



OPERATION MANUAL
COLD WATER ELECTRICAL
PRESSURE WASHER

PARTS LIST



**RISK OF INJURY! READ ENTIRE MANUAL BEFORE OPERATING!
THIS MANUAL IS AN IMPORTANT PART OF THE PRESSURE
WASHER AND MUST REMAIN WITH THIS UNIT!**

Introduction

THANK YOU for purchasing this product.

READ THIS MANUAL carefully to learn how to operate and service your machine correctly. Failure to do so could result in personal injury or equipment damage.

THIS MANUAL SHOULD BE CONSIDERED a permanent part of your machine and should remain with the machine when you sell it.

MEASUREMENTS in this manual are given in both metric and customary U.S. unit equivalents. Use only correct replacement parts and fasteners. Metric and inch fasteners may require a specific metric or inch wrench.


RIGHT HAND AND LEFT HAND sides are determined by facing the motor end of the machine.

The SERIAL NUMBER is located in the Specification or Identification Numbers section. Accurately record all the numbers to help in tracing the machine should it be stolen. Your dealer also needs these numbers when you order parts. File the identification numbers in a secure place off the machine.

WARRANTY is provided from your dealer for customers who operate and maintain their equipment as described in this manual. The warranty is explained on the warranty certificate shown in this manual.

This warranty provides you the assurance that your dealer will back products where defects appear within the warranty period. Should the equipment be abused, or modified to change its performance beyond the original factory specifications, the warranty will become void.

WARNING

 **WARNING:** This product can expose you to chemicals including Lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

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All information, illustrations and specifications in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

Contents

Safety

RECOGNIZE SAFETY INFORMATION

This is the safety alert symbol. When you see this symbol on your machine or in this manual, be alert to the potential for personal injury.

Follow recommended precautions and safe operating practices.



UNDERSTAND SIGNAL WORDS

A signal word--DANGER, WARNING or CAUTION--is used with the safety-alert symbol. DANGER identifies the most serious hazards.

DANGER or WARNING safety signs are located near specific hazards. General precautions are listed on CAUTION safety signs. CAUTION also calls attention to safety messages in this manual.



FOLLOW SAFETY INSTRUCTIONS

Carefully read all safety messages in this manual and on your machine safety signs. Keep safety signs in good condition. Replace missing or damaged safety signs. Be sure new equipment components and repair parts include the current safety signs. Replacement safety signs are available from your dealer.

Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.

Keep your machine in proper working condition. Unauthorized modifications to the machine may impair the function and/or safety and affect machine life.

If you do not understand any part of this manual and need assistance, contact your dealer.





PROTECT AGAINST HIGH PRESSURE SPRAY

Spray from high pressure nozzles can penetrate the skin and cause serious injury. Keep spray from contacting hands or body.

If an accident does occur and the spray appears to have penetrated the skin, **SEEK EMERGENCY MEDICAL CARE. DO NOT TREAT AS A SIMPLE CUT.** If you are using cleaning agents, be prepared to tell a physician exactly what kind.



GROUNDING INSTRUCTIONS

This product must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This product is equipped with a cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with local codes and ordinances.

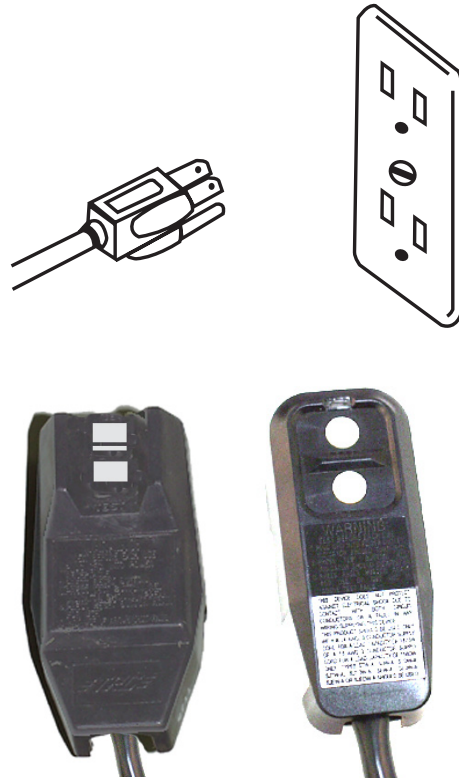
DANGER - Improper connection of the equipment-grounding conductor can result in a risk of electrocution. Check with a qualified electrician or service person if you are in doubt as to whether the outlet is properly grounded. Do not modify the plug provided with the product--if it will not fit, have a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

GROUND FAULT CIRCUIT INTERRUPTER PROTECTION

This pressure washer is provided with a Ground Fault Circuit Interrupter (GFCI) built into the power cord. This device provides additional protection from the risk of electric shock. Should replacement of the plug or power cord become necessary, use only identical replacement parts that include GFCI protection.

DO NOT drop the GFCI as damage could result. If the GFCI is accidentally dropped, be certain to test the GFCI before using to ensure it is working properly. (Follow instructions on GFCI for test procedures.)

DO NOT pull on the electrical cord to disconnect from the outlet, **OR** carry the unit by the cord.





EXTENSION CORDS

Extension cords are not recommended for use on this pressure washer. If the use of an extension cord is unavoidable, it must be plugged into a GFCI found in circuit boxes or protected receptacles.

Use only 3-wire extension cords that have 3-prong grounding type plugs and 3-pole cord connectors that accept the plug from the washer. Use only extension cords that are intended for outdoor use. These extension cords are identified by a marking "Acceptable for use with outdoor appliances; store indoors while not in use". Use only extension cords having an electrical rating not less than the rating of the product. Do not use damaged extension cords. Examine extension cord before using and replace if damaged. Do not abuse extension cord and do not yank any cord to disconnect. Keep cord away from heat and sharp edges. Always disconnect the extension cord from the receptacle before disconnecting the product from the extension cord.



WARNING: To reduce the risk of electrocution, keep all connections dry and off the ground. Do not touch plug with wet hands.

On extension cords:

<u>Cable Length</u>	<u>Wire Gauge</u>
Up to 50 feet	14 AWG
50 to 100 feet	12 AWG

Use of smaller cords will cause electric motor stalling or circuit breaker stoppage.

CLEANING DETERGENT PRECAUTIONS

Know the detergent being used. Be prepared to tell a physician exactly what you are using in the event of an emergency. Read all detergent labels and follow all instructions exactly regarding preparation, use, safety, transportation, and disposal. Keep all detergents out of the reach of children, pets and livestock.

NEVER spray combustible liquids of any kind.

Do not use highly corrosive detergents or acid-type cleaners with this washer.



HANDLE CHEMICAL PRODUCTS SAFELY

Direct exposure to hazardous chemicals can cause injury. Potentially hazardous chemicals used with the pressure washer includes such items as detergents.

A Material Safety Data Sheet (MSDS) provides specific details on detergents; physical and health hazards, safety procedures and emergency response techniques.

Check the MSDS before you start any job using a detergent. That way you will know exactly what the risks are and how to do the job safely. Then follow procedures and recommended equipment.

