

Fig. 10. Two-pole Rotor with Block Magnets.

Two-pole Rotor with Bar Magnets Placed Perpendicular to Rotor Axis

Four-pole Rotor with Cylindrical Magnet

With the impulse coupling and bearing support removed, take out the oil slinger baffle disc, found only on flange mounting magnetos with integral flange. Then remove the rotor drive end seal outer washer by striking it with a punch on the shaft edge. This dishes the washer and permits easy removal. On more recent models, the rotor drive end seal outer washer is made with one edge cut flat making it easy to insert the point of a screwdriver and loosen the washer. Discard the washer after it has been removed from the magneto.

Lift out the rotor drive end seal and the rotor drive end seal inner washer. This washer is a loose fit but may be difficult to remove due to the adhesion of bearing grease. Finally, remove the magneto rotor shaft snap ring which is found only on the types FM-X, FM-XD, FM-XDE, FM-XE, FM-XF, FM-XFE and FM-XZE magnetos.

Press the rotor out of the housing. Place the assembly in the adjustable press with the cam end of the rotor shaft carefully centered in the large hole of the base plate. Then place the brass protective cap over the threaded end of the rotor shaft and apply an even pressure by slowly turning the drive screw. As soon as the rotor is pressed out of the drive end bearing it may be removed from the magneto housing.

In magnetos that have the rotor drive end bearing retaining washer, this washer must be removed before the bearing can be pressed out of the housing.

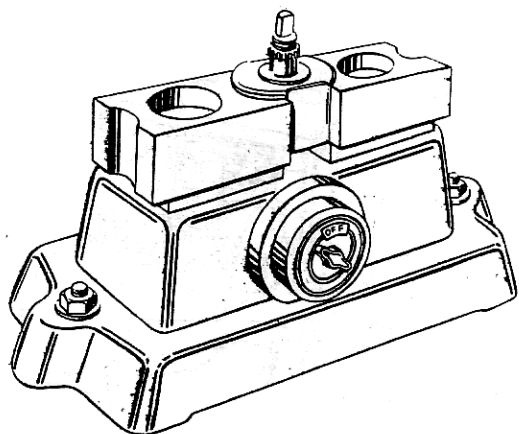


Fig. 11. Magnetizing Standard Two-pole Rotor with Bar Magnets. To magnetize standard two-pole rotor with block magnets, use same setup but reverse charging blocks.

### Remagnetizing Magnetic Rotor

Due to the exceptional stability of the Alnico magnets used in Fairbanks Morse magnetos, it is recommended that the rotor be remagnetized only when it has been definitely determined that the ignition spark is below the required minimum value. The remagnetizing process involves the use of suitable equipment and should be undertaken in accordance with the following instructions.

### Magnetization

The length of the magnetizing time depends on the type and strength of the charger. It is recommended that the rotors be given a minimum charge of 30 seconds, broken into two periods, or "shots." Arrangements should be made to place the rotor in the magneto housing as soon as it is taken from the magnetizer.

### Two-pole Rotors

Determine the polarity of the rotor and the magnetizer, Fig. 11. Place the magnetic pole of the rotor, which attracts the N pole of a compass, in contact with the magnetic pole of the charger which attracts the S pole of the compass. By holding the rotor in the vicinity of a charger while it is in operation, the attraction of unlike poles is easily discernible.

All rotors except those for type FM-XV magnetos are of the two-pole design and should be placed in the charging blocks as described above. The large radii of the charging blocks should be used for rotors from types FM-E, FM-XR and FM-XOR magnetos, and the small radii should be used for rotors from type FM-X units.

### Four-pole Rotors

Four-pole rotors, Fig. 12, used in type FM-XV magnetos, must be remagnetized with special care. These rotors have large cylindrical magnets with the axis of the poles parallel to the shaft. The magnetizing blocks must be placed on the charger with maximum surface contact. Insert the rotor in the drilled holes of the magnetizing block with the keyway up.

### Drive End Ball Bearing

Release the bearing snap ring with snap ring pliers, and place the magneto in the hand screw press 370TD. Put a brass protective cap over the center of the bearing, Fig. 13. As the screw is turned down, center the assembly in the press. Apply pressure evenly to the inner bearing race until the inner bearing race and ball re-