

Our associates will ensure the tool works properly before you leave the store. If you experience issues with the tool while completing your project, simply bring it back to the Tool Rental Center to get a replacement. If you purchase Damage Protection at the time of your rental, you are not responsible for repair costs for tools that break due to normal use.





***CA-SERIES***  
OPERATION MANUAL  
COLD WATER DIRECT DRIVEN  
PRESSURE WASHER

***PARTS LIST***



CAUTION  
RISK OF INJURY!


READ MANUAL BEFORE OPERATING!

This manual is an important part of the pressure washer and must remain with this unit!


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## **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](http://www.P65Warnings.ca.gov)

## **WARNING**

 **WARNING:** This product can expose you to chemicals including carbon monoxide, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

## INTRODUCTION

Congratulations on the purchase of your new pressure washer! You can be assured your new pressure washer was constructed with the highest level of precision and accuracy. Each component has been rigorously tested by technicians to ensure the quality, endurance and performance of this unit.

This operator's manual was compiled for your benefit. By reading and following the simple safety, installation, operation, maintenance and troubleshooting steps described in this manual, you will receive years of trouble free operation from your new pressure washer. The contents of this manual are based on the latest product information available at the time of publication. Mi-T-M® reserves the right to make changes in price, color, materials, equipment, specifications or models at any time without notice.

### **! IMPORTANT !**

**THESE PARAGRAPHS ARE SURROUNDED BY A "SAFETY ALERT BOX". THIS BOX IS USED TO DESIGNATE AND EMPHASIZE SAFETY WARNINGS THAT MUST BE FOLLOWED WHEN OPERATING THIS PRESSURE WASHER. ACCOMPANYING THE SAFETY WARNINGS ARE "SIGNAL WORDS" WHICH DESIGNATE THE DEGREE OR LEVEL OF HAZARD SERIOUSNESS. THE "SIGNAL WORDS" USED IN THIS MANUAL ARE AS FOLLOWS:**

**DANGER: INDICATES AN IMMINENTLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, WILL RESULT IN DEATH OR SERIOUS INJURY.**

**WARNING: INDICATES A POTENTIALLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, COULD RESULT IN DEATH OR SERIOUS INJURY.**

**CAUTION: INDICATES A POTENTIALLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED MAY RESULT IN MINOR OR MODERATE INJURY.**

**THE SYMBOLS BELOW THIS PARAGRAPH ARE "SAFETY ALERT SYMBOLS". THESE SYMBOLS ARE USED TO CALL ATTENTION TO ITEMS OR PROCEDURES THAT COULD BE DANGEROUS TO YOU OR OTHER PERSONS USING THIS EQUIPMENT.**



**ALWAYS PROVIDE A COPY OF THIS MANUAL TO ANYONE USING THIS EQUIPMENT. READ ALL INSTRUCTIONS BEFORE OPERATING THIS PRESSURE WASHER AND ESPECIALLY POINT OUT THE "SAFETY WARNINGS" TO PREVENT THE POSSIBILITY OF PERSONAL INJURY TO THE OPERATOR.**

Once the unit has been removed from the box, immediately write in the serial number of your unit in the space provided below.

**SERIAL NUMBER** \_\_\_\_\_

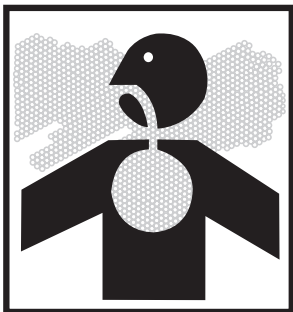
Inspect for signs of obvious or concealed freight damage. If something appears to be damaged, file a claim with the transportation company immediately. Be sure that all damaged parts are replaced and that the mechanical problems are corrected prior to operation of the unit. If you require service, contact a Mi-T-M Customer Service Representative at 800-553-9053.

Please have the following information available for all service calls:

1. Model Number
2. Serial Number
3. Date and Place of Purchase

Mi-T-M® Corporation  
50 MI-T-M Drive  
Peosta, IA 52068-0050

## IMPORTANT SAFETY WARNINGS



### FIRE & VENTILATION PRECAUTIONS:

1. This unit was designed for outdoor use only. NEVER operate this unit in an enclosed area. ALWAYS make certain there is adequate air (oxygen) for combustion as well as ventilation to prevent the presence of poisonous carbon monoxide gases. Beware of poorly ventilated areas or exhaust fans which can cause inadequate combustion or engine overheating.
2. NEVER operate this unit in the presence of flammable vapors or combustible dust, gases or other combustible materials. (A spark may cause an explosion or fire.) When servicing this machine, be especially careful to properly dispose of any flammable materials. DO NOT spray flammable liquids.
3. ENGINE FUEL TANK:
  - a. DO NOT SMOKE WHILE FILLING ENGINE FUEL TANK
  - b. NEVER fill the engine fuel tank while the unit is running or hot. Allow the engine to cool two minutes before refueling.
  - c. DO NOT refuel indoors or in a poorly ventilated area.
  - d. ALWAYS refuel slowly to avoid the possibility of spilled fuel which may cause a risk of fire.
4. DO NOT operate the unit if gasoline is spilled. Wipe unit clean and move the unit away from the spill. Avoid creating any ignition until the gasoline has evaporated.
5. DO NOT store the unit near an open flame or any equipment such as a stove, furnace, water heater, etc., which utilizes a pilot light or devices which can create a spark.

---

### IMPORTANT

The following is required by California State law, Section 4442 of the California Public Resources Code. Other states may have similar laws. Federal laws apply on federal lands.



**A SPARK ARRESTER MUST BE ADDED TO THE MUFFLER OF THIS ENGINE IF IT IS TO BE USED ON ANY FOREST COVERED, BRUSH COVERED OR GRASS COVERED UNIMPROVED LAND. THE ARRESTER MUST BE MAINTAINED IN EFFECTIVE WORKING ORDER BY THE OPERATOR.**

See your engine or equipment dealer for spark arrester muffler options.

