Converting the Horn Button to operate an electric starter on an Indian Chief

This system will allow the horn button to operate the horn and the starter motor on early Indian Chiefs. Your bike should be converted to 12 volts and have an electric starter installed following the manufacturers instructions before performing this modification.

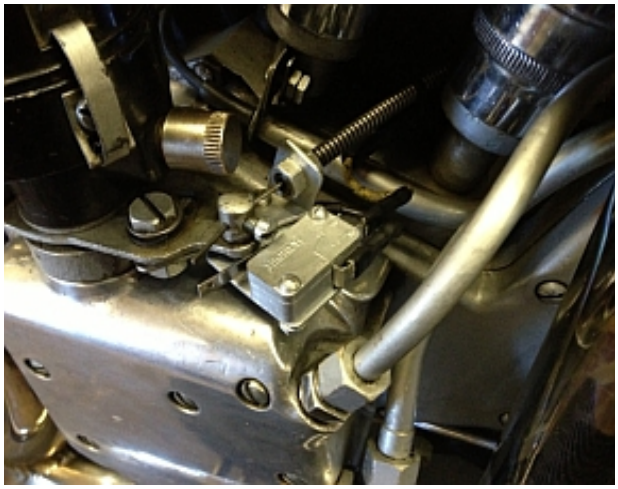
This system will eliminate the tractor starter button under the seat supplied with electric starter kits and let you start from the handlebars. The relays, switches and connectors used on this conversion were purchased at an electronics supply store for around $25. Starting from the handlebars allows you to keep both hands on the bars and gives the appearance that the starter is part of the bike and not just an add on.

1) Remove the left side fuel tank to allow access to the wiring harness. Follow the manufacturers directions and install the electric starter and the feed wire for the starter button as supplied. This circuit comes from the ignition switch run position and should have a 20 amp fuse in line.

2) Cut the single grounding wire coming from the handlebar horn button that goes to the horn in a convenient location where it will be covered when the fuel tank is installed.

3) Following the wiring diagram for these instructions you will have to fabricate a harness to connect the two "Bosch 87a" style relays (see picture). One relay will switch the horn function through the use of a micro switch mounted at the distributor. The other relay provides the current to operate the starter motor solenoid. Use 14 ga wire for all circuits.

4) Both relays can be mounted in an old voltage high output regulator housing and attached to the Cycle Electric generator using an Indian generator regulator band that has been drilled to fit over the ground connection of the new generator. The Indian high output generator band will replace the cycle electric brush cover (see picture) If you do not have the regulator and band available you can mount the relays to a plate in a location of your choice. They may be mounted under the fuel tank if you wish. (this would require removal of the tank if replacement of a relay is needed.)



5) Fabricate a bracket to attach the micro switch to the L shaped clip that is connected to the advance cable at the distributor with two #6 machine screws. (#4 Machine screws mount the switch to the bracket) Adjust the bracket to position the switch so that the front edge of the advance control arm at the advance cable swivel will move the lever on the micro switch and activate it when the spark control is retarded to the point where you prefer to start the engine. The arm should remain in contact with the micro switch lever throughout the retarding motion of the distributor. It should not contact the micro switch when the distributor is in the fully advanced position.

In simple terms: No micro switch lever contact when running.
Switch lever contacting and micro switch closed when starting.

The ground side of the the horn relay (#85 on relay) is then connected to the NO (normally open) contact of the micro switch. The feed connection should be connected to ground. It is a good idea to remove the NC (normally closed) blade of the micro switch. This will prevent accidentally reversing the connections.

Operation of the system.

