

# AutoFry Fire Suppression System Manual

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## *Operation, Maintenance and Recharge Manual*

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For use in AutoFry Models MTI-5, 10, 10X, 10XL, 10XL-3 & 40C & 40E

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# Suppression System Operation, Maintenance and Recharge Manual

This manual is intended for use with the AutoFry stored pressure wet agent fire suppression system.

Those who install, inspect or maintain this system should read this entire manual.

The application and use of the stored pressure wet agent fire suppression system is limited to the use described in this manual.

Installation and service is to be performed by a certified fire suppression distributor or service representative.

*This system is made up of units tested within limitations contained in the detailed installation manual. The system designer must be consulted whenever changes are planned for the system or area of protection. An authorized installer or system designer must be consulted after the system has discharged.*

## OPERATION

### Automatic Operation

The fire suppression system will operate automatically upon separation of the fusible link in the cooking chamber. The power is automatically shut off to the heating element when the system is set off.

### Manual Operation

To manually actuate the fire suppression system, pull the manual pull station ring. The pull station cable has slack built in to it and must be pulled completely out. The power is automatically shut off to the heating element when the suppression system is set off.

## Fire System Building Egress Switch

In addition to the fire system safety circuit pressure switch the ANSUL® fire suppression tank is equipped with a building egress pressure switch.

The switch is provided with 3 leads, a common (black), a normally open (red) and a normally closed (green). In some locations it may be necessary to have the AutoFry connected to the building alarm system. A qualified fire protection company must make the connections to the building system if necessary.