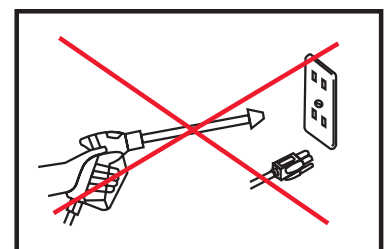
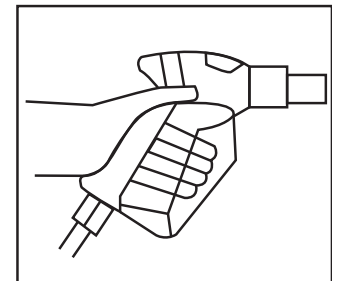
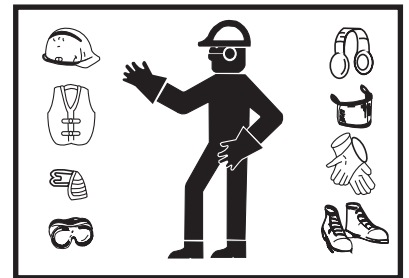
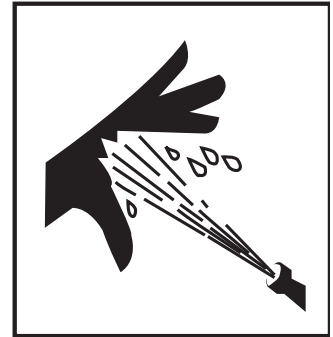
## IMPORTANT SAFETY WARNINGS

### SPRAY PRECAUTIONS:



**DANGER: RISK OF INJECTION OR SEVERE CUTTING INJURY! KEEP CLEAR OF NOZZLE! DO NOT DIRECT DISCHARGE STREAM AT PERSONS OR PETS! ONLY TRAINED OPERATORS SHOULD USE THIS PRODUCT. WHEN OPERATING THIS UNIT, BASIC PRECAUTIONS SHOULD ALWAYS BE OBSERVED INCLUDING THE FOLLOWING:**

1. KEEP AWAY FROM THE SPRAY:
  - a. Because of the high pressure and velocity of the spray, fluids can penetrate the skin, causing serious injury.
  - b. Never point the gun at yourself or anyone else. Never put your hand, fingers or body directly over the spray nozzle. Always keep operating area clear of all persons. Use extreme caution when operating near children.
  - c. 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.
2. ALWAYS wear protective goggles when operating the unit to shield the eyes from flying debris and detergents. Other protective equipment such as rubber suits, gloves and respirators are advisable, especially when using cleaning detergents. Use extreme caution when operating near children.
3. Stay alert-watch what you are doing. Do not operate the unit when fatigued or under the influence of alcohol or drugs.
4. NEVER squeeze the trigger unless securely braced. The thrust from the water traveling through the nozzle may be powerful enough to cause the operator to lose balance if unprepared. DO NOT overreach or stand on unstable support. Wet surfaces can be slippery, wear protective foot gear and keep good footing and balance at all times. NEVER trigger the gun while on a ladder or roof.
5. Caution should be used when directing spray toward fragile materials such as glass. Shattering could result in serious injury.
6. ALWAYS hold on firmly to the gun/wand assembly when starting and operating the unit. Failure to do so can cause the wand to fall and whip dangerously. NEVER operate the gun with the trigger wired in the open position. To prevent accidental discharge, the trigger gun should be securely locked when not in use.
7. DO NOT direct spray on or into electrical installations of any kind! This includes electrical outlets, light bulbs, fuse boxes, transformers, etc. Severe electrical shock may occur.
8. Even after you shut off the unit, there is high pressure water left in the pump, hose and gun until you release it by triggering the gun. Before removing the spray nozzle or servicing the unit, ALWAYS shut off the unit and trigger the gun to release trapped pressure.



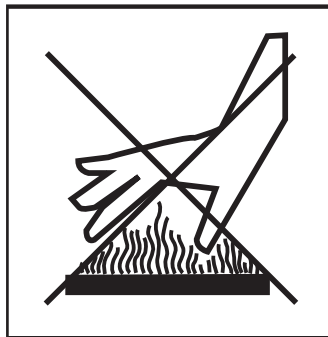
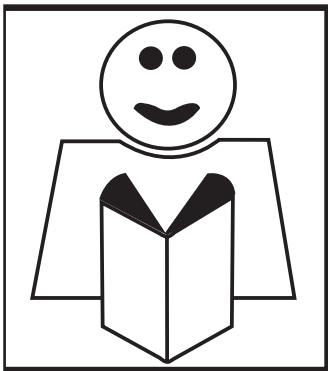
## IMPORTANT SAFETY WARNINGS

### DETERGENT CLEANING PRECAUTIONS:

1. DO NOT use solvents or highly corrosive detergents or acid type cleaners with this pressure washer. Use only Mi-T-M detergents.
2. KNOW YOUR DETERGENTS! Be prepared to tell a physician exactly what you are using in the event of an emergency. Read the Material Safety Data Sheet (MSDS) provided with your detergent and all detergent labels. Follow all appropriate instructions regarding preparation use, safety and transportation. Keep ALL detergents out of the reach of children.
3. DO NOT use this pressure washer to dispense hazardous detergents.
4. DO NOT alter the detergent injection feature in any manner not prescribed in this manual. Use only genuine Mi-T-M replacement parts for necessary repairs.

### MISCELLANEOUS SAFETY PRECAUTIONS:

1. NEVER ALLOW CHILDREN OR ADOLESCENTS TO OPERATE THIS UNIT!
2. Read and follow all handling, operations, maintenance and safety instructions listed in this manual and the Engine Operator's manual that accompanies this unit, and provide such information to ANYONE who will be operating this unit.
3. In freezing temperatures, the unit must always be warm enough to ensure there is no ice formation in the pump. DO NOT start this unit if it has been transported in an open or underheated vehicle without first allowing the pump to thaw.
4. When connecting the water inlet to the water supply mains, local regulations of your water company must be observed. In some areas the unit must not be connected directly to the public drinking water supply. This is to ensure that there is no feedback of the detergents into the water supply. (Direct connection is permitted if a back flow preventer is installed.)
5. DO NOT allow any part of your body or the high pressure hose to make contact with the muffler. Avoid dragging the hose over an abrasive surface such as cement. This causes wear and eventual rupturing.
6. High pressure hoses should be inspected daily for signs of wear. If evidence of failure exists, promptly replace all suspect hoses to prevent the possibility of injury from the high pressure spray. If a hose or fitting is leaking, NEVER place your hand directly on the leak.
7. DO NOT operate the unit without all protective covers in place.
8. NEVER run the unit with the governor disconnected or operate at excessive speeds.
9. To reduce the risk of injury, maintain a safe distance for persons while operating this unit. Close supervision is necessary when operating the unit near children.
10. DO NOT leave pressurized unit unattended. Shut off the unit and release trapped pressure before leaving.
11. DO NOT move the unit by pulling on the hose.