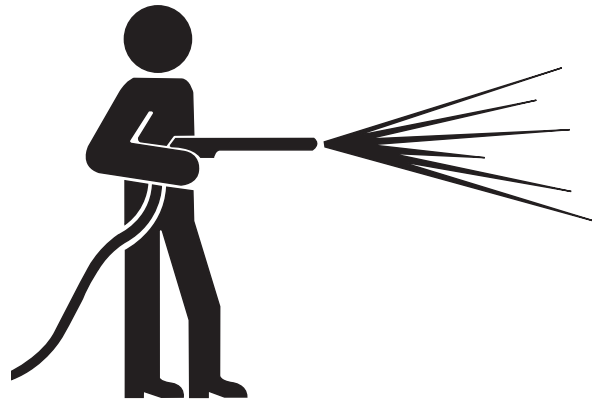




IMPORTANT SAFETY INSTRUCTIONS

WARNING: To reduce the risk of injury, read this operator's manual completely. When using this product, the following basic precautions should always be followed:

1. Read all the instructions before using the product.
2. This product is equipped with a Ground Fault Circuit Interrupter (GFCI) in the power cord to reduce the risk of electrical shock. If replacement of the plug or cord is needed, use only identical replacement parts.
3. Follow the grounding instructions included in this manual.
4. High pressure water spray can cut skin. Do not direct spray at persons. Keep operating area clear of all persons or pets. Warn children that the water spray can cut. Supervise children closely.
5. Do not allow children or untrained person to operate the washer.
6. Do not spray electrical switches, receptacles or light bulbs, or glass or fragile objects that may shatter.
7. Dirt and debris removed by spray can cause eye injury. Wear eye protection.
8. Wet surfaces can be slippery. Wear shoes and keep both feet on the ground. Do not climb on items being cleaned. Do not overreach or stand on unstable support. Keep good footing and balance at all times.
9. When the spray trigger is released, water pressure is trapped in the discharge hose. Release trapped pressure by triggering the spray gun after the washer is turned off.
10. Do not operate the washer when fatigued or under the influence of drugs or chemicals. Stay alert. Watch what you are doing.
11. Follow the maintenance instruction specified in this manual.



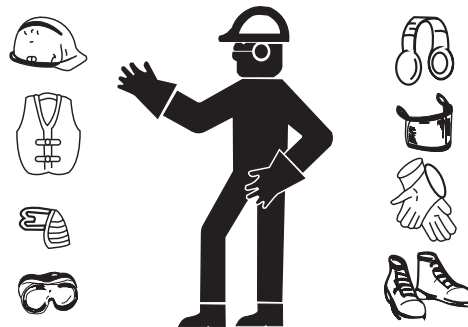
SAVE THESE INSTRUCTIONS

WEAR PROTECTIVE CLOTHING

Wear close fitting clothing and safety equipment appropriate to the job.

Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable loud noises.

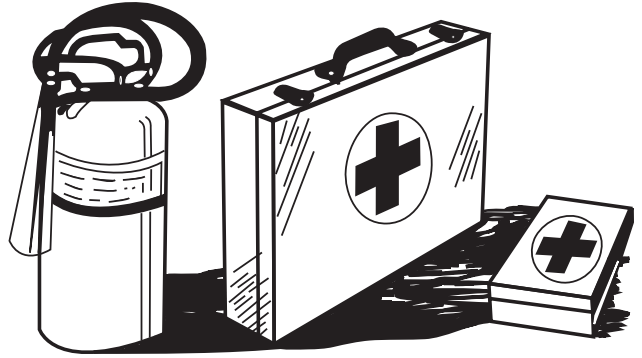
Operating equipment safely requires the full attention of the operator. Do not wear radio or music headphones while operating machine.





PREPARE FOR EMERGENCIES

Keep a first aid kit and fire extinguisher handy.
Keep emergency numbers for doctors, ambulance service, hospital and fire department near your telephone.
Be prepared if a fire starts.



INSPECT HIGH PRESSURE WASHER

Be sure all covers, guards and shields are in place.
Locate all operating controls and safety labels.
Keep all hardware and plumbing fittings tight.
Inspect power cord for damage before using. There is a hazard of electrical shock from crushing, cutting or heat damage.
Inspect high pressure hose for kinking, cuts or abrasive wear.

SERVICE HIGH PRESSURE WASHER SAFELY

Before servicing washer, disconnect unit from power source, relieve water pressure and allow unit to cool down.
Service washer in a clean dry flat area.



SAFETY SIGNS

WARNING

RISK OF ELECTROCUTION. DO NOT REMOVE THIS TAG.

1. Connect only to a properly grounded outlet. Do not remove grounding pin.
2. Inspect cord before using. Do not use if cord is damaged.
3. Keep all connections dry and off the ground.
4. Do not touch plug with wet hands.
5. This product is provided with a GFCI built into the power cord plug. Use identical parts for replacement.
6. Do not use an extension cord with this machine.
7. Read the operator's manual before using.

34-1423/073012

ADVERTENCIA

RIESGO DE ELECTROCUCION. NO quite ESTA ETIQUETA.

1. Conecte solamente a una toma corriente que está bien fundado. No quite la pata de conexión de la tierra.
2. Antes de usar inspeccione la cuerda. No use si la cuerda está dañando.
3. Mantenga los conexiones secos y apartados de la tierra.
4. No torque el enchufe con manos mojados.
5. Este producto viene con un interruptor de circuito de falla de conexión a tierra (GFCI) incorporado al enchufe del cordón eléctrico. Use solo piezas idénticas de repuesto si se necesita un reemplazo del enchufe o del cordón.
6. No use una cuerda extensión con la unidad.
7. Antes de usar lea y entienda todas las instrucciones y el manual de operación.

34-1424/082912

34-1423 and 34-1424
Location: Motor Housing

WARNING

If connection is made to a potable water system, the system shall be protected against backflow.

Do not spray electrical apparatus and wiring.

34-1428/082912

ADVERTENCIA

No rocíe el aparato y el cableado eléctricos.

Si la conexión se hace a un sistema de agua potable, el sistema será protegido contra la expulsión.

34-1429/082912

34-1428 and 34-1429
Location: Handle Sides

WARNING/ADVERTENCIA

RISK OF INJECTION OR CUTTING INJURY: Keep clear of nozzle. Do not direct discharge stream at people.
RISK OF EXPLOSION: Do not spray flammable fluids.

RIESGO DE INYECCIÓN O LESIÓN DE CORTE: Manténgase alejado de la boquilla. No dirija la corriente de descarga hacia las personas.
RIESGO DE EXPLOSIÓN: No rocíe líquidos inflamables.

34-1427/082114

34-1427
Location: Motor Housing



CAUTION

1. To reduce the risk of injury, read operator's manual carefully before using.
2. Spray gun can kick back. Hold with both hands.
3. Risk of eye injury. Always wear eye protection.
4. See the operator's manual for proper detergent usage.

34-1430/082912

PRECAUCION

1. Lea cuidadosamente el manual del operador antes de usar.
2. El revolver rociadora puede retroceder violentamente. Sujétela con ambas manos.
3. Riesgo de lesiones a los ojos. Use siempre protección para los ojos.
4. Para un uso químico apropiado consulte el Manual del Operador.

34-1431/082912

34-1430 and 34-1431
Location: Motor Housing

CAUTION
HOT METAL SURFACES
Touch only insulated areas.

PRECAUCION
SUPERFICIES CALIENTES DEL METAL
Áreas aisladas del tacto solamente.

34-1445/082912

34-1445
Location: Handle

**CONNECT TO AN
INDIVIDUAL BRANCH
CIRCUIT ONLY.**

**CONECTAR SOLAMENTE
A UN CIRCUITO DERIVADO
INDIVIDUAL.**

34-2716/081712

34-12716 Location: Motor Housing



! WARNING



RISK OF ELECTROCUTION.
DO NOT REMOVE THIS TAG.

1. Connect only to a properly grounded outlet. Do not remove ground pin.
2. Inspect cord before using. Do not use if cord is damaged.
3. Keep all connections dry and off the ground.
4. Do not touch plug with wet hands.
5. This unit may be provided with a Ground Fault Circuit Interrupter (GFCI) built into the power cord plug. If replacement of the plug or cord is needed, use only identical replacement parts. If this unit is not provided with a GFCI, this unit should only be connected to a power supply receptacle protected by a ground fault circuit interrupter.
6. Do not use an extension cord with this machine.
7. Read the operator's manual before using.

