



CA-SERIES
OPERATION MANUAL
COLD WATER DIRECT DRIVEN
PRESSURE WASHER



Intertek
3012903



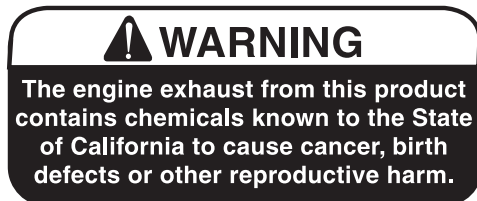
CAUTION
RISK OF INJURY!

READ MANUAL BEFORE OPERATING!

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

TABLE OF CONTENTS

INTRODUCTION	3
IMPORTANT SAFETY WARNINGS	4-7
FIRE & VENTILATION PRECAUTIONS.....	4
SPRAY PRECAUTIONS.....	5
DETERGENT CLEANING PRECAUTIONS	6
MISCELLANEOUS SAFETY PRECAUTIONS	6
ADJUSTMENT PRECAUTIONS	7
FEATURES DRAWING	8
SAFETY DECALS	9
INSTALLATION & PREPARATION	10-13
ATTIRE	10
SETUP.....	10
ENGINE FUEL TANK	10
NOZZLE REVIEW	11
NOZZLE CONNECTION	11
WATER SUPPLY	12
UNLOADER.....	12
THERMAL RELIEF VALVE	12
PRE-START INSPECTION PROCEDURES	13
OPERATING INSTRUCTIONS	14-15
PRIMING THE PUMP.....	14
START-UP	14
CLEANING WITH DETERGENTS (OPTION AW-8400-0021)	15
SHUTDOWN	15
STORAGE & MAINTENANCE	16-17
SPECIFIC MAINTENANCE	16
WINTERIZING.....	17
TROUBLESHOOTING	18
ACCESSORIES	19
STATEMENT OF WARRANTY	20
NOTES	21



INTRODUCTION

Congratulations on the purchase of your new cold water pressure washer! You can be assured your cold water 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 cold water 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 SET TO THE LEFT OF 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 uncrated, 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.

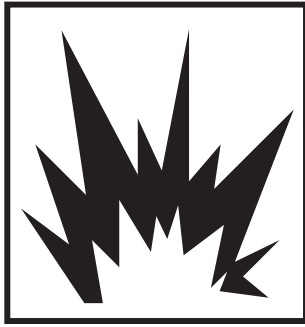
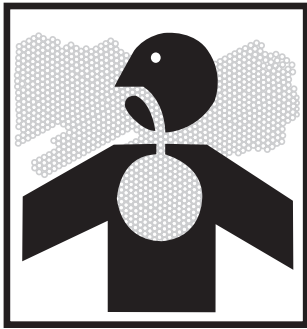
Please have the following information available for all service calls:

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

Mi-T-M® Corporation
8650 Enterprise 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.

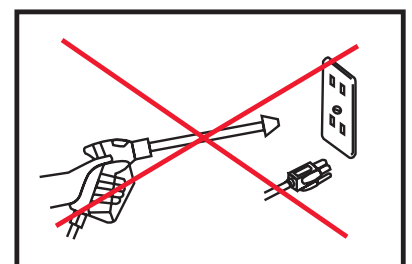
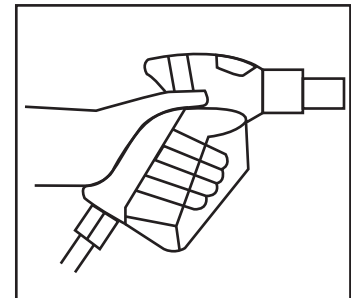
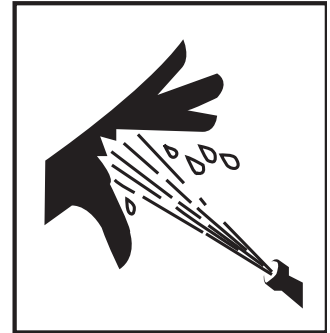
! IMPORTANT SAFETY WARNINGS !

