



Parts Manual
E20 SPORT Floor Scrubber
Disc Traction Drive

PREFACE

Thank you for your purchase of the new industry standard for scrubbers. Minuteman International takes great pride in offering the most dependable, reliable and best value in industrial power sweepers and sweeper / scrubbers. We set the standard.

Our Customer Service Department would like to hear from you. If you see any errors, omissions or something that needs clarification in this Parts Catalog please let us know. We are working hard towards continually improving our processes to bring you the best you deserve. Please copy the form below, fill out and comment on how you found our catalog.

Thank you!

The Minuteman International Team

Name: _____

Title: _____

Company Name: _____

Address: _____

Country: _____

Type of equipment or model number: _____

Comments: _____

Please return to:

Customer Service Manager
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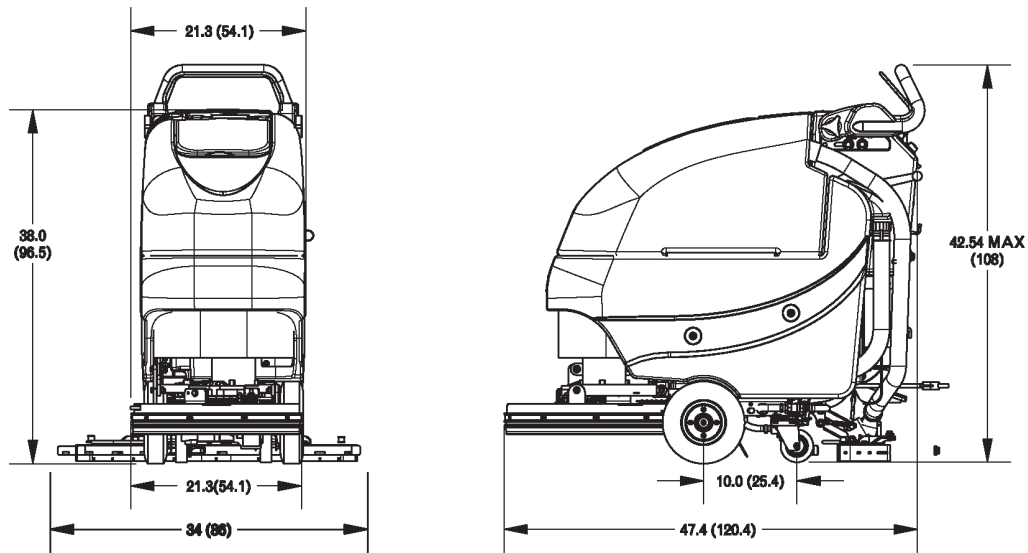
Technical Specifications



Model *E20 SPORT Traction Drive*

Model No. E20S, E20SQP, E20SQPG

Current (Max)	E20 SPORT
Battery Capacity (Lead Acid)	32/40 amps
Battery Capacity (Gel)	140Ah @ 20 hr
Sound Level	140Ah @ 20 hr
Cleaning path width	69 dBA
Squeegee width	20 in (51 cm)
Productivity (Traction Drive)	34 in (86 cm)
Working speed (Traction Drive)	27,200 ft ² /hr (2,527 m ²)
Rated voltage	3.1 mph (5 km per hr)
Vacuum flow	24 volts
Vacuum waterlift	65 cfm (110 m3/hr)
Vacuum power	45 inches (112mbar)
Brush type	.60 HP (450 W)
Brush motor(s) power	Disc
Number of brushes	1 HP (750W)
Brush RPM	1
Aqua-Stop equipped	180 RPM (LOW) / 370 RPM (HIGH)
Solution capacity	Optional
Recovery capacity	12 Gal (45 liters)
Working Grade	13 Gal (49 liters)
Weight with batteries	2%
Weight without batteries	380 lbs (172 kg)
Dimensions (LxWxH)	240 lbs (109 kg)
Drive Motor Power	47.4 x 21.3 x 42.3 (120.4 x 54.1 107.4 cm)
	1/5 HP (150W)



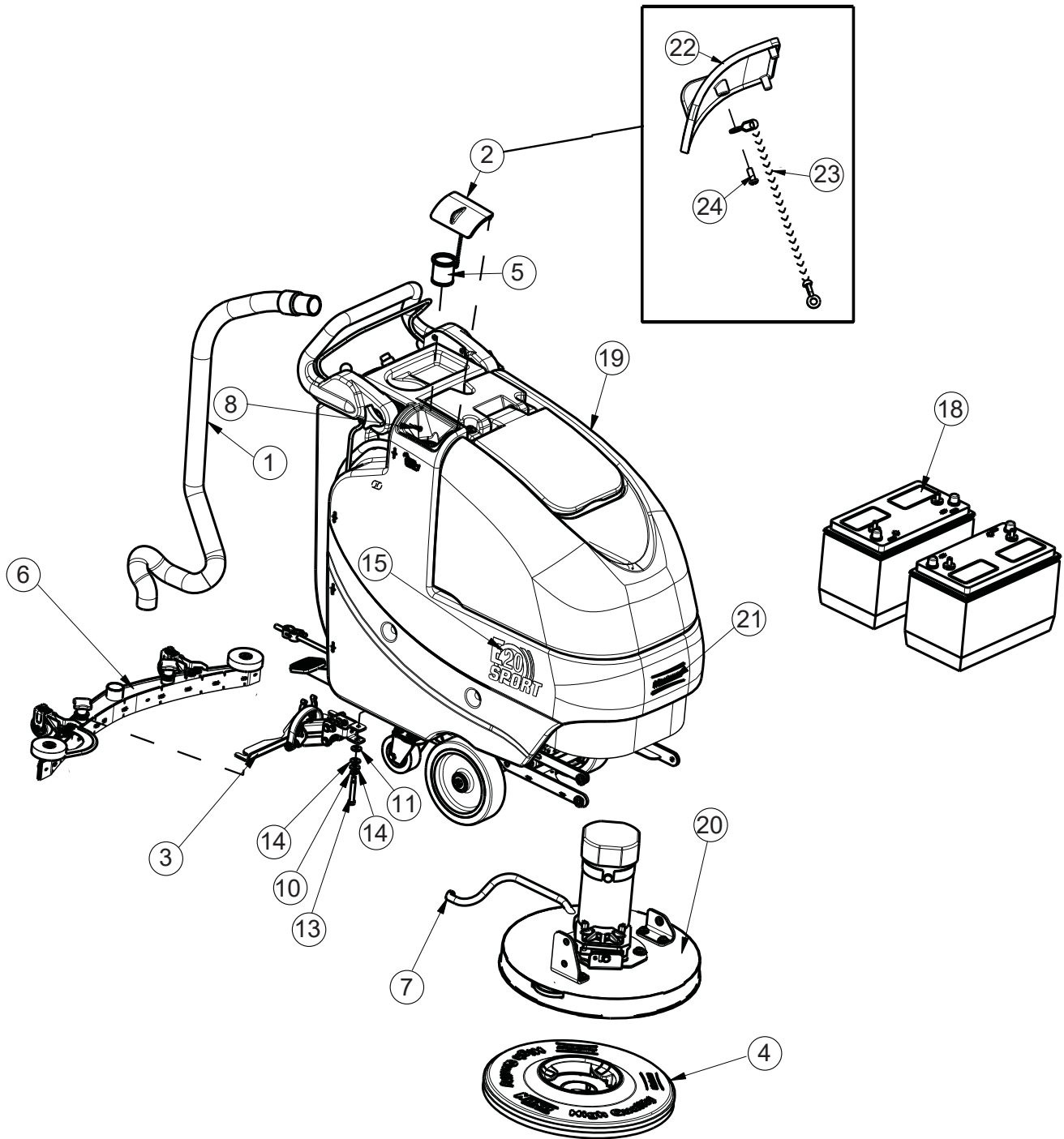
in (cm)

For Safety When Servicing or Maintaining Machine

- Stop on level surface.
- Disconnect the power to the machine by pulling the red Battery Connector located under the recovery tank near the batteries.
- Avoid moving parts. Do not wear loose jackets, shirts, or sleeves when working on machine.
- Avoid contact with battery acid. Battery acid can cause burns. When working on or around batteries, wear protective clothing and safety glasses. Remove metal jewelry. Do not lay tools or metal objects on top of batteries.
- Do not clean machine with a pressure washer.
- Authorized personnel must perform repairs and maintenance. Use Minuteman supplied replacement parts.

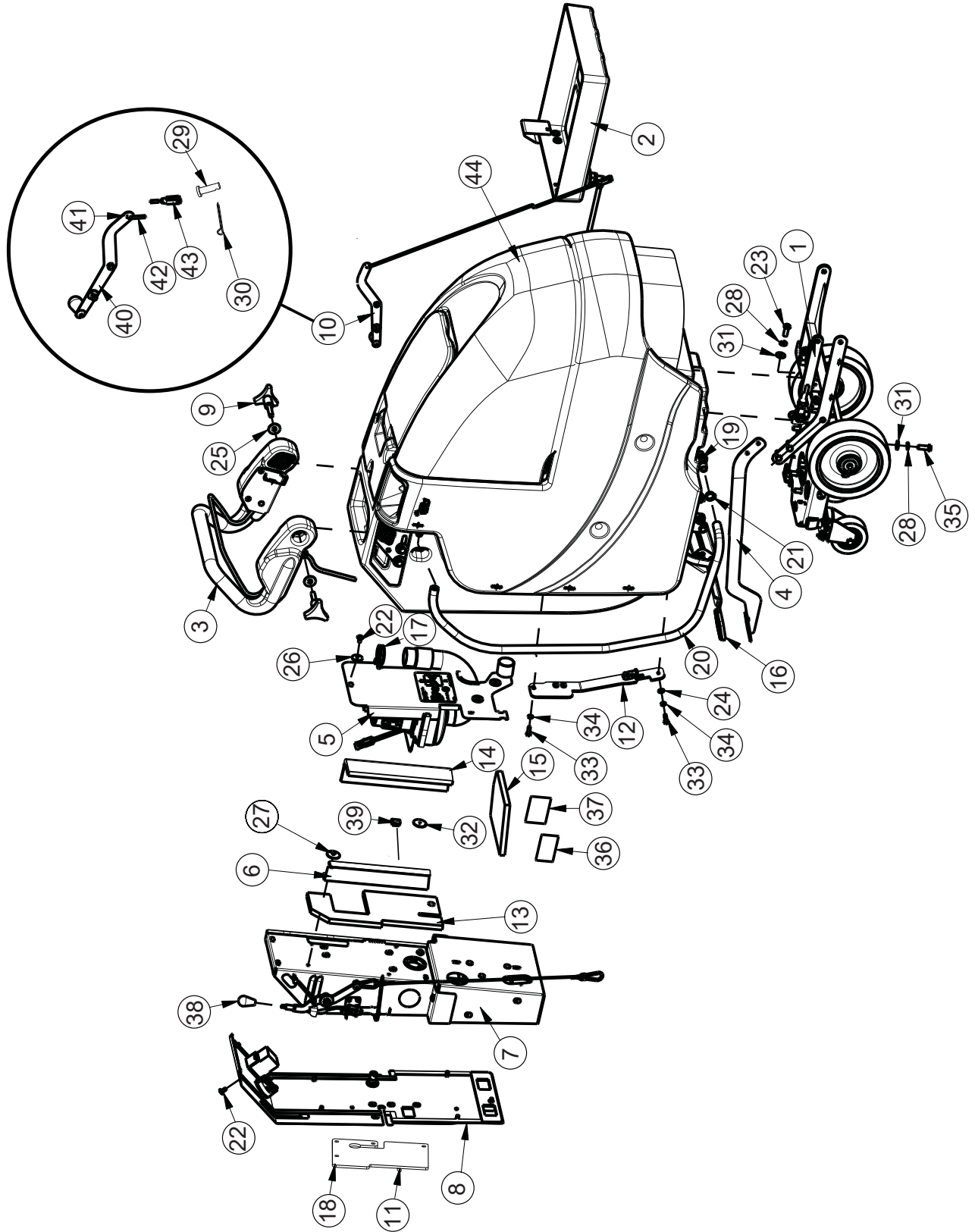
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ITEM	PART NO.	QTY	DESCRIPTION
1	172010	1	HOSE, CLEAR VAC W/ 45 CUFF
2	172018	1	SOLUTION TANK LID ASSY
3	172150	1	SQUEEGEE LIFT MECH ASSY
5	172159	1	FILTER, FILL PORT, ES1720
6	172534	1	SQUEEGEE ASSY, 34" (860) CURVED
7	450076	1	CLAMP-CRIMP 185R SS
8	711118	1	SCR-ST-A 10 X .75 SS
10	711523	1	WSR-WAVE .37X .68 X .08
11	711569	1	WSR-FLT .390 X .880 X .062 NYL
13	712143	1	BLT-SHLD 3/8 X 2.0, 5/16-18
14	712301	2	WSR-FLAT .37 X .87 X .06
15	715925	2	DECAL, E20 SPORT
16	740164-1	1	JUMPER CABLE ASSY, RED 4G 12"
17	747649	1	CABLE ASSY, BATTERY E17
18	956140	2	BATTERY, 12V 140AH
18A	956135	2	BATTERY-AGM 12V 135AH
19	172001TD-120	1	TRAC DRV BASE ASSY-120V CHARGER
19A	172001TD-230	1	TRAC DRV BASE ASSY-230V CHARGER
20	172100TD	1	TD BRUSH DECK ASSY 20"
21	715914W	1	DECAL, MINUTEMAN W/SWOOSHES, WHITE
24	172008	1	SOLUTION TANK LID
25	172123	1	CHAIN, BEADED SS W/ EYELETS
26	712145	1	SCR-PAN HD HI/LO 6-19 X .37SS
23	715914W	1	DECAL, MINUTEMAN W/SWOOSHES, WHITE
24	172008	1	SOLUTION TANK LID
25	172123	1	CHAIN, BEADED SS W/EYELETS
26	712145	1	SCR-MC 6-32 X .37 PPH SS

