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There are a number of bathtub and unimodal hazard shape parametric lifetime distributions available in literature. Therefore, it is important to classify these distributions based on their hazard flexibility to facilitate their use in applications. For this purpose we use the Total Time on Test (TTT) transform plot with two different criterion: I. measure the slope at the inflection point on the scaled TTT transform curve; II. measure the slope at selected points from the constant hazard line on the scaled TTT transform curve. We confine our research to classify the flexibility of Weibull extensions and generalizations and also select one-shape parameter lifetime distributions to exemplify the two criterion process. (Received September 03, 2014)