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Operator & Parts Manual

Automatic Scrubber



i20NB
i20NBT
i20NBT-OB
i24BT

8130050
REV.02(03-2015)

INTERNATIONAL CLEANING EQUIPMENT

 **READ OPERATOR MANUAL CAREFULLY!**

IMPORTANT: To ensure full warranty protection, please fill out & return your warranty card.

Please fill out at time of installation for future reference.

Model No. _____

Serial No. _____

Machine Options _____

Sales Rep. _____

Sales Rep. Phone No. _____

Customer ID Number _____

Installation Date _____

HOW TO ORDER PARTS

Only use ICE Company supplied or equivalent parts. Parts and supplies may be ordered online, by phone, by fax or by mail.

1. Identify the machine model.
2. Identify the machine serial number from the data label.
3. Ensure the proper serial number is used from the parts list.
4. Identify the part number and quantity.
Do not order by page or reference numbers.
5. Provide your name, company name, customer ID number, billing and shipping address, phone number and purchase order number.



PROTECT THE ENVIRONMENT

Please dispose of packaging materials, old machine components such as batteries, hazardous fluids, including antifreeze and oil, in an environmentally safe way according to local waste disposal regulations.



Always remember to recycle.

International Cleaning Equipment

XiangShi Road LiaoBu DongGuan GuangDong China

Tel: 0769 - 81850061

Fax: 0769 - 81850001

Specifications and parts are subject to change without notice.

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SAFETY PRECAUTIONS

This machine is intended for commercial use. It is designed exclusively to scrub hard floors in an indoor environment and is not constructed for any other use. Only use recommended accessories.

All operators shall read, understand and exercise the following safety precautions:

1. Do not operate machine:

- Unless trained and authorized.
- Unless you have read and understand the operators manual.
- In flammable or explosive areas.
- If not in proper operating condition.
- In outdoors areas.

2. Before starting machine:

- Make sure all safety devices are in place and operate properly.

3. When using machine:

- Go slow on inclines and slippery surfaces.
- Follow all safety guidelines.
- Be very careful when using the machine in reverse.
- Reduce speed when turning.
- Report and fix any damage to machine prior to operating it.
- Never allow children to play on or around.
- Do not operate on inclines that exceed 5% (3°).

4. Before leaving or servicing machine:

- Stop on level surface.
- Turn off machine.

5. When servicing machine:

- Read operators manual thoroughly prior to operating or servicing this machine.
- Use manufacturer supplied or approved replacement parts.
- Secure machine with wheel blocks prior to jacking the machine up.
- Use approved jack or hoist to safely elevate the machine.
- Disconnect batteries prior to working on machine.
- Wear gloves when handling batteries or battery cables.

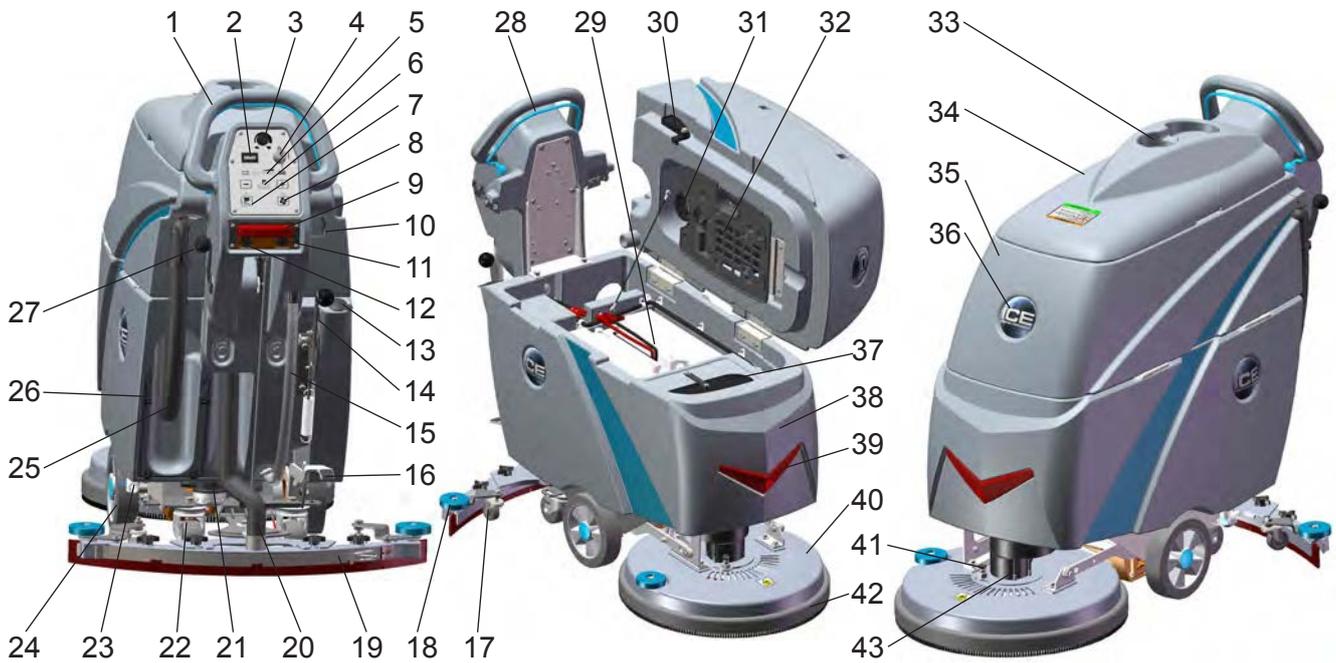
- Avoid any contact with battery acid
- Avoid moving parts. Do not wear loose fitting clothing while servicing machine.

 **WARNING: Batteries emit hydrogen gas. Explosion or fire can result from hydrogen gas. Keep sparks and open flames away! Keep battery compartment open when charging.**

 **WARNING: Flammable materials can cause an explosion or fire. Do not use flammable materials in tanks.**

 **WARNING: Flammable materials or reactive metals can cause explosion or fire. Do not pick up.**

MACHINE COMPONENTS



- | | |
|--|---|
| <p>1. Control Handle</p> <p>2. Hour meter</p> <p>3. Speed Control Knob (Drive Models)</p> <p>  Slow Speed</p> <p>  Fast Speed</p> <p>4. Main Power Key Switch</p> <p>5. Battery Meter</p> <p>6. Solution Flow Control Switches & Indicator Light</p> <p>  Flow Increase switch</p> <p>  Flow Decrease switch</p> <p>7. Brush Motor Switch & Indicator Light (Drive Models)</p> <p>8. Vacuum Motor Switch & Indicator Light</p> <p>9. Emergency Stop Button (Drive Models)</p> <p>10. Squeegee Storage Bracket</p> <p>11. Brush Motor Circuit Breaker</p> <p>12. Vacuum Motor Circuit Breaker</p> <p>13. Hose Fill-Port</p> <p>14. Heavy Down Pressure Lever</p> <p>  Heavy Scrub Brush Down Pressure</p> <p>  Light Scrub Brush Down Pressure</p> <p>15. Solution Tank Level / Drain Hose</p> <p>16. Scrub Head Lift Pedal</p> <p>17. Caster, 2Inch, Squeegee Blade Adjustment</p> <p>18. Bumper Rollers</p> | <p>19. Squeegee Assembly</p> <p>20. Squeegee Vacuum Hose</p> <p>21. Filter Assembly</p> <p>22. Caster, 3.15 Inch</p> <p>23. Ball Valve</p> <p>24. Wheels, 8 Inch</p> <p>25. Recovery Tank Drain Hose</p> <p>26. Cargo Mesh Bag</p> <p>27. Squeegee Lift Lever</p> <p>28. Control Handle Start Bail</p> <p>  Bail Direction Decal (Drive Models)</p> <p>29. Batteries</p> <p>30. Recovery Tank Support Stand</p> <p>31. Vacuum Motor, 24VDC</p> <p>32. On- Board Battery Charger (Option)</p> <p>33. Cup Holder</p> <p>34. Recovery Tank Cover</p> <p>35. Recovery Tank</p> <p>36. ICE Logo</p> <p>37. Bucket Fill Port/ Clean-Out Port</p> <p>38. Solution Tank</p> <p>39. LED Light</p> <p>40. Scrub Head Assembly</p> <p>41. Motor Hub Lock Pin (Disk head Models)</p> <p>42. Scrub Head Skirt (Disk head Models)</p> <p>43. Brush Motor, 24VDC</p> |
|--|---|

MACHINE SET UP & INSTALLATION

UNCRATING MACHINE

Be sure and check packing carton for any damage. Immediately report any damage to carrier. Check the contents of package to ensure that the following items are included:

- Machine
- 2-12V Batteries
- Squeegee assembly
- Battery Charger
- Pad Driver
- Brush

INSTALLING BATTERIES

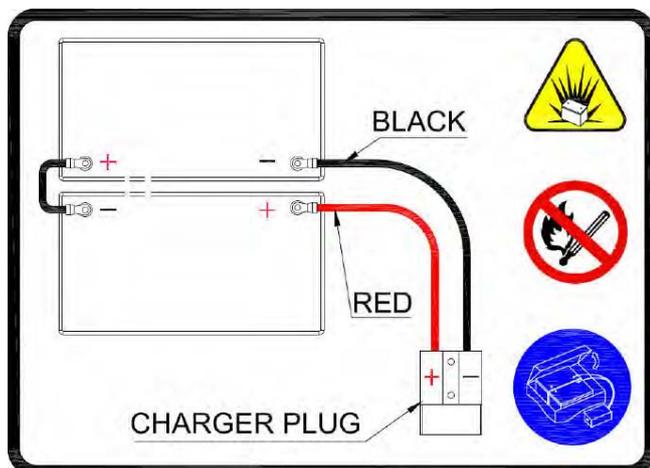
The batteries are already in the machine upon delivery; However you will need to connect the cables to the battery posts.

⚠ WARNING: Batteries emit hydrogen gas. Explosion or fire can result from hydrogen gas. Keep sparks and open flames away! Keep battery compartment open when charging.

1. Turn the main power key switch off.
2. Open recovery tank to gain access to battery compartment.
3. Carefully place the two batteries into the compartment as shown in figure below. Place the battery brace at the rear of the two batteries.

DO NOT DROP BATTERIES INTO COMPARTMENT!

4. Connect battery cables to posts in numbered order as shown in drawing below.
RED to POSITIVE and BLACK to NEGATIVE.



MACHINE SET UP

PRE-OPERATION CHECKS

1. Sweep or dust mop the surface to be cleaned.
2. Check battery meter to make sure batteries are fully charged. (See BATTERY CHARGING)
3. Check that squeegee is properly installed.
4. Check that brush / pad is properly installed.

INSTALLING PAD DRIVER OR BRUSH

1. Ensure that the machine is turned off.
2. Step down on the scrub head lift pedal (see machine components, item #16) to raise the scrub head off the floor.
3. If using a Pad Driver, first attach the appropriate pad to the pad driver surface.
4. Turn the brush motor hub until the slot with the spring clip is visible through the scrub head window.
5. Mount the pad driver or brush to the brush motor hub by lining up the three studs with the three holes in the brush motor hub. Once in the holes, rotate the driver toward the spring clip to lock the pad driver into place.
If necessary, press down on the motor hub lock pin (see machine components, item # 41) to lock motor hub in place.
6. For Orbital head Model i20NBT-OB, you need to attach a rectangular, 20in(508mm)×14in(356mm) Pad to the Orbital Pad driver. align the pad to the Orbital pad driver, press from front-to-back and side to side to alignment.

MOUNTING THE SQUEEGEE ASSEMBLY

1. Lift the squeegee lift lever (see machine components, item #27) to the upward position.
2. Mount the squeegee assembly to the squeegee pivot bracket. make sure the knobs are completely seated into the slots before securing knobs.
3. Connect the vacuum hose to the squeegee assembly. Loop the hose by using the hose clip provided.
4. Check the squeegee blades for proper adjustment.

FILLING THE SOLUTION TANK

The machine is equipped with a hose fill-port (see machine components, item #13) at the rear of the machine, and a bucket fill-port (see machine components, item #37) located under the recovery tank. Before accessing the bucket fill-port make sure that the recovery tank is empty.

Fill the solution tank to the "60L" level on the solution tank sight gauge. When using the bucket fill-port, stop filling when the level reaches the bottom edge of the fill-port.

NOTE: When filling the solution tank with a bucket, make sure that the bucket is clean. Do not use the same bucket for filling and draining the machine.



WARNING: Do not put any flammable materials into solution tank. this can cause an explosion or a fire. Only use recommended cleaning chemicals. Contact your janitorial supply distributor for recommendations on proper chemicals.

MACHINE OPERATION



WARNING: Do not operate machine unless you have read and understand this manual.

1. Lower squeegee assembly to the floor by lowering the squeegee lift lever(see machine components, item #27).
2. Lower the scrub head to the floor by stepping on the scrub head lift pedal(see machine components, item #16).
3. Turn the main power key switch(see machine components, item #4) to the on (I) position.
4. Check the battery level meter (see machine components, item #5), if the battery meter is in the red, DO NOT continue to operate the machine and recharge the batteries immediately.
5. Check the solution flow indicator (see machine components, item #6), adjust the solution flow control switch to a desired flow rate.

NOTE: Solution will not begin to flow until the control handle bail is pulled.

6. Turn on the vacuum motor switch(see machine components, item #8).
7. Drive Model i20NBT / i24BT : Turn on the brush motor switch (see machine components, item #7).
8. The brush assist model i20NB: Pull the control handle bail(see machine components, item #28) backwards to start scrubbing by moving the machine forward.
The drive model i20NBT / i24BT: Pull the control handle bail(see machine components, item #28) backwards to start scrubbing. The machine will automatically propel forward. To reverse the drive model, simply push the control handle bail forward. the speed can be adjusted, Adjust the speed control knob (see machine components, item #3) to a desired scrubbing speed.
NOTE: 45-60 meters (150-200 ft)per minute is the recommended scrubbing speed.
9. When more brush pressure is needed for heavily soiled areas simply lift the down pressure lever(see machine components, item #14).
10. To stop scrubbing, release the control handle bail, raise the scrub head and the squeegee assembly.

WHILE OPERATING MACHINE



WARNING: Fire Or Explosion Hazard. Do Not Pick Up Flammable Materials Or Reactive Metals.

1. Go slow on inclines and slippery surfaces. Do not operate the machine on inclines that exceed 5% (3°).
2. Do not keep the machine in the same position with pad / brush spinning, keep the machine moving to prevent damage to floor finish.
3. If the squeegee assembly leaves streaks on the floor, raise the squeegee off the floor and wipe the blades down with a damp cloth. Pre-sweep the area to prevent leaving streaks on the floor.
4. Pour a recommended defoamer into the recovery tank if excessive foam appears.



WARNING: Do not allow foam to enter the float shut-off screen, vacuum motor damage will result. Foam will not activate the float shut-off screen.

OPERATOR MANUAL

5. Occasionally check the battery level meter(see machine components, item #5). when meter is in the red, stop scrubbing and recharge the batteries.

⚠ WARNING: When battery meter is in the red, do not continue to operate the machine. Battery damage may result.

6. When the solution tank runs empty, turn off the brush switch, solution switch and raise the brush head. Keep the squeegee down and continue to vacuum until all the dirty water is picked up.

NOTE: See **TANK DRAINING** section to learn how to drain recovery and solution tanks.

CIRCUIT BREAKER / FUSES

The machine is equipped with 2 resettable circuit breakers(see machine components, item #11, item# 12) to protect the brush motor and the vacuum motor from damage. If the circuit breakers should trip, it can't be reset immediately. You must first determine what caused the breaker to trip, and allow the motor to cool down and then you can manually reset the circuit breakers.

The machine (Drive Models i20NBT / i24BT)is also equipped with a 30A fuse located inside the control console to protect the transaxle motor from damage. When replacing a fuse never substitute a higher Amps rated fuse than specified.

