



Electronic Service Manuals

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3620

Battery Sweeper

Model No.:
608727/610692

Operator and Parts Manual



Tennant Company
Commercial Products
12875 RANSOM STREET
HOLLAND MI 49424 U.S.A.

FAX: 1-800-678-4240
CUSTOMER SERVICE: 1-800-982-7658

608793
Rev. 04 (08-02)

OPERATION

GENERAL INFORMATION

The purpose of this manual is to inform the operator of the basic rules, safety rules and criteria which must be observed when using, adjusting and maintaining the machine. The machine has been developed and manufactured to ensure an excellent performance and the utmost comfort and ease of operation in a variety of working conditions. Before delivery, the machine has been checked at the factory and by the dealer to make sure it is handed over to you in perfect working order: To maintain the machine in this condition and ensure problem free operation, it is essential to follow the routine maintenance instructions given in this manual.

When ordering replacement parts use the Parts Lists in this manual. Before ordering parts or supplies, be sure to have your machine model number and serial number handy. Parts and supplies may be ordered by phone or mail from any of the manufactures service centers or distributors.

This machine will provide excellent service. However, the best results will be obtained at minimum costs if:

- The machine is operated with reasonable care.
- The machine is maintained regularly - per the machine maintenance instructions provided.
- The machine is maintained with manufacturer supplied or equivalent parts.

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MACHINE DATA

Please fill out at time of installation for future reference.

Model No.- _____

Install. Date - _____


Serial No.- _____

Printed in U.S.A.

SAFETY PRECAUTIONS

The machine, composed of a brush and a suction system, is to be used EXCLUSIVELY to clean dry surfaces. Any other use could cause damage to people or things and is therefore PROHIBITED.

The following safety alert symbols are used throughout this manual as indicated in their description.


 **WARNING: To warn of hazards or unsafe practices which could result in severe personal injury or death.**


FOR SAFETY: To identify actions which must be followed for safe operation of equipment.

The following information signals potentially dangerous conditions to the operator or equipment:

FOR SAFETY:

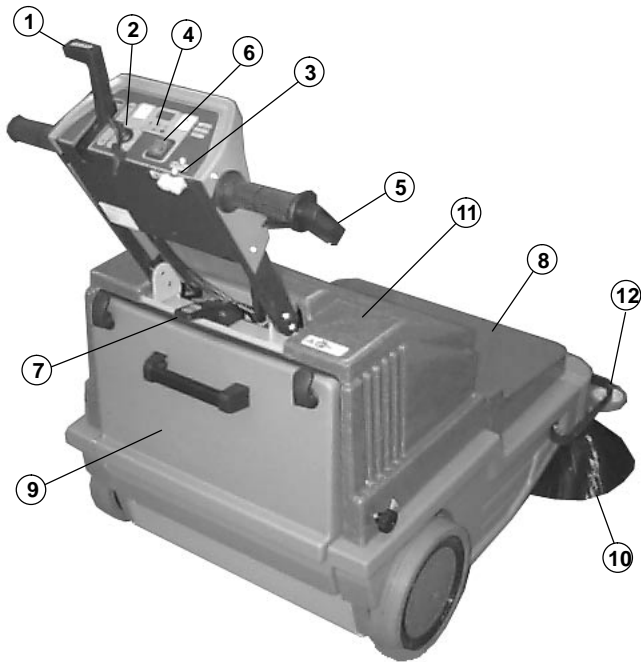
1. **Do not operate machine:**
 - Unless trained and authorized.
 - Unless operation manual is read and understood.
 - In flammable or explosive areas unless designed for use in those areas.
 - Without bag and/or filters in place.
2. **Before starting machine:**
 - Make sure all safety devices are in place and operate properly.
3. **When using machine:**
 - Do not pick up burning or smoking debris, such as cigarettes, matches or hot ashes.
 - Go slow on inclines and slippery surfaces.
 - Use care when reversing machine.
 - Always follow safety and traffic rules.
 - Report machine damage or faulty operation immediately.
 - Do not soak up liquids.
 - Do not leave machine unattended.
4. **Before leaving or servicing machine:**
 - Stop on level surface.
 - Turn off machine.
 - Remove key.
5. **When servicing machine:**
 - Avoid moving parts. Do not wear loose jackets, shirts, or sleeves.
 - Block machine tires before jacking machine up.
 - Use hoist or jack of adequate capacity to lift machine.
 - Disconnect battery connections before working on machine.
 - Wear protective gloves when handling batteries or battery cables.
 - Avoid contact with battery acid.
 - Use manufacturer supplied or approved replacement parts.

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

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

OPERATION

MACHINE CONTROLS & COMPONENTS



1. **Side brush control lever:** switch the lever ON and the side brush will move to position and start spinning. To stop the brush, switch the lever to OFF.
2. **Key switch:** this switch starts and stops all the machine's functions.
3. **Battery charger socket:** by plugging a 12V battery charger in this socket you will recharge the battery (see the section on battery recharging).
4. **Charge indicator light:** this light indicates the state of the battery during operation.
5. **Traction lever:** by squeezing this lever, the machine will start moving forward.
6. **Vacuum switch:** Starts and stops vacuum suction.
7. **Filter shaker lever:** this lever operates the filter shaker to clean the filter (see the section filter maintenance).
8. **Front waste bin:** collects debris.
9. **Rear waste bin:** collects dust.
10. **Side brush:** this brush enables machine to clean close to walls.
11. **Upper Cover:** Covers internal components.
12. **Wall Bumpers:** Protects wall from damage.

UNCRATING MACHINE

Unpack the machine with the utmost care; avoid carrying out any operation that could damage it. Once it has been unpacked, check whether it is damaged. If you notice that it is not in correct working order, DO NOT use it and inform your dealer.

For packaging and transport purposes, some parts and accessories are supplied, disconnected from the machine. To assemble them, carefully follow the instructions given in the relevant sections.

Contents of the package:

- 1 – Machine
- 1 – Side brush
- 2 – Ignition keys

TOOL KIT: 613788

- 1 – 10mm/13mm combination wrench
(for attaching side brush)
- 1 – 4mm Allen wrench (for attaching handle cover)
- 1 – 5mm Allen wrench (for handle assembly and side brush adjustment)

In the case in which one of the above mentioned parts is missing, please inform your dealer right away.

ATTENTION: Make sure to keep the packaging materials (bags, carton pallets, hooks, etc.) out of the reach of children.

ATTENTION: For security reason during the transport, the ignition keys have been fixed to the handle.

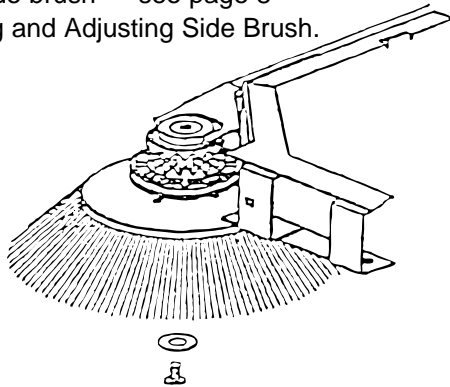
PREPARING MACHINE FOR OPERATION

1. Mounting the side brush (Figure 1).

(Use 10mm wrench.)

- Switch the brush lift lever to OFF.
- Remove the screw from the side brush drive shaft.
- Fit the brush on the shaft.
- Screw on the screw and washer.
- Adjust side brush — see page 8 —
Replacing and Adjusting Side Brush.

FIG. 1.



2. Mounting the handlebar (Figure 2).

(Use 5mm Allen wrench)

- Loosen the handlebar fixing screws.
- Position the handlebar in work position.
- Tighten the handlebar fixing screws.

