

**Parts Manual**  
**Bulldog 20" Traction Drive**  
**Walk Behind Scrubber**

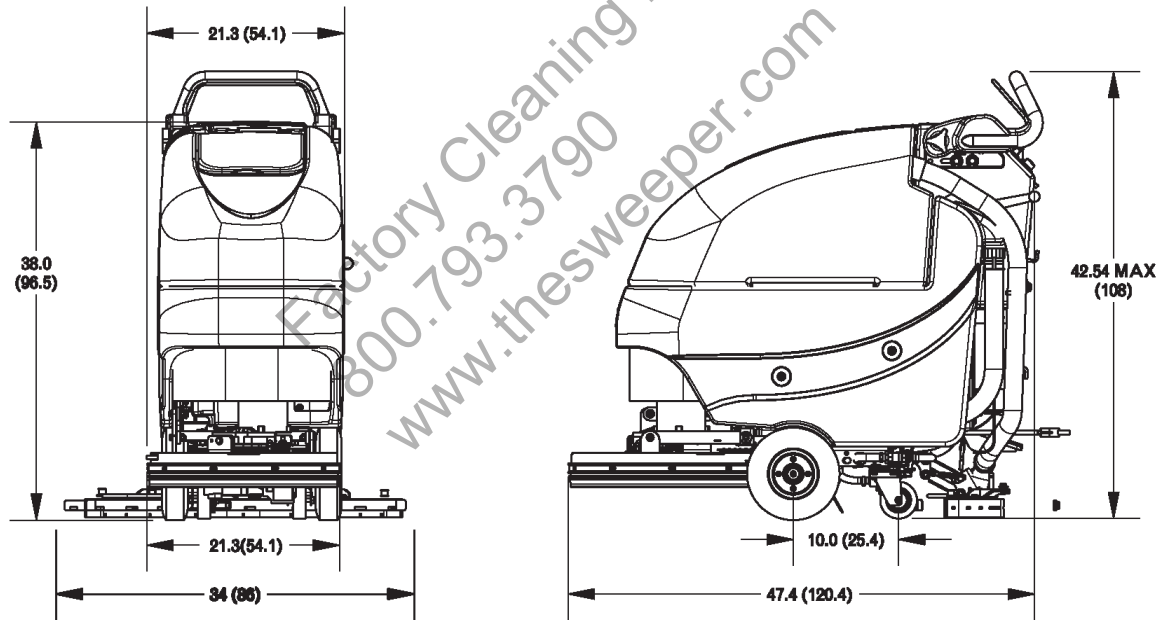
# Technical Specifications



Model **Bulldog 20" Traction Drive Walk Behind Scrubber**

Model No. E20DTDQP-FC / E20DTDQPG-FC

<b>Current (Max)</b>	40 amps
<b>Battery Capacity (Lead Acid)</b>	140Ah @ 20 hr
<b>Battery Capacity (Gel)</b>	95Ah @ 20 hr
<b>Sound Level</b>	69 dBA
<b>Cleaning path width</b>	20 in (51 cm)
<b>Squeegee width</b>	34 in (86 cm)
<b>Productivity</b>	27,280 ft <sup>2</sup> /hr ( 2,534 m <sup>2</sup> )
<b>Working speed</b>	3.1 mph (5 km per hr)
<b>Transport Speed</b>	3 mph (4.8 km per hr)
<b>Rated voltage</b>	24 volts
<b>Vacuum flow</b>	65 cfm (110 m3/hr)
<b>Vacuum waterlift</b>	45 inches ( 112mbar)
<b>Vacuum power</b>	.60 HP (450 W)
<b>Brush type</b>	Disc
<b>Brush motor(s) power</b>	3/4 HP (560W)
<b>Number of brushes</b>	1
<b>Brush RPM</b>	180 RPM
<b>Aqua-Stop equipped</b>	Coming Soon
<b>Solution capacity</b>	12 Gal (45 liters)
<b>Recovery capacity</b>	13 Gal (49 liters)
<b>Working Grade</b>	2%
<b>Weight with batteries</b>	372 lbs (169 kg)
<b>Weight without batteries</b>	238 lbs (108 kg)
<b>Dimensions (LxWxH)</b>	47.4 x 21.3 x 42.3 (120.4 x 54.1 107.4 cm)
<b>Drive Motor Power</b>	1/5 HP (150W)



## For Safety When Servicing or Maintaining Machine

in (cm)

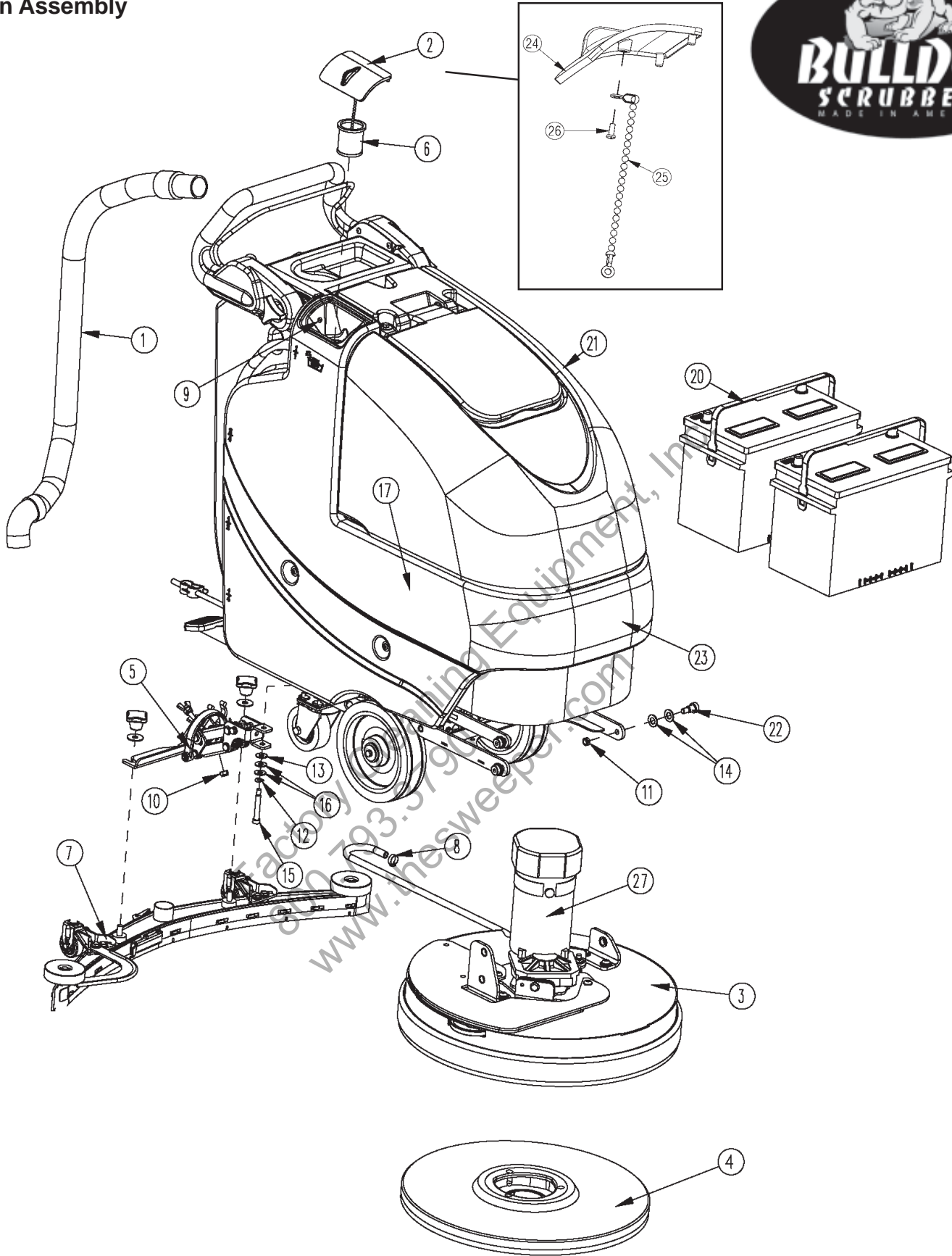
- Stop on level surface.
- Disconnect the power to the machine by pulling the red Battery Connector located under the recovery tank near the batteries.
- Avoid moving parts. Do not wear loose jackets, shirts, or sleeves when working on machine.
- Avoid contact with battery acid. Battery acid can cause 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 Manufacturer supplied replacement parts.



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# Main Assembly

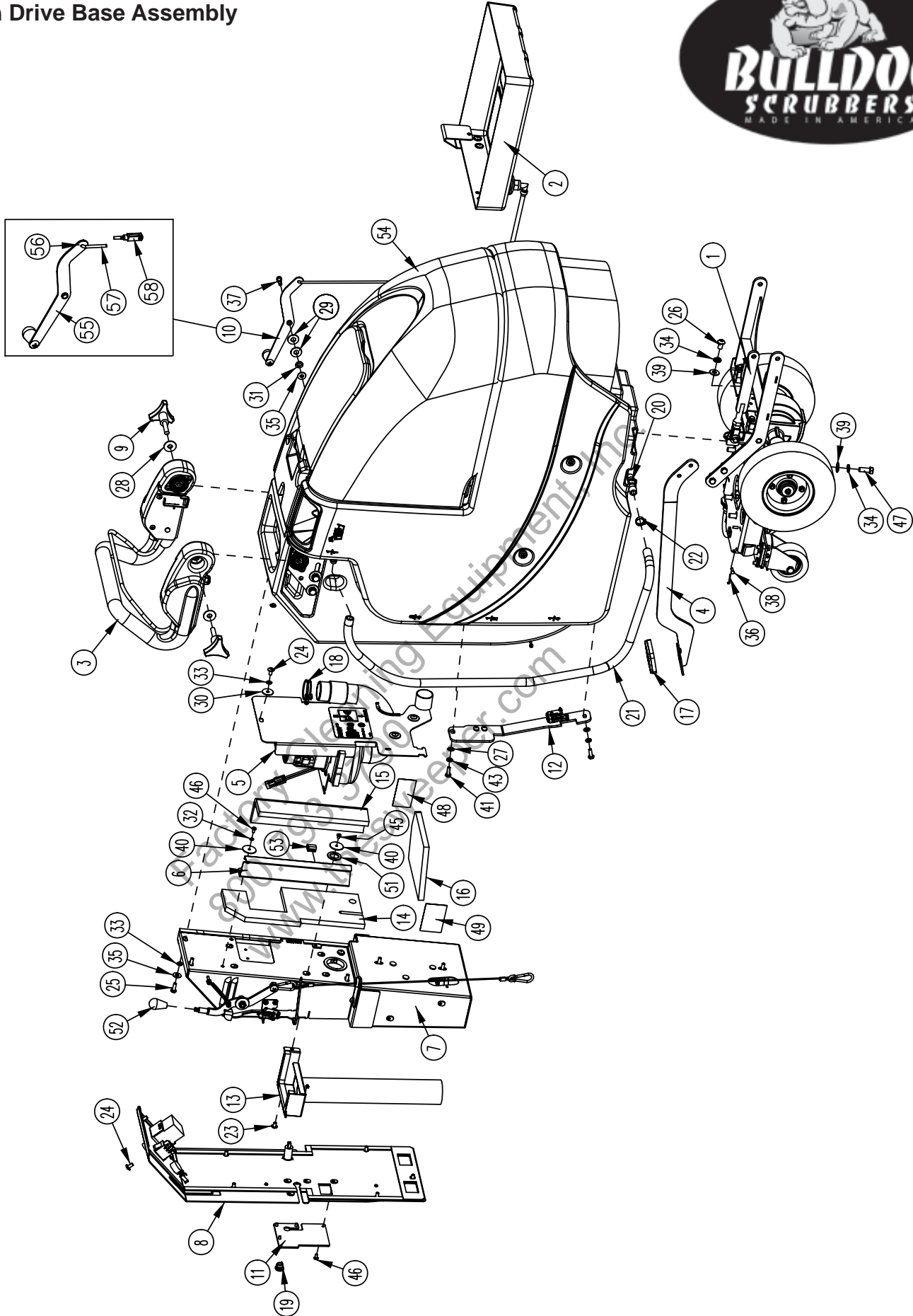




BILL OF MATERIAL - E20DTDQP-FC / E20DTDQPG-FC			
ITEM	PART NO.	REQ'D	DESCRIPTION
1	172010	1	HOSE, CLEAR VAC W/ 45 CUFF
2	172018	1	SOLUTION TANK LID ASSY
3	172100TD	1	BRUSH DECK ASSY 20"
4	172520-1	1	BRUSH, 20" NYLON
5	172150	1	SQUEEGEE LIFT MECH ASSY
6	172159	1	FILTER, FILL PORT
7	172230	1	SQUEEGEE ASSY, 34" (860MM) CURVED
8	450076	1	CLAMP-CRIMP 185R SS
9	711118	1	SCR-ST-A10 X .75 SS
10	711374	1	NUT-NYLOC 5/16-18
11	711375	3	NUT-NYLOC 3/8-16 X 1/2 NUT
12	711523	1	WSR-WAVE .37X .68 X .08
13	711569	1	WSR-FLT .390 X .880 X .062 NYL
14	711592	6	WSR-FLAT .506 X .9 X .064 NYL
15	712143	1	BLT-SHLD 3/8 X 2.0, 5/16-18
16	712301	2	WSR-FLAT .37 X .87 X .06
17	715920FC2	2	DECAL (NOT SHOWN)
18	740164-1	1	JUMPER CABLE ASSY, RED 4G 12"
19	747649	1	CABLE ASSY, BATTERY
20	956140	2	BATTERY, 12V 140AH
20G	956100	2	GEL BATTERY 12V 95AH
21	172001TDFC	1	BRUSH DRIVE BASE ASSY
22	712099PLT	3	BLT-SHLDR 1/2 X 1/2 ZINC PLT
23	715914FC	1	DECAL (NOT SHOWN)
24	172008	1	SOLUTION TANK LID
25	172123	1	CHAIN, BEADED SS W/EYELETS
26	712145	1	SCR-MC 6-32 X .37 PPH SS
27	715938	1	DECAL, FCE CONTACT INFO

OPTIONAL BRUSHES		
ITEM	PART NO.	DESCRIPTION
4.1	172520-2	20" PAD DRIVER
4.2	172520-3	BRUSH, 20" POLY GRIT
4.3	172520-6	DISC BRUSH 20", SCRUB GRIT 2, 120GR RED

