



Electronic Service Manuals

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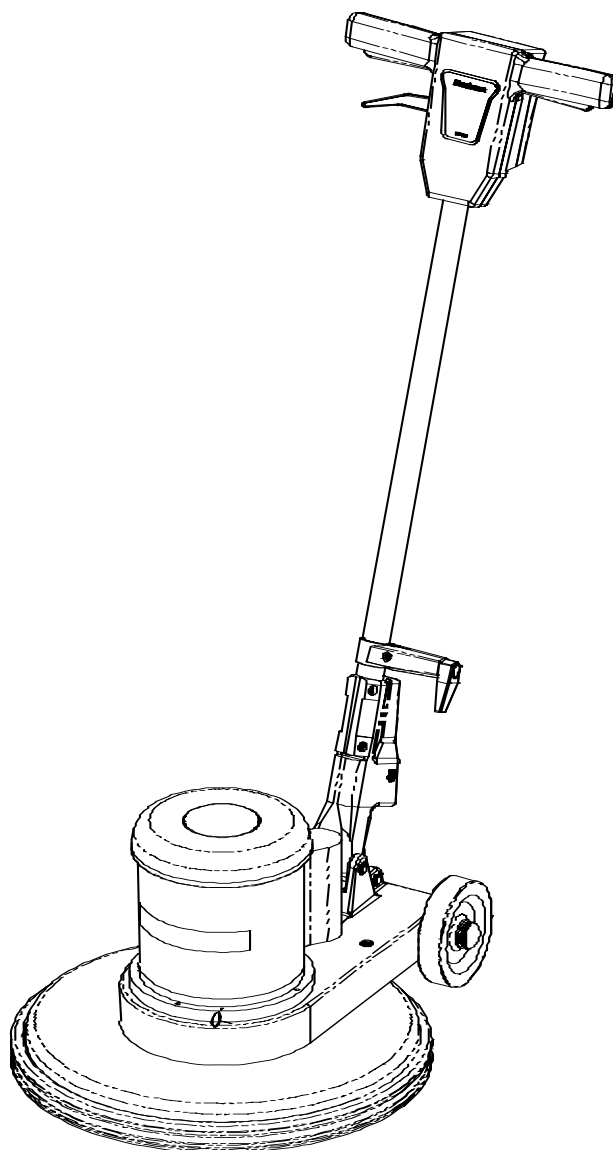
Front Runner **Model:**
Floor Machines FR17115, FR17220, FR17220-60
FR20115, FR20220, FR20220-60
FR20115-2S, FR20220-2S

OPERATION

SERVICE

PARTS

CARE



FOR COMMERCIAL USE ONLY

IMPORTANT SAFETY INSTRUCTIONS

When using an electrical appliance, basic precautions should always be followed, including the following:

READ ALL INSTRUCTIONS BEFORE USING

WARNING - To reduce the risk of fire, electric shock, or injury:

- Do not leave appliance when plugged in. Unplug from outlet when not in use and before servicing.

WARNING

To reduce the risk of electrical shock - Do not expose to rain. Store indoors.

- Never allow children or untrained adults to operate this equipment.
- Keep the area of operation clear of all persons, particularly small children, and pets. Keep bystanders at least 25 feet away from the area of operation.
- Use only as described in this manual. Use only manufacturer's recommended attachments.
- Do not use with damaged cord or plug. If appliance is not working as it should, has been dropped, damaged, left outdoors, or dropped into water, return it to a service center.
- Do not pull or carry by cord, use cord as a handle, close a door on cord, or pull cord around sharp edges or corners. Do not run appliance over cord. Keep cord away from heated surfaces.
- Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord.
- Do not handle plug or appliance with wet hands.
- Do not put any object into openings. Do not use with any opening blocked; keep free of dust, lint, hair, and anything that may reduce air flow.
- Keep hair, loose clothing, fingers, and all parts of body away from openings and moving parts.
- Turn off all controls before unplugging.
- Connect to a properly grounded outlet only. See grounding instructions.

SAVE THESE INSTRUCTIONS

INSPECTION

Carefully unpack and inspect your machine for shipping damage. Each unit is tested and thoroughly inspected before shipment, and any damage is the responsibility of the delivery carrier who should be notified immediately.

WARNING

Read Instruction Manual before operating this piece of equipment.