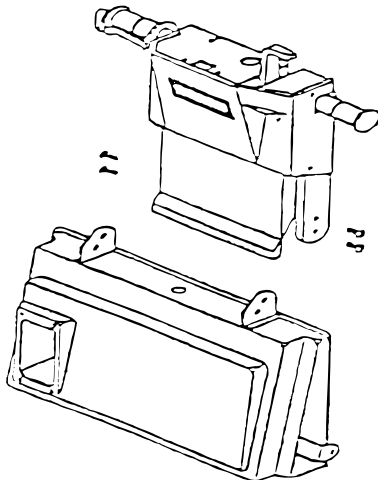


FIG. 2.

3. Mount bumper.

- Remove buttonhead screws from the front right corner of the cowling.
- Put bumper in place, around the corner with the wheel down.
- Return the buttonhead screws to their original position.
- Tighten with the 5mm Hex Driver (wrench).

4. Preparing the battery.

ATTENTION: The battery must be prepared before it is mounted on the machine. This simple precaution will prevent the machine from being damaged by the electrolytic liquid of the battery.

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

5. Mounting the upper cover.

NOTE: Prepare the battery before proceeding the assembling of the cover. Once you have done this:

- Remove the upper cover attachment knobs.
- Position the upper cover on the machine.
- Tighten the upper cover attachment knobs.
- Fit the knob regulating the air inlet.

MACHINE OPERATION

FOR SAFETY: Do not operate machine unless trained and authorized.

FOR SAFETY: When using machine, do not soak up liquids.

FOR SAFETY: Before leaving or servicing machine, stop on level surface, turn off machine and remove key.

To start the machine carry out the following operations:

- Make sure the side brush is OFF.
- Turn the key switch ON. Wait 10 seconds and check the charge indicator light, to assess whether the battery is fully charged. If it is not, proceed to recharge it.
- Pull the traction lever, to start cleaning.
- If necessary, turn ON side brush by pushing and moving side brush control lever backwards. At the end of your work remember to turn it OFF. Switch off the machine and remove the key from the control panel.

NOTE: An automatic shut-off device will prevent you from using the machine beyond a certain battery charge limit. When this limit is reached, the machine will stop and the battery must be recharged.

- After you have become conversant with the operations required to operate the machine, you can actually start using the sweeper to obtain the best results, it is always wise to take a few precautions while operating. These will help you to get the best results from your machine and reduce the chance of possible machine damage.

OPERATION

In particular:

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

- Do not use the machine to clean up wires, ropes or straps or soak up water and other liquids.
- When using the machine on light but bulky material (sheets of paper, leaves, etc.), raise the front part of the machine by pressing down the handlebar so that the machine can tackle the rubbish.
- Operate the filter shaker at the end of your work (see the “Panel Filter section”).
- Make sure the center brush is correctly regulated (see the section on adjusting the center brush).

CLEANING THE WASTE BINS

FOR SAFETY: Before leaving or servicing machine, stop on level surface and turn off machine.

ATTENTION. Waste must be disposed of strictly in accordance to the law.

1. Cleaning the front waste bin.
 - a. Lift and turn the two bin locks.
 - b. Grasp the handle/s and remove the bin by pulling it upwards.
 - c. Empty the bin.
 - d. Put the bin back in the machine from the top.
 - e. Turn and lower the two locks.
2. Cleaning the rear waste bin.
 - a. Lift and turn the two bin locks.
 - b. Grasp the handle and pull the bin out of the machine.
 - c. Empty the bin.
 - d. Fit the bin back into the machine.
 - e. Turn and lower the two locks.

RECHARGING BATTERY

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

ATTENTION: Remember that the area where these operations are done should be well ventilated.

With machine turned OFF, perform the following steps:

1. Take off the battery cell covers and add distilled water if needed. Water level should be 1/4" above lead plates.

FOR SAFETY: When servicing machine, wear protective gloves when handling batteries or battery cables. Avoid contact with battery acid.

2. Connect the 12V battery charger to the charging plug.

The length of battery charge will depend on the periodic maintenance and the level discharged reached. Don't discharge the battery more than the limit signaled on indicator light. If the maximum discharge limit is reached, the machine will stop and should be recharged in order to continue cleaning.

Battery Charge Indicator:

Green Light – Battery completely charged.

Yellow Light – Battery near discharged, recharge battery as soon as possible.

Red Light – Battery discharged, don't run machine.

The battery should provide approximately 2.5 hours of run time on a full charge. If the run time is less than this, check the following:

- Brushes are running freely.
- Battery is completely charged before starting.

MACHINE MAINTENANCE

All service performed should be completed by persons who understand the machine or an Authorized Service Center. It is recommended that only authorized repair parts be used for service.

FOR SAFETY: Before leaving or servicing machine, stop on level surface, turn off machine and remove key.

MAINTENANCE CHECKS

1. Check battery level at delivery and every 10 hours of operation.
2. Check that all is operating well at delivery and every 100 hours of operation.
3. Check periodically that waste bins have been emptied.
4. Check brush condition every 50 hours of operation. Adjust or replace if necessary.
5. Check belt tension every 50 hours of operation. Adjust or replace if necessary.
6. Check screws and bolts for tightness every 100 hours of operation.
7. Check condition of motor carbon brushes every 200 hours of operation. Replace if worn.

BATTERY MAINTENANCE

1. The battery should always be kept clean and dry.
2. Check that the battery and posts are constantly clean of corrosion.
3. Every 10 hours of operation take off battery cell covers and check electrolyte level, refilling them distilled water if necessary. Fill level should be no more than 1/4" above lead plates.

ATTENTION: Remember that the area where these operations are done should be well ventilated.

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

NOTE: In the event the battery must be scrapped, please remember that batteries are not common waste materials. They must be disposed of in accordance with the relevant laws.

FILTER MAINTENANCE

FOR SAFETY: Before leaving or servicing machine, stop on level surface, turn off machine and remove key.

The filter is one of the machines main components. It is essential for the best results from your machine. If you notice that dust forms when the machine is at work, check the filter by performing the following steps:

1. Press and release the filter shaker lever. The lever operates a rod that will unclog the filter. Repeat this operation 5 or 6 times (Figure 3).
2. Apart from the filter shaker, it is advisable every now and again to remove the machine's filter and clean it out with a blast of air or a vacuum cleaner. For this purpose, the filter is removed as follows:
 - a. Unlatch and turn rear bin latches inward.
 - b. Remove the rear bin.

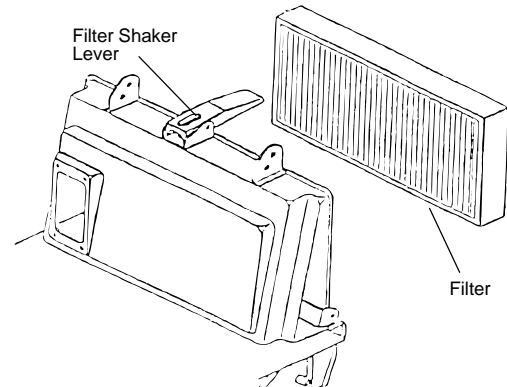


FIG. 3.

- c. Unlatch filter lock latches, turn half moon retainers away from filter.
- d. Remove the filter while pressing the filter shaker lever (Figure 3).
- e. To remount the filter, carry out the operation in reverse order.

NOTE: The filter features an arrow that shows you the direction in which it should be fitted.

DUSTY ENVIRONMENTS: If you are using the machine in a particularly dusty environment (cement factories, sawmills, marble processing factories), it is wise to use the filter shaker more frequently.

3. Every 200 hours of work, the filter must be replaced. Follow the operations listed in step 2. After the filter has been remounted, make sure the gasket and filter are dust tight.

ATTENTION: Waste must be disposed of strictly in accordance to the law.

