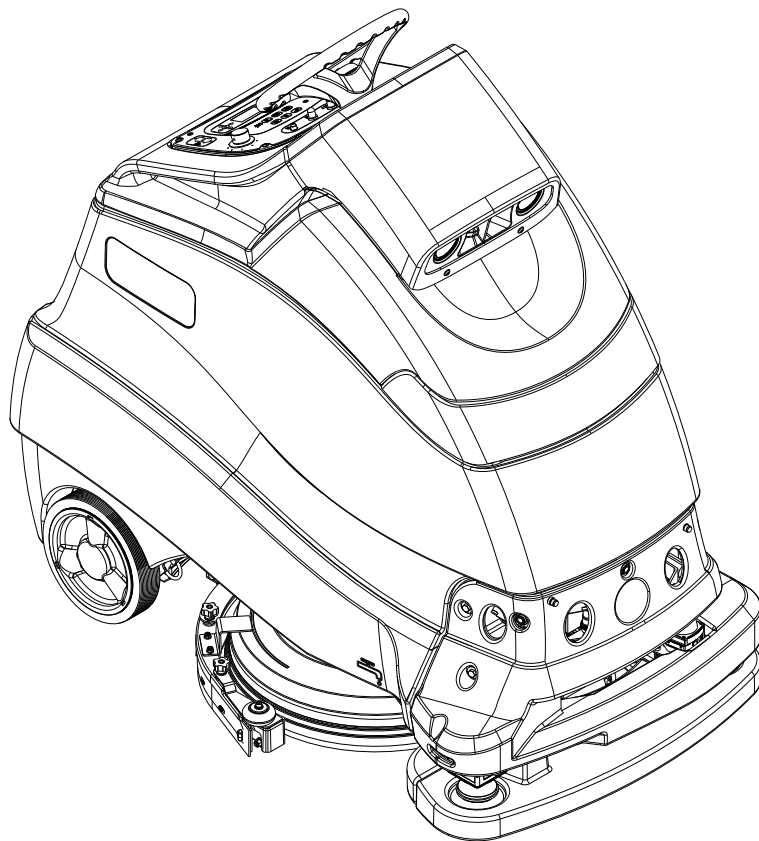


Nilfisk Liberty SC50

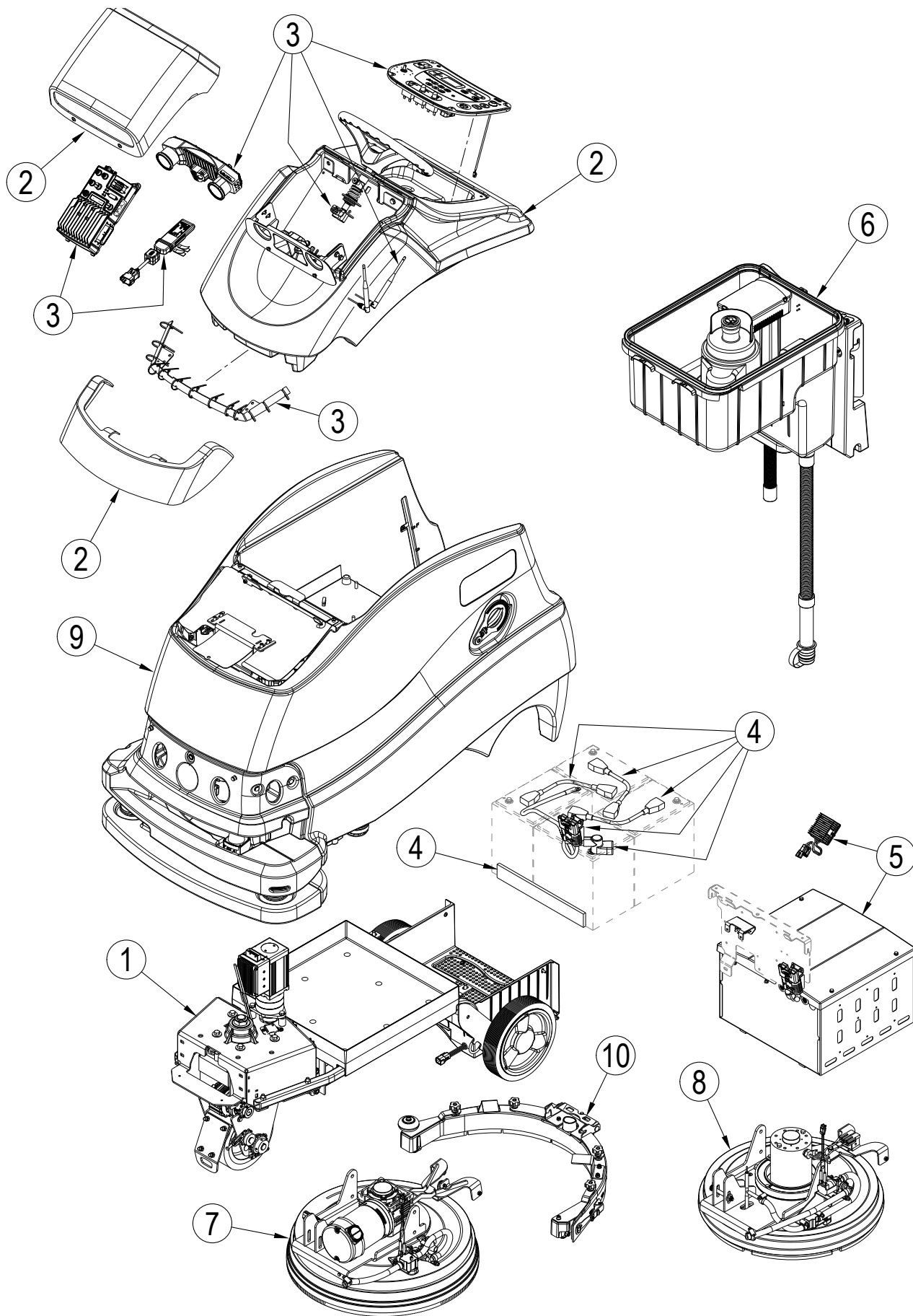
Parts List

2/2017 revised 6/2021 REV E
Form no. 56042654



Model No:
56104502 (X20D), 56104503 (X20R)

GENERAL VIEW



GENERAL VIEW

Kit	Item	Ref. No.	Qty	Description
	1		1	Chassis System
	2		1	Control System
	3		1	Electrical System
	4#			Lead Acid Battery System
	5#		1	Lithium Ion Battery System
	6#		1	Recovery System
	7#		1	Scrub System-20D
	8#		1	Scrub System-REV
	9#		1	Solution System
	10#		1	Squeegee System

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WHEN ORDERING PARTS

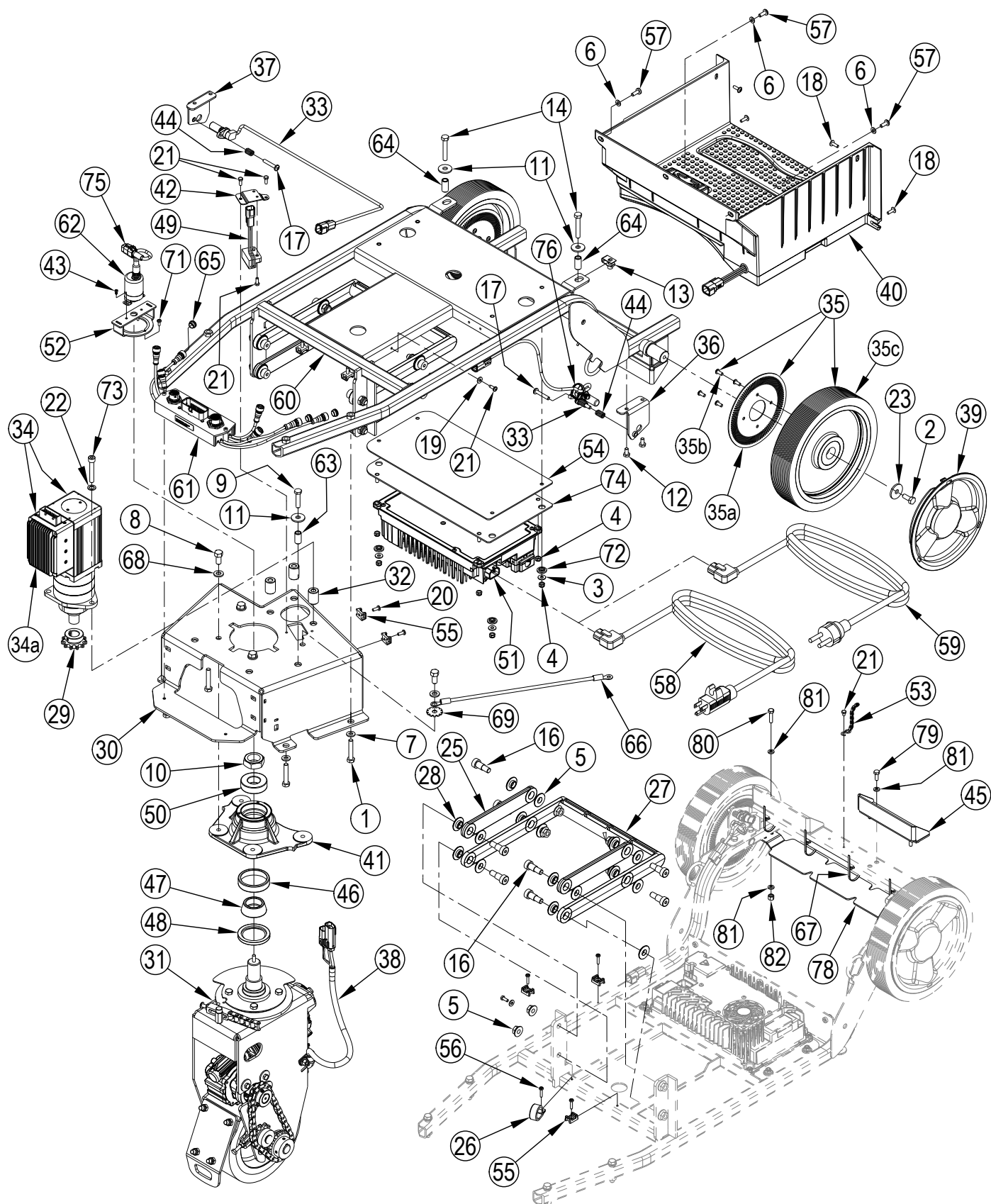
- * Use the part numbers from the "Ref. No." columns in this parts list. If the "Ref. No." column is blank; look under the "Kit" column to identify which kit contains the part in question, then use the kit callout, for example "K1", to find the "Ref. No." for that kit.
- * Specify the model and serial number of the machine.

Kit	Item	Ref. No.	Qty	Description
K1	1		16	Washer Flat 3/16 Zinc Plat
K1	2		2	Screw-BHS-Brass-10-32x3/8-MS
K1	3		3	Washer EPDM 7/32 X 1/8
	4	805	1	Chain-Cover
	5	905	2	Caster Swivel 4 Gray Non MA
K1	6		2	Nut, Hex Nyl Loc 10-24
K1	7		3	Scr- Hex SS 1/4-20 X .75
K1	8		16	Scr, Hex Hd Loc 1/4-20 x .50
K1	9		3	Wsh, Flt SS .260 X 1.000 X .074
	10	56113012	1	Solution Tank
	11	56113034	2	Hinge Plate
K1		56113103	1	Kit-Hardware Solution Tank

- * Use the space below to record the model and serial number for future reference.

Model _____ Serial No. _____

CHASSIS SYSTEM



CHASSIS SYSTEM

Kit	Item	Ref. No.	Qty	Description
K3	1		4	Screw, Hex Hd M8x45
K1,K3	2#		2	Scr Hex Ss M8-1.25x20mm
K3	3		4	Wsh Flt Ss 6.4mmx15mmx1.5mm
K3	4		4	Nut, Hex Nyl Loc Thin M6
K3	5		8	Nut Hex Flg Spiraloc M10-1.50
K3	6		3	Washer, Flat 6.4x12.5
K3	7		4	Washer, Flat 8.4x16x1.6
K3	8		4	Scr Hex Loc 3/8-16 X .75
K3	9#		1	Scr Hex Ss M8-1.25x40mm
K2	10		1	Nut, Hex Nyl Loc-Thin 1-14
K3	11		3	Washer Plain D.9.5x27x2.5 Galv.
K3,K5	12		2	Scr Hex Thd Form 1/4-20x.50
K3	13		2	Nut U Multi-Thread M8 X 1.25
K3	14		2	Scr-Hex Ss M8-1.25 X 50mm
K3	16		8	Scr-Soc Shd M12x16mmx M10-1.50
K3,K5	17		2	Scr-Pan Phil Ss M6-1 X35mm
K3	18		4	Scr M5x16 Iso7380-2 Flg Blk Zn
K3	19		1	Wsh, Int Shprf #10
K3	20		2	Scr, Pan Phil Thd Form 10-24 X .50
K3	21		5	Scr Hex Thd Form 10-24x .50
K3	22		3	Wsh, Flt .391 X .625 X .060
K1,K3	23		2	Wsh, Flt .354 X 1.247 X .120
	25	56104094	2	Bar Linkage
	26#	56410223	1	Clamp, P
	27	56104135	1	Link Bar
K3	28		16	Bushing Link Arm
	29	56104269	1	Sprocket-11 Tooth
	30	56104916	1	Spindle Mount Weldment
	31		1	Drive Wheel Assembly
K3	32		3	Bushing-.34 X .79 X 1.08
	33	56104537	2	Sensor-Encoder E4 / E5
	34	56121209	1	Motor-Steering-Controller A4
	34a#	56121210	1	Controller-Motor-Steering
K1	35		2	Wheel/Encoder Plate Assembly
K1	35a	56104551	1	Plate-Encoder
K1,K3	35b		4	Scr, Pan Phil Plastite 10-14 X .50
K1	35c		1	Wheel-9.73 Dia
K5	36		1	Plate-Encoder Mount-Left
K5	37		1	Plate-Encoder Mount-Right
	38#	56104573	1	Harness-Drive Motor
K1	39	56104577	2	Hub Cap
	40		1	Platform Assembly
	41	56104920	1	Block-Bearing
	42	56104670	1	Plate-Mounting-Switch
K3,K4	43		2	Scr-Soc Hd-Ss-Din 912-M3-0.5x6
K3,K5	44		2	Spring Comp. E00453
	45	56104727	2	Bracket-Tip
K2	46		1	Bearing Cup
K2	47		1	Bearing Cone
K2	48		1	Seal-Shaft 1.750

Kit	Item	Ref. No.	Qty	Description
	49	56511830	1	Sensor, Proximity S8
K2	50		1	Bearing Ball
	51#	56122805	1	Charger-Onboard 24v 650w A8 NOTE 3
	51#	56125013	1	Charger-Onboard-24v-1000w NOTE 4
	52	56104901	1	Steering Encoder Bracket Weldt
K3	53		1	Ground Chain
	54#	56104997	1	Insulator-Charger NOTE 3
	54#	56125034	1	Charger-Insulator NOTE 4
K3	55#		5	Flat Tie Holder
K3	56#		4	Scr, Pan Phil Thd Form 8-32 x .75
K3	57		3	Scr Pan Phil M6-1.00 X 16mm
	58	56383866	1	Cord-AC NEMA IEC320 - Delta-Q
	59	56383867	1	Cord-AC SCHUKO IEC320 - Delta-Q
	59	56104687	1	Cord-AC-UK-IEC320-Delta-Q
	[]	56325219	2	Tie, Cable
	60#	56104560	1	Chassis Weldment NOTE 3
	60#	56394687	1	Chassis Weldment NOTE 4
	61	56104944	1	Breakout Box Assembly A9 NOTE 1
K4	62		1	Encoder-Rotary E7 NOTE 2
K3	63		1	Bushing-.34x.50x.927
K3	64		2	Bushing-.34x.50x1.014
K3	65		3	Cap-Sealing-M12x1
	66	56104996	1	Ground Wire Assy-12 Awg
K3	67		4	Cable Tie E00549 Hc360c
K3	68		4	Wshr-Flt.750x.391x.093 Stl Zn
K3	69		1	Lk Wash Int/Ext Tooth Zn
K3	70#			DELETED
K3	71		3	Screw m4-.7x10 Pn Phillip Ss
K3	72	56122728	4	Bushing-Step
K3	73	9095954000	3	Screw M8x50
	74#	56104999	1	Plate-Charger Mount NOTE 3
	74#	56125033	1	Plate-Charger-Mount NOTE 4
K4	75		1	Harness-Rotary Encoder
K5	76		1	Cable Tie-Mount
K3	77#			DELETED
	78	56122796	1	Plate-Support-Platform
	79	56003431	4	Scr Hex Ss M6-1.00x16mm
	80	56003695	4	Scr Hex Thdtohd Ss M6-1.0x25mm
	81	56003638	12	Wsh Flt Ss M6
	82	56003426	4	Nut Hex Nyl Loc Ss M6

Service Kits

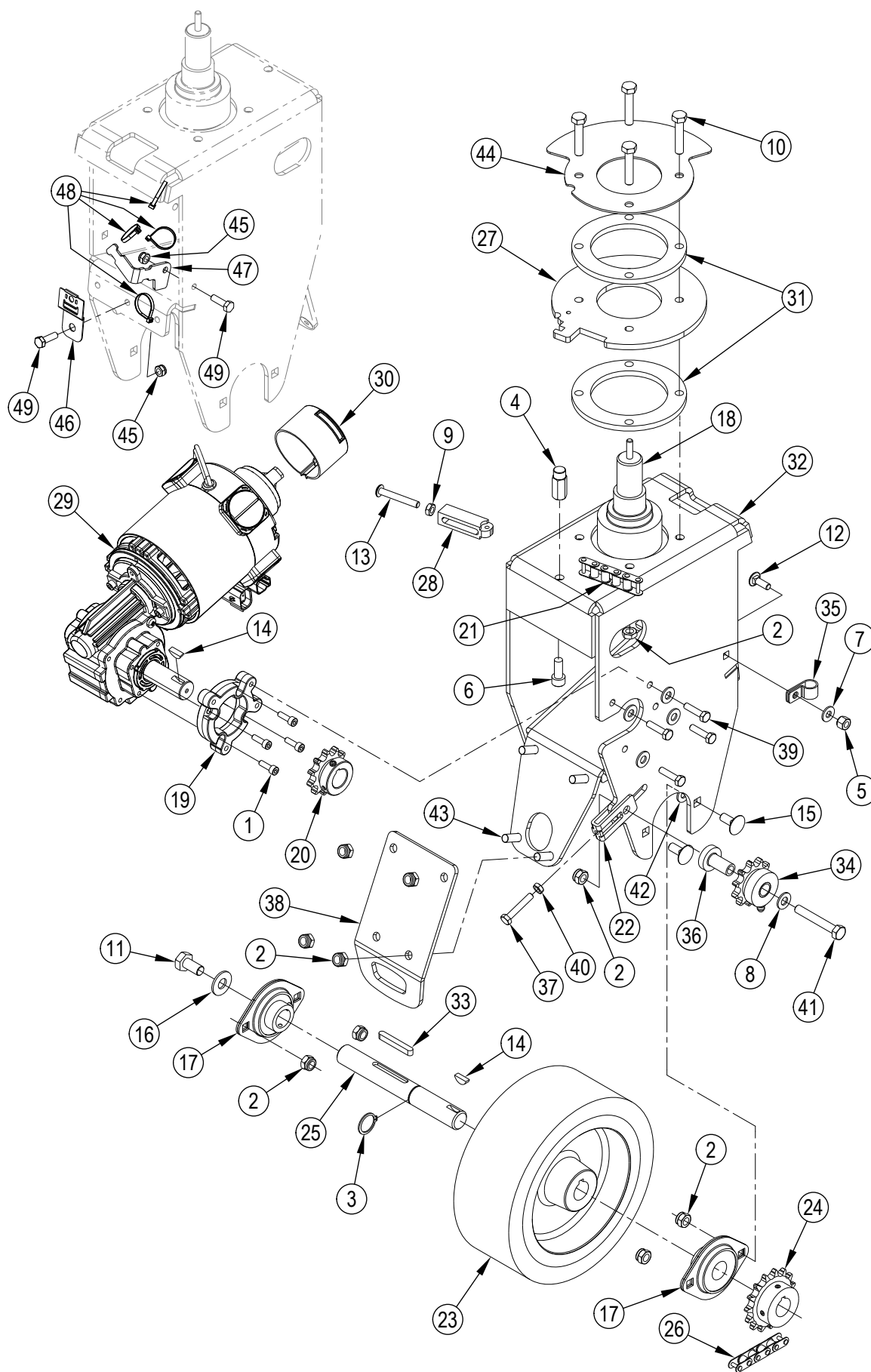
K1	56104807	1	Rear Wheel Kit
K2	56104332	1	Bearing Block Kit
K3	56122713	1	Chassis Hardware Kit
K4	56122707	1	Rotary Encoder Assembly Kit
K5	56104847	1	Encoder Bracket Kit

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NOTE 1: Item 61 Is also referred to as **DISTRIBUTION NODE****NOTE 2:** Item 62 Is also referred to as **DRIVE WHEEL ANGLE SENSOR****NOTE 3:** Chassis system before starting serial number with lithium ion batteries**NOTE 4:** Chassis system after starting serial number with lithium ion batteries

