

# Max Ride 20 Floor Scrubber Disc Brush 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  
Minuteman International, Inc.  
14N845 U.S. Route 20  
Pingree Grove, Illinois 60140 USA

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

## Technical Specifications

**Model**                    **Max Ride 20**  
**Models:**                A-MR20DQP, A-MR20DQPG, A-MR20DQPINT, A-MR20DSQP, A-MR20DSQPG, A-MR20DSQPINT

Model	MAX Ride 20
Scrub Head Type	Disc
Scrub Path	20 in (51 cm)
Solution Capacity	18 gal (68L)
Recovery Capacity	18 gal (68L)
Max Speed	3.1 mph (5 kh)
Max Productivity	27,200 sq. ft/hr (2527 sq. m/hr)
Actual Productivity	22,015 sq. ft/hr (2045 sq. m/hr)
Brush Pressure	Floating- Locked- 46 lbs/70 Nm
Brush Speed	175-400 RPM
Brush Motor	400/600 watts
Vacuum Motor	550 watts
Vacuum Airflow	69 cfm (32.4L /sec)
Vacuum Waterlift	68" H2O (172 cm H2O)
Sound Pressure	68 dba
Water Flow	.45 gpm (1.7L / min)
Min. Turn-Around Aisle Width	50.5" (128 cm)
Maximum Ramp Climbing	2%
Squeegee Width	25" (64 cm)
Machine Voltage	24 VDC
Power Source	Battery (2) 12V 140 AH
Battery Charger	On Board
Maximum Run Time	3-3.5 hrs.
Dimensions W/ Squeegee	47.5" L x 25.5" W x 45" H (121 cm x 65 cm x 114 cm)
Weight Without Batteries	342 lbs (155 kg) No Solution
Weight With Batteries	691 lbs (313 kg) Full Solution and 140 AH battery pack
Approvals	None
IP Protection Class	IPX4

### 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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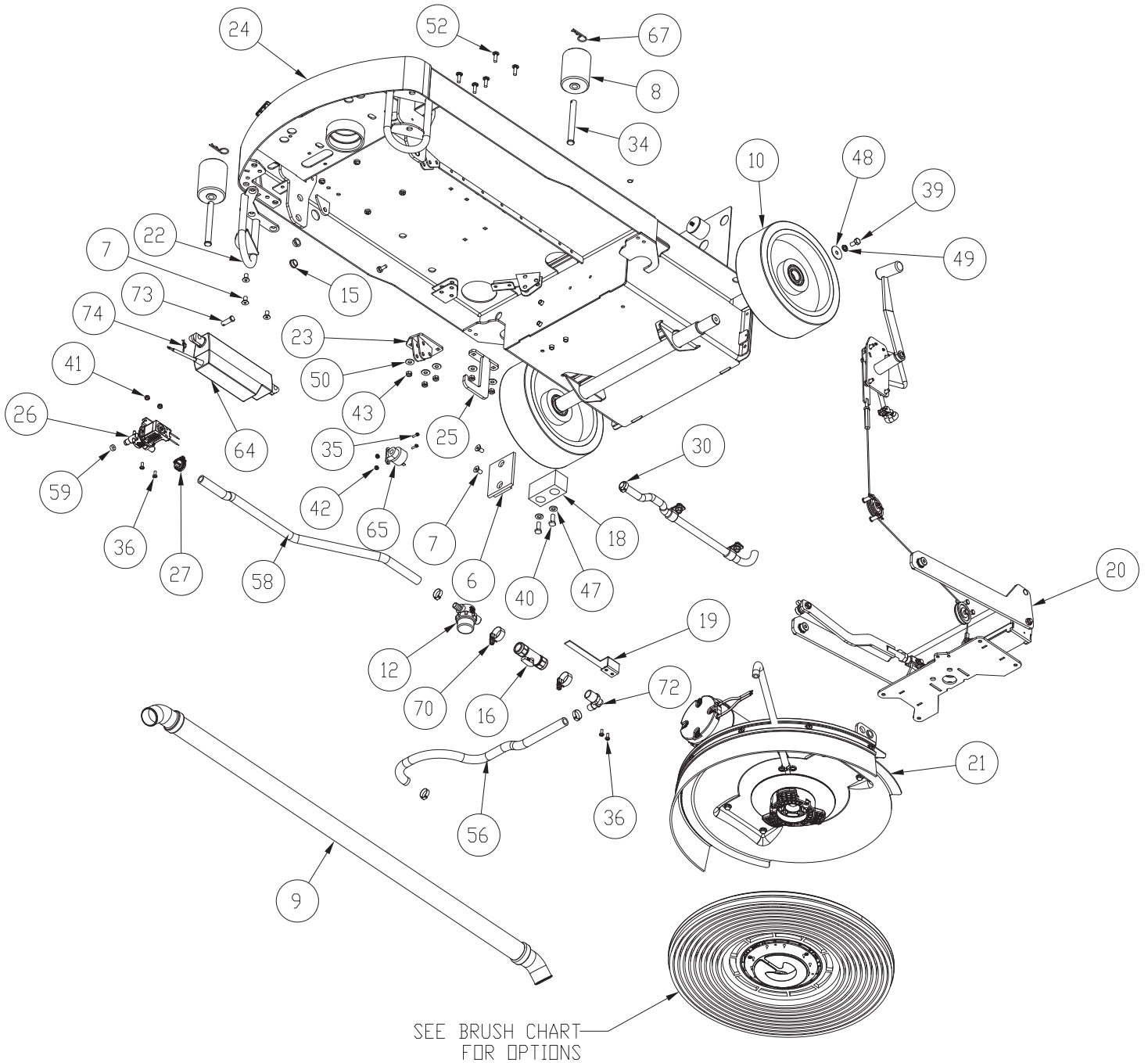
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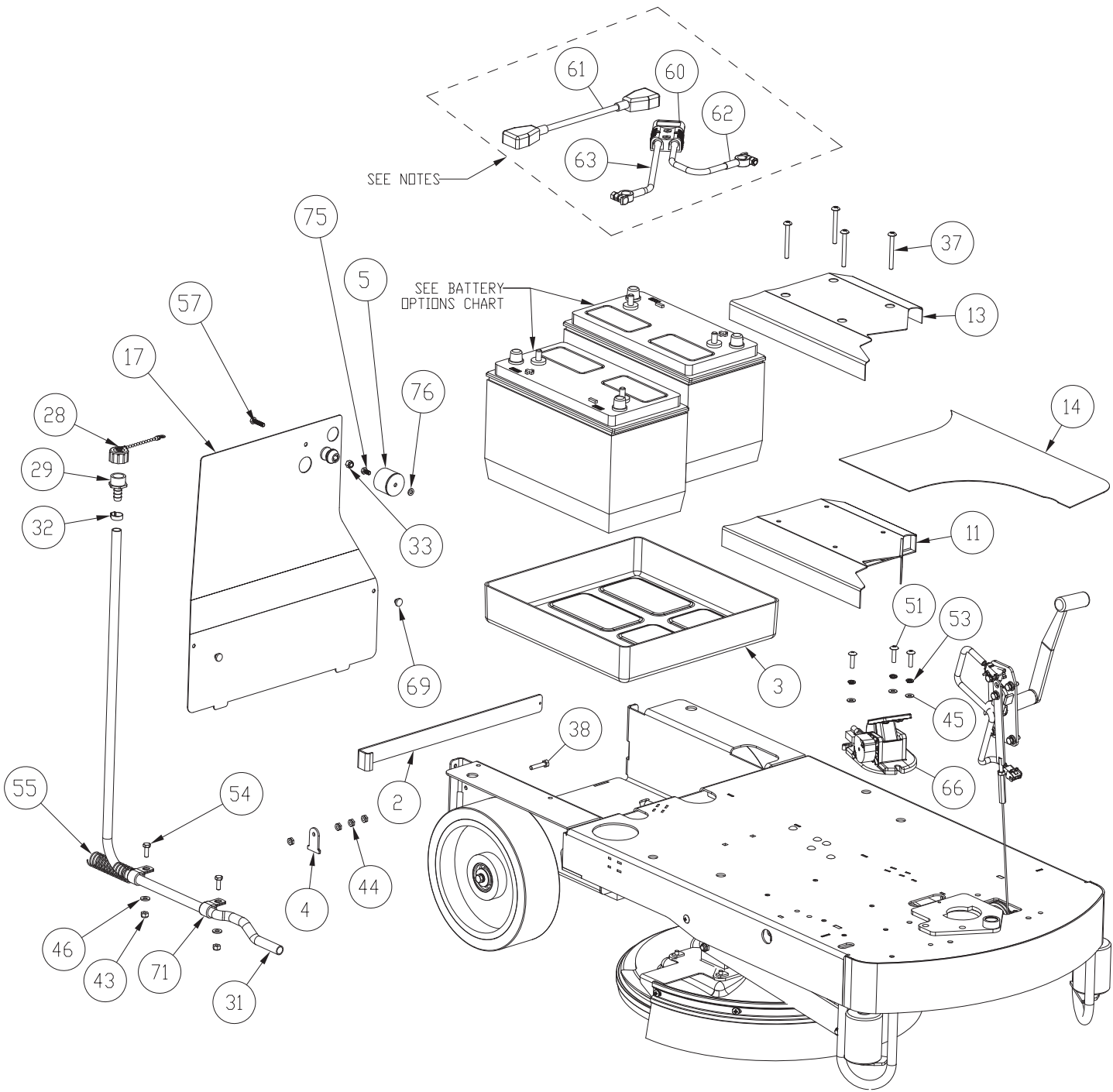
## Brush, Battery and Charger Options

BATTERY AND CHARGER OPTIONS			
MODEL	BATTERY PART NO.	CHARGER PART NO.	DESCRIPTION
A-MR20DQPG, A-MR20DSQPG	956158	957761-3	BATTERY 12V 140AH OVERDRIVE 12AGM
A-MR20DQP	956716	957761-2	BATTERY, 12V 115 AH WET
A-MR20DQPINT	956716	957760	BATTERY, 12V 115 AH WET
A-MR20DSQP	956704	957761-2	BATTERY, 12V 140AH WET
A-MR20DSQPINT	956704	957761-2	BATTERY, 12V 140AH WET

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

## Frame Group





**Frame Group BOM**

BILL OF MATERIAL - 246160			
ITEM	PART NO.	QTY	DESCRIPTION
1	172520-2	1	PAD DRIVER, 20"
2	245204	1	BATTERY BAR
3	245210	1	BOX-BATTERY-MAX20
4	245213	1	RETAINER-BATTERY BAR
5	245222	1	LATCH-RUBBER
6	245304	1	BLOCK, SLIDE
7	245338	5	SCR-FHSCS 5/16-18 X 5/8 SS
8	245419	2	ROLLER, BUMPER, 2.5 DIA.
9	245450	1	HOSE-VAC, CLEAR 1.50" ID X 43 LONG
10	245461	2	WHEEL - ASSY, IDLER, 254 x 80 W/ BRGS
11	245475	1	WELDMENT,FLOOR PLATE RISER 20"
12	245781	1	FILTER - 1/2 NPT X 1/2 HB
13	245796	1	TREAD, ANTI-SKID, RISER 20"
14	245797	1	TREAD, ANTI-SKID, FRAME 20"
15	245806	3	BUSHING-FLG, .50 x .62 x .31 LG OILITE
16	245845	1	VALVE - BALL 1/2 FPT X 1/2 FPT
17	246052	1	COVER, REAR BATTERY BOX, 20"
18	246053	1	BLOCK, PIVOT
19	246073	1	PLATE - MTG - BALL VALVE AND FILTER
20	246161	1	SCRUB HEAD LIFT GROUP 20"
21	246168	1	SCRUB HEAD GROUP 20"
22	247064	1	WELDMENT, TIP BAR
23	247066	1	WELDMENT, PULLEY MOUNT
24	247067	1	WELDMENT, FRAME, 20 MODULAR
25	247095	1	WELDMENT, HEAD STOP, 20 DISK
26	247103-2	1	VALVE-WATER 24VDC
27	247693	1	CLAMP, HOSE, WORM .5 TO .906 DIA
28	283690	1	ASSY, BREATHER CAP W LANYARD
29	342445	1	FTG-GARDEN ST 1/2 HB PP
30	383347	4	CRIMP CLAMP 1/2 HOSE SS 185R
31	430231	1	HOSE, 1/2 ID X 45", CLEAR
32	450076	1	CLAMP-CRIMP 185R SS
33	600933	1	NUT-NYLOC M6-1.00 SS
34	620027	2	PIN-CLEVIS 1/2 X 4.50 ZP
35	710204	2	SCR-PHMS 6-32 X .50 ZP
36	710355	4	SCR-MC RD HD 10-32 X .50 STL PL
37	710998	4	SCR-THMS 1/4-20 X 2.50 SS
38	711210	1	BLT-HH 1/4-20 X 1.25 STPL



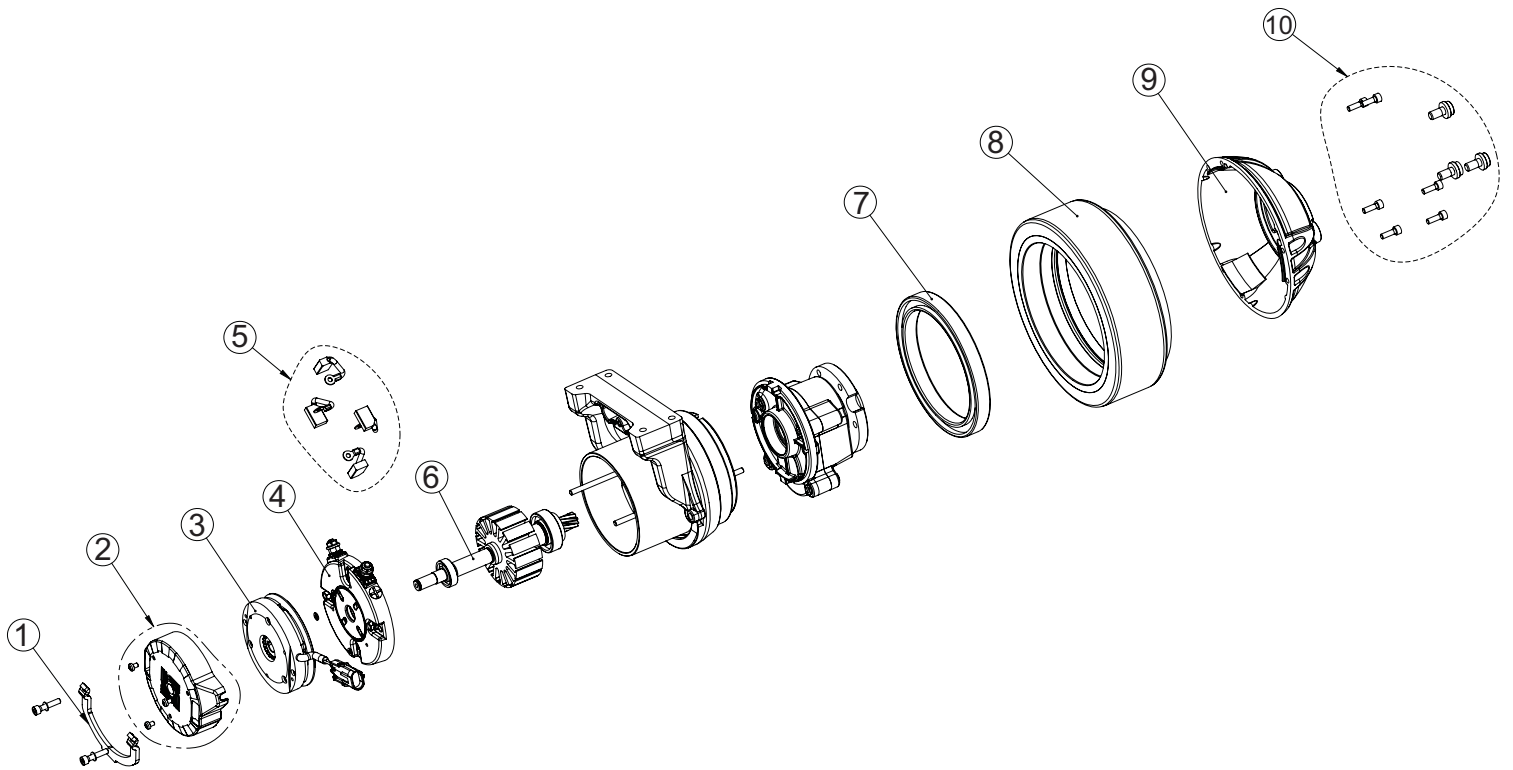
BILL OF MATERIAL - 246160			
ITEM	PART NO.	QTY	DESCRIPTION
39	711227	2	BLT-HH 5/16-18 X .62 ST PL
40	711229	2	SCR-HH 5/16-18 X .87 ZP GR 5
41	711350	2	NUT-NYLOC 10-32
42	711371	2	NUT-NYLOC 6-32 ZP
43	711373	7	NUT-NYLOC 1/4-20
44	711387	4	NUT-NYLOC 1/4-20 1/2 NUT
45	711504	3	WSR-FLAT 1/4 ID SS
46	711505	2	WASHER-FLAT 1/4 ZP
47	711506	2	WSR-FLT .344 X .690 X .062, STEEL
48	711516	2	WSR- FLAT .31 X 1.25 X .05
49	711545	2	WSR-HELICAL 5/16
50	711575	5	WSR-FLT .31x.75x.06ST
51	712541	4	SCR-MC 1/4-20 X 1.00 TH SS
52	712593	5	BLT-CARR 1/4-20 X .875 SS
53	712758	3	WSR-HELICAL 1/4 SS
54	713002	2	SCR-HH 1/4-20 X .75 ZP 5
55	718371	1	SPRING, COMPRESS, .845OD .067W 4.00L SS
56	730971	1	TUBING, .50 ID X .13 WAL BRA VIN 18.5 IN
57	731006	1	SCR-HH M6-1.00 X 25 ZP CLASS 8.8
58	731544	1	TUBING, .50 ID X .13 WAL BRA VIN 22 IN
59	731569	1	SPACER, .150 ID, .500 OD, .210 THK
60	740159	1	CB 175 RED HOUSING
61	740164-1	1	CABLE ASSY- BATTERY JUMPER, 4G RED 12"
62	740167	1	BATTERY CABLE, RED 4AWG SB175
63	740168	1	BATTERY CABLE, BLACK 4AWG SB175
64	740827-1	1	ACTUATOR -40MM STROKE, 750N FORCE
65	748200	1	HORN / BACK UP ALARM, SCV 24/26
66	748507	1	PEDAL ASSY, THROTTLE, FLOOR MTG 25°, IEC
67	833374	2	PIN, HAIRPIN COTTER 3/8
68	***	2	BATTERY-SEE CHART ON PAGE 5
69	3300526	2	BUMPER - 1/4 ID X 1/8 THK
70	3300535	2	CLAMP-HOSE 1/2
71	3301158	2	CLAMP-CABLE 3/4
72	3315535	1	FTG-90 DEG 1/2 ID X 1/2 MPT
73	3400117	1	PIN-CLEVIS 3/8 x 1.125 ZP
74	3400125	1	PIN-COTTER 3/8 RUE RING
75	11038064	1	BLT-HH M6 X 1.0 X 12 STL ZD 8.8 DIN 933
76	12310033	1	WASHER-FLAT M6.4 X 12 X 1.6 ZP