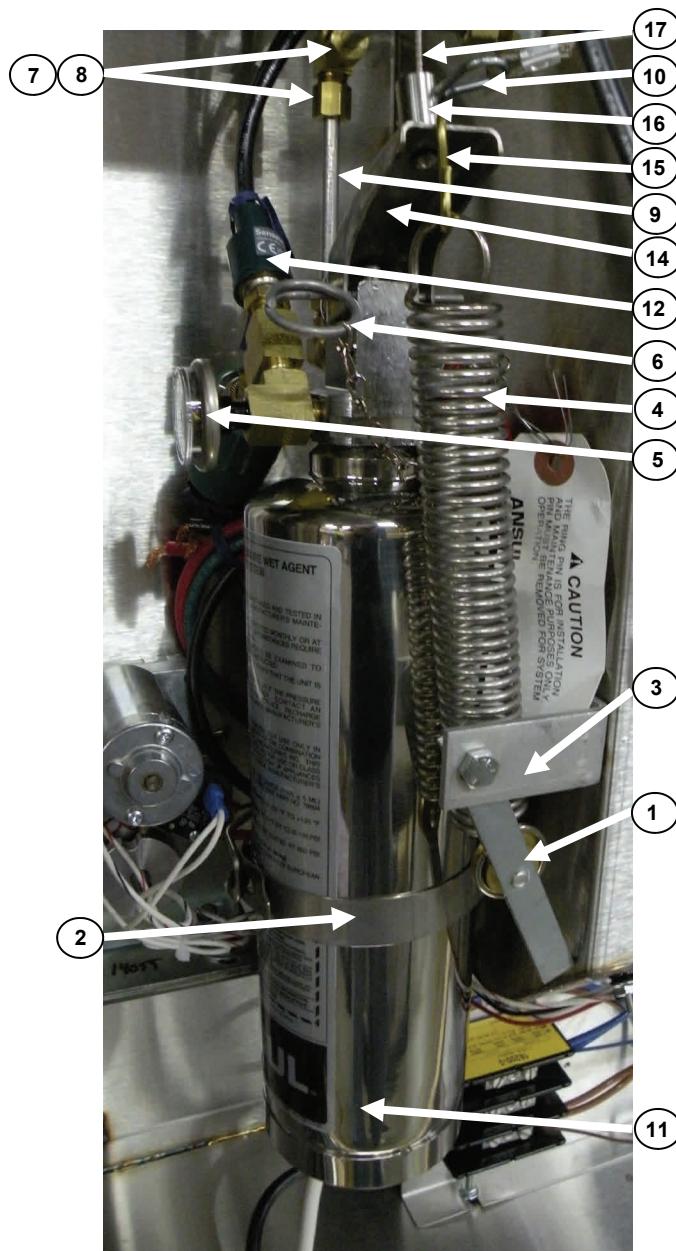


ANSUL Fire Suppression System Pressure Switches

## System Overview

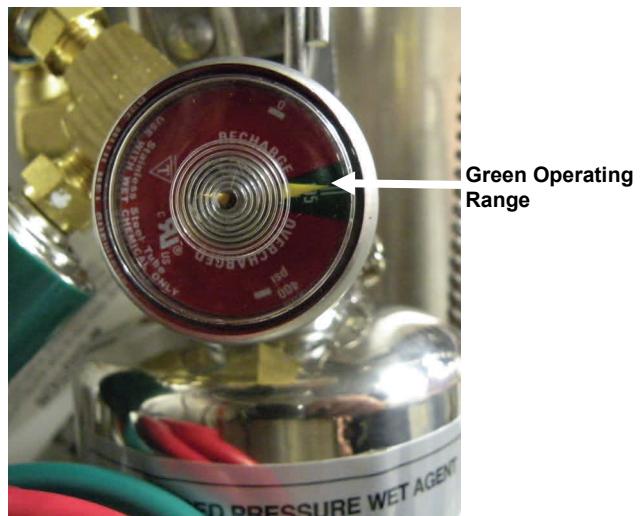
The stored wet agent fire suppression system provides automatic fire suppression. It is intended for use in the MTI AutoFry Models MTI-5, MTI-10 and MTI-40 commercial fryers.

Follow the instructions enclosed in this manual and all instructions in the system recharge manual.



Item	Part No	Description
ANSUL PN 430014 Complete Assembly w/Dual Switch MTI PN 20073-A		
1	78225	Spring Lever & Bracket Assembly
2	N/A	Tank Strap
3	N/A	Spring Bracket (part of 78225)
4	N/A	Spring (part of 78225)
5	73521	Pressure Gauge
6	432947	Ring & Chain Assembly
7	N/A	1/4" Compression Fitting
8	N/A	1/4"6061-T6Tubing
9	N/A	Discharge Adapter
10	79267	Cotter Pin
11	436149	Tank Assembly
12	N/A	Pressure Switch
13	20073-A	System Bracket
14	N/A	Valve Handle
15	42749	S-Hook
16	N/A	Cable Coupling
17	78538	Cable Assembly - 30"
Items below are shown on the following pages		
18	N/A	Tank Bracket
19	92-0008	Safety Switch
20	N/A	Pressure Switch Leads
23	40-0005	212 Deg. F Link
24	N/A	3/8" x 4" Pipe Nipple
26	N/A	Loop Sleeve
27	40-0006	Nozzle
28	20073-F	Elbow
29	N/A	Fire Damper
30	39-0014	Exhaust Fan
31	40-0004	280 Deg. F Link

Inspect the fire system tank gauge. If the indicator is not in the green the system must be serviced immediately.



**Manual Pull Station:**  
semi-annually

- Remove the back or side panel exposing the fire system tank.
- **IMPORTANT - Insert the shipping pin into the valve handle.**
- Using a 1/8 inch allen wrench remove the red break rod from the pull station.
- **With one hand on the AutoFry cabinet** pull the manual handle straight out. System activation is verified by the cotter pin being pulled from the tank assembly. If the AutoFry is a countertop model **use caution not to accidentally pull it off the counter**

