



# TORPEDO

## PARTS MANUAL



DOCUMENT	Parts Manual
VALID FOR	Raymo Torpedo
VALID FOR S/N	00136 -
DOCUMENT NO.	PM-RAY-B-EN Ver. 4.0

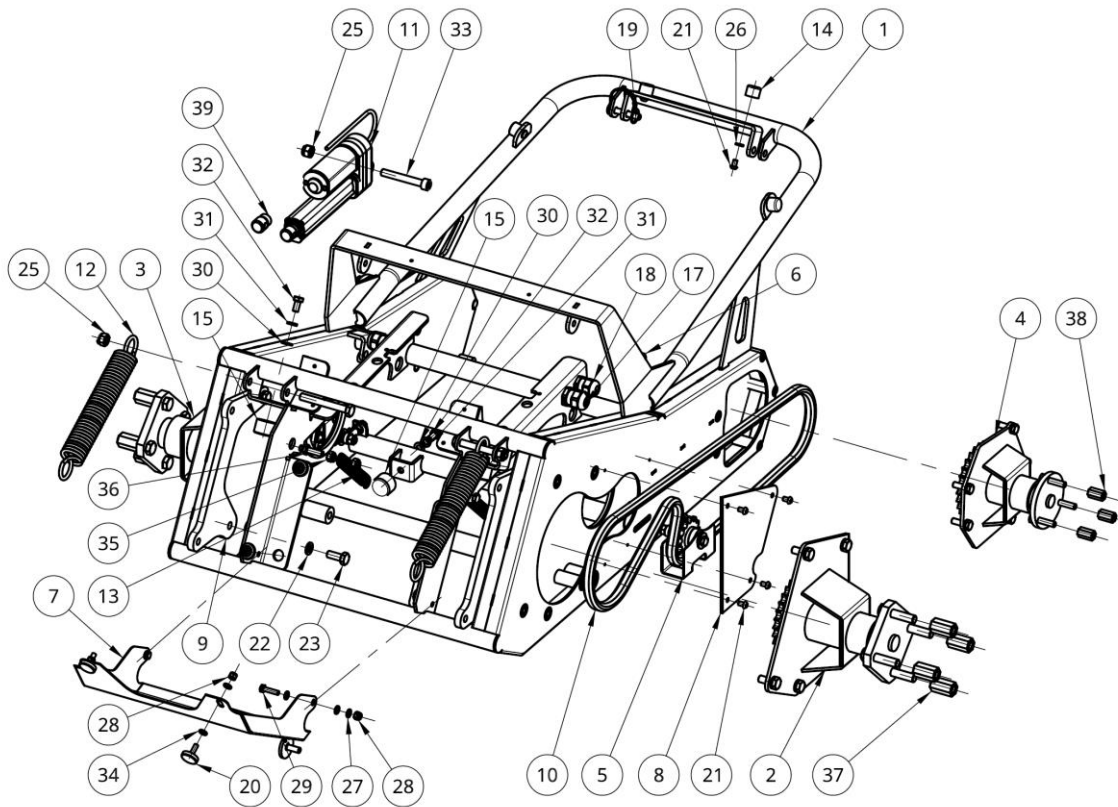
For Safety, Read All Safety and Operation Instructions Prior to Operating the Machine

## Contents

1	CHASSIS.....	3
2	REAR COVER.....	4
3	TOP COVER .....	5
4	TENSIONER.....	6
5	POWERSWAP BRACKET .....	7
6	WHEEL FLANGE FRONT.....	8
7	WHEEL FLANGE REAR .....	9
8	DRIVE .....	10
9	DRIVE MOTOR B.....	11
10	BALANCE FRAME.....	12
11	BALANCE DAMPER.....	13
12	ELECTRO BOX.....	14
13	CARTRIDGE ELECTRIC.....	16
14	CARTRIDGE HYBRID .....	17
15	GENERATOR.....	18
16	GENERATOR ASM.....	19
17	WHEELS.....	20



