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TECHNICAL SPECIFICATION

Technical data	Units	Values
Sweeping Width (with side broom)	mm	650
Sweeping Width (without side broom)	mm	460
Theoretical area coverage	m ² /h	2600
Dirt Hopper capacity	L	40
Length (without / with side broom)	mm	800 / 1000
Width (without / with side broom)	mm	725/785
Height (without / with handle)	mm	400 / 1020
Weight	kg	23.5

Please be advised explicitly that we cannot accept any legal claims out of the contents of this manual. If repair work has to be performed, make sure that only genuine spare parts are used since genuine spare parts only may guarantee continuous and dependable operation of your machine.

Valid as for September 2014

Minuteman International 14N845 U.S Route 20 Pinegree Grove, Illinois 60140 USA

Phone: 1-800-323-9420

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INTRODUCTION

Preface

Dear Customer,

Thank you for choosing to become the proud owner of **Kleen Sweep 27**. Having been in the market for close to four decades now, we are sure that you will be happy about your decision. We also assure you that our services and attention will always be available, should you need them!

Before the first operation of your machine, please read these instructions carefully. This manual will provide you with detailed instructions on the operation of the product and also give you valuable information on operation, service and maintenance.

This machine is an ideal machine to clean floors in large and medium spaces like Offices, Hospitals, Restaurants, Shopping Complexes and other such commercial applications.


Proper Use

This machine has been exclusively designed for floor cleaning, such as dry sweeping. Use of the product beyond the specified range is deemed improper and the manufacturer cannot be held liable for consequential damages.

The terms of proper use also includes compliance with the manufacturer's instructions on the operation, maintenance and repair of the product.

This machine may be used, serviced and repaired only by persons who are familiar with the machine and are aware of possible hazards involved. The appropriate Accident Prevention Regulations as well as applicable general regulations about safety and health at work must be complied with.

Modifications made to machine in the absence of the manufacturer's consent will relieve the manufacturer from possible liability for consequential damage.

 ***This machine is not suitable for evacuation of dusts, which are explosive or dangerous to health.***

Notes on Warranty

Refer Limited Warranty on the last page of this manual for more information.





Acceptance of the machine

As soon as the machine arrives, Please check for any transport damage. In the event of any damage, it is the purchaser's responsibility to send a claim letter to the particular Minuteman Branch / Dealer with a copy of invoice. The letter should be sent within 24 hours after the goods were delivered.

GENERAL SAFETY INSTRUCTION

Safety & Warning Symbols

All paragraphs in this manual referring to you personal safety, the safety of your machine and the environment protection are attributed one of the following warning symbols.

Symbol (Hazardous for)	Description
Safety Provisions (persons and goods) 	Safety provisions in dangerous situation caused by misuse inaccurate adherence of instruction or prescribed work routine.
Caution (the machine) 	Important information on handling the machine in order to maintain operability.
Ecological hazard (the environment) 	Due to use of substances representing an inherent danger to health of environment.
Read Manual — 	Prior to first operation, read the manual carefully and strictly comply with the instructions contained.


Safety Instructions


- Apart from information contained in this manual, generally applicable legal provisions for safety and prevention of accidents must be adhered to.
- Do not put this manual aside without having read it, even if you have already operated similar ground cleaning equipment before.
- Allow yourself the time to do so in order to save time at a later time.
- The operator is responsible for all persons in the working area.
- Children must be kept away from the machine during operation.
- No person must be allowed to stay in the zone of danger.
- The warning and instruction plates attached to machine give important advice on safe operation.
- Replace lost or illegible stickers.
- Before starting to work, the operator has to check that the machine and its working implements are in proper and safe operating condition.
- Machines with known defects must not be used.
- It is important for operators and all persons likely to use the product, to familiarize themselves with all accessories and controls, as well as their functions, before starting operations.


- Abiding by the above general instructions can help
- you avoid having to read this book while trying to run
- the machine.


Safety during machine operation

- Ground cleaning machines may be run by qualified personnel only.
- The machine may be used for cleaning such surfaces approved by the owner or this authorized representative.
- The operator must use the machine in accordance to its intended fields of application.
- During operation, the operator must take account of local conditions (stairs, obstacles) and of other persons, particularly children.

 Use only genuine spare brooms as specified by the manufacturer. Use of other than the indicated broom types may affect safety.

 *Never collect explosive fluids, undiluted acids and solvents. This includes e.g. gasoline paint thinners or fuel oil, which when combined with air, may form explosive vapors or mixtures. Acetone, undiluted acids and solvents can be aggressive to the material used for the machine components.*


 *The machine may be used only on indoor hard floorings and for operation on level grounds with a maximum inclination of up to 2%.*

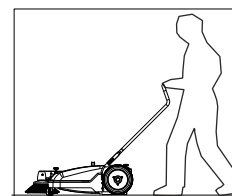
 - Do not clean the machine by means of vapour jet or high pressure cleaning equipment.
- Do not USE the machine on steps.

- Use of the machine in areas prone to explosion hazards is strictly forbidden.

Transport

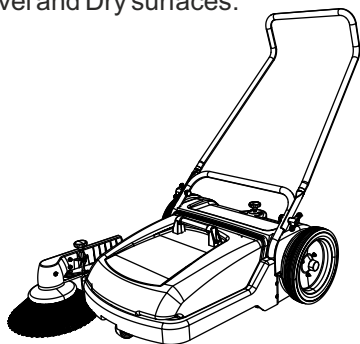
- Incorrect lifting techniques may create an personal injury, When transporting the machine ensure that all components and removable parts are securely fastened.
- Do not lift or transport the machine whilst containing dirt as this will add considerable weight.
- Take extreme care when moving the machine up or down steps or stairs.

 *Bumping over thresholds, kerbs and similar obstacles can damage the machine. Small obstacles can be overcome by pulling the machine backwards.*



FIRST OPERATION

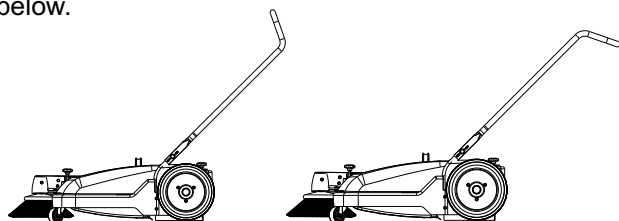
This machine is exclusively designed for Dry Sweeping on Solid, Level and Dry surfaces.



Assembly

For ease of packing, the handle and side broom assembly are packed separately. These parts must be installed before the machine is put into operation. The handle is mounted by means of knobs.

Handle can be fixed in two different positions as shown below.