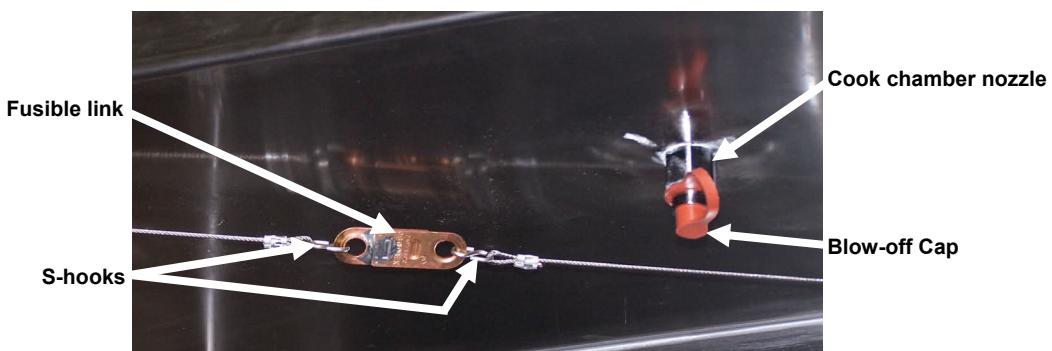


**Link Cable Test:**  
semi-annually

- **IMPORTANT - Insert the shipping pin into the valve handle.**
- With the system in the set condition cut the s-hook next to the fusible link in the cook chamber.
- System activation can be verified by noticeable pressure on the shipping pin.
- Replace the link and s-hook. DESTROY THE OLD LINK SO IT CANNOT BE RE-USSED.
- Re-set the tank handle.

THE LINK ACTIVATION CABLE SHOULD BE REPLACED EVERY 3 YEARS OR AS NECESSARY.

**Blow-off caps must be replaced annually.**



### Nozzles:

semi-annually

- Remove nozzles
- Make sure nozzles and piping are free and clear of obstructions.
- Clean and replace components as necessary.

The plenum nozzle can be accessed by removing the filters from the cook chamber. The nozzle is visible just above the charcoal filter track (nozzle location will vary by model).



### ANSUL® Tank Pressure Switch Test:

semi-annually

- Disconnect one of the tank pressure switch leads.
- The AutoFry should display a fire system error code.



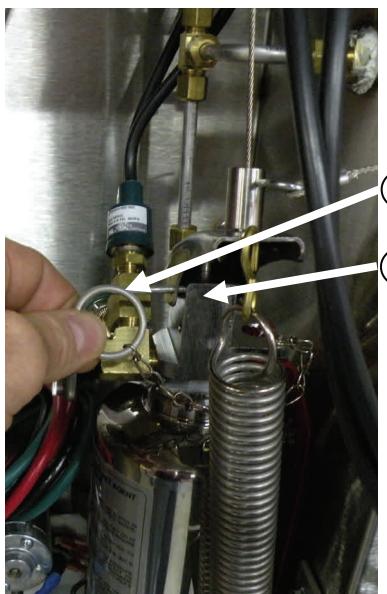
### 5 Year Inspection:

- Do entire semi-annual inspection.
- Remove and discard tank solution.
- Hydro test tank in compliance with DOT regulations.
- Make sure all piping is free and clear of obstructions.

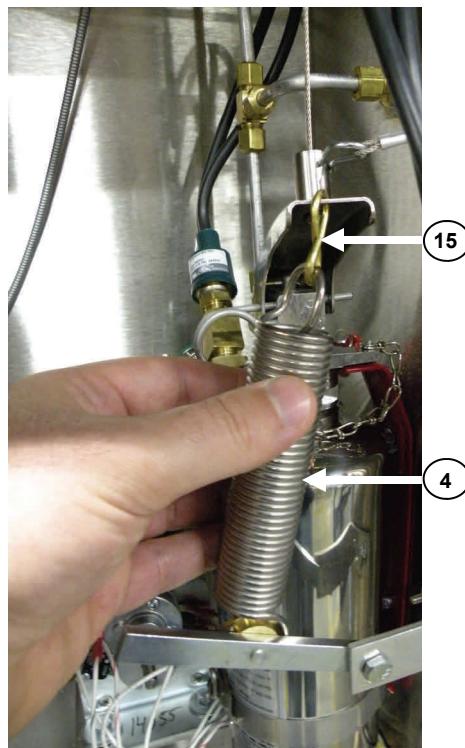
### NOTICE

DO NOT hydrostatically test a red painted mild steel agent storage tank. ANSUL requires you to replace the tank with a new stainless steel tank shipping assembly (part no. 436149).

