ROLES & RESPONSIBILITIES

•Developed a new design of cover by optimizing thickness of cover and altering the dowel pin and relief areas through multiple trials

•Performed structural simulation through ANSYS for each of these trials to match cover stiffness with required functional stiffness

•Measured stiffness experimentally to validate stiffness obtained from simulation having an error of 2%

•Fabricated a cover with new design, and validated actual dimensional values with design dimensional values

•Performed functional tests such as clamp & release load tests, lift off test, flaring diameter and flaring height for newly designed cover assembly

RESULTS

•The newly designed cover assembly helped Schaeffler India to save $10000 and reduce Schaeffler India's loss margin with MSIL products by 3% approximately

•The optimized thickness of new cover was used as benchmark for designing new covers meeting functional requirements similar to that of MSIL

•This helped Schaeffler India to reduce raw materials cost by 5% as compared to previous year's material cost

*Cost saving calculations and simulation results could not be displayed due to confidentiality issues

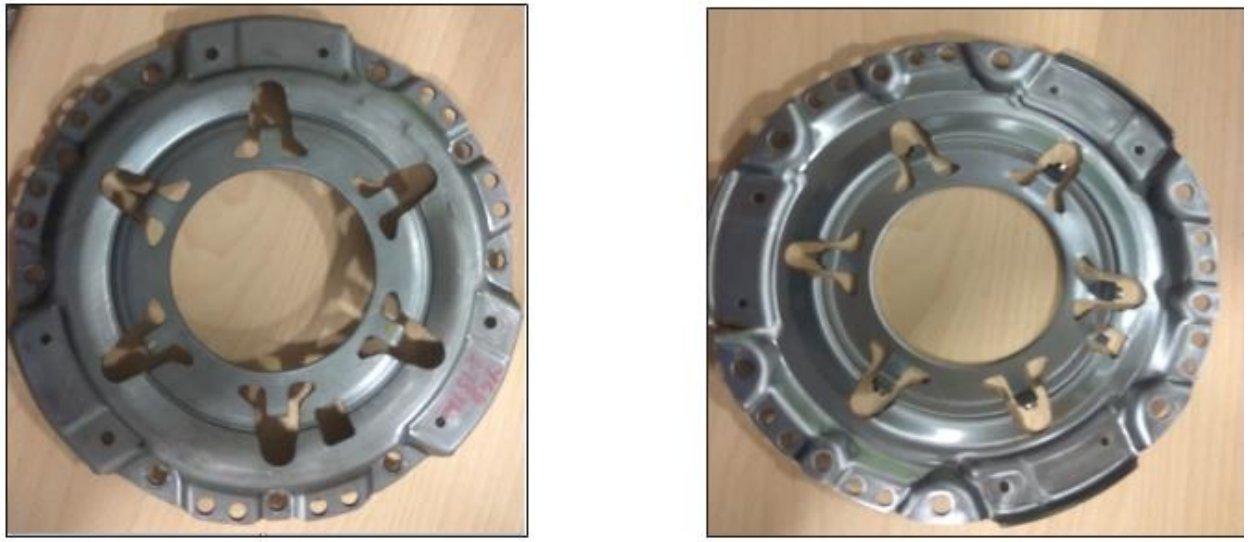

Fig 1. Newly designed clutch cover images of 2.75mm and 3.2mm thickness respectively

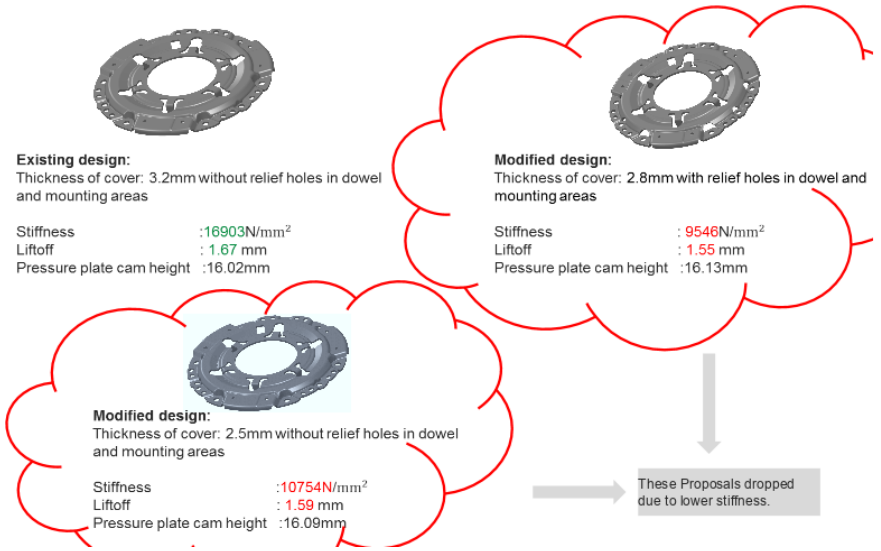

Fig 2. Newly designed and existing clutch cover images along with their functional parameters