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Development of Repair versus Replacement Model for Deteriorating Mid – Term Life Equipment

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ABSTRACT

The aim of any industrial organization is to optimize the maintenance to increase the profit margin . The optimization of maintenance cost is defined as minimization of the maintenance cost while sustain the required level of the performance. The optimization of maintenance cost is achieved by finding the point “ optimum point” at which the repair became uneconomical option and replacement should be done.

To determine this point , a repair versus replacement model is developed that balance between the cost of carrying on with repair and the cost of doing replacement. The decision for either carrying with repair or doing replacement is based on the average cost “(cost of repair plus the cost of replacement) per unit time”. The model is limited to mid-term life deteriorating and repairable equipment whose repair cost increase and the value of money remain cost with time.

Keywords: Model, Deteriorating equipment, Optimum point , Average total cost , Repair , Replacement