

ABSTRACT

Shoe assy D-41 thread process at Shoe Assy Line of PT. Akebono Brake Astra Indonesia requires automation system, which one of them using the electro-pneumatic automation system. By the automation system, the production process becomes more efficient in terms of man power and productivity. However, as long as this process of shoe assy D-41 thread is not using the automation system. Thus, in this improvement electro-pneumatic system is mounted on process of shoe assy D-41 thread that the process is more efficient.

Electro-pneumatic system is mounted on a vertical drill machine and a pistol grip (corded) drill machine that was being used in process of shoe assy D-41 thread, the principle works is utilize the electrical current flowing through the circuit electro-pneumatic system. Active or not active system is controlled by a handle on the vertical machine drill used to sub drilling process.

Based on the improvement result, the amount of man power is reduced from two into one man power. It occurred on cycle time also, from 24 sec/pcs to 16 sec/pcs. Thus, the production capacity increase from 1125 pcs/day to 1688 pcs/day which is exceed the production target (1500 pcs/day) without overtime.

Keywords: electro-pneumatic, drill, man power, cycle time.

INTISARI

Proses *shoe assy D-41 thread* di *Line Shoe Assy PT. Akebono Brake Astra Indonesia* membutuhkan sistem otomasi, salah satunya sistem otomasi menggunakan elektro pneumatik. Dengan adanya sistem otomasi, maka proses produksi menjadi lebih efisien dari segi *man power* maupun produktivitas. Namun, selama ini proses *shoe assy D-41 thread* belum menggunakan sistem otomasi. Sehingga, dalam *improvement* ini sistem elektro pneumatik dipasang pada proses *shoe assy D-41 thread* agar proses tersebut lebih efisien.

Sistem elektro pneumatik dipasang pada mesin *vertical drill* dan mesin *pistol grip (corded) drill* yang digunakan pada proses *shoe assy D-41 thread*, prinsip kerjanya memanfaatkan arus listrik yang mengalir melalui rangkaian sistem elektro pneumatik. Aktif atau tidak aktifnya sistem dikendalikan oleh tuas pada mesin *vertical drill* yang digunakan untuk sub proses *drilling*.

Berdasarkan hasil *improvement*, jumlah *man power* berkurang dari dua menjadi satu *man power*. Hal tersebut juga terjadi pada *cycle time*, dari 24 detik/pcs menjadi 16 detik/pcs. Sehingga, kapasitas produksi meningkat dari 1125 pcs/hari menjadi 1688 pcs/hari melebihi target produksi (1500 pcs/hari) tanpa lembur.

Kata kunci: elektro pneumatik, *drill*, *man power*, *cycle time*.