Minuteman®
Excellence Meets Clean

RoboScrub 20

Parts Manual



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
Minuteman International, Inc.
14N845 U.S. Route 20
Pingree Grove, Illinois 60140 USA

Phone: (800) 323-9420
Email: tech@minutemanintl.com

Technical Specifications

Model **RoboScrub 20**
Models: MR20-AIQP

MODEL	MINUTEMAN MAX RIDE 20 (A-MR20)
DIMENSIONS WITH SQUEEGEE	47.5 IN LENGTH X 29 IN WIDTH X 45 IN HEIGHT (120.65 CM X 73.66 CM X 114.3 CM)
WEIGHT	342 LBS (155.13 KG)
WEIGHT WITH BATTERIES AND FULL SOLUTION	691 LBS (313.43 KG)
SOLUTION TANK CAPACITY	18 GAL (68.14 L)
CLEANING PATH WIDTH	20 IN (50.8 CM)
SQUEEGEE WIDTH	26.75 IN (67.95 CM)
MINIMUM TURN AROUND AISLE WIDTH	54 IN (137.16 CM)
APPROXIMATE PRODUCTIVITY RATE	22,015 SQ FT/HR (2,045.26 SQ M/HR)
MAXIMUM PRODUCTIVITY RATE	27,200 SQ FT/HR (2,526.96 SQ M/HR)
MAXIMUM SPEED (MANUAL OPERATION)	3.1 MPH (5 KPH)
SCRUB HEAD TYPE	DISC
BRUSH PRESSURE	60 LBS (27.22 KG)
BRUSH MOTOR	400 – 600 WATTS
BRUSH SPEED	175 – 400 RPM
SOLUTION FLOW (LOW to HIGH)	0.07 – 0.38 GPM (0.27 – 1.44 LPM)
VACUUM MOTOR	550 WATTS
VACUUM AIRFLOW	69 CFM (32.56 L/SEC)
VACUUM WATERLIFT	68 IN H_20 (172.72 CM H_20)
SOUND PRESSURE/DECIBEL RATING	68 DBA
BATTERIES	(2) 12 V AGM SEALED, MAINTENANCE-FREE
BATTERY CHARGER	OFFBOARD/SHELF
MAXIMUM RUN TIME	4 HOURS
MACHINE VOLTAGE	24 VDC
MAXIMUM INCLINE/DECLINE GRADE LEVEL	0% ROBOTIC; 2% MANUAL
APPROVALS	NONE
IP PROTECTION CLASS	IPX4

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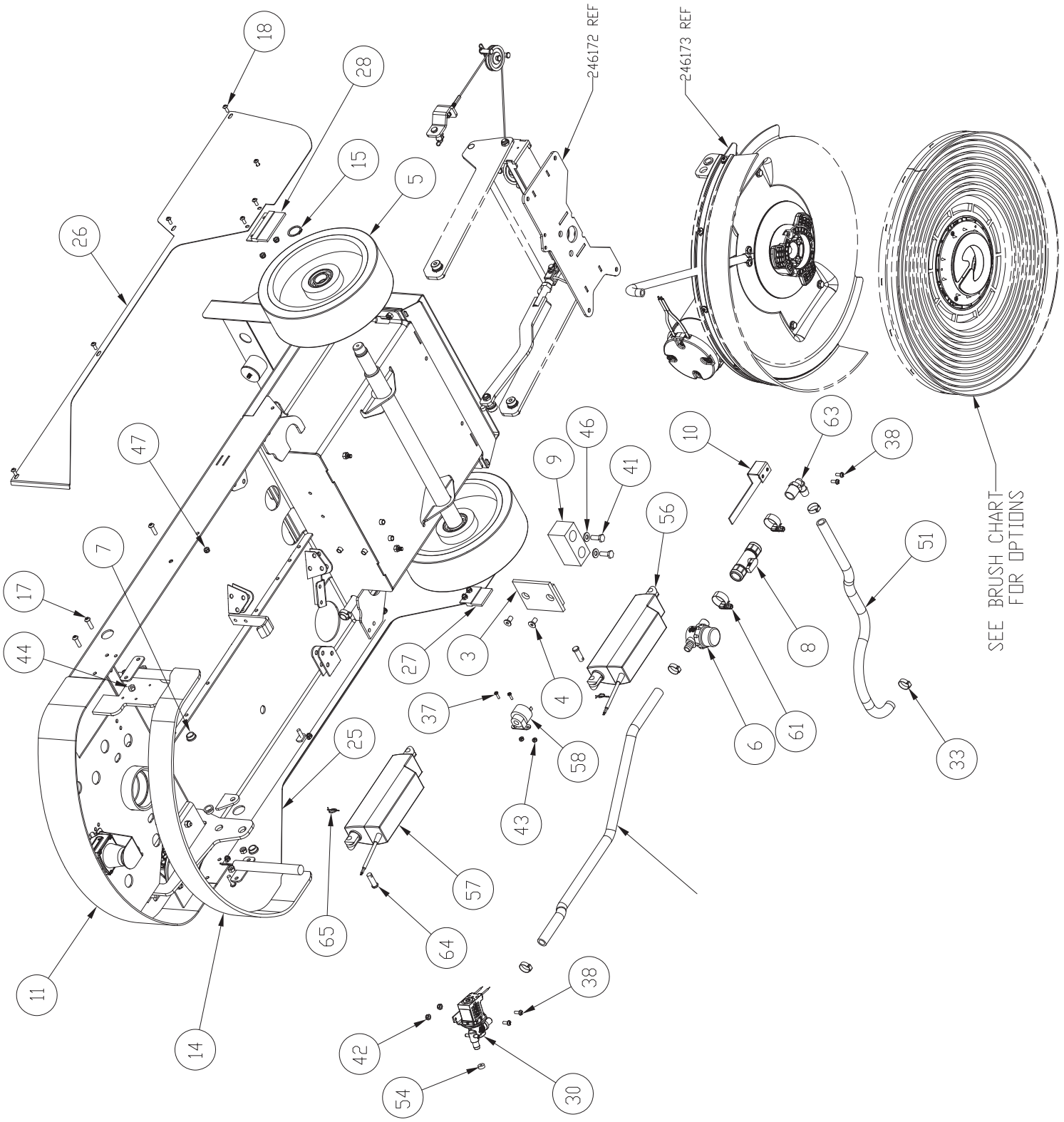
Brush Options / Home Location Pack

BRUSH OPTIONS	
PART NO.	**DESCRIPTION**
172520-1	BRUSH-DISC, 20” NYLON, BLACK
172520-3	BRUSH-DISC, 20” NYLO-GRIT 80GR, BLACK
172520-6	BRUSH-DISC, 20” SCRUB GRIT 2, 120GR RED
172588	PAD DRIVER, ASSY, 20”
762370	PAD RETAINER, REMOVABLE-NOT SHOWN
762394	PAD RETAINER, FIXED - NOT SHOWN

AQUA STOP BRUSHES	
PART NO.	**DESCRIPTION**
7951-01	BRUSH, 20” LIGHT-MED PP.5 A/S, WHITE
7951-02	BRUSH, 20” LIGHT-MEDIUM A/S, K901, BLACK ***(STANDARD)***
7951-03	BRUSH, 20” MEDIUM NYLON 600GR, A/S, GREY
7951-04	BRUSH, 20” MEDIUM-HEAVY PP.8 A/S, WHITE
7951-05	BRUSH, 20” HEAVY NYLON 180GR. A/S, GREY
7951-06	BRUSH, 20” HEAVY-2 NYL 120GR, A/S, GREEN

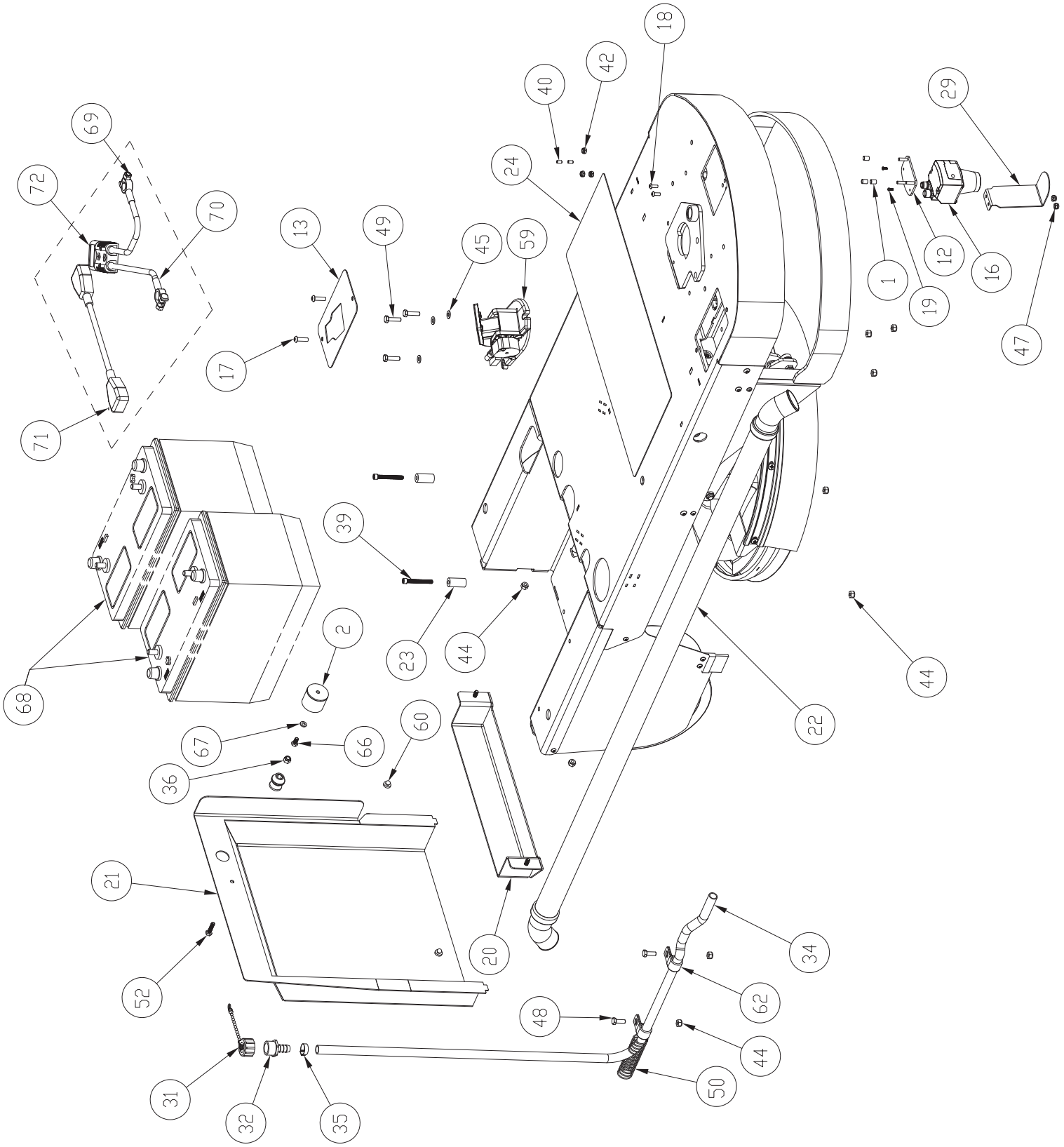
STANDARD HOME LOCATION PACK	
PART NO.	**DESCRIPTION**
246831	STANDARD HOME LOCATION PACK

