HAYWARD®

Technical Updates for Pool Professionals

See below for this month's updates.

And visit our Support Center on Hayward.com for immediate access to Troubleshooting Guides, Quick Reference Guides, Manuals, Parts Diagrams, and Instructional Videos.

https://www.hayward-pool.com/shop/en/pools/support-center

Jan./2020

1. **Heat Pumps:** <u>All</u>

   An example of the heating capabilities of Hayward Heat Pumps

2. **Serial Numbers:** <u>All Products</u>

   A guide to reading serial numbers on Hayward Products

3. **Controls:** <u>OmniLogic</u>

   A guide to installing the R3.2.0 firmware revision

4. **Controls:** <u>OmniLogic</u>

   A guide to the cloning feature in R3.2.0

4. **Heat Pumps:** <u>HP21104T</u>

   A change to the fan blade

<u>A Heat Pump Capability Field Study</u>

Our Hayward Tech called in a customer complaint about the following pool.
Location: Orange TX
Average Temperature in Jan. is 49°
Pool and Spa combo. 600 gallon spa/13,700 gallon pool
Starting water temperature: 61
Desired Temperatures: Spa 102, Pool 75

They were attempting to heat with the **<u>HP50HA1</u>** ABG heat pump.
- The standard output for the HP50HA1 is 45,000 BTUs at 80° air/80 ° water/63% relative humidity.
- When any of those numbers are lower so is the output of the heat pump.
- Average temp in Orange, TX for Jan. of 49 degrees, and a pool temp of 61 you can reduce the output of the heat pump by 25% at least.
- 45,000 - 25%(11,250) = 33,750 BTU/hr. Is the approximate heat output for this heat pump in these conditions.

- A BTU (British Thermal Unit) is the amount of heat necessary to raise the temperature of one pound of water one degree.
- Water weighs 8.34 lbs per gallon.

- The spa is 600 gallons. That is 5004 lbs.
- The ability of the heat pump: (33,750 BTU's/hr output)/5004 lbs of water = 6.75 degrees heat added per hour not counting any heat loss in that same time frame .
- **<u>IF</u>** there is no heat loss... which there will be some with the air temp below the water temp... the heat pump would be able to raise the temperature of the spa 6.75 degrees per hour.
- From 61-102 would take 6 hours. Again, if there was no heat loss, and there always will be some.
- 41 degrees temp rise needed/6.75 degrees heat added per hour not counting any heat loss.

POOL
- 13,700 gallons weighs 114,258 lbs.
- (33,750 BTU's/hr output)/114,258 lbs of water = 0.29 degrees heat added per hour not counting any heat loss.
- To go from 61-75 would take: 14 degrees temp rise needed/0.29 degrees per hour = 48.28 hours minimum constant run time not counting heat loss.

If they used the **SUMXL112** instead:

SUMXL112 heat pump: 110,000 standard output – 25% due to low ambient temperature and low water temperature)
= 82,500 BTU's/hr output

SPA
- (82,500 BTU's/hr output)/5004 lbs. of water = 16.5° temperature rise/hr not counting any heat loss.
- If there were no heat loss the heat pump would be able to raise the spa temperature 41 degrees (61 – 102) in approx. 2.5 hours.

POOL
- (82,500 BTU's/hr output)/114,258 lbs. of water = 0.72° temperature rise/hr not counting any heat loss.
- If there was no heat loss the heat pump would be able to raise the pool temperature 14 degrees (61 – 75) in approx. 19.4 hours

<u>Note:</u> Heat loss is dependent on several factors.
- Surface area of the pool or spa
- Water and air temperature differential.
- This pool/spa had no cover so the heat loss would be so great that a heat pump could not heat either body of water to a comfortable temperature.
- A gas heater would be the only option for them to heat year round.

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How to Read Serial Numbers _{January 2020}

Hayward Products

August 2015 – Present

17 digit serial number format 2112-1911-003216017

The 1st two digits, 21, are the same on all product serial numbers and now the parentheses have been removed.	The 3rd & 4th digits indicate where the product was made. 10 = Canada 11 = Pomona, CA 12 = Clemmons, NC 13 = Nashville, TN	The 5th & 6th digits indicate the year the product was made and the 7th & 8th digits indicate the month. 1911= November 2019 1912= December 2019

MODEL# SP2670010X15
LOT# 9L24350
SERIAL# 21121911003216017

Pictured above is the current Hayward serial number format used starting August 2015.

