

## **FLECK** 2510 & 2510 ECONOMINDER SERVICE MANUAL



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## CALIFORNIA PROPOSITION 65 WARNING

**⚠ WARNING:** This product contains chemicals known to the State of California to cause cancer or birth defects or other reproductive harm.

## JOB SPECIFICATION SHEET

Job Number: \_\_\_\_\_  
Model Number: \_\_\_\_\_  
Water Hardness: \_\_\_\_\_ ppm or gpg  
Capacity Per Unit: \_\_\_\_\_  
Mineral Tank Size: \_\_\_\_\_ Diameter: \_\_\_\_\_ Height: \_\_\_\_\_  
Salt Setting per Regeneration: \_\_\_\_\_

### 1. Type of Timer:

- A. 7 Day or 12 Day
- B. Meter Initiated

### 2. Downflow:                      Upflow                      Upflow Variable

### 3. Meter Size:

- A. 3/4-inch Std Range (125 - 2,100 gallon setting)
- B. 3/4-inch Ext Range (625 - 10,625 gallon setting)
- C. 1-inch Std Range (310 - 5,270 gallon setting)
- D. 1-inch Ext Range (1,150 - 26,350 gallon setting)
- E. 1-1/2 inch Std Range (625 - 10,625 gallon setting)
- F. 1-1/2 inch Ext Range (3,125 - 53,125 gallon setting)
- G. 2-inch Std Range (1,250 - 21,250 gallon setting)
- H. 2-inch Ext Range (6,250 - 106,250 gallon setting)
- I. 3-inch Std Range (3,750 - 63,750 gallon setting)
- J. 3-inch Ext Range (18,750 - 318,750 gallon setting)
- K. Electronic \_\_\_\_ Pulse Count \_\_\_\_ Meter Size \_\_\_\_\_

### 4. System Type:

- A. System #4: 1 Tank, 1 Meter, Immediate, or Delayed Regeneration
- B. System #4: Time Clock
- C. System #4: Twin Tank
- D. System #5: 2-5 Tanks, Interlock Mechanical  
2-4 Tanks, Interlock Electronic  
Meter per unit for Mechanical and Electronic
- E. System #6: 2-5 Tanks, 1 Meter, Series Regeneration, Mechanical  
2-4 Tanks, 1 Meter, Series Regeneration, Electronic
- F. System #7: 2-5 Tanks, 1 Meter, Alternating Regeneration, Mechanical  
2 Tanks only, 1 Meter, Alternating Regeneration, Electronic
- G. System #9: Electronic Only, 2-4 Tanks, Meter per Valve, Alternating
- H. System #14: Electronic Only, 2-4 Tanks, Meter per Valve. Brings units on and offline based on flow.

### 5. Timer Program Settings:

- A. Backwash: \_\_\_\_\_ Minutes
- B. Brine and Slow Rinse: \_\_\_\_\_ Minutes
- C. Rapid Rinse: \_\_\_\_\_ Minutes
- D. Brine Tank Refill: \_\_\_\_\_ Minutes
- E. Pause Time: \_\_\_\_\_ Minutes
- F. Second Backwash: \_\_\_\_\_ Minutes

### 6. Drain Line Flow Control: \_\_\_\_\_ gpm

### 7. Brine Line Flow Controller: \_\_\_\_\_ gpm

### 8. Injector Size#: \_\_\_\_\_

### 9. Piston Type:

- A. Hard Water Bypass
- B. No Hard Water Bypass

## INSTALLATION

### Water Pressure

A minimum of 20 pounds (1.4 bar) of water pressure is required for regeneration valve to operate effectively.

### Electrical Facilities

An uninterrupted alternating current (A/C) supply is required.

**NOTE: Other voltages are available. Please make sure your voltage supply is compatible with your unit before installation.**

### Existing Plumbing

Condition of existing plumbing should be free from lime and iron buildup. Piping that is built up heavily with lime and/or iron should be replaced. If piping is clogged with iron, a separate iron filter unit should be installed ahead of the water softener.

### Location Of Softener And Drain

The softener should be located close to a drain to prevent air breaks and back flow.

### Bypass Valves

Always provide for the installation of a bypass valve if unit is not equipped with one.

**CAUTION** Water pressure is not to exceed 125 psi (8.6 bar), water temperature is not to exceed 110°F (43°C), and the unit cannot be subjected to freezing conditions.