Frame Group (Pg 1 of 2)



Rev L

Frame Group (Pg 2 of 2)



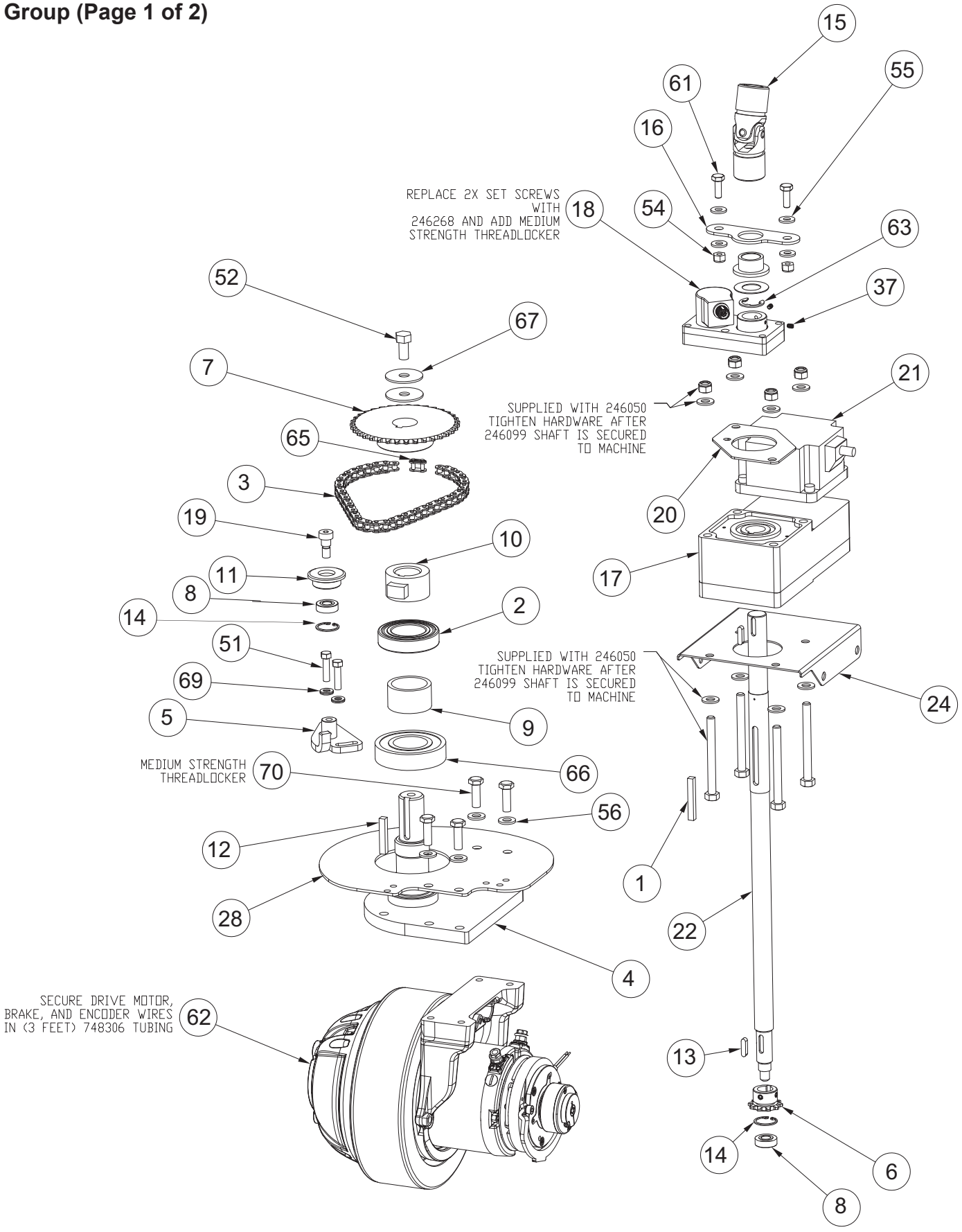
Frame Group BOM (Pg 1 of 2)

BILL OF MATERIAL - 246171			
ITEM	**PART NO.**	**QTY**	**DESCRIPTION**
1	133214	3	SPRING-COMP .300 X .025 X .375
2	245222	1	LATCH-RUBBER
3	245304	1	BLOCK, SLIDE
4	245338	2	SCR-FHSCS 5/16-18 X 5/8 SS
5	245461	2	WHEEL - ASSY, IDLER, 254 x 80 W/ BRGS
6	245781	1	FILTER - 1/2 NPT X 1/2 HB
7	245806	3	BUSHING-FLG, .50 x .62 x .31 LG OILITE
8	245845	1	VALVE - BALL 1/2 FPT X 1/2 FPT
9	246053	1	BLOCK, PIVOT
10	246073	1	PLATE - MTG - BALL VALVE AND FILTER
11	246098	1	WELDMENT, FRAME, 20 AUTO
12	246103	1	PLATE, LIDAR ADJUSTMENT
13	246105	1	PLATE, THROTTLE COVER
14	246230	1	WELDMENT, FRONT GUARD
15	246252	2	RING, EXT RETAINING, 25 MM STL
16	246254	1	LIDAR MODULE, HORIZONTAL
17	246256	8	SCR-BHSCS 1/4-20 X .88 SS BLK-OX
18	246257	16	SCR-BHSCS 10-24 X .50 SS BLK-OX
19	246258	2	SCR-BHSCS M3-.5 X 8 SS NYL PATCH
20	246848	1	BRKT, BATTERY
21	246849	1	REAR COVER
22	246937	1	HOSE-VAC, CLEAR 1.50" ID X 52 LONG
23	246938	2	SPACER, .252 X .625 X 1.25, NYL
24	246944	1	TREAD, ANTI-SKID
25	246945	1	SIDE GUARD, RIGHT
26	246954	1	SIDE GUARD, LEFT
27	246955	1	BRUSH STRIP, RIGHT GUARD
28	246956	1	BRUSH STRIP, LEFT GUARD
29	247100	1	LIDAR GUARD
30	247103-2	1	VALVE-WATER 24VDC
31	283690	1	ASSY, BREATHER CAP W LANYARD
32	342445	1	FTG-GARDEN ST 1/2 HB PP
33	383347	5	CRIMP CLAMP 1/2 HOSE SS 185R
34	430231	1	HOSE, 1/2 ID X 45", CLEAR
35	450076	1	CLAMP-CRIMP 185R SS
36	600933	1	NUT-NYLOC M6-1.00 SS
37	710204	2	SCR-PHMS 6-32 X .50 ZP

Frame Group BOM (Pg 2 of 2)

