



GENUINE MEGA

SPECIALTY HAULAGE SOLUTIONS FOR CONSTRUCTION & MINING

MFATI-4

MEGA FOAM AGENT TANK INSTALLATION



EQUIPMENT ➤ **PARTS** ➤ **SUPPORT** ➤



700 Osuna Rd. NE · Albuquerque, NM 87113

www.megacorpinc.com

TABLE OF CONTENTS

	Page
Section 1	Definitions and Abbreviations1-1
Section 2	Cab Control Installation2-1
Section 3	Tank Assembly Installation3-1
Section 4	Operations.....4-1
Appendix	Installation Drawings.....A-1

TABLE OF CONTENTS

SECTION 1

Definitions and Abbreviations

Contents

Manual Usage	1-1	Safety Messages	1-2
Warning, Caution And Notes	1-1	Abbreviations	1-5
Use Of Shall, Will, Should And May	1-1		

MANUAL USAGE

This technical manual only contains information required to safely install, service, and operate Mega's Digital Spray Control System (DiSCS®). This manual covers both the retro installation and the full DiSCS® hydraulic control installation. 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 at: 1-800-345-8889 or visit our web site at www.megacorpinc.com for more detailed information.

The exact location of the hazards and description of the hazards are reviewed in this section. All personnel working on or operating the system 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

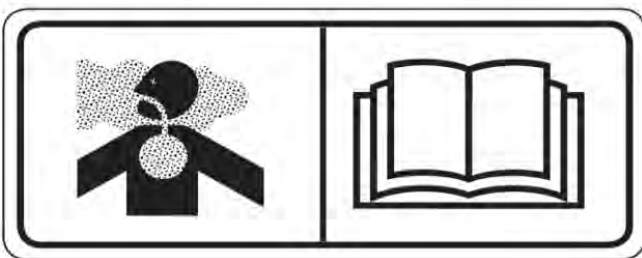
There are several specific safety messages on this machine. The exact location of the hazards and description of the hazards are reviewed in this section. All personnel working on or operating the machine must become familiarized with all the safety messages.

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.

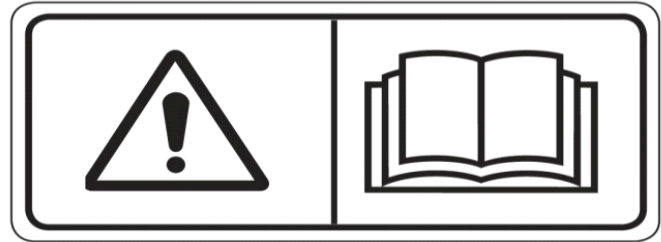


⚠ WARNING

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.

DO NOT OPERATE (2)

This safety label is located on the outside of the front and rear control boxes (if equipped).

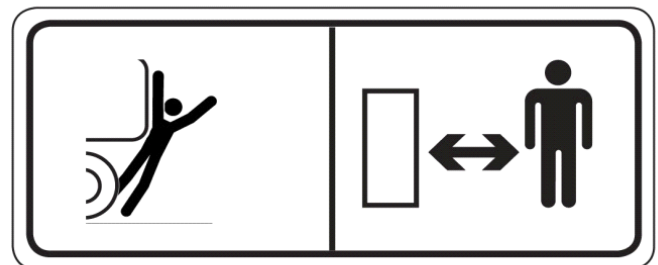


⚠ WARNING

Do not open this control box unless you read and understand the instructions and warnings in the Operator and Maintenance Manual. Failure to follow instructions or heed the warnings could result in serious injury or death.

BACKING RUN OVER HAZARD (3)

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



⚠ WARNING

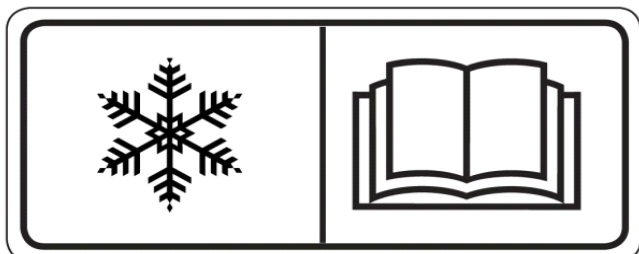
The vehicle is equipped with a back-up alarm. Alarm must sound when operating this vehicle in reverse. Failure to maintain a clear view in the direction of travel could result in serious injury or death.