## IMPORTANT SAFETY WARNINGS

### ADJUSTMENT PRECAUTIONS:

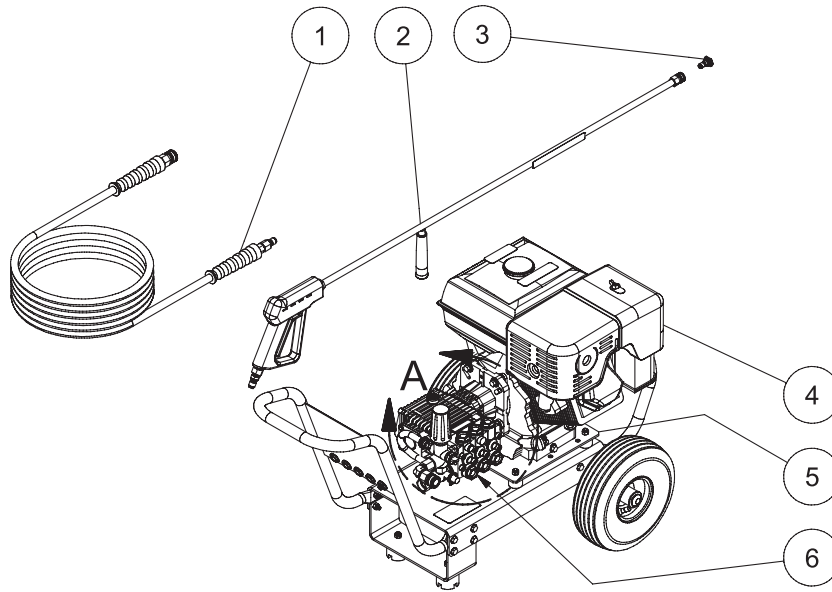
1. NEVER alter or modify the equipment, be sure any accessory items and system components being used will withstand the pressure developed. Use ONLY genuine Mi-T-M parts for repair of your pressure washer. Failure to do so can cause hazardous operating conditions and will void warranty.
2. NEVER make adjustments to the machinery while it is connected to the engine without first removing the ignition cable from spark plug. Turning the machinery over by hand during adjustment or cleaning might start the engine and machinery with it, causing serious injury to the operator.
3. Know how to stop the pressure washer and bleed pressures quickly. Be thoroughly familiar with controls.
4. Before servicing the unit; turn the unit off, relieve the water pressure, and allow the unit to cool down. Do not make repairs while unit is running. Service in a clean, dry, flat area. Block the wheels to prevent the unit from moving.
5. Follow the maintenance instructions specified in this manual.



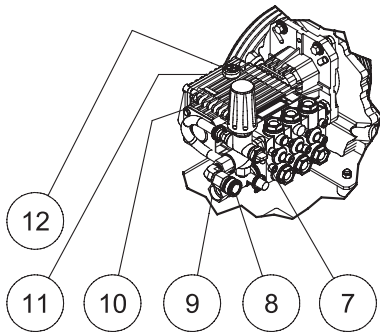
**! SAVE THESE INSTRUCTIONS !**



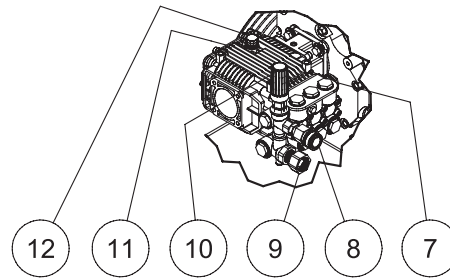
# FEATURES



UNLOADER W/BYPASS



BOLT-ON UNLOADER



CA 3504-1MHB FEATURES 021612

- 1. High Pressure Discharge Hose
- 2. Gun Assembly
- 3. Quick Connect Nozzle
- 4. Engine
- 5. Vibration Isolation Plate
- 6. Pump

- 7. Thermal Relief Valve
- 8. Water Outlet
- 9. Water Inlet
- 10. Adjustable Unloader Knob
- 11. Oil Sight Glass
- 12. Oil Dipstick

## SAFETY DECALS



**WARNING: DO NOT REMOVE SAFETY DECALS FROM UNIT UNLESS REPLACING WITH MOST CURRENT SAFETY DECAL!!!**

Decal: Caution-Engine Fuel (Part #34-0599)

<b>⚠ CAUTION/PRECAUCIÓN</b>	
<p><b>RISK OF FIRE</b> Do not add fuel when product is operating. Allow engine to cool for two (2) minutes before refueling. 34-0599/07262012</p>	<p><b>RIESGO DE FUEGUE</b> No ponga combustible cuando el producto este en operacion. Permita que el motor se enfrie por 2 minutos antes de reabastecer de combustible.</p>

Decal: Warning-Risk of Injection (Part #34-1253)

<b>⚠ WARNING</b>	<b>⚠ ADVERTENCIA</b>
<p><b>RISK OF INJECTION OR SEVERE INJURY</b> Never put your hand, fingers or body directly over the spray nozzle. 34-1253/07272012</p>	<p><b>RIESGO DE INYECCIÓN O LESIÓN SEVERA</b> Nunca coloque la mano, los dedos o el cuerpo directamente sobre la boquilla de rocío.</p>

Decal: Warning-Muffler Hot (Part #34-0598)

<b>⚠ WARNING/ADVERTENCIA</b>	
<p><b>RISK OF BURNS</b> Muffler and adjacent areas may exceed 150°F. 34-0598/07262012</p>	<p><b>RIESGO DE QUEMAR</b> El amortiguador y las areas adyacentes pueden Tener temperaturas por arriba de 65°C.</p>

Decal: Warning/Caution/Operating Statements (Part #34-1244)