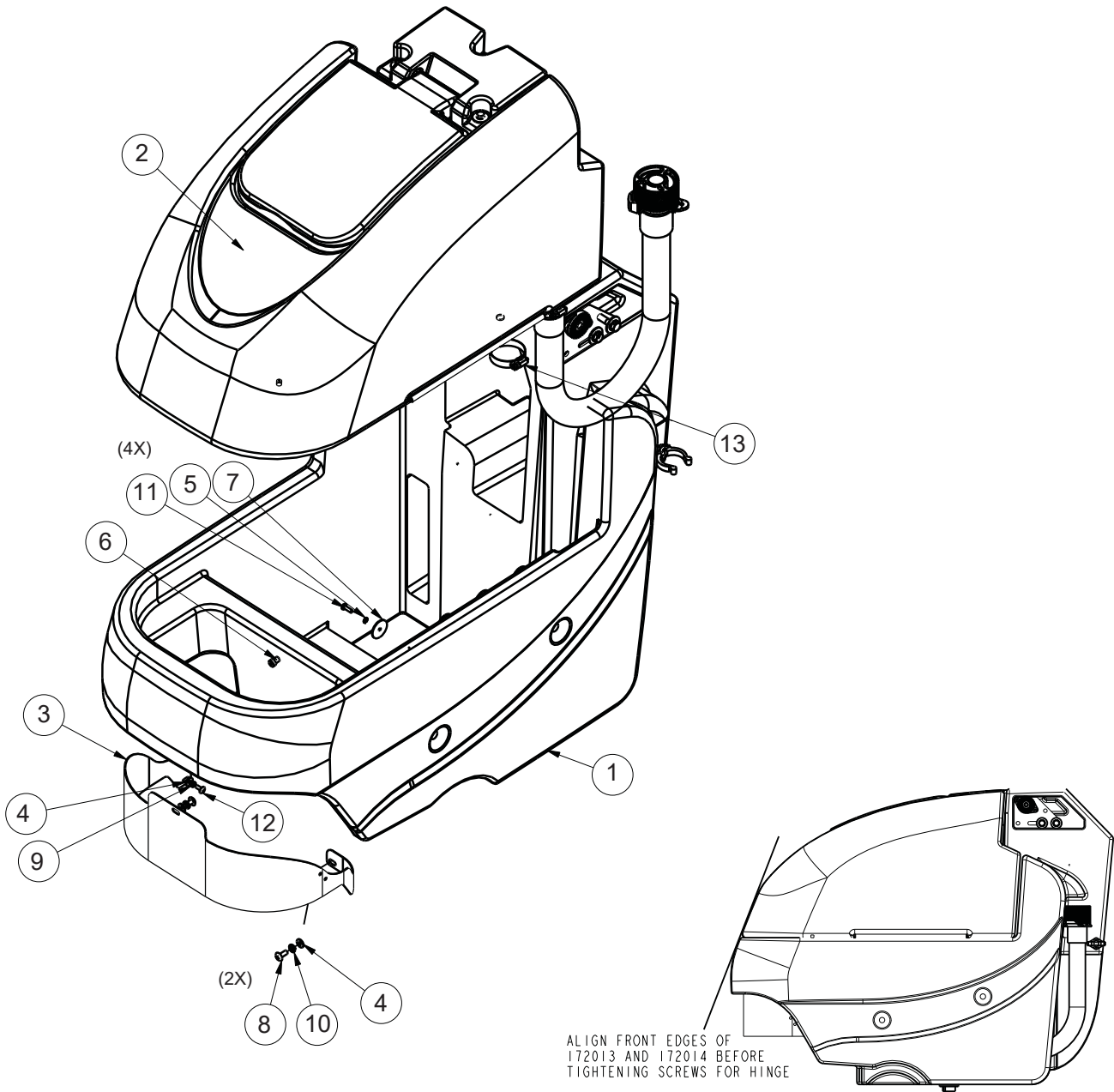
BRUSH OPTIONS			
		AQUA STOP BRUSHES	
762394	PAD RETAINER, FIXED - NOT SHOWN	7951-01	BRUSH, 20" LIGHT-MED PP.5 A/S, WHITE
762370	PAD RETAINER, REMOVEABLE - NOT SHOWN	7951-02	BRUSH, 20" LIGHT-MEDIUM A/S, K901, BLACK
172520-1	BRUSH, 20" NYLON	7951-03	BRUSH, 20" MED NYL 600GR, A/S GREY (STANDARD)
172520-3	BRUSH-DISC, 20" NYLO-GRIT 80GR, GREEN	7951-04	BRUSH, 20" MEDIUM-HEAVY PP.8 A/S, WHITE
172520-6	DISC BRUSH 20", SCRUB GRIT 2, 120GR RED	7951-05	BRUSH, 20" HEAVY NYLON 180GR. A/S, GREY
172520-2	PAD DRIVER, 20"	7951-06	BRUSH, 20" HEAVY-2 NYL 120GR. A/S, GREEN



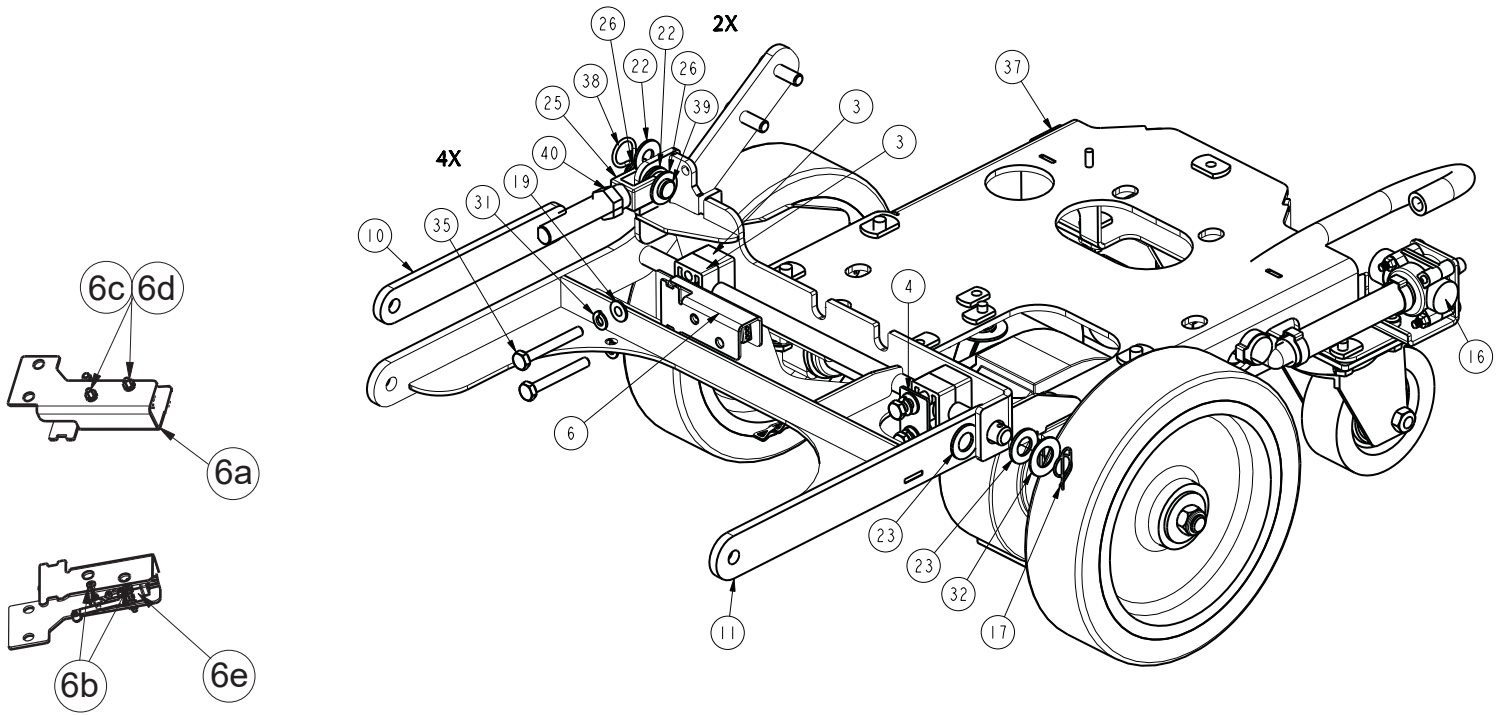
Traction Drive Base Assembly BOM



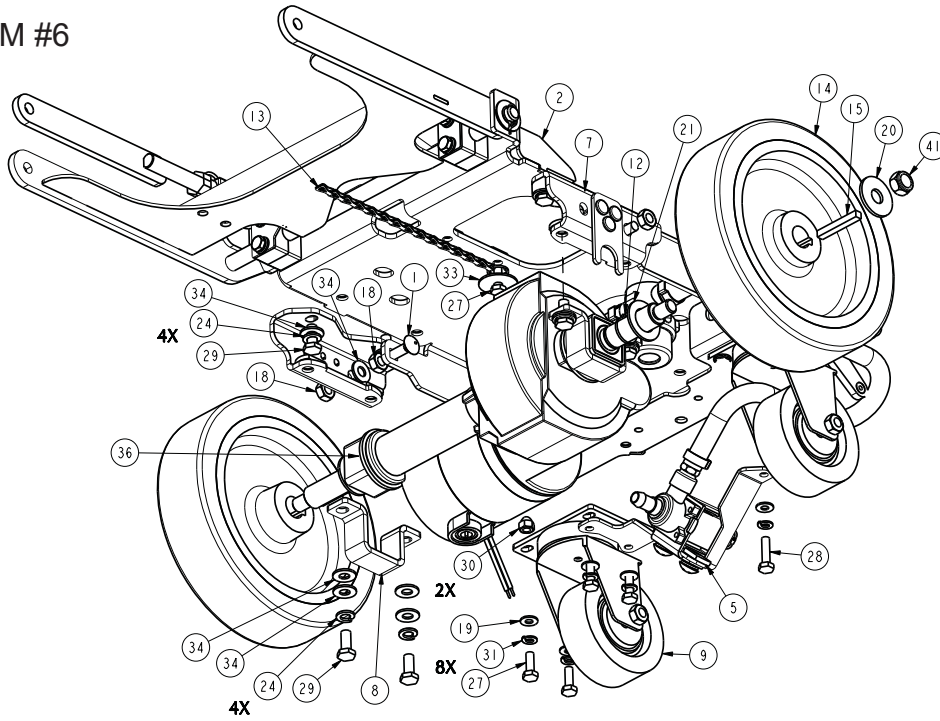
BILL OF MATERIAL - 172001TD - 120/230							
ITEM	PART NO	QTY	DESCRIPTION	ITEM	PART NO	QTY	DESCRIPTION
1	172009	1	TD CHASSIS ASSY, ES1720	23	710985	2	SCR-SC 3/8-16 X .62 ST PL
2	172012	1	BATTERY TRAY ASSY	24	711504	2	WSR-FLAT 1/4 ID SS
3	172015	1	E1720 TD HANDLE ASSY	25	711507	2	WSR-FLAT .37 X 1.12 X .06
4	172032	1	LIFT PEDAL WMT	26	711519	3	WSR- FLAT .25 X 1.01 X .06
5	172050	1	VAC MOTOR ASSY	27	711543	1	WSR-HELICAL #10
6	172055	1	BKT, VAC AREA INSIDE COVER	28	711546	6	WSR-HELICAL 3/8
7	172075-SPORT	1	ELEC BOX ASSY SPORT	29	711803	1	COTTER PIN-HAIR
8	172079-SPORT	1	ELEC BOX COVER ASSY SPORT	30	712117	1	CLEVIS PIN
9	172085	2	KNOB, 3/8-16 STUD, 3 LOBE	31	712301	6	WSR-FLAT .37 X .87 X .06
10	172112	1	SOL CONTROL ASSY	32	712312	2	WSR-FLAT .187 X 1.25
11	172129	1	BKT, PWR CORD MOUNT	33	712562	2	BOLT-HH 1/4-20X3/4 SS
12	172166	1	TD LIFT PEDAL BKT ASSY	34	712758	2	WSR-HELICAL 1/4 SS
13	172184	1	FOAM COVER, REAR 1	35	713042	4	BLT-HH 3/8-16 X 1 #5
14	172185	1	FOAM COVER, REAR 2	36	715029	1	DECAL-NAME PLATE SERIAL
15	172187	1	FOAM COVER, FRONT 2	37	715047	1	DECAL-CLEAR LAMINATE 2X3
16	210142	1	PEDAL PAD	38	760592	1	KNOB, OVAL TAPERED
17	3303255	1	CLAMP-HOSE 1.75 DIA NOMINAL	39	809443	1	CLIP-WIRE & CORD
18	293080	1	STRAIN RELIEF-HEYCO 1207	40	172115	1	SOL CNTRL LEVER ASSY
19	342440	1	FITTING, TEE 3/4MPT 1/2 BARB PP	41	172122	1	NUT, PUSH-ON WSR CAP, 3/16
20	430156	1	HOSE, 1/2 X 42 CLEAR	42	172069	1	ROD, SOL. CTRL, ES1720
21	450093	2	CRIMP CLAMP 3/4" STEPLESS	43	172062	1	YOKE, 3/16 CLEVIS, 10-32, LONG
22	710178	10	SCR-MC 1/4-20 X .50 TRUSS STPL	44	172001BASE	1	ES1720 BASE ASSY



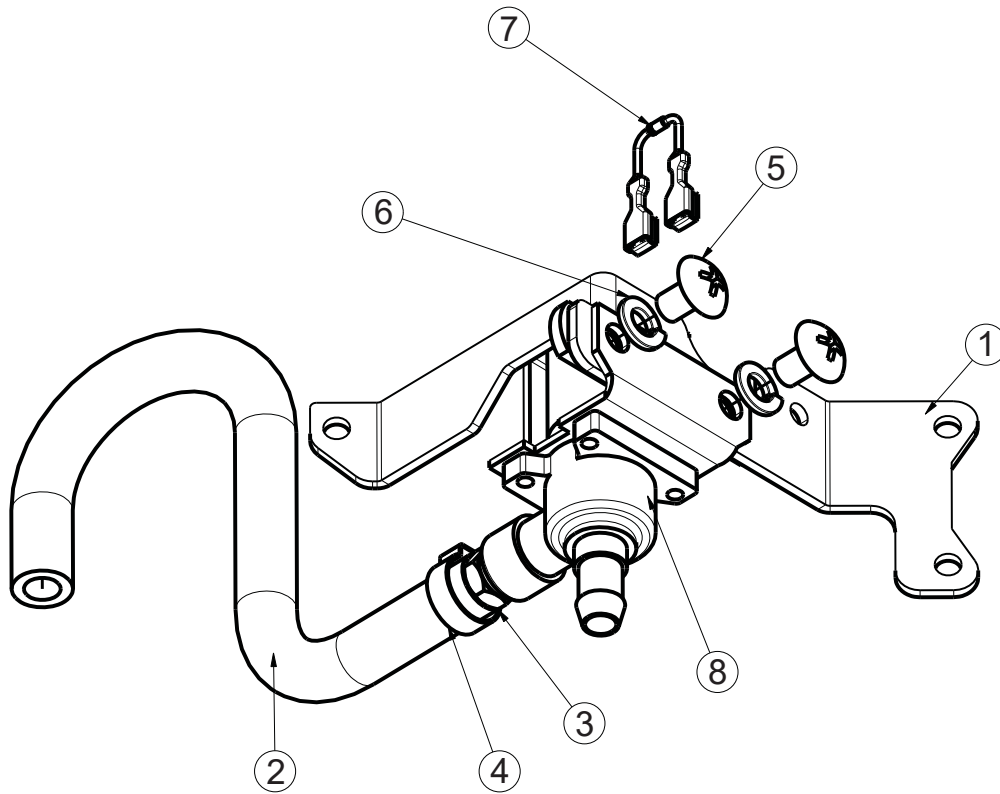
BILL OF MATERIAL - 172001BASE			
ITEM	PART NO.	QTY	DESCRIPTION
1	172013	1	SOLUTION TANK ASSY
2	172014	1	RECOVERY TANK ASSEMBLY
3	172144	1	COVER, FRONT PANEL E1720
4	711504	3	WASHER-FLAT 1/4 SS
5	711543	4	WASHER-LOCK #10 SPLIT ZP
6	712041	1	BLT-SHOULDER 5/16 X .375 LG X 1/4-20 BLK
7	712312	4	WASHER-BALANCING .187 X 1.25
8	712565	2	SCR-THMS 1/4-20 X .62 SS
9	712757	1	WASHER-LOCK #10 SPLIT SS
10	712758	2	WASHER-LOCK 1/4 SPLIT SS
11	712812	4	SCR-PHMS 10-24 X .62 ZP
12	712822	1	SCR-THMS 10-24 X .50 SS
13	3303255	1	CLAMP-HOSE 1.75 DIA NOMINAL