OPERATION

REPLACING AND ADJUSTING THE SIDE BRUSH

FOR SAFETY: When servicing machine, disconnect battery connections before working on machine.

To Replace Side Brush:

1. Lift the front part of the machine.
2. Slacken the brush fixing screw and remove the brush.
3. Replace the brush and secure the new one in place with the screw and its washer.

To Adjust Side Brush:

1. The side brush is adjusted by loosening two screws (Figure 4).
2. Position the brush using screw slots to adjust required height. Once you have positioned it, tighten the two screws.

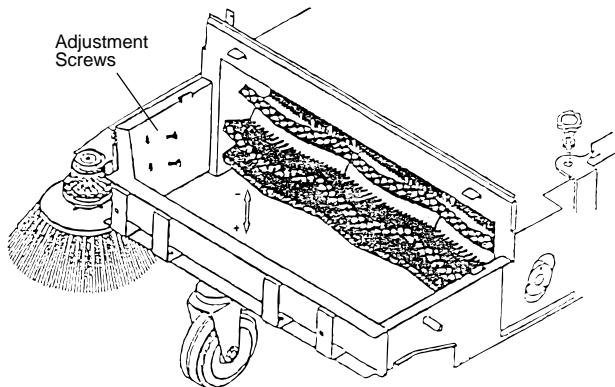


FIG. 4.

REPLACING AND ADJUSTING THE MAIN BRUSH

FOR SAFETY: When servicing machine, disconnect battery connections before working on machine.

To Replace Main Brush:

1. Remove the front waste bin and slacken the four fixing screws to remove the brush.
2. When mounting a new brush, pay attention to the direction in which the brush will spin; it must direct dirt toward the center of the machine.

To Adjust Main Brush Height:

1. Remove the upper cover.
2. Loosen the knurled lock nut below the adjustment handle and turn handle in the direction desired (counterclockwise to increase pressure). (Figure 5)
3. If brush is properly adjusted, bristles should bend slightly against the cleaning surface (1/4" penetration). Retighten knurled lock nut after achieving proper adjustment.



FIG. 5.

REPLACING AND ADJUSTING THE BELTS

FOR SAFETY: When servicing machine, disconnect battery connections before working on machine.

To prepare the machine for belt replacement:

1. Remove the upper cover and the front waste bin.
2. To replace or adjust drive belt: Remove the left wheel, bumper, side guard and belt pulley cover. To replace side brush belt: Remove the right wheel, bumper and side guard.
3. With the machine dismantled in such a manner, proceed to the following replacement instructions.

To Replace the main drive belt:

1. Remove belt from the pulleys.
2. Replace the belt. Position belt to the right side of the belt tightener roller (Figure 6).

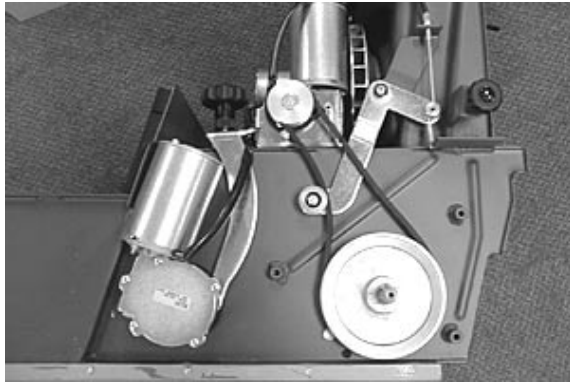


FIG. 6.

To Replace the side brush belt:

1. Remove belt from main pulley. Remove fixing pin and let the hooks of side arm come out of the idle toothed ring (Figure 7).
2. Remove belt from machine.
3. Replace the belt. Hook side arm to the idle toothed ring. Tighten fixing pin.
4. Place belt on main pulley.

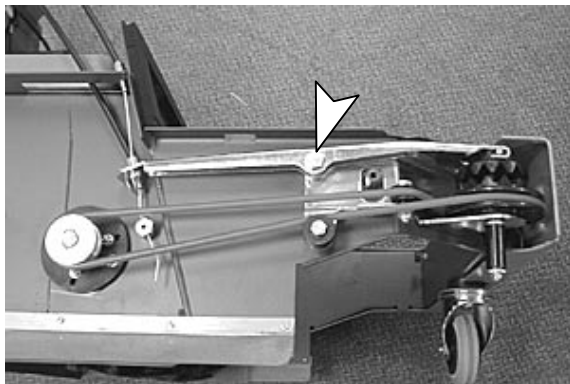


FIG. 7.

REPLACING THE FLAPS

FOR SAFETY: When servicing machine, disconnect battery connections before working on machine.

To Replace Outer side flaps 1 (Figure 8):

1. Remove the rear wheels and the appropriate side guards.
2. Loosen the screws that secure the flaps to frame 2 and replace the old flaps with new ones.

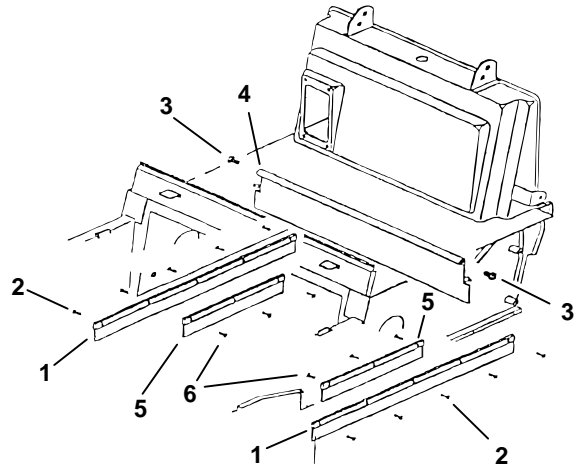


FIG. 8.

To Replace Inner side flaps 5 (Figure 8):

1. Lift the front part of the machine and loosen screws 6 that secure the flaps to the frame.
2. Replace the old flaps with new ones.

To Replace Center flaps (Figure 8):

1. Remove the rear wheels and the appropriate side guards.
2. Remove the rear door.
3. Loosen the two flap fixing pins 3, located on the sides of the frame.
4. Grasp flap 4 and pull it outwards.
5. Remount the flaps in the same direction in which they are removed.
6. Insert the two references in their holes.
7. Tighten the two fixing pins.

OPERATION

REPLACING THE TRACTION CABLE

FOR SAFETY: When servicing machine, disconnect battery connections before working on machine.

To remove the traction cable:

1. Remove the upper cover of the machine.
2. Loosen the security dowel located on the cable fixing pin.
3. Pull the cable out of the fixing pin and remove the adjusting screw mounted on the handle.
4. Press the handle and pull the cable out of its sheath.

To remount the traction cable:

1. Fit one end of the cable into the adjustment screw of the handle (i.e. the end without the blocking ball).
2. Insert the cable into its sheath.
3. Hook the blocking ball to the handle.
4. Slot the cable through the turned adjustment screw secured to the machine frame and then through the fixing pin.
5. Tighten the security dowel. The position of the cable is adjusted by acting on the two adjustment screws.

To Replace the side brush lifting cable:

1. Remove the upper cover and the front waste bin of the machine.
2. Remove the front bumper, the right wheel and the right hand side guard.
3. Loosen the cable clamp.
4. Loosen the security dowel on the fixing pin.
5. Remove the handle from the support and open it up.
6. Pull the cable out of the two sheaths.

To remount the side brush lifting cable:

1. Put the cable inside the handle.
2. Close up the handle and fix it to its support.
3. Insert the cables into their sheaths.
4. Secure one end of the cables in place with the clamp and the other end with the fixing pin. The position of the cable is adjusted by acting on the two adjustment screws.