# Traction Drive Base Assembly



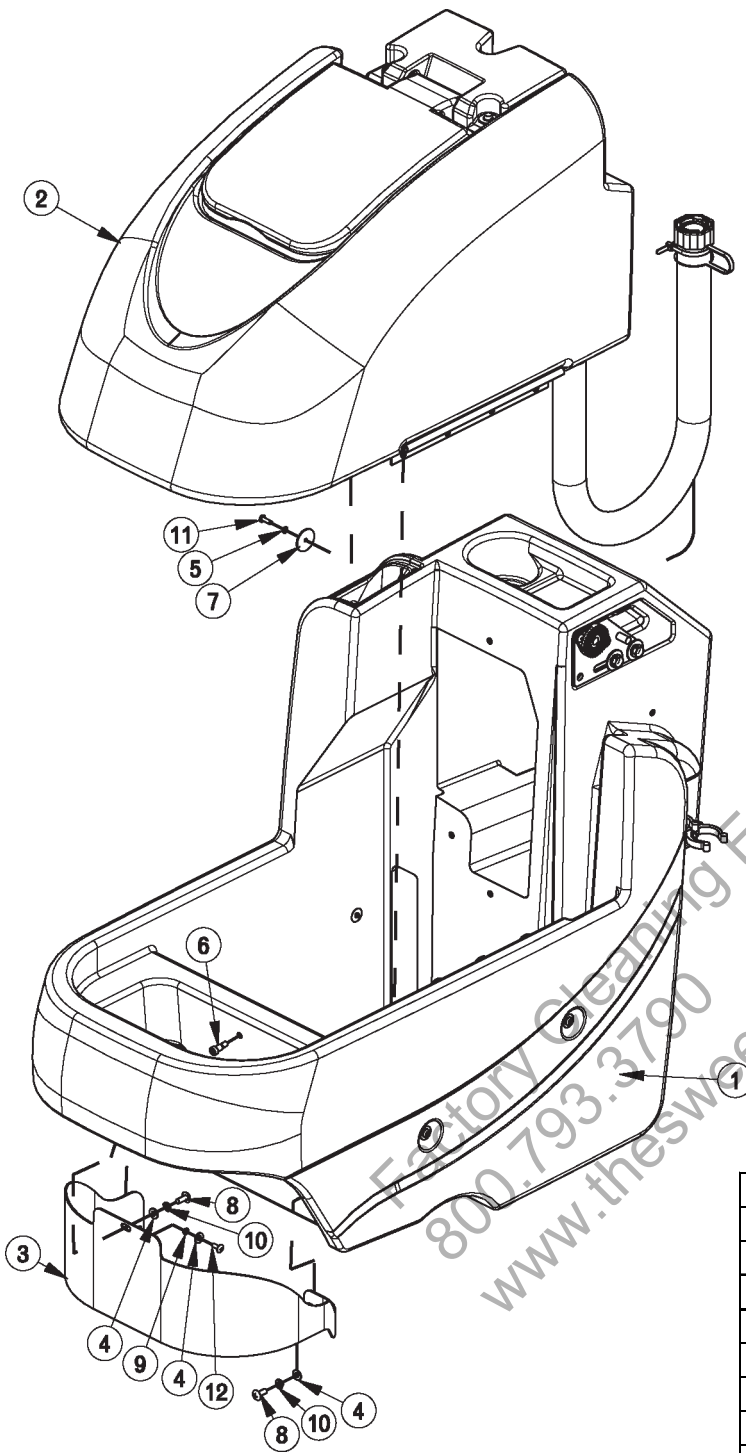
# Traction Drive Base Assembly BOM



## BILL OF MATERIAL - 172001TDFC

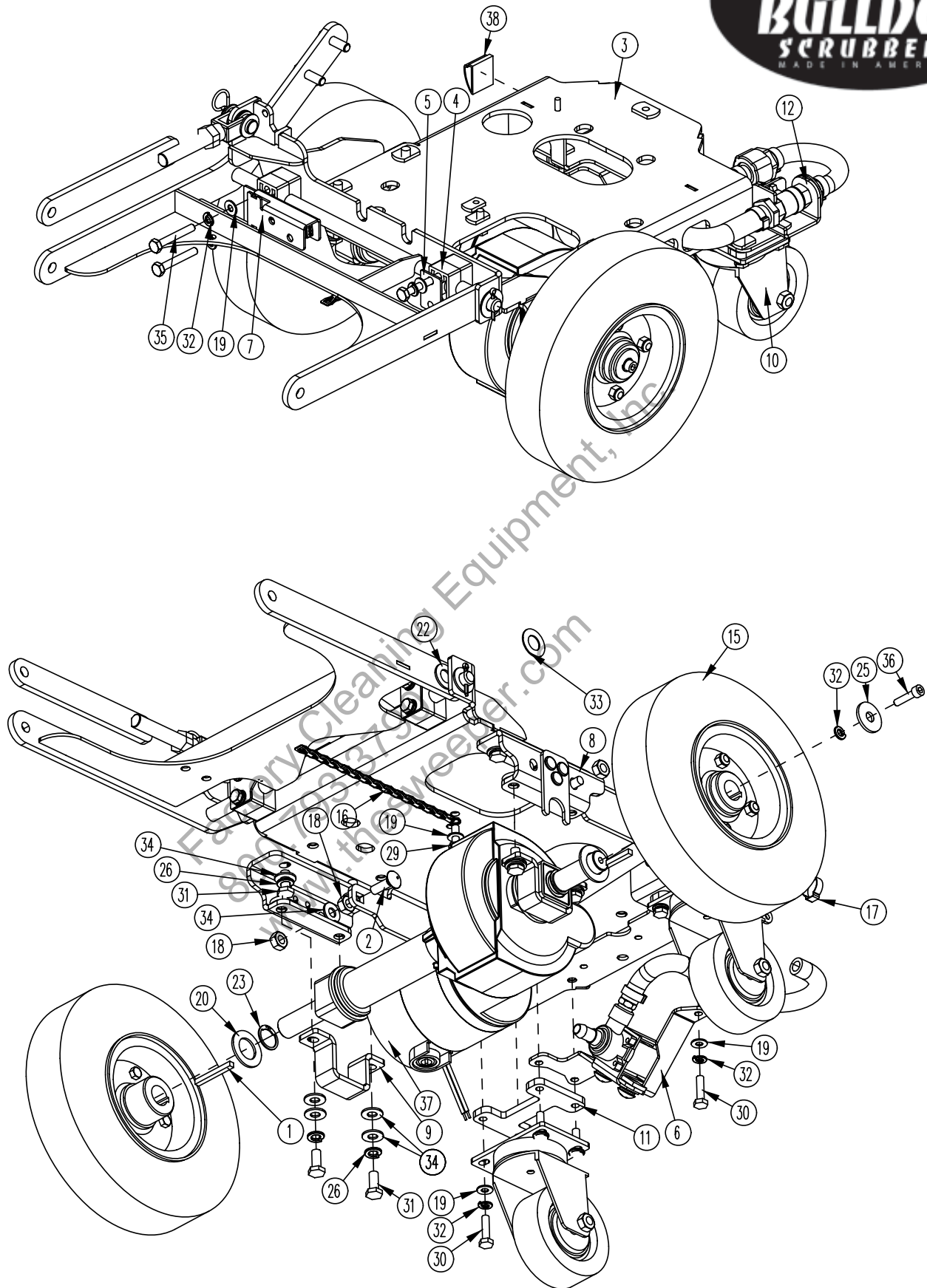
ITEM	PART NO.	REQ'D	DESCRIPTION	ITEM	PART NO.	REQ'D	DESCRIPTION
1	172009	1	TD CHASSIS ASSY	30	711519	3	WSR- FLAT .25 X 1.01 X .06
2	172012	1	BATTERY TRAY ASSY	31	711523	1	WSR-WAVE .37X .68 X .08
3	172015	1	TD HANDLE ASSY	32	711543	1	WSR-HELICAL #10
4	172032	1	LIFT PEDAL WMT	33	711544	9	WSR-HELICAL 1/4
5	172050	1	VAC MOTOR ASSY	34	711546	6	WSR-HELICAL 3/8
6	172055	1	BKT, VAC AREA INSIDE COVER	35	711575	6	WSR-FLT .31x.75x.06ST
7	172075-120	1	ELEC BOX TD ASSY 120V	36	711803	1	COTTER PIN
8	172079FC	1	TD ELEC BOX COVER ASSY	37	712041	1	BLT- SHLDR .31 X .375 X 1/4-20
9	172085	2	KNOB, 3/8-16 STUD, 3 LOBE	38	712117	1	CLEVIS PIN 3/16
10	172112	1	SOL CONTROL ASSY	39	712301	6	WSR-FLAT .37 X .87 X .06
11	172129	1	BKT, PWR CORD MOUNT	40	712312	2	WSR-FLAT .187 X 1.25
12	172166	1	TD LIFT PEDAL BKT ASSY	41	712562	2	BOLT-HH 1/4-20X3/4 SS
13	172179	1	CHARGER INLET ASSEMBLY	42	712683	2	NUT, HEX 5/16-18 NYLOC SS
14	172184	1	FOAM COVER, REAR 1	43	712758	2	WSR-HELICAL 1/4 SS
15	172185	1	FOAM COVER, REAR 2	44	712772	2	WSR-FLAT .344 x .75 x .06 SS
16	172187	1	FOAM COVER, FRONT 2	45	712800	1	SCR-MC 10-24 X .25 ST PL
17	210142	1	PEDAL PAD	46	712810	5	SCR-MC 10-24 X .37 ST PL
18	260203	1	WIRE GRIP HOSE CLAMP	47	713042	4	BLT-HH 3/8-16 X 1 #5
19	293080	1	STRAIN RELIEF-HEYCO.1207	48	715029	1	DECAL-NAME PLATE SERIAL
20	342440	1	FITTING, TEE 3/4MPT 1/2BARB	49	715047	1	DECAL-CLEAR LAMINATE 2X3
21	430156	1	HOSE, 1/2 X 42 CLEAR	50	715950	1	LABEL, PATENT NUMBERS
22	450093	2	CRIMP CLAMP 3/4" STEPLESS	51	717025	1	WSR-FLAT 13/16ID X 1.25 X .08
23	710177	1	SCR-MC 1/4-20 X .37 ST PL	52	760592	1	KNOB, OVAL TAPERED
24	710178	10	SCR-MC 1/4-20 X .50 TRUSS STPL	53	809443	1	CLIP-WIRE & CORD
25	710380	5	SCR-MC RD HD 1/4-20 X .75 STL PL	54	172001FC	1	BASE ASSY
26	710985	2	SCR-SC 3/8-16 X .62 ST PL	55	172115	1	SOL CNT RL LEVER ASSY
27	711504	2	WSR-FLAT 1/4 ID SS	56	172122	1	NUT, PUSH-ON WSR CAP, 3/16
28	711507	2	WSR-FLAT .37 X 1.12 X .06	57	172069	1	ROD, SOL. CTRL, ES1720
29	711508	2	WSR-FLAT .44X 1.0X.08	58	172062	1	YOKE, 3/16 CLEVIS, 10-32, LONG

# Base Assembly



BILL OF MATERIAL - 172001FC			
ITEM	PART NO.	REQ'D	DESCRIPTION
1	172013FC	1	SOL TANK ASSY
2	172014FC	1	REC TANK ASSY
3	172144FC	1	PANEL, FRONT
4	711504	3	WSR-FLAT 1/4 ID SS
5	711543	4	WSR-HELICAL #10
6	712041	1	BLT- SHLDR 1/4-20 X .44 X .37
7	712312	4	WSR-FLAT .187 X 1.25
8	712565	2	SCR-MC 1/4-20X.63 SS TR HD
9	712757	1	WSR - HELICAL #10 SS
10	712758	2	WSR-HELICAL 1/4 SS
11	712812	4	SCR-MC 10-24 X .62 PPH ST PL
12	712822	1	SCR-MC TR HD 10-24 X .50 SS
13	172407	1	PLUG, FRONT PANEL (NOT SHOWN)
14	172408	1	PLUG, FRONT PANEL (NOT SHOWN)