**Removing Fire System Tank:**



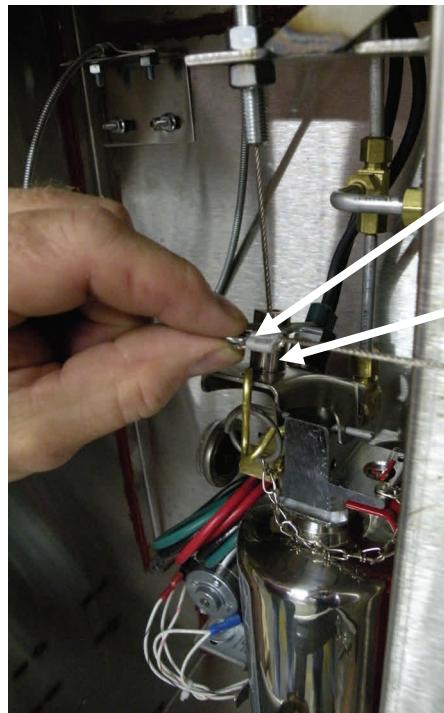
Insert the shipping pin (6) into the valve handle (14). Move the spring lever (1) up to relieve tension on the s-hook and valve handle.



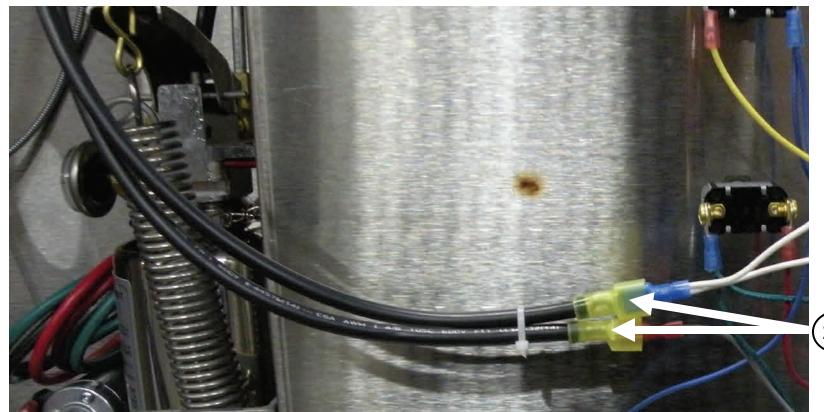
Lift the spring (4) off the s-hook (15).



With a 1/2 inch open end wrench remove the 1/4 inch compression fitting (7) from the 1/4 inch tubing (8) at the tank adapter (9).

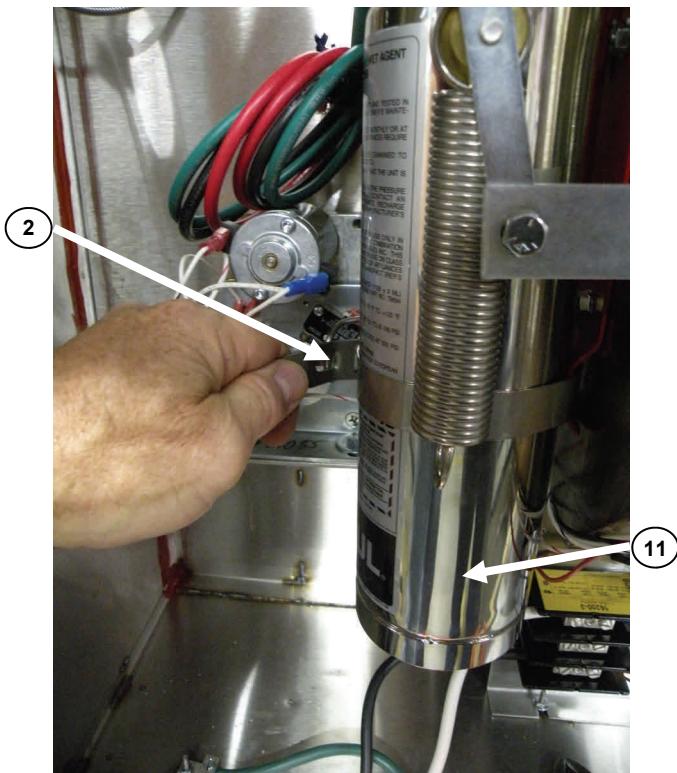


Remove the cotter pin (10) from the cable coupling body (16). NOTE: If the system has been operated the cotter pin will already be removed.