REPLACING THE FAN MOTOR

To replace the fan motor:


1. Remove the upper cover.
2. Disconnect the battery cables and take the battery out of the machine.
3. Disconnect the power supply cords of the motor from the plug.
4. Remove the stop for the cable holder from the motor.
5. Loosen the four motor fixing screws. Replace the motor by carrying out the above operations in reverse order:

NOTE: Make sure the motor is mounted level with the fan.

ATTENTION: When connecting the motor respect the polarity.

RECOMMENDED STOCK ITEMS

Refer to the Parts List section for recommended stock items. Stock Items are clearly identified with a bullet preceding the parts description. See example below:



Ref.	Part No.	Description	Qty.
1	701103	ASM., STANDPIPE	1
2	180610	●FLOAT, SHUTOFF	1
3	230187	NIPPLE	1
4	101714	●GASKET	1
5	210240	NUT, FLANGED	1

TROUBLE SHOOTING GUIDE

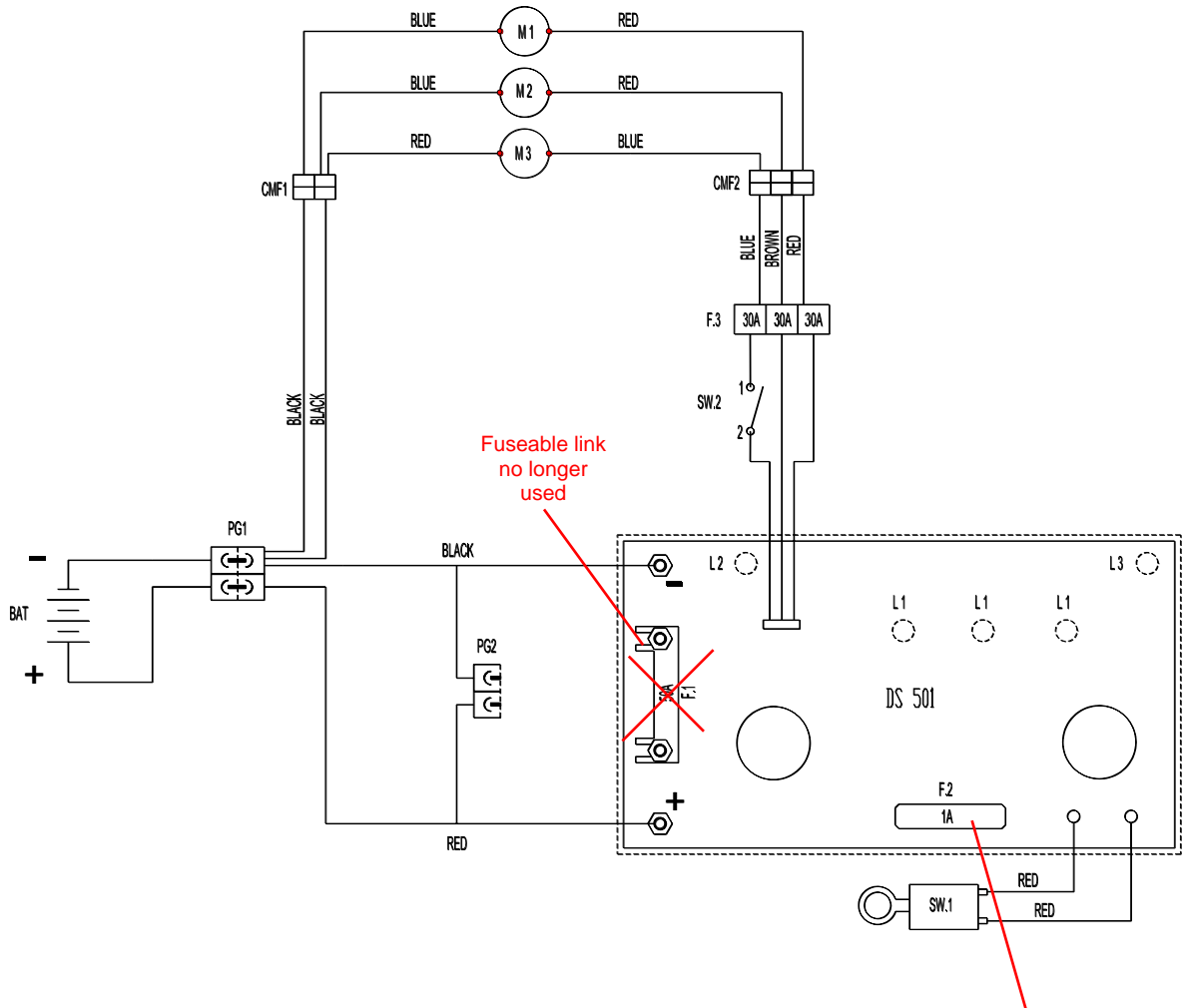
PROBLEM	CAUSE	SOLUTION
The machine does not move forward.	Drive belt is broken.	Replace belt.
The main brush is not spinning.	The motor has burnt out.	Replace motor.
	A wire is detached.	Repair connection.
The side brush is not spinning.	The belt is broken.	Replace belt.
The battery does not stay charged.	The liquid is insufficient.	Add liquid.
	The terminal is loose.	Tighten terminal.
Dust comes out of the fan.	The filter is broken.	Replace filter.
	The filter is in the wrong position.	Position correctly.
	The gaskets are worn.	Replace gasket.
The brushes wear out too quickly.	The brushes are too low.	Adjust brush height.
Dust forms during operation.	The flaps are worn.	Replace flaps.
	Clogged filter.	Cleaning required.
The suction motor does not work.	The motor has burnt out.	Replace motor.
	The wire is disconnected.	Repair connection.
The machine does not turn on.	The battery terminals are disconnected.	Reconnect terminals.
	The battery is discharged.	Recharge battery.

OPERATION

SPECIFICATIONS

Model:	3620
MAXIMUM WIDTH WITH SIDE BRUSH	810 mm (32 in)
MAXIMUM LENGTH WITH SIDE BRUSH	1160 mm (45.6 in)
MAXIMUM HEIGHT WITH SIDE BRUSH	1000 mm (39.3 in)
ACTUAL CLEANING WIDTH (MAIN BRUSH)	520 mm (20.5 in)
WEIGHT	88Kg (194 lbs)
WEIGHT OF BATTERY	24.9 Kg (55 lbs)
CAPACITY OF FRONT WASTE BIN	32L (1.1 cu.ft)
BATTERY RUN TIME	2.5 h
FILTERING SURFACE	690 mm (27 in)
PRODUCTIVITY	26,900 sq. ft./2500m ² per hour
INSTALLED POWER	360W/28A
BATTERY TYPE	12V, 105A
NOISE LEVEL AT OPERATOR'S EAR	77.2 dB(A)
VIBRATIONS	2,5 m/Sec ²