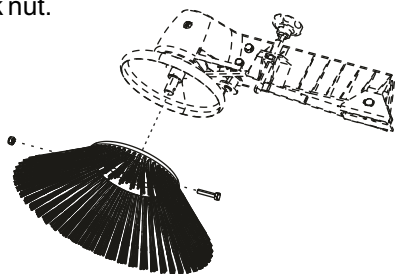


Handle position 1

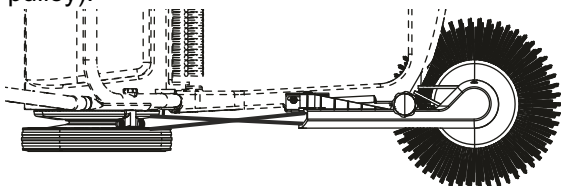
Handle position 2

Side Broom Assembly

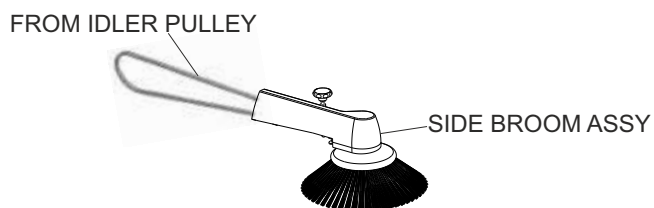
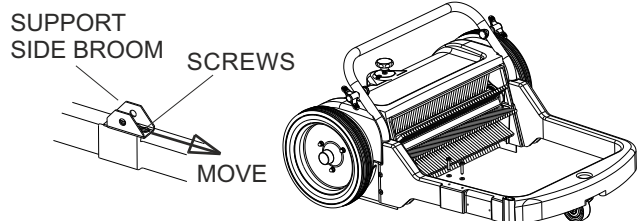
- Mount the side broom to the broom plate on the side arm assembly using Hex Head Bolt and Nylock nut.



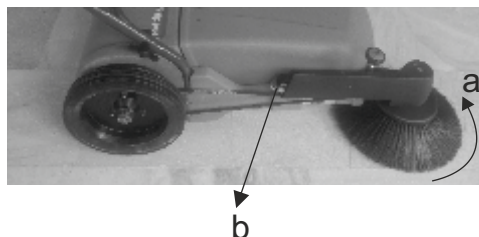
- Position the V-Belt from the side arm assembly around the pulley attached to the backside of the right wheel. In order to do this it will be necessary to twist the V-Belt. The lower loop of the v-belt should be coming from the idler pulley (not from the broom pulley).



- To attach the side arm assembly to the main frame remove the two screws that have already been inserted into the right side of the main frame.
- Place the V-Belt on to the drive pulley on the wheel, adjust the arm assembly forwards or backwards for the desired tension. Fasten the arm assembly by tightening the screws. Check the broom for free rotation.

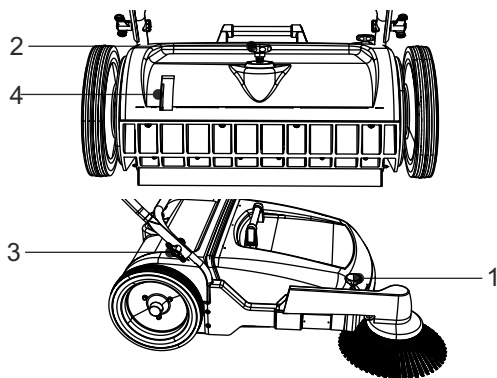


- Check for proper rotation and operation of the side broom. The broom should rotate counter clockwise(a) when the sweeper is pushed forward-if not the V-Belt was installed incorrectly. If the belt slips the tension can be adjusted by loosening the 2 screws(b) that attach the support side broom to the frame, move the bracket forward, then re-tighten the screws.



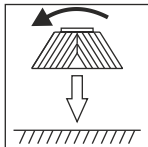
MACHINE OPERATION

Controls



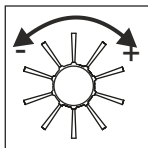
1. Pressure Adjustment Knob for Side Broom

- Used for setting of the side broom pressure. The side broom may touch the floor only by its one third section, so as to throw the swept matter into the machine.
- The castor wheel is to keep the pre-set working height of the side broom.



2. Pressure adjustment knob for Main Broom

- Used for setting of the main broom pressure. The pressure must be set so as to assure perfect cleaning operation.



Excess pressure will cause unnecessary wear of the broom and increased load for the operator.

3. Knobs

- Used to secure the handle to the machine or to reposition it.

4. Main Broom Pressure Reading Scale

Indicates the pressure at which the main broom has been set. Setting must be performed as described below :



- Set the main broom by turning the knob clock-wise to increase the pressure, at this position the scale should read '5'.
- Starting with this setting, the main broom pressure can be increased to meet the requirement. (As the broom wears out)
- Turn the knob in counter-clockwise direction to reduce the main broom pressure according to the requirement.

MACHINE OPERATION

The machine operates with two brooms. The side broom takes dirt from the side into the reach of the main broom. The main broom maintains its direction of rotation to throw the dirt into the hopper in forward direction of the machine. To use the machine, simply push it at a normal walking speed.

Overcoming Obstacles

In case of normal obstacles coming in the way of sweeping the machine should be pressed down at the handle. This will cause the two brooms to lift off from the floor and the machine can easily surmount these obstacles.

Emptying of Dirt Hopper

The dirt hopper can be easily lifted by using the handle provided. The dirt hopper is secured to the machine by means of the frame. The dirt hopper must be in direct contact with the broom compartment in order to prevent leakage of dirt.

Renewal of Broom Assemblies

The main broom consists of a broom shaft with two broom core assemblies fastened with six self tapping screws.

The broom cores can be replaced as below:

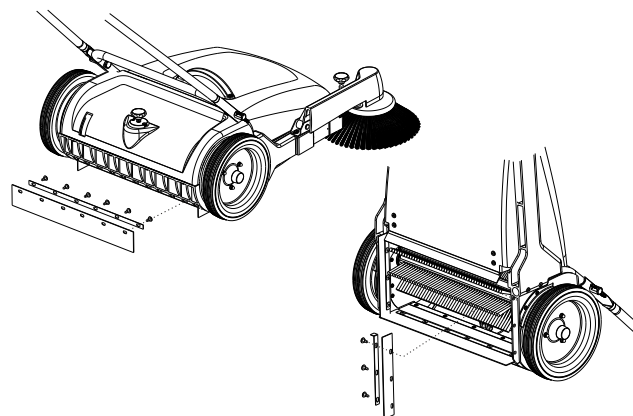
- Unscrew the self tapping screws.
- Pull the broom core assembly to the front (broom viewed from user side) to remove it from the broom shaft.



When reassembly of the broom ensure the split pins are fixed in the holes to guide the broom.

Rubber Sealing Aprons

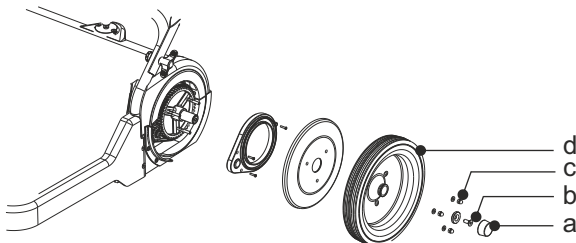
The rubber aprons avoid leaking of the dust produced by the broom. Damaged or used aprons cannot fulfil this task any longer and must be replaced.



MAINTENANCE

Greasing of the Main Wheels

For cleaning and greasing of the wheel axle and the gear ring, the main wheels must be removed as described below.



- Remove hood (a), remove the bolt (b) and domed cap nut (c) from the wheel (d) and pull the main wheel.
- Unscrew the gear cover and apply grease in the gear area.
- Reposition the main wheel.

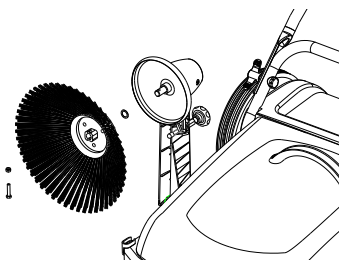
Replacement and Tensioning of the V-belt

- Lift up the side broom arm.
- Loosen the clamp screw and pull out the side broom from the broom arm.
- Place the V-belt through the broom arm and put it on the V-belt pulley on the broom shaft.
- Push the side broom back into the broom arm and re-tighten the clamp screw.
- Place V-belt into the groove of the right-hand main wheel.