! 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



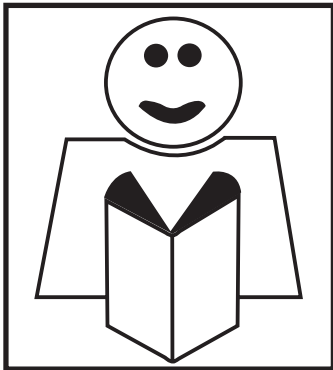
DETERGENT CLEANING PRECAUTIONS:

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 Mi-T-M 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:

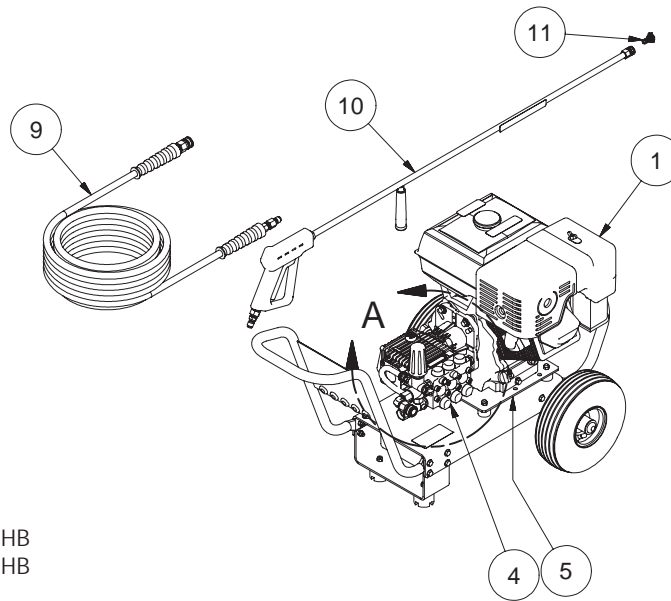
1. NEVER alter or modify the equipment, be sure any accessory items and system components being used will withstand the pressure developed. Use ONLY genuine Mi-T-M parts for repair of your pressure washer. Failure to do so can cause hazardous operating conditions and will void warranty.
2. NEVER make 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 !

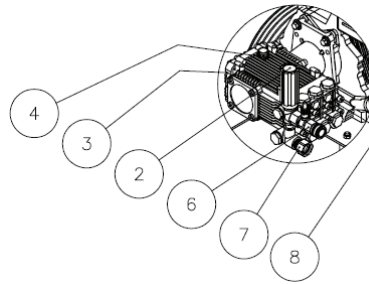
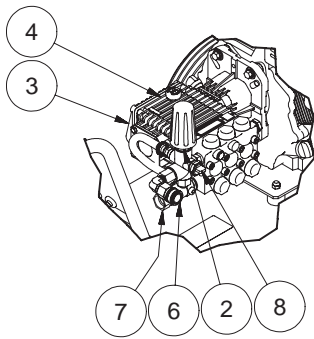


FEATURES



CA-3504-1MHB
CA-4004-1MHB

CA-3304-0MHB
CA-3405-0MHB



CA 3504-1MHB FEATURES

FEATURES LISTING

- | | |
|------------------------------|---------------------------------|
| 1. Engine | 7. Water Inlet |
| 2. Adjustable Unloader Knob | 8. Thermal Relief Valve |
| 3. Oil Sight Glass | 9. High Pressure Discharge Hose |
| 4. Pump | 10. Gun Assembly |
| 5. Vibration Isolation Plate | 11. Quick Connect Nozzle |
| 6. Water Outlet | |

SAFETY DECALS & PLACEMENT
!!!DO NOT REMOVE SAFETY DECALS FROM UNIT
UNLESS REPLACING WITH MOST CURRENT SAFETY DECAL!!!
REFER TO PAGE 8 FOR PLACEMENT

Reference #3 Decal: Caution-Engine Fuel (Part #34-0599)