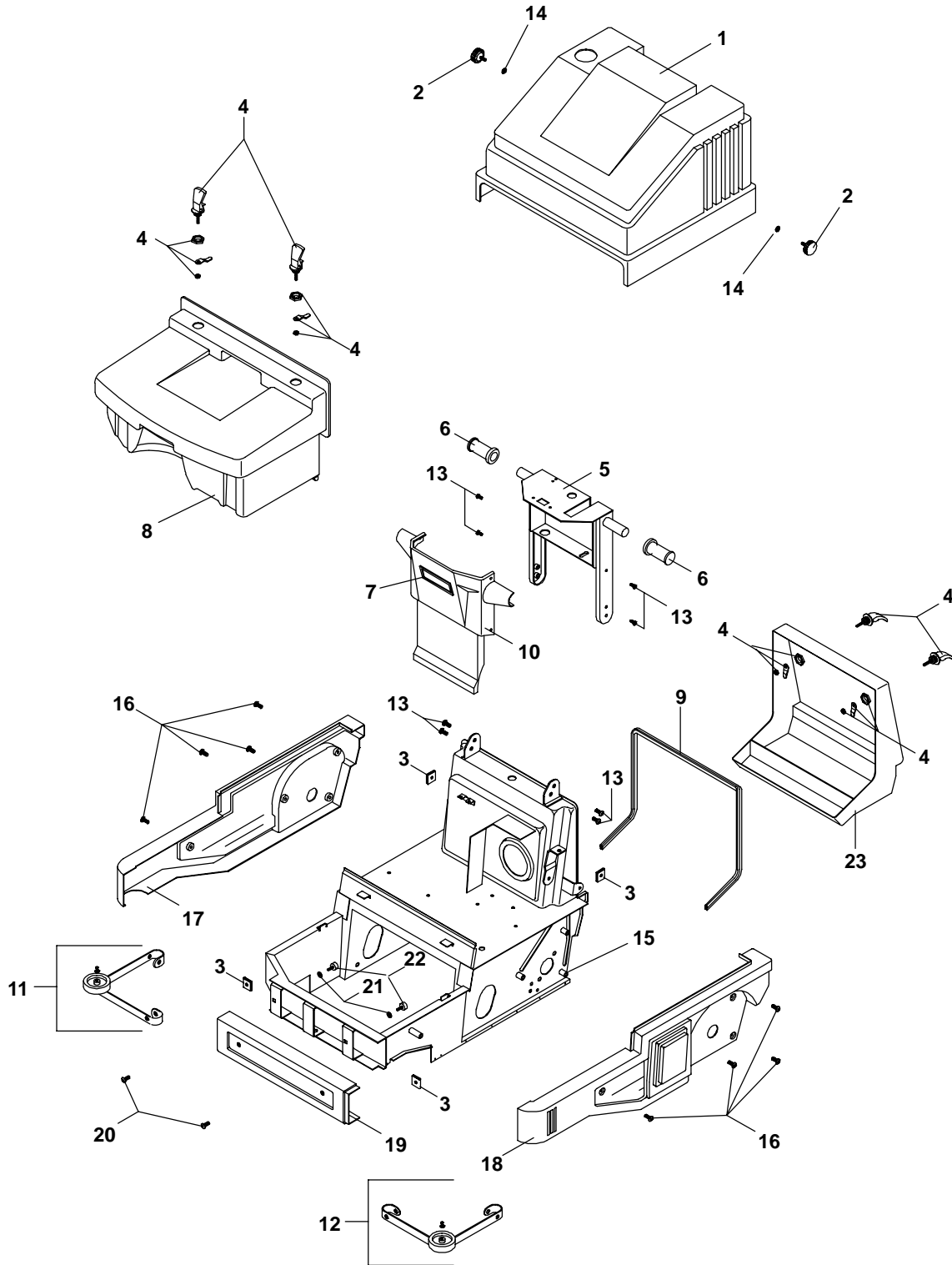
12V ELECTRICAL DIAGRAM



#604257 Fuse, 1A/250V

- SW.1: KEY SWITCH
- SW.2: FAN SWITCH
- PG.1: BATTERY HARNESS PLUG
- PG.2: BATTERY CHARGER PLUG
- BAT : 12V BATTERY
- CMF.1: PLUG
- CMF.2: PLUG
- M 1: MAIN BRUSH MOTOR
- M 2: TRACTION MOTOR
- M 3: SUCTION FAN MOTOR
- F.x: FUSES
- L 1: BATTERY LEDS
- L 2: FAN INDICATOR LED
- L 3: POWER INDICATOR LED

CHASSIS GROUP



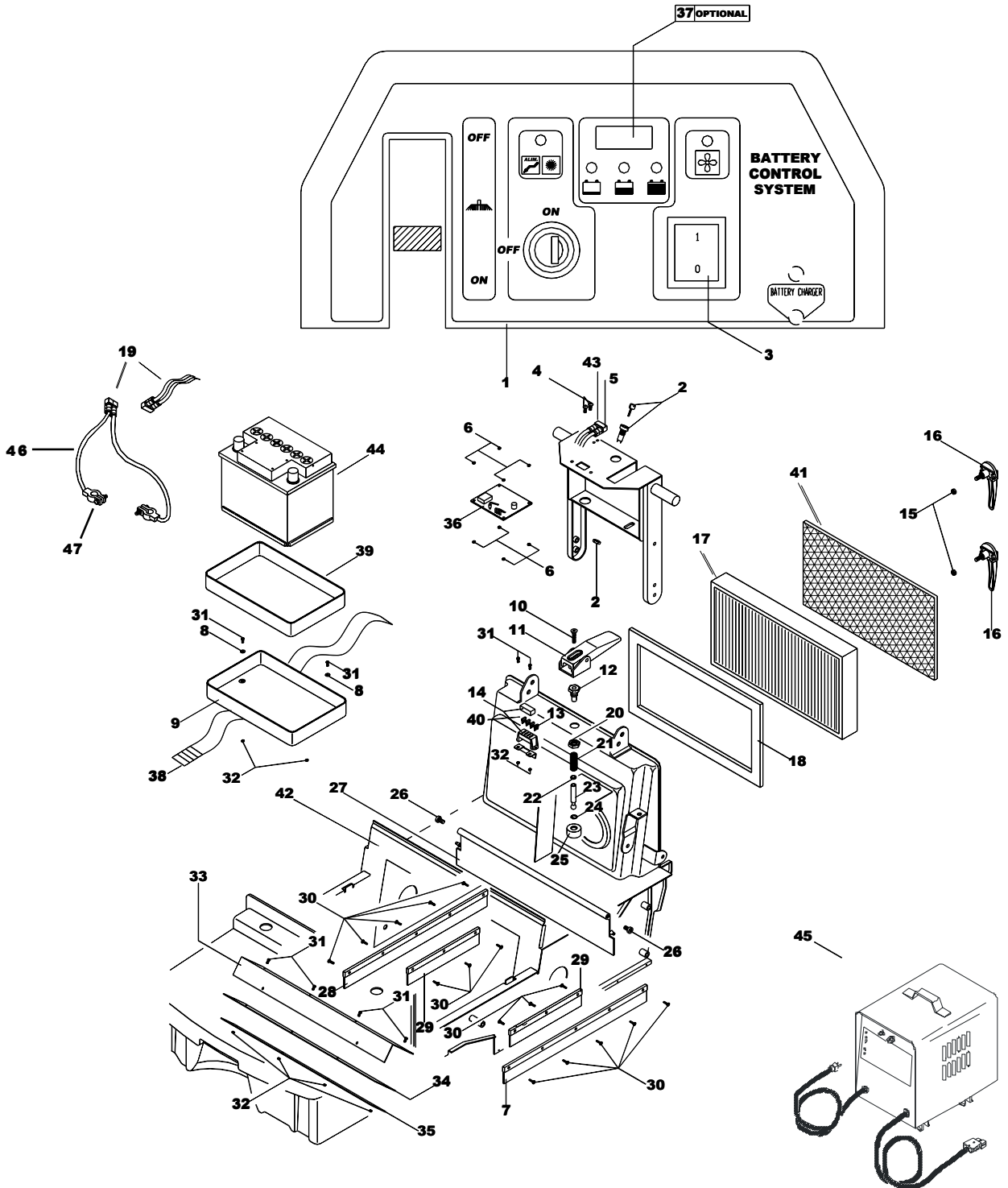
CHASSIS GROUP

Ref.	Part No.	Description	Qty.
1	603346	Cover upper blue	1
	611912	Cover upper teal	1
2	603348	•Screw, Thumb	2
3	604214	Nut M8	4
4	604215	TEK locking	4
5	604216	Handgrip	1
6	604217	•Handle cover rubber	2
7	611922	Tennant logo label	1
8	613248	Hopper assembly, blue	1
	613247	Hopper assembly, teal	1
9	604221	•Gasket reinforced	1,5m
10	604218	Handle grey cable casing	1
11	604627	Wallbumpers, right complete	1