# 1 CHASSIS

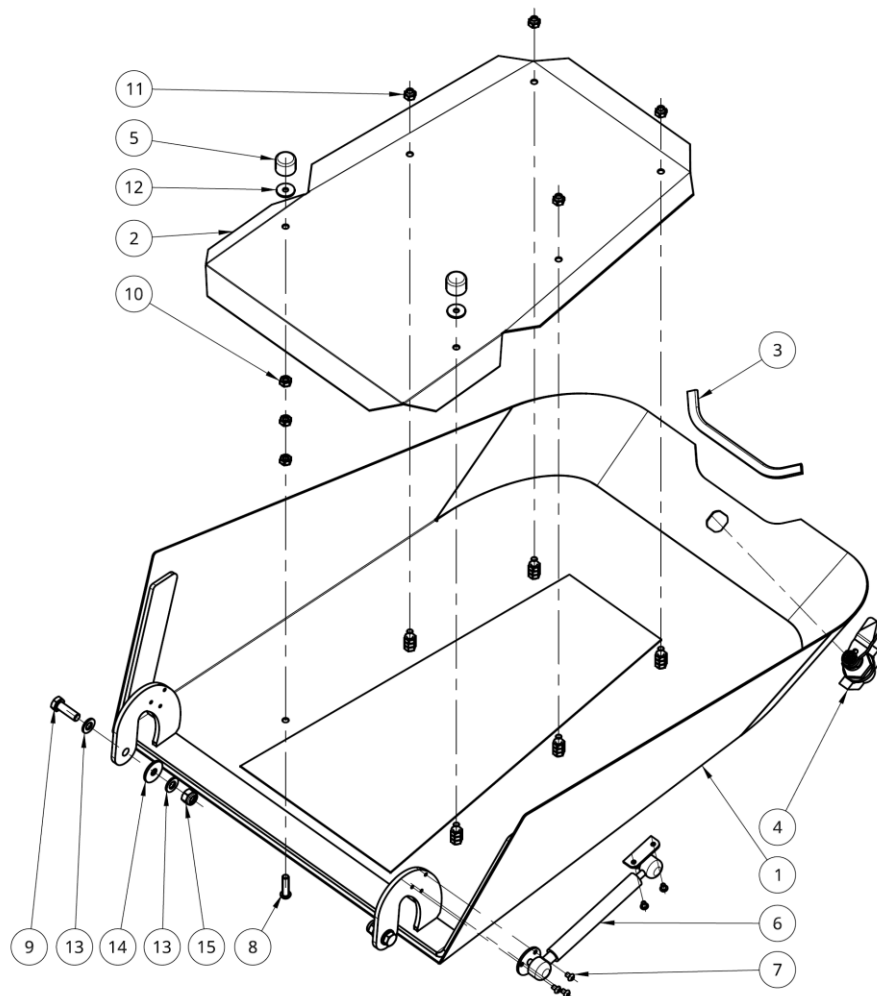


Item No.	Part number	Description	Qty	Item No.	Part number	Description	Qty
1	B011000	CHASSIS B	1	21	F0507	BUTTON SCREW	12
2	B014000	WHEEL HUB FL ASM	1	22	F3101	SPRING WASHER	4
3	B015000	WHEEL HUB FR ASM	1	23	F0202	HEX BOLT	4
4	B016000	WHEEL HUB R ASM	2	24	F0102	HEX BOLT	2
5	B017000	TENSIONER ASM	2	25	F2001	LOCK NUT	3
6	B018000	PP BRACKET ASM	2	26	F3103	SPRING WASHER	4
7	B010070	MULTICARE COVER	1	27	F3005	FLAT WASHER	6
8	B010040	PORTAL COVER	2	28	F2003	LOCK NUT	4
9	B010050	MULTICARE BRACKET	2	29	F0208	HEX BOLT	2
10	B010060	ROLLER CHAIN	2	30	F3004	WASHER	4
11	E1030	LINEAR ACTUATOR	1	31	F3102	SPRING WASHER	4
12	G0302	SPRING	2	32	F0207	HEX BOLT	4
13	G0301	SPRING	2	33	F0301	SOCKET SCREW	1
14	F5005	SILENT BLOCK	4	34	F3203	LARGE WASHERR	4
15	F5004	SILENT BLOCK	4	35	F2002	LOCK NUT	5
16	E3121	CABLE GLAND	4	36	F0206	HEX BOLT	2
17	E3101	CABLE GLAND	2	37	F2201	3D NUT	8
18	E3102	CABLE GLAND	1	38	F2202	3D NUT	6
19	G0150	LOCK PIN	1	39	E1031	LIN. ACTUATOR JOINT	1
20	F1101	HANDLE BOLT	2		B010061	ROLLER CHAIN LINK	2





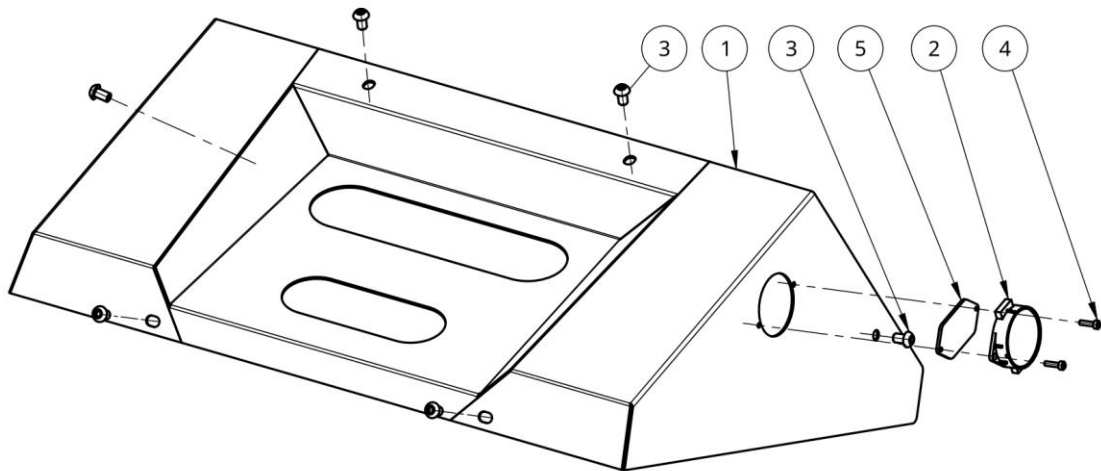
## 2 REAR COVER



Item No.	Part number	Description	Quantity
1	B013100	REAR COVER	1
2	B013010	BATTERY COVER	1
3	B013020	RUBBER RIM	1
4	G0160	LATCH	1
5	F5006	SILENT BLOCK	2
6	G0170	GAS SPRING	1
7	F0517	BUTTON SCREW	5
8	F0505	BUTTON SCREW	6
9	F0206	HEX BOLT	2
10	F2103	NUT	18
11	F2003	LOCK NUT	4
12	F3203	LARGE WASHERR	2
13	F3004	WASHER	4
14	F3202	LARGE WASHERR	2
15	F2002	LOCK NUT	2



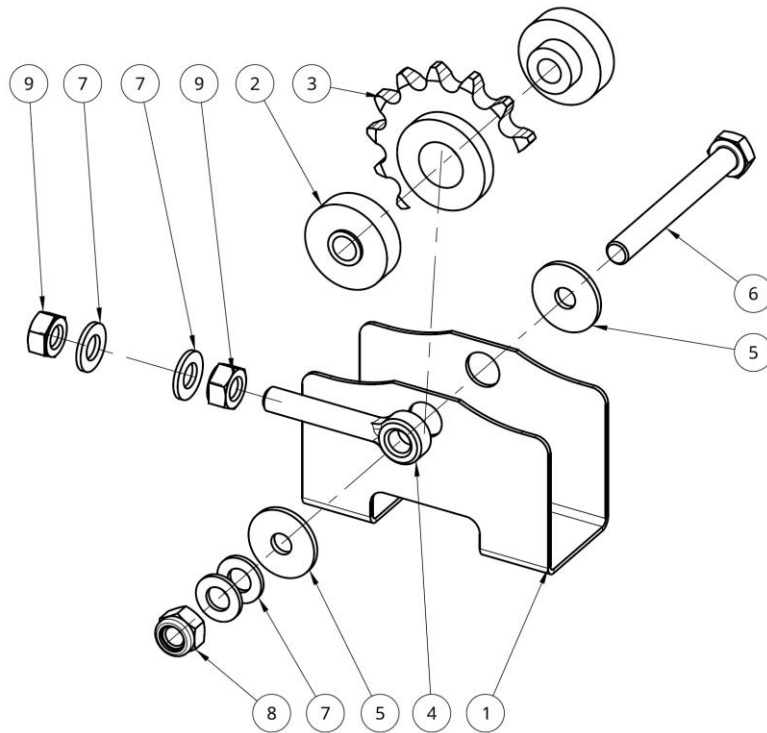
### 3 TOP COVER



Item No.	Part number	Description	Quantity
1	B012100	TOP COVER	1
2	B012200	RGB LED SET	2
3	F0507	BUTTON SCREW	6
4	F0309	SOCKET SCREW	4
5	B012010	LED WASHER	2



