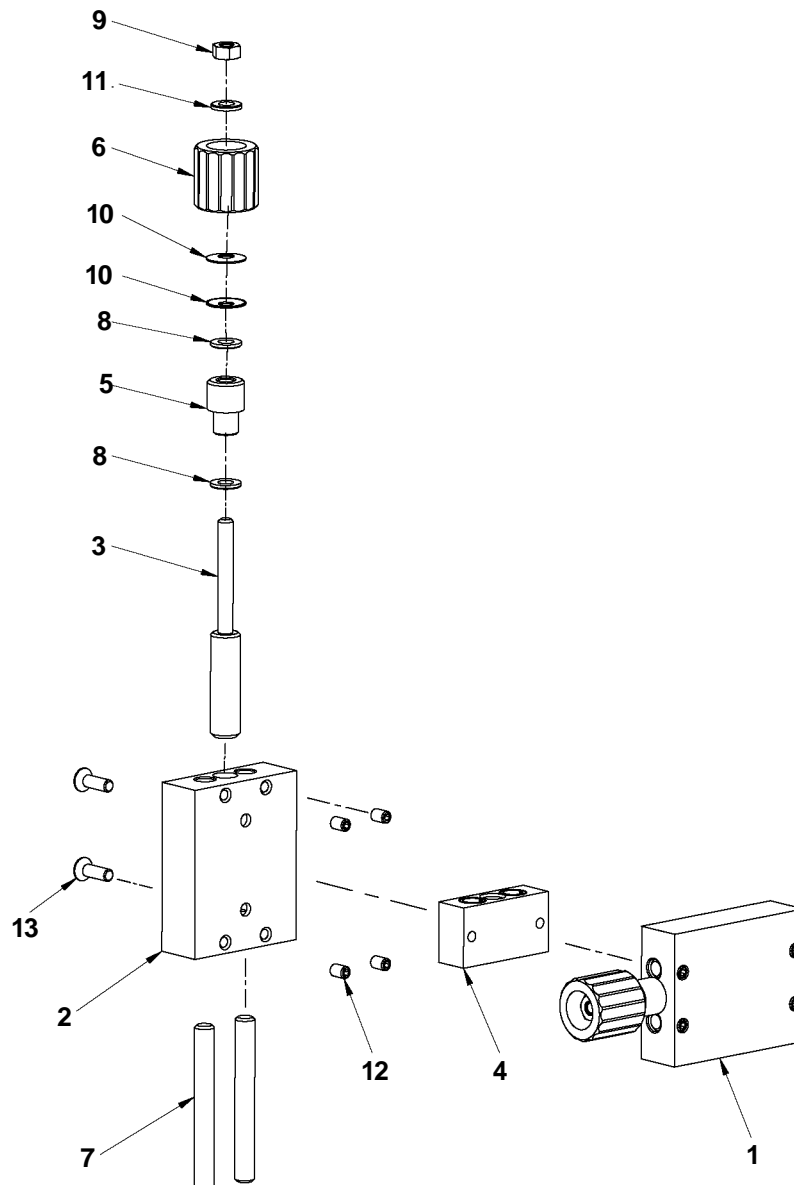
PRW-0340-02-00-00-0 TORCH GUIDE - RIGHT WITH SUPPORT / PARTS LIST / EXPLODED VIEW

ITEM	PART NUMBER	DESCRIPTION	QTY
1	C71340-020-10-00	TORCH GUIDE - RIGHT	1
2	C07182-700-80-00	TORCH HOLDING ASSY	1
3	C07182-700-50-11	GUIDE PLATE	1
4	C07182-700-50-20	HORIZONTAL BAR	1
5	C07182-700-50-30	DISTANCE BAR	1
6	SRB-000091	M5x.8x35 SHCS	2
7	N60799-105-16-02	SCR, M5 x 16 FHSCS	4



