

**Mag to Point Conversion for Indian Verticals**  
**From Dr C D Wickramatillake, Louisville, KY**

With regards to the magneto... the most reliable is to use a external coil.  
However, this does not look good for originality/100 point inspection.  
But then what do we do?

As the old magnetos are so unreliable, with very weak permanent magnets.  
My solution was as follows :

When you investigate the original magneto, 90% of the time, the coil is good but the magnets have reduced their magnetism, and thus does not give enough power to induce a current for the coil to create a good strong spark.

So then what I did was I used the original coil inside the magneto and used the points with a 6v input from the battery to get a spark.

When you experiment with this (on a 249 Scout), you find out that one spark to a piston is very strong and the other is very weak. The reason being, that when the main drive spindle rotates with the permanent magnets the induced magnetism opposes the coils magnetism, for one half of the rotation, and thus causes a weak magnetism & current and thus a weak spark.

On the other half of the rotation, both the spindle magnetism and the induced magnetism is in the same direction and thus produces a good current for a spark.

To overcome this I experimented by removing the permanent magnets in the main drive spindle of the magneto, so then the spindle only has the rotor connected to the points, and the magnetism is induced by the 6v system and thus no effect of the spindle.

And... ++ results ... excellent spark, very strong for both spark plugs.

The only problem is that

1. you need a good original coil,
2. its a pain to remove the permanent magnet from the spindle (I used a spare spindle to experiment and used a grinding wheel to split it and remove it), and
3. you need always a good 6v source (i r generator). What I did here is I used a small ammeter from Starks which always shows the charging from the Generator, so if the

charge fails I still can do about 10 miles until the battery really runs dead to stop a spark/engine.

Hope this helps to all owners of the Indian Scout 249.

I have not experimented using this set-up on an Arrow 149.

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## **From Rocky at the Iron Wigwam**

Chief or Four ? magneto on a Vertical Twin

I talked Chuck Myles and he refreshed my memory on doing this. Actually it's quite simple matching the magneto up to the vertical drive and mounting. You need to use the vertical drive gear and add a spacer to front of magneto that will bolt to magneto. You must take magneto apart and drill and tap two holes and then add two holes to spacer to line up with cases.

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### **Converting from dead magneto to points/coil**

**by: "mikethedruid"**

The simplest way to accomplish this is to just use the points in the mag itself. Disconnect the wire that runs from the front, outside terminal on the mag, which grounds the points out when you turn off the ignition switch. Next, obtain a two wire coil for a two cylinder, or a single wire coil for an Arrow. Hook the plus side of the coil primary to a terminal on the ignition switch that goes hot when you turn the switch to the "on" and "on + lights" position, and the negative side of the coil primary to the same terminal on the front of the magneto. The points in the mag will now operate the coil. The same condenser will work OK. The advance in the mag will take care of the timing. I used this setup on my Arrow for years until I found the guy in Maine to rebuild my mag. It works fine, and the bike starts well. This is another of the tricks I learned from Don Parkhurst.

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### **Magnetos, coils, magnets, etc.**

**Posted by: "Michael L" [mikethedruid](#)**  
Tue Mar 8, 2011 10:22 pm (PST)

I am prompted to write this because of questions a friend asked me about using the coil in the mag with a battery to produce a

spark. DO NOT DO THIS UNDER ANY CIRCUMSTANCES!!! If your coil is still good this can kill it for good. The main cause of old mags slowly becoming weaker and weaker is most often NOT the coil. Over time the magnets themselves become weaker. They must be recharged. If your mag is not putting out a decent spark, and the resistance readings are withing spec, you probably will have to have the mag rebuilt and the magnets recharged. Also, if you are running on the mag, be sure to leave the bike on a compression stroke when you shut it off. This leaves the armature in a position to act as a "keeper" and helps slow the deterioration of the magnets. If you want a quick and dirty fix, don't use the coil in the mag to produce the spark. Buy a two plug, 6 volt coil. These can be had from J. C. Whitney in their motorcycle section. Wire the + side of the coil to the switched hot terminal of the ignition switch. This is NOT the grounding terminal used to turn off the magneto by grounding. It is the one used for coil ignitions. Wire the - side of the coil to the grounding terminal on the mag. No other rewiring is needed. Both plugs will fire at once. This is OK because as one fires just before TDC for the power stroke, the other will fire just before TDC on the exhaust stroke. If you do this, remove the internal coil, and save it for when you have the money to rebuild the mag properly. Remove the distributor rotor also; without the coil there will be nothing to hold it in place. Put the cap back to keep out the dirt. Also, for those running with a magneto, NEVER try to run resistor wires on a mag. The change in rise and fall time of the current in the coil can cause the coil to burn out. Run old fashioned metal plug wires. Do not run resistor plugs for the same reason.

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