NOTE: Contact an Authorized Service center for machine repairs.

HOURLY METER

The hour meter (see machine components, item #2) records the number of total hours the brush motor has been powered on. Use the hour meter to determine when to perform recommended maintenance procedures and to record service history.

TANK DRAINING

1. Turn the machine off on.
2. With the squeegee and scrub head in their "up" position, transport machine to approved area for draining tank(s).

DRAINING THE RECOVERY TANK

Any time scrubbing is completed, or when refilling solution tank, the recovery tank should be drained and cleaned.

⚠ WARNING: If the recovery tank is not drained when the solution tank has been refilled, foam or water may enter the float shut-off screen and cause damage to the vacuum motor.

1. While holding the drain hose (see machine components, item #25) upward, remove the cap and lower hose to drain.
2. Open the recovery tank cover and rinse out the tank. Use a rag to remove any excess dirt.
3. Clean the float shut-off screen and debris tray located in the recovery tank .

DRAINING THE SOLUTION TANK

Any time scrubbing operation is completed, the solution tank should be drained and cleaned.

1. Pull the solution tank level hose(see machine components, item #15) off the hose fitting, this will allow the solution to flow freely into a bucket or floor drain.
2. Remove the cover of the filter assembly(see machine components, item #21) to drain the solution tank, check the filter screen and clean up it if necessary.
3. Rinse the solution tank with clean water after every use. This will help prevent chemical buildup and clogging of the solution lines.
4. After rinsing out the tank, securely reconnect the tank level hose to the hose fitting, replace the filter assembly cover and be sure the filter screen and the "O" ring is in the correct position.

BATTERY CHARGING

⚠ WARNING: Fire Or Explosion Hazard. Batteries Emit Hydrogen Gas. Keep Sparks and Open Flame Away. Keep Battery Compartment Propped Open When Charging.

NOTE: Use only approved chargers with the following specifications:

- Automatic shut off circuit
- Deep cycle charging
- Output current of 10-20 Amps
- Output voltage of 24 volts

1. Place charger and machine in a well ventilated area.
2. Turn the machine off.
3. If charging wet (lead acid) batteries check the fluid level before charging.
4. Connect the charger's AC power supply cord to a properly grounded receptacle.
5. Connect the charger's DC cord into the machine's battery receptacle at the rear of the machine.
6. Prop up the recovery tank by the support stand (see machine components, item #30) for ventilation when charging.
7. The charger will automatically begin to charge and will automatically shut off once the batteries are fully charged.
8. Upon completion of charging, disconnect the AC power supply cord first, and then disconnect the charger from the machine.

PREVENTATIVE MAINTENANCE

⚠ WARNING: Before performing any maintenance on the machine, be sure that the power is turned off, or the batteries are disconnected!

⚠ WARNING: Repairs are to be completed by Authorized service centers only. Any repairs completed by unauthorized persons will void the warranty.

DAILY MAINTENANCE

1. Remove pad driver/ brush and clean with approved cleaner.
2. Drain recovery and solution tanks completely and rinse out with clean water. Visually check the recovery tank for debris and clean out as necessary.
3. Raise the squeegee assembly off floor and wipe it down with a damp towel. Be sure to store the squeegee in the up position.
4. Remove the float shut-off assembly and rinse it out with clean water.
5. Clean machine with an approved cleaner and a damp towel.
6. Recharge the batteries.
7. Check the condition of the squeegee blade wiping edge, rotate blade if worn.

MONTHLY MAINTENANCE

1. Clean the battery tops to prevent corrosion.
2. Check for loose battery cable connections.
3. Inspect and clean the recovery tank cover seal. Replace it if damaged.
4. Lubricate all grease points and pivot points with silicon spray and approved grease.
5. Check the machine for loose nuts and bolts.
6. Check the machine for leaks.

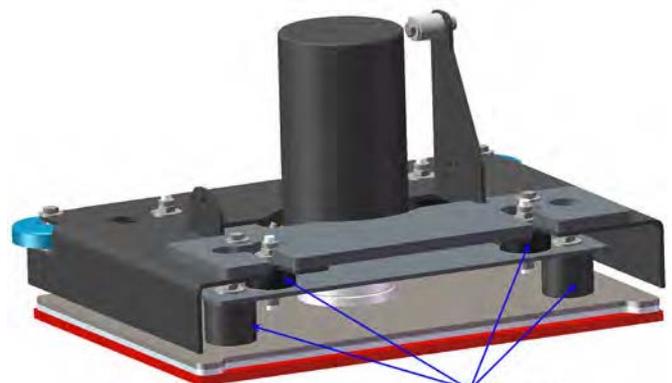
MOTOR MAINTENANCE

1. Contact your local Distributor for any motor maintenance.
2. Motor should have the brushes checked every 250 hours. Brushes should be replaced when they are worn to a length of 10 mm or less.

ORBITAL HEAD MAINTENANCE

For Orbital head, you should have checked the eight isolators located in the Orbital head every 300 hours.

1. Using a flashlight, do a visual inspection of the isolators by looking through the opening in the Orbital head and checking for wear or damage to four isolators in the front and four in the rear of the Orbital head. The locations of the isolators are shown below.



ISOLATORS (8)

2. If any of the eight isolators show signs of wear, degradation or damage, contact your local distributor to replace all eight isolators.

BATTERY MAINTENANCE



WARNING: Batteries emit hydrogen gas and an explosion or fire can result. Keep sparks and fire away from batteries at all times.



WARNING: Whenever servicing batteries, be sure to wear protective gloves. Avoid contact with battery acid at all times.

NOTE: For the best machine performance, keep batteries charged at all times. Do not let them sit in a discharged condition.

1. Always follow the battery charging directions as outlined in the BATTERY CHARGING section of this manual.
2. Keep battery tops and terminals free from corrosion. A strong solution of baking soda and water is the best way to keep the batteries corrosion free. DO NOT ALLOW THE BAKING SODA / WATER SOLUTION TO ENTER THE BATTERY CELLS.
3. Use a wire brush with the baking soda solution to properly clean the battery posts and connections.
4. Check battery connections for wear and loose terminals. replace if necessary.

MACHINE STORAGE

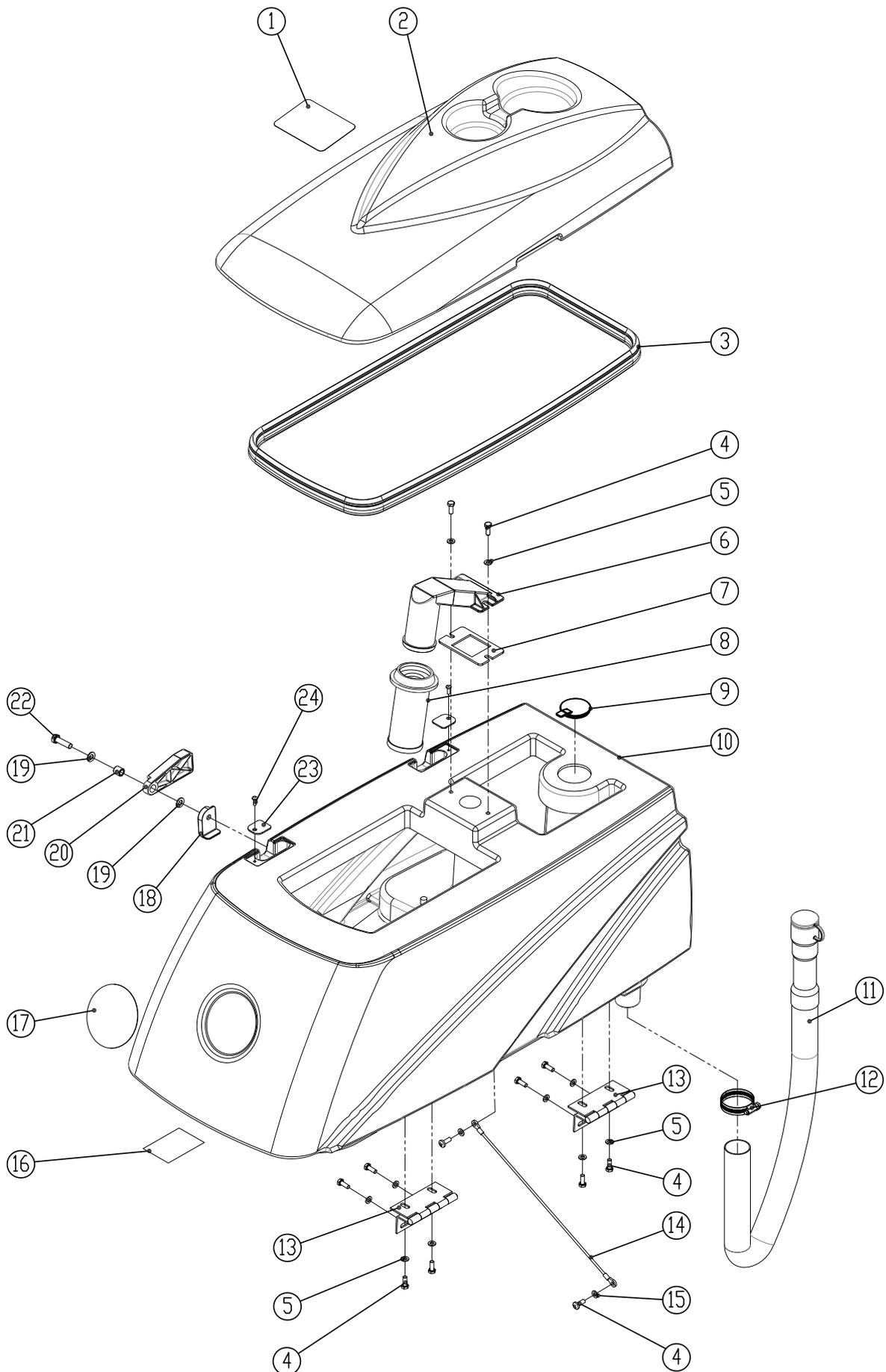
1. Always store the machine indoors.
2. Always store the machine in a dry area.
3. Always store the machine in its upright position.
4. Always store the machine with the pad driver/brush raised off the floor.
5. Always store the machine with the squeegee assembly raised off the floor.
6. If storing in an area which may reach freezing temperatures, be sure to drain all fluids from the machine prior to storage. Any damage caused by freezing temperatures will not be covered by the warranty.
7. Drain the recovery tank.
8. Drain the solution tank of all fluid.

BASIC TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
Machine will not operate	Control handle bail not pulled	Pull control handle bail
	Batteries need to be charged	Charge batteries
	Bad battery(s)	Replace battery(s)
	Loose battery cable	Tighten loose cable
	Main fuse blown	Replace fuse
	Faulty key switch	Contact ICE service center
Brush motor will not operate	Scrub head is raised off floor	Lower scrub head
	Battery meter lockout activated	Recharge batteries
	Tripped brush motor circuit breaker	Reset brush circuit breaker button
	Faulty scrub head (up/down)switch	Contact ICE service center
	Faulty control handle bail switch	Contact ICE service center
	Faulty brush motor or wiring	Contact ICE service center
	Worn Motor carbon brushes	Contact ICE service center
	Bad solenoid	Contact ICE service center
Machine does not propel (Drive model)	Main fuse blown	Replace 30 Amp fuse
	Faulty relay Switch	Contact ICE service center
	Faulty transaxle motor or wiring	Contact ICE service center
	Worn Motor carbon brushes	Contact ICE service center
Vacuum motor will not operate	Tripped vacuum motor circuit breaker	Reset vacuum circuit breaker button
	Faulty vacuum motor or wiring	Contact ICE service center
	Worn Motor carbon brushes	Contact ICE service center
Little or no solution flow	Ball valve set too low or shut off	Turn on the ball valve
	Solution flow control knob set too low or shut off	Adjust solution control flow knob
	Clogged solution tank filter or solution hose	Clean solution tank filter or flush out solution hose
	Clogged solution Solenoid valve	Remove valve and clean
Poor water pick up	Recovery tank is full	Drain recovery tank
	Loose drain hose cap	Tighten cap
	Clogged float shut-off screen located in recovery tank	clean screen
	Clogged squeegee assembly	Clean squeegee assembly
	Worn squeegee blades	Replace or rotate squeegee blades
	Incorrect squeegee blade deflection	Adjust squeegee blade height
	Loose vacuum hose connections	Secure hose connections
	Clogged vacuum hose	Remove clogged debris
	Damaged vacuum hose	Replace vacuum hose
	Recovery tank cover not in place	Properly position cover
	Damaged recovery tank cover seal	Replace seal
	Faulty vacuu motor	Contact ICE service center
Short run time	Low battery charge	Recharge batteries
	Defective batteries	Replace batteries
	Batteries need maintenance	See BATTERY MAINTENANCE
	Faulty battery charger	Repair or replace battery charger
	Down pressure lever is set for extra scrub head pressure	Lower down pressure lever

TECHNICAL SPECIFICATIONS

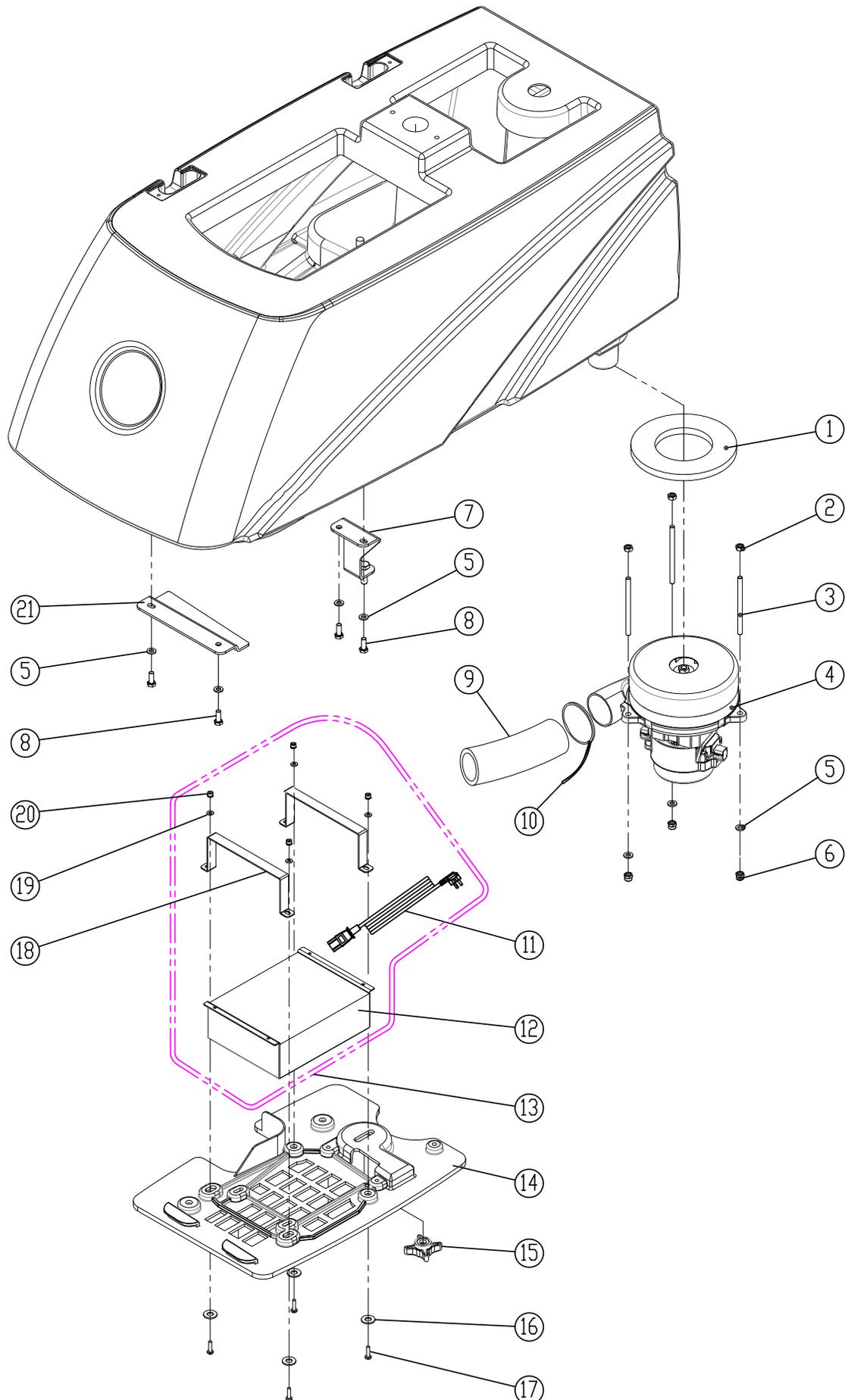
MODEL	i20NB Brush Assist	i20NBT W/ Drive	i20NBT-OB Orbital head	i24BT Dual disk
DIMENSIONS L × W × H	1355×560×1095mm		1300×560×1095 mm	1265×650×1095 mm
WEIGHT	95 Kg	105 Kg		
WEIGHT with BATTERIES	186 Kg	200 Kg		
RECOVERY TANK CAPACITY	65 L / 17.1 Gal			
SOLUTION TANK CAPACITY	60 L / 15.8 Gal			
SQUEEGEE WIDTH	762 mm / 30 in			
CLEANING PATH WIDTH	500 mm / 20 in (Disk)		500mm / 20 in (20in x 14in Pad)	600mm / 24 in
PRODUCTIVITY RATE	1800 m ² h	2200 m ² h		2600 m ² h
DRIVE SYSTEM	Brush Assisted	Transaxle, 24VDC, 200W		
TRAVEL SPEED, MAXIMUM	N/A	75 m/Min		
MINIMUM ALSLE TURN	1600mm			
PAD/BRUSH PRESSURE	30 Kg Min / 45Kg Max			
SOLUTION FLOW RATE	0 ~ 1400ml/Min			
BRUSH MOTOR	24VDC 550W 220 RPM		24VDC 550W 2200RPM	24VDC 680W 2000RPM
VIBRATIONS @ CONTROLS	N/A		<2.5m/s ²	N/A
VACUUM MOTOR	24VDC 500W			
WATER LIFT - AIR FLOW	45 in			
BATTERIES	2- 12, 130AH @ 20 hr			
RUN TIME PER CHARGE	3.5 Hours	3 Hours		
VOLTAGE DC	24V			
DECIBEL RATE AT OPERATOR'S EAR, INDOORS	68dB(A)		<70dB(A)	68dB(A)
GRADE LEVEL, MAX	5% (3°)			