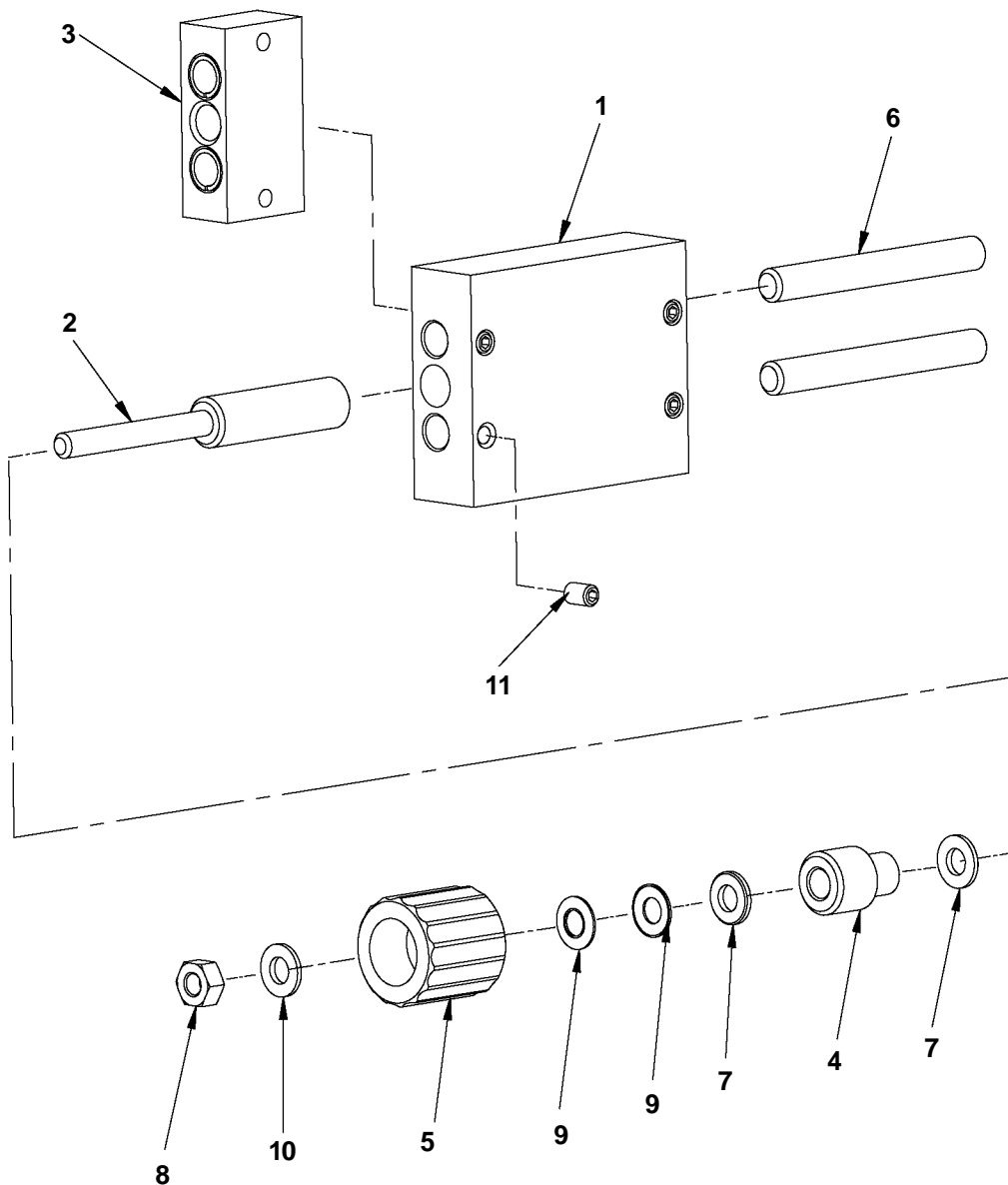
C71340-020-10-00 TORCH GUIDE - RIGHT / PARTS LIST / EXPLODED VIEW

ITEM	PART NUMBER	DESCRIPTION	QTY
1	PRW-0340-02-01-10-0	TORCH GUIDE	1
2	KRP-0340-02-01-01-0	TORCH GUIDE FRAME II	1
3	SRB-0340-02-01-12-0	FEED BOLT	1
4	KST-0340-02-01-13-0	FEED BLOCK	1
5	C07582-470-10-40	SLEEVE	1
6	C07582-470-10-50	HANDWHEEL	1
7	N18502-108-68-00	PIN 8x68	2
8	PDK-000079	ROUND WASHER 6,4, BRASS	2
9	N18214-406-00-01	HEX. NUT M6	1
10	N60209-336-21-60	DISC SPRING 6,2x16x0,6	2
11	N18200-606-04-01	ROUND WASHER 6,4	1
12	N18231-605-08-00	HEX. INSERT SCREW M5x8	4
13	N60799-105-16-02	SCR, M5 x 16 FHSCS	2



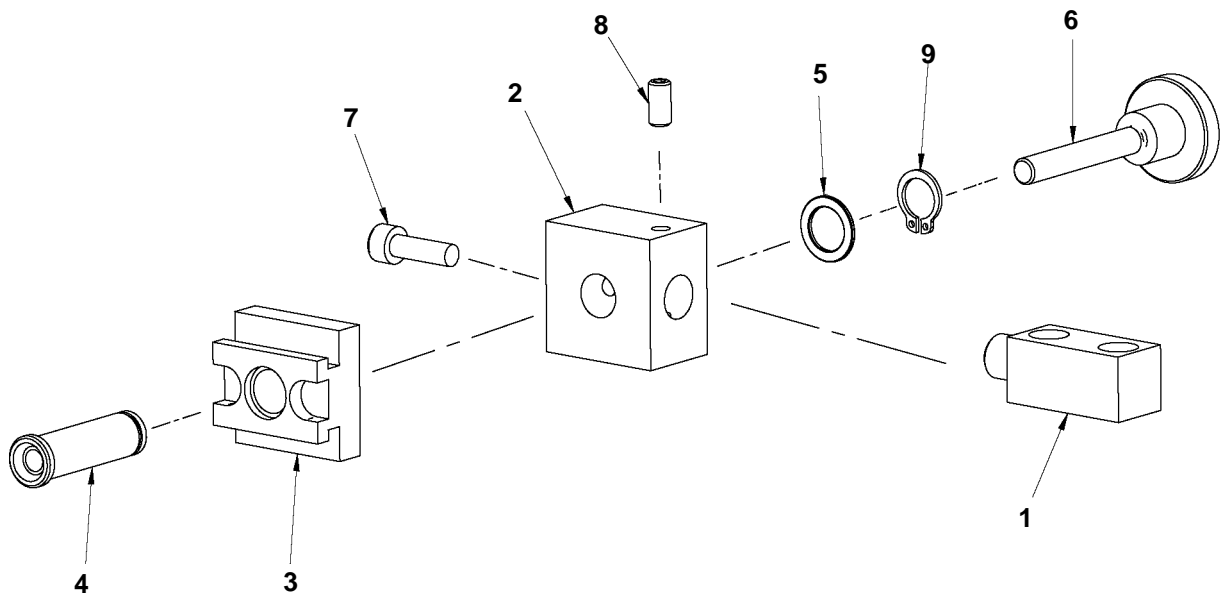
PRW-0340-02-01-10-0 TORCH GUIDE / PARTS LIST / EXPLODED VIEW

