ABSTRAK

PT Padma Soode Indonesia merupakan sebuah perusahaan yang bergerak pada pembuatan komponen elektronik berbahan dasar plastik. Penelitian ini dilakukan di pabrik injection molding. Proses produksi di PT Padma Soode Indonesia tidak selalu berjalan dengan lancar. Hal ini dikarenakan mesin-mesin pabrik yang bekerja secara kontinyu, sehingga adanya kerusakan pada komponen mesin. Target downtime mesin yang dialokasikan sebesar 5,9% dari total waktu produksi, sementara rata-rata downtime perbulan mencapai 11,46%. Tingginya downtime menyebabkan target produksi tidak tercapai.

Penelitian ini akan memberikan rancangan jadwal preventive maintenance melalui pendekatan Reliability Centered Maintenance (RCM) II pada mesin injection molding. Penjadwalan perawatan tersebut dilakukan dengan menentukan interval waktu perawatan optimal. Studi ini dilakukan dengan penyusunan Failure Mode and Effect Analysis (FMEA) dan Decission Worksheet untuk masing-masing part mesin injection molding sehingga dapat diperoleh informasi kegagalan dan tindakan perawatan yang sesuai (proposed task) sebagai panduan perawatan mesin injection molding. Pada penelitian ini fokus terhadap dua mesin yaitu mesin 03 dan 72 dan delapan part yang berpengaruh terhadap kerusakan.

Dari pengolahan data diperoleh dua jenis perawatan yaitu pada mesin 03 untuk part ring valve screw perawatannya adalah schedule discard task, heater nozzle perawatan schedule discard task dan nozzle perawatan on condition. Sedangkan pada mesin 72 untuk part contactor yaitu perawatan schedule restoration task, heater nozzle perawatan schedule discard task, dan nozzle perawatan schedule on condition. Adanya perawatan preventive maintenance dapat meningkatkan keandalan mesin yaitu pada part ring valve screw keandalan mesin meningkat sebesar 27%, heater nozzle M03 52%, contactor 47%, dan heater nozzle M72 18%. Hal ini disebabkan karena jadwal penggantian dan pemeriksaan part dilakukan sebelum terjadinya kerusakan.

Kata kunci: *downtime, RCM II, FMEA, preventive maintenance, proposed task, schedule discard task, schedule on condition.*

ABSTRACT

PT Padma Soode Indonesia is a company engaged in the manufacture of electronic components made from plastic. This research was carried out at the injection molding plant. The production process at PT Padma Soode Indonesia does not always run smoothly. This is because factory machinery works continuously, so that there is damage to the engine components. The targeted machine downtime is 5.9% of the total production time, while the average monthly downtime is 11.46%. The high downtime causes the production target not to be reached.

This study will provide a draft of a preventive maintenance schedule through the Reliability Centered Maintenance (RCM) II approach on injection molding machines. Scheduling treatment is done by determining the optimal maintenance time interval. This study was conducted by compiling Failure Mode and Effect Analysis (FMEA) and Decision Worksheets for each injection molding machine part so that failure information and appropriate treatment actions (proposed task) can be obtained as a guide for injection molding machine maintenance. In this study the focus was on two machines, namely machines 03 and 72 and eight parts that affected damage.

From processing the data obtained two types of treatments, namely on machine 03 for screw part ring valve maintenance is a schedule discard task, heater nozzle maintenance discard task schedule and maintenance nozzle on condition. Whereas for the 72 engine for part contactor, maintenance maintenance schedule, discard task schedule maintenance nozzle, and schedule on condition maintenance nozzle. The existence of preventive maintenance can improve machine reliability, namely in screw valve ring parts, engine reliability increased by 27%, M03 52% heater nozzle, 47% contactor, and M72 18% heater nozzle. This is due to a schedule of replacements and part checks carried out before damage occurs.

Key word: *downtime, RCM II, FMEA, preventive maintenance, proposed task, schedule discard task, schedule on condition.*