



MOH4-INSP-RSP-5

SPECIALTY HAULAGE SOLUTIONS FOR CONSTRUCTION AND MINING

SCHEDULED/SPECIAL INSPECTIONS & RECOMMENDED SUPPORT PARTS



MEGA CORP.®

700 Osuna Rd. N.E. • Albuquerque, NM 87113 • 1-800-345-8889 • 505-345-2661 • Fax 505-345-6190

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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 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

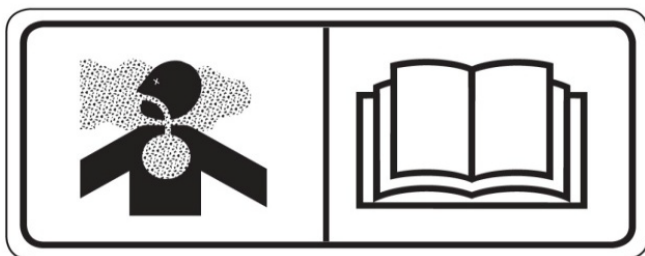
There are several specific safety messages on this machine. The exact location of the hazards and description of the hazards are reviewed in this section. All personnel working on or operating the machine must become familiarized with all the safety messages.

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.

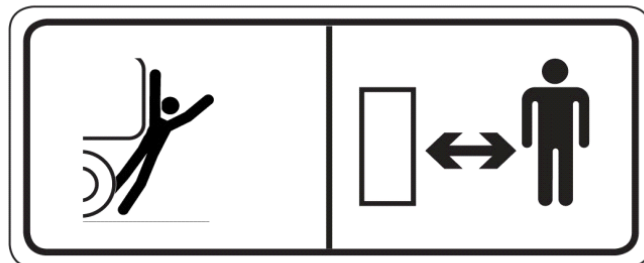


⚠ WARNING

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.

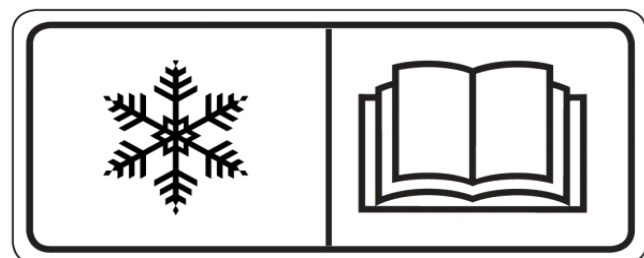


⚠ WARNING

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

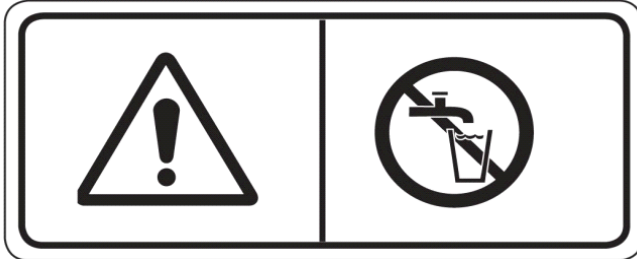
Drain tank, fill pipe and valve in freezing weather. Refer to the Operator and Maintenance Manual for the procedure to follow.

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.

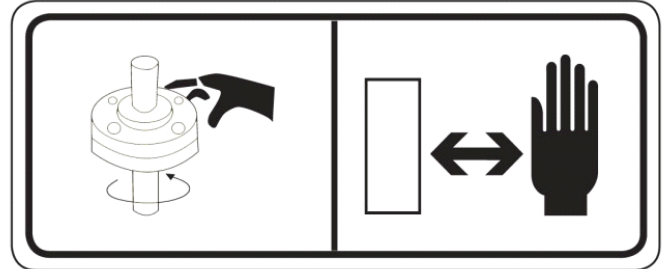


⚠ WARNING

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.

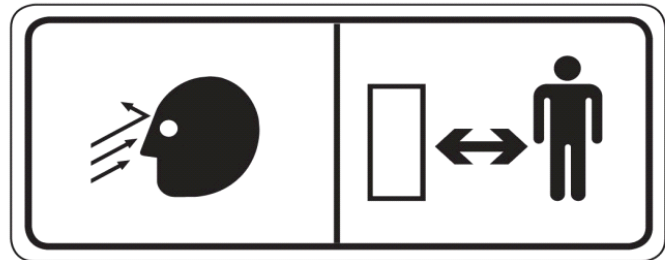


⚠ WARNING

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

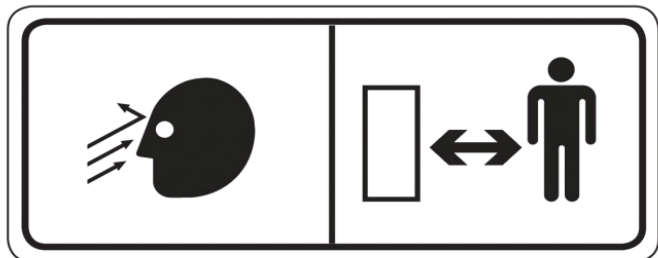
Do not operate spray heads until all personnel are a safe distance away from the vehicle.