ITEM	PART NUMBER	DESCRIPTION	QTY
1	KRP-0340-02-01-11-0	TORCH GUIDE FRAME I	1
2	SRB-0340-02-01-12-0	FEED BOLT	1
3	KST-0340-02-01-13-0	FEED BLOCK	1
4	C07582-470-10-40	SLEEVE	1
5	C07582-470-10-50	HANDWHEEL	1
6	N18502-108-68-00	PIN 8x68	2
7	PDK-000079	ROUND WASHER 6,4, BRASS	2
8	N18214-406-00-01	HEX. NUT M6	1
9	N60209-336-21-60	DISC SPRING 6,2x16x0,6	2
10	N18200-606-04-01	ROUND WASHER 6,4	1
11	N18231-605-08-00	HEX. INSERT SCREW M5x8	4



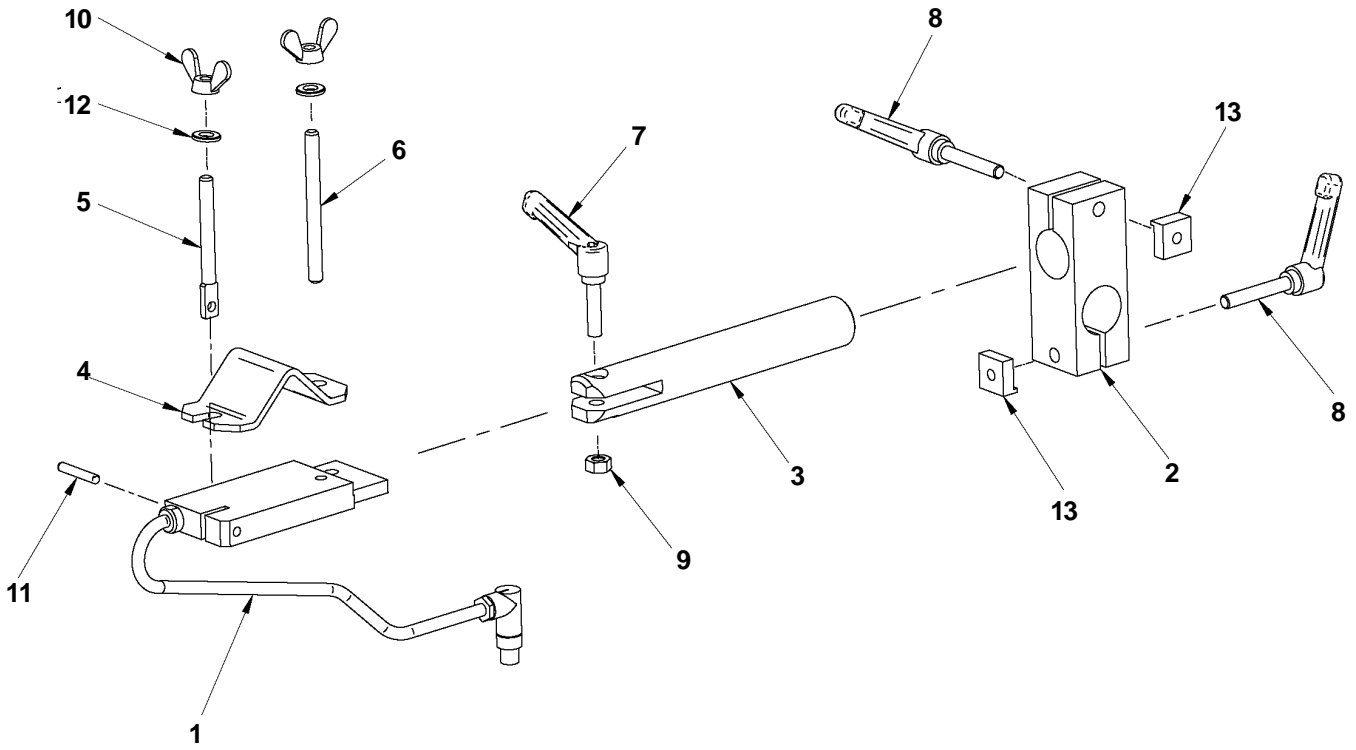
C07182-700-80-00 TORCH HOLDING ASSEMBLY / PARTS LIST / EXPLODED VIEW

ITEM	PART NUMBER	DESCRIPTION	QTY
1	C07182-700-80-10	BAR	1
2	C07182-460-50-20	CLAMP BLOCK	1
3	C07182-460-50-30	ROTATE BLOCK	1
4	C07182-460-50-40	SLEEVE	1
5	C07182-460-50-50	TORCH WASHER 10,1x15x1	1
6	SRB-000187	KNURLED THUMB SCREW M6x40	1
7	N18230-206-20-01	HEX. SOCKET BOLT M6X14	1
8	N18231-605-08-00	HEX. INSERT SCREW M5x8	2
9	N18511-110-10-00	EXTERNAL RETAINING RING 10z	1