DRIVE WHEEL ASSEMBLY



DRIVE WHEEL ASSEMBLY

Kit	Item	Ref. No.	Qty	Description
K1,K4	1		4	Screw M5x16 Cap Hd Hex Sock
K3,K4,K5	2	1450452000	13	Nut Hex Selflocking M8
K4	3	33006059	1	Shaft Ring D.20
K4	4		1	Bushing-Stop-Steering
K4	5		1	Nut-Hex Nyl Loc Ss 1/4-20
K4	6		1	Scr Soc Hd M8 X 20.0
K4	7		1	Wsh-Flt Sae Ss 1/4
K3,K4	8		1	Wsh-Flt Sae Ss 5/16
K4	9		1	Nut-Hex Jam Ss 1/4-20
K4	10		4	Screw Hex Hd Uni-5737 M8x45
K4	11	56003533	1	Scr-Hex Ss M10-1.5 X 20mm
K4	12		1	Scr-Carriage Ss 1/4-20 X .75
K4	13		1	Scr-Pan Phil Ss 1/4-20 X 1.75
K1,K3,K4	14	56003877	2	Key-Wdf 5x6.5 Din 6888
K4,K5	15	56003900	4	Scr-Carriage Ss M8-1.25 X 20mm
K4	16	56003959	1	Wsh-Flt A2 Din9021 10.5x30x2.5
K5	17	56104069	2	Axle Bearing
	18	56104912	1	Spindle Weldt
K1	19		1	Spacer
K3	20		1	Sprocket-11 Tooth
	21	56104270	1	Chain-Roller
K3	22		1	Idler Adjust Bracket
	23	56104958	1	Drive Wheel
K3	24		1	Sprocket-15 Tooth
	25	56122789	1	Axle-Drive
K3	26		1	Chain-Roller
	27	56104523	1	Steering Plate
	28	56104527	1	Tensioner-Chain
K1	29#		1	Drive Wheel Motor M1,F6
				TSB-FC-2021-011
	[]	56385013	1	Brush Kit-Wheel Drive
	*	56104850	1	Electromagnetic Brake Kit Y1 NOTE 1

Kit	Item	Ref. No.	Qty	Description
	30	56122793		Boot-Brake
	31	56104671	2	Spacer-Switch-Cam
	32	56104793	1	Drive Wheel Frame Weldment
K4	33	56314359	1	Key. 6mm Sq
K3	34		1	Sprocket Assy
K4	35		1	Clamp-P
K3,K4	36		1	Bushing, Flanged
K3,K4	37		1	Screw M6x35 Hex Hd F/Thd Ss
	38	56104974	1	Bracket-Tie Down
K1,K4	39		4	Scr Hex Thdtohd Ss M6-1.0x25mm
K3	40		1	Nut Hex M6 Ss
K3,K4	41		1	Screw M8x55 Hex Hd P/Thd Ss
K1,K4,K5	42	L08603207	8	Washer, Flat 8x17x1.6 SS
K4	43		4	Screw Flt Soc Uni-5933 M8x25
	44	56104550	1	Cam-Home Position
	45	33005604	2	Nut Hex Nyl Loc Thin M6
	46	56111972	1	Clip-Connector
	47	56122794	1	Bracket-Retention-Harness
	48	56478246	4	Cable Tie
	49	1450253000	2	Screw M6 X 20

Service Kits

K1	56104816	1	Drive Wheel Motor Kit
K3	56104435	1	Sprocket and Chain Kit
K4	56122715	1	Drive Wheel Hardware Kit
K5	56104384	1	Front Wheel Bearings Kit

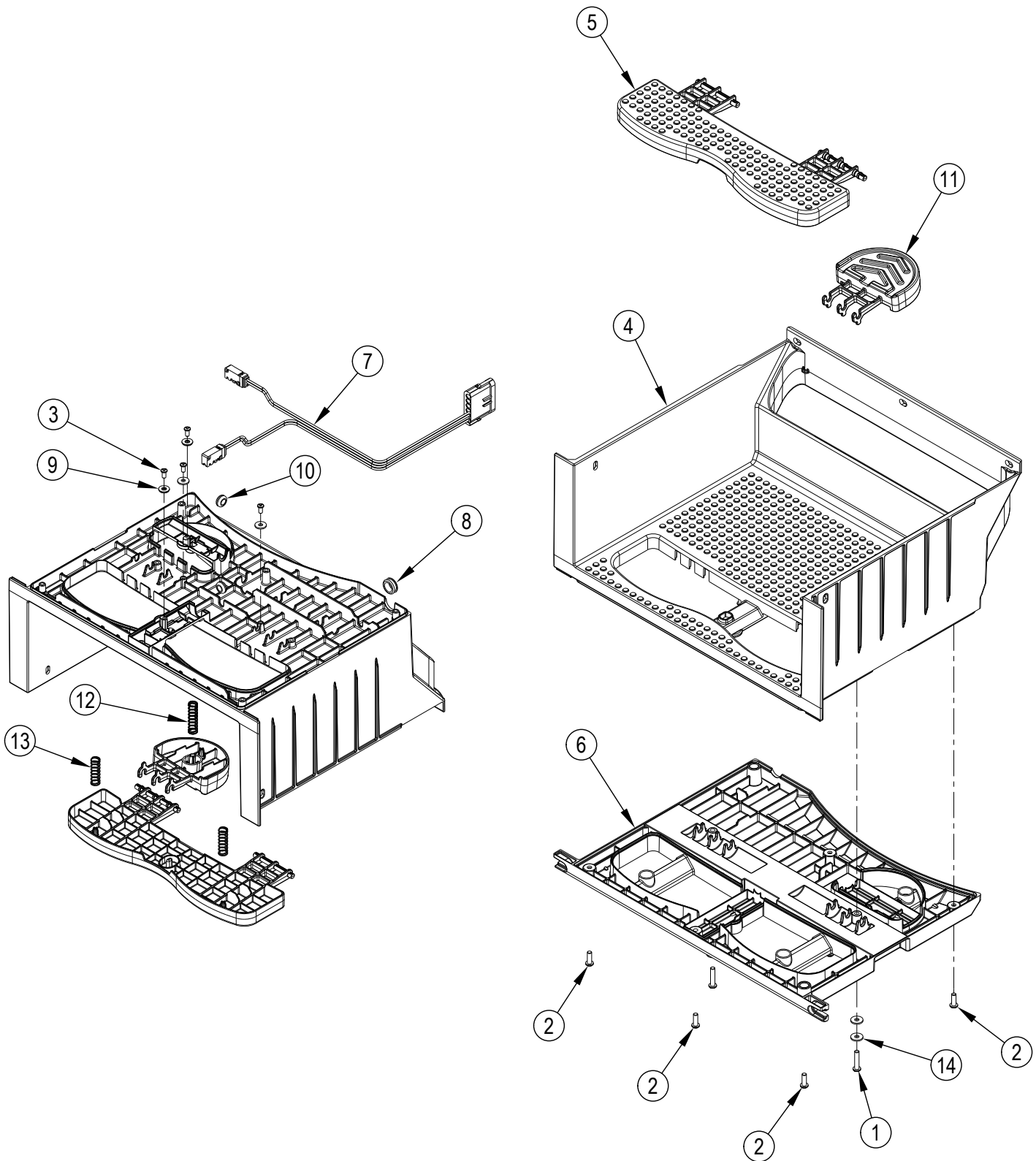
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* = Optional, Not Included

NOTE 1: Electromagnetic Brake Kit 56104850 can be used to replace Brake-Electromagnetic as a separate repair part for the Drive Wheel Motor.

PLATFORM ASSEMBLY



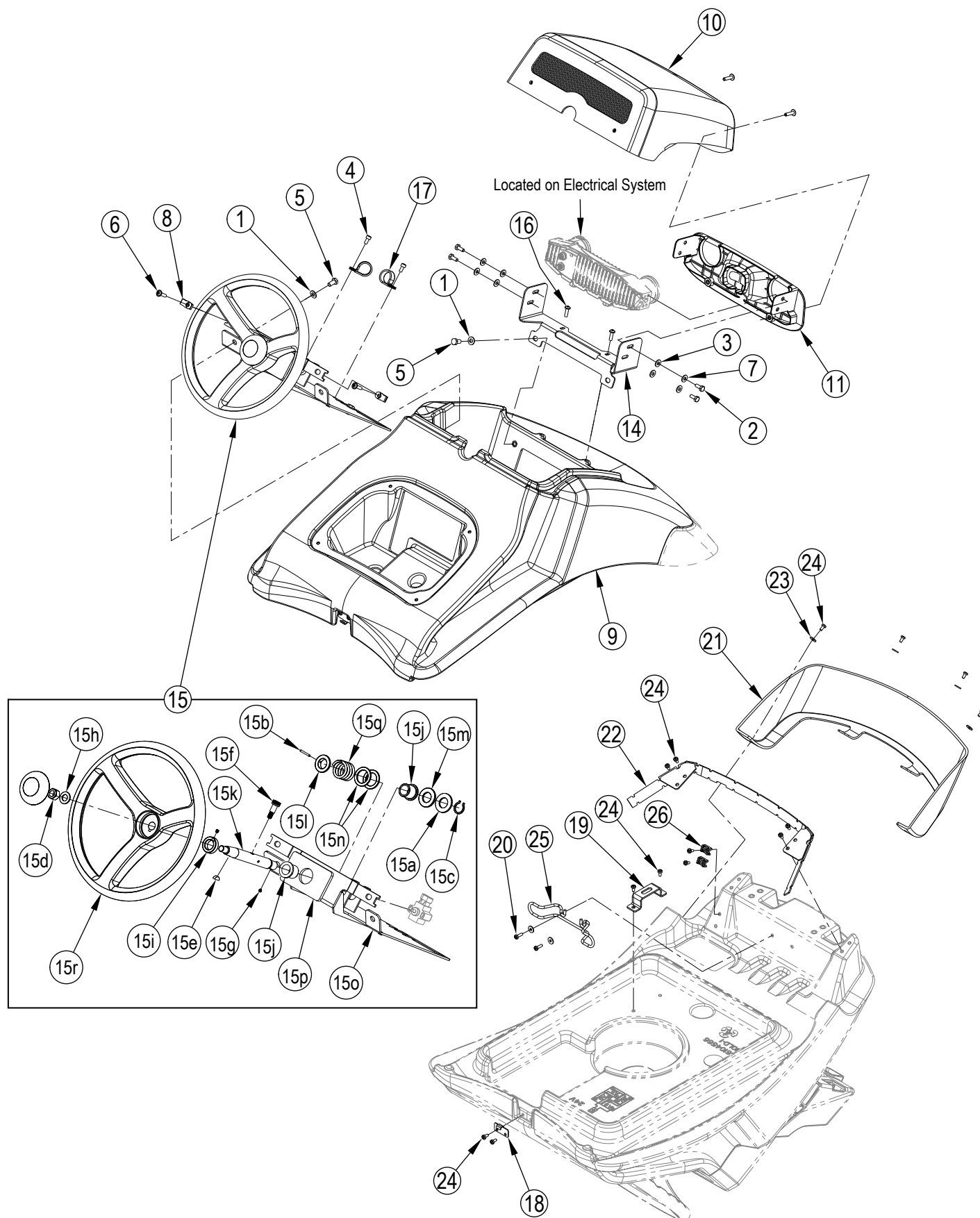
PLATFORM ASSEMBLY

Kit	Item	Ref. No.	Qty	Description
K1	1		2	Scr. Pan Phil Plastite 10-14 X 1.0
K1	2		6	Scr. Pan Phil Plastite 10-14 X .62
K1	3		4	Scr-Pan Phil Plast M5x2.3x10mm
	4	56104052	1	Platform-Upper
	5	56104185	1	Pedal-Safety
	6	56104187	1	Platform-Bottom
	7	56104574	1	Switch Harness S1 / S2
	8	56158690	1	Grommet
K1	9		2	Washer,Sealing 9/16
	10	56331006	2	Grommet
	11	56384567	1	Pedal-Foot
	12	56384568	1	Spring-Compression-Ss-.480 Od
	13	56384579	2	Spring-Compression-M/W-.480 Od
K1	14		6	Washer Plain M5x15 Iso7093

Service Kits

K1	56104417	1	Platform Hardware Kit
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CONTROL SYSTEM

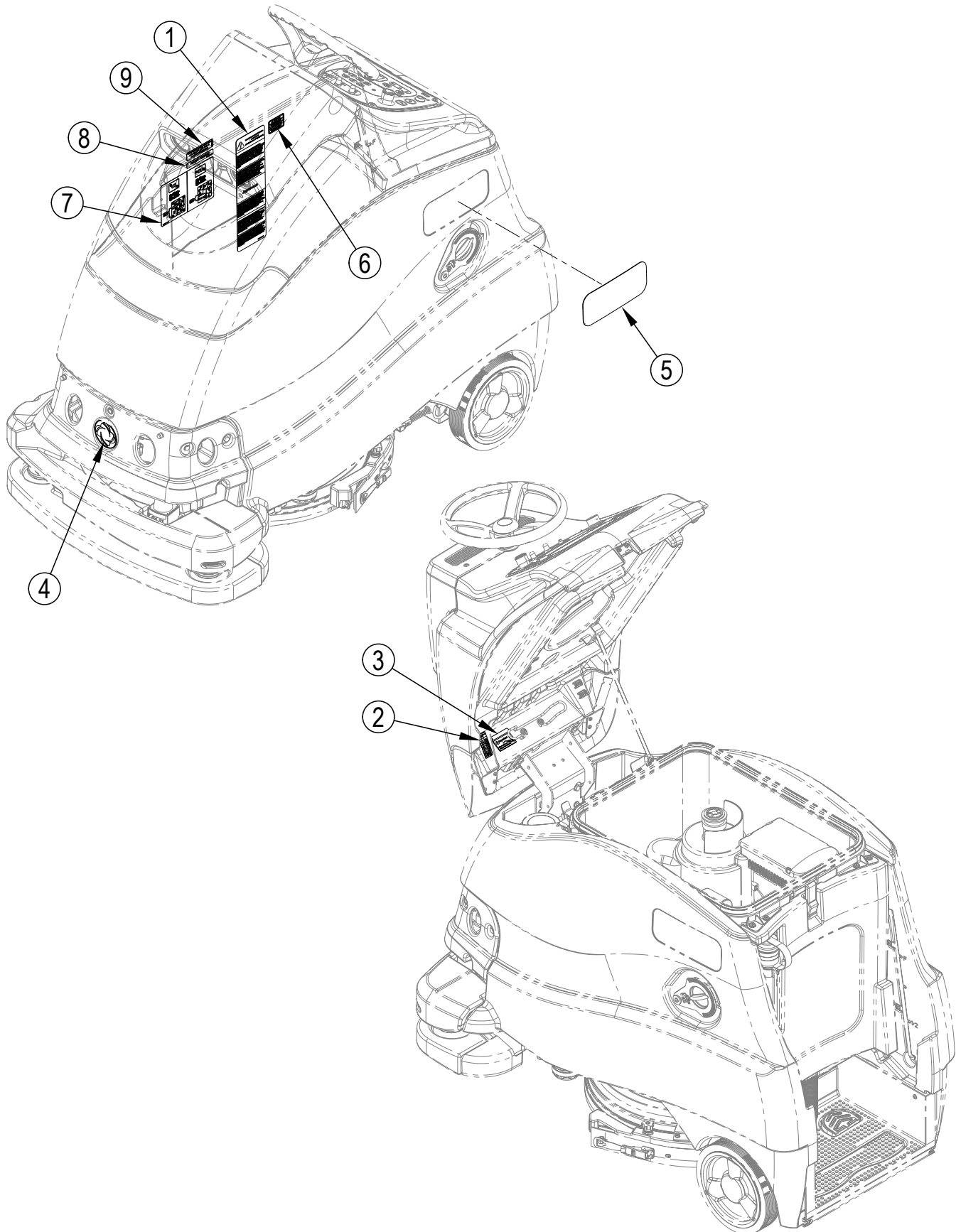


CONTROL SYSTEM

Kit	Item	Ref. No.	Qty	Description
K3	1		6	Washer Plain M8x16 Iso7089
K3	2	56001836	4	Scr-Hex 1/4-20 X .62
K3	3	56002098	4	Wsh, Flt Sae 1/4
K3	4#	56003357	1	Scr Soc Thd To Hd M6 X 12.0
K3	5		6	Scr-Hex Ss M8-1.25 X 16mm
K3	6		4	Scr M6x25 Iso7380-2 Flg Blk
K3	7	56009064	4	Wsh, Int Shprf 1/4
K3	8		2	U-Nut-Long M6
	9	56104566	1	Hood-Top
	10	56104567	1	Hood Cover Assembly
	11	56104770	1	Bezel-Camera
	14	56104921	1	Bracket-Camera
	15		1	Steering Assembly
K2	15a		1	Wsh, Flt Sae 3/4
K2	15b		1	Pin-Dowel
K2	15c		1	Ring, Ret Ext .750 Shaft
K3	15d		1	Nut-Hex Nyl Loc M12-1.75
K2	15e		1	Key-Wdf 5x6.5 Din 6888
K2	15f		1	Scr-Shldr-Soc Hd-10x16-M8-1.25
K2	15g		2	Scr-Set-Knurl-Soc Hd-M5-0.8x5
K3	15h		1	Wsh, Flt .516 X .938 X .075
K2	15i		1	Collar
K2	15j		2	Bearing-Flange
K2	15k		1	Shaft Steering
K2	15l		1	Bracket-Support-Spring
K2	15m		1	Washer-Nylon-.12
K2	15n		2	Washer-Nylon-.09
K2	15o		1	Electrical Panel Weldment-Hood
K2	15p		1	Gasket-Electrical Plate
K2	15q		1	Compression Spring
	15r	56601060	1	Steering Wheel
K3	16		2	Screw M6x20 Wn1451 Black Zn
K6	17#		1	Clamp P 56e00623
K1,K3	18		1	Hook Latch
	19	56104410	1	Bracket-Prop Rod
K3	20		2	Screw M5x16 Pan Hd Phil Ss Iso7045
	21	56104576	1	Lens-Light Bar
K4	22		1	Lightstrip Weldment
K3	23		6	Washer Plain M5x15 Ss Iso7093
K1,K3	24		14	Screw M5x10 Pan Hd Phil Ss Iso7045
K5	25		1	Cable Support
K3	26		2	Flat Tie Holder
Service Kits				
K1	56104352		1	Draw Latch Kit
K2	56122712		1	Steering Assembly Kit
K3	56122710		1	Control Hardware Kit
K4	56104802		1	Light Bar Kit
K5	1466317000		1	Support Cable Kit
K6	56122717		1	Electrical Hardware Kit

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DECAL SYSTEM



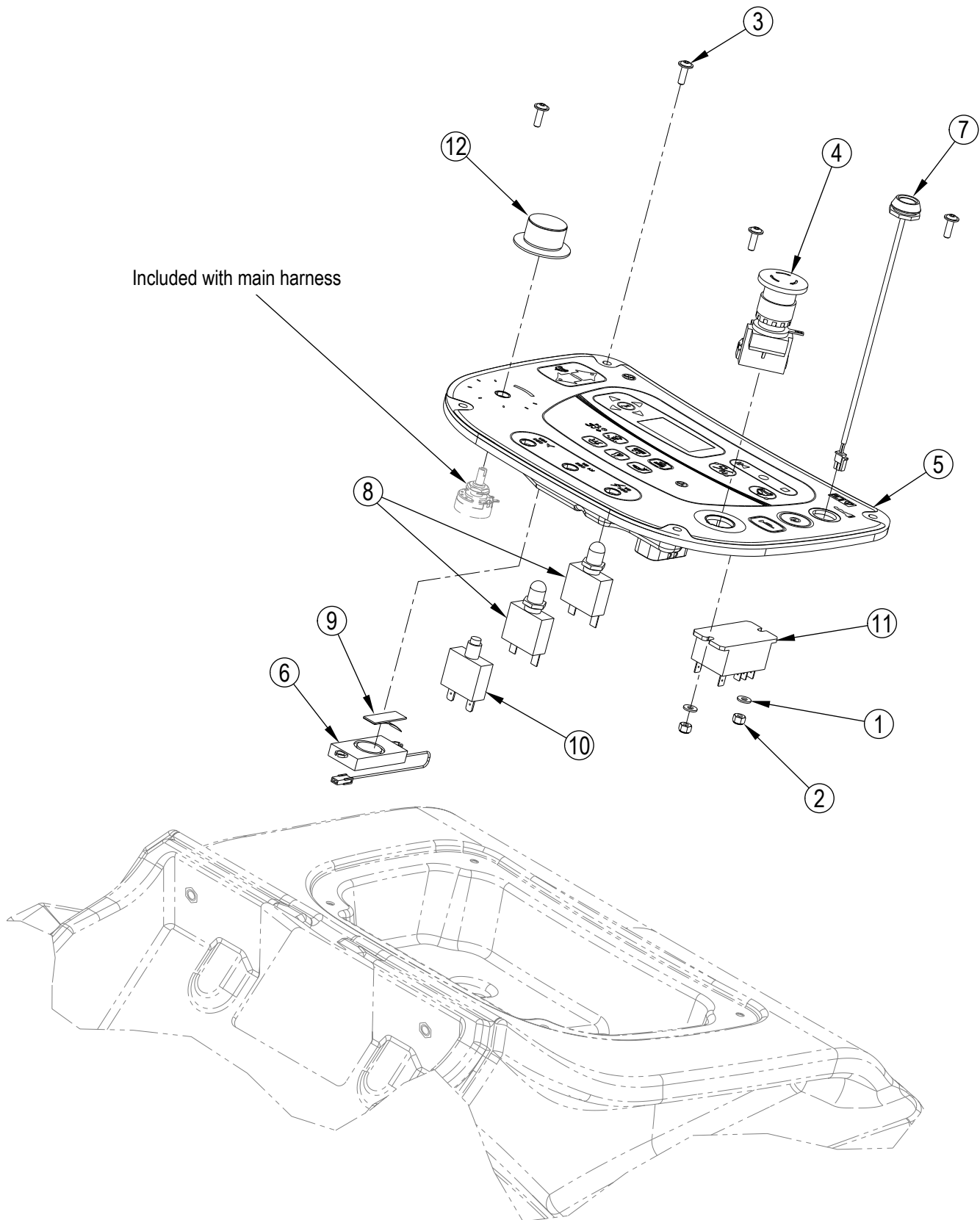
DECAL SYSTEM

Kit	Item	Ref. No.	Qty	Description
K1	1		1	Decal, Caution
K1	2		1	Decal-Chemical Ratio
K1	3		1	Decal-Charger Cord
K1	4		1	Decal-Logo
K1	5		2	Decal-Nilfisk Liberty SC50
K1	6		1	Decal-Prop 65
K1	7#		1	Decal-Battery Wiring TSB-FC-2021-013
K1	8		1	Decal-Patent Pending
K1	9		1	Decal-Patent Information