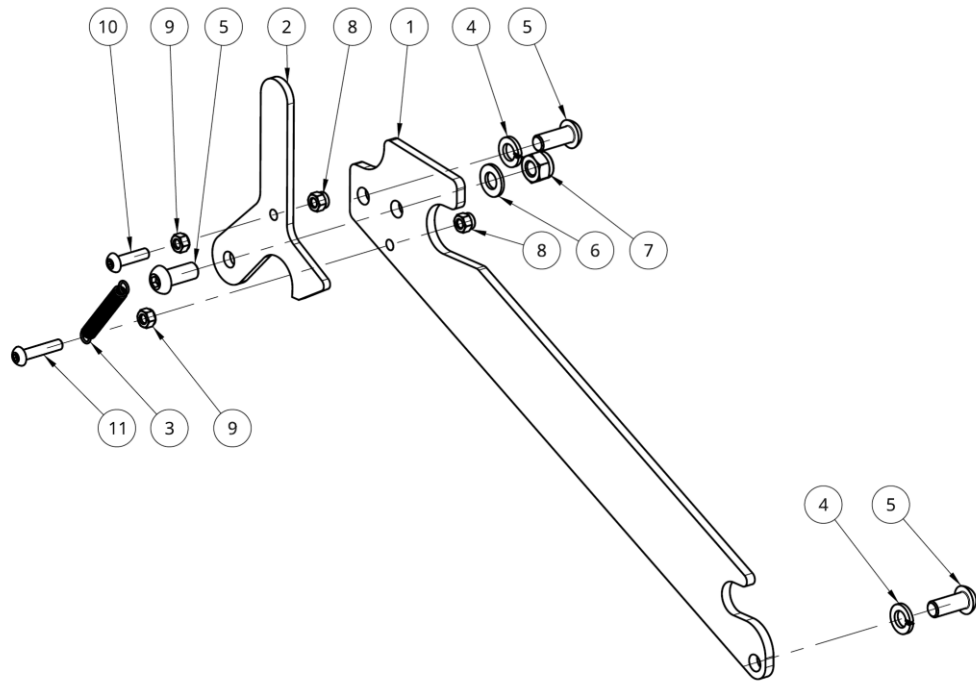
## 4 TENSIONER



Item No.	Part number	Description	Quantity
1	B017010	TENSIONER BRACKET	1
2	B017020	TENSIONER SPACER	2
3	G0400	TENSION SPROCKET	1
4	F0901	EYE BOLT	1
5	F3202	LARGE WASHER	2
6	F0105	HEX BOLT	1
7	F3004	WASHER	4
8	F2002	LOCK NUT	1
9	F2102	NUT	2



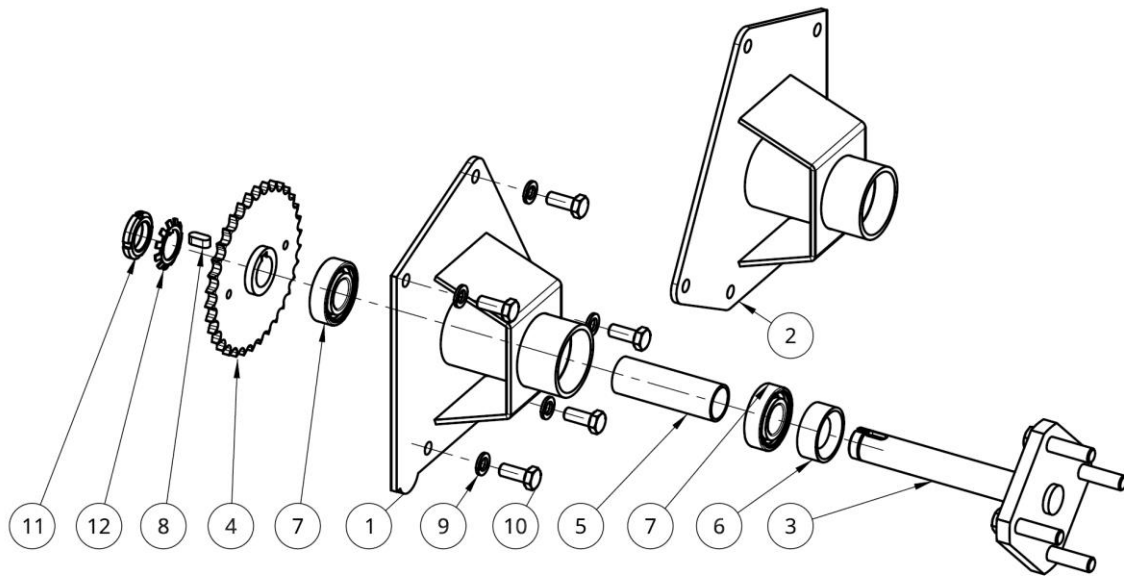
## 5 POWERSWAP BRACKET



Item No.	Part number	Description	Quantity
1	B010020	POWERSWAP BRACKET	1
2	B010030	POWERSWAP LATCH	1
3	G0300	EXTENSION SPRING	1
4	F3102	SPRING WASHER	2
5	F0503	BUTTON SCREW	3
6	F3004	WASHER	1
7	F2002	LOCK NUT	1
8	F2004	LOCK NUT	2
9	F2104	NUT	2
10	F0511	BUTTON SCREW	1
11	F0510	BUTTON SCREW	1



## 6 WHEEL FLANGE FRONT

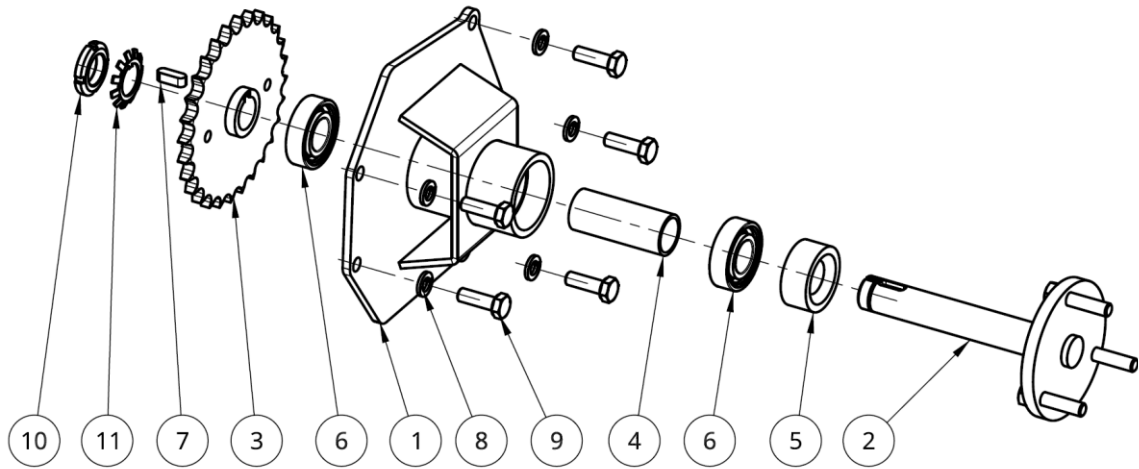


Item No.	Part number	Description	Quantity
1	B015100	WHEEL FLANGE FRONT RIGHT	1
2	B014100	WHEEL FLANGE FRONT LEFT	1
3	B014210	WHEEL SHAFT FRONT KM	1
4	B014300	SPROCKET FRONT	1
5	B014010	SPACING TUBE FRONT	1
6	B014020	SPACING RING FRONT	1
7	F4520	BEARING	2
8	F4001	KEY	1
9	F3101	SPRING WASHER	5
10	F0202	HEX BOLT	5
11	F4802	NUT KM5	1
12	F4812	WASHER MB5	1





