

Operator's Manual

CLEANSTAR 20

Walk-Behind Automatic Scrubber



Failure to read and understand this manual before operating this machine or performing service on this machine may result in injury to the operator or nearby personnel or result in damage to the machine or nearby property. Each operator must be trained in the operation of this machine before being allowed to use it. Contact Amano Pioneer Eclipse Customer Service at 1-800-367-3550 or 1-336-372-8080 or an authorized Amano Pioneer Eclipse Distributor to inquire about training or to request a replacement manual.

La falta de leer y de entender este manual antes de usar esta máquina o de realizar servicio en esta máquina puede dar lugar a lesión al operador o al personal próximo o a resultado en daño a la máquina o propiedad próxima. Cada operador debe ser entrenado en la operación de esta máquina antes de ser permitido utilizarla. Ponerse en contacto con el servicio de Amano Pioneer Eclipse 1-800-367-3550 o 1-336-372-8080 o un distribuidor autorizado por Amano Pioneer Eclipse para investigar sobre el entrenamiento o para solicitar un manual.

Manquer de lire et de comprendre ce manuel d'utilisation avant l'utilisation de cette machine ou avant faire de maintenance sur la machine peut être résulter en blessure à l'opérateur ou au personnel proche ou peut endommagé la machine ou la propriété proche. Chaque utilisateur doit être entraîné dans l'opération de cette polisseuse avant l'utilisation. Veuillez contacter le service après-vente de Amano Pioneer Eclipse à 1-800-367-3550 ou 1-336-372-8080 et/ou un distributeur de Amano Pioneer Eclipse pour vous renseigner concernant l'entraînement ou pour obtenir un autre manuel d'utilisation.



Pioneer Eclipse®

Please read this manual carefully. It will acquaint you with the care, safe handling and operation of the CleanStar CS2000 Walk-Behind Autoscrubber.

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Machine Description

Features

- Large Capacity Tanks require less frequent filling and emptying.
- Traction Drive for Ease of Operation
- Quick and easy brush or pad replacement
- User-friendly instrument panel

Specifications

Length: 39.4" (100 cm)

Width: 21.7" (55 cm)

Height: 41.7" (106 cm)

Number of Pads/Brushes: 1

Maximum Work Width: 19.7" (50 cm)

Recommended Pad/Brush Size: 19" (48 cm)

Squeegee Width: 29" (74 cm)

Solution Tank in Polyethylene: 12 US gal. (45 L)

Recovery Tank in Polyethylene: 12 US gal. (45 L)

Traction: Electric

Weight with Batteries: 308 lbs. (140 kg)

Weight without Batteries: 187 lbs. (85 kg)

Power Source: Battery, 12V, 110 amp/hrs. (2)

Brush Motor: 370 watt, 17 A

Traction Motor: 110 watt, 8 A

Vacuum Motor: 550 watt, 22 A

Brush Lift Control: Pedal

Squeegee Lift Control: Pedal

Emergency Brake: Pedal

Parking Brake: Pedal

Scrubbing Performance: 18,800 sq ft/hr (1750 m²/h)

Noise at Driver's Ear: 72 dB

Due to the variations commonly found in pad dimensions, we recommend the use of 19" pads with this machine rather than 20" pads, even though some 20" pads will work on the machine.

General Instructions

Proper use of the CS2000

As soon as the machine arrives, please inspect the exterior and all moving parts to verify that no damage has occurred during transport. In case of missing or damaged parts, contact the Manufacturer or Authorized Distributor immediately.

Use the scrubber to clean floors with any covering. Maximum performance can be achieved with proper use and maintenance.

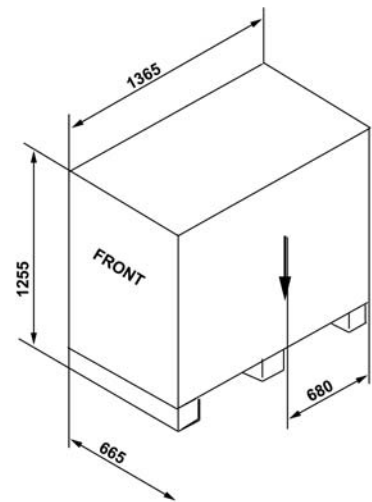
Handling of Packed Machine

The machine is supplied packed on a pallet, closed in a box made of plywood or paperboard. Please see the Features and Specifications section for information on weight and size. A black arrow on the box indicates the barycenter position. The forks of the lift truck or of the transpallet should be placed so that the black arrow indicated on the packing is about in the center of the forks. The palletized box should be handled with extreme caution; avoid impacts or lifting to extreme heights without reason. Do not stack the boxes.

Unpacking the Machine

Unpack the machine with caution.

- Cut the straps with the proper cutting tool, being careful of spring back.
- Remove the clips on the paperboard base which bind the paperboard to the pallet by using a screwdriver or a proper tool, and lift the paperboard.
- In case of package made of plywood, remove the clips on the sides and on the base of each panel as well.
- Remove the other clips fastening the machine in the same manner.
- Bring the machine to ground level by means of a metallic or wooden ramp.



Handling of the Unpacked Machine

Check the unpacked machine and install the batteries. If the machine must be handled for a short transport after being used, detach the battery cables and remove pad/brush and squeegee. For a longer transport, it is recommended to pack the machine again in its original box. The machine can be thrust-moved for short distances.

General Instructions

Before using the machine, Pioneer Eclipse strongly recommends that all operators read the General Safety Standards in this manual.

Manufacturer Responsibilities

Amano Pioneer Eclipse is not responsible for any inconveniences, failures, accidents, etc. due to the non-acquaintance (or non-fulfillment) of the instructions in this manual. The same applies to changes, modifications, and/or installation of unapproved accessories.

In particular, Amano Pioneer Eclipse is not responsible for any damages caused by:

- Natural calamity
- Erroneous operations
- Lack of maintenance
- Repair by unauthorized personnel

Spare Parts

Use only original spare parts, supplied and/or checked and authorized by Amano Pioneer Eclipse.

Service Requests

Service requests should be made after an accurate analysis of the problem and its causes. When contacting Amano Pioneer Eclipse customer service or a PE authorized service center, report the following:

- Model of the machine
- Serial number
- Details of the problem
- The checks executed
- The performed adjustments and their results
- Any other pertinent information

General Safety Standards

Before using the machine, instruct all operators to read carefully the Operator's Manual.

The person responsible for the machine must adhere to regulatory norms and local standards regarding the work environment for Operator Safety and Health. Before starting the machine, always perform the preliminary checks. Safety standards in the manual which involve any dangers can be recognized by the following:

CAUTION!

The person responsible for the machine must instruct the operators on:

- Safety and accident prevention standards
- Specific standards regarding the machines
- Location on the machine of emergency pushbuttons or similar mechanisms for emergency stop.

The fixed or movable protections (carters) should always remain in their position, correctly fixed with perfect integrity during all procedures of normal operation. If, for any reason, the carters are removed (protections switched off or short-circuited), their efficiency should be restored before restarting the machine. Use the machine only under normal conditions and in compliance with its purpose, and observe the safety and prevention standards in this manual. Immediately address any failures which could compromise safety.

This machine is exclusively designated for use as a scrubber; any other use does not comply with its purpose. Amano Pioneer Eclipse takes no responsibility for any consequent damage. The use according to the purpose also includes compliance with the Use and Maintenance Instructions and with the inspection and maintenance conditions as well.

Caution! Danger

It is absolutely forbidden to vacuum inflammable and/or toxic liquids and powders.

Caution! Danger

It is dangerous and absolutely forbidden to touch the lower part of the machine with the hands when any parts are moving. Should it be absolutely necessary, remove the key from the dashboard.

