



# Owners Manual

## Avenger Quiet Self-Contained Extractor

**Model: AV 12QX**

**NOTE:** As with all electrical equipment, care and attention must be exercised at all times during its use, in addition to ensuring that routine and preventative maintenance is carried out periodically in order to ensure its safe operation. In particular the electrical supply cable should be regularly inspected by a competent person and immediate action taken to rectify any faults found. Failure to carry out maintenance as necessary, including replacement of parts to the correct standard, could render the equipment unsafe and the manufacturer can accept no responsibility in this respect. See the enclosed exploded drawings for correct replacement parts.

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**Before using your machine, you must familiarize yourself with all its components.**

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# MACHINE COMPONENTS

## **Vacuum Dome**

The vacuum dome is located on top of the recovery tank. It is held in place by vacuum suction when in operation. Just underneath the vacuum dome there is a screen to prevent debris from entering the vacuum tube leading to the vacuum motor.

## **Recovery Tank**

The recovery tank is located on the top of the machine. It is attached to the solution tank (lower) by four latches. It is possible to remove the recovery tank from the solution tank – but – you must first disconnect the electrical connector at the rear of the machine. This connector has a swivel lock. To remove this connector you should first disconnect the power cord from the wall outlet. Then simply rotate the connector ring counterclockwise and gently pull down. Remove the black sound dampening plate and vacuum hose from the rear of the solution tank. The solution tank can now be removed.

When using accessory cleaning attachments, the hose leading from the floor vacuum shoe should be removed from the rear of the recovery tank and replaced with the accessory vacuum hose.

At the lower left side of the tank is the recovery drain hose. It is held in place with a hose clip. To remove the cap, unscrew in a counterclockwise direction.

**NOTE: When reconnecting the electrical connector to the recovery tank it is very important to make sure the connection is secure – but do not over-tighten the connector ring. Do not force the connector when re-attaching.**

## **Solution Tank**

The solution tank is the lower unit. It can be filled with water via the front spout using a clean bucket or with a hose direct from the faucet. The solution tank has water conduit with an inlet filter and weight. The weight must be at the inlet filter end of the hose to keep it submerged.

At the rear of the machine beneath the handle is a panel that encloses the pump. Exiting from this panel is a quick coupler. For normal use, the short water hose from the water valve should be connected to the quick coupler.

There is a water flow valve on the side of the unit that will allow the water volume to be adjusted from maximum flow to zero. To locate this, follow the solution line from the coupler to the side of the machine. When adjusting this flow, it is useful to remove the spraybar from the machine and start the pump to ensure that water flow is sufficient to give a uniform spray pattern.

If accessory cleaning attachments are used, disconnect the solution line at the rear of the machine and replace it with the accessory solution hose.

**NOTE:** Never fill the unit using a dirty bucket. This may cause damage to the pump system.

## **Brush Housing**

The brush housing is located in centre of the machine under the solution tank. To adjust the brush height there is a round knob on the lower left-hand side at the rear of the machine. There are several drilled holes in the knob to allow different brush height settings for different carpet types. To adjust the brush height, simply pull the knob and rotate to the desired setting. The storage position is with the knob rotated fully clockwise and locked in place.

**NOTE:** When the machine is not in use the brush must be stored in the storage position to prevent damage (flattening) of the brush roll.

## Vacuum Shoe Assembly

To raise and lower the floor vacuum shoe, depress the foot pedal and move it slightly to the right then release. This will lower the shoe so that it touches the floor. To raise the shoe, depress foot pedal and move slightly to the left to lock it in place.

For cleaning and for transporting the machine from site to site, the vacuum shoe can be removed by lifting up the securing pin knob on the top of the vacuum shoe assembly. Take care not to lose the brass spacer/bushing.

## Vacuum Shoe Pressure

The pressure on the vacuum shoe can be increased or decreased by rotating the adjustment knob located at the rear of the machine next to the brush height adjustment knob.

