WaterRight®

The Right Water for Life

Master Programming Manual

for Impression, Impression Plus, and Impression Twin Models
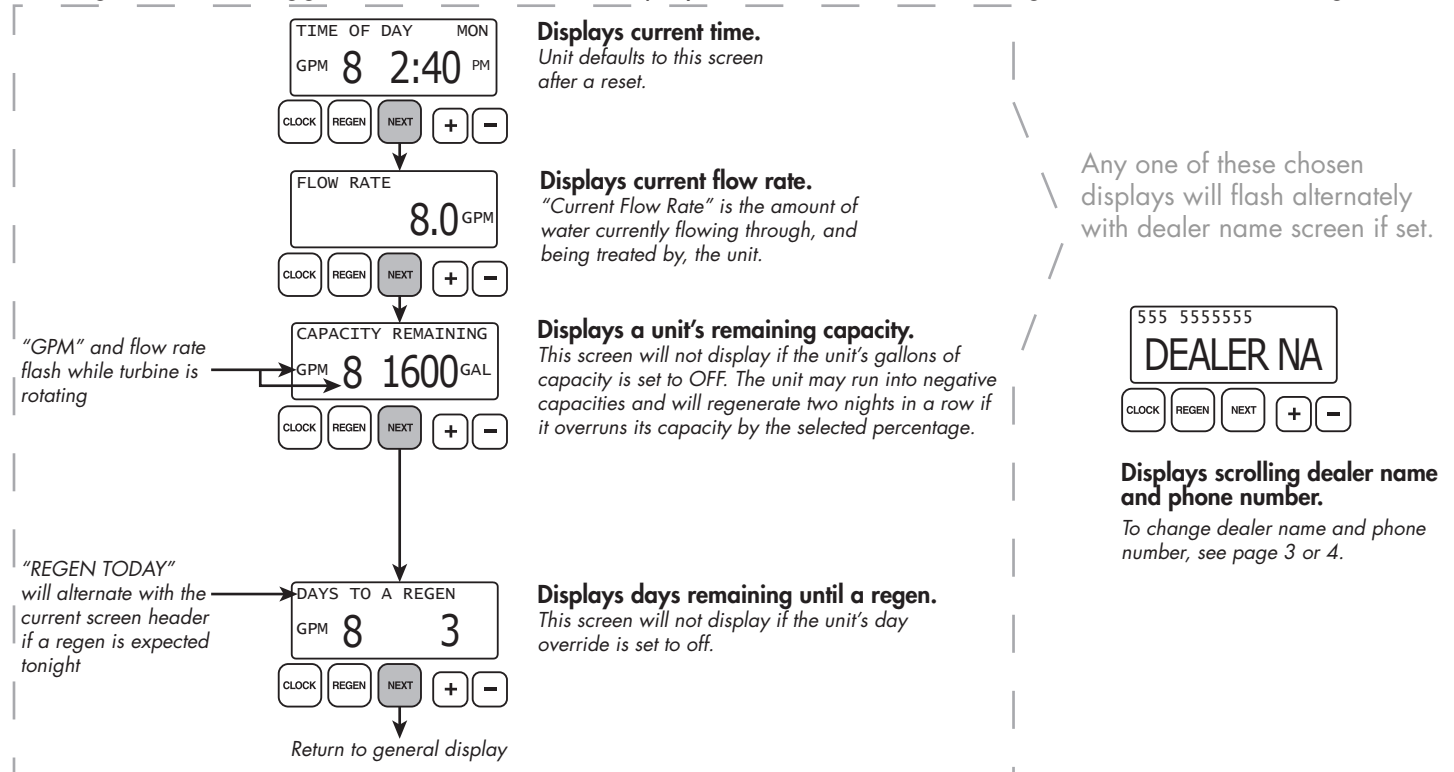
Effective January 2018

Cycle times, sequences, and settings in this guide are only examples of how your system may be programmed. Actual settings are determined by the manufacturer. Please contact them if more information is needed.

Important button sequences to note:

1. **UNLOCK VALVE SETTINGS:** Push buttons in the following order: **–**, **NEXT**, **+**, **CLOCK**. This will allow user to change manufacturer's settings. When finished, lock settings by pushing the same sequence.
2. **CLEAR ERROR ON SCREEN:** Push and hold **NEXT** and **REGEN** for three seconds.
3. **CLEAR SERVICE ALARM:** If service alarm is triggered, push and hold **+** and **–** simultaneously for three seconds to reset to original set points. This will reset both gallon and year alarms.
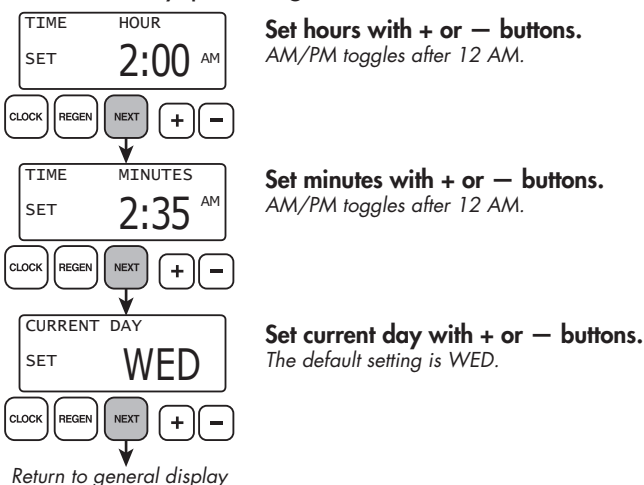
General Operation Screens

Pressing **NEXT** will toggle between one of five displays. Press **REGEN** to set a regeneration to occur tonight.
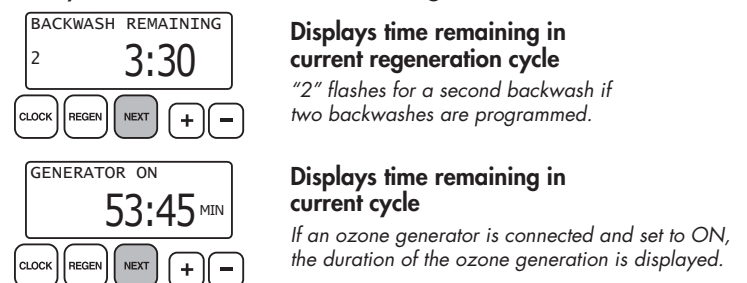
```
TIME OF DAY        MON
GPM  8  2:40 PM
CLOCK  REGEN  NEXT  +  –
```

Displays current time.
Unit defaults to this screen after a reset.

```
FLOW RATE
          8.0 GPM
CLOCK  REGEN  NEXT  +  –
```

Displays current flow rate.
"Current Flow Rate" is the amount of water currently flowing through, and being treated by, the unit.