FAILURE TO FOLLOW THE ABOVE
INSTRUCTIONS COULD RESULT
IN A SEVERE ELECTRICAL SHOCK.

34-1035-E/F/S-111899-ENG

! ADVERTISSEMENT

RISQUE D'ÉLECTROCUTION NE
PAS ENLEVER CETTE ÉTIQUETTE

- Brancher seulement à une prise correctement mise à la terre. Ne pas enlever la broche de mise à la terre.
- Vérifier le cordon avant l'utilisation. Ne pas utiliser le cordon s'il est endommagé.
- Conserver toutes les connexions au sec et au-dessus du sol.
- Ne pas toucher la prise avec des mains humides.
- Cet appareil peut être équipé d'un disjoncteur de fuite à la terre incorporé dans la fiche du cordon électrique. S'il s'avère nécessaire de remplacer la fiche ou le cordon, n'utiliser que des pièces de rechange identiques. Si cet appareil ne comporte pas un disjoncteur de fuite à la terre, ne le relier qu'à une prise de courant protégée par un disjoncteur de fuite à la terre.
- L'utilisation d'une rallonge n'est pas recommandée.
- Lire le manuel de l'opérateur avant d'utiliser l'appareil.

DES CHOCS ÉLECTRIQUES SÉVÈRES
SERONT POSSIBLES SI LES DIRECTIVES
CI-DESSUS NE SONT PAS SUIVIES.

! ADVERTENCIA

RIESGO DE ELECTROCUCION.
NO quite esta ETIQUETA.

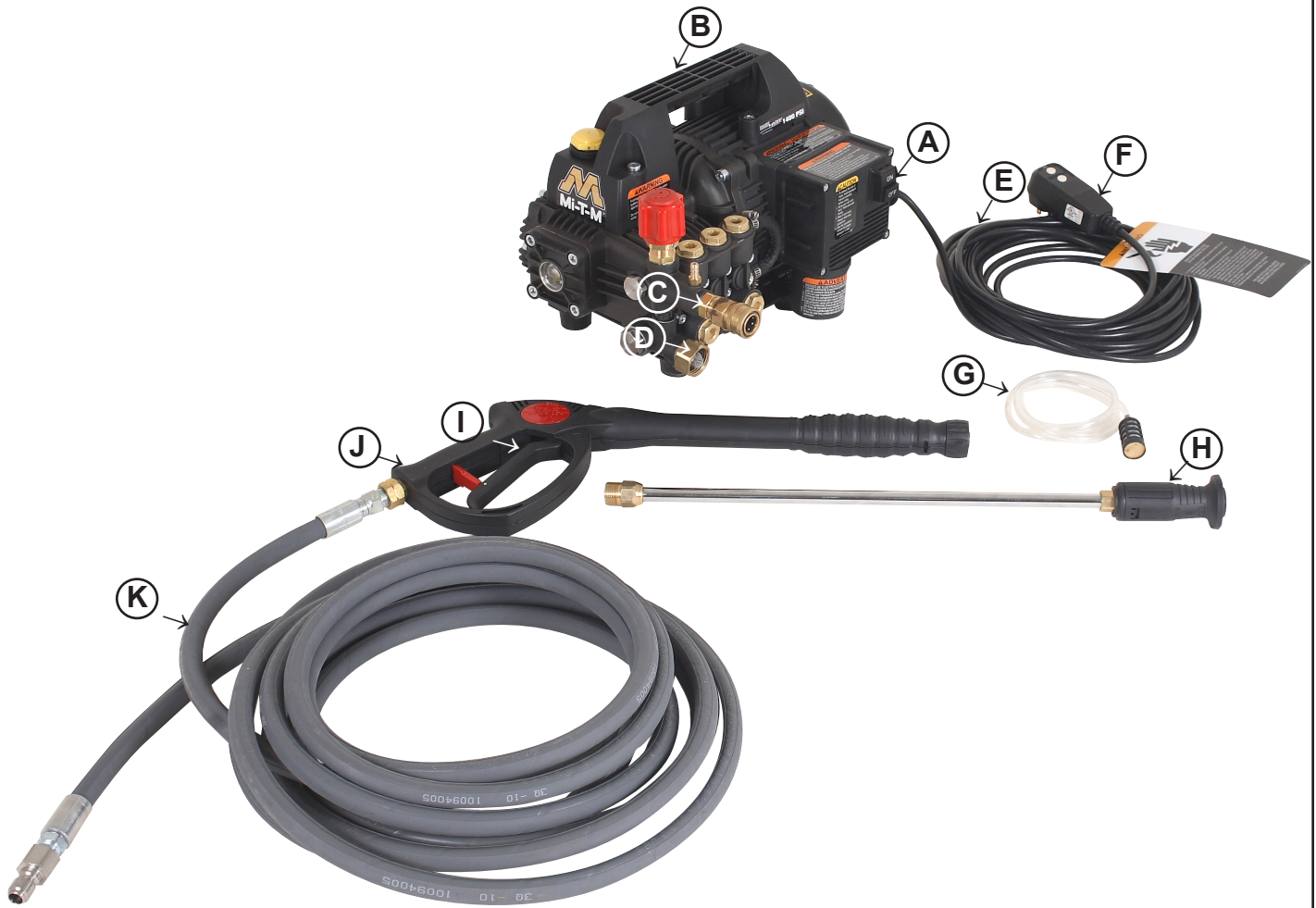
- Conecte solamente a una toma corriente que está bien fundado. No quite la pata de conexión de la tierra.
- Antes de usar inspeccione la cuerda. No use si la cuerda está dañando.
- Mantenga las conexiones secas y apartados de la tierra.
- No toque el enchufe con manos mojadas.
- Este producto debe conectarse a tierra. Asegúrese de que la lavadora a presión esté equipada con un Interruptor de circuito de falla a tierra (Ground Fault Circuit Interrupter, GFCI) incorporado en el cordón de alimentación. Si no lo tiene, debe conectarse la lavadora a presión únicamente en un receptáculo que esté protegido por un Interruptor de circuito de falla a tierra. Desconéctela cuando no esté en uso.
- No use una cuerda extensión con la unidad.
- Antes de usar lea y entienda todas las instrucciones y el manual de operación.

SI NO SIGA LAS INSTRUCCIONES HAY EL
RIESGO DE ELECTROCUCIÓN SEVERA.

34-1035
Location: Power Cord

Controls

CONTROLS



A--On/Off Switch
B--Handle
C--High Pressure Outlet

D--Water Inlet Fitting
E--Power Cord
F--Ground Fault Circuit Interrupter

G--Detergent Hose
H--Nozzle Wand
I--Gun Trigger

J--Gun
K--Discharge Hose

Preparing the Washer

ELECTRICAL REQUIREMENTS

CAUTION: To avoid electrical shock, connect the washer to a properly grounded electrical receptacle. Do not use an adapter or remove third (ground) prong.

Make certain the connection between the washer power cord and receptacle is kept dry.

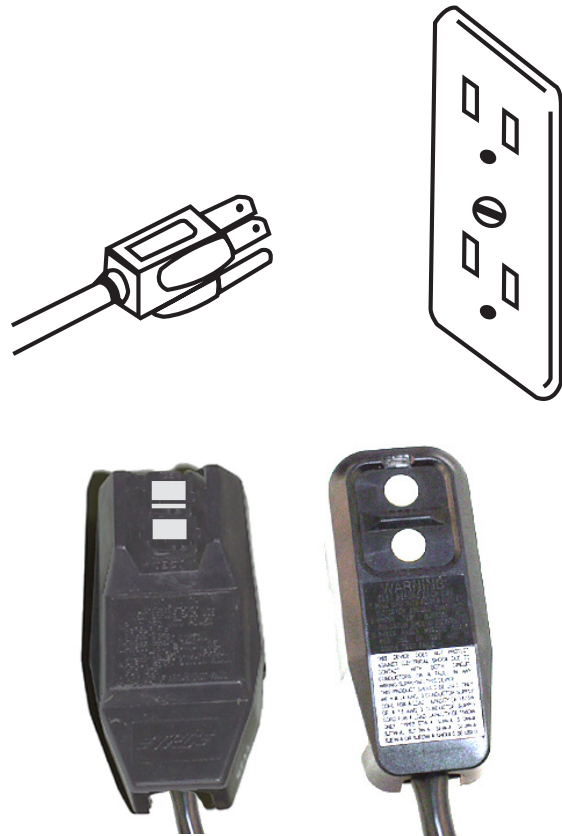
The following electrical requirements must be met:

1. The electrical supply must provide a minimum of 110 to 120 volts. With the washer operating, line voltage must not drop below 108 volts.