## Tower Group BOM

BILL OF MATERIAL - 246164			
ITEM	PART NO.	QTY	DESCRIPTION
1	245416	1	SKF BALL BRG 35mm x 62 OD x 14 W
2	245445-1	1	CHAIN - ROLLER #35
3	245583	2	SPACER, .266 B, .313 OD, .313 T
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	246033	1	SHAFT, LOWER STEERING
12	246034	1	GUIDE, CHAIN TENSIONER
13	246035	1	KEY, SQ, 0.25 X 0.25 X 1.50
14	246036	3	KEY, SQ, 0.18 X 0.18 X 0.75
15	246037	1	SHAFT, UPPER STEERING
16	246038	2	RING, RTNR, FOR .875 BORE, STL
17	246039	1	U-JOINT, 25DEG, 0.75B 1.06D 3.75L
18	246040	1	TOWER WELDMENT, STEERING
19	246042	1	PLATE, BEARING, STEERING
20	246067	1	BLT-SHOULDER .375 X .312 LG BLK OX
21	711207	2	BLT-HH 1/4-20 X 1.00 STPL
22	711241	1	SCR-HEX 3/8 -16X .75" ZP
23	711373	5	NUT-NYLOC 1/4-20
24	711505	13	WASHER-FLAT 1/4 ZP
25	711506	4	WSR-FLT .344 X .690 X .062, STEEL
26	711517	2	WSR- FLAT .75X1.375X.09 SS
27	711544	2	WSR-HELICAL 1/4
28	713002	7	SCR-HH 1/4-20 X .75 ZP 5
29	713003	2	BLT-HH 1/4-20 X 1 #5
30	748523-1	1	WHEEL DRIVE ASSEMBLY, 24V 300W
31	809148	3	RET RING-E TYPE .75
32	832554	2	BUSHING-FLG .7505 X 1.437 X .625 BRNZ
33	833292	1	CHAIN MASTER LINK #35
34	3301158	2	CLAMP-CABLE 3/4
35	3305667	1	BEARING-MAIN BROOM
36	3400092	2	WASHER-FENDER 3/8 ZP 1.5 OD X .07 THK
37	3401570-7W	2	WASHER-NORD-LOCK, 1/4, 0.53 OD, ZP
38	11038247	4	BOLT - HH, M8 X 1.25 X 25, STL, ZINC DICH

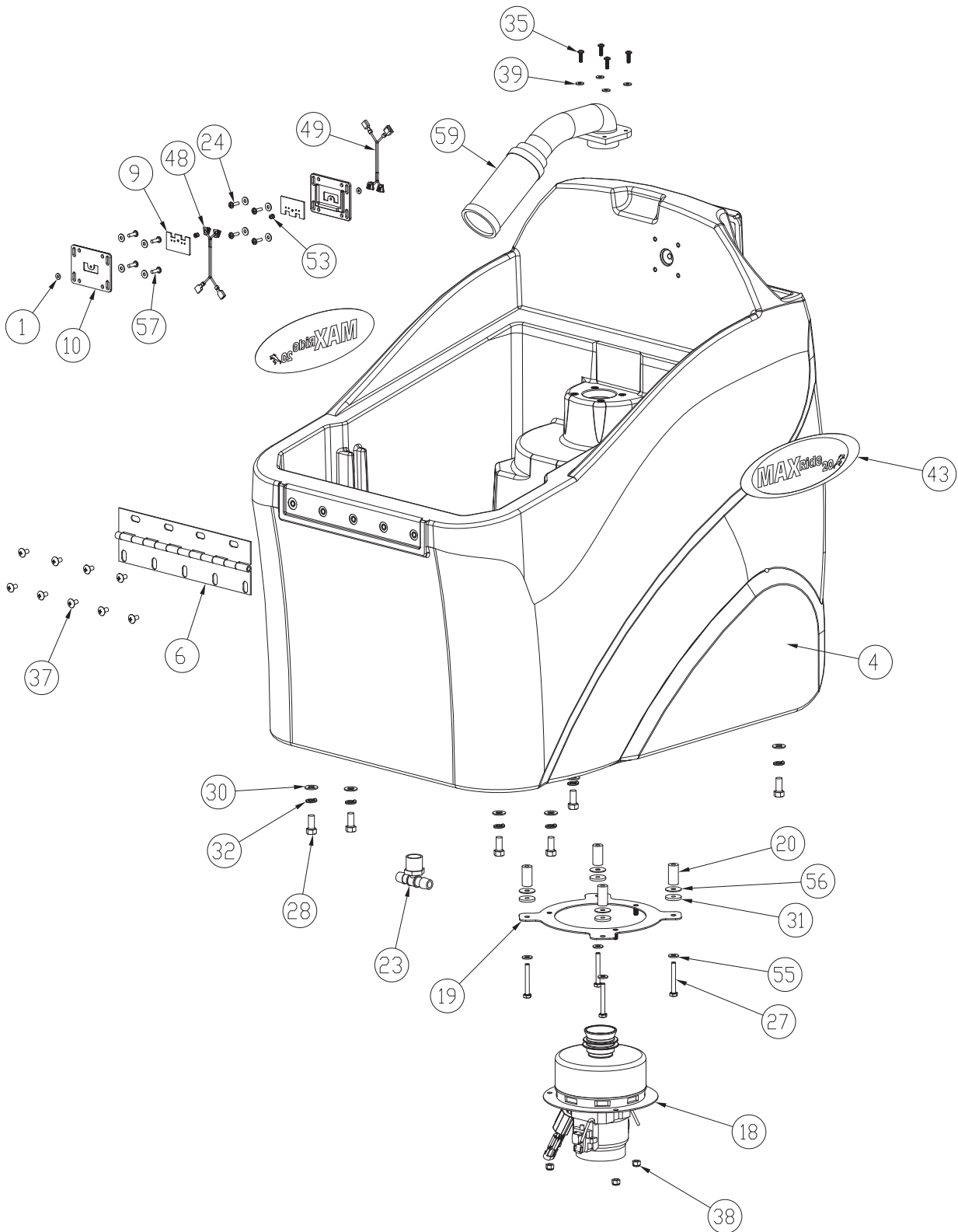
**Drive Wheel**



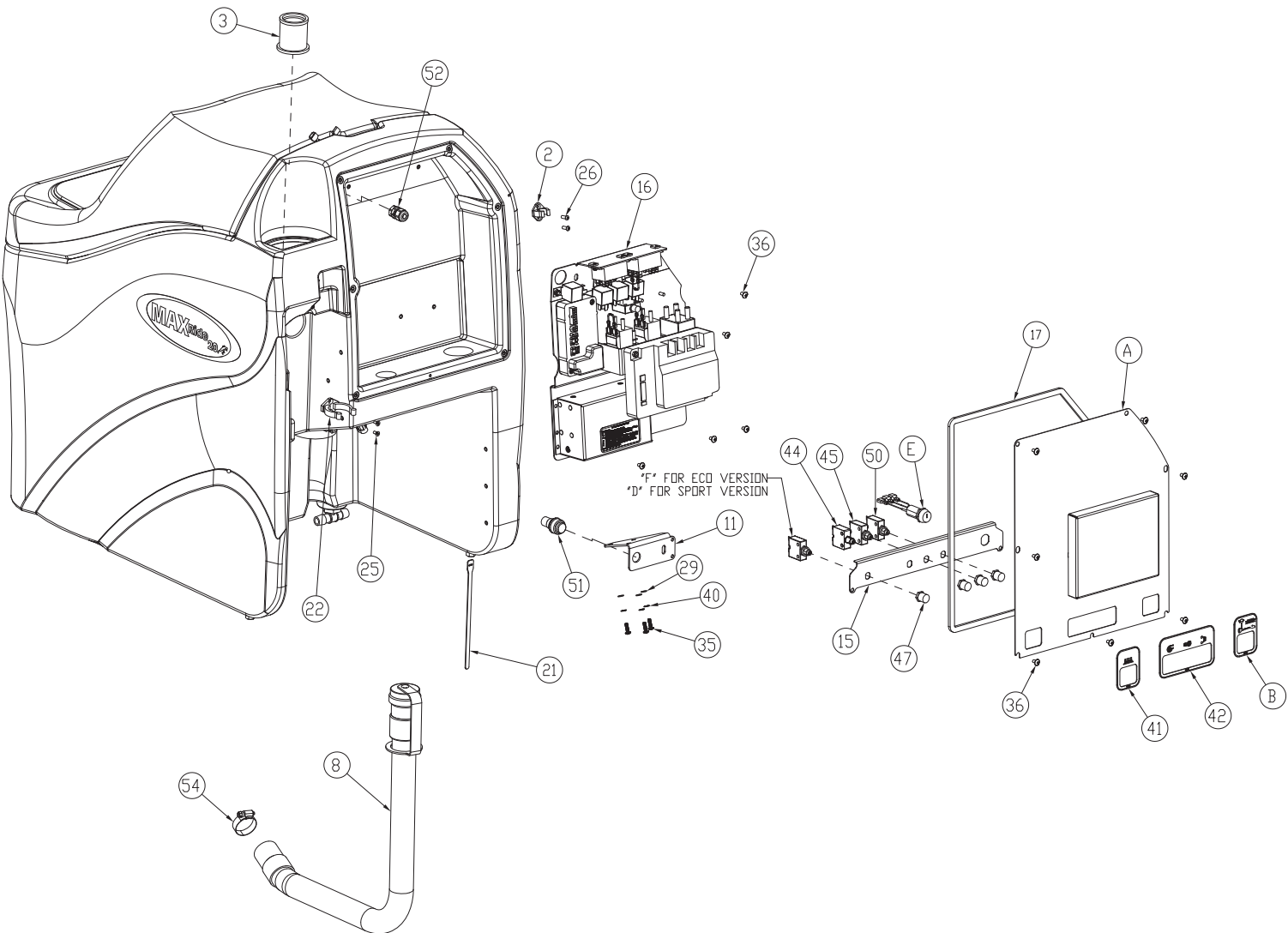
**Drive Wheel**

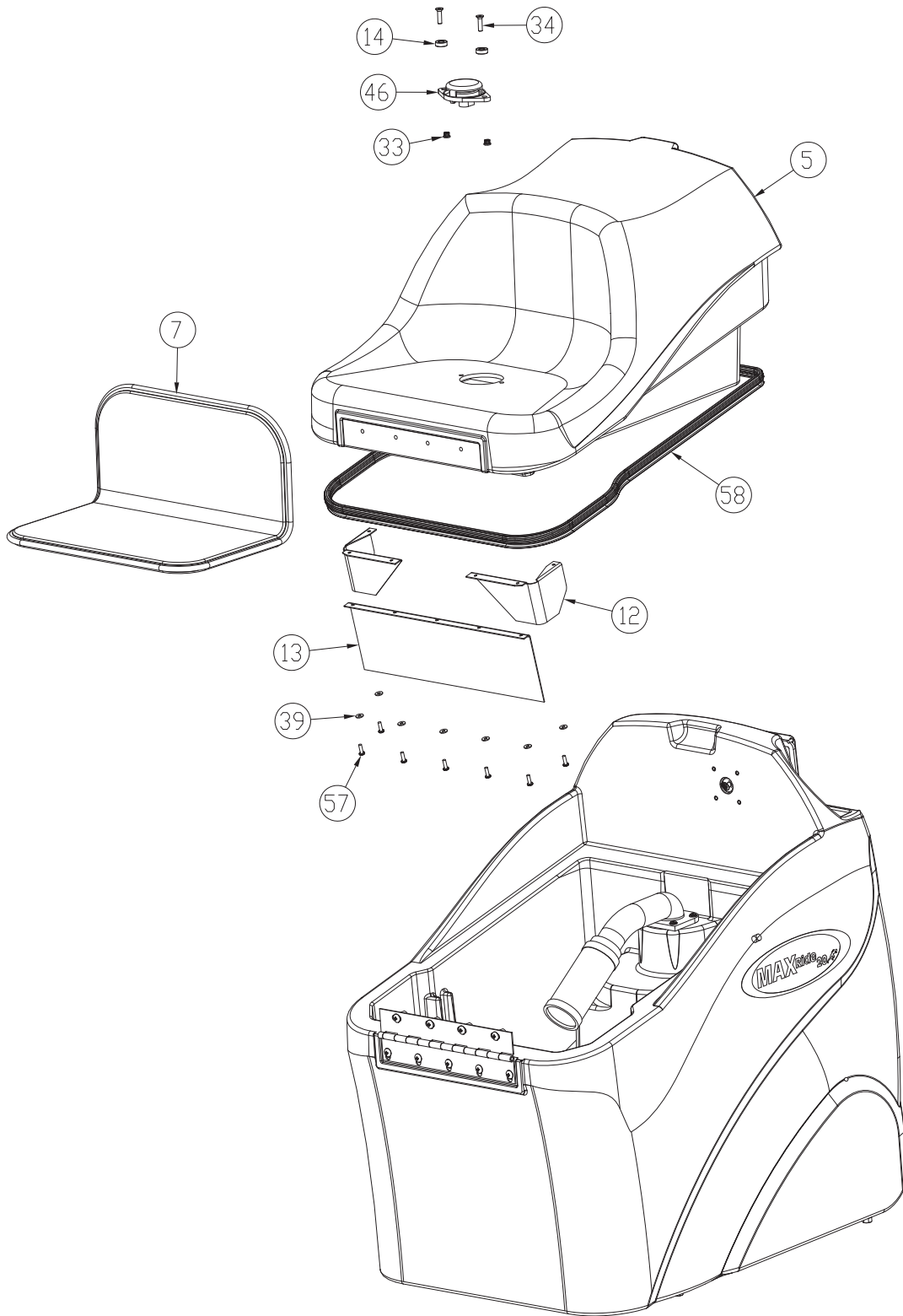
<b>BILL OF MATERIAL - 748523</b>			
<b>ITEM</b>	<b>PART NO.</b>	<b>QTY</b>	<b>DESCRIPTION</b>
1	2721029	1	BRAKE RELEASE LEVER
2	5000221	1	KIT FOR SPARE BRAKE COVER AND SCREWS
3	2720337	1	ELECTRIC BRAKE
4	6020412	1	BRUSHES CAP (BRUSHES INCLUDED)
5	2538004	1	KIT SPARE BRUSHES (SET OF 4)
6	6362284	1	ROTOR
7	2800759	1	WHEEL BEARING
8	4093466	1	POLYURETHANE WHEEL
9	4080935	1	ALUMINUM HUB
10	2538075	1	KIT SPARE SCREWS FOR HUB AND WHEEL