# OPERATION

To operate the machine as a carpet automatic, follow the instructions below.

**Fill:** Fill the machine with hot clean water using a clean bucket or hose direct from the faucet. Then, pour into the solution tank an appropriate quantity of a good quality extraction chemical. Note: This agent should be low foaming to avoid vacuum motor damage.

**Plug In:** Plug the machine into the wall outlet.

**Water Volume** Adjust the water output volume to the desired level by turning the water volume knob. Turn the solution switch to "on" to check the spray. The maximum volume is with the knob rotated fully counterclockwise (marked "+"). The minimum setting (zero flow) is with the knob rotated fully clockwise (marked "-"). The range of settings varies from max. to min. over approximately 4 \_ turns of the knob.

**Brush Height:** Set the brush height. To do this, start the brush motor with the switch marked "Brush" by rocking it to the "ON" position. With the brush height adjustment knob, lower the brush height by one setting hole at a time until the brush is just touching the carpet, then lower by one more setting hole. This should give adequate brush pressure for proper agitation. A setting that is too low can reduce the life of the brush, decrease performance and cause the brush drive motor to work harder than necessary. Once the brush is set, turn the brush off.

**Vacuum:** Locate the vacuum motor switch marked "Vacuum" .

**Solution:** Set the "Solution" switch to the "On" position. Note: the solution will not flow unless the solution release lever is depressed.

**Note:** In some instances it is useful to have continuous water flow without holding down the solution release lever. To do this, simply set the "Solution" switch to "Accessory Only". This will give continuous water flow until the solution switch is turned off.

**Cleaning:** Once you are prepared to clean, turn the brush on, turn the vacuum on and depress the solution lever with your finger. Give the machine a gently push to start the forward motion. Once moving, little effort should be required to maintain movement as the brush rotation helps to propel the machine.

NOTE: If the machine is too hard to push the brush might be too high or too low – or – the vacuum shoe pressure might be excessive.

To operate the machine as a box extractor, follow the instructions below.

Note: This feature requires the purchase of optional accessory tools.

Fill the machine and plug in as above, remove the vacuum hose from the vacuum shoe where it enters the recovery tank. Remove the solution hose leading from the rear panel at the quick coupler.

Install the accessory solution hose at the female quick disconnect exiting the rear panel. Install the accessory vacuum hose at the rear of the recovery tank. Attach to the other end your choice of accessory tool. Turn the vacuum motor on with the "Vacuum" switch and turn on the solution pump by setting the switch in the "Accessory Only" position. Water will flow when the valve on your accessory tool is depressed.

**IMPORTANT:** Watch the recovery dome for signs of excess foaming. If excess foam develops, turn the machine off immediately and empty the recovery tank. Use a defoamer to cut down on foam generation in the recovery tank.

## **MAINTENANCE**

### **After Every Use**

- 1) Empty solution tank using the short vacuum hose provided. Simply remove the floor tool hose where it connects to the recovery tank and attach the short vacuum hose instead. Turn the vacuum switch on and vacuum out the solution tank. Caution: If there is a large volume of solution left, watch for excessive foaming in the recovery tank.
- 2) Put some fresh water in the solution tank and pump this through the system. This will help keep the pump system clean.
- 3) Clean the recovery dome and gasket.
- 4) Clean any lint or debris from the vacuum inlet screen inside the recovery tank.
- 5) Thoroughly rinse and drain the recovery tank to prevent odours from developing.
- 6) Check the brush roll and vacuum shoe to remove any loose debris or strands.
- 7) Check that the brush is in the storage position
- 8) Run the vacuum motor for 1 to 2 minutes. This will help remove any moisture from the motor fans and fan casing.

### **Periodically**

- 1) Inspect power cord and plug for damage.
- 2) Flush the pump system with an acidic de-calcifying solution to remove deposits.
- 3) Check the brush height adjustment cable for fraying / wear. Replace if necessary.
- 4) Check the spray jets water dispersion pattern. Clean or replace jets if pattern is erratic.
- 5) Check & clean the water inlet filter in the solution tank.