"GPM" and flow rate flash while turbine is rotating

```
CAPACITY REMAINING
GPM  8  1600 GAL
CLOCK  REGEN  NEXT  +  –
```

Displays a unit's remaining capacity.
This screen will not display if the unit's gallons of capacity is set to OFF. The unit may run into negative capacities and will regenerate two nights in a row if it overruns its capacity by the selected percentage.

"REGEN TODAY" will alternate with the current screen header if a regen is expected tonight

```
DAYS TO A REGEN
GPM  8       3
CLOCK  REGEN  NEXT  +  –
```

Displays days remaining until a regen.
This screen will not display if the unit's day override is set to off.

Return to general display

Any one of these chosen displays will flash alternately with dealer name screen if set.

```
555 5555555
DEALER NA
CLOCK  REGEN  NEXT  +  –
```

Displays scrolling dealer name and phone number.
To change dealer name and phone number, see page 3 or 4.

Set Time Screens

Accessed by pressing **CLOCK**.

```
TIME    HOUR
SET  2:00 AM
CLOCK  REGEN  NEXT  +  –
```

Set hours with + or — buttons.
AM/PM toggles after 12 AM.

```
TIME    MINUTES
SET  2:35 AM
CLOCK  REGEN  NEXT  +  –
```

Set minutes with + or — buttons.
AM/PM toggles after 12 AM.

```
CURRENT DAY
SET      WED
CLOCK  REGEN  NEXT  +  –
```

Set current day with + or — buttons.
The default setting is WED.

Return to general display

Typical Regen Screens

Only visible when unit is in regeneration.

```
BACKWASH REMAINING
2       3:30
CLOCK  REGEN  NEXT  +  –
```

Displays time remaining in current regeneration cycle
"2" flashes for a second backwash if two backwashes are programmed.

```
GENERATOR ON
      53:45 MIN
CLOCK  REGEN  NEXT  +  –
```

Displays time remaining in current cycle
If an ozone generator is connected and set to ON, the duration of the ozone generation is displayed.

Softener Installer/User Screens

Accessed by pressing and holding **NEXT** and **+** simultaneously for three seconds.
Returns to general display after five minutes of inactivity.

1

| WATER HARDNESS |
| SET 20 GR |

CLOCK | REGEN | NEXT | + | —

Set water hardness with + or — buttons.
*Adjustable from 1-150 grains, within limits determined by capacity settings
as to not override gallons capacity setting. Default setting is 20 grains.*

NOTE: This screen will not display if the unit is set to "FILTERING" mode (see OEM FILTERING SECTION).

| WATER HARDNESS |
| SET 20 GR |

CLOCK | REGEN | NEXT | + | —
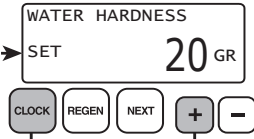
Access Dealer Name and Phone Number Feature
*From the Water Hardness display, the dealer name and phone number feature can be
accessed by pressing the CLOCK and + buttons at the same time.*

| 555-555-5555 |

CLOCK | REGEN | NEXT | + | —
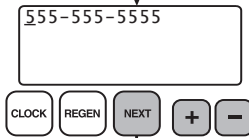
Scrolling contact phone number screen.
*Set phone number by using the + or — buttons. Pushing the NEXT
button will advance the cursor one position to the right. Continuing
to press the NEXT button will advance to the Contact Name Display.*

| 555-555-5555 |
| DEALER NA |

CLOCK | REGEN | NEXT | + | —

Scrolling contact name screen.
*Set contact name by using the + or — buttons. Pushing the NEXT
button will advance the cursor one position to the right.
(55 Characters Max)*

Return to general display
To continue programming Installer
Settings, press NEXT and + again
after returning to general display

2

| DAYS BETWEEN REGEN |
| SET 6 |

CLOCK | REGEN | NEXT | + | —

Set days between a regeneration with + or — buttons.
*Adjustable from 1-28 days, or OFF.
Default setting is 6.*

3

| REGEN TIME HOUR |
| SET 2:00 AM |

CLOCK | REGEN | NEXT | + | —

Set hour of regen time with + or — buttons.
*If IMMEDIATE REGEN is set (see Service OEM page), regen will be
immediate once total capacity is exhausted and ON ZERO will be
displayed.
Default setting is 2:00 AM.*

4

| REGEN TIME MINUTES |
| SET 2:00 AM |

CLOCK | REGEN | NEXT | + | —

Set minutes of regen time with + or — buttons.
*If IMMEDIATE REGEN is set (see Service OEM page), regen will be
immediate once total capacity is exhausted and ON ZERO will be
displayed.
Default setting is 2:00 AM.*

5

| LIGHT NORMALLY |
| SET ON |

CLOCK | REGEN | NEXT | + | —

Set backlight operation with + or — buttons.
*Default setting is ON.
OFF will turn display backlight off after 5 minutes of keypad inactivity.*

**Only appears on
units that support a
backlit display**

Return to general display

**To Turn Off Dealer
Name/Number Screen**

1. Clear the current phone number by pressing
the + or – buttons to toggle to the "blank"
character followed by the NEXT button.

