

IMPERFECT MAINTENANCE

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1. Introduction

An impressive array of mathematical and statistical papers and books have appeared in which a variety of maintenance policies are studied to determine their performance and to achieve optimization. In most of the models treated, it is assumed that the relevant information to be used is available and correct, and that maintenance actions are carried out as specified in the maintenance policy being used or to be used.

Unfortunately, the most important factor in a great many actual maintenance operations is omitted, thus vitiating the solution theoretically determined.

The most important factor, inadvertently overlooked or deliberately ignored for the sake of mathematical tractability, is the fallibility of the maintenance performer. In actual practice (as contrasted with the model formulation), the maintenance performer may:

- (1) Repair the wrong part.
- (2) Only partially repair the faulty part.
- (3) Repair (partially or completely) the faulty part, but damage adjacent parts.