

Simulation Case Study

Simulation
Services

Analysis &
Optimization

Component
Testing

Hardware
Development

Simulation of ZF SACHS Pneumatic Clutch Actuator (ConAct).

The objective of a clutch actuation servo is to control the clutch position according to a position demand signal. The input is generated by a position sensor on the clutch pedal or a control unit. Actual clutch position is measured by a position sensor and fed back to the Electronic Control Unit (ECU) which operates the valves in order to have the clutch position track the demanded input signal.



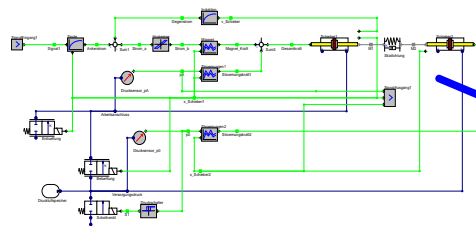
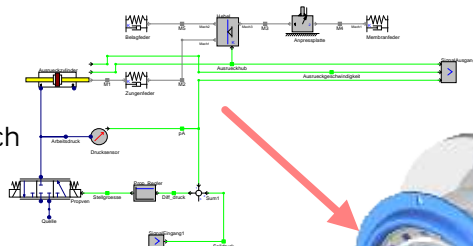
Task

- Setup and verification of DSHplus simulation models of pressure supply and ConAct including clutch Load.
- Export of the simulation models as S-Functions for a comfortable ECU Development under Matlab/Simulink.
- Identification of critical operation points.

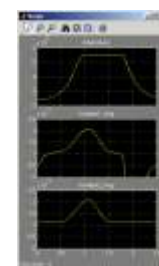


Picture and Schematic Drawing of ConAct

Main
Cylinder
of the Clutch



Air Supply and Control Valve of the ConAct



Simulation
Results of
the DSHplus
Model

Simulink Model with two DSHplus S-Function
Sub-Models