When the broom arm is lowered down, the V-belt must be tensioned so as to allow a perfect drive transmission, if necessary re-tighten by shifting of the side broom arm bearing.

Replacement of the Side Broom

The side broom can be replaced after removing hex-bolts from the side broom axle.



Regaining of Bristles

If the bristles have been bent inwards in transit the side broom must be placed on a flat base, the bristles pointing outward and a weight must be placed on the plate. The bristles will regain their correct position gradually.

If the bristles have been bent outwards, bring them together apply a rubber band around the bristles and

allow it to stay for sometime. The bristles will regain their correct position gradually.

Maintenance Works

Compliance with our operating and maintenance instructions will ensure trouble free and smooth operation of the machine we have supplied.

The machine requires minimum maintenance apart from the checks by the operator such as Dirt hopper, Brooms, V-Belt.

Maintenance Intervals

- Daily
- empty dirt hopper.
 - clean the unit.
 - check Brooms and Sealing Aprons.
- Weekly
- remove the ropes, tapes etc entangled in the main broom shaft.
 - clean & lubricate.
 - trunnion - mainbroom
- Monthly
- grease the main wheels, check the caster wheel
 - check V-belt tension, if necessary, re-tighten.

Maintenance Chart

MAINTENANCE				
Maintenance Works	Operating Hours			
	Daily	Every 50	Every 100	Every 200
Check Main & Side Broom pressure	●			
Check Rubber Sealing Aprons in frame & dirt hopper	●			
Check Gear, Gearing & Pinion				●

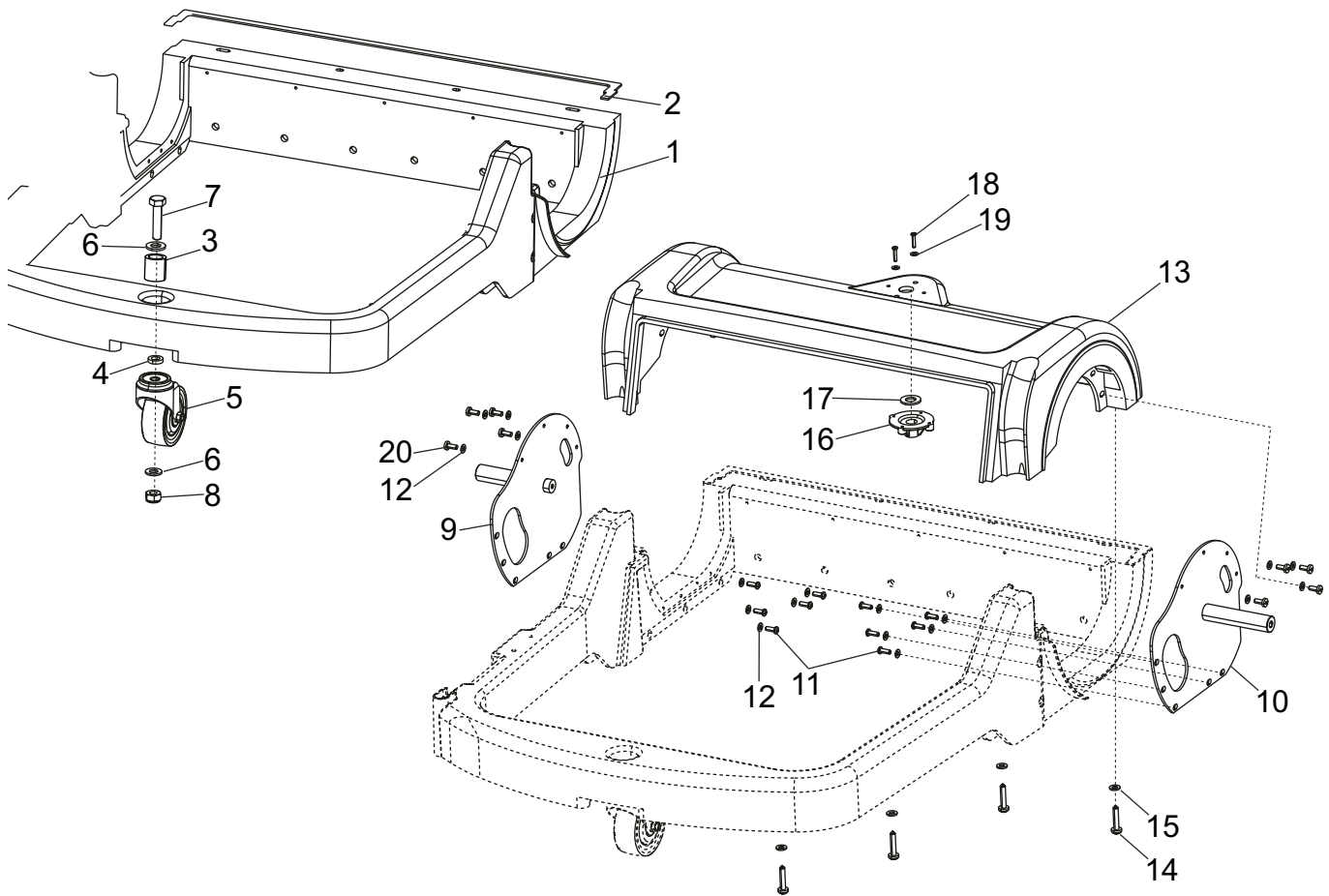
Troubleshooting

TROUBLE	REMEDIAL ACTION
Machine hard to push/pull	Decrease main broom pressure setting grease main wheels
Sweeping unsatisfactory	Increase Main/Side broom Pressure clean Main/Side broom check Main broom for loose bristles
Traces of dirt left behind the machine	Check side/rear rubber aprons.
Side Broom not rotating	Check V- Belt for transmission.