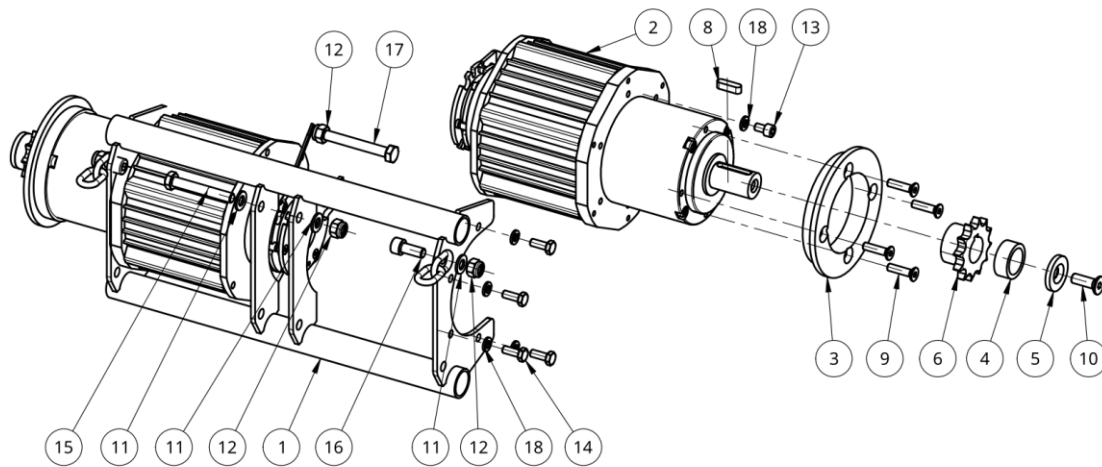
## 7 WHEEL FLANGE REAR



Item No.	Part number	Description	Quantity
1	B016100	WHEEL FLANGE REAR	1
2	B016210	WHEEL SHAFT REAR KM	1
3	B016300	SPROCKET REAR	1
4	B016040	SPACING TUBE REAR	1
5	B016050	SPACING RING REAR	1
6	F4530	BEARING	2
7	F4002	KEY	1
8	F3102	SPRING WASHER	5
9	F0206	HEX BOLT	5
10	F4801	NUT KM4	1
11	F4811	WASHER MB4	1



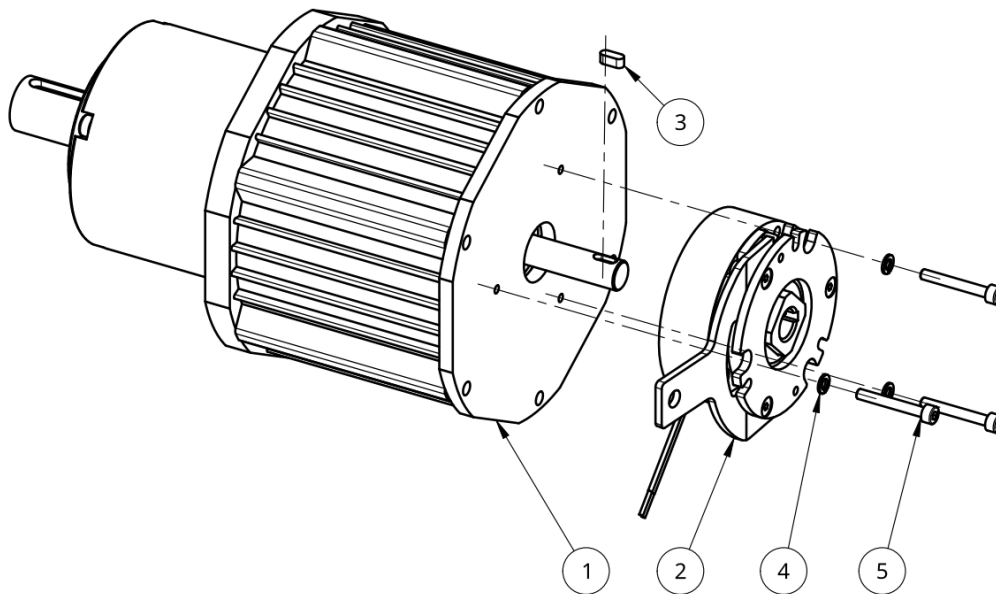
## 8 DRIVE



Item No.	Part number	Description	Quantity
1	B021000	DRIVE FRAME	1
2	B030000	DRIVE MOTOR B ASM	2
3	B020020	GEARBOX BUSHING	2
4	B020030	SPACING RING	2
5	B020040	SPROCKET WASHER	2
6	B020050	SPROCKET	2
7	B020060	DRIVE SPRING CHAIN	
8	F4004	KEY	2
9	F0404	FLAT SCREW	8
10	F0403	FLAT SCREW	2
11	F3004	WASHER	4
12	F2002	LOCK NUT	4
13	F0306	SOCKET SCREW	4
14	F0210	HEX BOLT	8
15	F0107	HEX BOLT	1
16	F0303	SOCKET SCREW	2
17	F0106	HEX BOLT	1
18	F3103	SPRING WASHER	12