ITEM #6

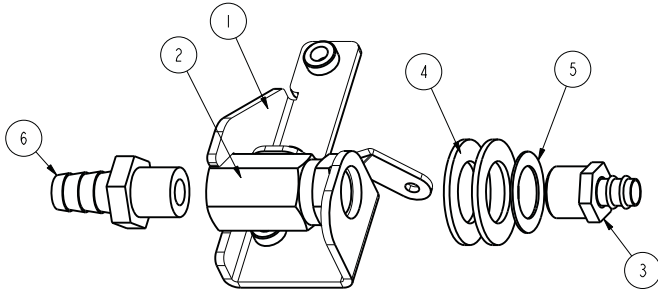


BILL OF MATERIAL - 172009							
ITEM	PART NO.	QTY	DESCRIPTION	ITEM	PART NO.	QTY	DESCRIPTION
1	70-516-16	2	BLT-CARR 5/16-18 X 1 ZP	19	711504	12	WASHER-FLAT 1/4 SS
2	172020	1	E1720 MAIN FRAME WMT	20	711510	2	WASHER-FLAT 1/2 X 1.37 X .10 ZP
3	172038	4	BEARING BLOCK	21	711512	2	WASHER-FLAT 3/4 X 1.37 X .08 ZP
4	172039	1	BEARING BLOCK PLATE	22	711569	3	WASHER-FLAT .390 X .880 X .062 NYL
5	172104	1	SOLENOID MOUNT ASSY	23	711592	2	WASHER-FLAT 1/2 X .90 X .064 NYLON
6	172110	1	DECK SWITCH ASSY	24	712140	8	WASHER-LOCK 5/16 SPLIT SS
6a	172111	1	BEARING BLOCK/SWITCH PLATE	25	712265	1	CLEVIS-YOKE, 1/2-20 WITH .375 PIN
6b	710493	2	SCR-RHMS 4-40 X .75 ZP	26	712301	2	WASHER-FLAT 3/8 X .87 X .06 ZP
6c	711428	2	NUT-HEX 4-40 ZP	27	712562	8	SCR-HH 1/4-20 X .75, 18-8 SS
6d	712326	2	WASHER-INT LOCK #4 SS	28	712564	1	SCR-HH 1/4-20 X 1.00 SS
6e	747603-2	1	SWITCH ASY, MICRO ROLLER W/PACK/CONDUIT	29	712575	8	SCR-HH 5/16-18 X .75 18-8 SS
7	172113	2	BKT, TRANSAXLE MOUNT BASE	30	712591	2	NUT-ACORN 1/4-20 SS
8	172114	2	BKT, TRANSAXLE MOUNT	31	712758	12	WASHER-LOCK 1/4 SPLIT SS
9	172167	2	CASTER, 3 1/2" PU WHEEL	32	712760	1	WASHER-FLAT .56 X 1.06 X .04 SS
10	172368	1	UPPER LIFT ARM	33	712761	1	WASHER-FENDER 1/4 X 1.25 X .059 SS
11	172370	1	DISC DECK LIFT WMT, E1720	34	712772	14	WASHER-FLAT .344 X .75 X .06 SS
12	172425	2	RING-RET EXT .75/20mm HD	35	713007	4	SCR-HH 1/4-20 X 2.00 ZP GR 5
13	172516	1	DRAG CHAIN, SS, 8" W/ RING	36	747606	1	TRANSAXLE, E1720 24V
14	172518	2	WHEEL, 8X2 PU GROOVED	37	809444	1	CLIP-CORD
15	172519	2	KEY-SQUARE 6MM X 45MM	38	833374	1	PIN-HAIRPIN COTTER 3/8
16	172571	1	ASSY-SOLUTION VALVE E1720	39	833833	1	PIN-CLEVIS 3/8 X 1.25
17	600578	1	RING-RUE .50 ZP	40	3400449	1	NUT-JAM 1/2-20 ZP
18	711383	4	NUT-HEX 5/16-18 ZP REVERSE LOC	41	12040077	2	NUT-NYLOC M12 X 1.75 ZD CLASS 8



BILL OF MATERIAL - 172104			
ITEM	PART #	QTY	DESCRIPTION
1	172105	1	BKT, SOLENOID MOUNT
2	281637	1	HOSE-WIRE REINF 3/8 X 11"
3	320264	1	FTG-ADAPTER 1/4 MPT X 1/4 HB BRASS
4	450076	1	CLAMP-HOSE 5/8 (.590-.791) SS
5	710195	2	SCR-PHMS 5/16-18 X .50 ZP
6	711545	2	WASHER-LOCK 5/16 SPLIT ZP
7	740482	1	DIODE ASY, 1N4007 W/PIGGY
8	740493	1	VALVE-WATER 24VDC

Old Style - Solution Valve Assembly



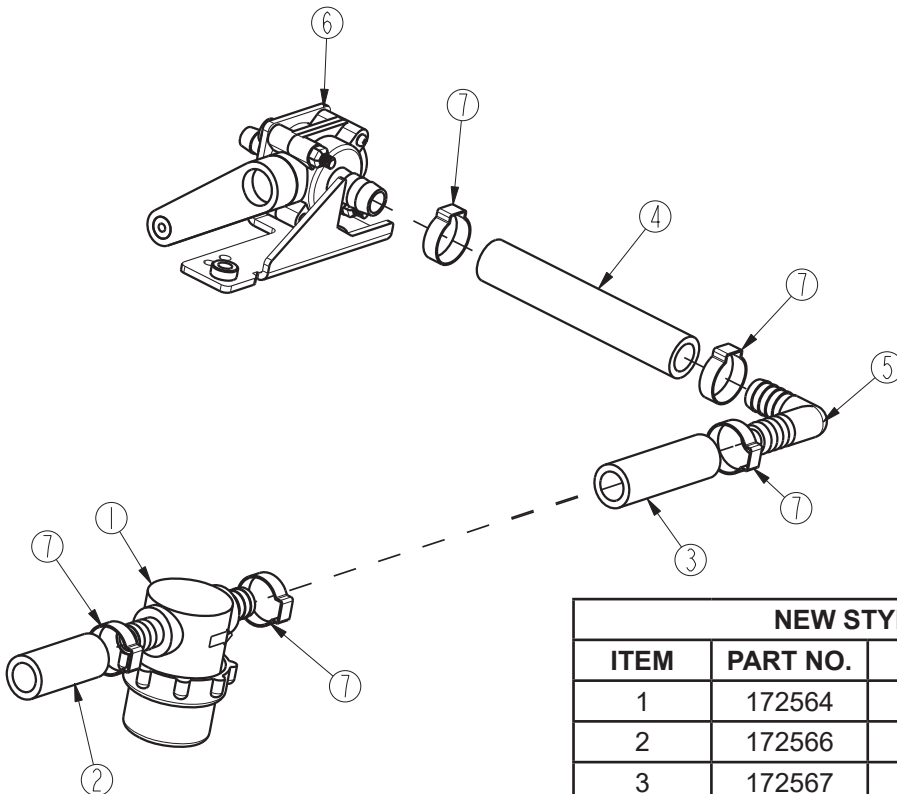
*****REPLACING OLD STYLE BRASS SOLUTION VALVE ASSEMBLY 172514 WITH 172571 PLASTIC SOLUTION VALVE ASSEMBLY**

WILL REQUIRE THE PURCHASE OF KIT K-172571

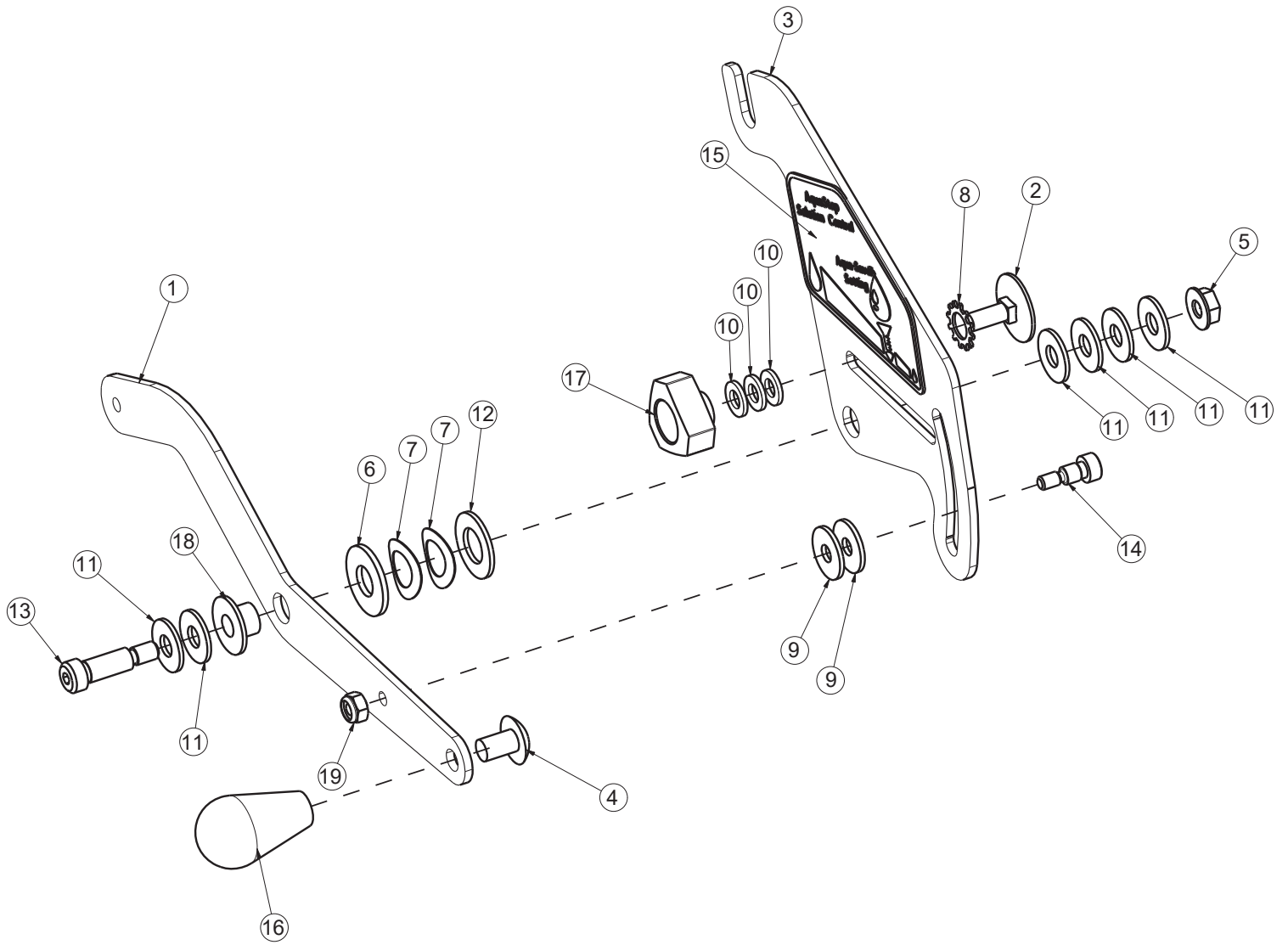
NO LONGER AVAILABLE

OLD STYLE - BILL OF MATERIAL - 172514			
ITEM	PART NO.	QTY	DESCRIPTION
1	172513	1	BRKT, SOL VALVE MOUNT
2	172515	1	BALL VALVE, BRASS, 3/8FNPT, CUST HANDLE
3	320265	1	FTG-ADAPTER 3/8 MPT X 3/8 HB BRASS
4	711512	2	WASHER-FLAT 3/4 X 1.37 X .08 ZP
5	711513	1	WASHER-FLAT .689 X 1.06 X .029 SS
6	827008	1	FTG-ADAPTER 3/8 MPT 1/2 HB BRASS

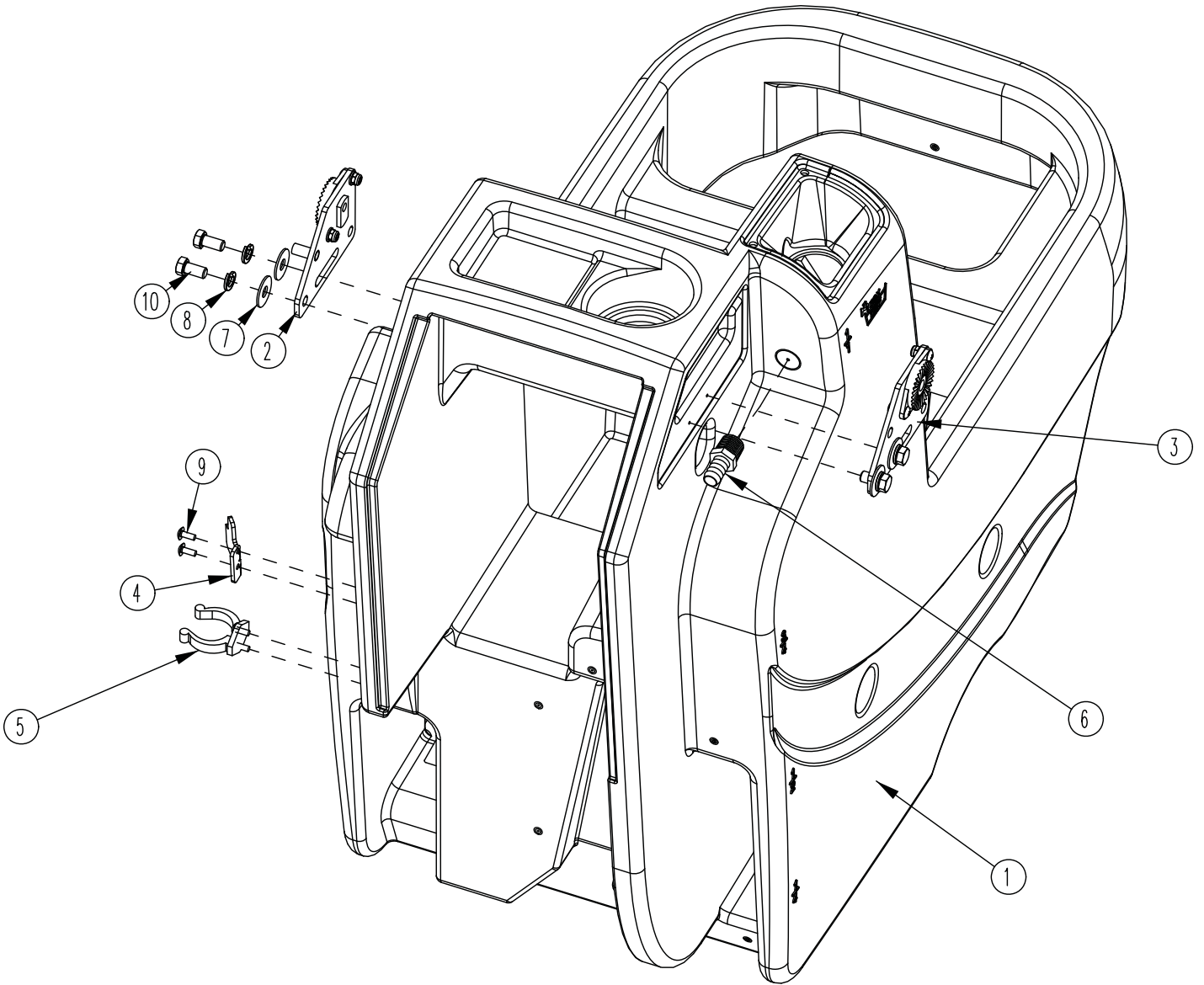
New Style - Solution Valve Assembly



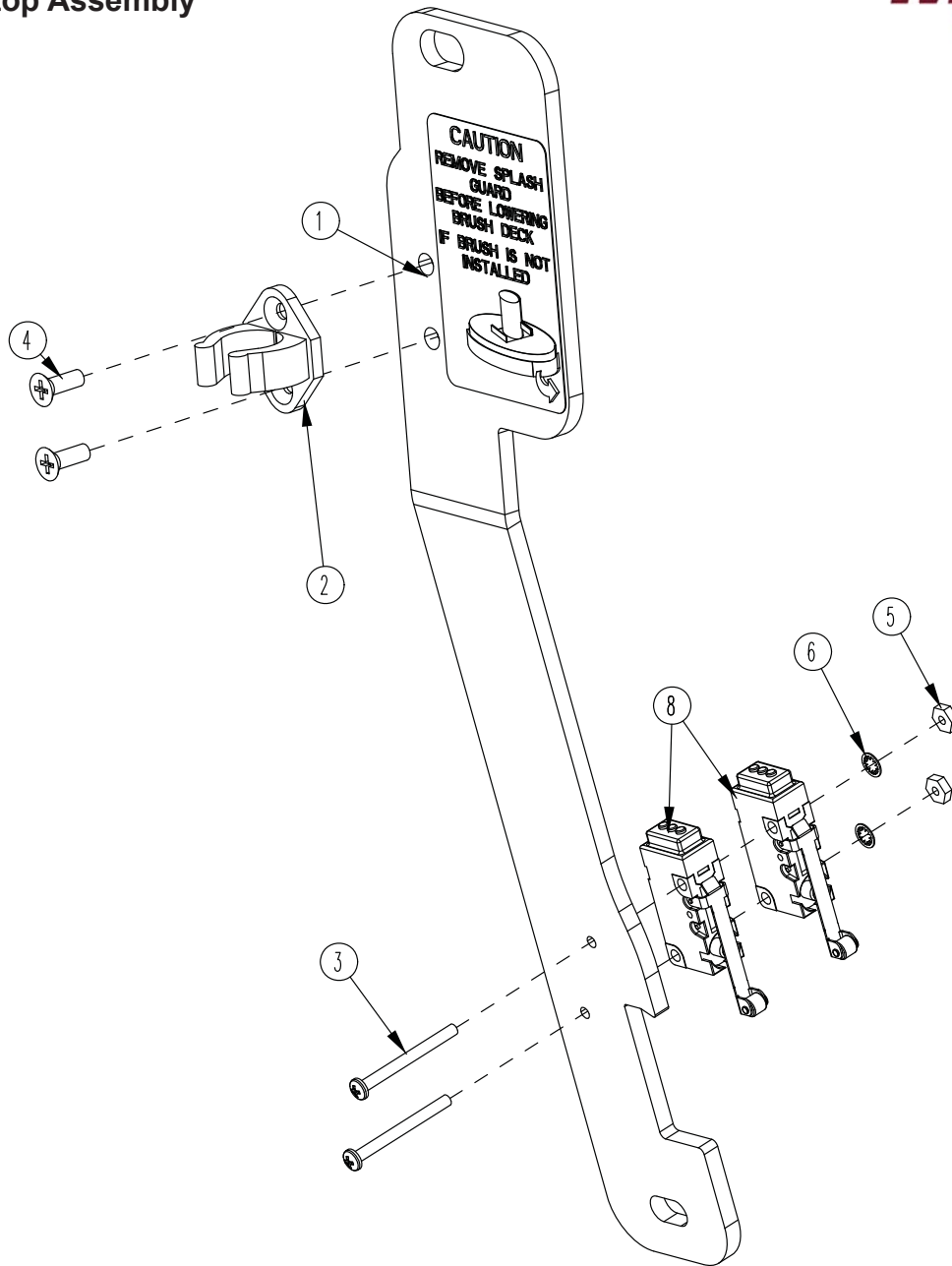
NEW STYLE - BILL OF MATERIAL - 172571			
ITEM	PART NO.	QTY	DESCRIPTION
1	172564	1	FILTER-SOLUTION E1720
2	172566	1	HOSE- 1/2ID X 1.75" NYLOBRAID
3	172567	1	HOSE-1/2"ID X 2.375" NYLOBRAID
4	172568	1	HOSE-WIRE REINF 1/2"ID X 4.25"
5	172569	1	FTG-ELBOW 90 1/2 HB X 1/2 HB NYLON
6	172579	1	SOLUTION CNTRL VALVE, WITH BRKT
7	383347	5	CLAMP-CRIMP 1/2 HOSE