SECTION 1

Definitions and Abbreviations

FREEZING (4)

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

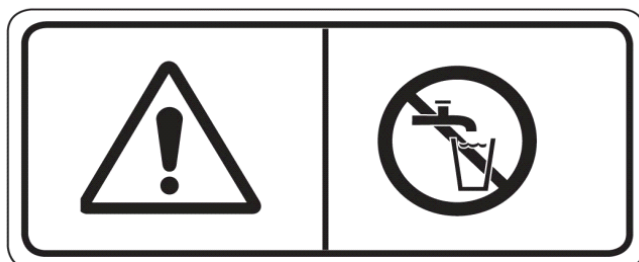


⚠ WARNING

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

NON-POTABLE (5)

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.

DO NOT HOIST WHILE IN MOTION (6)

This safety label is located inside the cab.

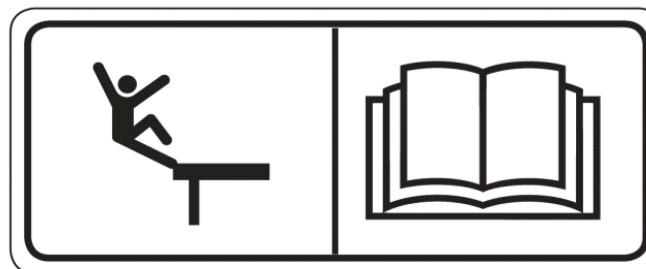


⚠ WARNING

Do not engage hoist cylinders while vehicle is in motion. Before engaging hoist STOP the vehicle. Do not engage hoisting cylinders unless you read and understand the instructions and warnings in the Operator or Maintenance Manual. Failure to follow instructions or heed the warnings will result in injury or death.

FALL HAZARD (7)

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



⚠ WARNING

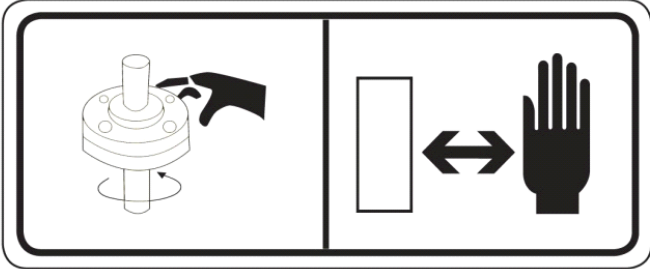
Do not walk on the top of tank without fall arrest PPE. Serious injury or death could occur from a fall.

SECTION 1

Definitions and Abbreviations

ROTATING SHAFT (8)

This safety label is located on the pump.

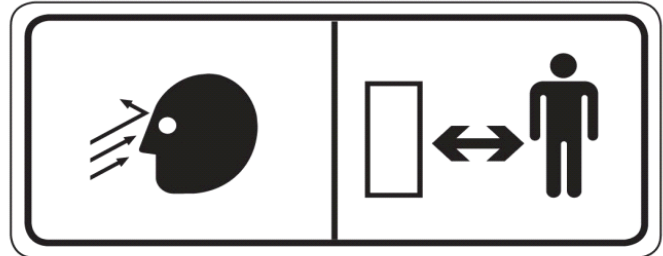


⚠ WARNING

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 WATER CANNON (10)

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

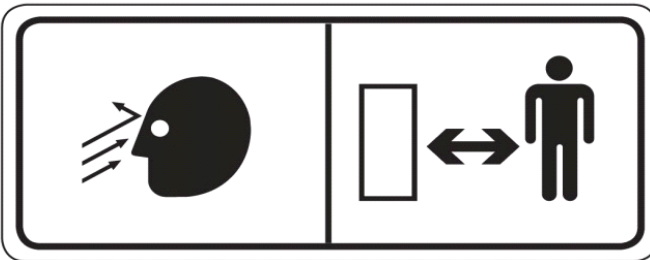


⚠ WARNING

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

HIGH PRESSURE SPRAY HEADS (9)

This safety label is located on the spray bar.

