

Installation Instructions - Model HSBCK1

Wire the parts as shown in the diagram on the reverse side of this sheet. Note the orientation of the diode device. The banded end of this diode must be connected as shown. Reversing the diode will cause the circuit to not operate properly. The Bulb socket included with this kit may vary slightly from that shown in the diagram and may include 2 spacers to provide the "step up" off the wood base when mounting the socket unlike the socket as shown which has the "step up" provided by the socket itself.

WARNING! - All connections to the bulb socket are "**HOT**" with respect to the car chassis. Use a block of wood to mount the parts on. Use brass wood screws for the termination points and be certain that the screws do not go all the way through the board and short out to anything mounted under the board when the board is in the car. Be aware that the glass envelope of the bulb will get hot on long tours, so do not mount the bulb next to anything that could be damaged by the heat.

The larger diameter wire terminals are for the magneto and ground connections while the small terminal is for the battery connection at the coil box. The battery connectors and wire terminals provided can be crimped with ordinary pliers but soldering the connections (use only resin core solder) is also a good idea.

The frame ground connection can be anywhere on the engine block or car frame that is convenient. Do not use lighter gauge wire than the #18 wire supplied with the kit for all of the wiring connections.

Note: On some cars the "battery" connection may be connected elsewhere than at the coil box as shown. On later non-starter equipped cars the connection may have to be made at the ignition switch. Consult the wiring diagram for your car if doubt exists as to the correct location of the "battery" connection. The coil box connection point is the most common for the early non-starter cars. When the battery is properly connected in the car, the coils will "buzz" whenever the timer stops on one of the coil connections while the ignition switch is in the "**BAT**" position.

A light bulb makes a great charge-regulating device. Typically, light bulbs have a low resistance when they are cold, this resistance increasing as the light gets brighter. Consequently its resistance lowers as the magneto output lowers, and its resistance increases as the motor speeds up, thus tending to regulate the charging rate somewhat. If the light bulb were not in the circuit the battery would tend to take all of the current from the magneto. With this light bulb charge regulating arrangement, there is still enough current to run the normal Ford ignition system, although the maximum magneto output will be limited to some degree.

The bulb is a 12V selected device and the use of typically found bulbs will result in less charge current but will not damage the circuit. When used with a 6V Battery, only about 10 volts (effectively) is ever applied to the bulb thus it should last a long time. The bulb should glow at engine idle, and get bright as the engine speeds up - but watch the road - not the bulb! This charger CAN be used with a 12V battery without modification but less charge current will be available because there will be less voltage drop across the bulb.

When used with a 6V battery the circuit provided will put out 1.8 Amps maximum (magneto at 28 volts) and about .5 Amps minimum. There is no need for an On/Off switch for this arrangement since the diode is back biased (an open circuit) when the motor is not running. If the bulb stays on when the engine stops, either the diode or the battery is connected backwards. If the bulb still remains lit even after the battery polarity has been checked and found to be correct then the diode is defective (shorted).

This charger circuit is suitable for maintaining a fully charged "Hot Shot" rechargeable battery that has enough reserve to also power a "Stop" light assuming it would have intermittent operation. This charger is not sufficient to maintain a battery powering running lights during night driving.

WARNING - Your "Hot Shot" battery will be damaged if left in a discharged state. Periodic charging of the battery is required if a car is not driven sufficiently often to maintain a charged battery.

DRIVE SOBER

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