<b>⚠ WARNING/ADVERTENCIA</b>	<b>⚠ CAUTION/PRECAUCION</b>	<b>OPERATION/OPERACION</b>
<ul style="list-style-type: none"> <li>•Risk of injection or severe injury. Keep clear of nozzle do not direct spray toward any person or self.</li> <li>•Risk of asphyxiation. Outdoor use only required.</li> <li>•Risk of fire. Do not smoke while refueling. Allow to cool two to three minutes before refueling. Do not operate while refueling.</li> <li>•Risk of electrocution. Do not direct spray toward any electrical connections, outlets or power lines.</li> <li>•Risk of explosion. Do not spray flammable liquids.</li> <li>•Risk of Injury. Use only properly rated equipment.</li> </ul>	<ul style="list-style-type: none"> <li>•To reduce risk of injury: read and understand the operation manual and all instructions before using.</li> <li>•Stay alert: hold onto gun/wand firmly with both hands to avoid dangerous kickbacks.</li> <li>•Always wear eye protection.</li> <li>•Do not overreach or stand on unstable support. Keep good footing and balance at all times.</li> <li>•Always turn on water supply to pump before starting.</li> <li>•Protect pump from freezing.</li> <li>•Engage trigger safety lock-off when not in use.</li> </ul>	<ul style="list-style-type: none"> <li>•After ensuring all connections are secure, open inlet water supply completely. Do not operate without water. Do not use water that is over 125 °f.</li> <li>•With gun locked, remove nozzle. Point gun in a safe direction. Brace wand securely to avoid recoil. Squeeze trigger open. Steady the unit and start by pulling on the starter rope.</li> <li>•After engine is running, lock gun and insert desired nozzle. Point gun in a safe direction. Unlock gun and squeeze trigger to spray and release the trigger to stop spray.</li> <li>•After stopping the engine, always turn off water supply and squeeze trigger to release trapped pressure.</li> </ul>
<ul style="list-style-type: none"> <li>•Riesgo de inyeccion o lesion severa. Mantenga la boquilla despejada. No dirija el chorro hacia persona alguna o hacia usted.</li> <li>•Riesgo de asfixia: unicamente para uso en el exterior.</li> <li>•Riesgo de fuego: no fume mientras este reabastecimiento de combustible. Permita que el motor se enfrie dos o tres minutos antes del reabastecimiento. No opere el producto durante el reabastecimiento.</li> <li>•Riesgo de electrocucion: no directa el chorro hacia conexiones, electricas, tomas de corriente o lineas de alimentacion de corriente.</li> <li>•Riesgo de explosion: no rocíe líquidos inflamables.</li> <li>•Riesgo de lesion: use unicamente equip con clasificacion adecuada.</li> </ul>	<ul style="list-style-type: none"> <li>•Para reducir el riesgo de que ocurran lesiones: lea y entienda el manual de operacion y todas las instrucciones ante de usar el producto.</li> <li>•Permanezca alerta: sostenga la pistola vanilla firmemente con ambas mano para evitar golpes de retroceso peligrosos.</li> <li>•Use siempre proteccion ocular.</li> <li>•No se extienda demasiado o se pare en un apoyo inestable. Mantenga una buena posicion y balance todo el tiempo.</li> <li>•Antes de comenzar. Abra siempre el suministro de agua a la bomba.</li> <li>•Proteja la bomba de la congelacion.</li> <li>•Coloque el suguro del gatillo en la posicion apagado cuando no este usando el producto.</li> </ul>	<ul style="list-style-type: none"> <li>•Despues de asegurarse que todas las conexiones estan seguras. Abra la entrada del suministro de agua completamente no se opere sin agua. No se use con agua con temperaturas de mas de 125 °f.</li> <li>•Con la pistola asegurada. Remueva la boquilla apuntando la pistola hacia una direccion segura. Refutrese la vara para evitar que retroceda. Apriete el gatillo para abrirla. Mantenga la unidad quieta. Y comienze halando firmemente en la cuerda de iniciar.</li> <li>•Despues de que el motor este trabajando. Ajuste la boquilla a la posicion deseada. Apriete el gatillo para rociar y sueltelo para detener el rociado.</li> <li>•Despues de detener el motor. Cierre diempre el suministro del agua and apriete el gatillo para liberar la presion atrapada. 34-1244-E/S-021401-ENG.</li> </ul>

## INSTALLATION & PREPARATION



### ATTIRE:

Proper attire is essential to your safety. It is advised to utilize whatever means necessary to protect eyes, ears, and skin. Additional safety attire (such as respiratory mask) may be required when using detergent cleaning agents with this washer.



### DANGER RISK OF EXPLOSION OR FIRE!

**DO NOT PLACE UNIT IN AN AREA WHERE FLAMMABLE GAS VAPORS MAY BE PRESENT. A SPARK COULD CAUSE AN EXPLOSION OR FIRE!**



### RISK OF UNIT BURSTING!

**DO NOT STORE/OPERATE UNIT IN A FREEZING ENVIRONMENT!**



### WARNING RISK OF ASPHYXIATION!

**-DO NOT OPERATE IN AN ENCLOSED AREA. USE THIS PRODUCT ONLY IN WELL VENTILATED AREAS!  
-THE EXHAUST FROM THE ENGINE CONTAINS CARBON MONOXIDE, A POISONOUS, ODORLESS AND INVISIBLE GAS. BREATHING THIS GAS CAN CAUSE SERIOUS INJURY, ILLNESS & POSSIBLE DEATH.**



### DANGER RISK OF FIRE!

**-DO NOT SMOKE WHILE FUELING!  
-DO NOT FILL THE FUEL TANK WHILE UNIT IS RUNNING OR HOT. ALLOW UNIT & ENGINE TO COOL FOR TWO MINUTES BEFORE REFUELING.  
-DO NOT FILL FUEL TANK TO POINT OF OVERFLOWING. ALLOW APPROXIMATELY 1/4" OF TANK SPACE FOR FUEL EXPANSION.**



### WARNING RISK OF EXPLOSION OR FIRE!

**ALWAYS STORE FUEL AWAY FROM THE WASHER WHILE THE UNIT IS RUNNING OR HOT.**

### SETUP:

1. This unit should only be placed on a level surface to ensure proper lubrication for the engine and water pump while operating.
2. Do not use unit in an area:
  - a. with insufficient ventilation.
  - b. where there is evidence of oil or gas leaks.
  - c. where flammable gas vapors may be present.
3. Be certain to block the wheels to prevent the unit from moving while operating.
4. Do not allow the unit to be exposed to rain, snow or freezing temperatures. If any part of the unit becomes frozen, excessive pressure may build up in the unit which could cause it to burst resulting in possible serious injury to the operator or bystanders.
5. Before initial use, ensure the oil cap/dipstick is inserted into the pump. Because of varying shipping requirements, the pump may need to be shipped with an oil travel plug instead of the dipstick in the pump. If your pump has been shipped with an oil travel plug, you will need to remove it and replace the plug with the oil dipstick provided with the unit.
6. Once properly installed, check the oil level. Depending on your unit, either by the oil sight glass on the pump crankcase (be certain the oil level is in the center of the sight glass before each use) or by the dipstick. If the level appears to be low, add pump oil. (Refer to the parts listing for the correct pump oil) **DO NOT OVERFILL!**