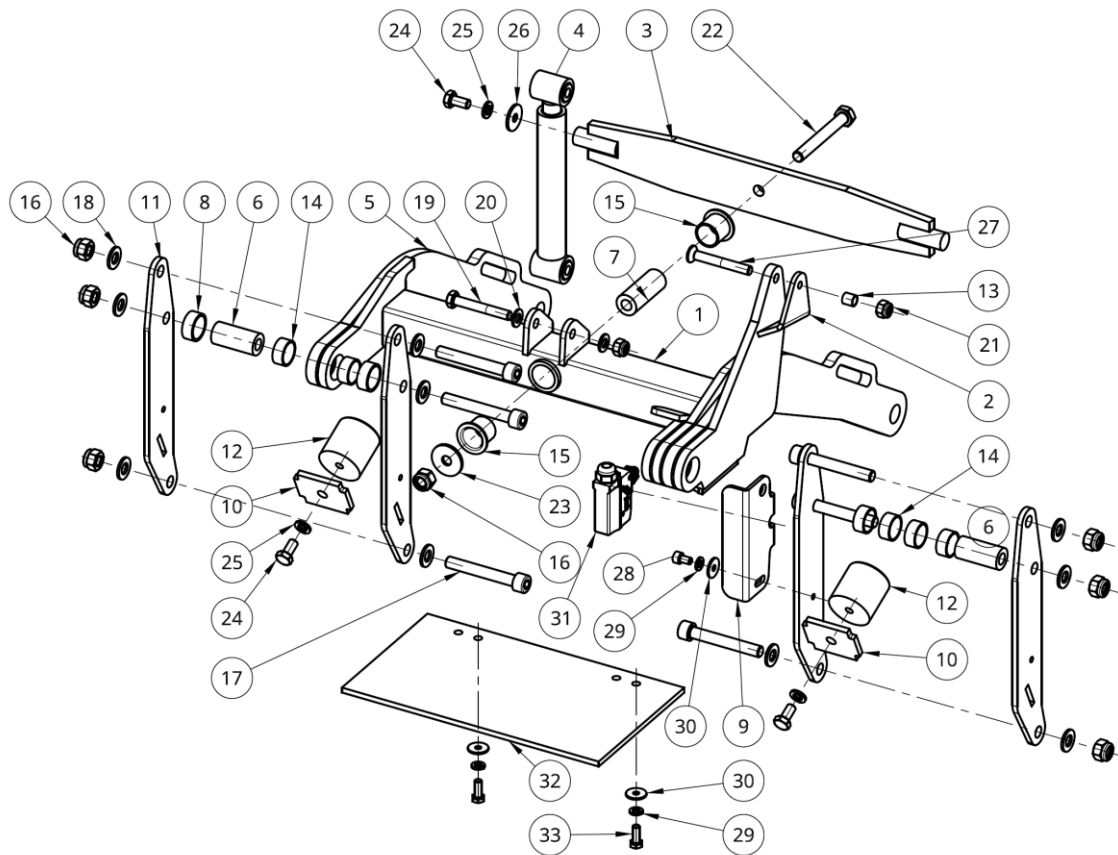
## 9 DRIVE MOTOR B



Item No.	Part number	Description	Quantity
1	B031000	DRIVE MOTOR B	1
2	B032000	EM BRAKE	1
3	F4003	KEY	1
4	F3104	SPRING WASHER	3
5	F0308	SOCKET SCREW	3



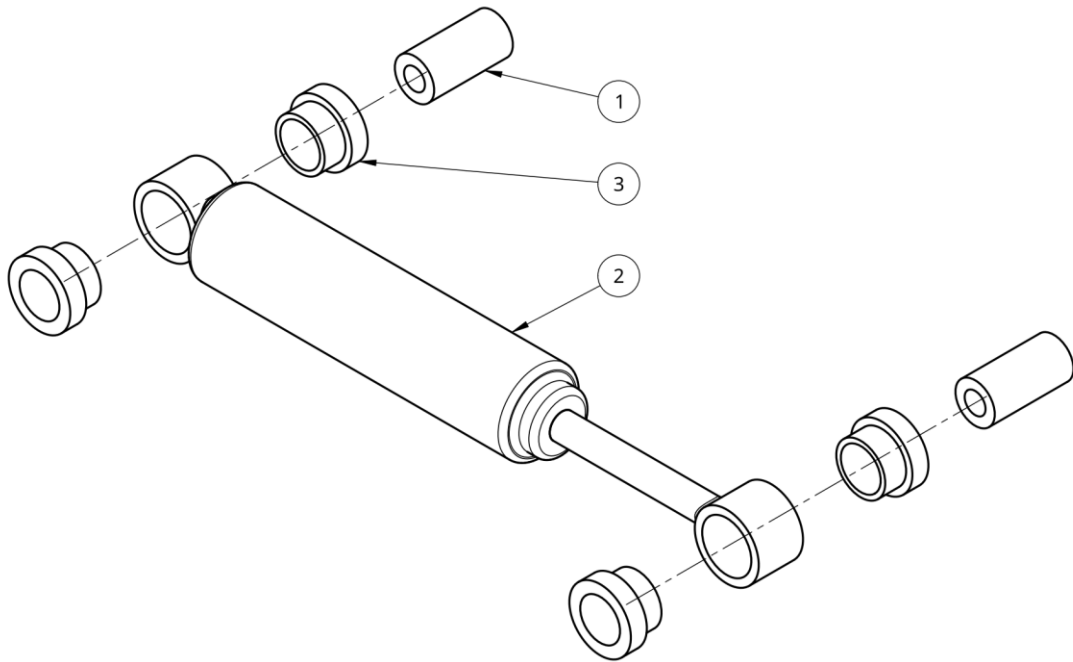
# 10 BALANCE FRAME



Item No.	Part number	Description	Qty	Item No.	Part number	Description	Quantity
1	B041000	LIFT FRAME	1	18	F3003	WASHER	12
2	B042000	LIFT LEVER	1	19	F0107	HEX BOLT	1
3	B043000	PIVOT LEVER	1	20	F3004	WASHER	2
4	B044001	BALANCE DAMPER	1	21	F2002	LOCK NUT	2
5	B040010	TOOL ARM	2	22	F0102	HEX BOLT	1
6	B040020	TOOL ARM PIVOT	2	23	F3201	LARGE WASHERR	1
7	B040030	LIFT FRAME PIVOT	1	24	F0207	HEX BOLT	3
8	B040040	ARM RING	2	25	F3102	SPRING WASHER	3
9	B040050	SWITCH BRACKET	1	26	F3202	LARGE WASHER	1
10	B040060	SILENT BLOCK BRACKET	2	27	F0402	FLAT BOLT	1
11	B010010	ARM BRACKET	4	28	F0306	SOCKET SCREW	1
12	F5001	SILENT BLOCK	2	29	F3103	SPRING WASHER	1
13	F4201	BUSHING	1	30	F3203	LARGE WASHERR	1
14	F4204	BUSHING	6	31	E1020	ARM SWITCH	1
15	F4205	BUSHING	2	32	B040070	BAL FRAME RUBBER	1
16	F2001	LOCK NUT	7	33	F0210	HEX BOLT M6x16	2
17	F0301	SOCKET SCREW	6				