### Installation Instructions

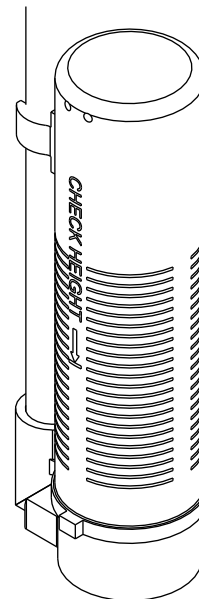
1. Place the softener tank where you want to install the unit making sure the unit is level and on a firm base.
2. During cold weather, the installer should warm the valve to room temperature before operating.
3. All plumbing should be done in accordance with local plumbing codes. The pipe size for residential drain line should be a minimum of 1/2 inch (13 mm). Backwash flow rates in excess of 7 gpm (26.5 Lpm) or length in excess of 20 feet (6 m) require 3/4-inch (19 mm) drain line. Commercial drain lines should be the same size as the drain line flow control.
4. Refer to the dimensional drawing for cutting height of the distributor tube. If there is no dimensional drawing, cut the distributor tube flush with the top of the tank.
5. Lubricate the distributor o-ring seal and tank o-ring seal. Place the main control valve on tank.

**NOTE: Only use silicone lubricant.**

6. Solder joints near the drain must be done prior to connecting the Drain Line Flow Control fitting (DLFC). Leave at least 6 inches (15 cm) between the DLFC and solder joints when soldering pipes that are connected on the DLFC. Failure to do this could cause interior damage to the DLFC.
7. Plumber tape is the only sealant to be used on the drain fitting. The drain from twin tank units may be run through a common line.
8. Make sure that the floor is clean beneath the salt storage tank and that it is level.
9. Place approximately 1 inch (25 mm) of water above the grid plate. If a grid is not utilized, fill to the top of the air check (Figure 1) in the salt tank. Do not add salt to the brine tank at this time.

10. On units with a bypass, place in bypass position. Turn on the main water supply. Open a cold soft water tap nearby and let run a few minutes or until the system is free from foreign material (usually solder) that may have resulted from the installation. Once clean, close the water tap.
11. Slowly place the bypass in service position and let water flow into the mineral tank. When water flow stops, slowly open a cold water tap nearby and let run until the air is purged from the unit.
12. Plug unit into an electrical outlet.

**NOTE: All electrical connections must be connected according to local codes. Be certain the outlet is uninterrupted.**



60002 Rev E

Figure 1 Residential Air Check Valve

## START-UP INSTRUCTIONS

The water softener should be installed with the inlet, outlet, and drain connections made in accordance with the manufacturer's recommendations, and to meet applicable plumbing codes.

1. Turn the manual regeneration knob slowly in a clockwise direction until the program micro switch lifts on top of the first set of pins. Allow the drive motor to move the piston to the first regeneration step and stop. Each time the program switch position changes, the valve will advance to the next regeneration step. Always allow the motor to stop before moving to the next set of pins or spaces.

**NOTE: For electronic valves, please refer to the manual regeneration part of the timer operation section. If the valve came with a separate electronic timer service manual, refer to the timer operation section of the electronic timer service manual.**

2. Position the valve to backwash. Ensure the drain line flow remains steady for 10 minutes or until the water runs clear (see above).
3. Position the valve to the brine / slow rinse position. Ensure the unit is drawing water from the brine tank (this step may need to be repeated).
4. Position the valve to the rapid rinse position. Check the drain line flow, and run for 5 minutes or until the water runs clear.

## STARTUP INSTRUCTIONS *CONTINUED*

- Position the valve to the start of the brine tank fill cycle. Ensure water goes into the brine tank at the desired rate. The brine valve drive cam will hold the valve in this position to fill the brine tank for the first regeneration.
- Replace control box cover.
- Put salt in the brine tank.

**NOTE:** Do not use granulated or rock salt.

## 3200 TIMER SETTING PROCEDURE

### How To Set Days On Which Water Conditioner Is To Regenerate (Figure 2)

Rotate the skipper wheel until the number "1" is at the red pointer. Set the days that regeneration is to occur by sliding tabs on the skipper wheel outward to expose trip fingers. Each tab is one day. Finger at red pointer is tonight. Moving clockwise from the red pointer, extend or retract fingers to obtain the desired regeneration schedule.