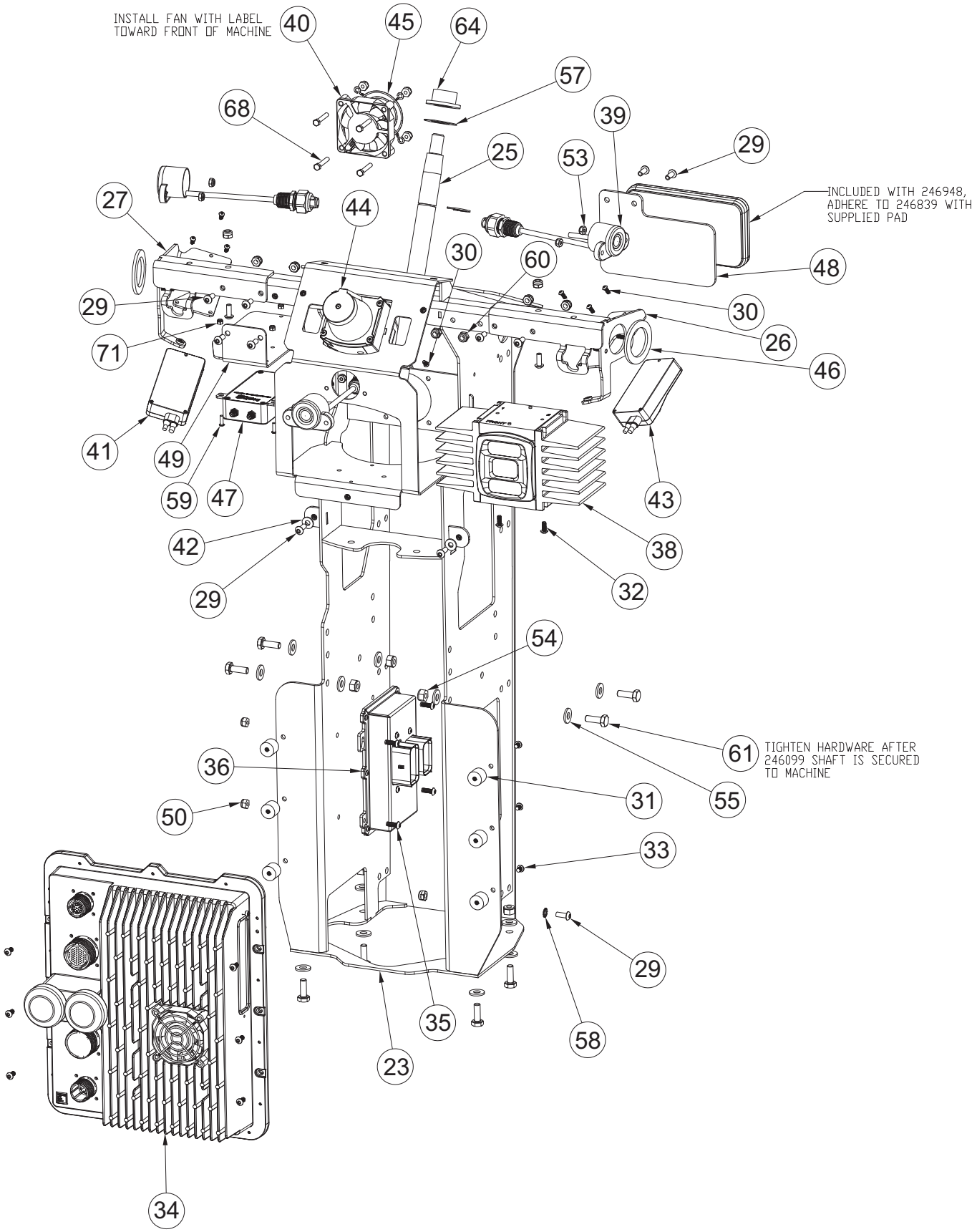
BILL OF MATERIAL - 246171			
ITEM	**PART NO.**	**QTY**	**DESCRIPTION**
38	710355	4	SCR-MC RD HD 10-32 X .50 STL PL
39	710387	2	SCR-MC BH 1/4-20 X 1.75 ZINC
40	711018	2	SCR-SK 10-32 x .375
41	711229	2	SCR-HH 5/16-18 X .87 ZP GR 5
42	711350	5	NUT-NYLOC 10-32
43	711371	2	NUT-NYLOC 6-32 ZP
44	711373	13	NUT-NYLOC 1/4-20
45	711504	5	WSR-FLAT 1/4 ID SS
46	711506	2	WSR-FLT .344 X .690 X .062, STEEL
47	712638	14	NUT, HEX 10-24 SS NYLOC
48	713002	2	SCR-HH 1/4-20 X .75 ZP 5
49	713003	3	BLT-HH 1/4-20 X 1 #5
50	718371	1	SPRING, COMPRESS, .845OD .067W 4.00L SS
51	730971	1	TUBING, .50 ID X .13 WAL BRA VIN 18.5 IN
52	731006	1	SCR-HH M6-1.00 X 25 ZP CLASS 8.8
53	731544	1	TUBING, .50 ID X .13 WAL BRA VIN 22 IN
54	731569	1	SPACER, .150 ID, .500 OD, .210 THK
55	740159	1	CB 175 RED HOUSING
56	740822-1	1	ACTUATOR-100MM STROKE-750N FORCE
57	740827-1	1	ACTUATOR -40MM STROKE, 750N FORCE
58	748200	1	HORN / BACK UP ALARM, SCV 24/26
59	748507	1	PEDAL ASSY, THROTTLE, FLOOR MTG 25°, IEC
60	3300526	2	BUMPER - 1/4 ID X 1/8 THK
61	3300535	2	CLAMP-HOSE 1/2
62	3301158	2	CLAMP-CABLE 3/4
63	3315535	1	FTG-90 DEG 1/2 ID X 1/2 MPT
64	3400117	2	PIN-CLEVIS 3/8 x 1.125 ZP
65	3400125	2	PIN-COTTER 3/8 RUE RING
66	11038064	1	BLT-HH M6 X 1.0 X 12 STL ZD 8.8 DIN 933
67	12310033	1	WASHER-FLAT M6.4 X 12 X 1.6 ZP
68	956748	2	BATTERY, 12V 234AH AGM
69	247117	1	BATTERY CABLE, RED, 4 AWG
70	247118	1	BATTERY CABLE, BLACK, 4 AWG
71	247119	1	BATTERY CABLE, JUMPER, 4 AWG
72	740159	1	CONNECTOR-SB175 RED HOUSING
	957756-1	1	CHR, 24VDC 25A 115V (DRY/AGM-DISCOVER) ***(NOT SHOWN)***

Tower Group (Page 1 of 2)



Rev D

Tower Group (Page 2 of 2)



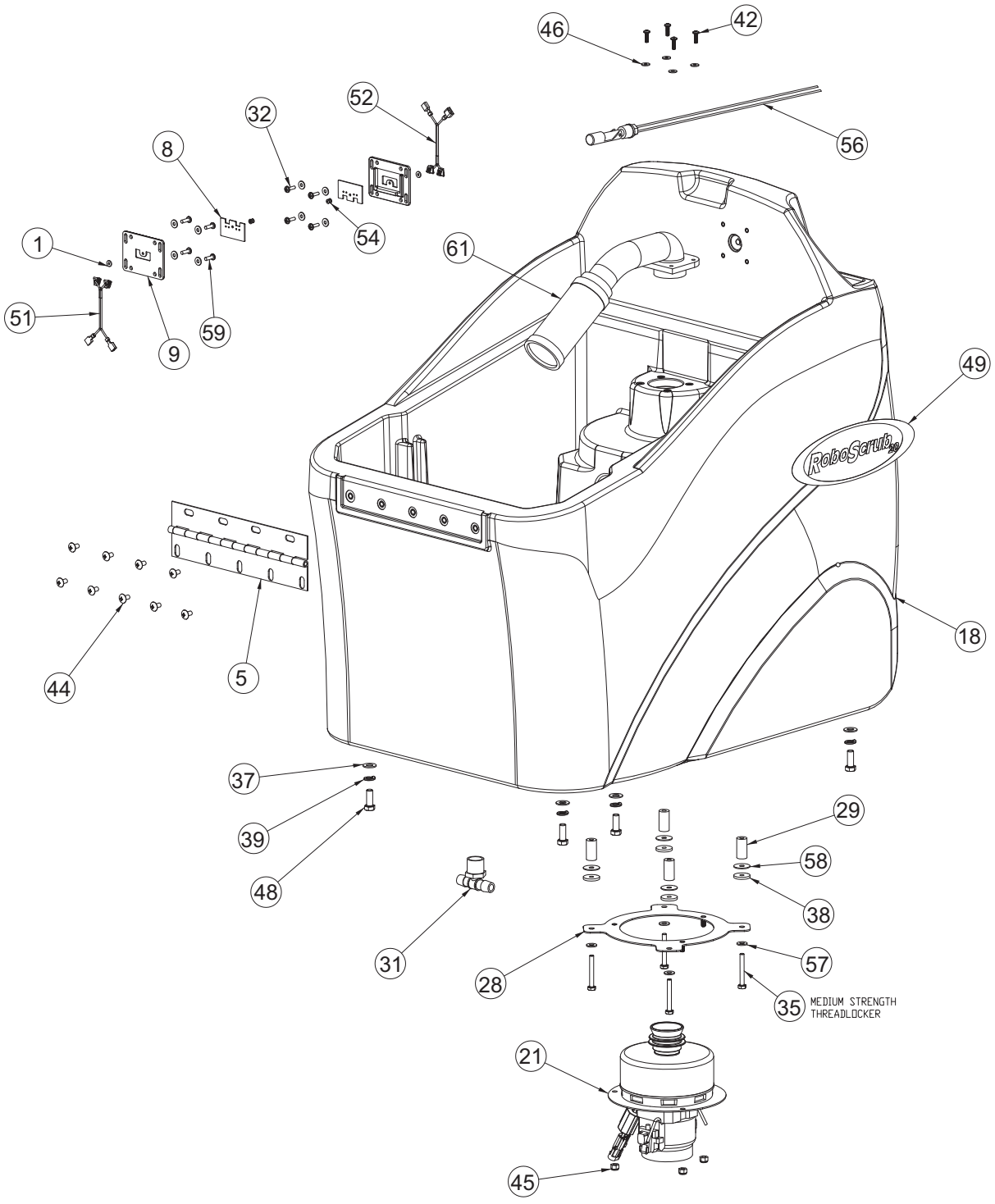
Tower Group BOM (Pg 1 of 2)

BILL OF MATERIAL - 246169			
ITEM	**PART NO.**	**QTY**	**DESCRIPTION**
1	172519	1	KEY-SQUARE, 6MM X 45MM
2	245416	1	SKF BALL BRG 35mm x 62 OD x 14 W
3	245445-1	1	CHAIN - ROLLER #35
4	246022	1	SPINDLE WLDT, STEERING
5	246025	1	BRACKET WLDT, CHAIN TENSIONER
6	246028	1	SPROCKET, ANSI 35, 10 TOOTH, 0.375P, 0.62B
7	246029	1	SPROCKET, ANSI 35, 35 TOOTH, 0.375P, 1.00B
8	246030	2	BEARING, BALL, 0.375B, 0.875D, SEALED
9	246031	1	SPACER, 1.75D 1.44B .96L, STL
10	246032	1	PIVOT, STEERING STOP
11	246034	1	GUIDE, CHAIN TENSIONER
12	246035	1	KEY, SQ, 0.25 X 0.25 X 1.50
13	246036	3	KEY, SQ, 0.18 X 0.18 X 0.75
14	246038	2	RING, RTNR, FOR .875 BORE, STL
15	246039	1	U-JOINT, 25DEG, 0.75B 1.06D 3.75L
16	246042	1	PLATE, BEARING, STEERING
17	246050	1	GEARBOX, HOLLOW SHAFT
18	246051	1	ENCODER, POSITION, SHAFT
19	246067	1	BLT-SHOULDER .375 X .312 LG BLK OX
20	246072	1	PLATE, STEERING ENCODER
21	246091-1	1	MOTOR, STEERING
22	246099	1	SHAFT, STEERING LOWER, AUTO
23	246102	1	WELDMENT, TOWER, MR20 AUTO
24	246107	1	MOUNT, STEERING MOTOR
25	246114	1	SHAFT, STEERING UPPER, AUTO
26	246236	1	WELDMENT, UPPER LT TOWER
27	246237	1	WELDMENT, UPPER RT TOWER
28	246253	1	PLATE, DRIVE WIRING
29	246257	13	SCR-BHSCS 10-24 X .50 SS BLK-OX
30	246258	8	SCR-BHSCS M3-.5 X 8 SS NYL PATCH
31	246260	6	ISOLATOR, M4, NEOPRENE
32	246261	8	SCR-BHSCS M4-.7 X 10 SS NYL PATCH
33	246262	6	SCR-BHSCS M4-.7 X 6 SS NYL PATCH
34	246263	1	BRAIN CONTROL MODULE
35	246265	4	SCR-BHSCS 8-32 X .50 SS BLK-OX
36	246266	1	MOTOR AMP MODULE

