



GENUINE **MEGA**

**SCHEDULED/SPECIAL  
INSPECTIONS & RECOMMENDED  
SUPPORT PARTS**



**MEGA WORLDWIDE**  
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# SECTION 1

## Definitions and Abbreviations

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### MANUAL USAGE

This technical manual only contains information required to safely service and maintain an MOH. See the appropriate Maintenance and Operators Safety Manual for specific vehicle system information and maintenance procedures. If your system is not covered in this manual please contact MEGA Corp. Product Support Group at:  
 US toll free: 1-800-345-8889  
 Direct: 1-505-345-2661 or visit our website at [www.megacorpinc.com](http://www.megacorpinc.com) for more detailed contact information.

The exact location of the hazards and description of the hazards are reviewed in this section. All personnel working on or operating the MOH must become familiarized with all the safety messages.

 **WARNING**

Due to the nature of these processes, ensure that all safety information, warnings and instructions are read and understood before any operation or any maintenance procedures are performed. Some procedures take place with heavy components and at moderate heights, ensure proper safety procedures are maintained when performing these actions. Failure to use and maintain proper safety equipment and procedures will cause injury, death or damage to equipment.

### WARNING, CAUTION AND NOTES

The following definitions are found throughout the manual and apply as follows:

 **WARNING**

Operating procedures and techniques, which could result in personal injury and/or loss of life if not carefully followed.

**CAUTION**

Operating procedures and techniques, which could result in damage to equipment if not carefully followed.

**NOTE**

Operating procedures and techniques that are considered essential to emphasize.

### USE OF SHALL, WILL, SHOULD AND MAY

**Shall** and **Will** – Used when application of a procedure is mandatory.

**Should** – Used when application of a procedure is recommended.

**May** - Used to indicate an acceptable or suggested means of accomplishment.

## SECTION 1

### Definitions and Abbreviations

#### SAFETY MESSAGES

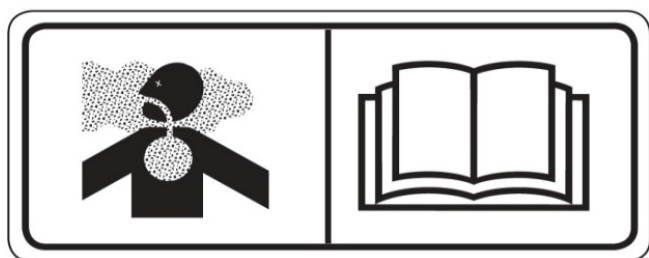
There are several specific safety messages on this machine. The exact location of the hazards and description of the hazards are reviewed in this section. All personnel working on or operating the machine must become familiarized with all the safety messages.

Make sure that all of the safety messages are legible. Clean the safety messages or replace the safety messages if you cannot read the words. Replace the illustrations if the illustrations are not legible. When you clean the safety messages, use a cloth, water and soap. Do not use solvent, gasoline or other harsh chemicals to clean the safety messages. Solvents, gasoline or harsh chemicals could loosen the adhesive that secures the safety messages. Loose adhesive will allow the safety messages to detach.

Replace any safety message that is damaged or missing. If a safety message is attached to a part that is replaced, install a new safety message on the replacement part.

#### TOXIC GAS HAZARD (1)

This safety label is located on the side of the tank and at all water fill entrances.

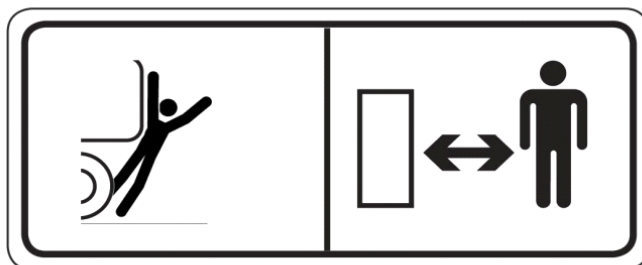


#### ⚠ WARNING

**Cutting or welding operation on the inside of the tank can cause the accumulation of toxic gases. Read and understand instructions and warnings in the Maintenance Manual. Failure to provide proper ventilation or breathing apparatus while conducting these operations may result in serious injury or death.**

#### BACKING RUNOVER HAZARD (2)

This safety label is located on the rear of the tank and inside the cab.