Remove the system pressure switch leads (20) from the wiring harness terminals.

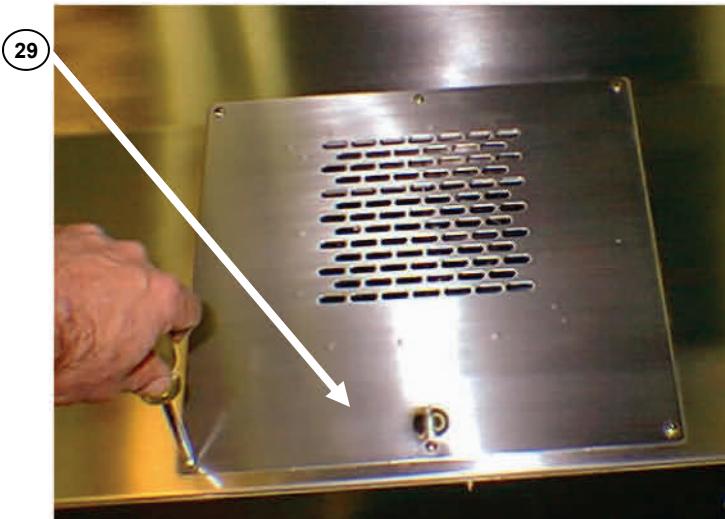
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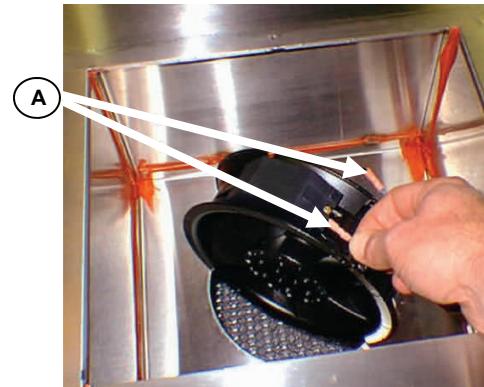
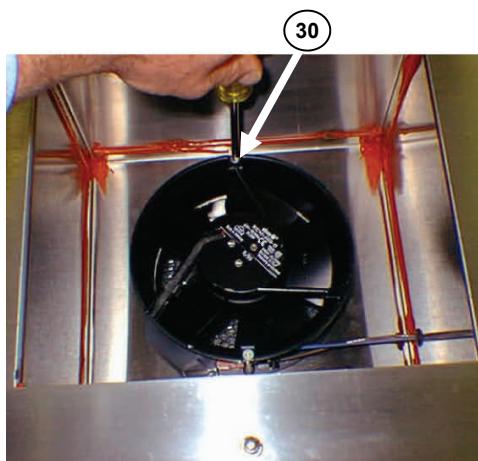
Unhook the tank strap (2) from the system tank and lift the tank (11) from the tank bracket .

## Fire Damper, Exhaust Fan and Plenum Nozzle Inspection

**IMPORTANT:** Disconnected power prior to removing the fire damper



Loosen and remove the screws securing the fire damper assembly.  
NOTE: each model varies slightly.



Loosen and remove the two (2) screws securing the fan (30). Disconnect the power leads (A) and remove the fan.

