



Electronic Service Manuals

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**Parts Manual
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:
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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

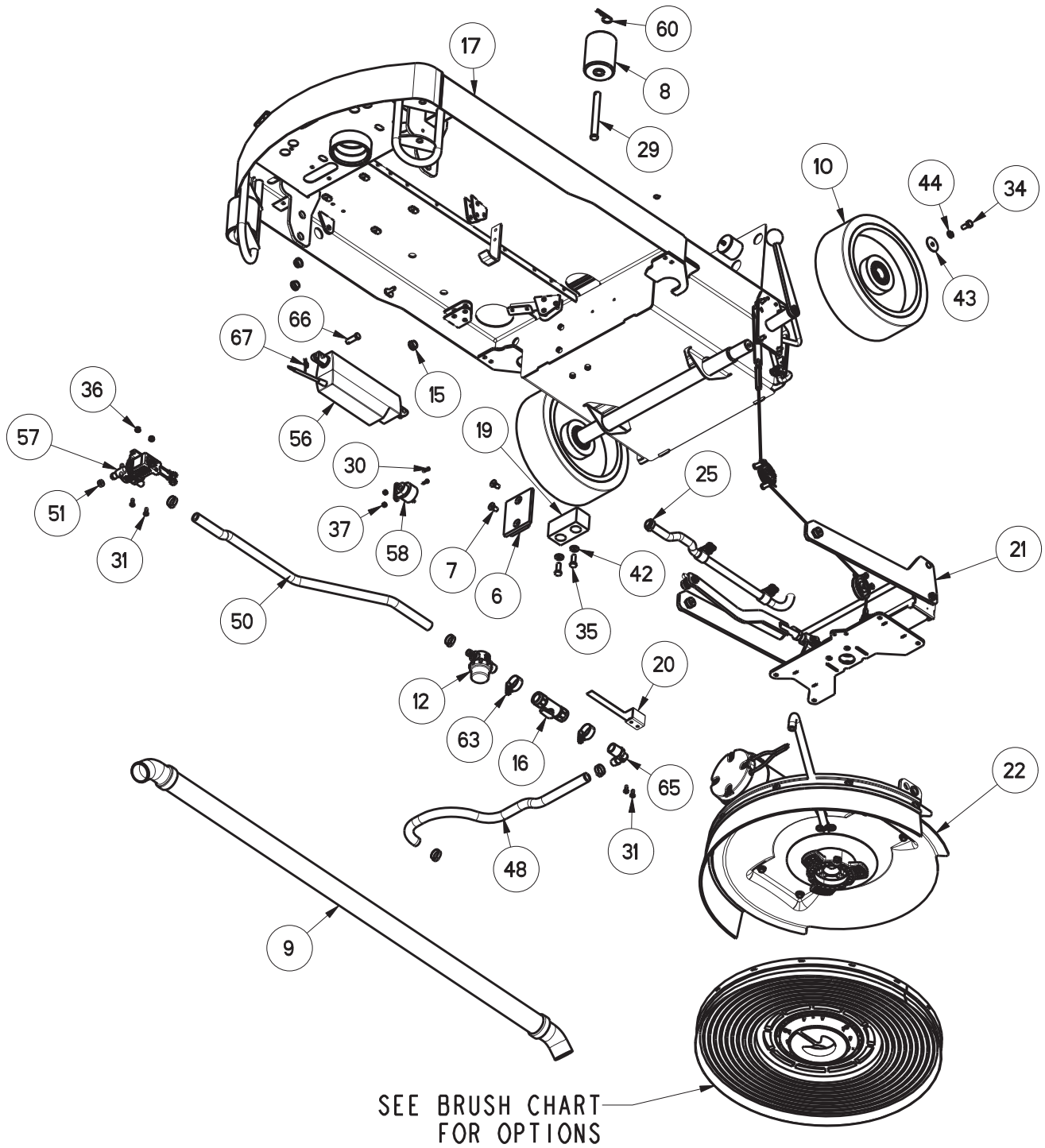
For Safety When Servicing or Maintaining Machine

- 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.

Brush, Battery and Charger Options

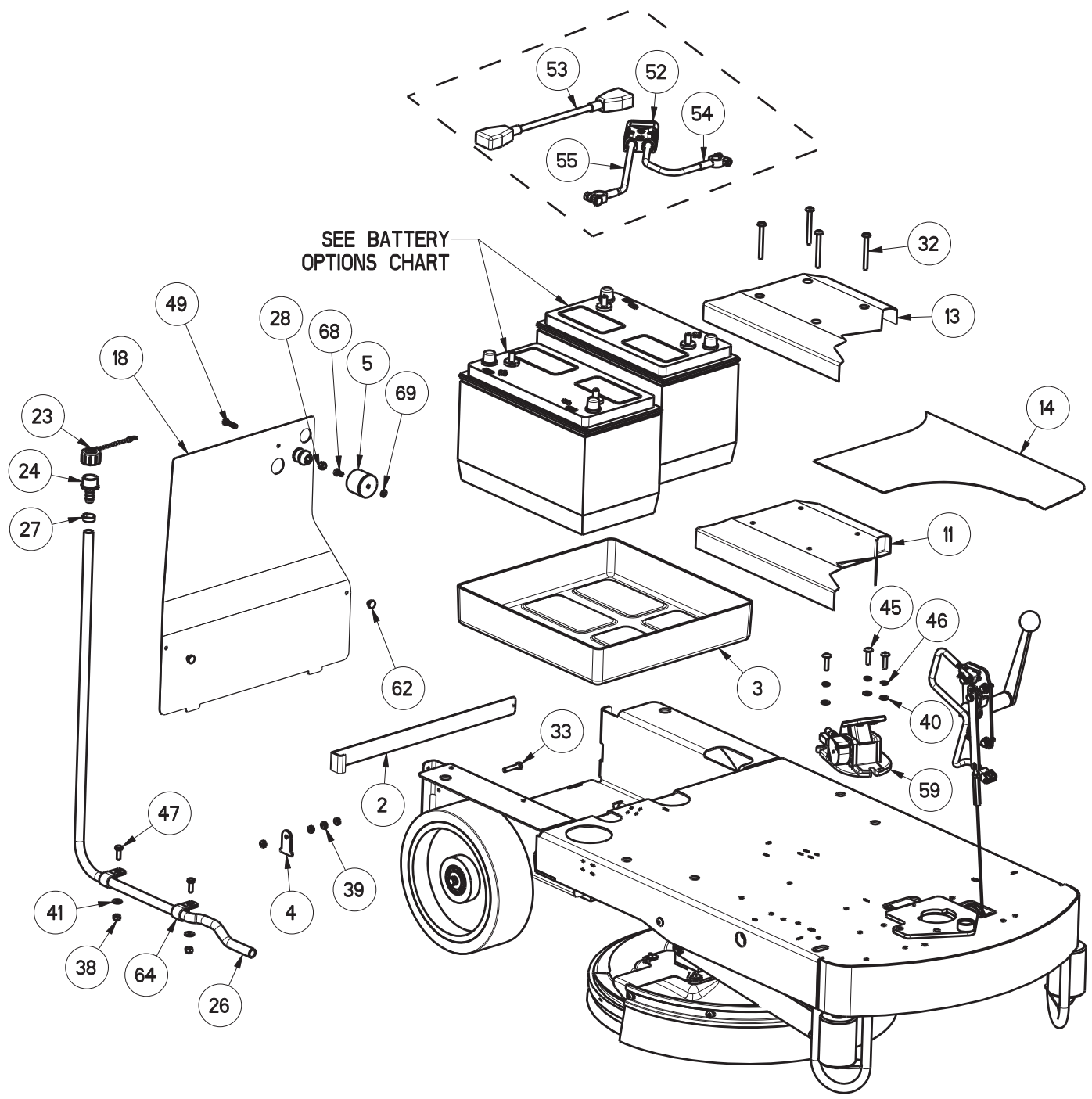
BATTERY AND CHARGER OPTIONS			
MODEL	BATTERY PART NO.	CHARGER PART NO.	DESCRIPTION
A-MR20DQPG, A-MR20DSQPG	956158	957761-3	BATTERY 12V 140AH OVERDRIVE 12AGM
A-MR20DQP	956716	957761-2	BATTERY, 12V 115 AH WET
A-MR20DQPINT	956716	957760-2	BATTERY, 12V 115 AH WET
A-MR20DSQP	956704	957761-2	BATTERY, 12V 140AH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

BRUSH OPTIONS			
PART #	DESCRIPTION	AQUASTOP BRUSHES	
		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" (STANDARD)	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



Rev E

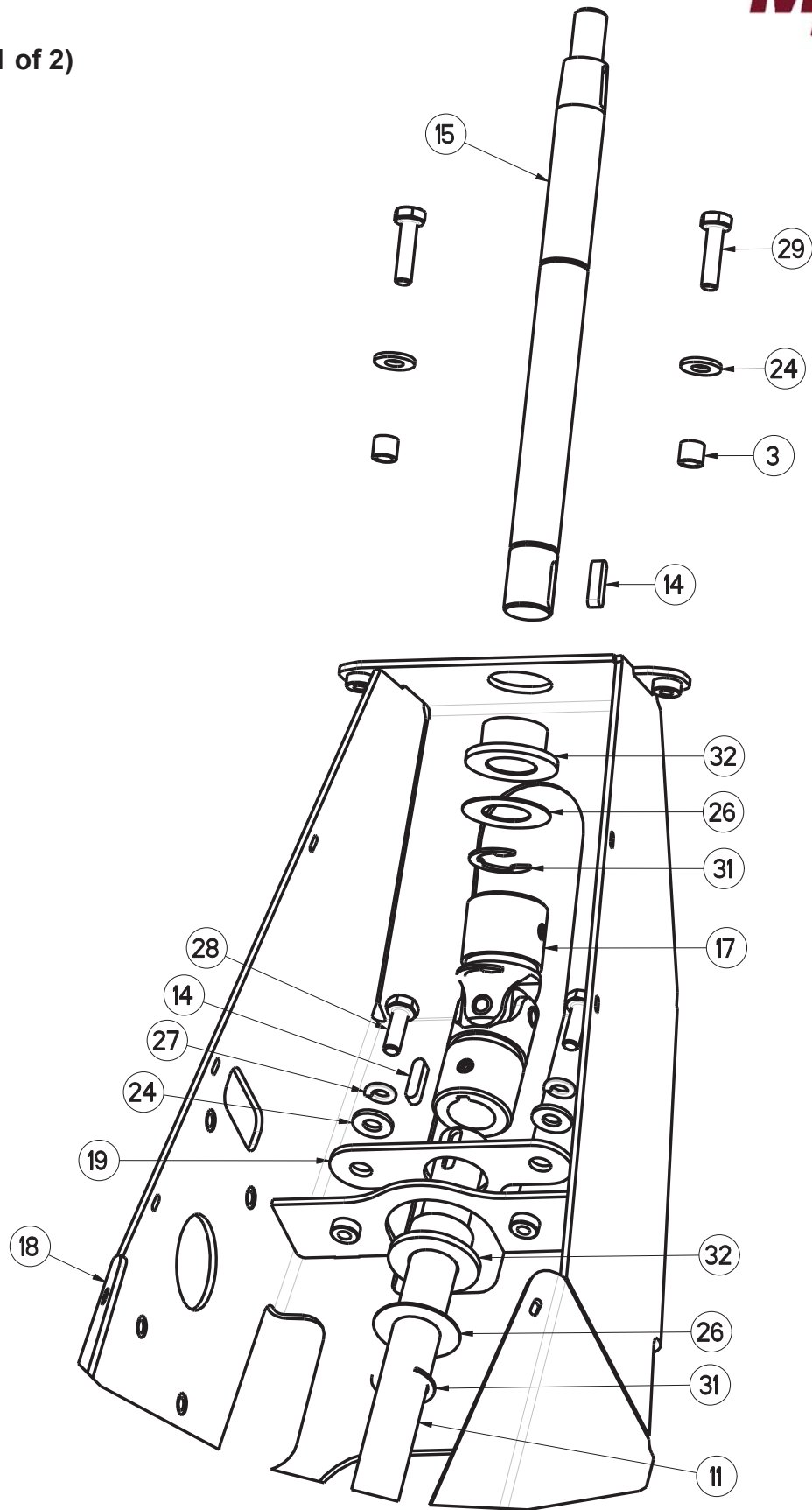
Frame Group (Pg 2 of 2)