## 11 BALANCE DAMPER

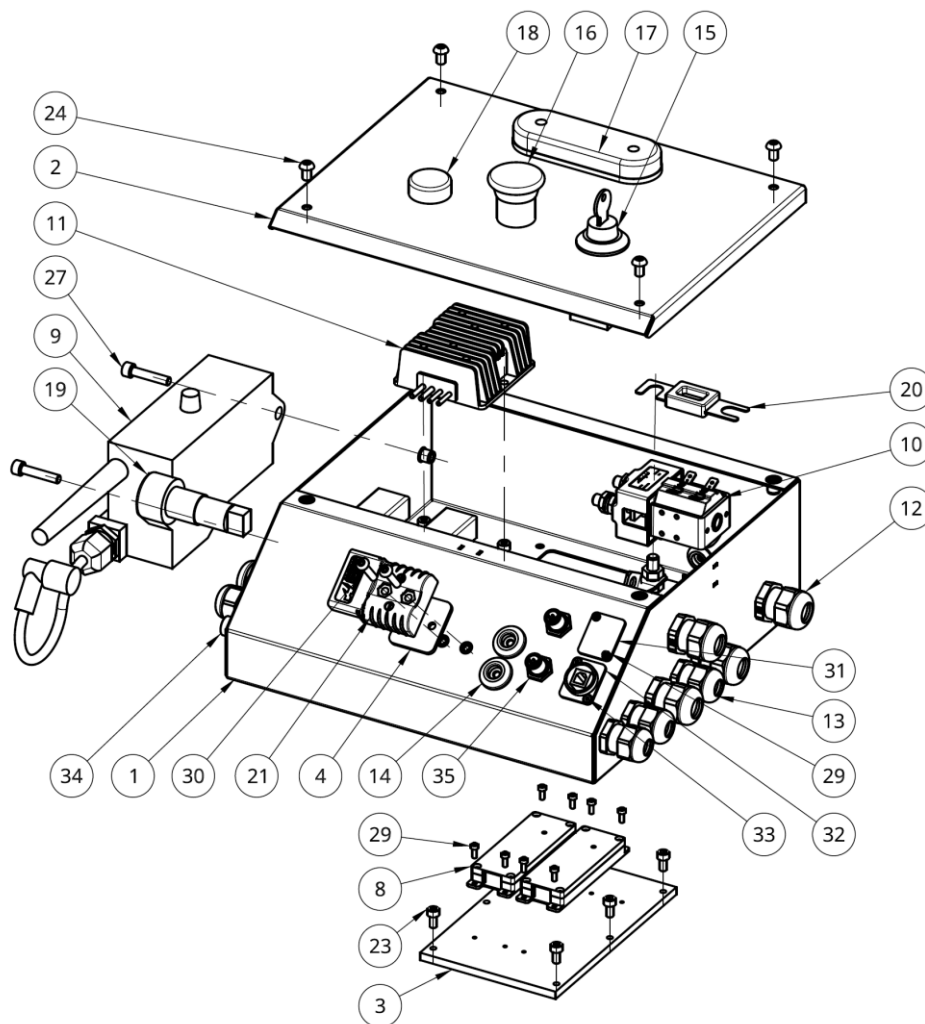


Item No.	Part number	Description	Quantity
1	B044010	CILINDER PIVOT	2
2	B044020	BALANCE DAMPER	1
3	B044030	DAMPER BUSHING	4





## 12 ELECTRO BOX



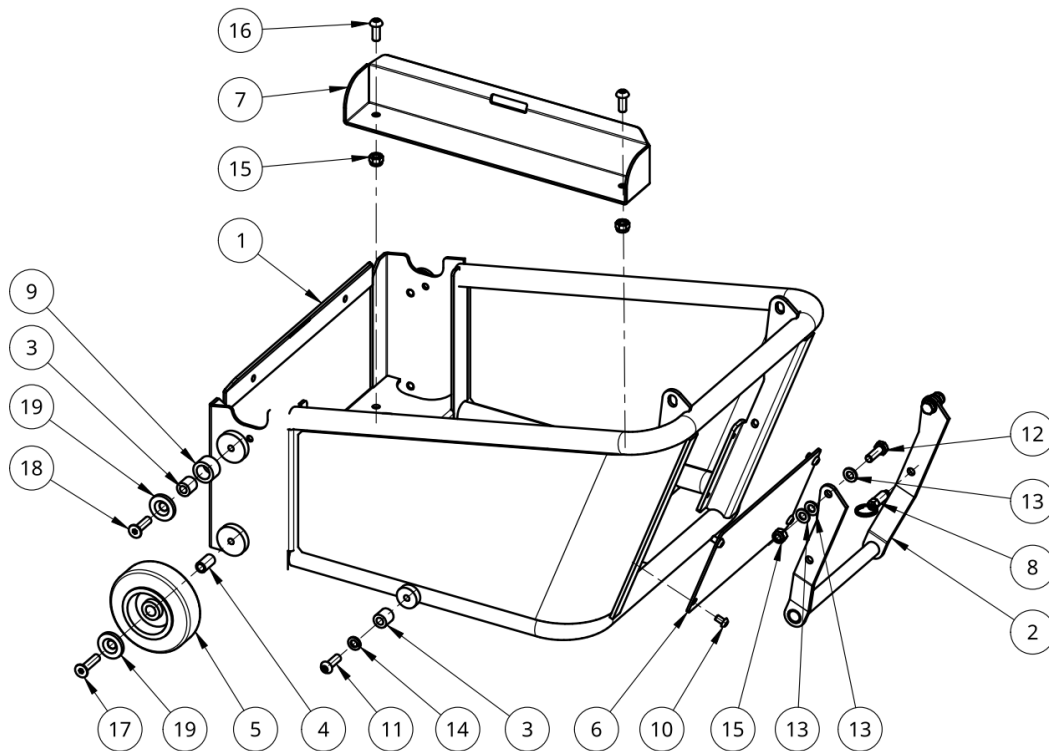
No.	Part number	Description	Qty
1	B061000	MAIN EL BOX	1
2	B060010	MAIN BOX COVER	1
3	B060020	MAIN BOX COOLER	1
4	B060030	WASHER	2
5	B060040	CONTACTOR BRACKET	1
6	B060050	FUSE HOLDER	2
7	B060060	CONTACTOR LEAD	2
8	E2010	RAYMO AM C.U.	2
9	E2031	RECEIVER NBB M12 EUROPE	1
9	E2031J	RECEIVER NBB M12 JAPAN	1
9	E2031A	RECEIVER NBB M12 USA, CANADA	1
	E2040	TRANSMITTER NBB EUROPE	1
	E2040J	TRANSMITTER NBB JAPAN	1
	E2040A	TRANSMITTER NBB USA, CANADA	1
	E2041	TRANSMITTER BATTERY CHARGER NBB	1
	E2042	TRANSMITTER BATTERY NBB 7,2V	1
	E2043	NBB ANTENNA	1