Ref.	Part No.	Description	Qty.
12	610752	Wallbumpers, left complete	1
13	603349	Screw handlebar	8
14	140028	Washer 8X17	2
15	604223	Frame	1
16	604224	Screw 8x10	8
17	603343	Cover, right side	1
18	603344	Cover, left side	1
19	603345	Cover, front	1
20	604225	Screw 8x16	2
21	604226	Nut M6	2
22	604227	Foot 20x9 M6x18	2
23	604228	Black, back drawer	1

•RECOMMENDED STOCK ITEMS

ELECTRICAL/FILTER GROUP



ELECTRICAL/ FILTER GROUP

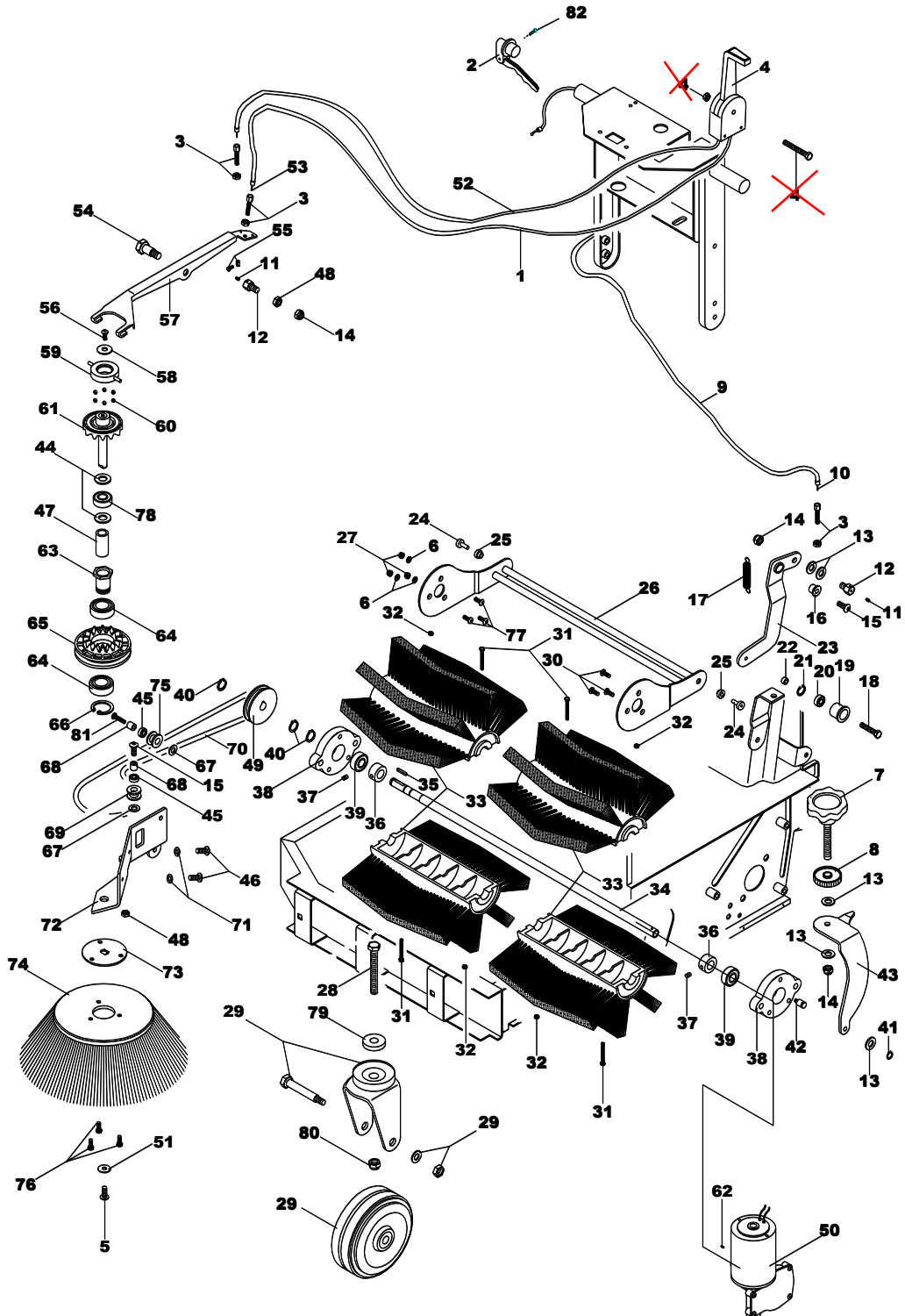
Ref.	Part No.	Description	Qty.
1	604183	Plate dashboard	1
2	603360	Key with ignition (2)	1
	606197	•Key replacement	1
3	604184	Switch bipolar	1
4	604185	Screw 5X20	2
12827	600012000	Red batt. Charger connector	1
6	604213	Nut M5	8
7	612617	•Flap left side	1
604189	612618	Washer 5X15	2
9	604190	Battery container	1
10	612619	Screw 6X16	1
11	604192	Lever filtershaker	1
12	604193	Rail filtershaker	1
13	603358	•Fuse 30A	3
14	604194	Fuse box + cover	1
604214	612620	Nut M8	2
16	610753	Handle, filter lock	2
17	607586	•Filter hospital grade	1
18	603359	•Gasket, filter	1
19	612621	•Insulation electrical	1
20	604198	Nut M18	1
21	604199	Spring filtershaker	1
22	604200	Gasket OR 102	1
23	604201	Pin	1

Ref.	Part No.	Description	Qty.
24	604202	Ring inner snap \varnothing 16	1
25	604203	Bar articulate	1
26	604204	Screw M10X6	2
27	604205	•Flap backside	1
28	612622	•Flap right side 604206	1
29	612623	•Flap inner 604207	2
30	604208	Screw 3.5X9.5	16
31	604209	Screw	8
32	604210	Nut M4	8
33	603361	Clamp guard front	1
34	603362	•Guard, front rubber	1
35	603363	•Skirt, hopper	1
36	603342	Board circuit main Fuses, See below	1
37	604212	Hourmeter LCD	1
38	612624	Battery strap	1
39	612625	Battery tray	1
40	130059	•Fuse 20A central brush	1
41	609971	•Kit, pre-filter	1
42	604187	•Adhesive front drawer	1
43	600013000	Black batt. charger connector	1
44	578426	Battery, wet filled	1
	611867	Optional Battery, gel	1
45	609960	Charger 120V for wet filled	1
	611866	Optional charger 120V for gel	1
46	610754	Wire harness, quick connect	1
47	600988	Terminal, battery cable	1