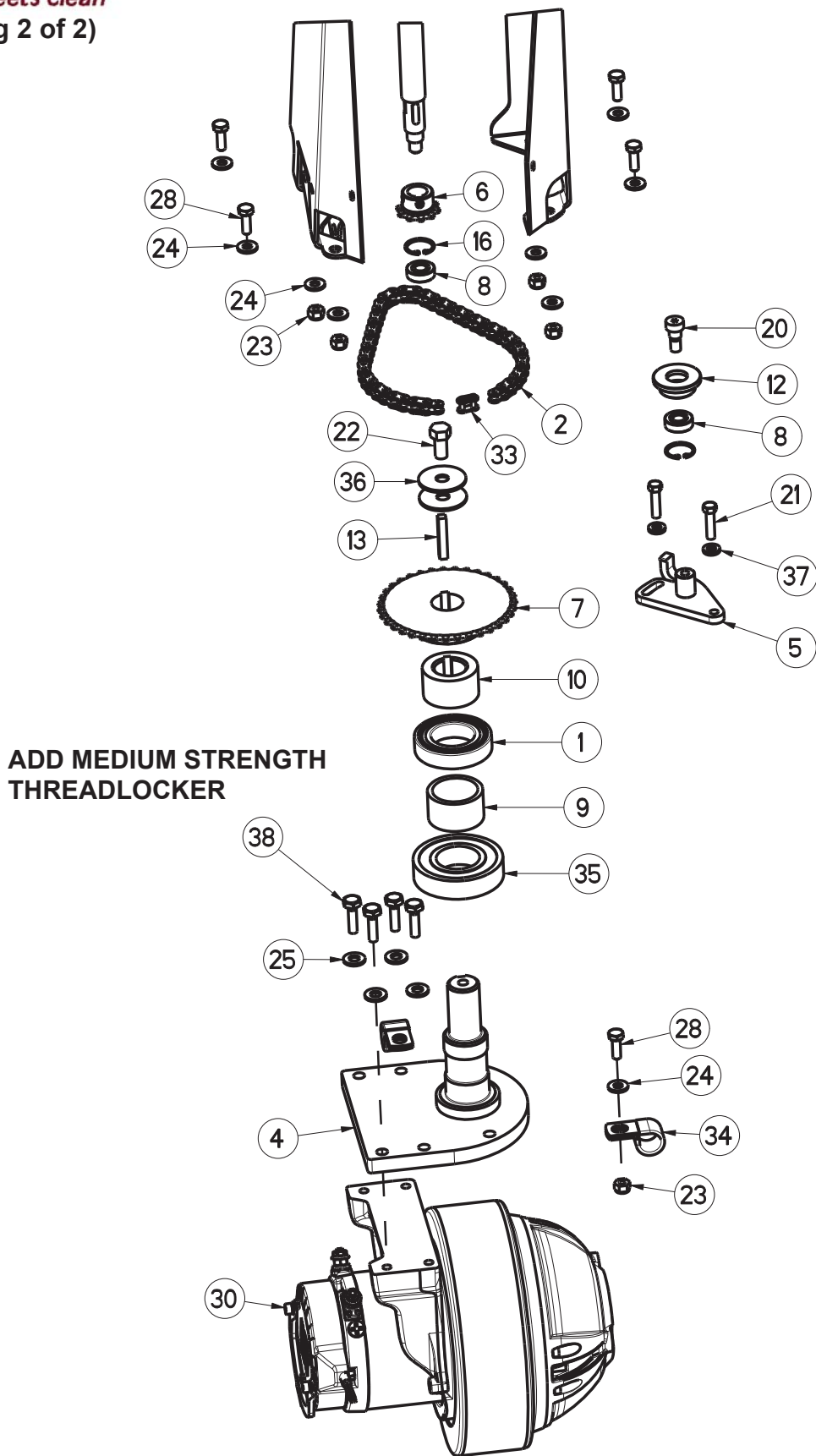
Frame Group BOM

BILL OF MATERIAL - 246160							
ITEM	PART #	QTY	DESCRIPTION	ITEM	PART #	QTY	DESCRIPTION
1	172520-2	1	PAD DRIVER, ASSY, 20"	35	711229	2	SCR-HH 5/16-18 X .87 ZP GR 5
2	245204	1	BATTERY BAR	36	711350	2	NUT-NYLOC 10-32
3	245210	1	BOX-BATTERY-MAX20	37	711371	2	NUT-NYLOC 6-32 ZP
4	245213	1	RETAINER-BATTERY BAR	38	711373	2	NUT-NYLOC 1/4-20
5	245222	1	LATCH-RUBBER	39	711387	4	NUT-NYLOC 1/4-20 1/2 NUT
6	245304	1	BLOCK, SLIDE	40	711504	3	WSR-FLAT 1/4 ID SS
7	245338	2	SCR-FHSCS 5/16-18 X 5/8 SS	41	711505	2	WASHER-FLAT 1/4 ZP
8	245419	2	ROLLER, BUMPER, 2.5 DIA.	42	711506	2	WSR-FLT .344 X .690 X .062,
9	245450	1	HOSE-VAC, CLEAR 1.50" ID X 4	43	711516	2	WSR- FLAT .31 X 1.25 X .05
10	245461	2	WHEEL - ASSY, IDLER, 254 x 8	44	711545	2	WSR-HELICAL 5/16
11	245475	1	WELD, FLOOR PLATE RISER 2	45	712541	4	SCR-MC 1/4-20 X 1.00 TH SS
12	245781	1	FILTER - 1/2 NPT X 1/2 HB	46	712758	3	WSR-HELICAL 1/4 SS
13	245796	1	TREAD, ANTI-SKID, RISER 20"	47	713002	2	SCR-HH 1/4-20 X .75 ZP 5
14	245797	1	TREAD, ANTI-SKID, FRAME 20"	48	730971	1	TUBING, .50 ID X .13 WAL BRA
15	245806	3	BUSHING-FLG, .50 x .62 x .31	49	731006	1	SCR-HH M6-1.00 X 25 ZP CLASS
16	245845	1	VALVE - BALL 1/2 FPT X 1/2 F	50	731544	1	TUBING, .50 ID X .13 WAL BRA
17	246000	1	WELDMENT, FRAME, 20	51	731569	1	SPACER, .150 ID, .500 OD, .210 THK
18	246052	1	COVER, REAR BATTERY BOX, 20"	52	740159	1	CONNECTOR-SB175 RED HOUS- ING
19	246053	1	BLOCK, PIVOT	53	740164-1	1	CABLE ASSY- BTRY JMPR, RED
20	246073	1	PLATE - MTG - BALL VALVE AND	54	740167	1	BATTERY CABLE, RED 4AWG SB175
21	246161	1	SCRUB HEAD LIFT GROUP 20"	55	740168	1	BATTERY CABLE, BLACK 4AWG SB175
22	246168	1	SCRUB HEAD GROUP 20"	56	740827-1	1	ACTUATOR - 40MM STROKE
23	283690	1	ASSY, BREATHER CAP W LAN- YARD	57	741299-1	1	WATER VALVE ASSY, 24 VDC
24	342445	1	FTG-GARDEN ST 1/2 HB PP	58	748200	1	HORN / BACK UP ALARM, 9-48VDC
25	383347	5	CRIMP CLAMP 1/2 HOSE SS 185R	59	748507	1	PEDAL ASSY, THROTTLE, FLOOR
26	430231	1	HOSE, 1/2 ID X 45", CLEAR	60	833374	2	PIN-HAIRPIN COTTER 3/8
27	450076	1	CLAMP-CRIMP 185R SS	62	3300526	2	BUMPER-RUBBER 1/4 ID X 1/8 THK
28	600933	1	NUT-NYLOC M6-1.00 SS	63	3300535	2	CLAMP-HOSE 1.00 NOM
29	620027	2	PIN-CLEVIS 1/2 X 4.50 ZP	64	3301158	2	CLAMP-CABLE 11/16" DIA
30	710204	2	SCR-PHMS 6-32 X .50 ZP	65	3315535	1	FTG-ELBOW 90 1/2 MPT X 1/2 HB PP
31	710355	4	SCR-MC RD HD 10-32 X .50 STL	66	3400117	1	PIN-CLEVIS 3/8 x 1.125 ZP
32	710998	4	SCR-THMS 1/4-20 X 2.50 SS	67	3400125	1	RING-RUE 3/8
33	711210	1	BLT-HH 1/4-20 X 1.25 STPL	68	11038064	1	BLT-HH M6 X 1.0 X 12 STL
34	711227	2	BLT-HH 5/16-18 X .62 ST PL	69	12310033	1	WASHER-FLAT M6.4 X 12 X 1.6 ZP

Tower Group (Pg 1 of 2)

