



Product background

Smart Tyre Removal Tool is a portable tool that used to open the tyre by using rotational movement. This innovation aims to assist and simplify the work during removing motorcycle tyre. Conventional method in removing motorcycle tyre used much energy and time consuming due to manual operation using wrench and lever. High force and energy is needed to push the lever into the edges of the tyre so that the tyre could be removed from the rim. The surface of the rim is damaged and dented when wrong technique is applied to insert the lever around the edge of the tyre. This new innovation will ease the process of removing motorcycle tyre moreover force and torque needed to rotate the lever to remove the tyre is also very low compared to conventional method using manual wrench and lever. Simple gear system is used to reduce the torque needed and at the same time the process of removing is fast and smooth.

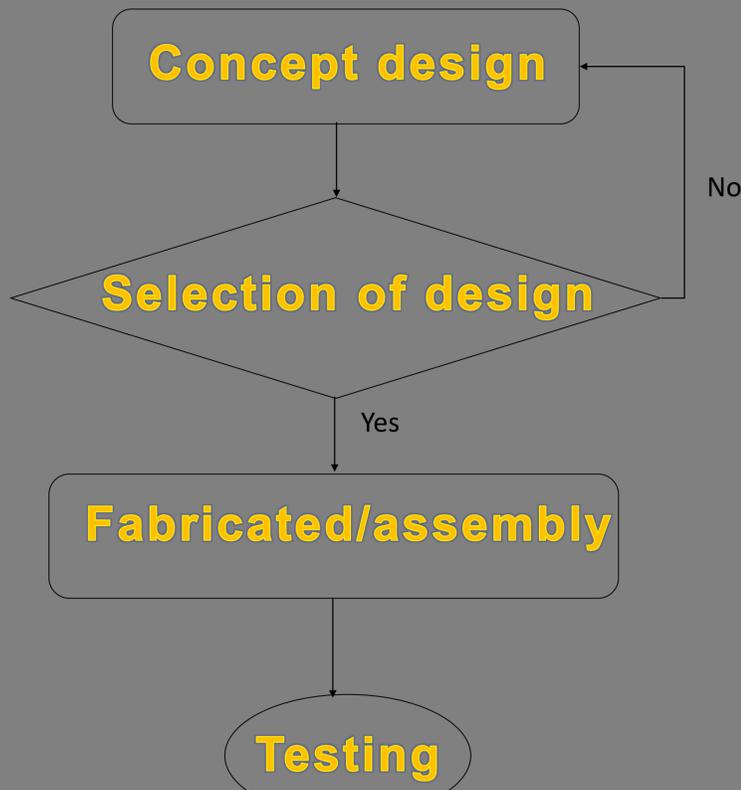
Problem statement

Conventional method in changing or removing the tyre has several problems such as it is difficult process and need much energy to push the lever into the edges of the tyre. The levered tyre will affect the rim surface and dent it.

Product aims

- ✓ The product will remove the tyre using less energy and force.
- ✓ To prevent the surface dented or scratch during the tyre removing process.
- ✓ To produce safe product to operate and the process of removing tyre will be easy and smooth.

METHODOLOGY



The product

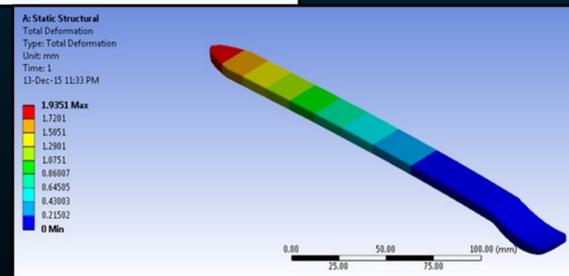
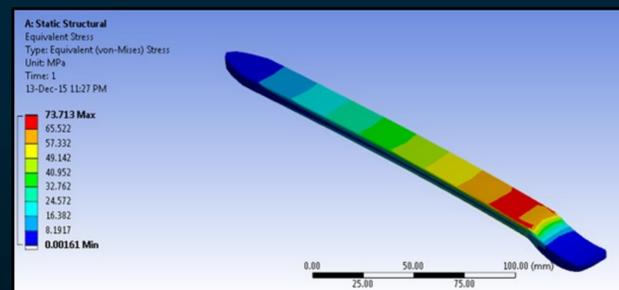


Components of the product

Smart Tyre Removal Tool



Process of removing tyre



FE Analysis on the lever arm. (stress and deformation)

MARKET & COMMERCIALIZATION POTENTIAL

Smart tyre removal tool is target to be sold as one of motorcycle accessories for national motorcycle maker Modenass. Besides that, it will sell separately targeted to the riders all over the country.