

Initial progress and possible improvement of e-cutter linear actuator development

ABSTRACT

Currently, palm oil has become the most consumed vegetable oil type. This is due to an awareness of the effect Trans Fat has on human health. Therefore, increasing productiveness is a crucial factor to ensure its continued availability as a product in the marketplace. One of the processes that should be improved to increase productivity is harvesting. The Malaysian Palm Oil Board (MPOB) has put a lot of effort into developing a mechanized harvesting tool called the Cantas[®]. This efficient tool has been shown to increase oil palm harvesting productivity by a factor of 3. However, Cantas[®] is ineffective at harvesting oil palm fruit in trees taller than 8m. Therefore, a new tool called the E-Cutter was introduced. In this paper, the development progress of specifically the E-Cutter's linear actuator part was discussed. The previous type of linear actuator for the E-Cutter is also mentioned. Improvement in the planning and design target of the linear actuator is also addressed. The potential linear actuator structure and type is also identified.

Keyword: Component; Cantas[®]; E-cutter; Permanent magnet generator; Slot type linear actuator