Ford Massage Seat

Overview
Ford Motor Company was seeking innovation in the design of a new massage seat system. In particular, Ford asked the team to redesign the pneumatic bladder layout which provides the massages in their current vehicles. Ford asked the team to not only design a new bladder system, but to implement it into one of their seats for testing.

Objectives
The objectives of the team consisted of achieving a design backed by research to achieve a high-quality massage, allow system to function within existing Ford seat, and provide the user with the possibility of multiple massages.

Approach
- Team received and dissected existing Ford chair for better scope understanding
- Existing massage system was analysed to see where improvements could be made
- Gathered information about competitor’s systems by visiting local dealerships
- Consulted a Doctor of Chiropractic for professional insight about muscle layout in the back
- Using gathered information, team generated list of 10 design concepts
- Designs were chosen by group decision based on feasibility and potential effectiveness
- Once design was chosen, the team visited Ford to pitch the idea and acquire feedback
- CAD models were produced so bladders could be fabricated for testing
- Due to complication of current Ford pneumatic inflation system, the team devised an alternative
- Prototype was fabricated and tested using volunteers from Learning Factory
- Results concluded that the team’s design achieved its goal

Outcomes
- The final prototype produced achieved a new unique design which Ford can use to further their development of high-end car massage seats.
- The team produced a seat which avoids spine interaction, allows for a larger range coverage of the back, and provides potential pattern options for the user
- The team’s seat has the full capability to be implemented into an existing Ford seat with ease, giving Ford the option to use the team’s design with minimal changes to its setup