Service Kits

K1	56104831	1	Liberty SC50 Decal Kit
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ELECTRICAL SYSTEM-1

ELECTRICAL SYSTEM-1

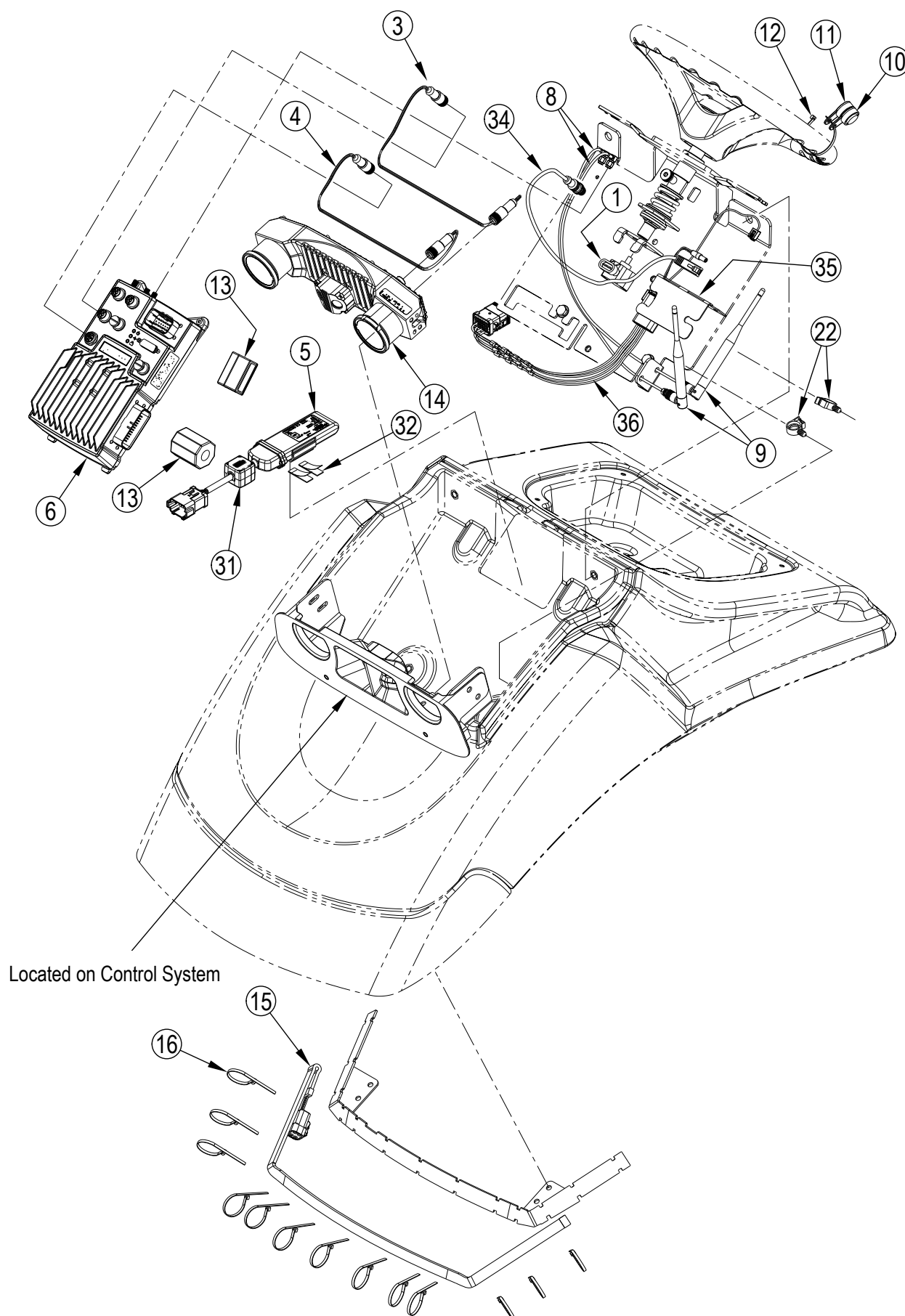
Kit	Item	Ref. No.	Qty	Description
K1	1#		2	Wsh, Flt Sae #8
K1	2#		2	Nut, Hex Nyl Loc 8-32
K1,K2,K5	3#		4	Scr M5x16 Iso7380-2 Flg Blk Zn
	4#	56407130	1	Disconnect Emergency
K2	5#		1	Interface Panel Assembly
K5	*#	56104832	1	Interface Panel Kit
K4	6#		1	Speaker-4w B1
	7#	56116477	1	Ibutton-Probe E2
	8#	56315255	2	Circuit Breaker, 5 Amp CB1 / CB2
K4	9#		1	Tape-Heavy Duty Adhesion 1.5in
	10#	56413407	1	Circuit Breaker, 15 Amp CB3
	11#	40914A	1	Relay K1
	12#	50962A	1	Knob, Speed Control

Service Kits

K1	56122717	1	Electrical Hardware Kit
K2#	56122799	1	User Interface Kit
K4	56104828	1	Speaker Kit
K5	56104832	1	Interface Panel Kit

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* = Optional, Not Included

ELECTRICAL SYSTEM-2

ELECTRICAL SYSTEM-2

Kit	Item	Ref. No.	Qty	Description
	1	56104564	1	Sensor-Hall-Effect E3 NOTE 1
	3	56104677	1	Wire Assembly-5 Conductor
	4	56104679	1	Wire Assembly-Cat5e
K5,K6	5#		1	TC-1 Module SIP A7
K4	6		1	Module-Autonomous A5
	8	56104961	2	Cable-Antenna-Wifi
	9	56104962	2	Antenna-Wifi AN2, AN3
	10	56116518	1	Smart Key-User E2
	11	56116519	1	Smart Key-Supervisor E2
	12	56478246	1	Cable Tie
	13	56601686	2	Ferrite Bead
K3	14		1	3d Camera – Knight E8 NOTE 2
K2	15		1	Light-Led Bar E1
K2	16		13	Tie, Cable
	17#	56122790	1	Harness-Autonomy/Breakout Box
	18#	56104966	2	Cable-2d Sensor Ethernet
	19#	56104967	1	Cable-2d Sensor Power
	20#	56122808	1	
K1	21#		5	Cable Tie-Mount
K1	22#		2	Clip Conduit
	23#	56115456	2	Ferrite Bead
K1	24#		1	Cable Tie E00549 Hc360c
K1	25#		10	Cable Tie E00549 Re409s
K1	26#		11	Cable Tie E00549
	27#	56409538	12	Terminal Insulator
	28#	56493357	2	Insulator Terminal
	29#	2-00-04952	1	Boot Protective
	30#	56115454	1	Ferrite Bead
	31#	56383381	3	Tape-Heavy Duty Adhesion 1.5in
	32#	56122747	1	Cable-Ethernet-M12d-Rj45
	33#	56122754	1	Retainer-Antenna
	34#	56125016	1	Harness-Sc50 Tc1 Cell Gateway

Service Kits

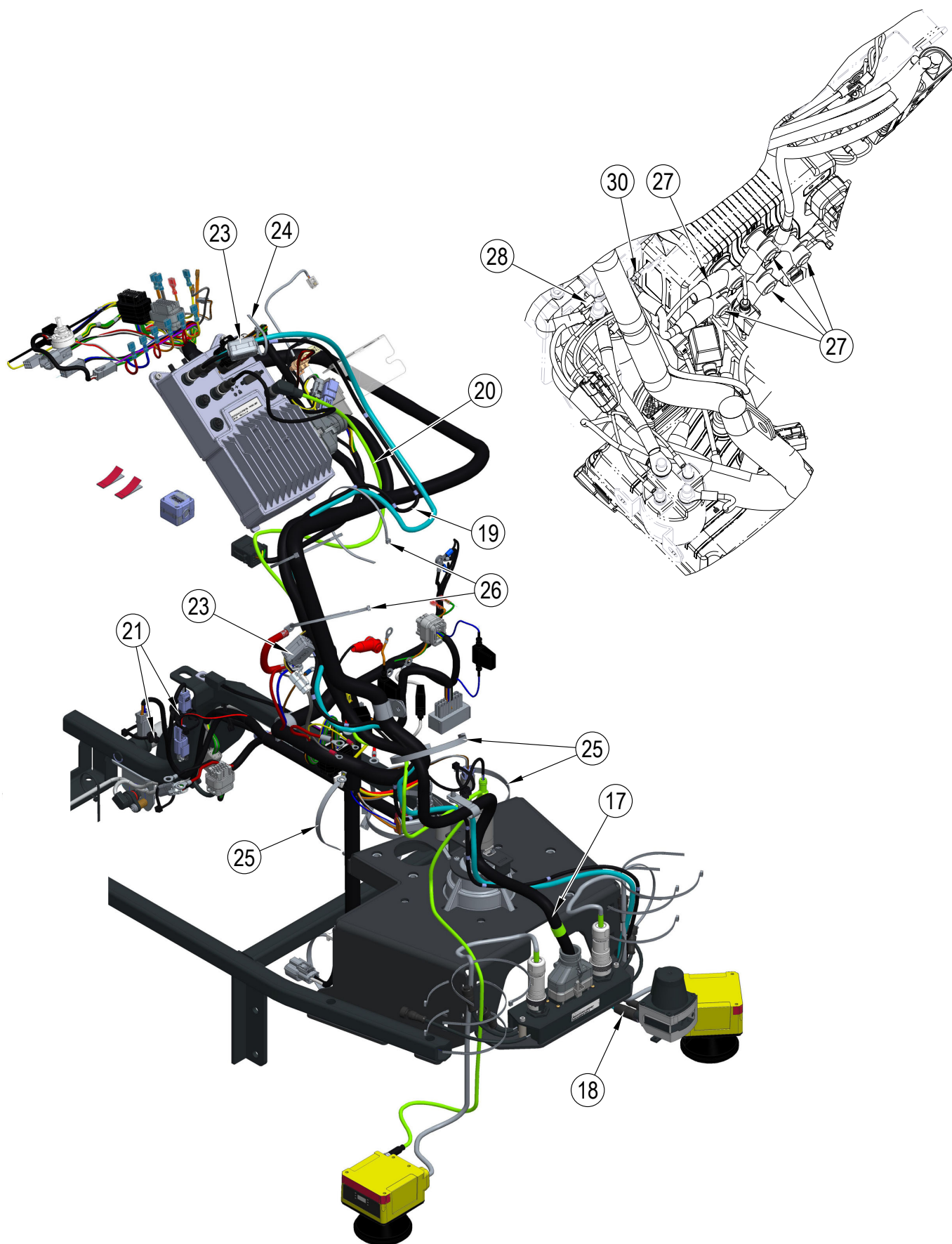
K1	56122717	1	Electrical Hardware Kit
K2	56104802	1	Light Bar Kit
K3	56104843	1	3d Camera Kit
K4	56122709	1	Autonomous Module Kit
K5#	56394713	1	Trackclean 1 Liberty Sc50 Kit
K6#	56394730	1	Trackclean 1 SC50 Upgrade Kit

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NOTE 1: Item 1 Is also referred to as **STEERING WHEEL POSITION SENSOR****NOTE 2:** Item 14 Is also referred to as **3-D VISION SENSOR**

ELECTRICAL SYSTEM-3



ELECTRICAL SYSTEM-3

Kit	Item	Ref. No.	Qty	Description
	1	56104564	1	Sensor-Hall-Effect E3 NOTE 1
	3	56104677	1	Wire Assembly-5 Conductor
	4	56104679	1	Wire Assembly-Cat5e
K5,K6	5#		1	TC-1 Module SIP A7
K4	6		1	Module-Autonomous A5
	8	56104961	2	Cable-Antenna-Wifi
	9	56104962	2	Antenna-Wifi AN2, AN3
	10	56116518	1	Smart Key-User E2
	11	56116519	1	Smart Key-Supervisor E2
	12	56478246	1	Cable Tie
	13	56601686	2	Ferrite Bead
K3	14		1	3d Camera – Knight E8 NOTE 2
K2	15		1	Light-Led Bar E1
K2	16		13	Tie, Cable
	17#	56122790	1	Harness-Autonomy/Breakout Box
	18#	56104966	2	Cable-2d Sensor Ethernet
	19#	56104967	1	Cable-2d Sensor Power
	20#	56122808	1	
K1	21#		5	Cable Tie-Mount
K1	22#		2	Clip Conduit
	23#	56115456	2	Ferrite Bead
K1	24#		1	Cable Tie E00549 Hc360c
K1	25#		10	Cable Tie E00549 Re409s
K1	26#		11	Cable Tie E00549
	27#	56409538	12	Terminal Insulator
	28#	56493357	2	Insulator Terminal
	29#	2-00-04952	1	Boot Protective
	30#	56115454	1	Ferrite Bead
	31#	56383381	3	Tape-Heavy Duty Adhesion 1.5in
	32#	56122747	1	Cable-Ethernet-M12d-Rj45
	33#	56122754	1	Retainer-Antenna
	34#	56125016	1	Harness-Sc50 Tc1 Cell Gateway

Service Kits

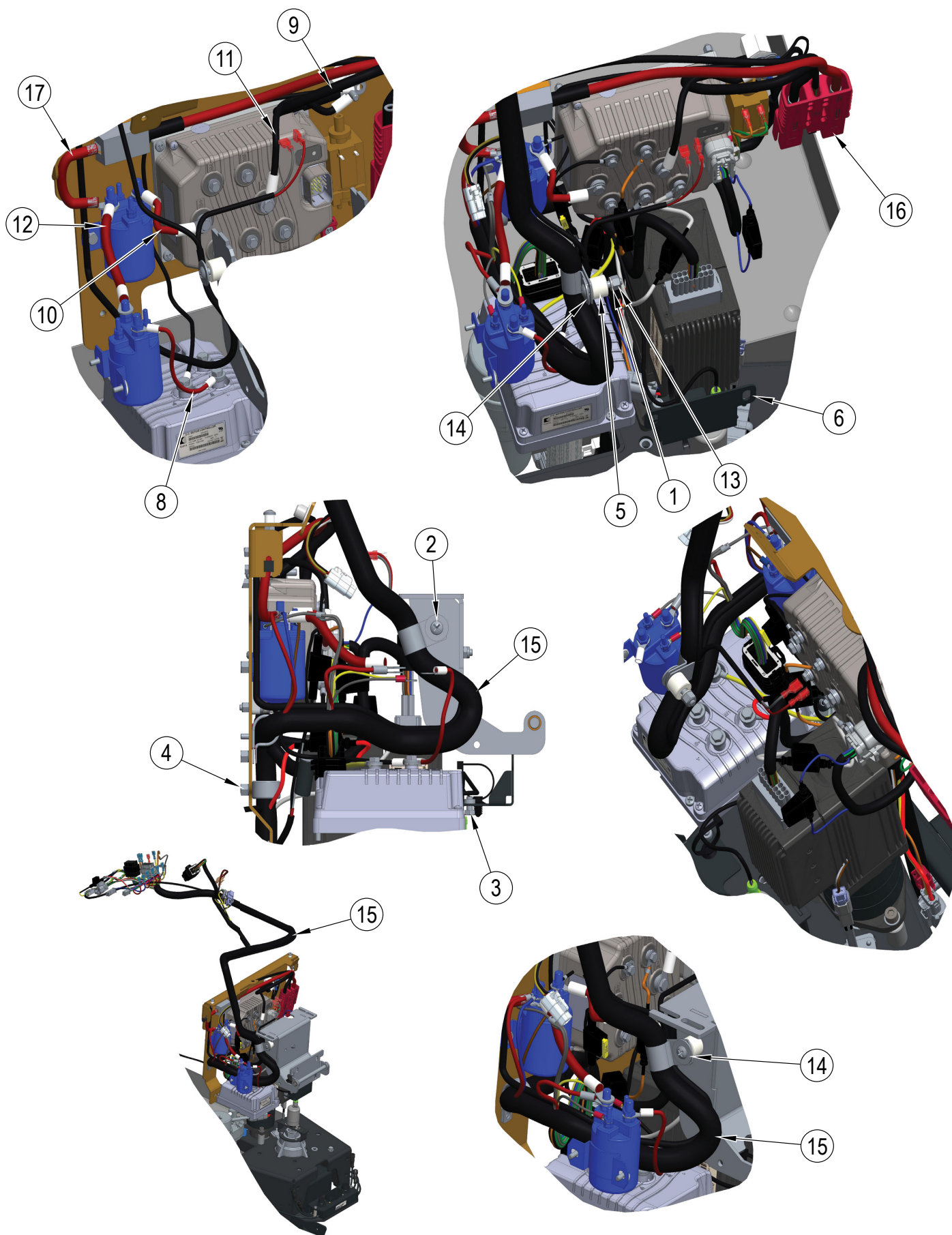
K1	56122717	1	Electrical Hardware Kit
K2	56104802	1	Light Bar Kit
K3	56104843	1	3d Camera Kit
K4	56122709	1	Autonomous Module Kit
K5#	56394713	1	Trackclean 1 Liberty Sc50 Kit
K6#	56394730	1	Trackclean 1 Sc50 Upgrade Kit

= Revised or new since last update

[] = Not Shown

NOTE 1: Item 1 Is also referred to as **STEERING WHEEL POSITION SENSOR****NOTE 2:** Item 14 Is also referred to as **3-D VISION SENSOR**

ELECTRICAL SYSTEM-4



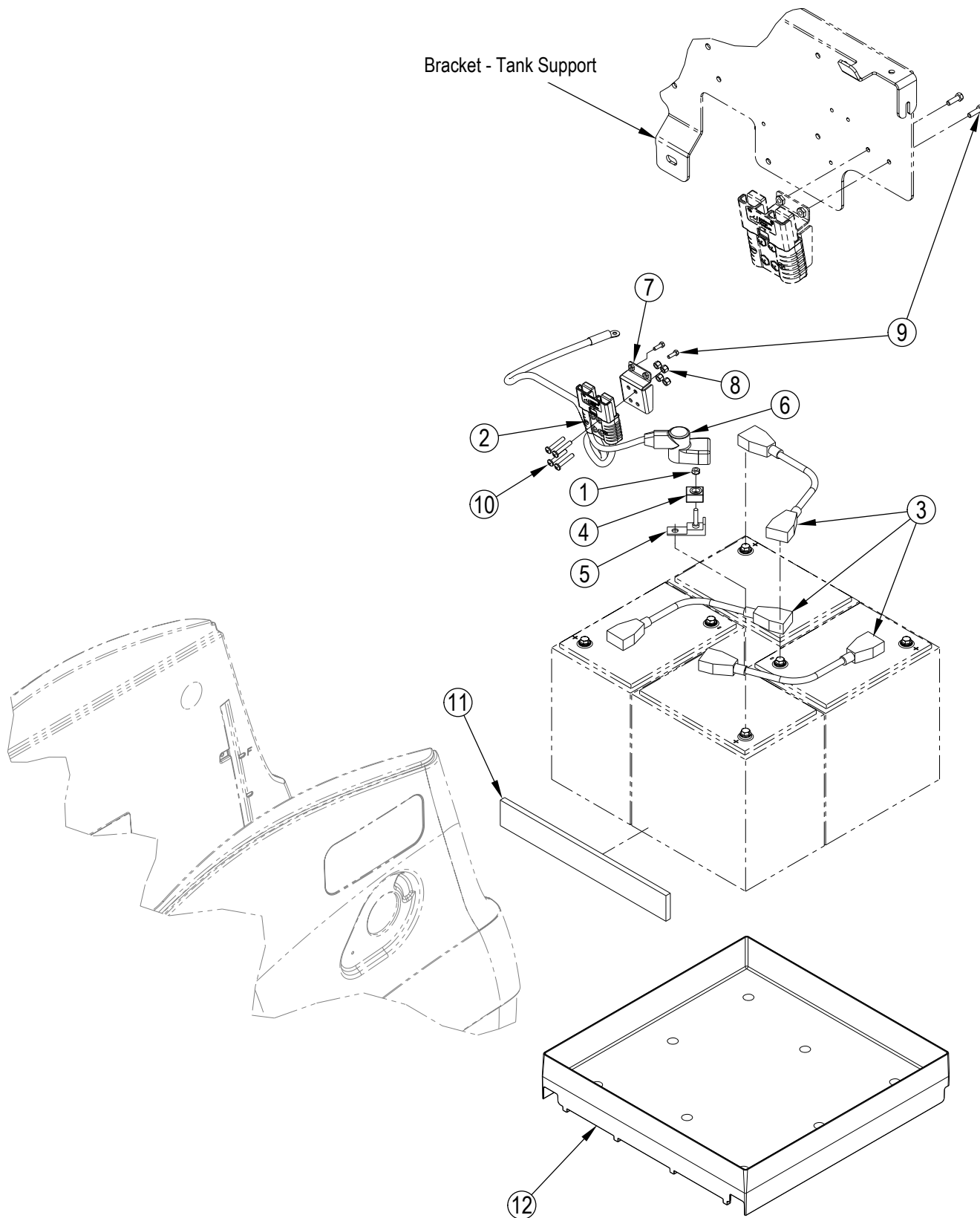
ELECTRICAL SYSTEM-4

Kit	Item	Ref. No.	Qty	Description
	1	33005913	1	Washer Plain M6x12 Iso7089
	2	56002905	1	Scr-Pan Phil Ss 1/4-20 X 1.50
	3	56003155	1	Scr-Hex M6-1 X 12mm
	4	56003403	2	Nut-Hex Nyl Loc M6-1
	5	56122811	1	Spacer-Hinge
	6	56104969	1	Brkt-Main Harness Connector
	8	56104948	1	Wire Assy-10 Awg-Red
	9	56104950	1	Wire Assy-10 Awg-Blk
	10	56104951	1	Wire Assy-8 Awg-Red
	11	56104952	1	Wire Assy-8 Awg-Blk
	12	56104953	1	Wire Assy-6 Awg-Red
	13	56002491	1	Nut-Hex Nyl Loc Ss 1/4-20
	14	56003923	1	Wsh-Flt Ss .266 X .906 X .060
K1,K2	15#	56125012	1	Harness-Main
	[]	56104860	1	Fuse-Mini-3A F2
	16	56125018	1	Harn Assy-Control/Power-Mach
	17	56125022	1	Cable Assy-Fuse To Cont-Pos