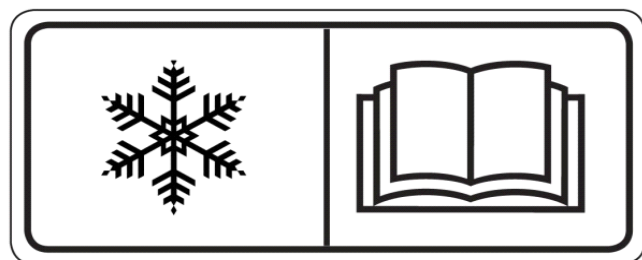


#### ⚠ WARNING

**The vehicle is equipped with a back-up alarm. Alarm must sound when operating this vehicle in reverse. Failure to maintain a clear view in the direction of travel could result in serious injury or death.**

#### FREEZING (3)

This safety label is located on the side of the tank, at the sump drain, and on the pump.



#### ⚠ WARNING

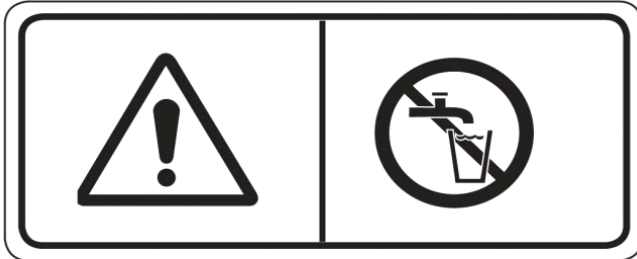
**Drain tank, fill pipe and valve in freezing weather. Refer to the Operator and Maintenance Manual for the procedure to follow.**

## SECTION 1

### Definitions and Abbreviations

#### NON-POTABLE (4)

This safety label is located on the side of the tank and sump drain.

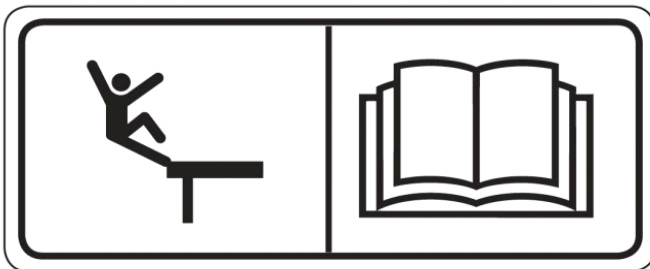


#### **⚠ WARNING**

Water held within tank is not potable. Do not use tank for transport of water intended for human or animal consumption or serious injury or death may result.

#### FALL HAZARD (5)

This safety label is located at the top of the front and rear of the tank.

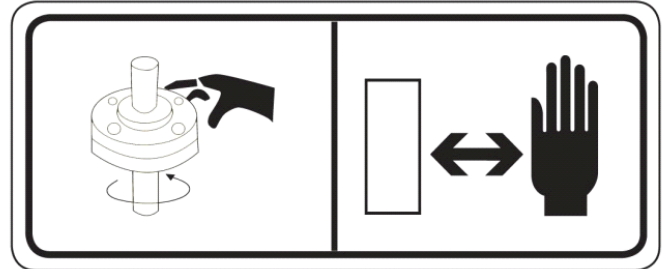


#### **⚠ WARNING**

Do not walk on the top of tank without fall arrest PPE. Serious injury or death could occur from a fall.

#### ROTATING SHAFT (6)

This safety label is located on the pump.

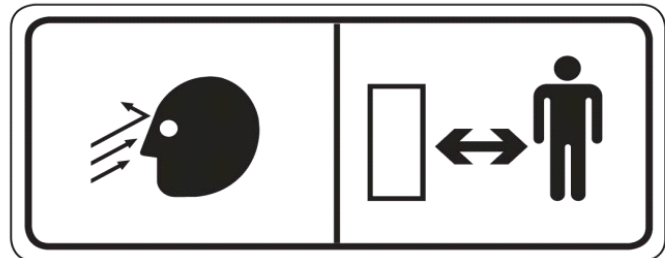


#### **⚠ WARNING**

Do not place your hand or tools within pump bell while pump is rotating and/or pressure held within the motor supply hose. Refer to the Operator and Maintenance Manual for the procedures to operate and maintain the pump. Failure to follow proper procedures could result in serious injury.

#### HIGH PRESSURE SPRAY HEADS (7)

This safety label is located on the spray bar.