- To reduce the risk of fire use only commercially available floor cleaners and waxes intended for machine application.
- Risk of explosion - floor sanding can result in an explosive mixture of fine dust and air. Use floor sanding machine in a well-ventilated area free from any flame or match.
- Electrical motors and components can cause an explosion when operated near volatile materials and vapors. Do not use this machine near flammable materials such as solvents, thinners, fuels, grain dust, etc.

ELECTRICAL - 115 Volt

Model FR17115, FR20115, FR20115-2S

This machine is designed to operate on a standard 15 amp. 120 volt, 60 Hz, AC circuit. Voltages below 105 volt AC or above 125 volts AC could cause serious damage to the motor.

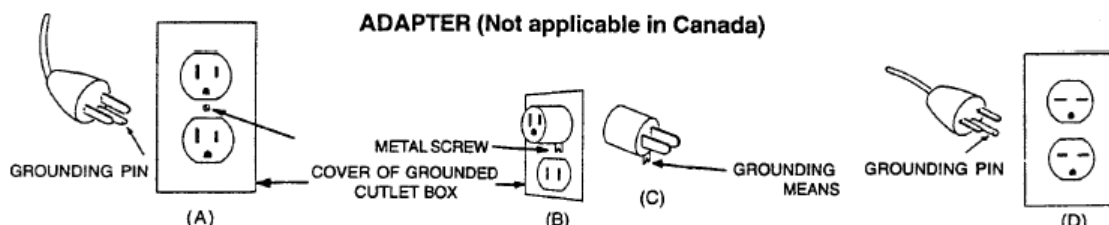
ELECTRICAL - 240 Volt

Model FR17220, FR20220, FR20220-2S, FR17220-60(*), FR20220-60(*)

This machine is designed to operate on a standard 8.3 amp type L fused 230 volt, 50 Hz (* implies 60 Hz), AC circuit. Voltages below 200 volt AC or above 250 volts AC could cause serious damage to the motor.

GROUNDING INSTRUCTIONS

- This floor finishing machine should be grounded while in use to protect the operator from electric shock. The machine is equipped with a three-conductor cord and a three-prong grounding type attachment plug to fit the proper grounding type receptacle. The green (or green and yellow) conductor in the cord is the grounding wire. Never connect this wire to other than the grounding blade.
- Floor Finishing Machines Rated Less Than 150 Volts - If the machine is provided with an attachment plug as shown in Sketch A it is intended for use on a 120-volt (nominal) circuit.
- If a properly grounded receptacle as shown in Sketch A is not available, an adapter as shown in Sketch C is available and should be installed as shown in Sketch B if the outlet box that houses the receptacle is grounded. Be sure to fasten the grounding tab with the faceplate screw.
- Floor Finishing Machines Rated More Than 150 Volts - If the machine is provided with an attachment plug as shown in Sketch D, it is intended for use on a nominal 240 volt circuit. No adapter is available for this plug.



POUR USAGE COMMERCIAL SEULEMENT

MODE D'EMPLOI SECURITAIRE

Lorsque l'on utilise un appareil électrique, des précautions de base doivent toujours être suivies telles que:

BIEN LIRE LE MODES D'EMPLOI AVANT USAGE

AVERTISSEMENT - Pour réduire les risques de feu, choc électrique ou blessure:

Ne pas quitter l'appareil lorsque la prise de courant est branchée. Débrancher de la sortie électrique lorsque la machine n'est pas en usage ou pour en faire le service.

AVERTISSEMENT - Pour réduire le risque de choc électrique - Ne pas exposer à la pluie – Entreposer à l'intérieur.

- Ne pas permettre l'usage comme jouet. Etre très prudent lorsque l'appareil est utilisé en présence d'enfants.
- Utiliser tel que prescrit dans le livre d'opération et seulement avec les attachements recommandés par le manufacturier.
- Ne pas s'en servir avec corde ou prise de courant endommagée. Si l'appareil ne fonctionne pas ou a été échappé, endommagé, entreposé à l'extérieur ou déposé dans l'eau, l'appareil devrait être envoyé à un département de service pour inspection.
- Ne pas tirer ou porter par le câble ou se servir du câble comme poignée. Ne pas fermer de portes sur le câble ou tirer le câble près d'objets pointus. Ne pas conduire l'appareil en écrasant le câble et soyez certain de protéger le câble entre toutes surfaces de chauffage.
- Ne pas débrancher en se servant du câble. Pour débrancher tirer sur la prise et non sur le câble.
- Ne pas manipuler la prise ou l'appareil avec les mains mouillées.
- Ne placer aucun objet dans la sortie et ne pas s'en servir si la sortie est obstruée. Eliminer toute poussière, maillon, cheveux ou quoique ce soit qui pourrait réduire le mouvement d'air.
- N'exposer aucuns cheveux, vêtement, doigts ou autres aux ouvertures de l'appareil.
- Fermer tous les contrôles après utilisation.
- Brancher dans une prise avec une prise de terre seulement. Voir références pour prise de terre.