⚠ CAUTION/PRECAUCION	
RISK OF FIRE Do not add fuel when product is operating. Allow engine to cool for two (2) minutes before refueling.	RIESGO DE FUEGE No ponga combustible cuando el producto este en operacion. Permita que el motor se enfrie por 2 minutos antes de reabastecer de combustible.
34-0599-E/S-030600-ENG	

Reference #16 Decal: Warning-Risk of Injection (Part #34-1253)

	⚠ WARNING	⚠ ADVERTENCIA
	RISK OF INJECTION OR SEVERE INJURY. Never put your hand, fingers or body directly over the spray nozzle.	RIESGO DE INYECCION O LISION SEVERA Nunca coloque la mano, los dedos o el cuerpo directamente sobre la boquilla de rocío.
	34-1253-030801-ENG.	

Reference #2 Decal: Warning-Muffler Hot (Part #34-0598)

⚠ WARNING	⚠ ADVERTENCIA
RISK OF BURNS MUFFLER AND ADJACENT AREAS MAY EXCEED 150°F.	
34-0598-010699-E/S-ENG.	RIESGO DE QUEMAR EL AMORTIGUADOR Y LAS AREAS ADYACENTES PUEDEN TENER TEMPERATURAS POR ARRIBA DE 150°F.

Reference #4 Decal: Warning/Caution/Operating Statements (Part #34-1244)

⚠ WARNING/ADVERTENCIA	⚠ CAUTION/PRECAUCION	OPERATION/OPERACION
<ul style="list-style-type: none"> •RISK OF INJECTION OR SEVERE INJURY. KEEP CLEAR OF NOZZLE DO NOT DIRECT SPRAY TOWARD ANY PERSON OR SELF. •RISK OF ASPHYXIATION. OUTDOOR USE ONLY REQUIRED. •RISK OF FIRE. DO NOT SMOKE WHILE REFUELING. ALLOW TO COOL TWO TO THREE MINUTES BEFORE REFUELING. DO NOT OPERATE WHILE REFUELING. •RISK OF ELECTROCUTION. DO NOT DIRECT SPRAY TOWARD ANY ELECTRICAL CONNECTIONS, OUTLETS OR POWER LINES. •RISK OF EXPLOSION. DO NOT SPRAY FLAMMABLE LIQUIDS. •RISK OF INJURY. USE ONLY PROPERLY RATED EQUIPMENT. 	<ul style="list-style-type: none"> •TO REDUCE RISK OF INJURY. READ AND UNDERSTAND THE OPERATION MANUAL AND ALL INSTRUCTIONS BEFORE USING. •STAY ALERT: HOLD ONTO GUN/WAND FIRMLY WITH BOTH HANDS TO AVOID DANGEROUS KICKBACKS. •ALWAYS WEAR EYE PROTECTION. •DO NOT OVERREACH OR STAND ON UNSTABLE SUPPORT. KEEP GOOD FOOTING AND BALANCE AT ALL TIMES. •ALWAYS TURN ON WATER SUPPLY TO PUMP BEFORE STARTING. •PROTECT PUMP FROM FREEZING. •ENGAGE TRIGGER SAFETY LOCK-OFF WHEN NOT IN USE. 	<ul style="list-style-type: none"> •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. •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. •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. •AFTER STOPPING THE ENGINE, ALWAYS TURN OFF WATER SUPPLY AND SQUEEZE TRIGGER TO RELEASE TRAPPED PRESSURE.
