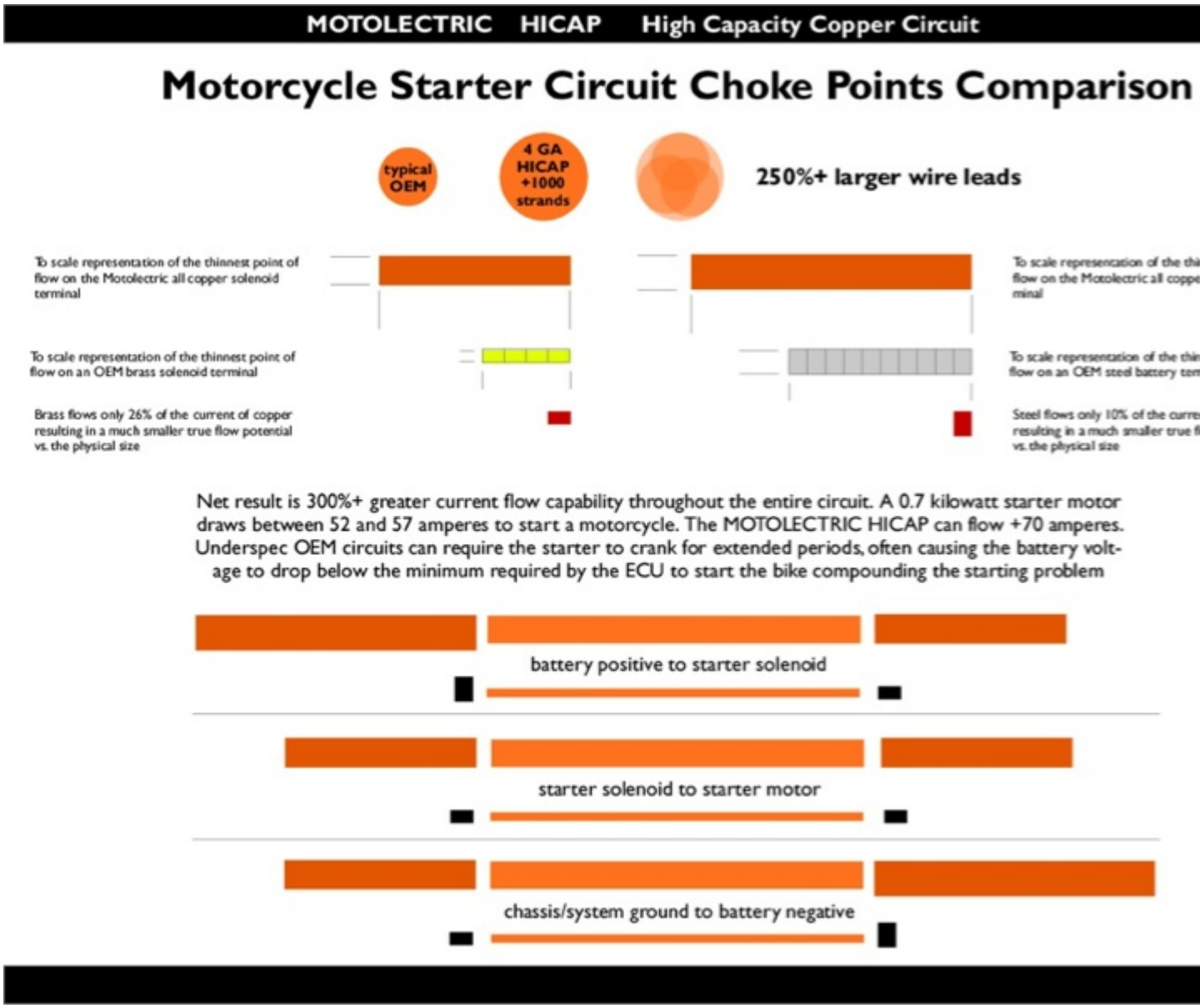

~ . . .I rode the airhead the other day and it just fires right up, just like you saw it. It just cranks right over and starts. I'm really pleased with it.
~
Dave Swider (former multi year President of BMWNOA)

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All motorcycles exhibit a definite loss of electrical current flow in just a few years.

The BMW Airhead series can be some of the worst offenders.

The reasons are many;

A) the OEM loom actually has tinned brass solenoid and starter terminals (brass flows only 26% of the current that copper flows)

B) it also has brass battery terminals

C) the OEM loom uses a generic grade of wire which is prone to oxidation along its length (not just on the ends where you might see the corrosion)

D) the wire diameter is borderline as to whether it can flow the required current

All of the above creates chokepoints along the circuit path that causes a good portion of the required current to be changed to heat resulting in the starter receiving far less current than it requested (a .7 kilowatt starter requires 52 amperes of current to work properly)

The under-engineered circuits can have dramatic voltage drops in just a few years resulting in hard starting, reduced battery/starter/solenoid/sprag clutch life and fouled spark plugs.