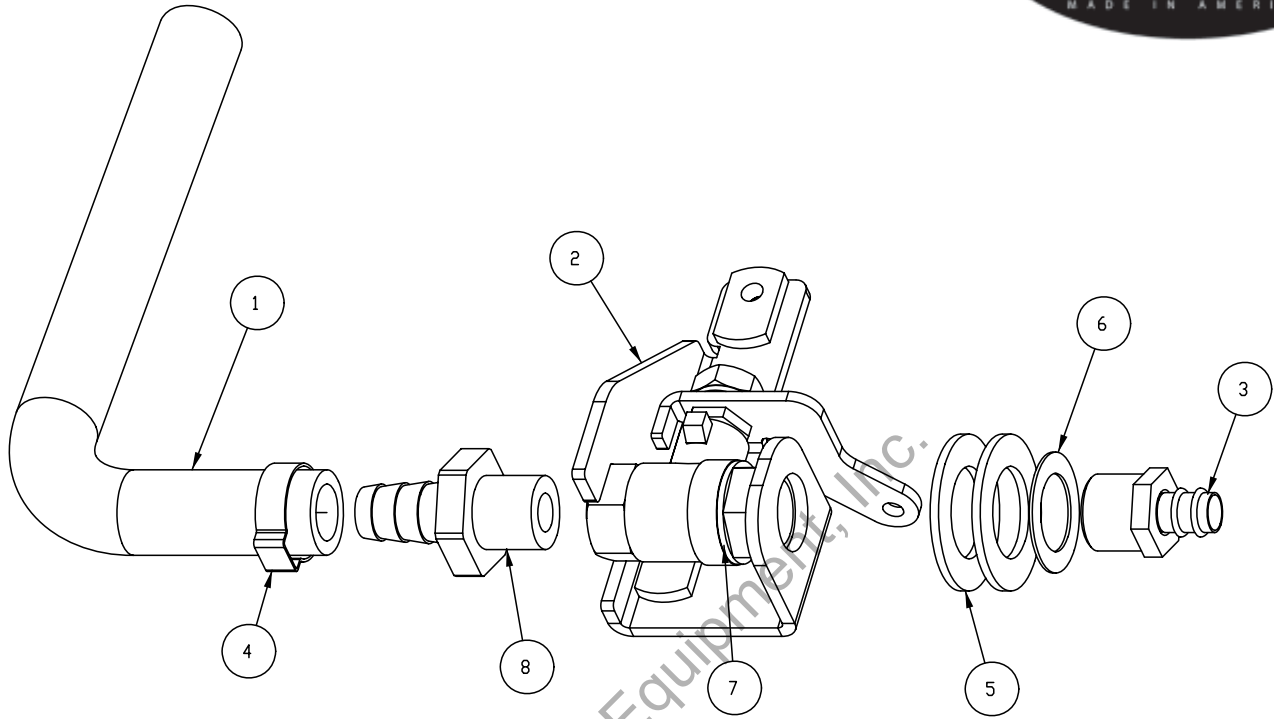


## Chassis Assembly BOM



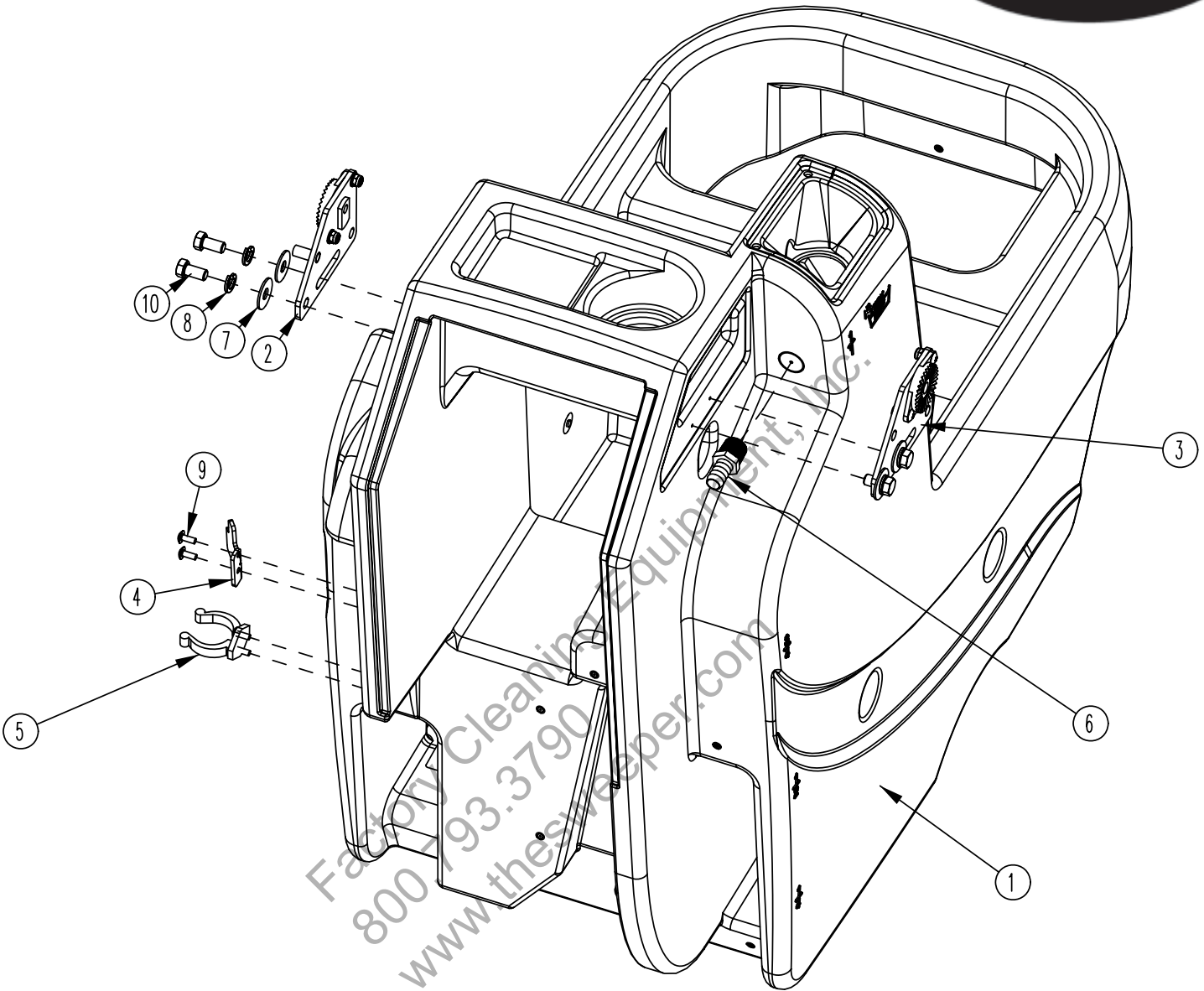
BILL OF MATERIAL - 172009			
ITEM	PART NO.	REQ'D	DESCRIPTION
1	61-65-A	2	KEY, 3/16 X 1-3/4"
2	70-516-16	2	BLT-CAR 5/16-18 X 1.00 ZP
3	172020	1	MAIN FRAME WMT
4	172038	4	BEARING BLOCK
5	172039	1	BEARING BLOCK PLAT E
6	172104	1	TD SOLENOID ASSY
7	172110	1	DECK SWITCH ASSY
8	172113	2	BKT, TRANSAXLE MOUNT BASE
9	172114	2	BKT, TRANSAXLE MOUNT
10	172167	2	CASTER, 3-1/2 POLYURETHANE
11	172192	2	PLATE, 1/4" SPACER
12	172264	1	SOLUTION VALVE ASSY
13	172368	1	UPPER LIFT ARM
14	172370	1	DISC DECK LIFT WMT
15	200172-2	2	WHEEL, 8.5" FOAM FILL
16	281200	1	DRAG CHAIN ASSY, FRAME
17	450076	1	CLAMP-CRIMP 185R SS
18	711383	4	NUT-HEX CLR LOC 5/16-18
19	711504	13	WSR-FLAT 1/4 ID SS
20	711512	2	WSR-FLAT .75X1.37X.08
21	711569	4	WSR-FLT .390 X .880 X .062 NYL
22	711592	2	WSR-FLAT .506 X .9 X .064 NYL
23	711715	2	RETAINING RING EXT .75
24	711809	1	COTTER PIN, 1/8 X 1.0
25	711855	2	WSR-FLT .37X1.12X.10 STL Z HARD
26	712140	8	WSR-HELICAL 5/16 SS
27	712265	1	CLEVIS-YOKE, 1/2-20 W/ .375 PIN
28	712301	2	WSR-FLAT .37 X .87 X .06
29	712562	1	BOLT-HH 1/4-20X3/4 SS
30	712564	8	BOLT-HH 1/4-20X1.00 SS
31	712575	8	BLT-HH 5/16-18 X .75 SS
32	712758	14	WSR-HELICAL 1/4 SS
33	712760	1	WSR-FLAT .56X1.06X.04 SS
34	712772	14	WSR-FLAT .344 x .75 x .06 SS
35	713006	4	BLT-HH 1/4-20 X 1 3/4 #5
36	717026	2	SCR-SC SHCS M6X1.0 X 25 STL Z
37	747606	1	TRANSAXLE, 24V
38	809444	1	CLIP-CORD
39	833374	1	PIN, HAIRPIN COTTER 3/8
40	833833	1	PIN-CLEVIS 3/8 X 1.25
41	3400449	1	NUT-HEX JAM 1/2-20 ZP

# Solution Valve Assembly



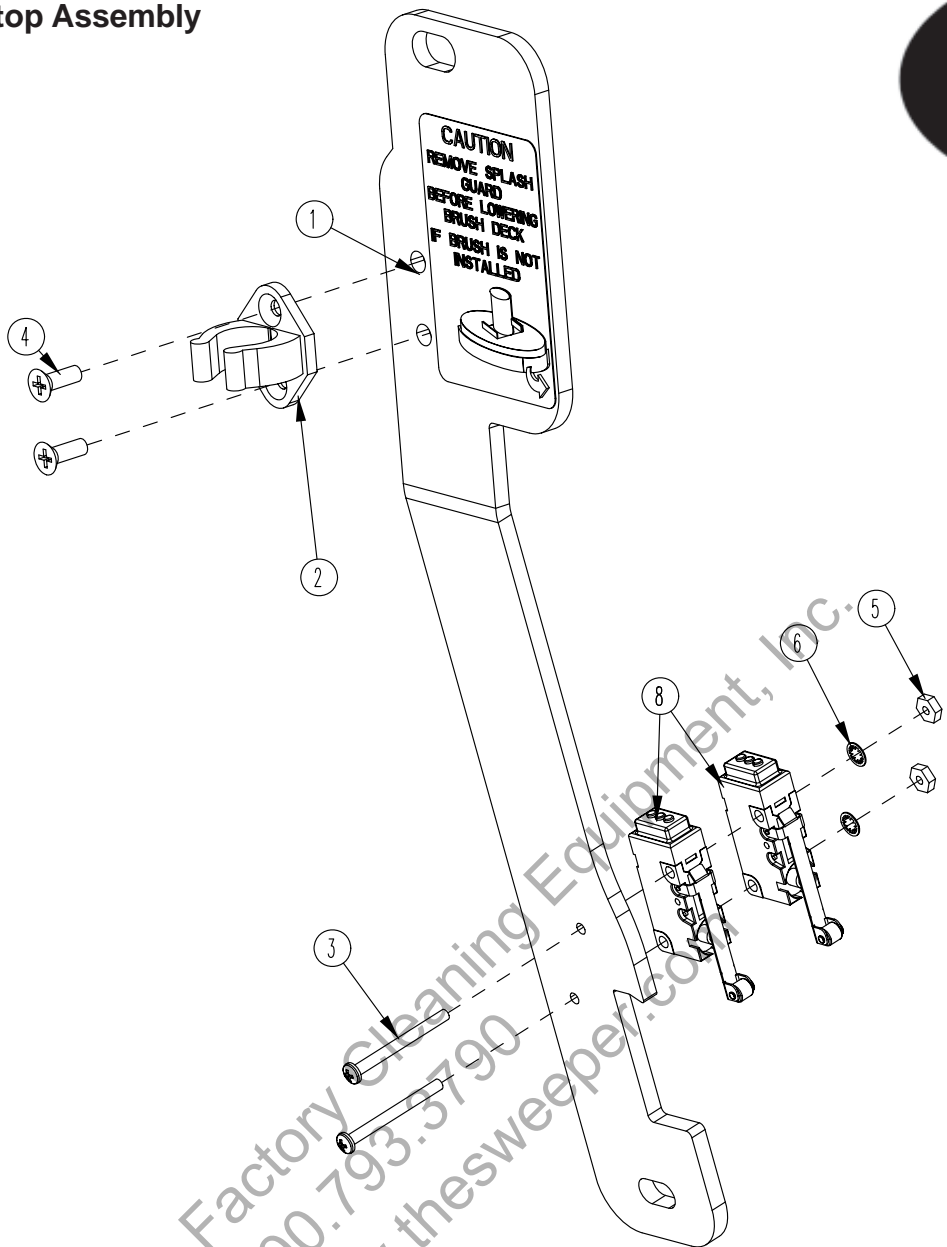
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BILL OF MATERIAL - 172264			
ITEM	PART NO.	REQ'D	DESCRIPTION
1	172158	1	HOSE, 1/2"ID X 7.5" NYLOBRAID
2	172263	1	BKT, SOL VALVE MOUNT
3	320265	1	FITTING DUBL 3/8HBx3/8MPT
4	383347	1	CRIMP CLAMP 1/2 HOSE SS 185R
5	711512	2	WSR-FLAT .75X1.37X.08
6	711513	1	WSR-FLAT .69 X 1.06 X .03 SS
7	809415	1	VALVE, 3/8 FPT, 45 OPEN/CLOSE
8	827008	1	FITTING, 3/8 MPT 1/2 HOSE



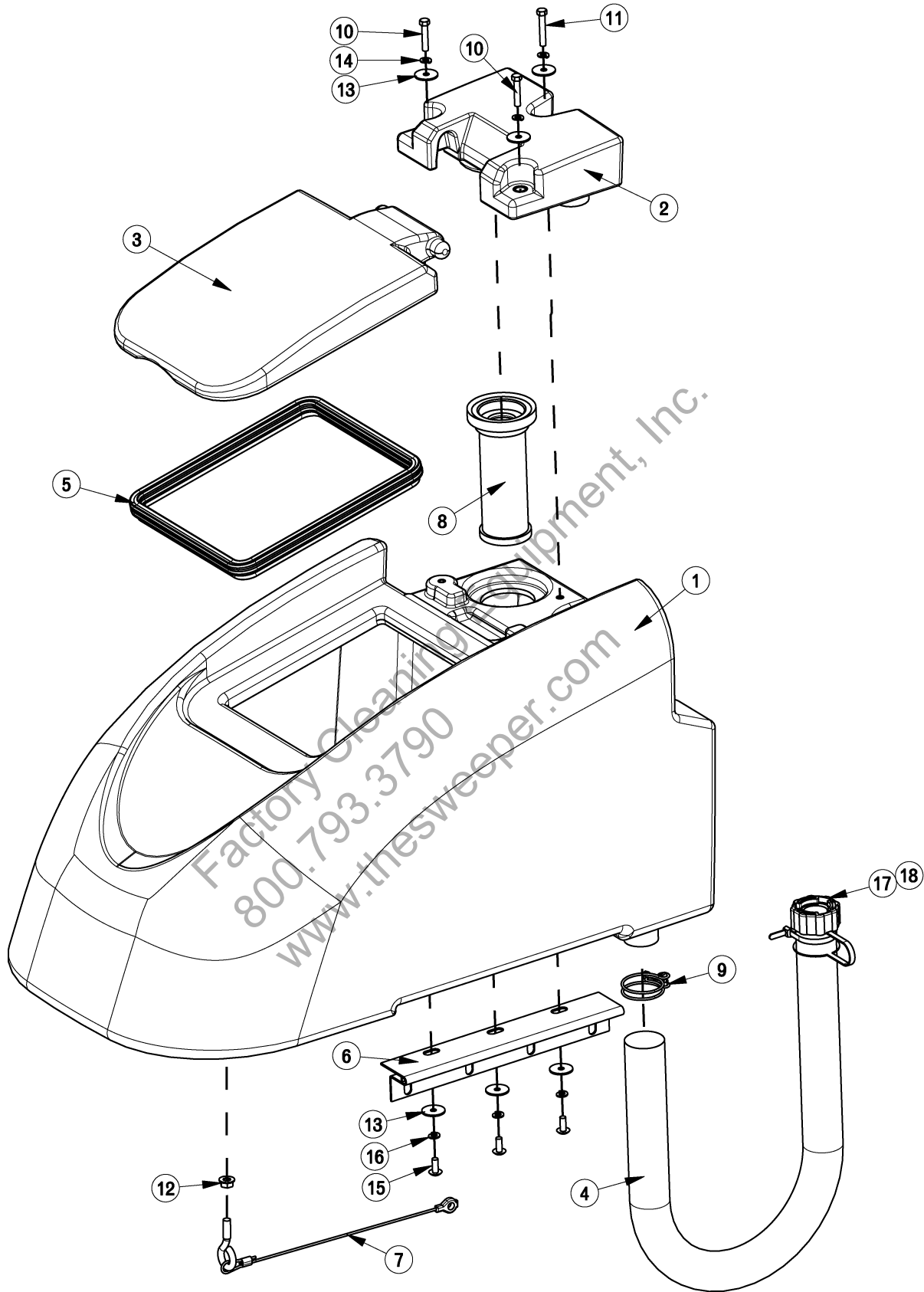
BILL OF MATERIAL - 172013FC			
ITEM	PART NO.	REQ'D	DESCRIPTION
1	172003FC	1	SOLUTION TANK
2	172080	1	HANDLE MOUNT ASSY, LEFT
3	172082	1	HANDLE MOUNT ASSY, RIGHT
4	172341	1	HOOK, DRAIN HOSE WITH TWIST VALVE
5	260579	1	TOOL CLIP, 1.5" HOSE
6	342438	1	FITTING, 1/2 MPT 1/2 HB BRASS
7	711507	4	WSR-FLAT .37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