## Tank Group



Rev J







## Tank Group BOM

BILL OF MATERIAL - 246170			
ITEM	PART NO.	QTY	DESCRIPTION
1	950-4-S	2	BACK UP PLATE 1/8" STEEL
2	172065	1	CLIP, FOR 1/2" ID HOSE
3	172159	1	FILTER, FILL PORT, ES1720
4	245001	1	TANK, SOLUTION & RECOVERY ER20-V
5	245002	1	LID W/ SEAT, TANK, ER 20-V
6	245422	1	HINGE, STEEL, 11.38" LONG
7	245444	1	SEAT-CUSHIONED, SEWN SEAT & BACK
8	245452	1	HOSE-DRAIN W/ TWIST VALVE 1.50" ID
9	245453	2	PLATE - INSERT, INTERCONNECT
10	245456	2	PLATE - BASE, INTERCONNECT
11	245660	1	BRACKET - MTG, REAR COVER LATCH & ELEC
12	245766	2	SKIRT-DRIP, LID, END PIECE
13	245767	1	SKIRT-DRIP, LID,CENTER 20"
14	245817	2	SPACER, .39 ID X .75 OD X .25 T, PVC
15	245902	1	BRACKET, BREAKER MOUNT 20"
16	246167	1	ASSY, ELECTRICAL PANEL, 20/26
17	246184	1	GASKET, ELECTRICAL PANEL
18	246189	1	ASSY, 2-STAGE VACUUM
19	246936	1	BRACKET, VACUUM
20	246938	4	SPACER, .252 X .625 X 1.25, NYL
21	246943	1	CABLE TIE, HOOK AND LOOP
22	260579	1	TOOL CLIP, 1.5" HOSE
23	342440	1	FITTING, TEE 3/4MPT 1/2BARB
24	710130	4	SCR-MC 8-32 X .62 NICKEL
25	710528	2	SCR-MC 8-32 X .37 FH - BR
26	711163	2	SCR-HI/LO #10-16 X 1/2
27	711214	4	BLT-HH 1/4-20 X 2.00
28	711246	6	BLT-HH 3/8-16 X .87 STL Z
29	711502	3	WASHER-FLAT #8 ZP
30	711515	6	WSR-FLAT .406 X .812 X .0625
31	711529	4	WASHER-RUBBER .25 X 1.00 X .110
32	711546	6	WSR-HELICAL 3/8
33	711962	2	NUT, 1/4-20, HIGH-TORQUE 12 POINT FLANGE
34	712153	2	SC-SHCS, 1/4-20 x 1.00 IN SS
35	712536	7	SCR-MC 10-24 X .62 TH SS
36	712540	12	SCR-MC TR HD 10-24 X .37 SS
37	712560	9	SCR-MCH 1/4-20 X .50 SS NYL
38	712667	3	NUT-NYLOC 1/4-20 SS

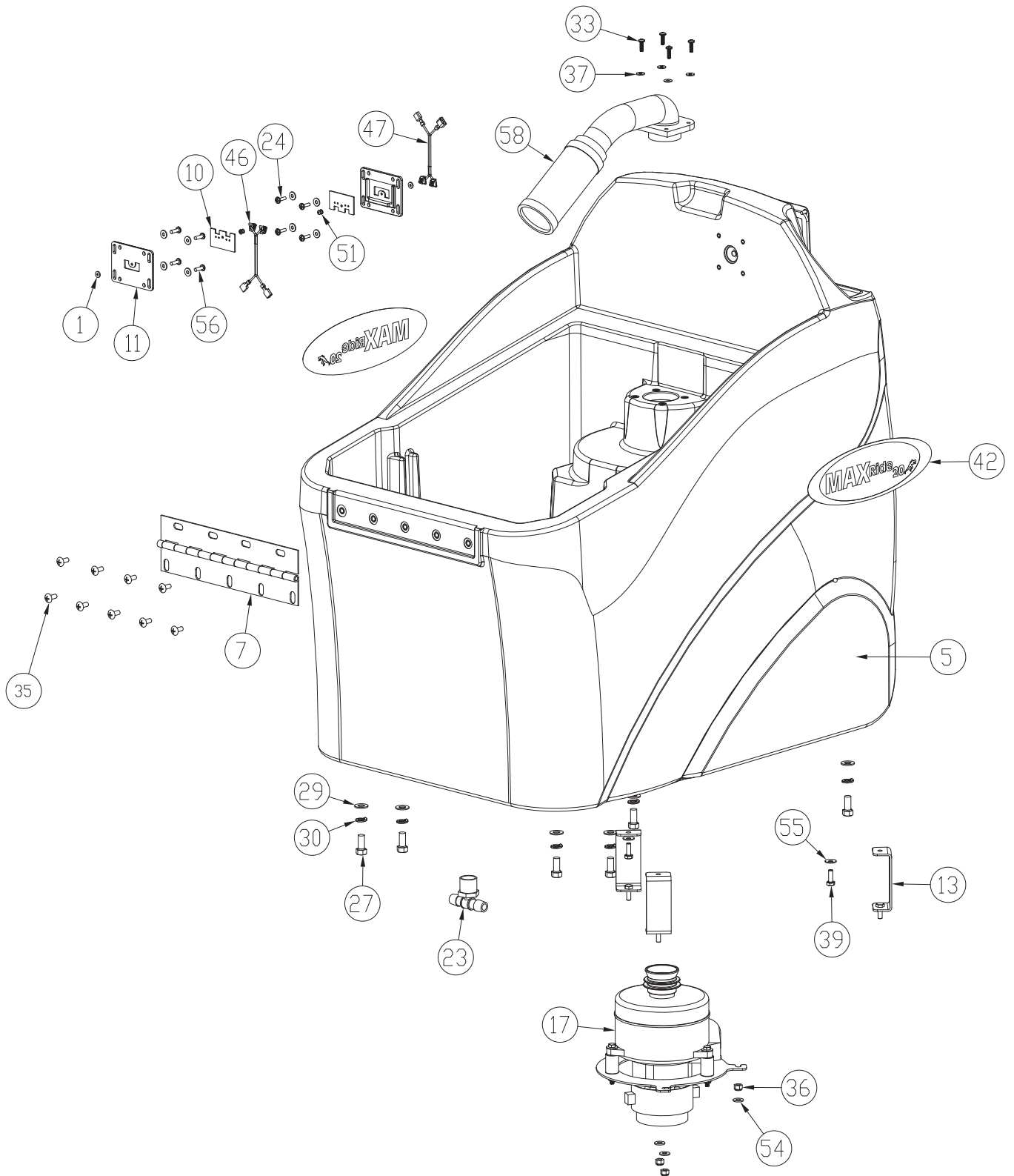
<b>BILL OF MATERIAL - 246170</b>			
<b>ITEM</b>	<b>PART NO.</b>	<b>QTY</b>	<b>DESCRIPTION</b>
39	712764	19	WASHER-FLAT #10 SS
40	712770	3	WSR INT LOCK #10A SS
41	715534	1	DECAL, BRUSH MOTOR
42	715535	1	DECAL, VAC, DRIVE, MOTOR-POWER
43	715977	2	DECAL, MAIN OVAL MAX-RIDE 20, ER V-20
44	740220	1	CIRCUIT BREAKER-20AMP 2-TERMIN
45	740247	1	CIRCUIT BREAKER-30AMP PUSH BUTTON
46	740601	1	SWITCH, SEAT, BOLT MOUNT
47	742748	4	CIRCUIT BREAKER BOOT
48	747349	1	WIRE ASSY, SEAT SWITCH
49	747350	1	WIRE ASSY, TANK SWITCH
50	747609	1	CIRCUIT BREAKER-4.0AMP PUSHBUT
51	747614	1	INDICATOR, BATTERY CHARGE STATUS
52	747689	1	STRAIN RELIEF, CABLE DIA. .181-.312 #3210
53	827666	2	RIVET-POP 1/8 DOME HD, BLK ALUM BODY
54	3303255	1	CLAMP-HOSE 1 3/4 NOM.
55	3400089	4	WASHER 1/4 ID .63 OD X .065 THK
56	3401052	4	WASHER 1/4 ID X 1 OD X .049 THK SS
57	3401449	11	SCR-HI/LO SS 10-16X3/4 PAN HD PHL.
58	25510512	7.1 FT	GASKET, RUBBER BLADE, PRESS IN
59	97118731	1	FILTER UNIT, SCREENED FLOAT

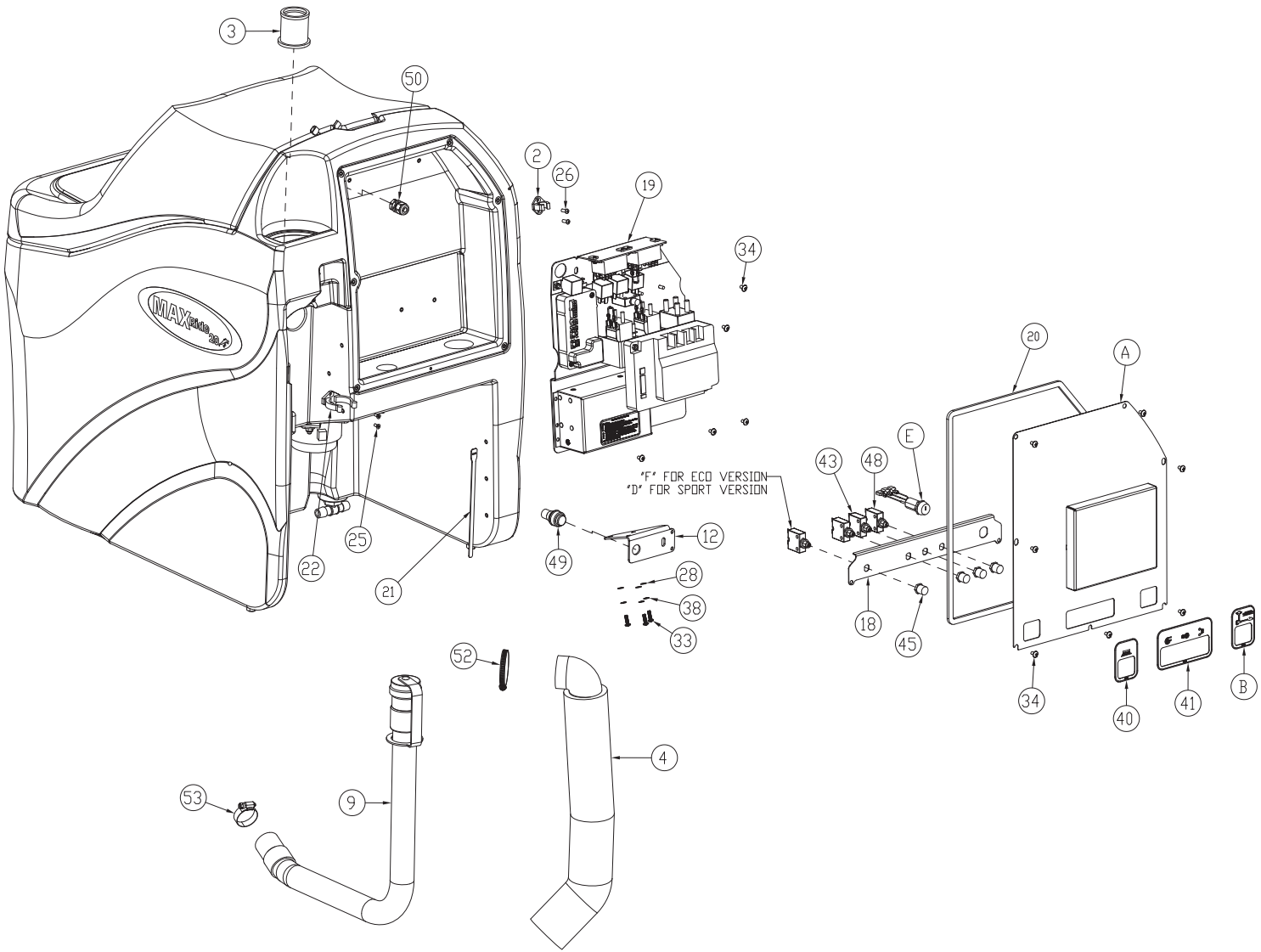
<b>ECO VERSIONS ONLY</b>			
<b>ITEM</b>	<b>PART NO.</b>	<b>QTY</b>	<b>DESCRIPTION</b>
A	245906	1	COVER, ELEC BOX, ECO 20"
F	740221	1	CIRCUIT BREAKER, 30 AMP

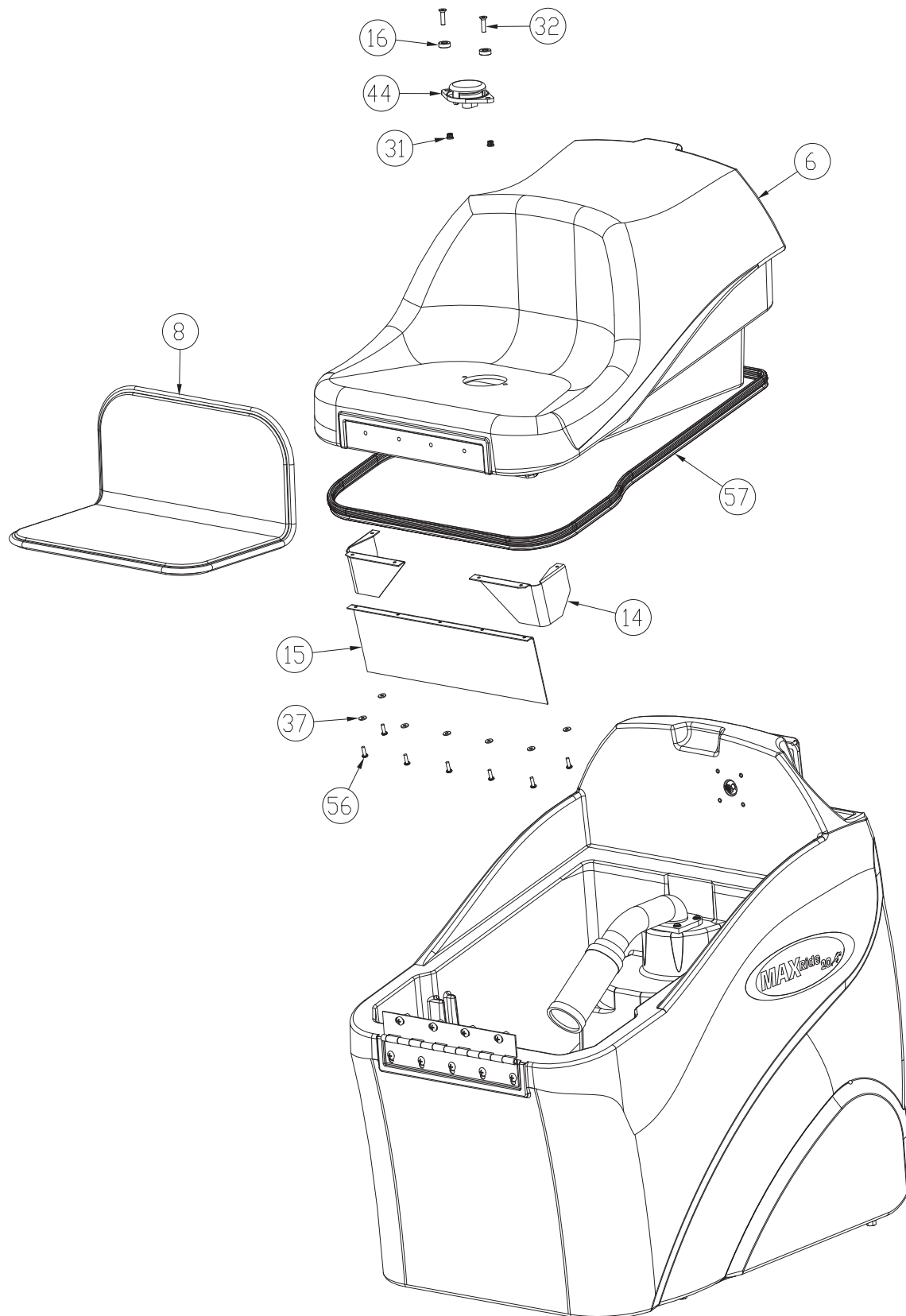
<b>SPORT VERSIONS ONLY</b>			
<b>ITEM</b>	<b>PART NO.</b>	<b>QTY</b>	<b>DESCRIPTION</b>
A	245905	1	COVER, ELEC BOX, SPORT 20"
B	715533	1	DECAL, 2 POSITION SWITCH, BRUSH MOTOR
D	740549	1	CIRCUIT BREAKER-50AMP PUSH BUTTON
E	747327	1	KEYSWITCH ASSY

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## Tank Group-CE







## Tank Group-CE BOM

BILL OF MATERIAL - 246194			
ITEM	PART NO.	QTY	DESCRIPTION
1	950-4-S	2	BACK UP PLATE 1/8" STEEL
2	172065	1	CLIP, FOR 1/2" ID HOSE
3	172159	1	FILTER, FILL PORT, ES1720
4	241049	1	VAC MOTOR MUFFLER, SCV 24/26
5	245001	1	TANK, SOLUTION & RECOVERY ER20-V
6	245002	1	LID W/ SEAT, TANK, ER 20-V
7	245422	1	HINGE, STEEL, 11.38" LONG
8	245444	1	SEAT-CUSHIONED, SEWN SEAT & BACK
9	245452	1	HOSE-DRAIN W/ TWIST VALVE 1.50" ID
10	245453	2	PLATE - INSERT, INTERCONNECT
11	245456	2	PLATE - BASE, INTERCONNECT
12	245660	1	BRACKET - MTG, REAR COVER LATCH & ELEC
13	245663	3	WELDMENT, VAC MOTOR PILLAR
14	245766	2	SKIRT-DRIP, LID, END PIECE
15	245767	1	SKIRT-DRIP, LID,CENTER 20"
16	245817	2	SPACER, .39 ID X .75 OD X .25 T, PVC
17	245844	1	ASSY, VACUUM & HOUSING
18	245902	1	BRACKET, BREAKER MOUNT 20"
19	246167	1	ASSY, ELECTRICAL PANEL, 20/26
20	246184	1	GASKET, ELECTRICAL PANEL
21	246943	1	CABLE TIE, HOOK AND LOOP
22	260579	1	TOOL CLIP, 1.5" HOSE
23	342440	1	FITTING, TEE 3/4MPT 1/2BARB
24	710130	4	SCR-MC 8-32 X .62 NICKEL
25	710528	2	SCR-MC 8-32 X .37 FH - BR
26	711163	2	SCR-HI/LO #10-16 X 1/2
27	711246	6	BLT-HH 3/8-16 X .87 STL Z
28	711502	3	WASHER-FLAT #8 ZP
29	711515	6	WSR-FLAT .406 X .812 X .0625
30	711546	6	WSR-HELICAL 3/8
31	711962	2	NUT, 1/4-20, HIGH-TORQUE 12 POINT FLANGE
32	712153	2	SC-SHCS, 1/4-20 x 1.00 IN SS
33	712536	7	SCR-MC 10-24 X .62 TH SS
34	712540	12	SCR-MC TR HD 10-24 X .37 SS
35	712565	9	SCR-MC 1/4-20X.63 SS TR HD
36	712667	3	NUT-NYLOC 1/4-20 SS
37	712764	19	WASHER-FLAT #10 SS
38	712770	3	WSR INT LOCK #10A SS