Tower Group BOM (Pg 2 of 2)

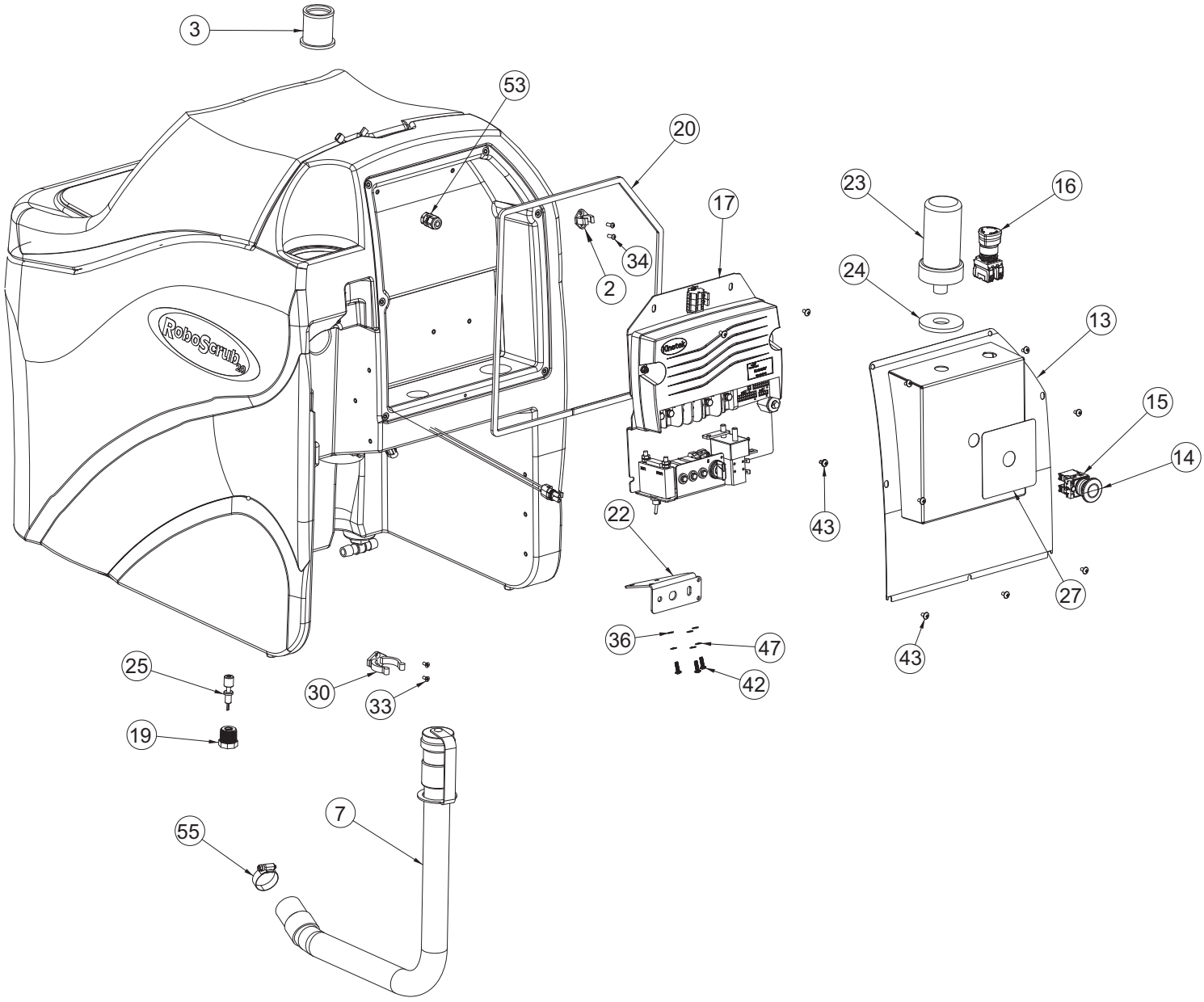
BILL OF MATERIAL - 246169			
ITEM	**PART NO.**	**QTY**	**DESCRIPTION**
37	246268	2	SCR-SET M4-.7 X 6MM CP BLK-OX NYL PATCH
38	246269	1	IFM MODULE
39	246800	3	2D CAMERA MODULE
40	246804	1	FAN MODULE
41	246811	1	IFM O3X MODULE, RIGHT
42	246823	2	WASHER-FLAT .22 X .50 X .05 SS BLK
43	246825	1	IFM O3X MODULE, LEFT
44	246827	1	LIDAR MODULE, SLANTED
45	246839	1	FINGER GUARD, 60MM
46	246846	2	GASKET, CAMERA
47	246948	1	LTE KIT
48	246953	1	ANTENNA MOUNT
49	247104	1	LTE BRACKET
50	711026	8	NUT, HEX 8-32 NYLOC SS
51	711207	2	BLT-HH 1/4-20 X 1.00 STPL
52	711241	1	SCR-HEX 3/8 -16X .75" ZP
53	711371	6	NUT-NYLOC 6-32 ZP
54	711373	10	NUT-NYLOC 1/4-20
55	711505	20	WASHER-FLAT 1/4 ZP
56	711506	4	WSR-FLT .344 X .690 X .062, STEEL
57	711517	2	WSR- FLAT .75X1.375X.09 SS
58	711534	1	WSR-EXTERNAL LOCK #10
59	711686	3	SCR-MC M3 X 10 ZP
60	712638	9	NUT, HEX 10-24 SS NYLOC
61	713002	10	SCR-HH 1/4-20 X .75 ZP 5
62	748525	1	WHEEL DRIVE, 24V 300W
63	809148	2	RET RING-E TYPE .75
64	832554	2	BUSHING-FLG .7505 X 1.437 X .625 BRNZ
65	833292	1	CHAIN MASTER LINK #35
66	3305667	1	BEARING-MAIN BROOM
67	3400092	2	WASHER-FENDER 3/8 ZP 1.5 OD X .07 THK
68	3400243	4	SCR-HEX,#08-32X1.00 ZP
69	3401570-7W	2	WASHER-NORD-LOCK, 1/4, 0.53 OD, ZP
70	11038247	4	BOLT - HH, M8 X 1.25 X 25, STL, ZINC DICH
71	12040374	3	NUT-HEXAGON-DIN 985-M3-A2

Tank Group (Pg 1 of 3)

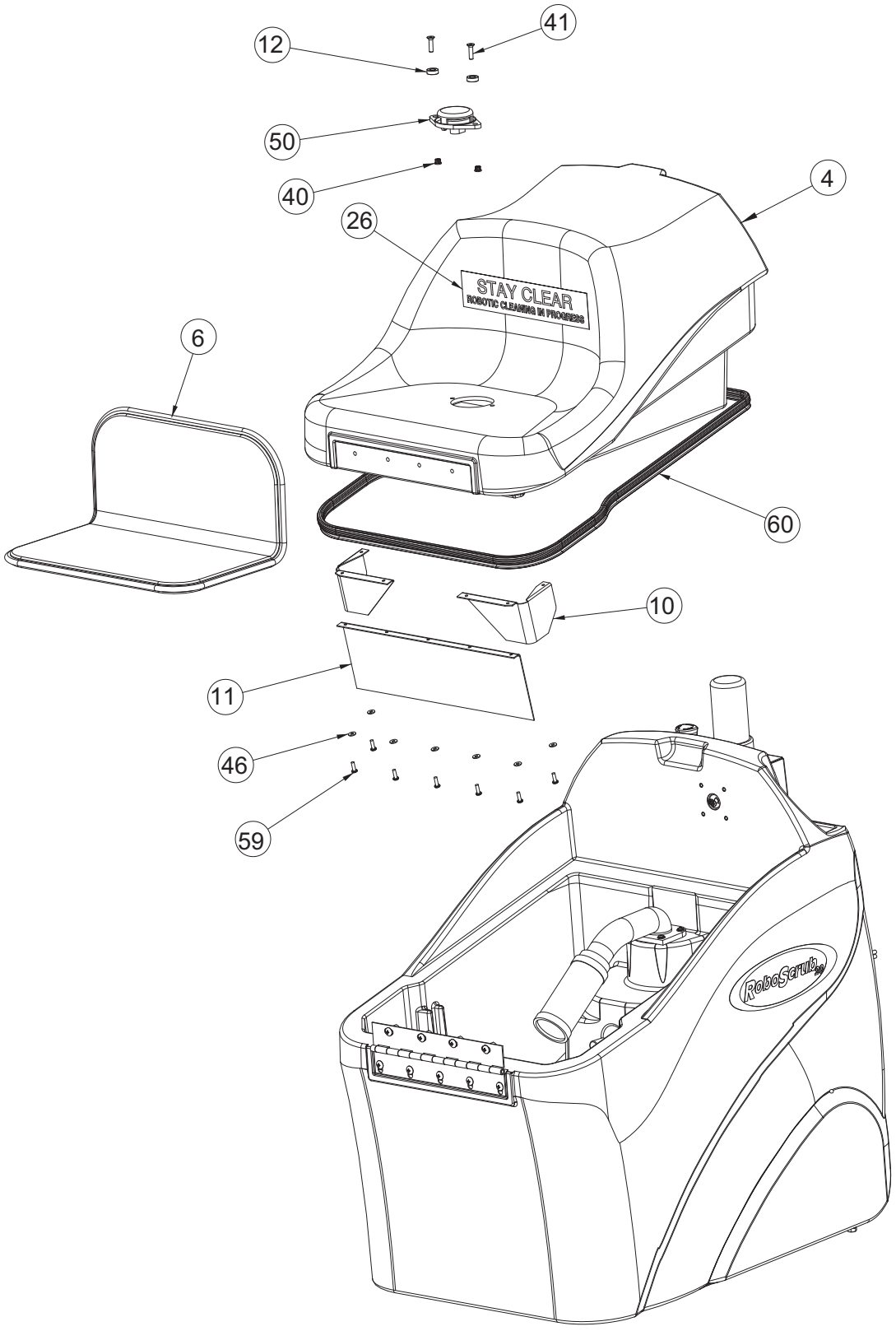


Rev E

Tank Group (Pg 2 of 3)