RECOVERY TANK GROUP

PARTS LIST

RECOVERY TANK GROUP

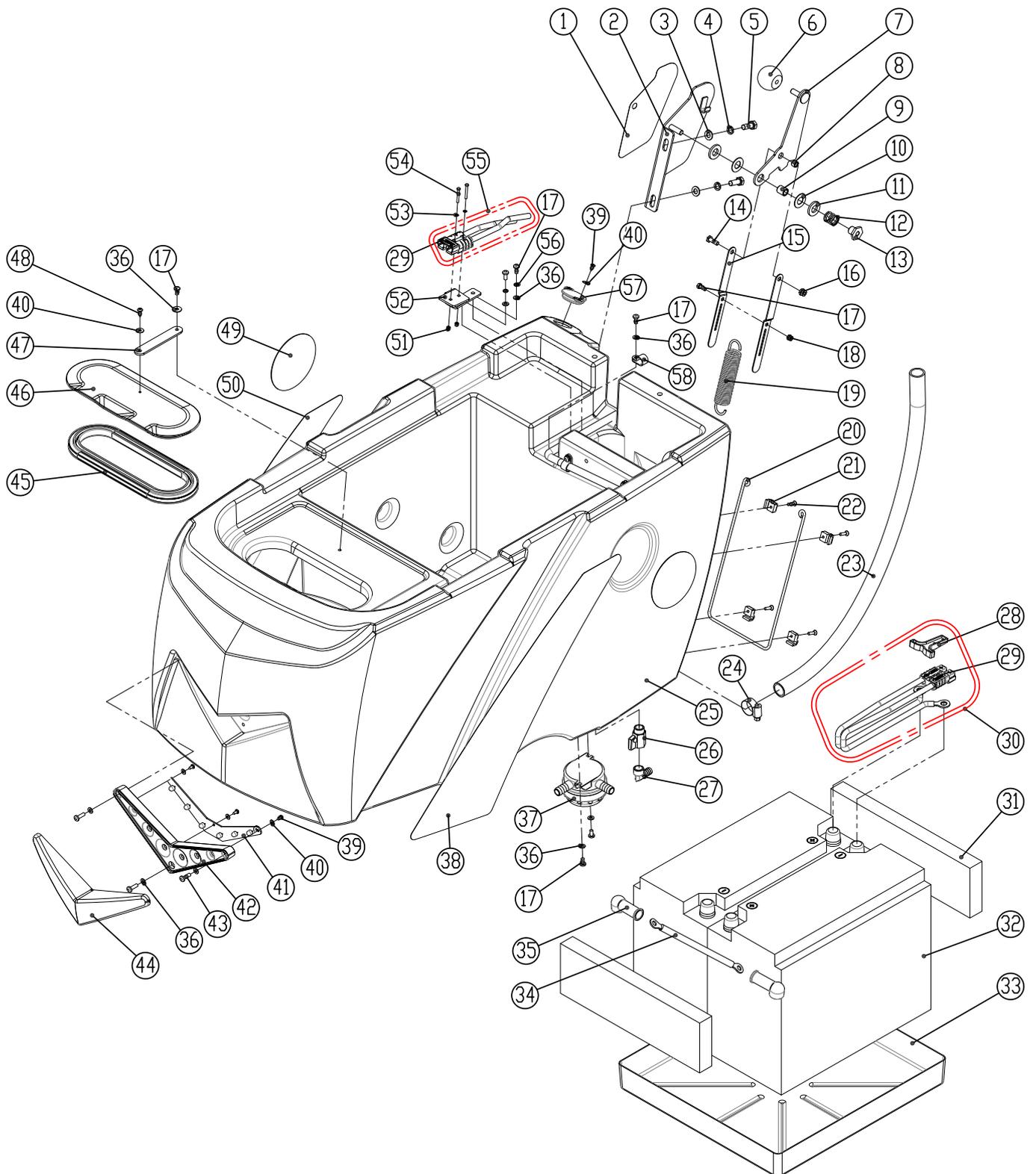
DIA NO.	PART NUMBER	DESCRIPTION	NO REQ'D
1	8111022	WARNING LABEL	1
2	8131002	RECOVERY TANK COVER	1
3	8131005	RECOVERY TANK COVER SEAL	1
4	1021616	HEX HEAD BOLT M6 X 16	12
5	1421618	FLAT WASHER M6× ϕ 18×1.6	10
6	8111014	FLOAT ADAPTER	1
7	8111001	GASKET	1
8	8111015	FLOAT, SHUT-OFF	1
9	8131003	CAP	1
10	8131001	RECOVERY TANK	1
11	8131010	DRAIN HOSE	1
12	1962050	CLAMP	1
13	8111300	HINGE ASSEMBLY	2
14	8131020	CABLE	1
15	1421612	FLAT WASHER M6× ϕ 12×1.6	2
16	8111024	LABEL, BATTERY INSTALLATION	1
17	4010316	ICE LOGO	1
18	8111008	BRACKET	1
19	1421816	FLAT WASHER M8× ϕ 16×1.6	2
20	8111007	RECOVERY TANK SUPPORT	1
21	8115404	SLEEVE, P/M	1
22	1021830	HEX HEAD BOLT M8×30	1
23	8111016	PLATE	2
24	1221412	PAN HEAD SCREW M4×12	2

VACUUM FAN GROUP

PARTS LIST

VACUUM FAN GROUP

DIA NO.	PART NUMBER	DESCRIPTION	NO REQ'D
1	8112005	GASKET, VACUUM MOTOR	1
2	1121605	HEX NUT M6	3
3	8112006	STUD M6×92	3
4	8116500	2 STAGE VACUUM MOTOR 24VDC	1
5	1421612	FLAT WASHER M6× ϕ 12×1.6	7
6	1123608	LOCK NUT M6	3
7	8112003	BRACKET	1
8	1021616	HEX HEAD BOLT M6×16	4
9	8132007	MUFFLER, VACUUM MOTOR	1
10	1914300	TIE, NYLON, 5X300	2
11	8112030	POWER CORD, BATTERY CHARGER	1
12	8132010	ON BOARD BATTERY CHARGER, 13A	1
13	8132020-US	ON BOARD BATTERY CHARGER, KIT	1
14	8112001	CHARGER COVER	1
15	8118003	KNOB M8	1
16	1421515	FLAT WASHER M5× ϕ 16×1.0	4
17	1221516	PAN HEAD SCREW M5X16	4
18	8131008	CLAMP, ON BOARD BATTERY CHARGER	2
19	1421510	FLAT WASHER M5× ϕ 10×1.0	4
20	1123507	LOCK NUT M5	4
21	8112004	BRACKET	1

SOLUTION TANK GROUP

PARTS LIST

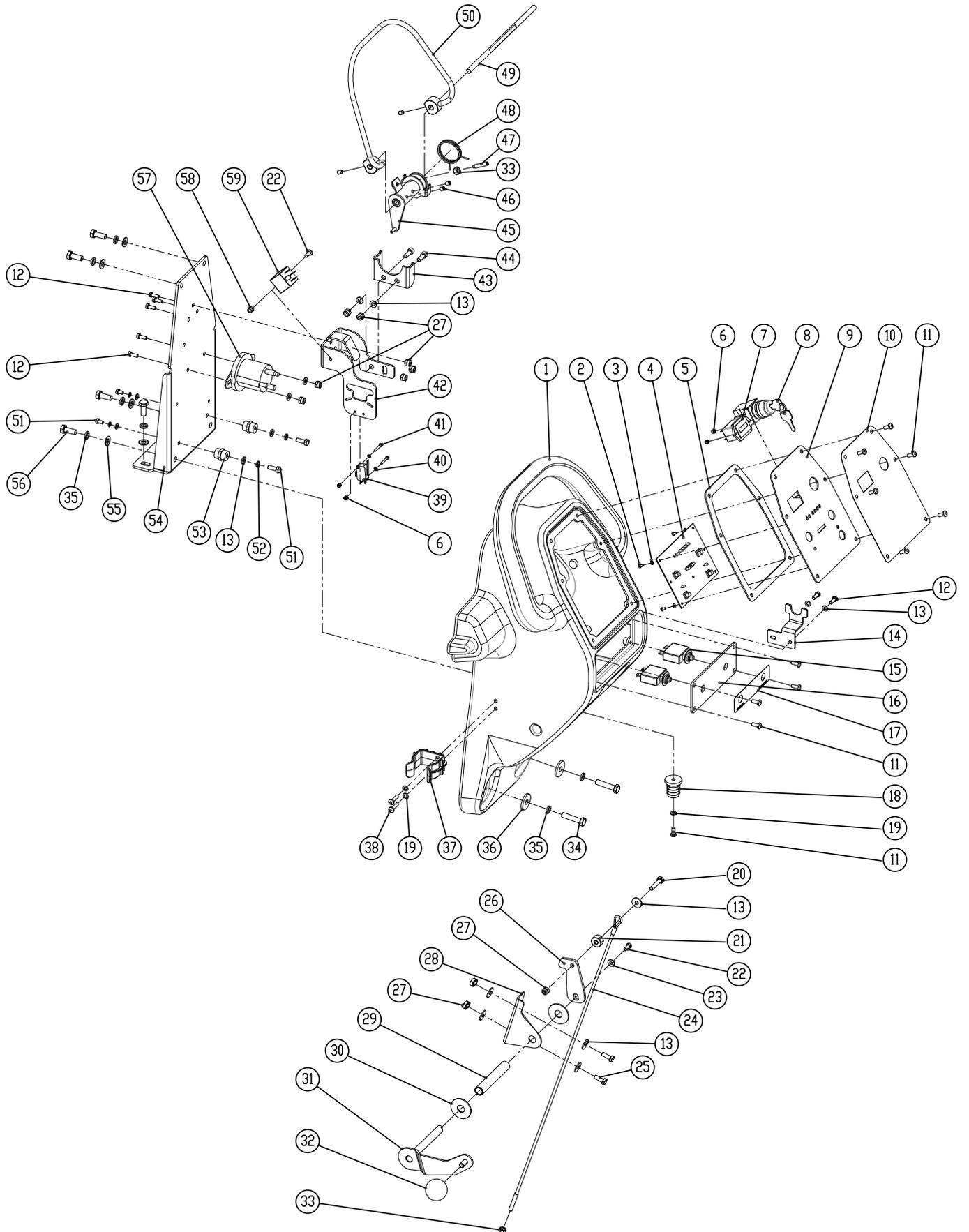
SOLUTION TANK GROUP

DIA NO.	PART NUMBER	DESCRIPTION	NO REQ'D
1	8113115	DOWN PRESSURE LABEL	1
2	8113101	DOWN PRESSURE LEVER BRACKET	1
3	1421816	FLAT WASHER M8× ϕ 16×1.6	2
4	1422821	LOCK WASHER M8	2
5	1021820	HEX HEAD BOLT M8×20	2
6	8113104	BALL KNOB	1
7	8113106	DOWN PRESSURE LEVER	1
8	8113112	BUSHING	1
9	8113110	SLEEVE, P/M	1
10	8113111	NYLON FLAT WASHER ϕ 12.9× ϕ 25.4×0.8	2
11	8113109	THRUST BEARING	2
12	8113114	SPRING	1
13	8113107	RETAINER, SPRING	1
14	8113103	BOLT M6×18	1
15	8113108	LINK, SPRING	2
	8133108	LINK, SPRING, ORBITAL HEAD MODEL	2
16	1123608	LOCK NUT M6	1
17	1221512	PAN HEAD SCREW M5×12	15
18	1123507	LOCK NUT M5	1
19	8133113	SPRING	1
20	8133501	CARGO NET	1
21	8133502	CLAMP	4
22	1221412	PAN HEAD SCREW M4X12	4
23	8133003	CLEAN TUBING	1
24	1962025	CLAMP 16-25mm	1
25	8133001	SOLUTION TANK	1
26	8119005	BALL VALVE, G1/2	1
27	8119007	ELBOW G1/2	1
28	8113021	HANDLE, CONNECTOR	1
29	8113020	CONNECTOR	2
30	8114731	BATTERY CONNECT CABLE, ASSEMBLY	1
31	8113013	SPACER, BATTERY	2
32	8113011	BATTERY, 12TB115, 115AH @ 5HR, HOPPECKE (OPTIONAL)	2
	8133010	BATTERY, 6-EVF-100, 110AH@ 5HR, CHILWEE (OPTIONAL)	2
	8133020	BATTERY, EV12A-A, 120AH@5HR, DISCOVER	2

SOLUTION TANK GROUP

DIA NO.	PART NUMBER	DESCRIPTION	NO REQ'D
33	8113012	BATTERY TRAY	1
34	8114750	BATTERY CONNECT CABLE, BLACK	1
35	8114751	BRACKET, BATTERY TERMINAL, BLACK	4
36	1421510	FLAT WASHER M5× ϕ 10×1	17
37	8119100	FILTER ASSEMBLY	1
38	8133025	LABEL, LEFT SIDE	1
39	1321110	SELF-TAPPING SCREW ST3.5 ×10	4
40	1421409	FLAT WASHER M4× ϕ 9×0.8	5
41	8133603	LED LIGHT	1
42	8133601	LED LIGHT MNTG BASE	1
43	1221520	PAN HEAD SCREW M5X20	3
44	8133602	LED LIGHT COVER	1
45	8113030	SEAL	1
46	8113002	COVER	1
47	8113007	STRAP	1
48	1321213	SELF-TAPPING SCREW ST4.2X13	1
49	4010316	ICE Logo	2
50	8133026	LABEL, RIGHT SIDE	1
51	1123305	LOCK NUT M3	2
52	8113010	BRACKET, CONNECTOR MTG	1
53	1434300	LOCK WASHER, TOOTH, M3	2
54	1211325	PAN HEAD SCREW M3×25	2
55	8114730	BATTERY CONNECT CABLE, ASSEMBLY	1
56	1422513	LOCK WASHER M5	2
57	8133002	CAP, SOLUTION FILL	1
58	8113009	NYLON, CLAMP	9