# Lift Pedal Stop Assembly



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

# Recovery Tank Assembly

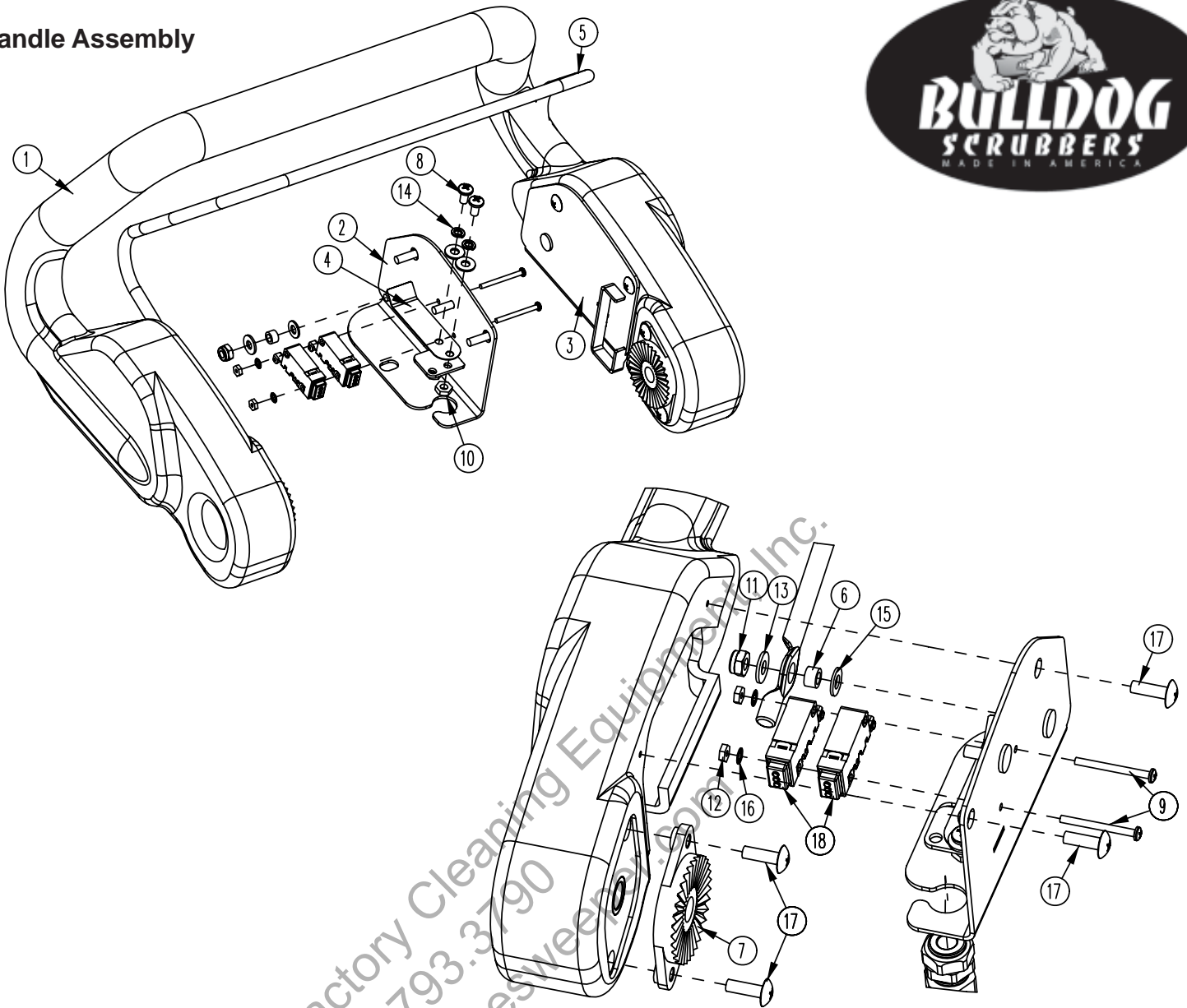




BILL OF MATERIAL - 172014FC			
ITEM	PART NO.	REQ'D	DESCRIPTION
1	172004FC	1	RECOVERY TANK
2	172005FC	1	VACUUM MANIFOLD
3	172007FC	1	LID
4	97090096	1	DRAIN HOSE ASSY, RECOVERY TANK
5	172017	1	GASKET, LID
6	172049	1	HINGE, RECOVERY TANK
7	172067	1	REC TANK CABLE ASSY 11.625
8	172132	1	SCREENED FLOAT
9	172329	1	CLAMP-HOSE 1.56" 102122 MURRAY
10	711210	2	BLT-HH 1/4-20 X 1.25 STPL
11	711212	1	BLT-HH 1/4-20 X 1.50 STPL
12	711379	1	NUT, FLANGED WIZZ 5/16-18
13	711519	6	WSR- FLAT .25 X 1.01 X .06
14	711544	3	WSR-HELICAL 1/4
15	712565	3	SCR-MC 1/4-20X.63 SS TR HD
16	712758	3	WSR-HELICAL 1/4 SS
17	15282072	1	REPLACEMENT O-RING (NOT SHOWN)
18	90304528	1	REPLACEMENT CAP

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# Handle Assembly

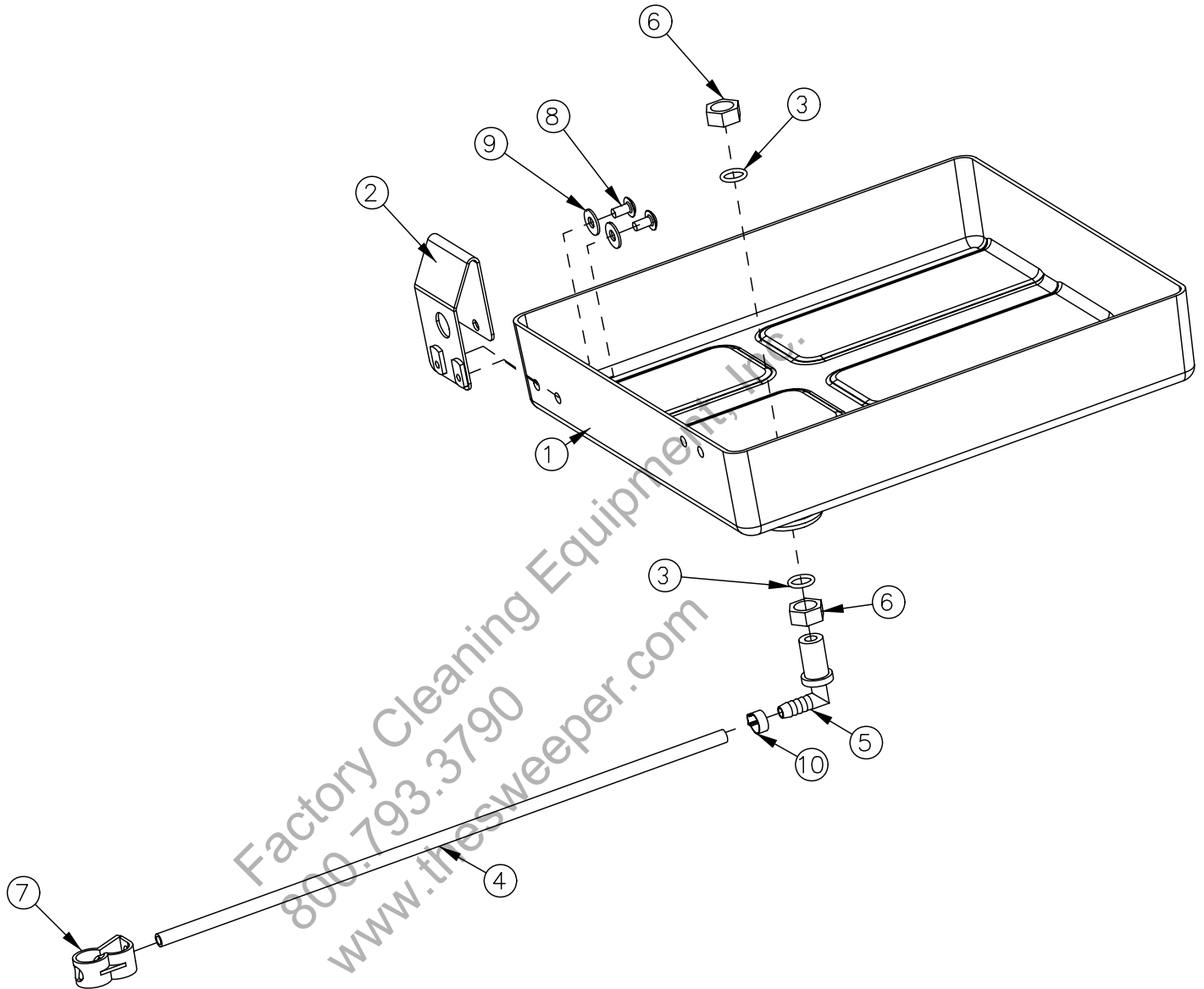


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### BILL OF MATERIAL - 172015

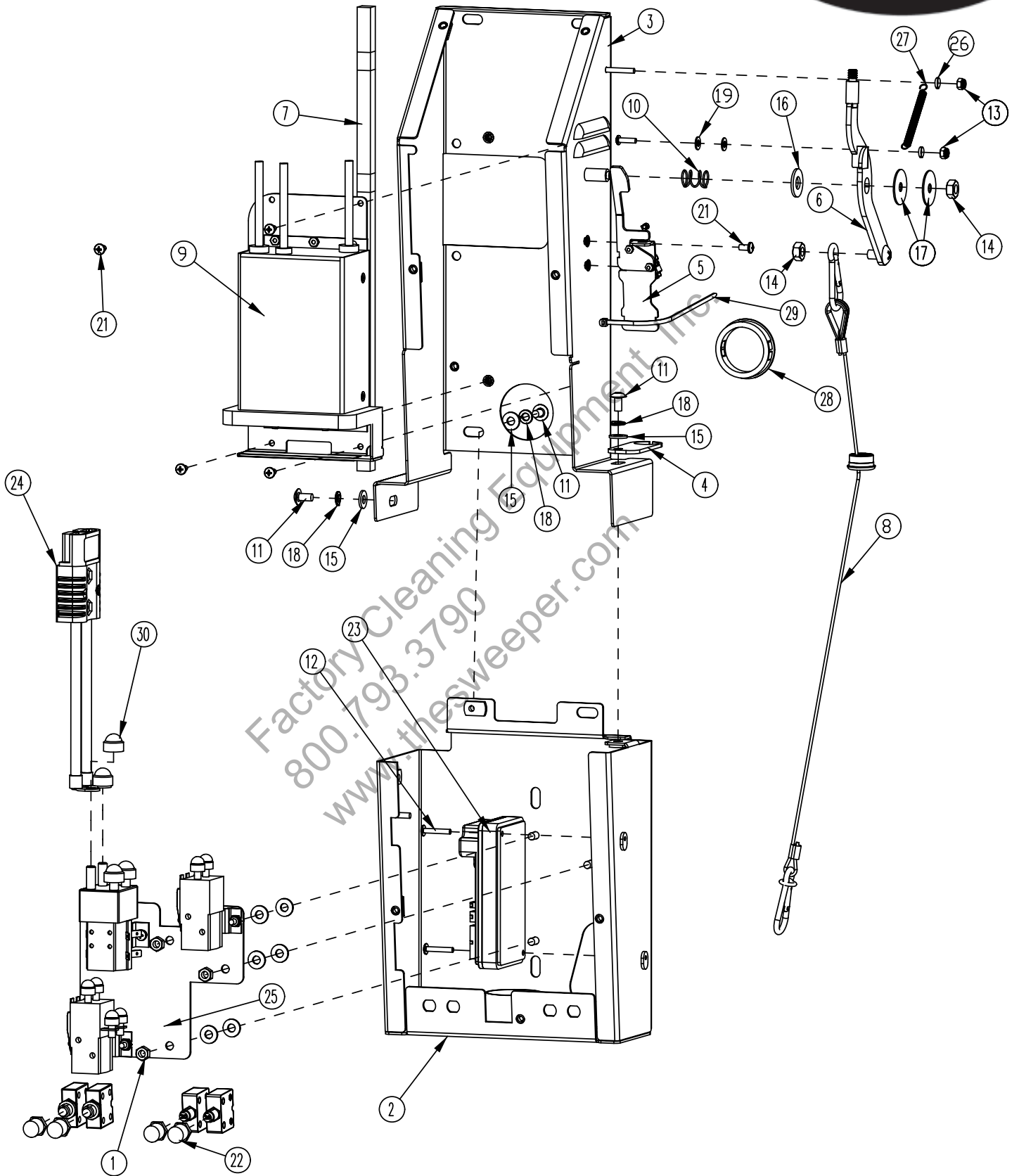
ITEM	PART NO.	REQ'D	DESCRIPTION
1	172006	1	HANDLE
2	172053	1	BAIL PLATE WMT RH
3	172054	1	BAIL PLATE WMT LH
4	172057	2	LEAF SPRING
5	172059	1	BAIL, HANDLE
6	172074	2	SPACER, 5/16OD X 17GA, ALUM
7	270143	2	HANDLE PIVOT JAW
8	710353	4	SCR-MC RD HD 10-32 X .37 STL





**BILL OF MATERIAL - 172012**

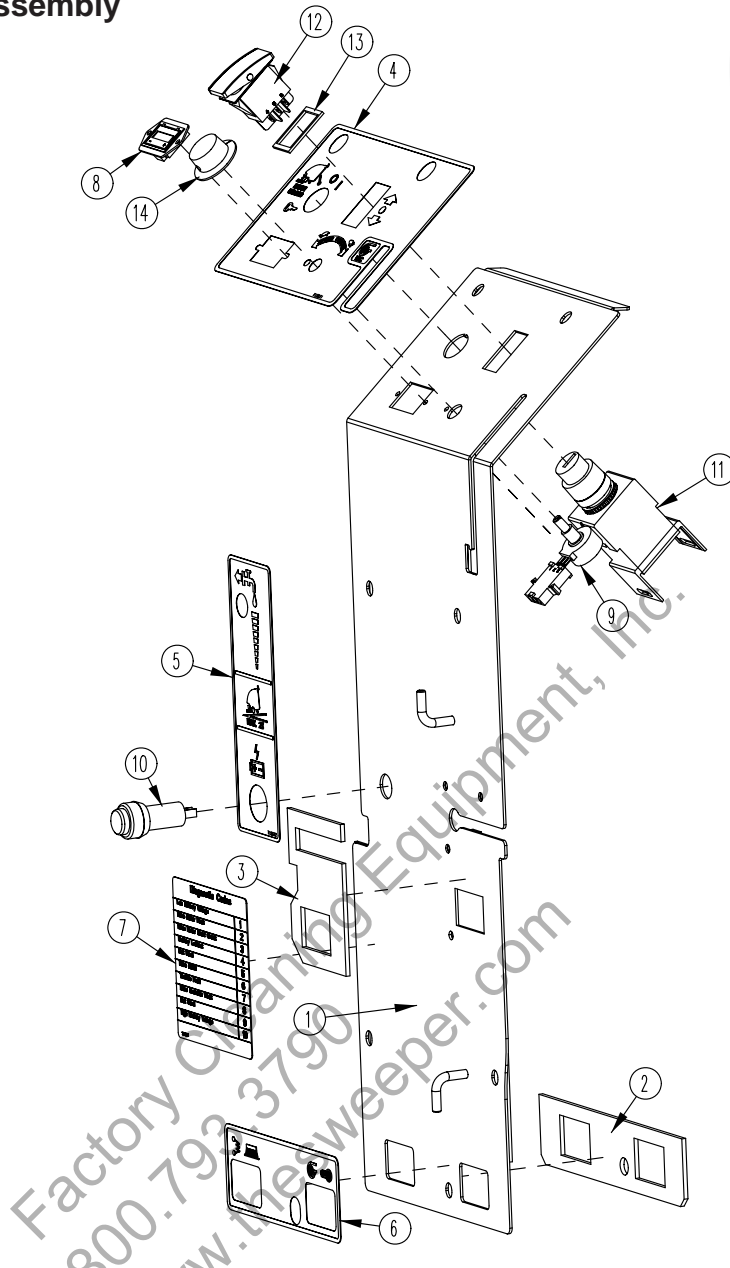
ITEM	PART NO.	REQ'D	DESCRIPTION
1	172116	1	BATTERY BOX
2	172213	1	BKT, SPACER FOR BATTERIES
3	210414	2	O RING 2-113
4	260224	1	18" HOSE
5	320271	1	NOZZLE BODY-ELBOW
6	320272	2	NOZZLE BODY LOCKNUT
7	320273	1	HOSE SHUT-OFF CLAMP
8	710178	2	SCR-MC 1/4-20 X .50 TRUSS STPL
9	711575	2	WSR-FLT .31x.75x.06ST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