NOTES

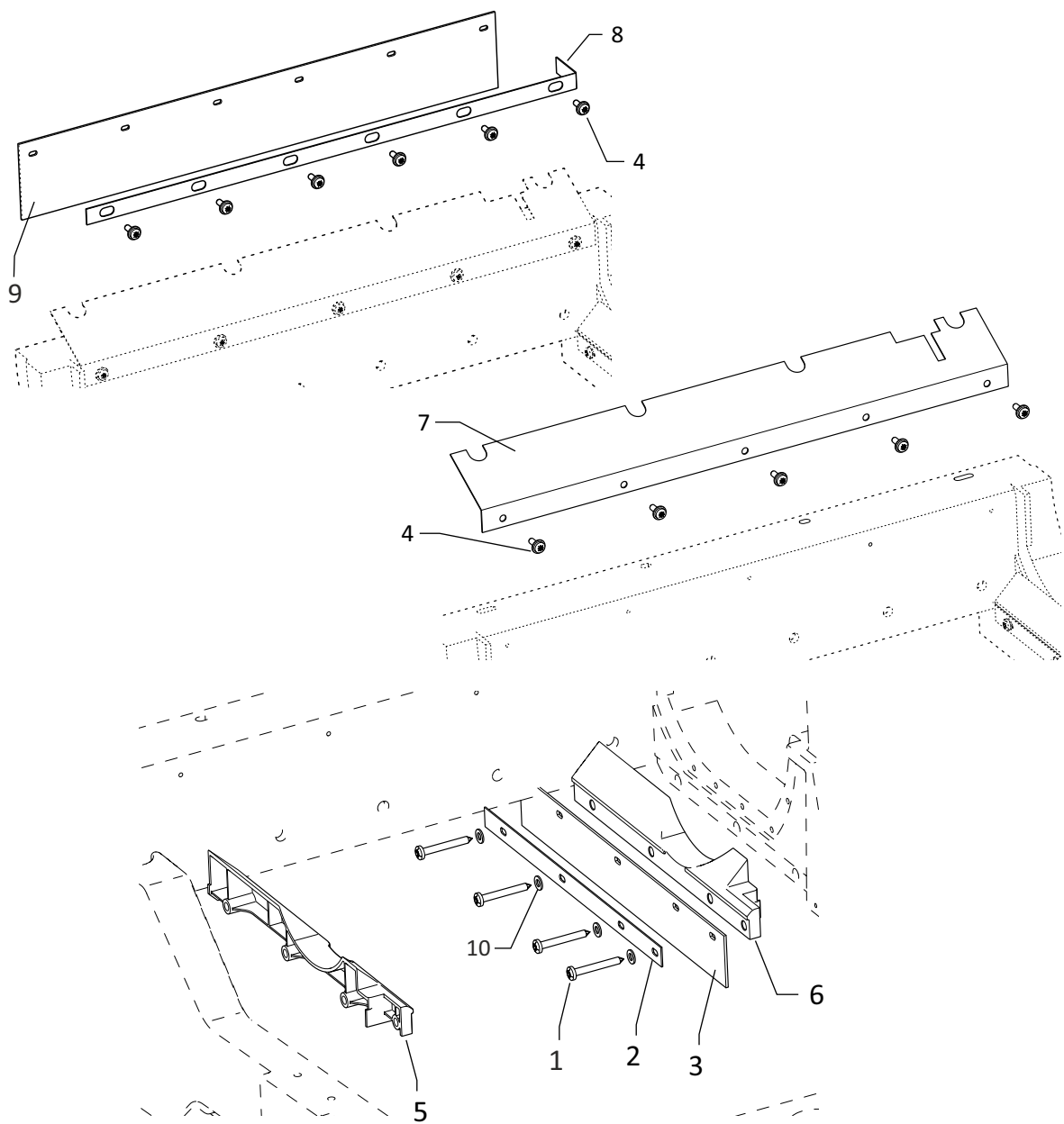
SPARE PARTS LIST

FRAME GROUP - Frame, Cover & Plate Assy



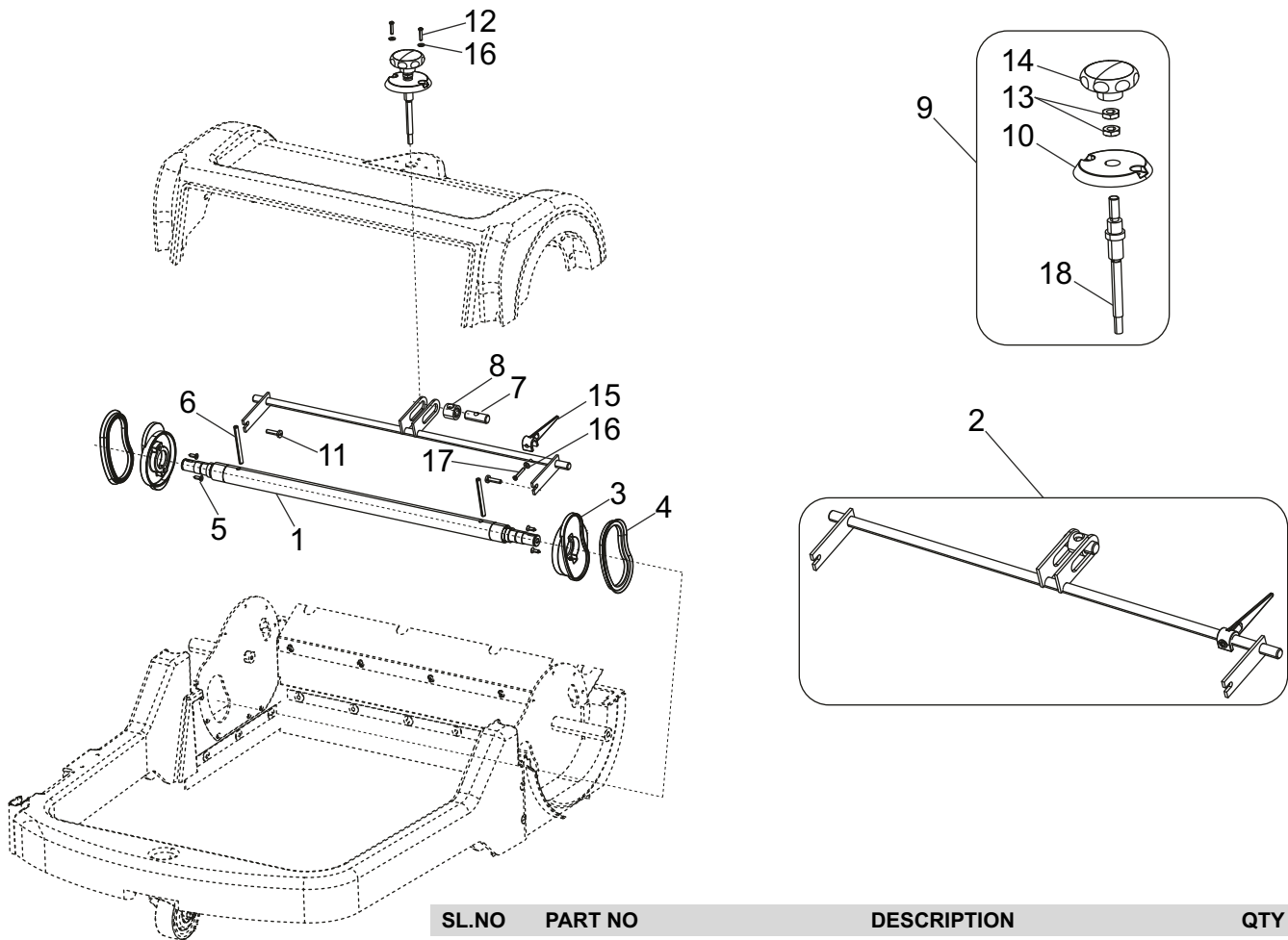
SL.NO	PART NO	DESCRIPTION	QTY
1	552130007	FRAME	1
2	923255	GASKET FRAME	1
3	922130	SLEEVE - GROMMET	1
4	552350021	WASHER STEEL - 10.6X18.0X4.0	1
5	922824	CASTOR WHEEL ASSY	1
6	844082	WASHER STEEL - 8.4X24X2.0	2
7	552020040	HEX HEAD SCREW - M8X45	1
8	859086	HEX NYLOCK NUT - M8	1
9	552180035	SIDE PLATE GROUP RH	1
10	552180034	SIDE PLATE GROUP LH	1
11	837210	CRPH SELF TAPPING SCREW - 4.8X13	10
12	844051	WASHER STEEL - 5.3X10.0X1.0	18
13	552130008	COVER	1
14	835709	CRPH SELF TAPPING SCREW - 6.3X30	4
15	844061	WASHER STEEL - 6.4X12.5X1.6	4
16	552130084	BOTTOM COVER THREAD ROD	1
17	552350046	WASHER - STEEL - 12.5X24X2.0	1
18	836206	CRPH SELF TAPPING SCREW - 3.5X16	2
19	844041	WASHER STEEL - 4.3X9.0X0.8	2
20	817204	CR PAN HEAD SCREW - STEEL - M5X12	8