2. Input two "blank" characters. The phone
number should clear and advance to the
dealer name setting.

3. Clear the current dealer name by pressing
the + or – buttons to toggle to the "blank"
character. Input two blank characters. Press
the NEXT button repeatedly until the general
display appears.

Filter Installer/User Screens

Accessed by pressing and holding **NEXT** and **+** simultaneously for three seconds.
Returns to general display after five minutes of inactivity.

1

```
DAYS BETWEEN REGEN
SET            3
```
[CLOCK] [REGEN] [NEXT] [+] [−]

Set days between a regeneration with + or − buttons.
Adjustable from 1-28 days, or OFF.
Default setting is 3.

```
DAYS BETWEEN REGEN
SET            3
```
[CLOCK] [REGEN] [NEXT] [+] [−]

Access Dealer Name and Phone Number Feature
From the Days Between Regen display, the dealer name and phone number feature can be accessed by pressing the CLOCK and + buttons at the same time.

```
555-555-5555


```
[CLOCK] [REGEN] [NEXT] [+] [−]

Contact phone number screen.
Set phone number by using the + or − buttons. Pushing the NEXT button will advance the cursor one position to the right. Continuing to press the NEXT button will advance to the Contact Name Display.

```
555-555-5555
DEALER NA
```
[CLOCK] [REGEN] [NEXT] [+] [−]

Contact name screen.
Set contact name by using the + or − buttons. Pushing the NEXT button will advance the cursor one position to the right.
(55 Characters Max)

Return to general display
To continue programming Installer
Settings, press NEXT and + again
after returning to general display

To Turn Off Dealer Name/Number Screen

1. Clear the current phone number by pressing the + or – buttons to toggle to the "blank" character followed by the NEXT button.

2. Input two "blank" characters. The phone number should clear and advance to the dealer name setting.

3. Clear the current dealer name by pressing the + or – buttons to toggle to the "blank" character. Input two blank characters. Press the NEXT button repeatedly until the general display appears.

2

```
REGEN TIME HOUR
SET   12:00  AM
```
[CLOCK] [REGEN] [NEXT] [+] [−]

Set hour of regen time with + or − buttons.
If IMMEDIATE REGEN is set (see Service OEM page), regen will be immediate once total capacity is exhausted and ON ZERO will be displayed.
Default setting is 12:00 AM.

3

```
REGEN TIME MINUTES
SET   12:00  AM
```
[CLOCK] [REGEN] [NEXT] [+] [−]

Set minutes of regen time with + or − buttons.
If IMMEDIATE REGEN is set (see Service OEM page), regen will be immediate once total capacity is exhausted and ON ZERO will be displayed.
Default setting is 12:00 AM.

4

```
LIGHT NORMALLY
SET     ON
```
[CLOCK] [REGEN] [NEXT] [+] [−]

Set backlight operation with + or − buttons.
Default setting is ON.
OFF will turn display backlight off after 5 minutes of keypad inactivity.

Only appears on units that support a backlit display

Return to general display

Service/OEM SOFTENING Screens

Accessed by pressing and holding **NEXT** and **—** simultaneously for three seconds.
Returns to general display after five minutes of inactivity.

1 | SOFTENING SET **TYPE** CLOCK REGEN NEXT + —
Select SOFTENING or FILTERING with + or — buttons.
If you have selected FILTERING, please refer to "Service/OEM FILTERING screens", page 7-8.

2 | GRAINS OF CAPACITY SET **32.0** X1K CLOCK REGEN NEXT + —
Set system's grains of capacity with + or — buttons.
X1K = 1,000 grains.
The default setting is 32.0

3 | GALLON CAPACITY SET **AUTO** CLOCK REGEN NEXT + —
Set gallon capacity with + or — buttons.
• AUTO automatically calculates gallon capacity.
• OFF will regen by days override setting only.
• GALS BETWEEN REGEN will regen by specific gallon setting.
• Default setting is AUTO.
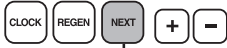
4 | DBL REGEN SET **> 10%** CLOCK REGEN NEXT + —
Set double regen point with + or — buttons.
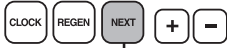*If unit's capacity is overrun by this percentage, the unit will regen two nights in a row. Default setting is 10%.*
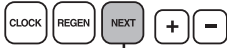
5 | FILL SET **CYCLE 1** CLOCK REGEN NEXT + —
Set first cycle position with + or — buttons.

6 | FILL SET **15.0 LBS** CLOCK REGEN NEXT + —
Set salt pounds per regen with + or — buttons.
Default setting is 15.0 pounds.

7 | SOFTENING SET **CYCLE 2** CLOCK REGEN NEXT + —
Set second cycle position with + or — buttons.

During **FILL** and **SOFTENING** positions, unit will deliver soft water.
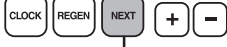
8 | SOFTENING TIME SET **240:00** MIN CLOCK REGEN NEXT + —
Set softening time with + or — buttons.
This is the time between brine tank fill and start of backwash. This time window allows the salt to dissolve and achieve proper brine strength. This process will start prior to regen time setting.
Default setting is 240:00 minutes.

9 | BACKWASH SET **CYCLE 3** CLOCK REGEN NEXT + —
Set third cycle position with + or — buttons.