Service Kits

K1#	56104800	1	Main Harness Speed Pot Kit
K2#	56125023	1	Fuse Kit-SC50

= Revised or new since last update

LEAD ACID BATTERY SYSTEM

LEAD ACID BATTERY SYSTEM

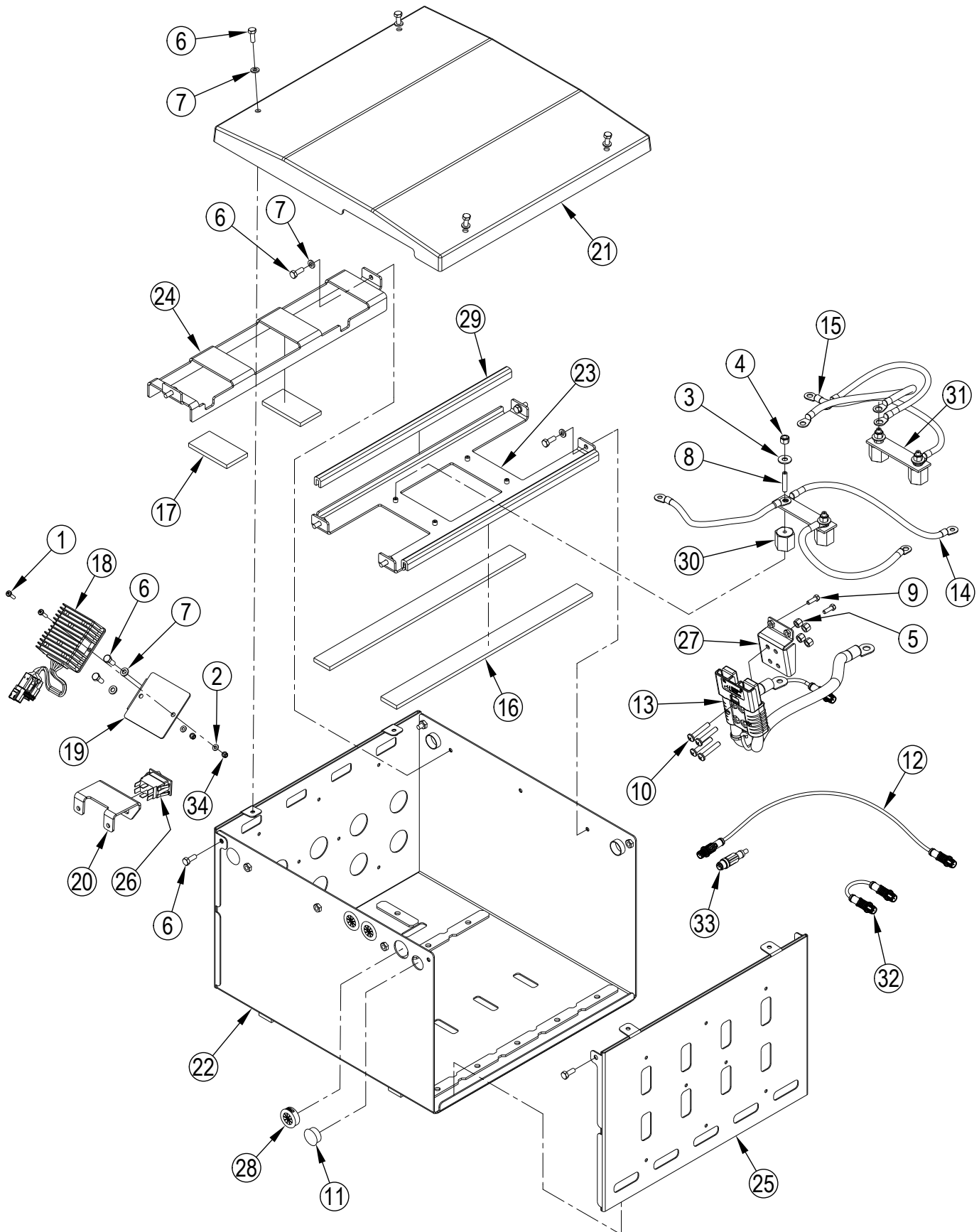
Kit	Item	Ref. No.	Qty	Description
K1	1#		1	Nut, Hex W/ Shprf 1/4-20
	2#	56125019	1	Ham Assy-Power-Battery
	3#	41217A	3	Cable, Battery Series
	4#	56104768	1	Fuse-100 Amp F1
	5#	56115433	1	Holder-Fuse
	6#	56115434	1	Boot-Fuse Holder
	7#	56394699	1	Bracket-Power Cable
	8#	56003403	4	Nut-Hex Nyl Loc M6-1
	9#	56003840	2	Scr-Hex Loc Ss M5-0.8 X 16mm
	10#	56003950	4	Scr-Pan Phil Ss M6-1 X35mm
	11#	56394505	1	Spacer-Battery-15.0x0.4x2.0
	12#	56104105	1	Battery Tray

Service Kits

K1	56122717	1	Electrical Hardware Kit
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= Revised or new since last update

LITHIUM ION BATTERY SYSTEM AFTER SERIAL NUMBER WITH LITHIUM ION BATTERIES

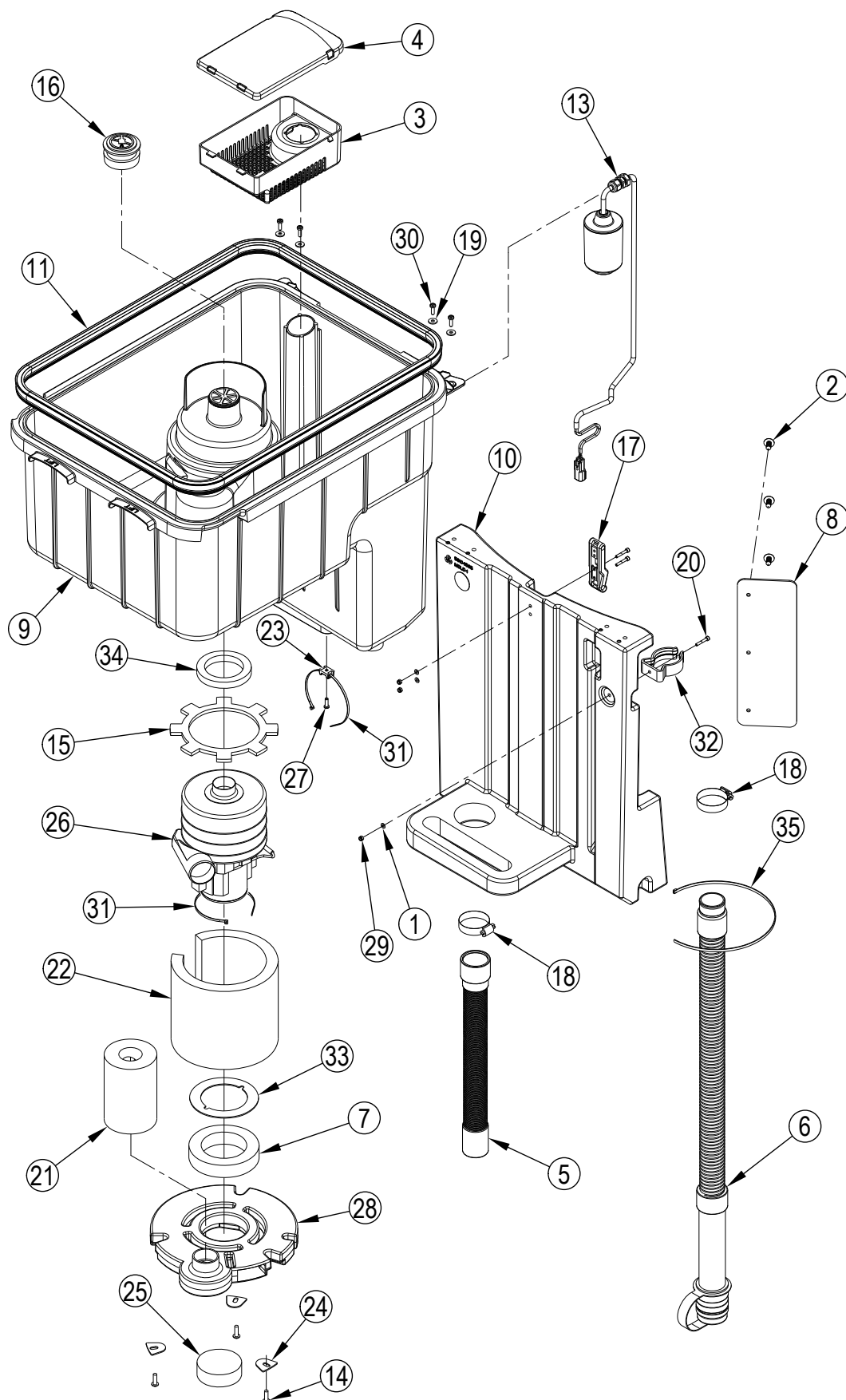


LITHIUM ION BATTERY SYSTEM AFTER SERIAL NUMBER WITH LITHIUM ION BATTERIES

Kit	Item	Ref. No.	Qty	Description
	1#	964002	2	Screw, M4-.7x16mm Ph
	2#	33005911	2	Washer Plain M4x9 Iso7089
	3#	56001906	4	Wsh, Flt Std 1/4
	4#	56002708	4	Nut, Hex Nyl Loc 1/4-20
	5#	56003426	4	Nut, Hex Nyl Loc Ss M6-1
	6#	56003441	16	Scr, Hex Loc Metric
	7#	56003638	12	Wsh, Flt Ss 6mm
	8#	56003782	4	Scr, Soc Set Loc 1/4-20 X 1.25 Zinc Plated
	9#	56003840	2	Scr-Hex Loc Ss M5-0.8 X 16mm
	10#	56003950	4	Scr-Pan Phil Ss M6-1 X35mm
	11#	2-00-06574	4	Cap, .875" Dia.
	12#	56125014	1	Cable Assy-Control-0.5m Long
	13#	56125017	1	Ham Assy-Control/Power-Batt
	14#	56125020	3	Cable Assy-Batt To Busbar-Neg
	15#	56125021	3	Cable Assy-Batt To Busbar-Pos
	16#	56125030	2	Foam-Vibration-395x32mm
	17#	56125031	2	Foam-Vibration-77x42mm
	18#	56125038	1	Converter-Dc/Dc-24v
	19#	56125039	1	Bracket-Regulator
	20#	56125040	1	Bracket-Switch
	21#	56125065	1	Cover-Battery Box-Sc50
	22#	56125068	1	Battery Box Base Weldment
	23#	56125070	1	Battery Box Brace Assembly
	24#	56125071	1	Retainer-Battery Box
	25#	56125075	2	Side Cover Weldment
	26#	56381824	1	Switch Rocker Dpdt On-On
	27#	56394699	1	Bracket-Power Cable
	28#	56394795	3	Grommet-Expandable-20mm
	29#	56413724	2	Trim-Edge-.18x15.18
	30#	56469858	4	Electrical Mount
	31#	56510259	2	Bus Bar-Ground
	32#	106445009	1	Cable Assy. Control
	33#	106470002	1	Termination Resistor
	34#	1455743000	2	Nut Lock Hex M4 Low Iso10511

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RECOVERY SYSTEM



RECOVERY SYSTEM

Kit	Item	Ref. No.	Qty	Description
K1,K3,K6	1		3	Washer, Flat 4.3x9
K6	2		3	Rivet, Nylon Tree Push-In (.25)
K2	3		1	Debris Cage
K2	4		1	Debris Tray Cover
	5	56122748	1	Vac Hose Assy-Modified
	6	56104285	1	Drain Hose
	7		1	Vacuum Motor Support Gasket
	8	56104443	1	Guard-Splash-4x12-Poly
	9	56104561	1	Recovery Tank
	10	56104565	1	Panel-Back
	11	56104568	1	Gasket-Recovery Tank
	[12]	56104571	1	Jumper Harness
K7	13		1	Switch-Mechanical-Float-120v S6
K6	14		3	Screw M6x20 Wn1451 Black Zn
K4	15	56264103	1	Gasket, Vacuum Motor
	16	56315099	1	Screen, Fan Inlet
K1	17		1	Latch, Draw
K6	18	1450543000	2	Clamp, Hose 14/32-52
K6	19		4	Washer Plain M5x15 Ss Iso7093
K1,K3	20		3	Screw M4x25 Cap Hd Hex Sock Iso4762
K6				
K5	21		1	Insulation Tube
K5	22		1	Panel, Acoustic Insulation
K6	23		1	Flat Tie Holder
K6	24		3	Plate Cover
	25	56344168	1	Filter
K4	26#		1	Vacuum Motor 3 Stage 24v M5,F3 TSB-FC-2021-011
	*	9098716000	1	Carbon Brush Set of 2
K6	27		1	Thread Rolling Scr 5x16
	28	9100001246	1	Cover Vacuum Motor
K1,K3,K6	29		3	Nut, Hex Nyl Loc Thin M4 Ss
K6	30		4	Screw M5x16 Pan Phil Ss Iso7045
K6	31		2	Cable Tie E00549
K3,K6	32		1	Clamp, Hose D.50
	33	56104998	1	Ring-Vacuum
	34	56314760	1	Gasket, Vacuum Duct
K6	35		1	15.35 In Cable Tie Blk Nylon

Service Kits

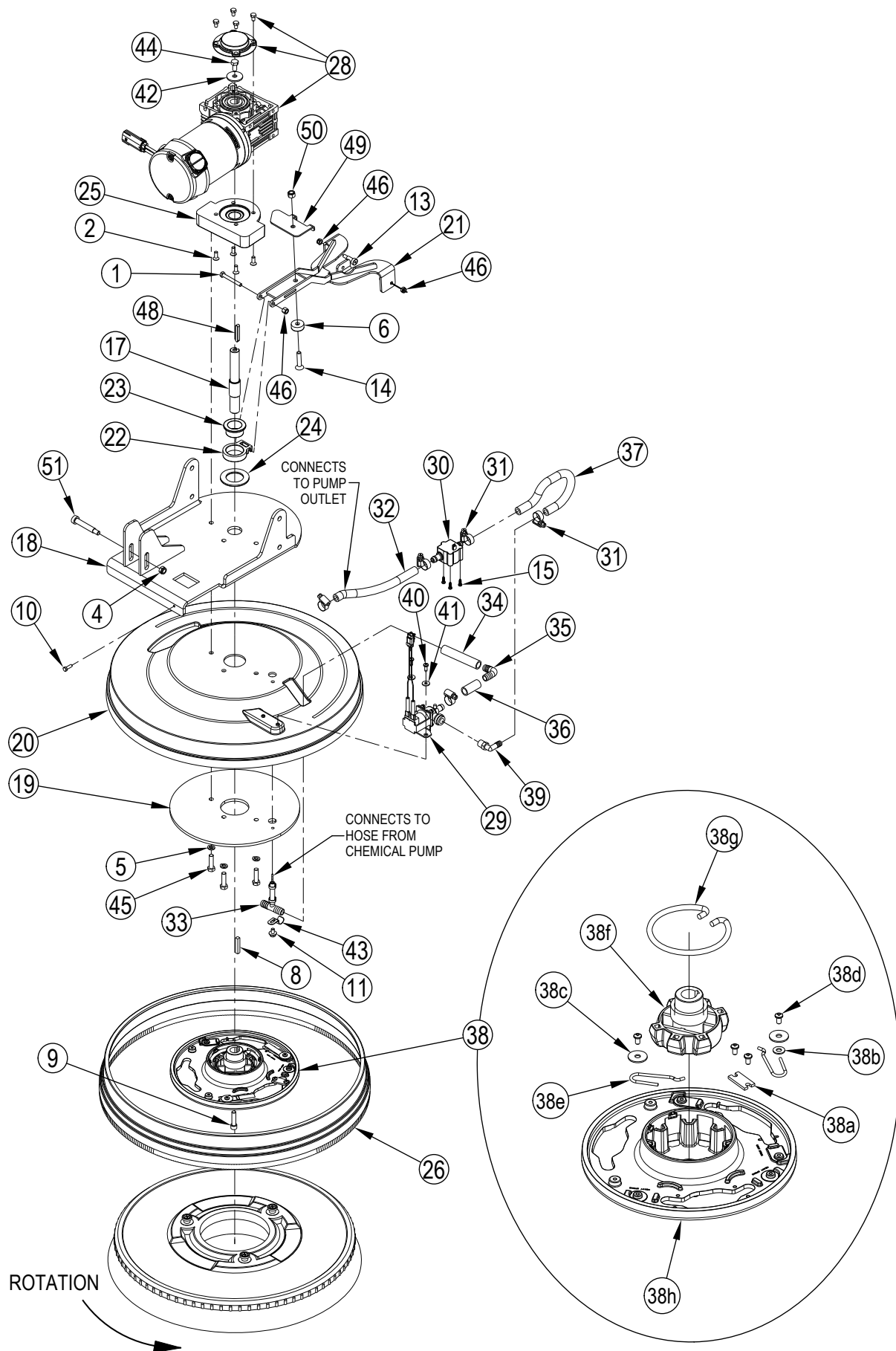
K1	56104352	1	Draw Latch Kit
K2	56104360	1	Debris Cage Kit
K3	56104362	1	Hose Clamp Kit
K4	56104363	1	Vacuum Motor Kit
K5	56104383	1	Vacuum Motor Insulation Kit
K6	56122708	1	Recovery Hardware Kit
K7	56104803	1	Float Switch Kit

= Revised or new since last update

[] = Not Shown

* = Optional, Not Included

SCRUB SYSTEM-20D



SCRUB SYSTEM-20D

Kit	Item	Ref. No.	Qty	Description
K2	1		1	Screw M6x50 Hex Hd F/Thd Iso4017
K2	2		4	Screw Flat Socket Head M6x16.0
K2,K4	4		1	Nut, Hex Nyl Loc Thin M8
K2	5		3	Washer, Split Lock D.8
K2	6		1	Spacer-Glide
K2	8		1	Key, Square .25 X 1.44
K2	9		1	Scr-Soc Hd 5/16-18 X 1.25 Zinc
K2	10		1	Scr-Hex Loc Ss M5-0.8 X 16mm
K2	11		1	Scr-Hex Thd Form M6 X 10mm
K2	13		2	Scr-Soc Shd M8x16mm X M6-1.00
K2	14		1	Scr Flt Soc 5/16-18 X 1.50
K2	15		3	Scr-Pan-T20-Plastite-M4x12mm
	17	56104095	1	Shaft Disc Brush Motor
	18	56104117	1	Deck Lift Plate Weldment
	19	56104120	1	Lower Deck Plate
	20	56104121	1	Brush Housing
	21	56104126	1	Squeegee Link Weldment
K1	22		1	Squeegee Pivot Block
K1	23		1	Bearing Flange
K1	24		1	Squeegee Pivot Washer
	25	56104137	1	Spacer Motor
	26	56104240	1	Skirt Brush
	28#	56104549	1	Motor-24vdc-140rpm-.50hp
				(A-F) M2,F4 TSB-FC-2021-011
	29	56104572	1	Solenoid Valve Assy L1
	30	56104592	1	Meter-Flow-24v Max E1
K3	31		5	Clamp- Hose Sae #6
K3	32		1	Tube 3/8x5/8x8.50 E00169
K3	33		1	Tee Assembly
K3	34		1	Hose-Pvc-.50x3.50
K3	35		1	Barbed Elbow 90
K3	36		1	Hose, Pvc Clear
K3	37		1	Hose Spiral 3/8 E00603

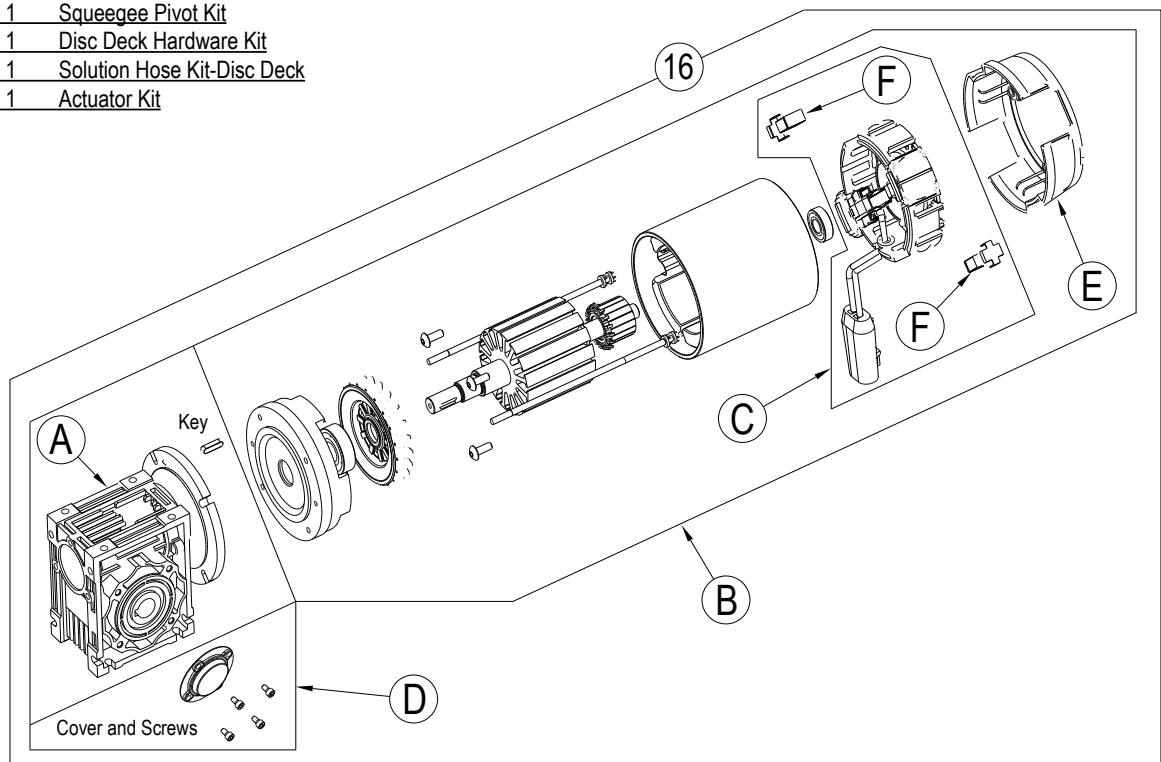
Service Kits

K1	56104344	1	Squeegee Pivot Kit
K2	56104821	1	Disc Deck Hardware Kit
K3	56104823	1	Solution Hose Kit-Disc Deck
K4	56104579	1	Actuator Kit