CONSERVEZ CES RECOMMANDATIONS

DE MODE D'EMPLOI

INSPECTION

Déballer soigneusement en constatant s'il y a lieu tout dommage apparent. Chacune des pièces d'équipement est entièrement inspectée à l'usine et tout dommage de transit est la responsabilité de la compagnie de transport qui devrait être prévenue immédiatement.

AVERTISSEMENT

- S. V. P. lire le manuel d'instruction avant d'opérer cette pièce d'équipement.
- Pour réduire le risque d'incendie, se servir de ces appareils uniquement pour usage commercial et avec les produits construits spécifiquement pour usage avec ces appareils.
- Les moteurs électriques peuvent être la cause d'explosion s'ils sont utilisés près de matériaux ou de vapeurs explosives. Ne pas opérer près de matériaux inflammables tels que solvant, essence, poussière de grain etc.

ELECRICITE - 115 Volt

Modèles FR17115, FR20115, FR20115-2S

Ces appareils sont congrus pour opérer sur un circuit standard de 15 amp 120 volt, 60 hz, circuit AC. Tout voltage en bas de 105 volt AC ou au-delà de 125 volts AC pourrait occasionner des dommages au moteur.

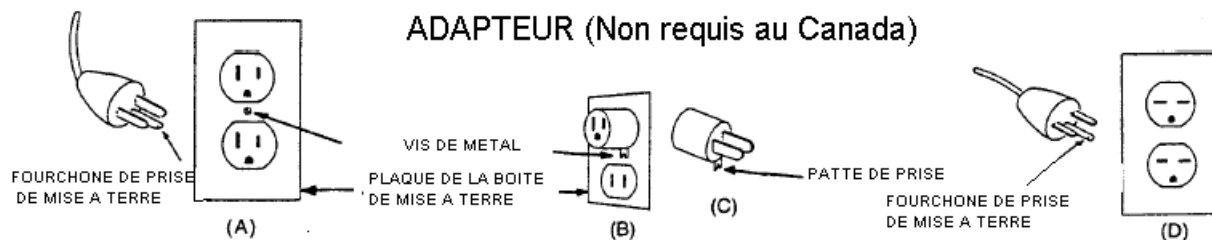
ELECRICITE - 240 Volt

Modèles FR17220, FR20220, FR20220-2S, FR17220-60(*), FR20220-60(*)

Ces appareils sont congrus pour opérer sur un circuit standard AC de 8.3 amp fusible type L230 volt, 50 Hz (* 60 Hz). Tout voltage en bas de 200 volt AC ou au-delà de 250 volts AC pourrait occasionner des dommages au moteur.

INSTRUCTION POUR PRISE DE TERRE

- Ces appareils doivent posséder une prise de terre pour protéger l'opérateur contre les chocs électriques. Cet appareil est muni d'une corde électrique à trois fils et d'un réceptacle à trois fourchons et prise de mise à terre pour s'accorder dans un réceptacle avec prise de mise à terre réciproque. Le fil conducteur vert (ou vert et jaune) de la corde électrique est le fil désigné comme prise de mise à terre. Ne jamais relier ce fil à un fil autre que celui de prise de mise à terre.
- Appareils estimés à moins de 150 volts. - Si ces appareils offrent une prise de courant tel que dans le croquis A, ils sont destinés pour utilisation avec un circuit de 120 volts. Si un réceptacle avec prise de mise à terre n'est pas disponible tel que montré au croquis A, un adaptateur tel que vu au croquis C est disponible et devrait être installé tel que montré au croquis B si la boîte électrique est munie d'une prise de mise à terre. Assurez-vous de bien relier la patte de prise avec la vis.
- Appareils destinés à plus de 150 volts. - Si ces appareils offrent une prise de courant tel que démontré au croquis D, ils doivent être utilisés avec un circuit de 240 volts. Aucun adaptateur n'est disponible pour cette prise.