CONTROL CONSOLE GROUP (i20NB)



CONTROL CONSOLE GROUP (i20NB)

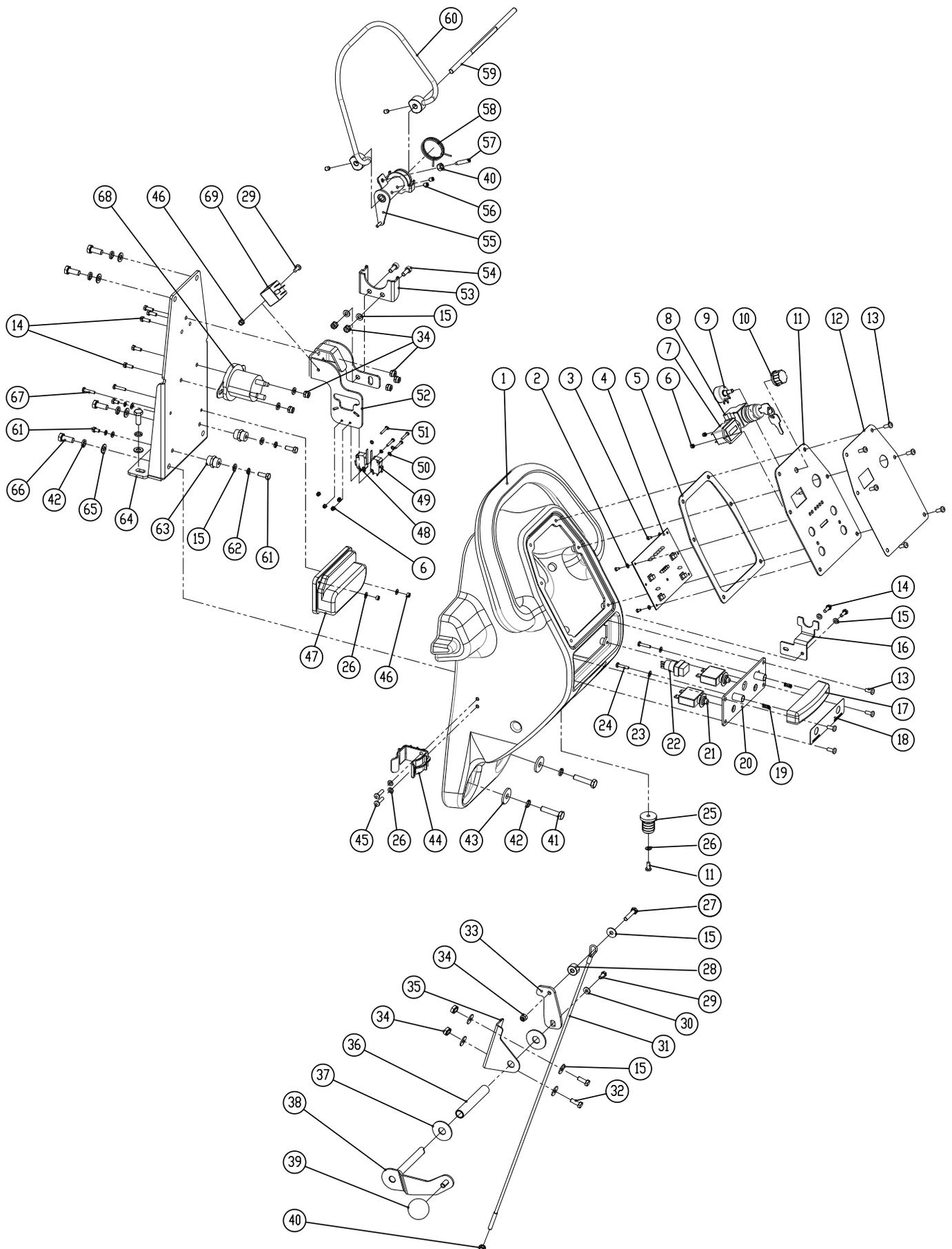
DIA NO.	PART NUMBER	DESCRIPTION	NO REQ'D
1	8134001	CONTROL CONSOLE HOUSING	1
2	1221306	PAN HEAD SCREW M3×6	5
3	1421307	FLAT WASHER M3× ϕ 7×0.5	5
4	8114701	PCB ASSEMBLY	1
5	8134015	GASLET	1
6	1123305	LOCK NUT M3	4
7	8114710	TIMER	1
8	8114709	KEY SWITCH	1
9	8134010	CONTROL PANEL	1
10	8134014	CONTROL PANEL DECAL, i20NB	1
11	1221512	PAD SCREW M5×12	12
12	1021616	HEX HEAD BOLT M6 X 16	7
13	1421618	PLAIN WASHER M6× ϕ 18×1.6, SS	15
14	8114008	BRACKET, SQGE STORAGE	1
15	8114703	CIRCUIT BREAKER, 35A	2
16	8134006	PLATE, CIRCUIT BREAKERS MNTG	1
17	8144021	LABEL, CIRCUIT BREAKER	1
18	8114005	CONNECTOR	1
19	1421510	FLAT WASHER M5× ϕ 10×1.0	3
20	1021630	HEX HEAD BOLT M6×30,SS	1
21	8014101	LIFTING ROPE SPACER	1
22	1021512	HEX HEAD BOLT M5×12,SS	2
23	1421515	FLAT WASHER M5× ϕ 15×1.0	1
24	8134013	CABLE, SQGE LIFT	1
25	1021620	HEX HEAD BOLT M6×20,SS	2
26	8014012	BAFFLE	1
27	1123608	LOCK NUT M6	10
28	8134501	BRACKET	1
29	8134508	SLEEVE	1
30	1421132	FLAT WASHER M12× ϕ 32×1.5	2
31	8014010	SQUEEGEE LIFTING HANDLE	1
32	8113104	BALL KNOB M8	1
33	1121605	HEX NUT M6	2
34	1021840	HEX HEAD BOLT M8×40	2

PARTS LIST

CONTROL CONSOLE GROUP (i20NB)

DIA NO.	PART NUMBER	DESCRIPTION	NO REQ'D
35	1422821	LOCK WASHER M8	8
36	1421828	FLAT WASHER M8× ϕ 28×3	2
37	6210111	CLAMP, DRAIN HOSE	1
38	1221515	PAN HEAD SCREW M5×15	2
39	8114712	MICRO SWITCH	1
40	1434300	LOCK WASHER, TOOTH, M3	2
41	1021320	HEX HEAD SCREW M3×20	2
42	8134022	BRACKET, SWITCH	1
43	8114402	BRACKET, SPRING	1
44	1521616	SCREW M6X16, HEX SCOKET	2
45	8114300	ACTUATOR	1
46	1534608	SET SCREW M6 ×8	4
47	1535630	SET SCREW M6 ×30	1
48	8114306	SPRING	1
49	8114101	SHAFT	1
50	8134300	LEVER, BAIL	1
51	1021610	HEX HEAD BOLT M6 X 10	4
52	1422616	LOCK WASHER, M6	4
53	8114705	STAND-OFF, M6	2
54	8134021	REAR PLATE, CONTROL CONSOLE	1
55	1421824	FLAT WASHER M8× ϕ 24×2	6
56	1021820	HEX HEAD BOLT M8×20	6
57	8124704	SOLENOID SWITCH	1
58	1123507	LOCK NUT M5	1
59	8114707	RELAY, 40A	1

CONTROL CONSOLE GROUP (i20NB/i24BT)



PARTS LIST

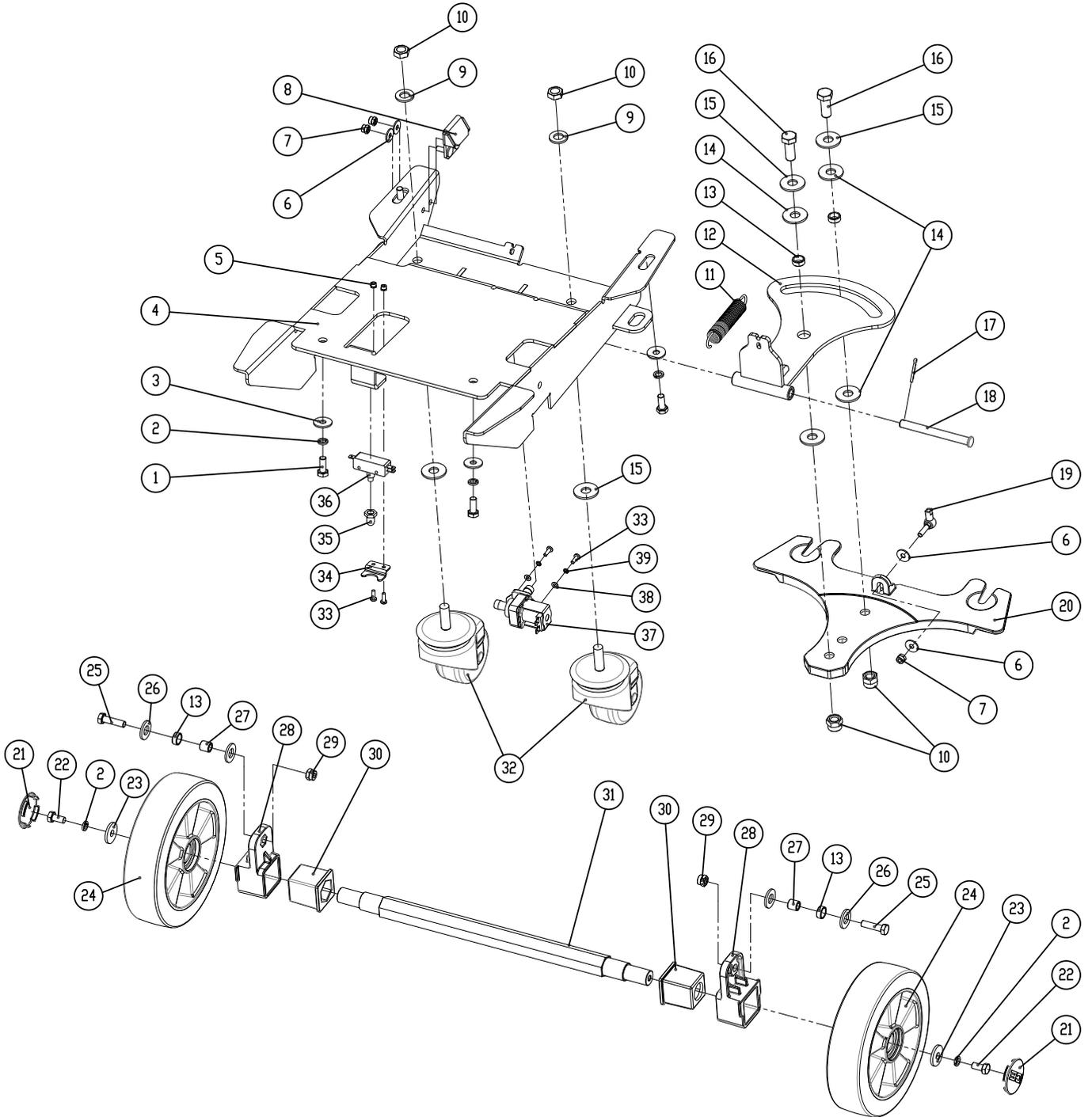
CONTROL CONSOLE GROUP (i20NBT/i24BT)

DIA NO.	PART NUMBER	DESCRIPTION	NO REQ'D
1	8134001	CONTROL CONSOLE HOUSING	1
2	1421307	FLAT WASHER M3× ϕ 7×0.5	5
3	1221306	PAN HEAD SCREW M3×6	5
4	8124701	PCB ASSEMBLY	1
5	8134015	GASLET	1
6	1123305	LOCK NUT M3	6
7	8114710	TIMER	1
8	8114709	KEY SWITCH	1
9	8124717	POTENTIOMETER	1
10	8124718	KNOB, POTENTIOMETER	1
11	8144010	CONTROL PANEL	1
12	8144014	CONTROL PANEL DECAL, i20NBT	1
	8144015	CONTROL PANEL DECAL, i24BT	1
13	1221512	PAN HEAD SCREW M5×12	12
14	1021616	HEX HEAD BOLT M6 X 16	7
15	1421618	PLAIN WASHER M6× ϕ 18×1.6,SS	15
16	8114008	BRACKET, SQGE STORAGE	1
17	8124007	BUTTON,EMERGENCY STOP	1
18	8144022	LABEL, CIRCUIT BREAKER	1
19	8124008	SPRING	2
20	8144030	BASE, CIRCUIT BREAKERS MNTG	1
21	8114703	CIRCUIT BREAKER, 35A	3
22	8124715	EMERGENCY STOP SWITCH	1
23	1421409	FLAT WASHER M4× ϕ 9×0.8	2
24	1221421	PAN HEAD SCREW M4×20	2
25	8114005	CONNECTOR	1
26	1421510	FLAT WASHER M5× ϕ 10×1.0	5
27	1021630	HEX HEAD BOLT M6×30,SS	1
28	8014101	LIFTING ROPE SPACER	1
29	1021512	HEX HEAD BOLT M5×12,SS	2
30	1421515	FLAT WASHER M5× ϕ 15×1.0	1
31	8134013	CABLE, SQGE LIFT	1
32	1021620	HEX HEAD BOLT M6×20,SS	2
33	8014012	BAFFLE	1
34	1123608	LOCK NUT M6	10

CONTROL CONSOLE GROUP (i20NBT/i24BT)

DIA NO.	PART NUMBER	DESCRIPTION	NO REQ'D
35	8134501	BRACKET	1
36	8134508	SLEEVE	1
37	1421132	FLAT WASHER M12× ϕ 32×1.5	2
38	8014010	SQUEEGEE LIFTING HANDLE	1
39	8113104	BALL KNOB M8	1
40	1121605	HEX NUT M6	2
41	1021840	HEX HEAD BOLT M8×40	2
42	1422821	LOCK WASHER M8	8
43	1421828	FLAT WASHER M8× ϕ 28×3	2
44	6210111	CLAMP, DRAIN HOSE	1
45	1221515	PAN HEAD SCREW M5×15	2
46	1123507	LOCK NUT M5	3
47	8124501	SPEED CONTROL BOARD	1
48	8124743	MICRO SWITCH	1
49	8114712	MICRO SWITCH	1
50	1434300	LOCK WASHER, TOOTH, M3	4
51	1021320	HEX HEAD SCREW M3×20	4
52	8134022	BRACKET, SWITCH	1
53	8114402	BRACKET, SPRING	1
54	1521616	SCREW M6X16, HEX SCOKET	2
55	8114300	ACTUATOR	1
56	1534608	SET SCREW M6 ×8	4
57	1535630	SET SCREW M6 ×30	1
58	8114306	SPRING	1
59	8114101	SHAFT	1
60	8134300	LEVER, BAIL	1
61	1021610	HEX HEAD BOLT M6 × 10	4
62	1422616	LOCK WASHER, M6	4
63	8114705	STAND-OFF, M6	2
64	8134021	REAR PLATE, CONTROL CONSOLE	1
65	1421824	FLAT WASHER M8× ϕ 24×2	6
66	1021820	HEX HEAD BOLT M8×20	6
67	1021535	HEX HEAD BOLT, M5 × 35	2
68	8124704	SOLENOID SWITCH	1
69	8114707	RELAY, 40A	1