### How To Set The Time Of Day

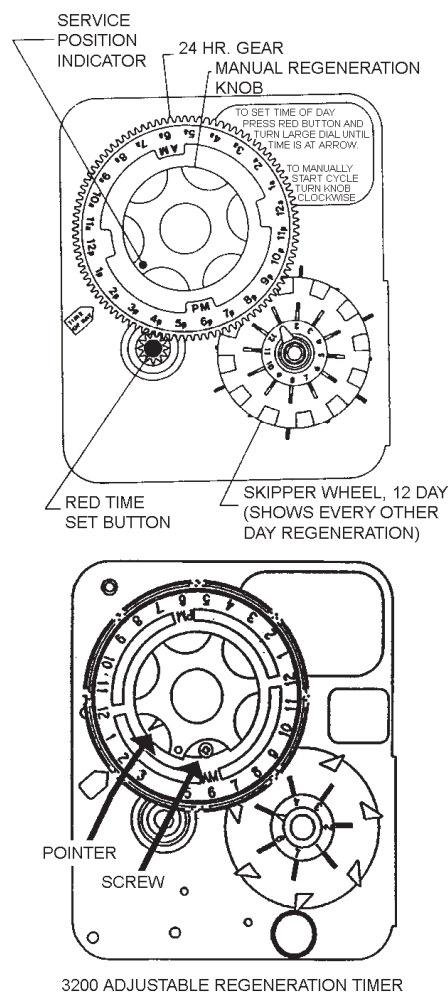
- Press and hold the red button in to disengage the drive gear.
- Turn the large gear until the actual time of day is at the time of day pointer.
- Release the red button to again engage the drive gear.

### How To Manually Regenerate Your Water Conditioner At Any Time

- Turn the manual regeneration knob clockwise.
- This slight movement of the manual regeneration knob engages the program wheel and starts the regeneration program.
- The black center knob will make one revolution in the following approximately three hours and stop in the position shown in the drawing.
- Even though it takes three hours for this center knob to complete one revolution, the regeneration cycle of your unit might be set for only one half of this time.
- In any event, conditioned water may be drawn after rinse water stops flowing from the water conditioner drain line.

### How to Adjust Regeneration Time

- Disconnect the power source.
- Locate the three screws behind the manual regeneration knob by pushing the red button in and rotating the 24 hour dial until each screw appears in the cut out portion of the manual regeneration knob.
- Loosen each screw slightly to release the pressure on the time plate from the 24-hour gear.
- Locate the regeneration time pointer on the inside of the 24-hour dial in the cut out.
- Turn the time plate so the desired regeneration time aligns next to the raised arrow.
- Push the red button in and rotate the 24-hour dial. Tighten each of the three screws.
- Push the red button and locate the pointer one more time to ensure the desired regeneration time is correct.
- Reset the time of day and restore power to the unit.



**IMPORTANT!**  
SALT LEVEL MUST ALWAYS BE ABOVE  
WATER LEVEL IN BRINE TANK

61502-3200 Rev A

Figure 2

## 3210 TIMER SETTING PROCEDURE

### Typical Programming Procedure

Calculate the gallon capacity of the system, subtract the necessary reserve requirement and set the gallons available opposite the small white dot on the program wheel gear (Figure 3).

**NOTE:** Drawing shows 8,750 gallon setting. The capacity (gallons) arrow (15) shows zero gallons remaining. The unit will regenerate tonight at the set regeneration time.

### How To Set The Time Of Day

- Press and hold the red button in to disengage the drive gear.
- Turn the large gear until the actual time of day is opposite the time of day pointer.
- Release the red button to again engage the drive gear.

### How To Manually Regenerate Your Water Conditioner At Any Time

- Turn the manual regeneration knob clockwise.
- This slight movement of the manual regeneration knob engages the program wheel and starts the regeneration program.