### ENGINE FUEL TANK:

1. Review "Fire & Ventilation Precautions" pg. 4, before fueling.
2. Locate the Safety Decals on your unit and heed their warnings.
3. A minimum of 86 octane fuel is recommended for use with this unit. **DO NOT MIX OIL WITH GASOLINE.**
4. Purchase fuel in quantities that may be used within 30 days. Use of clean, fresh lead free gasoline is recommended. Leaded gasoline may be used if lead-free is unavailable. **DO NOT** use gasoline containing methanol or alcohol.
5. Check the engine oil level before starting the engine. (See engine manual.)
6. Fill the fuel tank according to accompanying engine manual instructions.
7. Occasional carburetor and choke adjustments will be necessary for the engine. Refer to the engine manual supplied with this unit for proper adjustment procedures.
8. Review the engine manual accompanying this pressure washer for correct engine start-up and maintenance procedures.

## INSTALLATION & PREPARATION

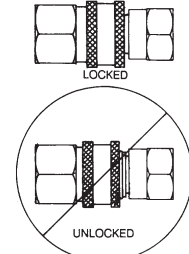
### NOZZLE REVIEW:

Various nozzles may be quick-connected into the end of the wand to change the spray pattern or use the detergent feature. When using Quick Connects (Q.C.), be certain the connection is securely locked. If not, the high pressure water may shoot the nozzle from the wand, causing severe injury or serious damage. To determine spray fan, refer to the actual number stamped on the nozzle. The first two digits indicate the spray fan in degrees, i.e.; 0=0°, 15=15°, 25= 25°, 65=detergent/low pressure.

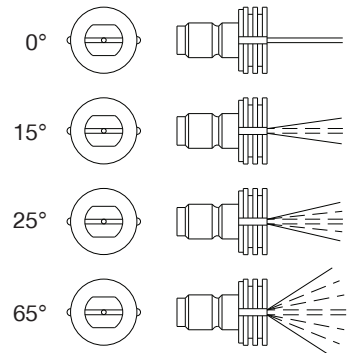
1. The 0° nozzle (RED): This is a blasting nozzle. It delivers a very concentrated stream of water. Be cautious when using the straight narrow stream. It is not recommended for use on painted or wood surfaces, or items attached with adhesive backings. Uses: Removing weeds from sidewalk cracks, stubborn stains from concrete, masonry, aluminum and steel, caked mud from equipment, and cleaning lawn mower undersides.
2. The 15° nozzle (YELLOW): This is a chiseling nozzle. The spray should be directed at a 45° angle to the surface and used like a scraper to remove paint, grease and dirt. Uses: Surface preparation (removing mildew stains and paint chips).
3. The 25° nozzle (GREEN): This is a flushing nozzle. This pattern is best suited for flushing dirt, mud, and grime. Uses: Wet sweeping leaves from walks, curbs and driveways, cleaning stable floors, washing swimming pool bottoms, degreasing engines.
4. The 65° nozzle (BLACK): This is a low pressure detergent application nozzle. This broad spray pattern distributes solution over vast areas under low pressure. Uses: Detergent application, misting or rinsing.

**WARNING RISK OF INJECTION  
CAUSING SEVERE INJURY!**  
**NEVER LOOK DIRECTLY AT THE  
NOZZLE ORIFICE UNLESS IT IS  
DISCONNECTED FROM THE  
GUN/WAND ASSEMBLY!**

### CONNECTION OF Q.C. NOZZLES



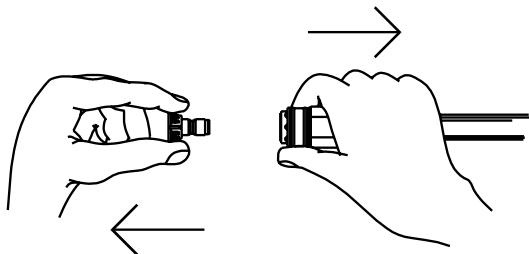
### QUICK-CONNECT (Q.C.)



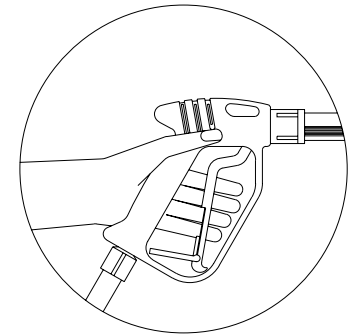
### NOZZLE CONNECTION:

1. Be certain the trigger gun is locked in the "OFF" position. See WARNING, right.
2. The nozzle assembly should be disconnected from the gun/wand assembly at this time by retracting the locking ring on the quick-connect fitting to remove the nozzle.

### QUICK-CONNECT FITTING

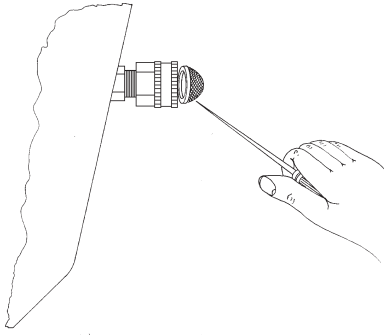


**WARNING RISK OF SEVERE  
INJURY!**  
**THE TRIGGER GUN SHOULD  
ALWAYS BE LOCKED IN THE  
OFF POSITION WHEN NOT IN  
USE!**



## INSTALLATION & PREPARATION

### CHECK WATER INLET STRAINER



### WATER SUPPLY:

1. Select a water supply hose which is a quality grade of garden hose measuring at least 3/4" ID and no longer than 50 feet.
2. Check the water inlet strainer to ensure it is clean and free of any obstructions. Periodic cleaning of the water strainer will help prevent pump problems. As a strainer becomes obstructed, it restricts proper flow of water to the pump. This can result in cavitations which will cause premature failure of pump packings.
  - a. Using a screw driver, remove the screen from the water inlet.
  - b. Clean or replace with Mi-T-M® #19-0001 if necessary.
3. Connect the hoses.
  - a. Connect one end of the water supply hose to the water inlet of the unit.
  - b. Connect the other end of the hose to your pressurized water supply.