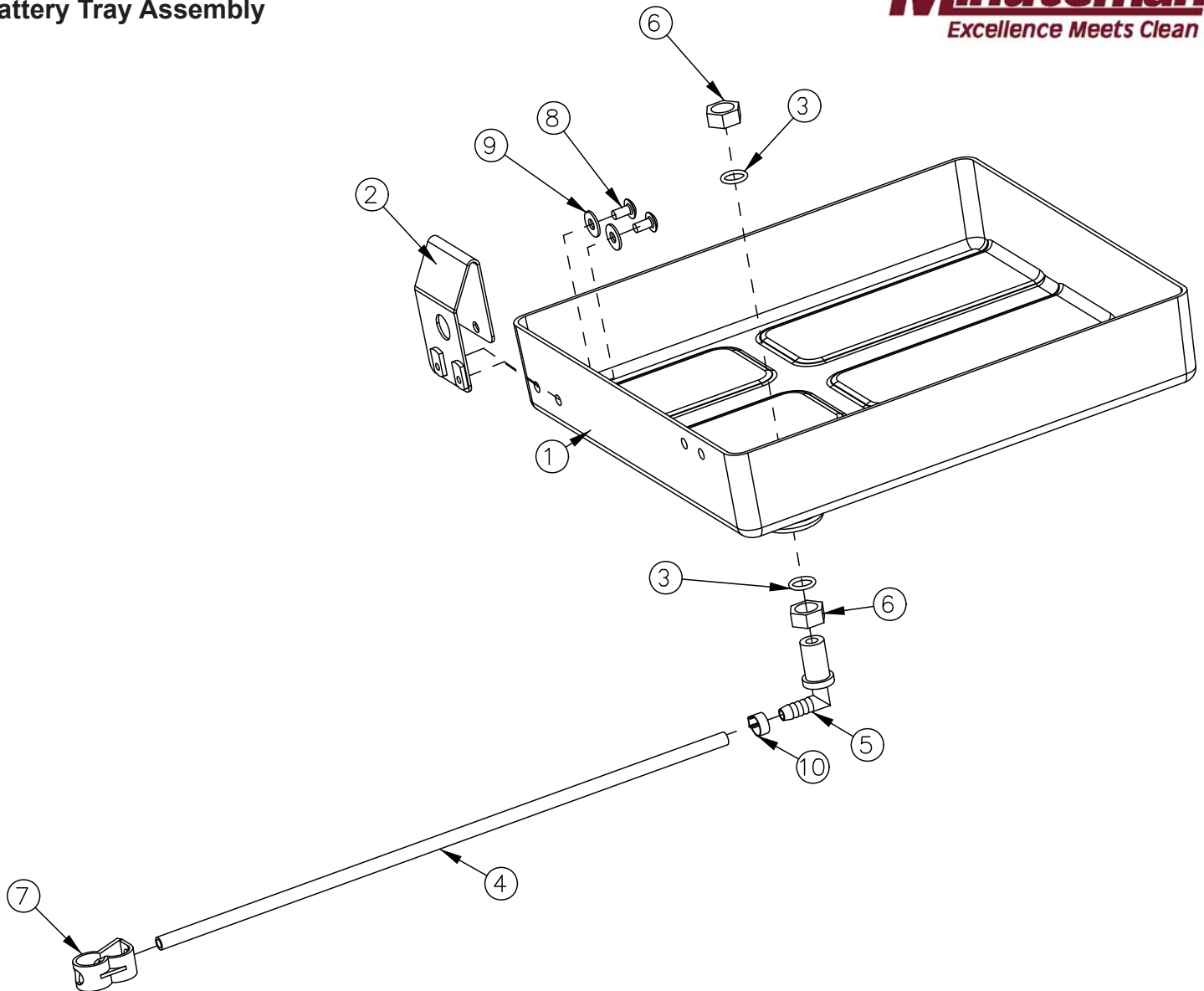
BILL OF MATERIAL - 172577			
ITEM	PART NO.	QTY	DESCRIPTION
1	172061	1	LEVER, SOLUTION CONTROL BRK'T
2	172424	1	BLT-ELEVATOR 1/4-20 x .75 ZINC
3	172575	1	BRKT, AQUASTOP SOL CNTRL
4	710195	1	SCR-PHMS 5/16-18 X .50 ZP
5	711425	1	NUT-FLANGED WIZZ 1/4-20 ZP
6	711508	1	WASHER-FLAT 3/8 X 1.00 X .08 ZP
7	711524	2	WASHER-FLAT 3/8 X 1.00 X .08 ZP
8	711539	1	WASHER-EXT LOCK 3/8 ZP
9	711550	2	WASHER-FLAT 1/4 X .75 NYLON
10	711566	3	WASHER-FLAT #12 X .50 X .065 ZP
11	711575	6	WASHER-FLAT 1/4 X .75 X .06 ZP
12	711592	1	WASHER-FLAT 1/2 X .90 X .064 NYLON
13	712070	1	BLT-SHOULDER 5/16 X .75 LG X 1/4-20 BLK
14	713598	1	BLT-SHOULDER 1/4 X .313 LG X 10-24 SS
15	715690	1	DECAL, AQUASTOP SOLUTION CONTROL
16	760592	1	KNOB-OVAL TAPERED
17	833214	1	KNOB-3 SIDED 1/4-20 INSERT
18	840202	1	BUSHING-FLG .31 X .435 X .325 NYL
19	3400399	1	NUT-NYLOC 10-24 SS



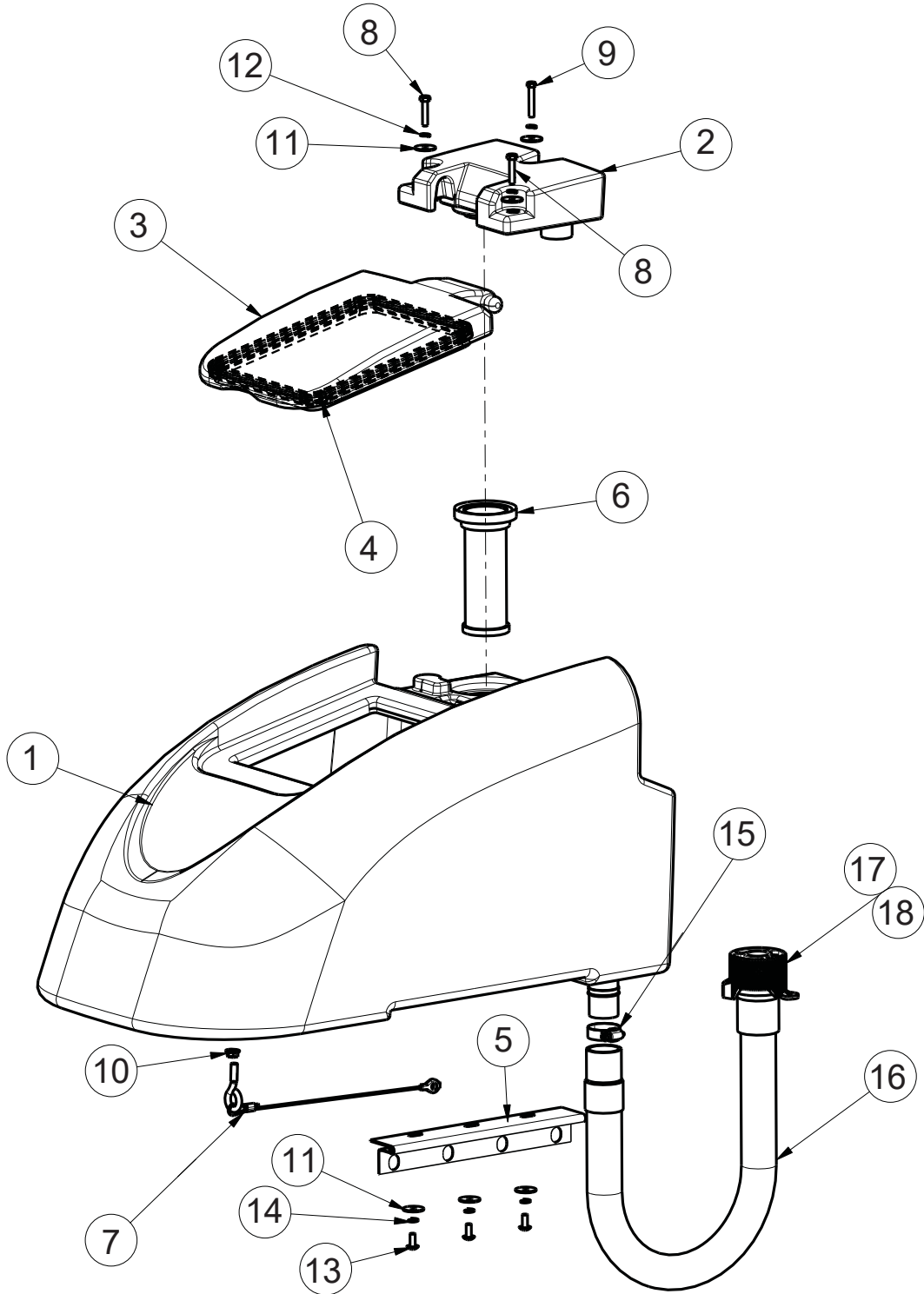
BILL OF MATERIAL - 172013			
ITEM	PART NO.	QTY	DESCRIPTION
1	172003	1	SOLUTION TANK
2	172080	1	HANDLE MOUNT ASSY, LEFT
3	172082	1	HANDLE MOUNT ASSY, RIGHT
4	172341	1	HOOK, DRAIN HOSE WITH TWIST VALVE
5	260579	1	TOOL CLIP, 1.5" HOSE
6	342438	1	FITTING, 1/2 MPT 1/2 HB BRASS
7	711507	4	WSR-FLAT .37 X 1.12 X .06
8	711546	4	WSR-HELICAL 3/8
9	712822	4	SCR-MC TR HD 10-24 X .50 SS
10	713041	4	BLT-HH 3/8-16 X 3/4 #5



BILL OF MATERIAL - 172166			
ITEM	PART NO.	QTY	DESCRIPTION
1	172036	1	BKT, PEDAL STOP
2	172065	1	CLIP, FOR 1/2" ID HOSE
3	710495	2	SCR-MC 4-40 X 1.25 STL Z
4	710530	2	SCR-MC FL HD 8-32 X .50 BRS
5	711428	2	NUT-HEX 4-40
6	712326	2	WSR-INT LOCK #4
7	715685	1	DECAL, REMOVE SPLASH GUARD
8	747603-2	2	SWITCH ASY, MICRO ROLLER W/PACK/CONDUIT

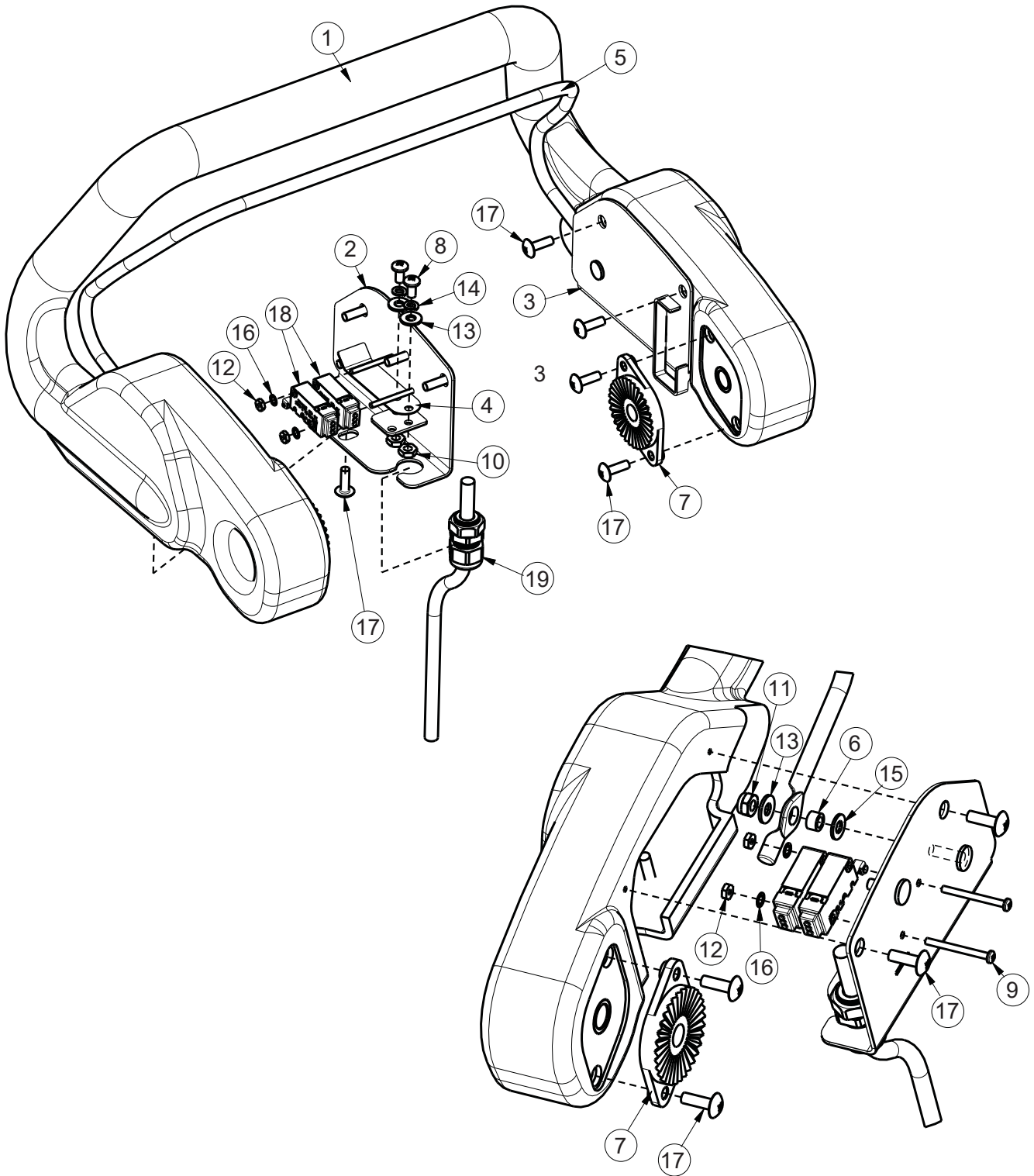


BILL OF MATERIAL - 172012			
ITEM	PART NO.	QTY	DESCRIPTION
1	172116	1	BATTERY BOX
2	172213	1	BKT, SPACER FOR BATTERIES
3	210414	2	O RING 2-113
4	260224	1	18" HOSE
5	320271	1	NOZZLE BODY-ELBOW
6	320272	2	NOZZLE BODY LOCKNUT
7	320273	1	HOSE SHUT-OFF CLAMP
8	710178	2	SCR-MC 1/4-20 X .50 TRUSS STPL
9	711575	2	WSR-FLT .31x.75x.06ST
10	828490	1	CRIMP CLAMP 140R

