

STUDY OF CPAC* TREATMENT FOR MOTORCYCLES

2002 V Rod treated

Versus

2003 V Rod untreated

Written by Rich Moran – May 2012 – Images taken May 2012

*CPAC – Corrosion Prevention and Control

Hawaii and Corrosion

Hawaii has a unique atmosphere, an atmosphere that is enriched with chlorides from the ocean and sulfuric dioxides from an active volcano on the big island of Hawaii.

The moist trade winds combine the chemicals and when rain fall occurs the rain is 4.5 pH (neutral pH is 7 – 7.5 pH) on the island of Oahu where 70% of the State of Hawaii's population lives.

Laze plumes are very acidic

Extreme heat from lava entering the sea rapidly boils and vaporizes seawater, leading to a series of chemical reactions. These actions produce a large white plume, locally known as lava haze or laze, which contains a mixture of hydrochloric acid (HCl) and concentrated seawater. This is a short-lived local phenomenon that only affects people or vegetation directly under the plume.

The hydrochloric acid (HCl) comes from the breakdown of seawater-derived chlorides during sudden boiling. Because the lava is largely degassed by the time it reaches the sea, any HCl coming from it is insignificant by comparison. Analyzed samples of the plume show that it is a brine with a salinity of about 2.3 times that of seawater and a pH of 1.5-2.0.

The above information can be found at:
<http://volcanoes.usgs.gov/hazards/gas/index.php>



Acidic Steam Cloud

Volcanic Eruption Cloud

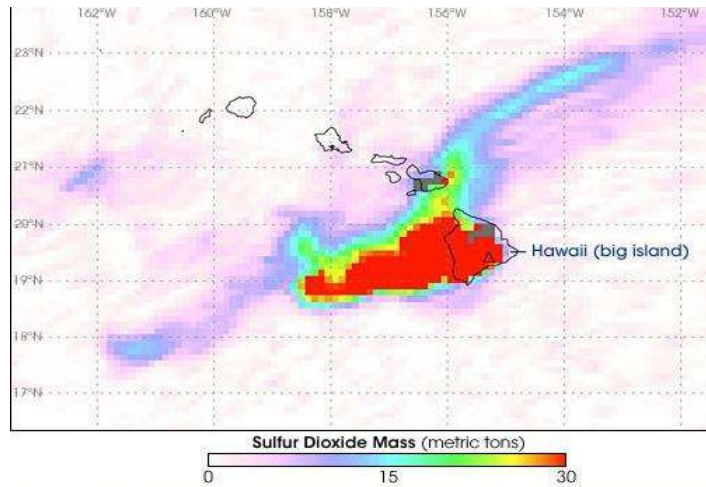
This image gives you an idea of the scope of travel of volcanic emissions from the source point of the caldera. Seeing this makes it easier to understand when VOG* occurs, winds out of the south will drive the cloud back over the islands causing damage to our infra structure, vehicles, buildings, equipment, boats, planes and motorcycles.



*Vog is created when volcanic gases (primarily oxides of sulfur) react with sunlight, oxygen and moisture. The result includes sulphuric acid and other sulfates. Vog is made up of a mixture of gases and aerosols which makes it hard to study and potentially more dangerous than either on their own. *From Wikipedia, the free encyclopedia.*

How much VOG is falling on our island?

Metric tons per day emission map



Volcanic emission foot print

Special thanks to NASA Earth Observatory for these images
<http://earthobservatory.nasa.gov/IOTD/view.php?id=8706>

How does this relate to motorcycles?

2012 Case Study Location – Oahu

Two Harley Davidson V Rods, one a 2002 and the other a 2003 model, both exactly the same with exception of the sheet metal.

2002 V Rod was washed with Salt Away and treated with Rust Cop, a thin film rust inhibitor since new, and the 2003 model was not treated as far as we are aware with any product for corrosion prevention and control.

Mileage of the 2002 V Rod – 88,222 as of May 2012

The 2003 V Rod mileage was not available.

We were advised that the 2003 V Rod has less than 30,000 miles on the odometer.



Mileage of the 2002 V Rod



2002 V-Rod – Maintained
Regularly rinsed with Salt Away and
treated with Rust Cop

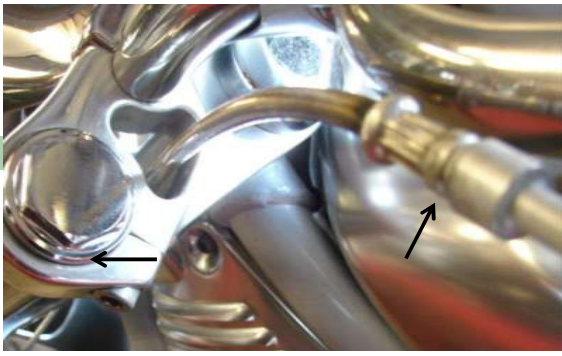


Left handlebar
control
assembly

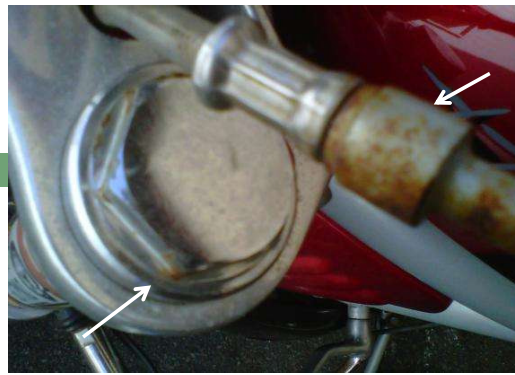
2003 V-Rod Untreated
Correct damage with Rust Cop.
Contact us at (808) 676-1963