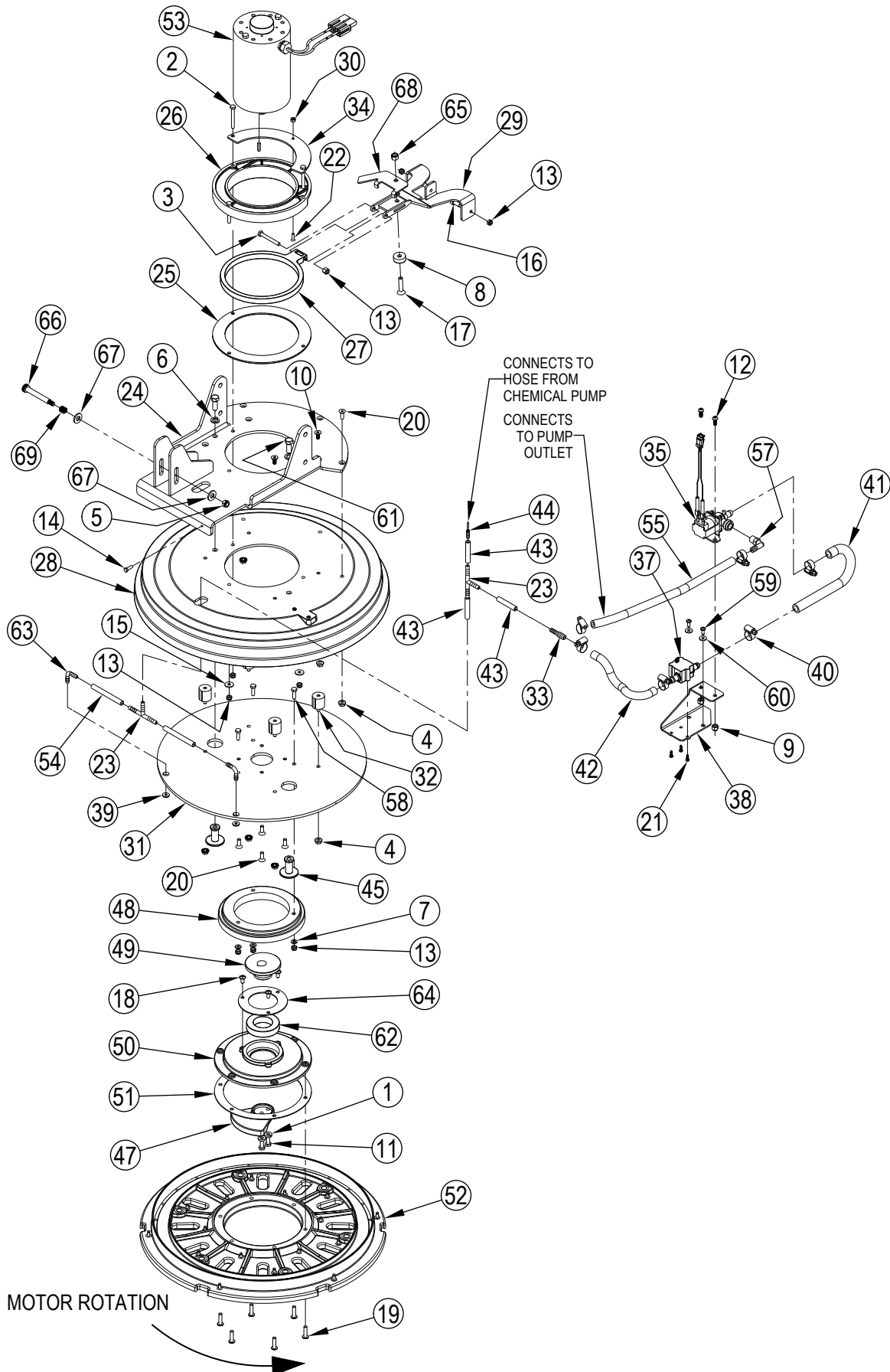
Kit	Item	Ref. No.	Qty	Description
	38	56601733	1	Brush Plate Assy-Ccw
	38a	56366455	1	Plate, Stop
	38b	980643	1	Washer, 7/16 Od x .036 Thk
	38c	56009002	2	Wsh, Flt .266 X .906 X .060
	38d	56009247	4	Scr. Pan Phil Plastite 10-14 X .38
	38e	56109653	2	Spring Retainer
	38f	56112521	1	Gimbal-Collar Assembly
	38g	56601056	1	Spring, Brush Holder
	38h	56601118	1	Brush Plate
K3	39		1	Barb. 90 Elbow 3/8 X 1/4npt
K2	40		2	Scr. Pan Hd Thd Form
K2	41		2	Washer Plain M5x15 Ss Iso7093
K2	42		1	Washer Plain M8x32x2.5 Iso7093
	43	9095483000	1	Hose Holder
K2	44		1	Screw M8x16 Hex Hd Iso4017 Scotch-Grip
K2	45		3	Screw M8x30 Hex Hd F/Thd Ss Iso4017
K2	46		3	Nut Hex Nyl Loc Ss M6
K2	48		1	Key
	49	56122760	1	Stop-Squeegee Rotation-Disc
K2	50		1	Nut Hex Nyl Loc 5/16-18
K2,K4	51		1	Scr-Soc Shd M10x50mm X M8-1.25

Kit	Item	Ref. No.	Qty	Description
	A	56104297	1	Motovario Gearbox 15/1
	B	56104581	1	Motor
	C	56104775	1	Brush Housing Assembly
	D	56601588	1	Cover And Screws
	E	56601508	1	Plastic Cover
	F	56601534	1	Carbon Brushes (2)

= Revised or new since last update



SCRUB SYSTEM-REV



SCRUB SYSTEM-REV

Kit	Item	Ref. No.	Qty	Description
K1	1		2	Lk Wash Hel..25scr Med Sec S/S
K1,K2	2		1	Screw M6x45 Hex Hd F/Thd Iso4017
K1	3		3	Screw M6x50 Hex Hd F/Thd Iso4017
K1,K3	4		9	Nut Hex Serrated
K1,K5	5		1	Nut, Hex Nyl Loc Thin M8
K1	6		2	Washer, Split Lock D.10
K1	7		3	Washer, Flat 6.4x12.5 S.S.
K1	8		1	Spacer-Glide
K1	9		2	Nut-Hex Nyl Loc Ss 1/4-20
K1,K3	10		4	Screw .25-20x.625 Flt Soc Zinc
K1	11		2	Scr-Hex Hd Loc 1/4-20x.75
K1	12		2	Scr-1/4-20x.625-Btn Sckt Ss
K1,K2,K4	13		9	Nut Hex Nyl Loc Ss M6
K1	14		1	Scr-Hex Loc Ss M5-0.8 X 16mm
K1,K2	15		2	Washer Plain M6x18 Ss Iso7093
K1	16		2	Scr-Soc Shd M8x16mm X M6-1.00
K1	17	56002559	1	Scr Flt Soc 5/16-18 X 1.50
K1	18		3	Scr-Pan Phil Loc Ss 1/4-20 X .50
K1	19		6	Scr. Pan Phil. Ss 1/4-20-1.00
K1	20		9	Scr-Flt Soc Ss 1/4-20 X .75
K1	21		3	Scr-Pan-T20-Plastite-M4x12mm
K1,K2	22		1	Scr Flt Phil 8-32 X .62
K4	23		2	Tee 1/4 Hose Barb
	24	56122763	1	Rev Deck Plate Weldment
K2	25		1	Washer Squeegee
K2	26		1	Bushing Squeegee
K2	27		1	Plate Pivot
	28	56104202	1	Housing Rev
	29	56104203	1	Squeegee Link Weldment
K1,K2	30		1	Nut Hex Nyl Loc 8-32
	31	56104244	1	Plate Motor
K3	32		4	Isolator-40 Duro 1/4-20
K4	33		1	Reducer Barb
K2	34		1	Brkt-Squeegee Bushing
	35	56104572	1	Solenoid Valve Assy L2
	[36]	56104585	1	Connector-Adaptor
	37	56104592	1	Meter-Flow-24v Max E2

Kit	Item	Ref. No.	Qty	Description
	38	56104976	1	Bracket-Valve
K1,K4	39		2	Washer Sealing E00256
K1,K4	40		6	Clamp- Hose Sae #6
K4	41		1	Hose-Spiral-.50x.748x10.00
K4	42		1	Tube E00169
K4	43		3	Hose.Chem Resistant, 2"
K4	44		1	Reducer.Barb
K1	45		2	Stud Stabilizer Short
	47	56390002	1	Weight Counter
	48	56390011	1	Shield Splash
	49	56390021	1	Eccentric
	50	56390027	1	Driver Motor
	51	56390038	1	Gasket Driver
	52	56390044	1	Pad Driver Assy
	53	56390072	1	Motor 24vdc M2
	*	56412287	1	Carbon Brush Set of 2
K4	54		2	Hose-Clear Pvc-.25x.375x3.5l
K4	55		1	Tube, Vinyl
K4	57		1	Barb, 90 Elbow 3/8 X 1/4npt
K1	58		3	Screw M6x20 Hex Hd F/Thd Ss
K1	59		2	Scr. Pan Hd Thd Form
K1	60		2	Washer Plain M5x15 Ss Iso7093
K1	61		2	Screw 3/8-24 X 1 Hex Head
	62	50736A	1	Bearing
K4	63		2	Barbed Elbow 90
	64	61775A	1	Retainer, Bearing
K1	65		1	Nut Hex Nyl Loc 5/16-18
K1,K5,K6	66		1	Scr-Sckt-M8-1.25x10x65 Shldr
K1,K5,K6	67		2	Washer 22.0x10.5x2.4 Acetal
	68	56122761	1	Stop-Squeegee Rotation-Rev
K1,K5,K6	69		1	Spring Com .48x1.50 E00453

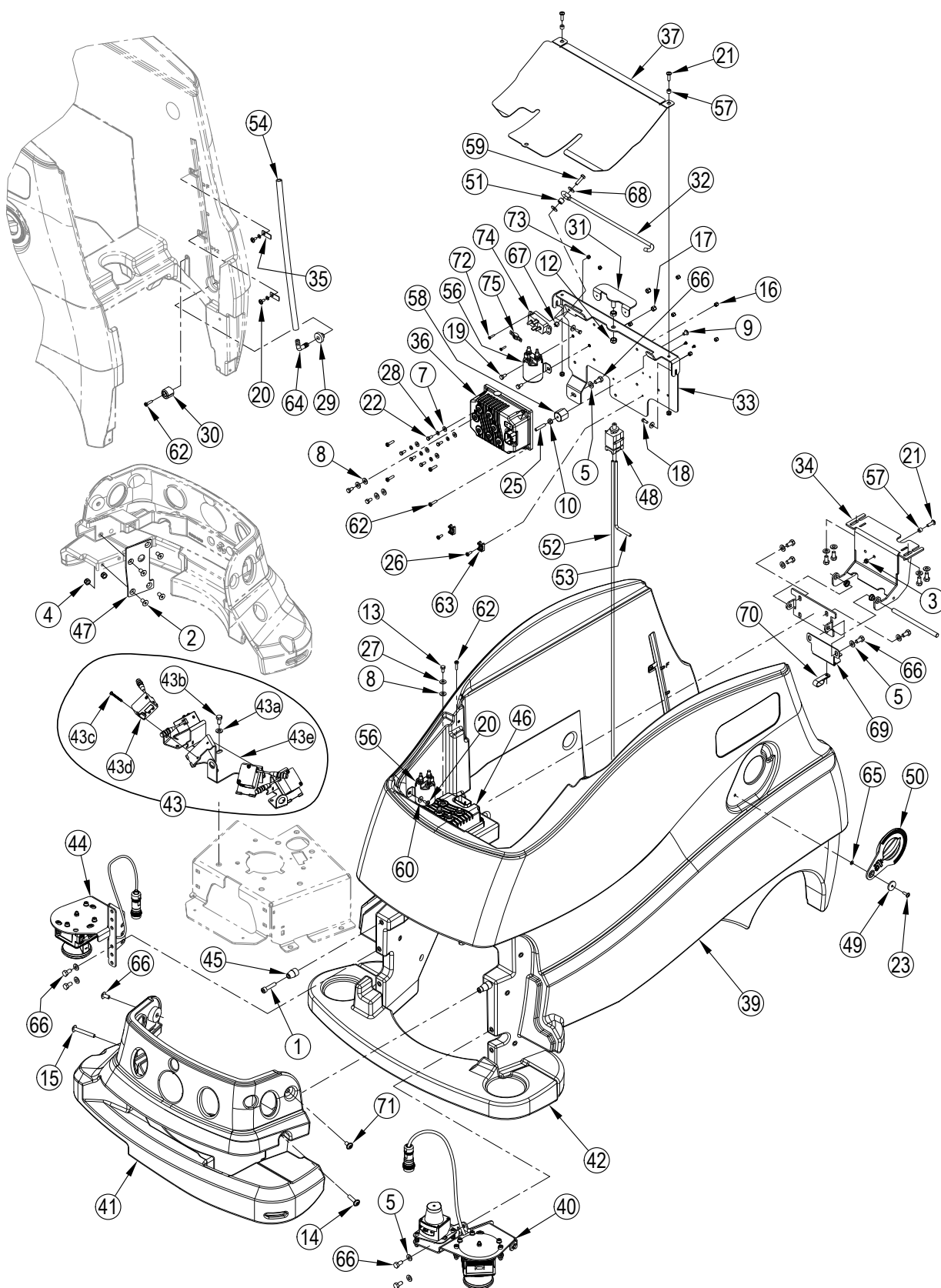
Service Kits

K1	56122716	1	REV Deck Hardware Kit
K2	56104368	1	Squeegee Pivot REV Kit
K3	56104369	1	Isolator Kit
K4	56104827	1	Solution Hose Kit REV-Deck
K5	56104579	1	Actuator Kit
K6	56122714	1	Solution Hardware Kit

[] = Not Shown

* = Optional, Not Included

SOLUTION SYSTEM-1



SOLUTION SYSTEM-1

Kit	Item	Ref. No.	Qty	Description
K6	1		2	Screw M8x35 Soc Cap Hd Ss Iso4792
K6	2		4	Vite Tspei M8x16.0
K6	3		3	Nut Hex Nyl Loc Thin M6
K6	4		2	Nut Lock Hex M8 Low Iso10511
K6	5		15	Washer Plain M8x16 Iso7089
K6	6#			DELETED
K6	7		5	Wsh, Flt Sae #10
K6	8		6	Wsh, Flt Sae 1/4
K6	9		1	Scr-Pan Phil 1/4-20 X .38
K6	10		1	Nut, Hex W/ Shprf 1/4-20
K6	11#			DELETED
K6	12		2	Nut, Hex Nyl Loc-Thin Ss 3/8-16
K6	13#		8	Scr-Hex M6-1 X 12mm
K6	14		1	Scr M8x35 Iso7380-2 Flg Loc Bl
K6	15		1	Scr M8x60 Iso7380-2 Flg Loc Bl
K6	16		4	Nut-Hex Nyl Loc M5-0.8
K6	17#		2	Nut-Hex Nyl Loc M6-1
K6	18		2	Scr-Hex Loc M5-0.8 X 5mm
K6	19#			DELETED
K6	20		4	Scr- Truss Phil Blk M5-0.8 X 12mm
K6	21		3	Scr-Pan Phil Ss M6-1 X 20mm
K6	22		5	Scr Hex Thd To Hd Ss M5-0.8x12mm
K2,K6	23		1	Scr M5x16 Iso7380-2 Flg Blk
K6	24#			DELETED
K6	25#		1	Stud
K6	26#		2	Scr. Pan Phil Thd Form 10-24 X .50
K6	27		6	Wsh, Int Shprf 1/4
K6	28		5	Wsh Int Shprf 5mm
K6	29		1	Grommet
K6	30		2	Pivot Block
	31	56104391	1	Adjustment Pad
	32	56104409	1	Prop Rod
	33#	56394698	1	Bracket-Tank Support
	34		1	Hinge Assembly
	34a	56104694	1	Hinge Weldment
	34b	56104206	1	Hinge Pin
	34c	56104249	1	Bearing Flange
	34d	56104208	1	Hinge Bracket
K6	35		2	Plate-Retainer-Hose
	36	56104777	1	Module-High Power
	37	56104780	1	Guard-Drip
	38#			DELETED
	39	56104900	1	Tank-Solution
	40#		1	2d Sensor Assy-Left (See Pages 36-37)
	41	56104910	1	Cover-Front
	42	56104924	1	Bumper-Front

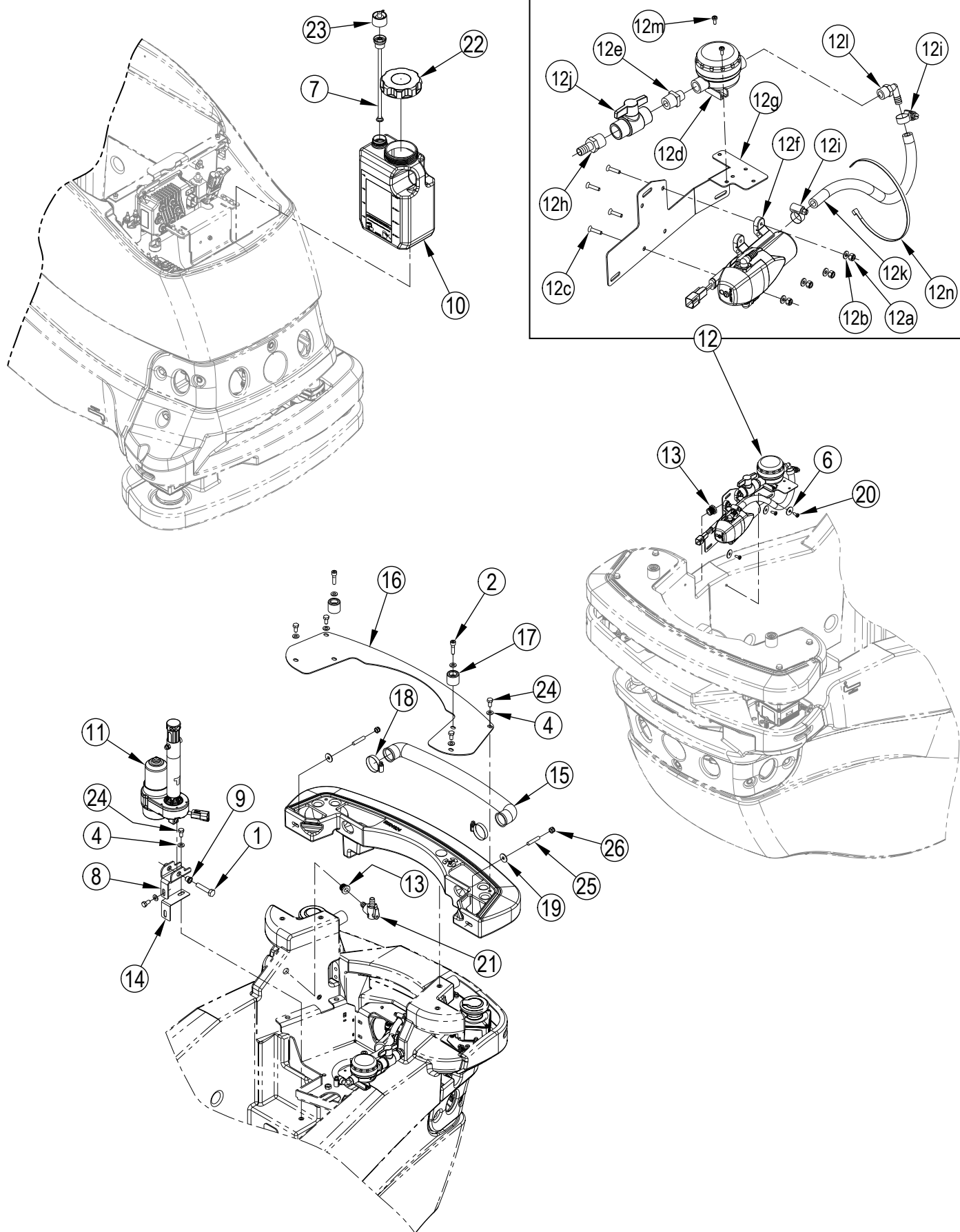
Kit	Item	Ref. No.	Qty	Description
	43#		1	Sensor Bracket Assembly
K6	43a		2	Washer Plain M8x16 Iso7089
	43b	56003178	2	Scr-Hex M8-1.25 X 16mm
K9	43c		8	Scr-Pan-Phil-M4-0.7x40mm
K9	43d		4	Sensor-Distance
	43e	56104925	1	Sensor Mount Weldment
	44#		1	2d Sensor Assy-Right (See Pages 38-39)
K6	45		2	Guide-Tapered
	46	56104970	1	Controller-Speed
	47	56104972	1	Plate-Front Cover-Support
	48	56110742	1	Pump, Detergent, 12v
K2,K6	49		1	Bushing
K2	50		1	Cap-Solution-Fill-Black
K6	51	56244941	1	Bushing
K11	52		1	Hose,Chem Resistant, 48"
K10	53		1	Hose, Chem Resistant 14"
	54	56393382	1	Hose E00552
K6	55#			DELETED
	56	56412179	2	Contact, 24 Vdc
	57	56453849	3	Bushing .26x.37x.28
K6	58		1	Electrical Mount
K6	59		1	Scr Hex Thdthd Ss M6-1.0x25mm
K6	60		2	Washer Plain M5x15 Ss Iso7093
K6	62		8	Screw M5x20 Pan Hd Phil Iso7045
K6	63		2	Flat Tie Holder
K6	64		1	Hosebarb, 90 Degree
K6	65		3	Washer Plain M5x10 Ss Iso7089
K6	66		15	Screw M8x16 Hex Hd Iso4017 Scotch-Grip
K6	67		1	Nut Hex Nyl Loc Ss M6
K6	68		2	Washer Plain M6x18 Ss Iso7093
	69	56104969	1	Brkt-Main Harness Connector
K12	70		1	Clampdouble 1/2 Od
K6	71#		2	Scr M8x16 Iso7380-2 Flg Loc Bl
	72#	56002005	2	Scr Pan Phil 6-32 X .62
	73#	56002830	2	Nut Hex Nyl Loc 6-32
	74#	56394734	1	Holder-Fuse-Midi
	75#	56111123	1	Fuse 100a