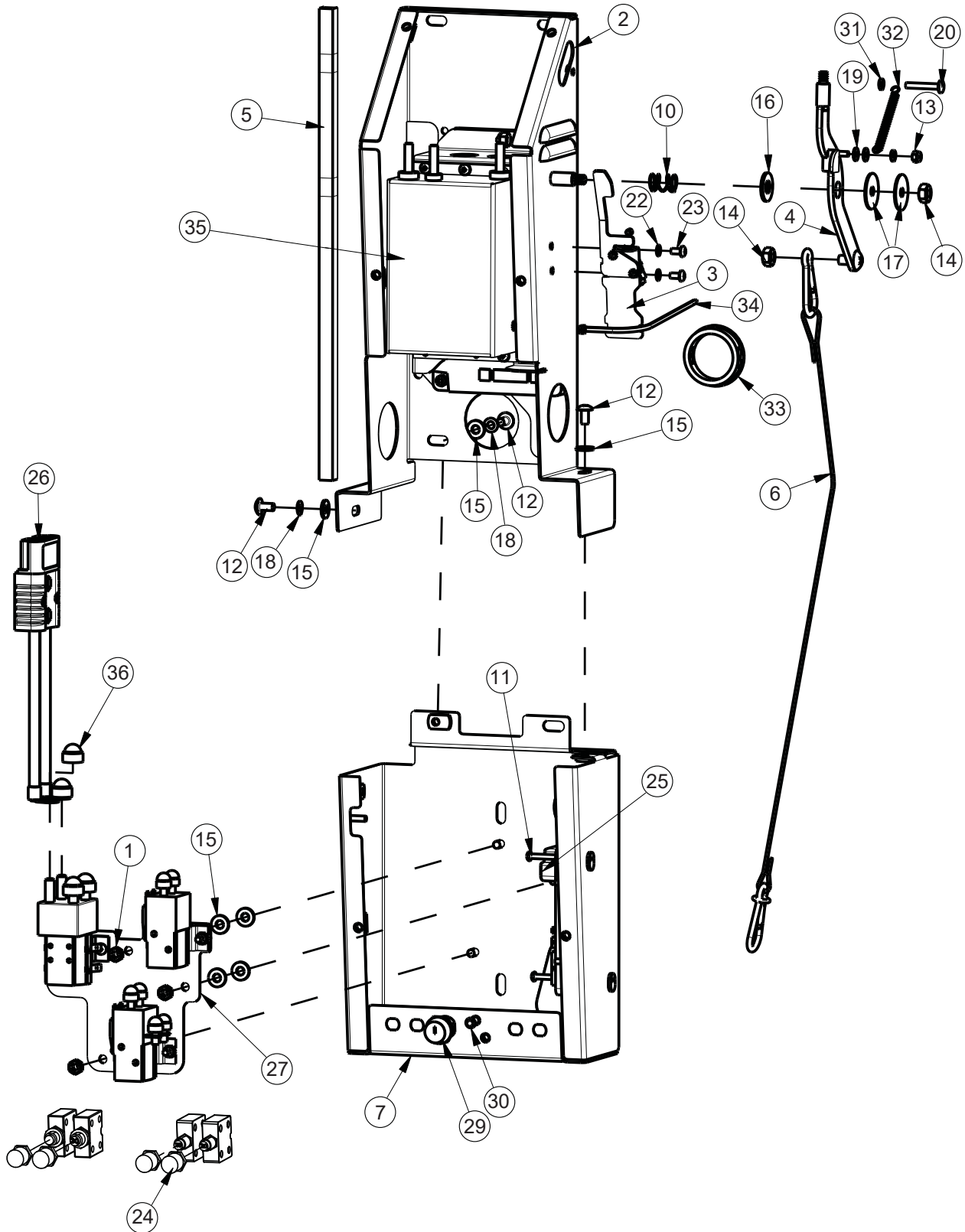


BILL OF MATERIAL - 172014HR

ITEM	PART NO.	QTY	DESCRIPTION
1	172004	1	RECOVERY TANK
2	172005	1	VACUUM MANIFOLD
3	172007	1	LID
4	172017	1	GASKET, LID
5	172049	1	HINGE, RECOVERY TANK
6	172132	1	FLOAT, SCREENED
7	172394	1	CABLE, REC TANK 12.0
8	711210	2	SCR-HH 1/4-20 X 1.25 ZP GR 5 FULL THRD
9	711212	1	SCR-HH 1/4-20 X 1.50 ZP GR 5
10	711379	1	NUT-FLANGED WIZZ 5/16-18 ZP
11	711519	6	WASHER-FLAT 1/4 X 1.00 X .06 ZP
12	711544	3	WASHER-LOCK 1/4 SPLIT ZP
13	712565	3	SCR-THMS 1/4-20 X .62 SS
14	712758	3	WASHER-LOCK 1/4 SPLIT SS
15	3303255	1	CLAMP-HOSE 1.75 DIA NOMINAL
16	97090096	1	DRAIN HOSE ASSY, RECOVERY TANK
17	15282072	1	REPLACEMENT O-RING
18	90304528	1	CAP

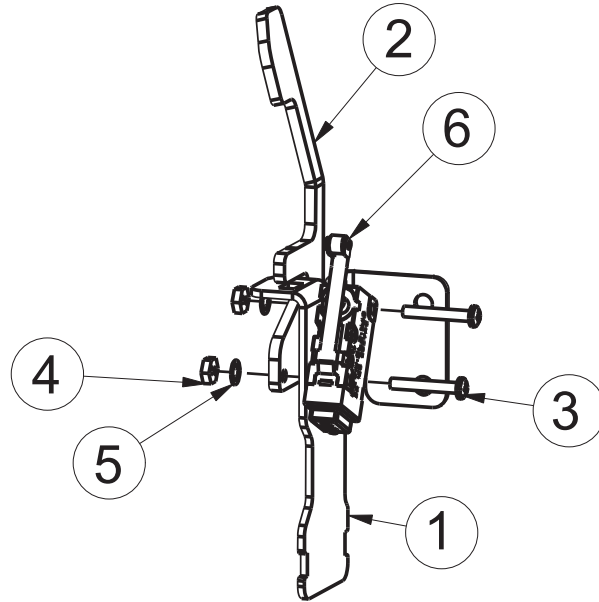


BILL OF MATERIAL - 172015			
ITEM	PART NO.	QTY	DESCRIPTION
1	172006	1	HANDLE
2	172053	1	BAIL PLATE WMT RH
3	172054	1	BAIL PLATE WMT LH
4	172057	2	LEAF SPRING
5	172059	1	BAIL, HANDLE
6	172074	2	SPACER, 5/16OD X 17GA, ALUM
7	270143	2	HANDLE PIVOT JAW
8	710353	4	SCR-MC RD HD 10-32 X.37 STL
9	710495	2	SCR-MC 4-40 X 1.25 STL Z
10	711310	4	NUT, HEX 10-32 ST PL
11	711350	2	NUT-NYLOC 10-32
12	711428	2	NUT-HEX 4-40
13	711503	6	WSR, FLAT#10
14	711543	4	WSR-HELICAL #10
15	712320	2	WSR-NYLON .22 X.45 X.04
16	712326	2	WSR-INT LOCK #4
17	712830	10	SCR-MC 10-24 X.62 STLZ TR HD
18	747603-3	2	SWITCH ASY, MICRO ROLLER W/PACK/CONDUIT
19	747715-1	1	CABLE ASY, 5 COND 18G TD

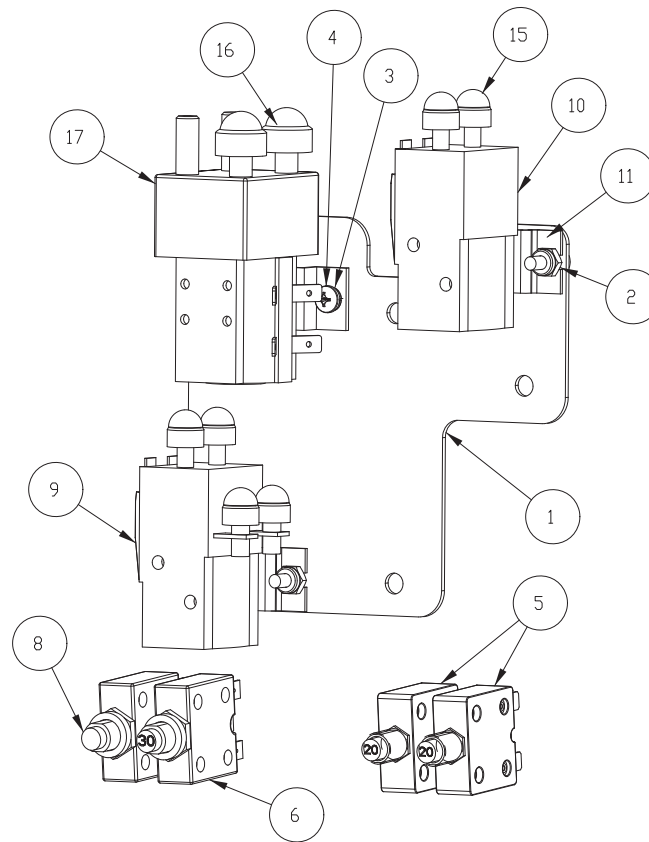


BILL OF MATERIAL - 172075-SPORT							
ITEM	PART #	QTY	DESCRIPTION	ITEM	PART #	QTY	DESCRIPTION
1	369-416	3	NUT-HEX 1/4-20 ZP DOUBLE SERRATED	19	712320	2	WASHER-FLAT 20 X .45 X .048 NYLON
2	172088	1	ELEC BOX TOP WMT	20	712533	1	SCR-PHMS 10-24 X 1.25 SS
3	172141	1	VAC SWITCH ASSY	21	712667	2	NUT-NYLOC 1/4-20 SS
4	172152	1	WELDMENT-VAC LEVER	22	712770	7	WASHER-INT TOOTH LOCK #10 SS
5	172188	1	FOAM TAPE, 1/2" SQ X 16.5"	23	712810	7	SCR-RHMS 10-24 X .37 ZP
6	172381	1	SQUEEGEE CABLE ASSY	24	742748	4	CIRCUIT BREAKER-BOOT
7	172481	1	SPORT ELEC BOX BOTTOM HALF WMT	25	747608	1	I-DRIVE, 24V 70A PM CONTROL (SEE NOTES)
8	172492	1	PANEL, CHARGER MOUNT	26	747637	1	WIRE ASY, MACHINE-BATTERY E1720
9	172493	1	PANEL, I-DRIVE MOUNT	27	748954	1	ELECTRICAL PANEL ASY PHX20 SPORT
10	670093	1	SPRING-COMP .502 X .6 X 1 ZINC	28	747716	1	I-DRIVE, 24V 180A CONTROLLER-SPORT
11	710035	2	SCR-PHMS 8-32 X 1.125 ZP	29	747717	1	KEYSWITCH ASSY, 2 POS, ON/OFF
12	710178	3	SCR-THMS 1/4-20 X .50 ZP	30	747718	1	LAMP ASSY, LED AMBER, 24V
13	711372	3	NUT-NYLOC 8-32 ZP	31	760134	2	MOUNT RING
14	711383	2	NUT-HEX 5/16-18 ZP REVERSE LOC	32	762084	1	SPRING-EXT .25OD X 2" F.L. MUSIC
15	711505	9	WSR-FLAT 1/4 ZP	33	762400	1	BUSH -HEYCO 1-5/8 X 2-1/8 X 29/64 2400 B
16	711508	1	WSR-FLAT 3/8 X 1.00 X .08 ZP	34	828062	1	CABLE TIE LARGE
17	711516	2	WSR-FLAT 5/16 X 1.25 X .05 ZP	35	957761	1	CHRGR, SIGNET HBF300-24 NEMA 5-15 PLUG <i>see below</i>
18	711544	2	WSR-LOCK 1/4 SPLIT ZP	36	15592033	2	CAP, SAFETY NUT COVER

Charger Settings	
Setting	Battery Type
1	Wet 115 AH Group 27, Minuteman Part # 956712
1	AGM 100 AH Group 27 OEM Minuteman Part # 956100 Crown AGM Only
2	Wet 140 AH Group 31 Minuteman Part # 956140 Crown and 956753 Trojan 130 AH
2	AGM 135 AH Group 31 Minuteman Part # 956135 Crown AGM Only
3	All Group 31 GEL and Non Minuteman AGM 135 AH
4	All Group 27 GEL, Minuteman 956157 Trojan 102AH Overdrive AGM and Non Minuteman AGM 100 AH
5 to 0	No Additional Functions

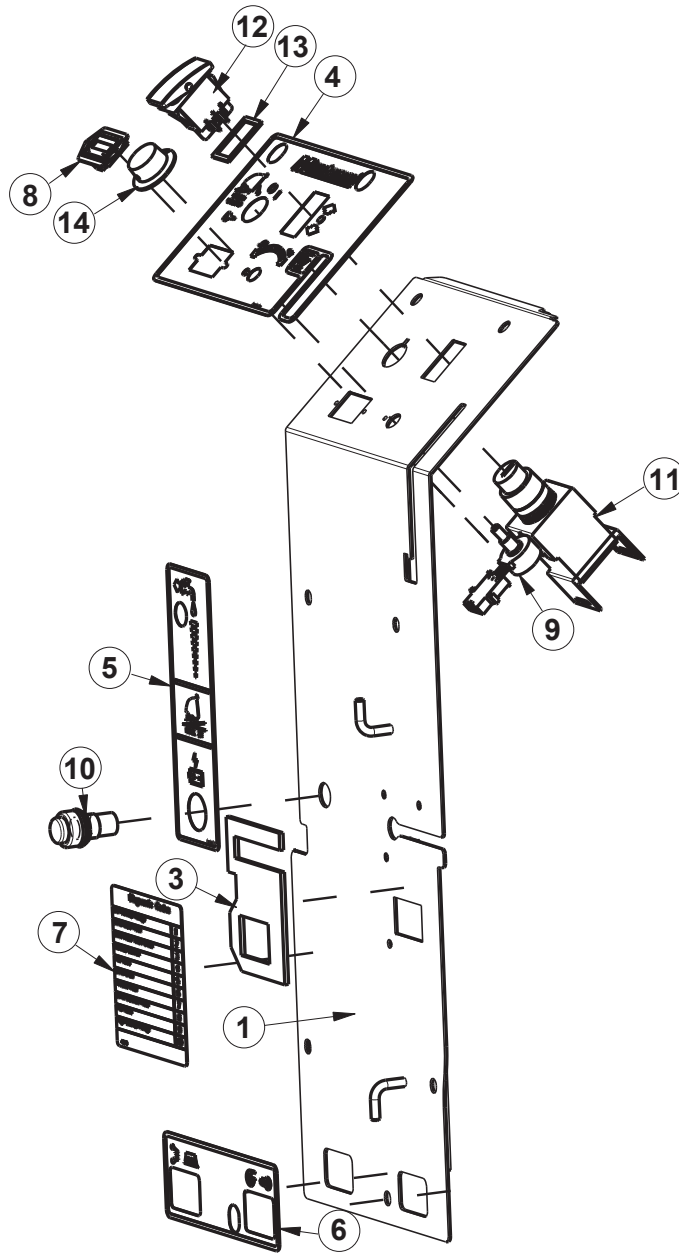


BILL OF MATERIAL - 172141			
ITEM	PART NO.	QTY	DESCRIPTION
1	172140	1	BKT, VAC SWITCH MOUNT
2	172337	1	VAC SWITCH COVER
3	710493	2	SCR-RHMS 4-40 X .75 ZP
4	711428	2	NUT-HEX 4-40 ZP
5	712326	2	WASHER-INT LOCK #4 SS
6	747603-2	1	SWITCH ASY, MICRO ROLLER W/PACK/CONDUIT