**DANGER:** Make sure the unit is un-plugged. These wires carry full line voltage.

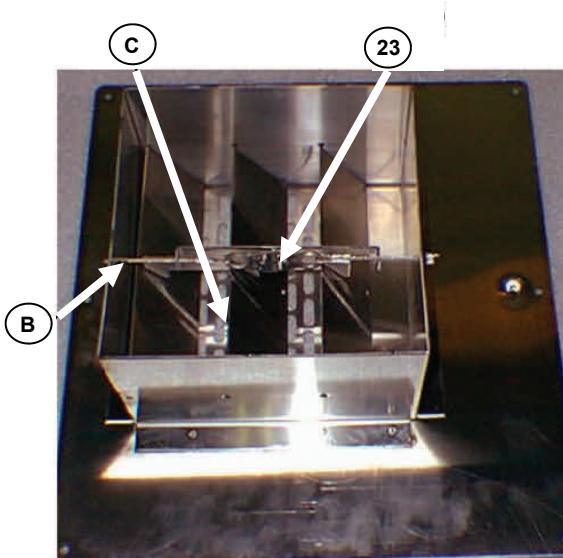


With the fan removed the plenum nozzle is exposed (27). Inspect the nozzle and blow off cap.

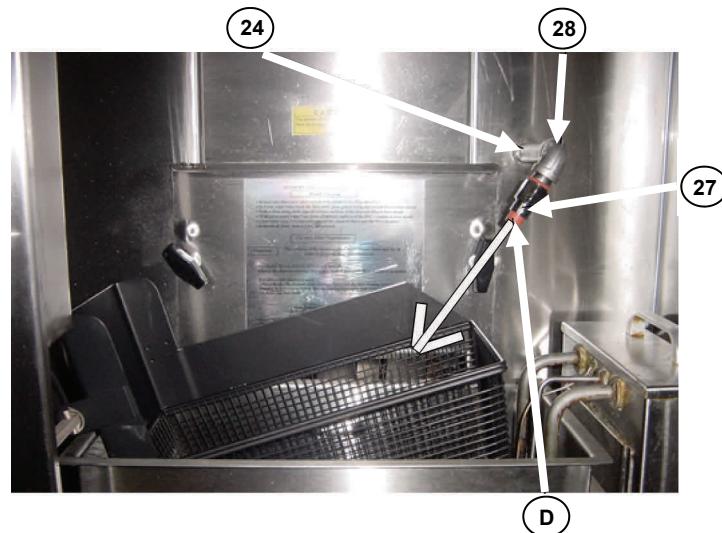
Inspect the fire damper fusible link (23), the louver clip (B) and the three (3) louvers (C).

The clip must hold the louvers open.

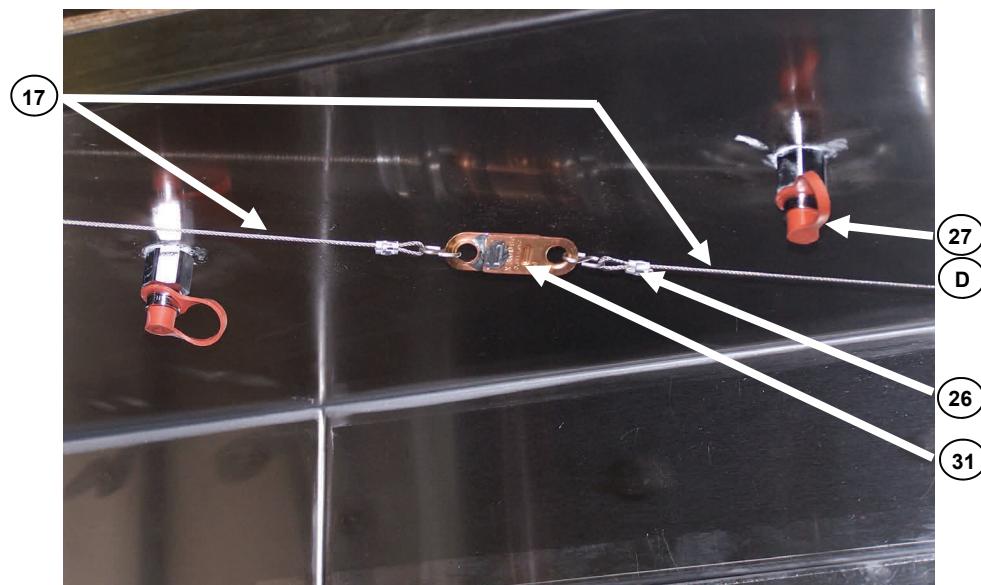
Re-install the fan and fire damper assembly



## Appliance Nozzle Inspection (Main Cooking Chamber)



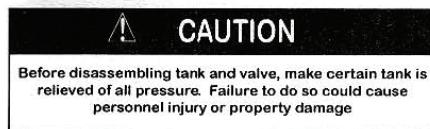
Inspect the appliance nozzle (27) and blow off cap (D). Ensure the nozzle is directed at the oil pot as shown by the arrow (**nozzle location varies by model. In certain models the nozzles are fixed and not adjustable**).