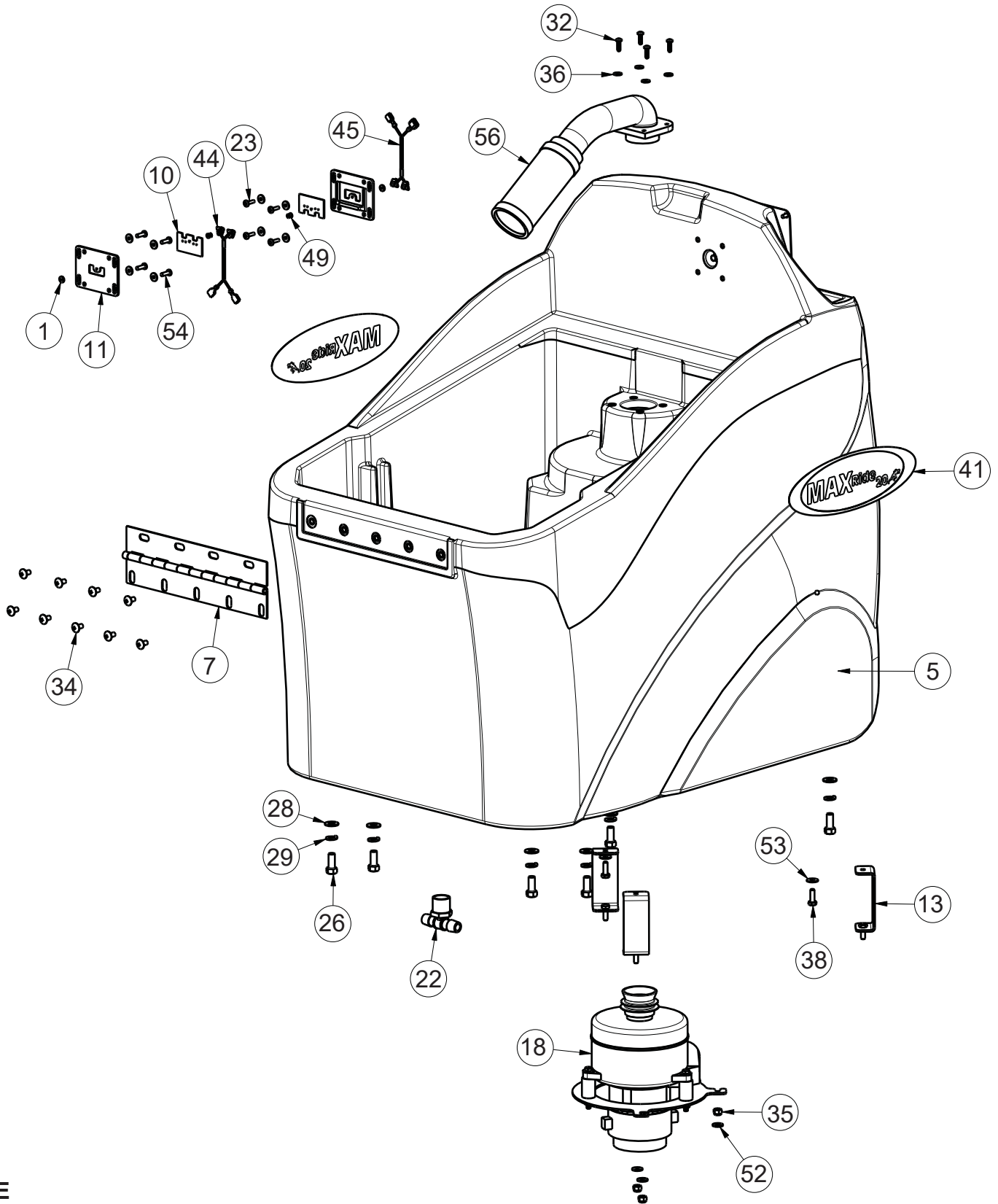


Rev C



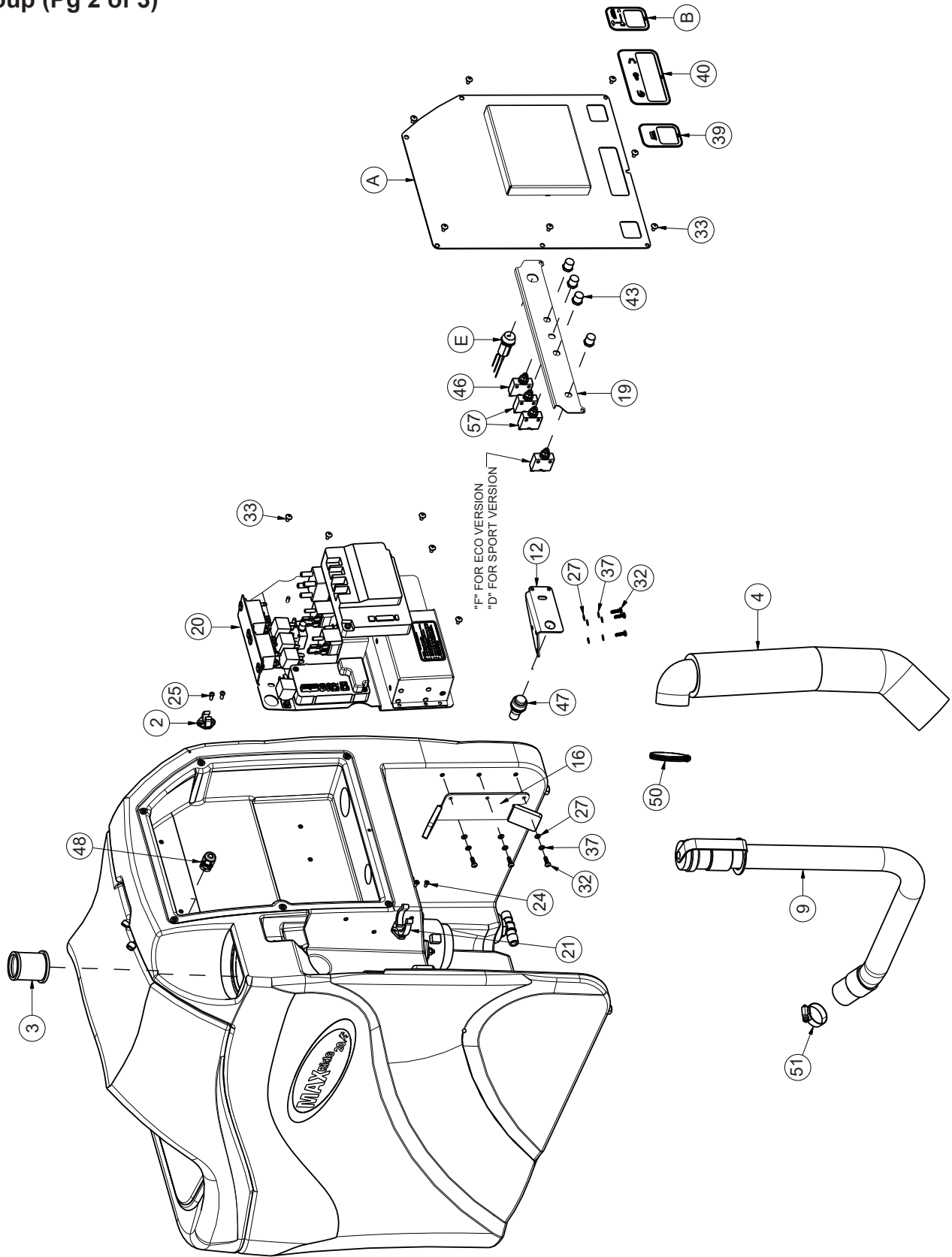
Tower Group BOM

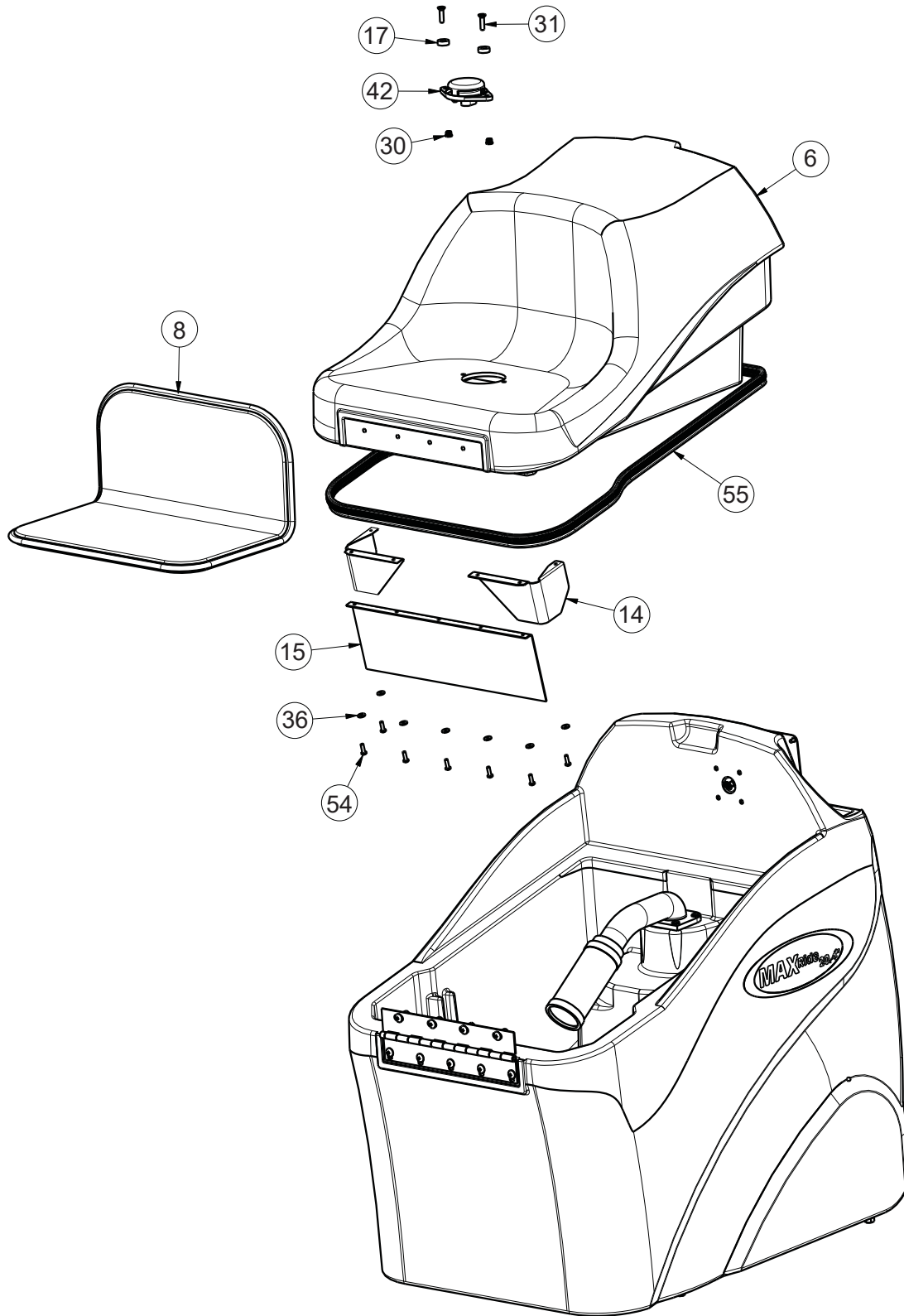
BILL OF MATERIAL - 246164			
ITEM	PART NO.	QTY	DESCRIPTION
1	245416	1	SKF BALL BRG 35mm x 62 OD x 14 W
2	245445-1	1	CHAIN - ROLLER #35
3	245583	2	SPACER, .266 B, .313 OD, .313 T
4	246022	1	SPINDLE WLDT, STEERING
5	246025	1	BRACKET WLDT, CHAIN TENSIONER
6	246028	1	SPROCKET, ANSI 35, 10 TOOTH, 0.375P, 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 1.12L, 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	WHEEL DRIVE, 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



Rev E

Tank Group (Pg 2 of 3)



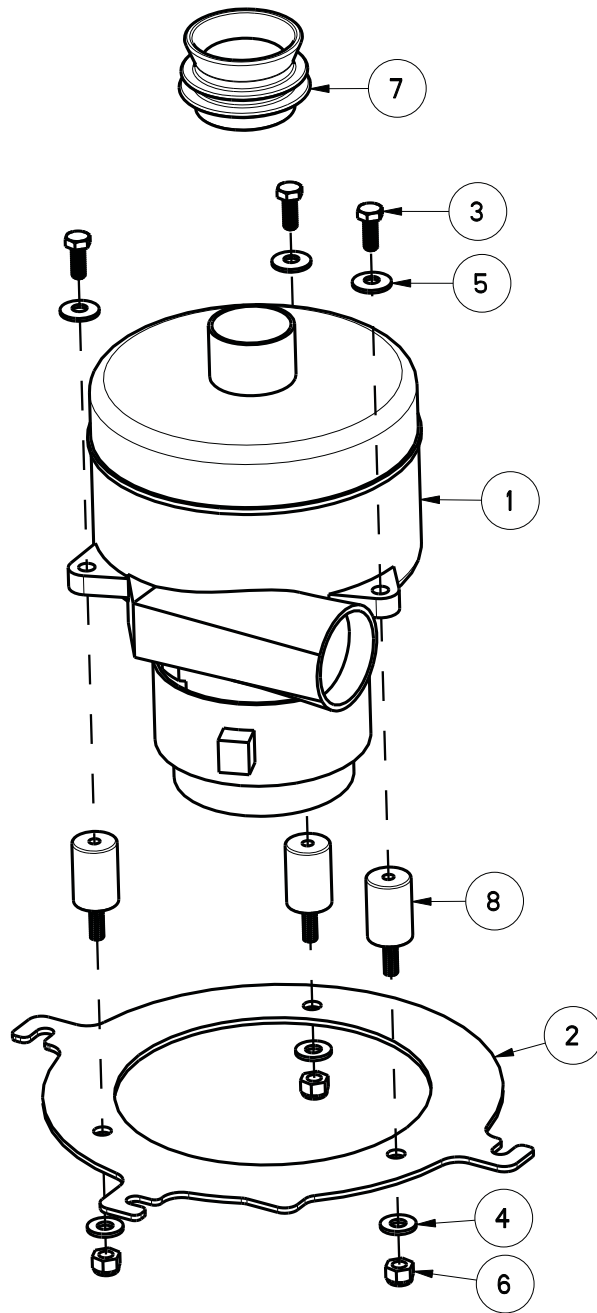


Tank Group BOM

BILL OF MATERIAL - 246170							
ITEM	PART #	QTY	DESCRIPTION	ITEM	PART #	QTY	DESCRIPTION
1	950-4-S	2	BACK UP PLATE 1/8" STEEL	30	711962	2	NUT, 1/4-20, HIGH TORQUE
2	172065	1	CLIP, FOR 1/2" ID HOSE	31	712153	2	SCR-FHSCS 1/4-20 X 1.00 SS
3	172159	1	FILTER, FILL PORT, ES1720	32	712536	10	SCR-THMS 10-24 X .62 SS
4	241049	1	MUFFLER-VAC MOTOR, SCV 24/26	33	712540	12	SCR-THMS 10-24 X .37 SS
5	245001	1	TANK, SOL & RECVRY ER20-V	34	712560	9	SCR-THMS 1/4-20 X .50 SS
6	245002	1	LID W/ SEAT, TANK, ER20-V	35	712667	3	NUT-NYLOC 1/4-20 SS
7	245422	1	HINGE, STEEL, 11.38" LONG PNT	36	712764	19	WASHER-FLAT #10 SS
8	245444	1	SEAT-CUSHIONED	37	712770	6	WASHER-INT TOOTH LOCK #10 SS
9	245452	1	HOSE-DRAIN W/CAP 1.50ID x 30.5L	38	713002	3	SCR-HH 1/4-20 X .75 ZP 5
10	245453	2	PLATE - INSERT, INTERCONNECT	39	715534	1	DECAL, BRUSH MOTOR
11	245456	2	PLATE - BASE, INTERCONNECT	40	715535	1	DECAL, VACUUM-DRIVE MOTOR
12	245660	1	BRKT - MTG, REAR COVER LATCH	41	715977	2	DECAL, MAX-RIDE 20
13	245663	3	WELDMENT, VAC MOTOR PILLAR	42	740601	1	SWITCH, SEAT, BOLT MOUNT
14	245766	2	SKIRT-DRIP, LID, END PIECE	43	742748	4	CIRCUIT BREAKER-BOOT
15	245767	1	SKIRT-DRIP, LID,CENTER 20"	44	747349	1	WIRE ASSY, SEAT SWITCH
16	245794	1	HOLDER, BATT CHARGR	45	747350	1	WIRE ASSY, SEAT SW CONN
17	245817	2	SPACER, .39 ID X .75 OD X .25 T	46	747609	1	CIRC BRKR-4.0AMP PUSH BUTTON
18	245844	1	ASSY, VACUUM & HOUSING	47	747614	1	INDICATOR, BTRY CHRG STATUS
19	245902	1	BRACKET, BREAKER MOUNT 20"	48	747689	1	STRAIN REL CABLE DIA. .181-.312
20	246167	1	ASSY, ELECTRICAL PANEL, 20/26	49	827666	2	RIVET-POP 1/8 DOME HD, BLK
21	260579	1	CLIP-TOOL 1.5 INCH HOSE	50	3044112	1	CLAMP-HOSE, SS, 2.50 MAX WORM
22	342440	1	FTG-TEE 3/4 MPT X 1/2 HB NYLON	51	3303255	1	CLAMP-HOSE 1.75 DIA NOMINAL
23	710130	4	SCR-THMS 8-32 X .62 SS	52	3400089	3	WASHER-FLAT 1/4 ZP
24	710528	2	SCR-FHMS 8-32 X .37 BRASS	53	3400383	3	WASHER-CONICAL SPRING 1/4
25	711163	2	SCR-HI/LO 10 X .50 BLACK ZINC	54	3401449	11	SCR-HI/LO 10 X .75 SS PAN HD
26	711246	6	SCR-HH 3/8-16 X .87 ZP GR 5	55	25510512	1	GSKT, RUBBER BLADE, PRESS IN
27	711502	6	WASHER-FLAT #8 ZP	56	97118731	1	FILTER UNIT, SCREENED FLOAT
28	711515	6	WSR-FLAT 3/8 X .812 X .0625 ZP	57	740247	2	CIRC BRKR-30AMP PUSH BUTTON
29	711546	6	WASHER-LOCK 3/8 SPLIT ZP				

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

SPORT VERSIONS ONLY							
ITEM	PART NO.	QTY	DESCRIPTION	ITEM	PART NO.	QTY	DESCRIPTION
A	245905	1	COVER, ELEC BOX, SPORT 20"	D	740549	1	CIRC BRKR-50AMP PUSH BUTTON
B	715533	1	DECAL, 2 POSITION SWITCH, BRUSH MOTOR	E	747717	1	KEYSWITCH ASSY, 2 POS, ON/OFF