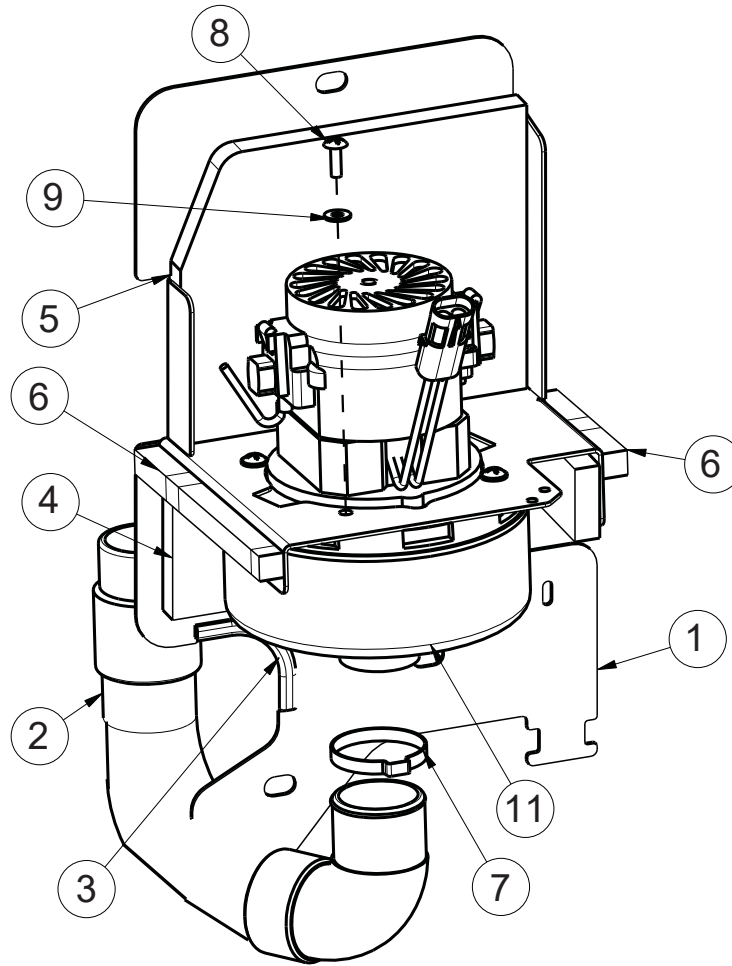
BILL OF MATERIAL - 748954

ITEM	PART NO.	REQ'D	DESCRIPTION
1	172483	1	BKT, RELAY PANEL, SPORT
2	711350	4	NUT-NYLOC 10-32 ZP
3	711543	2	WASHER-LOCK #10 SPLIT ZP
4	712800	2	SCR-RHMS 10-24 X .25 ZP
5	740220	2	CIRCUIT BREAKER-20AMP PUSH BUTTON
6	740549	1	CIRCUIT BREAKER-50AMP PUSH BUTTON
7	740482	2	DIODE ASY, 1N4007 W/PIGGY
8	747609	1	CIRCUIT BREAKER-4.0AMP PUSH BUTTON
9	747615	1	RELAY, 24VDC 2 POLE NO/NC 80A
10	747616	1	RELAY, 24VDC 1 POLE NO 80A
11	747619	2	BRACKET, RELAY 747615 & 747616
12	748359	1	WIRE ASSY, RED 8 AWG
14	748953	1	HARNESS, E20 SPORT, MAIN
15	15592025	6	CAP, SAFETY NUT COVER M6
16	15592033	2	CAP, SAFETY NUT COVER M8
17	90331026	1	RELAY, 24VDC 2 POLE NO 125A



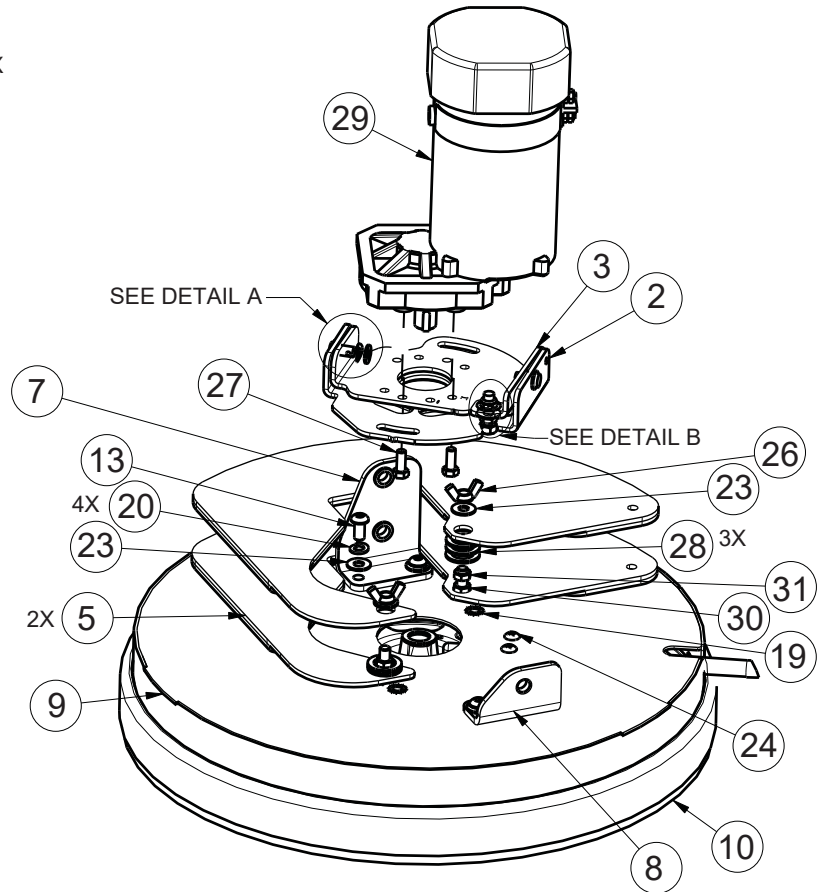
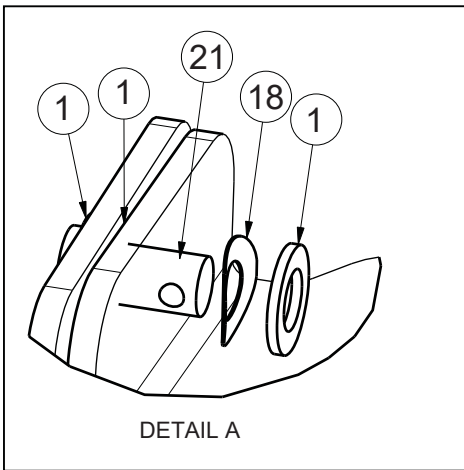
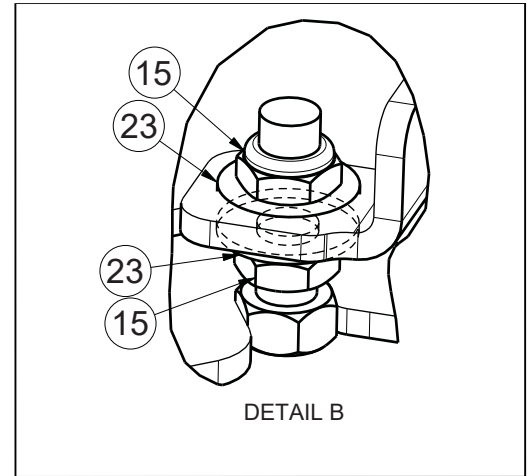
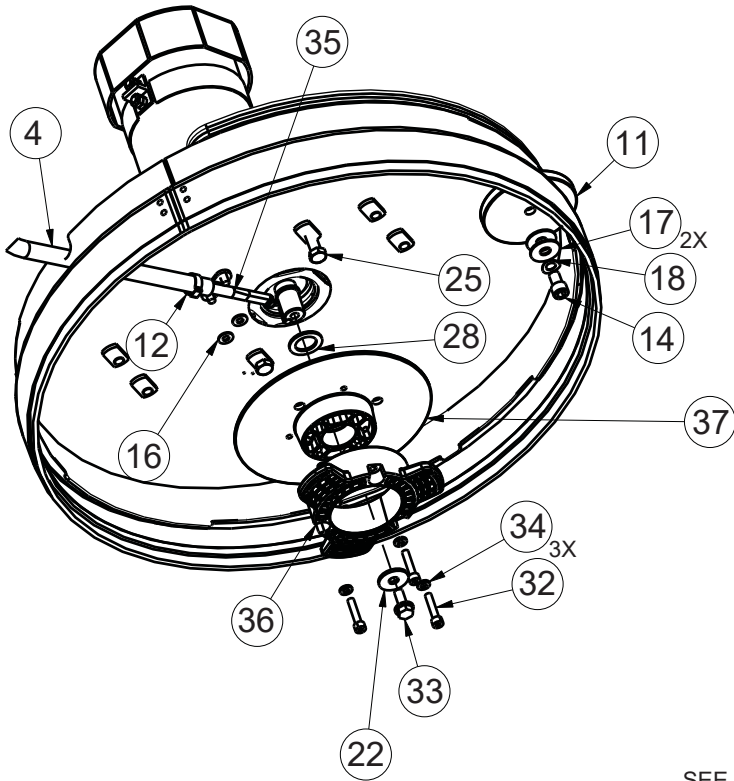
BILL OF MATERIAL - 172079

ITEM	PART #	QTY	DESCRIPTION	ITEM	PART #	QTY	DESCRIPTION
1	172485	1	E20 SPORT ELEC BOX COVER WMT	9	747026	1	POTENTIOMETER ASSY, SPEED CONTROL 5K
3	172194	1	GASKET, CHARGER CORD PLATE	10	747614	1	INDICATOR, BATTERY CHARGE STATUS
4	715671	1	DECAL, DASHBOARD ES1720TD	11	747617	1	KEYSWITCH ASSEMBLY
5	715697	1	DECAL, SPORT CHARGER STATUS	12	748201	1	SWITCH, DPDT ON/OFF/ON (SCV 2426)
6	715693	1	DECAL, SPORT C.B./KEY/LED	13	748209	1	GASKET-FOR 2 POLE ROCKER SWITCHES
7	715699	1	DECAL, DIAG. CODES, NARROW	14	809874	1	KNOB-SPEED CONTROL
8	747011	1	GAUGE-BATTERY TRUCHARGE PGDT 36VDC				

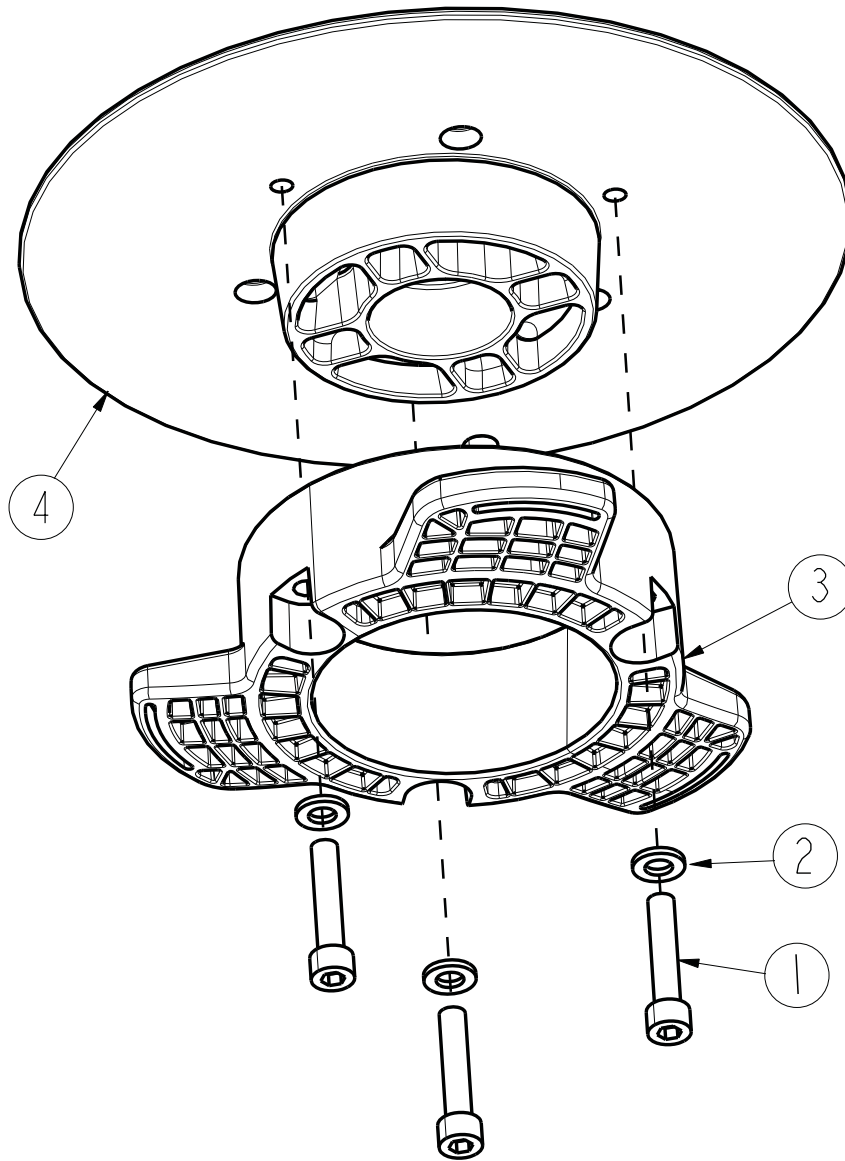


BILL OF MATERIAL - 172050

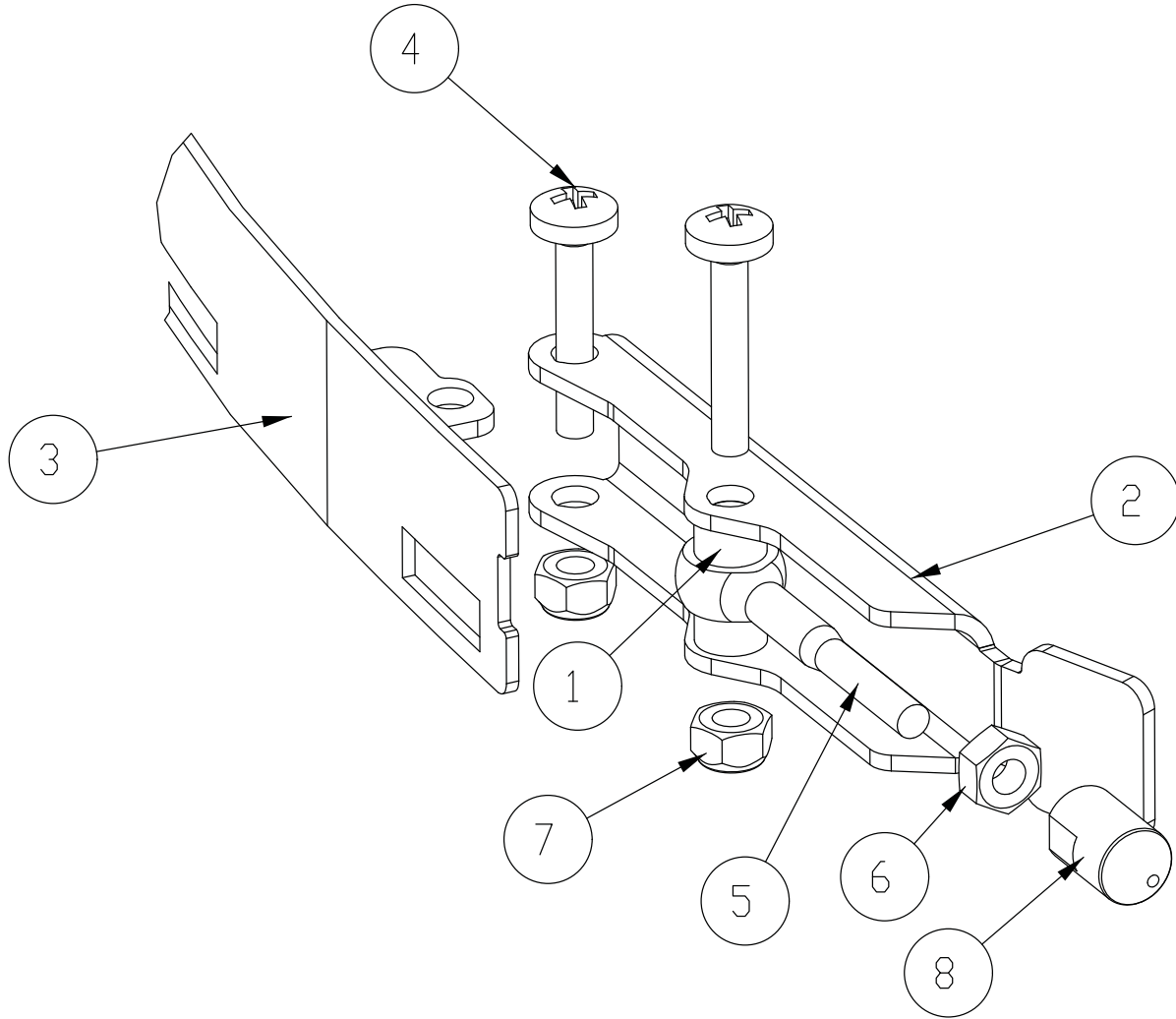
ITEM	PART NO.	QTY	DESCRIPTION
1	172045	1	VAC MOUNT WMT
2	172048	1	HOSE, STRETCH 13", 90 CUFF
3	172124	1	EDGE TRIM, .063 X 3.0, BLACK
4	172186	1	FOAM COVER FRONT 1, 1/2 THICK
5	172187	1	FOAM COVER FRONT 2, 1/2" THICK
6	172188	.5	FOAM TAPE, 1/2" SQ X 16.5"
7	450095	1	CLAMP-CRIMP 1.75" OD
8	711160	4	SCR-HI/LO 10 X .625 BLACK ZINC
9	711503	4	WASHER-FLAT #10 X .50 ZP
10	715967	1	DECAL - WARNING, DO NOT PICK UP (NOT SHOWN)
11	747607-1	1	VAC MOTOR ASY, 24V PERIF BYPASS



