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Heartbeat stars are a class of highly-eccentric binary stars that undergo dynamic tidal distortions and tidally induced pulsation. The mere existence of Heartbeat stars is a puzzle for tidal theory. For stars with radiative outer envelopes, Zahn (1975) and Khaliullin et al. (2010) argue that damping of tidally excited g-modes leads to the circularization of eccentric, long period binaries on very short timescales. The heartbeat star's high eccentricity could be driven by the presence of an unseen third body. We discuss how to detect a tertiary object by searching for changes in the observed arrival time of the Heartbeat signal and how to place limits on its mass.