Rev B

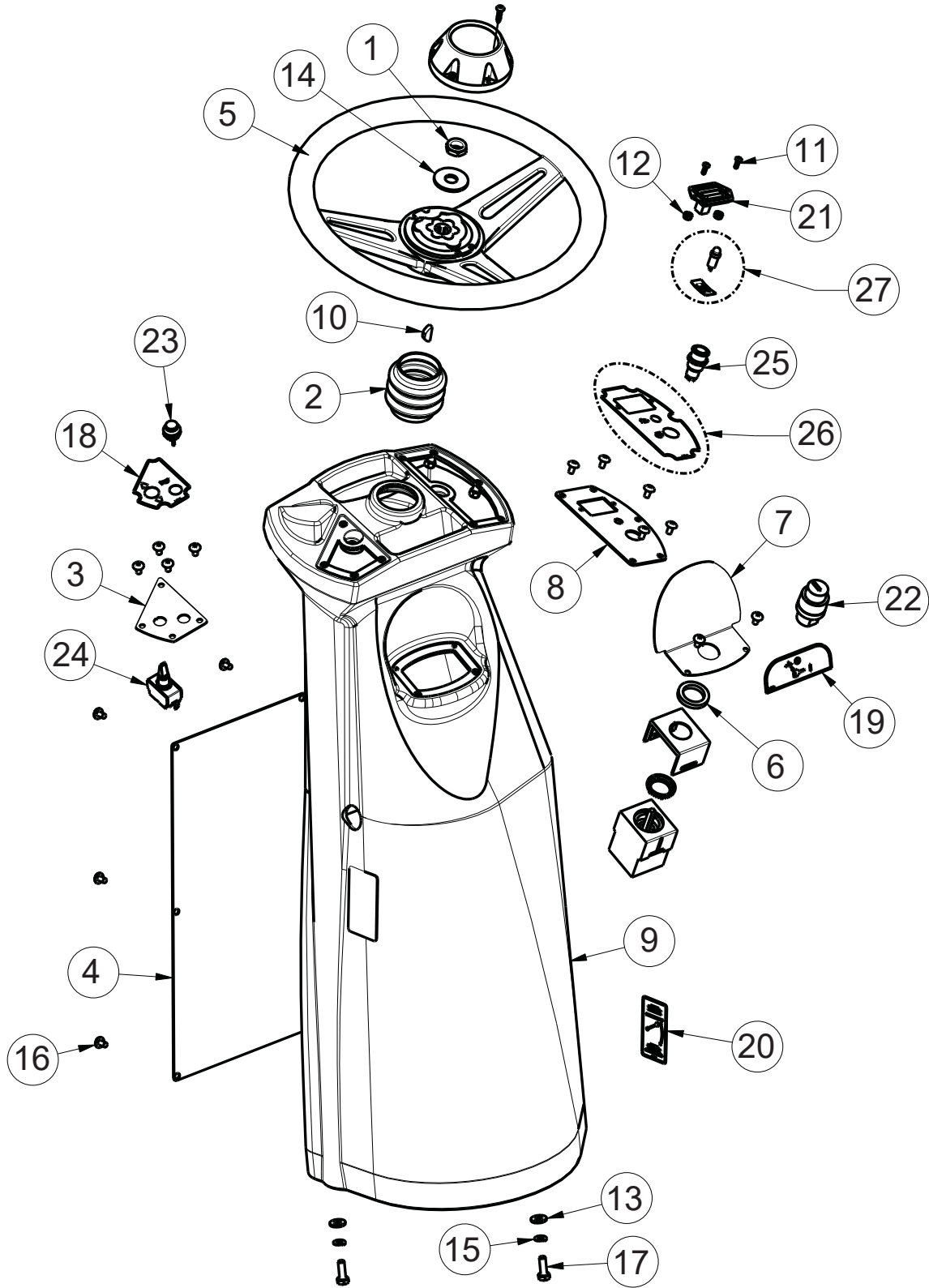
Vacuum and Housing Assembly BOM

BILL OF MATERIAL - 245844			
ITEM	PART NO.	QTY	DESCRIPTION
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

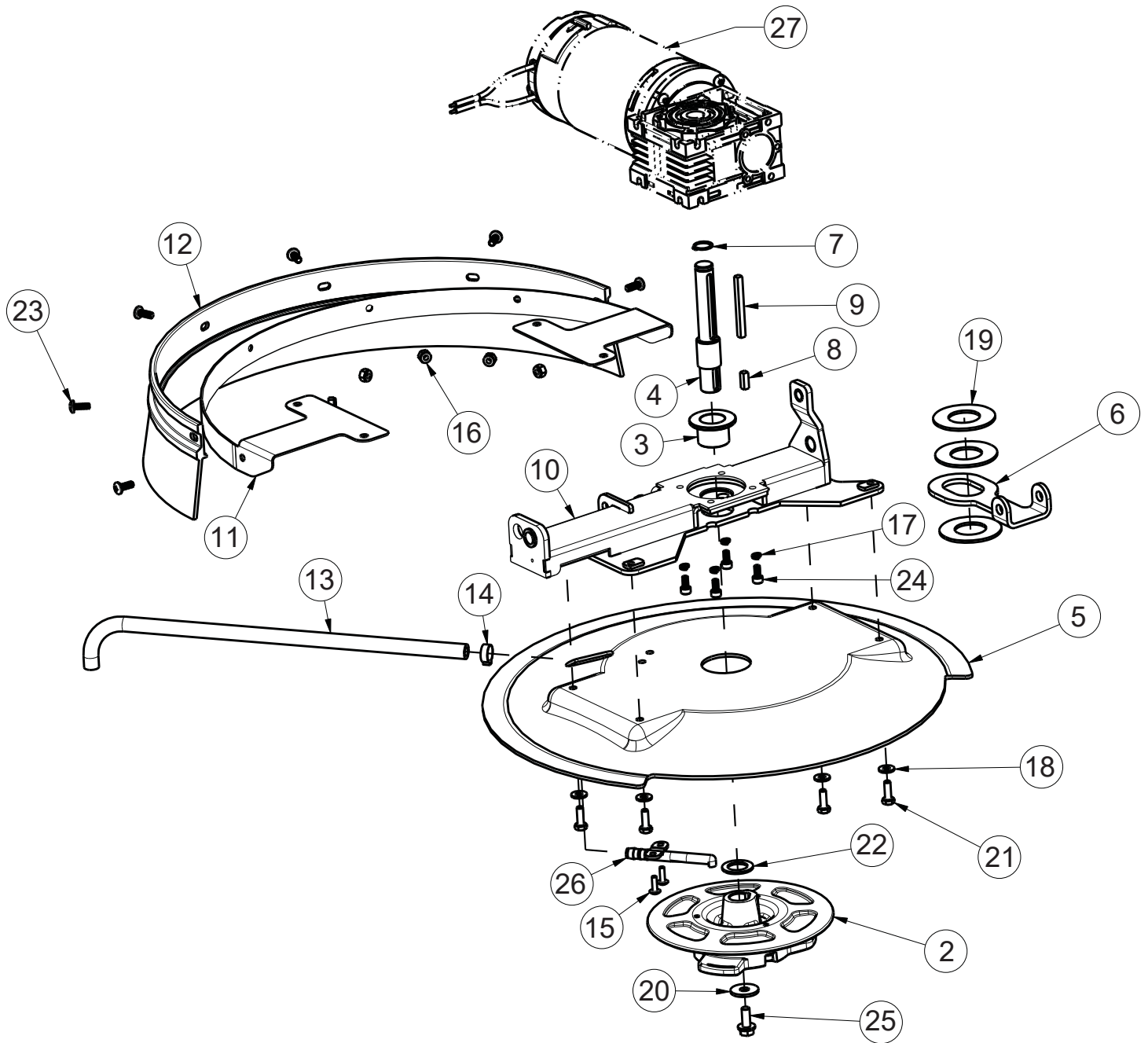


Rev C

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 (SPORT ONLY)
	747718-2	1	CLIP, TINNERMAN (SPORT ONLY)

Scrub Head Group

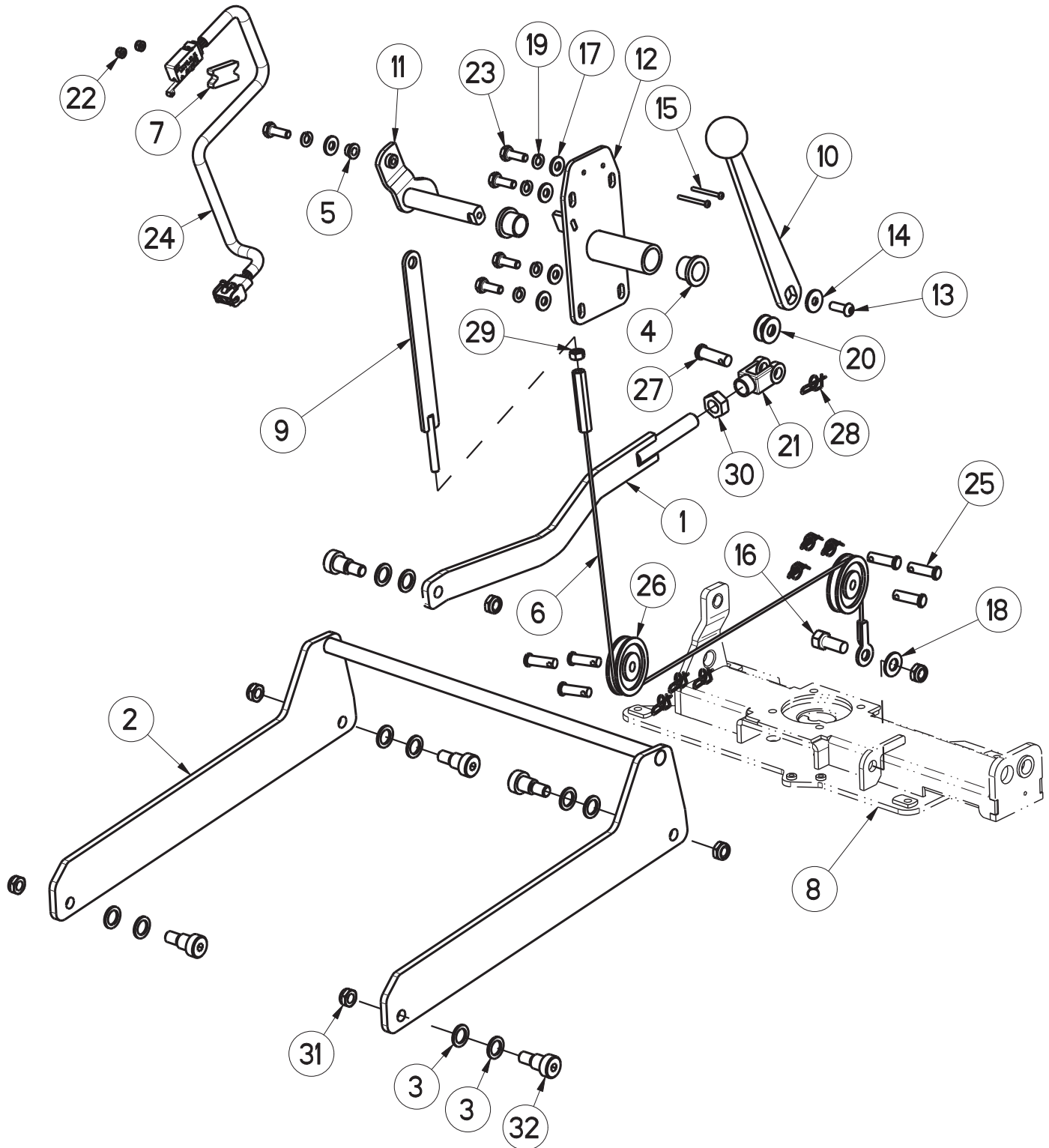


Rev D

Scrub Head Group BOM

BILL OF MATERIAL - 246168			
ITEM	PART NO.	QTY	DESCRIPTION
1	000712	1	PERMABOND-MM115 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	245107	1	SHAFT - STUB, RT-ANGLE DRIVE, DISC BRUSH
5	245300	1	COVER, SCRUB HEAD 20"
6	245312	1	RING, PIVOT
7	245468	1	RET RING-EXT .687 BLK OXIDE
8	245811	1	KEY-6MM X 6MM X .700 ZINC
9	245812	1	KEY-6mm X 6mm X 2.625
10	246092	1	FRAME, SCRUBDECK, 20"
11	246095	1	BRACKET, DECK SKIRT
12	246104	1	SKIRT, DECK BRUSH 23.90 INCH
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 ZP
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	WASHER-FENDER 3/8 X 1.12 X .10 ZP HARD
21	713002	4	SCR-HH 1/4-20 X .75 ZP 5
22	717025	1	WASHER-FLAT 13/16 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>)

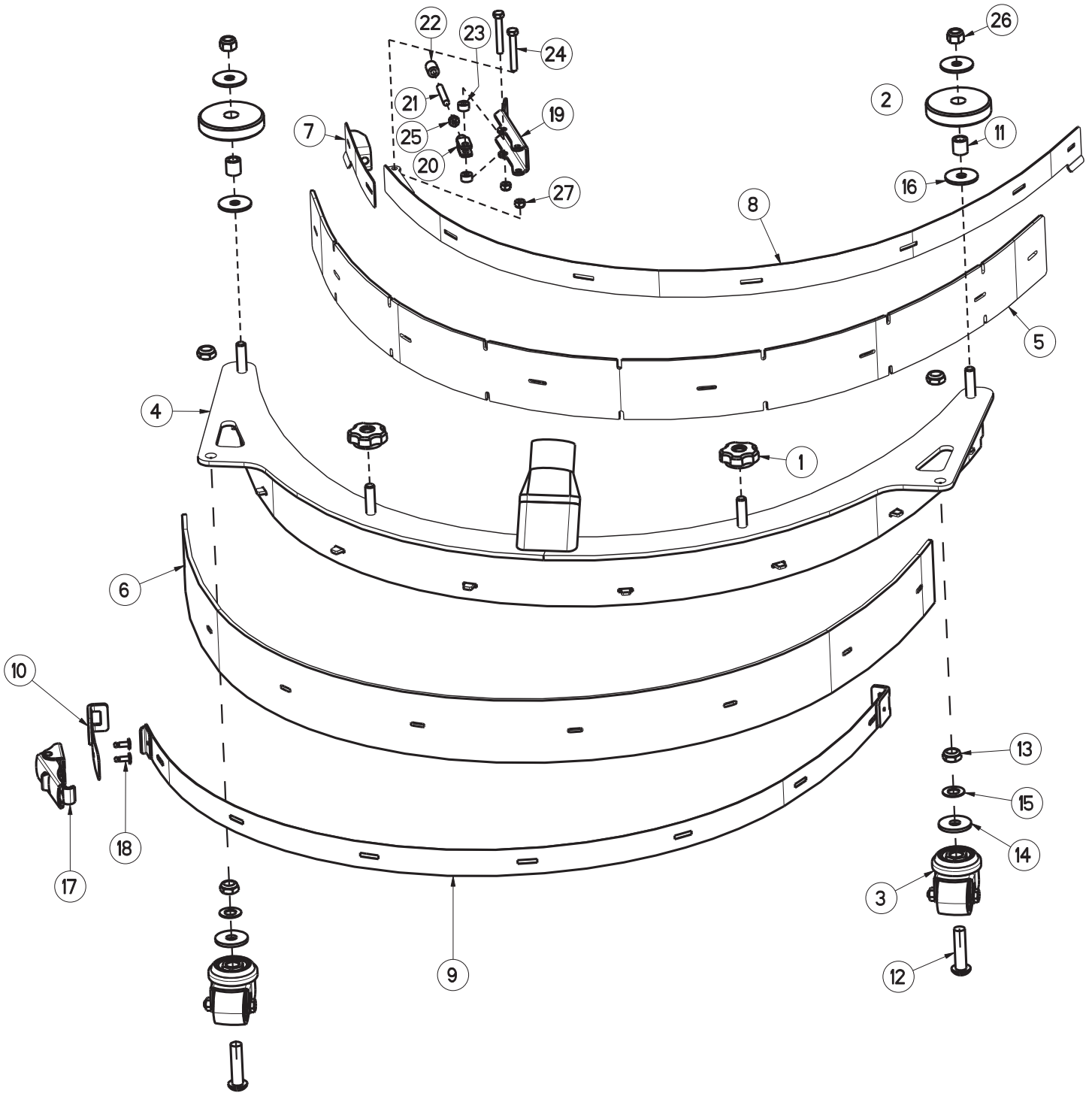
Scrub Head Lift Group



Rev E

Scrub Head Lift Group BOM

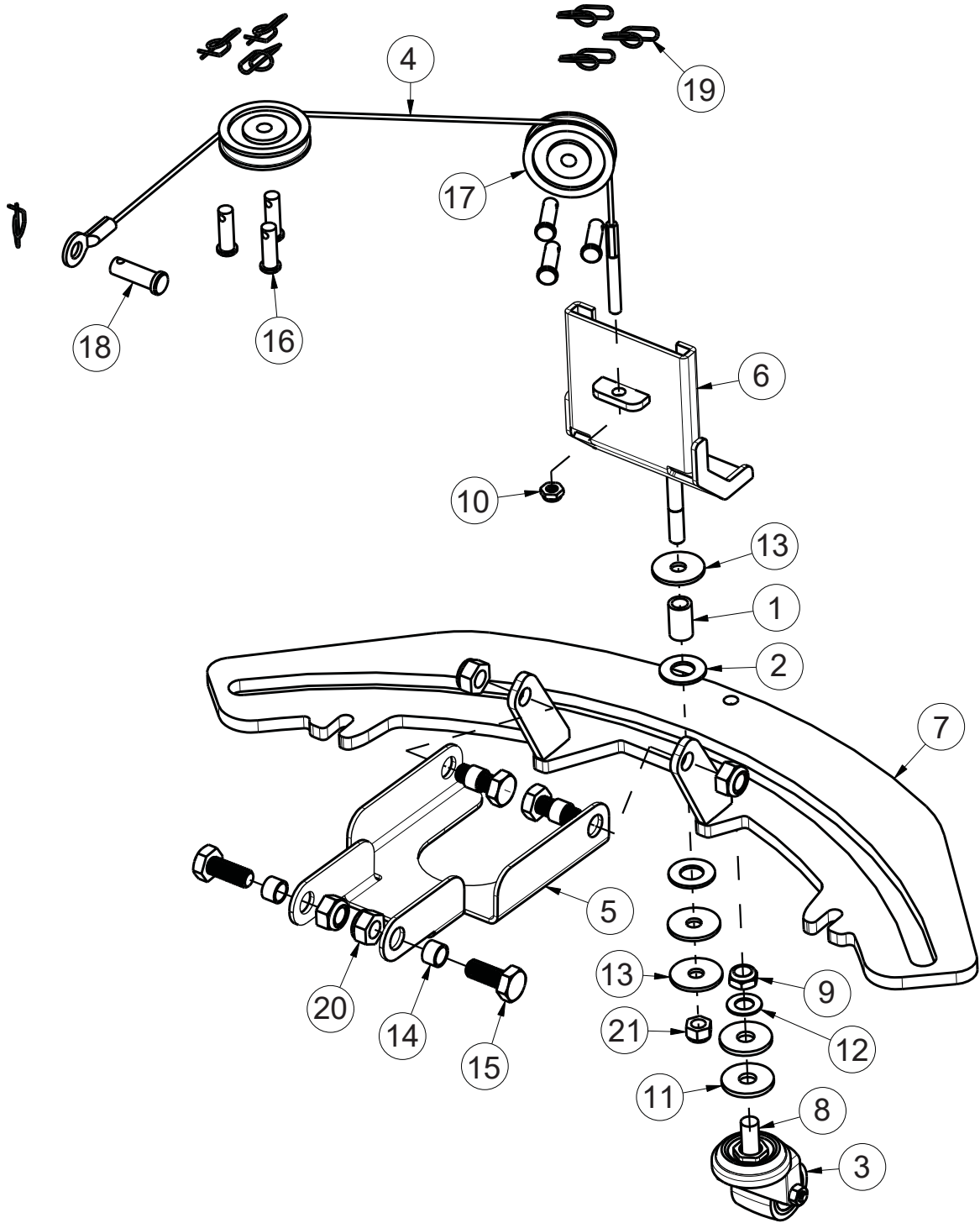
BILL OF MATERIAL - 246161			
ITEM	PART NO.	QTY	DESCRIPTION
1	245138	1	ARM, DECK LIFT ADJUSTMENT, WELD
2	246055	1	WELDMENT, SCRUBHEAD ARM 20"
3	246064	10	WASHER 1/2 X .75 X .062 NYLON
4	246078	2	FLANGED BUSHING, .625 SHAFT
5	246079	1	FLANGED BUSHING, .250 SHAFT
6	246082	1	CABLE, 29.50
7	246089	1	BRACKET, SWITCH
8	246092	1	FRAME, SCRUBDECK, 20"
9	246097	1	WELDMENT, DECK LIFT END
10	246639	1	WELDMENT, HEAD LIFT, HNDLE
11	246640	1	WELDMENT, HEAD LIFT SHAFT
12	246647	1	WELDMENT, HEAD LIFT
13	246730	1	SCR-BHSCS .25-20 X .75 BLK OX NYL PATCH
14	246731	1	WASHER-FLAT, .25 X .75 X .08, HARD
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	712265	1	CLEVIS-YOKE, 1/2-20 WITH .375 PIN
22	712348	2	NUT-NYLOC #4 STL ZINC
23	713002	5	SCR-HH 1/4-20 X .75 ZP 5
24	747603-2	1	SWITCH ASY, MICRO ROLLER W/PACK/CONDUIT
25	881002	6	PIN-CLEVIS 5/16 X 1.00 ZINC
26	3300368	2	PULLEY-PLASTIC 2" x .25" GROOVE
27	3400117	1	PIN-CLEVIS 3/8 x 1.125 ZP
28	3400125	7	PIN-COTTER 3/8 RUE RING
29	3400180	1	NUT-HEX 1/4-28 ZP
30	3400449	1	NUT-JAM 1/2-20 ZP
31	3401028	6	NUT, 3/8-16 ELASTIC STOP (ES)
32	712099PLT	5	BLT-SHOULDER 1/2 X 1/2 RAW