•RECOMMENDED STOCK ITEMS

Main Circuit Board Fuses:
#604258 Fusible Link 50A
#604257 Fuse, 1A/250V

BRUSH GROUP



BRUSH GROUP

604104

Ref.	Part No.	Description	Qty.
1	612634	Sheath side brush	1
2	612632	Handle, drive	1
3	604105	Adjuster turner $\varnothing 7$	3
603350	612633	Lever, sidebrush drive	1
5	140272	Screw M6x16	1
6	604107	Washer 6x12	6
7	604108	Handwheel $\varnothing 60$ 12X67	1
8	604109	Nut ring $\varnothing 40$ M12	1
9	612634	Sheath drive cable	1
10	612635	•Cable drive	1
11	604112	Dowel 5X6	2
12	604113	Screw wire fixing	2
13	604114	Washer M8X17	7
14	604115	Nut block M8	3
15	604116	Screw 8X25	3
16	604117	Bushing, lever belt tightner	1
17	604118	Spring Traction	1
18	604119	Belt tightner roll	1
19	604120	Belt tightner roll H15	1
20	604121	Bearing 608 2RS	1
21	604122	Ring, snap, $\varnothing 22$ inner	1
22	604123	Spacer	1
23	604124	Braket beltlight	1
24	604125	Pinrocker	2
25	604126	Bushing rocker	2
26	604127	Rocker	1
27	604128	Nut block M6	6
604129	612636	Screw 12x60 12x40	1
29	604130	Wheel support $\varnothing 100$	1
604139	611906	Screw 6x16 6x60	3
31	604140	Screw 5X70	4
32	604141	Nut M5	4
33	604302	•Brush set main	1
	604624	•Brush, main, white (Stiff) set 2	1
	604625	•Brush, main, brass set 2	1
34	604142	Brush shaft	1
35	604143	Key 5X5X15	1
36	604144	Spacer, brush shaft	2
37	604145	Pin, dowel 6X5	2
604146	612637	Support bearing	2
39	604147	•Bearing 6202 2RS	2
40	604148	Ring out snap $\varnothing 15$	3

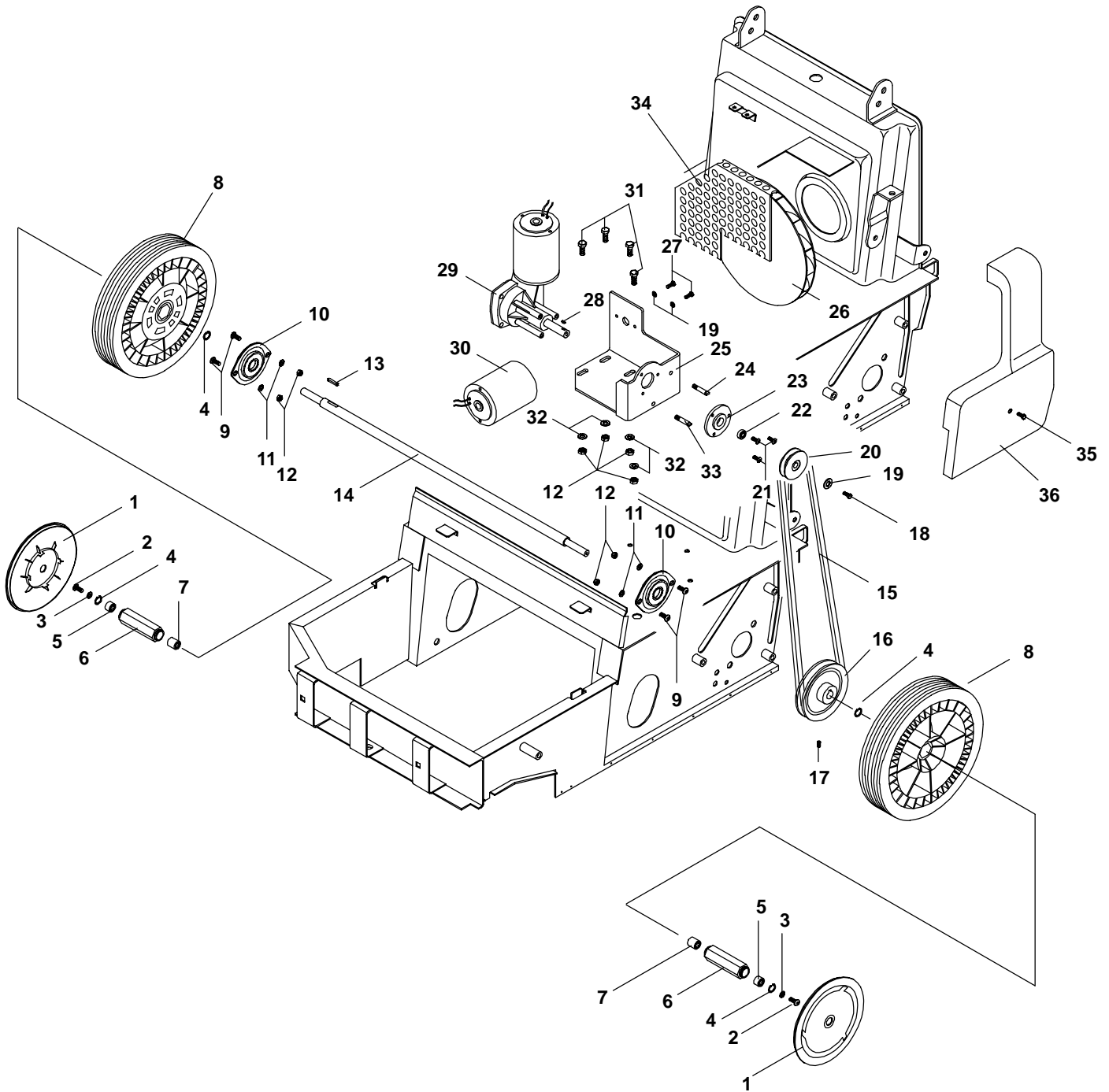
Ref.	Part No.	Description	Qty.
41	604149	Outer snap ring $\varnothing 12$	1
42	604150	Brush adj fix pivot	1
43	604151	Bracket brush adjustment	1
44	604152	Washer side arm feet	2
45	604153	Bearing HK 1012	2
46	604154	Screw 8X10	2
47	604155	Spacer side brush shaft	1
48	612620	Nut M8	2
49	604157	Pulley	1
* 50	604158	Motor, brush drive	1
51	604159	Washer M6X24	1
52	612638	Casing, side brush cable 9001113	1
53	612639	•Cable side brush lift 603352	1
54	604160	Pin 17X34	1
55	604161	Clamp $\varnothing 7$	1
56	604162	Screw 8X22	1
57	604163	Brush lift lever	1
58	604164	Washer 8X32	1
59	604165	Ring brush bearing	1
60	604166	Balls 11/32"	6
61	604167	Ring brush tooth	1
62	604168	Key 3X3,7 604103	1
63	604169	Bushing bearings	1
64	604170	•Bearing 6005 2RS	2
65	604171	Ring idle tooth	1
66	604172	Ring out snap $\varnothing 25$	1
67	612640	Washer nylon	2
68	604174	Spacer	2
69	604175	Pulley $\varnothing 27$ X15	1
70	612444	•Belt side brush 603336	1
71	604176	Washer M8X24	2
72	604177	Support brush side	1
73	604178	Flange brush drag	1
74	603337	•Brush side	1
	604626	•Brush side stiff	1
75	604179	Pulley $\varnothing 30$ X1	1
76	604180	Screw 6X10	3
77	604139	Screw 6X20	3
78	604082	Bearing HK 1412	1
79	612642	Spacer 16mm	1
80	604173	Nut block M12	1
81	612643	Screw 8X35	1
82	604208	Screw 3,5X10	1

* 50A 612644 Gear only, brush motor 1

• RECOMMENDED STOCK ITEMS

PARTS LIST

DRIVE GROUP



DRIVE GROUP

Ref.	Part No.	Description	Qty.
1	603356	Cover, Wheel Blue	2
	612021	Cover, Wheel Gray	2
2	604077	Screw 6x10	2
3	604078	Washer 6x24	2
4	604079	Outer snap ring Ø 28	4
5	604080	Bearing HFL 1426	2
6	604081	Exagonal bushing	2
7	604082	Bearing HK 1412	2
8	604083	Wheel Ø 250x55	2
9	604084	Screw 6x16	4
10	604085	Support SBPFL 203	2
11	604086	Washer 6x12	4
12	604087	Block nut M 6	8
13	604088	Key 5x5x25	1
14	604089	Drive shaft	1
15	603357	●Belt, Drive	1
16	604090	Pulley Ø 140	1
17	604091	Dowel 6x10	1
18	604092	Screw 4x12	1