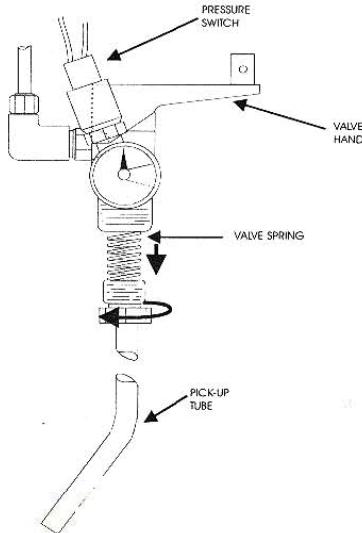
Inspect the cable assembly (17), the fusible link (31) and the loop sleeves (26).

Fusible links (31) and s-hooks (26) must be replaced semi-annually and after the system has been activated.

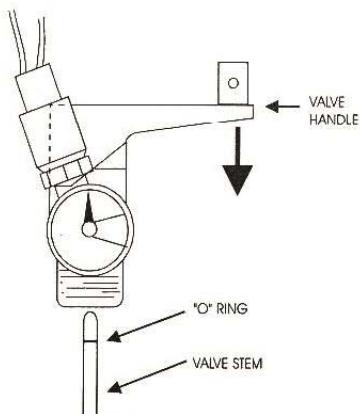
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Invert tank and press valve handle to release all pressure.  
Remove discharge adapter from valve assembly and then remove valve assembly from shell.  
Remove the pick-up tube and spring from the valve assembly. See Figure 1.



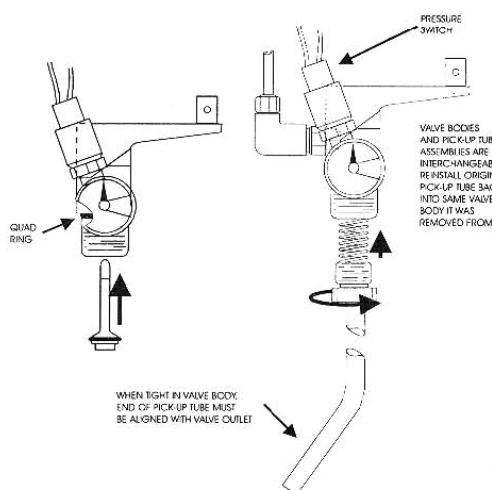
Remove the valve stem from the valve body by pressing down on the valve handle. Take care not to scratch the valve seating area or damage the valve stem and O-rings. Thoroughly rinse all parts with warm water and dry them before inspecting. Remove O-rings from stem and inspect for any damage; replace if necessary. Lubricate O-rings with a high quality grade of silicone grease and return them to valve stem. See Figure 2.



**NOTICE**  
Do not scratch internal valve surfaces.  
Scratches can result in valve leakage.

Remove quad ring from valve body. Inspect for any damage and replace if necessary. Lubricate the quad ring with a high quality grade silicone grease and return to quad ring groove on valve body. See Figure 3.

Inspect pick-up tube, verifying that it is not blocked and that it is securely attached to the adapter. Return valve stem to valve body, then reinstall spring and pick-up tube into the valve body. Make certain end of pick-up tube is correctly aligned with valve outlet. See Figure 3.



Fill tank to rated capacity (40.5 oz. +/- .25 oz. (1195 ml +/- 5 ml)) using only ANSULEX Low pH Liquid Fire Suppressant, Part No. 79694 or 79372, 1.5 (5.7 L) Gallon shipping assembly or 3.0 (11.4L) shipping assembly respectively.