Rev E

Squeegee Group BOM

BILL OF MATERIAL - 246165			
ITEM	PART NO.	QTY	DESCRIPTION
1	210166	2	KNOB-FLUTED, 5/16-18 NYLOC SS
2	245339	2	ROLLER- SQUEEGEE
3	245563	2	CASTER
4	246075	1	WELDMENT, 20 IN SQUEEGEE
5	246083	1	SQUEEGEE BLADE INNER 20
6	246084	1	SQUEEGEE BLADE OUTER 20
7	246085	1	WELDMENT, INNER BAND, LT
8	246086	1	WELDMENT, INNER BAND, RT
9	246087	1	WELDMENT, OUTER BAND, RT
10	246088	1	WELDMENT, OUTER BAND, LT
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	712767	2	FLAT WASHER .406 ID X .75 OD X .
16	730526	4	WASHER-FENDER M8 X 24 SS
17	730652	1	LATCH, UNDER CENTER
18	730654	2	RIVET-BLIND 5/32 .125 GRIP SS
19	730780	1	LATCH, BODY SS
20	730781	1	CLEVIS, M5 - 0.8
21	730782	1	ROD, M5 - 0.8
22	730783	1	ROD, NOSE
23	730784	2	SPACER, .203 B .375 OD .210 T
24	730802	2	SCR-HH M5-0.8 X 35 SS FULL THREAD
25	12022430	1	NUT- HEX, M5, SS DIN934
26	12040259	2	NUT-NYLOC M8 X 1.25 SS
27	12040283	2	NUT- HEX, M5 NYLON LOCK, SS DIN985



Rev B

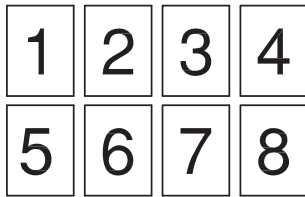
Squeegee Lift Group BOM

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, 17.5
5	246057	1	LINK, SQUEEGEE PIVOT 20"
6	246058	1	WELDMENT, SLIDER
7	246074	1	WELDMENT, SQUEEGEE MOUNT 20"
8	710986	1	SCR-BHSCS 3/8-16 X 1.00 ZP
9	711375	1	NUT-NYLOC 3/8-16 ZP
10	711688	1	NUT-JAM 1/4-20 NYLOC SS
11	711855	2	WASHER-FENDER 3/8 X 1.12 X .10 ZP HARD
12	712767	1	WASHER-FLAT .406 X .75 X .035 SS
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	RING-RUE 3/8
20	12040069	4	NUT-NYLOC M10 X 1.5 ZD CLASS 6
21	12040259	1	NUT-NYLOC M8 X 1.25 SS

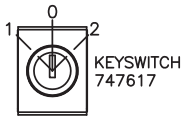
Wiring Diagrams - ECO Models

1

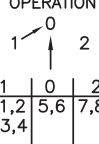
PAGE LAYOUT



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



KEYSWITCH OPERATION

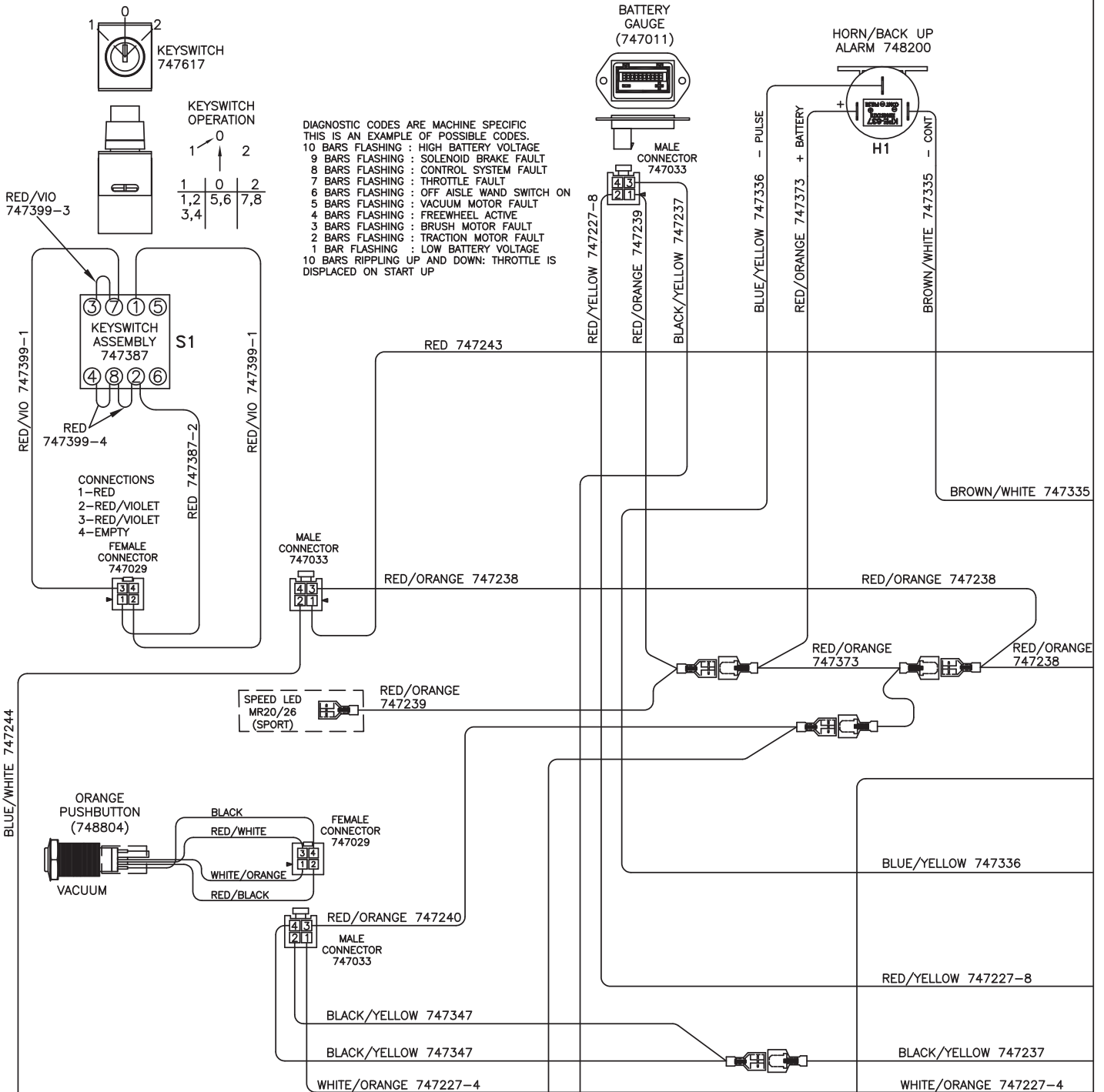
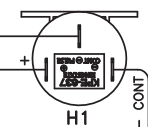


DIAGNOSTIC CODES ARE MACHINE SPECIFIC THIS IS AN EXAMPLE OF POSSIBLE CODES.
 10 BARS FLASHING : HIGH BATTERY VOLTAGE
 9 BARS FLASHING : SOLENOID BRAKE FAULT
 8 BARS FLASHING : CONTROL SYSTEM FAULT
 7 BARS FLASHING : THROTTLE FAULT
 6 BARS FLASHING : OFF AISLE WAND SWITCH ON
 5 BARS FLASHING : VACUUM 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)



HORN/BACK UP ALARM 748200

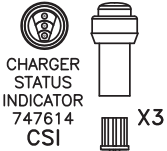
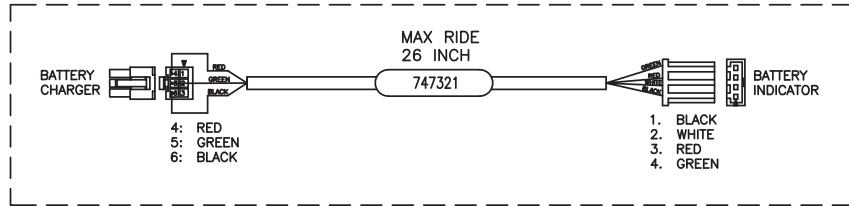


745120 REV A



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

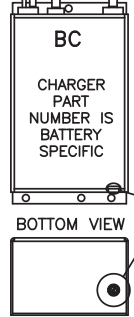


120VAC 60Hz
or
230VAC 50Hz
(different plug)
CORD
748680CE
748680 (UK)