Tank Group (Pg 3 of 3)



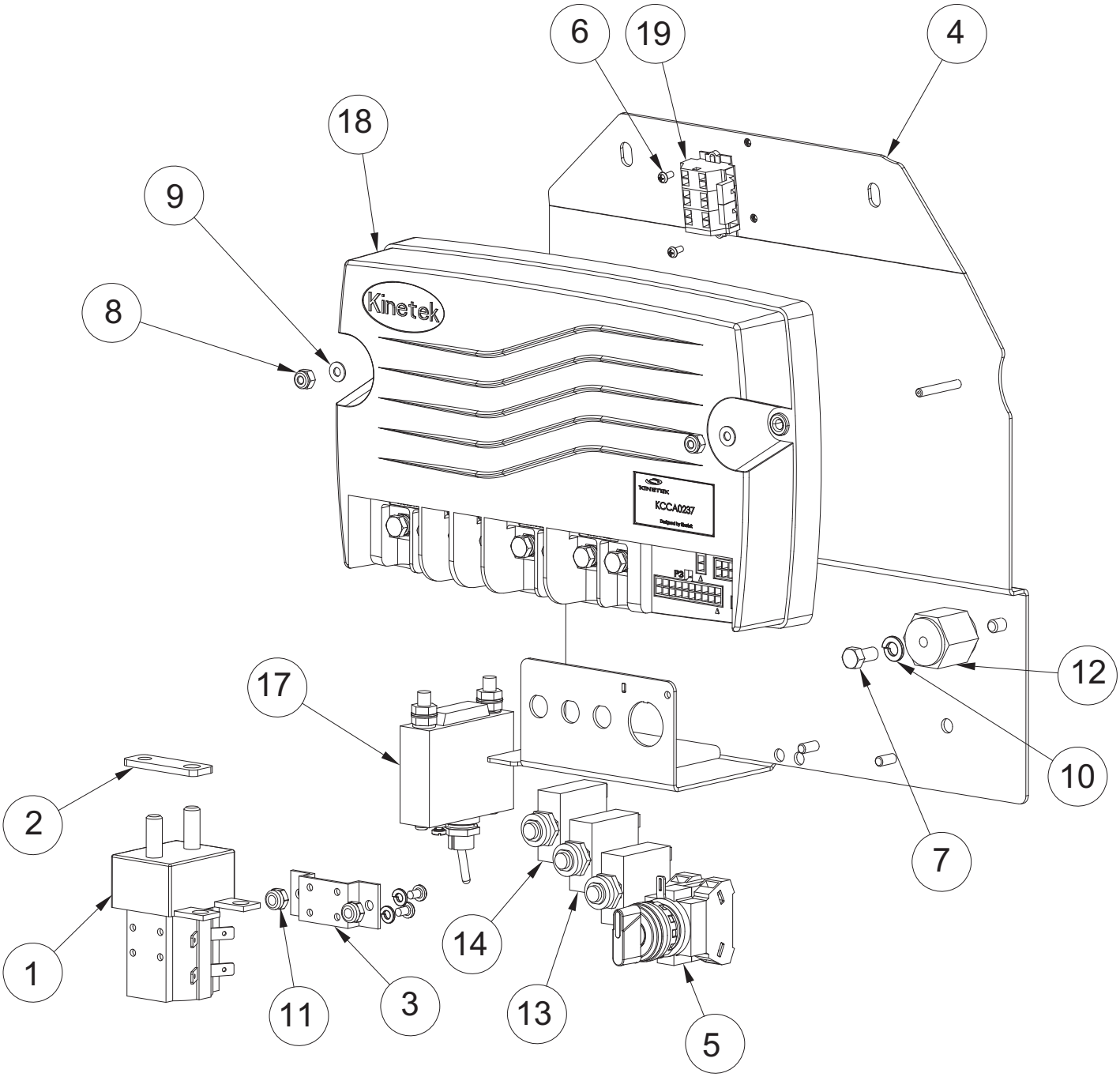
Tank Group BOM (Pg 1 of 2)

BILL OF MATERIAL - 246174			
ITEM	**PART NO.**	**QTY**	**DESCRIPTION**
1	950-4-S	2	BACKUP PLATE - RIVET
2	172065	1	CLIP, FOR 1/2" ID HOSE
3	172159	1	FILTER, FILL PORT, ES1720
4	245002	1	LID W/ SEAT, TANK, ER 20-V
5	245422	1	HINGE, STEEL, 11.38" LONG
6	245444	1	SEAT-CUSHIONED, SEWN SEAT & BACK
7	245452	1	HOSE-DRAIN W/ TWIST VALVE 1.50" ID
8	245453	2	PLATE - INSERT, INTERCONNECT
9	245456	2	PLATE - BASE, INTERCONNECT
10	245766	2	SKIRT-DRIP, LID, END PIECE
11	245767	1	SKIRT-DRIP, LID,CENTER 20"
12	245817	2	SPACER, .39 ID X .75 OD X .25 T, PVC
13	246113	1	COVER, ELECTRICAL, AUTO
14	246121	1	PUSHBUTTON, 40MM CLEAR
15	246121-1	1	PUSHBUTTON, 40MM CLEAR
16	246123-1	1	ESTOP SWITCH ASSEMBLY
17	246175	1	ASSY, ELECTRICAL PANEL, AUTO
18	246180	1	TANK, SOLUTION & RECOVERY AUTO
19	246183	1	FITTING, SOLUTION FLOAT
20	246184	1	GASKET, ELECTRICAL PANEL
21	246189	1	ASSY, 2-STAGE VACUUM
22	246239	1	BRACKET, REAR COVER LATCH
23	246801-1	1	BEACON, AMBER
24	246802	1	GASKET, BEACON
25	246805-1	1	FLOAT SWITCH ASSEMBLY
26	246806	1	DECAL, CAUTION, AUTONOMOUS
27	246829	1	DECAL, BRAIN CORP REAR
28	246936	1	BRACKET, VACUUM
29	246938	4	SPACER, .252 X .625 X 1.25, NYL
30	260579	1	TOOL CLIP, 1.5" HOSE
31	342440	1	FITTING, TEE 3/4MPT 1/2BARB

Tank Group BOM (Pg 2 of 2)

BILL OF MATERIAL - 246174			
ITEM	PART NO.	QTY	DESCRIPTION
32	710130	4	SCR-MC 8-32 X .62 NICKEL
33	710528	2	SCR-MC 8-32 X .37 FH - BR
34	711163	2	SCR-HI/LO #10-16 X 1/2
35	711214	4	BLT-HH 1/4-20 X 2.00
36	711502	3	WASHER-FLAT #8 ZP
37	711515	4	WSR-FLAT .406 X .812 X .0625
38	711529	4	WASHER-RUBBER .25 X 1.00 X .110
39	711546	4	WSR-HELICAL 3/8
40	711962	2	NUT, 1/4-20, HIGH-TORQUE 12 POINT FLANGE
41	712153	2	SC-SHCS, 1/4-20 x 1.00 IN SS
42	712536	7	SCR-MC 10-24 X .62 TH SS
43	712540	12	SCR-MC TR HD 10-24 X .37 SS
44	712560	9	SCR-MCH 1/4-20 X .50 SS NYL
45	712667	3	NUT-NYLOC 1/4-20 SS
46	712764	19	WASHER-FLAT #10 SS
47	712770	3	WSR INT LOCK #10A SS
48	713042	4	BLT-HH 3/8-16 X 1 #5
49	715986	2	DECAL, MAIN OVAL, ROBO SCRUB
50	740601	1	SWITCH, SEAT, BOLT MOUNT
51	747213	1	WIRE ASSY, SEAT SWITCH
52	747349	1	WIRE ASSY, SEAT SWITCH
53	747689	1	STRAIN RELIEF, CABLE DIA. .181-.312 #3210
54	827666	2	RIVET-POP 1/8 DOME HD, BLK ALUM BODY
55	3303255	1	CLAMP-HOSE 1 3/4 NOM.
56	3344443	1	SWITCH - FLOAT FULL TSS/CSS 82
57	3400089	4	WASHER 1/4 ID .63 OD X .065 THK
58	3401052	4	WASHER 1/4 ID X 1 OD X .049 THK SS
59	3401449	11	SCR-HI/LO SS 10-16X3/4 PAN HD PHL.
60	25510512	1	GASKET, RUBBER BLADE, PRESS IN
61	97118731	1	FILTER UNIT, SCREENED FLOAT