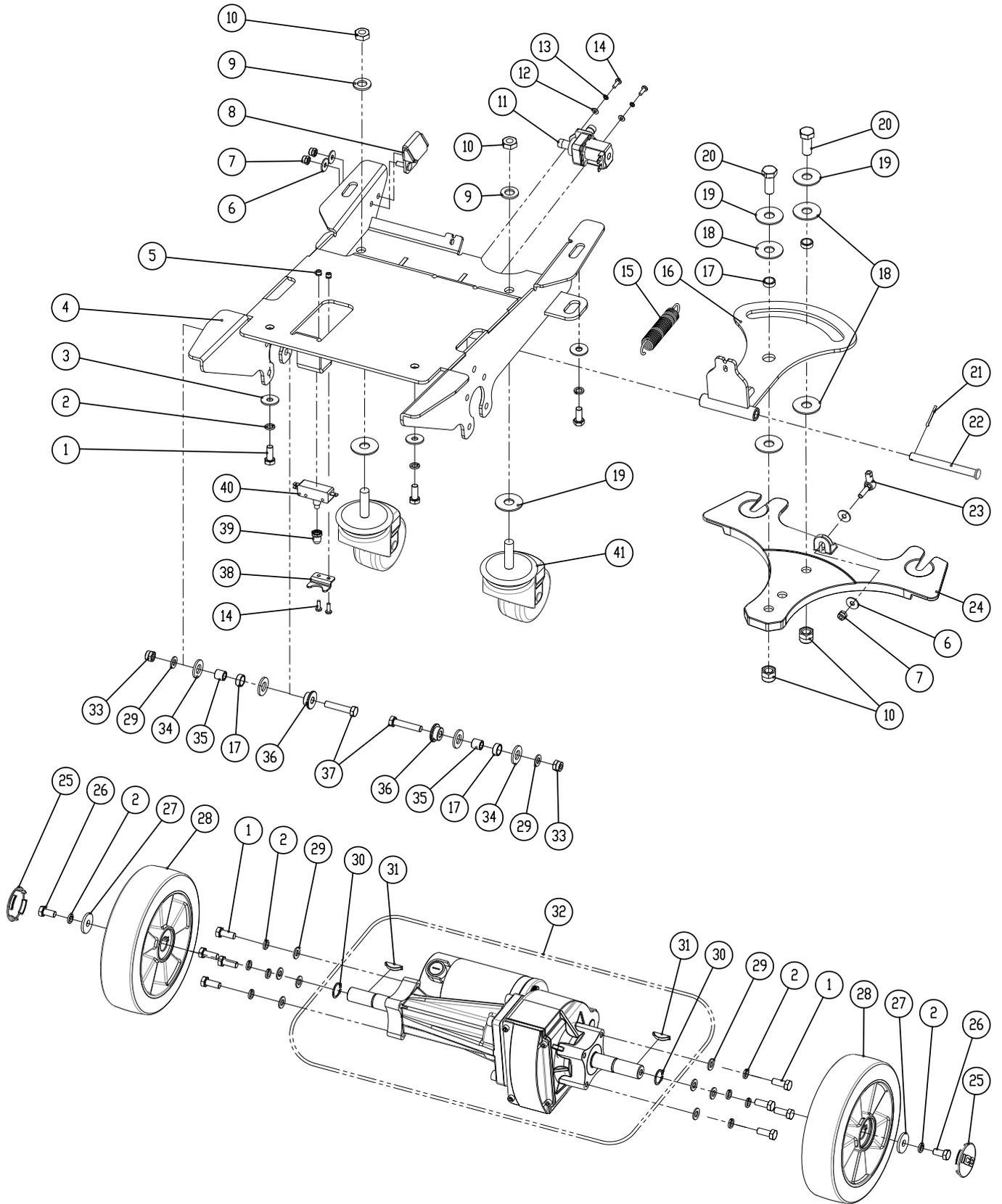
FRAME & WHEEL GROUP (i20NB)



FRAME & WHEEL GROUP (i20NB)

DIA NO.	PART NUMBER	DESCRIPTION	NO REQ'D
1	1021820	HEX HEAD BOLT M8×20	4
2	1422821	LOCK WASHER M8	6
3	1421824	FLAT WASHER M8× ϕ 24×2	4
4	8135100	MAIN FRAME	1
5	1123406	LOCK NUT M4	2
6	1421618	FLAT WASHER M6× ϕ 18×1.6	4
7	1123608	LOCK NUT M6	3
8	8115300	BRACKET, PEDAL LOCKING	1
9	1421124	FLAT WASHER M12× ϕ 24×2.5	2
10	1123115	LOCK NUT M12	4
11	8115004	SPIRNG	1
12	8135010	BRACKET, SQGE LIFT	1
13	8115405	SLEEVE, P/M	4
14	8135001	PLASTIC THRUST WASHER M12× ϕ 30×1.5	4
15	1421132	FLAT WASHER M12× ϕ 32×1.5	4
16	1021230	HEX HEAD BOLT M12 ×30	2
17	1645324	COTTER 3.2 ×24	1
18	8115003	PIN	1
19	8114511	BALL ϕ INT M6	1
20	8115001	BRACKET, SQGE MNTG	1
21	8115203	COVER, WHEEL	2
22	1021816	HEX HEAD BOLT M8×16	2
23	1421828	FLAT WASHER M8× ϕ 28×3	2
24	8115200	WHEEL, 8 INCH	2
25	1021835	HEX HEAD BOLT M8×35	2
26	8117007	NYLON WASHER ϕ 12.9× ϕ 24×2.5	4
27	8115404	BEARING, ϕ URNAL	2
28	8115402	ADAPTER, AXLE MNTG	2
29	1123810	LOCK NUT M8	2
30	8115403	GROMMENT, AXLE	2
31	8135401	AXLE, WHEEL	1
32	8115500	CASTER, SWIVEL, 80MM	2
33	1221412	PAN HEAD SCREW M4×12	4
34	8115009	BRACKET	1
35	8115008	CAP, MICRO SWITCH, 3/8	1
36	8115007	MICRO SWITCH 25A	1
37	8119003	SOLENOID VALVE, 24VDC	1
38	1421409	FLAT WASHER M4× ϕ 9×0.8	2
39	1422411	LOCK WASHER M4	2

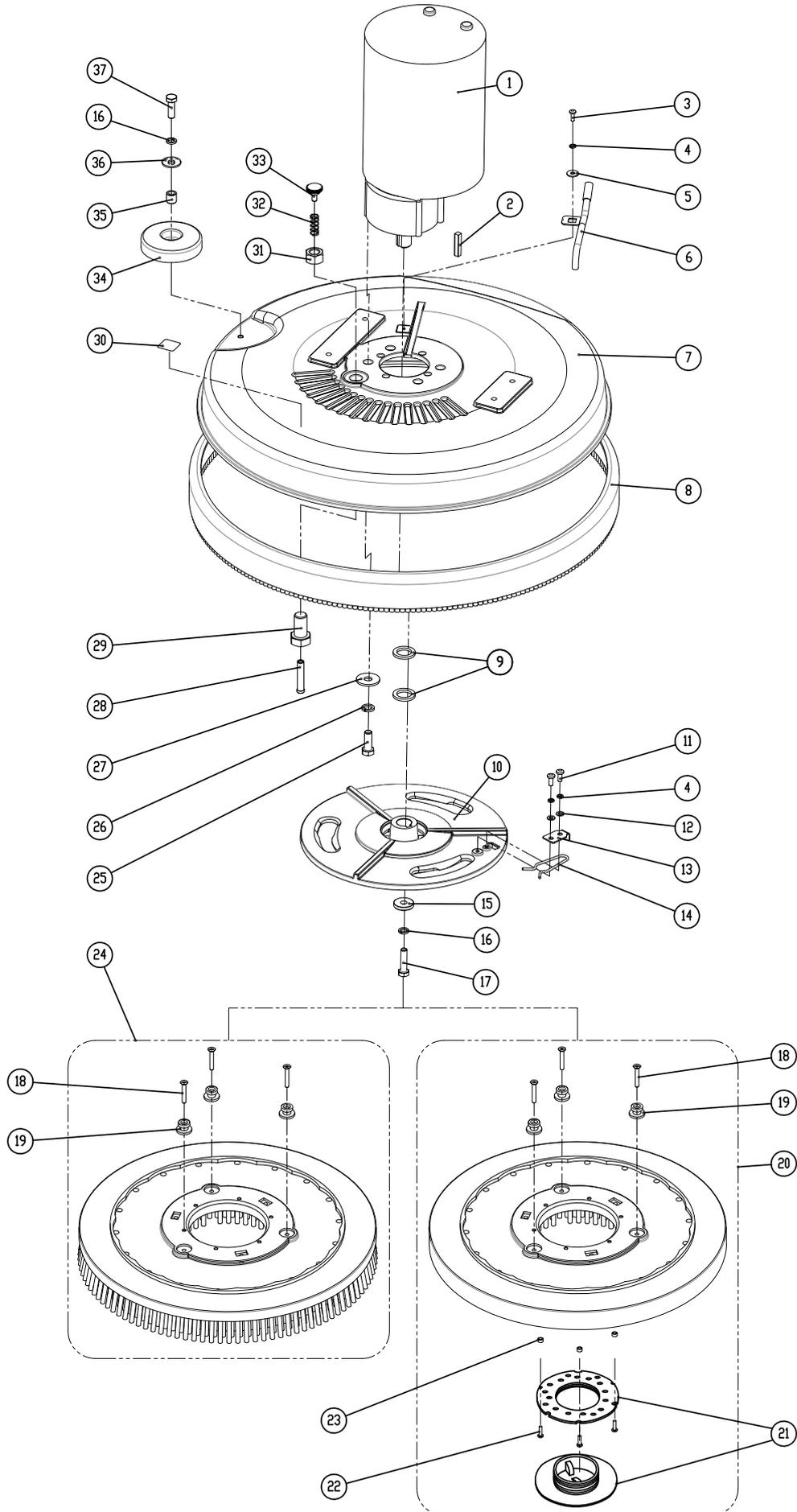
FRAME & TRANSAXLE GROUP (i20NBT/i24BT)



FRAME & TRANSAXLE GROUP (i20NBT/i24BT)

DIA NO.	PART NUMBER	DESCRIPTION	NO REQ'D
1	1021820	HEX HEAD BOLT M8×20	12
2	1422821	LOCK WASHER M8	14
3	1421824	FLAT WASHER M8× ϕ 24×2	4
4	8145100	MAIN FRAME	1
5	1123406	LOCK NUT M4	2
6	1421618	FLAT WASHER M6× ϕ 18×1.6	4
7	1123608	LOCK NUT M6	3
8	8115300	BRACKET, PEDAL LOCKING	1
9	1421124	FLAT WASHER M12× ϕ 24×2.5	4
10	1123115	LOCK NUT M12	4
11	8119003	SOLENOID VALVE, 24VDC	1
12	1421409	FLAT WASHER M4× ϕ 9×0.8	2
13	1422411	LOCK WASHER M4	2
14	1221412	PAN HEAD SCREW M4×12	4
15	8115004	SPIRNG	1
16	8135010	BRACKET, SQGE LIFT	1
17	8115405	SLEEVE, P/M	4
18	8135001	PLASTIC THRUST WASHER M12× ϕ 30×1.5	4
19	1421132	FLAT WASHER M12× ϕ 32×1.5	4
20	1021230	HEX HEAD BOLT M12 ×30	2
21	1645324	COTTER 3.2 ×24	1
22	8115003	PIN	1
23	8114511	BALL ϕ INT M6	1
24	8115001	BRACKET, SQGE MNTG	1
25	8115203	COVER, WHEEL	2
26	1021816	HEX HEAD BOLT M8×16	2
27	1421828	FLAT WASHER M8× ϕ 28×3	2
28	8125200	WHEEL, 8 INCH	2
29	1421816	FLAT WASHER M8× ϕ 16×1.6	10
30	1436019	RETAINING RING 19	2
31	8125403	WOODRUFF KEY	2
32	8125401	TRANSAXLE	1
33	1123810	LOCK NUT M8	2
34	8117007	NYLON WASHER ϕ 12.9× ϕ 24×2.5	4
35	8115404	BEARING, ϕ URNAL	2
36	8145001	BUSHING	2
37	1021840	HEX HEAD BOLT M8 ×40	2
38	8115009	BRACKET	1
39	8115008	CAP, MICRO SWITCH, 3/8	1
40	8115007	MICRO SWITCH 25A	1
41	8115500	CASTER, SWIVEL, 80MM	2

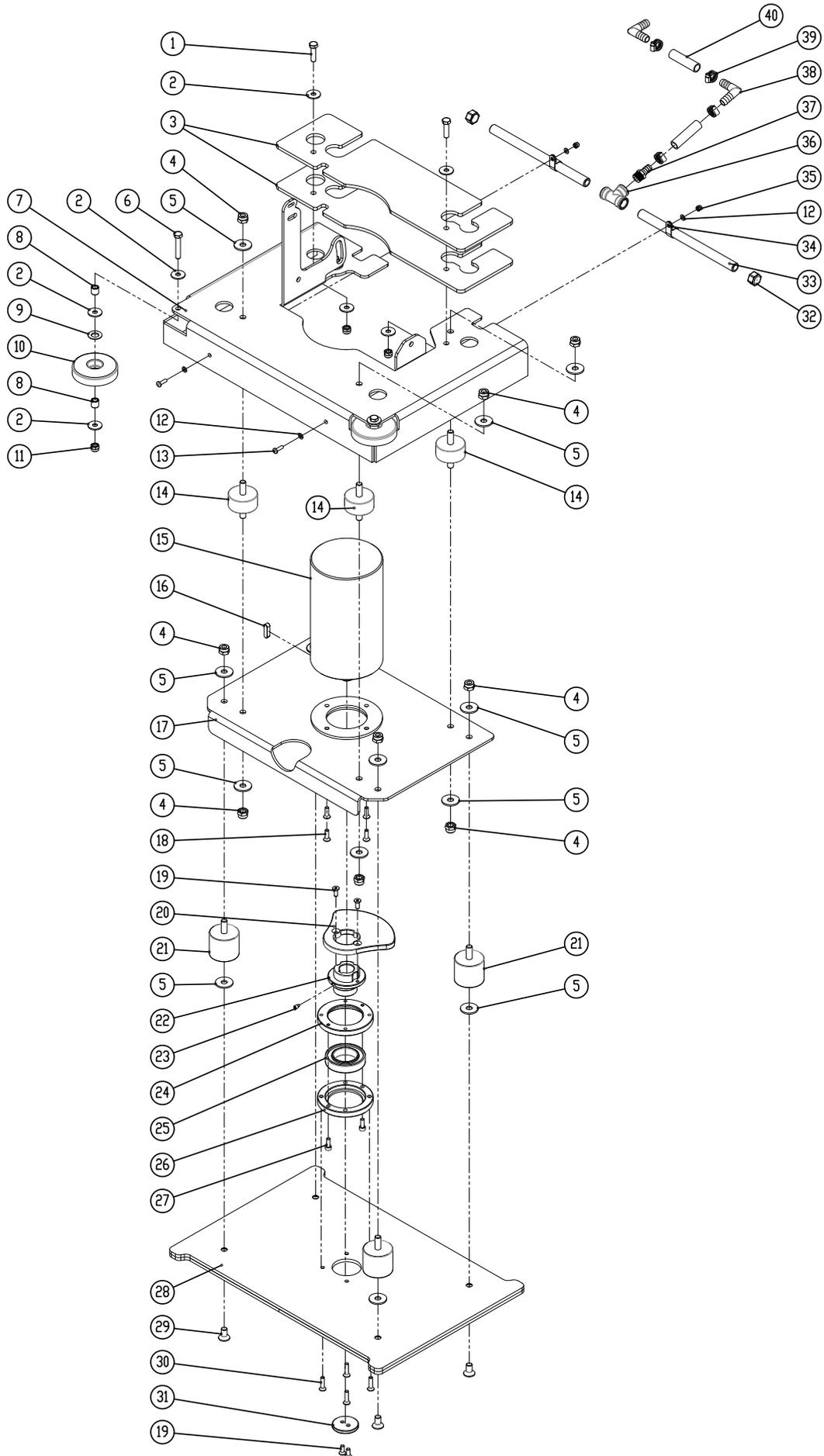
SCRUB HEAD GROUP (i20NB / i20NBT)



