Airbag Technology

Design Portfolio

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7.0 Energy Mass Balance

- Conclusion

EMB can be used to reveal significant energy and cost savings by identifying the flows of energy and mass. Since there was no reliable method to quantify the amount of mass and energy transferred and transformed, we cannot confidently state what the different inefficiencies are. Although, transmission losses seems to be the only "waste" of energy in the system. Also the material used in creating the airbag can be changed such that less lubrication is required. The aim of the design modification process will be to reduce the total unused energy but at the same time increase the efficiency of the system.

Further analysis can be done to compare different types of mechanisms used in airbag systems (electronic, mechanical and combined models) the energy usage variability can be studied and can be compared to the system efficiency. No studies have yet been successful in identifying the most efficient airbag mechanism. Although companies have tried to use different materials as to minimise energy and cost, it all comes down to the safety and reliability of these systems.

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