<b>BILL OF MATERIAL - 246194</b>			
<b>ITEM</b>	<b>PART NO.</b>	<b>QTY</b>	<b>DESCRIPTION</b>
39	713002	3	SCR-HH 1/4-20 X .75 ZP 5
40	715534	1	DECAL, BRUSH MOTOR
41	715535	1	DECAL, VAC, DRIVE, MOTOR-POWER
42	715977	2	DECAL, MAIN OVAL MAX-RIDE 20, ER V-20
43	740247	2	CIRCUIT BREAKER-30AMP PUSH BUTTON
44	740601	1	SWITCH, SEAT, BOLT MOUNT
45	742748	4	CIRCUIT BREAKER BOOT
46	747349	1	WIRE ASSY, SEAT SWITCH
47	747350	1	WIRE ASSY, TANK SWITCH
48	747609	1	CIRCUIT BREAKER-4.0AMP PUSHBUT
49	747614	1	INDICATOR, BATTERY CHARGE STATUS
50	747689	1	STRAIN RELIEF, CABLE DIA. .181-.312 #3210
51	827666	2	RIVET-POP 1/8 DOME HD, BLK ALUM BODY
52	3044112	1	CLAMP - HOSE, DIAM. 2.5" SS
53	3303255	1	CLAMP-HOSE 1 3/4 NOM.
54	3400089	3	WASHER 1/4 ID .63 OD X .065 THK
55	3400383	3	WASHER CONICAL SPRING 1/4
56	3401449	11	SCR-HI/LO SS 10-16X3/4 PAN HD PHL.
57	25510512	7.1 FT	GASKET, RUBBER BLADE, PRESS IN
58	97118731	1	FILTER UNIT, SCREENED FLOAT

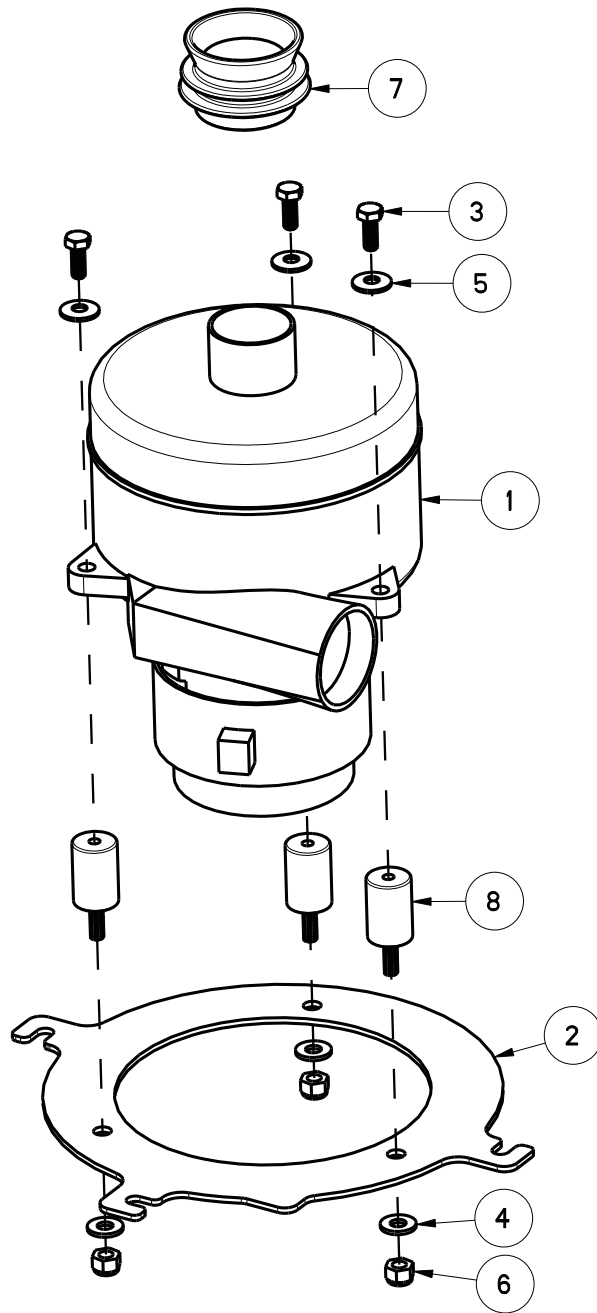
<b>ECO VERSIONS ONLY</b>			
<b>ITEM</b>	<b>PART NO.</b>	<b>QTY</b>	<b>DESCRIPTION</b>
A	245906	1	COVER, ELEC BOX, ECO 20"
F	740221	1	CIRCUIT BREAKER, 30 AMP

<b>SPORT VERSIONS ONLY</b>			
<b>ITEM</b>	<b>PART NO.</b>	<b>QTY</b>	<b>DESCRIPTION</b>
A	245905	1	COVER, ELEC BOX, SPORT 20"
B	715533	1	DECAL, 2 POSITION SWITCH, BRUSH MOTOR
D	740549	1	CIRCUIT BREAKER-50AMP PUSH BUTTON
E	747327	1	KEYSWITCH ASSY



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**Vacuum and Housing Assembly**



**Vacuum and Housing Assembly BOM**

<b>BILL OF MATERIAL - 245844</b>			
<b>ITEM</b>	<b>PART NO.</b>	<b>QTY</b>	<b>DESCRIPTION</b>
1	245499-1	1	VAC MOTOR ASSY, 24V 3 STAGE
2	245665	1	MOUNT, VACUUM MOTOR
3	730934	3	SCR-HH M6-1.00 X 16 SS FULL THREAD
4	3400089	3	WASHER-FLAT 1/4 ZP
5	3400383	3	WASHER-CONICAL SPRING 1/4
6	12040044	3	NUT-NYLOC M6 X 1.0 ZP CLASS 6
7	90503657	1	CONNECTION
8	90518457	3	ISOLATOR MOUNT



## Electrical Panel Assembly BOM

BILL OF MATERIAL - 246167			
ITEM	PART NO.	QTY	DESCRIPTION
1	245851	1	PANEL, ELEC CHASSIS, 20/26
2	710203	4	SCR-PHMS 6-32 X .37 ZP
3	710307	2	SCR-PHMS 6-32 X 1.00 ZP
4	711350	8	NUT-NYLOC 10-32 ZP
5	711501	4	WASHER-FLAT #6 X .375 ZP
6	711503	2	WASHER-FLAT #10 X .50 ZP
7	711543	2	WASHER-LOCK #10 SPLIT ZP
8	711551	6	WASHER-INT LOCK #6
9	711553	2	WASHER-INT TOOTH LOCK #10 ZP
10	712810	2	SCR-RHMS 10-24 X .37 ZP
11	740482	2	DIODE ASY, 1N4007 W/PIGGY
12	740703	1	CIRCUIT BREAKER, 1 AMP
13	747389	1	I-DRIVE, 70 AMP
14	747615	1	RELAY, 24VDC 2 POLE NO/NC 80A
15	747616	1	RELAY, 24VDC 1 POLE NO 80A
16	747619	2	BRACKET, RELAY 747615 & 747616
17	748511	2	RELAY, SPDT, MAX RIDE
18	748524	2	RELAY, DPDT, 40A
19	90331026	1	RELAY, 24VDC 2 POLE NO 125A
20	957935	1	LABEL, FOR CHARGERS 957760 AND 957761

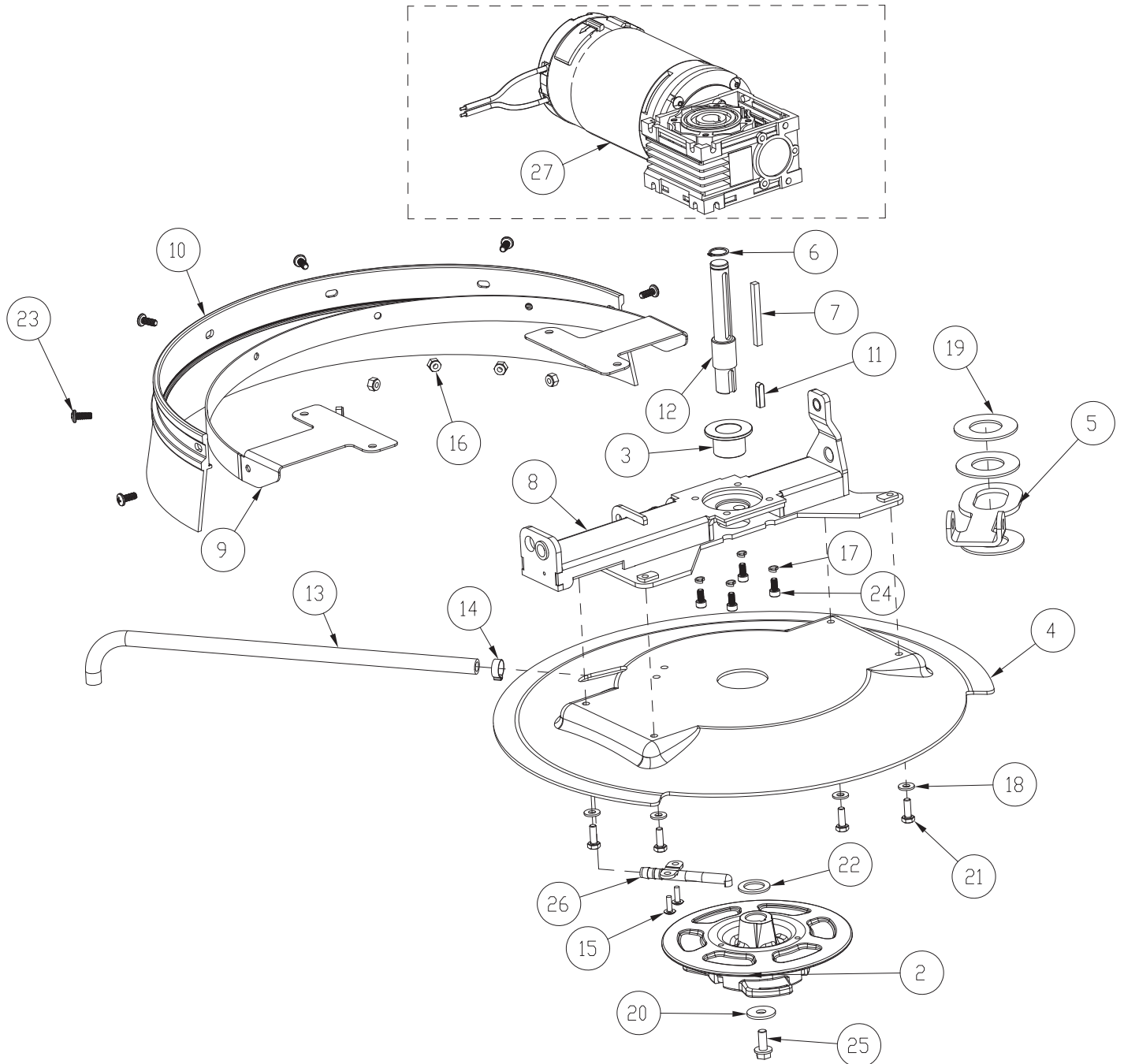
ADDITIONAL SPORT MODEL PARTS			
ITEM	PART NO.	QTY	DESCRIPTION
A	245901	1	BRACKET - MTG, I-DRIVE SPORT
B	711026	2	NUT-NYLOC 8-32 SS
C	711350	3	NUT-NYLOC 10-32 ZP
E	747359	1	I-DRIVE, 180 AMP
F	747388	1	POTENTIOMETER WIRE ASSY
H	748511	1	RELAY, SPDT, MAX RIDE



## Steering Column Group BOM

BILL OF MATERIAL - 246166			
ITEM	PART NO.	QTY	DESCRIPTION
1	368-816	1	NUT-JAM NYLOC 1/2-20 ZP
2	241224	1	BOOT - STEERING SHAFT, SCV 2426
3	245028	1	PANEL-CONTROL, LH FWD-REV SLCTR ASSY
4	245156	1	PANEL-FRONT, STEERING CONSOLE, ER20/26-V
5	245345	1	STEERING WHEEL- 12.75"
6	245802	1	SPACER, PVC, KEY SWITCH, .188 THK
7	245840	1	PANEL, CENTER, KEY SWITCH
8	245846	1	PANEL-CONTROL RH, FUNCTION SELECT
9	246090	1	CONSOLE, STEERING ER2026-V
10	383277	1	KEY-WOODRUFF 3/16 X .750
11	710203	2	SCR-PHMS 6-32 X .37 ZP
12	711371	2	NUT-NYLOC 6-32 ZP
13	711505	2	WASHER-FLAT 1/4 ZP
14	711510	1	WASHER-FLAT 1/2 X 1.37 X .10 ZP
15	711544	2	WASHER-LOCK 1/4 SPLIT ZP
16	712540	17	SCR-THMS 10-24 X .37 SS
17	713002	2	SCR-HH 1/4-20 X .75 ZP 5
18	715762	1	DECAL-FWD-REV SELECTOR MAX RIDE
19	715778	1	DECAL, CENTER PANEL, KEY SWITCH
20	715781	1	DECAL, BRUSH LIFT, 20/26
21	747011	1	GAUGE-BATTERY TRUCHARGE PGDT 36VDC
22	747387	1	KEYSWITCH ASSY, SWITCH+WIRES MR
23	748047	1	SWITCH, PUSH BUTTON (HORN SCV 36V)
24	748800	1	SWITCH-TOGGLE G SERIES NYL SPDT ON/ON
25	748804	1	SWITCH, PUSH BUTTON, ORANGE LED
26	715779	1	DECAL, FUNCTION SELECTOR, ECO
	715780		DECAL, FUNCTION SELECTOR, SPORT
27	747718	1	LAMP ASSY, LED AMBER, 24V ( <b>SPORT ONLY</b> )
	747718-2		CLIP, TINNEMAN ( <b>SPORT ONLY</b> )

## Scrub Head Group

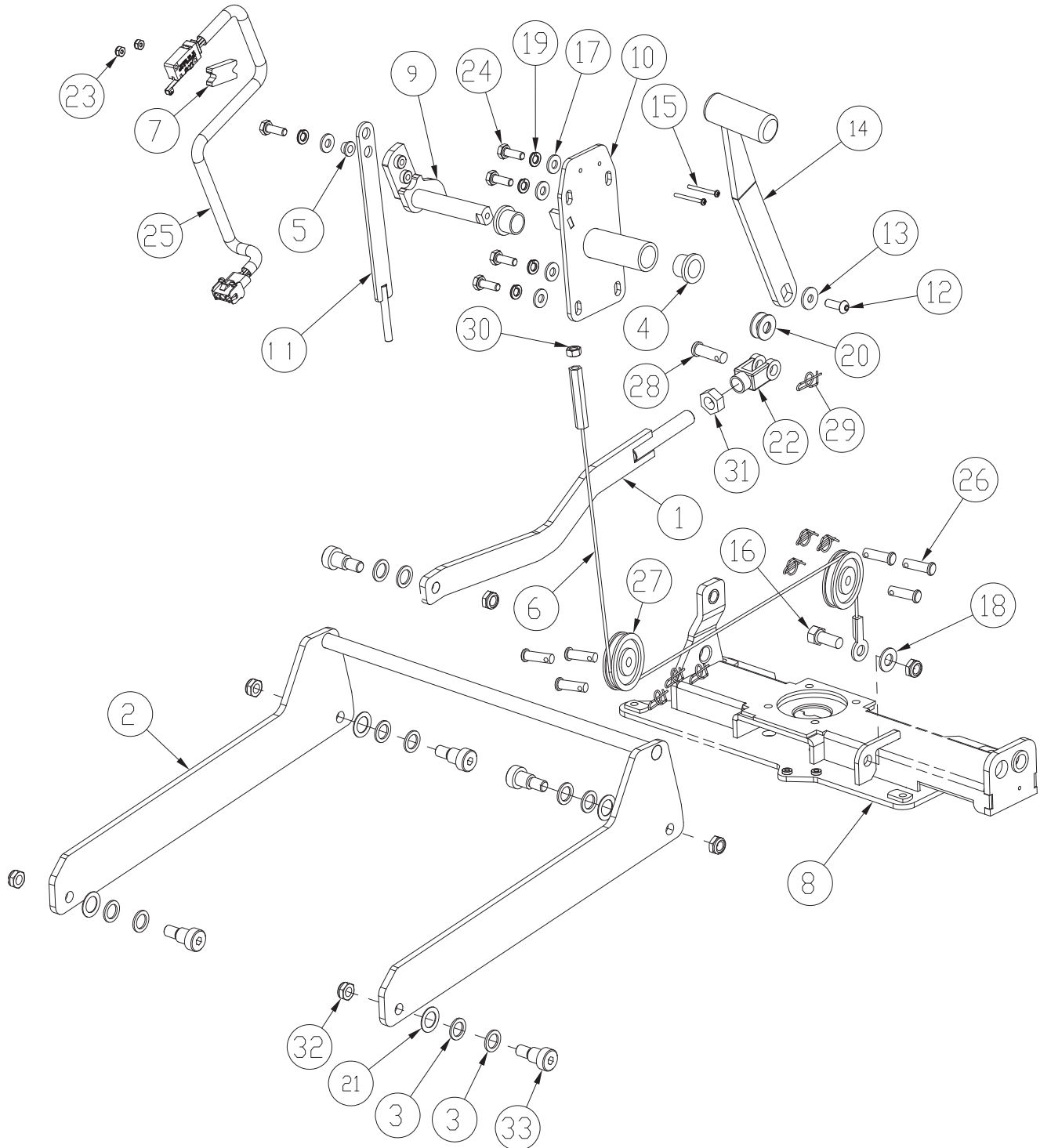




## Scrub Head Group BOM

BILL OF MATERIAL - 246168			
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	245300	1	SCRUB HEAD COVER 20"
5	245312	1	RING, PIVOT
6	245468	1	EXTERNAL RETAINING RING, 11/16" SHAFT, STEEL
7	245812	1	KEY-6MM X 6MM X 2.625
8	246092	1	FRAME, SCRUBDECK, 20"
9	246095	1	BRACKET, DECK SKIRT
10	246104	1	DECK BRUSH SKIRT
11	246946	1	KEY, 6MM X 6MM
12	246947	1	SHAFT-STUB, RT-ANGLE DRIVE, DISK
13	283153	1	HOSE 3/8" ID X 16.5"
14	452037	1	CLAMP-CRIMP 170R SS
15	710154	2	SCR-THMS 10-32 X .625 SS
16	711373	6	NUT-NYLOC 1/4-20
17	711421	4	WASHER-LOCK 1/4 SPLIT, HIGH-COLLAR, SS
18	711505	4	WASHER-FLAT 1/4 ZP
19	711687	3	WASHER-FLAT, 2.50 OD X 1.28 ID X .095 ZP
20	711855	1	WSR-FLT .37 X 1.12 X .10 STL Z HARD
21	713002	4	SCR-HH 1/4-20 X .75 ZP 5
22	717025	1	WASHER-FLAT .812 X 1.25 X .08 ZP
23	3400232	6	SCR-PHMS 1/4-20 X 0.62 ZP
24	3402054	4	SCR-SHCS M6-1.0 X 12 ZP
25	11717203	1	BLT-HH FLG M8X1.25X20 PRECOTE, ZD 10.9
26	90311663	1	FITTING, WATER NOZZLE W/ MOUNT HOLES
27	245231	1	GEAR-MOTOR, BRUSH, 24VDC 600W, AMER ( <i>SPORT</i> )
	245808		GEAR - MOTOR, BRUSH, 24VDC 400W, AMER ( <i>ECO</i> )