FRAME GROUP - Rubber Sealing Strips



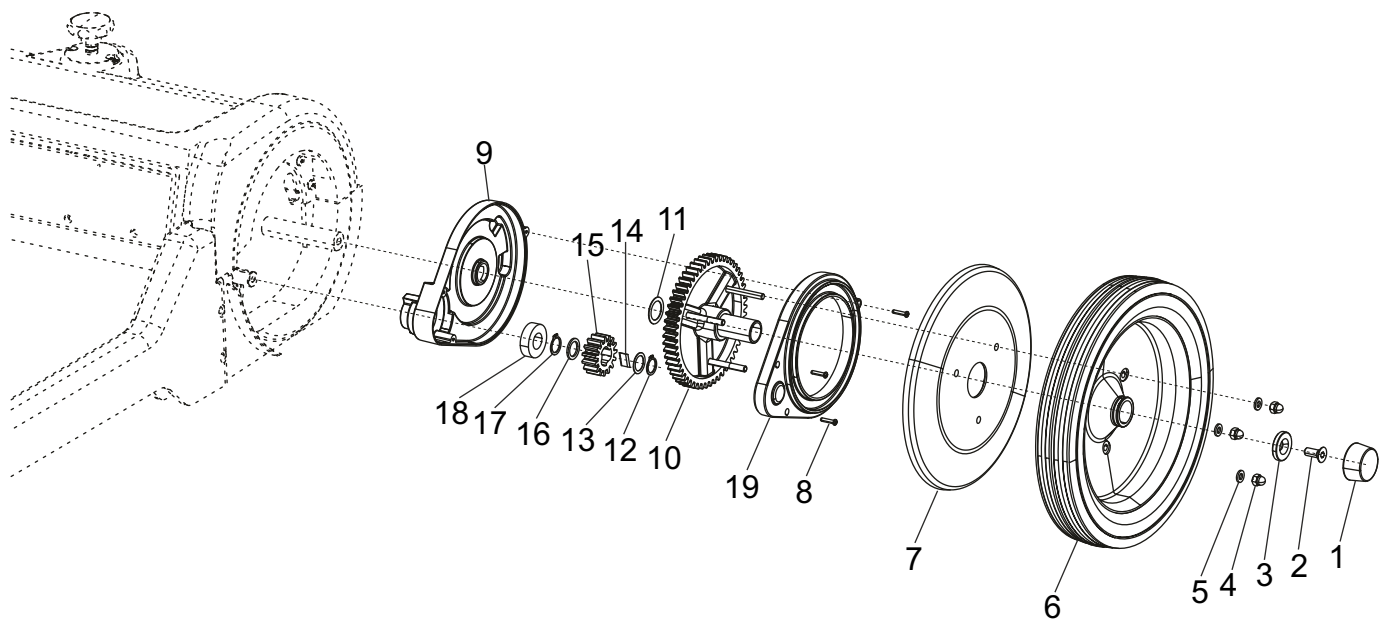
SL.NO	PART NO	DESCRIPTION	QTY
1	835708	CRPH SELF TAPPING SCREW-STEEL-4.8X40	8
2	553210239	SIDE STRIP HOLDER	2
3	553210224	SIDE RUBBER STRIP	2
4	921131	SELF TAPPING SCREW W/COLLAR 4.8X13	11
5	553210230	RUBBER STRIP HOLDER RH	1
6	553210231	RUBBER STRIP HOLDER LH	1
7	552130051	SPLASH SHIELD	1
8	553210227	REAR STRIP HOLDER	1
9	553210240	REAR RUBBER STRIP	1
10	844051	WASHER STEEL-5.3X10.0X1.0	8

FRAME GROUP - Brush Shaft Assy



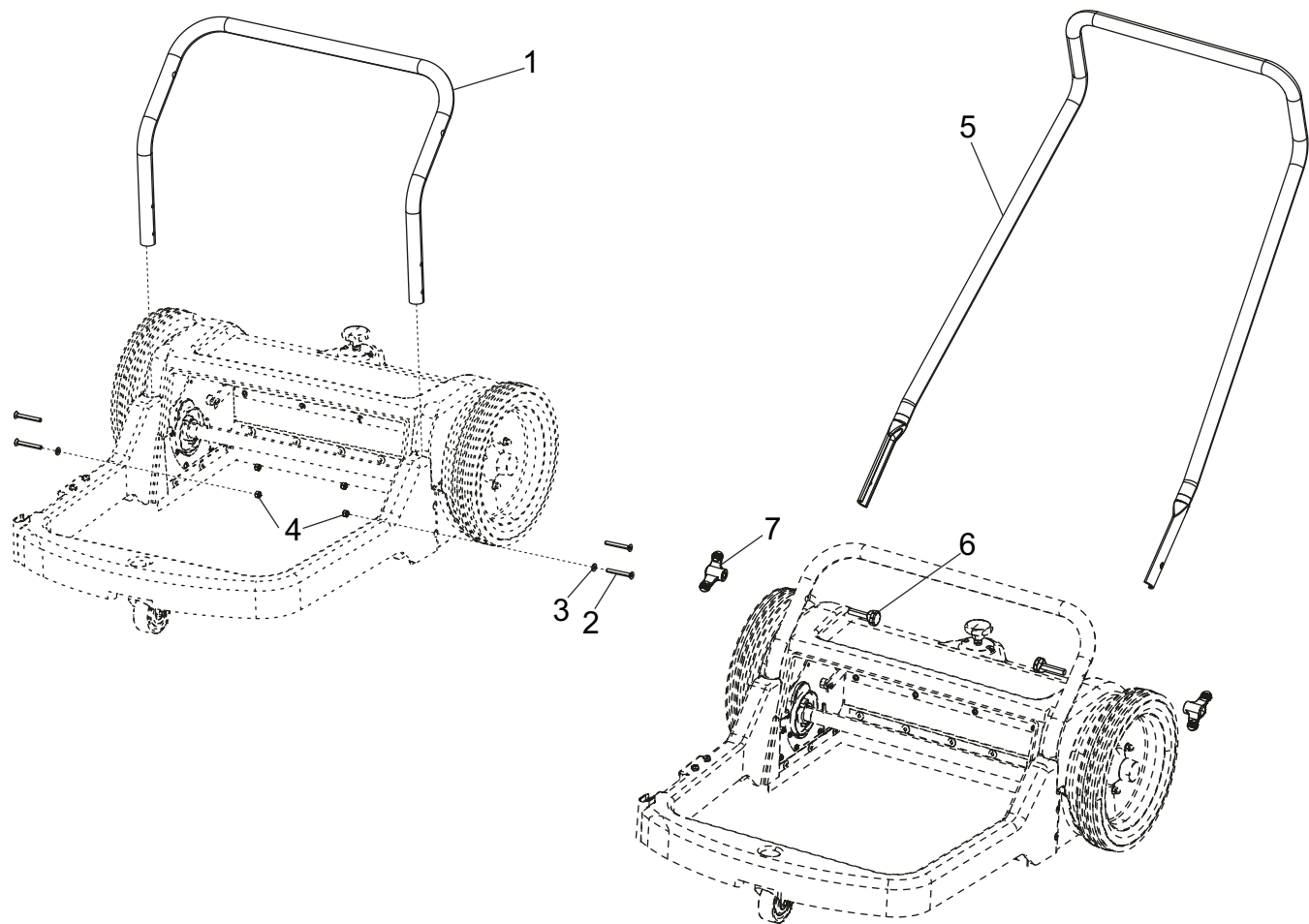
SL.NO	PART NO	DESCRIPTION	QTY
1	552180031	BRUSH SHAFT GROUP	1
2	552180033	PRESSURE ADJUSTMENT GROUP	1
3	552130079	BOOT	2
4	552130080	SEAL	2
5	841110	CRCSK SELF TAPPING SCREW- STEEL - 3.5X12.7	4
6	552130056	SPLIT PIN – 63	2
7	552130039	TRUNNION SHAFT	1
8	552130092	SPACER THREAD ROD	1
9	552180029	THREAD ROD ASSY	1
10	552130085	TOP COVER THREAD ROD	1
11	817207	CR PAN HEAD SCREW STEEL - M5X20	2
12	926057	CRPH SELF TAPPING SCREW - 3.5X16	2
13	833084	HEX LOCK NUT STEEL - M8	2
14	558210109	TOP KNOB ASSY	1
15	552130089	INDICATOR	1
16	844041	WASHER STEEL - 4.3X9.0X0.8	3
17	836210	CRPH SELF TAP SCREW - 3.5X25	1
18	552180036	THREAD ROD GROUP	1