Instructions for use

Only an authorized operator can use the machine. To prevent the machine from being used by unauthorized personnel, it is important to remove the ignition key when not in operation. When the machine is not working, it should be protected from any accidental movements by pressing the emergency push button or detaching the plug from the battery. While the machine is working, pay attention to strangers and in particular to children.

Caution!

Always keep the Operator's Manual at the work place of the machine. Beyond the use and maintenance instructions, observe and follow the binding general legislative rules regarding Accident Prevention and Environment Protection. This can also concern the handling of harmful materials, the availability and mounting of customized protection equipment and compliance with the rules of the road. In case of machine modifications, which can compromise its safety or its operation, stop the machine immediately and inform the responsible body or person. Do not make any change or variation to the machine that can compromise its safety, without prior written authorization by Amano Pioneer Eclipse.

Never perform any unsafe operations. Before starting to work, become familiar with the environment of the working place. The working environment includes, for instance, any potential obstacles present in the working and transition area and knowledge of the ground capacity in a public traffic area.

Comply with the instructions contained in the Operator's Manual regarding "on" and "off" operation. Before starting the machine, check that the operation does not endanger anyone. Transportation of people and things is not allowed.

Caution!

Keep in mind the following standards. Failure to adhere to these rules can endanger the life of the operator or of other people. Always keep sufficient distance from sidewalk edges and from large differences in the height of the floor where the machine can fall. Never adopt a work technique that can compromise the stability of the machine.

When on a slope, keep the machine directed in an uphill or downhill direction. Never travel across a slope with one side of the machine higher than the other. When going downhill, always adjust the speed to environmental conditions. Do not turn the machine at excessive speeds, particularly if the floor is not flat.

Caution! Danger

Never operate the machine when stopped for special operations (setting up, maintenance, etc.). Before starting the machine, check for any possible visible defects on the safety devices, and check the correct operation of the emergency stop push button or of the equivalent mechanism. Never operate the machine when the control panel indicates defective tools, warning lights, etc.

Make Sure That:

- No strangers are present near the machine. Strangers are never allowed to approach the machine.
- No strange objects (appliances, cloths, etc.) are on the machine.
- The machine does not emit strange noises after start-up; if so, stop immediately and identify the cause.
- All doors and protections are properly closed.
- Use, maintenance and repair of the machine are allowed only by authorized operators who have reviewed the manual. These operators should be persons physically and intellectually fit for this work.

Maintenance Instructions

It is necessary to extract the ignition key during the maintenance of the machine and the replacement of parts.

Maintenance of the Electric Installation

Maintenance of the electric installation can be performed only by qualified electricians.

Note: In case of a power failure, disconnect the machine from the battery charger immediately. The electric installation should be periodically inspected and serviced. Any possible failure, such as detached connections and burned cables, should be attended to immediately.

- When charging the battery, leave the battery cover open.
- Keep the machine away from open flames, do not smoke near the machine.
- **Caution!** Battery liquid is corrosive.
- Do not cause sparks near the batteries.
- Battery gases are explosive.
- Do not cause any short-circuits.
- Do not invert polarities.
- Use only original fuses.
- In case of a power failure, disconnect the battery charger immediately.
- Periodically inspect and check the electrical system.
- Any possible failure, such as detached connections and burnt cables, should be removed immediately.

General Note

Any maintenance or repair should only be performed by a qualified technician.

Caution!

Clean the machine with detergent solutions with special care only when necessary. Adhere to all instructions of the detergent manufacturer. Wear protective clothes (overalls, gloves, protective glasses, etc.).

Checks

The machine must be inspected by a technician for safe operation of the machine and any possible damage or defects visible from outside:

- Before beginning operation
- After appropriate time intervals
- After any changes or repairs
- For proper safety device operation

Safety Device Control

Every six months the efficiency of the safety devices should be verified. This inspection should be performed by qualified personnel authorized by Amano Pioneer Eclipse. To increase the efficiency of the safety devices, a Amano Pioneer Eclipse technician or authorized service center should perform a complete service of the machine after every 800 hours of use, or every six months.

Annual Check

The responsible person should perform an annual check to determine if the machine complies with the technical safety standards. After this check, the responsible person should apply a test plate on the machine.

Caution!

This machine has not been designed for operation in areas where explosive gas, powders or steam can be generated.

Caution! Danger

To drain liquids used for floor scrubbing, follow local waste disposal standards.

Information concerning Machine Demolition

In case of machine demolition, it is important to subdivide the different types of materials composing the machine and dispose of the batteries in accordance with local legislation.

Preparing and Operating the CS2000

Use of the Machine

Preparing the machine for operation

Upon delivery of the machine, remove the packaging without damaging it. It can be re-used for future transportation or storage of the machine. Check the machine, and in case of damages occurred during transport, contact the carrier to file a freight damage claim. Before starting the machine, read carefully the contents of this manual, in particular the safety standards.

Installing the Batteries and Battery Charger

Lift the recovery tank to access the battery compartment. Inspect batteries carefully before installing, making sure that there are no cracks or other external damage. Never add distilled water after recharging the batteries. For proper battery connections, contact surfaces should be clean. Apply a film of grease or vaseline to terminal clamps or connections.

PROPOSITION 65 WARNING

Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.

Install the battery charger in a ventilated and dry place, far from heat sources and corrosive environments. Make sure that the voltages are correct (see the data plate located on the battery charger). Protect the mains with a delayed switch or with a load fuse higher than the maximum power consumption of the battery charger. Observe the polarity of the battery socket (cables are identified by symbols + red and - black).

Choosing the Cleaner Solution

For a proper cleaning of the floor, it is important to choose the appropriate cleaner solution. Your Amano Pioneer Eclipse Authorized Distributor can recommend the appropriate Amano Pioneer Eclipse cleaner for your particular needs. Keep in mind that a too-strong chemical agent can compromise the long life of your machine. It is necessary to use a low-sudsing detergent solution, or an anti-foaming additive, in order not to damage the vacuum motor.

Starting and Preparing the Machine

After charging, detach the battery charger plug coming from the machine socket. Then, connect the plug of the machine to the socket. Close the battery cover. Turn the master key switch to operate the machine. Proceed with the water loading and perform the scrubbing once the work place has been reached.

Scrubbing

- Turn the pad/brush switch to position 1 to engage the pad/brush motor. The pad/brush is lowered to the floor by pushing on the pad/brush plate lowering block.
- Immediately use the lever to apply the detergent water, and adjust it accordingly.
- Put the run selector in its forward position and move the machine forward to begin scrubbing. The right trigger moves the machine forward. Upon release, the machine will continue to move forward for a few feet. The left trigger stops the machine from moving forward and also serves as a parking brake.
- Adjust the solution flow to get the whole surface completely wet after the pad/brush passage, but without any excess that could generate splashes, stream or flows out of the squeegee.
- Lower the squeegee with the pedal immediately after putting the run selector forward. Turn the vacuum switch to ON.
- At the end of the scrubbing and drying operation, first stop the solution flow by using the lever, then lift the pad/brush and squeegee.

If the floor is very dirty or difficult to clean, a double scrubbing operation is recommended. On the first pass, scrub with the solution flow on, the pad/brush down and on, the squeegee lifted and the vacuum off. On the second machine pass, lower the squeegee and turn the vacuum on.

Water Filling and Discharge, Tank Cleaning

Before every scrubbing operation, open the solution tank and fill it with the proper quantity of water and cleaner. The tank is constructed of polyethylene resistant to all acid and basic solution and to all dissolvents found on the market. At the end of the scrubbing operation, discharge the dirty water from the recovery tank by means of the hose. Rinse the tanks after each use, and thoroughly clean the tank and membrane at least once each week.