No.	Part number	Description	Qty
10	E2050	CONTACTOR	1
11	E2060	DC CONVERTER	1
12	E3101	CABLE GLAND	4
13	E3102	CABLE GLAND	5
14	E3121	CABLE GLAND	4
15	E2080	POWER SWITCH	1
	E2081	POWER SWITCH KEY	1
16	E2090	ESTOP BUTTON	1
17	E2100	BEACON	1
18	E2110	POWER LED	1
19	E2120	HORN	1
20	E3201	FUSE	1
21	E3302	CONNECTOR BLUE	2
22	F0405	FLAT SCREW	4
23	F0307	SOCKET SCREW	14
24	F0507	BUTTON SCREW	4
25	F2004	LOCK NUT	12
26	F0306	SOCKET SCREW	3
27	F0305	SOCKET SCREW	2
28	F0517	BUTTON SCREW	4
29	F0310	SOCKET SCREW	8
30	F0510	BUTTON SCREW	4
31	B060080	CANON COVER	1
32	E2200	SERVICE PLUG	1
33	F0408	FLAT SCREW M3x8	4
34	B062100	NBB WIRING HARNESS	1
35	B062200	CAN WIRING HARNESS	1
	E1040	BRAKE MODUL	1
	E3301	CONNECTOR RED	1
	B062300	CONTROL PANEL WIRING HARNESS	1
	B062600	RGB LED CABLE	1
	B062400	AKU POWER CABLE	1
	E2210	LIN. ACTUATOR RELAY	2
	E2070	FUSE BOX	1
	E3210	FUSE 5A	5
	E3211	FUSE 10A	1
	E3212	FUSE 15A	2
	E3214	FUSE 30A	1
	B062700	GROUNDING MODULE	1



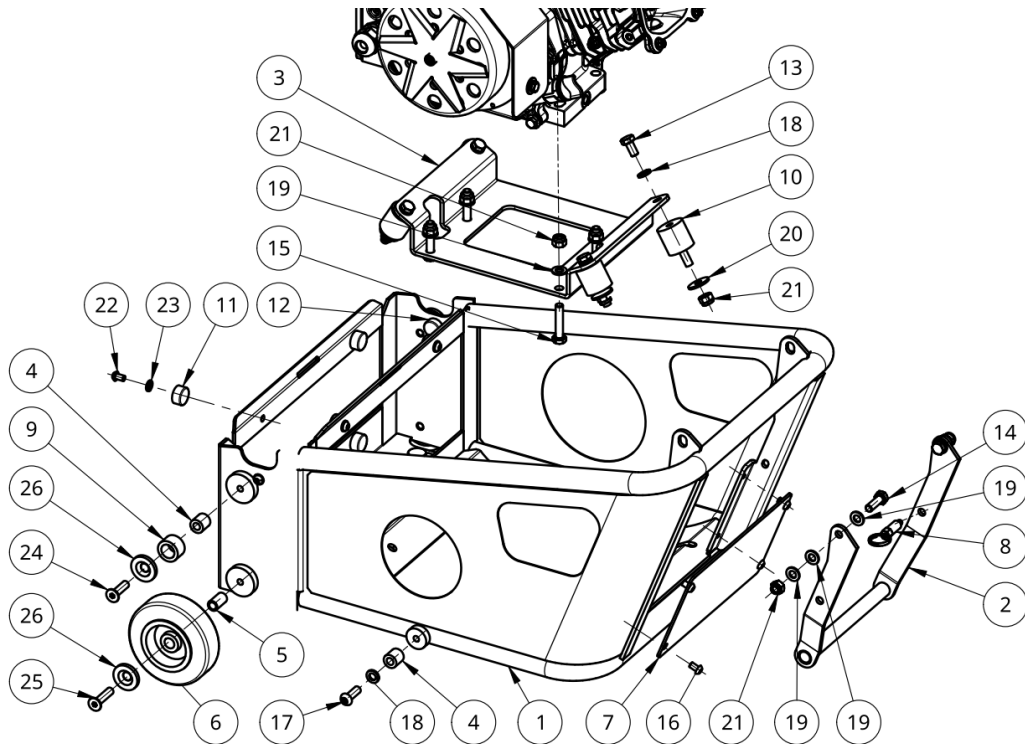
## 13 CARTRIDGE ELECTRIC



Item No.	Part number	Description	Quantity
1	B072000	CARTRIDGE ELECTRIC	1
2	B073000	CARTRIDGE HANDLE	1
3	B070020	ROLLER SPACING TUBE	4
4	B070030	WHEEL SPACING TUBE	2
5	B070040	CARTRIDGE WHEEL	2
6	B070050	CARTRIDGE PLATE	1
7	B070060	AKU BRACKET	2
8	G0100	HANDLE PLUNGER	1
9	F4401	SPACER	2
10	F0507	BUTTON SCREW	4
11	F0518	BUTTON SCREW	2
12	F0206	HEX BOLT	2
13	F3004	WASHER	6
14	F3102	SPRING WASHER	2
15	F2002	LOCK NUT	6
16	F0503	BUTTON SCREW	4
17	F0409	FLAT SCREW	2
18	F0410	FLAT SCREW	2
19	B020040	SPROCKET WASHER	4