#### **⚠ WARNING**

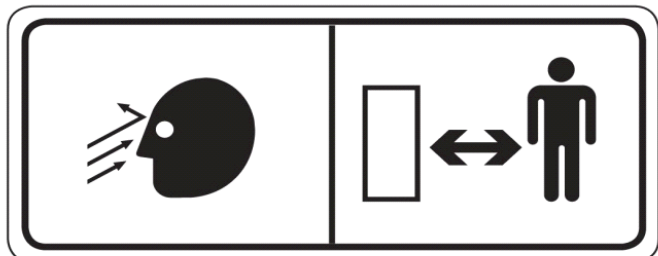
Do not operate spray heads until all personnel are a safe distance away from the vehicle.

## SECTION 1

### Definitions and Abbreviations

#### HIGH PRESSURE WATER CANNON (8)

This safety label is located on top of the cab control box.

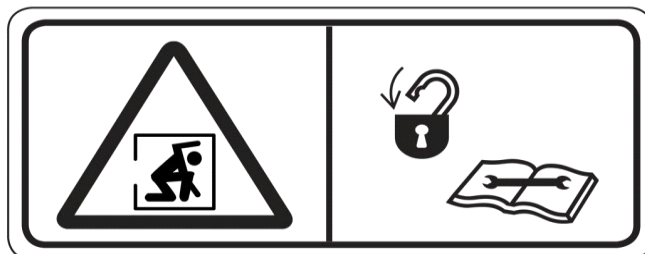


#### WARNING

Do not operate the water cannon until all personnel are a safe distance away from the vehicle.

#### CONFINED SPACE (10)

This safety label is located near the water tank access and fill ports.

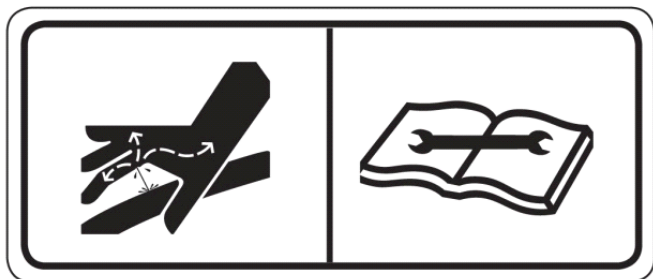


#### WARNING

Do not enter confined spaces without following established site specific procedures. Failure to follow proper safety procedures will result in serious injury or death.

#### HIGH PRESSURE MOTOR (9)

This safety label is located on the hydraulic motor.



#### WARNING

Hydraulic motor and supply lines contain oil under high pressure. Improper removal and repair procedures could cause severe injury. To remove or repair, instructions in the Maintenance Manual must be followed.








## SECTION 1

### Definitions and Abbreviations

#### ABBREVIATIONS

BFV - Butterfly Valve  
 cc - Cubic Centimeters  
 CCW - Counter Clockwise  
 CW - Clockwise  
 fl. oz. - Fluid Ounce  
 FT - Feet  
 FPM - Feet Per Minute  
 GPM - Gallons Per Minute  
 IN/SQ FT - Inches per Square Feet  
 KM-H - Kilometers Per Hour  
 Kg - kilograms  
 Kpa - Kilopascals  
 l - liters  
 lpm - Liters per minute  
 LT - Left as viewed from the operator's  
       position facing forward  
 m - meters  
 MPH - Miles Per Hour  
 MOH - Mega On-Highway  
 Nm - Newton meters of torque  
 psi - pounds per square inch  
 RPM - Revolutions Per Minute  
 RT - Right as viewed from the operator's  
       position facing forward  
 SQ FT - Square Feet  
 VDC - Volts, Direct Current