Right handlebar
control
assembly



Treated

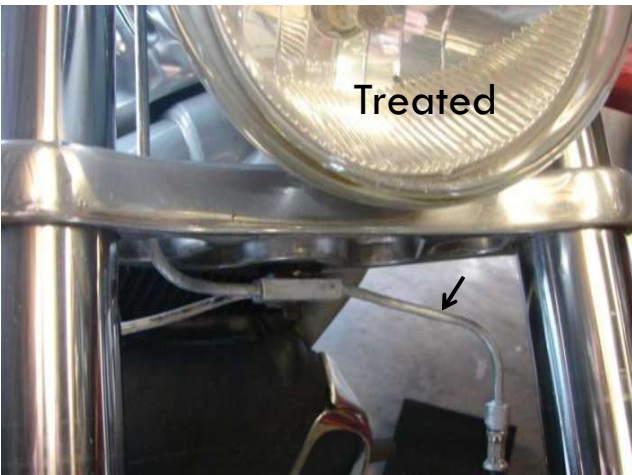


Untreated



Treated with an exception here - This brake line part used by Harley Davidson is inexpensive tubing and hydraulic block.

This component is obnoxious with corrosion as we have had to service this part 3 times during ownership new-September 2002 and we believe we finally have defeated the corrosion issue with this part with an elevated service procedure. Contact us at (808) 676-1963 for more information.

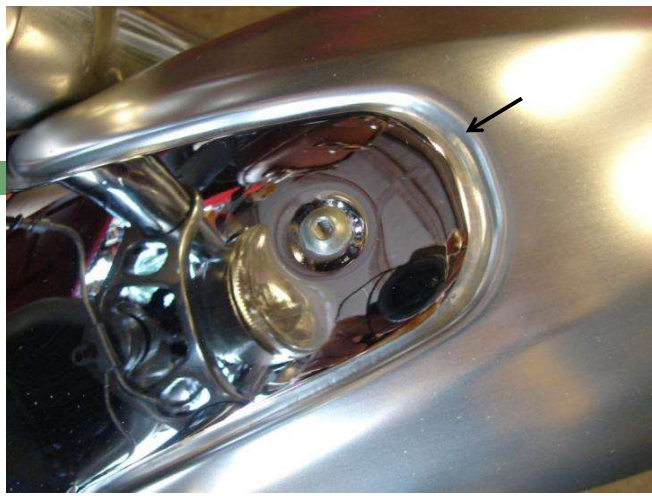


Treated



Untreated

Treated and maintained with Rust Cop
– this 2002 chrome fender bracket
remains free of corrosion.



Untreated the chrome plating on this
fender bracket has lifted and is curling
due to sandwich corrosion from between
the fender and bracket.

This is easily prevented with regular
applications of Rust Cop.

Brakes and Wheels



Treated



Untreated

Brake rotors can be treated with CarWell CP 90/Rust COP.

**Do not use any other product for brake rotor/caliper corrosion protection as we
will not guarantee* safe results!**

NO PANIC STOPS FOR THE FIRST TANKFUL!!!!



Untreated



Treated

*Insure after treatment to allow the bike to sit for at least 24 hours. Wash the bike with Salt Away and rinse with fresh water. **No emergency or panic stops** for the first tank full as the brakes will feel spongy. This condition will correct itself and braking that you experienced prior to treatment will return to normal. **NO PANIC STOPS FOR THE 1st TANKFUL!**



Treated



Untreated



Starter housing



Untreated



Treated

The Choice is yours – Maintain and Retain or Ignore and Pay more!



Treated



Untreated



While we failed to get an image of the unprotected rear brake line, we are under the advice that this banjo connection is a major issue with corrosion on all Harley Davidsons.

Note the heat shrink black tubing between the rubber brake line and the fitting. The heat shrink tubing over time loses tension due to UV and weather exposure.

When the tubing relaxes, water can enter the assembly which left unprotected will ultimately cause brake line failure which is a dangerous condition to have occur on any vehicle, two wheel or other wise.



We have faithfully kept up with treatments at 6 month interval here as well as other hot spots found on the V Rod. We also follow an annual treatment schedule and wash the bike at least once a month with Salt Away to reduce the chloride attack due to salt laden trade winds.

The rest is up to YOU

Take control of the damaging effects of corrosion by using Salt Away when you wash your motorcycle, car, truck, jet ski, boat and trailer. You can further control corrosion by regular use of CarWell CP90 or Rust Cop and if you are in a location on the windward side of the islands, use of Bullfrog Lubricant with Rust Blocker will aid in longer term protection.

“When it’s RUST...Call US! (808) 676-1963”

www.corrosioncops.com



2002 HD VRod



1939 HD Knucklehead