

2. In metal detectors, the induction coil produces an oscillating magnetic field. Which of the following answers best explains the reason for using an oscillating induction coil rather than generating a constant magnetic field?

A. Constantly sending current through the coil would increase power consumption. The coil alternates to improve efficiency.

B. The oscillation of the induction coil matches the resonant frequency of most metals.

C. Current is only induced in the target metal when the magnetic field around it changes. The induction coil oscillates so that the target constantly produces a signal.

D. The detector coil can only detect a metal when the polarity of that metal opposes that of the induction coil. The induction coil oscillates to detect targets with magnetic fields in both directions.

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