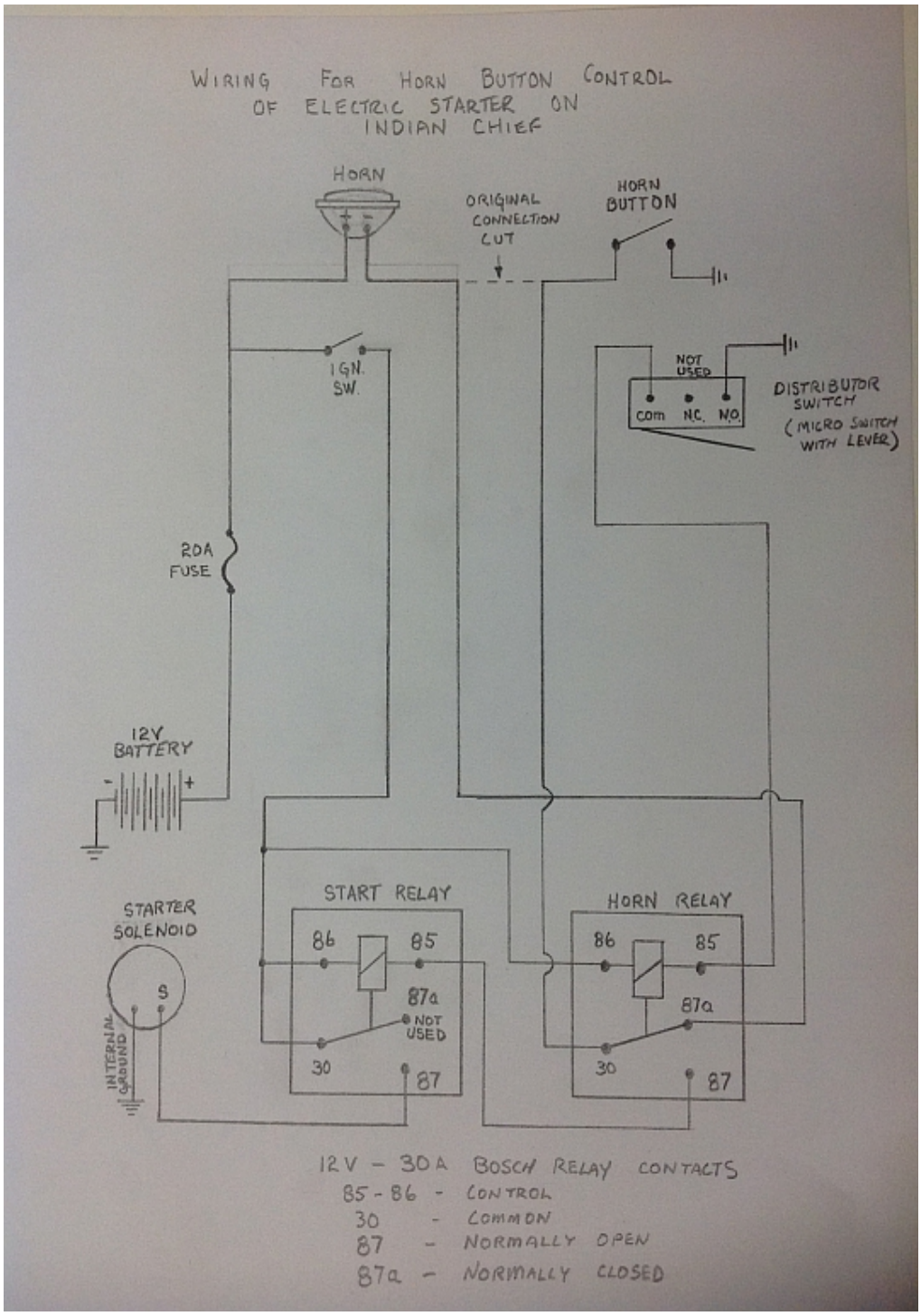
With the spark advanced:

The ground circuit of the horn passes through the NC (normally closed) contacts of the horn relay and grounds the horn through the handlebar push button.

With the spark retarded:

The distributor advance lever closes the micro switch. This grounds the horn relay and switches it to the NO (Normally open) side of the relay. Pushing the horn button now grounds the relay coil circuit of the starter relay closing it and supplying a feed to the starter motor solenoid.

Once the engine starts advancing the spark control resets the horn function to the handlebar push button. Operating the starter motor with the engine running May damage the starter.



Parts List

2 - Relay sockets 20/30 amp, equivalent to Bosch 87a

2 - 12v D.C. Relay 40a/30a, equivalent to Bosch 87a

1 - Honeywell watertight snap action micro switch. Mfg. Part# V15W11-DZ200A02-W2

NOTE This switch is IP 67 rated so is OK for water spray but not high pressure.

14 gauge wire, connectors, solder and shrink tube as required.
Materials for fabricating mounts at distributor and for relays as Required.

I have been using this system for months and it has been very reliable. It also prevents starting the bike with the spark advanced which can damage the starter.

If you have any questions please contact me.
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