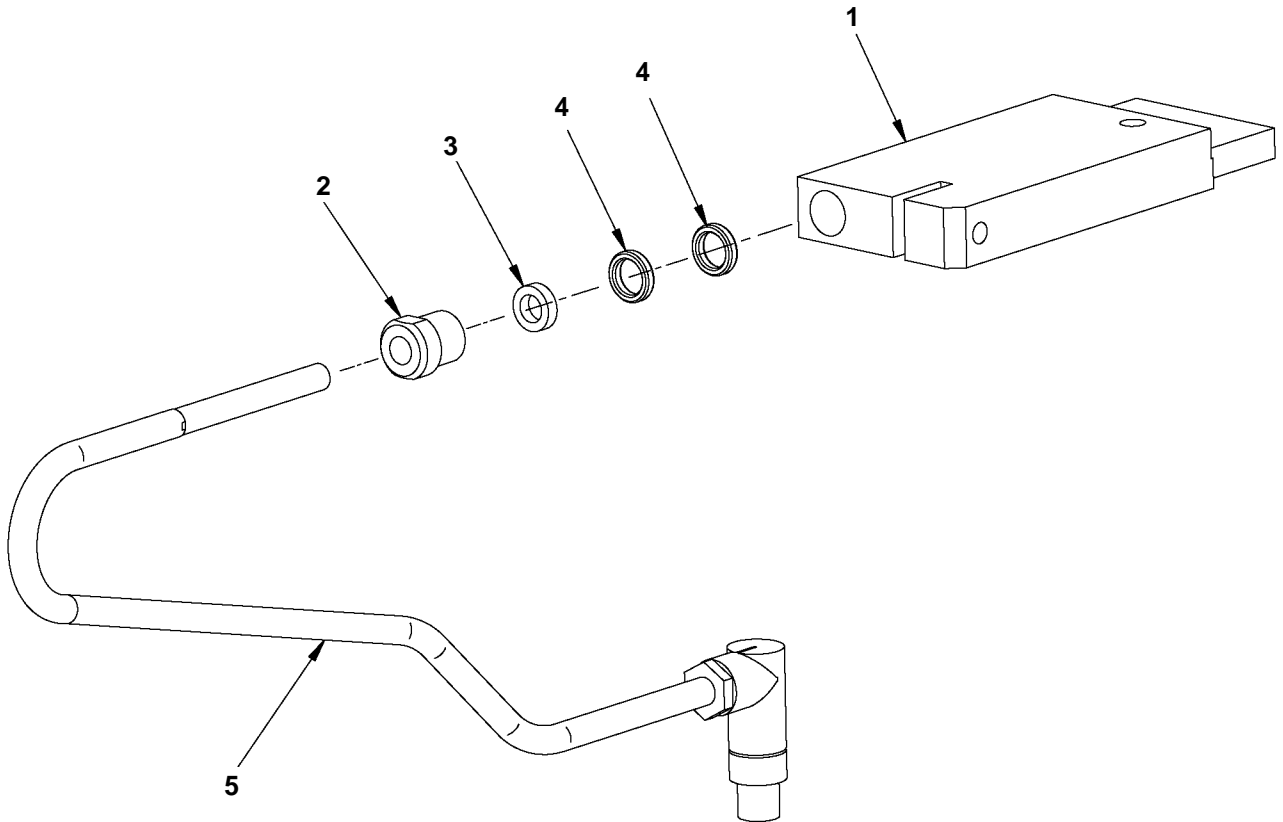
TRM-0340-03-00-00-0 ARC SENSOR ASSEMBLY / PARTS LIST / EXPLODED VIEW

ITEM	PART NUMBER	DESCRIPTION	QTY
1	CZJ-0340-03-01-00-0	ARC SENSOR SET	1
2	C07182-210-50-20	CABLE HOLDING HOUSING	1
3	C07182-330-20-80	GUIDE BAR	1
4	C07182-190-61-60	CLAMP PLATE I	1
5	C07182-800-02-60	CLAMP BOLT	1
6	C07181-800-02-70	STUD-BOLT	1
7	H00643-480-01-00	HANDLEVER GN 300-45-M6-25-0	1
8	H00643-480-01-01	HANDLEVER GN 300-45-M6-35-0	2
9	N18214-406-00-01	HEX. NUT M6	1
10	N18243-906-00-00	WING NUT M6	2
11	N18502-304-20-00	SPRING PIN 4x20	1
12	N18200-606-04-02	ROUND WASHER 6,4	2
13	C71261-030-50-00	SQUARE NUT	2



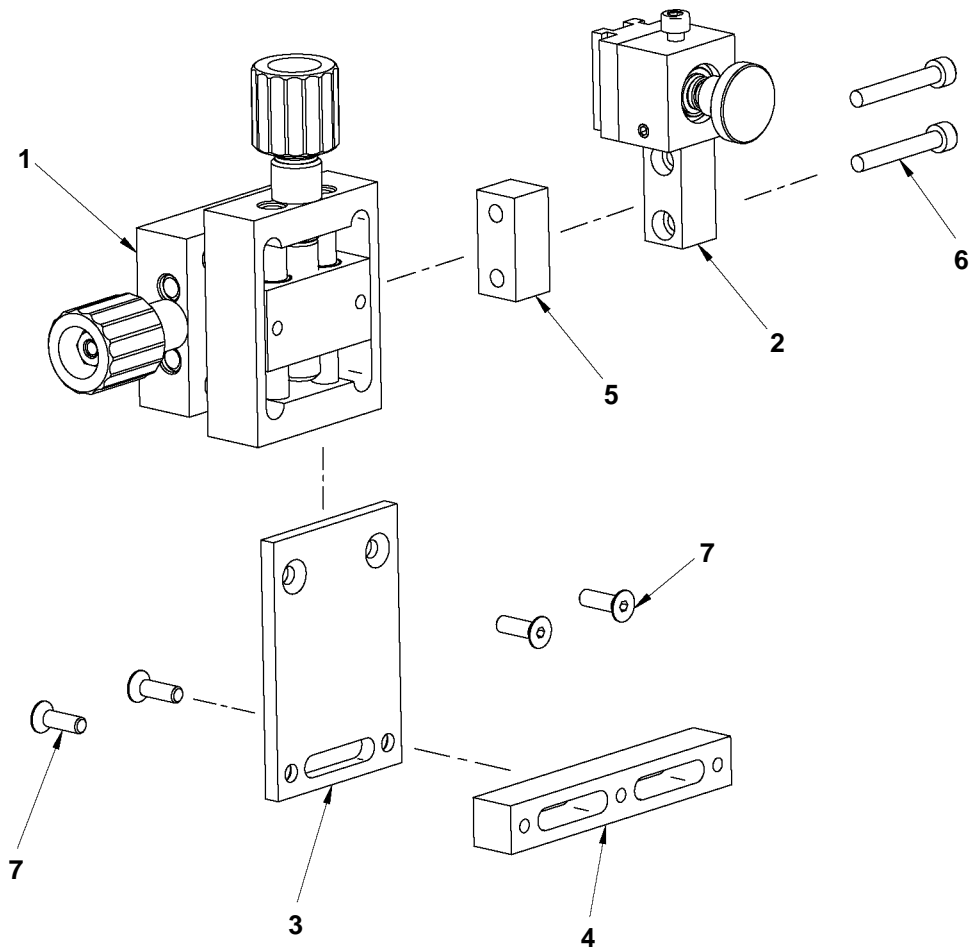
CZJ-0340-03-01-00-0 ARC SENSOR SET / PARTS LIST / EXPLODED VIEW