## **TECHNICAL SPECIFICATIONS**

Power	115V, 50/60Hz	Brush Speed	1,000 rpm
Consumption	12 amps	Vacuum Motor	3 stage, bypass 1,250W, 1.7 Hp
Solution Capacity	12 gallons	Airflow	95 cfm (max.)
Recovery Capacity	12 gallons	Waterlift	115 inches (max.)
Pump Pressure	100 psi (max.)	Power Cord	50'
Pump Type	diaphragm, with bypass	Weight	121 lbs.
Water Volume	0 – 1.2 gpm (max.)		
Cleaning Width	20 inches		
Brush Motor	100W, 0.13 Hp DC rectified		

### ***WARNINGS***

Do not use for any potentially hazardous or health endangering material recovery.  
Do not use the machine in corrosive or flammable environments.

### ***Servicing***

Only qualified personnel should perform service on this product. This machine is fitted with a grounded power cord. Only use with a properly grounded electrical outlet. Always use the appropriate parts when making any repairs. Failure to do so may compromise the safety of the product.

Always use genuine NORTH AMERICAN parts for any repairs required.

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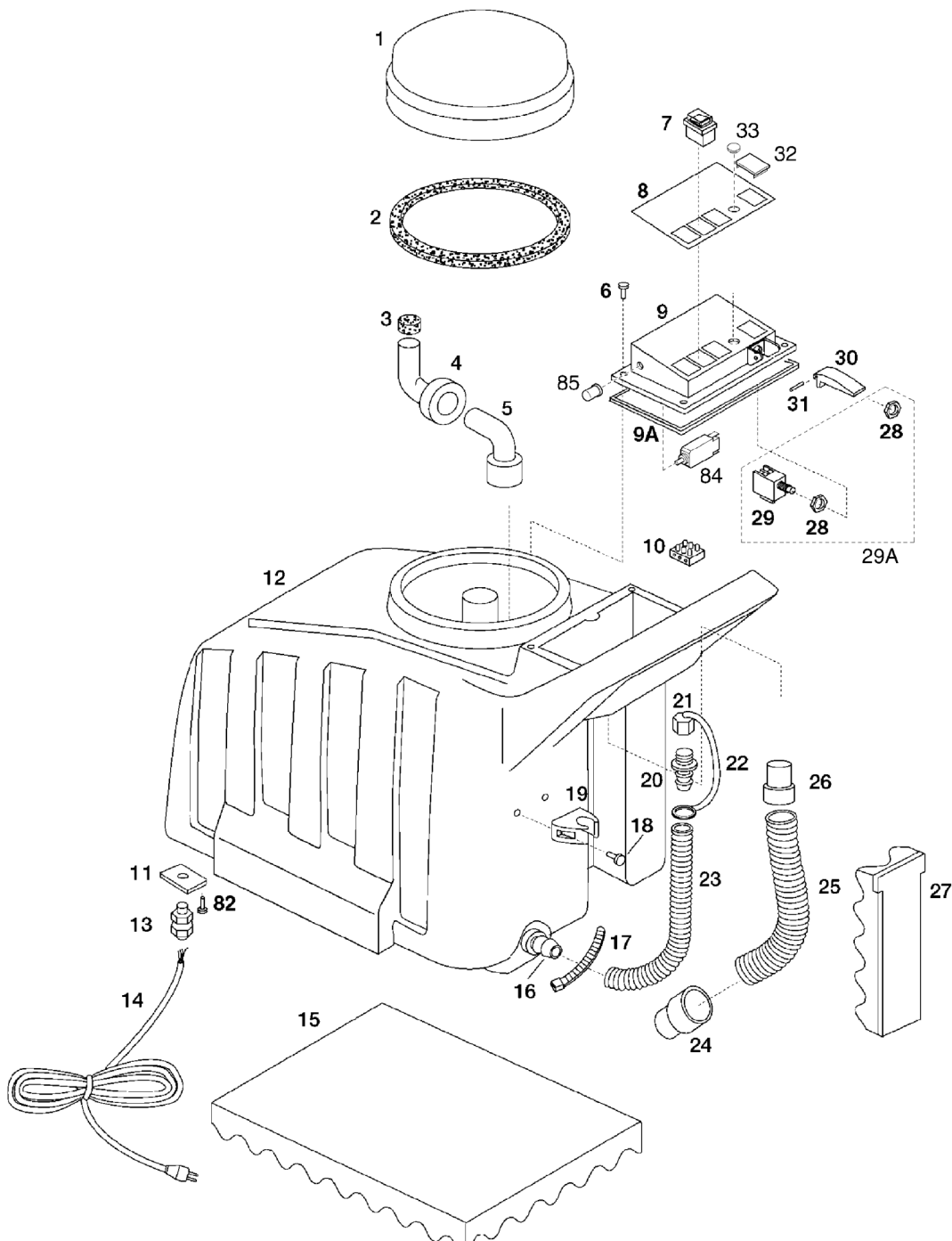
# Avenger 12QX