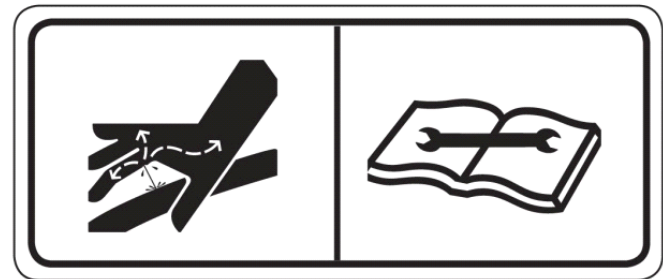


⚠ WARNING

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

HIGH PRESSURE MOTOR (11)

This safety label is located on the hydraulic motor.



⚠ WARNING

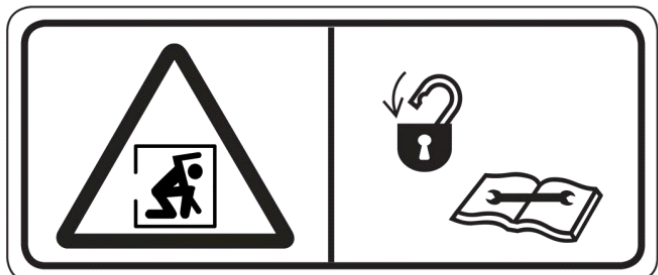
Hydraulic motor and supply lines contain oil under high pressure. Improper removal and repair procedures could cause severe injury. To remove or repair, instructions in the Maintenance Manual must be followed.

SECTION 1

Definitions and Abbreviations

CONFINED SPACE (12)

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.

ABBREVIATIONS

BFV - Butterfly Valve
cc - Cubic Centimeters
CCW - Counter Clockwise
CW - Clockwise
DiSCS - Digital Spray Control System
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 operators position facing forward
m - meters
MPH - Miles Per Hour
Nm - Newton meters of torque
psi - pounds per square inch
RPM - Revolutions Per Minute
RT - Right as viewed from the operators position facing forward
SQ FT - Square Feet
VDC - Volts, Direct Current
P/G/I - Power/Ground/Ignition

SECTION 1
Definitions and Abbreviations

SECTION 2 Cab Control Installation

Contents

Description	2-1	DiSCS® 1.0/1.5 Spray System.....	2-2
Analog Spray System.....	2-1	DiSCS® 2.0 Spray System	2-2

DESCRIPTION

The steps below outline the requirements to complete installation of the control switches for foam agent operation as well as adjustable nozzle functions.

If your system is not covered in this manual or you are having difficulties with the installation please contact The MEGA Corp. Product Support Group at:

U.S. Toll Free 1-800-345-8889 or
Direct 1-505-345-2661

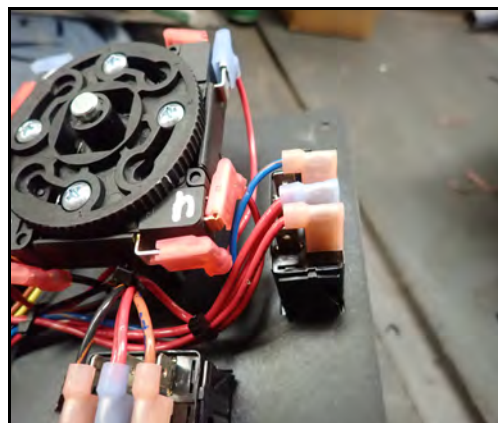
or visit our website at www.megacorpinc.com for more contact information.

ANALOG SPRAY SYSTEM

1. Locate new switches for FOAM and ADJUSTABLE NOZZLE.
2. Locate wiring diagram in Appendix.
3. Remove screws from face plate.