<ul style="list-style-type: none"> •RIESGO DE INYECCION O LESION SEVERA. MANTENGA LA BOQUILLA DESPEJADA. NO DIRIJA EL CHORRO HACIA PERSONA ALUNA O HACIA USTED. •RIESGO DE ASFIXIA. UNICAMENTE PARA USO EN EL EXTERIOR. •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. •RIESGO DE ELECTROCUCION: NO DIRECTA EL CHORRO HACIA CONEXIONES, ELECTRICAS, TOMAS DE CORRIENTE O LINEAS DE ALIMENTACION DE CORRIENTE. •RIESGO DE EXPLOSION: NO ROCIE LIQUIDOS INFLAMMABLES. •RIESGO DE LESION: USE UNICAMENTE EQUIP CON CLASIFICACION ADECUADA. 	<ul style="list-style-type: none"> •PARA REDUCIR EL RIESGO DE QUE OCURRAN LESIONS: LEA Y ENTIENDA EL MANUAL DE OPERACION Y TODAS LAS INSTRUCCIONES ANTE DE USAR EL PRODUCTO. •PERMANIZCA ALERTA: SOSTENGA LA PISTOLA VARILLA FIRMEAMENTE CON AMBAS MANO PARA EVITAR GOLPES DE RETROCESO PELIGROSOS. •USE SIEMPRE PROTECCION OCULAR. •NO SE EXTIENDA DEMASIADO O SE PARE EN UN APOYO INESTABLE. MANTENGA UNA BUENA POSICION Y BALANCE TODO EL TIEMPO. •ANTES DE COMENZAR. ABRA SIENPRE EL SUMINISTRO DE AGUA A LA BOMBA. •PROTEJA LA BOMBA DE LA CONGELACION. •COLOQUE EL SUGURO DEL GATILLO EN LA POSICION APAGADO CUANDO NO ESTE USANDO EL PRODUCTO. 	<ul style="list-style-type: none"> •DISPUES DE ASEGURARSE QUE TODAS LAS CONEXIONES ESTAN SEGUIRSE, ABRA LA ENTRADA DEL SUMINISTRO DE AGUA COMPLETAMENT NO SE OPERE SIN AGUA. NO SE USE CON AGUA CON TEMPERATURAS DE MAS DE 125 °F. •CON LA PISTOLA ASEGURADA. REMUEVA LA BOQUILLA APUNTANDO LA PISTOLA HACIA UNA DIRECCION SEGURA. REFURESE LA VARA PARA EVITAR QUE RETROCEDA. APRIETE EL GATILLO PARA ABRIRLO. MANTEGA LA UNIDAD QUIETA. Y COMIENZE HALANDO FIRMEAMENTE EN LA CUERDA DE INICIAR. •DESPUES DE QUE EL MOTOR ESTE TRABAJANDO. ADJUSTE LA BOQUILLA A LA POSICION DESEADA. APRIETE EL GATILLO PARA ROCIAR Y SUELTELO PARA DETENER EL ROCIADO. •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.		