Electrical Panel Assembly

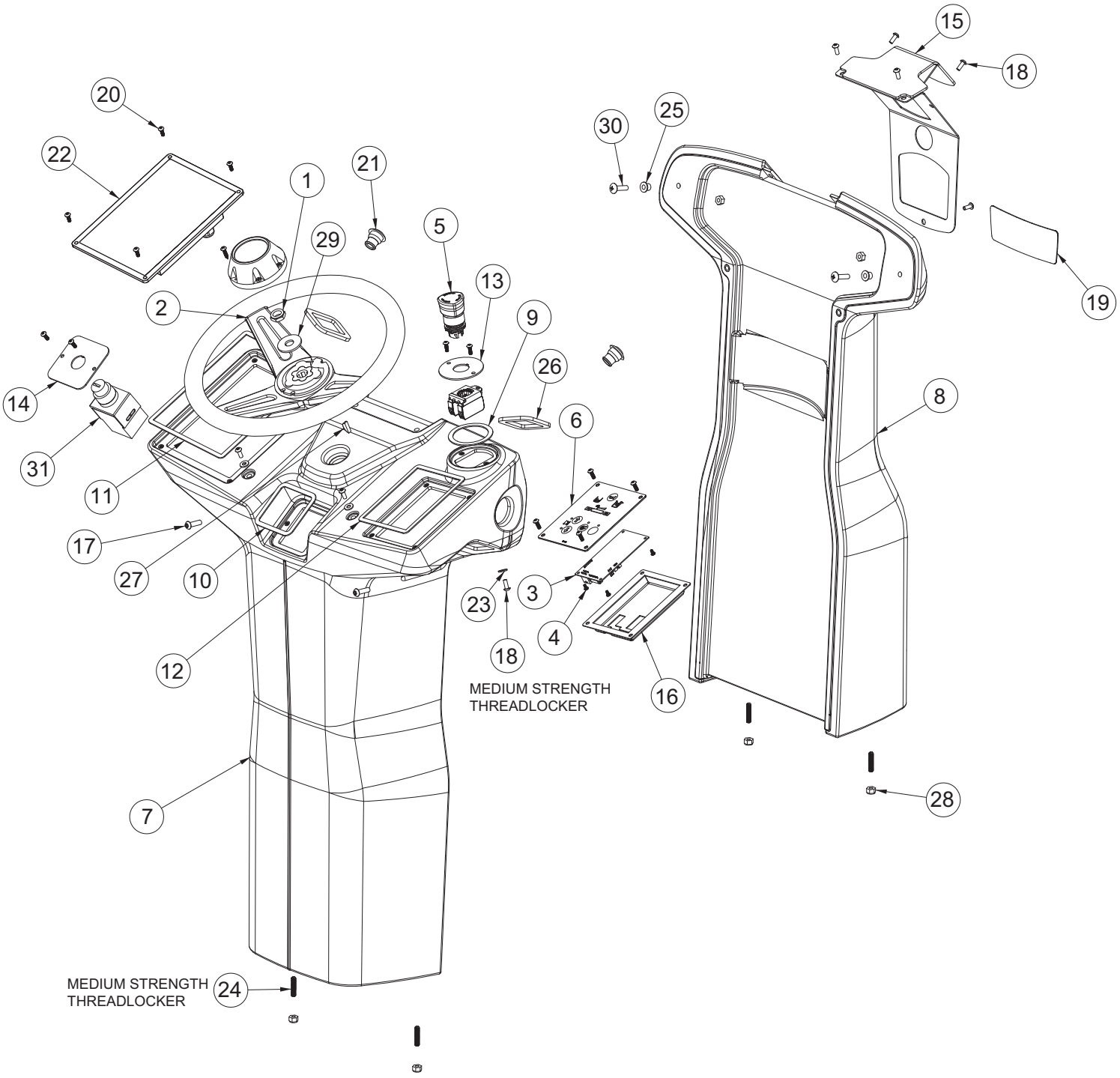


Rev E

Electrical Panel Assembly BOM

BILL OF MATERIAL - 246175			
ITEM	**PART NO.**	**QTY**	**DESCRIPTION**
1	246838	1	RELAY, 24VDC SPDT 100A
2	246841	1	BRACKET, TERMINAL
3	246845	1	BRACKET, 246838 RELAY
4	247101	1	PANEL, ELECTRICAL, AUTO
5	247102	1	MODE SWITCH
6	710491	1	SCR-RHMS 4-40 X .25 ZP
7	711202	1	SCR-HH 1/4-20 X .50 ZP
8	711372	2	NUT-NYLOC 8-32 ZP
9	711502	2	WASHER-FLAT #8 ZP
10	711544	2	WASHER-LOCK 1/4 SPLIT ZP
11	712638	2	NUT-NYLOC 10-24 SS
12	740132	2	INSULATOR (ELECTRICAL)- 1/4-20 INSERT
13	741400	2	CIRCUIT BREAKER 10A PUSH BUTTON
14	746035	1	CIRCUIT BREAKER-2.0AMP PUSH BUTTON
15	747257	2	MAIN HARN, MAX RIDE ROBOT
16	747258	2	MR ELECT COMMON PARTS ROBOT
17	748012	2	CIRCUIT BREAKER- 100A
18	748526	2	CONTROLLER, MR20
19	748628	2	TERMINAL BLOCK, ASSY, 3 SECTION, X17 CFS

Console Group

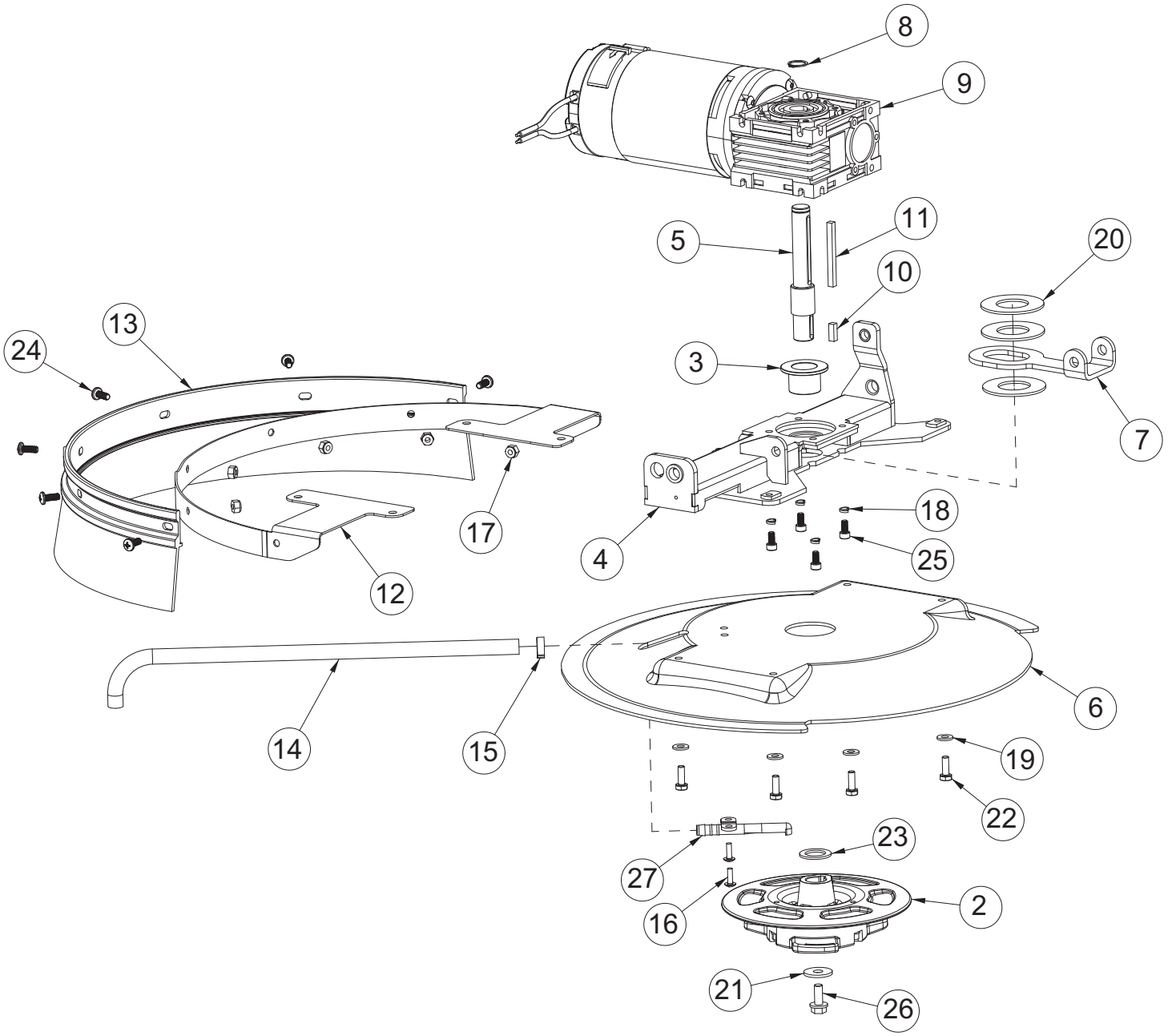


Rev B

Console Group BOM

BILL OF MATERIAL - 246179			
ITEM	PART NO.	QTY	DESCRIPTION
1	368-816	1	HALF NUT NYLOC 1/2-20
2	245345	1	STEERING WHEEL
3	246118	1	VEHICLE INTERFACE PCB
4	246122	4	SCR-PHMS M3 X 6 ZP
5	246123	1	ESTOP SWITCH ASSEMBLY
6	246176	1	MEMBRANE, PCB, ASSEMBLY
7	246177	1	CONSOLE, REAR, MR20 AUTO
8	246178	1	CONSOLE, FRONT, MR20 AUTO
9	246185	1	GASKET, ESTOP
10	246186	1	GASKET, KEYSWITCH
11	246187	1	GASKET, TOUCHSCREEN
12	246188	1	GASKET, VEHICLE CONTROL
13	246233	1	PLATE, ESTOP MOUNT
14	246234	1	PLATE, SWITCH MOUNT
15	246235	1	WELDMENT, FRONT COVER
16	246238	1	WELDMENT, MEMBRANE COVER
17	246256	2	SCR-BHSCS 1/4-20 X .88 SS BLK-OX
18	246257	9	SCR-BHSCS 10-24 X .50 SS BLK-OX
19	246264	1	DECAL, BRAIN CORP FRONT
20	246265	12	SCR-BHSCS 8-32 X .50 SS BLK-OX
21	246812	2	TURN INDICATOR
22	246813	1	TOUCH SCREEN MODULE
23	246823	4	WASHER-FLAT .22 X .50 X .05 SS BLK
24	246843	4	SCR-SET 1/4-20 X 1.12 BLK OX CP
25	246844	2	BUSHING-FLG, .252 X .375 X .375 NYL
26	246847	2	GASKET, SIDE SENSOR
27	383277	1	KEY WOODRUFF 3/16 X 3/4
28	711373	6	NUT-NYLOC 1/4-20
29	711510	1	WSR FLAT .5 X 1.37 X .100
30	712541	2	SCR-MC 1/4-20 X 1.00 TH SS
31	747399	1	SWITCH, ROTARY CAM, ON/OFF/ON