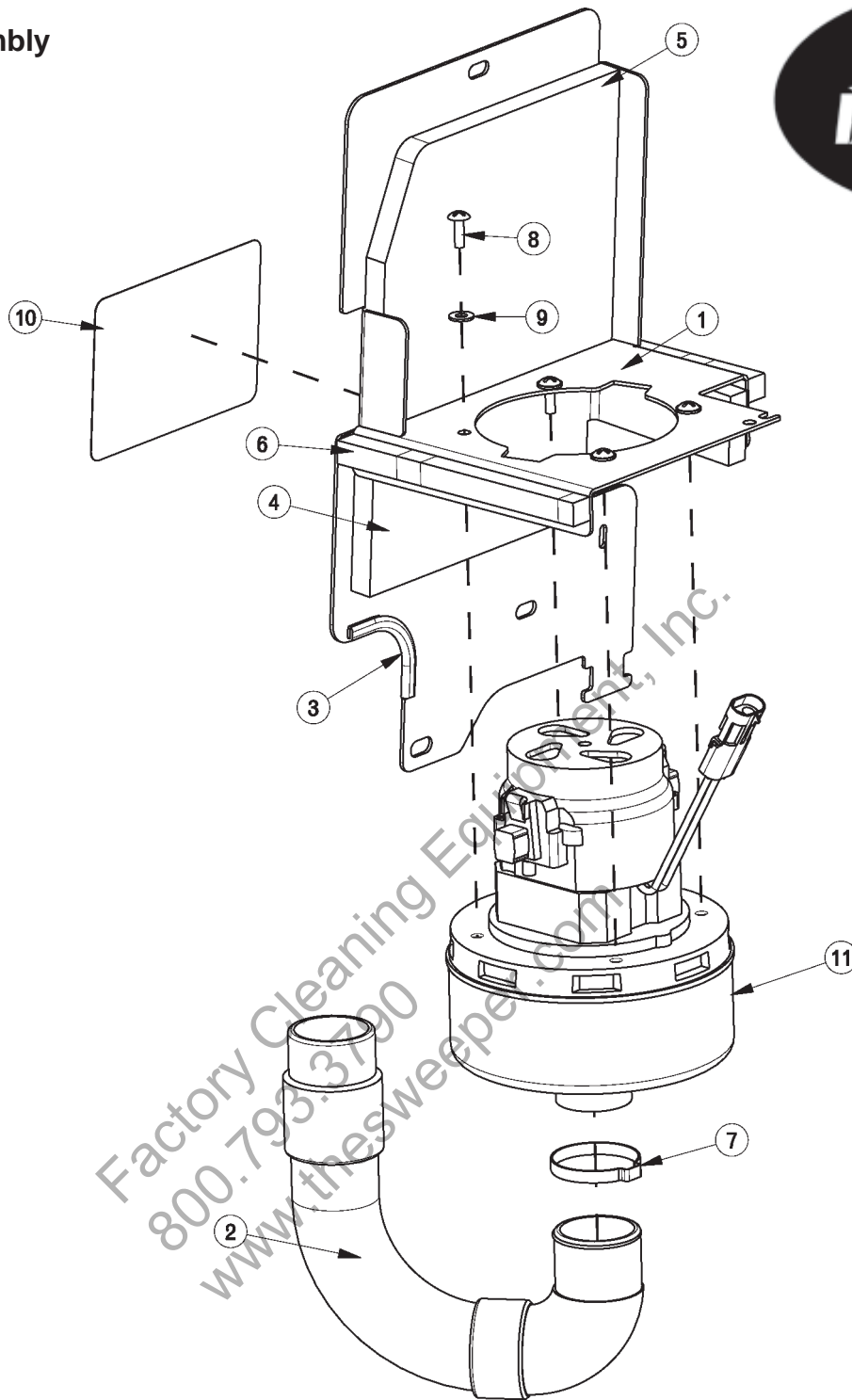
BILL OF MATERIAL - 172075-120			
ITEM	PART NO.	REQ'D	DESCRIPTION
1	369-416	3	NUT-HEX 1/4-20 NYLOC SERATED
2	172077	1	ELEC BOX-BOT HALF WMT
3	172088	1	ELEC BOX-TOP HALF WMT
4	172107	1	BKT, UPPER BUSHING MOUNT
5	172141	1	VAC SWITCH ASSY
6	172152	1	VAC LEVER WMT
7	172188	1	FOAM TAPE, 1/2" SQ X 16.5"
8	172381	1	CABLE ASSY, SQUEEGEE LIFT
9	172385	1	120V CHARGER ASSEMBLY
10	670093	1	SPRING, COMPRESSION
11	710178	3	SCR-MC 1/4-20 X .50 TRUSS STPL
12	710534	2	SCR-MC TR HD 8-32 X 1.00 SS
13	711372	2	NUT-NYLOC 8-32 STL ZINC
14	711383	2	NUT-HEX CLR LOC 5/16-18
15	711505	9	1/4 FLAT WASHER, STEEL
16	711508	1	WSR-FLAT .44X 1.0X .08
17	711516	2	WSR- FLAT .31 X 1.25 X .05
18	711544	3	WSR-HELICAL 1/4
19	712320	2	WSR-NYLON .22 X .45 X .04
20	712770	6	WSR INT LOCK #10A SS
21	712810	6	SCR-MC 10-24 X .37 ST PL
22	742748	4	CIRCUIT BREAKER BOOT
23	747608	1	I-DRIVE,24V 70A PM MOTOR CONTROL
24	747637	1	WIRE ASY, MACHINE-BATTERY E1720
25	747670	1	ELEC PANEL ASSY
26	760134	2	MOUNT RING
27	762084	1	SPRING-EXT .25OD X 2" F.L. MUSIC
28	762400	1	HEYCO BUSHING 2.00"
29	828062	1	CABLE TIE LARGE
30	15592033_CAP	2	CAP, SAFETY NUT COVER M8

# Electrical Box Cover Assembly



BILL OF MATERIAL - 172079FC			
ITEM	PART NO.	REQ'D	DESCRIPTION
1	172182	1	TD COVER WMT
2	172193	1	GASKET, CB OUTLINE
3	172194	1	GASKET, CHARGER CORD PLATE
4	715680FC	1	DECAL, TD DASHBOARD
5	715672	1	DECAL, CHARGE STATUS, SOLUTION CTRL
6	715674	1	DECAL, TD CIRCUIT BREAKER
7	715678	1	DECAL. DIAGNOSTIC CODES TD
8	747011	1	BATTERY GAUGE, TRUCHARGE
9	747026	1	POTENTIOMETER ASSY SPEED CONTROL
10	747614	1	CHARGE STATUS INDICATOR
11	747617-2	1	KEYSWITCH ASY, KEYSWITCH + WIR
12	748201	1	SWITCH, DPDT ON/OFF/ON
13	748209	1	GASKET-FOR 2 POLE ROCKER SWITCHES
14	809874	1	KNOB, SPEED CONTROL

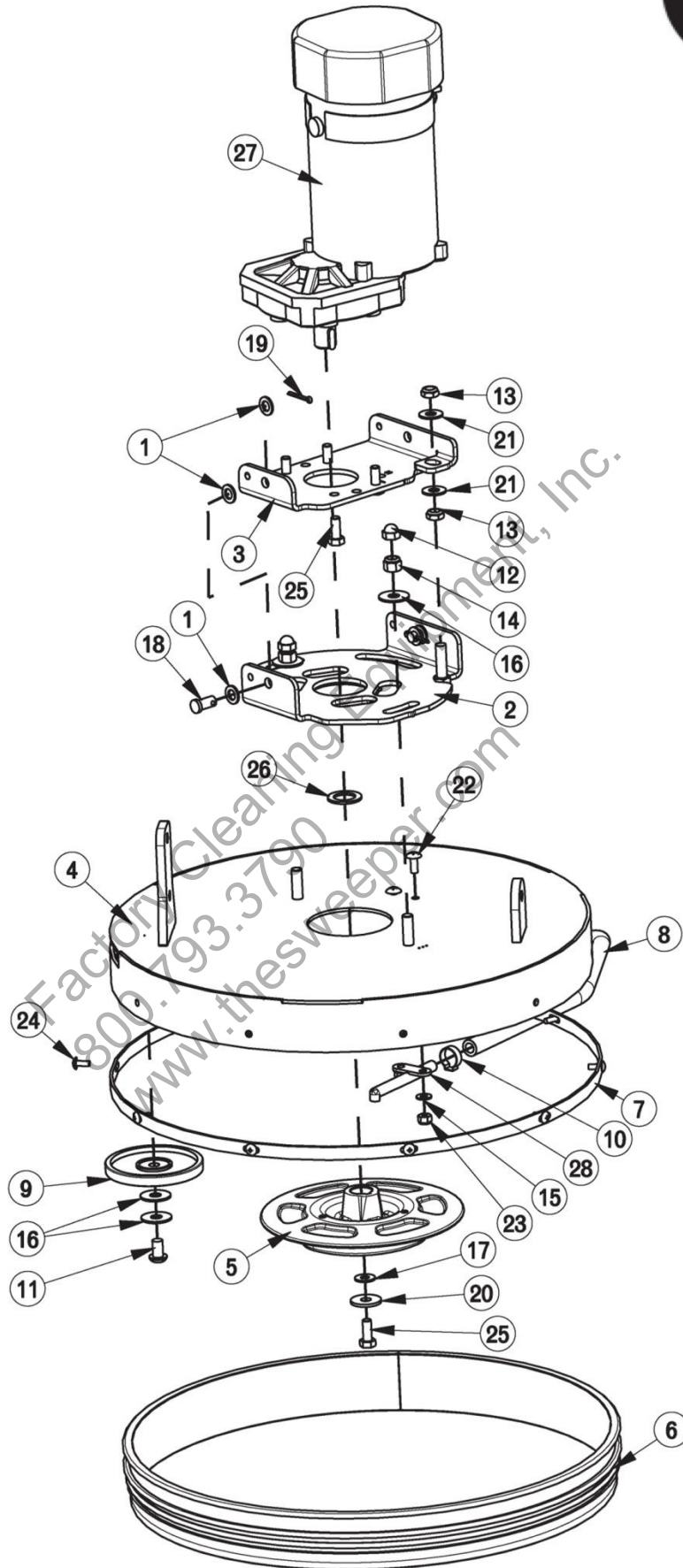
# Vac Motor Assembly



## BILL OF MATERIAL - 172050

ITEM	PART NO.	REQ'D	DESCRIPTION	ITEM	PART NO.	REQ'D	DESCRIPTION
1	172045	1	VAC MOUNT WMT, ES1720	7	450095	1	CRIMP CLAMP, 1.75"
2	172048	1	HOSE, STRETCH 13"	8	711160	4	#10 X 5/8 HI-LO
3	172124	1	EDGE TRIM, .063 X 3.0, BLACK	9	711503	4	WSR, FLAT#10
4	172186	1	FOAM COVER, FRONT 1	10	715676	1	DECAL, BATT CABLE ROUTE, E1720
5	172187	1	FOAM COVER, FRONT 2	11	747607-1	1	VAC MOTOR ASY, E1720
6	172188	2	FOAM TAPE, 1/2" SQ X 16.5"				