10 | BACKWASH TIME SET **12:00** MIN CLOCK REGEN NEXT + —
Set backwash time with + or — buttons.
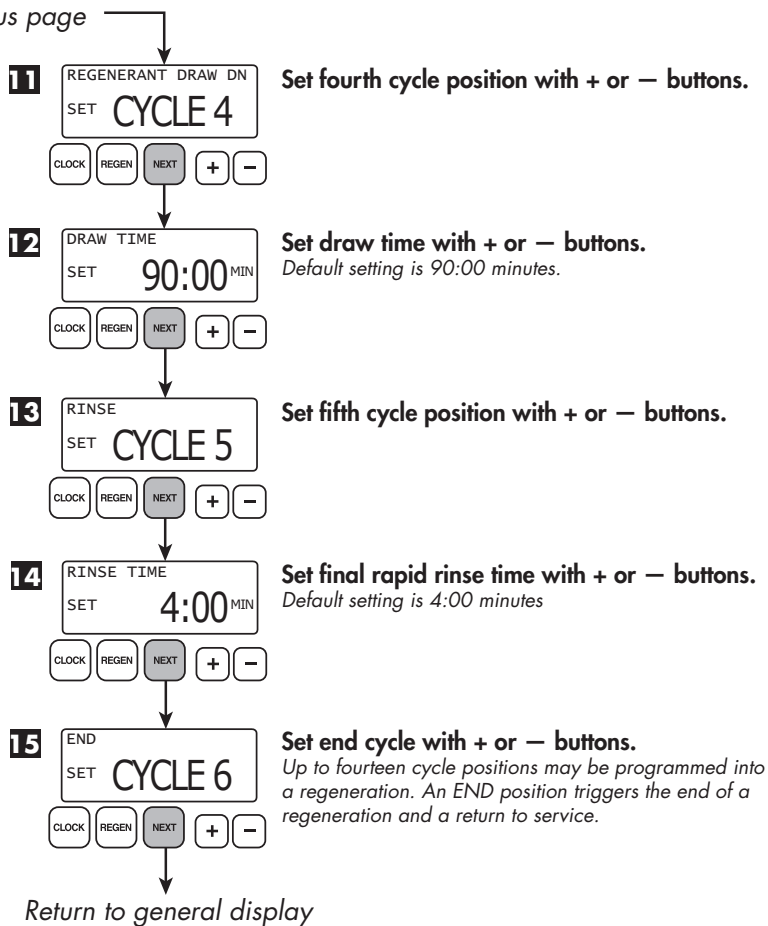*Default setting is 12:00 minutes.*

Service/OEM SOFTENING Screens   cont'd

Accessed by pressing and holding **NEXT** and **−** simultaneously for three seconds.
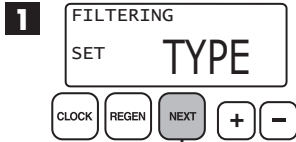Returns to general display after five minutes of inactivity.

continued from previous page

11 REGENERANT DRAW DN
SET CYCLE 4

CLOCK REGEN NEXT + −

Set fourth cycle position with + or − buttons.

12 DRAW TIME
SET 90:00 MIN

CLOCK REGEN NEXT + −

Set draw time with + or − buttons.
Default setting is 90:00 minutes.

13 RINSE
SET CYCLE 5

CLOCK REGEN NEXT + −

Set fifth cycle position with + or − buttons.

14 RINSE TIME
SET 4:00 MIN

CLOCK REGEN NEXT + −

Set final rapid rinse time with + or − buttons.
Default setting is 4:00 minutes

15 END
SET CYCLE 6

CLOCK REGEN NEXT + −

Set end cycle with + or − buttons.
Up to fourteen cycle positions may be programmed into a regeneration. An END position triggers the end of a regeneration and a return to service.

Return to general display

Service/OEM FILTERING Screens

Accessed by pressing and holding **NEXT** and — simultaneously for three seconds.
Returns to general display after five minutes of inactivity.

**NOTE:** Numbers and cycles used as examples on this page are typical of AIR FILTER systems.

1
```
FILTERING
SET      TYPE
```
CLOCK | REGEN | NEXT | + | —

Select SOFTENING or FILTERING with + or — buttons.
If you have selected SOFTENING, please refer to "Service/OEM SOFTENING screens", page 5-6.

2
```
GALLONS CAPACITY
SET   1000 GAL
```
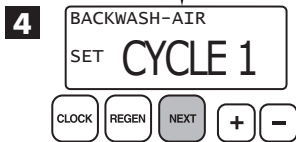CLOCK | REGEN | NEXT | + | —
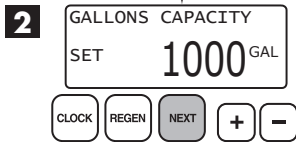
Set gallons of capacity with + or — buttons.
To turn off, set below 0. OFF does not use metered water to determine a regen and will not be an option of days override is not set. Default setting is 1000 gallons.
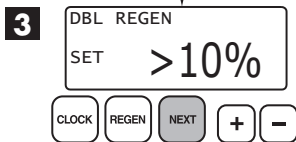
3
```
DBL REGEN
SET   >10%
```
CLOCK | REGEN | NEXT | + | —

Set double regen point with + or — buttons.
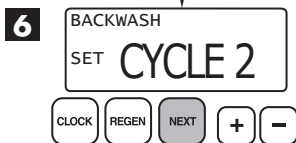*If unit's capacity is overrun by this percentage, the unit will regen two nights in a row. Default setting is OFF.*

4
```
BACKWASH-AIR
SET  CYCLE 1
```
CLOCK | REGEN | NEXT | + | —

Set first cycle position with + or — buttons.

5
```
BACKWASH-AIR TIME
SET   20   SEC
```
CLOCK | REGEN | NEXT | + | —

Set backwash-air position time with + or — buttons.
Default setting is 20 seconds.

6
```
BACKWASH
SET  CYCLE 2
```
CLOCK | REGEN | NEXT | + | —

Set second cycle position with + or — buttons.

7
```
BACKWASH TIME
SET   10:00 MIN
```
CLOCK | REGEN | NEXT | + | —

Set backwash time with + or — buttons.
Default setting is 10:00 minutes.
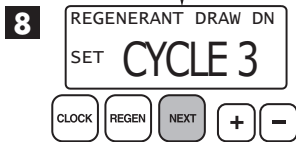
8
```
REGENERANT DRAW DN
SET  CYCLE 3
```
CLOCK | REGEN | NEXT | + | —

Set third cycle position with + or — buttons.

Service/OEM FILTERING Screens

cont'd

Accessed by pressing and holding **NEXT** and — simultaneously for three seconds.
Returns to general display after five minutes of inactivity.

