ABSTRACT
Ergonomics is the field of study that examines human behavior, psychological and physiological capabilities and can design and modify established work environment to maximize, the productivity worker’s comfort and overall efficiency. Modern agricultural industry is inclined towards high speed, power and efficient agricultural tractor. The nature of tasks on a tractor necessitates a number of actions to be performed by the operator, which puts varying physiological demands on the body. Making these tasks injury and stress-free for the driver is a challenge for the designer. This project was intended to make Ergonomic improvements in company’s 15hp tractor. The customer feedback about the seeding batch of the tractor was obtained, based on which modifications were made in the design of the tractor for better ergonomics. The activities in the project included checking the workplace design measurements as per Budni recommendation, benchmarking with competitor tractors, study of anthropometric data of Indian population, analysis of the tractor controls for force and vibration limitations. Various improvement areas were identified and the necessary changes were made in the seat dimensions, improvement is done in operator’s seat as per IS 12343 (1998) standard and anthropometric details i.e. 5th, 50th and 95th percentile of selected persons. Location and orientation of steering and other controls of the tractor, this improvement was done as per BS, ISO.IS standard and Indian customer survey report – Budni. These modifications were implemented on the existing tractor. To validate the improvements, and checking the workplace design measurements as per Budni recommendation after improvement, a survey was performed taking 25 operators before and after the modifications. The results of the survey indicated a remarkable improvement in driver’s comfort, reachability of controls and visibility

Key words: Ergonomics, Tractor, Seating comfort, Safety, Anthropometry, Design modifications, Percentile workplace, Force, Vibration