SCRUB HEAD GROUP (i20NB / i20NBT)

DIA NO.	PART NUMBER	DESCRIPTION	NO REQ'D
1	8116005	BRUSH MOTOR, 24VDC 1.0HP	1
2	1656432	KEY	1
3	1221412	PAN HEAD SCREW M4×12	1
4	1422513	LOCK WASHER M5	3
5	1421518	FLAT WASHER M5× ϕ 18×2	1
6	8116100	WATER SUPPLY TUBE	1
7	8116006	SCRUB HEAD HOUSING	1
8	8116020	BUMPER, SCRUB HEAD	1
9	8116001	SPACER	2
10	8116008	HUB, DRIVE, 3 LUG	1
11	1221512	PAN HEAD SCREW M5×12	2
12	1421510	FLAT WASHER M5× ϕ 10×1	2
13	8116002	BRUSH CLAMP PLATE	1
14	8116003	SPRING CLIP	1
15	8116010	FLAT WASHER ϕ 8.5× ϕ 25.4×4.5	1
16	1422821	LOCK WASHER M8	2
17	1023815	HEX BOLT 5/16-18 ×1.5" UNC	1
18	1222635	PAN HEAD SCREW, M6X35	6
19	8116030	STUD	6
20	9040019	19" PAD DRIVER	1
	9040019K	19" PAD DRIVER (OPTIONAL)	1
21	9000001	BIG MOUTH	1
	9000003	CENTER-LOK 3 (OPTIONAL)	1
22	1321325	SELF-TAPPING SCREW, ST4.8X25	3
23	8116040	SPACER	3
24	9050020	20" BRUSH, 0.7mm PP BLACK BRISTLE	1
	9050020E	20" BRUSH, 0.5mm PP BLUE BRISTLE (OPTIOAL)	1
25	1023010	HEX BOLT 3/8-16 ×1" UNC	4
26	1422026	LOCK WASHER M10	4
27	1421030	FLAT WASHER M10× ϕ 30×2.5	4
28	8116202	PIN	1
29	8116205	SCREW M14 × 20	1
30	8111023	WARNING LABEL	1
31	1121913	HEX NUT M14	1
32	8116204	SRPING	1
33	8116210	KNOB M6	1
34	8116009	PROTECTIVE WHEEL	1
35	8115404	SLEEVE, P/M	1
36	1421824	FLAT WASHER M8× ϕ 24×2.0	1
37	1021825	HEX HEAD BOLT M8×25	1

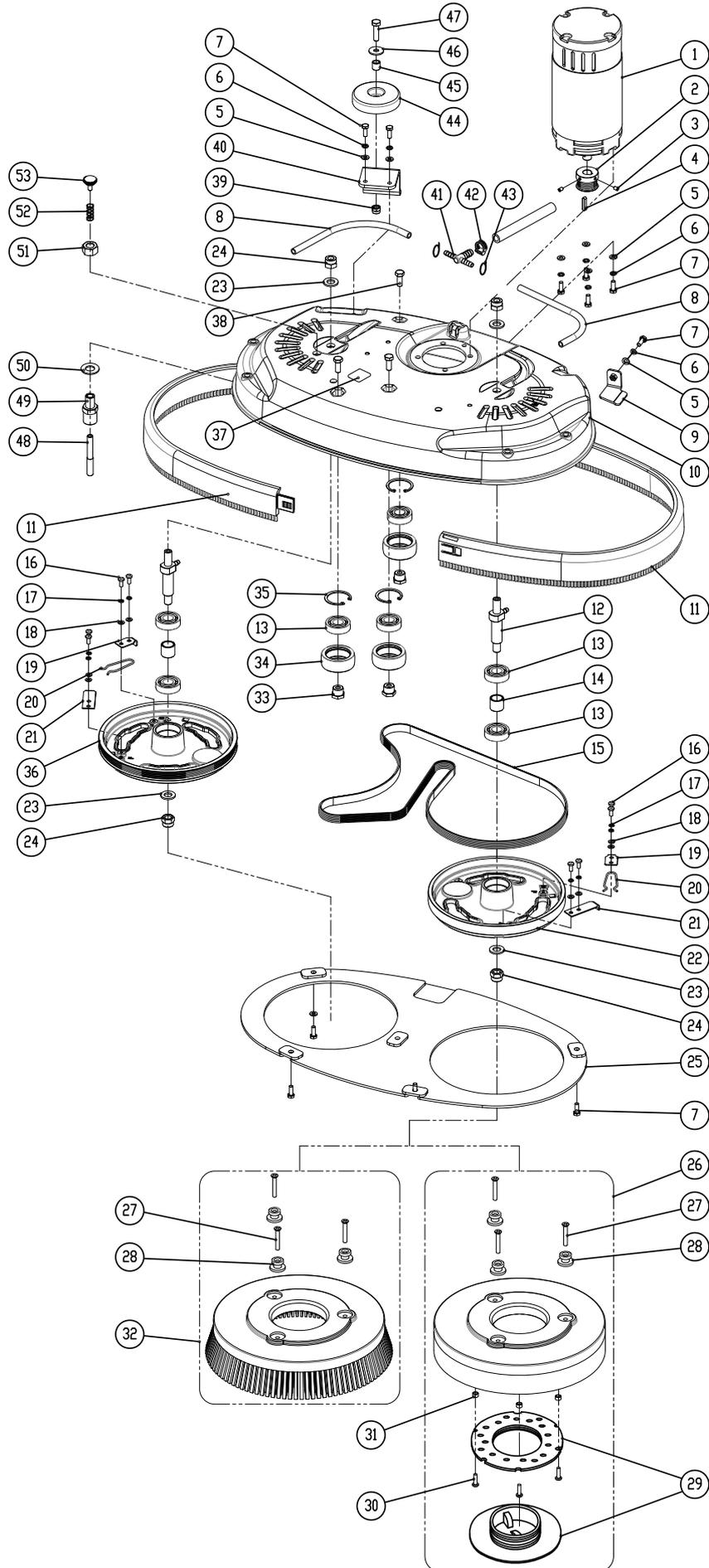
ORBITAL HEAD GROUP (i20NBT-OB)



ORBITAL HEAD GROUP (i20NBT-OB)

DIA NO.	PART NUMBER	DESCRIPTION	NO REQ'D
1	1021830	HEX BOLT M8×30	2
2	1421824	FLAT WASHER M8× ϕ 24×2.0	10
3	8146106	BLOCK, WEIGHT	2
4	1123012	LOCK NUT, M10	12
5	1421030	FLAT WASHER M10× ϕ 30×2.5	16
6	1022845	HEX BOLT M8×45	2
7	8146101	BRACKET, ORBITAL HEAD	1
8	8115404	BEARING, ϕ URNAL	4
9	1435013	WAVE WASHER	2
10	8116009	PROTECTIVE WHEEL	2
11	1123810	LOCK NUT, M8	4
12	1421510	FLAT WASHER M5× ϕ 10×1.0	4
13	1221515	SCREW M5×15	2
14	8146116	ISOLATORS, M10×25	4
15	8146109	MOTOR, 24VDC 550W 2200RPM	1
16	8146110	KEY, 8×7×28	1
17	8146102	BRACKET, MOTOR MOUNTING	1
18	1513620	HEX SOCKET SCREW, M6×20	4
19	1513616	HEX SOCKET SCREW, M6×16	4
20	8146202	ECCENTRIC	1
21	8146107	ISOLATORS, M10×25	4
22	8146201	ECCENTRIC SHAFT	1
23	1535610	SET SCREW, M6×10	1
24	8146204	BEARING HOUSING	1
25	1612608	BALL BEAING 6008	1
26	8146203	BEARING HOUSING	1
27	1521616	HEX SOCKET BOLT M6×16	2
28	8146103	PAD DRIVER	1
29	1513020	HEX SOCKET SCREW, M10×20	4
30	1513625	HEX SOCKET SCREW, M6×25	4
31	8146205	PLATE	1
32	8146303	END CAP 3/8	2
33	8146302	PVC TUBING	2
34	8146305	PLASTIC CLAMP	2
35	1123507	LOCK NUT M5	2
36	8146301	TEE FITTING 3/8	1
37	8013007	TUBING FITTING	1
38	8119002	ELBOW, TUBING BARB	2
39	1962016	CLAMP	4
40	8146320	TUBING, ID=12mm, l=60mm	2

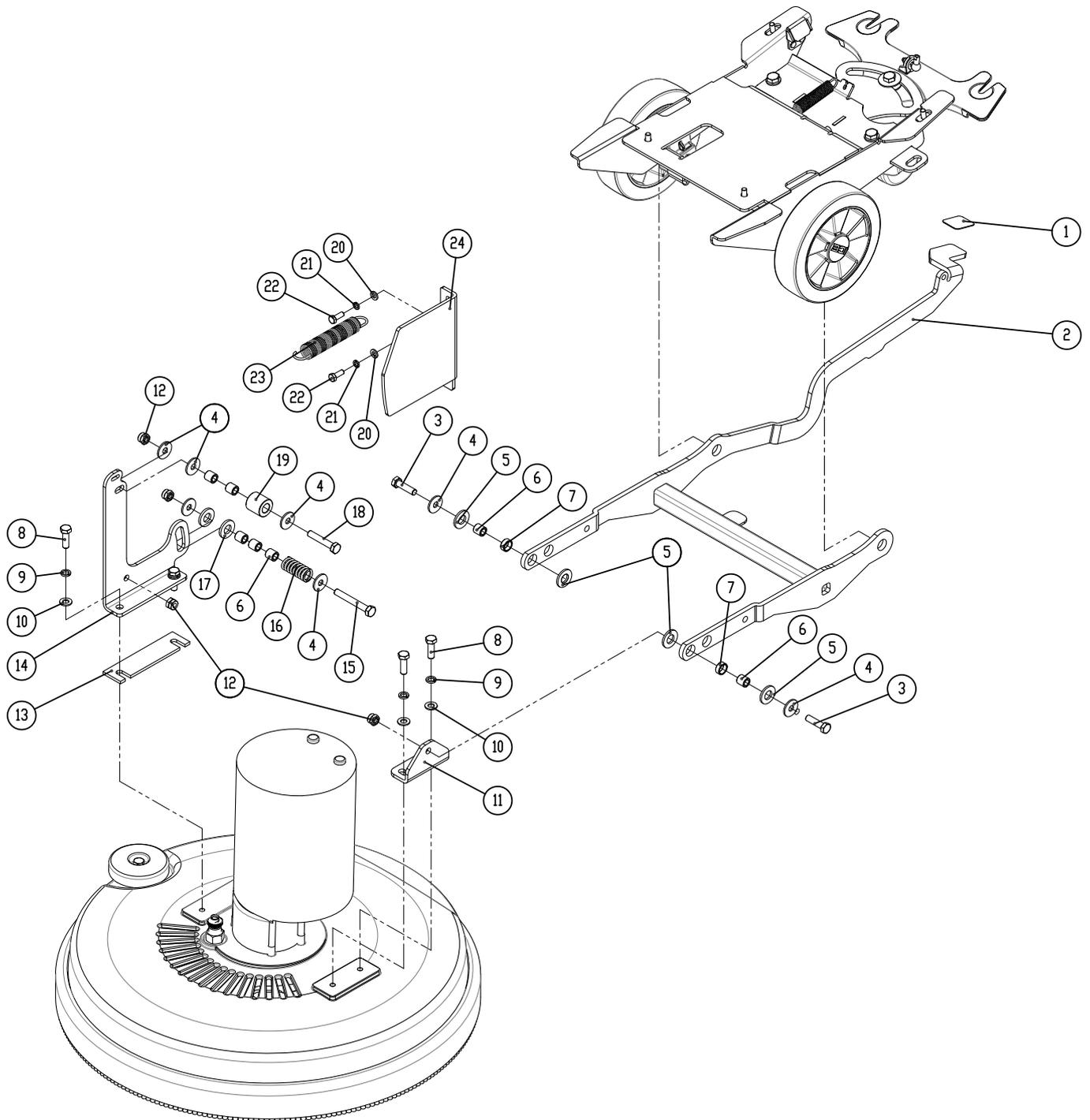
SCRUB HEAD GROUP (i24BT)



SCRUB HEAD GROUP (i24BT)

DIA NO.	PART NUMBER	DESCRIPTION	NO REQ'D
1	8126001	BRUSH MOTOR, 24VDC 680W 2000RPM	1
2	8126006	SHEAVE, SS	1
3	1534508	SCREW, SET, M5X8	2
4	1655025	KEY, 5X5X25	1
5	1421612	FLAT WASHER M6× ϕ 12×1.6	7
6	1422616	LOCK WASHER, M6	7
7	1021616	HEX HEAD BOLT M6×16	12
8	8119301	TUBING, ID=6mm, L=250mm	2
9	8126007	BRACKET, GUIDE, BELT	1
10	8126002	SCRUB HEAD HOUSING	1
11	8126050	BUMPER, SCRUB HEAD	2
12	8126040	SHAFT, PULLY	2
13	1612203	BEARING, 6203RS	7
14	8126008	BUSHING	2
15	8126005	BELT, 6PJ1598	1
16	1221512	PAN HEAD SCREW M5×12	8
17	1422513	LOCK WASHER M5	8
18	1421510	FLAT WASHER M5× ϕ 10×1	8
19	8116002	BRUSH CLAMP PLATE	2
20	8116003	SPRING CLIP	2
21	8126009	PLATE, CLAMP, BRUSH	2
22	8126004	HUB, DRIVER, 3LUG, PULLY	1
23	1421124	FLAT WASHER M12× ϕ 24×2.5	4
24	1123115	LOCK NUT M12	4
25	8126020	BRACKET, GUARD, SPLASH	1
26	9040011	11" PAD DRIVER	2
	9040011K	11" PAD DRIVER (OPTIONAL)	2
27	1222635	PAN HEAD SCREW, M6X35	12
28	8116030	STUD	12
29	9000001	BIG MOUTH	2
	9000003	CENTER-LOK 3 (OPTIONAL)	2
30	1321325	SELF-TAPPING SCREW, ST4.8X25	6
31	8116040	SPACER	6
32	9050012	12" BRUSH	2
33	8126032	SPACER, IDLER	3
34	8126031	PULLEY, IDLER	3
35	1437040	RING, RETAINING, 40	3
36	8126003	HUB, DRIVE, 3LUG, 6GRV	1
37	8111023	WARNING LABEL	1
38	1021820	HEX HEAD BOLT M8×20	3
39	1123810	LOCK NUT M8	1
40	8126012	BRACKET, WALL-ROLLER	1
41	8119004	FITTING, PLASTIC, TEE	1
42	1962016	CLAMP, 10-16mm	1
43	1914300	TIE, NYLON, 5X300	2
44	8116009	PROTECTIVE WHEEL	1
45	8115404	SLEEVE, P/M	1
46	1421824	FLAT WASHER M8× ϕ 24×2.0	1
47	1021825	HEX HEAD BOLT M8×25	1
48	8126202	PIN	1
49	8126205	GUIDE, M14X20	1
50	1421428	FLAT WASHER M14× ϕ 28×2.0	1
51	1121913	NUT M14	1
52	8116204	SPRING	1
53	8116210	KNOB M6	1