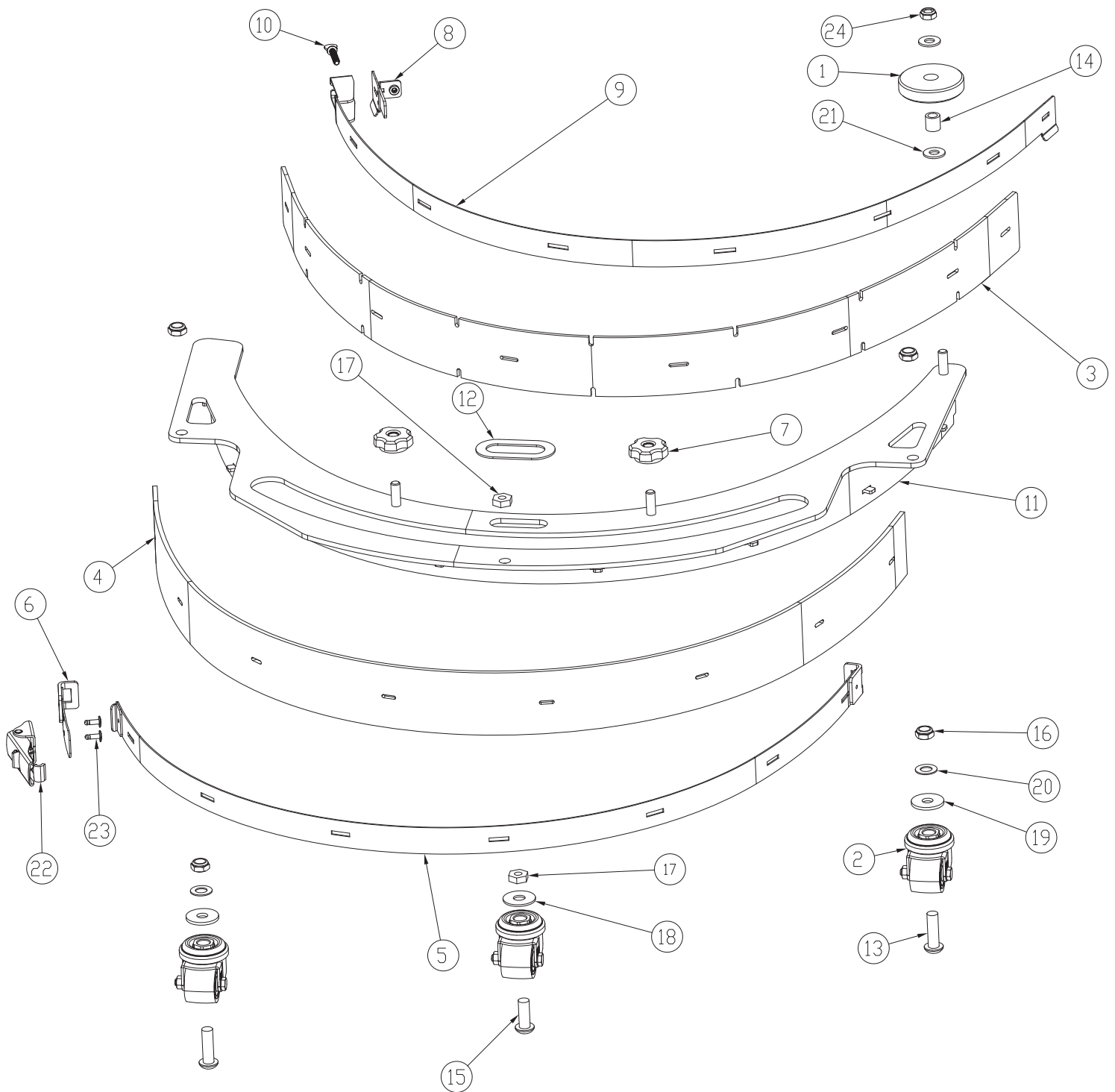
**Scrub Head Lift Group**



## Scrub Head Lift Group BOM

BILL OF MATERIAL - 246161			
ITEM	PART NO.	QTY	DESCRIPTION
1	245138	1	WELDMENT, DECK ADJ LINK 20"
2	246055	1	WELDMENT, SCRUBHEAD ARM 20"
3	246064	10	WASHER 1/2 X .75 X .062 NYLON
4	246078	2	FLANGED BUSHING, .625 SHAFT
5	246079	1	FLANGED BUSHING, .250 SHAFT
6	246082	1	CABLE, 29.50
7	246089	1	BRACKET, SWITCH
8	246092	1	FRAME, SCRUBDECK, 20"
9	246631	1	WELDMENT, HEAD LIFT SHAFT
10	246647	1	WELDMENT, HEAD LIFT
11	246649	1	WELDMENT, DECK LIFT END
12	246730	1	SCR-BHSCS .25-20 X .75 BLK OX NYL PATCH
13	246731	1	WASHER-FLAT, .25 X .75 X .08, HARD
14	246736	1	WELDMENT, HEAD LIFT, HANDLE
15	710495	2	SCR-PHMS 4-40 X 1.25 ZP
16	711246	1	BLT-HH 3/8-16 X .87 STL Z
17	711505	5	WASHER-FLAT 1/4 ZP
18	711515	1	WSR-FLAT .406 X .812 X .0625
19	711544	5	WSR-HELICAL 1/4
20	711569	2	WASHER-FLAT .390 X .880 X .062 NYL
21	711594	4	WSR-FLAT .56 X .88 X .03
22	712265	1	CLEVIS-YOKE, 1/2-20 WITH .375 PIN
23	712348	2	NUT-NYLOC #4 STL ZINC
24	713002	5	SCR-HH 1/4-20 X .75 ZP 5
25	747603-2	1	SWITCH ASY, MICRO ROLLER W/PACK/CONDUIT
26	881002	6	PIN-CLEVIS 5/16 X 1.00 ZINC
27	3300368	2	PULLEY-PLASTIC 2" x .25" GROOVE
28	3400117	1	PIN-CLEVIS 3/8 x 1.125 ZP
29	3400125	7	PIN-COTTER 3/8 RUE RING
30	3400180	1	NUT-HEX 1/4-28 ZP
31	3400449	1	NUT-JAM 1/2-20 ZP
32	3401028	6	NUT, 3/8-16 ELASTIC STOP (ES)
33	712099PLT	5	BLT-SHOULDER 1/2 X 1/2 RAW

**Squeegee Group**

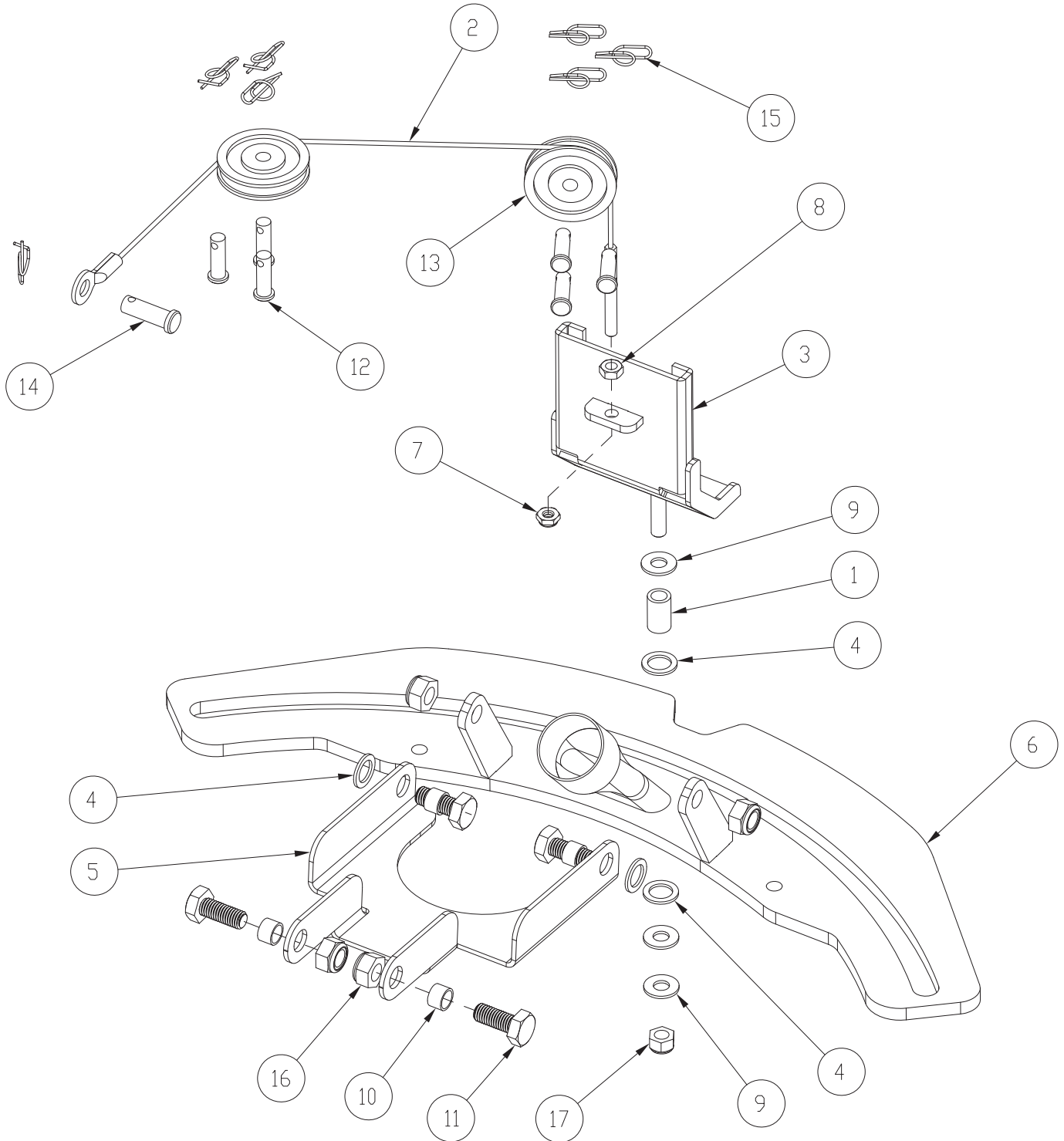


Rev J

## Squeegee Group BOM

BILL OF MATERIAL - 246165			
ITEM	PART NO.	QTY	DESCRIPTION
1	245339	1	ROLLER- SQUEEGEE
2	245563	3	CASTER
3	246083	1	SQUEEGEE BLADE INNER 20
4	246084	1	SQUEEGEE BLADE OUTER 20
5	246087	1	WELDMENT, OUTER BAND, RT
6	246088	1	WELDMENT, OUTER BAND, LT
7	246942	2	KNOB-FLUTED, 5/16-18 SS
8	247626	1	WELDMENT, INNER BAND, LT
9	247627	1	WELDMENT, INNER BAND, RT
10	247631	1	SCREW, 10-24X1.00 FLANGED THUMB
11	247633	1	WELDMENT, 20 IN SQUEEGEE
12	247634	1	GASKET, SQUEEGEE
13	247635	2	SCR-SC 3/8-16 X 1.25 ZN STL
14	600114	1	SPACER, .328 B .498 OD .500, SS
15	710986	1	SCR-SC 3/8-16 X 1.0 ST PL
16	711375	4	NUT- NYLON LOCK, 3/8-16 HALF NUT
17	711391	2	NUT-JAM 3/8-16 ZP
18	711507	1	WSR-FLAT .37 X 1.12 X .06
19	711855	2	WSR-FLT .37 X 1.12 X .10 STLZ HARD
20	712767	2	FLAT WASHER .406 ID X .75 OD X
21	712772	2	WSR-FLAT .344 x .75 x .06 SS
22	730652	1	LATCH, UNDER CENTER
23	730654	2	RIVET-BLIND 5/32 .125 GRIP SS
24	3401098	1	NUT-HEX JAM 5/16-18 ES ZP

**Squeegee Lift Group**



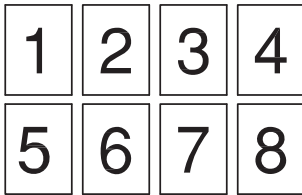
## Squeegee Lift Group BOM

BILL OF MATERIAL - 246163			
ITEM	PART NO.	QTY	DESCRIPTION
1	245309	1	SPACER, NYLON, .344 B .500 OD .813 T
2	245842	1	CABLE-SQUEEGEE MR20
3	246058	1	WELDMENT, SLIDER
4	246064	4	WASHER 1/2 X .75 X .062 NYLON
5	246939	1	LINK, SQUEEGEE PIVOT 20"
6	247625	1	WELDMENT, SQUEEGEE MOUNT 20"
7	711688	1	NUT-JAM 1/4-20 SS NYLOC
8	712665	1	NUT-HEX 1/4-20 SS
9	712772	3	WSR-FLAT .344 x .75 x .06 SS
10	730873	4	SPACER, .406 B .498 OD .325 T
11	730958	4	SCR-HH M10-1.50 X 25 SS FULL THREAD
12	881002	6	PIN-CLEVIS 5/16 X 1.00 ZINC
13	3300368	2	PULLEY-PLASTIC 2" x .25" GROOVE
14	3400117	1	PIN-CLEVIS 3/8 x 1.125 ZP
15	3400125	7	PIN-COTTER 3/8 RUE RING
16	12040069	4	NUT-HEX NYLOC M10 Z DICH
17	12040259	1	NUT-NYLOC M8 X 1.25 SS

