

# **EcoOnline™**

## ***Vertex System Technical Service Bulletin 1***

### **Important update for systems sold prior to 05/07/2013**



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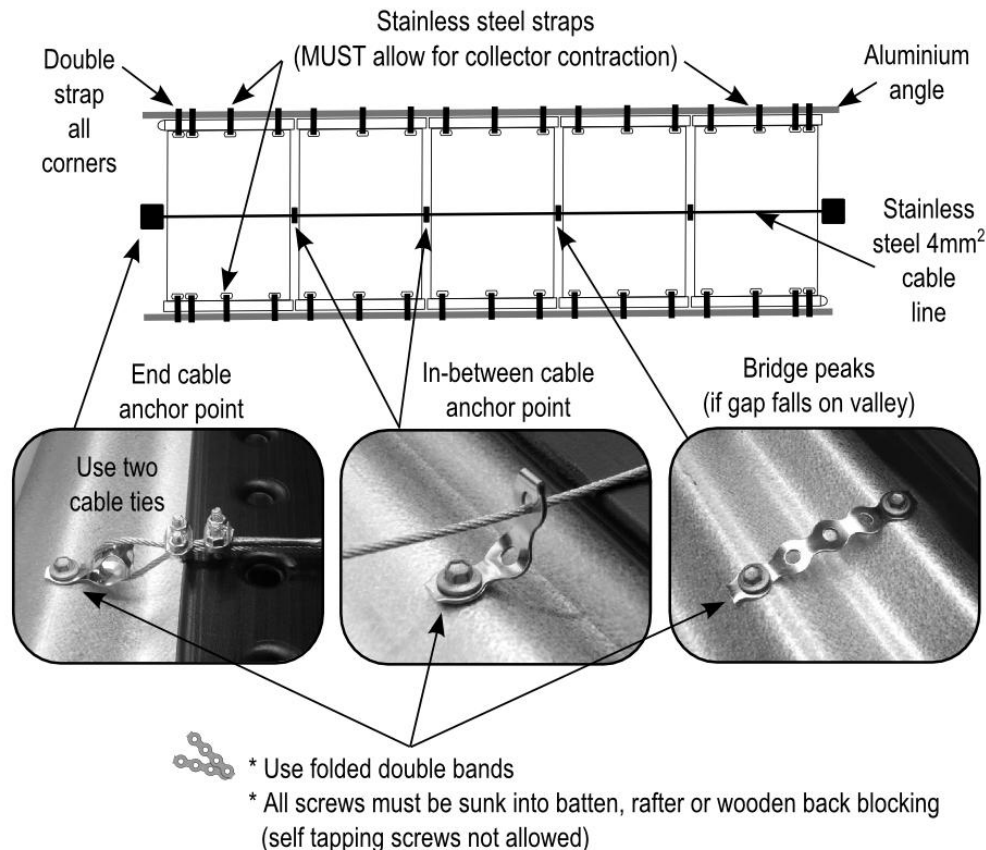
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# 1 New Wind Loading Australian Standard (Level of Importance: HIGH)

In December 2012 new changes were made to the Australian Standard Wind Loading for roof mounted panels. The new standard substantially increased the required fixing strength for solar panels mounted with a gap 50mm or above the roof structure. After a review of OKU based EcoOnline systems we now recommend the following ....

## 1.1 Mid-Panel Stainless Guide Line (Level of Importance: HIGH)

We recommend that the stainless steel guide running across mid section of the panels with in-between anchor points be installed for high wind loading situations. **You may or may not require this, see new manual under Wind Proofing section.** For metal roofs use perforated galvanised bands (hoop iron) to create attachment points as show below.



For tile roofs this mid panel cable is an easy retro-fit and we recommend its installation, see new manual under Wind Proofing section.

## 1.2 Collector Contraction Issue (Level of Importance: HIGH)

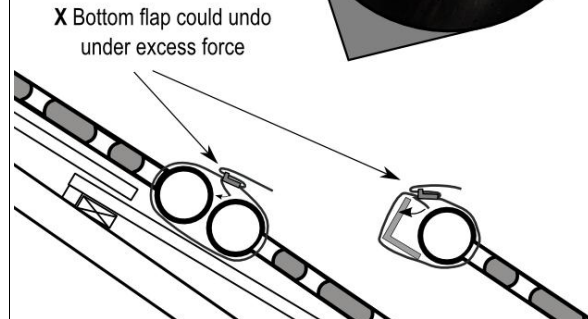
We recently found that collectors can contract by up to 10mm in length; this is on top the thermal contraction. We recommend straps be checked the next time you service your system. If the top strap seems too tight they may need to be loosened to allow for thermal contraction. **This check should be carried out while the panels are cool.**

## 1.3 Stainless Steel Strap Performance (Level of Importance: HIGH)

Due to the recent Australian Standard upgrade we now we recommend the holding performance of the supplied stainless steel straps be improve via the application of a wire loop holding the back flap in place.