*NOTE: Do not use a non-pressurized water supply (i.e. from a pond or well) with this unit.*

  - c. Connect the high pressure discharge hose to the water outlet of the unit.
  - d. Securely connect the other end of the hose to the gun assembly. (A wrench may be required on some models.)
  - e. Connect the wand assembly to the gun/hose assembly.
4. Follow the incoming water requirements listed below:
  - a. Water pressure must be a minimum of 25 pounds per square inch (PSI) and a maximum of 125 PSI. (A typical outdoor faucet will generally supply this PSI if turned completely "ON".)
  - b. Incoming GPM must be approximately one gallon more than the outgoing GPM stated on the pressure washer nameplate. (You can check GPM by timing how long it takes to fill a 5 gallon container.)
  - c. Incoming water temperature must not exceed 125°F. Excessive pump damage may result if the water temperature exceeds this acceptable level.
5. Never allow the unit to operate without the incoming water line attached and the water supply completely turned on.



### CAUTION RISK OF UNIT DAMAGE!

**DO NOT OVERTIGHTEN THE UNLOADER. BREAKAGE COULD RESULT IN IMMEDIATE LOSS OF WATER PRESSURE AND COSTLY REPAIRS.**

### UNLOADER:

The unloader valve on your machine is equipped with an adjustment knob to adjust the pressure. Should less pressure be required, simply turn the adjustment knob counterclockwise. To set back to maximum, turn adjustment knob completely clockwise. **DO NOT OVER TIGHTEN!**

## INSTALLATION & PREPARATION

### THERMAL RELIEF VALVE:

To ensure the water temperature does not exceed acceptable levels, never allow the pressure washer to operate in the bypass mode (with the unit running and the trigger gun closed) for more than three minutes.

A “thermal relief valve” has been added to this unit to protect the pump. It may begin to open and release water if the water temperature in the pump has exceeded 140°F. This will allow fresh, cool water to enter the system.

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### PRE-START INSPECTION PROCEDURES:

Before starting the unit, perform the following procedures:

1. Check the oil level in the pump and engine.
  2. Inspect the water inlet strainer. Clean or replace if necessary. See “Water Supply”, #2, pg. 12.
  3. Check all hose connections to ensure they are securely tightened. See “Water Supply”, #3, pg. 12.
  4. Inspect for system fuel leaks. If a fuel leak is found, DO NOT START UNIT! See “Fire & Ventilation Precautions”, #2 and #4, pg. 4. Be sure that all damaged parts are replaced and that the mechanical problems are corrected prior to operation of the unit. If you require service, contact Customer Service.
  5. Inspect high pressure hoses for kinking, cuts and leaks. If a cut or leak is found, DO NOT USE HOSE! Replace hose before starting unit. See “Miscellaneous Safety Precautions” #6, pg. 6. Be sure that all damaged parts are replaced and that the mechanical problems are corrected prior to operation of the unit. If you require service, contact Customer Service.
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**THE FOLLOWING PAGES CONTAIN OPERATING AND MAINTENANCE INSTRUCTIONS.**

**DO NOT ATTEMPT TO OPERATE THIS PRESSUREWASHER UNTIL YOU HAVE READ AND UNDERSTOOD ALL SAFETY PRECAUTIONS AND INSTRUCTIONS LISTED IN THIS MANUAL.**

**INCORRECT OPERATION OF THIS UNIT CAN CAUSE SERIOUS INJURY!!**

**DO NOT ALTER OR MODIFY THIS EQUIPMENT IN ANY MANNER!**

## OPERATING INSTRUCTIONS



### CAUTION RISK OF UNIT DAMAGE.

**BE CERTAIN THE NOZZLE IS NOT CONNECTED TO THE UNIT WHILE PRIMING THE PUMP. PRIMING ALLOWS MINERAL DEPOSITS TO BE RELEASED FROM THE SYSTEM WHICH WOULD OBSTRUCT OR DAMAGE THE NOZZLE ASSEMBLY RESULTING IN COSTLY REPAIRS.**

### PRIMING THE PUMP:

1. It is essential to prime the pump on initial start-up and each time the water supply is disconnected from the unit after initial use.
2. Lay the high pressure hose out to remove any loops. Water flow will constrict the hose, creating tight loops if the hose is not straight.  
*NOTE: The nozzle assembly should NOT be connected to the gun assembly at this time. See "Nozzle Connection" pg. 11.*
3. With the trigger gun locked in the "OFF" position, turn the water supply completely on. Pointing the gun in a safe direction, unlock the trigger gun and squeeze the trigger.
4. Low pressure water will begin flowing from the hose/gun assembly. This allows the unit to prime and purge any air from the system. The unit is primed when water flow is uninterrupted by air.
5. Once the unit is primed, release the trigger and lock the gun in the "OFF" position. Securely connect the nozzle assembly. (See "Nozzle Connection" pg. 11)



### DANGER RISK OF INJECTION CAUSING SEVERE INJURY!

**-KEEP CLEAR OF NOZZLE!  
NEVER PLACE HAND OR FINGERS IN FRONT OF NOZZLE!  
-DO NOT DIRECT DISCHARGE STREAM AT PEOPLE OR PETS!  
-BE CERTAIN THE NOZZLE IS SECURELY CONNECTED TO THE WAND TO PREVENT ACCIDENTAL DISCHARGE!**