NOTE: Numbers and cycles used as examples on this page are typical of AIR FILTER systems.

continued from previous page

9 — DRAW TIME — SET **60:00** MIN

CLOCK | REGEN | NEXT | + | —

Set draw time with + or — buttons.
Default setting is 60:00 minutes.

To set OZONE GENERATOR

NOTE: Ozone Generator options are only available if an ozone generator is connected to the board. Ozone generators are not compatible with all boards and programming. Consult the Ozone Generator Kit Instructions (OZ1-A-WR) for more information.

DRAW TIME — SET **60:00** MIN

CLOCK | REGEN | NEXT | + | —

Press and hold CLOCK and + buttons simultaneously for three seconds to access OZONE GENERATOR settings.

OZONE GENERATOR — SET **ON**

CLOCK | REGEN | NEXT | + | —

Select option with + or — buttons.
ON: Ozone generator option installed.
OFF: No options installed (default setting).

GENERATE OZONE — SET **30:00** MIN

CLOCK | REGEN | NEXT | + | —

Set the ozone generator's operation time with + or — buttons.
Default setting is 30:00 minutes.

GENERATOR ALARM — SET **OFF**

CLOCK | REGEN | NEXT | + | —

Select option with + or — buttons.
ON: Will display SERVICE OZONE on user screen when failure is detected.
Off: No alarm will display.

---

10 — END — SET **CYCLE 4**

CLOCK | REGEN | NEXT | + | —

Set end cycle with + or — buttons.
Up to fourteen cycle positions can be programmed into a regeneration.
An END position triggers the end of a regeneration and a return to service

Return to general display

Configuration Screens

Accessed by pressing and holding **NEXT** and **—** simultaneously for three seconds.
Once screen changes, press and hold **NEXT** and **—** simultaneously again for three seconds.

1 | VALVE TYPE — SET 1.0 IN — CLOCK REGEN NEXT + —

Select meter size with + or — buttons.
Set to 1", 1.25", 1.5", 2" or 1.0T (for twin units). Upflow brining will not be an option if set to anything other than 1" or 1.0T.

With 1.0T set:
• Meter calibration will be fixed.
• MAV 1 setting will not be viewed, but forced to be set to Alternator Mode w/ Immediate Regen and Post Fill Brining.
• The Backwash-Air regeneration step will not be available.
• Default setting is 1"

2 | DELAYED — SET REGEN — CLOCK REGEN NEXT + —

Set regen time control with + or — buttons.
• DELAYED sets regen to specified regen time.
• DELAY + IMMEDIATE sets regen to occur after 10 minutes of no water usage.
• IMMEDIATE sets an immediate regen upon zero gallons of remaining capacity.
• Default setting is DELAYED.

Only appears on units set to 1.0T Mode

Pre-Service Rinse — SET OFF MIN — CLOCK REGEN NEXT + —

Set pre-service rinse time with + or — buttons.
This option is only available if the valve type is set to 1.0T (twin). Range is 0-20 minutes. Default setting is OFF.

3 | MAV DRIVE 1 — SET OFF — CLOCK REGEN NEXT + —

Set first MAV drive control with + or — buttons.
• ALT A and ALT B are only used in twin configurations (see MAV manual for more details).
• SYSTEM CONTROLLER configures board to operate with the Clack System Controller.
• SEPARATE SOURCE changes state at the start and end of regen cycle.
• NO HARD BYPASS configures MAV as a no hard water bypass.
• TIME changes state at a set time referenced to the start of regen, for a preset duration of time independent of actual regen status. Inactive during alternate regeneration cycle.
• Default setting is OFF.

WARNING: Leaving valve in ALT A, ALT B or ENABLED without proper hardware will result in errors.

4 | AUXILIARY INPUT — SET OFF — CLOCK REGEN NEXT + —

Set auxilliary input with + or — buttons.
• IMMED indicates unit will regen immediately.
• DELAY indicates that after a 2 minute signal from external contact, unit will regen at delayed regen time.
• HOLD indicates that unit will not regen while external contacts are closed.
• ALARM indicates that control valve's internal alarm will sound upon external contact closure.
*• Default setting is OFF.*

WARNING: External contact is needed to operate any of the above settings properly. If no external contact is connected, no setting is needed.

continue to next page

Configuration Screens cont'd

Accessed by pressing and holding **NEXT** and **–** simultaneously for three seconds.
Once screen changes, press and hold **NEXT** and **–** simultaneously again for three seconds.

5 ┌─────────────────┐
RELAY 1 TRIGGER
SET   OFF

[CLOCK] [REGEN] [NEXT] [+] [–]
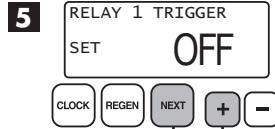
Set first relay trigger with + button. Press + to reach desired triggering event.
**If not using a relay, make sure OFF is selected and press NEXT.**
OFF indicates that no external devices are being used.
Default is OFF.

Return to General Display

If using Relay:

1. Push + to engage one of the following Relay Triggers:
   • Time
   • Gallons
   • Regen
   • Error
   • Flow
   • Pulse

2. Press **NEXT** to program Setpoints and Durations

RELAY 1 TRIGGER
SET   TIME

[CLOCK] [REGEN] [NEXT] [+] [–]

Set relay trigger with + or — buttons.
*TIME indicates that relay will be energized for a specified period of time during regen only. To set by this, press **NEXT**.*

RELAY 1 SETPOINT
SET   15 MIN

[CLOCK] [REGEN] [NEXT] [+] [–]
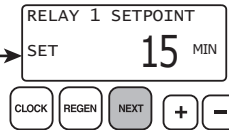
Set relay setpoint with + or — buttons.
This is the delay time period after regen starts that relay will initially energize. 0 indicates an immediate start.

RELAY 1 DURATION
SET   90:00 MIN

[CLOCK] [REGEN] [NEXT] [+] [–]

Set relay duration with + or — buttons.
This is the duration of time, after relay setpoint, that relay will remain energized.