USER MAINTENANCE INSTRUCTIONS

A qualified electrician should perform all service and repair. No user serviceable components are employed in this equipment. No lubrication of the motor is required.

CORD STORAGE

While not in use, storage can be accomplished by winding cord around handle assy. Cord should be completely unwound during operation.

- Do not use with damaged cord or plug. If appliance is not working as it should, has been dropped, damaged, left outdoors, or dropped into water, return to service center.
- Do not pull or carry by cord, use cord as handle, close a door on cord, or pull cord around sharp edges or corners. Do not run appliance over cord. Keep cord away from heated surfaces.
- Do not unplug by pulling cord. To unplug, grasp the plug, not the cord.
- Do not handle plug or appliance with wet hands.
- Always unplug the machine when removing brush. This equipment should be stored indoors and not exposed to rain.

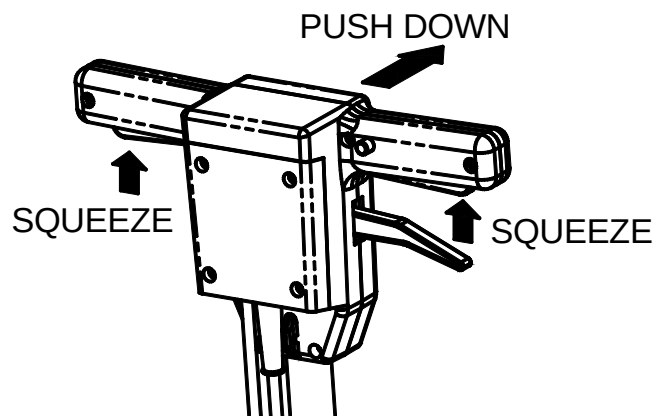
OPERATION

The brush is attached in the following manner: Tip machine backward with handle on floor. Brush is then inserted over the lugs on the bottom of the gear unit and twisted to the left. This secures the clutch plate of the brush over the lugs on the gear unit in the correct driving position.

LOWER HANDLE ASSEMBLY TO WAIST HIGH POSITION TO OPERATE.

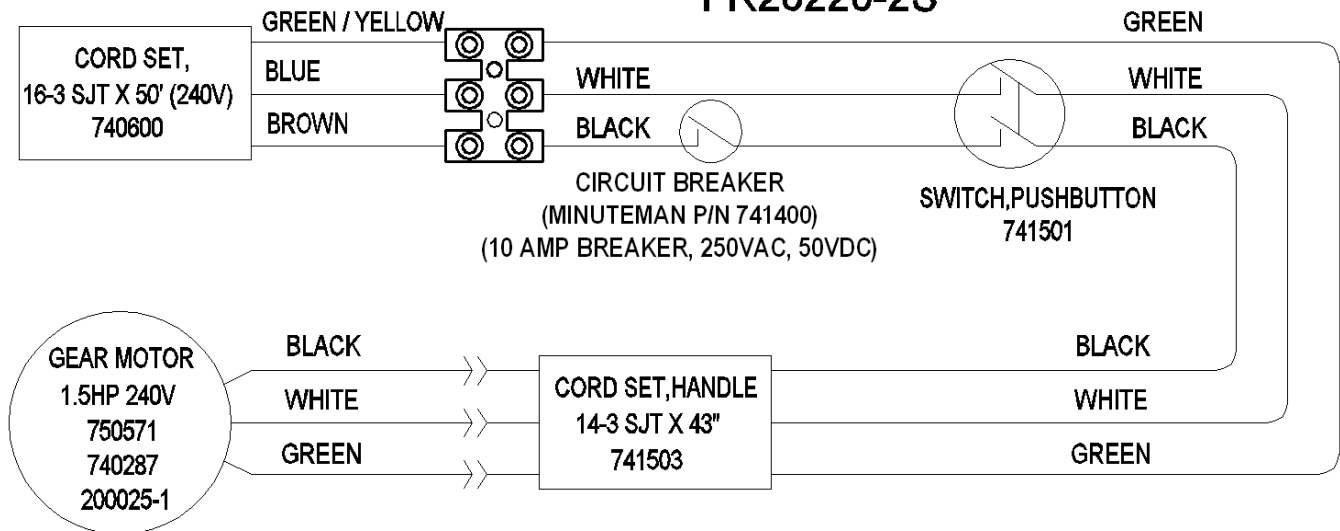
Due to the rotation of a single disc machine, it will naturally have a tendency to move to the right or left, depending on the operator's slight pressure either up or down on the handle. If the handle is lifted slightly up, the machine will travel to the right; a downward pressure and it will travel to the left. It is this maneuverability that enables an operator to cover large areas in a short time with the least amount of effort. The machine can be made to operate without travel by balancing...