Squeegee Adjustment

The squeegee must be perfectly adjusted to get a perfectly dry floor. The best results are achieved when the edge of the rear blade touches the floor with a slanting of approximately 60° - 45° to the floor. Use the squeegee adjustment knob to adjust the angle of the squeegee.

Drying can be negatively affected by a faulty suction operation. If the suction hose doesn't work well, drying will continue to be bad, even with all adjustment attempts. In this case:

- a) Thoroughly clean the suction hoses, inlets and filters and the squeegee itself
- b) Check vacuum motor operation
- c) Confirm that all inspection openings of the tank are closed.

Optional Brush Assembly Replacement

To attach the brush:

- Place the brush on the floor.
- Position the machine so that the brush assembly is over the brush.
- Turn on the brush motor and lower the brush assembly onto the brush. The brush will automatically attach.

To remove the brush:

- Tilt the machine with the brush motor engaged so that the brush does not contact the floor.
- The brush will automatically drop to the floor.

Machine Care

Maintenance Schedule

After Each Use

Clean the recovery tank.

Clean the vacuum motor filter.

Weekly

Check the condition of pad/brush.

Check the condition of the rubber squeegee blades.

Check the condition of the vacuum hoses and squeegee.

Monthly

Check the clean water tank filter.

Annually

Check the motor brushes.

Every Two Years

Check the automatic brake system.

Check the electrical system.

Squeegee Blade Replacement

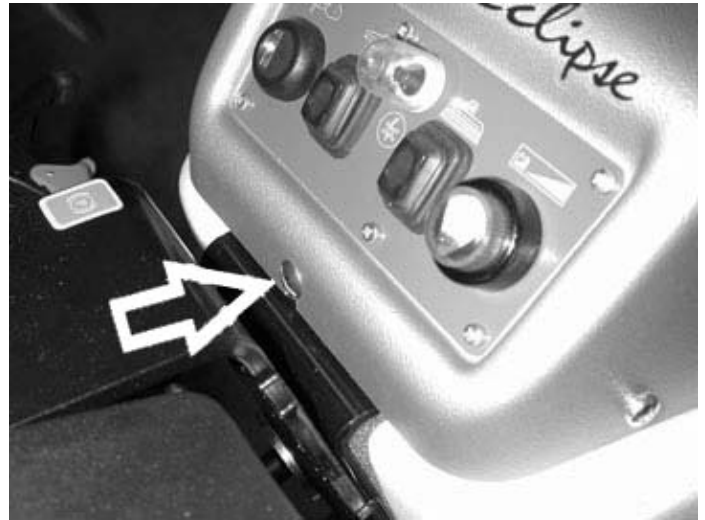
The squeegee blades should be replaced when the contact edge becomes worn. To replace the blades, remove the squeegee from the machine. Remove the screws on the front part and on the rear part of the squeegee, the steel straps, and the worn rubber blades. Perform the inverse procedure and assemble the new blades, then adjust the squeegee.

Vacuum Motor Maintenance

The vacuum motor must be checked and cleaned. The motor carbon brushes should be checked every six months and replaced, if necessary. After removing the key from the dashboard, remove one screw at the center of the dash panel (indicated below) and the vacuum motor cover. Unhook the hook and detach the plug to extract the motor and release the sponge filter under the motor so that it can be cleaned and replaced. Check the suction fan from the hose located in the front part of the vacuum motor. The fan should appear undamaged and well cleaned. To check the brushes, first remove the plastic cap, then unscrew the screws and remove the two plastic supports of the brushes. Once checked and replaced (if necessary), the brushes can be easily remounted by reassembling all elements.

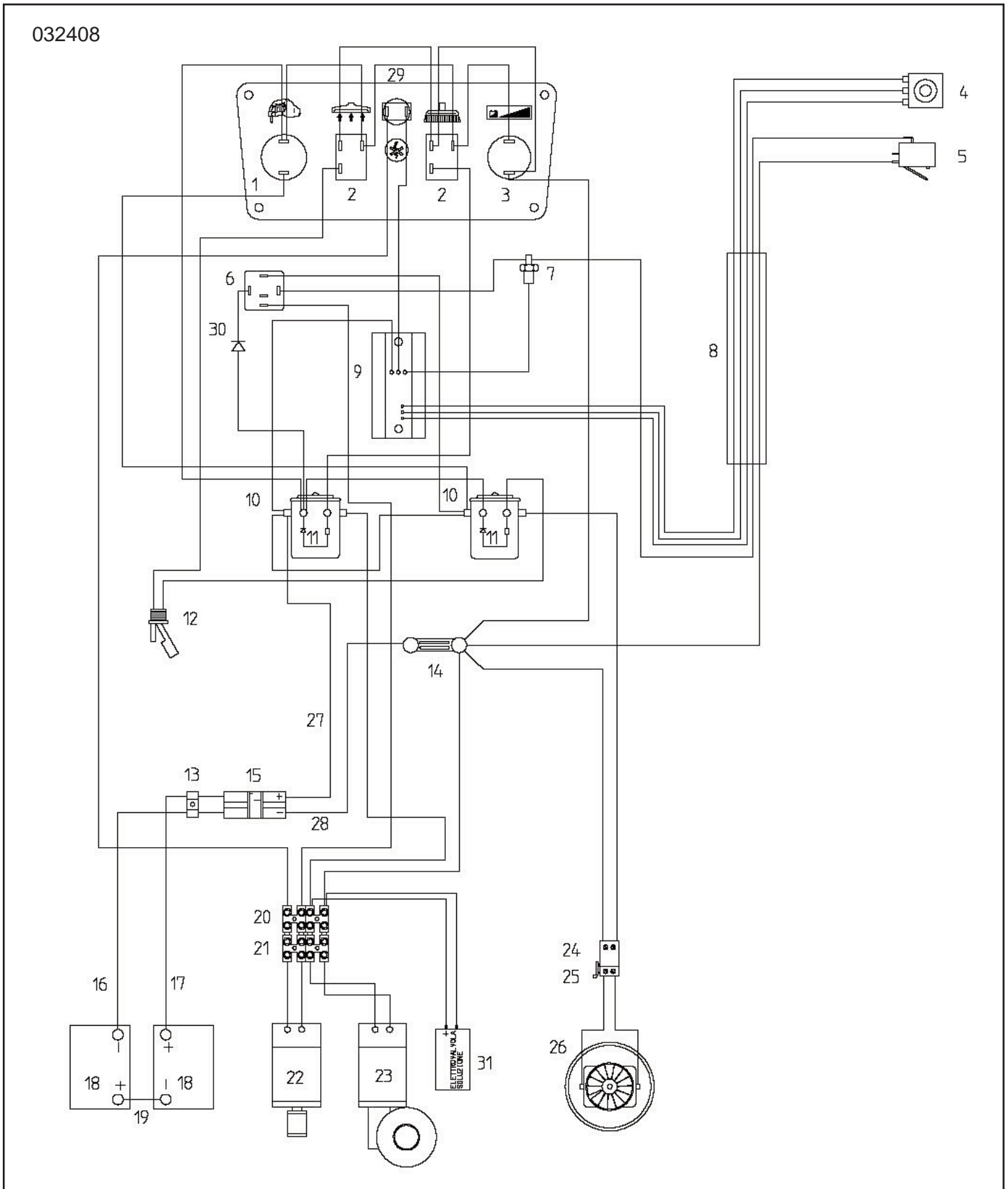
Caution!

Only qualified personnel authorized by Amano Pioneer Eclipse should perform each maintenance and repair operation not described under “ordinary maintenance”.



