

12V system the maximum voltage drop should be less than  $12 \text{ (V)} \times 3\% = 0.36 \text{ (V)}$

Honda VTR1000F alternator output @ 5,000 rpm = 280 watts  
 $280\text{w} / 12\text{v} = 23.3 \text{ amps}$  (13v in-service actual = 21.54 amps)

Voltage Drop = Current x Length x Ohms per foot =  $24 \text{ amps} \times 2.25' \times (2.5**/1,000 = .0025) = .135\text{v}$   
 $.135\text{v} / 24\text{a} = .0056\% = <3\%$

\*Approximate distance "roundtrip" for positive & negative wire between VRR & battery

\*\*14 ga. wire ohms (resistance) per 1,000 feet

Using 25 feet (10 ga. @ 24 amps) / 3 feet (18 ga. @ 24 amps) = 8.33 times requirement  
Note that the amp capacity of the wire curtails using very short lengths of wire for large current flows.

**Skokie VTR response to "I suggested quality wire in 10ga, which is appropriate for use based on Sh stator amperage, exposed to heat, the elements, UV light and automotive chemicals. What would you recommend?"**

12 gauge AWG wire is even overkill. I believe Eastern Beaver uses 14 gauge wire or the metric equivalent for their VRR kits. Marine grade is also not needed.

"I suggested quality wire in 10ga, which is appropriate for use based on SH stator amperage, exposed to heat, the elements, UV light and automotive chemicals. What would you recommend?"

There is only nominal heat under the seat cowl of the VTR (I've measured when I ran the original un-finned VRR but with a computer CPU heat sink and fan bonded to it before I installed a Mosfet), much less so than under hood of a car. What "Elements", direct weather exposure is also not significant unless one is running without seat cowl in-place; same for UV and chemicals.

Any half decent quality wire, connectors and heat-shrink tubing will be more than adequate, or it has been for my 03/97 mfg. date VTR; although mine only has 95,000 miles on the original odometer.

Good quality workmanship is much more important.

Whereas I only know enough about electricity to be dangerous, I've been know to make a few modifications to the electrical systems on my cars, motorcycles and friends aircraft. In my youth, when helping redesign their electrical systems, I managed not to cause failures on several Atlas-Centaur launch vehicles and 4 Space Shuttles, as well as a myriad of projects for the US Air Force (which when I asked what I was working on they asked me why I had a need to know).

And I also "did not take anything you said poorly...but differing opinions make for good conversation", and I hope you again like a bit of tongue in cheek.