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## Schematic Drawing # 1

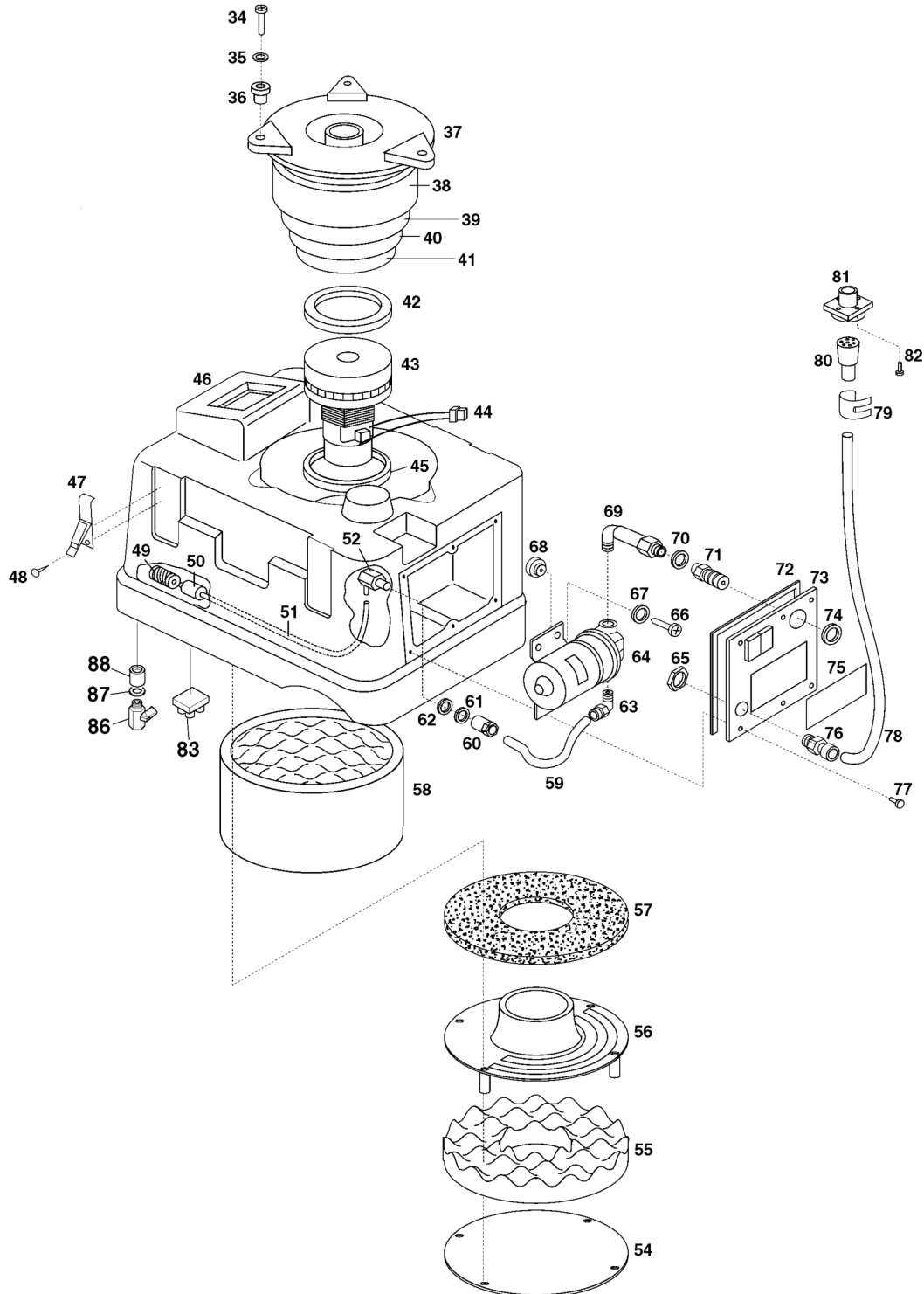




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### Schematic Drawing # 2





# Avenger 12QX

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## Parts List - Drawings 1 & 2 Page 1 of 2

Item #	Part #	DESCRIPTION
1	SP-15178	COVER
	SP-15178C	COVER WITH GASKET
2	SP-15179	GASKET
3	SP-15188	FILTER
4	SP-15131	ELBOW
5	SP-15153	ELBOW
6	SP-15551	SCREW TC+ 4x16
7	SP-15217	2 POSITION SWITCH
	SP-15220	3 POSITION SWITCH
8	SP-15119	PANEL LABEL
9	SP-15177	CONTROL PANEL
10	SP-15236	CONNECTING TERMINAL
11	SP-15109	PLATE FOR FAIRLEAD
12	SP-15190	BLUE UPPER TANK
13	SP-15295	FAIRLEAD WITH NUT
14	SP-15215	CABLE 3 x 14 AWG x 15m
15	SP-15192	SOUNDPROOFING PANEL
16	SP-15161	HOSE NIPPLE
17	SP-15541	TIE
18	SP-15544	SCREW 4,2 x 22
19	SP-15160	CLIP
20	SP-15161	HOSE NIPPLE