Hayward Products

March 2010 – July 2015

17 digit serial number format (21)12-1003-010005002

The 1st two digits, (21), are the same on all product serial numbers.	The 3rd & 4th digits indicate where the product was made. 10 = Canada 11 = Pomona, CA 12 = Clemmons, NC 13 = Nashville, TN	The 5th & 6th digits indicate the year the product was made and the 7th & 8th digits indicate the month. 1003= March 2010 1006= June 2010

HAYWARD LOT# TSTM550
MODEL# 2025ADC
SERIAL# (21)121003010005002
PATENT PENDING

Pictured above is the Hayward serial number format used between March 2010 – July 2015.

Hayward Products

February 2004 – February 2010

17 digit serial number format (21)120-402-000002006

The 1st two digits, (21), are the same on all product serial numbers.	The 3rd-5th digits indicate where the product was made. 100 = Canada 110 = Pomona, CA 120 = Clemmons, NC 130 = Nashville, TN	The 6th-8th digits indicate the year and month the product was made. 402 = February 2004 403 = March 2004 404 = April 2005

MODEL S166T1575X
LOT # 4B95360
21120402000002006
(21)120402000002006

Pictured above is the Hayward serial number format used between February 2004 – February 2010.

How to Read Serial Numbers

Goldline Products

August 2011 – Present

Alphanumeric serial number format 4A20021-104377

The 1st two characters, 4A, indicate the warranty and class of the product.
1st character = Standard Warranty length
2nd character = Product Family
4A= 4 year warranty on an AquaRite

The 3rd & 4th characters indicate the year the product was made and the 5th - 7th characters indicate the day of the year.
20021 = 21st day of 2020

Pictured above is the current Goldline serial number format used starting August 2011.

Goldline Products

November 2001 – July 2011

Alphanumeric serial number format 1R0509-1020020

The 1st two characters, 1R, indicate the warranty and class of the product.
1st character = Standard Warranty length
2nd character = Product Family
1R= 1 year warranty on a remote

The 3rd & 4th characters indicate the year the product was made and the 5th & 6th characters indicate the month.
0112 = December 2001
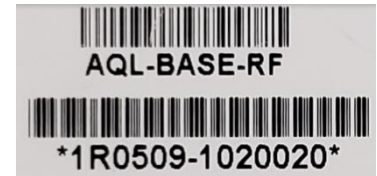
Pictured above is the Goldline serial number format used between November 2001 – July 2011.

R3.2.0 release notes

Firmware Revisions Included in this Release

- R3.2.0 - MSP_AR_R0302000 - Unified OmniLogic Control (OmniLogic and OmniHub)
- R3.2.0 - WDT_AR_R0302000 - Unified OmniLogic Remote (Wired Wall Mount and Wireless Waterproof)
- R3.2.0 - EPG_AP_R0302000- EPG (Expansion Panel Gateway)
- R3.2.0 - MPP_AP_R0302000 - MPP (Main Panel)
- R3.2.0 - Spa_Side_Remote_AP_R0302000 - Spa Side Wired Remote

Upgrade Steps

- Firmware files used for the upgrades should be stored at the top level (root) of the USB (not placed in folders and subfolders).
- When swapping hardware, use the config wizard edit function to map the equipment to the new hardware, avoid using Factory Reset.
- The system no longer supports multiple pieces of equipment configured to the same relay, valve actuator or the same pump. They can be installed together, but can only have one icon for activation.
- Always backup the Omni's configuration prior to upgrading the firmware

Omni MSP Controller firmware to R3.2.0:
1. Install firmware files on to an Omni compatible USB drive and place drive into your Omni controller USB port.
2. Back up your current configuration file by going to "config" > "backup config" > "Backup to USB"
3. Place the system in service mode by pressing the power button in the lower left-hand corner and then select
4. Read the warning message and then select "Yes"
5. Press the down arrow at the bottom of the first service mode screen and then select "Upgrade"
6. Select from the list of devices and press the checkmark.
7. Next press , then navigate to the file , then press the checkmark (the same image can be used to upgrade both the OmniLogic and VS Omni controllers)
8. Press the checkmark again to begin the upgrade
9. When the upgrade has finished, press the checkmark and the system will reboot.