IMPORTANT: Operating the pressure washer with low line voltage may damage electrical components and cause motor to stall.

2. This pressure washer is equipped with a Ground Fault Circuit Interrupter in the power cord to reduce the risk of electrical shock. However the GFCI will not protect against all faults, short circuits, or overloads.

IMPORTANT: The GFCI MUST be reset each time the washer is unplugged and plugged in again.



INLET WATER SUPPLY REQUIREMENTS

1. Inlet water supply must be a minimum of 20 PSI (1.4 bar).

Attempting to operate the washer with less than adequate water supply will cause rapid wear of packings, valves and bearings that will dramatically shorten pump life. Symptoms of inadequate water supply are pump shuddering and flattening of the supply hose.

2. Inlet water flow must be at least 125% of pump rated flow. Check volume by timing how long it takes to fill a 5 gallon (19 L) container. For example, a flow rate of 3.0 GPM would fill a 5 gallon container in 5/3 minute (100 seconds).
3. Water supply hose should be a good grade of garden hose with a minimum I.D. 5/8 in. (16mm) and no longer than 50 ft. (15.24 m). If longer supply hose must be used, check to be certain flow is at least equal to the "GPM Supply Required".
4. If non-pressurized (static draw) water supply is used, check to be certain flow is at least 125% of pump rated flow. In static draw situations, water flow rate (GPM) can be increased by elevating the water supply tank or changing to a larger inside diameter water supply hose.
5. Adding on extension to the supply hose will reduce water flow rates. Check for adequate water flow rate each time an extension is added. Water flow rates can be increased by using the largest possible internal diameter supply hose.

IMPORTANT: Inlet water temperature must be cold water only, otherwise the pump may be damaged.



CHECK PUMP OIL

1. Remove shipping plug and install vented plug (A) on pump.
2. Check oil in pump. With washer on level surface, the oil should be level with the center of the sight glass (B). If necessary, top with SAE30W non-detergent oil.



CONNECT DISCHARGE HOSE TO GUN

1. Apply pipe tape or sealant to threads on gun.
2. Attach discharge hose to gun using two open-end wrenches. Tighten hose fitting enough to prevent leaks.

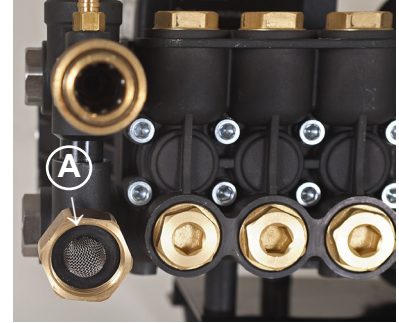
IMPORTANT: Do not attach nozzle wand to gun handle until water system is primed.



CONNECT HOSES AND PRIME PUMP

1. Hose washer with screen (A) is already attached into end of brass hose coupler.

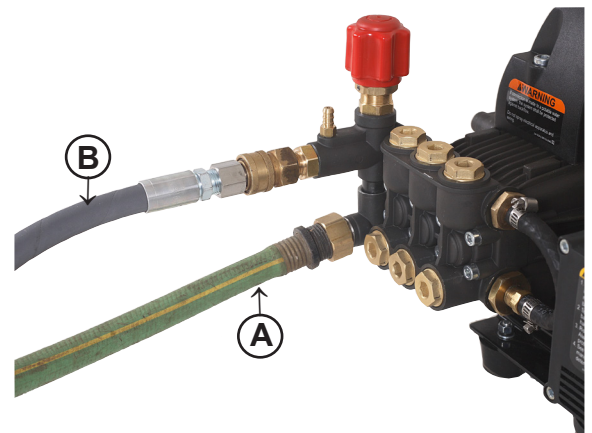
NOTE: Conical screen in washer (A) should protrude out of coupler and into flow from inlet hose.



IMPORTANT: If washer is to be connected to a well water system, use 851-0207 water inlet filter (A). This will increase sand filtering capability and avoid damage to the pump.



2. Install inlet water hose (A) and hand tighten. Install high pressure discharge hose (B) with quick connect.



3. Open water supply. Squeeze trigger on gun. Allow water to run (with motor off) until water runs out of pressure hose. Start motor and cycle trigger on gun until "crackling" sound (air in lines) stops. Turn off water supply.



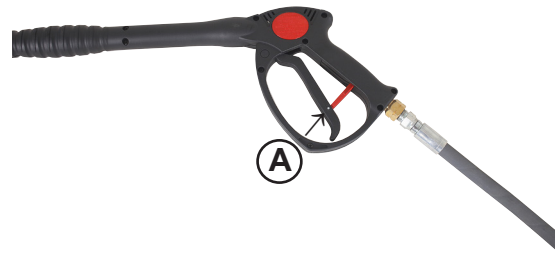
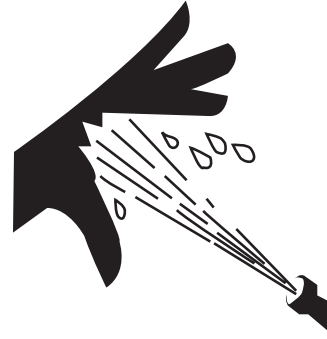
INSTALLING NOZZLE WAND



CAUTION: To avoid injury from escaping fluids under pressure, relieve the pressure in the system by stopping the washer and depressing gun trigger. Lock trigger before adjusting nozzle.

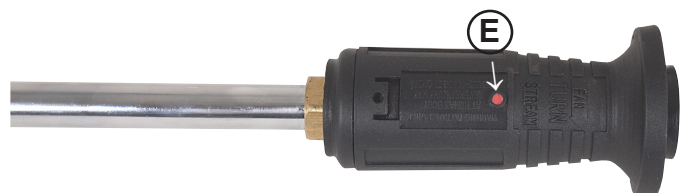
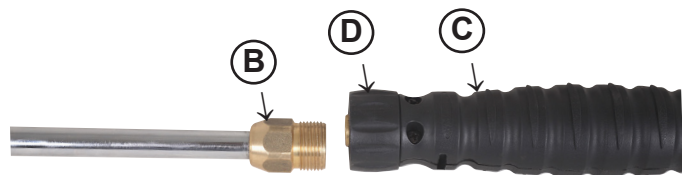
IMPORTANT: Do not attach nozzle wand until water system is primed.

1. Place trigger lock (A) in locked position.



2. Insert connection fitting of nozzle wand (B) into gun (C). Tighten threaded collar (D) on gun down on wand threads to attach wand.

NOTE: When changing accessories, the wand is disconnected here and the accessory is connected at this point.



Washer wand has yellow dot (E) on nozzle.

