

ABSTRACT

Portable Spot Welding (PSW) is one of the production machines that used by PT Indomobil Suzuki at welding production floor. The failures that happen to these machines will cause a loss and disturb the continuity of production in Y9B Line. The high requirement of PSW machine cause a needs of a maintenance policy which able to handle the failures to support availability and reliability of PSW machines in order to reach the production target

Allocation of repair channel number determine the Mean Number of Failed Units, that is a mean number of sort machines to reach production target because of the failure that happen in a certain period and delay time, or average time of a machine spend its time for service activity. This Mean Number Failed and delay time value will affect the Loss of Downtime. More number of repair channel that allocated will reduce Mean Number Failed value, but on the other side will increase the Service Cost.

Based on the result of data processing it obtain the conclusion that the optimal repair channel number is 2 repair channels ($R = 2$) with total cost of maintenance equal to Rp 765.777.251,88 /year. The comparison of maintenance total cost between existing repair channel and optimal repair channel can be seen in thia table below :

R	Mean Number Failed	Delay Time	Loss of Downtime	Service Cost	Total Cost
	Machine/year	Year	Rp/year	Rp/year	Rp/year
2	1.941326376	0.000927979	21,449,867.44	744,327,384.44	765,777,251.88
4	1.297016334	0.000927738	14,327,113.36	869,943,024.9	884,270,138.2

Measurement the range of repair channel's work rate meant to know the range of work rate value that able to reach the minimum total cost of PSW serving activity that cause the choice of optimal repair channel number become the best policy, better than another number of repair channel In the determination of optimal repair rate range, μ value (rate of repair time) as the variabel and take some μ values on optimal repair channel and another repair channel number to calculate the uper and lower limit of repair rate based on its total cost. Those optimal repair rate limits shown on table below :

μ	Mean Number Failed	Delay Time	Loss of Downtime	Service Cost	Total Cost
Mchn/year	Machine/year	Year	Rp/year	Rp/year	Rp/year
1206	1.595710	0.000829	15,757,404.07	277,767,376.25	293,524,780.31
658	6.210688	0.001521	112,461,674.13	277,767,376.25	390,229,050.37