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RCM Implementation for Injection Molding Machine Considering a Small Sample

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Abstract: Maintenance has become an important support for ensuring equipment availability and reduce costs. In this way, the RCM (Reliability Centered Maintenance) could be used due to its characteristics like cost-effectiveness. The RCM methodology is based on equipment reliability, it will be assumed that all failure times could be fit a Weibull distribution. However, in some cases the reduced sample affects statistical power and accuracy in parameters estimation. This paper seeks to show effect of consider sample size. Comparing the Weibull distribution with Kaplan-Meier method and to select the best one. In order to reliability assessment and define maintenance activities program of Injection molding machine. The results, considering reduced sample of failure times and Kaplan-Meier method, have shown 70 % of savings in the annual maintenance cost. That is a direct benefit for company.

Keywords: Reliability Centered Maintenance, Weibull, Kaplan-Meier, Small Sample