21	SP-15159	CAP
22	SP-15162	TIE
23	SP-15358	DRAIN HOSE
24	SP-15363	HOSE CUFF – D.38
25	SP-125364	HOSE D.38
26	SP-15334	HOSE CUFF – D.38
27	SP-15193	SOUNDPROOFING PANEL
28	SP-15514	NUT
29	SP-15231	MICROSWITCH SUPPORT + 2 NUTS (SP-15514)
	SP-15277	MICRO-SWITCH
29A	SP-15231C	MICRO-SWITCH, COMPLETE WITH SUPPORT AND 2 NUTS (SP-15277+ SP-15231)
30	SP-15457	CONTROL LEVER
31	SP-15599	PIN
32	SP-155021	CIRCULAR CAP
33	SP-155020	CAP
34	SP-15560	SCREW – STAINLESS STEEL TC+ 5x30
35	SP-15517I	STAINLESS STEEL WASHER DIAM.5x15
36	SP-157361	VIBRATION DAMPER
37	SP-15194	ALUMINIUM SILENCER FLANGE
38	SP-15195	SOUNDPROOFING FILTER
39	SP-15196	SOUNDPROOFING FILTER
40	SP-15197	SOUNDPROOFING FILTER
41	SP-15198	SOUNDPROOFING FILTER
42	SP-15825	MOTOR GASKET – 3mm
43	SP-15809	3 STAGE MOTOR 1200W 120V 50/60Hz





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## Parts List - Drawings 1 & 2 Page 2 of 2