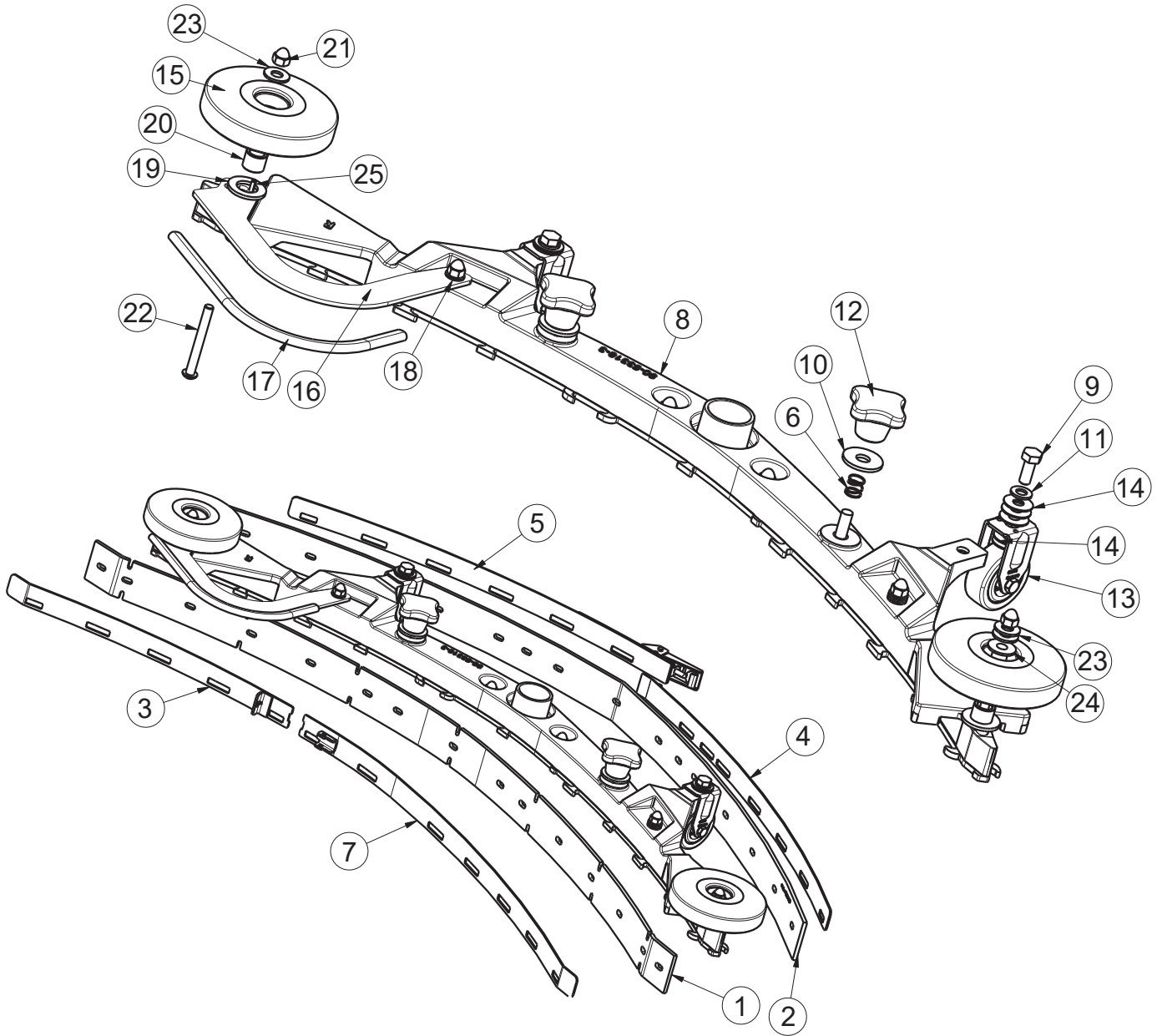
BILL OF MATERIAL - 172100-SPORT			
ITEM	PART NO.	QTY	DESCRIPTION
1	81-166-A	6	WASHER-FLAT .390 X .687 ZP
2	172040	1	WELDMENT-DECK ANGLE ADJUST
3	172044	1	PLATE MOTOR MOUNT
4	172198	1	HOSE-NYLO REINF 3/8 X 22.5"
5	172208-1	2	E20 SPORT BRUSH DECK PLATE
7	172296	1	BKT, E1720 DECK MOUNT RT
8	172297	1	BKT, E1720 DECK MOUNT LEFT
9	172375	1	DECK COVER WMT, 20"
10	172384	1	E20 FLOATING BRUSH DECK SKIRT
11	210153	1	ROLLER WHEEL
12	450076	1	CLAMP-HOSE 5/8 (.590-.791) SS
13	710990	4	SCR-BHSCS 3/8-24 X .75 ZP
14	710991	1	SCR-HH 3/8-24 X .62 ZP GR 5
15	711375	2	NUT-NYLOC 3/8-16 ZP
16	711504	2	WASHER-FLAT 1/4 SS
17	711507	2	WASHER-FLAT 3/8 X 1.12 X .06
18	711523	3	WASHER-WAVE .37 X .68 X .08
19	711539	2	WASHER-EXT LOCK 3/8 ZP
20	711546	4	WASHER-LOCK 3/8 SPLIT ZP
21	711679	2	PIN-CLEVIS 3/8 X .750 ZP
22	711855	1	WASHER-FENDER 3/8 X 1.12 X .10 ZP HARD
23	712301	8	WASHER-FLAT 3/8 X .87 X .06 ZP
24	712565	2	SCR-THMS 1/4-20 X .62 SS
25	712835	2	SCR-HH 3/8-24 X 1.5 SS FULL THREAD TAP
26	712836	2	NUT-WING 3/8-24 ZP
27	717024	4	SCR-HH M8-1.25 X 20 ZP GRADE 8.8
28	717025	7	WASHER-FLAT 13/16 X 1.25 X .08 ZP
29	747706	1	MOTOR, 24VDC PM 750W
30	3400067	2	NUT-HEX 3/8-24 ZP GR 5
31	3400075	2	NUT-JAM 3/8-24 ZP
32	11127000	3	SCR-SHCS M6X30 SS, ISO4762
33	11717203	1	BLT-HH FLG M8X1.25X20 PRECOTE, ZD 10.9
34	12310256	3	WSR-FLT 6.4X12X1.6, SS DIN125
35	90311663	1	FITTING, WATER NOZZLE W/ MOUNT HOLES
36	90541814	1	DRIVE HUB, PLASTIC, 3-LOBE
37	172096MCH	1	HUB BASE MACHINED



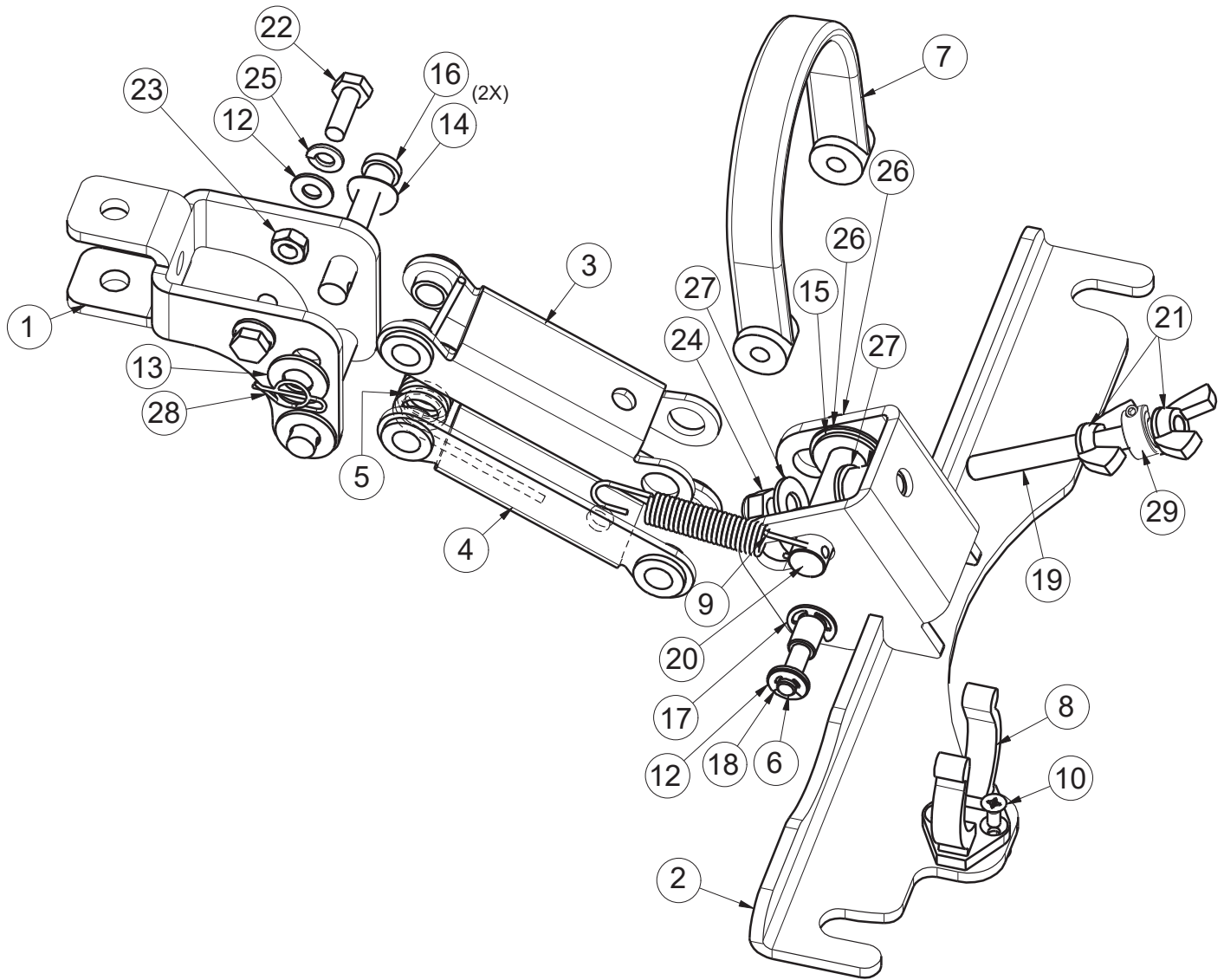
BILL OF MATERIAL - 172510			
ITEM	PART NO.	QTY	DESCRIPTION
1	11127000	3	SCR-SHCS M6X30 SS, ISO4762
2	12310256	3	WSR-FLT 6.4X12X1.6, SS DIN125
3	90541814	1	DRIVE HUB, PLASTIC 3 LOBE
4	172096MCH	1	BASE, DRIVE HUB WITH KEYWAY



BILL OF MATERIAL - 172440			
ITEM	PART NO.	QTY	DESCRIPTION
1	172074	2	SPACER, 5/16OD X 17GA, ALUM
2	172234	1	LEVER, 90535758
3	172240	1	STRAP WMT, FRONT LEFT
4	11175494	2	SCR-MC M5 X 25 SS DIN7985
5	11518313	1	BLT-EYE M5 X 40 SS
6	12022430	1	NUT- HEX, M5, SS DIN934
7	12040283	2	NUT- HEX, M5 NYLON LOCK, SS DIN985
8	90513631	1	PIN, THD 90513631



BILL OF MATERIAL - 172534			
ITEM	PART NO.	QTY	DESCRIPTION
1	172162	1	SQUEEGEE BLADE, FRONT 34" (860) 4MM PU
2	172163	1	SQUEEGEE BLADE, REAR 34" (860), 4MM PU
3	172241	1	STRAP WMT, FRONT RT - 34" (860) SQG
4	172245	1	STRAP WMT, REAR LEFT - 34" (860) SQG
5	172246	1	WELD-STRAP REAR RT - 34" (860) SQG
6	172429	2	SPRING, COMP .4 ID X .5FL SS
7	172440	1	STRAP W/ LATCH, FRONT LEFT, 34" SQG
8	172535	1	34" SQUEEGEE BASE ASM
9	717030	2	SCR-HH M8-1.25 X 20 SS
10	717040	2	WASHER-FLAT M10.5 X 30 X 2.5 SS
11	12310264	2	WSR-FLT M8.4 X 16 X 1.6 A2 SS 140HV DIN
12	17133026	2	STAR HANDLE, M10, BLACK
13	90513094	2	FIXED CASTER
14	90531112	10	WASHER-FLAT 8.3 x 22 x 1.00mm STAINLESS
15	90548397	2	ROLLER - PLASTIC, 100mm DIA. (4")
16	172271	1	BUMPER, 34" SQG
17	172274	1	EDGE TRIM, 5/16 X 10" BLACK
18	711504	5	WASHER-FLAT 1/4 SS
19	711527	2	WASHER-FLAT .63 X 1.12 X .09
20	430322	2	BUSHING-.435 X .625 X .50 ZINC
21	712591	6	NUT-ACORN 1/4-20 SS
22	712592	2	SCR-BHSCS 1/4-20 X 2.25 SS
23	712772	3	WASHER-FLAT .344 X .75 X .06 SS
24	840202	1	BUSHING-FLG .31 X .435 X .325 NYL
25	3400727	1	PIN-ROLL 1/8 X .50 ZINC