4. Remove cavity covers for FOAM and FOG/STREAM.



5. Install switches with wiring.
6. Follow wiring diagram and wire labels for wiring in new switches.

WIRE COLOR	STRIPE	FUNCTION
BLACK		PUMP SOLENOID -
RED		PUMP SOLENOID +
BLUE		WORK LIGHT
ORANGE		LEFT VSS
YELLOW		LEFT REAR
BROWN		LEFT REAR CENTER
RED	BLACK	RIGHT REAR CENTER
BLUE	BLACK	RIGHT REAR
ORANGE	BLACK	RIGHT VSS
YELLOW	BLACK	DUMP BAR BFV
BROWN	BLACK	DRAIN BFV
BLACK	RED	AUX (REGULATED)
BLUE	RED	WATER LEVEL (POWER)
ORANGE	RED	WATER LEVEL (SIGNAL)
YELLOW	RED	MONITOR RIGHT
BROWN	RED	MONITOR DOWN
BLACK	BLUE	MONITOR LEFT
RED	BLUE	MONITOR UP
ORANGE	BLUE	MONITOR BFV OPEN
YELLOW	BLUE	MONITOR BFV CLOSE
BROWN	BLUE	ADJ NOZZLE STREAM
BLACK	ORANGE	ADJ NOZZLE FOG/FAN
RED	ORANGE	FOAM OPEN
BLUE	ORANGE	FOAM CLOSE

12 PIN CONNECTOR FOR JOY STICK		
RED		POWER (24VDC+)
BROWN	RED	MONITOR DOWN
BLACK	BLUE	MONITOR LEFT
RED	BLUE	MONITOR UP
BROWN	BLUE	ADJ NOZZLE STREAM
BLACK	ORANGE	ADJ NOZZLE FOG/FAN
RED	ORANGE	FOAM OPEN
BLUE	ORANGE	FOAM CLOSE
YELLOW	RED	MONITOR RIGHT
BLACK		GROUND
BLANK	BLANK	N/A

SECTION 2 Cab Control Installation

WIRE#	WIRE COLOR	STRIPE	FUNCTION
1	BLACK		PUMP SOLENOID -
2	RED		PUMP SOLENOID +
3	BLUE		WORK LIGHT
4	ORANGE		LEFT BUMPER ON
5	YELLOW		LEFT BUMPER OFF
6	BROWN		LEFT VSS ON
7	RED	BLACK	LEFT VSS OFF
8	BLUE	BLACK	LEFT REAR ON
9	ORANGE	BLACK	LEFT REAR OFF
10	YELLOW	BLACK	LEFT CENTER ON
11	BROWN	BLACK	LEFT CENTER OFF
12	BLACK	RED	RIGHT CENTER ON
13	BLUE	RED	RIGHT CENTER OFF
14	ORANGE	RED	RIGHT REAR ON
15	YELLOW	RED	RIGHT REAR OFF
16	BROWN	RED	MONITOR RIGHT
17	BLACK	BLUE	MONITOR DOWN
18	RED	BLUE	MONITOR LEFT
19	ORANGE	BLUE	MONITOR UP
20	YELLOW	BLUE	MONITOR BFV OPEN
21	BROWN	BLUE	MONITOR BFV CLOSE
22	BLACK	ORANGE	RIGHT VSS ON
23	RED	ORANGE	RIGHT VSS OFF
24	BLUE	ORANGE	RIGHT BUMPER ON
25	YELLOW	ORANGE	RIGHT BUMPER OFF
26	BROWN	ORANGE	WATER LEVEL # 4 WHITE
27	BLACK	YELLOW	WATER LEVEL # 3 RED
28	RED	YELLOW	WATER LEVEL GROUND
29	BLUE	YELLOW	GROUND
30	ORANGE	YELLOW	DUMP BAR OPEN
31	BROWN	YELLOW	DUMP BAR CLOSE
32	BLACK	BROWN	DRAIN OPEN
33	RED	BROWN	DRAIN CLOSE
34	BLUE	BROWN	NOZZLE STREAM
35	ORANGE	BROWN	NOZZLE FOG
36	YELLOW	BROWN	FOAM OPEN
37	BLACK	BLACK	FOAM CLOSE
38	RED	14 GA	#2 POWER BUS 24 VDC+
39	BLACK	14 GA	CHASSIS GROUND -
40	RED	14 GA	#1 POWER BUS 24 VDC+