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!
DONOT STORE/OPERATE UNIT IN A FREEZING ENVIRONMENT!

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. Once properly installed, check the oil sight glass on the pump crankcase. Make certain the oil level is in the center of the sight glass before each use. If the level appears low, use Mi-T-M pump oil #AW-4085-0016. DO NOT OVERFILL!



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.

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.**



WARNING

RISK OF EXPLOSION OR FIRE!
ALWAYS STORE FUEL AWAY FROM THE WASHER WHILE THE UNIT IS RUNNING OR HOT.

INSTALLATION & PREPARATION

NOZZLE REVIEW:

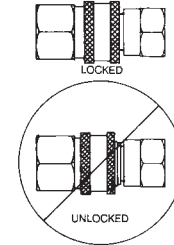
Various nozzles may be quick-connected into the end of the wand to change the spray pattern or use the detergent feature. When using Quick Connects (Q.C.), be certain the connection is securely locked. If not, the high pressure water may shoot the nozzle from the wand, causing severe injury or serious 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.; 00=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.

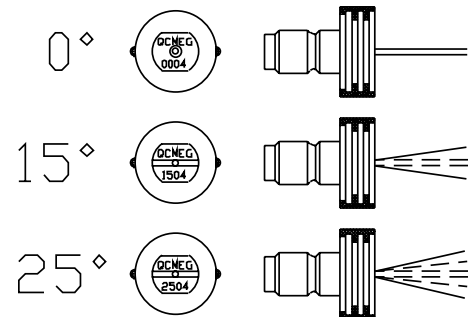
WARNING

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



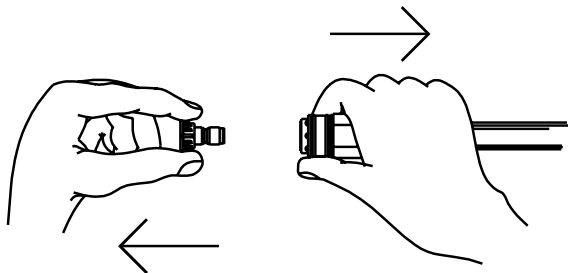
QUICK-CONNECT (Q.C.)



NOZZLE CONNECTION:

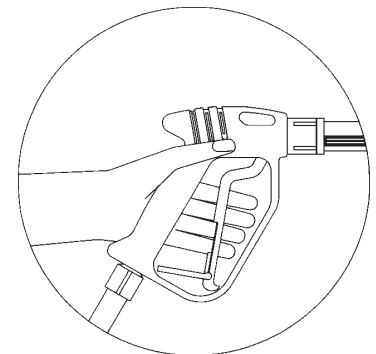
1. Be certain the trigger gun is locked in the "OFF" position. See *WARNING*, left.
2. The nozzle assembly should be disconnected from the gun/wand assembly at this by retracting the locking ring on the quick-connect fitting to remove the nozzle.

QUICK-CONNECT FITTING



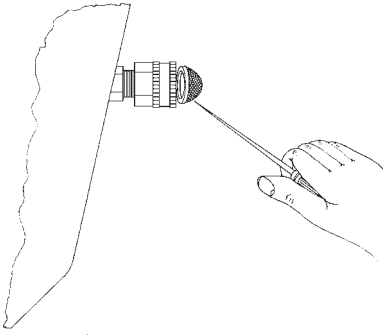
WARNING

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
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 OVERTIGHTEN!**

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.

INSTALLATION & PREPARATION

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.



THE FOLLOWING PAGES CONTAIN OPERATING AND MAINTENANCE INSTRUCTIONS.

DO NOT ATTEMPT TO OPERATE THIS PRESSURE WASHER 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

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 discharge 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.)

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.



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!



CAUTION

RISK OF DAMAGE.

- DONOT ALLOW SPRAY PATTERN TO REMAIN ON A FIXED AREA FOR AN EXTENDED PERIOD OF TIME. POSSIBLE DAMAGE MAY OCCUR TO THE AREA.

OPERATING INSTRUCTIONS

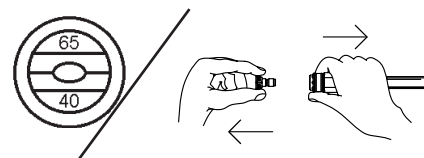
CLEANING WITH DETERGENTS (OPTION AW-8400-0021):

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 not equipped with an adjustment knob, the detergent ratio is preset and cannot be adjusted.
 - b. 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.
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



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

SPECIFIC 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. Use Mi-T-M pump oil #AW-4085-0016 and fill only to the center of the oil sight glass. **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.**

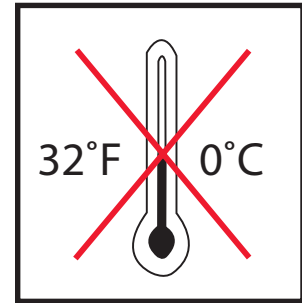
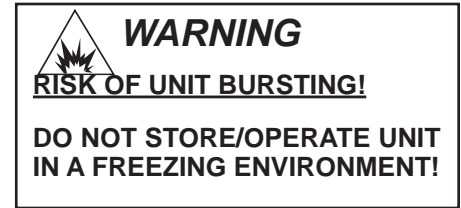
If you must store your unit in an area where the temperature may fall below 32°F, you can protect your unit by following the procedure outlined below.