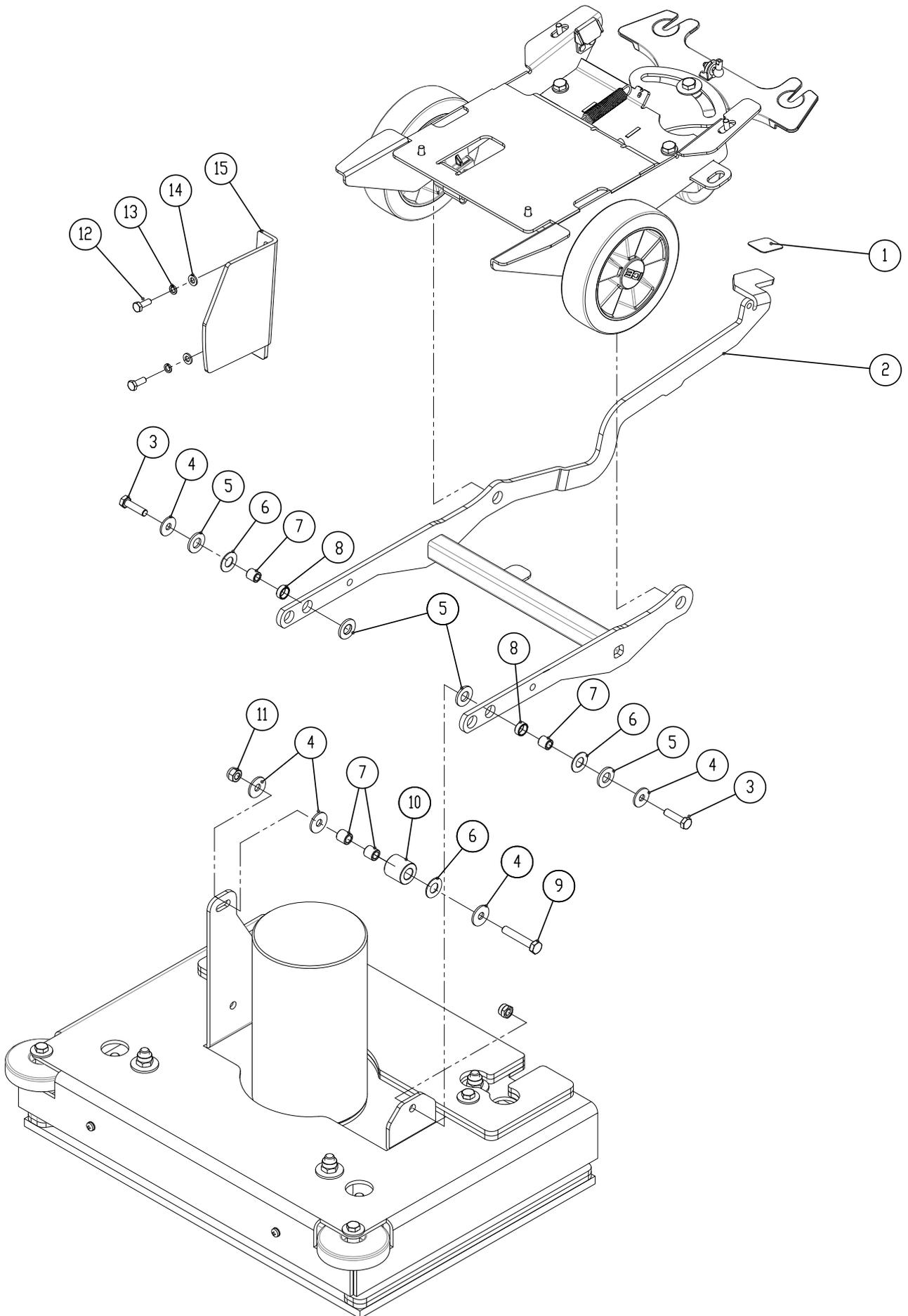
SCRUB HEAD LIFT GROUP (i20NB / i20NBT)



SCRUB HEAD LIFT GROUP (i20NB / i20NBT)

DIA NO.	PART NUMBER	DESCRIPTION	NO REQ'D
1	8137006	NON-SLIP MAT	1
2	8137100	BRACKET, SCRUB HEAD LIFT	1
3	1021830	HEX HEAD BOLT M8×30	2
4	1421824	FLAT WASHER M8× ϕ 24×2	6
5	8117007	NYLON WASHER ϕ 12.9× ϕ 24×2.5	4
6	8115404	BEARING, \emptyset URNAL	7
7	8115405	SLEEVE, P/M	2
8	1021825	HEX HEAD BOLT M8×25	4
9	1422821	LOCK WASHER M8	4
10	1421816	FLAT WASHER M8× ϕ 16×1.6	4
11	8117002	LEFT BRACKET	1
12	1123810	LOCK NUT M8	4
13	8117005	SPACER(i20NB)	1
14	8117003	RIGHT BRACKET	1
15	1022860	HEX HEAD BOLT M8 ×60	1
16	8117008	SPRING	1
17	8113109	BEARING, THRUST	2
18	1022845	HEX HEAD BOLT M8 ×45	1
19	8117004	ROLLER	1
20	1421612	FLAT WASHER M6× ϕ 12×1.6	2
21	1422616	LOCK WASHER M6	2
22	1021616	HEX HEAD BOLT M6 ×16	2
23	8117009	SPRING	1
24	8117001	BRACKET, GUIDE	1

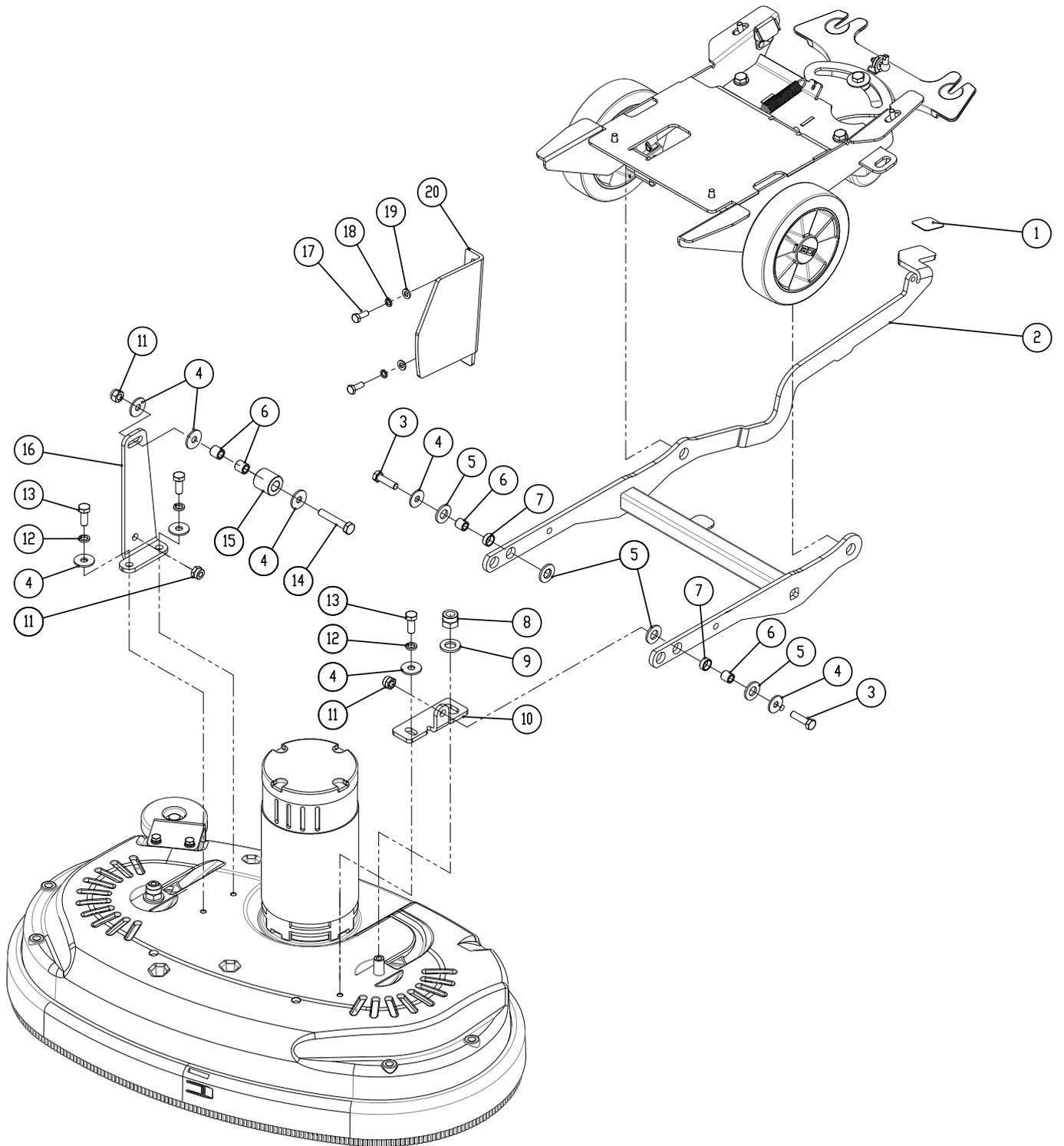
ORBITAL HEAD LIFT GROUP (i20NBT-OB)



ORBITAL HEAD LIFT GROUP (i20NBT-OB)

DIA NO.	PART NUMBER	DESCRIPTION	NO REQ'D
1	8137006	NON-SLIP MAT	1
2	8137100	BRACKET, SCRUB HEAD LIFT	1
3	1021830	HEX HEAD BOLT M8×30	2
4	1421824	FLAT WASHER M8× ϕ 24×2	8
5	8117007	NYLON WASHER ϕ 12.9× ϕ 24×2.5	4
6	1435013	WAVE WASHER	10
7	8115404	BEARING, \emptyset URNAL	4
8	8115405	SLEEVE, P/M	2
9	1022845	HEX HEAD BOLT M8 ×45	1
10	8117004	ROLLER	1
11	1123810	LOCK NUT M8	3
12	1021616	HEX HEAD BOLT M6 ×16	2
13	1422616	LOCK WASHER M6	2
14	1421612	FLAT WASHER M6× ϕ 12×1.6	2
15	8117001	BRACKET, GUIDE	1

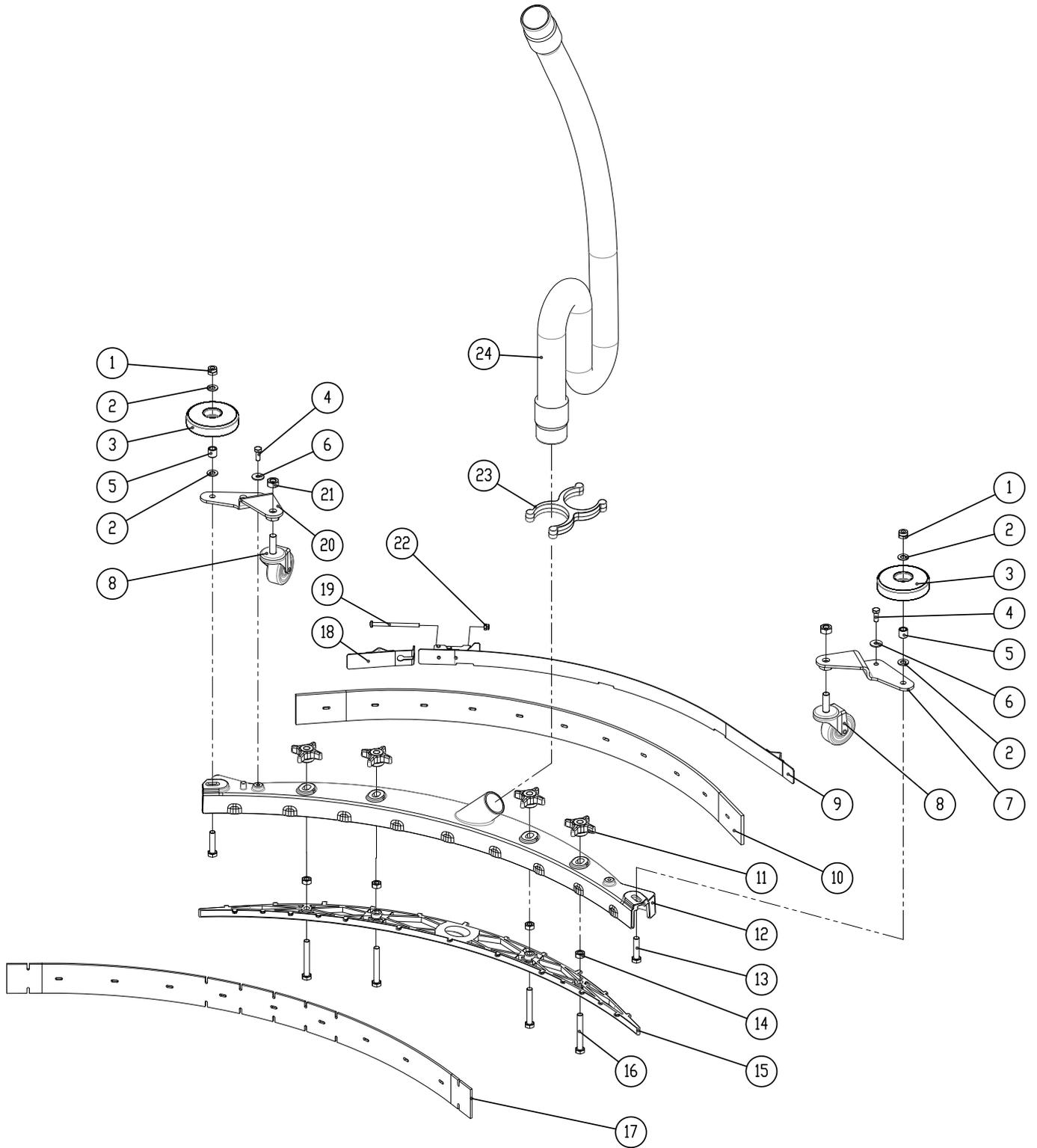
SCRUB HEAD LIFT GROUP (i24BT)



SCRUB HEAD LIFT GROUP (i24BT)

DIA NO.	PART NUMBER	DESCRIPTION	NO REQ'D
1	8137006	NON-SLIP MAT	1
2	8137100	BRACKET, SCRUB HEAD LIFT	1
3	1021830	HEX HEAD BOLT M8×30	2
4	1421824	FLAT WASHER M8× ϕ 24×2	8
5	8117007	NYLON WASHER ϕ 12.9× ϕ 24×2.5	4
6	8115404	BEARING, \emptyset URNAL	4
7	8115405	SLEEVE, P/M	2
8	1123115	LOCK NUT M12	1
9	1421124	FLAT WASHER M12× ϕ 24×2.5	1
10	8126011	LEFT BRACKET	1
11	1123810	LOCK NUT M8	3
12	1422821	LOCK WASHER M8	3
13	1021820	HEX HEAD BOLT M8×20	3
14	1022845	HEX HEAD BOLT M8 ×45	1
15	8117004	ROLLER	1
16	8126010	RIGHT BRACKET	1
17	1021616	HEX HEAD BOLT M6 ×16	2
18	1422616	LOCK WASHER M6	2
19	1421612	FLAT WASHER M6× ϕ 12×1.6	2
20	8137001	BRACKET, GUIDE	1