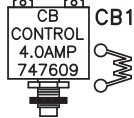
CHARGER
957760
IEC60320 C14

BATTERY CHARGER
100-240V~ 50/60Hz
957761 (115VAC)
NEMA 5/15P
957760 (230VAC)
IEC 60320 C14

MAX RIDE 26
BATTERY CHARGER
100-240V~ 50/60Hz
957764 (115VAC)
NEMA 5/15P
957760 (230VAC)
IEC 60320 C14



RED 747243



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

1:RED
2:BLACK

BLACK 747313

BLACK 747313

BLACK 747637-2

RED 747637-1

RED 747330

RED 747328

RED 747305

BLACK 747313

GREY/BLACK 747356

BLACK 747234

BROWN/WHITE 747335

RED/ORANGE
747238

BLACK 747313

BLACK 747235

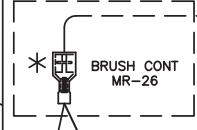
BLACK 747315-2

BLACK 747322

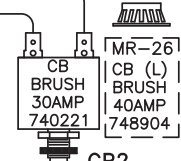
P/O BLACK 747234

RED 747305

BLACK 747241
RED/ORANGE 747238



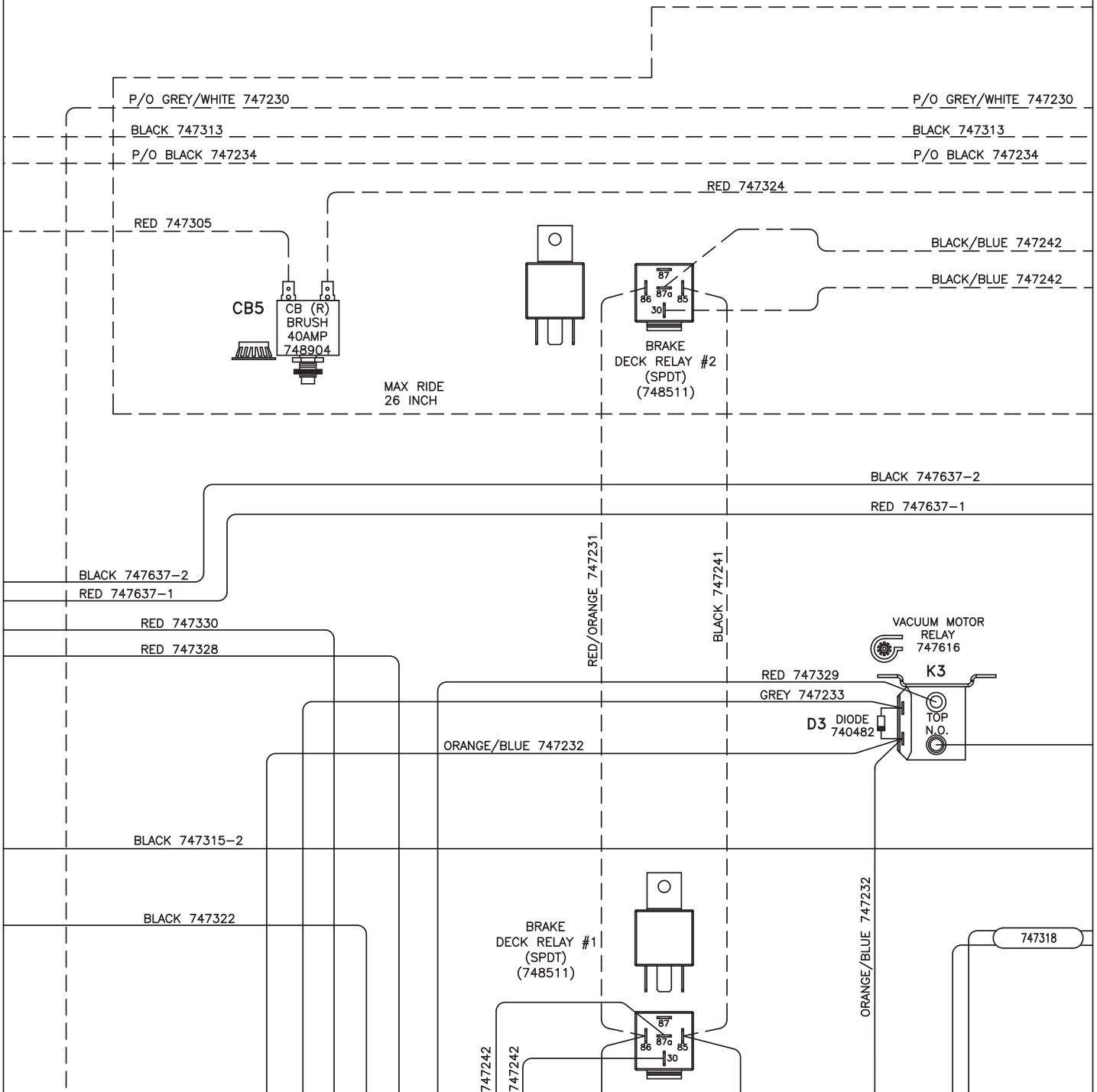
BLACK 747313

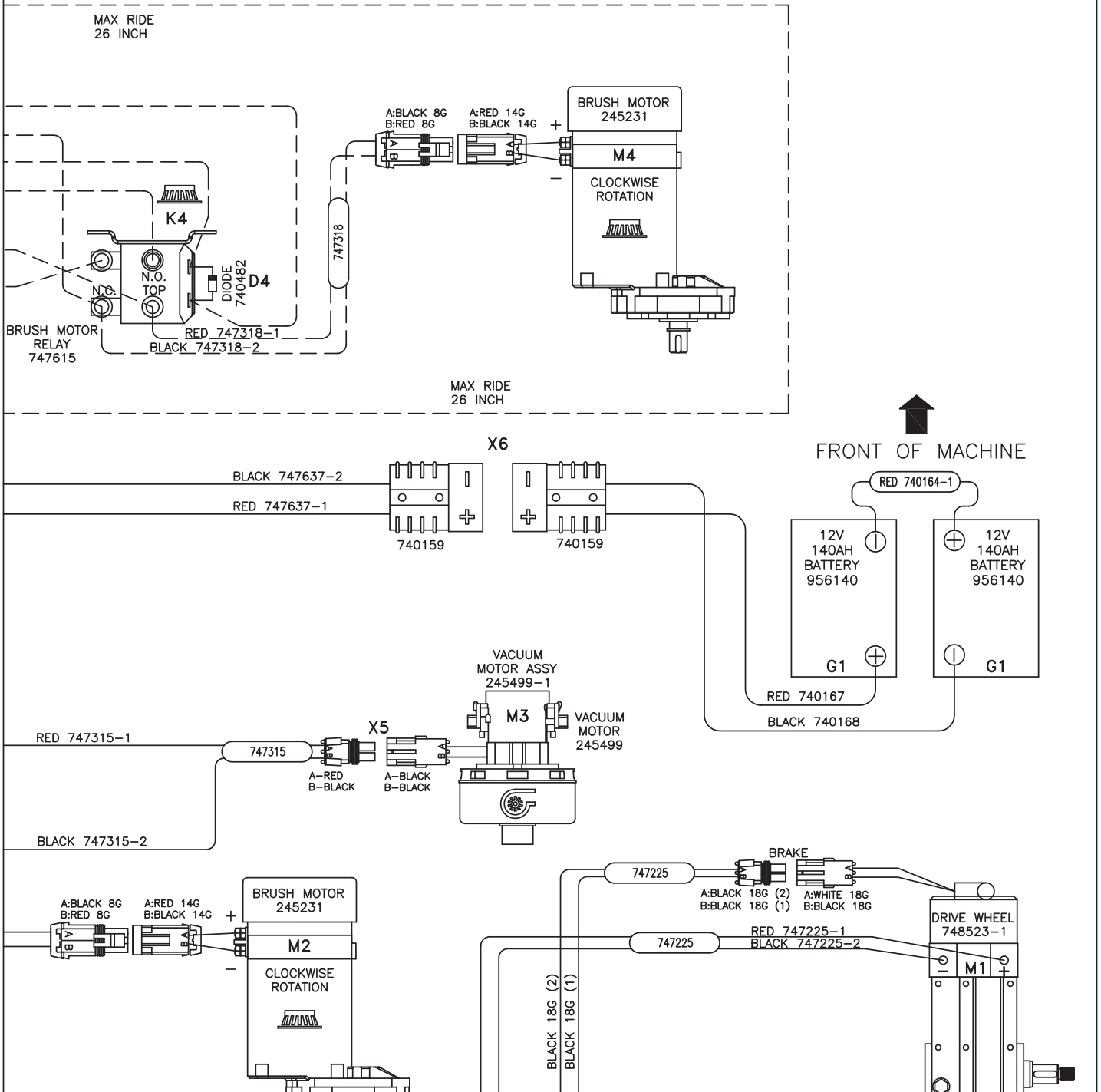


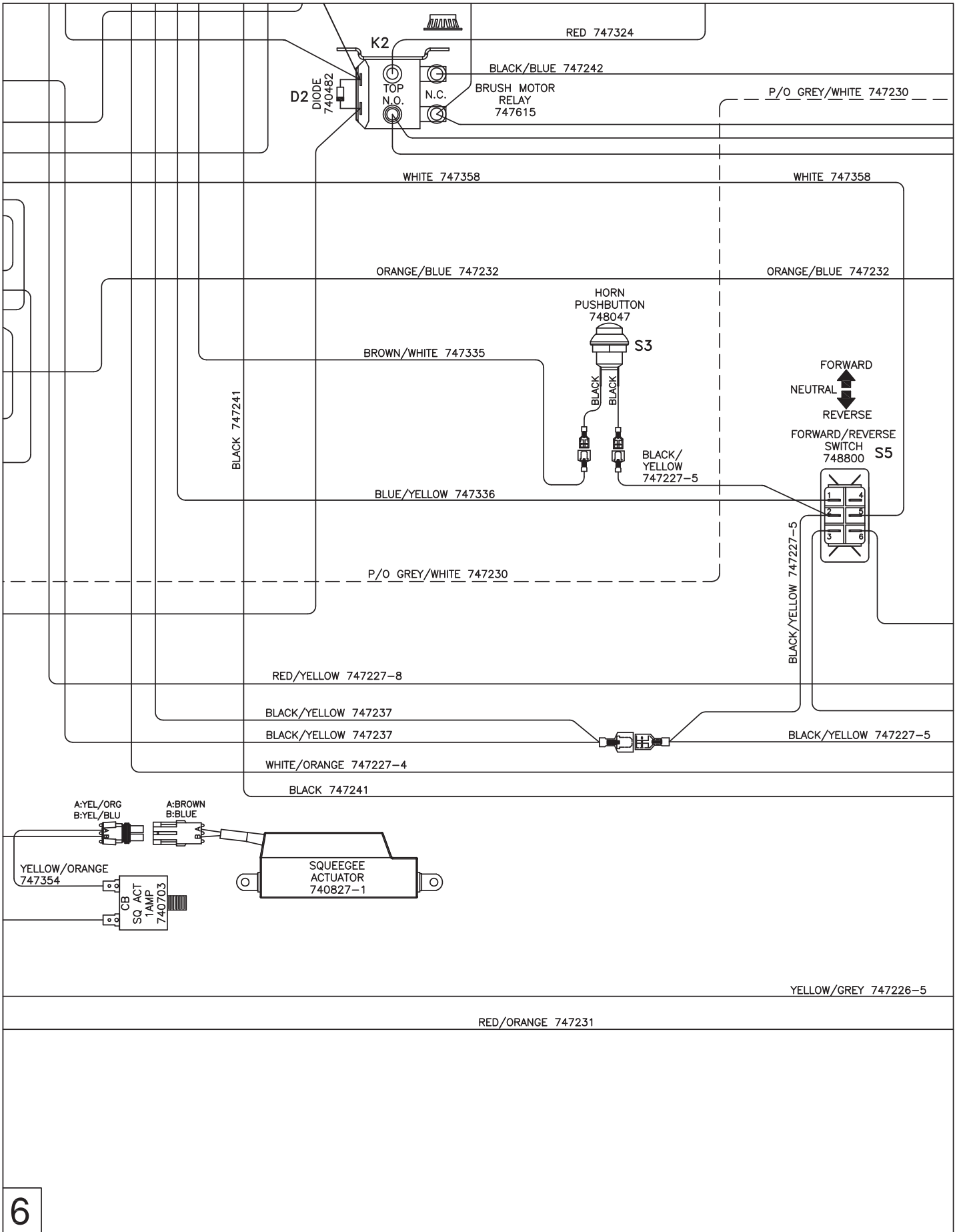
CB2

MAIN RELAY
90331026

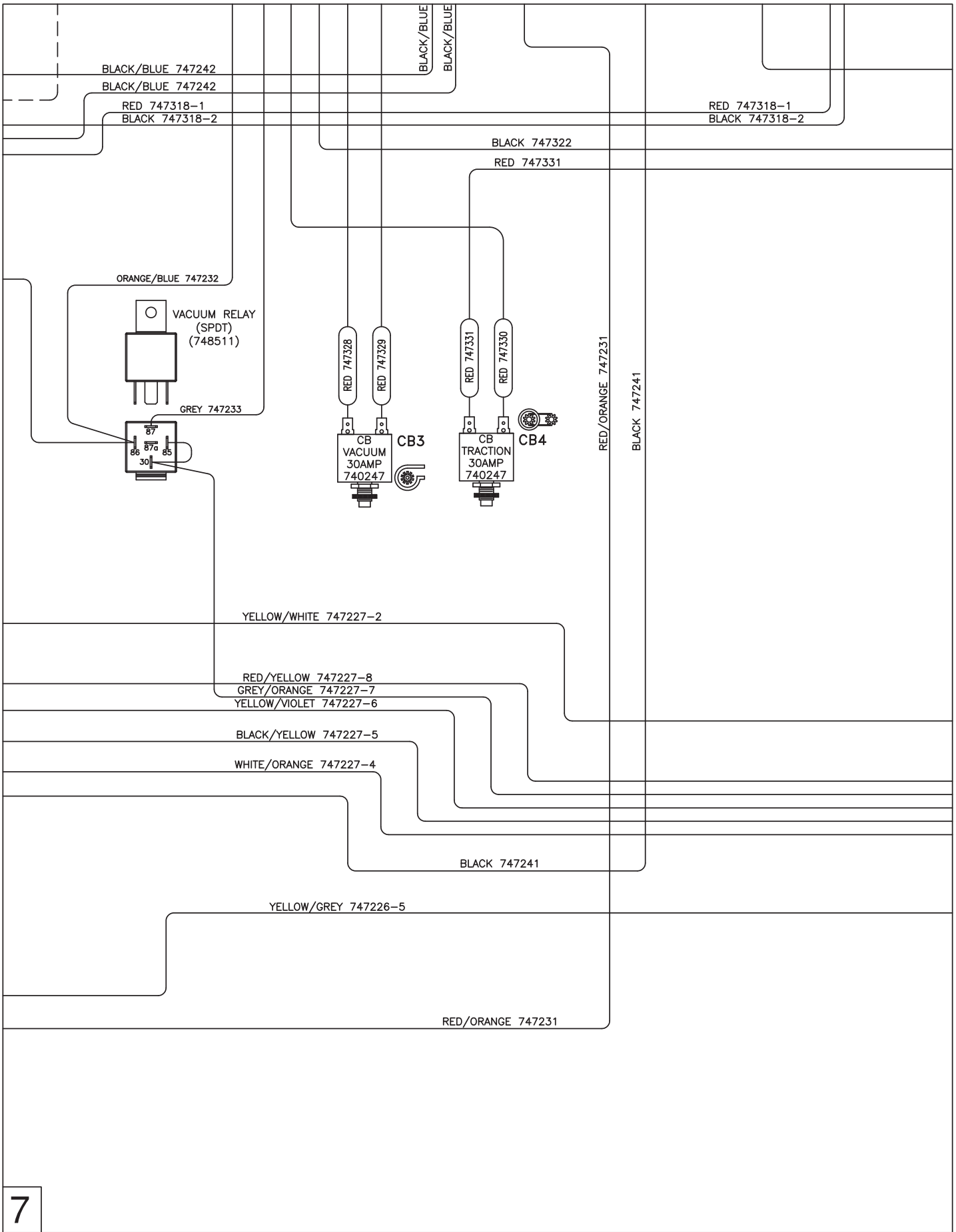


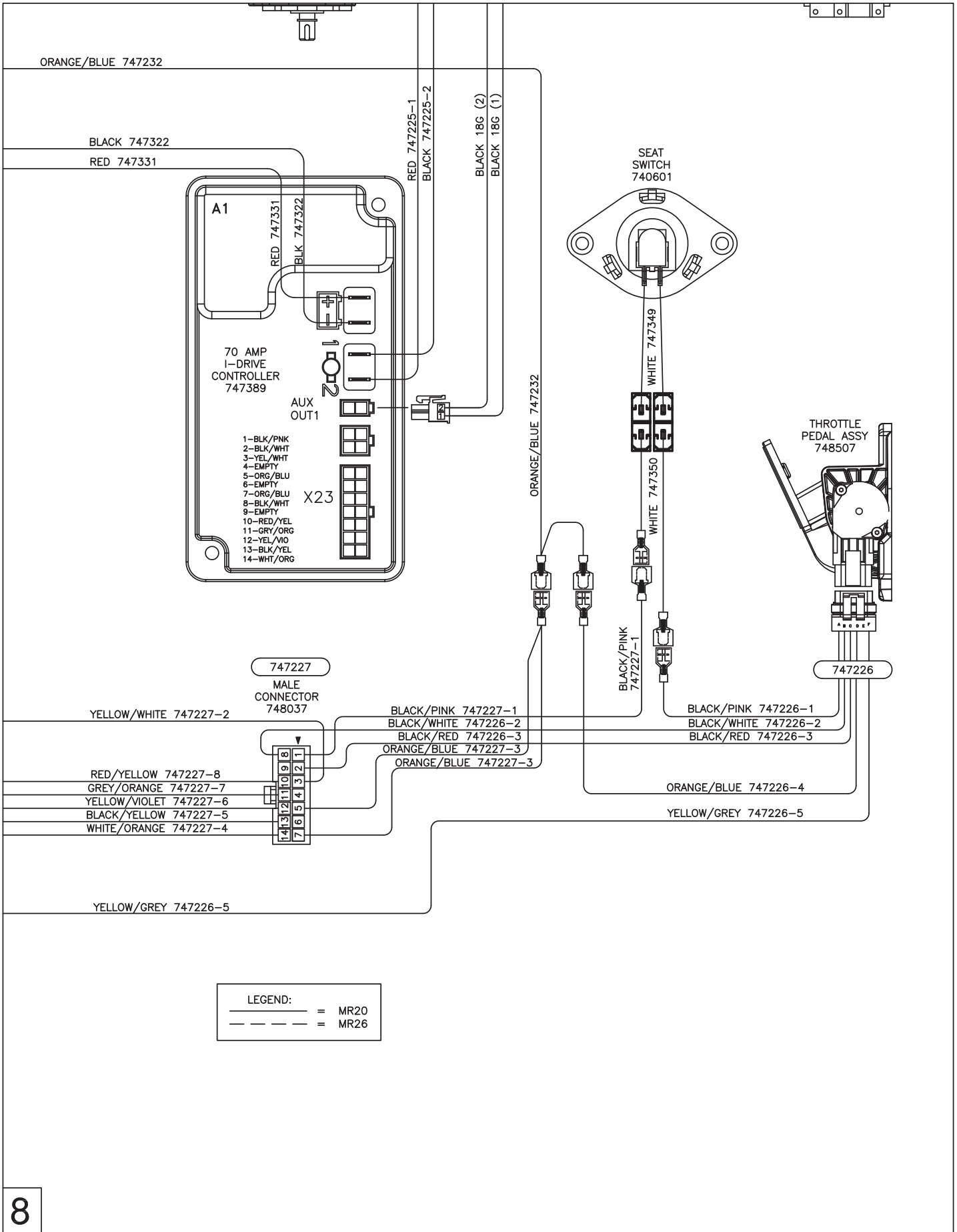






6

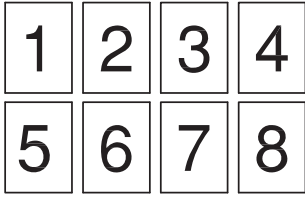




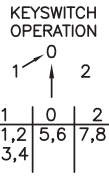
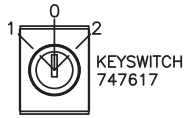
Wiring Diagrams - Sport Models