DISCS® 2.0 SPRAY SYSTEM

1. Locate and install ECOM communication service tools and programs.
2. Remove weather plug from controller.
3. plug adapter wiring harness into controller inside of solenoid box.
4. Access program through laptop computer (See PIB-9, DiSCS® 2.0 Spray System Configuration Instructions).
5. Scroll to WATER CANNON Configuration and change to 3 (FOAM)
 - a. This will activate the joy stick controls for the adjustable nozzle and foam agent valve.
6. Close program.
7. Re-install weather plug on controller.



7. Reinstall face plate.

SECTION 3

Tank Assembly Installation

Contents

Description	3-1
Foam Tank Installation	3-1
Adjustable Nozzle Installation	3-1
Foam Agent Actuator Installation.....	3-2
Ground Fill Installation.....	3-3

DESCRIPTION

Follow the steps below to install the foam agent tank and adjustable spray nozzle to existing MEGA tank.

If your system is not covered in this manual or you are having difficulties with the installation please contact The MEGA Corp. Product Support Group at:

U.S. Toll Free 1-800-345-8889 or
Direct 1-505-345-2661

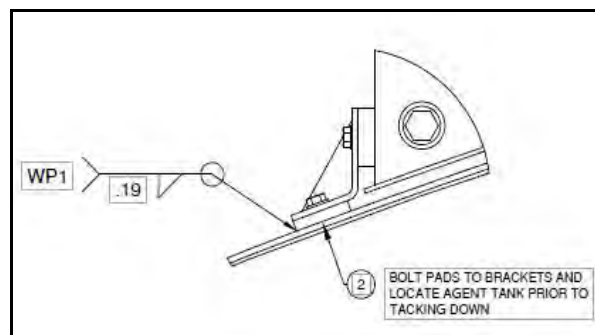
or visit our website at www.megacorpinc.com for more contact information.

FOAM TANK INSTALLATION



1. Locate foam tank legs, weld on pads, and hardware.
2. Using the Appendix drawing as a guide, locate foam tank on top of water tank.
 - a. Adjustments may be required depending on obstructions on tank that may prohibit the placement of the tank exactly where drawing indicates.
3. Prepare tank top area for welding on tank mounting pads.

4. Weld pads to tank top and any additional stand offs that may have been required as shown below and in Appendix.



5. Prepare and paint welded, scuffed surfaces
6. Inspect interior coating (If required), repair as necessary.
7. Tighten all mounting hardware.

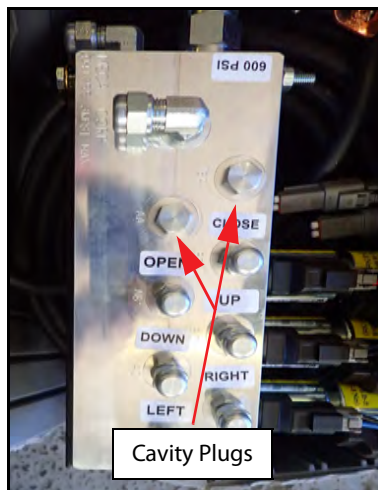
ADJUSTABLE NOZZLE INSTALLATION



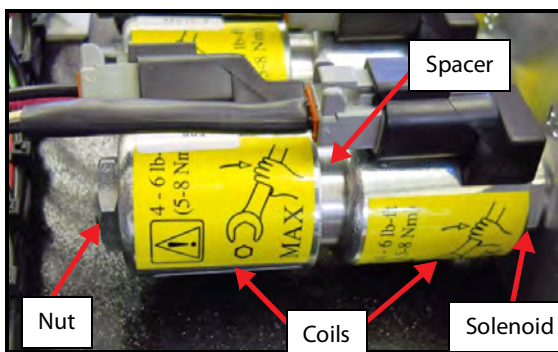
1. Locate foam agent nozzle, hydraulic hoses and fitting for nozzle, foam agent hose and clamps to place between the foam agent valve and nozzle.
2. Remove straight bore nozzle.
3. Thread foam nozzle onto cannon.
4. If required, remove cannon hydraulic valve bank cover.

