

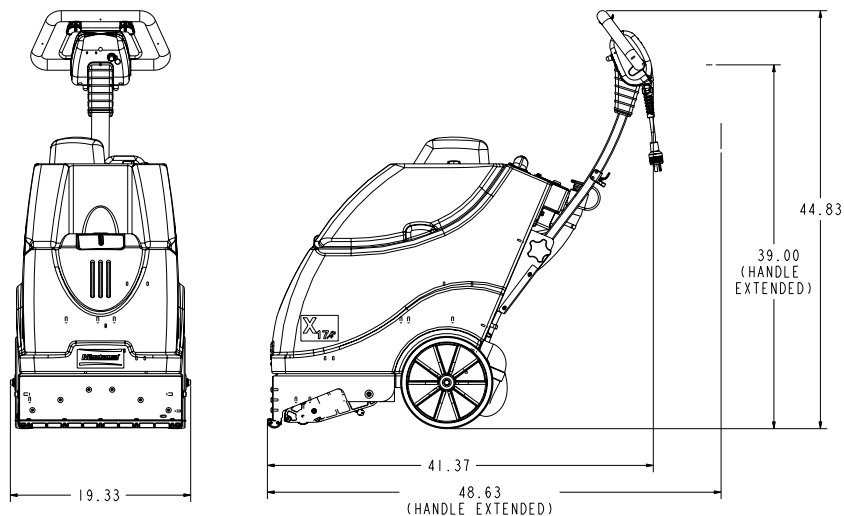
User Manual

X17 ECO Carpet Extractor

This manual is furnished with each new **Minuteman X17**. This provides the necessary operating and preventive maintenance instructions. Operators must read and understand this manual before operating or servicing this machine.

This machine was designed to give you excellent performance and efficiency. For best results and minimal cost, please follow the general guidelines below:

- Operate the machine with reasonable care.
- Follow the manufacturer's suggested maintenance instructions as provided in this booklet.
- Use original Minuteman supplied parts.



Model

X17 ECO

<u>Model No.</u>	<u>X17115 / X17115HP</u>	<u>X17230 / X17230HP</u>
Current Max.	12 Amps	7 Amps
Voltage	115V	230V
Vacuum motor power	1250W	1250W
Brush motor power	100W	100W
Pump motor power	50PSI / 100PSI	50PSI / 100PSI
Working width	17" (43cm)	17" (43cm)
Gross Weight	110 lbs.	110 lbs.
Solution tank	10 Gallon (37.8 LITERS)	10 Gallon (37.8 LITERS)
Recovery tank	7 Gallon (26.5 LITERS)	7 Gallon (26.5 LITERS)
Cable	50 ft.	50 ft.
Suction (sealed)	100 in. of water	100 in. of water
*Vibration	< 8.2 ft/s ²	< 2,5 m/s ²

Noise emission

The sound pressure level measured under maximum conditions of use (LwA) according to DIN EN 60335-2-68 83 dB (A)

The sound pressure level measured (at the ear of the driver) under normal conditions of use (LpA) according to DIN EN 60335-2-68 72 dB (A)

Measurement inaccuracy (KpA) 1,8 dB (A)

*The frequency weighted acceleration measured according to DIN EN ISO 5349 which have an effect upon the upper limbs (hand-arm-system) amounts under normal working conditions.



DECLARATION OF CONFORMITY

MANUFACTURER'S NAME: Minuteman International Inc.

MANUFACTURER'S ADDRESS: 14N845 U.S. Route 20
Pingree Grove, IL. 60140 USA

EQUIPMENT DESCRIPTION: Electric Carpet Extractor

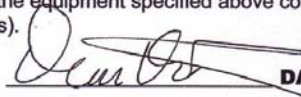
EQUIPMENT MODEL DESIGNATION: X17230

Application of Council Directives: EN60335-1, EN60335-2-68, EN50366, EN12100-1, EN12100-2, EN55014-1, 2004/108/EC, IEC/CISPR 14-1

Additional Standards: ISO 5349-1, ISO 5349-2

I, the undersigned, hereby declare that the equipment specified above conforms to the above Directive(s) and Standard(s).

SIGNATURE:

 **DATE:** 7/22/09

PRINTED NAME:
TITLE:

Dean Theobold
Vice President

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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.
- Do not pick up anything that is burning or smoking, such as cigarettes, matches, or hot ashes.
- Turn off all controls before unplugging.
- Use extra care when cleaning on stairs.
- Do not use to pick up flammable or combustible liquids such as gasoline or use in areas where they may be present.
- Connect to a properly grounded outlet only. See grounding instructions.
- If foam/liquid comes out of exhaust openings turn switch off immediately.
- Use only chemicals recommended by dealer/manufacturer.
- This machine must be used only with the power supply cord provided from the manufacturer
 - X17115 / X17115HP (748613)
 - X17230 / X17230HP (748613CE)