#### SYMBOLOLOGY

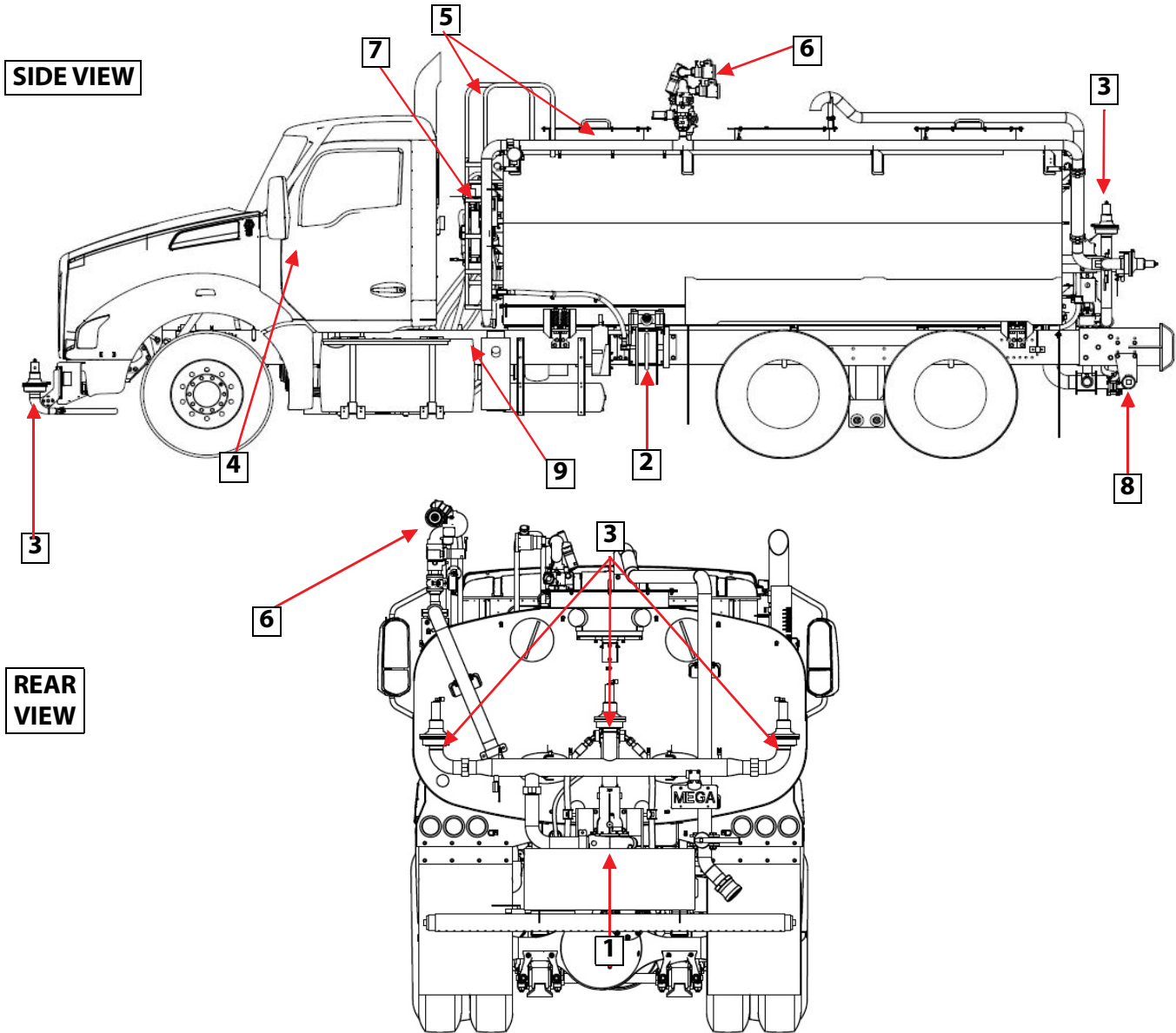
Symbol	Name	Function
	PTO	Activate the PTO pump
	HOSE REEL/ WATER CANNON	Activates Hose Reel or Water Cannon function
	DUMP BAR (BFV)	Opens the dump bar butterfly valve
	LEFT REAR	Opens the left rear spray head valve
	CENTER REAR	Opens the center rear spray head valve
	RIGHT REAR	Opens the right rear spray head valve
	FRONT BUMPER	Opens the front bumper spray head valve



# SECTION 1

## Definitions and Abbreviations

### MOH OVERVIEW (TYPICAL)



- 1** WATER PUMP & HYDRAULIC MOTOR
- 2** HOSE REEL
- 3** SPRAY HEADS
- 4** CAB CONTROL
- 5** HAND RAIL & WALKWAY
- 6** WATER CANNON
- 7** HYDRAULIC CONTROL BOX
- 8** DUMP BAR (GRAVITY)
- 9** HYDRAULIC PUMP

# SECTION 2 Scheduled Maintenance Inspections

## Contents

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### DESCRIPTION

This section establishes scheduled maintenance inspections of the installed MOH at the designated frequencies. Performing these inspections will identify potential system discrepancies and allow preventative maintenance to be performed before a component or system is rendered totally inoperative.