Machine Diagrams and Parts List

Wiring Schematic: CS2000

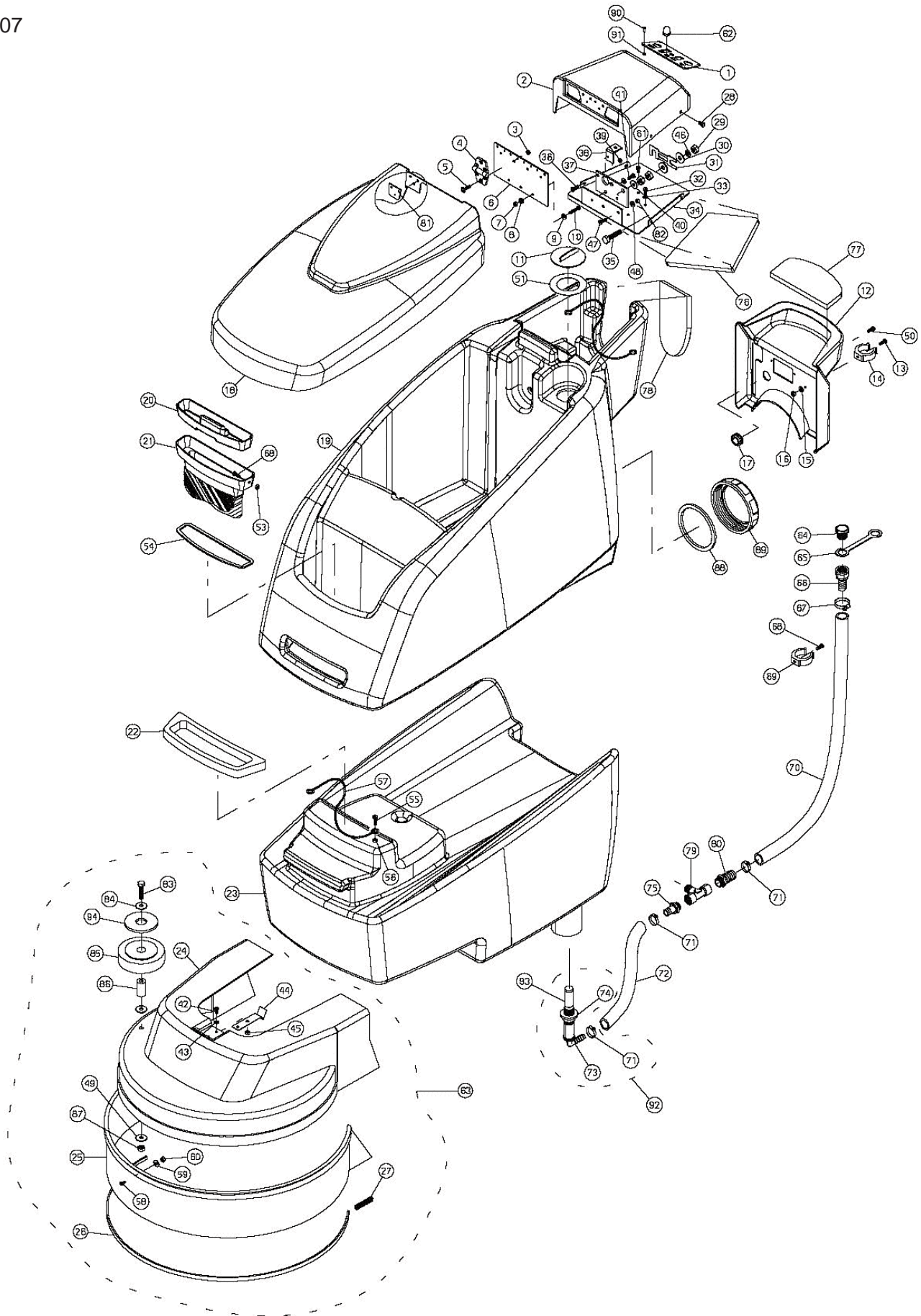


Wiring Schematic: CS2000

Ref #	Part #	Qty	Description
1	IN064	1	KEY SWITCH
2	IN067	2	SWITCH
3	PY602	1	BATTERY INDICATOR
4	PY612	1	POTENTIOMETER
5	IN009	1	MICROSWITCH
6	SL015	1	RELAY
7	PY234	1	DIODE
8	MI195	1	SHEATH
9	PY125	1	ELECTRONIC GROUP
10	SL001	2	SOLENOID
11	PY460	2	NET
12	GL022	1	ELECTRIC FLOAT
13	MI287	1	CABLE HOLDER
14	PY289	1	FUSE
15	PY619	1	PLUG
16	PY613	1	NEGATIVE CABLE
17	PY614	1	POSITIVE CABLE
18	MP276600	2	BATTERY, 12V, SCS150, TROJAN
19	PY001	1	BATTERY CONNECTION CABLE
20	PY350	1	TERMINAL BOARD
21	PY351	1	TERMINAL BOARD
22	MO205	1	TRACTION MOTOR
23	MO212	1	GEARMOTOR
24	PY030	1	FEMALE PLUG
25	PY031	1	MALE PLUG
26	MO180	1	24V BY-PASS VACUUM MOTOR
27	PY615	1	POSITIVE CABLE
28	PY616	1	NEGATIVE CABLE
29	PY603	1	OVERLOAD CUTOUT
30	PY214	1	DIODE
31	RB015	1	SOLENOID VALVE
32	MP278300	1	CHARGER, BATTERY, HF, 24V, 10A (NOT SHOWN)
33	MP289100	1	FUSE, CERAMIC, 6.3 A, 250V, 5 X 20mm (NOT SHOWN)