SAVE THESE INSTRUCTIONS

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 laissez jamais des enfants ou des adultes non formés à utiliser cet équipement.
- Gardez l'endroit d'opération dégagé de toutes les personnes, particulièrement les petits enfants et les animaux domestiques. Garder les badauds au moins 25 mètres de la zone d'opération.
- Utilisez uniquement comme décrit dans ce manuel. Utilisez uniquement les accessoires recommandés par le fabricant.
- Ne pas utiliser le cordon ou la fiche est endommagé. Si l'appareil ne fonctionne pas comme il le devrait, s'il a été échappé, endommagé, laissé à l'extérieur ou tombé dans l'eau, le retourner à un centre de service.
- Ne pas tirer ou transporter par le cordon, utiliser le cordon comme une poignée, fermer une porte sur le cordon ou tirer le cordon autour des arêtes vives ou des coins.
- Ne pas faire rouler l'appareil sur le cordon.
- Garder le cordon loin des surfaces chauffées.
- Ne pas débrancher en tirant sur le cordon. Pour débrancher, saisir la fiche et non le cordon.
- Ne manipulez pas la fiche ou l'appareil avec les mains mouillées.
- Ne placez pas d'objet dans les ouvertures. Ne pas utiliser avec des ouvertures sont bloquées; garder exempt de poussière, les peluches, les cheveux et tout ce qui peut réduire l'écoulement d'air.
- Garder les cheveux, les vêtements amples, les doigts et toutes les parties du corps éloignés des ouvertures et des pièces mobiles.
- Ne pas ramasser tout ce qui brûle ou qui fume, comme des cigarettes, des allumettes ou des cendres chaudes.
- Éteindre toutes les commandes avant de débrancher.
- Faire preuve de prudence lors du nettoyage des escaliers.
- Ne pas utiliser pour ramasser des liquides inflammables ou combustibles tels que l'essence ou de l'utilisation dans les zones où ils peuvent être présents.
- Branchez à une prise correctement mise à la terre. Voir les instructions de mise à la terre.
- Si la mousse / liquide sort d'ouvertures d'échappement tourner éteindre immédiatement.
- Utilisez uniquement des produits chimiques recommandés par le distributeur / fabricant.
- Cet appareil doit être utilisé uniquement avec le cordon d'alimentation fourni par le fabricant
 - X17115 / X17115HP (748613)
 - X17230 / X17230HP (748613CE)

CONSERVEZ CES RECOMMANDATIONS

Unpacking 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.

ELECTRICAL

Model Numbers X17115 / X17115HP are designed to operate on a standard 15 amp, 115 volt, 60 hz, AC circuit. Voltages below 105 volts AC or above 125 volts AC could cause serious damage to the motor.

Model Numbers X17230 / X17230HP are designed to operate on a standard 10 amp, 230 volt, 50 hz, AC circuit. Voltages below 210 volts AC or above 250 volts AC could cause serious damage to the motor.

WARNING

Electric motors can cause explosions when operated near explosive materials or vapors. Do not operate this machine near flammable materials such as solvents, thinners, fuels, grain dust, etc.

GROUNDING INSTRUCTIONS

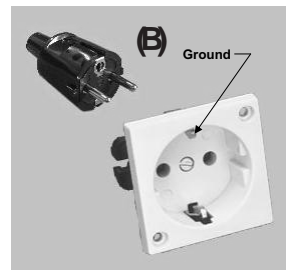
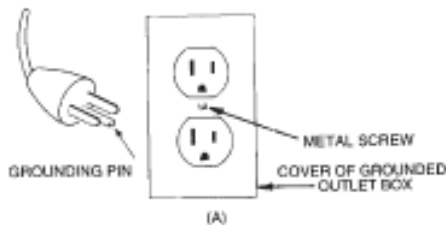
This floor-finishing machine shall be grounded while in use to protect the operator from electric shock. The machine is provided with a three-conductor cord and a three-contact grounding type attachment plug to fit the proper grounding type receptacle. The green (or green and yellow) conductor in the cord is the grounding wire. Never connect this wire to other than the grounding pin of the attachment plug.

DANGER

Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or service person if you are in doubt as to whether the outlet is properly grounded. Do not modify the plug provided with the appliance — if it will not fit the outlet, have a proper outlet installed by a qualified electrician.

Model Numbers X17115 / X17115HP are for use on a nominal 115-volt circuit and has a grounding plug that looks like the plug illustrated in sketch A. Model Numbers X17230 / X17230HP are for use on a nominal 230-volt circuit and has a grounding plug that looks like the plug illustrated in sketch B.

Make sure that the appliance is connected to an outlet having the same configuration as the plug. No adapter should be used with this appliance.



INSPECTION

Déballiez et inspectez soigneusement votre machine en cas de dommages d'expédition. Chaque unité est testée et soigneusement inspecté avant expédition, ainsi que tout dommage est de la responsabilité du transporteur livreur qui doit être informée immédiatement.

ELECTRICITE - 115 Volt Modèles X17115 / X17115HP

Ces appareils sont conçus 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.

ELECTRICITE - 230 Volt Modèles X17230 / X17230HP

Ces appareils sont conçus pour opérer sur un circuit standard AC de 16 amp, fusible type L 230 volt, 50 hz. Tout voltage en bas de 210 volt AC ou au-delà de 250 volts AC pourrait occasionner des dommages au moteur.

AVERTISSEMENT

Les moteurs électriques peuvent être la cause d'explosion si 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.