TESTING GROUND FAULT CIRCUIT INTERRUPTER (GFCI)

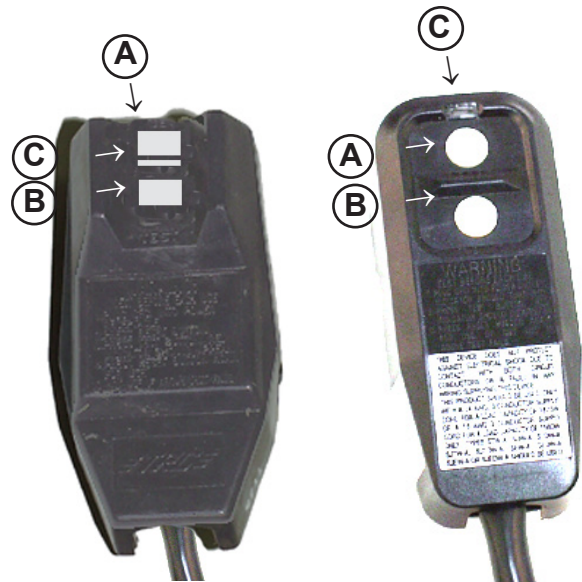


CAUTION: Ground Fault Circuit Interrupter (GFCI) MUST be tested before each use of the washer.

If the results in each one of the following steps are not as described, shut washer off immediately. DO NOT operate until the washer has been inspected by a qualified electrician or your dealer.

1. Plug GFCI into grounded receptacle. Connect high pressure outlet hose and turn on water supply.
2. Press and release “RESET” button (A) to verify power to the washer.
3. Press “TEST” button (B). Red indicator bar (C) on reset button should appear. (Power to the washer should be interrupted).
4. Press and release the “RESET” button. Power should be restored to the washer.

NOTE: GFCI test instruction are also found on the front of the GFCI.



Operating the Washer

STARTING MOTOR

IMPORTANT: To prevent possible pump damage, do not allow washer pump to run in bypass (with gun trigger released) for longer than 3 minutes.

The washer ON/OFF switch (A) is a rocker switch that includes a circuit breaker for protection against motor electrical overload.

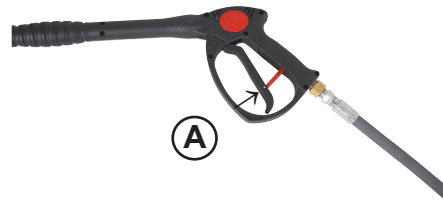
Move the ON/OFF switch to the "ON" position.



LOCKING GUN TRIGGER

CAUTION: Gun trigger should be locked when not in use or whenever adjustments are being made to gun or nozzle. This will help prevent accidental discharge of high pressure fluid.

1. Pivot lock (A) down to prevent trigger engagement.
2. Pivot lock up to release trigger.



ADJUSTING SPRAY NOZZLE PRESSURE AND PATTERN

CAUTION: High pressure spray can cause serious injury. Keep away from spray. Never point the gun at yourself or anyone else. Never put your hand, fingers, eyes or body directly over spray. Do not point spray toward fragile materials.

Spray nozzle can be adjusted in four ways to obtain best results.

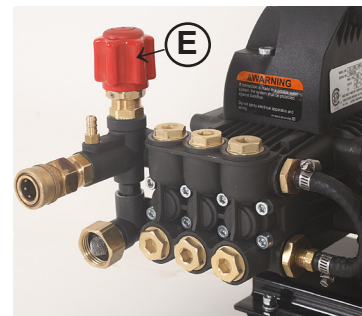
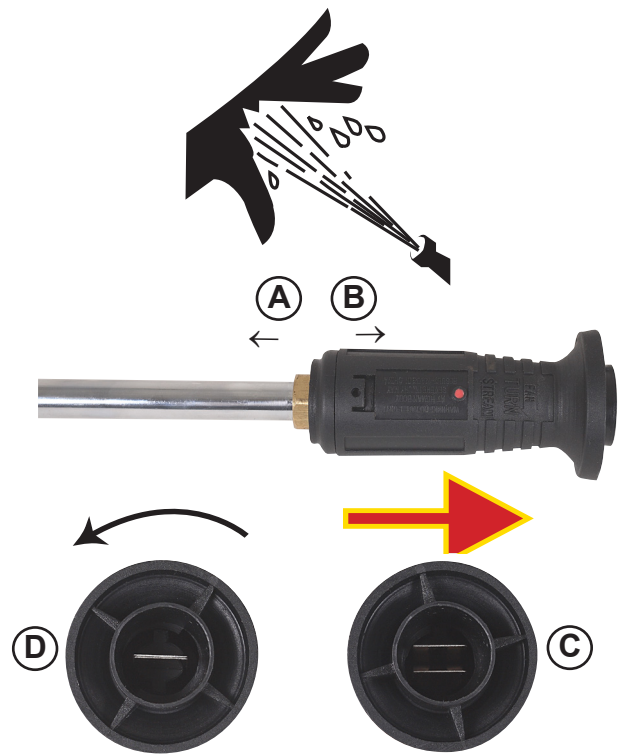
Pressure Adjustments:

1. For high pressure spray pull nozzle cover toward the gun handle (A).
2. For detergent spray push nozzle cover away from gun handle (B). In this position, nozzle sprays at low pressure and draws detergents into the system if the detergent the hose is attached and in solution.

Pattern Adjustment:

1. For 0° Pinpoint Pattern-Turn nozzle fully clockwise (C).
2. For 60° Fan-Type Pattern-Turn nozzle cover fully counterclockwise (D).
3. For Infinite Adjustment-Turn nozzle for desired spray pattern anywhere between 0° and 60°.

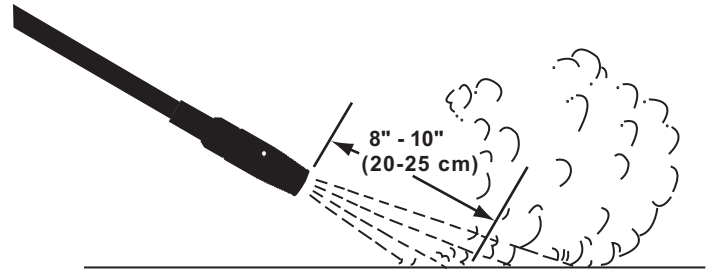
In the high pressure spray position, water pressure can be varied by turning the pressure adjusting knob (E) clockwise to increase pressure and counterclockwise to decrease pressure.



CLEANING HORIZONTAL SURFACES

Move nozzle wand from side to side. Direct spray at an angle to force debris ahead and away from the cleared area.

Depending on the material to be removed and nozzle pressure, hold nozzle end 8 to 10 inches (20 to 25 cm) from the surface and use slow, overlapping strokes. If debris is easy to remove, move nozzle back to cover more area for faster cleaning.



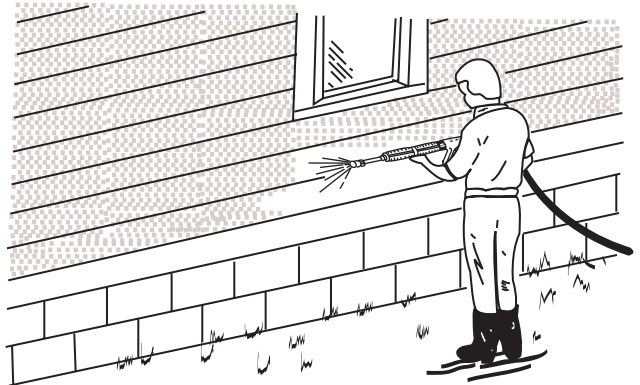
CLEANING VERTICAL SURFACES

IMPORTANT: Remember that the washer can deliver a high pressure spray that can break glass and gouge soft wood and other materials.

When cleaning building interiors or exteriors without detergents, work from top to bottom. This will help eliminate streaks. In interiors, start with the ceiling first, then the walls and the floor last.

Clean around windows carefully. If glass panes are not well-caulked and puttied, the high pressure spray could break the glass.