Service Kits

K1	56104811	1	Solution Drain Kit
K2	56104815	1	Solution Cap Kit
K3	56104579	1	Actuator Kit
K4	56122702	1	Tip Pad Kit
K5	56104830	1	Pump Filter And Valve Kit
K6	56122714	1	Solution Hardware Kit
K9	56122703	1	Distance Sensor Kit
K10	56104823	1	Solution Hose Kit-Disc Deck
K11	56104827	1	Solution Hose Kit-REV Deck
K12	56122717	1	Electrical Hardware Kit

= Revised or new since last update

SOLUTION SYSTEM-2



SOLUTION SYSTEM-2

Kit	Item	Ref. No.	Qty	Description
K3,K6	1		1	Screw M10x50 Hex Hd F/Thd Iso4017
K4,K6	2		2	Screw M8x30 Cap Hd Hex Sock Ss Iso4762
K4,K6	4		8	Washer Plain M8x16 Iso7089
K6	6		3	Wsh-Fit Ss .266 X .906 X .060
	7	56104189	1	Insert-Dry Break
	8	56104234	1	Actuator Brkt
K3,K6	9		1	Spacer Actuator
	10	56104408	1	Chemical Bottle Assy
K3	11#		1	Actuator Assembly M7,F5
				TSB-FC-2021-011 NOTE 1
	12		1	Pump Assembly-Solution M11
	12a	56002836	4	Nut-Hex Nyl Loc Ss 10-24
	12b	56002916	4	Wsh-Fit Sae Ss #10
	12c	56003630	4	Scr-Fit Phil Ss 10-24 X 0.88
K5	12d		1	Filter-Solution-3/8fptx3/8fpt
K5	12e		1	Pipe Reducer-3/8 Mpt To 1/2 Mpt
	12f	56104588	1	Pump-24vdc
	[]	56104726	1	Port Kit-Pump-3/8 QD Elbows
	12g	56104630	1	Bracket-Pump Support
K5	12h		1	Barb. Adapter 1/2 X 1/2 Npt
K10,K11	12i		2	Clamp- Hose Sae #6
K5	12j		1	Ball Valve
K10,K11	12k		1	Tube, Vinyl
K5,K10,K11	12l		1	Barb. 90 Elbow 3/8 X 3/8npt
K6	12m		2	Screw M4x10 Pan Phil Ss Iso7045
K10,K11	12n		1	Cable Tie E00549
K1,K5,K6	13		2	Grommet-Seal
	14	56104856	1	Gasket-Actuator Bracket
	15	56104942	1	Hose-Crossover
	16	56104971	1	Plate-Bumper
K4	17		2	Pad-Tip
K6	18		2	Clamp- Hose Sae #20
K6,K8	19		2	Washer 8x24x2 Uni6593 Ss
K6	20		3	Screw M5x12 Pan Hd Phil Ss Iso7045
K1,K6	21		1	Valve Elbow
	22	9100001512	1	Cap Plastic F Chemical Tank
	23	56315523	1	Cap Dry Break 1/8 Barb
K6	24#		6	Screw M8x16 Hex Hd Iso4017 Scotch-Grip
	25#	56004189	2	Stud Ss18-8 M8-1.25x40
	26#	1450452000	2	Nut Hex Selflocking M8

Service Kits

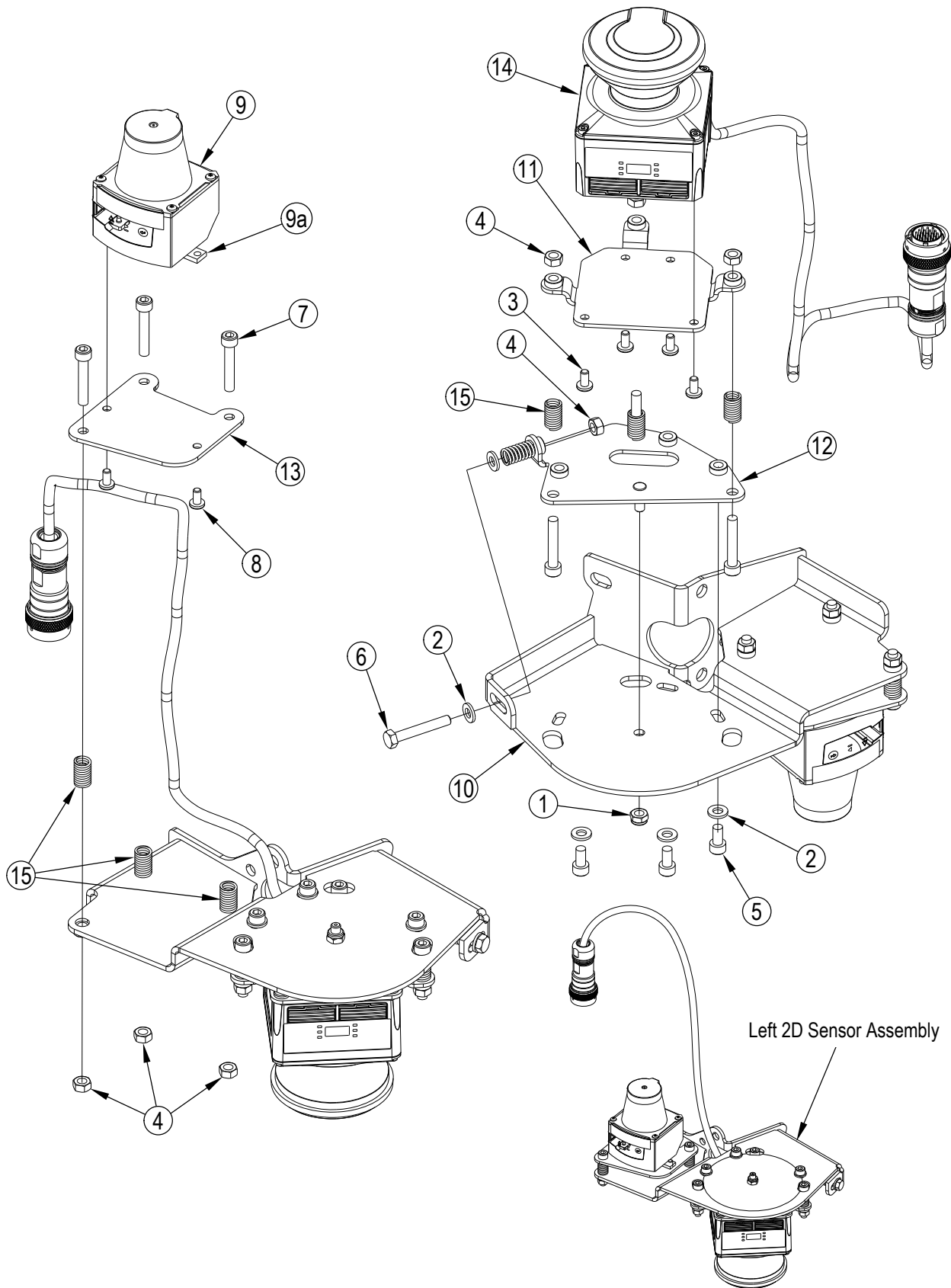
K1	56104811	1	Solution Drain Kit
K2	56104815	1	Solution Cap Kit
K3	56104579	1	Actuator Kit
K4	56122702	1	Tip Pad Kit
K5	56104830	1	Pump Filter And Valve Kit
K6	56122714	1	Solution Hardware Kit
K9	56122703	1	Distance Sensor Kit
K10	56104823	1	Solution Hose Kit-Disc Deck
K11	56104827	1	Solution Hose Kit-REV Deck

[] = Not Shown

= Revised or new since last update

NOTE 1: Item 11 Is also referred to as **DECK ACTUATOR**

2D SENSOR ASSEMBLY-LEFT



2D SENSOR ASSEMBLY-LEFT

Kit	Item	Ref. No.	Qty	Description
K7	1		1	Nut Hex Nyl Loc Thin M6
K7	2		5	Washer Plain M6x12 Ss Iso7089
K13	3		4	Scr-Pan Phil M5-0.8 X 10mm
K7	4		7	Nut-Hex M6-1
K7	5		3	Scr Soc Thd To Hd M6 X 12.0
K7	6		1	Scr-Hex Ss M6-1 X 40mm
K7	7		6	Scr Soc M6-1.0x35
K12	8		2	Scr. Pan Phil Thd Form 10-24 X .38
K12	9		1	2d Sensor NOTE 1
K15	9a		1	Mounting Feet-Sensor 2D
K7	10		1	2d Sensor Bracket Weldment
K7	11		1	Bracket-Laser Mount
K7	12		1	Bracket-Laser Adjust
K7	13		1	Plate-Mounting-2d Laser
K13	14		1	2d Sensor-Left-Configured-A50 NOTE 2
K7	15		7	Spring Comp E00453

Service Kits

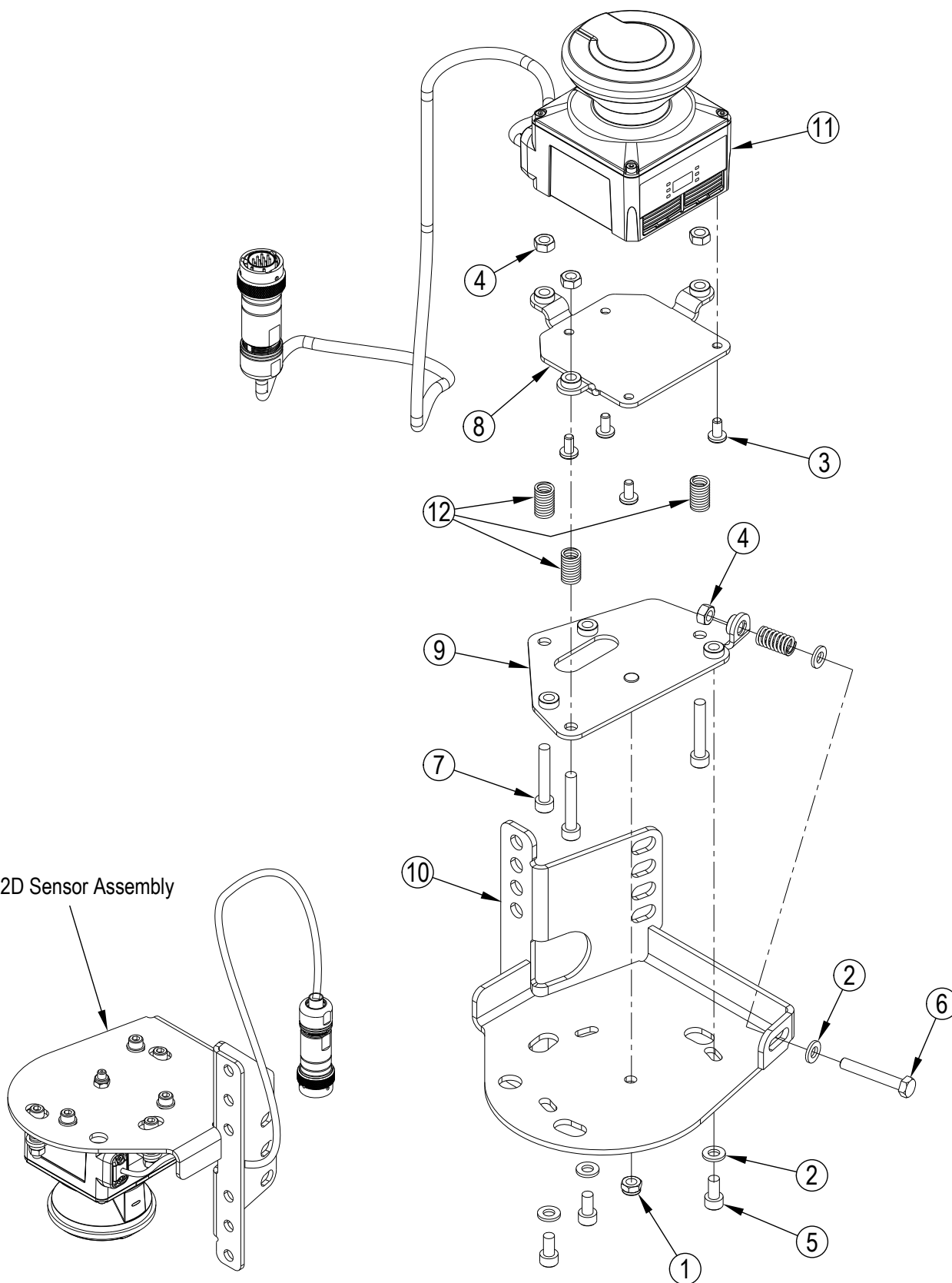
K7	56122700	1	Safety Sensor Mtg Kit-Left
K12	56122704	1	Mapping Sensor Kit
K13	56122705	1	Safety Sensor Kit-Left
K15	56104797	1	Mounting Feet-Sensor 2D

NOTE 1: Item 9 Is also referred to as **2D MAPPING SENSOR**

NOTE 2: Item 14 Is also referred to as **SAFETY SENSOR**

2D SENSOR ASSEMBLY-RIGHT

Right 2D Sensor Assembly



2D SENSOR ASSEMBLY-RIGHT

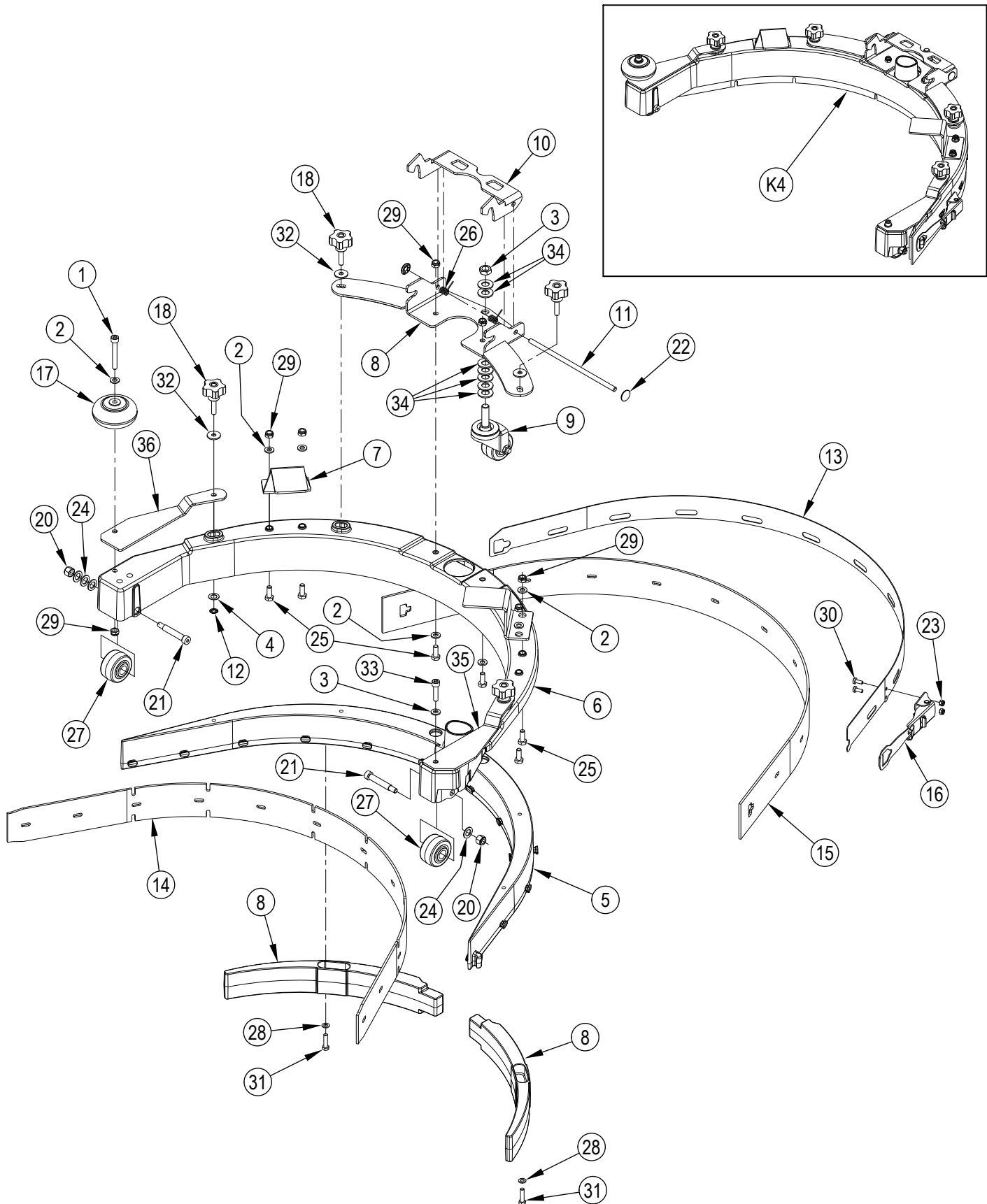
Kit	Item	Ref. No.	Qty	Description
K8	1		1	Nut Hex Nyl Loc Thin M6
K8	2		5	Washer Plain M6x12 Ss Iso7089
K14	3		4	Scr-Pan Phil M5-0.8 X 10mm
K8	4		4	Nut-Hex M6-1
K8	5		3	Scr Soc Thd To Hd M6 X 12.0
K8	6		1	Scr-Hex Ss M6-1 X 40mm
K8	7		3	Scr Soc M6-1.0x35
K8	8		1	Bracket-Laser Mount
K8	9		1	Bracket-Sensor Mount
K8	10		1	Right Sensor Mount Bracket Weldt
K14	11		1	2d Sensor-Right-Configured-A50 NOTE 1
K8	12		4	Spring Comp E00453

Service Kits

K8	56122701	1	Safety Sensor Mtg Kit-Right
K14	56122706	1	Safety Sensor Kit-Right

NOTE 1: Item 11 Is also referred to as **SAFETY SENSOR**

SQUEEGEE SYSTEM



SQUEEGEE SYSTEM

Kit	Item	Ref. No.	Qty	Description
K4,K6	1		1	Screw M6x45 Cap Hd Hex Sock Iso4762
K3,K4,K6	2		8	Washer M6 Uni6592 Ss
K4,K6	3		1	Nut-Hex Jam Ss 3/8-16
K4,K5	4		4	Wsh-Fit .328 X .563 X .031
K4	5		1	Squeegee Casting
K4	6	56104989	1	Cover-Squeegee
K4	7		2	Squeegee Lift Bracket
K4,K8	8		2	Squeegee Plate
K4,K6	9	56104231	1	Caster Wheel
K4,K8	10		1	Squeegee Mount Brkt
K4,K8	11		1	Pivot Pin
K4,K5	12		4	Retaining Ring
K4,K7	13		1	Strap-Squeegee Rear
K2,K4	14		1	Blade-Squeegee-Linatex-Front NOTE 1
K1	*		1	Blade-Squeegee Pu Front NOTE 1
K2,K4	15		1	Blade-Squeegee-Linatex-Rear NOTE 1
K1	*		1	Blade-Squeegee Pu Rear NOTE 1
K4,K7	16		1	Latch-T Tab Assy
K4,K6	17		1	Roller Wheel
K4,K5	18		4	Knob-M6-1.0 X 30mm Long Stud
K4,K8	19		1	Squeegee Bracket Weldment
K4,K6	20		2	Nut Hex Nyl Loc Ss 1/4-20
K4,K6	21		2	Bolt Shoulder 5/16 X 1 1/2
K4,K8	22		2	Pin Cover-6mm
K4,K7	23		2	Nut, Hex Nyl Loc Thin M4 Ss
K4,K6	24		4	Spacer .625x.375x.047 Stl/Znc
K3,K4	25		6	Scr Hex Ss M6-1.00x16mm
K4,K8	26		2	Spring Acc. Lid Lh
K4,K6	27		2	Wheel Front
K3,K4	28		2	Washer, Flat 5.3x10x1 Ss
K3,K4,K6	29		7	Nut Hex Nyl Loc Ss M6
K4,K7	30		2	Screw M4x10 Pan Phil Ss Iso7045
K3,K4	31		2	Screw M5x20 Hex Hd F/Thd SS Iso4017
K4,K5	32#		4	Wsh Fit Std Ss 10
K4	33#		1	Scr-Soc-Mech Zinc-12.9-M6-1x25
K4,K6	34		7	Wsh Fit Sae Ss 3/8
K4	35	56104987	1	Bracket-Squeegee-Left
K4	36	56104988	1	Bracket-Squeegee-Right