INSTRUCTIONS POUR PRISE DE TERRE

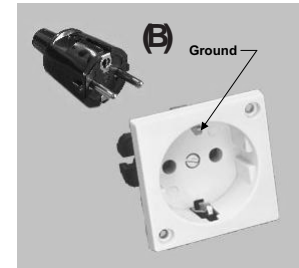
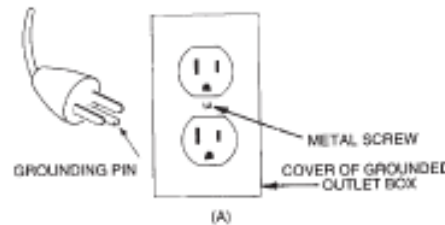
Ces appareils doivent posséder une prise de terre pour protéger l'opérateur contre les chocs électriques. Cet appareil est muni d'une corde électrique à trois fils et d'un receptacle à trois fourchons et prise de mise à terre pour s'accorder dans un receptacle avec prise de mise à terre réciproque. Le fil conducteur vert (ou vert et jaune) de la corde électrique est le fil designé comme prise de mise à terre. Ne jamais relier ce fil à un fil autre que celui de prise de mise à terre.

DANGER

Une mauvaise connexion du conducteur de terre peut entraîner un risque de choc électrique. Consultez un électricien qualifié ou une personne de service si vous avez des doutes quant à savoir si la prise est correctement mise à la terre. Ne pas modifier la fiche fournie avec l'appareil - si elle ne rentre pas dans la prise, une prise adéquate par un électricien qualifié.

Modèles X17115 / X17115HP sont pour une utilisation sur un circuit nominal de 115 volts et a une fiche de terre qui ressemble à la fiche du croquis A.
Modèles X17230 / X17230HP sont pour une utilisation sur un circuit nominal de 230 volts et a une fiche de terre qui ressemble à la fiche du croquis B.

Assurez-vous que l'appareil est branché à une prise ayant la même configuration que la fiche. Aucun adaptateur ne doit être utilisée avec cet appareil.



Assembly



Unpack machine.



Use philips screwdriver to unscrew 4 screws and remove cover.



Insert handle assembly in between bushings. Insert the shoulder bolt through the bushing and screw into the handle assembly using supplied wrench.



Align the teeth on the bushing and handle assembly before tightening the adjustment knob.



Spin the adjustment knob clockwise to tighten.



Attach the wire harness to the machine.



The wire harness must be aligned with the patterns on the connector to fit.

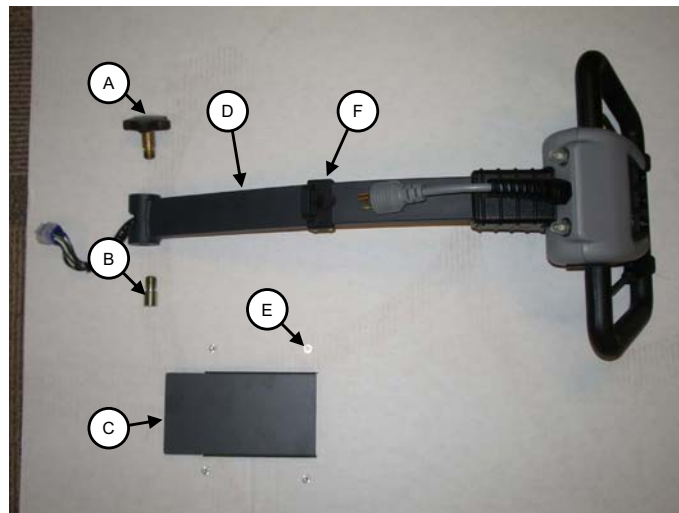


Screw the cover back with the 4 screws.

HANDLE ASSEMBLY

The X17 **Handle Assembly (D)** is not assembled on the machine when shipped. Follow the instruction on page 10 to connect the handle assembly to the machine.