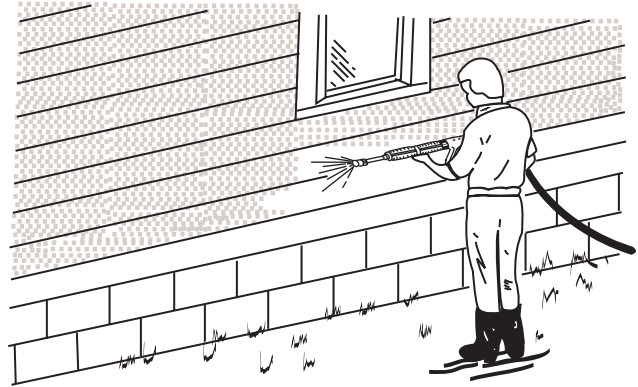
Never spray directly overhead. Always spray ahead to avoid dripping or falling debris.



REMOVING PAINT

IMPORTANT: Remember that high pressure spray can gouge soft woods and other materials, as well as loosen grout.

1. Place nozzle end in high pressure position and very narrow spray pattern.
2. Direct spray at a 45° angle about 4 to 12 inches (10 to 30 cm) from surface.
3. Spray in a back and forth motion, try to get beneath the loose and bubbled paint.
4. Do not be concerned with the paint that remains. It should be sufficiently bonded so as not to cause repainting problems.
5. Some remaining paint may curl up at the edges. These edges should be scraped with a steel brush or scraper just before painting.



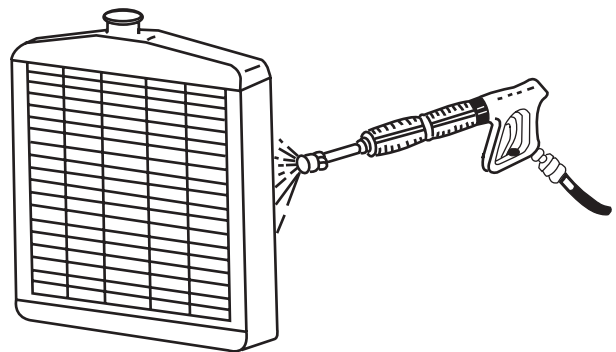
CLEANING RADIATOR FINS

IMPORTANT: Some engine and radiator manufacturers may not permit cleaning radiators with a high pressure washer. See equipment Operator's Manual.

1. Use clean water without detergent.

IMPORTANT: Spray straight into the radiator to prevent bending fins.

2. If possible, direct spray in the direction opposite to normal air flow through the radiator.



DETERGENT USAGE GUIDE



CAUTION: Use detergents carefully. Read labels thoroughly and follow all instructions for preparation, use, safety, transportation and disposal. Be prepared to tell a physician exactly what detergents you are using in the event of an emergency. Keep all detergents out of reach of children.

Be aware that two detergents can be mixed on the sprayed surface. In this regard, some detergents may give off harmful fumes or start an unpredictable chemical reaction when mixed with another detergent.

NEVER SPRAY FLAMMABLE LIQUIDS such as gasoline, fuel oil, alcohol, naphtha, etc.

Be sure to read and follow all detergent labels exactly regarding preparation, use, safety, transportation, and disposal. Keep in mind that the washer's detergent system further dilutes the detergent with water, and that some detergents may not be concentrated enough to properly work with the system.

Some detergents may not give premix instructions and may require experimenting to determine proper dilution for your application.

If you are not familiar with the detergent, always test a small area of the surface to be cleaned for adverse reaction. Do this a day in advance. Thoroughly rinse area with water.



CLEANING WITH DETERGENTS

CAUTION: Wear goggles, respirator, and protective clothing to help prevent injury from detergents and spray.

IMPORTANT: DO NOT direct pressure washer spray at the washer.

1. Mix detergent as instructed by the manufacturer.
2. Be sure that water supply is adequate and turned on fully.
3. Slide detergent hose (B) onto barbed detergent valve (A).
4. Insert threaded end of detergent strainer (C) into detergent hose (B).
5. Insert detergent hose into solution. Be sure that hose is clear and fully submerged in solution.

IMPORTANT: The detergent system will work only if the nozzle is in the low pressure position.

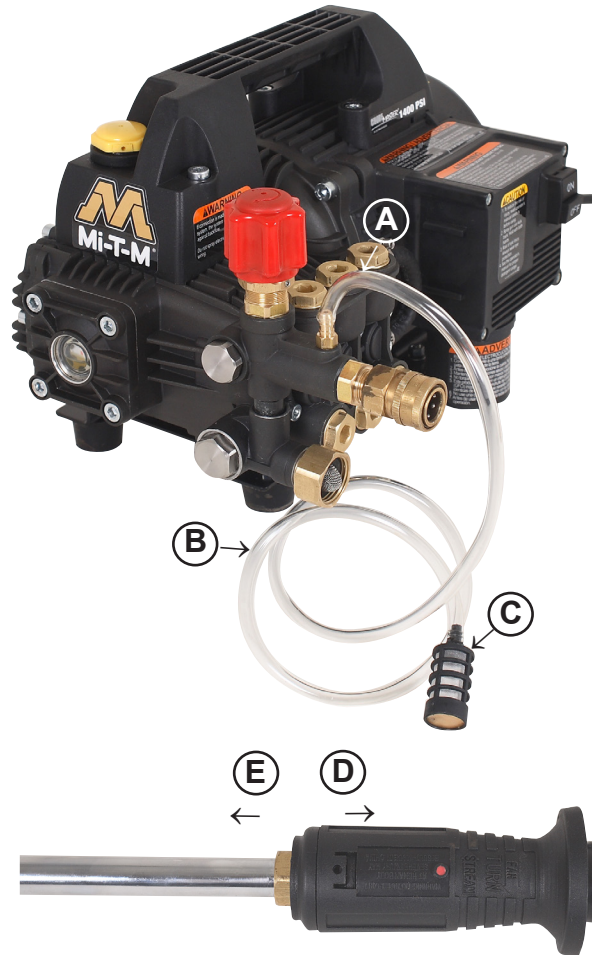
6. Slide nozzle collar forward (D) into the low pressure position.
7. Start washer and squeeze gun trigger. If detergent does not spray within one minute, check to make sure the detergent hose is in the solution and is not plugged.
8. To help avoid streaking, apply detergent to the lowest surface first, and move up, using long overlapping strokes. Allow solution to soak for several minutes.

IMPORTANT: Remember that high pressure spray can gouge soft woods, damage other materials and loosen grout.

9. Slide nozzle collar to the rear (E) to place in high pressure position. With the nozzle approximately 6 to 10 inches (15 to 25 cm) and at an angle to the surface, power rinse the area from the top down.

10. If surface is not clean, repeat above procedures.

IMPORTANT: To avoid damage and contamination with other detergents, siphon a gallon (3.78 L) of clear water through the system after each use.



SHUTDOWN

IMPORTANT: Shutdown procedures should be followed at the end of each cleaning operation.

1. If a detergent was used, place detergent inlet strainer in CLEAN water and operate trigger to spray water for a period of three minutes. This will flush the system of detergents and help prevent the detergent valve from sticking or corrosion.
2. Turn unit off and unplug washer.
3. Turn inlet water supply off. Squeeze trigger momentarily to relieve pressure. Disconnect hoses.
4. Allow motor to cool, then wipe washer down with a damp cloth.