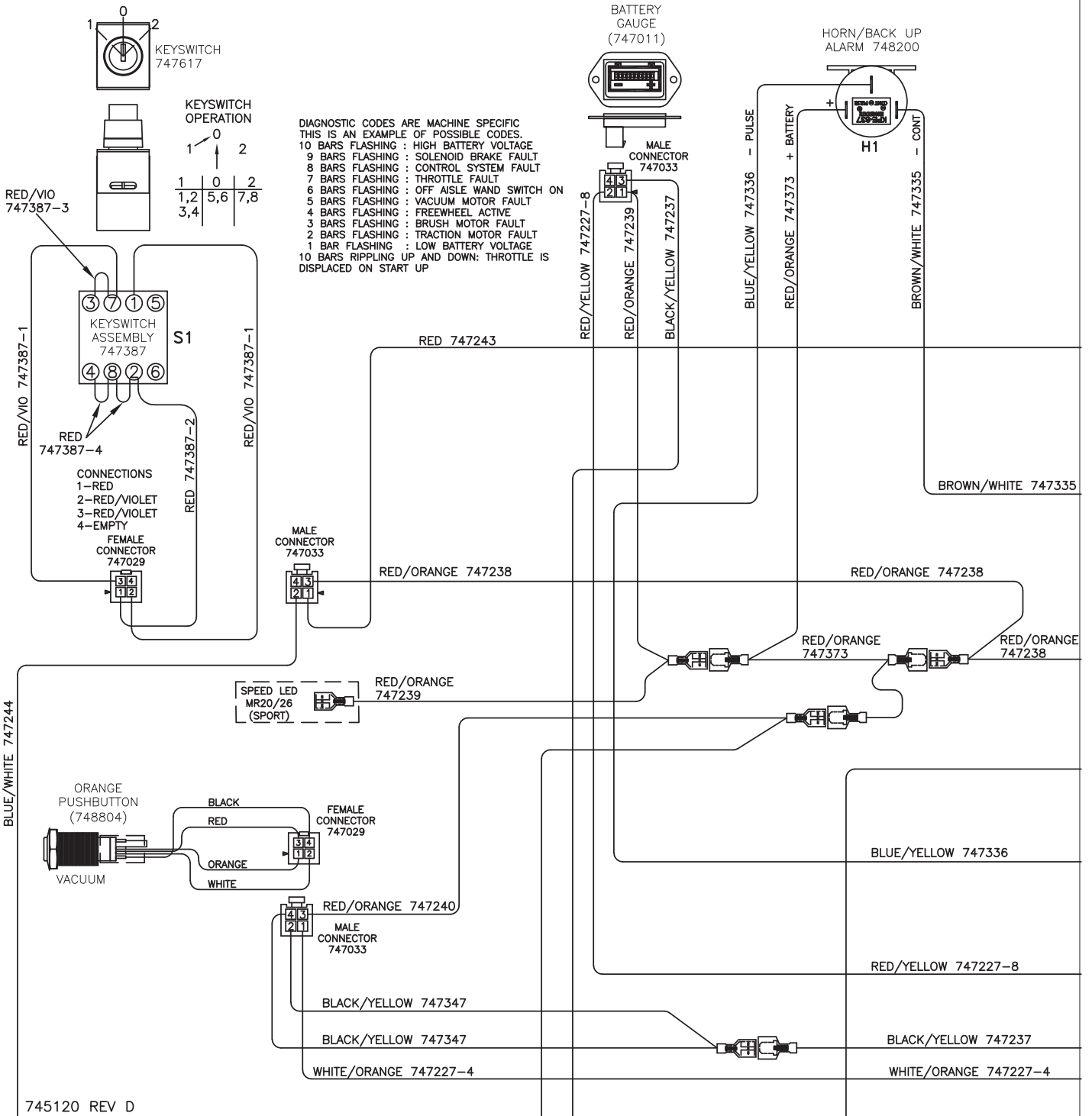
# Wiring Diagrams - ECO Models

1

PAGE LAYOUT



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



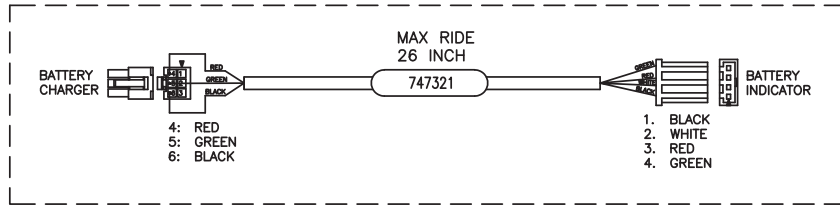
745120 REV D



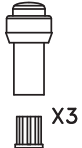


RELAY NUT COVER  
 MAIN RELAY M8 15592033 (4)  
 VACUUM RELY M6 15592025 (2)  
 BRUSH MOTOR RELAY M6 15592025 (4)

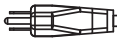
\*RELAY TERMINALS ARE METRIC  
 MAIN RELAY: M8 TORQUE TO 8-9.5Nm  
 VACUUM & BRUSH RELAY:M6 TORQUE TO 3.6-3.9Nm



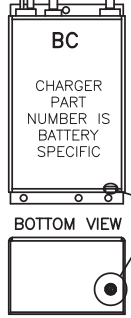
CHARGER STATUS INDICATOR 747614  
 CSI



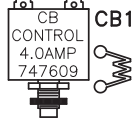
120VAC 60Hz  
 or  
 230VAC 50Hz  
 (different plug)  
 CORD  
 748680CE  
 748680 (UK)



CHARGER 957760 IEC60320 C14



RED 747243



MR20 (WHT) MR26 (RED)  
 MR20 (BLK) MR26 (WHT)