Tanks & Cover Group: CS2000

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Tanks & Cover Group: CS2000

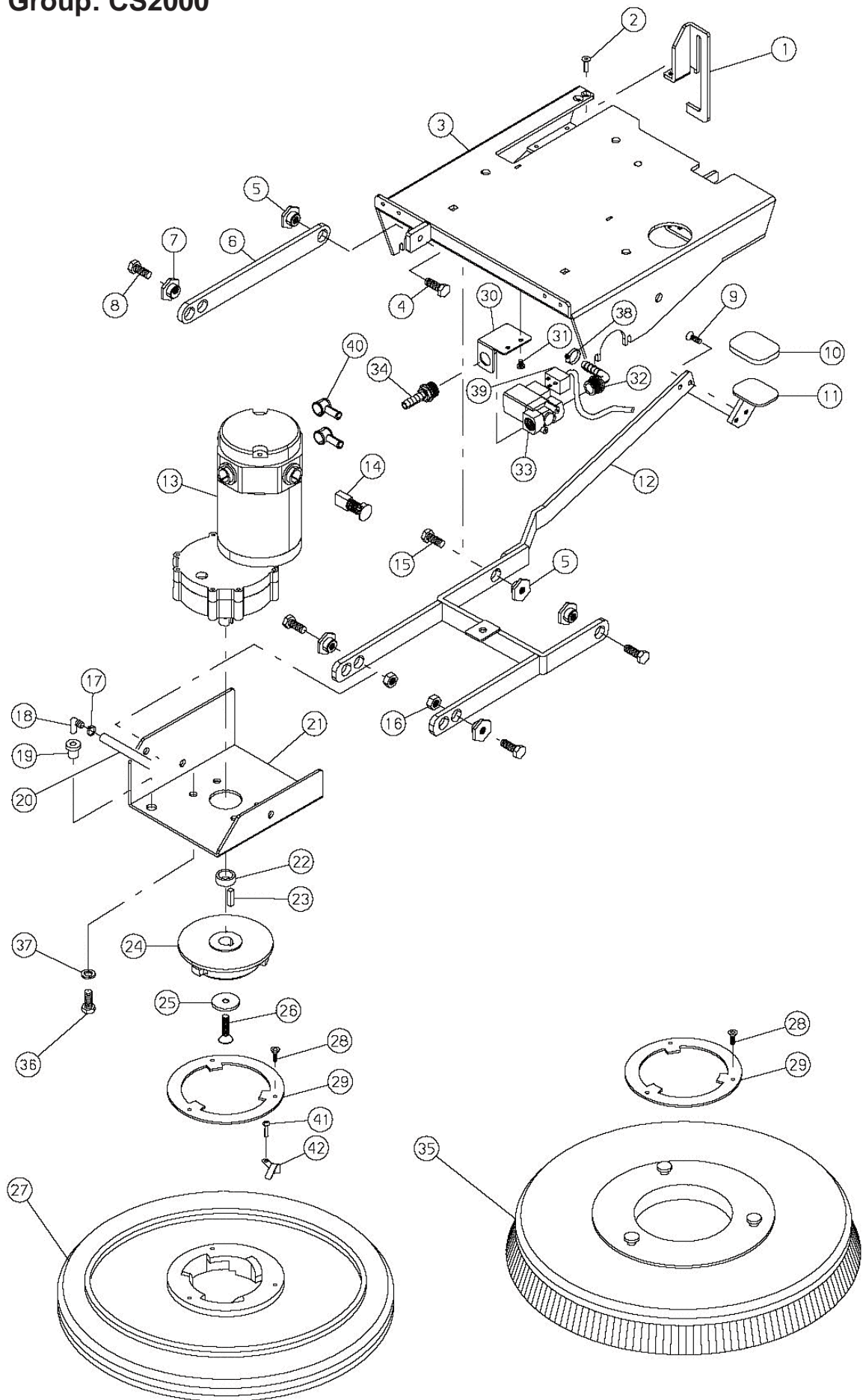
Ref #	Part #	Qty	Description
1	TG100	1	PLATE
2	CO194G	1	CASE
3	DD402	24	INOX NUT
4	MV035	4	BLACK PLASTIC HINGE
5	VS410	24	SCREW
6	SU451	1	SUPPORT
7	DD452	3	INOX SELF-LOCKING NUT
8	RO500	3	WASHER
9	RO500	3	WASHER
10	VE426	3	SCREW
11	TA037	1	PLUG
12	CA147G	1	COVER
13	VC414	1	SCREW
14	ML022	1	SPRING
15	RO500	1	WASHER
16	DD452	1	INOX SELF-LOCKING NUT
17	PY240	1	FAIRLEAD
18	CO193G	1	BATTERY COVER
19	SB152	1	RECOVERY TANK
20	CO195G	1	TANK COVER
21	CO199G	1	TANK COVER
22	GR132	1	GASKET
23	SB194	1	SOLUTION TANK
24	CA149G	1	BRUSH CASE
25	BP245	1	BRUSH CASE BUMPER
26	LM357	1	BUMPER STRIP
27	ML002	2	GALVANIZED SPRING
28	VC410	4	SCREW
29	DD905	6	BRASS NUT
30	RO502	4	WASHER
31	PY289	1	FUSE
32	VC409	4	SCREW
33	RO500	4	WASHER
34	LM420	1	SHEET
35	VE464	2	SCREW
36	VC410	1	SCREW
37	PY424	1	TERMINAL BOARD
38	SU454	1	SUPPORT
39	DD452	1	INOX SELF-LOCKING NUT
40	RO404	2	INOX WASHER
41	VC410	2	SCREW
42	VC410	2	SCREW
43	RO500	2	WASHER
44	ML122	1	SPRING
45	DD452	2	INOX SELF-LOCKING NUT
46	RO455	2	INOX WASHER
47	VC410	1	SCREW
48	RO500	1	WASHER

Ref #	Part #	Qty	Description
49	RO502	1	INOX WASHER
50	VC402	2	SCREW
51	GR141	1	GASKET
52	VC412	1	SCREW
53	DD452	1	INOX SELF-LOCKING NUT
54	GR143	1	GASKET
55	VS407	1	SCREW
56	DD452	1	INOX SELF-LOCKING NUT
57	MV100	2	CABLE
58	VC404	3	SCREW
59	RO505	3	WASHER
60	DD451	3	SELF-LOCKING NUT
61	VC412	2	SCREW
62	IN038	1	CAP
63	KIT460	1	ASSY BRUSH CASE
64	RC132	1	PLUG
65	GR126	1	GASKET
66	RC089	1	UNION
67	FS002	1	CLAMP 12/20
68	VC414	1	SCREW
69	ML120	1	SPRING
70	TB206	1	HOSE
71	FS002	3	CLAMP 12/20
72	TB209	1	HOSE
73	RC151	1	UNION
74	GR140	1	GASKET
75	RC002	1	UNION
76	IS016	1	SOUND PROOFING
77	IS015	1	CASE SOUND PROOFING
78	IS016	1	SOUND PROOFING
79	RC118	1	UNION
80	RC117	1	UNION
81	SU466	2	SUPPORT
82	DD452	1	INOX SELF-LOCKING NUT
83	VE469	1	HEXAGONAL SCREW
84	RO502	2	INOX WASHER
85	RT154	1	WHEEL
86	BO202	1	SH. ABS. WH. BUSH
87	DD454	1	INOX SELF-LOCKING NUT
88	GR184	1	GASKET PLUG
89	TA059	1	PLUG
90	VC430	4	SCREW
91	DD401	4	INOX NUT
92A	KIT761	1	SOLUTION FILTER KIT (BRASS)
92B	KIT451	1	SOLUTION FILTER, ASM (PLASTIC)
93	FT056	1	FILTER
94	RT155	1	WASHER

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Pad Drive Group: CS2000

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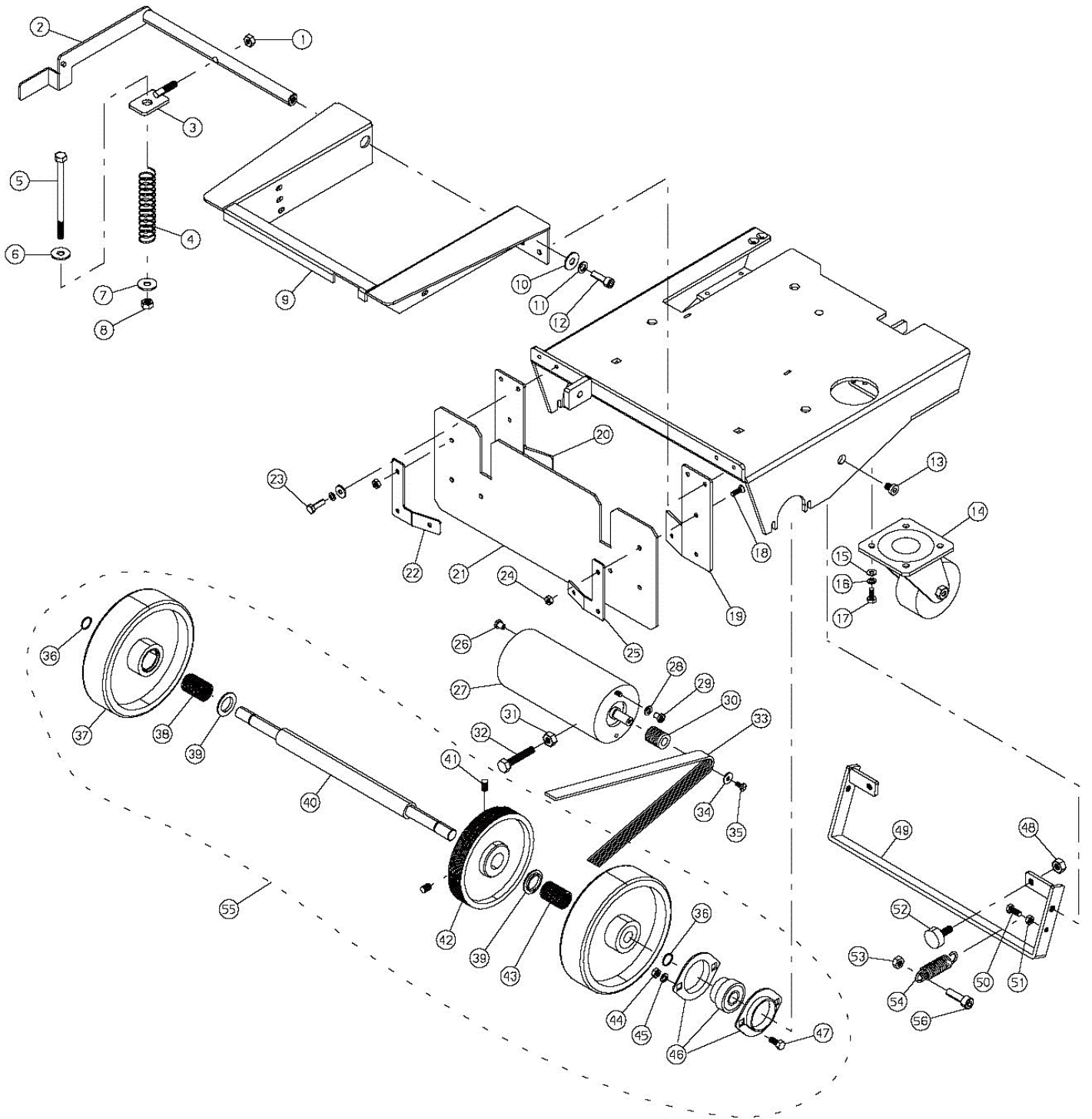