NOTE: *Can be all or any part of total regen time, but will turn off at end of regen.*

Return to General Display

RELAY 1 TRIGGER
SET   GALLONS

[CLOCK] [REGEN] [NEXT] [+] [–]

Set relay trigger with + or — buttons.
*GALLONS indicates that relay will be energized after a specified number of gallons are expended in service position only. To set by this, press **NEXT**.*
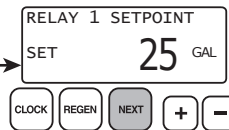
RELAY 1 SETPOINT
SET   25 GAL

[CLOCK] [REGEN] [NEXT] [+] [–]

Set relay setpoint with + or — buttons.
This is the gallons that will be expended before relay will initially energize.

RELAY 1 DURATION
SET   0:30 MIN

[CLOCK] [REGEN] [NEXT] [+] [–]

Set relay duration with + or — buttons.
This is the duration of time, after relay setpoint, that relay will remain energized. Adjustable from 1 sec to 500 min.

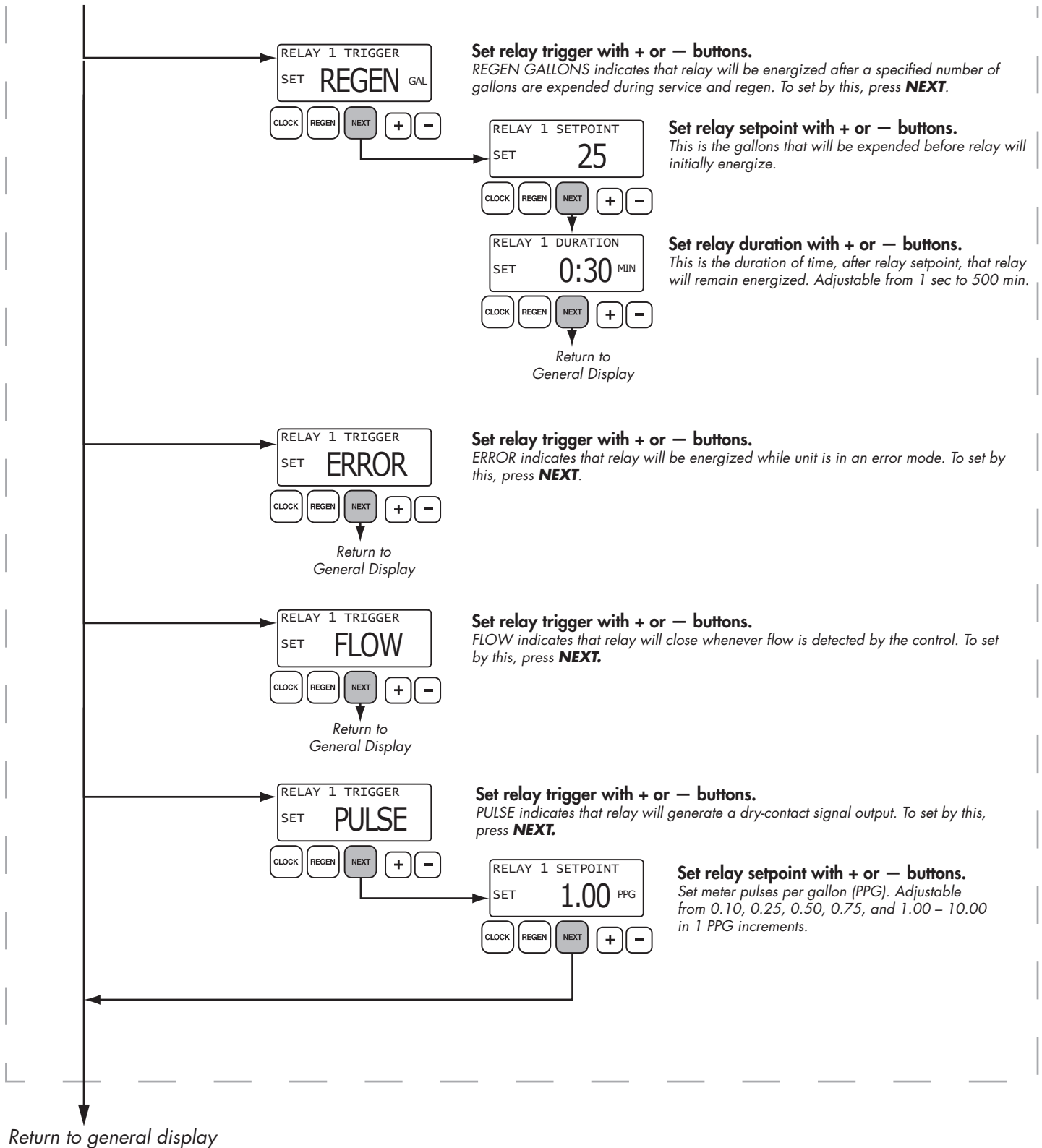**NOTE:** *Will shut off if a regen is initiated*

Return to General Display

Configuration Screens   cont'd

Accessed by pressing and holding **NEXT** and **–** simultaneously for three seconds.
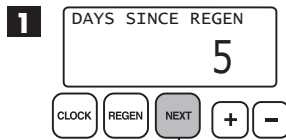Once screen changes, press and hold **NEXT** and **–** simultaneously again for three seconds.
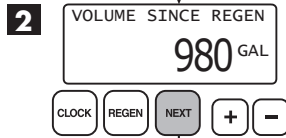
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RELAY 1 TRIGGER
SET   REGEN   GAL

[CLOCK] [REGEN] [NEXT] [+] [—]

Set relay trigger with + or — buttons.
*REGEN GALLONS indicates that relay will be energized after a specified number of gallons are expended during service and regen. To set by this, press **NEXT**.*

RELAY 1 SETPOINT
SET   25

[CLOCK] [REGEN] [NEXT] [+] [—]

Set relay setpoint with + or — buttons.
This is the gallons that will be expended before relay will initially energize.