- A HANDLE ADJUSTMENT KNOB
- B SHOULDER BOLT
- C COVER
- D HANDLE ASSEMBLY
- E SCREW
- F CORD RELIEF

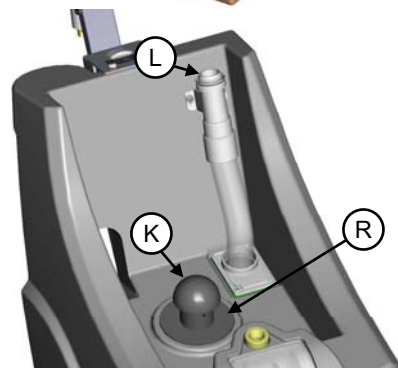
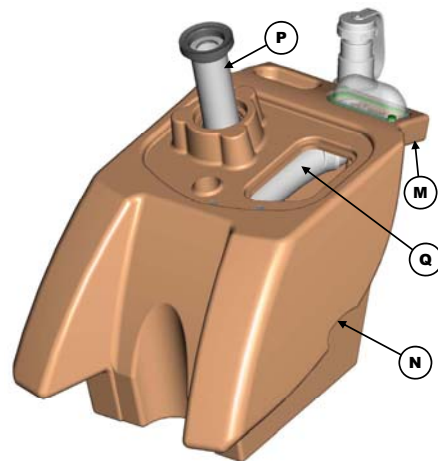
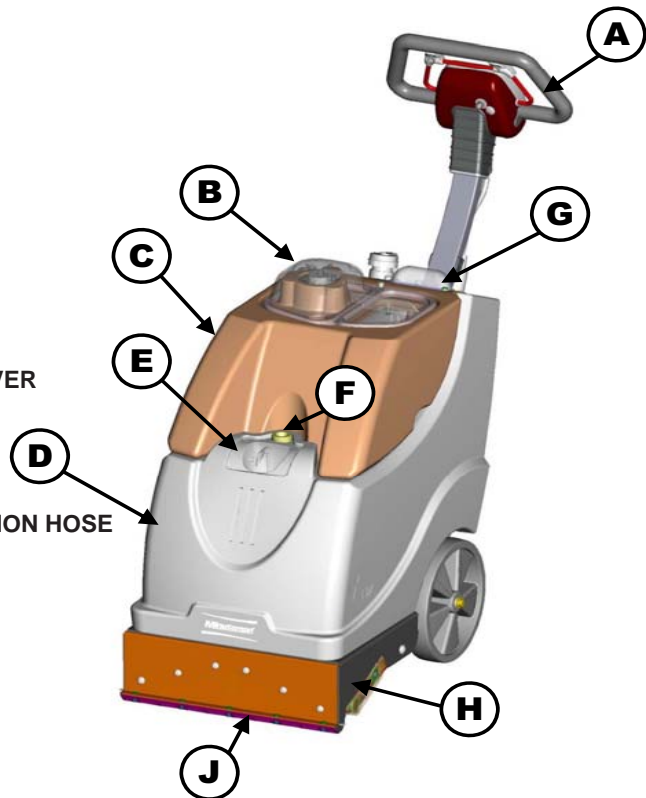


X17 Front

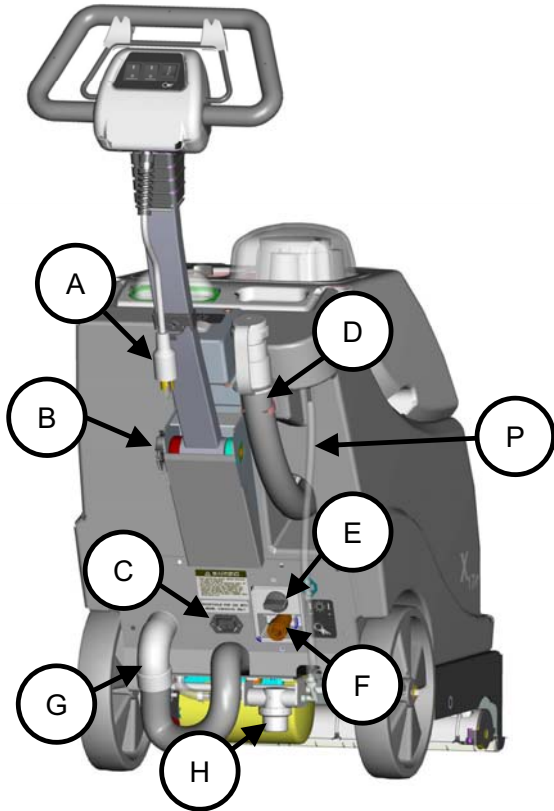
- A HANDLE
- B RECOVERY DOME LID
- C RECOVERY TANK
- D SOLUTION TANK
- E SOLUTION TANK FILL PORT
- F FAUCET FILL HOSE
- G RECOVERY WINDOW
- H BRUSH MOTOR BELT COVER
- J VAC SHOE

Vacuum Connection

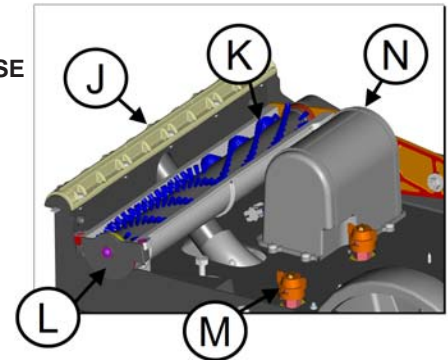
- K VACUUM MOTOR INTAKE COVER
- L VACUUM CONNECTION TUBE
- M RECOVERY INLET
- N HANDLE
- P VACUUM FLOAT SHUT-OFF
- Q RECOVERY WINDOW EXTENSION HOSE
- R VACUUM MOTOR GASKET