1:RED  
2:BLACK

BLACK 747313

RED 747306

BLACK 747313

BLACK 747637-2

RED 747637-1

RED 747330

RED 747328

RED 747305

GREY/BLACK 747356

BLACK 747234

BROWN/WHITE 747335

RED/ORANGE 747238

MAIN RELAY 90331026

K1

D1

DIODE 740482

BLACK 747235

BLACK 747315-2

BLACK 747322

P/O BLACK 747234

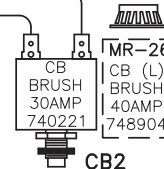
RED 747305

BLACK 747241

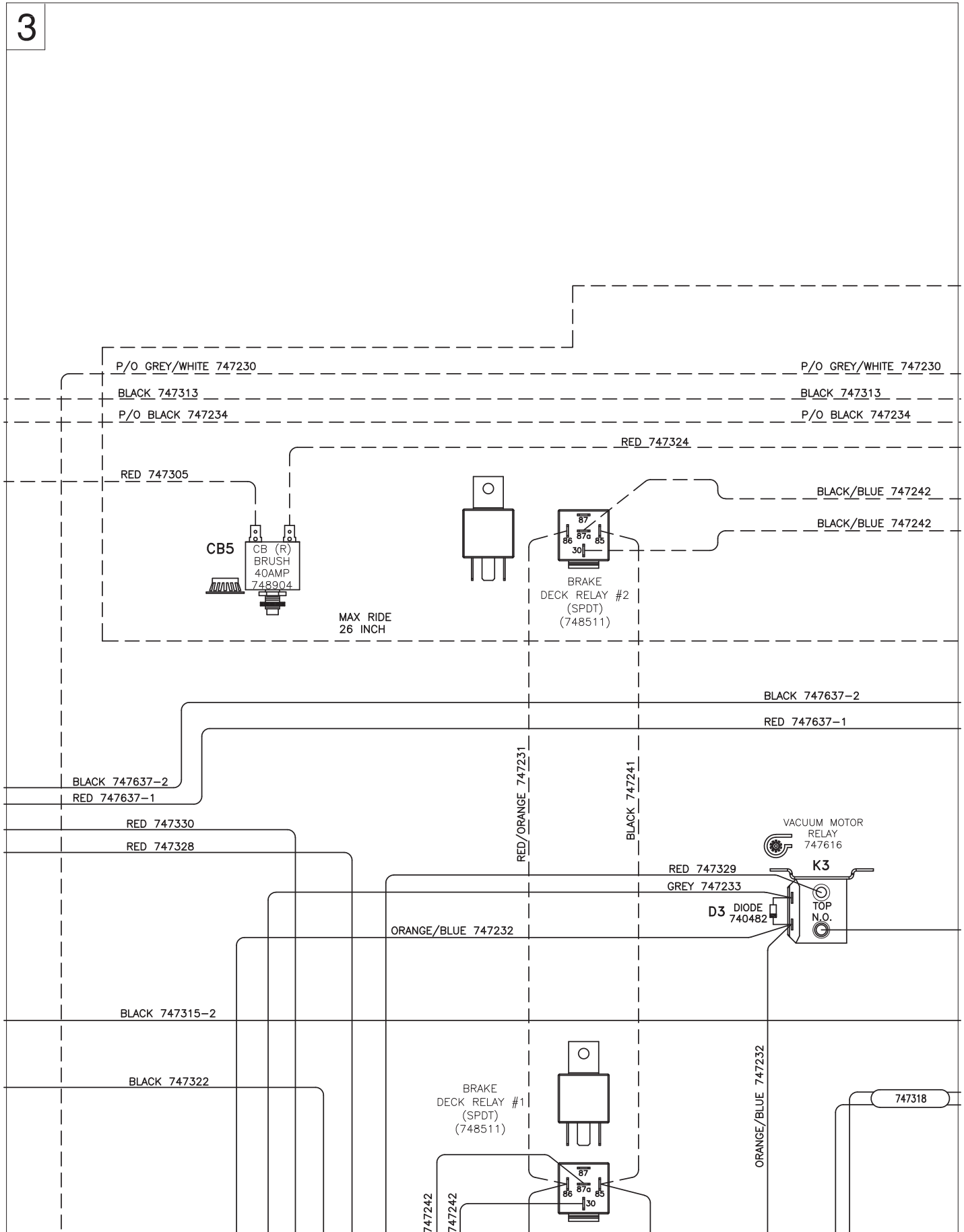
RED/ORANGE 747238

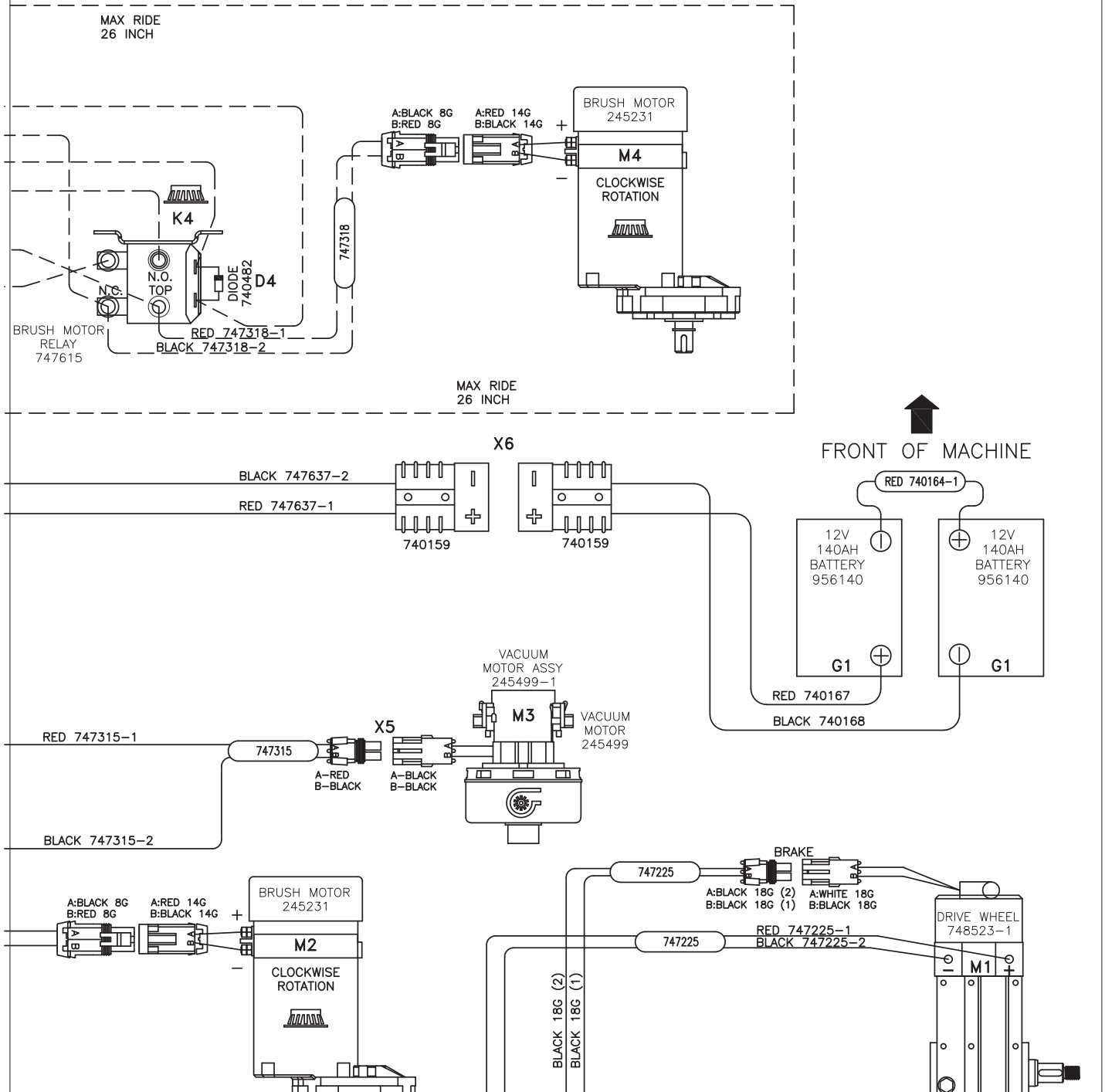


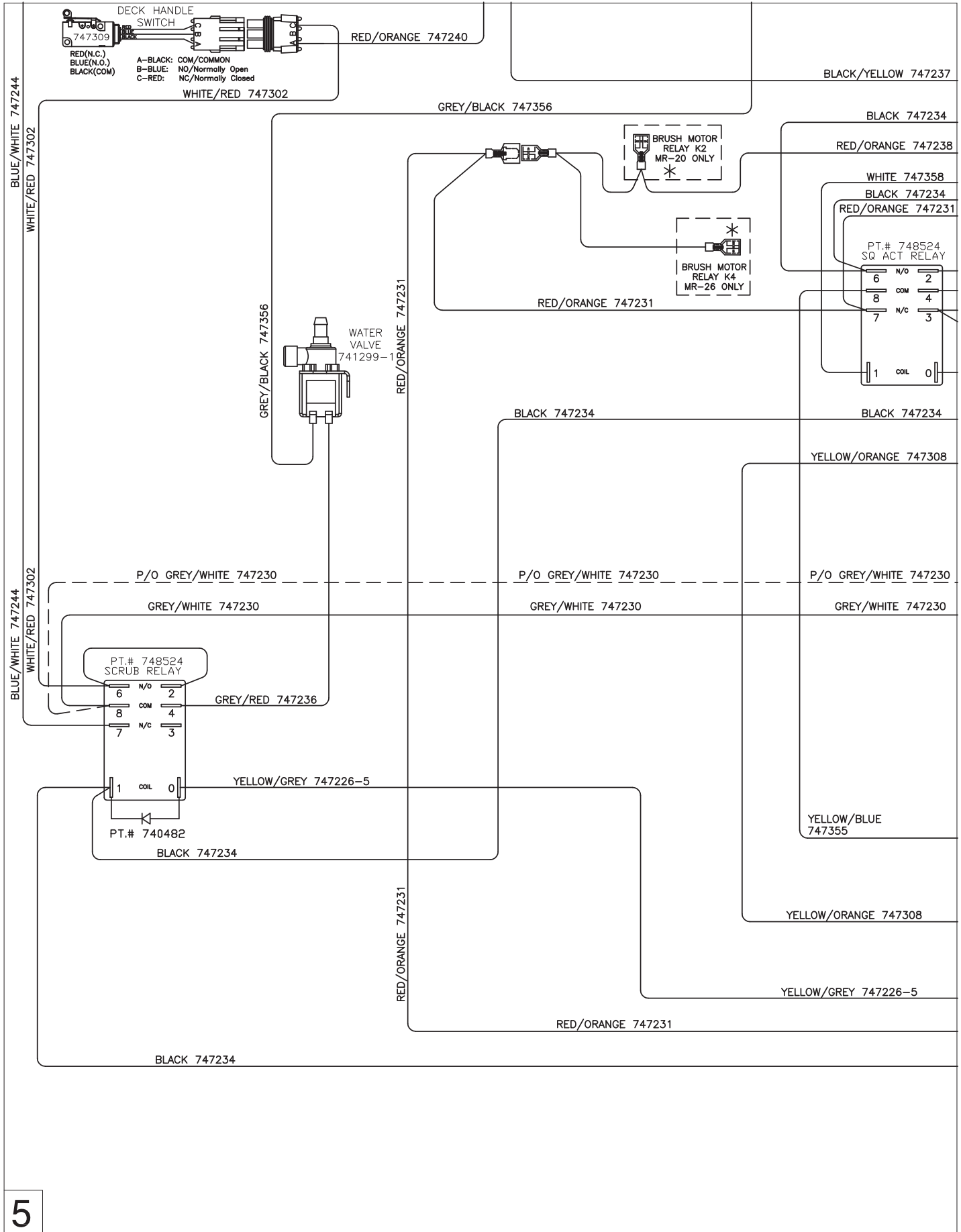
BLACK 747313



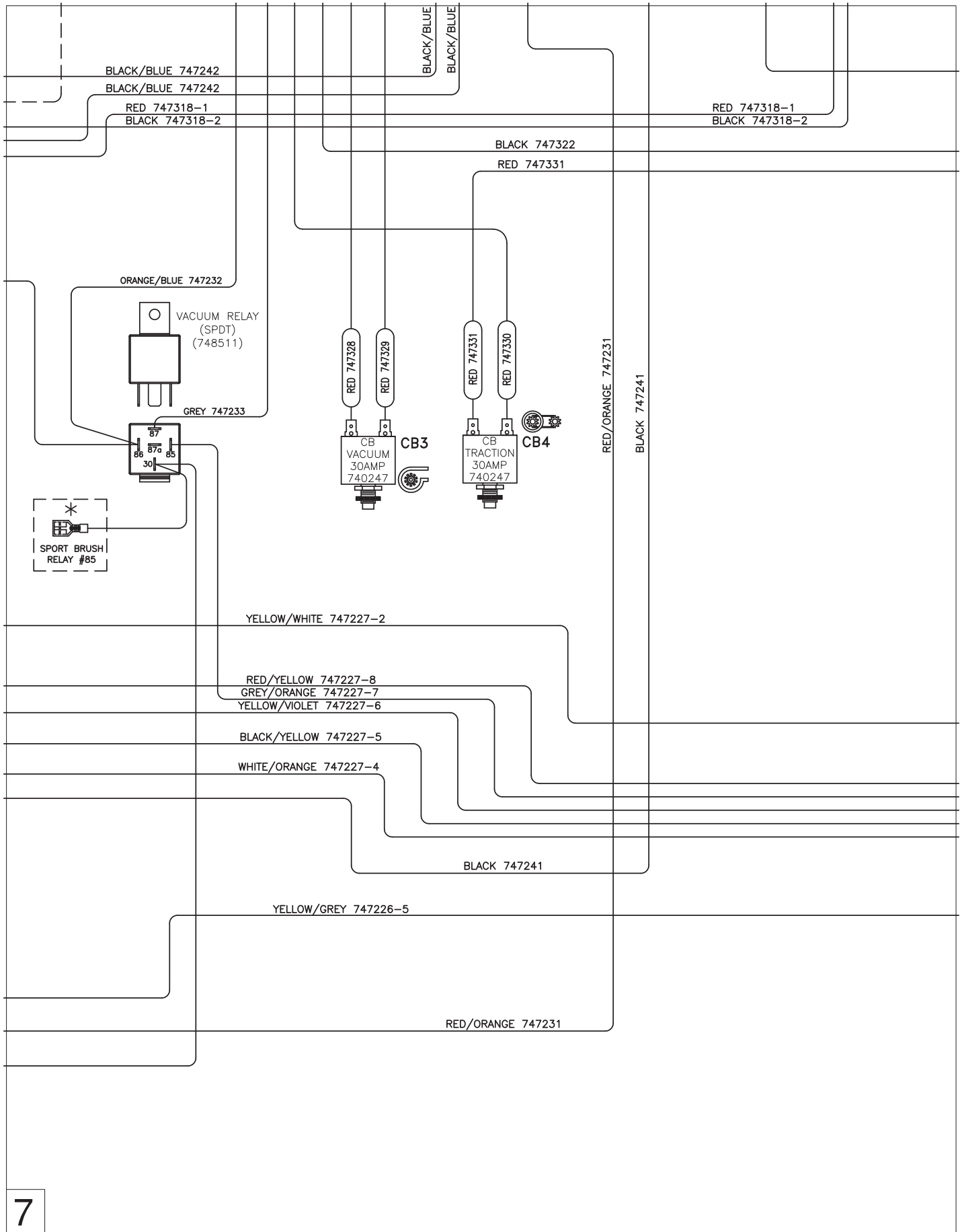
CB2

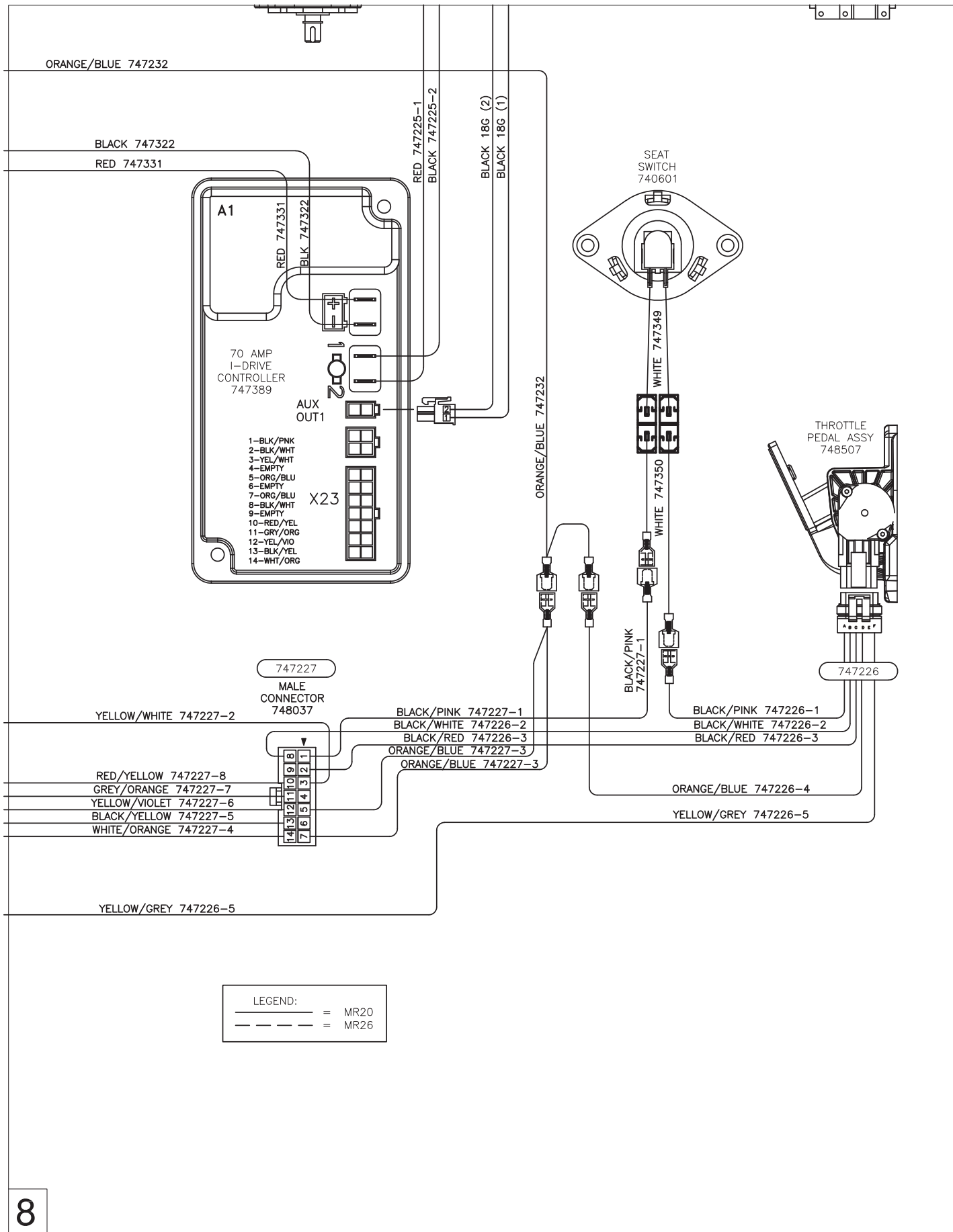








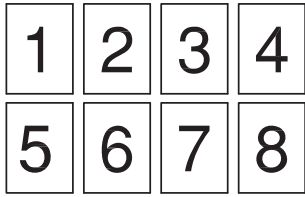




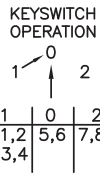
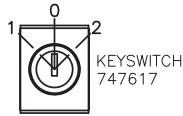
# Wiring Diagrams - Sport Models

1

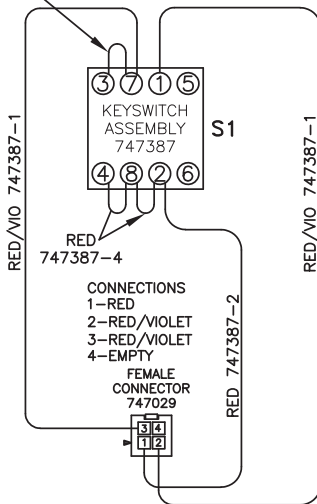
PAGE LAYOUT



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

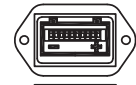


RED/VIO  
747387-3



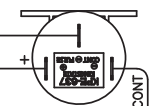
- DIAGNOSTIC CODES ARE MACHINE SPECIFIC THIS IS AN EXAMPLE OF POSSIBLE CODES.
- 10 BARS FLASHING : HIGH BATTERY VOLTAGE
  - 9 BARS FLASHING : SOLENOID BRAKE FAULT
  - 8 BARS FLASHING : CONTROL SYSTEM FAULT
  - 7 BARS FLASHING : THROTTLE FAULT
  - 6 BARS FLASHING : OFF AISLE WAND SWITCH ON
  - 5 BARS FLASHING : VACUUM MOTOR FAULT
  - 4 BARS FLASHING : FREEWHEEL ACTIVE
  - 3 BARS FLASHING : BRUSH MOTOR FAULT
  - 2 BARS FLASHING : TRACTION MOTOR FAULT
  - 1 BAR FLASHING : LOW BATTERY VOLTAGE
  - 10 BARS RIPPLING UP AND DOWN: THROTTLE IS DISPLACED ON START UP

BATTERY GAUGE  
(747011)