1. Gather the following items:
 - a. Two 5 gallon containers.
 - b. One gallon of antifreeze. (Mi-T-M recommends an environmentally safe 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. Remove the water supply hose from the unit and attach the 3 foot hose securely to the inlet connection.
 - f. Shut off the detergent injector if applicable.
 - g. Fill one 5 gallon bucket with water.
 - h. Holding the 3 foot hose in an upright position, completely fill the hose with water. Then plug the hose outlet with your thumb or finger. Place the plugged end into the 5 gallon bucket of water.
 - i. Start the unit. Trigger the gun several times until all the air is worked out of the system (unit is primed). It may be necessary to adjust the engine RPM down to an idle to aid in priming.
 - j. With the trigger gun held open, siphon enough water out of the 5 gallon bucket until there is just enough water left to mix with the antifreeze.

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.*

- k. Point the wand into the empty container.
 - l. 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.
 - m. Detach the 3 foot hose from the unit and drain any excess antifreeze back into the 5 gallon container.
 - n. Disconnect the hose/gun/wand assembly from the unit and drain any excess antifreeze back into the 5 gallon container.
 - o. Store the hose, gun and wand with the unit in a safe area.
 - p. 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 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.	Refer to the Engine Manual accompanying your unit.
	Unit components are frozen.	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.	Inadequate water supply.	Ensure hose is 3/4" diameter and incoming water supply is turned on.
	Kink in water inlet hose.	Remove kink.
Low or fluctuating pressure.	Kink in high pressure discharge hose.	Replace hose.
	Water inlet strainer obstructed.	Remove strainer, clean or replace.
	Pump sucking air. (Prime eliminated)	Tighten all water intake connections Eliminate leaks in intake line.
	Not in high pressure mode.	Insert high pressure nozzle.
	Obstructed or worn spray nozzle.	Remove, clean or replace.
	Damaged or obstructed valve assy. on pump.	Remove, inspect, clean or replace.
	Pump packings worn.	Replace packings.
	Unloader valve not operating correctly.	Repair or replace.
Water is leaking from the Heat Dump Valve.	Water temperature is too high.	Do not allow the unit to operate in the bypass mode (with trigger gun closed) for more than 3 minutes.
	Defective valve.	Replace.
Oil appears milky or foamy.	Water in oil.	Change pump oil. Fill to proper level.
Oil leaking from unit.	DO NOT USE!!!!	Contact Mi-T-M Customer Service.
Detergent will not siphon into Low Pressure Detergent mode.	Detergent strainer is not completely submerged in detergent solution.	Check, submerge if necessary.
	Detergent strainer obstructed.	Inspect, clean or replace.
	Detergent hose cut, obstructed or kinked.	Inspect, clean or replace.
	Detergent adjusting knob on pump turned to closed position. (If applicable.)	Open adjusting knob. Refer to "Cleaning with Detergents" pg. 15
	Nozzle assembly is plugged.	Clean or replace.
	Too many high pressure hose extensions attached to the water outlet.	Use one extension maximum.
Water flows back into detergent container.	Ball & Spring in Venturi stuck.	Remove, clean or replace.
	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.



Mi-T-M® CORPORATION STATEMENT OF WARRANTY

Mi-T-M® Corporation warrants all parts, (except those referred to below), of your new cold water pressure washer to be free from defects in materials and workmanship during the following periods:

For Lifetime against freezing and cracking:
Pump Manifold

For Seven (7) Years from the date of original purchase:
High Pressure Pump

For Two (2) Years from the date of original purchase:
Cart Assembly Plumbing

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

For Ninety (90) days from the date of original purchase:
Trigger Gun/Wand High Pressure Hose
Unloader Valve Strainer/Filter

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. The engine is covered under separate warranty by its respective manufacturer and is subject to the terms set forth therein.
2. Normal wear parts:
Pump Packings Spray Nozzles
Pump Valves Detergent Valves
O-rings Quick Couplings/Screw Connects
3. 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.
4. The use of other than genuine Mi-T-M repair parts will void warranty. Parts returned, prepaid to our factory or to a Mi-T-M 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 Mi-T-M® Corporation 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, 8650 Enterprise 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