ITEM	PART NUMBER	DESCRIPTION	QTY
1	WSP-0340-03-01-01-0	ARC SENSOR BRACKET	1
2	DCS-0340-03-01-02-0	ARS SENSOR PRESSURE	1
3	TLJ-0340-03-01-03-0	ARC SENSOR SLEEVE	1
4	PRS-000114	SEAL O-RING 6.3•1.8	2
5	C71340-030-20-00	REED WIRES SET	1



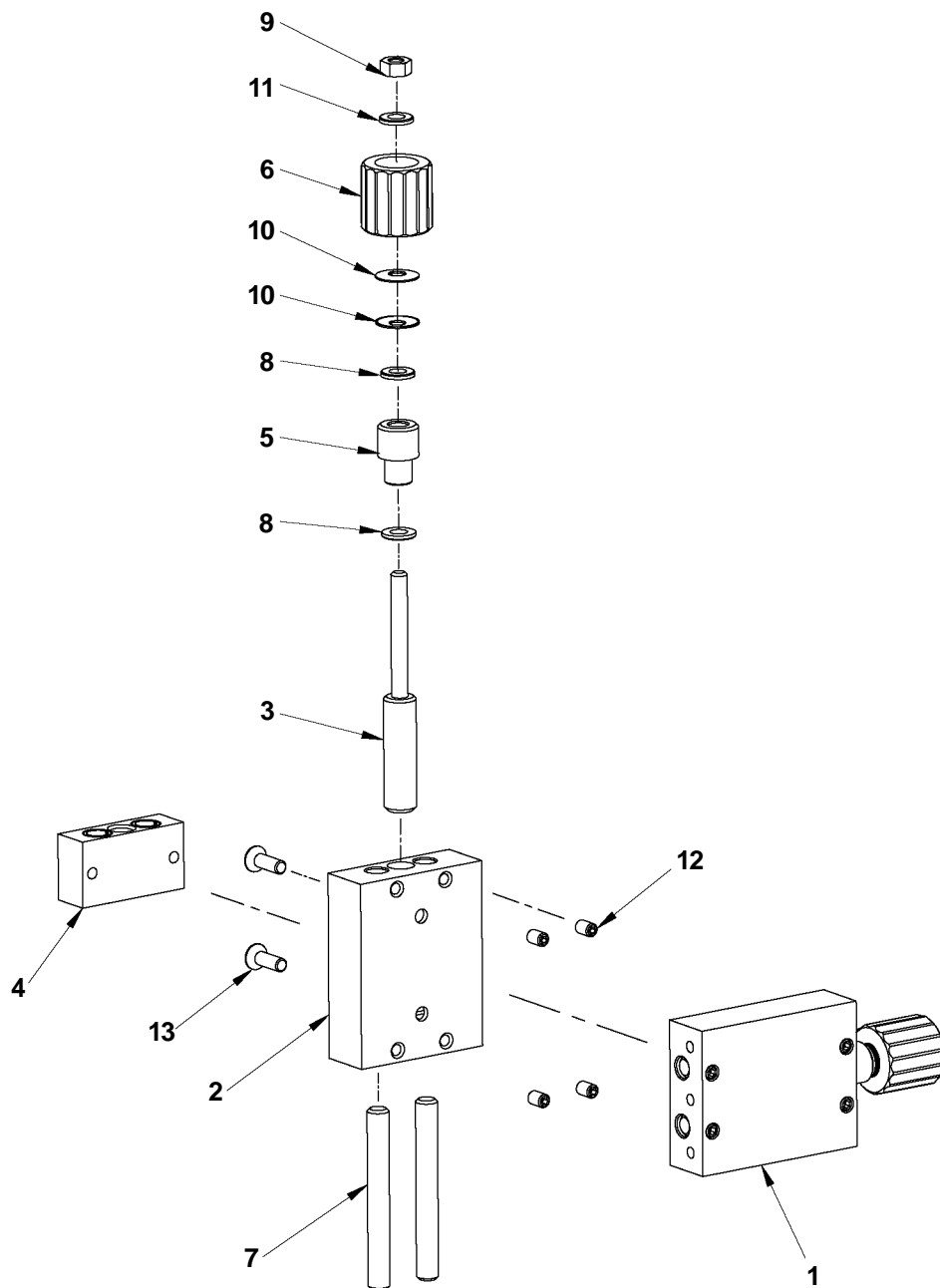
C71340-050-00-00 TORCH GUIDE - LEFT WITH SUPPORT / PARTS LIST / EXPLODED VIEW

ITEM	PART NUMBER	DESCRIPTION	QTY
1	C71340-050-10-00	TORCH GUIDE - LEFT	1
2	C07182-700-80-00	TORCH HOLDING ASSY	1
3	C07182-700-50-11	GUIDE PLATE	1
4	C07182-700-50-20	HORIZONTAL BAR	1
5	C07182-700-50-30	DISTANCE BAR	1
6	SRB-000091	M5x.8x35 SHCS	2
7	N60799-105-16-02	SCR, M5 x 16 FHSCS	6