Scrub Head Group

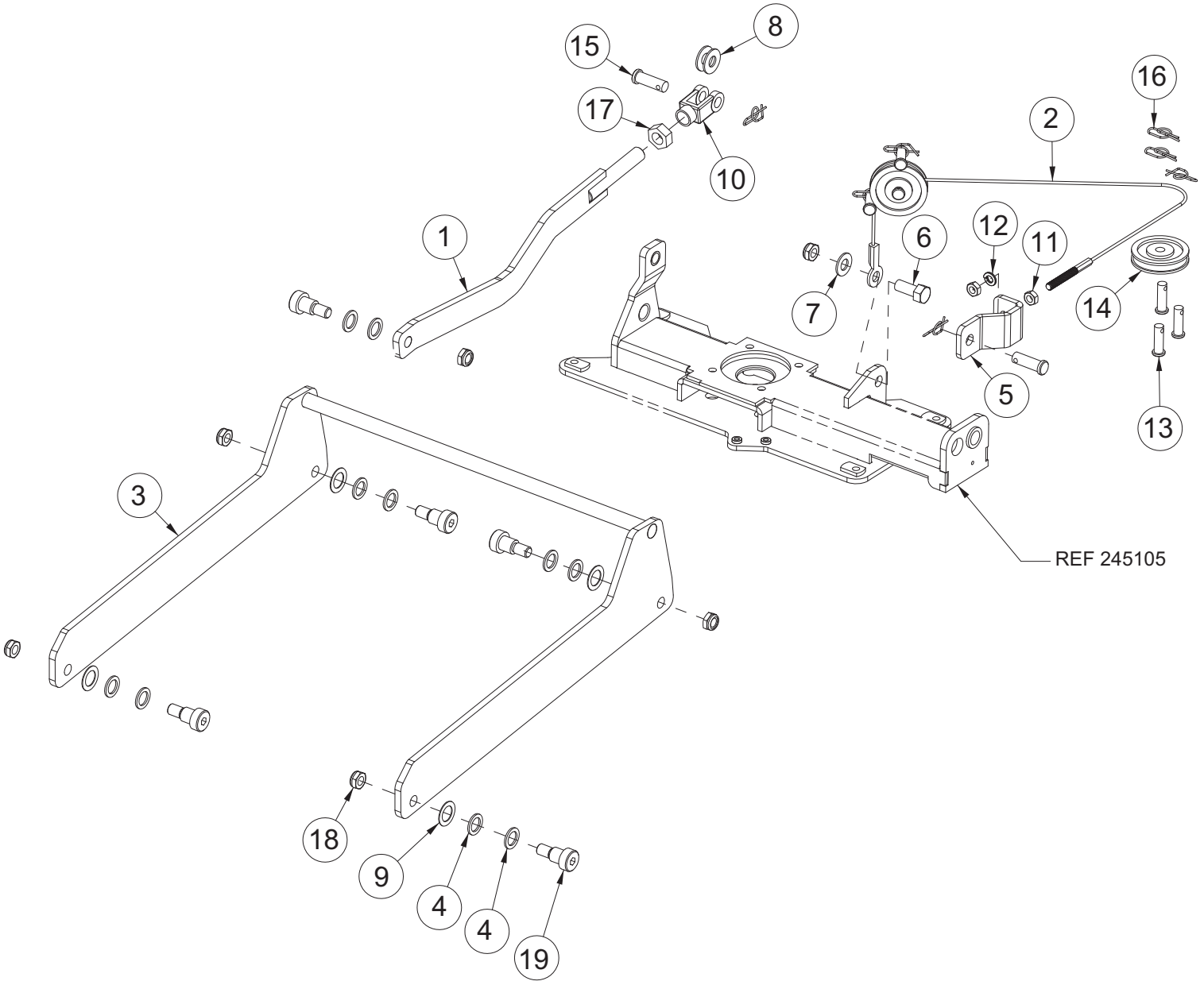


Rev B

Scrub Head Group BOM

BILL OF MATERIAL - 246173			
ITEM	**PART NO.**	**QTY**	**DESCRIPTION**
1	712	1	LOCTITE-243 50ML BLUE
2	172510	1	HUB ASSEMBLY, DISC DECK
3	245042	1	BUSHING-FLG, 1.0 x 1.25 x 1.0"LG OILITE
4	245105	1	FRAME, SCRUBDECK, 20", WELD
5	245107	1	SHAFT-STUB, RT-ANGLE DRIVE, DISC BRUSH
6	245300	1	SCRUB HEAD COVER 20"
7	245312	1	RING, PIVOT
8	245468	1	EXTERNAL RETAINING RING, 11/16" SHAFT, STEEL
9	245808	1	GEAR-MOTOR, BRUSH, 24VDC 400W, AMER
10	245811	1	KEY-6MM X 6MM X .700
11	245812	1	KEY-6MM X 6MM X 2.625
12	246095	1	BRACKET, DECK SKIRT
13	246104	1	DECK BRUSH SKIRT
14	283153	1	HOSE 3/8" ID X 16.5"
15	452037	1	CLAMP-CRIMP 170R SS
16	710154	2	SCR-THMS 10-32 X .625 SS
17	711373	6	NUT-NYLOC 1/4-20
18	711421	4	WASHER-LOCK 1/4 SPLIT, HIGH-COLLAR, SS
19	711505	4	WASHER-FLAT 1/4 ZP
20	711687	3	WASHER-FLAT, 2.50 OD X 1.28 ID X .095 ZP
21	711855	1	WSR-FLT .37 X 1.12 X .10 STL Z HARD
22	713002	4	SCR-HH 1/4-20 X .75 ZP 5
23	717025	1	WASHER-FLAT .812 X 1.25 X .08 ZP
24	3400232	6	SCR-PHMS 1/4-20 X 0.62 ZP
25	3402054	4	SCR-SHCS M6-1.0 X 12 ZP
26	11717203	1	BLT-HH FLG M8X1.25X20 PRECOTE, ZD 10.9
27	90311663	1	FITTING, WATER NOZZLE W/ MOUNT HOLES