SECTION 3 Tank Assembly Installation

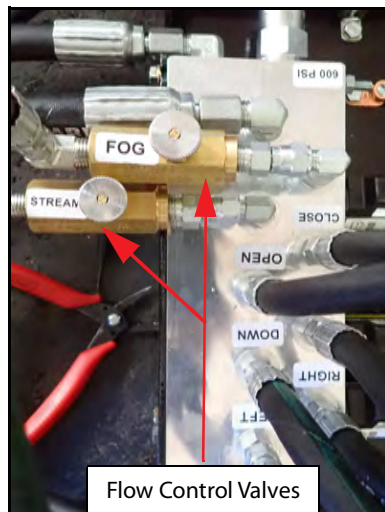
- a. Remove cavity plugs for hydraulic ports and spool valve.



- b. Install new spool valve and 2 coils for nozzle control (FOG/STREAM).



- c. Connect wiring to new coils.
d. Install hydraulic port fittings, flow controls and open fully.



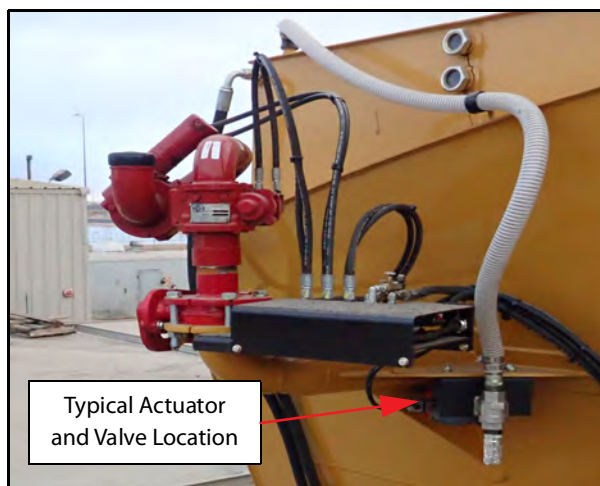
1. Loosen jam nut on flow controls and open fully.

- e. Reinstall solenoid valve bank cover plate.

5. Install the 2 hydraulic hoses to the nozzle cylinder and solenoid valve bank flow controls.
6. Route and secure hydraulic hoses as referenced in Appendix drawings.

FOAM AGENT ACTUATOR INSTALLATION

1. Locate foam agent valve, actuator, wiring, hose, and hardware.
2. Locate foam agent valve and voltage regulator (If required) on tank as shown below and in Appendix.



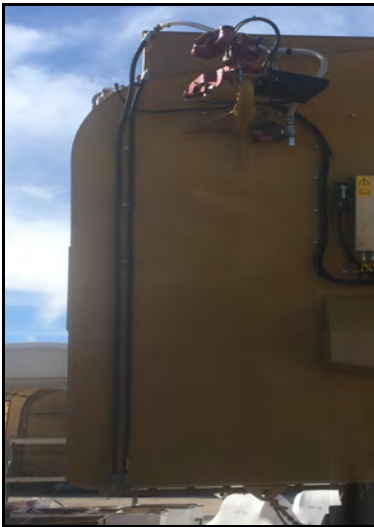
3. Secure foam valve and voltage regulators (If required).
4. Route, connect and secure cables to solenoid box for valve control.
5. Route foam agent hose from tank to valve and secure.
6. Observe operation of full cannon and nozzle movement. Adjust nozzle as required to position foam fitting so the hose can be secured to it and will not become tangled or catch other components while allowing full movement of nozzle.

SECTION 3

Tank Assembly Installation

7. Install foam agent hose from valve to nozzle fitting, following the routing observed when moving nozzle, secure hose.
8. Check operation to ensure proper movement of foam agent hose and adjustable nozzle hydraulic hoses, adjust as required.
6. Prepare and weld on block (if necessary) attach ball valve mounting plate.