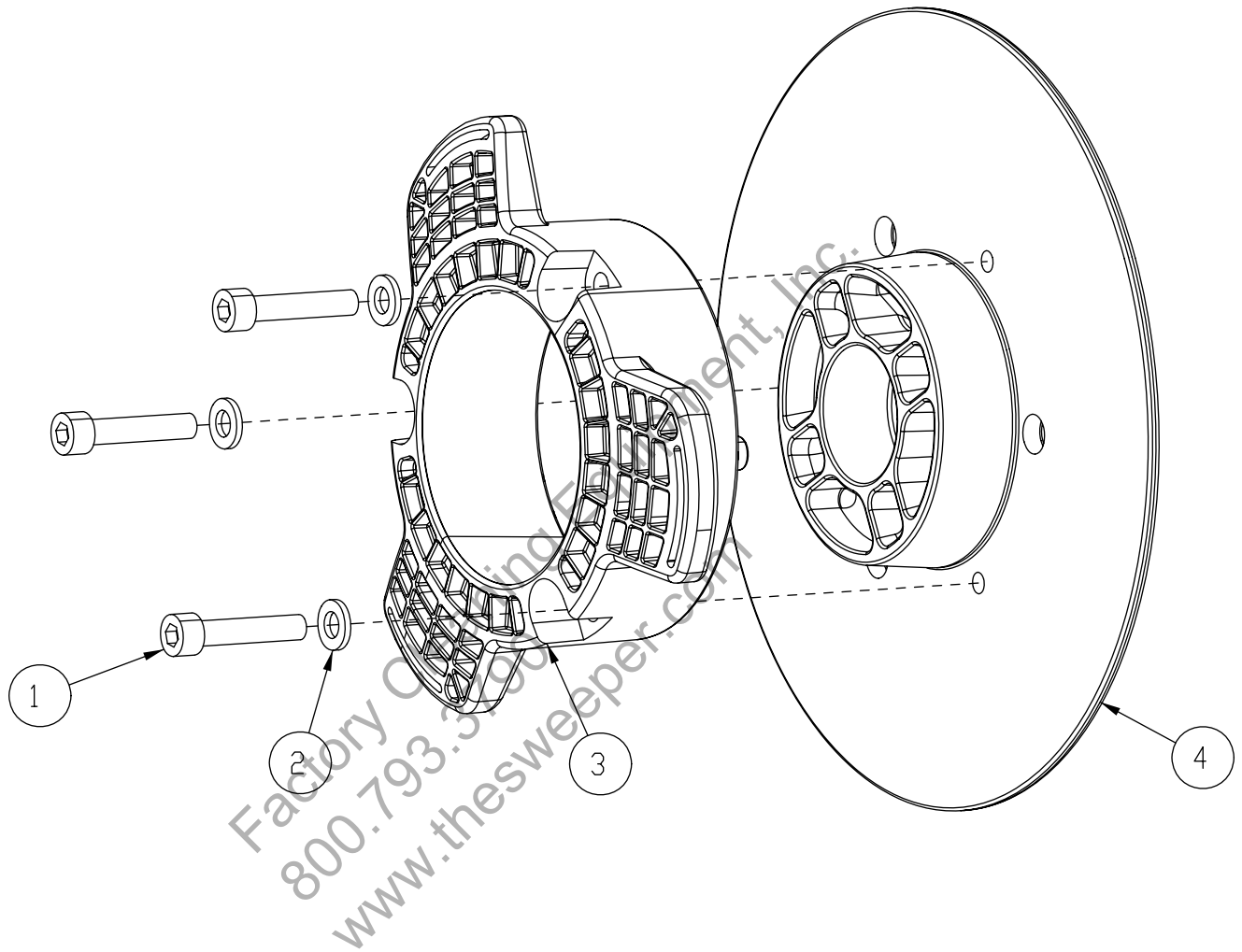
20" TD Disk Deck Assembly





**BILL OF MATERIAL - 172090TD**

ITEM	PART NO.	REQ'D	DESCRIPTION
1	81-166-A	6	SPECIAL WASHER
2	172040	1	DECK ANGLE ADJUST WMT
3	172044	1	PLATE, MOTOR MOUNT
4	172091	1	DECK COVER WMT 17"
5	172095	1	E20 BRUSH HUB ASSY
6	172118	1	17" DECK SKIRT
7	172119	1	RETAINER, 17" DECK SKIRT
8	172199	1	HOSE-NYLO REINF 3/8 X 23"
9	210153	1	ROLLER WHEEL
10	450076	1	CLAMP-CRIMP 185R SS
11	710985	1	SCR-SC 3/8-16 X .62 ST PL
12	711354	2	NUT-ACORN 3/8-16 ST NI
13	711375	2	NUT-NYLOC 3/8-16 X 1/2 NUT
14	711380	2	NUT-NYLOC 3/8-16 NUT
15	711504	2	WSR-FLAT 1/4 ID SS
16	711507	4	WSR-FLAT .37 X 1.12 X .06
17	711545	1	WSR-FLT .31x.75x.06ST
18	711679	2	CLEVIS PIN 3/8 X 3/4
19	711809	2	COTTER PIN, 1/8 X 1.0
20	711855	1	WSR-FLT .37X1.12X10 STL Z HARD
21	712301	2	WSR-FLAT .37 X .87 X .06
22	712565	2	SCR-MC 1/4-20X.63 SS TR HD
23	712667	2	NUT, HEX 1/4-20 NYLOC SS
24	712822	10	SCR-MC TR HD 10-24 X .50 SS
25	717024	5	BOLT-HH M8X1.25 X 20
26	717025	1	WSR-FLAT 13/16ID X 1.25 X .08
27	747600	1	MOTOR, OFFSET PM GEAR, 550W
28	90311663	1	HAKO SOL FEED NOZZLE

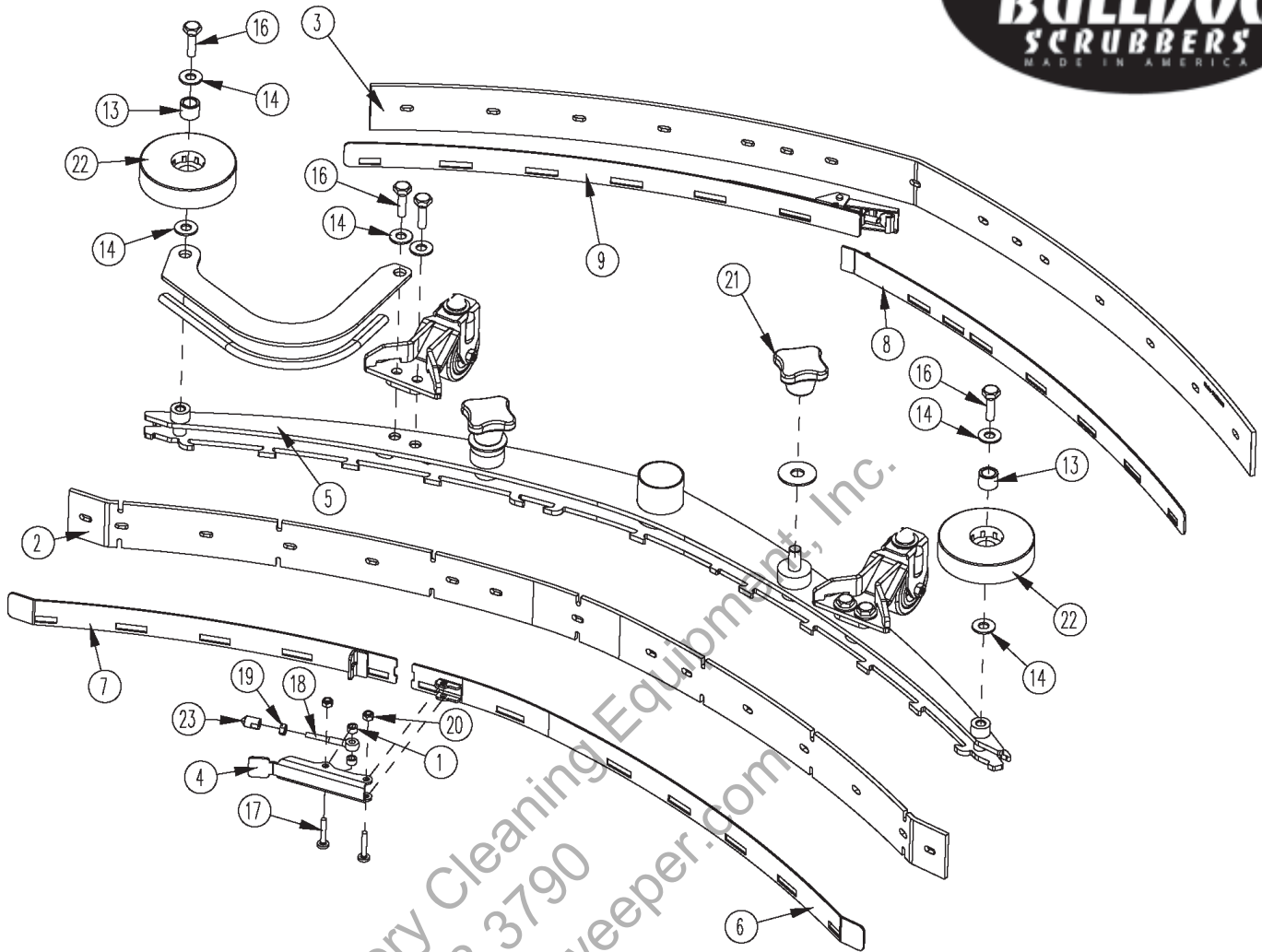


**BILL OF MATERIAL - 172510**

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



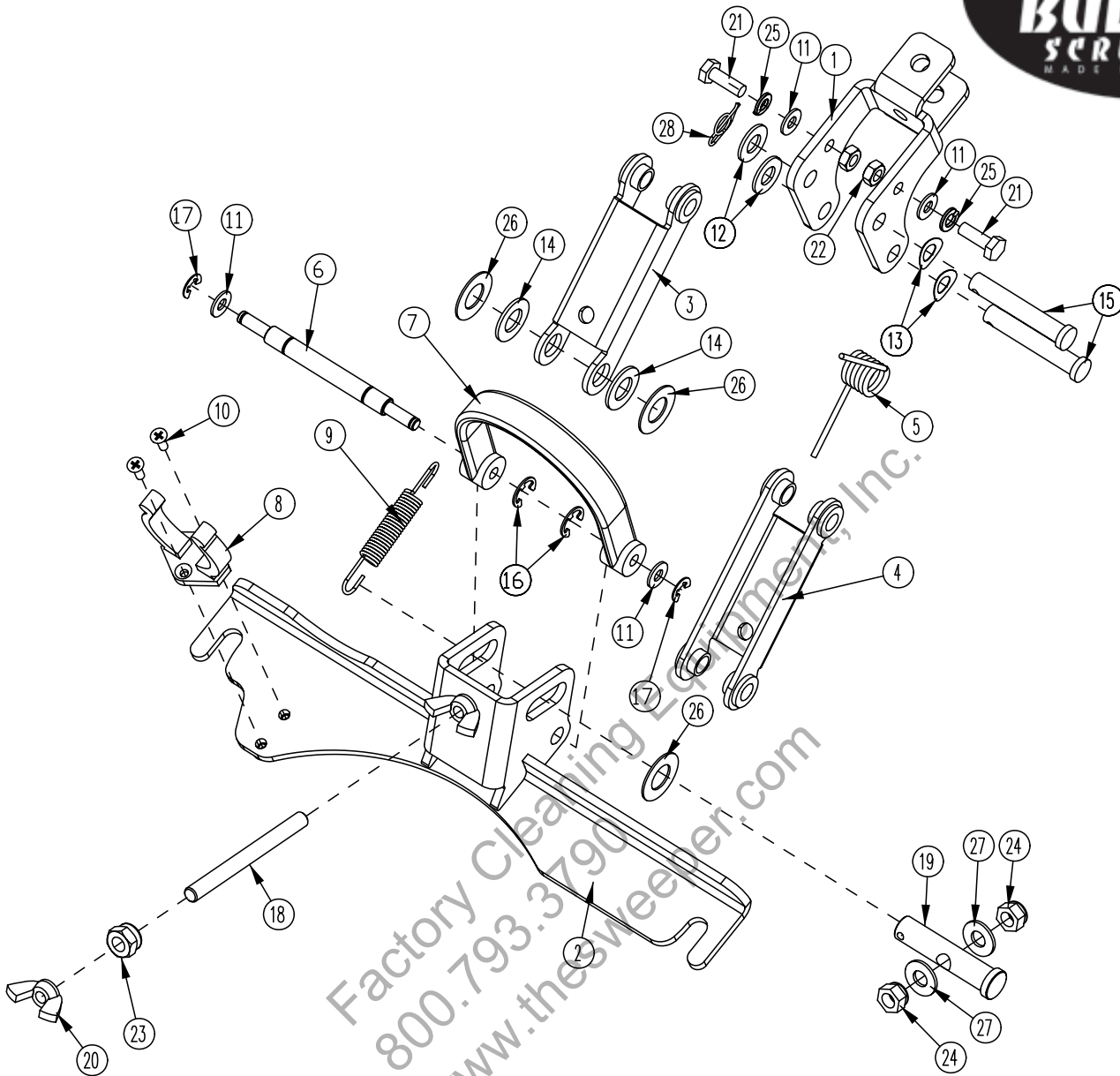
# Rear Squeegee Assembly (Curved)



**BILL OF MATERIAL - 172230**

ITEM	PART NO.	REQ'D	DESCRIPTION
1	172074	2	SPACER, 5/16OD X 17GA, ALUM
2	172162	1	BLADE, FRONT 34" SQUEEGEE
3	172163	1	BLADE, REAR 34" SQUEEGEE
4	172234	1	LEVER, 90535758
5	172235	1	SQUEEGEE WMT, 34" (860)
6	172240	1	STRAP WMT, FRONT LEFT
7	172241	1	STRAP WMT, FRONT
8	172245	1	STRAP WMT, REAR
9	172246	1	STRAP WMT, REAR
10	172250	2	SQUEEGEE CASTER ASSY
11	172271	1	BUMPER, 34" SQG
12	172274	1	EDGE TRIM 5/16 X 10" BLACK
13	430322	2	BUSHING .435 X .625 X .50
14	712772	8	WSR-FLAT .344 x .75 x .06 SS
15	712773	2	WSR FLAT .438 X 1.25 X .07 SS
16	11039567	6	BLT-HH M8 X 25 SS DIN933
17	11175494	2	SCR-MC M5 X 25 SS DIN7985
18	11518313	1	BLT-EYE M5 X 40 SS
19	12022430	1	NUT-HEX M5 SS DIN934
20	12040283	2	NUT-HEX M5 NYLOC SS DIN985
21	17133026	2	KNOB, M10 STAR HANDLE
22	90336637	2	WHEEL, 3.15OD
23	90513631	1	PIN, THD 90513631