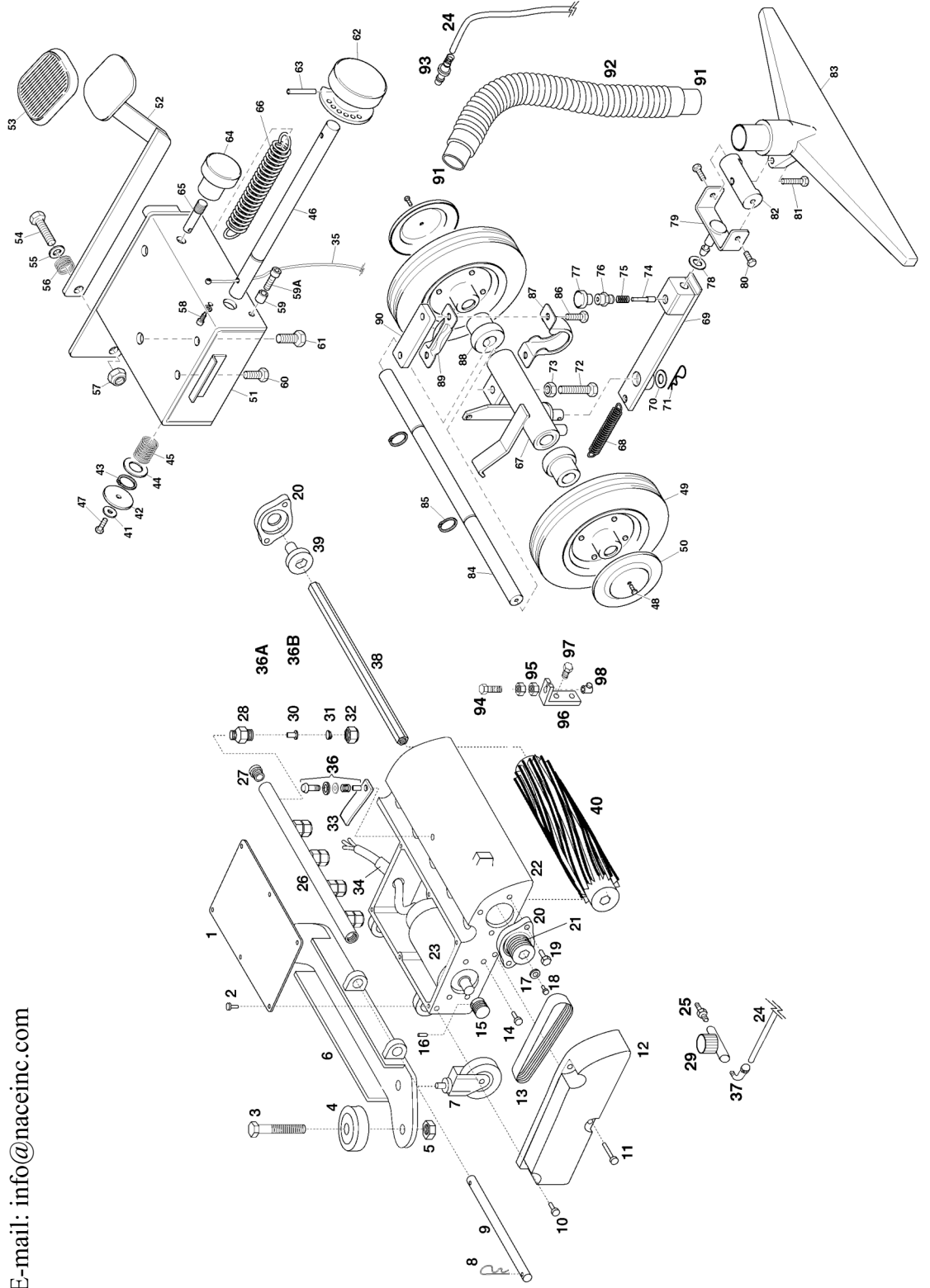
Item #	Part #	DESCRIPTION
44	SP-15234	CONNECTOR
45	SP-15825	MOTOR GASKET – 3mm
46	SP-15191	BLUE LOWER TANK
47	SP-15142	COUPLER
48	SP-15542	COUPLER SCREW
49	SP-15608	FILTER
50	SP-15747	BALLAST
51	SP-15745	EXTRAFLEX PIPE
52	SP-15724	CONNECTING PART
	SP-15702B	HOSE CUFF
53	SP-15530	SCREW
54	SP-15199	CIRCULAR LOWER PANEL
55	SP-15200	LOWER SOUNDPROOFING DISC
56	SP-15201	LOWER MOTOR FLANGE
57	SP-15202	LOWER SOUNDPROOFING FILTER
58	SP-15132	LOWER SOUNDPROOFING CILINDER
59	SP-15746	RILSAN PIPE
60	SP-15714	QUICK DISCONNECT - FEMALE
61	SP-15540	METAL WASHER
62	SP-15147	NEOPRENE WASHER
63	SP-15622	ELBOW
64	SP-15644	PUMP COMPLETE 100-120V 50-60 Hz 100 PSI
65	SP-15564	RING NUT
66	SP-15546	SCREW 5x25 (SHURFLO)
67	SP-15517	WASHER
68	SP-157360	VIBRATION DAMPING
69	SP-15720	ELBOW
	SP-15753	EXTENSION FOR METAL COUPLING
70	SP-15137	O-RING
71	SP-15687	METAL QUICK DISC. FEMALE
72	SP-15186	PANEL GASKET
73	SP-15148G	PANEL
74	SP-15163	BUSH
75	SP-151190	LOWER PANEL LABEL
76	SP-15262	CONNECTING PART
77	SP-15536	SCREW
78	SP-15291	CABLE SHEATH
	SP-15291C	CABLE SHEATH WITH WIRES + SP-15260 + SP-15265
79	SP-15265	TIE
80	SP-15260	PLUG
81	SP-15259	SOCKET
82	SP-15538	SCREW TC+ 3.9x13
83	SP-15279	RECTIFIER
84	SP-15292	CIRCUIT BREAKER FOR BRUSH MOTOR (2 A)
85	SP-15294	CAP FOR CIRCUIT BREAKER
86	SP-15752	CONNECTING PART
87	SP-15521	LOCK WASHER
88	SP-15751	DRAIN VALVE