X17 Back & Bottom

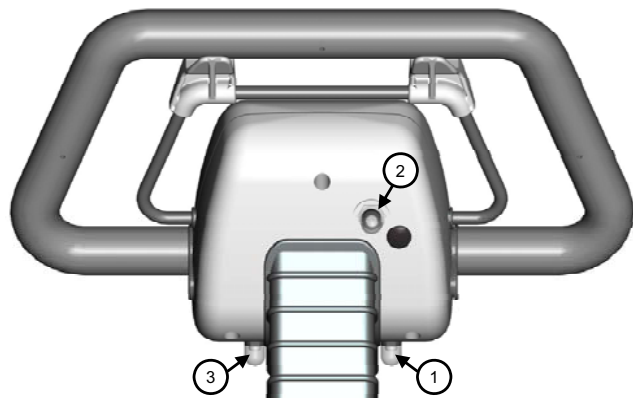
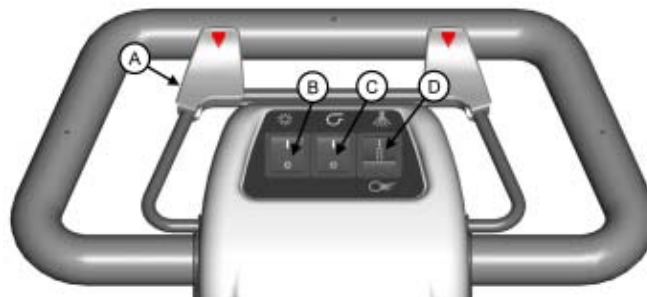


- A. (X17115) TWIST LOCK POWER CONNECTOR (SHOWN)
(X17230) POWER CONNECTOR
- B. HANDLE ADJUSTMENT KNOB
- C. AUXILIARY POWER OUTLET (FOR MINUTEMAN MOTORIZED TOOL ONLY)
- D. RECOVERY TANK DUMP HOSE
- E. BRUSH PRESSURE ADJUSTMENT KNOB
- F. OFF AISLE WAND WATER FEMALE QUICK-CONNECT
- G. VACUUM HOSE CONNECTION POINT
- H. IN-LINE SOLUTION FILTER
- J. VAC SHOE
- K. BRUSH
- L. BRUSH END COVER
- M. SPRAY JETS (2)
- N. BRUSH MOTOR
- P. SOLUTION TANK DRAIN HOSE



Handle/ Control Panel

- A MOMENTARY SPRAY SHUT-OFF
- B BRUSH SWITCH
- C VACUUM SWITCH
- D SPRAY JET \ AUXILIARY SWITCH



Circuit Breakers

The circuit breakers are located on bottom and rear of the handle assembly.

- 1 BRUSH MOTOR BREAKER - (X17115) 1.5amp
(X17230) 1.0amp
- 2 VACUUM PUMP BREAKER - (X17115) 12amp
(X17230) 7amp
- 3 SPRAY JET PUMP/AUX POWER & PUMP BREAKER -
(X17115) 1.5amp
(X17230) 1.0amp

If any of the functions above are not operating, check if the circuit breaker buttons have tripped. Press to reset.

Momentary Handle

(A) When handle is pushed forward the spray jets shut off.

Brush Switch

(B) ON/OFF switch for brush. Flip switch up to (I) position to turn on the brush motor. Flip switch to (O) position to shut off brush motor.

Vacuum Switch

(C) ON/OFF switch for vacuum. Flip switch up to (I) position to turn on vacuum. Flip switch to (O) position to shut off.

Spray Jet / Auxiliary Switch

(D) Power switch for spray jet and auxiliary function. Push the switch to the (I) position to turn ON the spray jets. Push switch to (II) position to use the Off-aisle wand. This will power the auxiliary outlet and will turn the water pump on for the auxiliary connection. See page 22 for connection details.

Make sure to turn off the brush motor when this switch is in the auxiliary mode, or damage to carpet may occur.

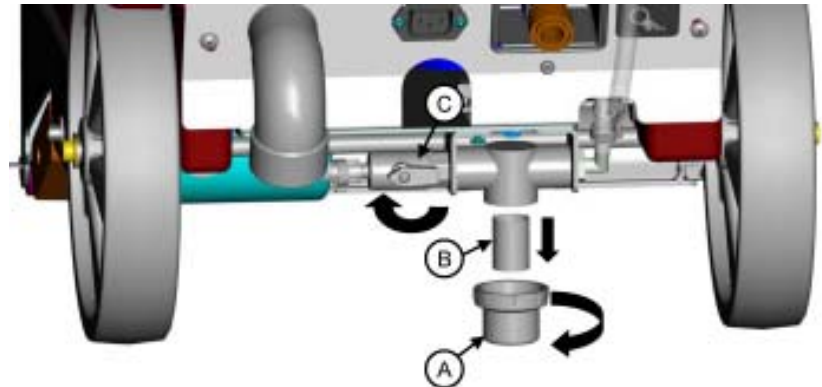
Solution Tank In-line Filter

The **In-line Filter (B)** should be cleaned regularly. To clean:

1. Close the **Shut-off Valve (C)** by turning the handle 90° clockwise.
2. Next, twist the **Filter Cap (A)** counterclockwise.
3. Pull the filter out to clean filter and cap.
4. Place filter back into cap, twist cap clockwise onto filter body, tighten by hand.