## 3210 TIMER SETTING PROCEDURE

### *CONTINUED*

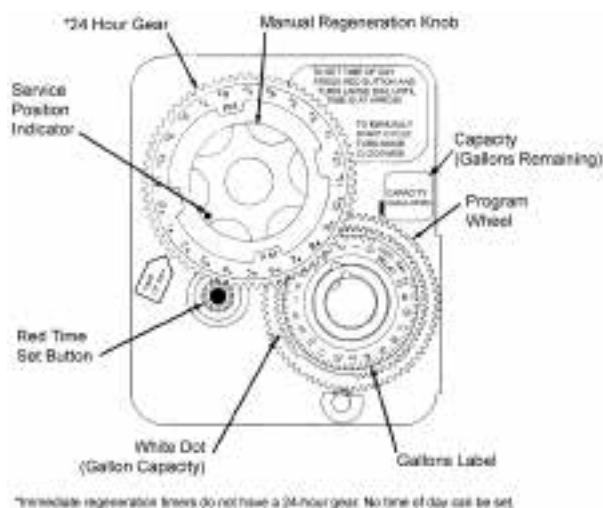
3. The black center knob will make one revolution in the following approximately three hours and stop in the position shown in the drawing.
4. Even though it takes three hours for this center knob to complete one revolution, the regeneration cycle of your unit might be set for only one half of this time.
5. In any event, conditioned water may be drawn after rinse water stops flowing from the water conditioner drain line.

#### Immediate Regeneration Timers

These timers do not have a 24-hour gear. Setting the gallons on the program wheel and manual regeneration procedure are the same as previous instructions. The timer will regenerate as soon as the capacity gallons reaches zero.

**NOTE:** The program wheel to the left may be different than the program wheel on the product.

**NOTE:** To set meter capacity rotate manual knob one - 360° revolution to set gallonage.



61502-3200 Rev A

Figure 3

## 3200, 3210, 3220, 3230 REGENERATION CYCLE SETTING PROCEDURE

#### How To Set The Regeneration Cycle Program

The regeneration cycle program on your water conditioner has been factory preset, however, portions of the cycle or program may be lengthened or shortened in time to suit local conditions.

#### 3200 Series Timers (Figure 4)

1. To expose cycle program wheel, grasp timer in upper left-hand corner and pull, releasing snap retainer and swinging timer to the right.
2. To change the regeneration cycle program, the program wheel must be removed. Grasp program wheel and squeeze protruding lugs toward center, lift program wheel off timer. Switch arms may require movement to facilitate removal.
3. Return timer to closed position engaging snap retainer in back plate. Make certain all electrical wires locate above snap retainer post.

## Timer Setting Procedure

#### How To Change The Length Of The Backwash Time

The program wheel as shown in the drawing is in the service position. As you look at the numbered side of the program wheel, the group of pins starting at zero determines the length of time your unit will backwash.

For example, if there are six pins in this section, the time of backwash will be 12 min. (2 min. per pin). To change the length of backwash time, add or remove pins as required. The number of pins times two equals the backwash time in minutes.

#### How To Change The Length Of Brine And Rinse Time

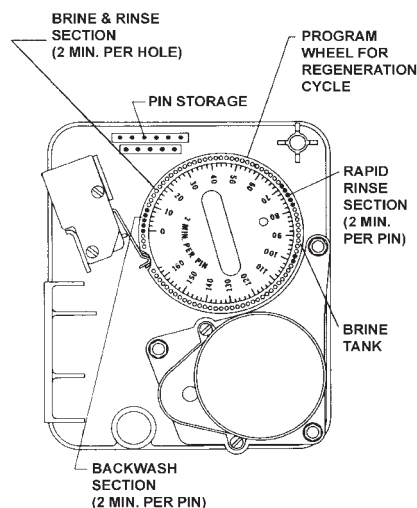
1. The group of holes between the last pin in the backwash section and the second group of pins determines the length of time that your unit will brine and rinse (2 min. per hole).
2. To change the length of brine and rinse time, move the rapid rinse group of pins to give more or fewer holes in the brine and rinse section. Number of holes times two equals brine and rinse time in minutes.

#### How To Change The Length Of Rapid Rinse

1. The second group of pins on the program wheel determines the length of time that your water conditioner will rapid rinse (2 min. per pin).
2. To change the length of rapid rinse time, add or remove pins at the higher numbered end of this section as required. The number of pins times two equals the rapid rinse time in minutes.

#### How To Change The Length Of Brine Tank Refill Time

1. The second group of holes in the program wheel determines the length of time that your water conditioner will refill the brine tank (2 min. per hole).
2. To change the length of refill time, move the two pins at the end of the second group of holes as required.
3. The regeneration cycle is complete when the outer microswitch is tripped by the two pin set at end of the brine tank refill section.
4. The program wheel, however, will continue to rotate until the inner micro switch drops into the notch on the program wheel.



61502-3210 Rev A

Figure 4



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