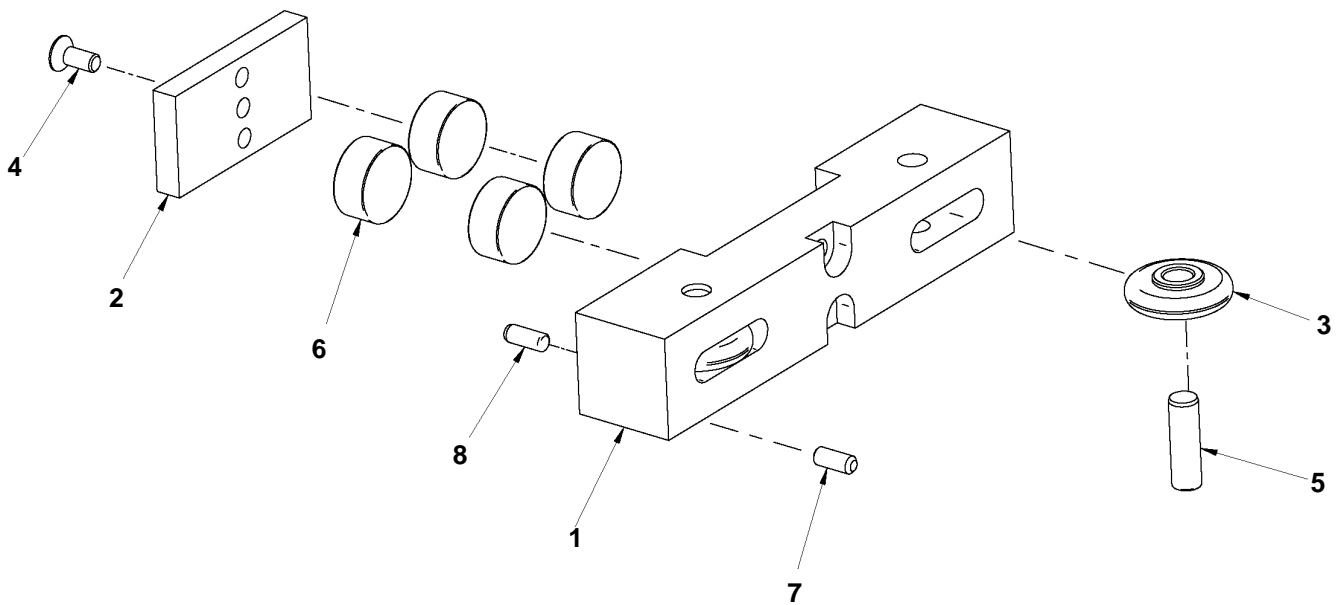
C71340-050-10-00 TORCH GUIDE - LEFT / PARTS LIST / EXPLODED VIEW

ITEM	PART NUMBER	DESCRIPTION	QTY
1	PRW-0340-02-01-10-0	TORCH GUIDE	1
2	KRP-0340-02-01-01-0	TORCH GUIDE FRAME II	1
3	SRB-0340-02-01-12-0	FEED BOLT	1
4	KST-0340-02-01-13-0	FEED BLOCK	1
5	C07582-470-10-40	SLEEVE	1
6	C07582-470-10-50	HANDWHEEL	1
7	N18502-108-68-00	PIN 8x68	2
8	PDK-000079	ROUND WASHER 6,4, BRASS	2
9	N18214-406-00-01	HEX. NUT M6	1
10	N60209-336-21-60	DISC SPRING 6,2x16x0,6	2
11	N18200-606-04-01	ROUND WASHER 6,4	1
12	N18231-605-08-00	HEX. INSERT SCREW M5x8	4
13	N60799-105-16-02	SCR, M5 x 16 FHSCS	2