GROUND FILL INSTALLATION



1. Locate ground fill assembly parts on 'foam agent tank ground fill drawing' (Typical 053445).
2. Assemble NPT to JIC fittings on ball valve.
3. Install ball valves on mounting plate as shown below and in Appendix.



4. Locate weld-on mounting block for valve plate.
5. Locate suitable location on chassis that is easily accessible so that the foam tank filling operation is safe and easy.

SECTION 3
Tank Assembly Installation

SECTION 4 Operations

Contents

Description	4-1	Nozzle Travel Speed	4-1
Filling Tank.....	4-1		

DESCRIPTION

The following steps detail the operation to fill foam agent tank from ground level and adjusting nozzle travel speed.

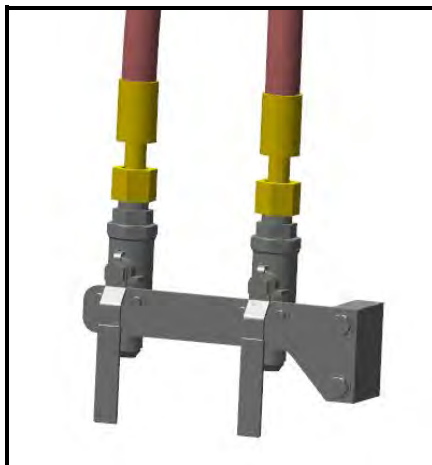
If your system is not covered in this manual or you are having difficulties with the installation please contact The MEGA Corp. Product Support Group at:

U.S. Toll Free 1-800-345-8889 or
Direct 1-505-345-2661

or visit our website at www.megacorpinc.com for more contact information.

FILLING TANK

1. Gather foam agent filling components (customer supplied) E.G; Foam solution, pumping device, hose with adapter for 3/4" female NPT.
2. Attach foam agent filling adapter to the FILL ball valve.

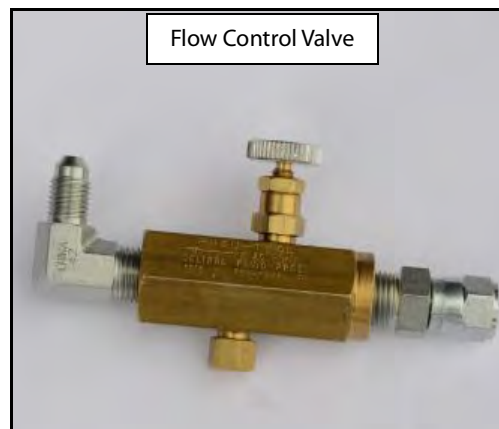


3. Attach filling device hose to the FILL adapter.
4. Place bucket under VENT hose.
5. Open the FILL and VENT ball valves.
6. Begin filling operation.

7. When foam agent begins to come out of the VENT hose stop filling operation and close valves.
8. Disconnect filling device and hose from tank.
9. Clean any foam agent that has spilled and all components and store agent and equipment.

NOZZLE TRAVEL SPEED

1. Operate nozzle from FOAM to STREAM, observe travel speed. If nozzle travels too fast, adjust both flow controls, shown below and in Appendix, to achieve desired travel speed.



2. When desired travel speed is achieved, lock adjustment knob in place with jam nut.
3. Retest nozzle speed

NOTE

If nozzle pattern is backwards from the switch, reverse the positions of the adjustable nozzle hoses.

SECTION 4

Operations

Appendix

Installation Drawings

DESCRIPTION

This section contains all of the drawings required to assemble and install the DiSCS® Retro System. These drawings are serial number specific and designed to be used in conjunction with previous section information to successfully produce a fully operational DiSCS® System.

If your system is not covered in this manual, you are having difficulties with the installation or need additional information or assistance, please contact The MEGA Corp. Product Support Group at:
U.S. Toll Free: 1-800-345-8889
Direct: 1-505-345-2661
or visit our website at www.megacorpinc.com for more contact information.

Appendix

Installation Drawings