Ref.	Part No.	Description	Qty.
19	604093	Washer 5x20	3
20	604094	Pulley Ø 55	1
21	604095	Screw 6x20	3
22	604096	Bearing 6000 2RS	1
23	604097	Bearing support	1
24	604098	Belt support pin	1
25	604099	Motors support	1
26	603354	Fan	1
27	604100	Screw 5x16	2
28	604103	Key 3x3.7	1
29	603338	Motor, traction drive	1
30	603340	Motor, Fan	1
31	604101	Screw 6x16	4
32	604102	Washer 6x18	4
33	606517	Pin, pulley guard	1
34	606427	Fan protection grid	1
35	200070436	Screw 6x10	1
36	606428	Air conveyor	1

● RECOMMENDED STOCK ITEMS



COMMERCIAL

NEW MACHINE WARRANTY POLICY

Our Commitment to Customer Satisfaction

The warranty terms outlined below are in lieu of any other warranties, either expressed or implied, including any implied warranty of merchantability, fitness for a particular purpose or otherwise. Under no circumstances will seller be liable for any loss, damage, expense or consequential damages arising in connection with the use or inability to use, these products.

This warranty does not apply to damage or defect caused by accident, misuse, negligence, abuse, fire or to any Tennant product that has been serviced by anyone other than an authorized Tennant service representative. Housings or parts that have become damaged as a result of improper use of the machine are excluded from this warranty. Refer to Owner's Manual for proper machine use and maintenance. Parts that are expected to wear from normal use and, therefore, are not covered under the parts warranty include: batteries (warranty pro-rated for one year); bearings; belts; brushes; filters; squeegees; switches; and tires.

In the U.S. and Canada, this warranty commences on the date of purchase of the product by the original end user from an authorized Tennant sales representative, subject to proof of purchase. **A Machine Installation/ Warranty Report form included with the Owner's Manual must be completed and returned immediately at the time of purchase.** If proof of purchase date is unavailable, the warranty begins 90 days after the sale of the product to an authorized Tennant dealer. Outside of the U.S. and Canada, please see your authorized Tennant distributor for warranty start dates.

Tennant warrants the rotationally-molded polyethylene housings and parts on all of its machines to be free from defects in materials and workmanship, under normal use and service, for ten (10) years to the original end user.

See your local sales representative or distributor for parts and labor coverage on specific products.

Date Purchased: _____

Model Number: _____

Serial Number: _____

Please make sure to record this information. This information will be necessary for future warranty claims.

Tennant reserves the right to change its warranty policy without notice.

Tennant Commercial • 12875 Ransom Street • Holland, MI 49424 USA • (800) 522-7839 • (616) 786-2330

TENNANT MACHINE INSTALLATION / WARRANTY REPORT

IMPORTANT: Please fill out completely and return to Tennant within 30 days of purchase to ensure full warranty protection.

Distributor Company Name	Rep Name or ID Number
Purchasing Company Name	Date Installed (dd/mm/yyyy)
Contact Name	Model Number
Position	Serial Number
Postal Address	Telephone Number (including area code and county code)
City	Fax Number (including area code and country code)
Province/State	E-mail address
Postal Code	
COUNTRY	

PLEASE CHECK THE APPROPRIATE BOX FOR EACH QUESTION

1. Equipment purchased by: Cleaning Contractor Building Service Contractor Facility Owner

2. Please check one box to indicate the type of facility where the product is used:

DURABLE GOODS MFG

- Automotive
- Fabricated Metals
- Ferrous Metals
- Glass, Bricks, Cement
- Lumber/Wood/Furniture
- Mining
- Machinery/Equipment
- Non-Ferrous Metals
- Transportation Equip.
- Misc. Durable Mfg.

NON-DURABLE GOODS MFG

- Ag & Fresh Food
- Beverage Manufacturing
- Chemical & Petroleum
- Process Food, Tobacco
- Pulp/Paper/Publish
- Rubber & Plastic
- Textile/Apparel/Leather
- GOVERNMENT**
- Federal Government
- State/Local Gov't

REAL ESTATE MGMT

- Real Estate Mgmt
- RETAILING**
- Vehicle Related Retailing
- Other Retailing

OTHER SERVICES

- Amuse, Rec., & Sports
- Construction
- Education
- Equipment Rent & Lease
- Finance & Insurance
- Health & Soc. Work
- Hotels/Restaurants
- Postal/Communications
- Other Services

TRANSPORT/UTILITIES

- Elec/Gas/Steam/Pipes
- Transportation
- Waste Handling

WAREHOUSE/DISTRIBUTION

- Cargo/Truck/Storage
- Wholesale Trade

3. Customer Status:

- First purchase of motorized cleaning equipment
- Replaces a Tennant _____
model#
- Replaces a competitive unit _____
brand / model#
- Additional machine, same brand
- Additional machine, different brand

5. Size of Facility:

- Less than 25,000 (2,299 m²)
- 25,000 to 49,999 (2,300 – 4,599 m²)
- 50,000 to 99,999 (4,600 – 9,299 m²)
- 100,000 to 249,999 (9,300 – 23,199 m²)
- More than 250,000 (More than 23,200 m²)

4. Application:

- Indoor Outdoor Both

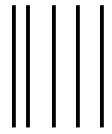
6. Floor Type of Facility: (Check all that apply)

- Coated concrete Natural stone or terrazzo
- Uncoated concrete
- Asphalt Carpet
- Vinyl composite tile Hardwood
- Ceramic tile Other _____

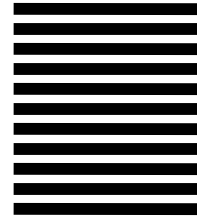
Machine Type:	Machine Condition Upon Installation:
<input type="checkbox"/> New Machine	<input type="checkbox"/> Satisfactory
<input type="checkbox"/> Reconditioned Machine	<input type="checkbox"/> Unsatisfactory
<input type="checkbox"/> Demo Machine	

If machine condition is unsatisfactory, itemize issues to be resolved.

Place tape here



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IF MAILED
IN THE
UNITED STATES



BUSINESS REPLY MAIL
FIRST CLASS MAIL PERMIT NO. 94 MINNEAPOLIS, MN

POSTAGE WILL BE PAID BY ADDRESSEE

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TENNANT COMPANY
MAIL DROP 75
PO BOX 1452
MINNEAPOLIS MN 55440-9947 USA



(fold here)

This page to be completed by authorized Tennant Sales Representative only.

Tennant Machine Installation Report
Customer Instruction and Operation

Sales Rep Instructions: Check each box after thoroughly instructing the customer on all equipment systems listed below:

	PROPER USE OF MANUAL: (Operation Section, Parts Replacement Section, Troubleshooting, Maintenance Chart)		PROPELLING SYSTEM: (Engine Maintenance, Battery Maintenance, Drive System Maintenance)
	SWEEP/SCRUB SYSTEM: (Main & Side Brush Operation, Replacing Brushes, Brush Adjustment, Dumping Hopper)		OPERATION/SAFETY SYSTEM: (Use of Controls and All Accessories, Safety Precautions, Proper Operating Procedure, Vac Wand Attachment, Cleaning the Machine)
	DUST CONTROL: (Dust Filter and Skirt Maintenance, Vac Fan Maintenance, Replacing Dust Seals, Shaker Motor Operation)		SOLUTION/RECOVERY SYSTEM: (Detergent Use, Cleaning Procedure, Replacing Squeegees, Squeegee Adjustment, Extended Scrub System)
	SERVICE SUPPORT SYSTEM: (Planned Maintenance Agreement, Detergent Discounts, Warranty, Local Service, How to Order Parts)		