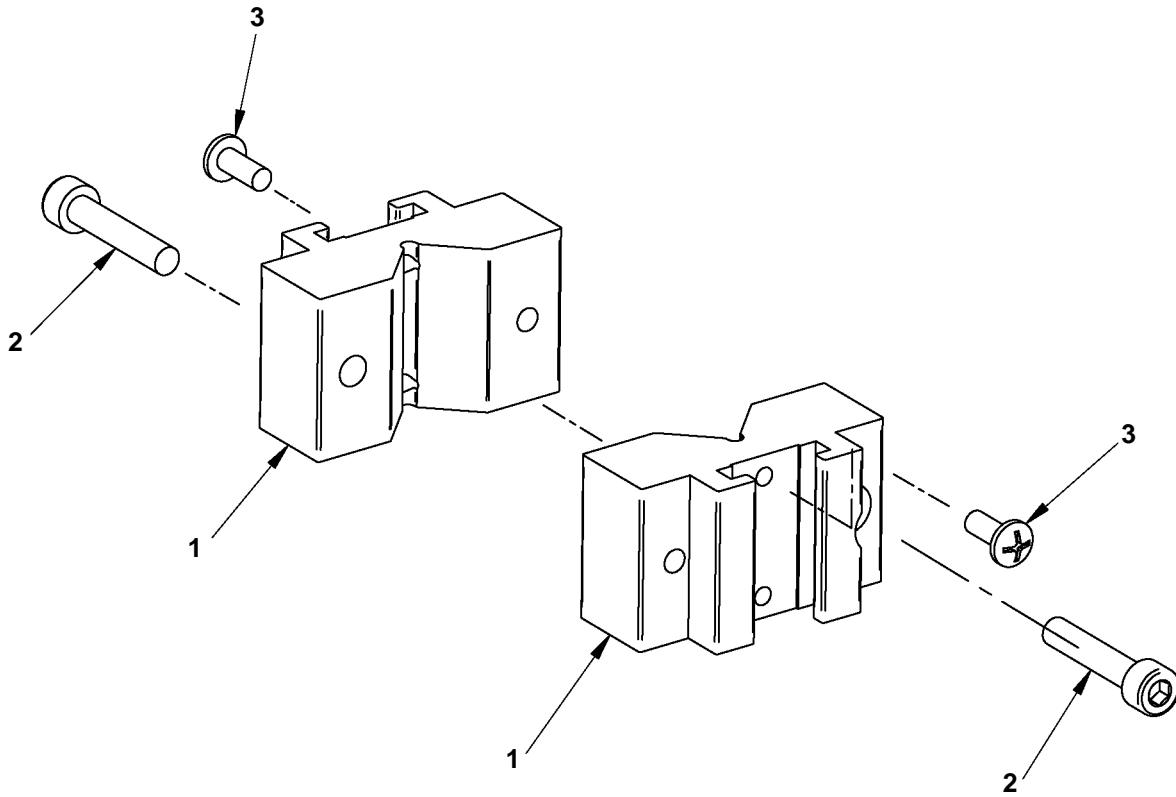
C71340-700-70-01 FOLLOWER ASSEMBLY / PARTS LIST / EXPLODED VIEW

ITEM	PART NUMBER	DESCRIPTION	QTY
1	C07182-700-70-11	FOLLOWER HOUSING	1
2	C07182-700-70-21	MAGNET PLATE	1
3	C07182-700-70-31	GUIDE ROLLER	2
4	N60799-105-12-02	SCR, M5 x 12 FHSCS	1
5	N18502-108-26-00	PIN, 8n6x26	2
6	H01158-333-01-02	MAGNET	4
7	N60091-305-12-00	SCREW M5x12	2
8	N18502-105-14-00	PIN 5x14	2



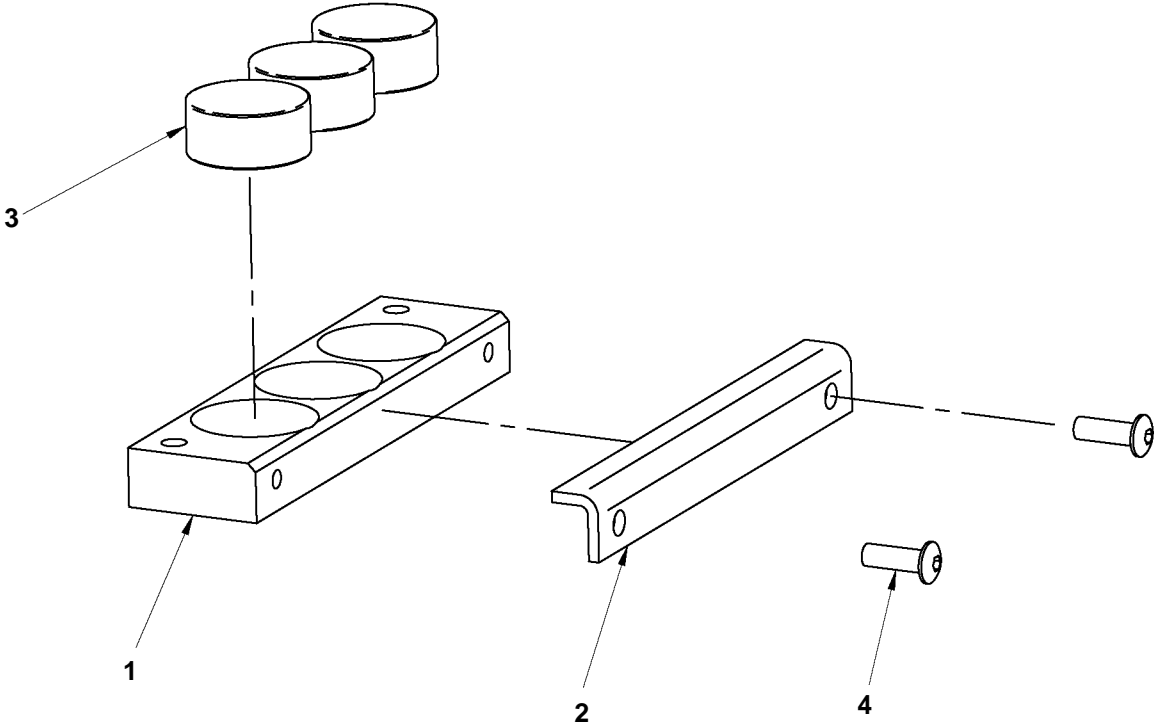
C07182-704-20-00 CLAMPING BLOCKS / PARTS LIST / EXPLODED VIEW

ITEM	PART NUMBER	DESCRIPTION	QTY
1	C07182-700-00-51	BLOCK CLAMPING I	2
2	N18230-205-25-00	SCR,SHCS M5 x 25 DIN 912	2
3	N18220-203-06-01	CROSS RECESSED SCR M4x8	2