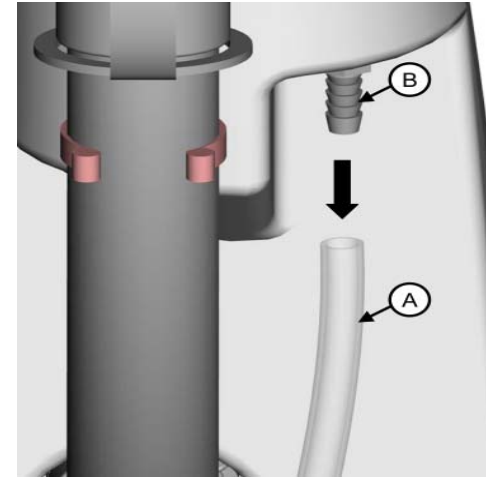
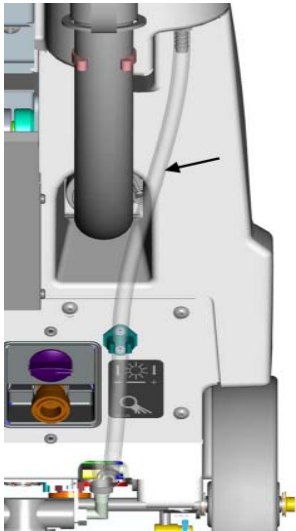
Note: Using tools to tighten may damage plastic threads.

5. Turn **Shut-off Valve (C)** counterclockwise to open.



Solution Tank Drain Hose

The solution tank may be drained by removing the **Solution Tank Drain Hose (A)** from the **Hose Barb (B)** and routing the hose to a floor drain.



Solution Level Indicator

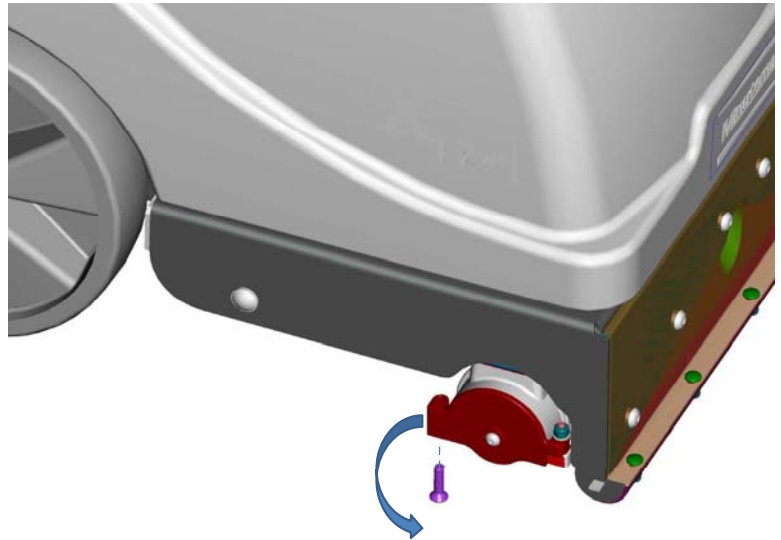
The solution Tank Drain Hose also serves as a water level indicator for the solution tank. The amount of water remaining in the solution tank can be seen through the clear drain hose.

Brush Removal

- Use a 4mm or 5/32 Hex Tool to remove the flat-head screw on the underside of the right side of the brush housing.
- Pry open the brush housing door.
- Pull brush straight out to the side.

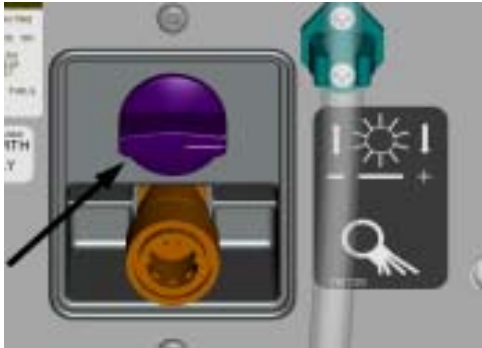
To re-install:

- Insert the end of the brush with drive lugs first, to match the drive hub on the left side.
- Twist the brush until the drive hub locks in to the brush.
- Close the brush housing door. The bearing in the door will insert itself into the end of the brush.
- While holding the housing door closed, re-install flat-head screw from the underside of the housing.



Brush Pressure Gauge

The brush pressure gauge informs the operator if the brush pressure setting is in optimum range. The machine operates best in the green area. If the machine reaches the yellow or red range the brush pressure can be lowered by raising the brush by turning the brush pressure adjustment knob counter-clockwise.



Removable Recovery Tank

To remove tank:

1. Unclip dump hose from solution tank.
2. Pull recovery tank straight up.

To replace tank:

1. Feed dump hose through opening in solution tank
2. Lower tank into place. Recovery vacuum inlet will rest on vacuum connection tube (See page 12, items L & M)
3. Clip dump hose to solution tank.





Handle Adjustment

The X17 handle was designed with operator comfort in mind. The angle position of the handle can be adjusted to suit the needs of the operator.

Angle Adjustment

The handle can be adjusted without tools by loosening the **Handle Adjustment Knob (A)** and rotating the handle to the desired position.

Cord Relief

Use cord relief to prevent cables from disconnecting. Lock the cord in place by looping the cable and threading the cable through the relief, then pull the cable down so it locks into place as shown in figure 2.



Figure 1



Figure 2

Accessories

- (X17115) C46300-00 - Motorized Tool
- (X17230) C46300-02 - Motorized Tool

Only this tool may plug into the **Auxiliary Power (B)**.