# Avenger 12QX

## Schematic Drawing # 3

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### Parts List – Drawing 3 Page 1 of 3

Item #	Part #	DESCRIPTION
1	SP-15425	SLIDING BLOCK COVER
2	SP-15538	SCREW TC+ 3,9x13 SCREW TC+ 3,9x13
3	SP-15567	SCREW TE 8x40
4	SP-15426N	WHEEL
5	SP-15568	NUT – DIAM.8
6	SP-154272	FRONT WHEELS SUPPORT
7	SP-151151	FRONT WHEEL
8	SP-15569	COTTER PIN
9	SP-15428	SHAFT
10	SP-15570	SCREW TC+ 5x16
11	SP-15571	SCREW TC+ 5x45
12	SP-15429	BELT COVER CARTER
13	SP-15430	BELT
14	SP-15572	SCREW TE 5x16
15	SP-15431	PULLEY
16	SP-15573	STOP DOWEL
17	SP-15517	STAINLESS STEEL WASHER
18	SP-15575	SCREW TE 5x12
19	SP-15576	SCREW TE 10x16
20	SP-15432	BEARING WITH SUPPORT
21	SP-15433	BRUSH PULLEY
22	SP-15434	SLIDING BLOCK
23	SP-15455	BRUSH MOTOR 100-120V
24	SP-15759C	WATER PIPE
25	SP-15766	NIPPLE 3/8”–1/8”
26	SP-15757	MANIFOLD
	SP-15757C	MANIFOLD COMPLETE WITH NOZZLES & END FITTINGS
27	SP-15758	CAP
28	SP-15741	LOCKING NUT FOR NOZZLE
29	SP-15617C	REGULATION VALVE COMPLETE
30	SP-15743	MESH SCREEN W/ CHECK VALVE
31	SP-1570501	BRASS NOZZLE 0.1/110
32	SP-15742	LOCKING NUT FOR NOZZLE
33	SP-155650	MANIFOLD LOCK
34	SP-15237	FAIRLEAD
35	SP-15436	STEEL WIRE
36	SP-15546	SCREW TC+ 5x25
	SP-155172	WASHER DIAM. 5x20
	SP-15517	WASHER DIAM. 5x15
	SP-15461	SPRING
	SP-155651	BUSH
37	SP-15605	ELBOW FOR 6/8 PIPE
38	SP-15437	SHAFT FOR BRUSH
39	SP-15438	PULLEY
40	SP-15369	BRUSH
41	SP-15517	WASHER 5x15
42	SP-15577	WASHER 8x32
43	SP-15578	SEEGER