**\*\*NOTE:** Vehicles operated in extremely low quality water environments may require more frequent inspections.

		FREQUENCY					
STEP	SPRAY HEADS	WEEKLY (150 HRS)	BI-WEEKLY (250 HRS)	MONTHLY (500 HRS)	QUARTERLY (1000 HRS)	SEMI-ANNUAL (2500 HRS)	ANNUALLY (5000 HRS)
1	Check spray head for damage and clean deflector ring and spray head opening.	X					
2	Check hydraulic lines for security, damage and leaks.	X					
3	Check spray head drop-in assembly for leaks with spray head switch OFF and water pump ON. Replace drop-in assembly as required.			X			
4	Check spray head base plate and upper housing mount bolts for security.			X			
5	Check spray head adjustable deflector ring for damage and correct adjustment. Apply dry-film lubricant to the deflector inner ring.			X			
6	Check spray head base plate for evidence of leaks. Replace base plate O-ring as required.						X

## SECTION 2

### Scheduled Maintenance Inspections

		FREQUENCY					
STEP	CONTROL SYSTEM	WEEKLY (150 HRS)	BI-WEEKLY (250 HRS)	MONTHLY (500 HRS)	QUARTERLY (1000 HRS)	SEMI-ANNUAL (2500 HRS)	ANNUALLY (5000 HRS)
1	Check all electrical cables for security and damage.	<b>X</b>					
2	Check all hydraulic, and moving mechanisms daily. Perform maintenance as required	<b>X</b>					
4	Disconnect, clean and coat Deutsch connector junctions with Dielectric grease						<b>X</b>
5	Check all hydraulic solenoids and hosing for security and leaks.	<b>X</b>					
6	Check water cannon/nozzle assembly for security leaks and condition. Repair as required.	<b>X</b>					
7	Check complete operation capabilities; if operation seems slow or halting, investigate PTO drive.						<b>X</b>
8	Check all in-cab control functions for proper operation. Repair and replace control components as required.	<b>X</b>					
9	Check hose reel for security, mounting, and leaks.	<b>X</b>					
10	Unreel the entire length of hose, pressurize hose and check hose and nozzle for security, wear and leaks. Manually grease hose reel lube points. Check friction adjustment for proper operation						<b>X</b>
STEP	MOH STRUCTURE	WEEKLY (150 HRS)	BI-WEEKLY (250 HRS)	MONTHLY (500 HRS)	QUARTERLY (1000 HRS)	SEMI-ANNUAL (2500 HRS)	ANNUALLY (5000 HRS)
1	Check filler port trash screen for debris and inspect assembly for security and damage. Repair or replace trash screen as required.	<b>X</b>					
2	Visually inspect tank exterior for damage and evidence of leaks. Repair as required			<b>X</b>			
3	Drain tank and remove water pump sump access cover. Remove trash and inspect sump area for damage.			<b>X</b>			
4	Check all lights (turn signal, brake, backing, parking, clearance, and work) for proper operation. Replace lights as required.			<b>X</b>			
5	Check all interior tank structure for leaks, cracks and condition of epoxy coating (if equipped). Repair structure and coatings as required.					<b>X</b>	
6	Check body pad and guides for cracks, security and damage. Repair or replace as required.	<b>X</b>					

## SECTION 2

### Scheduled Maintenance Inspections

STEP	M-3 WATER PUMP SYSTEM	150 HRS (WEEKLY)	250 HRS (BI-WEEKLY)	500 HRS (MONTHLY)	1,000 HRS (QUARTERLY)	5,000 HRS (ANNUALLY)
1	Remove water pump from unit and check: water pump impeller retaining bolt/nut for security and for damage or contact to the impeller, impeller key ways for wear and security, shaft bearings for signs of heating and wear, drive end shaft key ways for signs of damage and heating and seals for security, damage and over or under lubrication. Check volute case for damage or contact. Check both of the impeller wear rings for damage and excessive wear. Check packing mount for security. (Disassembly of water pump is required to perform these maintenance operations). Repair as required.					<b>X</b>
2	Check shaft seals for excessive lubricant leakage and water leakage. Lubricate water pump with a manual grease gun only. When lubricating the drive motor side shaft bearing and the impeller end bearing, apply 16 to 20 squirts (injections) of grease (2 fl. oz. or 60 cc) to each. Adjust, repair or replace as required.		<b>X</b>			
3	Check water pump and drive motor for leaks, excessive vibration/noise leaks and evidence of excessive heating. Repair as required.	<b>X</b>				
4	Check rope seals for excessive water leakage, compression, wear and overheating. Adjust rope packing seal packing gland or replace rope packing seals as required.	<b>X</b>				
5	Check water pump inlet and discharge piping for security, leakage and misalignment. Repair leaks as required.				<b>X</b>	

