ABSTRACT

PT.XYZ is a company engaged in manufacturing that produces several types of aircraft. This research will focus on the aircraft component assembly process, namely the Nose Fuselage component. In the assembly process, the Nose Fuselage components are still experiencing delays. To find out the cause of the delay, improvements were made to the Nose Fuselage assembly process using lean manufacturing. Data were collected that would be used as a basis for mapping the current state mapping, namely VSM and PAM. From the VSM mapping it is known that the flow of the Nose Fuselage assembly process with a total lead time of 1061.47 hours and in PAM known types of NNVA activities with a total time of 146.52 hours and NVA activity of 34.53 hours. Based on the results of PAM, it is known that NVA activity which is categorized as waste motion is 0.88 hours. Based on the waste motion that occurs in the assembly area, the root causes of waste motion are identified using two lean manufacturing tools, namely fishbone diagram and 5Why's. From the results of the identification of the root causes of waste motion, a design of improvement proposal is implemented with 5S implementation to reduce waste motion. The results of the proposed design will get lead time at the VSM future state in the process of assembling Nose Fuselage components which are shorter than the previous lead time to 1040.09 hours with a decrease in NVA of 0.88 hours and NNVA of 20.5 hours.

Keywords   : Lean Manufacturing, VSM, PAM. Waste Motion, Fishbone Diagram, 5S