Tech Article for Coil Swap

First off, I relieve myself of any liability for mistakes made by the mechanic!
*(HUGE Sh*t eatin Grin)*

OK, There's a couple of options to choose from right off the bat, I know! Decisions, … Decisions, … Decisions, Well here's the first of many, you'll have 2 options for a suitable replacement for those tired old stock units. Kawasaki used a coil in the mid 80's, with resistance readings that fall well within spec's for this "swap", Honda also used a coil in the late 70's which is also very suitable. Each and every coil is labeled with a # on one side or the other, the replacement Kawasaki coil will be labeled ZC00006, it was used on a great variety of mid 80's Kawasaki's, the replacement item from Honda is labeled AW-82 used on 78 –79 Honda CB's, both of these coils should have approx. a 2.7 ohm primary resistance reading.

Here's decision # 2, …. where to aqquire a set of 3, this one hinges on how BADLY you want them!!

1) *Dealer…. Quite expensive, generally if not in stock they can get them in a reasonable amount of time. Average price $80 to $120 ea.*
2) *Salvage Yards…. the price is considerably cheaper, but availability ranges from " overstocked" to " never had one, never will", Average price $25 to $30.*
3) *Independent Sellers…Many times things can be gotten, via independent sellers, members of our web site, as well as members of other sites and clubs. Try e.bay, online KZ clubs, online CB Honda clubs and sites.*

Now that you have 3 replacement coils in your hand, you'll have one more decision to make, see your new replacement coils have removable HT (High Tension) leads, what HT leads to use? DECISION #3

1) *Solid Copper Core wires, NOT recommended if you run an AM/FM/CD/Tape Deck.*
2) *Silicone Core Wires, better for eliminating ignition interference thru the stereo. (Harder to install)*

There now that you've made all of those decisions, it didn't hurt much!
Now that all the pieces are in one place, you'll need some tools and other items.

1) *Diagonal wire cutters*
2) *Wire insulation strippers*
3) *Soldering gun or iron*
4) *Favorite solder for electrical connections*
5) *Shrink tube (small diameter)*
6) *6 appropriately sized female spade terminals*
7) *Heat gun*

Along with the normal tools it takes to remove the tank, and old coils, you should be set to dive right in!

Alrightie then, ….. I started off clearing a hole in the middle of the disaster area I call a shop,

1) *Place the heavy SOB on the center stand*
2) *Remove seat*
3) *Remove Fuel Tank*

That's not all, the Fresh Air Injection System will only add to the aggravation so it comes off too! This isn't tough, unplug the hoses from the valve cover and the air box, once the small vacuum hose is removed the whole unit can be "wiggled" out. Next place a LARGE shop towel over valve cover… pushing it forward covering as much of the fan, radiator area as possible, TRUST me, this keeps the little "damn-it" parts…. (Damn-it…where'd that nut fall to)… from becoming a problem. Now we're ready to attack the coils, first off is the clamp holding the wire bundles coming from the dash and bar controls (right side of frame just back from the steering head.) once removed you'll find it's a great deal easier to work if the wire bundles to the dash are unplugged and the area cleared of all these obstructions, Next take a BIG swig off the nearest alcoholic beverage, and relax we've done great to this point! The easy stuff is done.

Now comes the FUN part, you'll find the coils all arranged nicely, one tucked inside the 3 tubes of the frame, with the offending ballast resistor sitting just left, and two of them hanging just above the valve cover.

Remove the ballast resistor, via the 10mm on either end, these also hold the lower left coil, once removed the ballast resistor can be disposed* of, alright you've rid yourself of the resistor, it had 3 pink wires attached to one end and a yellow on the other, clip off the female spades, and make a nice solder connection between all 3 of the pink wires and the single yellow, remember to put the shrink tube on before soldering! Next unbolt and unplug the other 2 coils and remove all three units.*

Once you have the coils out, it's time to modify the replacements just a little. I've found the easiest way to do this is one at a time, so grab up the coil with the longest HT leads, … we'll begin there, this will be the #1 and 6 cylinders, at one end of this coil you'll see two HT leads (spark plug wires) and the other end provides a view of the primary wiring leads, (to the wiring harness), starting with the primary leads, clip both leads from the old unit, strip the insulation back about a ¼ inch and solder on a female spade terminal, one female spade for each wire, paying close attention to polarity when putting the newly fabricated leads on the replacement coils, black, blue, and green are pos.(+) and pink being neg.(-) . This is clearly marked on the primary end of the replacements. Another point to remember, is the fact that the color of the primary wire you just soldered in place should be BLACK for #1 and 6, BLUE for # 3 and 4, GREEN for #2 and 5. Remember this when cutting length of the HT leads.

Now we turn our attention to the High Tension leads, by this time you've made the tough decision of picking some "REALLY COOL" spark plug leads, 7mm of course, hopefully ones with spark plug boots already attached, the shape of the spark plug boot does matter some what, I used 6 wires with straight spark plug boots and had No clearance problems. Start by laying the #1 and 6 coil out, cut two of your longest replacement HT leads about 1" longer than the HT leads on the old stock unit. Next, unscrewing the tower cap on each coil, you should find a rubber grommet and a plastic thrust washer, install HT leads in this manner;

1) *Freshly cut HT lead thru plastic threaded cap*
2) *Plastic thrust washer to fit inside cap*
3) *Rubber grommet on last*

Push all three pieces up the HT lead far enough to work with the cut end, insert the cut end into the coil tower twisting the HT lead clockwise as you push in, the terminal inside the tower is threaded. Once the HT leads is securely in, push the rubber grommet down on to the tower followed by the plastic thrust washer and lastly, screw the cap down tightly. Repeat this process on the other tower. "Viola"…. coil for cylinders #1 and #6 is ready! Repeat this process of installing females spade terminals on each primary wire (removed from old stock units) and then cutting the HT leads to length on each of the remaining coils #3 and #4 using blue primary wire, and #2 and #5 using green primary wire.

When returning the coils to the machine it's top coil first (1 and 6) when installing the lower units, the coil that resides on the right side of the machine goes in first, reason being you'll need the room to work it in behind the thermostat housing, then install the left side unit. Bolt everything up, plug the primary wires back into the proper places in the harness, spark plug wires to spark plugs, workmanship counts when routing the HT leads to the spark plugs, (make it pretty!).

Reinstalling the fresh air injections system is optional, the ports opened when it was removed CAN be plugged and the whole darned thing left off, eliminating future problems with it. Reconnect the dash and bar controls, (unplugged earlier), reinstall fuel tank and lines, start machine in normal fashion. All said and done, the engine will start effortlessly, better acceleration, fuel mileage goes up, throttle response improves, and you have bragging rights for the coolest wires … need I say more? Any questions or inquiries can be made to clyde@kz1300.com.