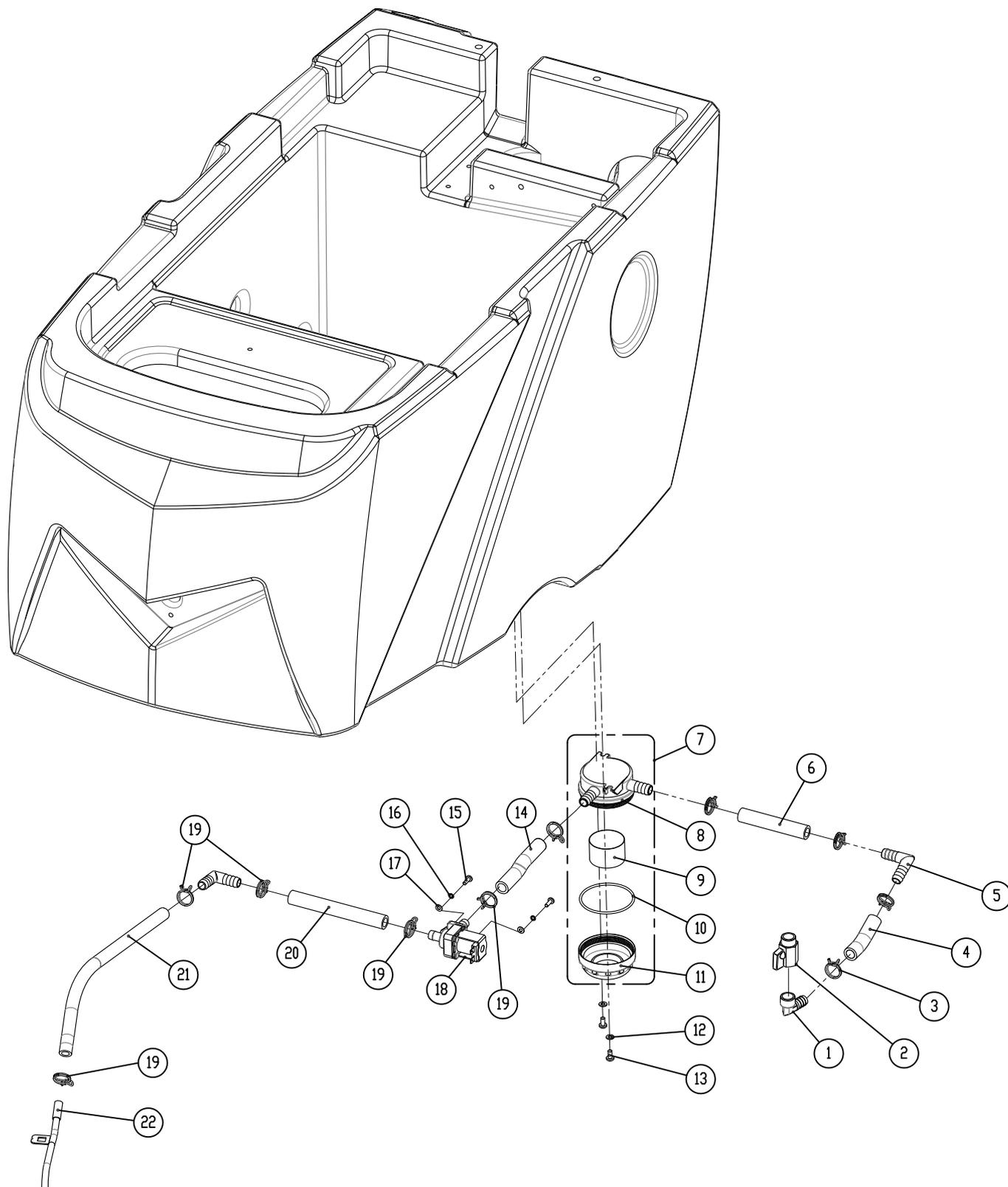
SQUEEGEE GROUP



SQUEEGEE GROUP

DIA NO.	PART NUMBER	DESCRIPTION	NO REQ'D
1	1123810	LOCK NUT M8	2
2	1421824	FLAT WASHER M8× ϕ 24×2.0	4
3	8116009	PROTECTIVE WHEEL	2
4	1021616	HEX HEAD BOLT M6×16	2
5	8115404	BEARING, \emptyset URNAL	2
6	1421612	FLAT WASHER M6× ϕ 12×1.6	2
7	8118300	RIGHT BRACKET	1
8	8118400	CASTER, 2 INCH	2
9	8118600	CLAMP ASSEMBLY, SQUEEGEE	1
10	8118022	SQUEEGEE BLADE, REAR, LINATEX	1
	8118002	SQUEEGEE BLADE, REAR, PU (OPTIONAL)	1
11	8118003	STAR KNOB M8	4
12	8118004	SQUEEGEE HOUSING	1
13	1021835	HEX HEAD BOLT M8×35	2
14	1121807	HEX NUT M8	4
15	8118005	RETAINER,SQUEEGEE	1
16	1021860	HEX HEAD BOLT M8×60	4
17	8118021	SQUEEGEE BLADE, FRONT, LINATEX	1
	8118001	SQUEEGEE BLADE, FRONT, PU (OPTIONAL)	1
18	8118610	SHORT CLAMP ASSEMBLY	1
19	1221575	PAN HEAD SCREW M5×75	1
20	8118200	LEFT BRACKET	1
21	1121008	HEX NUT M10	2
22	1123507	LOCK NUT M5	1
23	8118109	HOLDER VACUUM HOSE	1
24	8118006	VACUUM HOSE	1

SOLUTION FLOW GROUP



SOLUTION FLOW GROUP

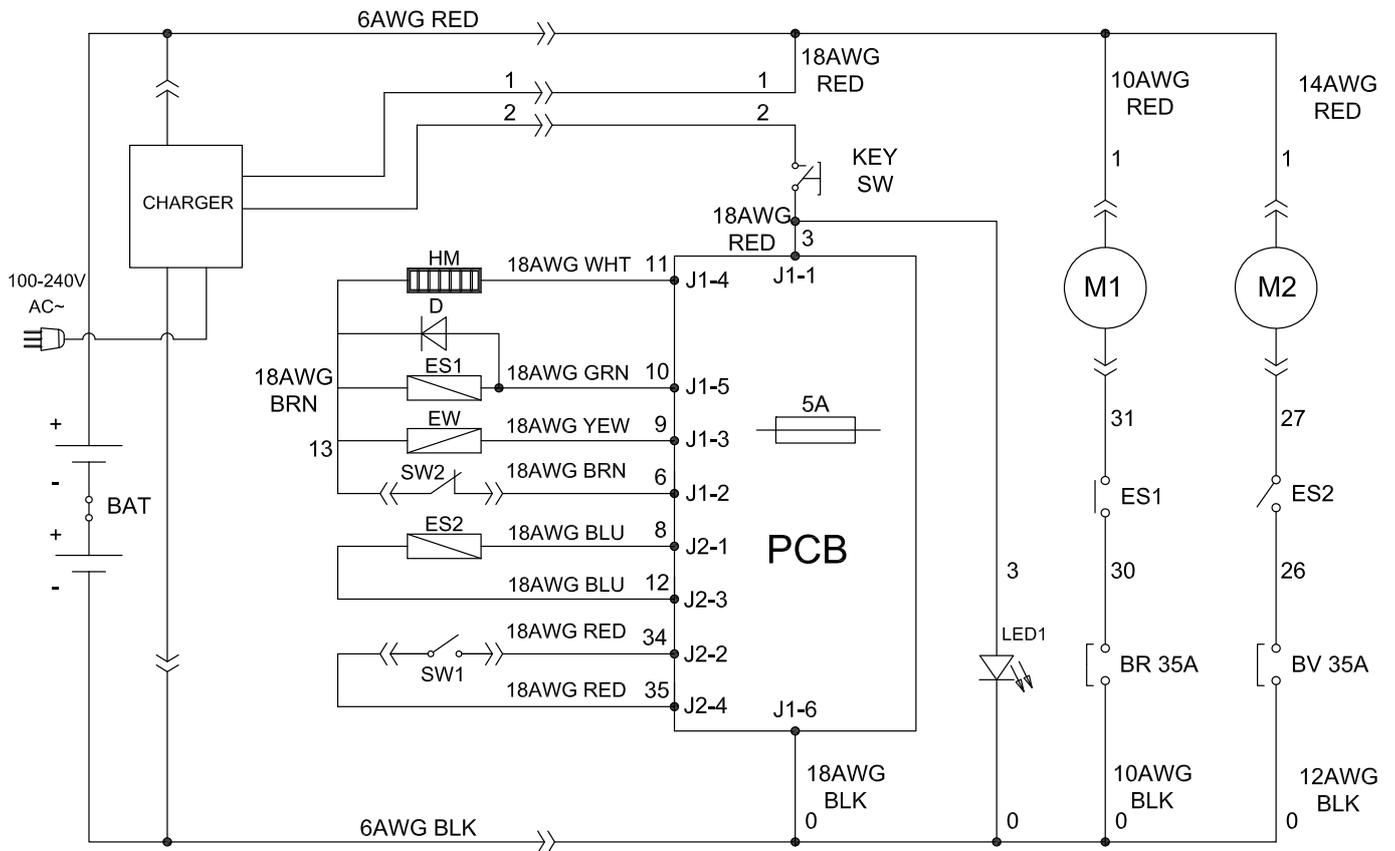
DIA NO.	PART NUMBER	DESCRIPTION	NO REQ'D
1	8119007	ELBOW G1/2	1
2	8119005	BALL VALVE, G1/2	1
3	8119006	CLAMP	5
4	8119201	TUBING ID=12MM L=70MM	1
5	8119002	ELBOW, TUBING BARB	2
6	8119202	TUBING ID=12MM L=100MM	1
7	8119100	FILTER ASSEMBLY	1
8	8119101	BASE, FILTER ASSEMBLY	1
9	8119103	SCREEN, FILTER, 70 MESH	1
	8119105	SCREEN, FILTER, 40 MESH (OPTIONAL)	1
10	1622063	O RING	1
11	8119102	CAP, FILTER ASSEMBLY	1
12	1421510	FLAT WASHER M5× ϕ 10×1	2
13	1221512	PAN HEAD SCREW M5×12	2
14	8119202	TUBING ID=12MM L=100MM	1
15	1221412	PAN HEAD SCREW M4×12	2
16	1422411	LOCK WASHER M4	2
17	1421409	FLAT WASHER M4× ϕ 9×0.8	2
18	8119003	SOLENOID VALVE, 24VDC	1
19	1962016	CLAMP, 10-16mm	5
20	8119203	TUBING ID=12MM L=135MM	1
21	8119204	TUBING ID=10MM L=360MM	1
22	8116100	WATER SUPPLY TUBE	1

WEAR AND TEAR PARTS

WEAR AND TEAR PARTS

DIA NO.	PART NUMBER	DESCRIPTION	NO REQ'D
1	8115200	WHEEL, 8 INCH, i20NB	2
	1612607	BEARING, BALL, 6004, 8"WHEEL	4
	8125200	WHEEL, 8 INCH, i20NBT / i24BT	2
2	8116009	PROTECTIVE WHEEL	3
3	8118021	SQUEEGEE BLADE, FRONT, LINATEX	1
4	8118022	SQUEEGEE BLADE, REAR, LINATEX	1
5	9050020	20" BRUSH ,0.7MM PP BRISTLE, BLACK, i20NB/NBT	1
	9050020E	20" BRUSH ,0.5MM PP BRISTLE, BLUE, i20NB/NBT (OPTIONAL)	1
	9050012	12" BRUSH , i24BT	2
6	9040019	19" PAD HOLDER, i20NB/NBT	1
	9040019K	19" PAD HOLDER, i20NB/NBT (OPTIONAL)	1
	9040011	11" PAD HOLDER, i24BT	2
	9040011K	11" PAD HOLDER, i24BT (OPTIONAL)	2
7	8146116	ISOLATORS, M10×25, i20NBT-OB	4
	8146107	ISOLATORS, M10×25, i20NBT-OB	4

WIRING DIAGRAM FOR i20NB



BAT: 2-12V Batteries

CHARGER: On board battery charger

KEY SW: Main power Key switch

HM: Hour meter

D: Diode

ES1: Brush motor solenoid switch

EW: Solution solenoid valve switch

SW2: Safe switch, Scrub head lifting

ES2: Vacuum motor relay

ES2: Vacuum motor relay

SW1: Control handle start bail switch

PCB: Function electronic board

LED1: Running lights

BR: Circuit breaker, Brush motor

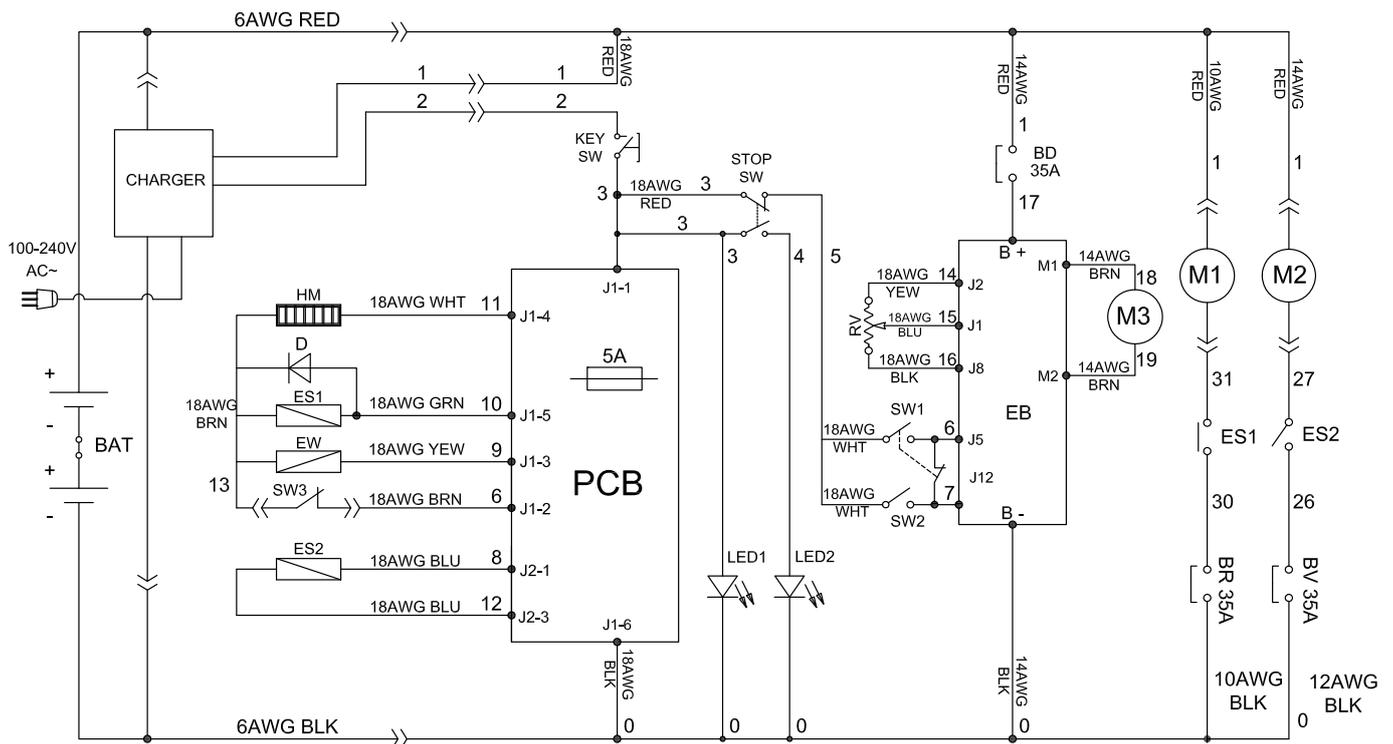
BV: Circuit breaker, Vacuum motor

M1: Brush motor

M2: Vacuum motor

WIRING DIAGRAM

WIRING DIAGRAM FOR i20NBT, i20NBT-OB & i24BT



BAT: 2-12V Batteries

CHARGER: On board battery charger

KEY SW: Main power Key switch

HM: Hour meter

D: Diode

ES1: Brush motor solenoid switch

EW: Solution solenoid valve switch

SW3: Safe switch, scrub head lifting

ES2: Vacuum motor relay

PCB: Function electronic board

STOP SW: Emergency stop switch

LED1: Running lights

LED2: Emergency stop lights

RV: Speed potentiometer

SW1: Control handle bail switch, forward

SW2: Control handle bail switch, backward

BD: Driver motor circuit breaker

EB: Speed control board

M3: Transaxle motor

BR: Circuit breaker, Brush motor

BV: Circuit breaker, Vacuum motor

M1: Brush motor

M2: Vacuum motor