1

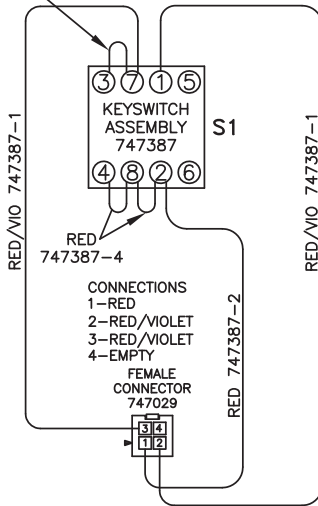
PAGE LAYOUT



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

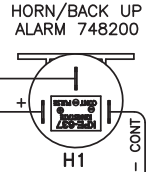
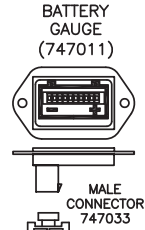


RED/VIO
747387-3

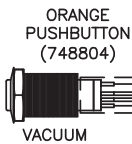


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- 10 BARS RIPPLING UP AND DOWN: THROTTLE IS DISPLACED ON START UP



BLUE/WHITE 747244



BLUE/WHITE 747244

FEMALE CONNECTOR
747029

MALE CONNECTOR
747033

RED/ORANGE 747240

BLACK/YELLOW 747347

BLACK/YELLOW 747347

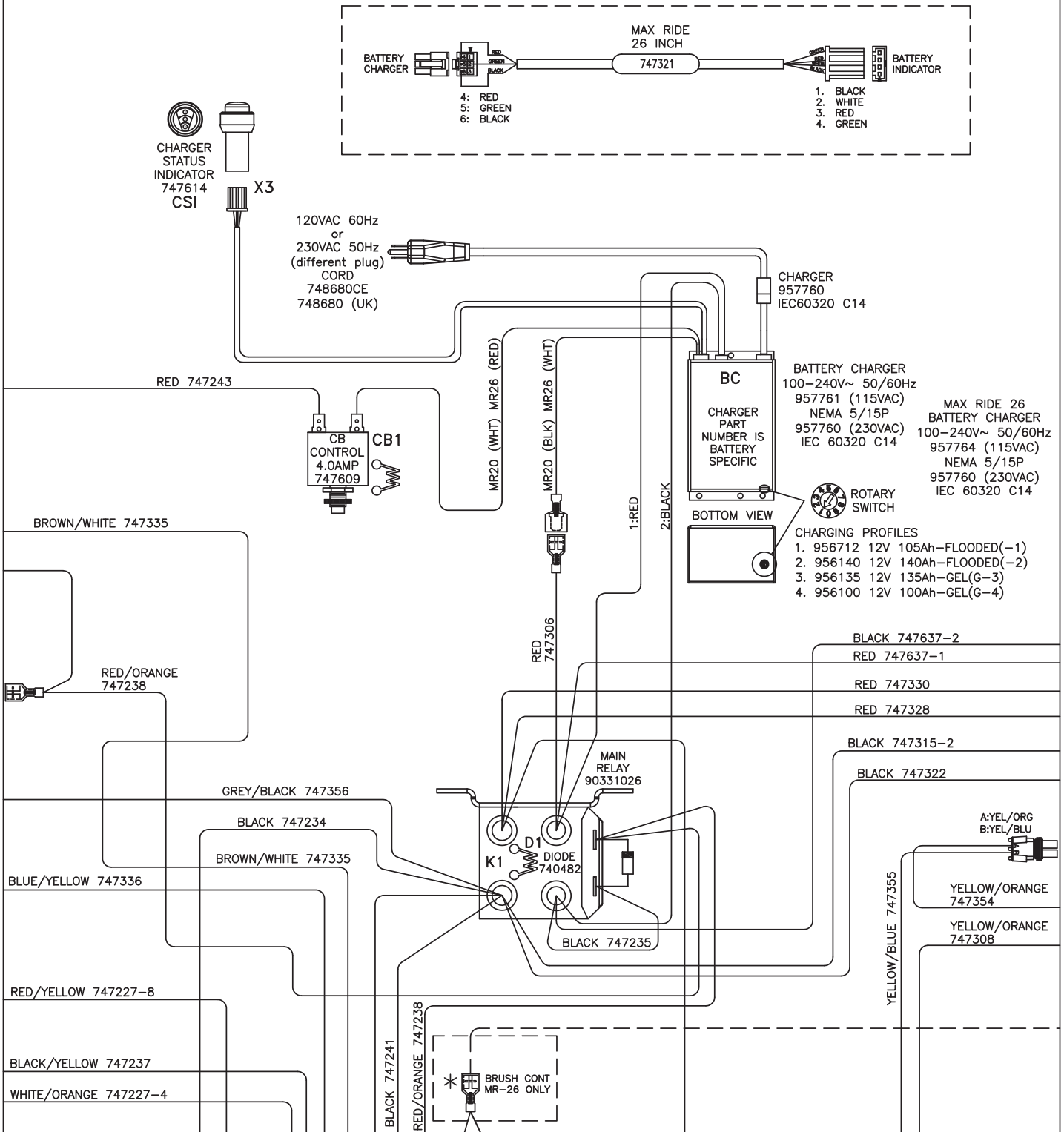
WHITE/ORANGE 747227-4

RED/ORANGE
747373

BLUE/YELLOW 747336 - PULSE

RED/ORANGE 747373 + BATTERY

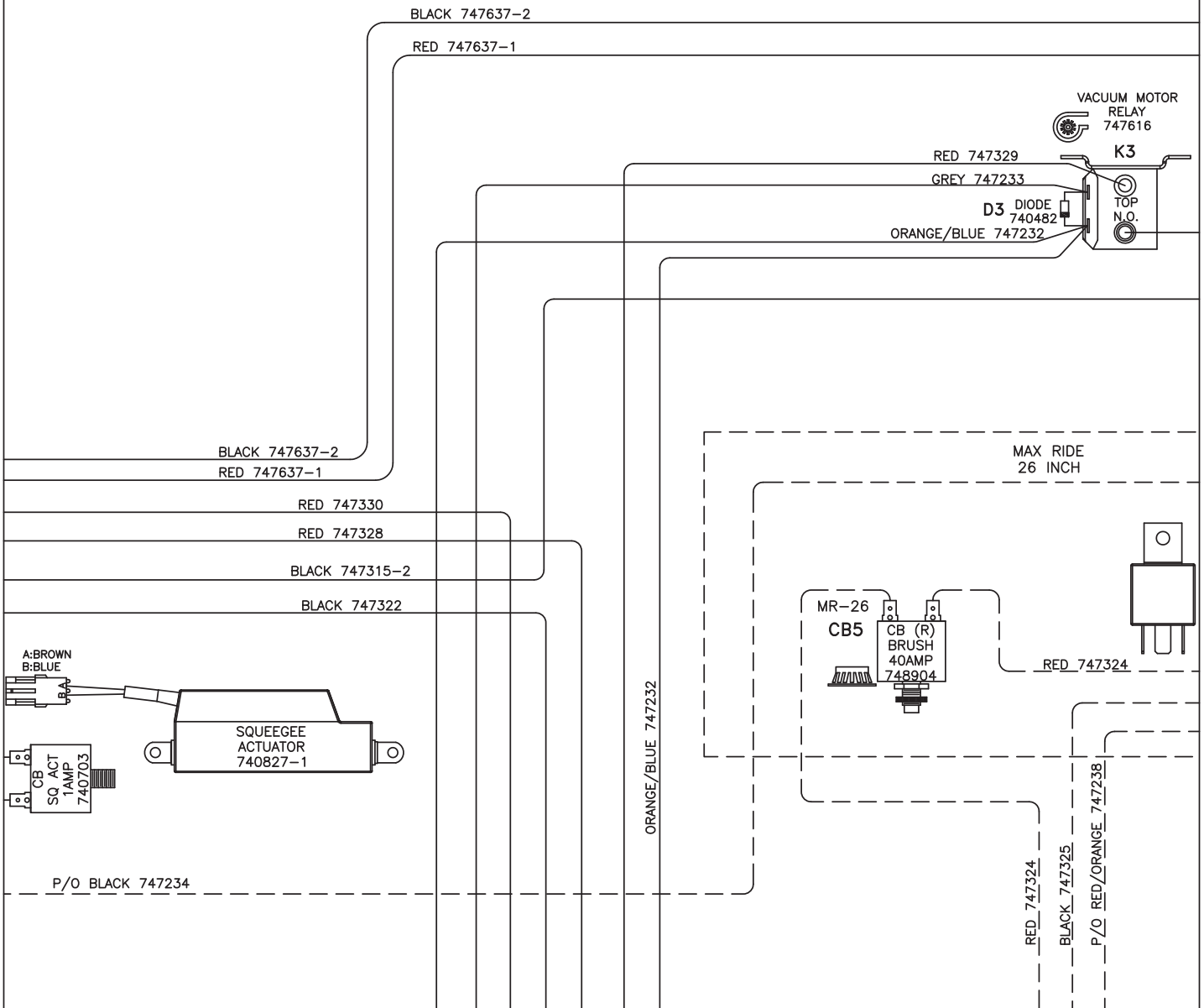
BROWN/WHITE 747335 - CONT