SECTION 1

Definitions and Abbreviations

HIGH PRESSURE WATER CANNON (8)

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

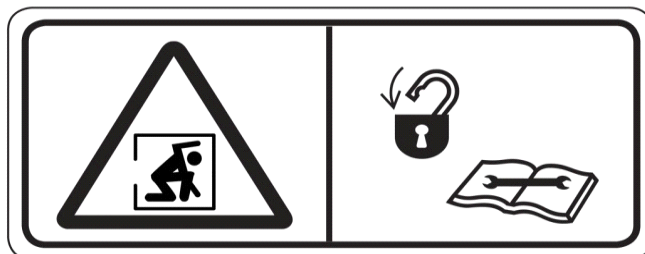


WARNING

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.

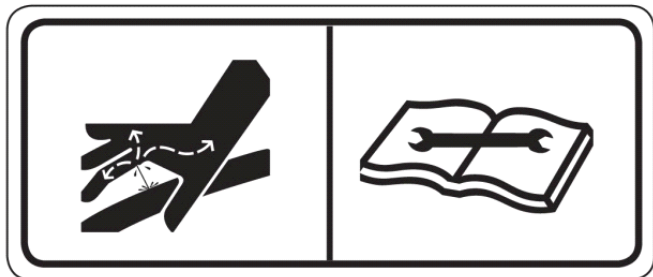


WARNING

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

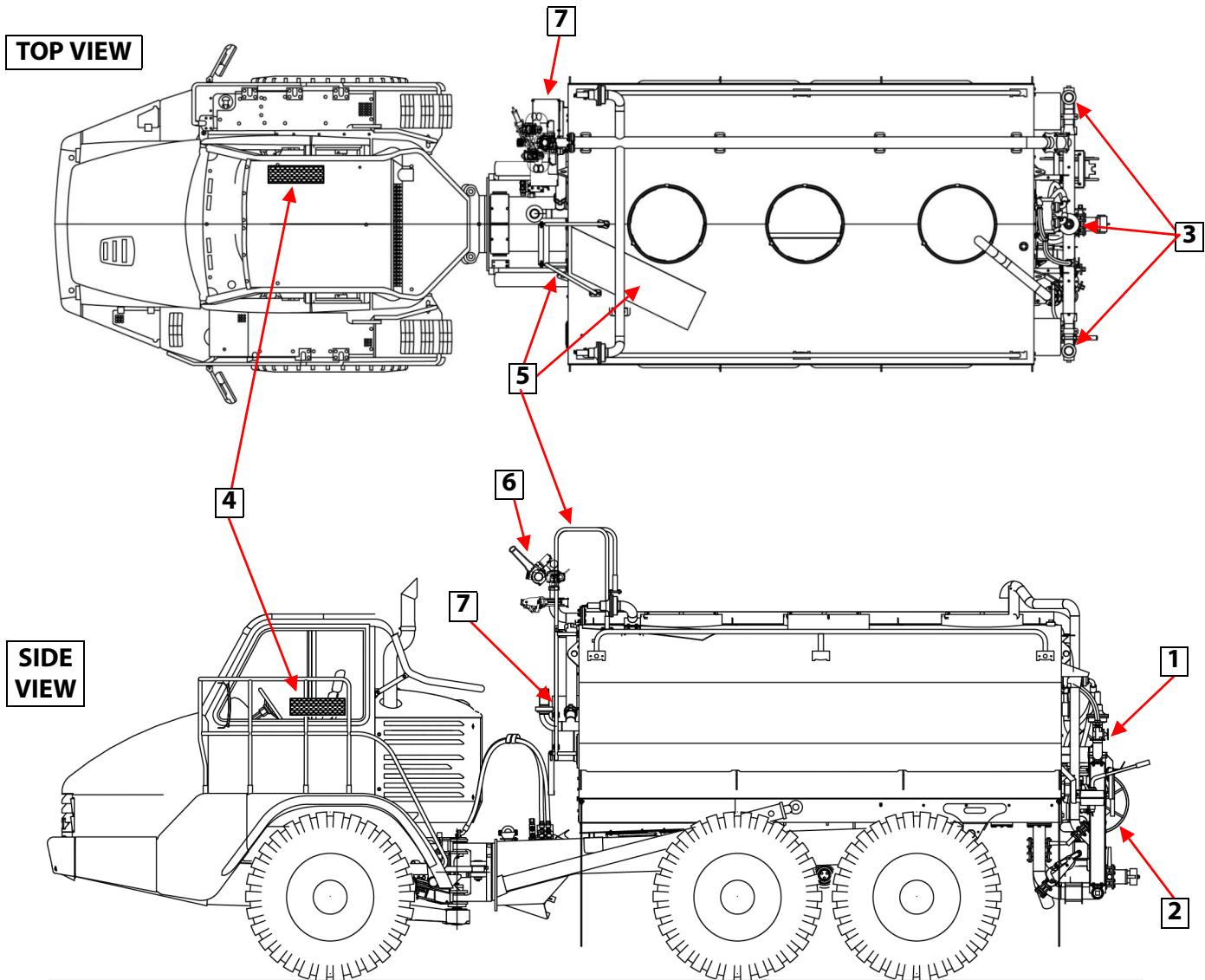
SYMBOLOLOGY

Symbol	Name	Function
	PTO	Activate the PTO pump
N/A	WATER PUMP FLOW DIAL	Adjusts the drive motor speed and water pump flow
	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

