

Ignition Systems by Leroy Burgess

The Arrow had Edison Model AJ-1 Magnetos for the entire production. The Scout had Edison Model AJ-2 Magnetos for the entire production run. The AJ-2 was similar to the AJ-1 except it was longer in the body and cap to incorporate a rotor and had a cap that had two ignition towers. Ignition problems plagued the early Arrows and Scouts as the early magnetos had problems with the original coils. These early coils were flat on the ends and generally black in color. These were replaced with a brown coil with more rounded ends and a brown color. This seemed to help the ignition problem but the reputation for hard starting was already established. The AJ-2 also seemed to be at its limit when required to fire two cylinders. The strength of the magnetism of the rotating magnet was critical to proper spark generation. Over the years many of these rotating magnets have lost some of their magnetism which has increased the problem.

The Warrior and TT Warrior also had the Edison AJ-2 Magneto. The TT Warrior magneto was different in that it had a sealed cap and a fitting threaded into the body for a vent tube that ran up under the fuel tank. The Edison specification numbers for the magnetos were the same for the TT Warrior as the Warrior so the TT modifications were evidentially performed by Indian. Beginning at Serial Number B-1601 a battery ignition was optional. When the battery ignition was installed a B suffix was added to the serial number. This battery unit was in the same body as the AJ-2 Magneto but the aluminum body was painted wrinkle black, a second electrical terminal was added beside the usual single terminal of the magneto. This second terminal was to connect the 6V power. Inside there was a special ignition coil, and a wire resistor. The ID plate on the outside of the body was stamped "Battery".

Indian publications identify Models 251 and 251TT as being equipped the with battery ignitions.

A distributor adapter was developed utilizing an Auto-Lite IGW 4055 distributor, which was the same as the Chief distributor except with a 180 degree cam for the vertical twin engine. This distributor was installed on the three wheel Warrior Patrols and possibly on some of the last Warriors. Some of these distributors were also installed by dealers or owners to replace the magneto or battery ignition units on some earlier Scouts and Warriors. In the early 60's some of these distributors, with adaptors, were still seen in dealers stocks.

Another variation that was seen, were verticals with an Edison AJ-1-2 Magneto. This magneto was based on the AJ-1 magneto body with a coil with two contacts and a cap with contacts to match. As installed the ignition towers on these units were vertical instead of horizontal like the AJ-2. This configuration fired both cylinders at the same time, commonly called a lost spark system. Whether this was something tried and supplied by the factory or strictly an after market item has not been established.

In the years since production ceased, many different magnetos have been modified and installed to replace the AJ-2 magneto including modification of AJ-2 magnetos to use with an external coil. One of the most successful is using the Starklite EJ-2 dual coil, which is also a lost spark system. Installation of this coil utilizing the point system in the AJ-2 magneto greatly improves starting and running as many of the now 50 plus year AJ-2's have lost much of their magnetism.