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**Parts List – Drawing 3**  
**Page 2 of 3**

Item #	Part #	DESCRIPTION
44	SP-15580	WASHER 15,2x27
45	SP-15461	SPRING
46	SP-154391	SHAFT
47	SP-15575	SCREW TE 5x12
48	SP-15582	SCREW TE 6x8
49	SP-15422	WHEEL
50	SP-15423	WHEEL COVER
51	SP-154660	METAL HOUSING
52	SP-154670	PEDAL
53	SP-154671	RUBBER COVER FOR PEDAL
54	SP-15585	SCREW TE 10x35
55	SP-155401	WASHER 10x30
56	SP-154712	SPRING
57	SP-15526A	LOCKING NUT D.10
58	SP-155841	LOCK SCREW
59	SP-155871	SPACER
59A	SP-15550	SCREW TC BRUGOLA 6x20
60	SP-15576	SCREW TE 10x16
61	SP-15549	SCREW TE 8x16
62	SP-15456	KNOB
63	SP-15588	ELASTIC PIN
64	SP-154713	PRESSURE REGULATION KNOB
65	SP-154716	ROD FOR KNOB
66	SP-154711	SPRING FOR VACUUM PRESSURE
67	SP-154680	CILINDER, COMPLETE WITH BRACKETS
68	SP-154710	SPRING
69	SP-154690	SUPPORT FOR VACUUM HEAD
70	SP-15580	BRASS WASHER 15,2x27x1
71	SP-15569	COTTER PIN
72	SP-15598	SCREW TE 10x50
73	SP-15526B	NUT D.10 H=8
74	SP-1547003	PAWL PIN
75	SP-15607	PAWL SPRING
76	SP-1547002	PAWL BODY
77	SP-1547001	PAWL HAND GRIP
	SP-154700C	COMPLETE PAWL
78	SP-15580	WASHER 15,2 x 27
79	SP-154714	SUPPORT FOR VACUUM HEAD
80	SP-15549	SCREW TE 8x16
81	SP-15585	SCREW TE 10x35
82	SP-15471	SUPPORT FOR VAC.HEAD ORIENTATION
83	SP-15449C	VACUUM HEAD WITH HOSE D.38 AND SUPPORT (ITEMS 79,80,81,82,83)
84	SP-154181	SHAFT FOR WHEELS



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Item #	Part #	DESCRIPTION
85	SP-1557820	SEEGER DIAM. 20
86	SP-15583	SCREW TE 8x20
87	SP-15421	LOWER BEARING FLANGE
88	SP-15419	PILLOW BLOCK
89	SP-15420	UPPER BEARING FLANGE
90	SP-154270	DISTANCE PLATE FOR WHEELS
91	SP-15334	HOSE COUPLING
92	SP-15370	VACUUM HOSE
93	SP-15709	METAL QUICK DISC. MALE + SPRING
94	SP-155670	SCREW
95	SP-15568	DIE
96	SP-15 5080	STOP PLATE
97	SP-155091	SCREW
98	SP-155081	ROPE LOCK