As the motor cranks over the battery voltage fluctuates between its original voltage and the 8-9 volt range. Modern electronic ignition bikes need a steady supply in the 12 volt range. This starter motor - battery fluctuation compounds the starting problems

HICAP
High Capacity Oxygen Free Copper DC Distribution Circuit

It is 99.99% **O**xygen **F**ree **C**opper from tip to tip and can effectively flow 70 amperes of current.

The **HICAP** offers many benefits;

- **improves your starting to about what it was when your bike was new** - most bikes will start in about a second (assuming you have a decent battery and your starter isn't worn out)

- **enhances your pride of ownership in your classic motorcycle** - the quick start eliminates that sinking feeling as the engine cranks over and over while you wonder if it will actually start this time

- **longer battery life** - when your bike doesn't start quickly your battery has to flow current for 3-5-7+ seconds. **SLI** (starting, lights, ignition) 12 volt batteries as supplied for motorcycles are not designed for this type of extended current flow. This extended current discharge reduces the life span of your battery. Extended high current discharge cause the oxides in your battery to become soft. This action is cumulative (they get softer during each extended discharge) and the oxides do not "bounce back" (they don't harden back up between discharges). Depending on the type and age of the battery as little as 8-12 high discharge events can cause the oxides to soften enough to begin to deteriorate (begin falling off the battery grids). Once this starts the battery degrades at an advanced rate. Our kit with its near instant starting will minimize the chance of this happening and allow for the longest life possible from your motorcycle battery.

- **overall better electrical system performance** - the substantially larger negative lead stiffens the electrical system for much better current flow at all times, that means better battery charging and brighter lighting along with better performance from all parts of the electrical system (many riders report everything from better idling to better power)

- **virtually eliminates the chance of the aggravating "fused solenoid syndrome"** - when current flows through the solenoid contacts for extended periods, it can fuse the contacts together. If this happens your starter will crank the motor until you cut the power by removing one of the battery connections. At that point the solenoid must be replaced before you can use the bike. This problem is more common than you would think.

- **maximizes the life of your starter** - some big twin motorcycles are notorious for chewing through starter motors. By reducing your starting to the shortest time possible our **HICAP can reduce the wear on your starter motor by up to 90%**. Many replacement starter motors run $300-$500.

- **minimizes your chance of being left stranded** - if your bike won't start there is no option other than to truck or tow it home or to the shop. It is very difficult to bump start a big twin especially if you have any panniers or gear on the bike which makes throwing your leg over the seat a nerve wracking event. A motorcycle tow runs in the area of $150 for just a few miles.

- **minimizes your impact on the environment** - the proper disposal of lead acid and agm batteries (often classified as toxic waste) is an ongoing problem. By extending the life of your battery you reduce the number of batteries you use during the ownership of your bike. You save money and there are fewer batteries to dispose of - **everybody wins**.

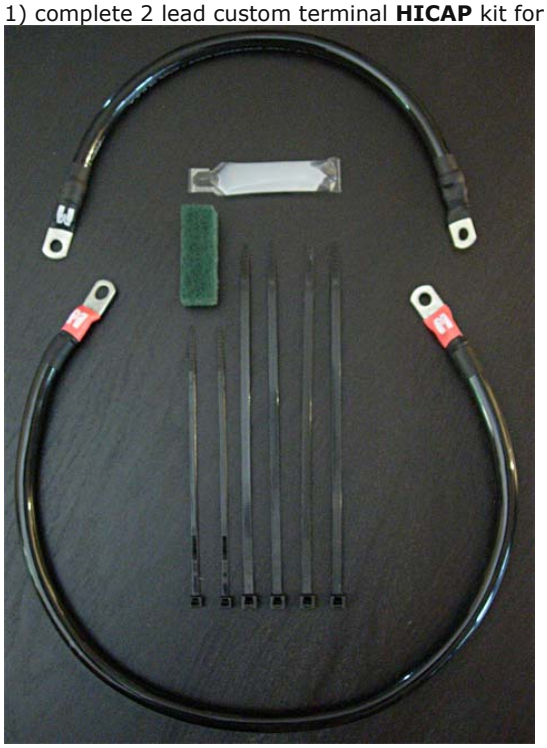
The **HICAP** upgrade kit will restore your starter system to equal or better than when your bike was new.

The HICAP will pay for itself in reduced operating costs for your motorcycle.

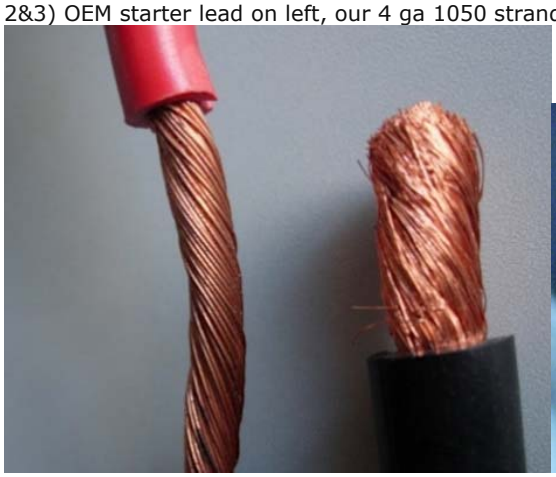
Our kit requires no cutting of any wires. It is built overspec so that it will deliver its superior performance for many, many years. Normal installation is to replace the single leads (like the ground lead) and to run our **HICAP** starter to solenoid lead in parallel with the OEM lead when that lead is run into the main electrical loom. The electricity will always take the path of least resistance and so it will flow through our lead to the solenoid.