RELAY 1 DURATION
SET   0:30   MIN

[CLOCK] [REGEN] [NEXT] [+] [—]

Return to General Display

Set relay duration with + or — buttons.
This is the duration of time, after relay setpoint, that relay will remain energized. Adjustable from 1 sec to 500 min.

RELAY 1 TRIGGER
SET   ERROR

[CLOCK] [REGEN] [NEXT] [+] [—]

Return to General Display

Set relay trigger with + or — buttons.
*ERROR indicates that relay will be energized while unit is in an error mode. To set by this, press **NEXT**.*

RELAY 1 TRIGGER
SET   FLOW

[CLOCK] [REGEN] [NEXT] [+] [—]

Return to General Display

Set relay trigger with + or — buttons.
*FLOW indicates that relay will close whenever flow is detected by the control. To set by this, press **NEXT.***

RELAY 1 TRIGGER
SET   PULSE

[CLOCK] [REGEN] [NEXT] [+] [—]

Set relay trigger with + or — buttons.
*PULSE indicates that relay will generate a dry-contact signal output. To set by this, press **NEXT.***

RELAY 1 SETPOINT
SET   1.00   PPG

[CLOCK] [REGEN] [NEXT] [+] [—]

Set relay setpoint with + or — buttons.
Set meter pulses per gallon (PPG). Adjustable from 0.10, 0.25, 0.50, 0.75, and 1.00 – 10.00 in 1 PPG increments.

Return to general display

First Level History Screens

Accessed by pressing and holding **+** and **–** simultaneously for three seconds.
Returns to general display after five minutes of inactivity.

1
```
DAYS SINCE REGEN
            5
```
CLOCK | REGEN | NEXT | + | –

Displays number of days since last regen.

2
```
VOLUME SINCE REGEN
          980 GAL
```
CLOCK | REGEN | NEXT | + | –

Displays number of gallons since last regen.

3
```
RESERVE FOR
MON       320 GAL
```
CLOCK | REGEN | NEXT | + | –
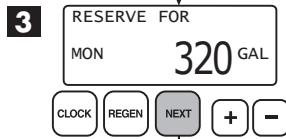
Displays reserve capacity.
Use + or — buttons to scroll through each day of the week to view calculated reserve capacity.

NOTE: *Reserve capacity takes 21 days to generate.*

4
```
USAGE      WED     R
DAY 15   230 GAL
```
CLOCK | REGEN | NEXT | + | –
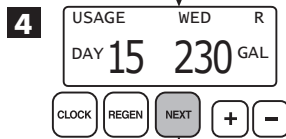
Displays gallon usage history.
Use + or — buttons to scroll through past 90 days of water usage history.
1.0T Mode: *T1 and T2 usage for this day combined in this display*

- *"R" indicates a regen has occurred that day.*
- *"S" indicates a step through manual regeneration.*
- *"M" indicates a manual regeneration.*
- *"E" indicates a valve error has occurred.*

Only appears on units set to 1.0T Mode
```
⊥  3 DAYS 12:35
A→B      0.00 GAL
```
CLOCK | REGEN | NEXT | + | –

Displays tank transfer history.
Use + or — buttons to scroll through last 10 tank transfers. ***Viewed in 1.0T Mode only***.

- *"1" indicates most recent tank transfer.*
- *"A" indicates service flow transferring away from tank.*
- *"B" indicates service flow transferring to tank.*
- *"3" indicates days ago of transfer (99 day max)*
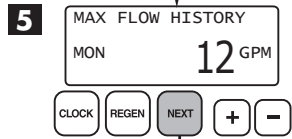- *"0.00" indicates gallons used at time of transfer.*

# First Level History Screens   cont'd

Accessed by pressing and holding **+** and **–** simultaneously for three seconds.
Returns to general display after five minutes of inactivity.

continued from previous page

5 | MAX FLOW HISTORY
MON **12** GPM
CLOCK REGEN NEXT + –

Displays peak flow rate history.
Use + or — buttons to scroll through last 7 days to view peak flow rate for that day.

6 | TOTAL GALLONS
0 X1K
CLOCK REGEN NEXT + –
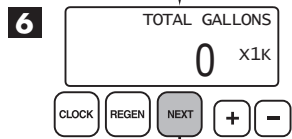
Displays total gallons used by Meter 1 input since last reset.
Push and hold + and — buttons simultaneously for three seconds to reset this value back to 0 gallons.
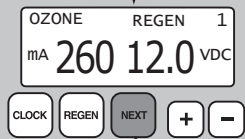
7 | TOTAL DAYS
970
CLOCK REGEN NEXT + –

Displays total days unit has been in service.
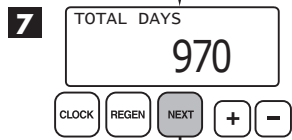
8 | TOTAL REGENS
190
CLOCK REGEN NEXT + –
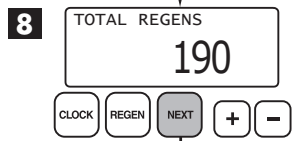
Displays total regens since startup.

Only appears when OZONE GENERATOR is on.

OZONE   REGEN 1
mA **260 12.0** VDC
CLOCK REGEN NEXT + –

Displays ozone current history.
Use + or — buttons to review ozone generator performance during the past 50 regenerations. A regen sequence indicator (A) will alternated being viewed with "mA" if the Alternate Regen Feature was active for this regen. Regens with multiple regenerate draws will only record the first one in the sequence. Values displayed are determined immediately after a low output current is detected, or will be the average values measured during generator period of operation.
AAA = Generator current draw in mA
VV.V = Generator voltage in VDC
Viewed only if SERVICE/OEM is set to OZONE ON.

Only appears on units equipped with MAV.