Pad Drive Group: CS2000

Ref #	Part #	Qty	Description
1	ST121	1	BRACKET
2	VS421	2	SCREW
3	TP116	1	BASE FRAME
4	VE492	1	SCREW
5	BO156	4	BUSH
6	LV294	1	LEVER
7	BO157	2	BUSH
8	VE492	1	SCREW
9	VS421	2	SCREW
10	IS001	1	PEDAL COVER
11	LM175	1	SQUEEGEE LIFT LEVER PEDAL
12	LV282	1	LEVER
13	MO212	1	GEARMOTOR
14	MP084	4	BRUSH
15	VE492	4	SCREW
16	DD406	2	INOX NUT
17	FS002	1	CLAMP 12/20
18	RC112	1	UNION
19	GR138	1	GASKET
20	TB207	1	HOSE
21	SU426	1	SUPPORT
22	DT161	1	SPACER
23	CH048	1	TONGUE
24	FL071	1	FLANGE
25	VI020	1	WASHER
26	WS034	1	SCREW
27	TS037	1	PAD HOLDER
28	VD235	3	SELF-THREADING SCREW
29	FL072	1	BRUSH FLANGE
30	SU453	1	SUPPORT
31	VC411	2	SCREW
32	RC050	1	CONNECTOR
33	RB015	1	SOLENOID VALVE
34	RC115	1	UNION
35	SZ033	1	BRUSH
36	WE231	4	SCREW
37	RO456	4	WASHER
38	FS002	1	CLAMP 12/20
39	PY548	1	CONNECTOR
40	MP298	2	POLE HOOD
41	VA408	1	SCREW
42	ML139	1	TRANSAXLE LEFT SPRING

Drive Wheel Assembly Group: CS2000

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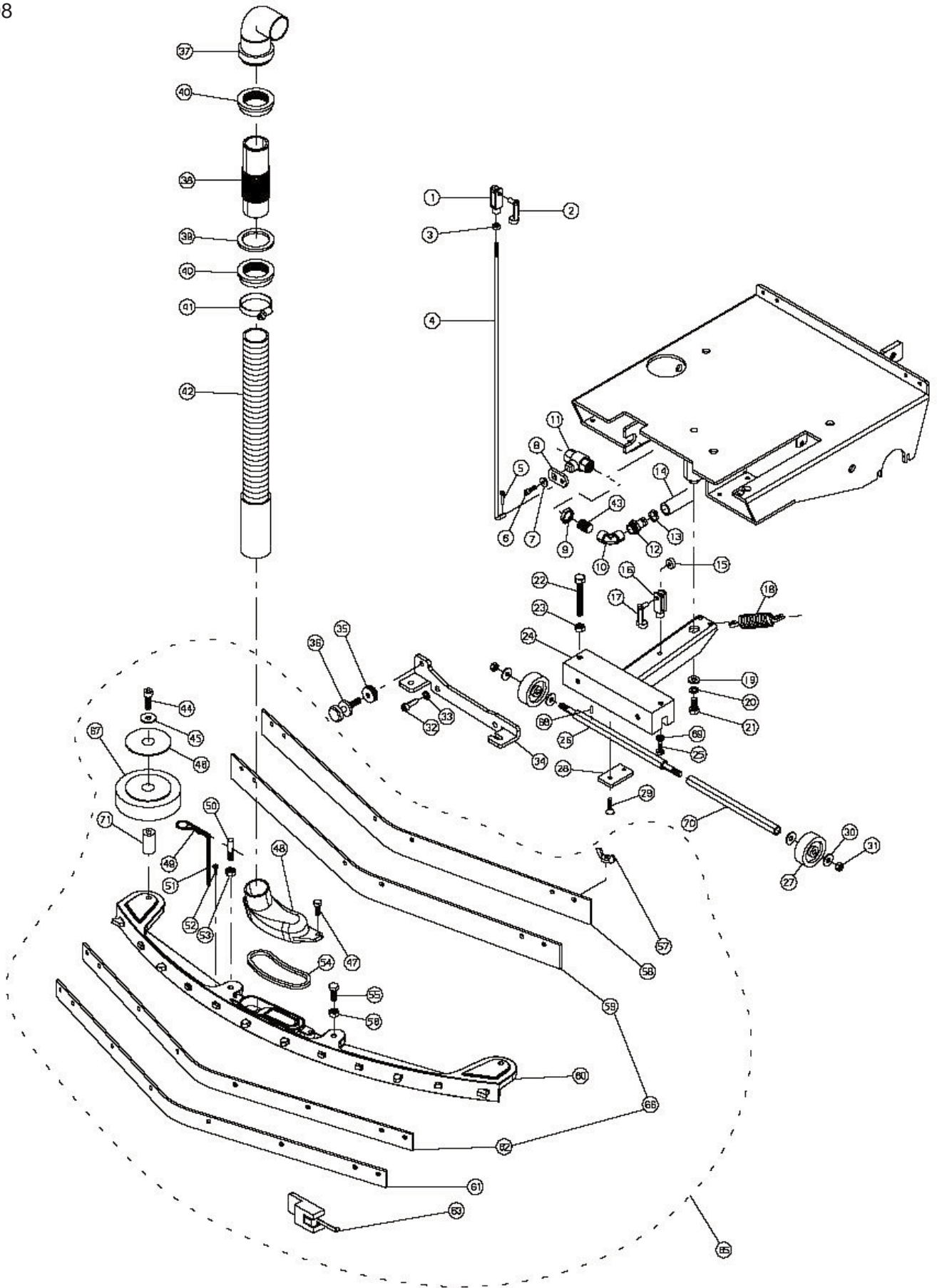
Drive Wheel Assembly Group: CS2000