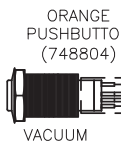


MALE CONNECTOR  
747033

HORN/BACK UP ALARM  
748200



BLUE/WHITE 747244

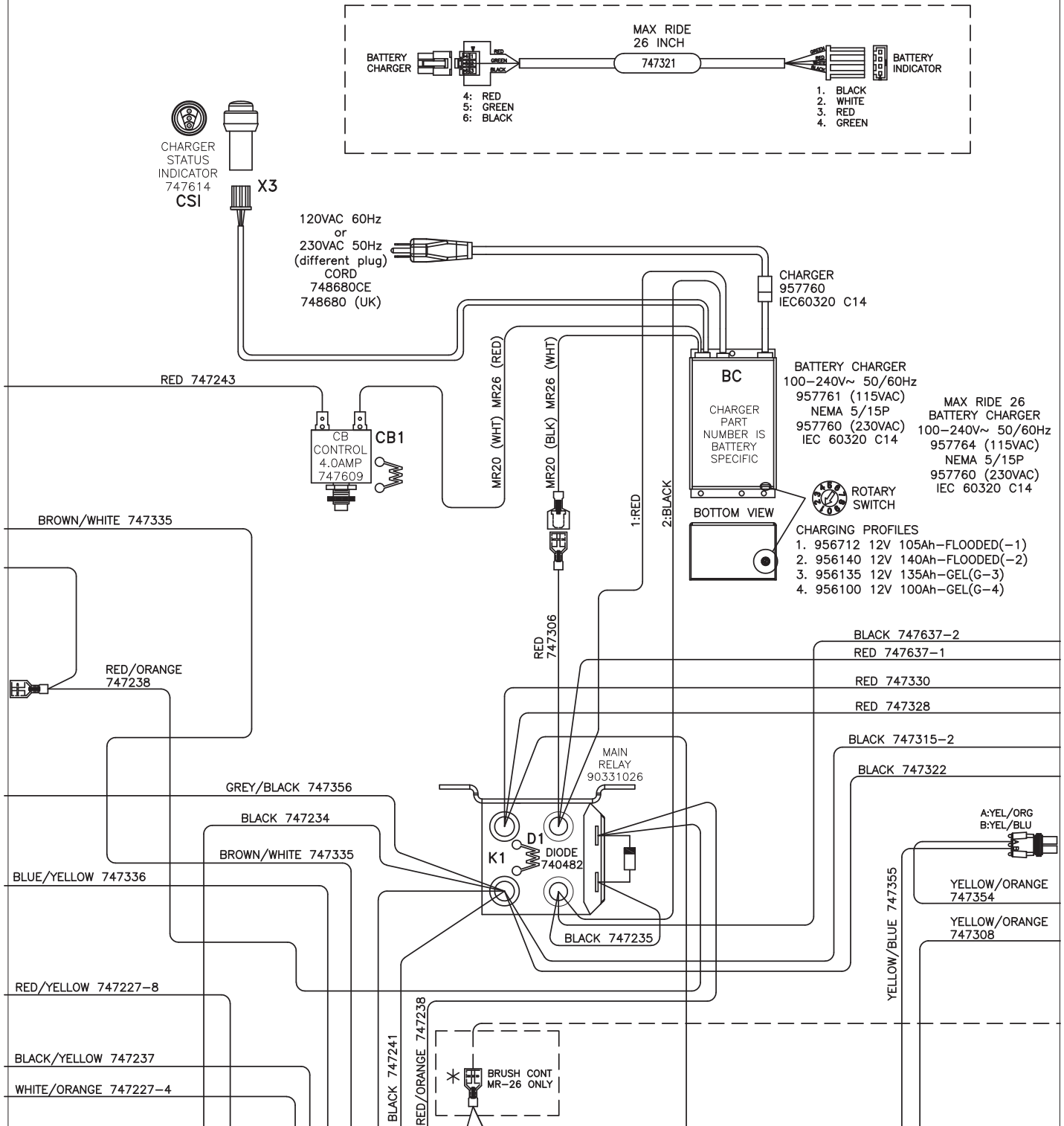


FEMALE CONNECTOR  
747029

MALE CONNECTOR  
747033

745121 REV D

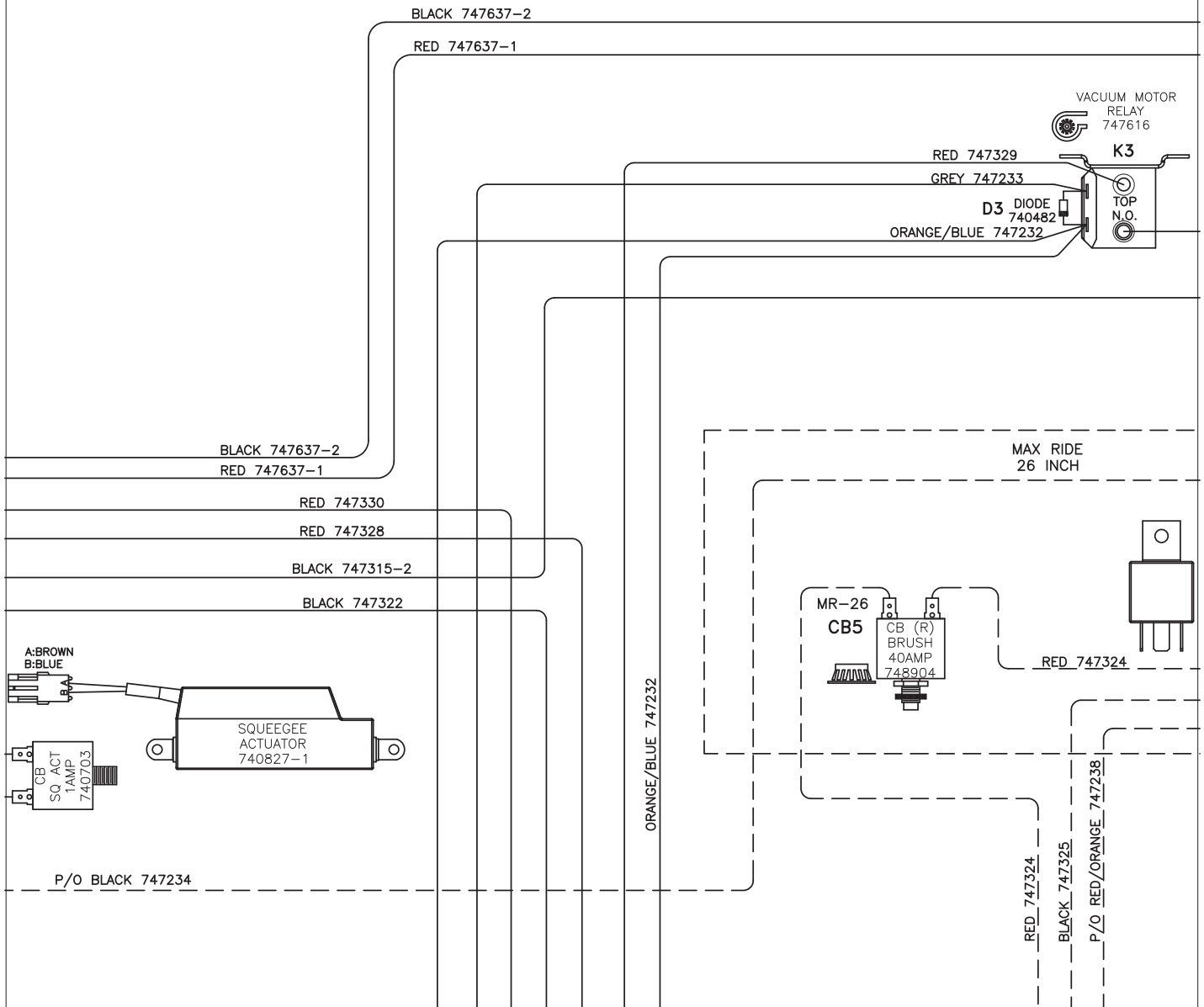


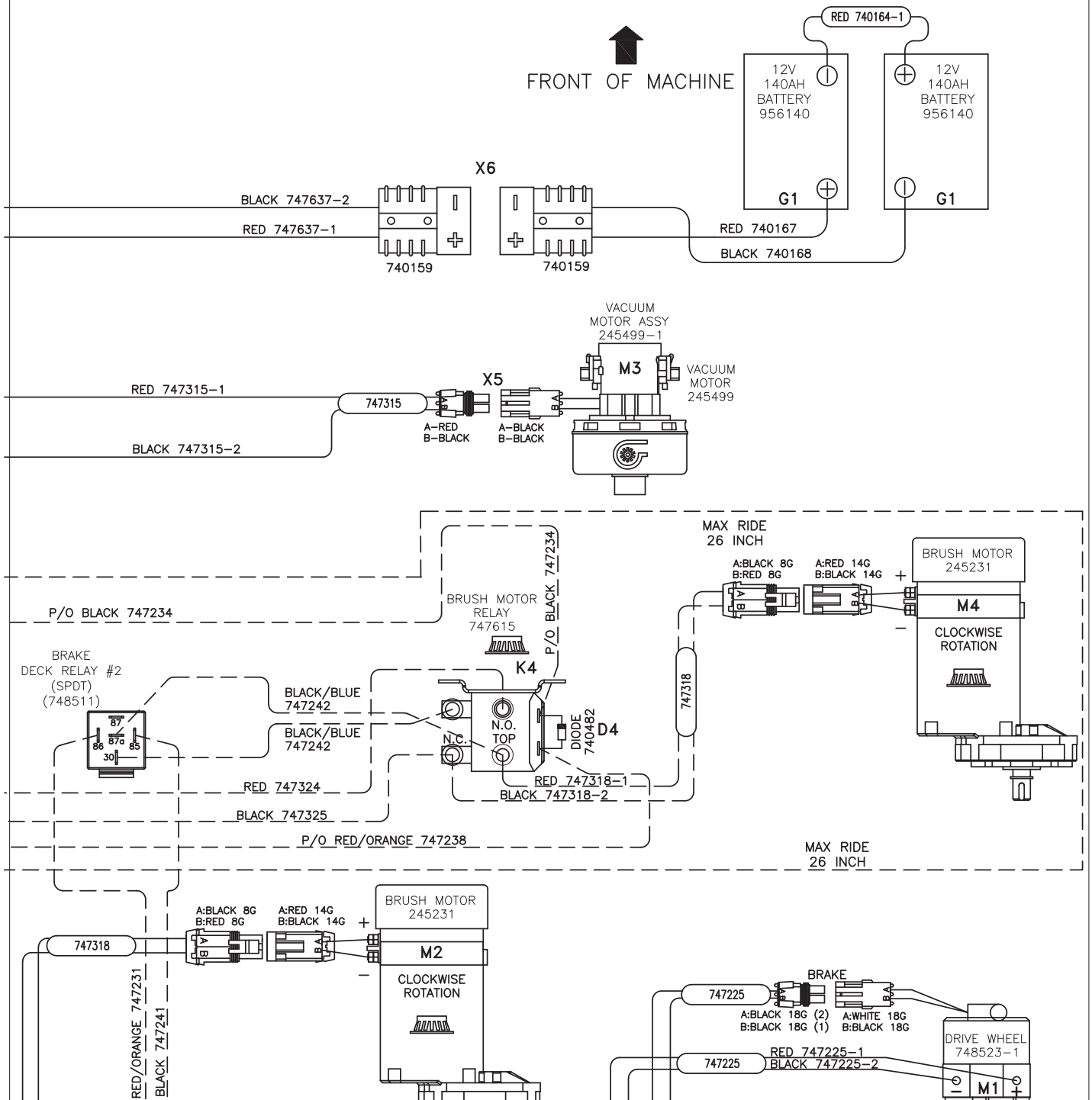


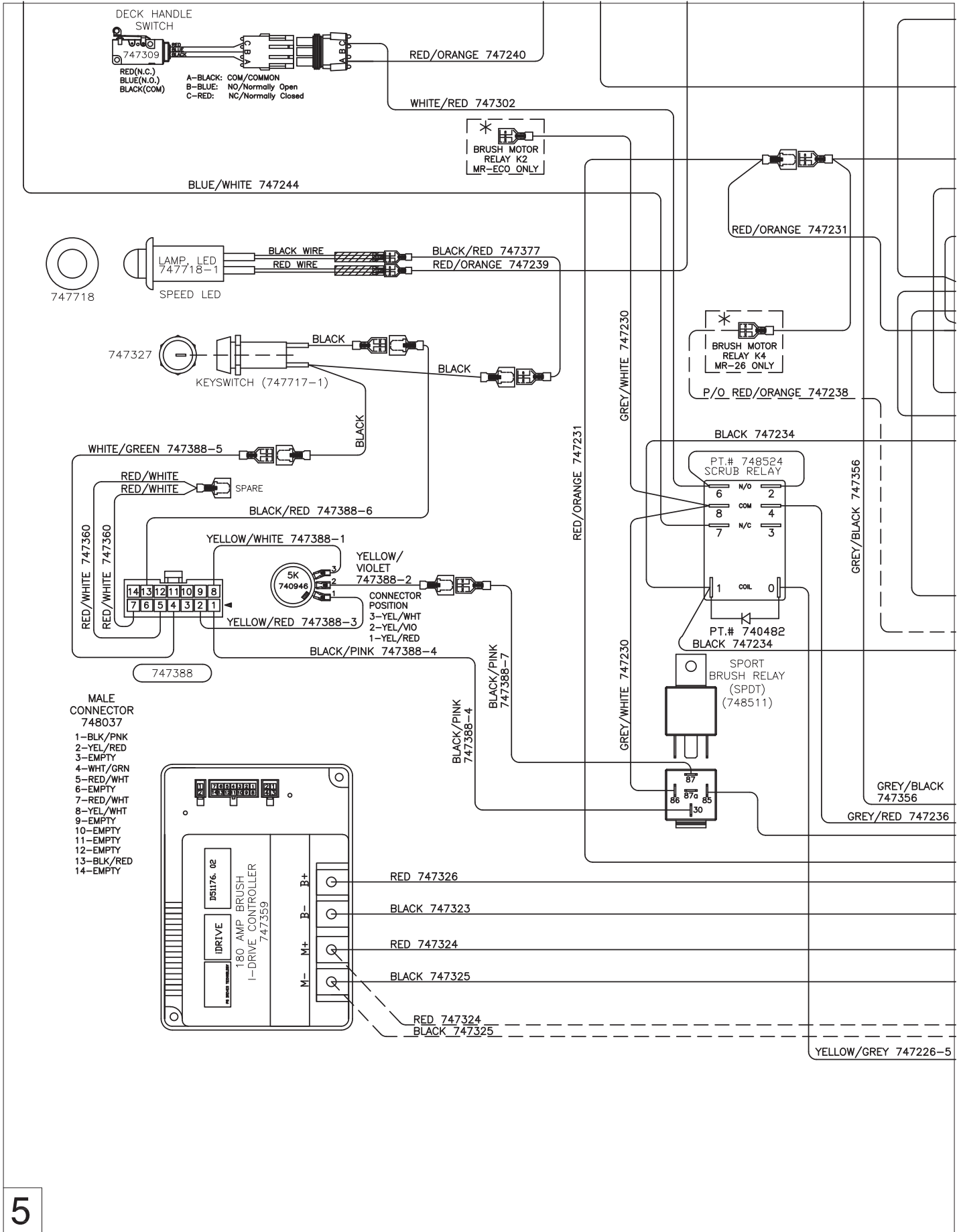


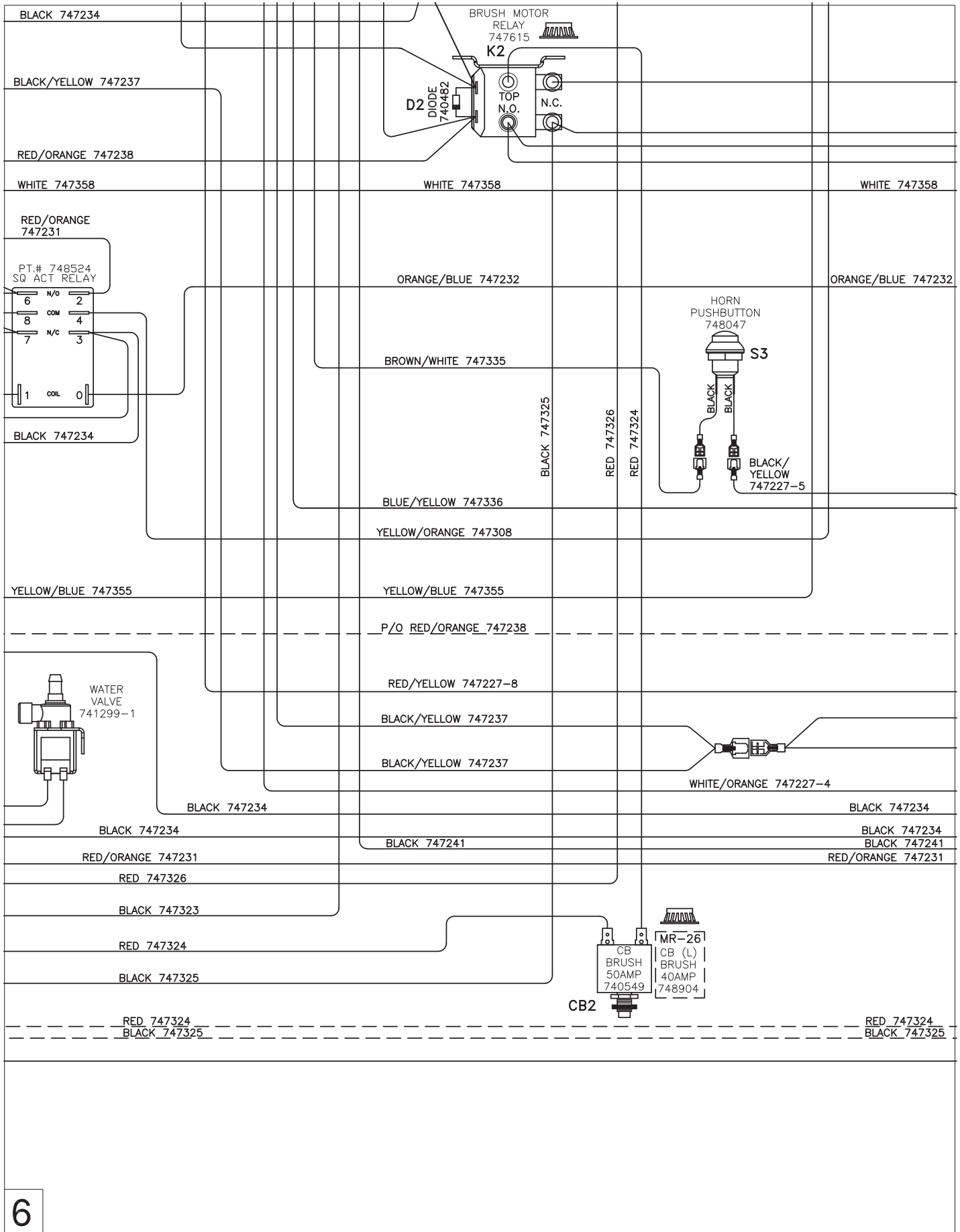
RELAY NUT COVER  
 MAIN RELAY M8 15592033 (4)  
 VACUUM RELY M6 15592025 (2)  
 BRUSH MOTOR RELAY M6 15592025 (4)

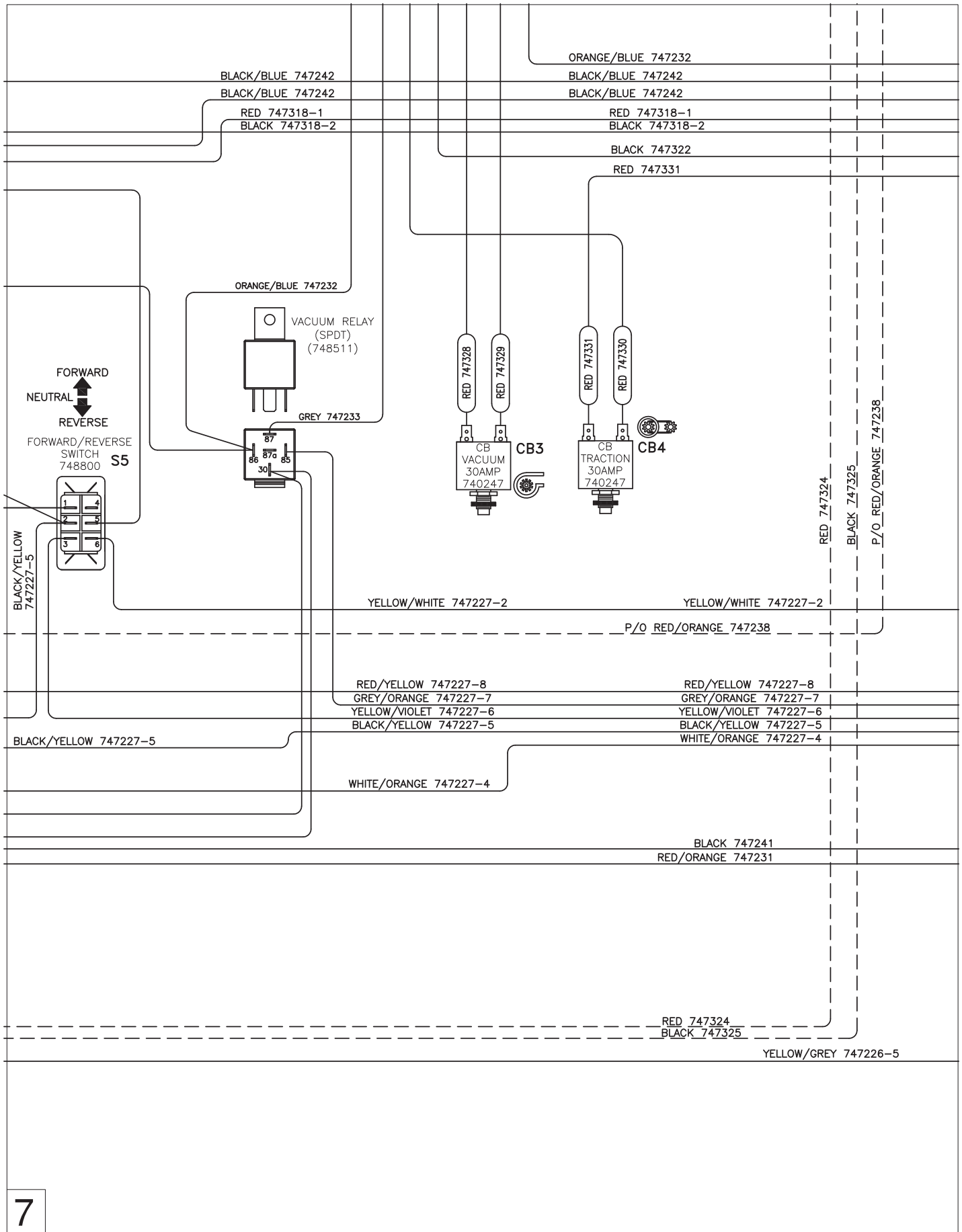
\*RELAY TERMINALS ARE METRIC  
 MAIN RELAY: M8 TORQUE TO 8-9.5Nm  
 VACUUM & BRUSH RELAY:M6 TORQUE TO 3.6-3.9Nm

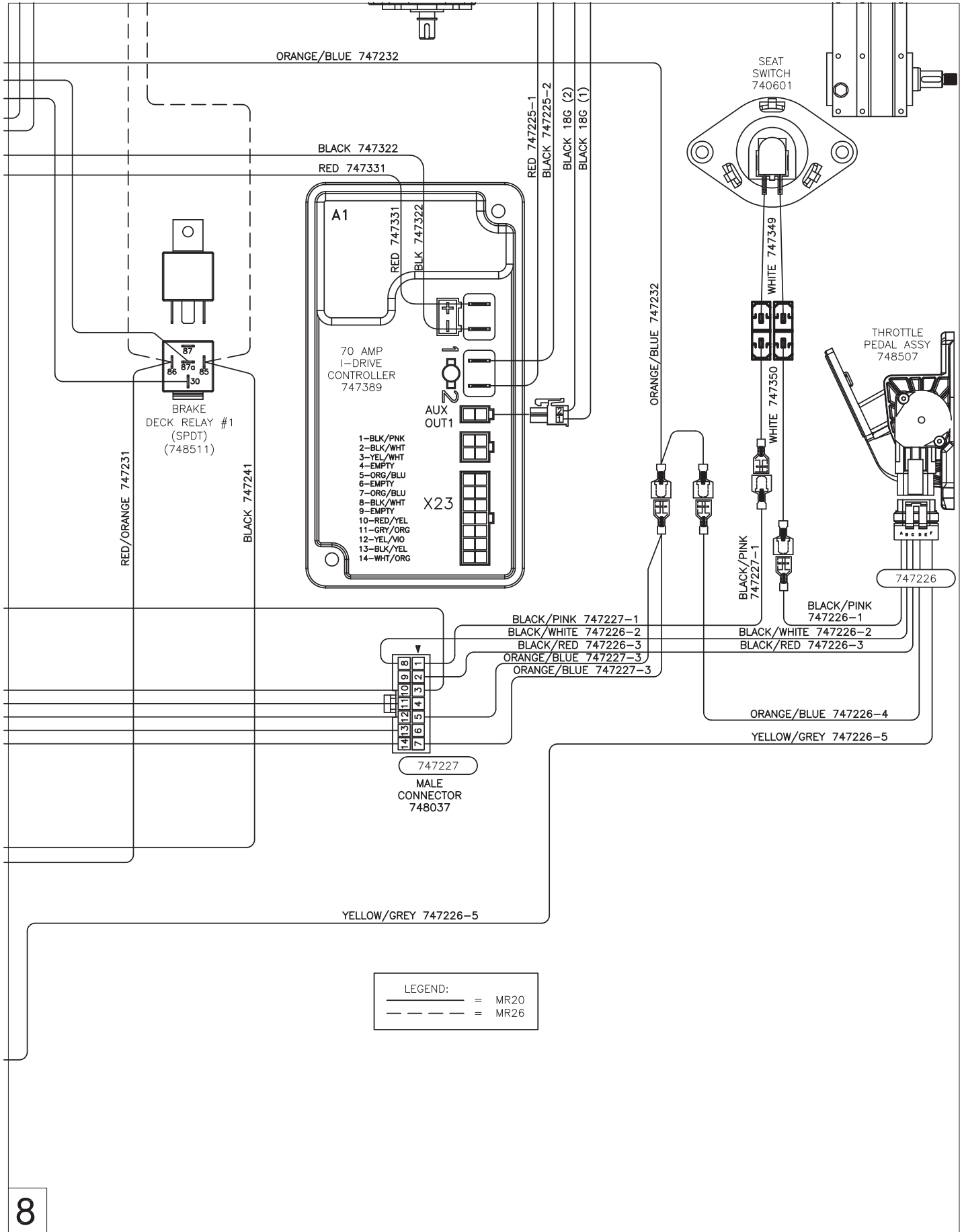












## Minuteman International Made Simple Commercial Limited Warranty

### REVISION Q EFFECTIVE 4/10/18

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
EZ-Mop	1yr	1yr	0	90 days
ROS-17	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

# ***“Excellence Meets Clean”***

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