With a soft cloth, clean any spilled agent from quad ring seating surface, threads of the tank, and tank exterior.

Install the valve assembly into the tank.

Install recharge system (Part No. 55793) use recharge adapter (Part No. 440623).

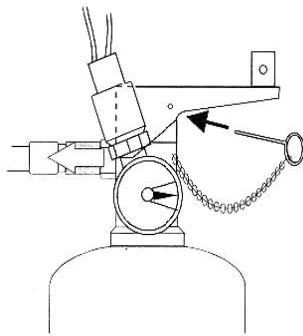
Make certain nitrogen cylinder is preset at 195 psi (1345 kPa) or lower before opening nitrogen cylinder valve. Open nitrogen cylinder valve and set regulator pressure at 195 psi (1345 kPa). Press valve handle and pressurize with dry nitrogen. Release valve handle. Tank gauge pointer should be in the GREEN operating range. If not, relieve pressure and replace the gauge.

## NOTICE

The pressure gauge on the tank should not be used to determine whether the intended charging pressure has been reached. Use the calibrated gauge on the Recharge System to determine if the correct pressure is being applied.

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Replace the shipping pin in valve handle and remove the recharge system and adaptor. See Figure 4.

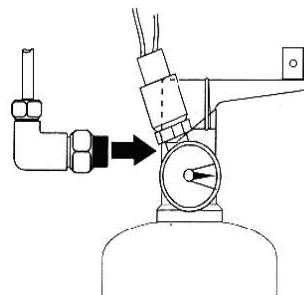


Test for leakage using LEAK-TEC FORMULA 177 or equivalent. Observe gauge 24 to 48 hours after recharge. There should be no loss of pressure. If gauge shows a pressure loss, invert tank, relieve pressure by squeezing handle, disassemble valve and tube assembly, clean all seating surfaces, reassemble, repressurize and leak test.

Remove and disassemble both nozzles and then disconnect tubing form compression fittings and branch tee.

Clean nozzles, tubing, pipe nipple, tank discharge adapter and compression fittings warm, soapy water, and rinse. Blow filtered, compressed air through all pieces to dry, then reassemble tubing, compression fittings, nozzles and piping making sure to reinstall nozzles in there original positions. If nozzle blow-off caps are damaged, replace.

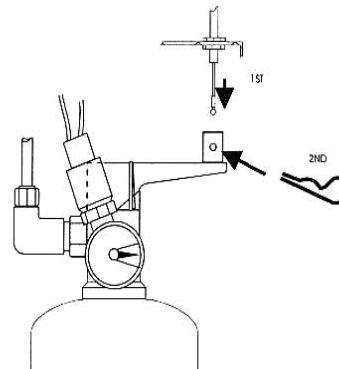
Attach tank discharge adapter to valve assembly. See Figure 5.



Reinstall tank into tank bracket. Inspect actuation cable for burns, excessive wear or melted outer cover. Replace if necessary.

Reinstall all tubing and compression fittings, piping and nozzles.

Connect cable coupling into cable coupling body and secure with cotter pin.



Install new 280 Deg F. fusible link. Connect one end to the actuation cable S-hook, the other end to the fixed cable S-hook in the interior of the cook chamber.

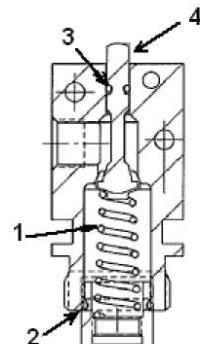
**NOTICE**  
Before cocking system, make sure shipping pin is in place in valve handle

Attach spring to S-hook on valve handle and move cocking arm all the way down.

Reconnect pressure switch leads to the safety interlock switches. Test switch with a continuity tester.

REMOVE shipping pin from valve handle. If shipping pin does not slip out easily, lift valve handle up slightly and remove pin.

## Valve Part No.



Item	Part No.	Description
1	430004	Conical Spring
2	428327	O-ring
3	11873	O-ring
4	428804	Valve Stem