

Charging the Magnets on a Flywheel:

Having a strong magneto is one of the necessary items for a good running Model T that still uses coils. If you only run a distributor, you don't need to read this article.

EQUIPMENT NECESSARY: 2 or 3 fully charged 12 volt batteries
2 or 3 sets of jumper cables
1 good field coil - with no open circuits
1 - magnetic compass
1 - piece of chalk or marking pen
1 - 3/4" wood block, 12" long - used to hold end of jumper cables
1 - Flywheel with magnets

The objective is to recharge the 16 magnets on the Model T flywheel when the flywheel is removed from the engine. The 3/4" magnets used on later Fords are more powerful and more desirable than the earlier 5/8" magnets. Also, magnets stamped with the "Ford" logo seem to be able to hold a greater and stronger charge.

1. Clean the flywheel and magnets. Spend extra time on the rectangular contacts that attach the magnets to the flywheel with the brass screws (called magnet contacts). Inspect for any cracked magnets or broken brass screws. Also check your starter ring gear at this time.
2. Place the flywheel on the bench, magnets facing up. Using the compass, determine the polarity of each pair of magnet ends. Mark the "S" (south) magnet contacts with an "X" using the chalk or marker.
3. Place the field coil on the bench with the buttons facing up. Use the compass and determine the polarity of each field coil "button". Find the "north" button 180 degrees opposite of the mag post contact. On the reverse side of the field coil, make a mark on the "north" button with the chalk/marker 180 degrees from the magneto post "button". Use a permanent marker (or paint) when making this mark.
4. Using the jumper cables, set up the 12-volt batteries in a "series" (positive to negative to positive to negative). Insure the batteries are fully charged before recharging the magnets. Using a "C" clamp, clamp the 3/4" block to your bench, using the block so the battery cable ends can be clamped apart.
5. Place the field coil onto the flywheel magnet contacts, insuring the marked NORTH field coil button is placed on a SOUTH magneto contact. (IMPORTANT: Do not place the north field coil button on a north magneto contact. If this is done, you will reverse the polarity of all the magnets when the charge is put through the magnets!!!!)

6. Align the field coil so each of the 16 buttons is placed squarely upon the 16 magnet contacts. Do not allow each field coil button to come in contact with more than one magneto contact. It is easy to slide the field coil into position rather than lifting the field coil on and off the magneto contacts.

7. Firmly place the “positive end” from the battery jumper cable clamp onto the field coil magneto post contact.

8. Place the negative battery jumper cable clamp onto the field coil frame. The best place for the clamp is where the field coil bolts to the engine, as this area is usually free of the electrical coating. Insure a good ground. Hold the clamp on the field coil frame for 3 seconds and remove the clamp. This action initializes the charge of the magnets. A spark will occur when the clamp is removed, so be sure to have all flammable liquids away from this procedure. REPEAT THE CHARGE TWO MORE TIMES.

9. Remove the field coil from the magnet contacts. Check the polarity of the magnets to insure polarity of the contacts has not been reversed.

10. Rotate the field coil clockwise 90 degrees and place the field coil onto the magnet contacts. The marked “north” contact on the field coil will be placed four magnet contacts from the initial charging position. Repeat steps 6, 7, 8 and 9.

11. Repeat step 10, moving the field coil “north” button 180 degrees (eight magnet contacts) clockwise from the initial position. Repeat steps 6, 7, 8 and 9.

12. Repeat step 10, moving the field coil “north” button 240 degrees (twelve magnet contacts) clockwise from the initial position. Repeat steps 6,7,8 and 9.

13. Using this procedure, the sixteen magnets will now be evenly, and fully, charged. In some cases, the sixteen magnets can be fully charged completing up through step 9 (one charge). Rotating the field coil insures a full, even charge.

14. Once again, check the ends of the magnets with a compass to insure the polarity of the magnets has not been reversed. Place a 2 pound steel weight on two magnet contacts and note if the magnets can support this weight. If the weight cannot be supported, recharge the magneto following steps 1 through 12.

15. With the recharged magneto, reinstall the field coil onto the engine using the shims that came off the block. Place the flywheel onto the crankshaft and check the clearance between the magneto contact and the field coil buttons. The clearance should be .025" to .040" for every contact.

16. Following these procedures, your Model T should run **BETTER** on magneto than with a battery. **JUST BE CAREFUL YOU DON'T LIGHT UP THE TIRES WHEN TAKING OFF!!!!**