... **KEEPING THE BRUSH PRESSURE ON THE FLOOR EQUAL.** With a few minutes of practice in a large area, you will have perfect fingertip control of the machine. This equipment is equipped with trigger safety interlock. Refer to diagram pictured.

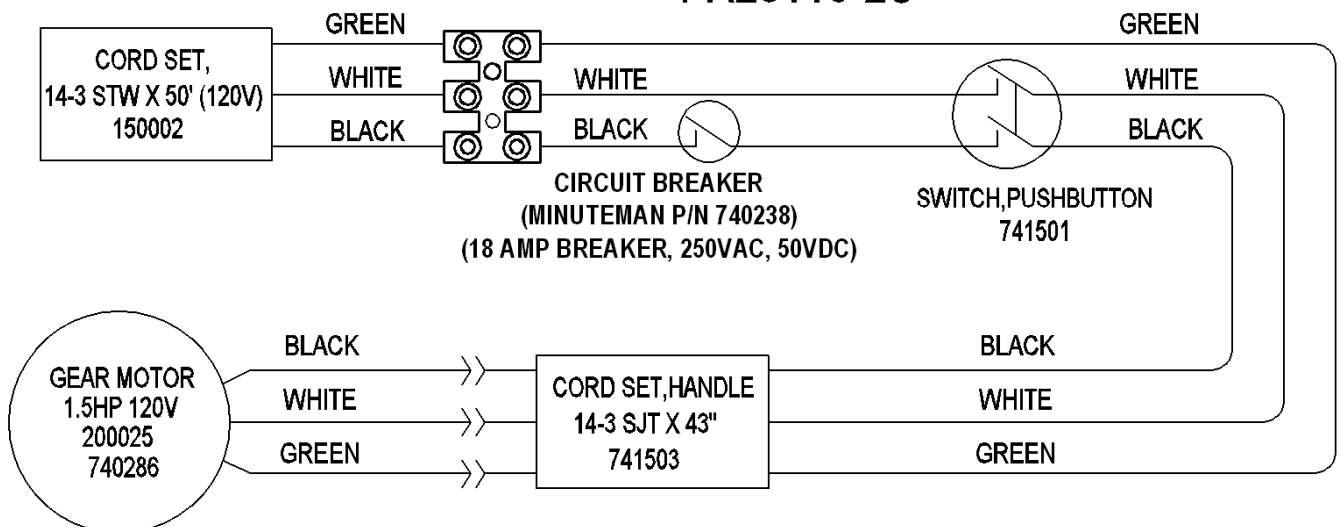


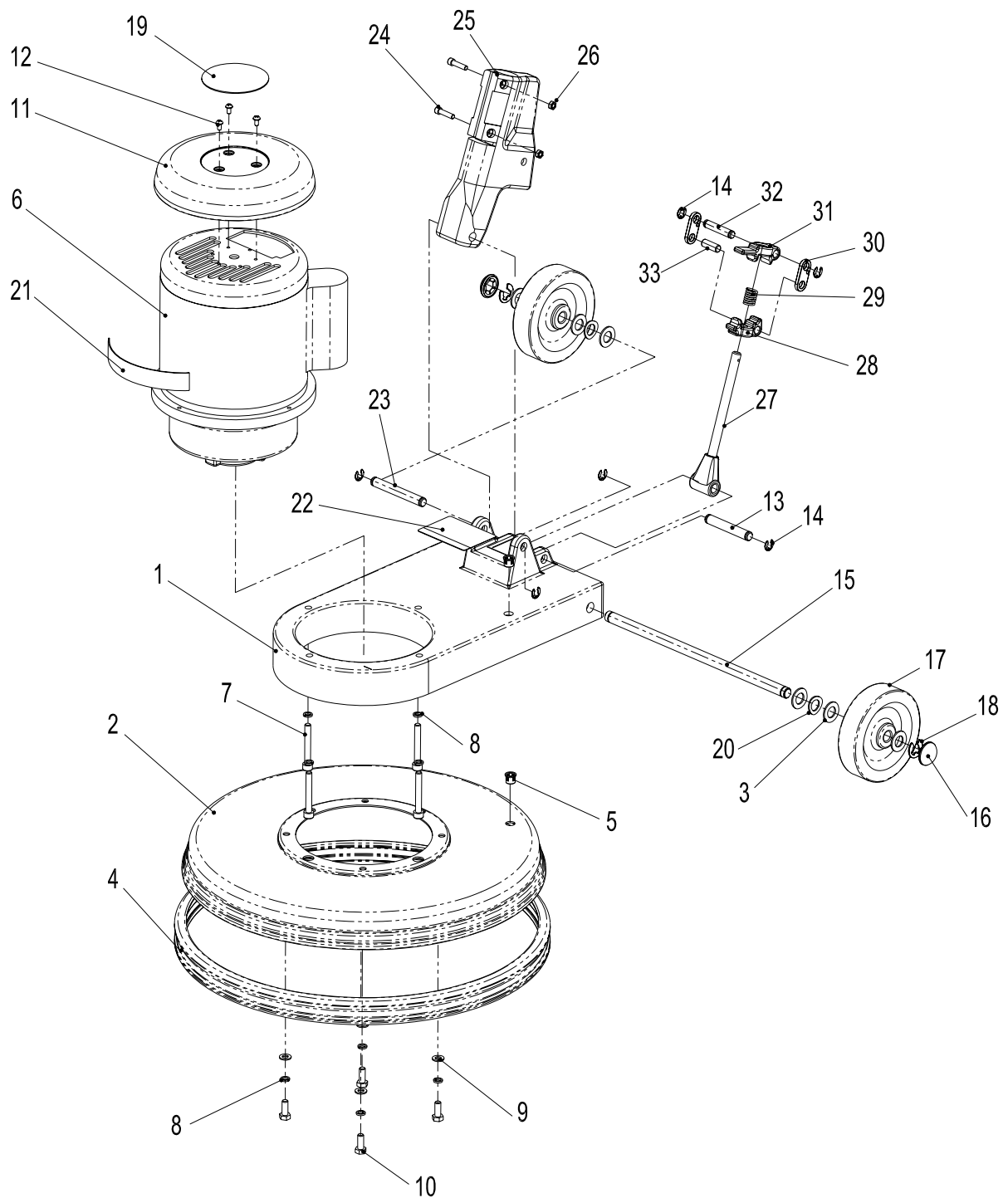
WIRING DIAGRAM

MODEL: FR17220, FR17220-60, FR20220, FR20220-60, FR20220-2S



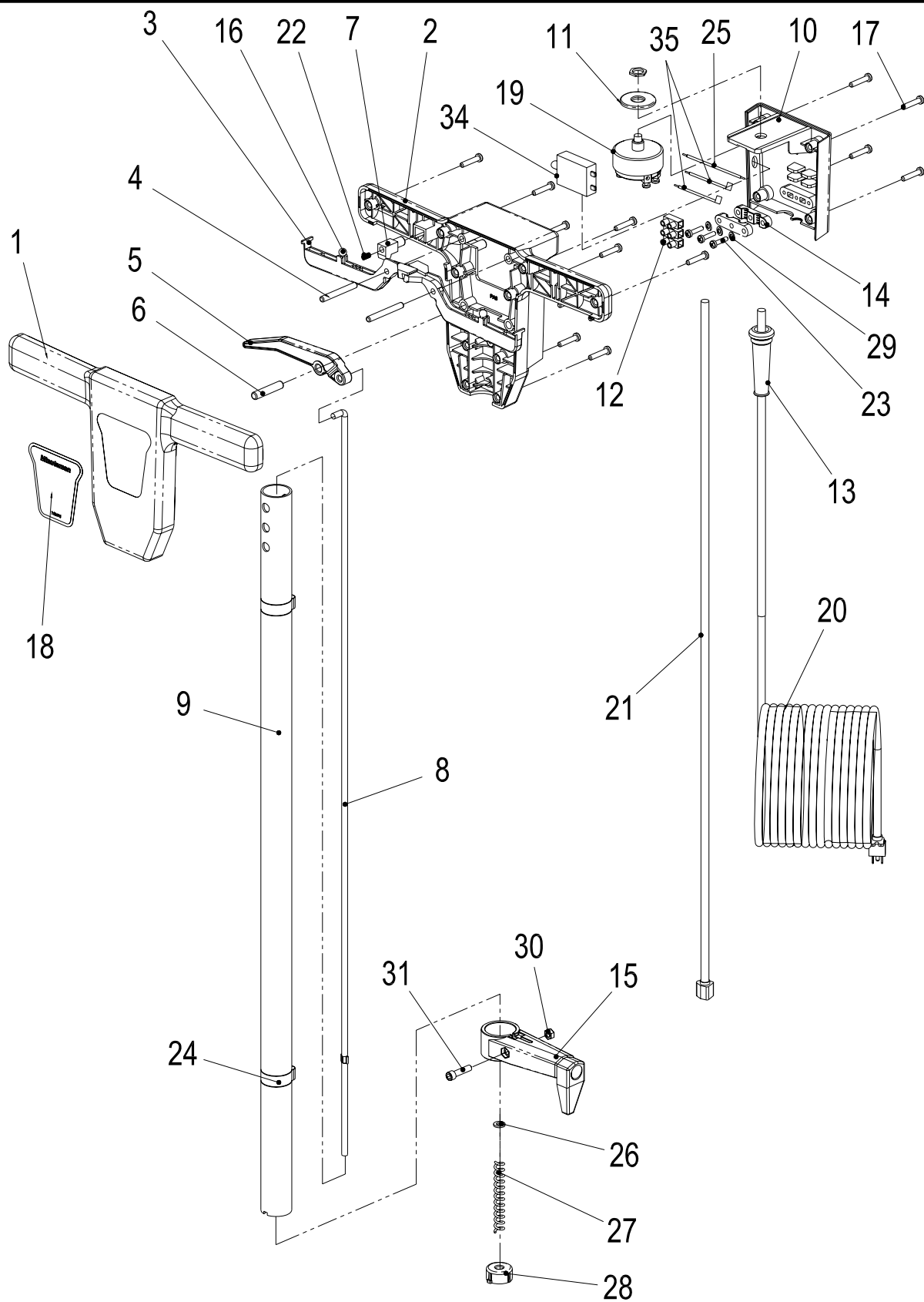
MODEL: FR17115, FR20115, FR20115-2S





PART LIST

ITEM	PART NO.	REQ'D	DESCRIPTION
1	195000	1	BASE
2	195020	1	HOUSING, 20"
2A	195017	1	HOUSING, 17"
3	714203	6	WSR-FLT M14 STL ZINC SILVER