Continues on the next page

R3.2.0 release notes

Wireless Remote firmware to R3.2.0:
1. Make sure that the USB stick is still installed in your Hayward OmniLogic controller.
2. Place the system in service mode by pressing the power button and then .
3. Read the warning message and then select "Yes".
4. Press the down arrow at the bottom of the first service mode screen and then select "Upgrade"
5. Select < firmware upgrade >, select <Wi-Fi Term...> and press the .
6. Next press <USB>, then select the file <**WDT_AR_R0302000**> and press the checkmark.
7. Press the checkmark again to begin the upgrade. It should take about 4 minutes to complete, depending on the quality of the network connection.

Wired Wall Mount firmware to R3.2.0:
1. Make sure that the USB stick is still installed in your Hayward OmniLogic controller.
2. While still in Service Mode, Navigate to the "Upgrade" icon and select it.
3. Select <firmware upgrade>, select <Wired Term…> and press the checkmark.
4. Next press <USB>, then select the file <**WDT_AR_R0302000**> and press the checkmark.
5. Press the checkmark again to begin the upgrade. It should take about 25-30 minutes to complete.

Expansion Panel firmware to R3.2.0:
1. Make sure that the USB stick is still installed in your Hayward OmniLogic controller.
2. While still in Service Mode, Navigate to the "Upgrade" icon and select it.
3. Select <firmware upgrade>, select <Wired Term…> and press the checkmark.
4. Next press <USB>, then select the file <**EPG_AP_R0302000**> and press the checkmark.
5. Press the checkmark again to begin the upgrade. It should take about 2 minutes to complete.

Main Panel firmware to R3.2.0:
1. Make sure that the USB stick is still installed in your Hayward OmniLogic controller.
2. While still in Service Mode, Navigate to the "Upgrade" icon and select it.
3. Select <firmware upgrade>, select <MP> and press the checkmark.
4. Next press <USB>, then select the file <**MP_AP_R0302000**> and press the checkmark.
5. Press the checkmark again to begin the upgrade.

R3.2.0 release notes

To upgrade the Spa Side Remote firmware to R3.2.0

1. Keep USB stick inserted into your Hayward OmniLogic controller..
2. Place the system in service mode by pressing the power button and then <service mode>..
3. Read the warning message and then select "Yes".
4. Press the down arrow at the bottom of the first service mode screen and then select "Upgrade"
5. Select <firmware upgrade>, select <Spa Remote…> and press the check mark.
6. Next press <USB>, then select the file <**Spa_Side_Remote_AP_R0302000**> and press the check mark
7. Press the check mark again to begin the upgrade. It should take between 7 to 9 minutes to upgrade depending on the bus speed connection

OmniLogic R3.2.0 Firmware
Backup vs Cloning

Cloning is a new feature added in firmware R3.2.0. Cloning adds a new method to backup a MSP. Below is a comparison of backup vs cloning

|	Backup	Cloning
System Configuration	X	X
HUA Location data		X
Saves Network data		X

Notes

- Cloning should be used in situations where the MSP has to be replaced.

- Avoid using cloning if replacing equipment with HUAs; such as a VSP, MPP, or relay bank.

- Cloning does **not** copy the MSPID to another MSP.

How to clone a MSP: *A USB stick is needed to clone the MSP.