Troubleshooting

Symptom	Problem	Solution
Low Nozzle Pressure.	Unit not properly primed.	Prime unit.
	Insufficient inlet water supply.	Check water supply requirements. (See Service Section.)
	Partially plugged water inlet screen.	Clean inlet screen. (See Service Section.)
	Kink in water inlet hose.	Remove kink.
	Nozzle set for low pressure.	Slide wand collar rearward.
	Worn nozzle.	Replace nozzle.
	Worn pump components.	Contact your customer service.
	Unloader valve recirculating.	Contact your customer service.
No Pressure or Fluid at Nozzle.	Unit not properly primed.	Prime unit.
	Plugged water inlet screen.	Clean or replace inlet screen.
	Kink in water inlet hose.	Remove kink.
	Closed water supply.	Turn on water supply. Check supply hose for leaks or blockage.
	Plugged nozzle.	Inspect and clean or replace nozzle.
	Unloader valve recirculating.	Contact your customer service.
Pump Surges or Fluctuates, Giving Low Nozzle Pressure.	Pump unit not properly primed.	Prime pump.
	Insufficient inlet water supply.	Check water supply requirements.
	Plugged nozzle.	Inspect and clean or replace nozzle.
	Internal pump problem.	Contact your customer service.
	Unloader valve recirculating.	Contact your customer service.
	Air in system (after priming).	Contact your customer service.
Motor Will Not Come On When Switch is Pressed.	No power at receptacle.	Check electrical power fuse or circuit breaker.
	Motor overload protector (on/off switch) tripped.	Allow motor to cool and try again. Check voltage requirements. Contact your customer service if condition persists.
	Switch malfunction.	Contact your customer service.
	Faulty motor.	Contact your customer service.

Troubleshooting

Symptom	Problem	Solution
Motor Shuts Off - GFCI Trips.	Power interruption.	Reset GFCI. If problem continues, contact your customer service or have electrical system checked by a qualified electrician.
	Electrical short in power cord or in washer.	Reset GFCI. Try again. If problem persists, do not operate. Contact your customer service.
Motor Shuts Off - Trips On-Off Switch.	Excessive discharge pressure caused by partially clogged nozzle.	Inspect and clean or replace nozzle.
	Low voltage.	Check electrical system requirements. Check extension cords for proper gauge.
Water Continues to Flow from Nozzle after Gun Trigger is Released.	Internal pump malfunction.	Contact your customer service.
	Spray gun valve malfunction.	Replace gun.
Motor Hums - Does Not Turn.	Pump plungers - sticking to packing due to drying.	Use a 4 mm hex wrench to manually turn and free pump. (See Service Section.)
	Motor malfunction.	Contact your customer service.
Fan Spray is uneven or distorted.	Clogged nozzle.	Clean nozzle. (See Service Section.)
	Clogged fan spray shutters.	Clean fan shutters.
Pump Oil is Milky or White.	Water in oil.	Change oil. Do not direct spray at washer.
Does not draw soap.	Nozzle not in "soap" position.	Push adjustable collar forward. (See "Adjusting Spray Nozzle Pressure Pattern".)
	Too many hose extensions in use.	Use only one hose extension.

Service

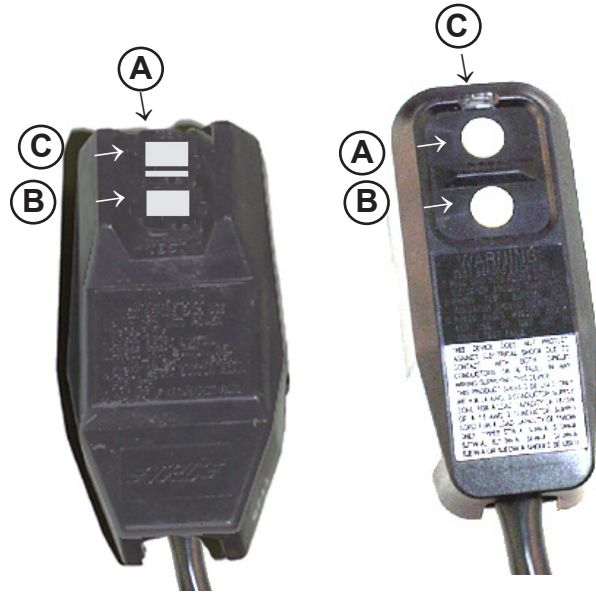
TESTING GROUND FAULT CIRCUIT INTERRUPTER (GFCI)

CAUTION: Ground Fault Circuit Interrupter (GFCI) **MUST** be tested before each use of the washer.

If the results in each one of the following steps is not as described, shut washer off immediately. **DO NOT** operate until the washer has been inspected by a qualified electrician or your dealer.

1. Plug GFCI into grounded receptacle. Connect high pressure outlet hose and turn on water supply.
2. Press and release “RESET” button (A) to verify power to the washer.
3. Press “TEST” button (B). Red indicator bar (C) on reset button should appear. (Power to the washer should be interrupted.)
4. Press and release the “RESET” button. Power should be restored to the washer.

NOTE: GFCI test instructions are also found on the front of the GFCI.



CLEANING INLET WATER

CAUTION: Disconnect power cord from electrical receptacle before cleaning inlet screen.

IMPORTANT: Do not operate washer with water inlet screen removed. Foreign material may enter and damage pump or valves.

Inspect the water inlet screen (A) (inside brass fitting) periodically for buildup of scale, grit and dirt. Clean as necessary. If it is corroded or broken, replace.



CLEANING DETERGENT HOSE STRAINER

Check detergent hose strainer for detergent or contaminant buildup.

Remove strainer from hose and back flush with clean water and a stiff bristle brush.

NOTE: If strainer frequently becomes plugged, check detergent to be sure it is thoroughly mixed.



CHECKING WATER PUMP OIL LEVEL

IMPORTANT: If oil is white or foaming, water is in the oil reservoir. Change oil.

NOTE: Water in oil occurs as a result of spray or condensation. Milky oil is not indicative of a pump malfunction.

1. Put unit on level surface.
2. Oil level should be at the center of sight glass (A).
3. Add oil if necessary with SAE30W non-detergent. Do not overfill.



CHANGING WATER PUMP OIL

IMPORTANT: Change pump break-in oil after first 25 hours of operation and at 250 hour intervals thereafter.

1. Place unit on level surface.
2. Run unit for a few minutes to warm oil.
3. Stop washer. Use an 22 mm deep well socket to remove drain plug (A) to drain oil into container. Install plug. Do not pollute; dispose of waste oil properly.



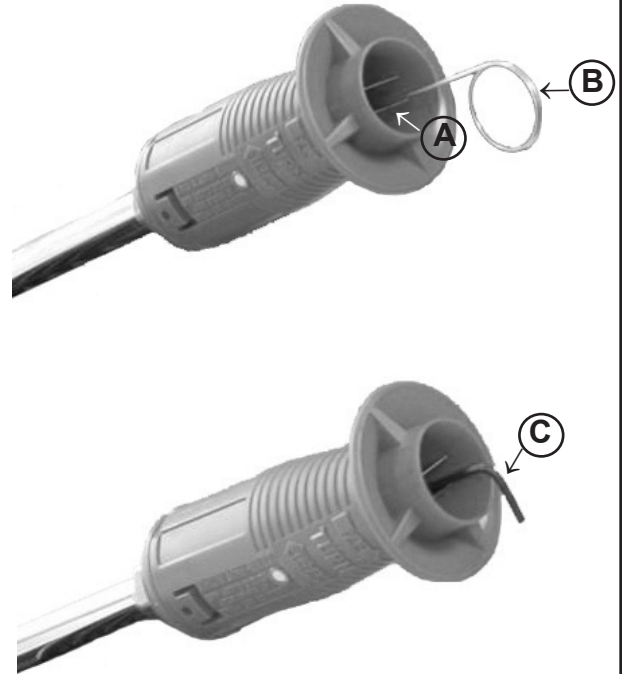
4. Remove vented plug (A). Fill pump with 11 oz. SAE30W non-detergent oil. Oil level should be at the center of sight glass. Replace plug.



CLEANING OR REPLACING NOZZLE ORIFICE

CAUTION: To avoid injury from high pressure spray, nozzle wand **MUST** be disconnected from gun before servicing.