Ref #	Part #	Qty	Description
1	DD454	1	INOX SELF-LOCKING NUT
2	LV290	1	LEVER
3	ST106	1	BRACKET
4	ML107	1	ENCLOSING COVER SPRING
5	VE473	1	SCREW
6	RO502	1	WASHER
7	RO404	1	INOX WASHER
8	DD454	1	INOX SELF-LOCKING NUT
9	SU425	1	SUPPORT
10	RO404	1	WASHER
11	RO455	1	WASHER
12	VB430	1	SCREW
13	VB239	2	SCREW
14	RT125	2	WHEEL
15	RO403	12	INOX WASHER
16	RO454	12	INOX WASHER
17	VE442	8	SCREW
18	VS412	6	SCREW
19	SU429	1	SUPPORT
20	SU428	1	SUPPORT
21	BP239	1	RUBBER DUST COVER
22	LM435	1	STRIP
23	VE443	4	SCREW
24	DD403	6	INOX NUT
25	LM433	1	STRIP
26	BO082	1	BUSH
27	MO205	1	TRACTION MOTOR
28	RO403	2	INOX WASHER

Ref #	Part #	Qty	Description
29	BO082	1	BUSH
30	PP024	1	DRIVE MOTOR PULLEY
31	DD454	1	INOX SELF-LOCKING NUT
32	VE464	1	SCREW
33	CI037	1	BELT
34	RO500	1	WASHER
35	VC410	1	SCREW
36	SG007	2	CLIP SEGER
37	RT131	2	WHEEL
38	ML036	1	L.H. DIFFER. SPRING
39	DT018	2	SPACER
40	AL071	1	WHEEL AXLE
41	VG032	2	DOWEL
42	PP101	1	PULLEY
43	ML037	1	R.H. DIFFER.SPRING
44	RO403	4	INOX WASHER
45	RO454	4	INOX WASHER
46	CS008	2	BALL BEARING
47	VE443	1	SCREW
48	DD453	2	INOX SELF-LOCKING NUT
49	LV291	1	LEVER
50	VE442	1	SCREW
51	DD404	1	INOX NUT
52	TA035	2	BRAKE SHOE
53	DD453	1	INOX SELF-LOCKING NUT
54	ML046	1	SPRING
55	KIT461	1	KIT
56	VC413	1	SCREW

Squeegee Group: CS2000

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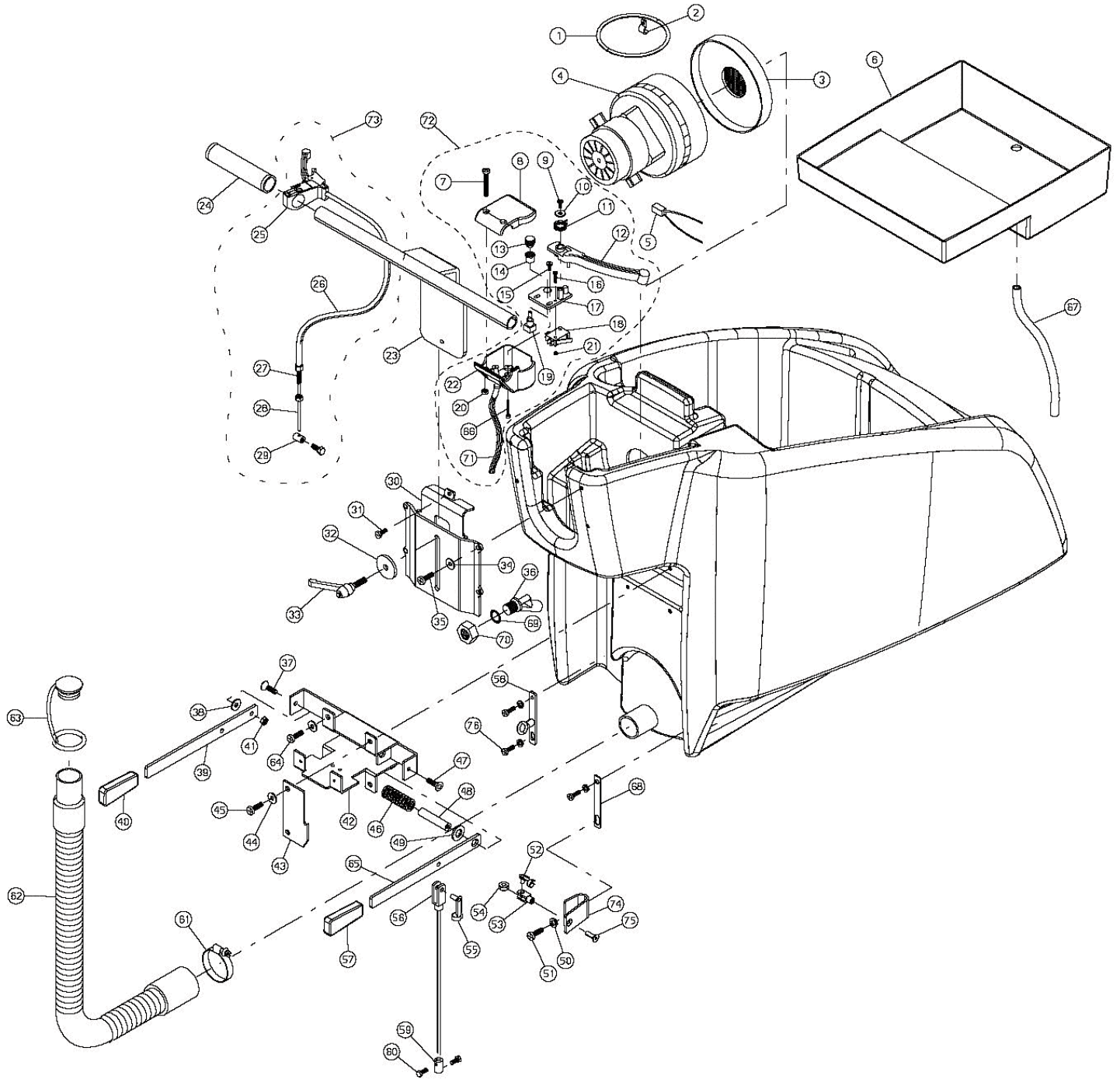
Squeegee Group: CS2000

Ref #	Part #	Qty	Description
1	SN002	1	JOINT
2	MI028	1	PIN
3	DD404	1	INOX NUT
4	TI147	1	TIE ROD
5	CP206	1	SPLIT PIN
6	WV010	1	SCREW
7	RO500	1	WASHER
8	LV063	1	VALVE LEVER
9	GH007	1	GASKET
10	RC074	1	CONNECTOR
11	RB005	1	VALVE
12	RC002	1	UNION
13	FS001	2	CLAMP 8/12
14	TB187	1	HOSE
15	CS029	1	BALL BEARING
16	SN002	1	JOINT
17	MI028	1	PIN WITH SPRING
18	ML034	2	SPRING
19	VI058	1	INOX WASHER
20	RO455	1	INOX WASHER
21	VB430	2	SCREW
22	VE467	2	SCREW
23	DD405	2	INOX NUT
24	SU578	1	SUPPORT
25	VE443	1	SCREW
26	AL093	1	SHAFT
27	RT153	2	WHEEL
28	PT180	1	PLATE
29	VS421	2	SCREW
30	RO404	4	INOX WASHER
31	DD454	2	INOX SELF-LOCKING NUT
32	VB430	2	SCREW
33	RO455	2	INOX WASHER
34	PT228	1	PLATE
35	GH006	1	TILT ADJUST RING NUT
36	VI007	1	REGULATORS