### START-UP:

1. Refer to the "Safety Precautions" pgs. 4-7 before starting the unit.
2. Locate the Safety Decals on your unit and heed their warnings.
3. With the gun locked in the "OFF" position, point the trigger gun away from yourself or anyone else. Ensure the water supply is completely turned on.
4. Disengage the safety lock-off on the gun and squeeze the trigger. Low pressure water will begin flowing from the nozzle.
5. BE CERTAIN the trigger gun remains in an open position while starting the engine. Brace yourself as the gun will kickback from the high pressure created by the pump once the engine has started.
6. Steady the unit during engine start-up. (Refer to the engine manual accompanying this pressure washer for the correct procedures needed to start the engine.)
7. Once the engine has started, perform the following procedures with the gun open:
  - a. Inspect for system oil leaks and fuel leaks. If a fuel leak is found, TURN UNIT OFF IMMEDIATELY! See "Fire & Ventilation Precautions", #2 and #4, pg. 4. Be sure that all damaged parts are replaced and that the mechanical problems are corrected prior to operation of the unit. If you require service, contact Customer Service.
  - b. Inspect high pressure hoses for kinking, cuts and leaks. If a cut or leak is found, DO NOT TOUCH HOSE AT LEAK!!! TURN UNIT OFF IMMEDIATELY! Replace hose before restarting the unit. See "Miscellaneous Safety Precautions" #6, pg. 6. Be sure that all damaged parts are replaced and that the mechanical problems are corrected prior to operation of the unit. If you require service, contact Customer Service.
8. Trigger the gun several times. Be certain to LOCK the trigger gun in the "OFF" position whenever changing the quick connect nozzles. NEVER look directly into the nozzle! High pressure water creates a risk of severe injury!
9. Do not allow unit to operate in bypass mode (with trigger closed) for more than three minutes without triggering the gun. Failure to follow this simple rule can cause premature failure of pump packing seals, resulting in costly pump repair.
10. Because your pressure washer delivers a high pressure spray and a variety of spray patterns, there are many cleaning jobs that can be done without the use of detergents. If a cleaning agent is required, see "Cleaning With Detergents" pg. 15 for the correct procedures.



### CAUTION RISK OF DAMAGE.

**DO NOT ALLOW SPRAY PATTERN TO REMAIN ON A FIXED AREA FOR AN EXTENDED PERIOD OF TIME. POSSIBLE DAMAGE MAY OCCUR TO THE AREA.**

## OPERATING INSTRUCTIONS

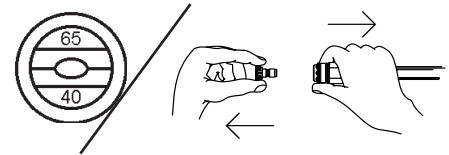
### CLEANING WITH DETERGENTS:

1. Refer to “Detergent Cleaning Precautions” pg. 6 before working with detergents. Be certain to wear protective safety attire as stated on pg. 10.
2. Prepare detergent solution according to label directions. Never pump acids, alkaline, abrasive fluids or solvents through the unit.
3. Some units are equipped with adjustable detergent knobs. Locate the clear vinyl hose which leads to the pump head.
  - a. If your injector is equipped with an adjustment knob on the pump head, you may adjust the amount of detergent desired by turning the knob completely counterclockwise to set at the maximum siphon rate.
  - b. If your injector is not equipped with an adjustment knob, the detergent ratio is preset and cannot be adjusted.
4. Immerse the detergent strainer into the detergent solution to allow detergent to siphon.
5. With the trigger gun locked in the “OFF” position, securely quick-connect the detergent spray nozzle (#6540° BLACK) into the end of the wand.

*NOTE: This injection system is designed to apply detergents under low pressure only. It will not allow detergent solutions to be introduced into the system unless the nozzle assembly is in the low pressure detergent mode.*

6. To apply solution; unlock the trigger gun and squeeze the trigger. In a few moments a detergent/water mixture will exit the low pressure nozzle. Start spraying the lower portion of the surface being cleaned and move up, using long overlapping strokes. Applying from the bottom up helps avoid streaking. Allow to soak briefly. DO NOT allow detergent solution to dry on the surface. (Avoid working on hot surfaces or in direct sunlight to minimize the chances of the detergent drying, which may result in damaging painted surfaces.) Be certain to rinse a small section at a time.
7. To rinse; lock the trigger gun in the “OFF” position, securely quick-connect the desired high pressure nozzle into the end of the wand. Unlock the trigger gun and spray. It will take about 30 seconds to purge all detergent from the line. For best rinsing results, start at the top and work down.
8. Siphon a gallon of water through the low pressure detergent injection system after each use. This prevents the possibility of corrosion or detergent residue causing mechanical problems during the next use.

### QUICK CONNECT DETERGENT



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### SHUTDOWN:

1. Turn engine “OFF” as directed in the engine manual.
2. Turn the water supply “OFF”.
3. Pointing the gun in a safe direction, trigger gun momentarily to relieve any trapped pressure.
4. Once pressure is relieved, disconnect the nozzle assembly.
5. Disconnect and drain gun, wand and hoses.
6. Wipe unit clean and store with gun, wand and hoses in a safe, non-freezing area.

## STORAGE & MAINTENANCE

**ENGINE:** The engine instructions that accompany your unit detail specific procedures for maintenance of the engine. Following the engine manufacturer's recommendations will extend engine work life.

**PUMP:** The pump oil must be changed after the first 25 hours of operation. Once the initial oil change has been completed, it is recommended the oil be changed every 3 months or 250 hour intervals. If oil appears dirty or milky, changes may be required at a greater frequency. Add pump oil and fill only to the center of the sight glass (Refer to the parts listing for the correct pump oil). DO NOT OVERFILL!

**NOZZLES:** Water flow through the spray nozzle will erode the orifice, making it larger, resulting in a pressure loss. Nozzles should be replaced whenever pressure is less than 85% of the maximum. The frequency of replacement will depend upon such variables as mineral content in the water and number of hours the nozzle is used.

**QUICK COUPLERS:** There is an o-ring seal inside the female quick coupler. This o-ring will deteriorate or, if the unit is allowed to pump without the high pressure hose or nozzle attached, the o-ring may be blown out occasionally. Simply insert a replacement o-ring to correct the leak. (Additional o-rings can be purchased from your dealer.)

## STORAGE & MAINTENANCE

### WINTERIZING:

For storage and transportation purposes in subfreezing ambient temperatures, it will be necessary to winterize this unit. This unit must be protected to the lowest incurred temperature for the following reasons:

1. If any part of the pumping system becomes frozen; excessive pressure may build up in the unit which could cause the unit to burst resulting in possible serious injury to the operator or bystanders.
2. The pumping system in this unit may be permanently damaged if frozen. **FREEZE DAMAGE IS NOT COVERED BY WARRANTY.**

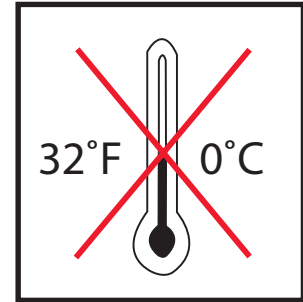
If you must store your unit in an area where the temperature may fall below 32°F, you can protect your unit by following the procedure outlined below.