Step 1: Place the MSP into service mode. Find and press the config button
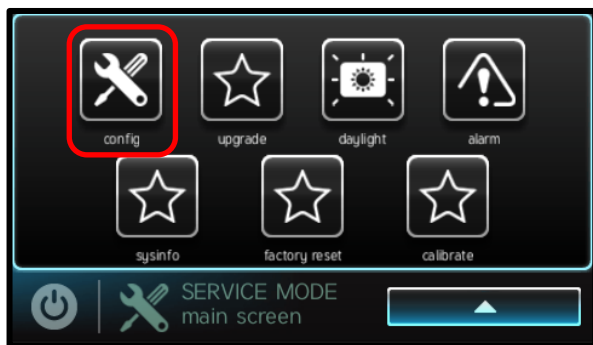
Step 2: Press backup.
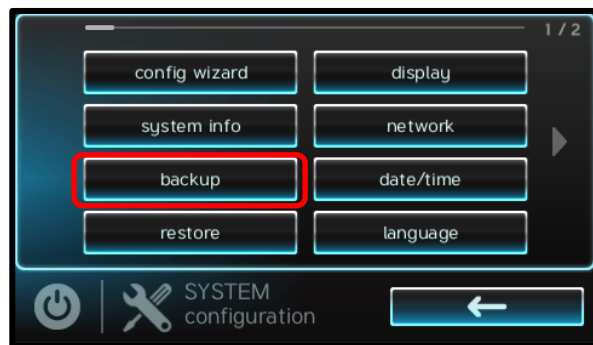
Step 3: Select Clone Controller to USB, then press the checkmark button
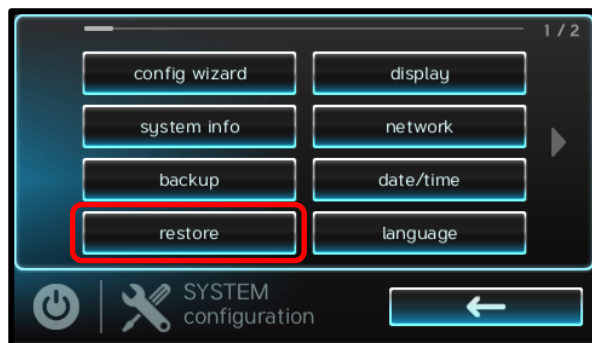

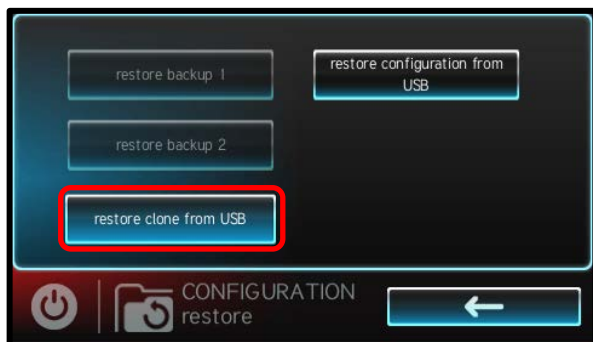Step 4: Clone complete.

How to restore a Clone backup file

Step 1: Place the MSP into service mode.
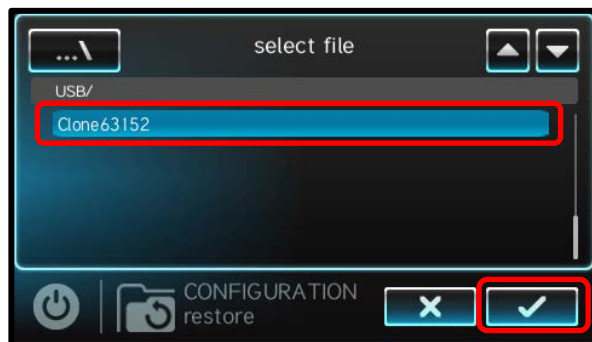Find and press the config button.
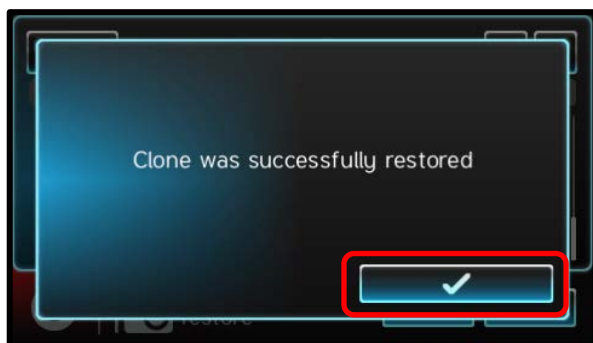
Step 2: Press the restore button.

Step 3: Press the restore clone from USB
button.

Step 4: Select the clone file and press the
checkmark.

Step 5: Complete. Exit service mode after
reboot.

Fan Blade Change on Round Platform Heat Pumps

Due to a supplier issue the fan blade on the round platform heat pumps (HP21104T) was recently changed from a 4 blade fan to a 3 blade fan.

- There is no change in the part number for replacement blades HPX15024321
- The new 3 blade fan will correctly operate as a replacement for older 4 blade fans.
- All new HP21104T heat pumps built beginning 1/15/2020 will have the new fan.

Old 4 blade fan   **New 3 blade fan**