FRAME GROUP - Gear Assy



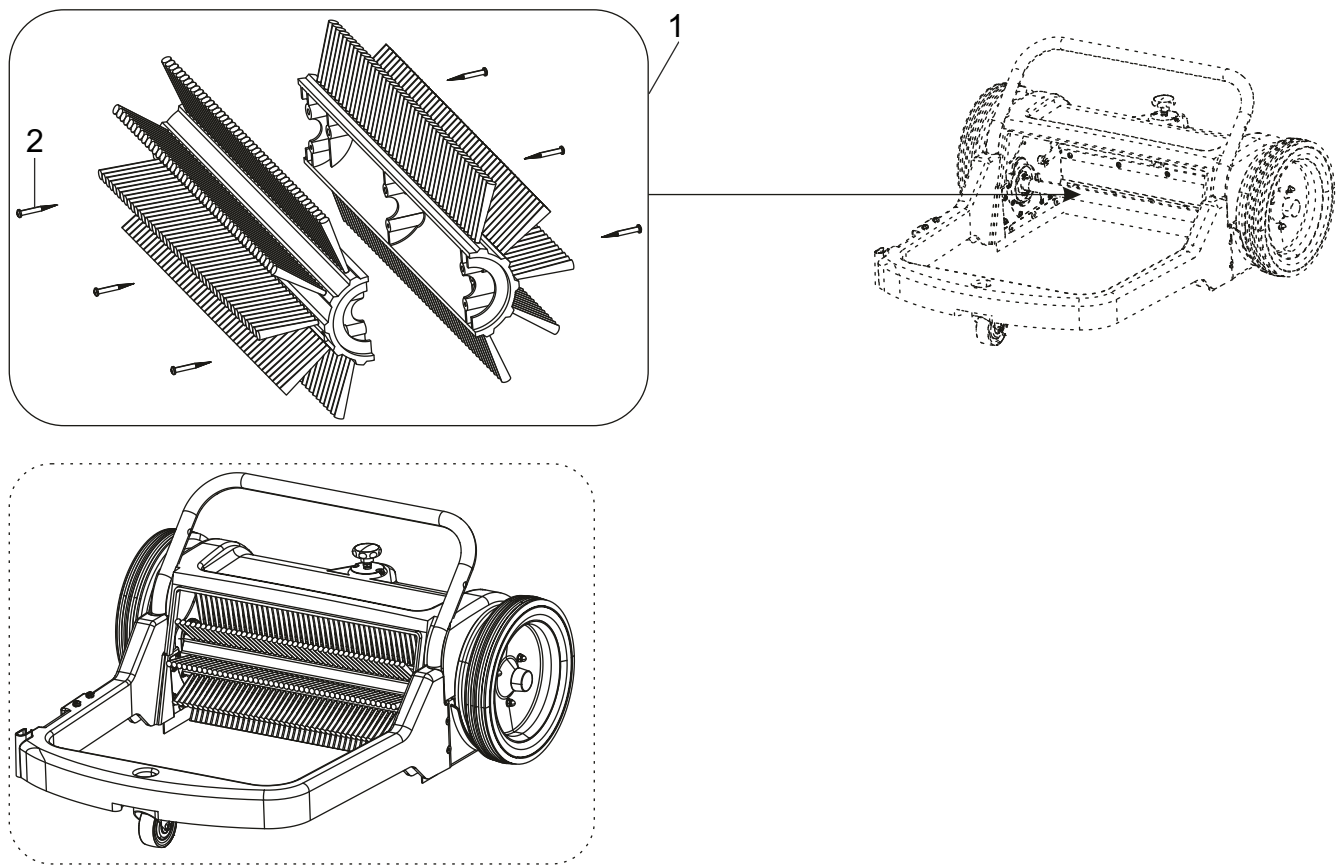
SL NO	PART NO	DESCRIPTION	QTY
1	552130067	WHEEL CAP	2
2	831516	HEX SOC HEAD CAP SCREW -STEEL -M8X20	2
3	844082	WASHER-STEEL-8.4X24X2	2
4	552300005	DOMED CAP NUT - STEEL - M6	6
5	844061	WASHER-STEEL - 6.4X12.5X1.6	6
6	552180022	TYRE ASSY	2
7	552130081	PROTECTION DISK	2
8	926057	CRPH SELF TAPPING SCREW - 3.5X16	6
9	552130082	GEAR COVER BOTTOM	2
10	558210120	GEAR ASSY	2
11	552130078	WASHER STEEL - 20X28X0.5	2
12	923429	CIRCLIP EXTERNAL - A 16	2
13	921066	WASHER – STEEL - 16X22X0.5	2
14	921006	KEY	2
15	552130044	PINION	2
16	921065	WASHER – STEEL - 16X22X1.5	2
17	923422	CIRCLIP EXTERNAL - A 17	2
18	875010	DG BALL BEARING 6003 2 RS	2
19	552130083	GEAR COVER	2