STEP	HYDRAULIC SYSTEM	150 HRS (WEEKLY)	250 HRS (BI-WEEKLY)	500 HRS (MONTHLY)	1,000 HRS (QUARTERLY)	5,000 HRS (ANNUALLY)
1	Check hydraulic pump for security and leaks. Check hoses for damage and security.				<b>X</b>	
2	Check hydraulic reservoir for damage, security, and leaks.				<b>X</b>	
3	Check hydraulic charge and return filters for damage security and leaks. Ensure filters are not in bypass condition.				<b>X</b>	

**SECTION 2**  
**Scheduled Maintenance Inspections**

## SECTION 3

### Recommended Support Parts

#### Contents

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#### DESCRIPTION

This section contains a listing of recommended support parts that should be available in the supply warehouse. The tables are categorized by specific sub-system of the MOH. **Do not forget** that all MOHs are not configured the same and there are several variations of water pumps, hydraulic drive motors, water cannons, and BFVs. Ensure MOH serial numbers and actual component part numbers are checked before ordering any parts. Once parts are issued from warehouse stock ensure depleted quantities are replenished to keep the recommended support parts package at 100%.

Several support parts are designated as a "**Quick Change Component**" (QCC) and should be used to minimize repair time of an operational MOH. Broken assemblies can be repaired by maintenance repair facilities and later returned to the supply warehouse as a serviceable part.

A. SPRAY HEAD PARTS GROUP		
PART DESCRIPTION	PART NO.	QTY
1. Drop-in Assembly	300409	6
2. Diaphragm	300208	18
3. Guide Disk, Lower	300209	2
4. Guide Disk, Upper	300210	2
5. Stem Bolt	300211	2
6. O-Ring, Stem Bolt	300215	4
7. Nut, Stem	300214	2
8. Washer, Bell	300212	2
9. Cap Screw, SS, Housing	355335	16
10. Washer, Lock, SS, Housing	355337	16
11. Washer, Flat, SS, Housing	355336	16
12. Adjusting Ring	300216	6
13. Knob, Adjusting Ring	302912	6
14. O-Ring, Base	354502	16
15. Washer, Flat (Base Plate Mount)	355295	8
16. Bolt (Base Plate Mount)	355294	8
17. Hydraulic Spray System <b>**MOH Serial No. Specific Part</b>		
a. (STD) Hydraulic Spray Head Assy. ( <i>Quick Change Component</i> )	025610	2
b. Cylinder, Hydraulic	304744	2
c. Nut, Hex ½ x 20	350044	4
d. Spring	305304	1
e. Acorn Nut 1/2-20 Stainless Steel	307822	
18. Hydraulic Stainless Steel Spray Head, 3 inch <b>**MOH Serial No. Specific Part</b>	047062	2

## SECTION 3

### Recommended Support Parts

<b>B. CONTROL SYSTEM PARTS GROUP</b>		
PART DESCRIPTION	PART NO.	QTY
1. Water Level		
a. Sensor	303822	1
b. Indicator, Mini	305967	1
c. Cable (Trim to Fit)	041485	/ft
2. Solenoid Module		
a. Solenoid	307313	2
b. Cartridge Valve	307312	2
3. Cab Controls		
a. Switch, Floodlight, White/Green, SPST	308919	1
b. Lamp Indicator, Filter Plugged, Red	307215	1
c. Switch, Red, SPST	309074	6
d. Red indicator light	307215	1
e. Forestry Water Cannon Joystick Box	307203	1
4. Charge pump filter element	307306	1 case
5. Return pump filter element	307307	1 case
6. Clogging indicator non-bypass	308037	1
7. Clogging indicator return	308038	1

<b>C. HYDRAULIC DRIVE MOTOR PARTS GROUP</b>		
PART DESCRIPTION	PART NO.	QTY
1. Drive Motor, Fixed	307151	1
2. Drive Motor Speed Sensor	307303	1
3. Flushing Valve	307304	1
4. Drive Motor Seal Kit	307305	1