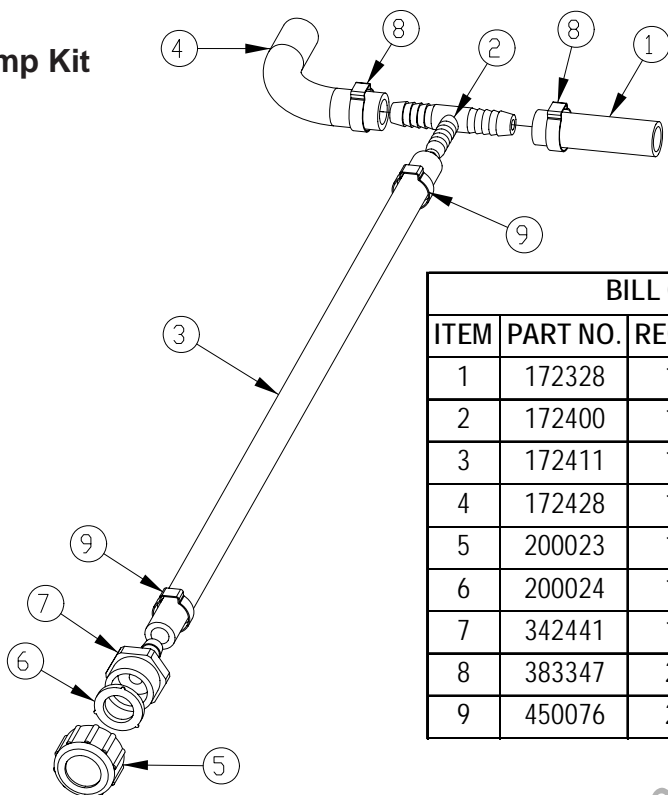
# Squeegee Mechanism Assembly



## BILL OF MATERIAL - 172150

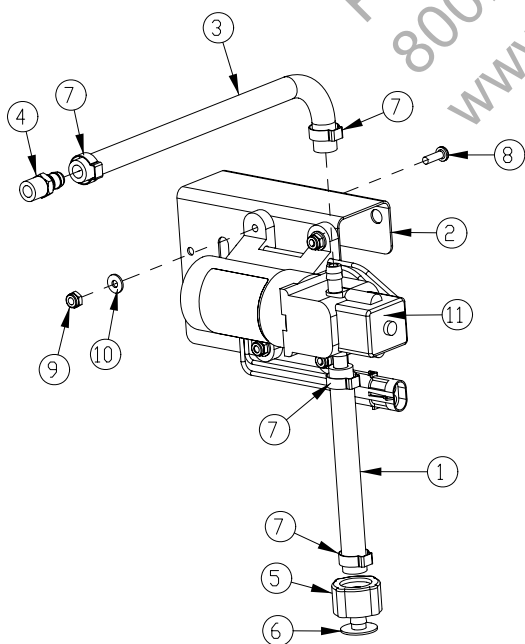
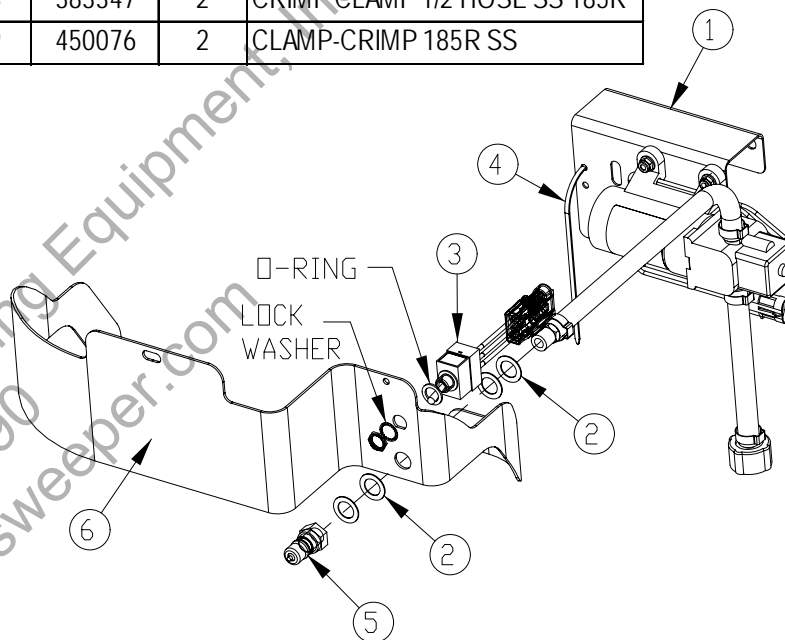
ITEM	PART NO.	REQ'D	DESCRIPTION	ITEM	PART NO.	REQ'D	DESCRIPTION
1	172134	1	BKT , MAIN SQUEEGEE HINGE	15	711678	2	CLEVIS PIN 3/8 X 2-1/4
2	172155	1	SQUEEGEE MOUNT WMT	16	711717	2	RETAINING RING - E TYPE .37
3	172196	1	SQ TOP LINK W/BUSHING	17	711720	2	.250 DIA RETAINING RING - E TYPE
4	172197	1	SQ BOT LINK W/BUSH	18	712147	1	ROD-THD 5/16-18 X 3.5 SS
5	172261	1	TORSION SPRING	19	712148	1	CLEVIS PIN, 1/2 X 2.25 W/HOLE
6	172352	1	PIN, 3/8 X 3.0, SQG STRAP	20	712157	2	NUT - WING 5/16-18 SS
7	172357	1	STRAP, 9" PU, BLACK	21	712562	2	BOLT -HH 1/4-20X3/4 SS
8	260579	1	TOOL CLIP, 1.5" HOSE	22	712665	2	NUT -HEX 1/4-20 SS
9	430051	1	RETURN SPRING -3.00"	23	712680	1	NUT -HEX 5/16-18 SS
10	710530	2	SCR-MC FL HD 8-32 X .50 BRS	24	712683	2	NUT , HEX 5/16-18 NYLOC SS
11	711504	4	WSR-FLAT 1/4 ID SS	25	712758	2	WSR-HELICAL 1/4 SS
12	711515	2	WSR-FLAT .406 X .812 X .0625	26	712760	3	WSR-FLAT .56X1.06X.04 SS
13	711523	2	WSR-WAVE .37X .68 X .08	27	712772	2	WSR-FLAT .344 x .75 x .06 SS
14	711592	2	WSR-FLAT .506 X .9 X .064 NYL	28	3400125	1	PIN-COTTER 3/8 RUE RING

### Optional Pump Kit



BILL OF MATERIAL - 172405			
ITEM	PART NO.	REQ'D	DESCRIPTION
1	172328	1	HOSE-NYLO REINF 1/2ID X 2.5"
2	172400	1	FITTING-TEE 1/2X1/2X3/8HB PP
3	172411	1	HOSE-WIRE REINF 3/8 X 18"
4	172428	1	HOSE-WIRE REINF 1/2 X 5.5."
5	200023	1	GARDEN HOSE CAP
6	200024	1	BLACK VINYL WASHER
7	342441	1	FITTING, MGHT X 3/8HB PP
8	383347	2	CRIMP CLAMP 1/2 HOSE SS 185R
9	450076	2	CLAMP-CRIMP 185R SS

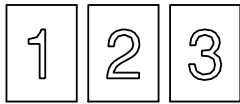
BILL OF MATERIAL - K-E1720P			
ITEM	PART NO.	REQ'D	DESCRIPTION
1	172402	1	OAW PUMP ASSY
2	711594	4	WSR-FLAT .56 X .88 X .03
3	747693-1	1	SWTCH ASY, TOGGLE ON-ON SPDT W/ 3P
4	828062-B	4	CABLE TIE LARGE-BLACK
5	828368	1	MALE COUPLER
6	172144FC	1	FRONT PANEL, FOR OAW, E1720
7	342444	1	WSR-FILTER (NOT SHOWN)
8	712070	1	BLT (NOT SHOWN)



BILL OF MATERIAL - 172402			
ITEM	PART NO.	REQ'D	DESCRIPTION
1	172164	1	HOSE-WIRE REINF 3/8 X 5.5"
2	172401-1	1	PUMP BKT ASM
3	320253	1	HOSE-WIRE REINF 3/8 X 14"
4	320264	1	FITTING BRASS - 3/8 DBL BARB X 1/4MPT
5	342442	1	FITTING, FGHT NUT PP
6	342443	1	FITTING 3/8HB INSERT PP
7	450076	4	CLAMP-CRIMP 185R SS
8	710356	4	SCR-MC 10-32X.62 STPL
9	711350	4	NUT-NYLOC 10-32
10	712764	4	WSR #10 SS
11	747691	1	PUMP, 24VDC 35PSI 3/8HOSE w/CONNECTOR

# 1 Wiring Diagrams

PAGE LAYOUT



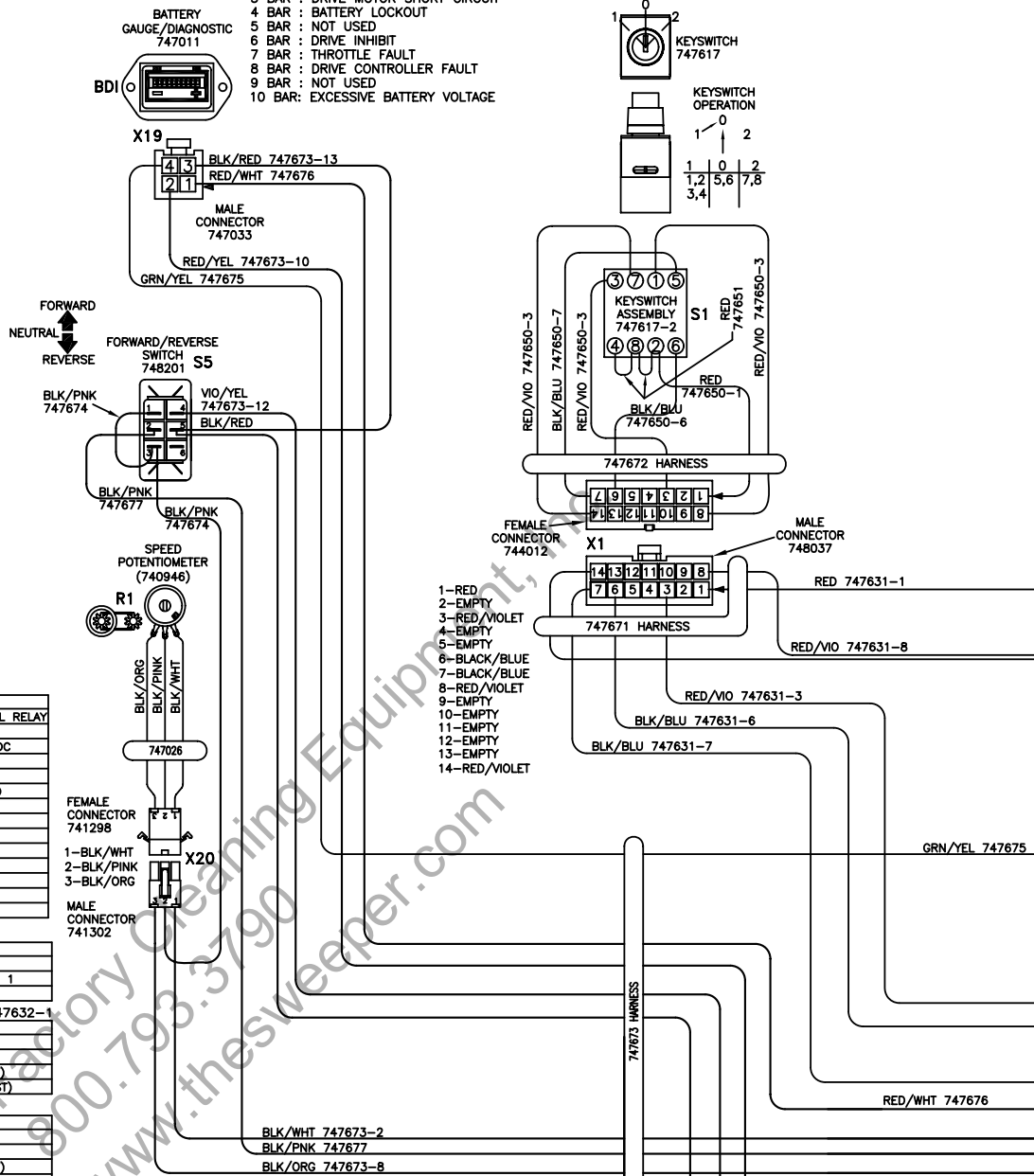
PAGES GO TOGETHER AS SHOWN TO SEE THE ENTIRE SCHEMATIC AS ONE.

715678: DIAGNOSTIC CODE DECAL

DIAGNOSTIC CODES: BATTERY GAUGE: 747011

- 1 BAR : CHARGE BATTERIES
- 2 BAR : DRIVE MOTOR CONNECTION
- 3 BAR : DRIVE MOTOR SHORT CIRCUIT
- 4 BAR : BATTERY LOCKOUT
- 5 BAR : NOT USED
- 6 BAR : DRIVE INHIBIT
- 7 BAR : THROTTLE FAULT
- 8 BAR : DRIVE CONTROLLER FAULT
- 9 BAR : NOT USED
- 10 BAR: EXCESSIVE BATTERY VOLTAGE

ELECTRICAL  
BOX COVER  
ASSEMBLY  
172079



X1: MAIN KEYSWITCH ASSEMBLY: 747617-1

PIN #	COLOR	WHERE TO/FROM
1	RED	X13: BATTERY CHARGER INTERNAL RELAY
2	-	-
3	RED/VIOLET	BRUSH MOTOR RELAY COIL: 24VDC
4	-	-
5	-	-
6	BLACK/BLUE	BRUSH RELAY NORMALLY CLOSED
7	BLACK/BLUE	BRUSH UNLOAD SWITCH P:8
8	RED/VIOLET	X12: MAIN RELAY COIL: 24VDC
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	RED/VIOLET	X12: MAIN RELAY COIL: 24VDC

X20: SPEED POTENTIOMETER: 747026

PIN #	COLOR	WHERE TO/FROM
1	BLACK/WHITE	X23: I-DRIVE P:2
2	BLACK/PINK	FORWARD/REVERSE SWITCH 3 TO 1
3	BLACK/ORANGE	X23: I-DRIVE P:8

X22: CONNECTOR TO OPERATOR HANDLE CABLE: 747632-1

PIN #	COLOR	WHERE TO/FROM
1	RED	KEYSWITCH P:1
2	BLACK	CONTROL CB 4.0A
3	RED	MAIN RELAY + (REAR LEFT POST)
4	BLACK	MAIN RELAY - (FRONT LEFT POST)

X22: OPERATOR HANDLE CABLE: 747632-1

PIN #	COLOR	WHERE TO/FROM
1	RED	KEYSWITCH P:1
2	BLACK	CONTROL CB 4.0A
3	RED	MAIN RELAY + (REAR LEFT POST)
4	BLACK	MAIN RELAY - (FRONT LEFT POST)

X23: I-DRIVE HARNESS: 747673

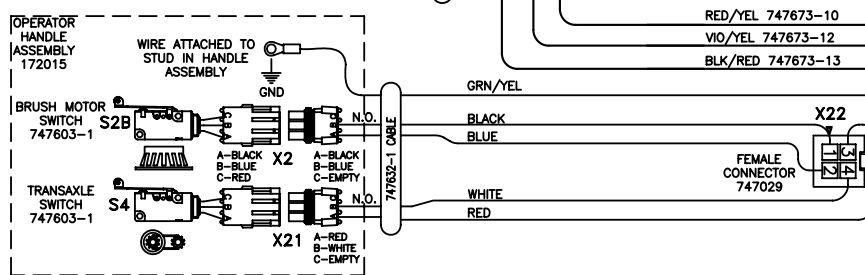
PIN #	COLOR	WHERE TO/FROM
1	BLACK/PINK	X22: P:3
2	BLACK/WHITE	X20: SPEED POT P:1
3	BLACK/GREEN	VACUUM RELAY COIL: OVDC
4	EMPTY	-
5	RED/WHITE	JUMPER TO P:7 (ON/OFF)
6	BROWN/GREEN	JUMPER TO P:14 (INHIBIT 1)
7	RED/WHITE	JUMPER TO P:5 (24VDC IDIVE FUSED)
8	BLACK/ORANGE	X20: SPEED POT P:3
9	EMPTY	-
10	RED/YELLOW	X19: BATTERY GAUGE P:2
11	EMPTY	-
12	VIOLET/YELLOW	FORWARD/REVERSE SWITCH 4
13	BLACK/RED	JUMPER TO FOR/REV SWITCH 5
14	BROWN/GREEN	JUMPER TO P:6 (INHIBIT 2)

BATTERY CHARGER: 957745 or 957753

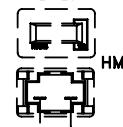
PIN #	COLOR	WHERE TO/FROM
X13	RED	X13: KEYSWITCH P:1
X14	BLACK	X14: CONTROL CB 4.0A
14GA	RED	MAIN RELAY + (REAR LEFT POST)
14GA	BLACK	MAIN RELAY - (FRONT LEFT POST)