FRAME GROUP - Handle Assy



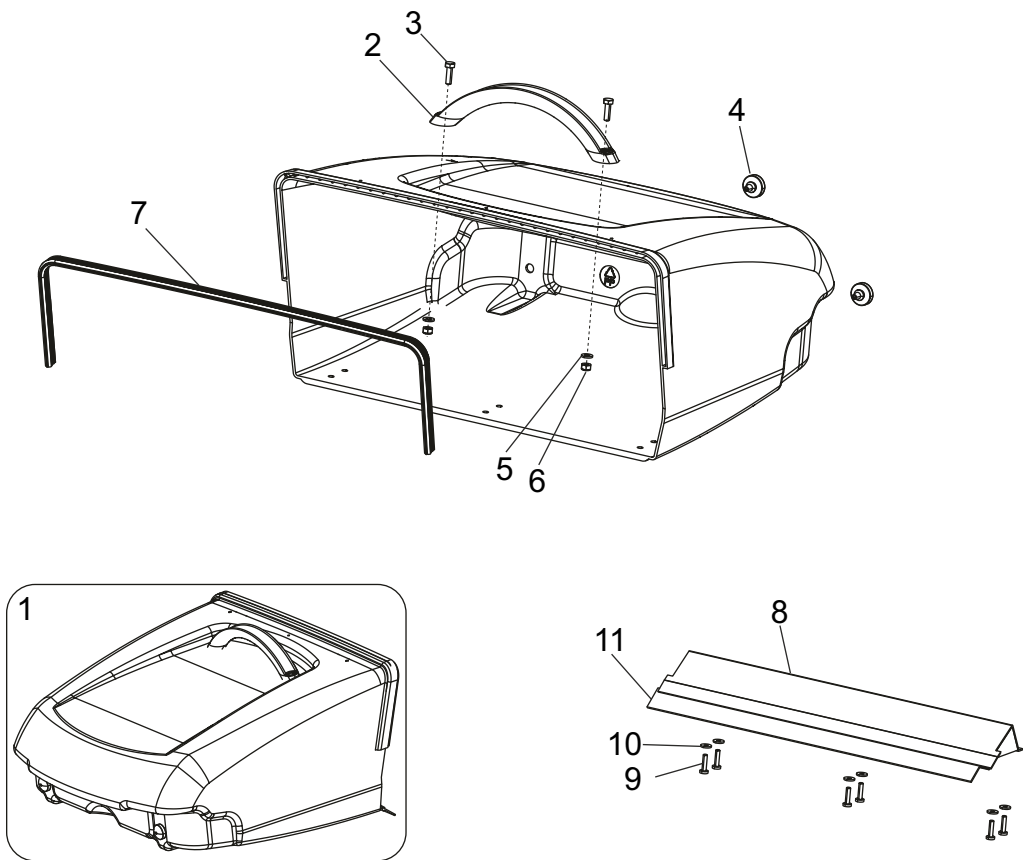
SLNO	PART NO	DESCRIPTION	QTY
1	552130055	HANDLE	1
2	828512	HEX SOC CSK HEAD SCREW- STEEL - M6X45	4
3	844061	WASHER STEEL - 6.4X12.5X1.6	4
4	859068	HEX NYLOCK NUT-STEEL GR.8 -M6	4
5	552130057	UPPER HANDLE	1
6	552130062	KNOB ASSY MALE	2
7	927872	KNOB-HANDLE	2

FRAME GROUP - Main Broom Assy



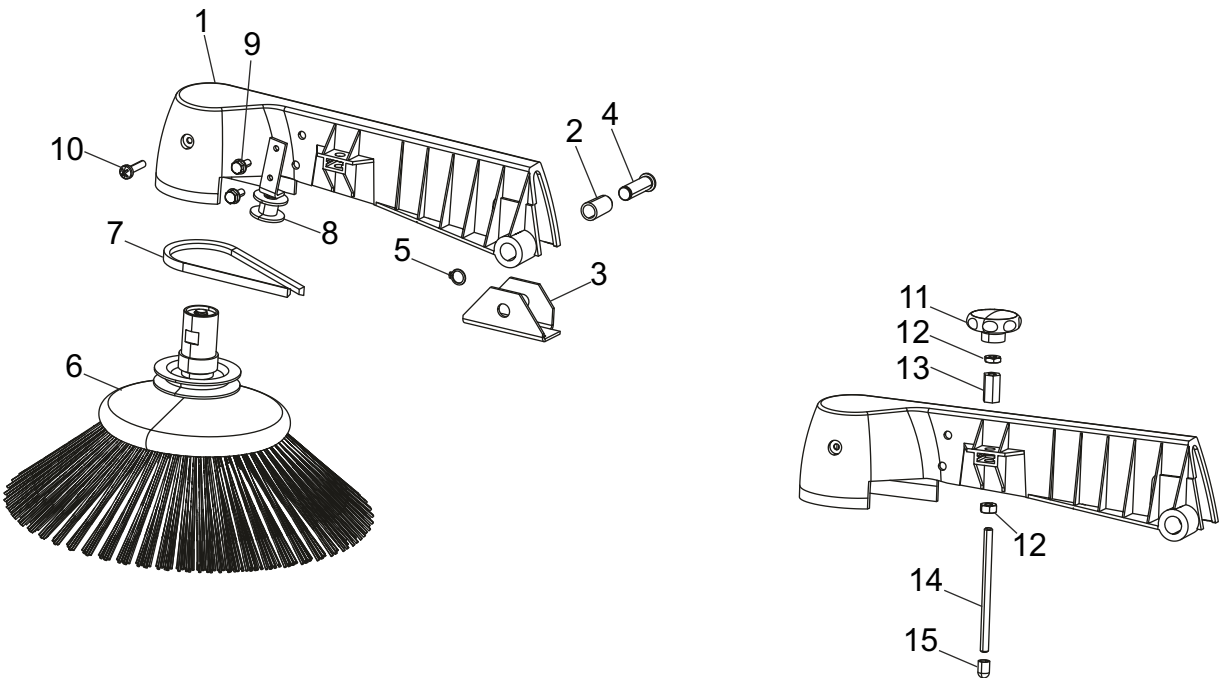
SL. NO	PART NO	DESCRIPTION	QTY
1	552180026	MAIN BRUSH	1
2	835708	CRPH SELF TAPPING SCREW-STEEL - 4.8X40	6