MAV 1 - FIRST   TTT
CYC **CCC** VVV
CLOCK REGEN NEXT + –

Displays MAV drive time history for an active MAV 1 output..
Use + or — buttons to select a MAV output. Pushing both + and — buttons will reset this display.
First = Average of the first three drive times measured for that MAV in that direction.
Last = Last drive time measured for that MAV in that direction.
Ave = Current average drive time calculated for that MAV in that direction.
TTT = Relative MAV drive time measured (First/Last/Ave).
CCC = Total number of cycles in/out for that MAV.
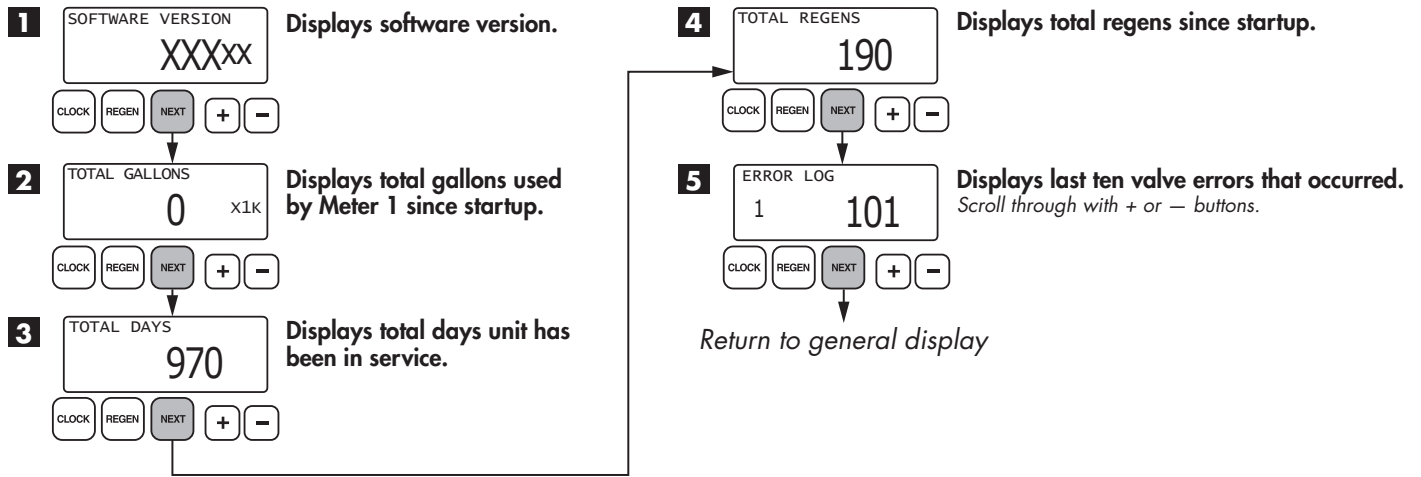*VVV = Relative MAV drive voltage measured (First/Last/Ave).*

Return to general display

Second Level History Screens

Accessed by pressing **+** and **—** simultaneously for three seconds.

Once screen changes, press **+** and **—** simultaneously again for three seconds.

Non-resettable history.

1 | SOFTWARE VERSION XXXxx | CLOCK REGEN NEXT + — | **Displays software version.**

2 | TOTAL GALLONS 0 x1K | CLOCK REGEN NEXT + — | **Displays total gallons used by Meter 1 since startup.**

3 | TOTAL DAYS 970 | CLOCK REGEN NEXT + — | **Displays total days unit has been in service.**

4 | TOTAL REGENS 190 | CLOCK REGEN NEXT + — | **Displays total regens since startup.**

5 | ERROR LOG 1 101 | CLOCK REGEN NEXT + — | **Displays last ten valve errors that occurred.** *Scroll through with + or — buttons.*

Return to general display

Error Codes and Descriptions

Error Code		Error Code Description
101	UNABLE TO START:	Valve not sensing valve movement with motor energized.
102	MOTOR STALLED:	Valve unable to find next cycle position (stalled).
103	MOTOR RAN TOO LONG:	Valve unable to find next cycle position.
104	VALVE HOMING:	Valve unable to find Home position.
106	MAV 1 RAN TOO LONG:	MAV 1 motor ran too long. Unable to find proper park position.
107	MAV 1 STALLED:	MAV 1 motor ran too short. Unable to find proper park position (stalled).
109	INVALID MOTOR STATE:	Control can no longer operate properly due to detection of an invalid motor state.
116	MAV 2 RAN TOO LONG:	MAV 2 motor ran too long. Unable to find proper park position.
117	MAV 2 STALLED:	MAV 2 motor ran too short (stalled). Unable to find proper park position.
201	INVALID REGEN STEP:	Control can no longer operate properly due to detection of an invalid regeneration cycle step. Internal software issue.
204	LEAK DETECTED	
402	POWER DOWN MEMORY:	Check sum error for operational data and status section of EEPROM memory - specific type of memory error.
403	PROGRAM MEMORY:	Check sum error for programming section of EEPROM memory - specific type of memory error.
404	DIAGNOSTIC MEMORY:	Check sum error for diagnostic section of EEPROM memory - specific type of memory error.
405	HISTORY MEMORY:	Check sum error for history section of EEPROM memory - specific type of memory error.
406	CONTACT MEMORY:	Check sum error for contact screen section of EEPROM memory - specific type of memory error.
407	STATUS RAM MEMORY FAILURE:	Control can no longer operate properly due to corrupted data detected in the Operational Data and Status Section of RAM memory. Once generated, the Error Mode is not entered nor an error displayed, instead previously stored data (<6 hours old) is used to maintain control operation.
408	DIAGNOSTIC RAM MEMORY FAILURE:	Control can no longer operate properly due to corrupted data detected in the Operational Data and Status Section of RAM memory. Once generated, the Error Mode is not entered nor an error displayed, instead previously stored data (<6 hours old) is used to maintain control operation.
410	CONFIG DOWNLOAD:	Configuration file downloaded to the control was not originally uploaded from another control with the identical software revision.

REMINDER: Press and hold *NEXT* and *REGEN* for three seconds to perform a soft reset and clear an error on screen.

Notes

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