4	195021	1	BUMPER, 20"
4A	195018	1	BUMPER, 17"
5	195006	2	SNAP BUSHING
6	200025	1	GEAR MOTOR, 1.5 HP, 120V
6A	750571	1	GEAR MOTOR, 1.5 HP, 240V, 50 HZ
6B	740286	1	GEAR MOTOR, 2 SPEED, 120V
6C	740287	1	GEAR MOTOR, 2 SPEED, 240V
6D	200025-1	1	GEAR MOTOR, 1.5 HP, 240V, 60 HZ
7	713175	4	SC-SHCS 5/16-18 X 2.25 STL ZINC
8	714204	4	WSR-HELICAL M8 STL BLACK
9	714201	4	WSR-FLT M8 STL ZINC
10	714001	4	BLT-HH M8 X 1.25 X 25 STL ZINC
11	195004	1	MOTOR COVER
11A	195008	1	MOTOR COVER, 2 SPEED
12	710354	3	SCR-MC TR HD 10-32 X .50 STL ZINC
13	195005	1	PIN, PIVOT
14	714150	6	RET RING-E TYPE M8 X 16 X 0.9 STL ZINC
15	195001	1	WHEEL SHAFT
16	195003	2	WHEEL CAP ASSY
17	195002	2	WHEEL, 5.00 X 1 1/4
18	714151	2	RET RING-E TYPE M12 X 24 X 1.2 STL ZINC
19	715459	1	DECAL, FR MOTOR COVER
20	714205	2	WSR-WAVE M14
21	715382	1	DECAL, MINUTEMAN
21A	715383	1	DECAL, MINUTEMAN, LIGHT GRAY
22	715062	1	DECAL, WARNING GENERAL FM
23	195039	1	PIN, FRONT PIVOT
24	714000	2	SC-SHCS M6 X 1.0 X 25 STL ZINC
25	195038	1	YOKE, HANDLE MOUNT
26	714100	2	LOCK NUT-HEX M6 X 1.0 STL ZINC
27	195037	1	RELEASE ROD PIVOT ASSY
28	195031	1	RELEASE BOTTOM
29	195033	1	SPRING-COMP, HANDLE RELEASE
30	195034	2	LINK, RELEASE
31	195032	1	RELEASE TOP
32	195036	1	PIN, RELEASE, TOP
33	195035	1	PIN, RELEASE BOTTOM