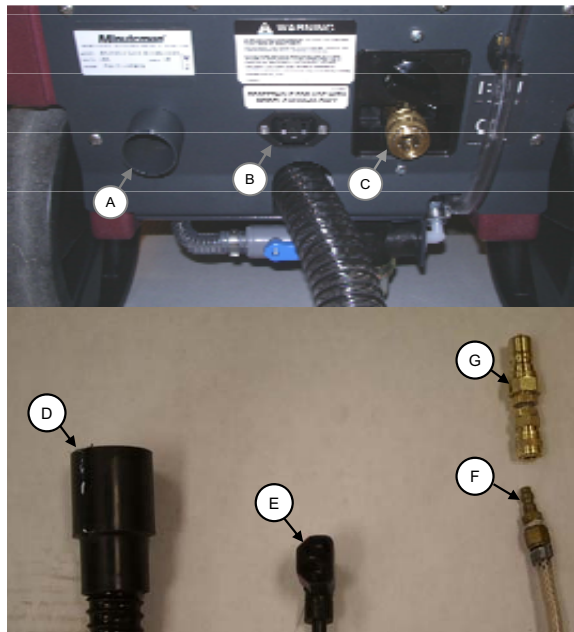


- The vacuum hose as shown on Page 13 Item (G) must be first disconnected from the machine back panel. Connect the Suction Hose (D) to the Vacuum Inlet (A).
 - Connect the tool Power Cord (E) to the Auxiliary Power (B).
 - A Coupler-Quick Connect (G) (p/n: 450295) is required to connect the tool Solution Hose (F) to the quick-connect Solution Coupling (C).
- To turn ON the tool, the auxiliary switch in the machine handle must be in the (II) position as shown on Page 14 Item (D). The vacuum switch must also be turned on when using the motorized tool.

- 390070 - Upholstery Tool (Requires Hose Assembly)
- 831255 Scrub/Vacuum Wand (Requires Hose Assembly)
- 828924 or 830750 - Hose assemblies for non-motorized tools.

Do not require QC coupler (G)

- 831019 Pump-Out Hose
- 17603 Vac Out Hose



Caution! Brush motor must be turned OFF when using auxiliary function. If the brush motor is ON, damage to carpet may occur.

USER MAINTENANCE INSTRUCTIONS

All service and repairs should be performed by a qualified service representative or electrician. No user serviceable components are employed in the electrical assembly. No lubrication of the motor is required. BEFORE CLEANING OR MAINTAINING THE MACHINE, UNPLUG THE ELECTRICAL CORD.

Protect equipment from freezing. Severe pumping system damage can occur if allowed to freeze.

DAILY MAINTENANCE

1. Solution tank should be emptied after each use. Flush solution pump system with 1 gallon of clean, hot water. Operate for 30 seconds through the spray jets, then drain the remaining water with the solution level/drain hose. (Both require flushing for best performance)
2. Removable recovery tank should be rinsed clean and drained using dump hose. Tank does not need to be removed. Wipe off any debris from O-ring under dump hose cap.
3. Dome lid should be cleaned. Pull or rinse off any debris from the attached Filter. Place lid upside-down when storing machine, for ventilation to prevent odor build-up.
4. Vacuum shoe should be cleaned of any debris.
5. Brush should be cleaned of any carpet string or debris.
6. Vac Float Shut-off (page 12, Item P) should be pulled out, inspected, cleaned if necessary.
7. Solution In-Line Filter (page 16) should be inspected and cleaned if necessary.
8. Wheels should be cleaned of hard debris which may damage finished hard-surface floors.
9. Electrical Cord should be inspected for any damage.
10. Vacuum Hose should be inspected for tight fit at the rear of the machine, and to the bottom of the Vac Connection Tube.

BI-MONTHLY/MONTHLY/YEARLY MAINTENANCE

EVERY TWO WEEKS:

1. Purge solution system to remove residue build-up by flushing as follows:
 - a. Use - 1 quart White Vinegar to two gallons clean hot water - in the solution tank, operate solution pump with spray jets installed for two full minutes.
 - b. Drain the remaining solution with the solution level/drain hose (this is important to help keep the hose clear).
 - c. Use 2 gallons clean hot water in the solution tank, operate solution pump with spray jets installed for two full minutes. Drain the remaining water with the solution level/drain hose.
 - d. Important! Repeat 2 gallon rinse as vinegar may affect coloring in carpet.
 - e. Repeat procedure if machine has not been flushed daily.
2. Remove Brush (page 18), clean any debris off brush hubs at both ends.
3. Wipe off any debris from bottom side of chassis.
4. Rinse off the Dome Lid Filter.

MONTHLY:

1. Check Spray Jets for full width spray pattern. Remove (twist orange cap ¼ turn counter-clockwise) and clean with soft-bristle brush if necessary. Do not use pins or wire, which can damage the spray tip.
2. Clean the Recovery Window (page 12, item G) by removing (2 screws) and wiping out with a soft cloth, use hot water and white vinegar or gentle detergent. Take care not to damage the gasket.
 - o Inspect Gasket for cracks/damage.