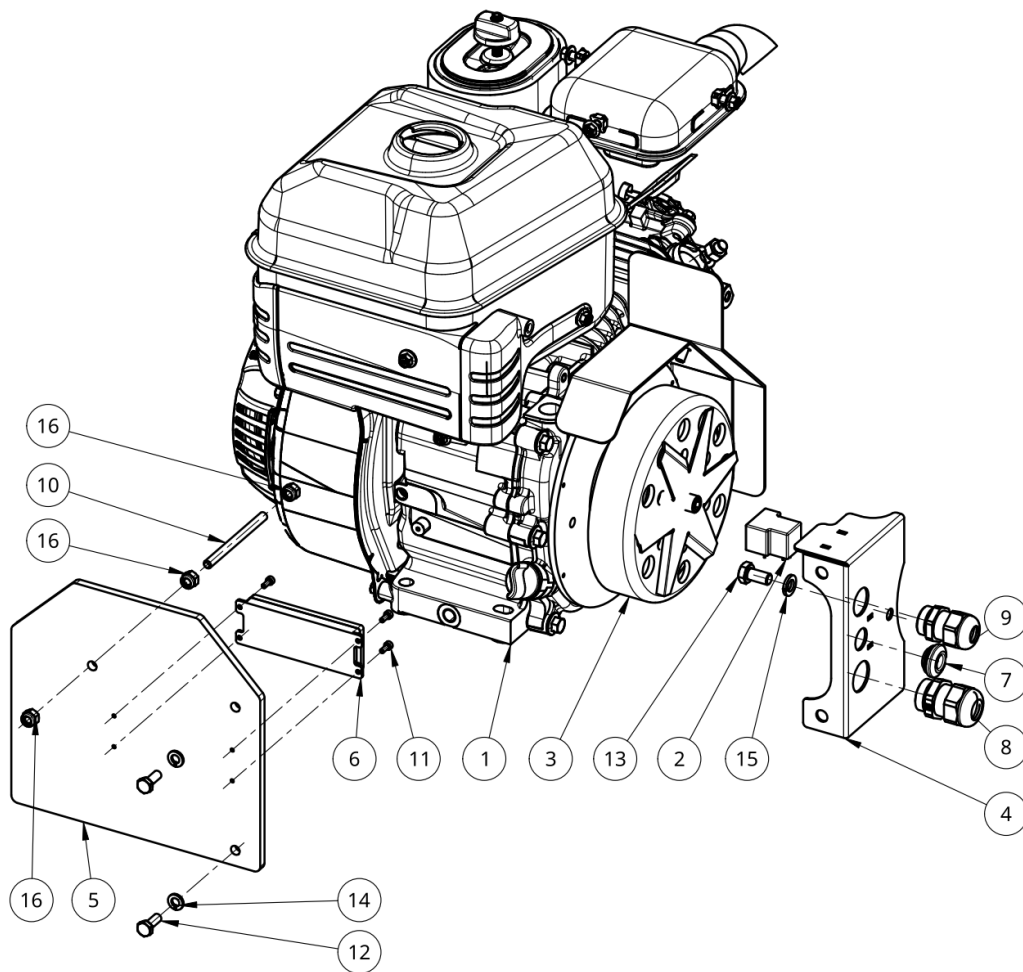
## 14 CARTRIDGE HYBRID



Item No.	Part number	Description	Quantity
1	B071000	CARTRIDGE HYBRID	1
2	B073000	CARTRIDGE HANDLE	1
3	B070010	ENGINE BRACKET	1
4	B070020	ROLLER SPACING TUBE	4
5	B070030	WHEEL SPACING TUBE	2
6	B070040	CARTRIDGE WHEEL	2
7	B070050	CARTRIDGE PLATE	1
8	G0100	HANDLE PLUNGER	1
9	F4401	SPACER	2
10	F5010	SILENT BLOCK	4
11	F5006	SILENT BLOCK	10
12	F5007	SILENT BLOCK	2
13	F0207	HEX BOLT	4
14	F0206	HEX BOLT	2
15	F0203	HEX BOLT	4
16	F0507	BUTTON SCREW	4
17	F0518	BUTTON SCREW	2
18	F3102	SPRING WASHER	8
19	F3004	WASHER	10
20	F3202	LARGE WASHERR	4
21	F2002	LOCK NUT	10
22	F0507	BUTTON SCREW	12
23	F3103	SPRING WASHER	12
24	F0410	FLAT SCREW	2
25	F0409	FLAT SCREW	2
26	B020040	SPROCKET WASHER	4



## 15 GENERATOR

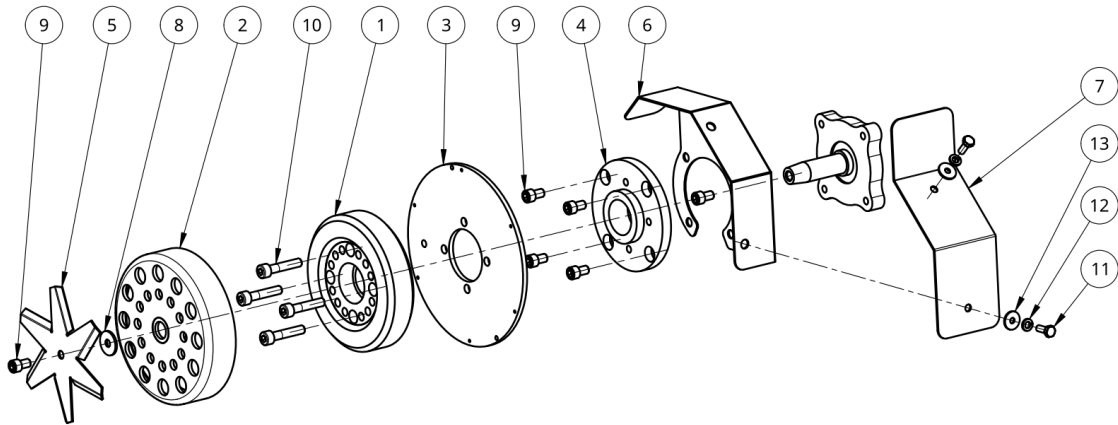


Item No.	Part number	Description	Quantity
1	B081000	ENGINE	1
2	B082000	STOP RELAY	1
3	B090000	GENERATOR ASM	1
4	B080010	GEN BRACKET	1
5	B080020	GEN COOLER	1
6	E2010	RAYMO AM C.U.	1
7	E3121	CABLE GLAND	1
8	E3101	CABLE GLAND	1
9	E3102	CABLE GLAND	1
10	F0802	SET SCREW	1
11	F0310	SOCKET SCREW	4
12	F0210	HEX BOLT	2
13	F0207	HEX BOLT	2
14	F3103	SPRING WASHER	2
15	F3102	SPRING WASHER	2
16	F2003	LOCK NUT	3
	G0600	SPARK PLUG	1
	G0610	AIR FILTER SET	1
	B083000	CABLE GEN POWER	1
	B084000	CABLE GEN CAN	1





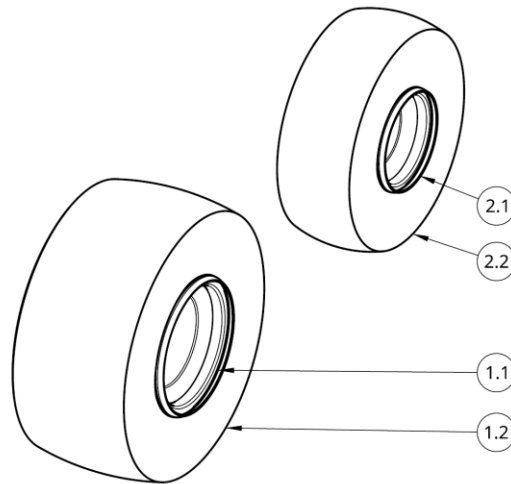
## 16 GENERATOR ASM



Item No.	Part number	Description	Quantity
1	B091000	GEN STATOR	1
2	B092000	GEN ROTOR	1
3	B090010	GEN BASE PLATE	1
4	B090020	GEN BS FLANGE	1
5	B090030	GEN FAN	1
6	B090050	GEN SHIELD	1
7	B090070	GEN SHIELD DEFLECTOR	1
8	F3202	LARGE WASHER	1
9	F1001	SOCKET BOLT 5/16-24	6
10	F0302	SOCKET BOLT	4
11	F0210	HEX BOLT	2
12	F3103	SPRING WASHER	2
13	F3203	LARGE WASHER	2



## 17 WHEELS



Item No.	Part number	Description	Quantity
1	G0030	FRONT WHEEL 18x9.50-8	1
1.1	G0031	RIM 7.00-8	1
1.2	G0032	TIRE 18x9.50-8	1
2	G0040	REAR WHEEL 15x6.00-6	1
2.1	G0041	RIM 4.50-6	1
2.2	G0042	TIRE 15x6.00-6	1