Scrub Head Lift Group

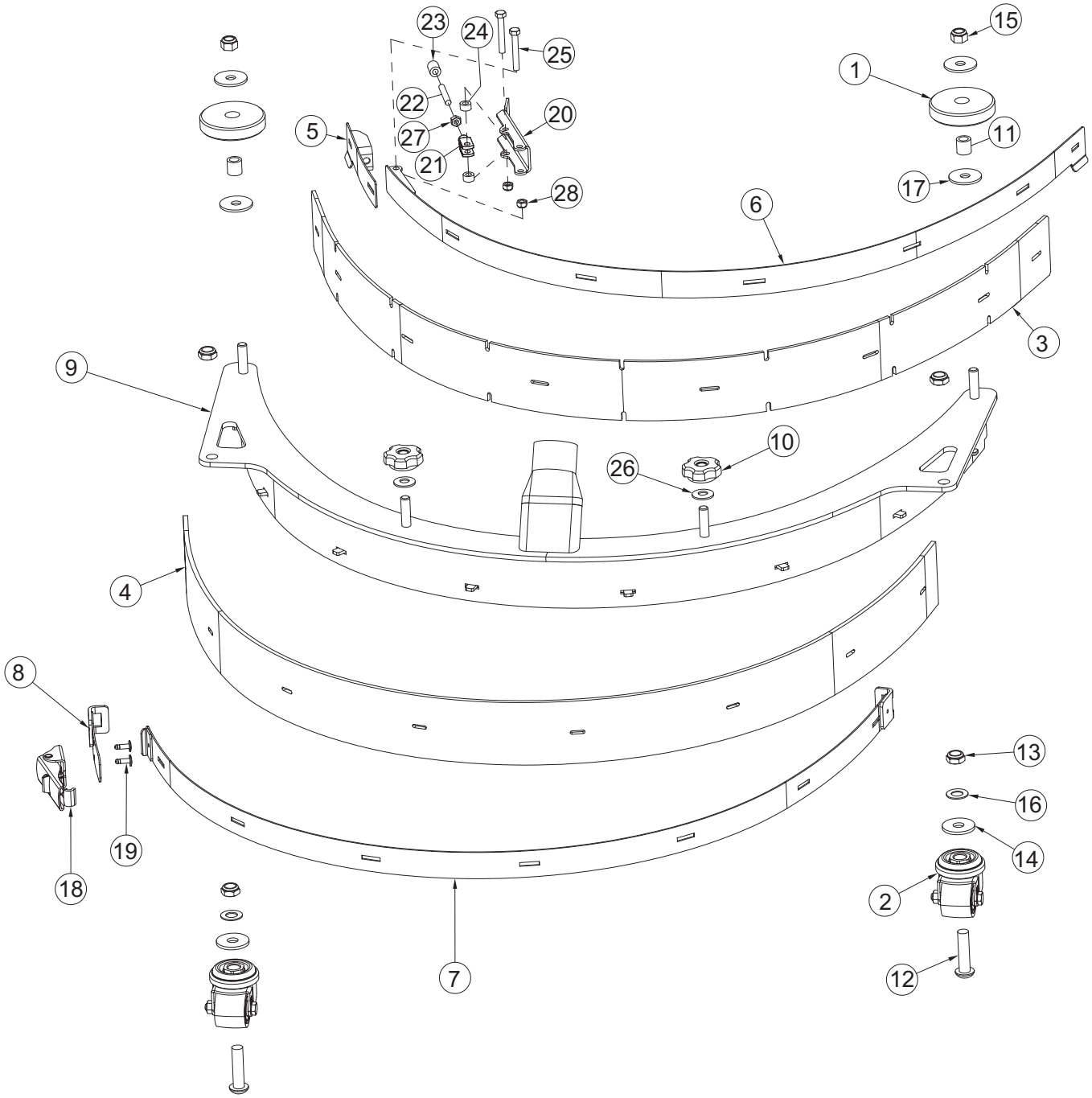


Rev B

Scrub Head Lift Group BOM

BILL OF MATERIAL - 246172			
ITEM	**PART NO.**	**QTY**	**DESCRIPTION**
1	245138	1	ARM, DECK LIFT ADJUSTMENT, WELD
2	245843	1	CABLE- SCRUB DECK MR20, 21.9
3	246055	1	WELDMENT, SCRUBHEAD ARM 20"
4	246064	10	WASHER 1/2 X .75 X .062 NYLON
5	246070	1	LINK, CABLE
6	711246	1	BLT-HH 3/8-16 X .87 STL Z
7	711515	1	WSR-FLAT .406 X .812 X .0625
8	711569	2	WASHER-FLAT .390 X .880 X .062 NYL
9	711594	4	WSR-FLAT .56 X .88 X .03
10	712265	1	CLEVIS-YOKE, 1/2-20 WITH .375 PIN
11	712665	2	NUT-HEX 1/4-20 SS
12	712758	1	WSR-HELICAL 1/4 SS
13	881002	6	PIN-CLEVIS 5/16 X 1.00 ZINC
14	3300368	2	PULLEY-PLASTIC 2" x .25" GROOVE
15	3400117	2	PIN-CLEVIS 3/8 x 1.125 ZP
16	3400125	8	PIN-COTTER 3/8 RUE RING
17	3400449	1	NUT-JAM 1/2-20 ZP
18	3401028	6	NUT, 3/8-16 ELASTIC STOP (ES)
19	712099PLT	5	BLT-SHOULDER 1/2 X 1/2 RAW

Squeegee Group

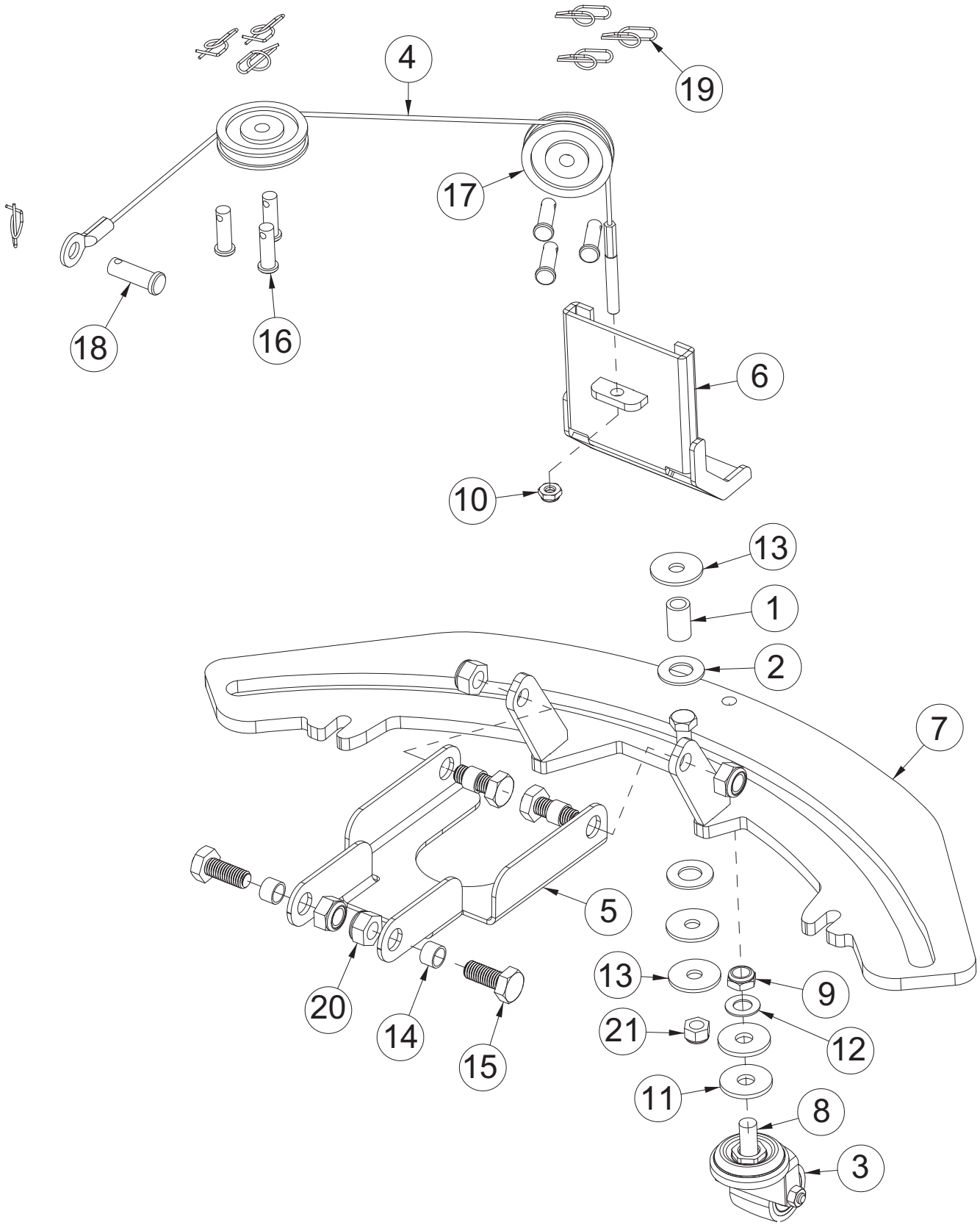


Rev G

Squeegee Group BOM

BILL OF MATERIAL - 246165			
ITEM	PART NO.	QTY	DESCRIPTION
1	245339	2	ROLLER- SQUEEGEE
2	245563	2	CASTER
3	246083	1	SQUEEGEE BLADE INNER 20
4	246084	1	SQUEEGEE BLADE OUTER 20
5	246085	1	WELDMENT, INNER BAND, LT
6	246086	1	WELDMENT, INNER BAND, RT
7	246087	1	WELDMENT, OUTER BAND, RT
8	246088	1	WELDMENT, OUTER BAND, LT
9	246941	1	WELDMENT, 20 IN SQUEEGEE
10	246942	2	KNOB-FLUTED, 5/16-18 SS
11	600114	2	SPACER, .328 B .498 OD .500 ,SS
12	710987	2	SCR-SC 3/8-16 X 1.5 ST PL
13	711375	4	NUT- NYLON LOCK, 3/8-16 HALF NUT
14	711855	2	WSR-FLT .37 X 1.12 X .10 STL Z HARD
15	712683	2	NUT-NYLOC 5/16-18 SS
16	712767	2	FLAT WASHER .406 ID X .75 OD X .
17	730526	4	WASHER-FENDER M8 X 24 SS
18	730652	1	LATCH, UNDER CENTER
19	730654	2	RIVET-BLIND 5/32 .125 GRIP SS
20	730780	1	LATCH, BODY SS
21	730781	1	CLEVIS, M5 - 0.8
22	730782	1	ROD, M5 - 0.8
23	730783	1	ROD, NOSE
24	730784	2	SPACER, .203 B .375 OD .210 T
25	730802	2	SCR-HH M5-0.8 X 35 SS FULL THREAD
26	3400384	2	WASHER CONICAL SPRING 5/16
27	12022430	1	NUT- HEX, M5, SS DIN934
28	12040283	2	NUT- HEX, M5 NYLON LOCK, SS DIN985

Squeegee Lift Group



Rev D

Squeegee Lift Group BOM

BILL OF MATERIAL - 246163			
ITEM	**PART NO.**	**QTY**	**DESCRIPTION**
1	245309	1	SPACER, NYLON, .344 B .500 OD .813 T
2	245310	2	WASHER, NYLON, .510 B 1.00 OD .062 T
3	245563	1	CASTER
4	245842	1	CABLE-SQUEEGEE MR20
5	246939	1	LINK, SQUEEGEE PIVOT 20"
6	246058	1	WELDMENT, SLIDER
7	246940	1	WELDMENT, SQUEEGEE MOUNT 20"
8	710986	1	SCR-SC 3/8-16 X 1.0 ST PL
9	711375	1	NUT- NYLON LOCK, 3/8-16 HALF NUT
10	711688	1	NUT-JAM 1/4-20 SS NYLOC
11	711855	2	WSR-FLT .37 X 1.12 X .10 STL Z HARD
12	712767	1	FLAT WASHER .406 ID X .75 OD X .
13	730526	3	WASHER-FENDER M8 X 24 SS
14	730873	4	SPACER, .406 B .498 OD .325 T
15	730958	4	SCR-HH M10-1.50 X 25 SS FULL THREAD
16	881002	6	PIN-CLEVIS 5/16 X 1.00 ZINC
17	3300368	2	PULLEY-PLASTIC 2" x .25" GROOVE
18	3400117	1	PIN-CLEVIS 3/8 x 1.125 ZP
19	3400125	7	PIN-COTTER 3/8 RUE RING
20	12040069	4	NUT-HEX NYLOC M10 Z DICH
21	12040259	1	NUT-NYLOC M8 X 1.25 SS

Minuteman International Made Simple Commercial Limited Warranty

REVISION P
EFFECTIVE 5/1/2017

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, brushes, 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 Auto Scrubbers (incl. on board charger)	5yrs	3yrs	12yrs	90 days
Battery and Manual Sweepers	3yrs	3yrs	12yrs	90 days

Exceptions…….

Model	Parts	Labor	Poly	Travel**
Port A Scrub, all models (incl. on board charger)	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
E14BQP and E14115 scrubber	1yr	1yr	12yrs	90 days
				**Travel, 2 hours max

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

Minuteman®
Excellence Meets Clean

"Cleaning Excellence Powered by BrainOS"

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