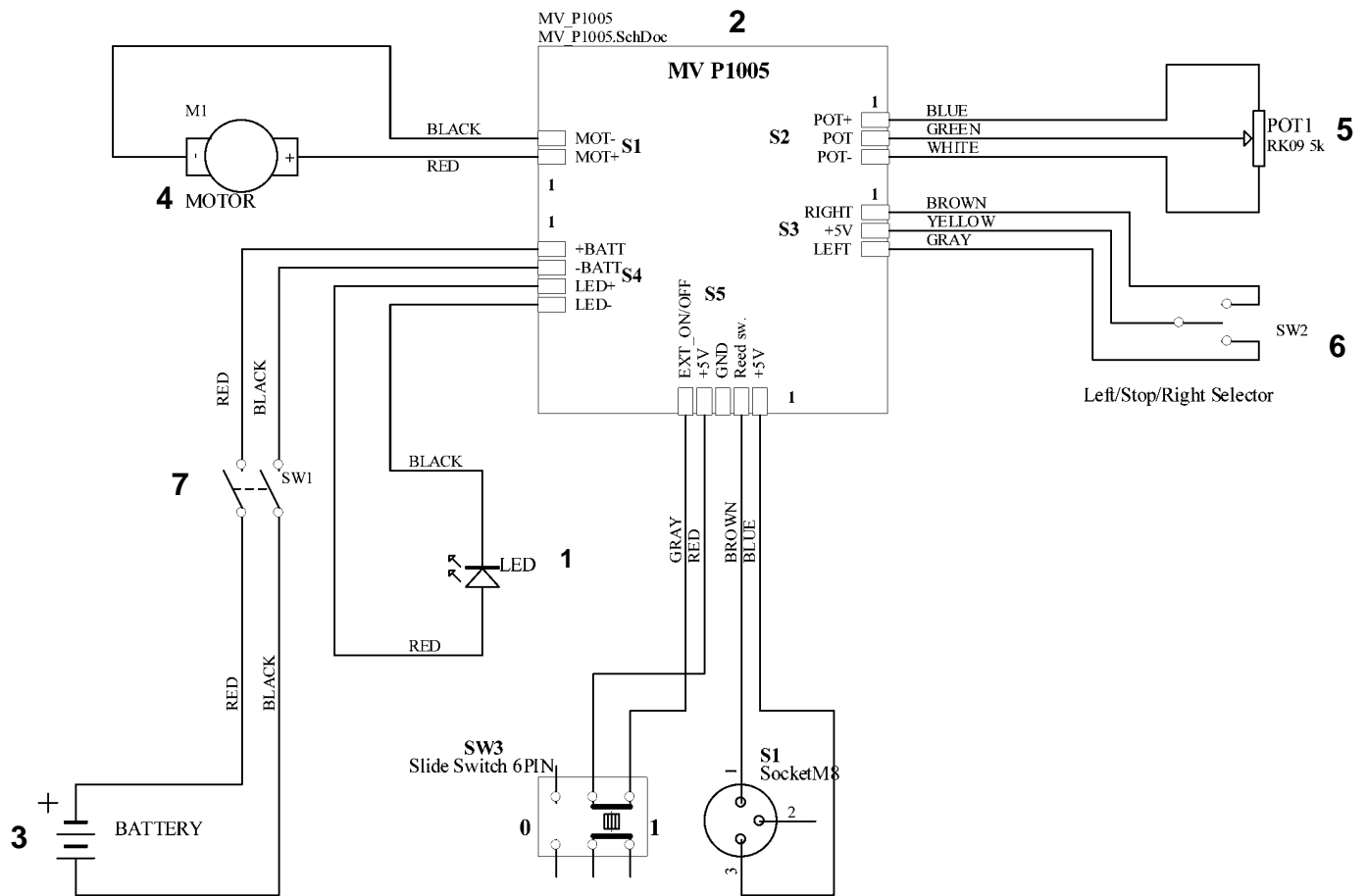


C07182-701-00-00 BLOCK WITH MAGNETS ASSY / PARTS LIST / EXPLODED VIEW

ITEM	PART NUMBER	DESCRIPTION	QTY
1	C07182-701-00-10	BLOCK	1
2	C07182-701-00-20	SHIELD	1
3	H01158-333-01-02	MAGNET	3
4	N60738-004-12-02	SCREW M4x12	2



BMV-3000 MINI-VERT III / WIRING DIAGRAM / ELECTRICAL COMPONENT CHART



ITEM	DESCRIPTION	PART NUMBER
1	LED	N/A
2	ELECTRONIC CONTROLLER	C07182-700-31-10
3	BATTERY	H01134-001-01-02
4	MOTOR ASSEMBLY	C07182-703-40-00
5	POTENTIOMETER	C07182-701-60-00
6	SWITCH	C07182-701-70-00
7	POWER SWITCH	H01115-170-01-01

WARRANTY

Limited Warranty

Model _____
Serial No. _____
Date Purchased: _____

For a period of twelve (12) months from delivery, **BUG-O Systems** warrants to the original purchaser (does not include authorized distributors), that a new machine is free from defects in material and workmanship and agrees to repair or replace, at its option, any defective parts or machine. This warranty does not apply to machines, which after our inspection, are determined to have been damaged due to neglect, abuse, overloading, accident or improper usage. All shipping and handling charges will be paid by customer.

BUG-O Systems makes no warranty of merchantability and makes no other warranty, expressed or implied, beyond the warranty expressly set forth above. Buyer's remedy for breach of warranty, hereunder, shall be limited to repair or replacement of non-conforming parts and machines. Under no circumstances shall consequential damages be recoverable.

HOW TO OBTAIN SERVICE:

If you think this machine is not operating properly, re-read the instruction manual carefully, then call your Authorized BUG-O dealer/distributor. If he cannot give you the necessary service, write or phone us to tell us exactly what difficulty you have experienced. BE SURE to mention the MODEL and SERIAL numbers.