1. Gather the following items:
  - a. Two 5 gallon containers.
  - b. One gallon of antifreeze.
  - c. Water supply.
  - d. Three foot hose, 1/2-3/4 I.D. with a 3/4 inch male garden hose fitting.
2. Procedure:
  - a. To start winterizing, unit must be run and primed according to the "Start-up Procedures" listed on page 14.
  - b. After running and priming, shut off the unit and water supply.
  - c. Relieve system pressure by pointing the trigger gun in a safe direction and squeezing the trigger until water flow ceases to exit the nozzle.
  - d. Lock the trigger gun in an OFF position and remove the nozzle.
  - e. In one 5 gallon container, mix the antifreeze and water according to manufacturer's recommendations for the temperature to which you are winterizing.

*NOTE: Proper winterizing is based on the recommended manufacturer's instructions listed on the "Protection Chart" shown on the back label of most antifreeze containers.*

- f. Remove the water supply hose from the unit and attach the 3 foot hose securely to the inlet connection. Submerge the other end into the antifreeze solution.
  - g. Shut off the detergent injector if applicable.
  - h. Point the wand into the empty container and start the unit.
  - i. Trigger the gun until the antifreeze begins to exit the wand. Release the trigger for 3 seconds, then trigger the gun for 3 seconds. Continue cycling the gun several times until all the antifreeze mixture is siphoned from the container.
  - j. Stop the unit.
  - k. Detach the 3 foot hose from the unit and drain any excess antifreeze back into the 5 gallon container.
  - l. Disconnect the hose/gun/wand assembly from the unit and drain any excess antifreeze back into the 5 gallon container.
  - m. Store the hose, gun and wand with the unit in a safe, non-freezing area.
  - n. Store antifreeze solution for next use or dispose of according to state EPA laws.
3. Optional Procedure:
    - a. Shut the unit and water supply off.
    - b. Relieve system pressure by pointing the trigger gun in a safe direction and squeezing the trigger until water flow ceases to exit the nozzle.
    - c. Disconnect and drain the hose, gun and wand.
    - d. Start the unit and allow it to run until all the water exits the unit. Once the water has stopped flowing from the unit, turn the unit off.

*NOTE: When using this procedure, caution should be used as ice chips can form from drops of water which could cause the unit to burst if starting before completely thawed.*



## TROUBLESHOOTING

SYMPTOM	PROBABLE CAUSE	REMEDY
Engine will not start.	Various engine problems.  Unit components are frozen.	Refer to the engine manual accompanying your unit. Allow to thaw. If any part of the unit becomes frozen; excessive pressure may build up in the unit which could cause the unit to burst resulting in possible serious injury to the operator or bystanders.
No discharge at nozzle when trigger mechanism is squeezed.  Low or fluctuating pressure.	Inadequate water supply.  Kink in water inlet hose. Kink in high pressure discharge hose. Water inlet screen obstructed. Pump sucking air. (Prime eliminated) Eliminate leaks in intake line. Not in high pressure mode. Obstructed or worn spray nozzle. Damaged or obstructed valve assy.  Pump packings worn. Bypass valve not operating correctly.	Ensure hose is 3/4" diameter and incoming water supply is turned on. Remove kink. Replace hose. Remove screen, clean or replace. Tighten all water intake connections  Insert a high pressure nozzle. Remove, clean or replace. Remove, inspect, clean or replace on pump.  Replace packings. Repair or replace.
Water is leaking from the "Heat Dump Valve"	Water temperature is too high.  Defective valve.	Do not allow the unit to operate in the bypass mode (with trigger gun closed) for more than 3 minutes. Replace.
Oil appears milky or foamy.	Water in oil.	Change pump oil. Fill to proper level.
Oil leaking from unit.	DO NOT USE!!!!	Contact Customer Service.
Detergent will not siphon into Low Pressure Detergent mode.	Detergent strainer is not completely submerged in detergent solution. Detergent strainer obstructed.  Detergent hose cut, obstructed or kinked.  Detergent adjusting knob on pump turned to closed position. (If applicable.)  Not in low pressure mode.  Nozzle assembly is plugged.  Too many high pressure hose extensions attached to the water outlet.  Ball & Spring in Venturi stuck.	Check, submerge if necessary. Inspect, clean or replace. Inspect, clean or replace.  Open adjusting knob. Refer to "Cleaning with Detergents" pg. 15  Insert 6540° (BLACK) nozzle.  Clean or replace.  Use one extension maximum.  Remove, clean or replace.
Water flows back into detergent container.	Ball & Spring in Venturi reversed, missing or corroded.	Remove, clean or replace.
Water flows from the nozzle when the trigger gun is locked in the "OFF" position.	Gun is malfunctioning.	Repair or replace.

## ACCESSORIES

15-0006	Supply Hose ¾ in.
851-0007	3000 PSI Extension Hose 50 ft.
851-0006	4000 PSI Extension Hose 50 ft.
AW-3000-0000	Sandblaster Carbide Nozzle (Consult Factory)*
AW-3020-0000	Sandblaster Ceramic Nozzle (Consult Factory)*
AW-4085-0016	Pump Oil 16 oz.
AW-7003-1500	Rotary Brush
AW-7015-1200	Extension Wand 12 ft.
AW-7015-1800	Extension Wand 18 ft.
AW-7015-2400	Extension Wand 24 ft.
AW-7103-1800	Extension Wand 18 in.
AW-7103-3600	Extension Wand 36 in.
AW-7103-7200	Extension Wand 72 in.
AW-7300-0003	Rotating Nozzle #3.0 (Consult Factory)*
AW-7300-0035	Rotating Nozzle #3.5 (Consult Factory)*
AW-7300-0004	Rotating Nozzle #4.0 (Consult Factory)*
AW-7300-0045	Rotating Nozzle #4.5 (Consult Factory)*
AW-7300-0005	Rotating Nozzle #5.0 (Consult Factory)*
AW-8400-0021	Detergent Injector

\*PSI and GPM must be specified when ordering.

Mi-T-M All Purpose Cleaner, Paint Surface Prep, House and Deck Wash and Heavy Duty Degreaser are specially formulated detergents for use with all Mi-T-M pressure washers and are packaged in one (1), five (5) and fifty-five (55) gallon containers. Contact Mi-T-M Customer Service Department at (800) 553-9053 for more information.