3. Flush out Recovery Window Extension Hose (page 12, item Q) while Recovery Window is removed by pouring water/vinegar solution through the hose. Rinse with clear water.
4. Clean off any debris from the Vac Connection Tube & Recovery Inlet (page 12, items L, M).
5. Clean & Inspect Vacuum Motor Gasket (page 12, item R) for damage, and ensure Vac Motor Cover (page 12, item K) is in place.
6. Inspect Brush Motor Belt for wear (page 12, item H). Replace if necessary.

YEARLY:

1. Have a qualified service technician check the vacuum motor carbon motor brushes once a year or after every 500 operating hours.

CORD STORAGE

The X17 is supplied with a detachable cord for ease of storage.

- Regularly inspect cord for signs of damage. If cord is damaged replace immediately.
- 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.
- This equipment should be stored indoors and not exposed to rain.

OPERATING INSTRUCTIONS

FILLING THE X17

Remove clear solution cover lid from front of machine, or use the supplied faucet fill hose, by pulling hose out and holding rubber inlet against faucet. Fill solution tank with desired amount of warm water and add liquid cleaning chemical, Minuteman Extraction Shampoo order #902163. (See instructions on container for proper dilutions.) **DO NOT USE** powdered cleaning chemicals. Powders are unlikely to dissolve thoroughly, resulting in clogging the inline solution strainer and other fittings. This can reduce or stop solution flow to the pump and spray jets.

Carpet should be thoroughly vacuumed and obstacles relocated before beginning the cleaning cycle. Heavy traffic lane areas should be pre-treated or spotted with Minuteman Pre-Treat order #902183 for best results.

TO BEGIN CLEANING:

1. Always work away from the cord.
2. Machine operates by pulling backwards over carpet.
3. The recovery dome lid, page 12, item B, should be properly seated on Recovery Tank, item C, for proper vacuum recovery.
4. See page 14, Control Panel Switch Identifications:
Normal Cleaning Mode
 1. Turn on vacuum switch (C).
 2. Turn on brush switch (B).
 3. Turn on the solution pump (D) to position 1.
 4. Adjust brush pressure at rear of machine, until brush pressure gauge reads in green zone.
 5. Solution pump should be turned off by either using the momentary bail, item A, or flip the switch spray jet to the center position, item D, 6" before the end of each cleaning pass.

Maximum Water Temperature



CONTINUED...

During the cleaning cycle, care should be taken not to allow foam to build up in the recovery tank. If this should happen, the machine should be turned off. Defoamer order #910543 should be added to the recovery tank only, never into the solution tank. Foam should not be seen inside the right side of the dome lid.

The recovery water level can be viewed from the operator's position of the machine through the left side of the visible recovery dome. The X17 has a float ball shut off located in the recovery tank that cuts off suction to the vacuum hose. When the recovery tank is full, the vacuum motor will become noticeably louder and the machine will not pick up water. Recovery tank must be emptied. (NOTE : Never tilt machine completely back with recovery tank in place. Always remove tank and set to the side before tilting complete machine.) To empty the recovery tank use the recovery tank dump hose, page 13, item D. Unclip the hose from the tank and turn the cap a quarter turn counter-clockwise and dump waste water into a floor drain or slop sink.

Troubleshooting Guide

Caution! Unplug power cord before servicing machine components.

Problem	Possible Cause	Remedy
Machine does not function	Power cord may be disconnected at the twist lock or wall outlet.	Check connections and reconnect if necessary.
	Wall outlet breaker may have tripped	Reset breaker.
No water dispensed from spray jets	Circuit breaker in handle tripped.	Reset breaker.
	Solution tank in-line filter valve may be closed.	Open valve.
	Sprayjet Switch is in OFF (O) or AUX (II) position	Flip sprayjet switch to ON (I) position.
	No water in solution tank.	Fill solution tank.
Spray intermittent or streaked	Solution hoses may be clogged or kinked.	Check hose for clogs, remove any debris if found. Replace kinked hose if found.
	Solution tank in-line filter may be clogged.	Clean strainer thoroughly.
	The spray jets may be clogged.	Remove the spray tips and clean as required. Do not clean out the hole in the jet with a pin or wire. This may cause permanent damage.

Brush does not turn ON	Circuit breaker in handle tripped.	Reset breaker.
	Belt is damaged	Replace belt
	Debris is lodged in the brush housing	Remove debris
	Switch is in OFF (O) position	Flip switch to ON (I) position.
Solution recovery is reduced	Dome lid filter or vac float shut off may be clogged	Rinse out items
	Recovery dome lid is not seated properly.	Reposition dome lid
	Recovery tank is not seated properly over intake tube.	Reposition recovery tank so the intake tube is inserted into the inlet.
	Recovery tank dump hose may not be closed properly.	Disconnect cap from drain hose then reconnect, to ensure the cap and hose snap together.
	Bad seals on recovery dome lid.	Check the gasket on the lid for damage. Replace if needed.
	Vac shoe may be clogged.	Check vac shoe for debris and remove if necessary.
	Vac shoe may be worn.	Replace vac shoe.
Vacuum motor does not start.	Circuit breaker in handle may have tripped.	Reset breaker.
	Motor carbon brush may be worn.	Contact a qualified service technician.
	Switch is in the OFF (O) Position	Flip the switch to the ON (I) Position

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

Excellence Meets Clean



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