Ref #	Part #	Qty	Description
37	RC113	1	UNION
38	TB179	1	PIPE
39	GR118	1	GASKET
40	GH018	1	RING NUT
41	FS031	1	CLAMP
42	TB205	1	PIPE
43	RC119	1	UNION
44	VE469	2	SCREW
45	RO404	2	INOX WASHER
46	RT155	2	BUSHING
47	VE443	2	SCREW
48	CO252	1	COVER
49	CP260	1	SPLIT PIN
50	PE167	1	PIN
51	MI171	1	CHAIN
52	VC409	1	SCREW
53	DD405	1	INOX NUT
54	GR185	1	GASKET
55	VE461	1	SCREW
56	DD405	1	INOX NUT
57	VL450	4	INOX NUT
58	LM631	1	FRONT STRIP
59	BP339	1	BLADE
60	SQ071	1	SQUEEGEE BODY
61	LM632	1	BACK STRIP
62	BP340	1	REAR SQUEEGEE BLADE
63	CC022	1	HOOK
64	BO073	2	BUSHING
65	KIT859	1	SQUEEGEE COMPLETE
66	KIT858	1	BLADE ASSY
67	RT154	2	SHOOKPROOF WHEEL
68	SP001	1	TENSION PIN
69	RO454	1	INOX WASHER
70	TB224	1	HOSE
71	BO073	2	BUSHING

Handle Group: CS2000

012507



Handle Group: CS2000

Ref #	Part #	Qty	Description
1	GI021	1	SUCTION ENGINE RING
2	MI082	1	U BOLT
3	GL019	1	GASKET
4	MO180	1	24V BYPASS VACUUM MOTOR
5	MP239	1	24V MOTOR BRUSH
6	SB153	1	BATTERY TRAY
7	VS216	2	SCREW
8	CO175	1	COVER
9	VA264	1	SELF THREADING SCREW
10	RO301	1	WASHER
11	ML125	1	SPRING
12	LV297	1	LEVER
13	IG023	1	PLASTIC GEAR
14	BO071	1	POTENTIOMETER BUSH
15	VC400	1	SCREW
16	VS229	1	SCREW
17	SU455	1	SUPPORT
18	IN009	1	MICROSWITCH
19	PY612	1	POTENTIOMETER
20	DD252	1	SELF-LOCKING NUT
21	DD250	1	INOX SELF-LOCKING NUT
22	CO176	1	COVER
23	MN053	1	HANDLE
24	MN058	2	HANDLE
25	LV296	1	BRAKE LEVER
26	MI190	1	SHEATH WIRE BRAKE
27	MI191	1	WIRE BRAKE REGISTER
28	MI192	1	BRAKE WIRE
29	MI193	1	TERMINAL
30	SU410	1	SUPPORT
31	VC910	1	SCREW
32	VI020	1	WASHER
33	VP042	1	KNOB
34	RO403	4	INOX WASHER
35	VC423	4	SCREW
36	GL022	1	ELECTRIC FLOAT
37	VS423	1	SCREW

Ref #	Part #	Qty	Description
38	RO911	1	WASHER
39	LV293	1	LEVER
40	VP055	1	HANDLE
41	DD453	1	INOX SELF-LOCKING NUT
42	SU430	1	SUPPORT
43	PT182	1	PLATE
44	RO403	2	INOX WASHER
45	VC423	2	SCREW
46	ML100	1	SPRING
47	VS423	1	SCREW
48	PE199	1	PIN
49	RO406	1	INOX WASHER
50	RO454	4	INOX WASHER
51	VC423	1	SCREW
52	MI006	1	PIN
53	SN001	1	JOINT
54	BO158	1	BUSH
55	MI028	1	PIN
56	MI189	1	WIRE
57	VP055	1	HANDLE
58	LM574	1	LISTEL
59	MI146	1	WIRE TERMINAL
60	VE221	2	SCREW
61	FS011	1	FLOAT SUPPORT CLAMP
62	TB156	1	HOSE
63	TA002	1	PLUG
64	VC422	2	SCREW
65	LV292	1	LEVER
66	VA258	1	SELF THREADING SCREW
67	TB202	1	HOSE
68	LM434	1	STRIP
69	GR146	1	GASKET
70	GH038	1	GASKET
71	CW092	1	CABLE
72	KIT459	1	KIT
73	KIT442	1	BRAKE LEVER KIT
74	LM575	1	FORK SUPPORT
75	VS421	1	SCREW
76	VC422	3	SCREW



Limited Warranty

CleanStar -- CS2000

To Qualify for this warranty:

- 1) Machine must be registered at the time of purchase on a form provided by Amano Pioneer Eclipse Corporation. Your Amano Pioneer Eclipse Distributor is responsible for the registration of your machine. Please cooperate with your distributor in supplying necessary information on the card.
- 2) The machine must have been purchased from Amano Pioneer Eclipse or an authorized Amano Pioneer Eclipse Distributor.
- 3) This warranty extends to the original purchaser only and is not transferable to subsequent owners.

TIME PERIODS

TEN (10) YEAR WARRANTY -- THE MOLDED BODY is warranted to be free from defects in material and workmanship for a period of ten (10) years from the date of purchase by the original owners.

THREE (3) YEAR WARRANTY -- THE FRAME is warranted to be free from defects in material and workmanship for a period of three (3) years from the date of purchase by the original owners.

TWO (2) YEAR WARRANTY -- ALL REMAINING COMPONENTS are warranted to be free from defects in material and workmanship for a period of two (2) years from the date of purchase by the original owners. (See Exclusions.)

EXCLUSIONS (Not Covered by Warranty)

- 1) Parts that fail through normal wear by reason of their characteristics (pads, brushes, belts, bumpers, body molding, seating, skirting, or other consumable parts).
- 2) This warranty does not extend to parts affected by misuse, neglect, abuse or improper maintenance. All defective parts must be returned to the Distributor for credit.
- 3) Batteries warranted by battery manufacturer for one (1) year (Prorated).
- 4) Vacuum motors are warranted for ninety (90) days.

THE OBLIGATION OF AMANO PIONEER ECLIPSE CORPORATION

- 1) The obligation of Amano Pioneer Eclipse under this warranty is limited to repairing or replacing, at its option, any part which is proven to be defective in material or workmanship under normal use for the applicable period stated above.
- 2) Warranty repairs will be made by your Amano Pioneer Eclipse Distributor without charge for parts and labor.
- 3) Parts repaired or replaced under this warranty are warranted only during the balance of the original warranty period. All defective parts replaced under these warranties become the property of Amano Pioneer Eclipse.

WARRANTY SERVICE

To obtain warranty service, take your machine and proof of purchase to any authorized Amano Pioneer Eclipse Distributor, preferably to the distributor from whom the machine was purchased. For the Distributor in your area, call Amano Pioneer Eclipse Customer Service Department at 800-367-3550. If you are dissatisfied with the service that you receive, call or write Amano Pioneer Eclipse Customer Service Department for further assistance.

DISCLAIMER OF CONSEQUENTIAL

AMANO PIONEER ECLIPSE DISCLAIMS ANY RESPONSIBILITY FOR LOSS OF USER TIME OF THE AMANO PIONEER ECLIPSE MACHINE OF ANY OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGE EXCEPT AS STATED IN THE WARRANTY APPLICABLE TO EACH MACHINE. EXCEPT AS STATED IN SUCH WARRANTIES, THE COMPANY DOES NOT OTHERWISE WARRANT ANY MACHINE AND NO WARRANTY, EXPRESS, IMPLIED OR STATUTORY IS MADE BY THE COMPANY.



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Amano Pioneer Eclipse Corporation

P.O. Box 909

Sparta, NC 28675

1-336-372-8080

1-800-367-3550

www.pioneer-eclipse.com

Article #: _____

Serial #: _____

DOM: _____

Built in NC, USA