Service Kits

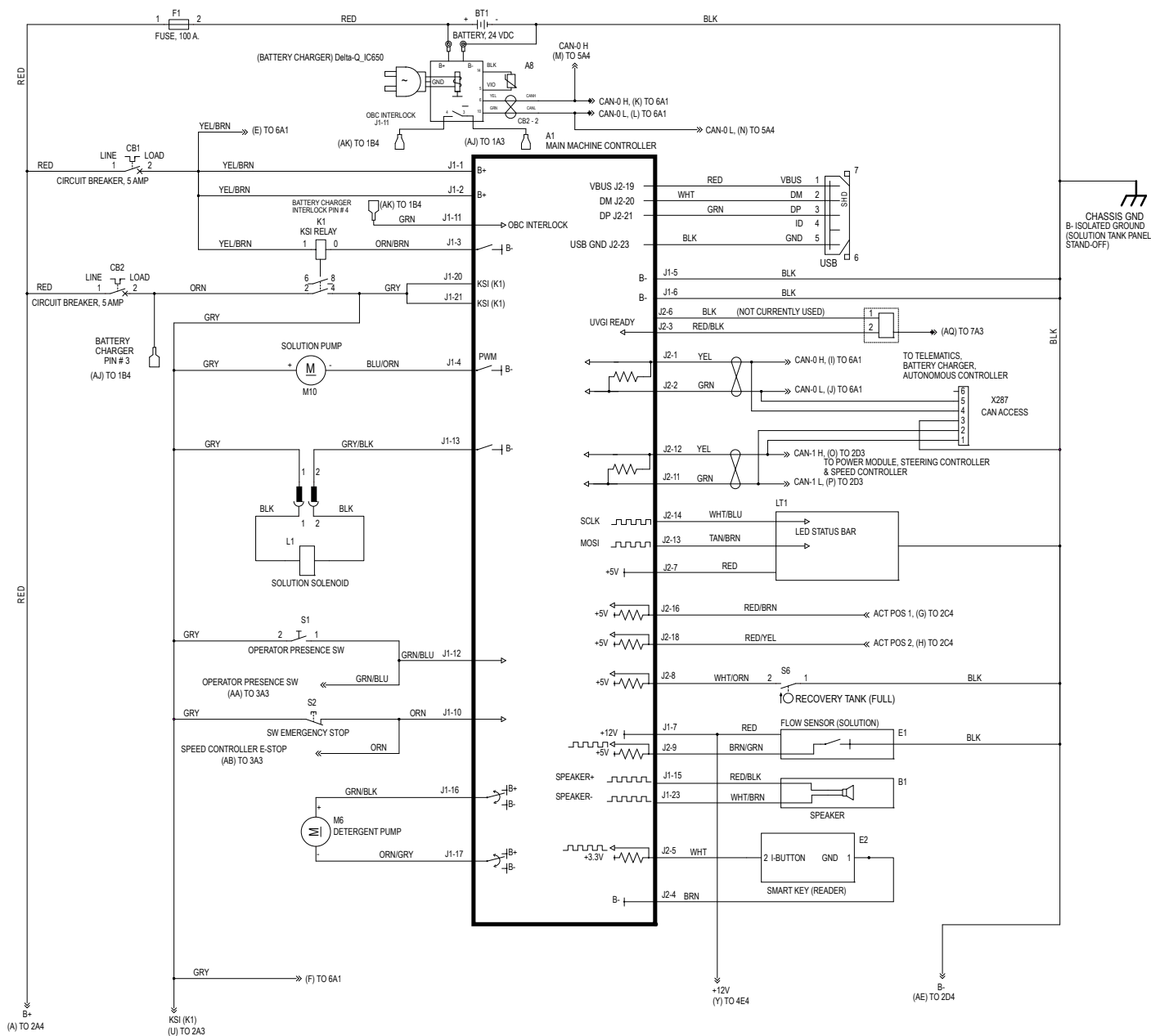
K1	56104325	1	Squeegee Kit - Blade PU
K2	56104483	1	Squeegee Kit - Blade Linatex
K3	56104327	1	Squeegee Hardware Kit
K4	56104863	1	Squeegee Assy Kit NOTE 2
K5	56122798	1	Squeegee Knobs Kit
K6	56122711	1	Squeegee Wheels Kit
K7	56104386	1	Squeegee Strap Kit
K8	56104387	1	Squeegee Mount Brkt Kit

= Revised or new since last update

* = Optional, Not Included

NOTE 1: All squeegee blade kits include both front and rear squeegee blades.**NOTE 2:** Most of the squeegee components are not available for sale separately. If you need to replace the Squeegee System please order the Service Kit (**K4**) 56104863 Squeegee Assy Kit for complete Squeegee System.

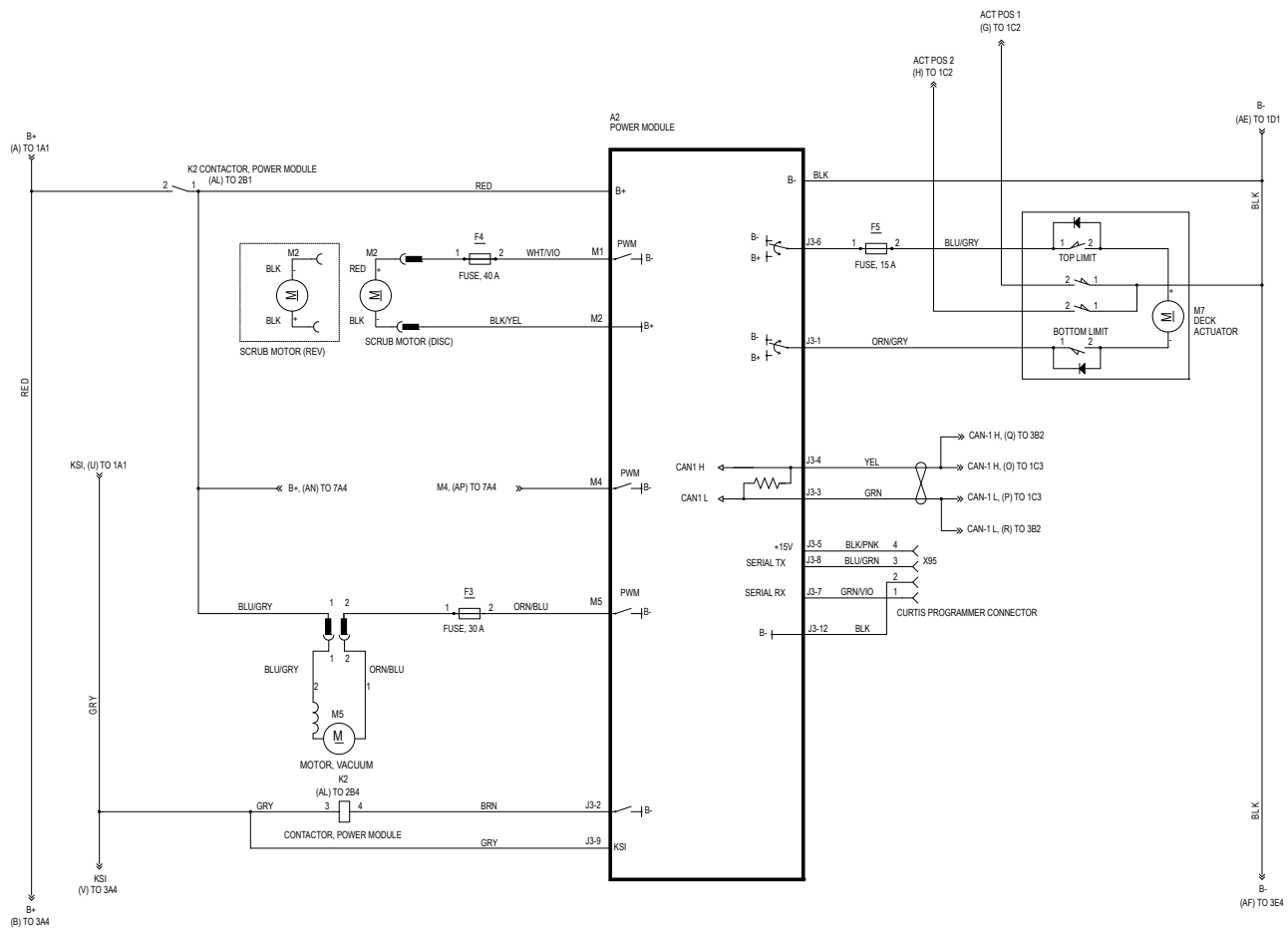
LADDER DIAGRAM-1



LADDER DIAGRAM-1

<u>Kit</u>	<u>Item</u>	<u>Ref. No.</u>	<u>Qty</u>	<u>Description</u>
	A1	56104834	1	User Interface Kit
	A7	56104837	1	Telematic Module
	A8	56383856	1	Charger-Onboard 24v 650w
	B1	56104828	1	Speaker Kit
	BT1	56112545	1	Battery
	CB1	56315255	2	Circuit Breaker, 5 Amp
	CB2	56315255	2	Circuit Breaker, 5 Amp
	LT1	56104802	1	Light Bar Kit
	E1	56104592	1	Meter-Flow-24v Max
	E2	56116477	1	Ibutton-Probe
	F1	56104768	1	Fuse-100 Amp
	K1	40914A	1	Relay
	L1	56104572	1	Solenoid Valve Assy
	M6	56110742	1	Pump, Detergent, 12v
	M10		1	Pump Assembly-Solution
	S1	56104574	1	Switch Harness
	S2	56104574	1	Switch Harness
	S6	56104803	1	Float Switch Kit

LADDER DIAGRAM-2

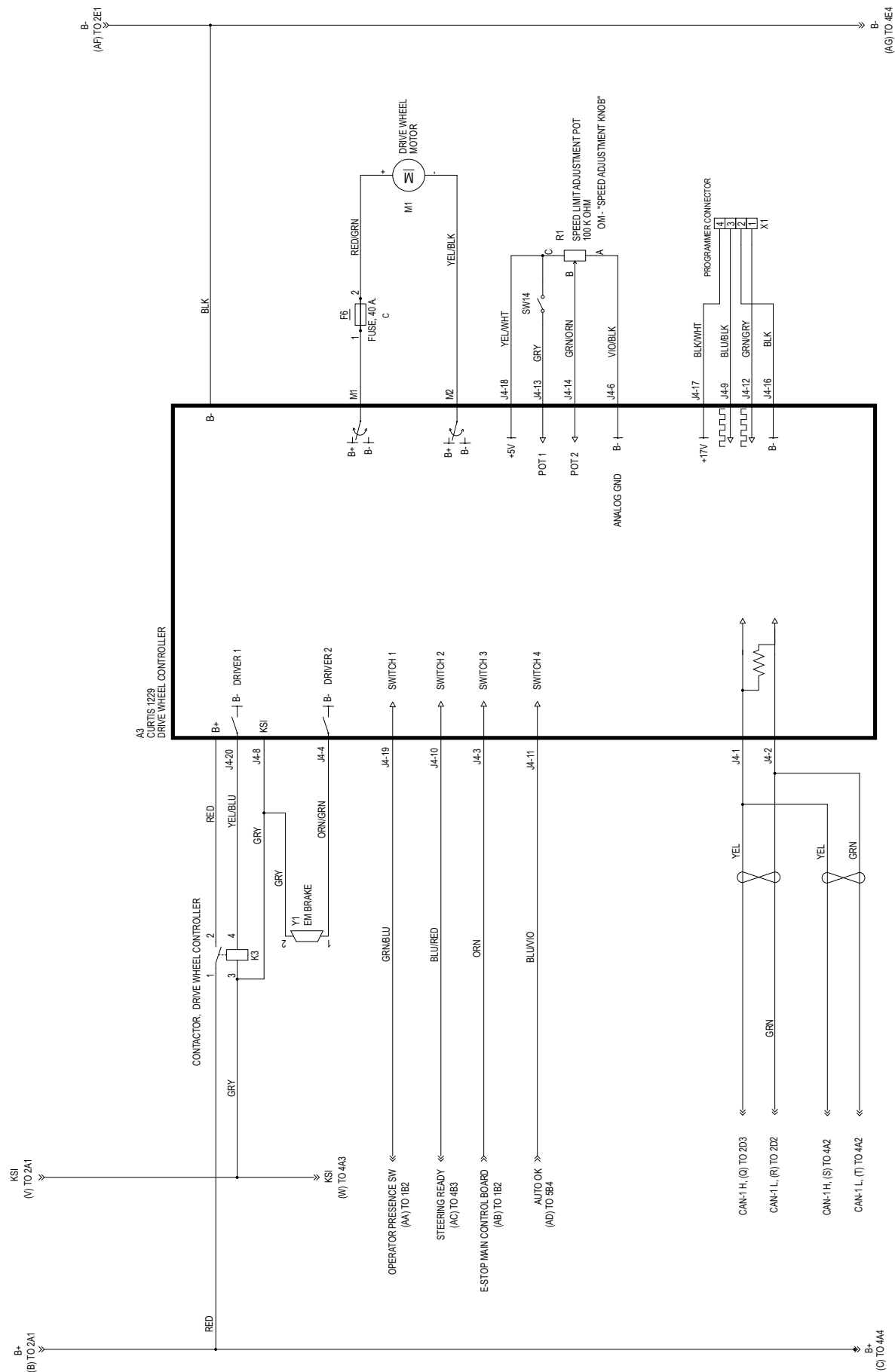


LADDER DIAGRAM-2

Kit	Item	Ref. No.	Qty	Description
	A2	56104777	1	Module-High Power
	K2	56412179	1	Contactactor 24 Vdc
	M2	56104549	1	Motor-24vdc-140rpm-.50hp (20D)
	M2	56390072	1	Motor 24vdc (20R)
	M5	56104363	1	Vacuum Motor Kit
	M7	56104579	1	Actuator Assembly NOTE 1

NOTE 1: M7 Is also referred to as **DECK ACTUATOR**

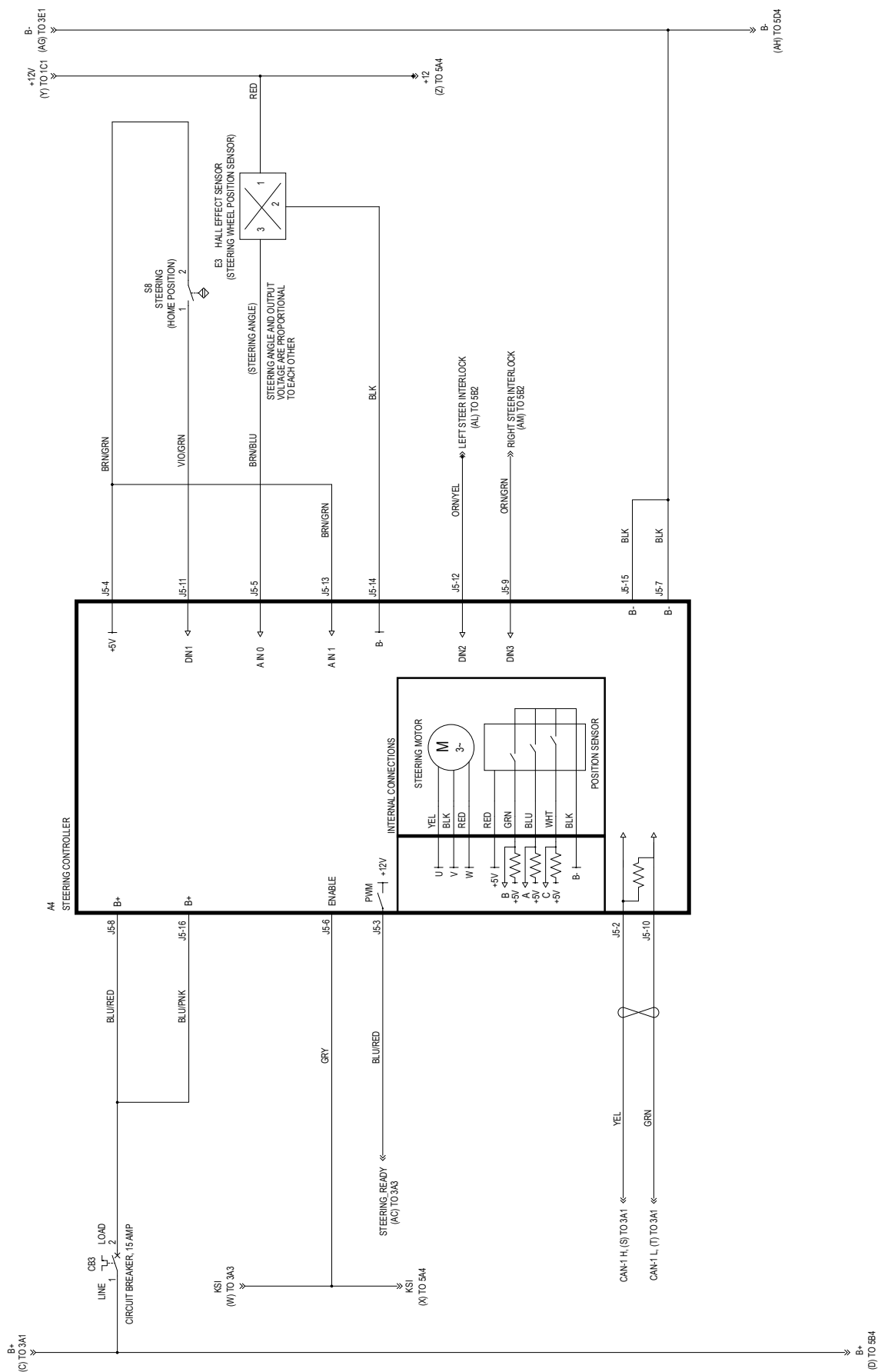
LADDER DIAGRAM-3



LADDER DIAGRAM-3

Kit	Item	Ref. No.	Qty	Description
	A3	56385031	1	Controller-Motor-Steering
	K3	56412179	1	Contactor 24 Vdc
	M1	56104816	1	Drive Wheel Motor Kit
	R1	56104800	1	Main Harness Speed Pot Kit
	Y1	N/A	1	Electromagnetic Brake Kit

LADDER DIAGRAM-4

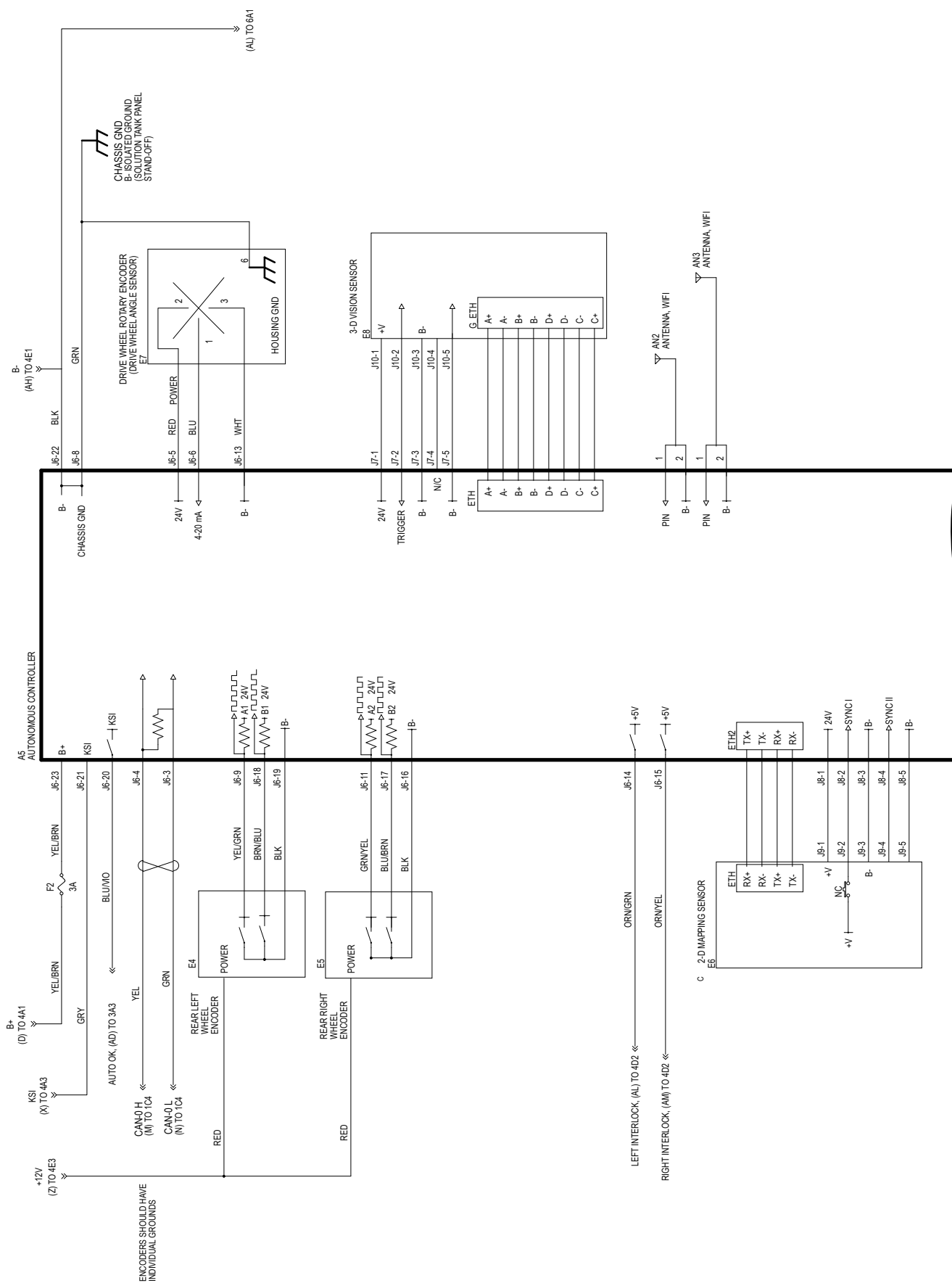


LADDER DIAGRAM-4

Kit	Item	Ref. No.	Qty	Description
	A4	56121209	1	Motor-Steering-Controller
	E3	56104564	1	Sensor-Hall-Effect NOTE 1
	CB3	56413407	1	Circuit Breaker, 15 Amp
	S8	56511830	1	Sensor, Proximity

