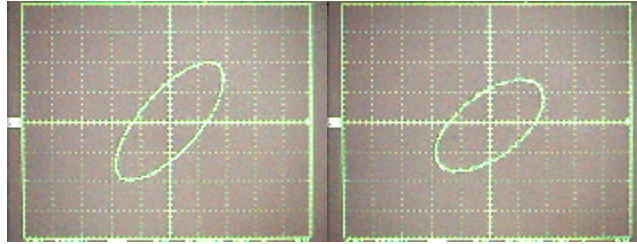


Answer #157

The answer is (b), as can be seen by comparison of that picture with a photograph of the actual Lissajous figure created when the heat gun is used. Click on the photograph at the right to see the change as the heat gun is applied to heat the air between the loudspeaker and the microphone.



As the microphone is moved away from the speaker to change the Lissajous pattern from a diagonal line to a circle (see question), the figure at the left above is one of the patterns. To get to the circle one is delaying the phase of the vertical oscillation by withdrawing the microphone further. Heating the air increases the wave speed, causing the phase of the horizontal oscillation to be earlier, similar to the patterns shown above.

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For questions and comments regarding the *Question of the Week* contact [Dr. Richard E. Berg](#) by e-mail or using phone number or regular mail address given on the [Lecture-Demonstration Home Page](#).