PART LIST

ITEM	PART NO.	REQ'D	DESCRIPTION
1	195050	1	HANDLE FRONT
2	195051	1	HANDLE REAR
3	195053	2	SWITCH TRIGGER
4	195070	2	PIN, TRIGGER PIVOT
5	195054	1	RELEASE LEVER
6	195071	1	PIN, RELEASE LEVER PIVOT
7	195055	1	SAFETY BUTTON
8	195075	1	RELEASE ROD, HANDLE
9	195074	1	HANDLE TUBE
10	195052	1	SWITCH COVER
11	714202	1	WSR-FLT M13 X 37 X 3, ZTL ZINC
12	740036-3	1	TERMINAL BLOCK, 3 POLE
13	195058	1	STRAIN RELIEF, RUBBER, 120V
13A	195059	1	STRAIN RELIEF, RUBBER, 240V
14	195056	2	STRAIN RELIEF, PLASTIC, 120V
14A	195057	2	STRAIN RELIEF, PLASTIC, 240V
15	195060	1	CORD HOOK ASSY
16	195072	2	STEEL BALL, SAFETY BUTTON
17	714050	14	SCR-ST M4.8 X 25 STL ZINC
18	715175	1	DECAL, MINUTEMAN RUNNER
19	741502	1	SWITCH, PUSHBUTTON
20	150002	1	CORD SET, 14-3 STW X 50' (120V)
20A	740600	1	CORD SET, 16-3 SGT X 50' (240V)
21	741503	1	CORD SET,HANDLE,14-3 SGT X 43"
22	195073	1	SPRING-COMP, SAFETY BUTTON
23	714051	3	SCR- ST M4.2 X 30 (F) STL ZINC
24	197077	2	CLAMP, HANDLE CORD
25	741504	1	WIRE-14G WHITE 4.72"
26	714200	1	WSR-FLT M6 STL ZINC SILVER
27	195076	1	SPRING-COMP, RELEASE ROD
28	195061	1	GUIDE, RELEASE ROD
29	714206	3	WSR-FLT M5 STL ZINC
30	714100	1	LOCK NUT-HEX M6 X 1.0 STL ZINC
31	714000	1	SC-SHCS M6 X 1.0 X 25 STL ZINC
34	740238	1	CIRCUIT BREAKER, 120V – 18A
34A	741400	1	CIRCUIT BREAKER, 240V – 10A
35	741507	2	WIRE-14G BLACK 4.72" WITH TERMINAL

Minuteman International Made Simple Commercial Limited Warranty

REVISION F

EFFECTIVE 6/1/2009

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.....

<u>Model</u>	<u>Parts</u>	<u>Labor</u>	<u>Poly</u>	<u>Travel</u>
Port A Scrub	1 yr	6 months	10 yrs	0
MPV 13	1 yr	0	0	0
MPV 14 & 18	2 yrs	1 yr	0	0
V Series Upright Vacuums	1 yr	1yr	0	0
Rapid Air Blower	1 yr	1 yr	10 yrs	0
Explosion Proof Vacuum	1 yr	1 yr	0	0
X12, X12H & TRS 14	1 yr	1 yr	10 yrs	0
E17 & E20 Electric Scrubbers	1 yr	6 months	10 yrs	0
Pneumatic Vacuums	3 yr	1 yr	0	0

<u>Description</u>	<u>Parts</u>	<u>Labor</u>	<u>Poly</u>	<u>Travel</u>
Battery Operated Group	3 yrs	2 yrs	10	90 days
Sweepers	1 yr	1 yr	10	90 days
Internal Combustion Group	1 yr	1 yr	10	90 days
				Not to exceed two hours
Exception: PAS 14B	1 yr	1 yr	10 yr	0

Battery Chargers:	One year replacement
Replacement Parts:	Ninety days
Batteries:	0-3 months replacement, 4-12 months pro-rate
Polyethylene Plastic Tanks:	Tanks have 10yr warranty, no additional labor

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