OTHER WIRE COLORS

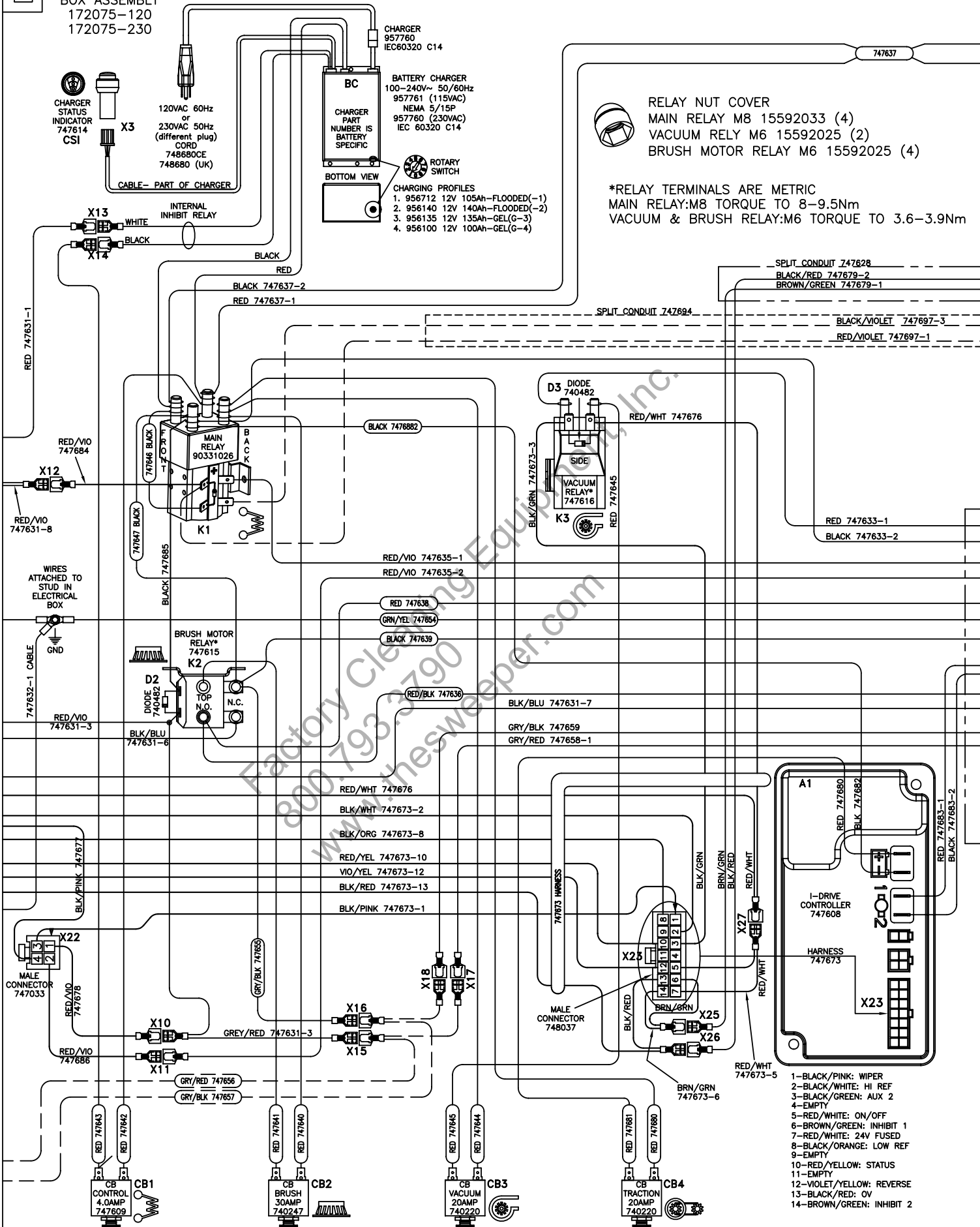
PIN #	COLOR	WHERE TO/FROM
1	RED	BATTERY 24VDC: +
2	BLACK	BATTERY OVDC: -
3	GREEN/YELLOW	GROUND
4	BLACK/BLUE	BRUSH UNLOAD CIRCUIT
5	RED/BLACK	BRUSH UNLOAD CIRCUIT: MICRO SWITCH
6	RED/VIOLET	24VDC AFTER MAIN KEYSWITCH
7	GREY/RED	OPTIONAL POWER 24VDC: 3A MAX
8	GREY/BLACK	OPTIONAL POWER OVDC: 3A MAX



OPTIONAL HOUR METER 747624 KIT # K-E1720HM



**ELECTRICAL BOX ASSEMBLY**  
172075-120  
172075-230



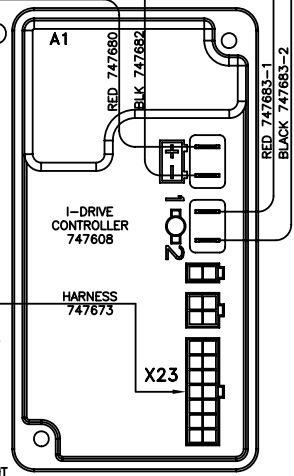
**BATTERY CHARGER**  
100-240V~ 50/60Hz  
957761 (115VAC)  
NEMA 5/15P  
957760 (230VAC)  
IEC 60320 C14

**CHARGING PROFILES**  
1. 956712 12V 105Ah-FLOODED(-1)  
2. 956140 12V 140Ah-FLOODED(-2)  
3. 956135 12V 135Ah-GEL(G-3)  
4. 956100 12V 100Ah-GEL(G-4)

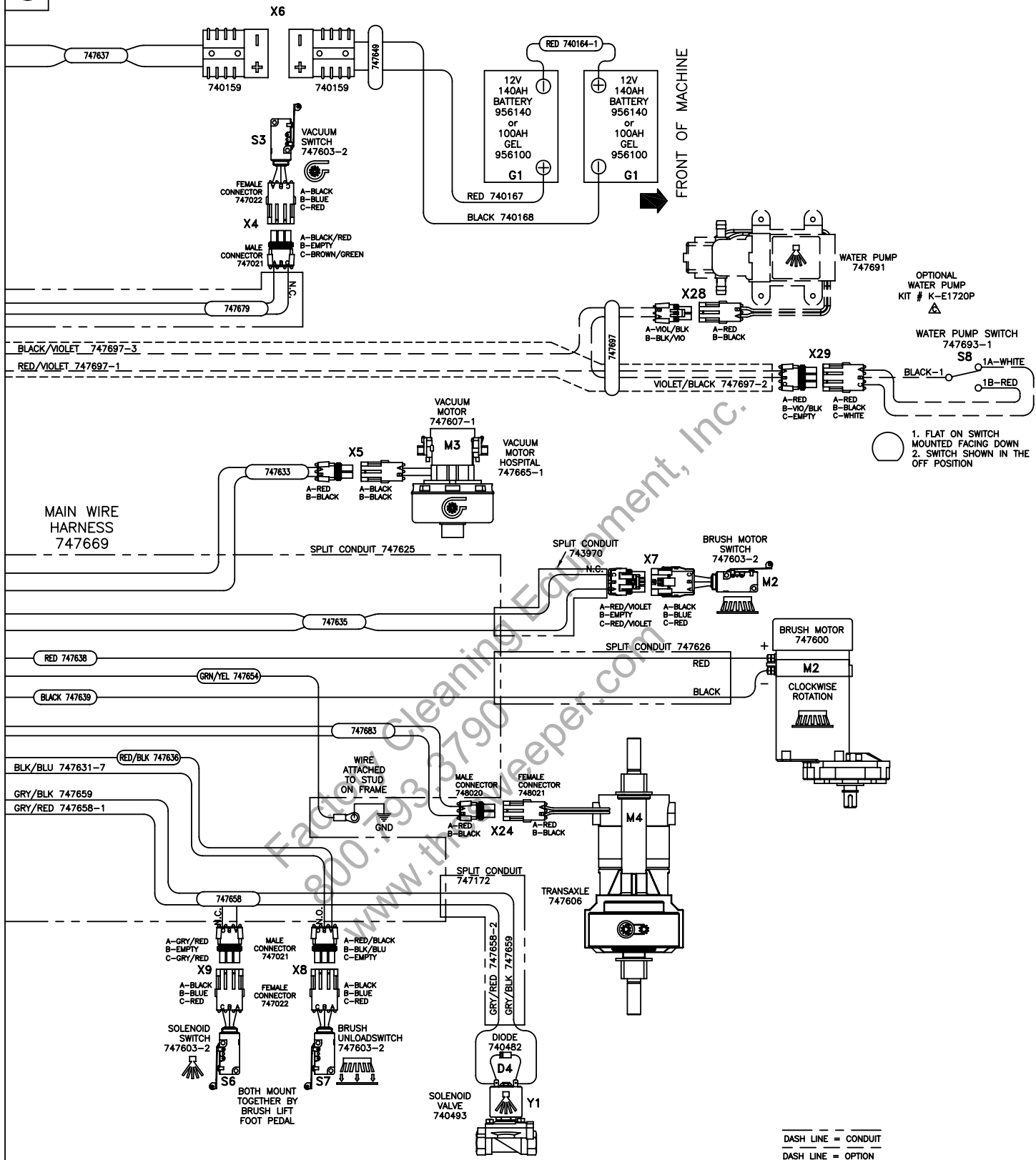
**RELAY NUT COVER**  
MAIN RELAY M8 15592033 (4)  
VACUUM RELY M6 15592025 (2)  
BRUSH MOTOR RELAY M6 15592025 (4)

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

SPLIT CONDUIT 747628  
BLACK/RED 747679-2  
BROWN/GREEN 747679-1  
BLACK/VIOLET 747697-3  
RED/VIOLET 747697-1



- 1-BLACK/PINK: WIPER
- 2-BLACK/WHITE: HI REF
- 3-BLACK/GREEN: AUX 2
- 4-EMPTY
- 5-RED/WHITE: ON/OFF
- 6-BROWN/GREEN: INHIBIT 1
- 7-RED/WHITE: 24V FUSED
- 8-BLACK/ORANGE: LOW REF
- 9-EMPTY
- 10-RED/YELLOW: STATUS
- 11-EMPTY
- 12-VIOLET/YELLOW: REVERSE
- 13-BLACK/RED: OV
- 14-BROWN/GREEN: INHIBIT 2



1. FLAT ON SWITCH MOUNTED FACING DOWN
2. SWITCH SHOWN IN THE OFF POSITION

E1720TD PART REFERENCE LIST  
Schematic 745092

REFERENCE #	COMPONENT NAME	PART NUMBER
M1 (optional)	PUMP, WATER (KIT K-E1720P)	748691
M2	MOTOR, BRUSH	748692
M3	MOTOR, VACUUM ASSEMBLY	747607-1
M3 (model specific)	MOTOR, VACUUM ASSEMBLY (H20 only)	747665-1
M4	TRANSAXLE	747606
Y1	SOLENOID VALVE, WATER	740493
K1	RELAY, MAIN	90331026
K2	RELAY, BRUSH MOTOR	747615
K3	RELAY, VACUUM	747616
CB1	CIRCUIT BREAKER 4.0A, CONTROL	747609
CB2	CIRCUIT BREAKER 30A, BRUSH MOTOR	740247
CB3	CIRCUIT BREAKER 20A, VACUUM MOTOR	740220
CB4	CIRCUIT BREAKER 20A, TRANSAXLE	740220
S1	KEYSWITCH	747617
S2A	SWITCH, BRUSH MOTOR (at motor)	747603-2
S2B	SWITCH, BRUSH MOTOR (handle)	748603-1
S3	SWITCH, VACUUM MOTOR	748603-2
S4	SWITCH, TRANSAXLE (handle)	748603-1
S5	SWITCH, DIRECTION	748201
S6	SWITCH, BRUSH UNLOAD	748603-2
S7	SWITCH, SOLENOID	747603-2
S8 (optional)	SWITCH, PUMP- OFF AISLE WAND (KIT K-1720P)	747693-1
A1	CONTROLLER, I-DRIVE	747608
CSI	CHARGER STATUS INDICATOR	747614
HM (optional)	HOUR METER (KIT K-E1720HM)	747624
BC (model specific)	BATTERY CHARGER 115VAC (battery type specific)	957761 (-2 or G-4)
BC (model specific)	BATTERY CHARGER 230VAC (battery type specific)	957760 (-2 or G-4)
G1	BATTERY, 12V 140AH (2 REQUIRED)	956140
G1 (optional)	BATTERY, GEL 12V 100AH (2 REQUIRED)	956100
D1	DIODE, MAIN RELAY	Part of K1
D2	DIODE ASM, BRUSH MOTOR RELAY	740482
D3	DIODE ASM, VACUUM MOTOR RELAY	740482
D4	DIODE ASM, SOLENOID VALVE	740482

REFERENCE #	CONNECTOR FUNCTION	PART # -female	PART # -male
X1	KEYSWITCH (S1)	744012	748037
X2	SWITCH, BRUSH MOTOR (S2B)	747022	747021
X3	CHARGER STATUS INDICATOR (CSI)	Part of CSI	Part of BC
X4	SWITCH, VACUUM (S3)	747022	747021
X5	MOTOR, VACUUM (M3)	748021	748020
X6	BATTERY CONNECTOR	740159	740159
X7	SWITCH, BRUSH MOTOR (S2A)	747022	747021
X8	SWITCH, BRUSH UNLOAD (S6)	747022	747021
X9	SOLENOID VALVE, WATER (Y1)	747022	747021
X10	OPERATOR HANDLE CABLE	741093	740697
X11	OPERATOR HANDLE CABLE	740366	740697
X12	KEYSWITCH (S1)- MAIN RELAY COIL (K1)	741093	741165
X13	BATTERY CHARGER (BC)- INTERNAL RELAY	740366	740697
X14	BATTERY CHARGER (BC)-INTERNAL RELAY	740366	740697
X15	SOLENOID (Y1) /HOUR METER CONNECTION (HM)	740366	741165
X16	SOLENOID (Y1) /HOUR METER CONNECTION (HM)	740366	741165
X17 (optional)	OPTIONAL HOUR METER (HM) WIRE-747656	740366	741165
X18 (optional)	OPTIONAL HOUR METER (HM) WIRE-747657	740366	741165
X19	BATTERY GAUGE (BDI)	Part of BDI	747033
X20	SPEED POT ASSEMBLY (R1)	741298	741302
X21	SWITCH, TRANSAXLE (S4)	747022	747021
X22	OPERATOR HANDLE CABLE: 747632-1	747029	747033
X23	I-DRIVE HARNESS: 747673	Part of A1	748037
X24	TRANSAXLE (M4)	748021	748020
X25	I-DRIVE (A1) TO VACUUM SWITCH (S3)	740366-1	741165
X26	I-DRIVE (A1) TO VACUUM SWITCH (S3)	741093	740698
X27	I-DRIVE (A1) TO VACUUM RELAY-CONTACT	741093	741165
X28 (optional)	SWITCH, TOGGLE WATER PUMP (S8)	747022	747021
X29 (optional)	PUMP, OFF AISLE WAND (M1)	748021	748020