SECTION 2

Scheduled Maintenance Inspections

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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					
SPRAY HEADS							
STEP		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.	X					
2	Check all air, hydraulic, and moving mechanisms daily before operating the PTO. Perform maintenance as required	X					
4	Disconnect, clean and coat Deutsch connector junctions with Dielectric grease						X
5	Check all hydraulic solenoids and hosing for security and leaks.	X					
6	Check water cannon/nozzle assembly for security leaks and condition. Repair as required.	X					
7	Check complete operation capabilities; if operation seems slow or halting, apply a very small amount of low temperature white lithium grease to the manual grease points. Inspect valve for proper operation and check to ensure that actuator is greased. If grease is broken down or liquefied, install additional low temperature lithium grease to actuator gear.						X
8	Check all in-cab control functions for proper operation. Repair and replace control components as required.	X					
9	Check hose reel for security, mounting, and leaks.	X					
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, lightly clean and oil chain as necessary. Check friction adjustment for proper operation						X
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.	X					
2	Visually inspect tank exterior for damage and evidence of leaks. Repair as required			X			
3	Drain tank and remove water pump sump access cover. Remove trash and inspect sump area for damage.			X			
4	Check all lights (turn signal, brake, backing, parking, clearance, and work) for proper operation. Replace lights as required.			X			
5	Check all interior tank structure for leaks, cracks and condition of epoxy coating (if equipped). Repair structure and coatings as required.					X	
6	Check body pad and guides for cracks, security and damage. Repair or replace as required.	X					

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.					X
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.		X			
3	Check water pump and drive motor for leaks, excessive vibration/noise leaks and evidence of excessive heating. Repair as required.	X				
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.	X				
5	Check water pump inlet and discharge piping for security, leakage and misalignment. Repair leaks as required.				X	

SECTION 2
Scheduled Maintenance Inspections

SECTION 3

Recommended Support Parts

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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 **MOH Serial No. Specific Part		
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
18. Hydraulic Stainless Steel Spray Head, 3 inch **MOH Serial No. Specific Part	047062	2

SECTION 3

Recommended Support Parts

B. CONTROL SYSTEM PARTS GROUP		
PART DESCRIPTION	PART NO.	QTY
1. Sensor, Water Level	303822	1
2. Solenoid Module		
a. Solenoid	307313	2
b. Cartridge Valve	307312	2
3. Cab Controls		
a. Micro controller	307314	1
b. Master rocker switch group	307315	1
c. Subordinate rocker switch group	307316	6
d. Yellow indicator light	307317	1
e. Red indicator light	307215	1
f. Face plate top panel	049264	1
g. Face plate bent panel	049265	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

C. HYDRAULIC DRIVE MOTOR PARTS GROUP		
PART DESCRIPTION	PART NO.	QTY
1. Drive Motor Speed Sensor	307303	1
2. Flushing Valve	307304	1
3. Drive Motor Seal Kit	307305	1

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

E. HEAT EXCHANGER PARTS GROUP		
PART DESCRIPTION	PART NO.	QTY
1. 12 VDC motor/fan	307309	1
2. Shroud	307310	1
3. Bypass Check Valve	307311	1
4. Temperature switch	307159	1

F. WATER PUMP PARTS GROUP (M-3)		
PART DESCRIPTION	PART NO.	QTY
1. M-3 Pump Station	304954	1
2. Packing, 3/8", Set of 4 rings, M-3 Pump	304967	3
3. Shaft Assembly	304955	1

SECTION 3

Recommended Support Parts

F. WATER PUMP PARTS GROUP (M-3)		
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 ** MOH Serial No. Specific Part		
a. Motor, Electric, 24 VDC	304618	1
b. Motor, Electric, 12 VDC	304619	1
3. Hydraulic Water Cannon ** MOH Serial No. Specific Part		
a. Motor, Hydraulic	304656	1
b. Solenoid Valve (Water Cannon Control Valve Assembly)	304858	1
c. Solenoid Coil (Water Cannon Control Valve Assembly)	304859	2

H. 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. O-Ring, #16 (Split Flange)	354814	10
9. Gasket, Pipe Flange, 3.00"	034714	4
10. Clearance Light, Amber	355375	1
11. Clearance Light, Red	355374	1
12. LED, 4", Light, Red	305280	2
13. Light Assembly, Work, 24VDC	302474	1

If your system is not covered in this manual or are having difficulties locating the necessary components please 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 for more detailed contact information.

SECTION 3
Recommended Support Parts