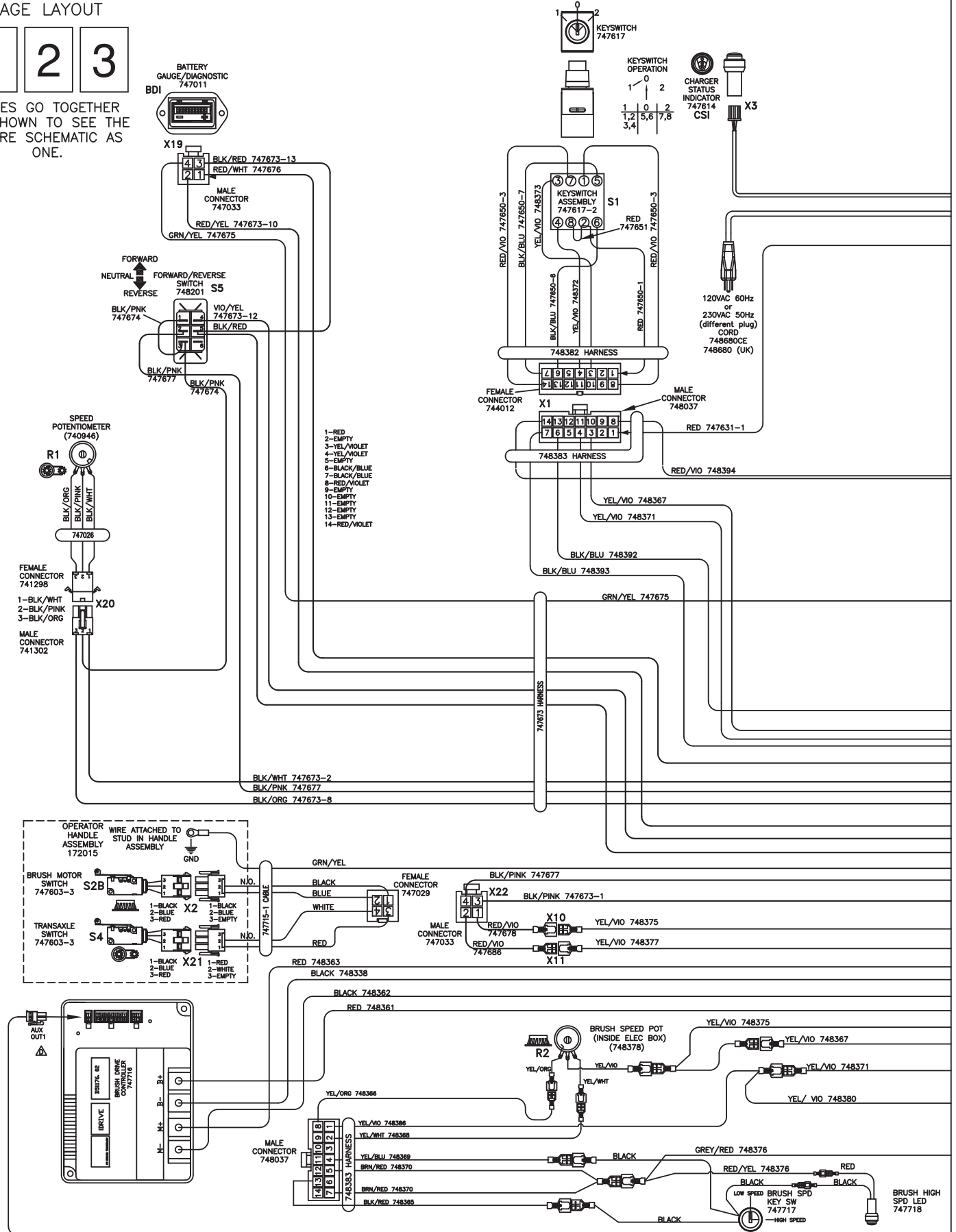


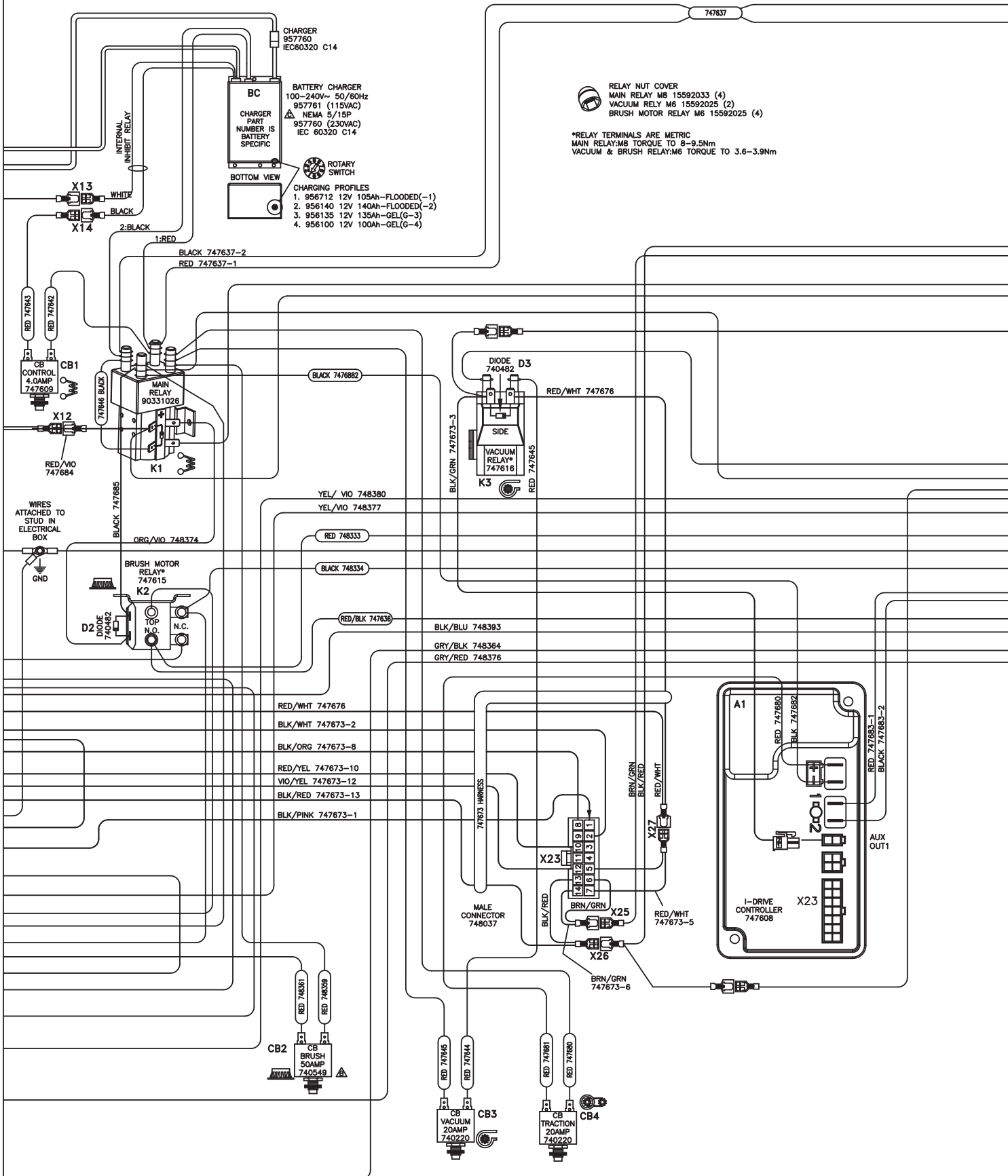
Squeegee Mechanism Assembly BOM

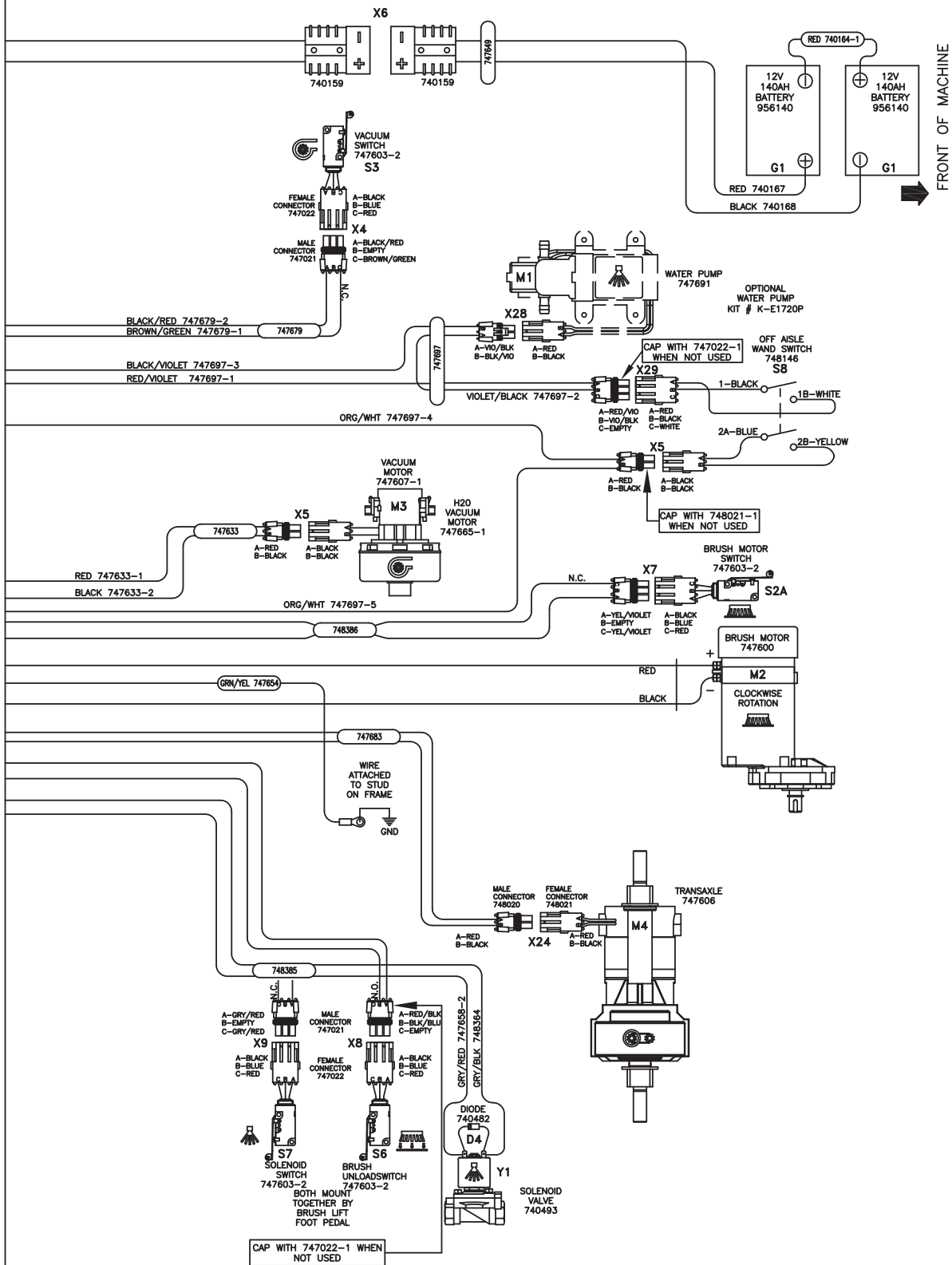
BILL OF MATERIAL - 172150

ITEM	PART NO.	QTY	DESCRIPTION
1	172134	1	BKT, SQG HINGE
2	172155	1	SQUEEGEE MOUNT WMT
3	172196	1	UPPER SQG LINK
4	172197	1	LOWER SQG LINK
5	172261	1	SPRING, TORSION 1720 SQG
6	172352	1	PIN, 3/8 X 3.0, SQG STRAP
7	172357	1	STRAP, 9" PU, BLACK
8	260579	1	CLIP-TOOL 1.5 INCH HOSE
9	430051	1	SPRING-RETURN .313 X .438 X 2.93 SS
10	710528	2	SCR-FHMS 8-32 X .37 BRASS
11	711420	1	NUT-JAM 5/16-18 ZP
12	711504	4	WASHER-FLAT 1/4 SS
13	712767	2	WASHER-FLAT .406 X .75 X .035 SS
14	711523	2	WASHER-WAVE .37 X .68 X .08
15	711592	2	WASHER-FLAT 1/2 X .90 X .064 NYLON
16	711678	2	PIN-CLEVIS 3/8 X 2 1/4 ZP
17	711717	2	RET RING-E EXT .37
18	711720	2	RET RING-E EXT .25
19	712147	1	ROD-THD 5/16-18 X 3.25 SS
20	712148	1	PIN-CLEVIS 1/2 X 2.25 WITH HOLE
21	712157	2	NUT-WING 5/16-18 SS
22	712562	2	SCR-HH 1/4-20 X .75, 18-8 SS
23	712665	2	NUT-HEX 1/4-20 SS
24	712683	1	NUT-NYLOC 5/16-18 SS
25	712758	2	WASHER-LOCK 1/4 SPLIT SS
26	712760	3	WASHER-FLAT .56 X 1.06 X .04 SS
27	712772	2	WASHER-FLAT .344 X .75 X .06 SS
28	3400125	1	RING-RUE 3/8
29	713528	1	COLLAR-THREADED CLAMP 5/16-18X5/16-BK OX

PAGES GO TOGETHER AS SHOWN TO SEE THE ENTIRE SCHEMATIC AS ONE.









Minuteman International Made Simple Commercial Limited Warranty

REVISION O EFFECTIVE 4/1/2016

Minuteman International, Inc. warrants to the original purchaser/user that the product is free from defects in workmanship and materials under normal use. Minuteman will, at its option, repair or replace without charge, parts that fail under normal use and service when operated and maintained in accordance with the applicable operation and instruction manuals. All warranty claims must be submitted through and approved by factory authorized repair stations.

This warranty does not apply to normal wear, or to items whose life is dependent on their use and care, such as belts, cords, switches, hoses, rubber parts, electrical motor components or adjustments. Parts manufactured by Minuteman are covered by and subject to the warranties and/or guarantees of their manufacturers. Please contact Minuteman for procedures in warranty claims against these manufacturers.

Special warning to purchaser -- Use of replacement filters and/or pre-filters not manufactured by Minuteman or its designated licensees, will void all warranties expressed or implied. A potential health hazard exists without original equipment replacement.

All warranted items become the sole property of Minuteman or its original manufacturer, whichever the case may be.

Minuteman disclaims any implied warranty, including the warranty of merchantability and the warranty of fitness for a particular purpose. Minuteman assumes no responsibility for any special, incidental or consequential damages.

This limited warranty is applicable only in the U.S.A. and Canada, and is extended only to the original user/purchaser of this product. Customers outside the U.S.A. and Canada should contact their local distributor for export warranty policies. Minuteman is not responsible for costs or repairs performed by persons other than those specifically authorized by Minuteman. This warranty does not apply to damage from transportation, alterations by unauthorized persons, misuse or abuse of the equipment, use of non-compatible chemicals, or damage to property, or loss of income due to malfunctions of the product.

If a difficulty develops with this machine, you should contact the dealer from whom it was purchased.

This warranty gives you specific legal rights, and you may have other rights which vary from state to state. Some states do not allow the exclusion or limitation of special, incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusions and limitations may not apply to you.

Model	Parts	Labor	Poly	Travel**
Cord Electric Group	5yrs	3yrs	12yrs	90 days
Battery Operated Group	5yrs	3yrs	12yrs	90 days

Exceptions.....

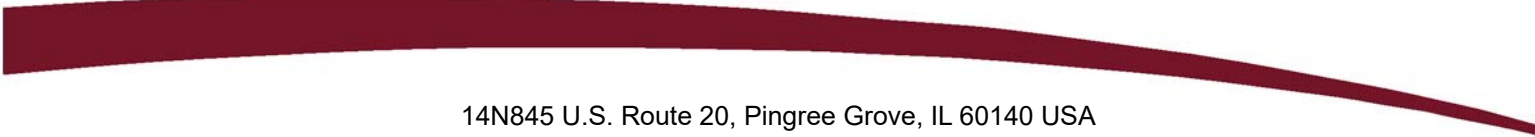
Model	Parts	Labor	Poly	Travel**
Port A Scrub, all models	1yr	6months	12yrs	90 days
A3S Blower	1yr	1yr	0	0
Phenom Dual Motor Upright Vacuums	2yrs	2yrs	0	0
Explosion Proof Vacuum	1yr	1yr	0	0
Propane Burnisher	1yr	1yr	0	90 days
**Travel, 2 hours max				

<i>Stand-alone Battery Chargers:</i>	One year
<i>Replacement Parts:</i>	Ninety days
<i>Batteries:</i>	0-3 months full replacement, 4-12 months pro-rate
<i>Polypropylene Plastic Tanks:</i>	12yr warranty, no additional labor

NOTES

“Excellence Meets Clean”

**Minuteman is a Full Line Manufacturer of Sweepers and Scrubbers,
for Industrial Facilities.**



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