Telephony 101 – Magnetos December 13, 2012

Hello All,

As always, please send any questions about the reading assignment directly to me at oldtimetelephones@goeaston.net. I will bundle questions if necessary, repeat the questions, and give answers in an e-mail to the TCI List Server before moving on to the next reading assignment. This way everyone will benefit from these questions and answers. By sending questions directly to me, we will avoid unnecessary clutter on the List Server. Previous reading assignments, notes, questions, and answers are available in the TCI Library at http://www.telephonecollectors.info/telephony-101/.

Please read Chapter 5 on magnetos on pages 34-36.

Remember when we described the Faraday-Henry observation as waving a horseshoe magnet over a wire and inducing a voltage in the wire? You obviously get the same result if you wave the wire over a horseshoe magnet – and that's exactly what you do with a magneto. You can see this principle in Fig. 5-1, where two little coils (bobbins) of wire are rotated in the magnetic field of a horseshoe magnet. The very same situation is established in the Siemens-type magneto with a cylindrical inductor (armature). I think you can see this if you study the diagrams in Figs. 5-3, 5-5, and 5-6.

How do you make electrical contact to the two ends of the coil wire when the coil is rotating? This detail may not be readily apparent, but you can see it if you use a magnifying glass on Figs. 5-3 and 5-6. The coil wire on the right-hand side is connected to the metal frame of the armature, and electrical contact with the stationary metal frame of the magneto is made directly between the rotating metal shaft and the bearing in which it spins. Thus one of the connections to a magneto is made directly to the stationary frame.

The coil wire on the left-hand side is connected to a metal pin that is inside the hollowed-out rotating metal shaft, with an insulating sleeve around the pin. The rotating end of this pin touches a spring leaf on the switch cluster on the left. If you have a phone with a magneto, you can easily see this detail.

The rest of this short chapter should be self-explanatory, but if there are any questions about the current reading assignment, we will deal with the questions before moving on to the next reading assignment.

Ralph

Telephony 101 – Magnetos December 16, 2012

Hello All,

A reader asked the following questions about magnetos:

1. Their only purpose was for signaling, right? Then
2. Were they used to signal central to complete a call? And
3. Were they also used on party lines to call one of the members?

The answer to all of these questions is "yes." My grandparents lived in a rural area and had a magneto wall phone. Their situation was completely typical. If they wanted to call the operator so she could connect them to the outside world, they rang one long ring with their magneto. If they wanted to call someone else on their line – and they knew their ring code – they would crank out three rings in the correct combination of long and short rings. If they didn't know the ring code, they would just ring up the operator and ask.

If you have any follow-up questions about magnetos, send them directly to me. We will now move on to the next reading assignment, which I posted this morning.

Ralph