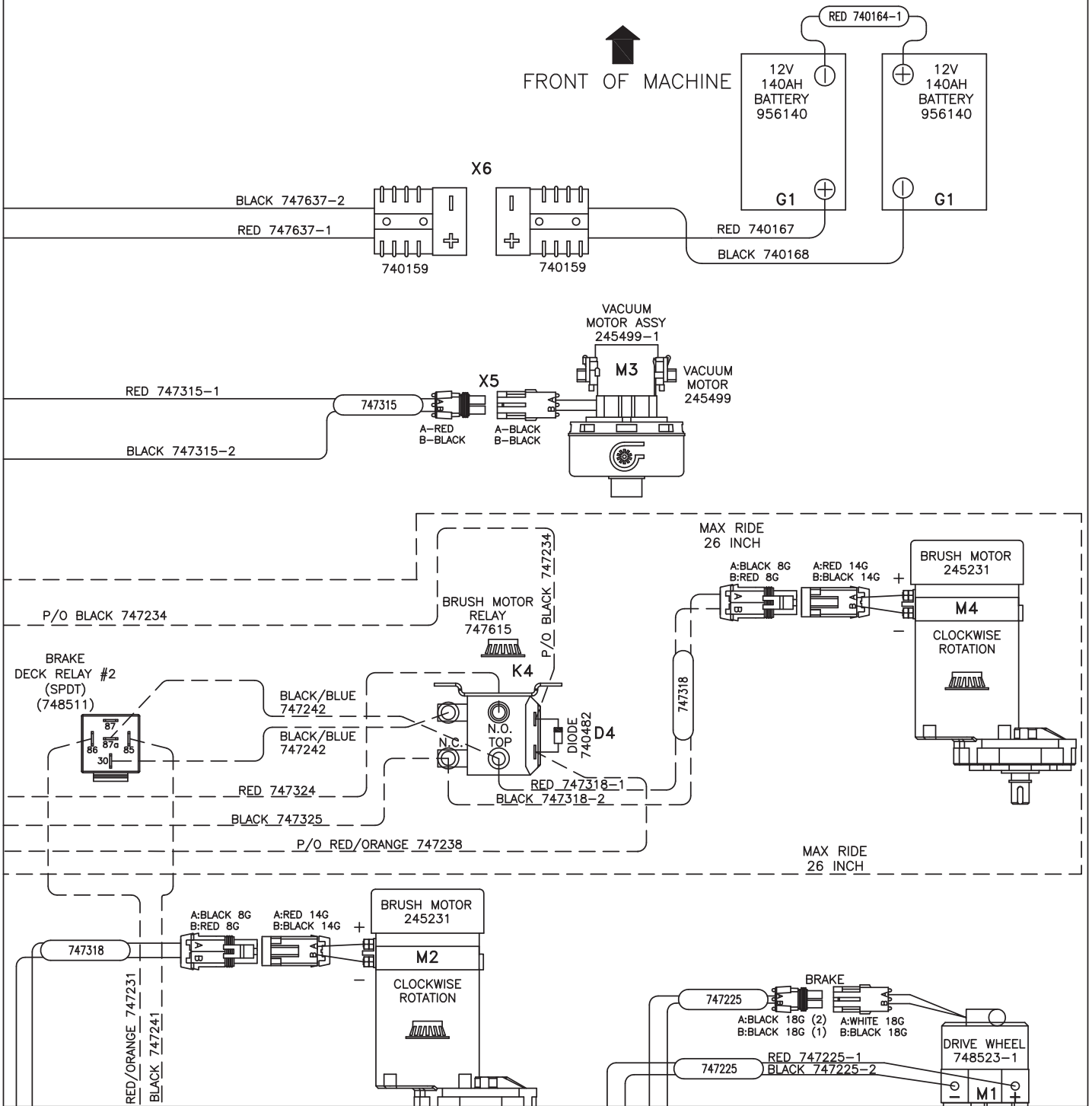


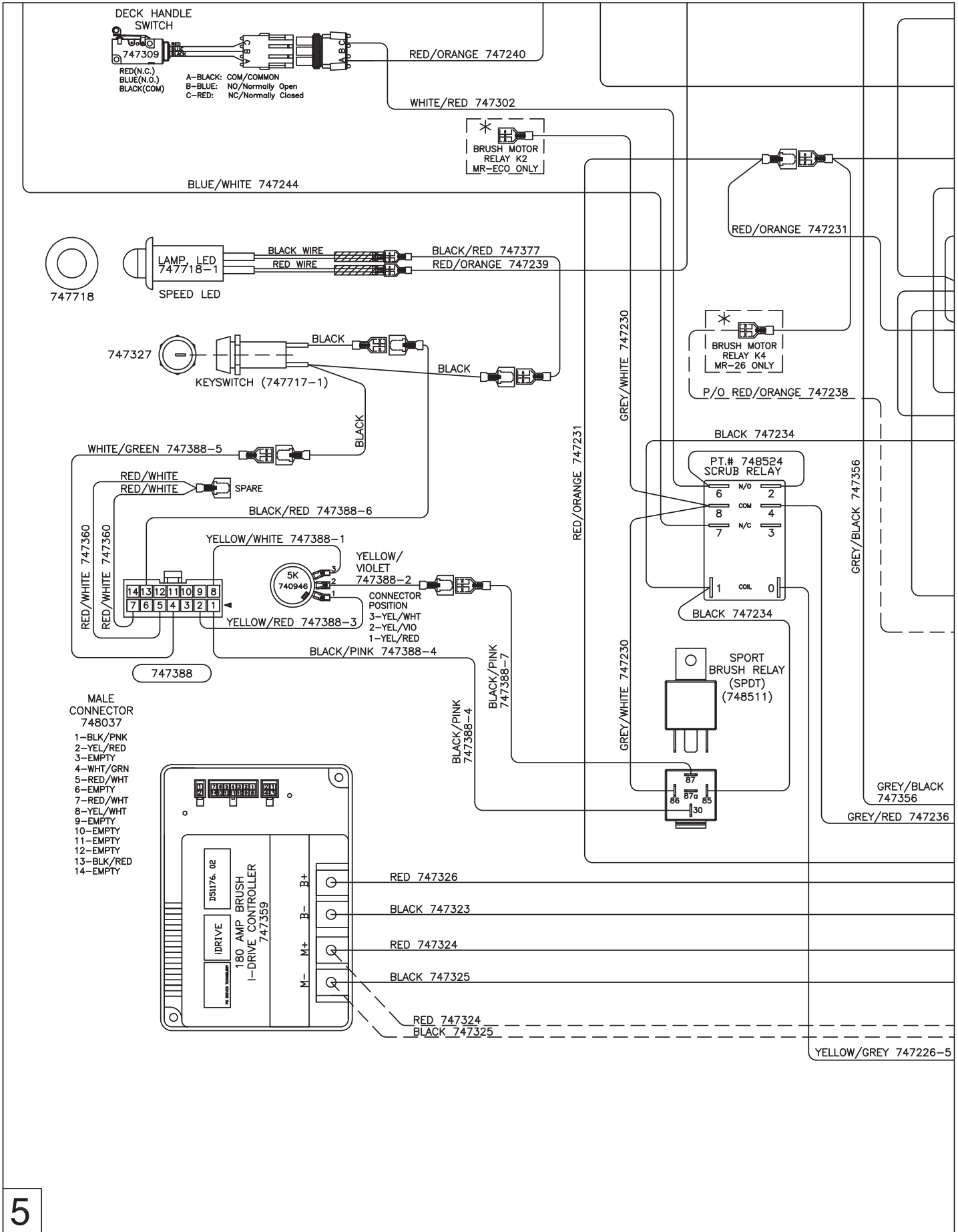


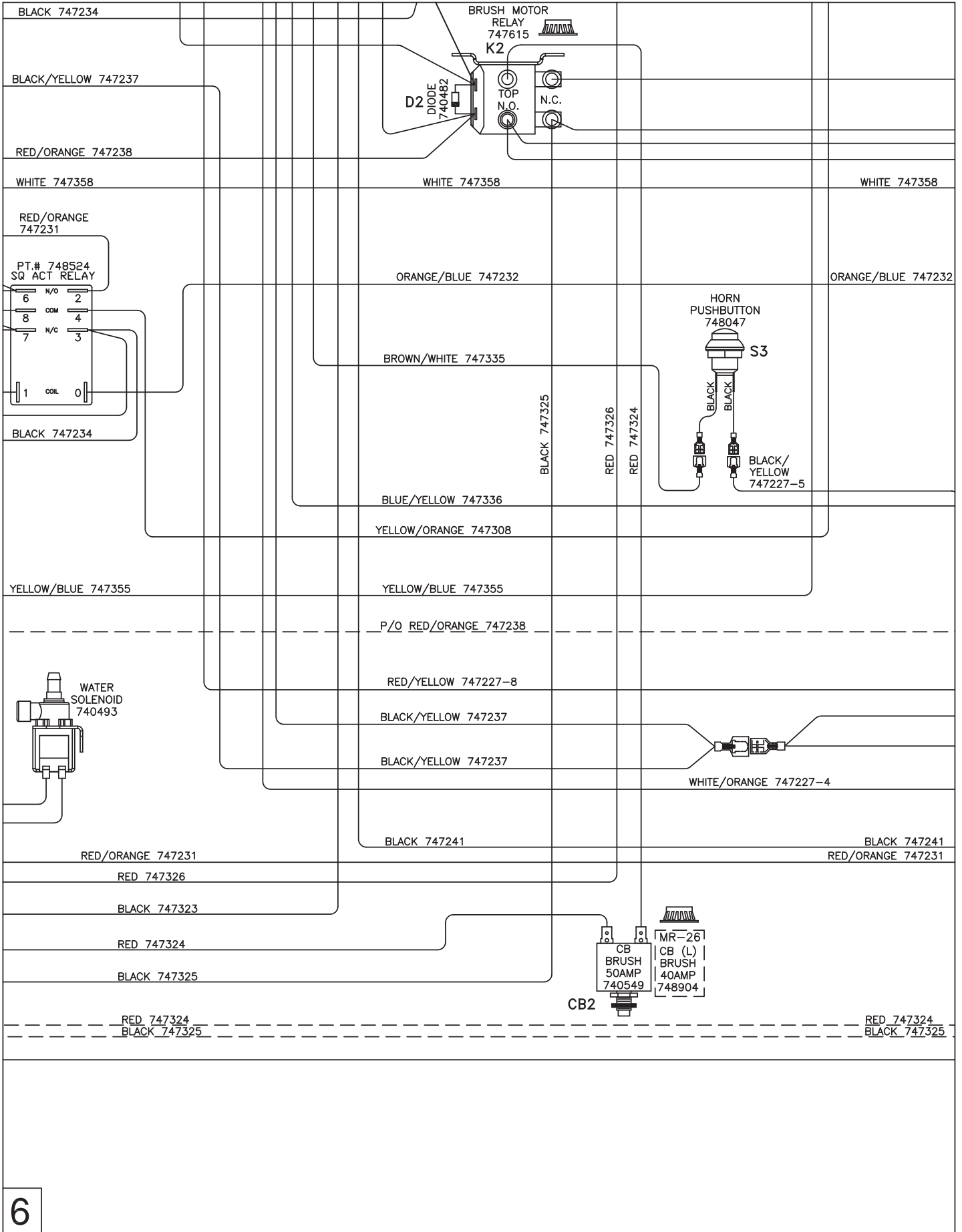
RELAY NUT COVER
 MAIN RELAY M8 15592033 (4)
 VACUUM RELY M6 15592025 (2)
 BRUSH MOTOR RELAY M6 15592025 (4)

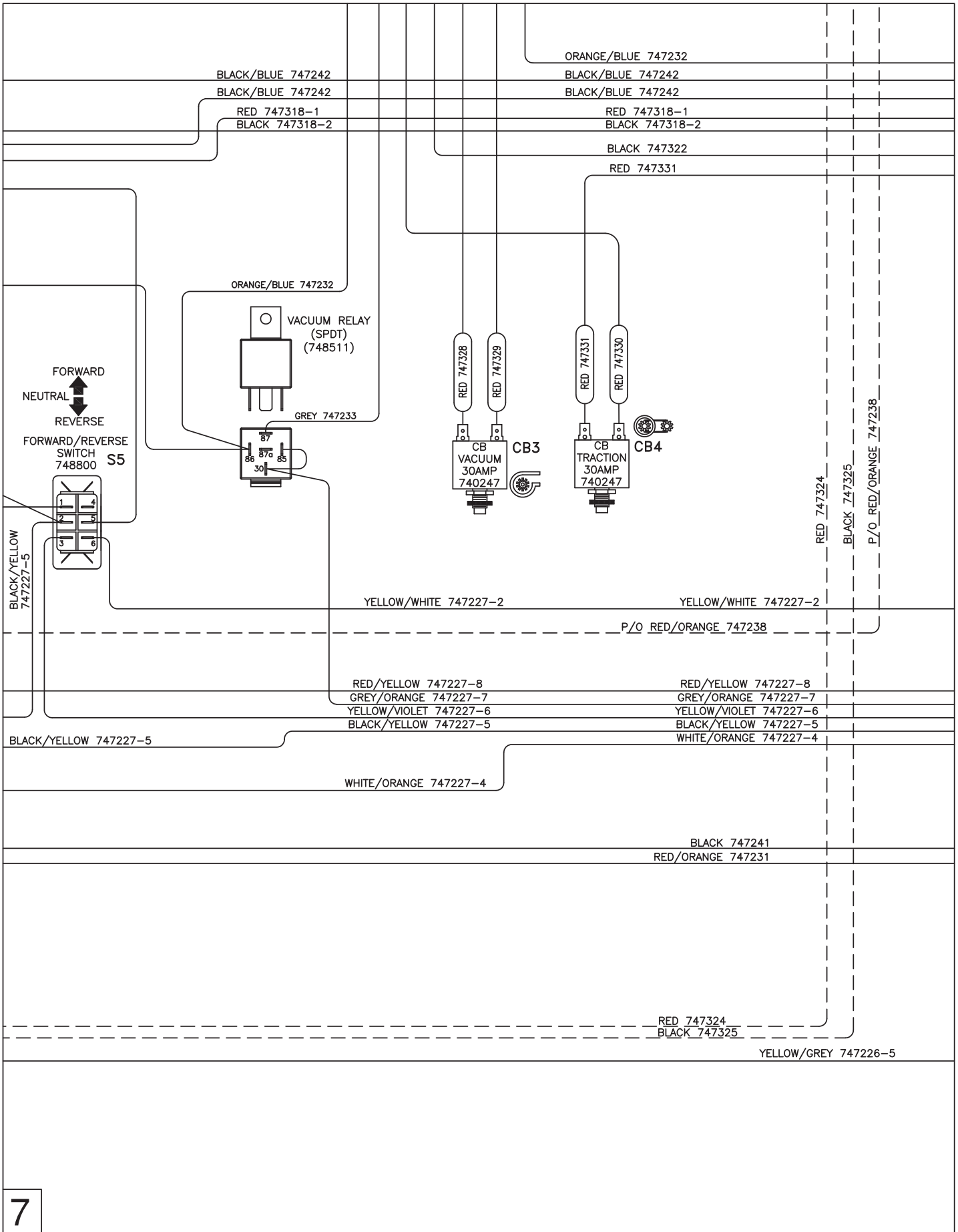
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 VACUUM & BRUSH RELAY:M6 TORQUE TO 3.6-3.9Nm

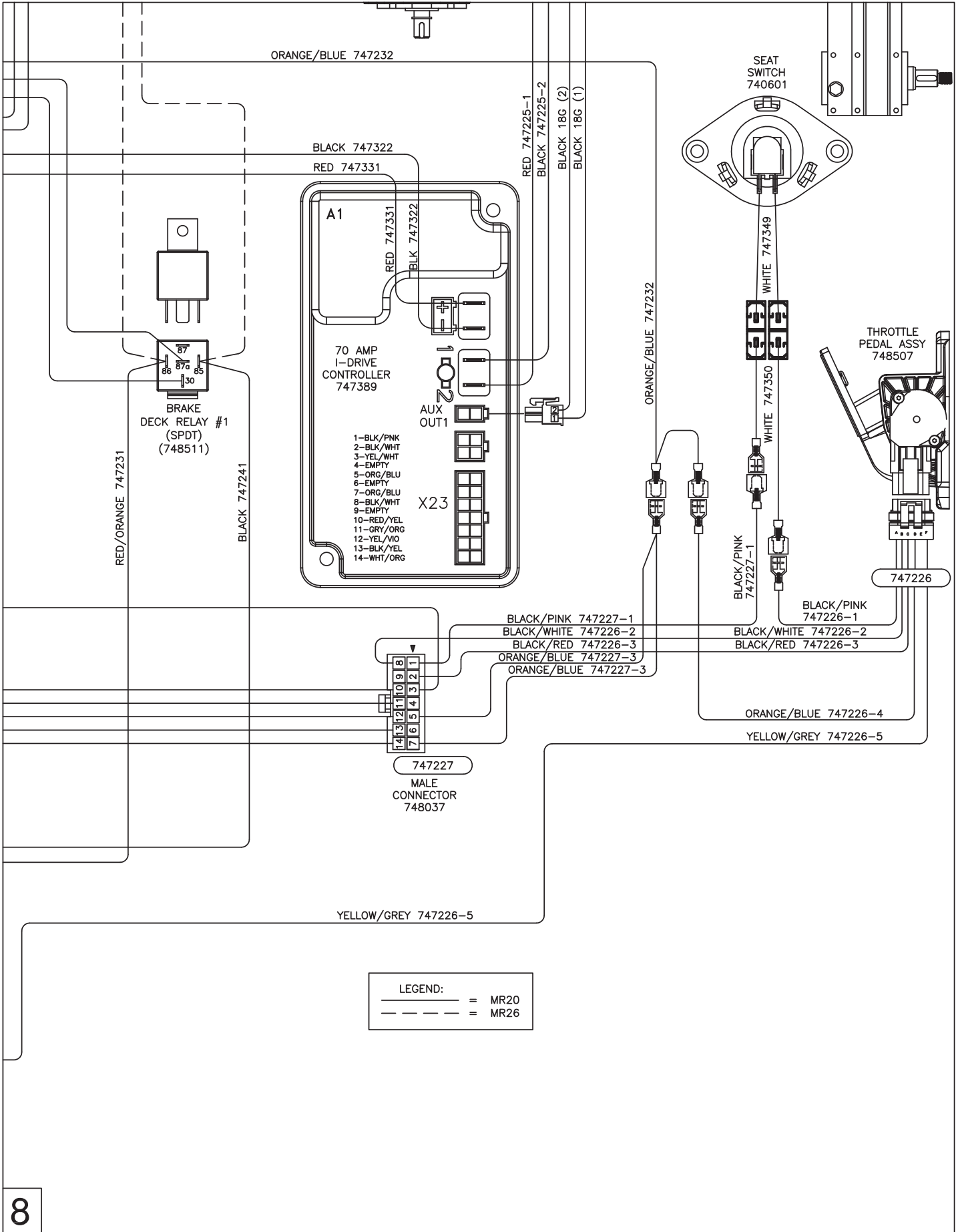












Minuteman International Made Simple Commercial Limited Warranty

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				

<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.**



14N845 U.S. Route 20, Pingree Grove, IL 60140 USA
Phone (800) 323-9420 - www.minutemanintl.com
A Member of the Hako Group