NOTE 1: E3 Is also referred to as **STEERING WHEEL POSITION SENSOR**

LADDER DIAGRAM-5



LADDER DIAGRAM-5

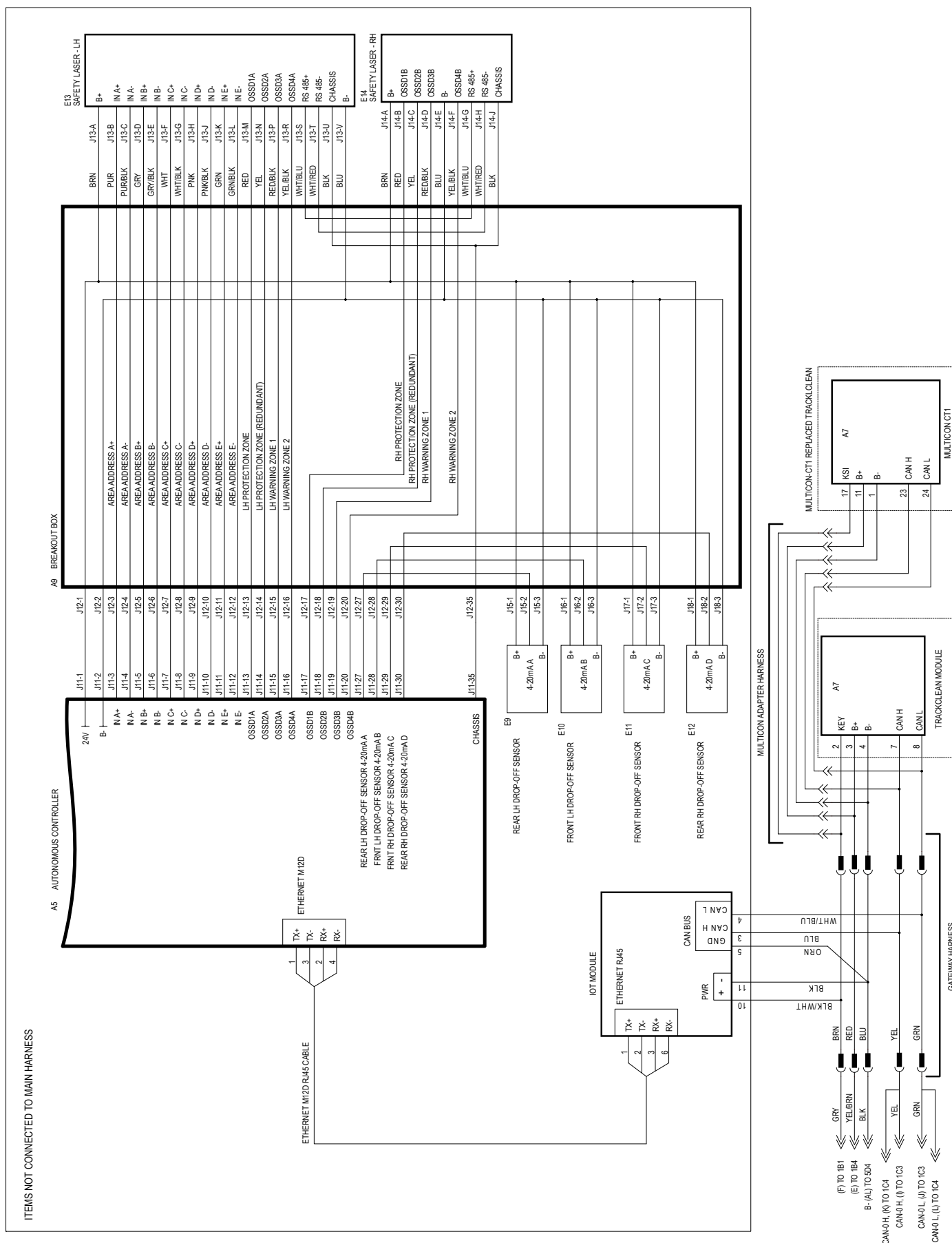
Kit	Item	Ref. No.	Qty	Description
	A5	56122709	1	Autonomous Module Kit
	AN2	56104962	1	Antenna-WIFI
	AN3	56104962	1	Antenna-WIFI
	E4		1	Rear Left Wheel Encoder
	E5		1	Rear Right Wheel Encoder
	E6	56122704	1	2D Sensor NOTE 1
	E7	56122707	1	Steering Encoder Drive Wheel Sensor NOTE 2
	E8	56104843	1	Multi-sense 3D Sensor Camera NOTE 3
	F2	56104860	1	Fuse-Mini-3a

NOTE 1: E6 Is also referred to as **2D MAPPING SENSOR**

NOTE 2: E7 Is also referred to as **DRIVE WHEEL ANGLE SENSOR**

NOTE 3: E8 Is also referred to as **3-D VISION SENSOR**

LADDER DIAGRAM-6



LADDER DIAGRAM-6

Kit	Item	Ref. No.	Qty	Description
	A5	56122709	1	Autonomous Module Kit
	A9	56104944	1	Breakout Box Assembly NOTE 1
	E9	56122703	1	Rear LH Drop-Off Sensor
	E10	56122703	1	Front LH Drop-Off Sensor
	E11	56122703	1	Front RH Drop-Off Sensor
	E12	56122703	1	Rear RH Drop-Off Sensor
	E13	56122705	1	Safety Laser-LH NOTE 2
	E14	56122706	1	Safety Laser-RH NOTE 3

NOTE 1: A9 Is also referred to as **DISTRIBUTION NODE**

NOTE 2: E13 Is also referred to as **SAFETY SENSOR**

NOTE 3: E14 Is also referred to as **SAFETY SENSOR**

LADDER DIAGRAM-7

Kit	Item	Ref. No.	Qty	Description
	*	56394506	1	Liberty SC50 UVGI

OPTIONAL KITS AND ACCESSORIES

Item	Ref. No.	Qty	Description
Kits			
*	56104832	1	Interface Panel Kit
*	56104834	1	User Interface Kit
Service Kits			
*	56104843	1	3d Camera Kit
*	56122703	1	Distance Sensor Kit
*	56122704	1	Mapping Sensor Kit
*	56122705	1	Safety Sensor Kit-Left
*	56122706	1	Safety Sensor Kit-Right
*	56122707	1	Rotary Encoder Assembly Kit
*	56122709	1	Autonomous Module Kit
*#	56394514	1	Cellular Gateway Kit-US
*#	56394513	1	Cellular Gateway Kit-Eu

REV Pads (See Pad Selector Guide)			
*	56390045	1	Velcro 2 Sided 20
*	56390046	1	Pad-Maroon-20-10/CS (Qty 10 per case) (Americo)
*	56384451	1	Pad-Maroon-20-10/CS (Qty 10 per case) (3M)
*	56390079	1	Pad Micro Fiber
*	976068	1	Pad 20-In Red 5100 (Qty 5) (US)
*	10001959	1	Pad 20 508mm Eco Red (5pcs) (EU)
*	976067	1	Pads Cs 20 White 51 (Qty 5) (US)
*	10001960	1	Pad 20 508mm Eco White (5pcs) (EU)

* = Optional, Not Included

= Revised or new since last update

NOTE 1: All squeegee blade kits include both front and rear squeegee blades.

Accessories			
*	56383571	1	Programmer-User
*	56383572	1	Programmer Cable-Molex
*	56104190	1	Ecoflex Bottle Assy
*	56104835	1	Tag-Location
*	56122779	1	Small Location Tag Assembly
*	56122718	1	Sensor Calibration Kit
*	56122722	1	Target-Cylinder-2.76
*	56122723	1	Target-Cylinder-7.87
*	56122727	1	Harness-Calibration-Encoder
*	56116601	1	Usb-2.0-Type A-Panel Mount
*#	56394506	1	Liberty Sc50 Uvqi
*#	56125036	1	Lithium Ion Base Kit-Sc50
*#	56125037	1	Lithium Ion Expansion Kit-Sc50
*#	56125041	1	Batt Assy-Li Ion-24v-500 Baud
*	56044713	1	Literature Pack - Americas
*	56044714	1	Literature Pack - Nilfisk

Squeegee Blade Kits (See Squeegee Blade Selector Guide)			
	56104325	1	Squeegee Kit - Blade PU NOTE 1
*	56104483	1	Squeegee Kit - Blade Linatex NOTE 1

20" Disk Scrub Brushes (See Brush Selector Guide)			
*	56505790	1	Pad Holder-20 3 Lug
*	56505791	1	Disc Brush-20 Magnagrit 3 Lug
*	56505792	1	Disc Brush-20 Dyna Grit 3 Lug
*	56505793	1	Disc Brush-20 Aglite 3 Lug
*	56505794	1	Disc Brush-20 Prolene 3 Lug
*	56505795	1	Disc Brush-20 Prolite 3 Lug
*	56505796	1	Disc Brush-20 Union Mix 3 Lug
*	56505797	1	Disc Brush-20 Midgriit 3 Lug
*	56505798	1	Disc Brush-20 Midlite 3 Lug
*	976170	1	Pads Cs 20 Black Thin (Qty 5) (US)
*	10001955	1	Pad 20 508mm Eco Black (5pcs) (EU)
*	976070	1	Pads Cs 20 Brown 51 (Qty 5) (US)
*	10001957	1	Pad 20 508mm Eco Brown (5pcs) (EU)
*	976069	1	Pads Cs 20 Blue 51 (Qty 5)

RECOMMENDED SPARE PARTS

Item	Ref. No.	Qty	Description	Item	Ref. No.	Qty	Description
CHASSIS SYSTEM				PLATFORM ASSEMBLY			
Ordinary Maintenance				Ordinary Maintenance			
O	56104573		Harness-Drive Motor	O	56104574		Switch Harness
O	56104269		Sprocket-11 Tooth	Extra-Ordinary Maintenance			
O	56104807		Rear Wheel Kit	E	56104052		Platform-Upper
O	56104338		Wheel And Bearing Kit	E	56104185		Pedal-Safety
O	56104435		Sprocket And Chain Kit (used w/56104431)	E	56384567		Pedal-Foot
Extra-Ordinary Maintenance				E	56104187		Platform-Bottom
E	56104094		Bar Linkage	E	56384568		Spring-Compression-Ss-.480 Od
E	56104105		Battery Tray	E	56384579		Spring-Compression-M/W-.480 Od
E	56104135		Link Bar	E	56158690		Grommet
E	56104916		Spindle Mount Weldment	E	56331006		Grommet
E	56104560		Chassis Weldment	E	56104417		Platform Hardware Kit
E	56104920		Block, Bearing	RECOVERY SYSTEM			
E	56383856		Charger-Onboard 24v 650w	Ordinary Maintenance			
E	56104332		Bearing Block Kit	O	56104568		Gasket-Recovery Tank
E	56122713		Chassis Hardware Kit	O	56104258		Vac Hose Assy
E	56104816		Drive Wheel Motor Kit	O	56104285		Drain Hose
E	56104793		Drive Wheel Frame Weldt	O	56344168		Filter
E	56104912		Spindle Weldment	Extra-Ordinary Maintenance			
E	56104523		Plate-Steering	E	56104561		Recovery Tank
E	56122715		Drive Wheel Hardware Kit	E	56104565		Panel-Back
E	56104384		Front Wheel Bearings Kit	E	56104571		Harness-Jumper
CONTROL SYSTEM				E	56104443		Guard-Splash-4X12-Poly
Normal Wear				E	1450543000		Clamp, Hose 14/32-52
W	56104270		Chain-Roller	E	9100001246		Cover-Vacuum Motor
Extra-Ordinary Maintenance				E	56104352		Draw Latch Kit
E	56104566		Hood-Top	E	56104803		Float Switch Kit
E	56122712		Steering Assembly Kit	E	56104360		Debris Cage Kit
E	56104410		Bracket-Prop Rod	E	56104362		Hose Clamp Kit
E	56601060		Steering Wheel	E	56104363		Vacuum Motor Kit
E	56104352		Draw Latch Kit	E	56122708		Recovery Hardware Kit
E	56122710		Control Hardware Kit	E	56104383		Vacuum Motor Insulation Kit
ELECTRICAL SYSTEM				SCRUB SYSTEM-20D			
Extra-Ordinary Maintenance				Ordinary Maintenance			
E	56104911		Harness-Main	O	9095483000		Hose Holder
E	56104860		Fuse-Mini-3A	O	56601534		Carbon Brushes (2)
E	40914A		Relay 24v Dpdt Boost 32 Auto	Extra-Ordinary Maintenance			
E	56385031		Controller-Motor-Steering	E	56104549		Motor-24vdc-140rpm-.50hp
E	56407130		Disconnect-Emergency	E	56104095		Shaft Disc Brush Motor
E	56104838		Harness-Battery Power	E	56104117		Deck Lift Plate Weldment
E	56315255		Circuit Breaker, 5 Amp	E	56104120		Lower Deck Plate
E	56104839		Harness-Battery Machine	E	56104121		Brush Housing
E	56104768		Fuse-100 Amp	E	56104126		Squeegee Link Weldment
E	56413407		Circuit Breaker, 15 Amp	E	56104137		Spacer Motor
E	56412179		Contact 24 Vdc	E	56104572		Solenoid Valve Assembly
E	56116477		IButton-Probe	E	56104240		Skirt Brush
E	50962A		Knob, Speed Control	E	56601733		Brush Plate Assy Rt
E	56115434		Boot-Fuse Holder (Red)	E	56366455		Plate, Stop
E	56116518		Smart Key-User	E	56109653		Spring Retainer
E	56116519		Smart Key-Supervisor	E	56112521		Gimbal-Collar Assembly
E	56104800		Speed Pot Kit-Main Harness	E	56601056		Spring, Brush Holder
E	2-00-05173		Battery Insulator	E	56601118		Brush Plate
E	56478246		Tie, Cable				
E	41217A		Cable Battery Kit 14662B				
E	56122717		Electrical Hardware Kit				
E	56104834		User Interface Kit				
E	56104832		Interface Panel Kit				

RECOMMENDED SPARE PARTS CONTINUED

Item	Ref. No.	Qty	Description
SCRUB SYSTEM-20D CONTINUED			
E	56104297		Motovario Gearbox 15/1
E	56104581		Motor-24vdc-2100rpm-.5hp
E	56104775		Brush Housing Assembly
E	56601588		Cover And Screws
E	56601508		Plastic Cover
E	56104344		Squeegee Pivot Kit
E	56104821		Disc Deck Hardware Kit
E	56104823		Solution Hose Kit-Disc Deck
SCRUB SYSTEM-REV			
Ordinary Maintenance			
O	56412287		Carbon Brush Set Of 2 (For 56390072)
Extra-Ordinary Maintenance			
E	56104138		Rev Lift Plate Weldment
E	56104572		Solenoid Valve Assembly
E	56104368		Plate Pivot
E	56104202		Housing Rev
E	56104203		Squeegee Link Weldment
E	56104244		Plate Motor
E	56104585		Connector-Adaptor
E	56390011		Shield Splash
E	56390038		Gasket Driver
E	56390044		Pad Driver Assy
E	56381532		Stud Stabilizer Short
E	56390002		Weight Counter
E	56390021		Eccentric
E	56390027		Driver Motor
E	56390072		Motor 24vdc
E	50736A		Bearing
E	61775A		Retainer, Bearing
E	56122716		Rev Deck Hardware Kit
E	56104368		Squeegee Pivot Rev Kit
E	56104369		Isolator Kit
E	56104827		Solution Hose Kit-Rev Deck
SOLUTION SYSTEM			
Extra-Ordinary Maintenance			
E	56104900		Tank-Solution
E	56104604		Bracket-Tank Support
E	56104206		Hinge Pin
E	56104694		Hinge Weldment
E	56104208		Hinge Bracket
E	56104249		Bearing Flange
E	56104229		Grommet
E	51526A		Hosebarb 3/8 X 90 Deg
E	56104234		Actuator Brkt
E	56104308		Pivot Block
E	56104391		Adjustment Pad
E	56104409		Prop Rod
E	56393382		Hose-Pvc Clear
E	56104189		Insert-Dry Break
E	56104408		Chemical Bottle Assy
E	56110742		Pump Detergent 12v
E	56383866		Cord-Ac Nema Iec320 - Deltaq
E	9100001512		Cap Plastic F Chemical Tank
E	56315523		Cap, Dry Break, 1/8 Barb, 90
E	1466317000		Support Cable Kit
E	56104811		Solution Drain Kit
E	56104827		Solution Hose Kit-Rev Deck
E	56104823		Solution Hose Kit-Disc Deck
E	56104830		Pump Filter And Valve Kit
E	56104815		Solution Cap Kit
E	56104579		Actuator Kit
E	56122702		Tip Pad Kit
E	56122714		Solution Hardware Kit

Item	Ref. No.	Qty	Description
SQUEEGEE SYSTEM			
Normal Wear			
W	56104325		Squeegee Kit - Blade PU
W	56104483		Squeegee Kit - Blade Linatex
W	56122711		Squeegee Wheels Kit
Extra-Ordinary Maintenance			
E	56104327		Squeegee Hardware Kit
E	56104863		Squeegee Assy Kit
E	56104429		Squeegee Knobs Kit
E	56104386		Squeegee Strap Kit
E	56104387		Squeegee Mount Brkt Kit
DECAL SYSTEM			
Extra-Ordinary Maintenance			
E	56104831		Liberty-Advance Decal Kit

BRUSH SELECTOR GUIDE

We provide brushes and pad holders that will give you the best possible performance between machine and floor. Following are descriptions of the materials and their applications.

- Soft Nylon:** Bristles are made from light-duty polypropylene for general scrubbing when you do not want to scratch or remove finish from the floor. Recommended for use in place of red pads.
- Poly:** Polypropylene material for medium-duty scrubbing on concrete, terrazzo and vinyl floor tile. Recommended for use in place of green or blue pads.
- Lite Grit:** For light scrubbing when used wet; buffing or polishing when used dry on urethane coated, sealed concrete or other resilient hard surface floors. Recommended for use in place of red or white pads.
- Medium Grit:** For general purpose scrubbing of sealed or unsealed concrete, stone, terrazzo, quarry tile and other resilient hard floor surfaces. Recommended for use in place of green or blue pads.
- Heavy Grit:** For aggressive, heavy-duty scrubbing or stripping of floors. Recommended for use in place of brown pads.

20" Disk Scrub Brushes

56505790 - Pad Holder
 56505791 - Magnagrit
 56505792 - Dyna Grit
 56505793 - Aglite
 56505794 - Prolene
 56505795 - Prolite
 56505796 - Union Mix
 56505797 - Midgrit
 56505798 - Midlite
 976170 - Pads Cs 20 Black Thin (Qty 5) (US)
 10001955 - Pad 20 508mm Eco Black (5pcs) (EU)
 976070 - Pads Cs 20 Brown 51 (Qty 5) (US)
 10001957 - Pad 20 508mm Eco Brown (5pcs) (EU)
 976069 - Pads Cs 20 Blue 51 (Qty 5)

DISC BRUSH APPLICATION GUIDE (SUGGESTION ONLY)

Application	Heavy Grit	Medium Grit	Lite Grit	Poly	Soft Nylon
Stripping:					
Concrete	X				
Terrazzo	X				
Ceramic/Quarry tile	X				
Vinyl tile	X				
General Scrubbing:					
Concrete	X	X	X	X	
Terrazzo		X	X	X	
Ceramic/Quarry tile		X	X	X	
Marble			X	X	X
Vinyl tile		X	X	X	
Raised-rubber tile			X	X	X

PAD SELECTOR GUIDE

We provide pads that will give you the best possible performance between machine and floor. Following are descriptions of the materials and their applications.

White:	For very light scrubbing on high gloss floor finishes where a red pad may be too aggressive.
Red:	Most popular daily cleaning and scrubbing pad for use on a wide varieties of floors.
Blue:	For heavy duty scrubbing prior to recoating. Removes dirt, spills and scuffs, leaving a clean surface ready for recoating.
Black:	For conventional stripping with chemicals.
3M Hi Pro:	For conventional stripping with chemicals. Unique open web construction allows stripping solution to flow through the pad to rinse out dirt and reduce loading for increased pad-to-floor contact and more efficient stripping.
Maroon:	Prepares wood, vinyl tile, sheet vinyl, marble, terrazzo and concrete floors for refinishing.

REV Deck Pads

- 56390045 - Velcro 2 Sided
- 56390046 - Pad-Maroon-20-10/CS (Qty 10 per case) (Americo)
- 56384451 - Pad-Maroon-20-10/CS (Qty 10 per case) (3M)
- 56390079 - Pad Micro Fiber
- 976068 - Pad 20-In Red 5100 (Qty 5) (US)
- 10001959 - Pad 20 508mm Eco Red (5pcs) (EU)
- 976067 - Pads Cs 20 White 51 (Qty 5) (US)
- 10001960 - Pad 20 508mm Eco White (5pcs) (EU)

SQUEEGEE BLADE SELECTOR GUIDE

Linatex: Provides longest life on finished or unfinished concrete floors.

Polyurethane: Oil resistance provides superior life in applications with oily floors.

Performance Traits	Linatex (Natural Rubber)	Polyurethane/ Pentathane
Tear Strength	X	X
Abrasion Resistance	X	X
Applications		
Oil Resistant Applications		X
Appearance	Red	Translucent



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