1. Rotate nozzle collar (A) to open shutter.
2. Insert cleaning tool (B) (provided) into orifice and turn.
3. Flush nozzle wand with water.
4. If nozzle can not be cleaned thoroughly, insert a 2.0 mm hex wrench (C) (provided) into orifice, turn counterclockwise and remove orifice.
5. Check orifice for wear or damage; clean or replace if necessary.

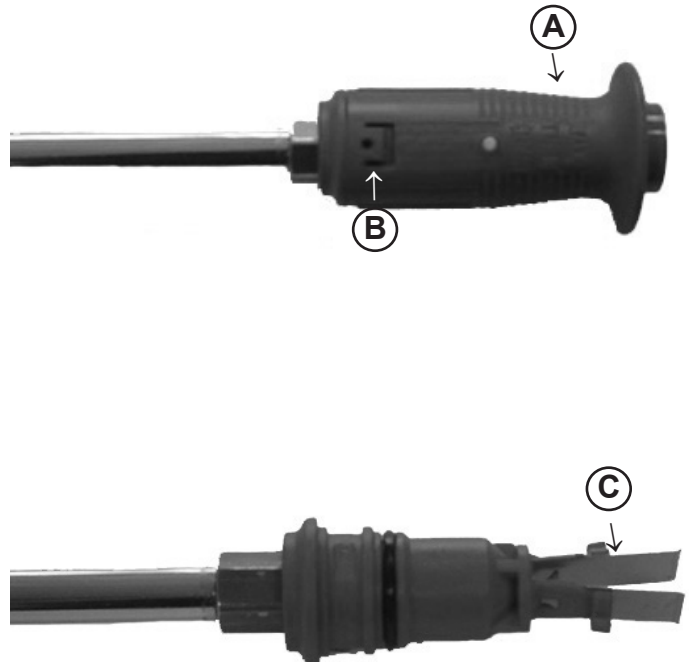


CLEANING OR REPLACING ADJUSTABLE FAN SHUTTERS

CAUTION: To avoid injury from high pressure spray, nozzle wand **MUST** be disconnected from gun before servicing.

CAUTION: Fan shutter metal edges are extremely sharp. Wear gloves.

1. Slide nozzle collar rearward.
2. Gently pry tabs (B) open and remove nozzle end (A).
3. Clean regulator and fan shutter assembly (C).
4. Squeeze nozzle end tabs inward, and slide nozzle end back over nozzle assembly.



Storage

STORING WASHER

IMPORTANT: Protect washer from freezing temperatures. If unit will experience freezing conditions, pump must be filled with antifreeze to prevent cracking of pump manifold and unloader valve due to water expansion. Draining alone will not remove all the water.



CAUTION: If the washer will be used where food is prepared, stored or consumed, or where sanitation is required, use a nontoxic antifreeze.

NOTE: This operation requires two people: one to operate washer and one to add antifreeze.

1. Install short piece (2 to 4 feet long) garden hose on water inlet.
2. Raise open end of hose above washer and insert funnel.

IMPORTANT: Be careful not to kink hose.

3. Fill hose with 50 - 50 mix of antifreeze.
4. While adding antifreeze, start washer, depress spray gun trigger, and let run for 15 seconds.
5. Release trigger for 15 seconds.

NOTE: Trigger must be released to pull antifreeze into unloader valve.

6. Repeat cycle of 15 seconds trigger on, 15 seconds trigger off.

IMPORTANT: Dispose of sprayed solution safely according to instructions on the antifreeze container.



REMOVING WASHER FROM STORAGE

IMPORTANT: Before starting unit, thaw out any possible ice from wand, gun or hose.

1. Connect and open water supply. Squeeze trigger on gun. Allow water to run (without motor running) until water runs out of pressure hose.
2. If unit was stored with antifreeze solution, purge solution from washer, before using. Dispose of sprayed solution safely according to instructions on the antifreeze container.

Specifications

SPECIFICATIONS

ITEM	SPECIFICATION
Water Pump	1.5 GPM (6.62 L/min) 1400 PSI (96.5 Bar) (9652 kPa) at pump
Electric Motor	120 volts, 15 amps, single phase, 60 Hertz, 1.5 HP, 1725 RPM, thermal-protected manual reset.
Electrical Power Requirements.....	Voltage at power supply with washer running must be greater than 108 VAC.
Water Supply Requirements	Inlet water supply pressure - 20 PSI (1.4 Bar) minimum Inlet water supply volume - 3 GPM (11.4 L/m) minimum Inlet water supply hose - 5/8 in. (15.9 mm) minimum I.D. 50 ft. (15.2 m) maximum length Cold water only
Discharge Hose	25 ft. x 3/8 in. (7 m x 6.4 mm) minimum 3000 PSI (207 Bar) working pressure, acid and oil resistant
Power Cord.....	35 ft. (10.7 m), 14 gauge, 3 conductor, water resistant, with ground fault circuit interrupter (GFCI).
Nozzle Wand.....	Nozzle size -- .037 in. (0.95 mm) Color of dot - Pink

RECORD SERIAL NUMBER

Write you model number, machine serial number (see serial number tag (A) in illustration) and date of purchase in the spaces provided below. Your dealer needs this information when ordering parts.

Model No. _____

Machine Serial No. _____

Date of Purchase _____
(To be filled in by purchaser)



Accessories

HIGH PRESSURE HOSE: 851-0007

IMPORTANT: DO NOT use more than 1 extension hose. The higher restriction will cause unloader valve to function all the time.

One additional pressure hose may be connected to the existing hose. This allows the operator to move around a greater distance without moving unit.



WATER FILTER: 851-0207

Use when water supply is a rural well or a static draw to help filter incoming water.



WAND EXTENSION: 50-0180

The wand extension adds 24 inches between the gun and nozzle wand to help reach hard to reach places.



ROTATING BRUSH: 50-0179

Water pressure and low act against gears to turn the brushes. When used with the detergent system, the brush scrubs the dirt away.



ROTATING NOZZLE W/LANCE:

18-0369 - 1.20 mm

18-0370 - 1.25 mm

18-0371 - 1.40 mm

The rotating high pressure nozzle provides a rotating 0° spray that helps dislodge dirt and debris.





STATEMENT OF WARRANTY

The manufacturer warrants all parts, (except those referred to below), of your new pressure washer to be free from defects in materials and workmanship during the following periods:

For One (1) Year from the date of original purchase:

High Pressure Pump
Regulating Valve
GFCI

For Ninety (90) days from the date of original purchase:

Trigger Gun High Pressure Hose
Variable Wand Strainer/Filters
On/Off Switch

Defective parts not subject to normal wear and tear will be repaired or replaced at our option during the warranty period. In any event, reimbursement is limited to the purchase price paid.

EXCLUSIONS

1. Normal wear parts:

Pump Packings Spray Nozzles
Pump Valves Screw Connects
Detergent Valves O-rings

2. This warranty does not cover parts damaged due to normal wear, misapplication, misuse, operation at other than recommended speeds, pressures or temperature. Parts damaged or worn because of the use of caustic liquids or by operation in abrasive or corrosive environments or under conditions causing pump cavitation are not warranted. Failure to follow recommended operating and maintenance procedures also voids warranty.

3. The use of other than genuine manufacturer repair parts will void warranty.

4. Warranty will be void if used in any application other than consumer/homeowner. Parts returned, prepaid to our factory or to an Authorized Service Center will be inspected and replaced free of charge if found to be defective and subject to warranty. There are no warranties which extend beyond the description of the face hereof. Under no circumstances shall the manufacturer bear any responsibility for loss of use of the unit, loss of time or rental, inconvenience, commercial loss or consequential damages.

For Service or Warranty Consideration, contact
Mi-T-M Corporation, 50 Mi-T-M Drive, Peosta, IA 52068-0050
563-556-7484 / 800-553-9053 / Fax 563-556-1235
Monday - Friday 8:00 a.m. - 5:00 p.m. CST

Notes