HOPPER GROUP - Hopper Assy



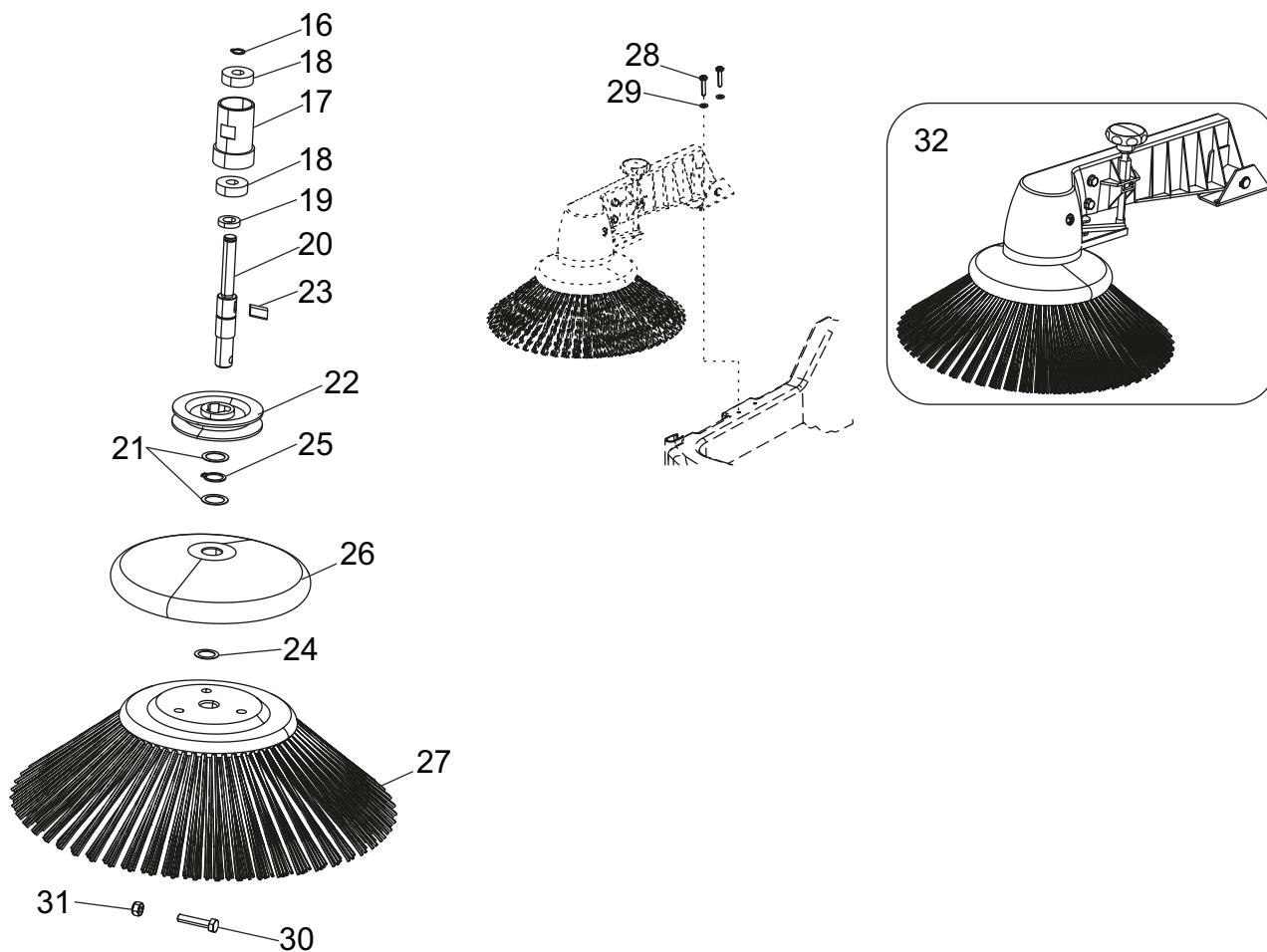
SL. NO	PART NO	DESCRIPTION	QTY
1	558210083	HOPPER ASSEMBLY - KS 27	1
2	552130060	HANDLE	1
3	802306	HEX HEAD SCREW - M6X20	2
4	553210228	BOOT FRONT	2
5	844061	WASHER STEEL - 6.4X12.5X1.6	2
6	859066	HEX NYLOCK NUT - M6	2
7	552130100	GASKET HOPPER	1
8	558210128	HOPPER FLAP ASSY	1
9	817204	CR PAN HEAD SCREW - M5X12	6
10	999161	WASHER STEEL - 5.3X13X1.0	6
11	553210241	HOPPER RUBBER STRIP	1

SIDE BROOM GROUP - Side Broom Assy Complete



SL. NO	PART NO	DESCRIPTION	QTY
1	552130014	MOLDED SIDE ARM	1
2	921107	TAPER BUSH SIDE BROOM ARM	1
3	921017	SUPPORT SIDE BROOM ARM	1
4	921013	CLEVIS PIN SIDE BROOM ARM	1
5	923418	CIRCLIP EXTERNAL - A 12	1
6	921821	SIDE BROOM ASSY COMPLETE	1
7	921103	V-BELT	1
8	921788	IDLER BRACKET ASSY	1
9	921133	HEX HEAD SCREW – M6x16/13 mm COLLAR	2
10	552130102	CRPH STS – 6.3X30 MACHINED	1
11	921776	KNOB ASSY	1
12	822088	HEX NUT STEEL - M8	2
13	921018	NUT SIDE BROOM KNOB	1
14	921011	THREADED ROD – SIDE BROOM	1
15	921012	PROTECTION CAP THREAD ROD	1

SIDE BROOM GROUP - Side Broom Assy Complete



SL.NO	PART NO	DESCRIPTION	QTY
16	923427	EXTERNAL CIRCLIP - A 10	1
17	921015	BEARING HOUSING – SIDE BROOM ARM	1
18	875001	BEARING – 6000 ZZ	2
19	552350021	WASHER STEEL - 10.6X18X4	1
20	921141	AXLE SHAFT – SIDE BROOM	1
21	921066	WASHER STEEL - 16.2X22X0.5	2
22	921014	V-BELT PULLEY	1
23	921006	KEY	1
24	923250	WASHER STEEL - 14.2X20X0.5	1
25	923429	EXTERNAL CIRCLIP - A 16	1
26	923169	DEFLECTOR ROLLER - SIDE BRUSH	1
27	923783	SIDE BRUSH ASSY	1
28	835709	CRPH SELF TAP SCREW – STEEL - 6.3X30	2
29	844061	WASHER-STEEL - 6.4X12.5X1.6	2
30	802309	HEX HEAD SCREW - STEEL 8.8 - M6X30	1
31	859066	HEX NYLOCK NUT-STEEL GR.6 - M6	3
32	552180025	SIDE BROOM GROUP	1

Minuteman International Made Simple Commercial Limited Warranty

Minuteman International, Inc. warrants to the original purchaser/user that the product is free from defects in workmanship and materials under normal use. Minuteman will, at its option, repair or replace without charge, parts that fail under normal use and service when operated and maintained in accordance with the applicable operation and instruction manuals. All warranty claims must be submitted through and approved by factory authorized repair stations.

This warranty does not apply to normal wear, or to items whose life is dependent on their use and care, such as belts, cords, switches, hoses, rubber parts, electrical motor components or adjustments. Parts manufactured by Minuteman are covered by and subject to the warranties and/or guarantees of their manufacturers. Please contact Minuteman for procedures in warranty claims against these manufacturers.

Special warning to purchaser -- Use of replacement filters and/or prefilters not manufactured by Minuteman or its designated licensees, will void all warranties expressed or implied. A potential health hazard exists without original equipment replacement.

All warranted items become the sole property of Minuteman or its original manufacturer, whichever the case may be.

Minuteman disclaims any implied warranty, including the warranty of merchantability and the warranty of fitness for a particular purpose. Minuteman assumes no responsibility for any special, incidental or consequential damages.

This limited warranty is applicable only in the U.S.A. and Canada, and is extended only to the original user/purchaser of this product. Customers outside the U.S.A. and Canada should contact their local distributor for export warranty policies. Minuteman is not responsible for costs or repairs performed by persons other than those specifically authorized by Minuteman. This warranty does not apply to damage from transportation, alterations by unauthorized persons, misuse or abuse of the equipment, use of non-compatible chemicals, or damage to property, or loss of income due to malfunctions of the product.

If a difficulty develops with this machine, you should contact the dealer from whom it was purchased.

This warranty gives you specific legal rights, and you may have other rights which vary from state to state. Some states do not allow the exclusion or limitation of special, incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusions and limitations may not apply to you.

Cord Electric Group..... Three years parts, two years labor, ninety days travel (Not to exceed two hours)

Exceptions..... Port-A-Scrub, one year parts, six months labor

MPV 13, one year parts

V-14, One year parts, one year labor

MPV 14 and 18, two years parts, one year labor

RapidAir blower, one year parts, one year labor

Explosion-Proof Vacuum, one year parts, one year labor

Pneumatic Vacuums, three years parts, one year labor

EX 12 and EX12H, one year parts, one year labor

TRS 14, one year parts, one year labor

Battery Operated Group..... Three years parts, two years labor, ninety days travel

(Not to exceed two hours)

Exceptions..... Sweepers, one year parts, one year labor, ninety days travel

(Not to exceed two hours)

Internal Combustion Group....One year parts, one year labor, ninety day travel

(Not to exceed two hours)

Battery ChargersOne year replacement

Replacement Parts.....Ninety days

Batteries.....0-3 months replacement, 4-12 months pro-rate

Polypropylene Plastic Tanks...Ten years, no additional labor