

The Cleaning Equipment to Prevents Dust Diffusion of Bus Air Filters

Authors : Jiraphorn Satechan, Thanaphon Khamthieng, Warunee Phanwong

Abstract : This action research aimed at designing and developing the cleaning equipment to preventing dust diffusion of bus air filter. Quantitative and qualitative data collection methods were used to conduct data from October 1st, 2018 to September 30th, 2019. All of participants were male (100.0%) with aged 40- 49 years and 57.15%, of them finish bachelor degree. 71.43% of them was a driver and 57.15% of them had the working experience between 10 and 15 years. Research revealed that the participants assessed the quality of the bus air filter cleaning equipment for preventing dust diffusion at a moderate level ($\sigma=0.29$), and 71.43 of them also suggested the development methods in order to improve the quality of bus air filters cleaning equipment as follows: 1) to install the circuit breaker for cutting the electricity and controlling the on-off of the equipment and to change the motor to the DC system, 2) should install the display monitor for wind pressure and electricity system as well as to install the air pressure gauge, 3) should install the tank lid lock for preventing air leakage and dust diffusion by increasing the blowing force and sucking power, 4) to stabilize the holding points for preventing the filter shaking while rotating and blowing for cleaning and to reduce the rotation speed in order to allow the filters to move slowly for the air system to blow for cleaning more thoroughly, 5) the amount of dust should be measured before and after cleaning and should be designed the cleaning equipment to be able to clean with a variety of filters, and sizes. Moreover, the light-weight materials should be used to build the cleaning equipment and the wheels should be installed at the base of the equipment in order to make it easier to move.

Keywords : Cleaning Equipment, Bus Air Filters, Preventing Dust Diffusion, Innovation

Conference Title : ICOHS 2020 : International Conference on Occupational Health and Safety

Conference Location : Singapore, Singapore

Conference Dates : March 30-31, 2020