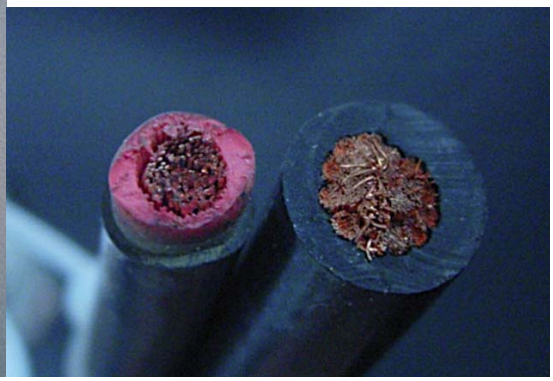
Photos below for illustration

1) complete 2 lead custom terminal **HICAP** kit for the two valve BMW

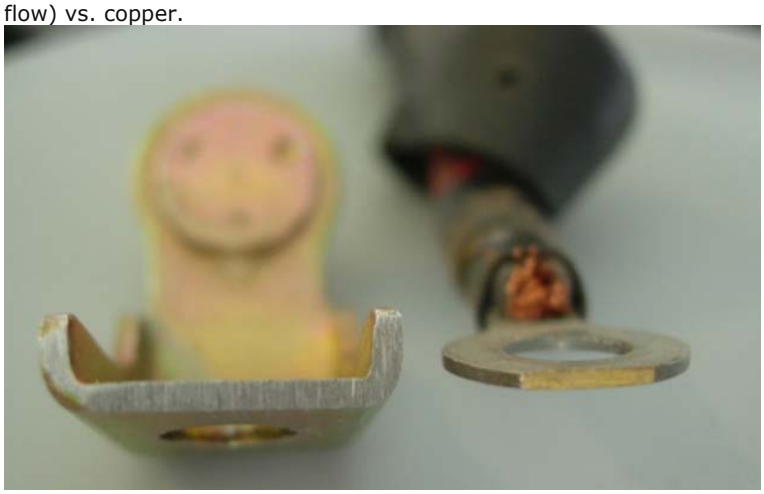


2&3) OEM starter lead on left, our 4 ga 1050 strand oxygen free copper lead on the right





4) examples of OEM steel and brass terminals. Although they are physically a decent size, electrically they are substantially smaller due to the much poorer current flow capability of steel (90% **less** flow) and brass (74% **less** flow) vs. copper.



5) examples of our closed end tinned solid copper terminals which can easily flow 150% of the current the starter will require

You just will not believe how easily your bike can start!

1) **kit includes 2 new starter circuit leads**;
1 from the battery positive to the starter solenoid,
a new return lead from the engine ground to the battery negative terminal
we don't just give you replacement leads, we give you much larger leads for high current flow for a very long time.

2) **circuits are made with 4 gauge 99.99% Oxygen Free Copper** which is made up of 1050 individual strands of copper wire in a rope like configuration. **O**xygen **F**ree **C**opper is a special type of copper that has been smelted under much cleaner conditions than conventional commercial grade copper. The cleanliness required to minimize the amount of oxygen has the additional benefit of minimizing the amount of other impurities, resulting in a copper that resists corrosion and the attendant reduced current flow capability longer than other types of copper. That is why it is used extensively in the advanced robotics industry and other fields where a long service life and long term high performance are essential. Our high strand count and rope configuration are optimized to flow 12 volts and still be easy to install in tight turns. The high strand count also helps minimize the possibility of vibration developing microscopic fractures in the copper strands that can reduce current flow

3) T**erminals are 100% electrolytic copper** with a tinned metal plating for corrosion resistance. The terminals are closed ended to create a circuit sealed against the environment. All terminal joints are double high pressure swaged to maximize surface contact and then reinforced with a layer of dual wall shrink tubing at the juncture. Then the entire electrical lead is 100% reinforced along its length with an added layer of very high quality shrink tubing

All these **HICAP** kits include;

A) a strip of synthetic steel wool for polishing up all mating surfaces to a bright shine prior to installation,
B) a quantity of shrink tubing to allow you to blank off the OEM starter lead if needed
C) tiewraps so you can do a clean tidy installation
D) a quantity of rubber/plastic treatment so you can soften any rubber insulators that have hardened due to heat and age

Please note

Hicap leads replace the positive and the negative leads on the two valve twins (ELA90000 and ELA90001). On all the other bikes the positive and the negative HICAP leads run in parallel with the OEM leads.

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