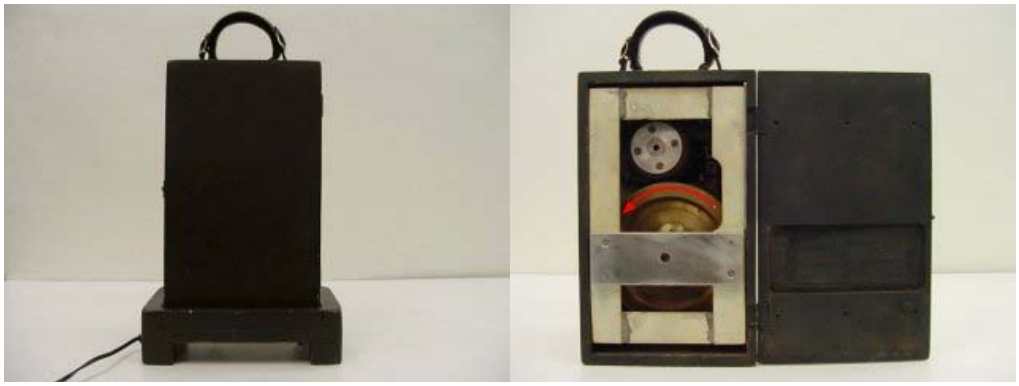
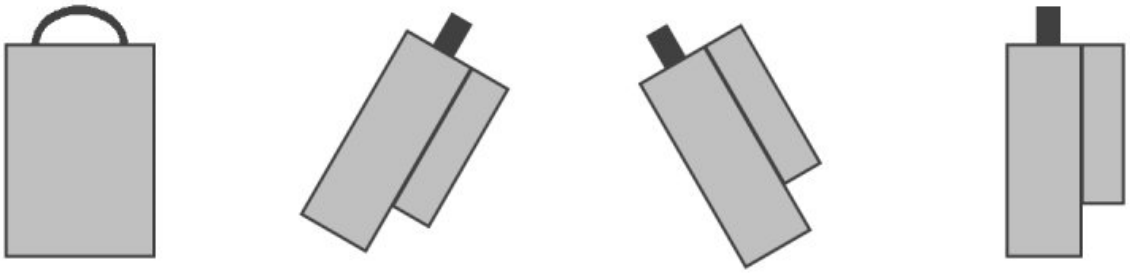
Question #276

This is a follow-up question to Question #275.

The photograph at the left below is a "suitcase gyroscope," a small box with a handle that contains a heavy brass gyroscope. When the gyroscope is not spinning, if I hold the suitcase in place and rotate it quickly 90^{o} clockwise as viewed from above, nothing particularly unusual happens. Click on the photograph at the left for a video of this apparently non-event.



Now suppose that the gyroscope is placed on its base, which contains a source of electricity that will rotate the gyroscope very rapidly in the counterclockwise direction, as seen in the photograph at the right above. Click your mouse on the photograph to see (hear) the gyroscope spin up. The four drawings below show (a) the original position of the spinning gyroscope before it is rotated, and (b), (c), and (d), three possible positions for the gyroscope after it has been rotated 90^{o} **clockwise** as viewed from above, opposite that seen in video at the left above, but while the gyroscope *is spinning*.



a b c d

Please select the photograph that most nearly represents the position of the gyroscope after it is rotated:

- (a) figure (a).
- (b) figure (b).
- (c) figure (c).
- (d) figure (d).

Click here for Answer #276 after March 5, 2007.

Question of the Week

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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.