**Recommendation:**  
Wrap corrosion  
proof 1.5mm diameter  
wire around the bottom  
flap and buckle  
as shown



If you have installed these straps, we strongly recommend applying the wire fixings as shown. However before carrying out this fix please check that the straps are not too tight.

#### **1.4 6 Stainless Steel Straps per Panel (Level of Importance: HIGH)**

Due to the recent Australian Standard upgrade we now strongly recommend 6 straps per panel and double straps on all array corners. Some early systems were supplied with 4 straps per panel. Please contact [info@EcoOnline.com.au](mailto:info@EcoOnline.com.au) if you have a system with 4 straps per panel. These can be supplied at cost price (not including shipping).

#### **1.5 Wind Proofing Fundamentals (Level of Importance: HIGH)**

For our panels please note these fundamentals.

- The roof to panel air gap (and air volume) under the panel is critical and should be reduced as much as practical.
- The roof edge exclusion zone should be observed or fixings strengthened.

To help with wind loadings EcoOnline (in consultation with wind engineers) has created a new wind loading table in the latest manual. Please check that your fixings would withstand these worst case loadings (see Wind Loading section in new manual).

## **2 Soldered Connections (Level of Importance: HIGH)**

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Earlier manuals advised that soldered connections be taped in electrical tape. For better water proofing and to protect against potential corrosion of these connections (which could overheat as a result) we now recommend a dual layer of adhesive lined heat shrink be used to weatherproof. See new manual. Adhesive lined heat shrink can be purchased at any electrical store.

## **3 Service and Maintenance Schedule (Level of Importance: HIGH)**

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A Service and Maintenance Schedule was added to our manual, please download the new Vertex manual. We recommend servicing be carried out at specified periods.

## **4 Pool Chemistry Compatibility (Level of Importance: MEDIUM)**

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Recent test results show that our Silicon joiners are susceptible to **Acid Attack and/or Bromide Chlorination (graduals or tabs)**. Tests strongly showed that keeping your pH between 7.2-7.8 is critical to the longevity the entire system. We don't recommend the use of **Bromide Chlorination** since these chemicals were found to dramatically drop pH as they dissolved. If you need to change sanitation type please note, you will need to change the water. It is not sufficient to just change chlorination chemicals due to residual bromide load in the old water.

## **5 Silicon Glue in your Inlet/Outlet Adapter Barbs (Level of Importance: MEDIUM)**

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Due to the very hot weather last summer one of our customers reported barbs slipping out. We now recommend all barbs be silicon glued, see new manual. Note, do not clamp near the end of the barb, the pressure from the barb could narrow the tip of the barb and result in slippage.

## **6 Supplied Nylon Fittings (Level of Importance: MEDIUM)**

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Very early systems were supplied with Nylon plumbing fittings, (Gyco or Hansen). It's come to our attention that nylon is not compatible with chlorinated water. Any such fittings should be removed and replaced with PVC equivalents the next time you service your system.

## **7 Unreinforced Silicon joiners (Level of Importance: MEDIUM)**

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Very early systems were supplied with thin (~3mm) unreinforced silicon joiners, we highly recommend these be removed and replaced with our new 5mm reinforced silicon joiners the next time you service your system. Please contact us for replacements.

## **8 Non-barb Inlet/Outlet Adapters (Level of Importance: MEDIUM)**

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Very early systems were supplied with non-barb PVC inlet/outlet adapters (white colour) which can slip out over time. We highly recommend any white colour adapters be removed and replaced with barbed adapters the next time you service your system, or alternatively these can be tied to the adjacent collector panel to stop them from potentially slipping out. Please contact us for replacements if needed.

## **9 New Vacuum Valve Position (Level of Importance: Functional only)**

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Early Vertex systems advised to install the vacuum release valve on the return line. Depending on pump height this can result in the valve pulling in air resulting in a noisy system. Tests show that if the vacuum valve (brass type) is placed near the inlet of the collector array then the system fills solid with water during operation resulting in a much quieter system and a recovery of the pump height resulting in higher flow rates and a more efficient system. Customers supplied with an Onga valve (black) will need their valves replaced to the new brass type if they wish to implement this alternate position.

## **10 New Under-temperature thermostat (Level of Importance: Functional only)**

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Early Vertex systems did not contain an under-temperature thermostat. This can result in cooling of the spa water in spring on sunny but cool mornings and/or evenings. Please contact us to purchase our new under-temperature thermostat as this will improve the efficiency of your system.

## **11 New Under-temperature Thermostat Location (Level of Importance: Functional only)**

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For extra lighting protection we now advise the solar panel and under-temperature thermostat be install as low to the ground as possible. See new manual.

## **12 New 3Phase pumps (Level of Importance: Functional only)**

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Please note we now have stronger 3Phase pumps, which are a large improvement over the older models. Higher water flow will improve system efficiency, please contact us if you wish to upgrade.

## **13 New Strainer (Level of Importance: Functional only)**

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We now have a new 316 stainless PVC large canister strainer for the system. Please contact us if you wish to upgrade.