<b>D. HYDRAULIC PISTON PUMP PARTS GROUP</b>		
PART DESCRIPTION	PART NO.	QTY
1. Pilot control	307300	1
2. Drive shaft	307301	1
3. Shaft seal	307302	1

<b>E. HEAT EXCHANGER PARTS GROUP</b>		
PART DESCRIPTION	PART NO.	QTY
1. Heat Exchanger with 12VDC Fan (QCC Part)	307154	1
2. 12 VDC motor/fan	307309	1
3. Shroud	307310	1
4. Bypass Check Valve	307311	1
5. Temperature switch	307159	1

## SECTION 3

### Recommended Support Parts

F. WATER PUMP PARTS GROUP (M-3)		
PART DESCRIPTION	PART NO.	QTY
1. M-3 Water Pump, Victaulic	307149	1
2. Packing, 3/8", Set of 4 rings, M-3 Pump	304967	3
3. Shaft Assembly	304955	1
4. Seal, Grease	304960	2
5. Ring, Snap	304957	1
6. Ring, Thrust	304956	1
7. Key, Impeller	304962	2
8. Coupling	305102	1
9. Screw, Set	305107	2
10. Key, Coupling, M-3 Pump	305101	1
11. Seal, Volute, M-3 Pump	304973	1
12. Bolt, Impeller, M-3 Pump	304972	1
13. Washer, Lock, Impeller, M-3 Pump	304971	1
14. Washer, Impeller, M-3 Pump	304970	1
15. Wear Sleeve, M-3 Pump	304961	1
16. Packing Gland, Set	304969	1
17. Stud, Packing Gland	304966	2
18. Nut, Packing Gland	304757	4

G. WATER CANNON SUPPORT PARTS GROUP		
PART DESCRIPTION	PART NO.	QTY
1. Joint Rebuild Kit	305141	1
2. Electric Water Cannon <b>** MOH Serial No. Specific Part</b>		
a. Motor, Electric, 12 VDC	304619	1
b. Adjustable Nozzle	307201	
c. Quick Disconnect, 2.0"	307205	
3. Ball Valve 12 VDC Assembly (QCC Part)	307202	1

If your system is not covered in this manual or are having difficulties locating the necessary components please

H. HOSE REEL PARTS GROUP		
PART DESCRIPTION	PART NO.	QTY.
1. Hose Reel, Spring Rewind, 1.0" X 50'	308197	
2. Hose Assembly, 1.0" X 50"	300261	
3. Nozzle, 1.0", Hose Reel	301948	
4. Stop, Hose, 1"	306939	



## SECTION 3

### Recommended Support Parts

I. MISCELLANEOUS PARTS GROUP		
PART DESCRIPTION	PART NO.	QTY
1. Valve, Butterfly, 3"	300030	1
2. Valve, Butterfly, 4"	300031	1
3. Handle, 3" Butterfly Valve	300104	1
4. Valve, Gate, 1.5" (Spray Bar)	300106	1
5. Valve, 3/4" Ball (Spray Bar)	300627	2
6. Seal, Coupling, 3" Dresser	300819	2
7. Seal, Coupling, 4" Dresser	300820	2
8. Lamp, LED, Clearance, Red (Small)	306116	
9. Lamp, LED, Clearance, Yellow (Small)	306117	
10. S/T/T, Light, LED, 4.0" Round, Red	307178	
11. Lamp, LED, Backup, 4.0" Round, Clear	307180	
12. S/T/T Pigtail, Right Angle	307177	
13. S/T Pigtail, Right Angle	307179	
14. Grommet, 4.0", Round, Lamp	307176	
15. License Plate Lamp, LED	307181	
16. Light Bar, LED, 17", Red	307183	
17. Lamp, Work Light, LED, 12VDC	307341	
18. Spring, Body Mount	300022	
19. Body Pad, 18" X 1.19"	307135	
20. Butterfly Valve, Hydraulic 4.0" (QCC Part)	029825	
21. Gasket, Neoprene, 1/8"	022745	
22. Light Assembly, Work, 24VDC	302474	1

Contact MEGA Corp. Product Support Group at:

US Toll Free: 1-800-345-8889 or Direct: 1-505-345-2661 or visit our website at [www.megacorpinc.com](http://www.megacorpinc.com) for more detailed contact information.