

Summary

Project Name: Tier 4 Final Implementation for TFC 45/TFC 46 Reach Stackers

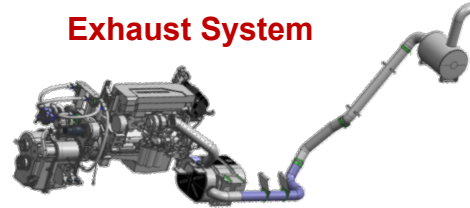
Scope: Engine Emission Upgrade from Tier 4i to Tier 4 Final for SCANIA, Volvo and Cummins Engines

Software: Teamcenter, NX and PRMS

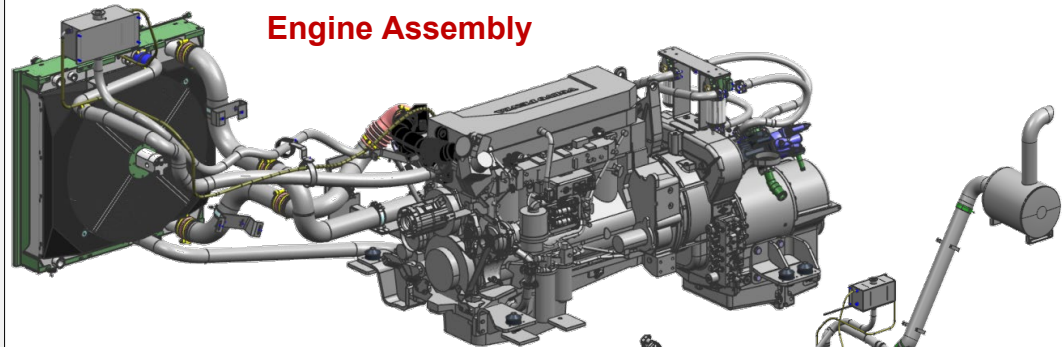
The project involved designing of all Sub Groups listed below to accommodate Tier 4 Final Implementation:

- New Exhaust line Design to comply Cummins T4F Recommendation
- New Air intake line Design to comply Cummins T4F Recommendation
- New Kinematic Assembly for Chassis length of 6,2 m
- New Engine and Gearbox Mounting Bracket s Design to align the axis of chassis and engine.
- New CAC line Design for easy assembly.
- New Engine coolant line Design.
- Design modification for Fuel Tank Group
- Design updates for Ad Blue Group

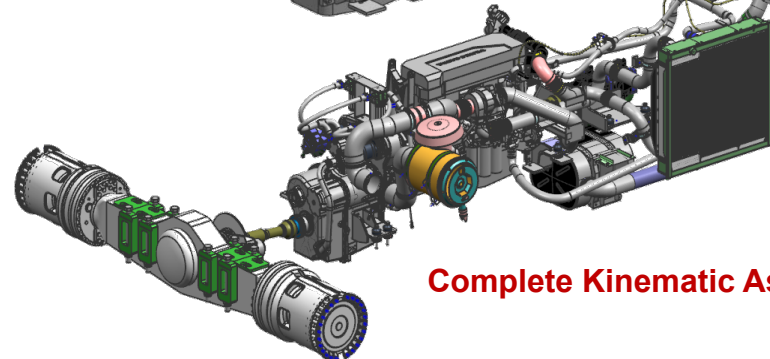
Exhaust System



Engine Assembly



Complete Kinematic Assembly



Summary

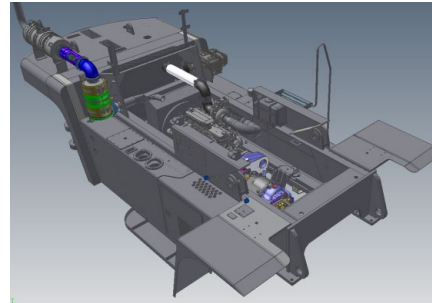
Project Name: Tier 4 Final Implementation for Container Handlers & Forklifts

Scope: Engine Emission Upgrade from Tier 4i to Tier 4 Final for Deutz Engines

Software: Auto Desk Inventor

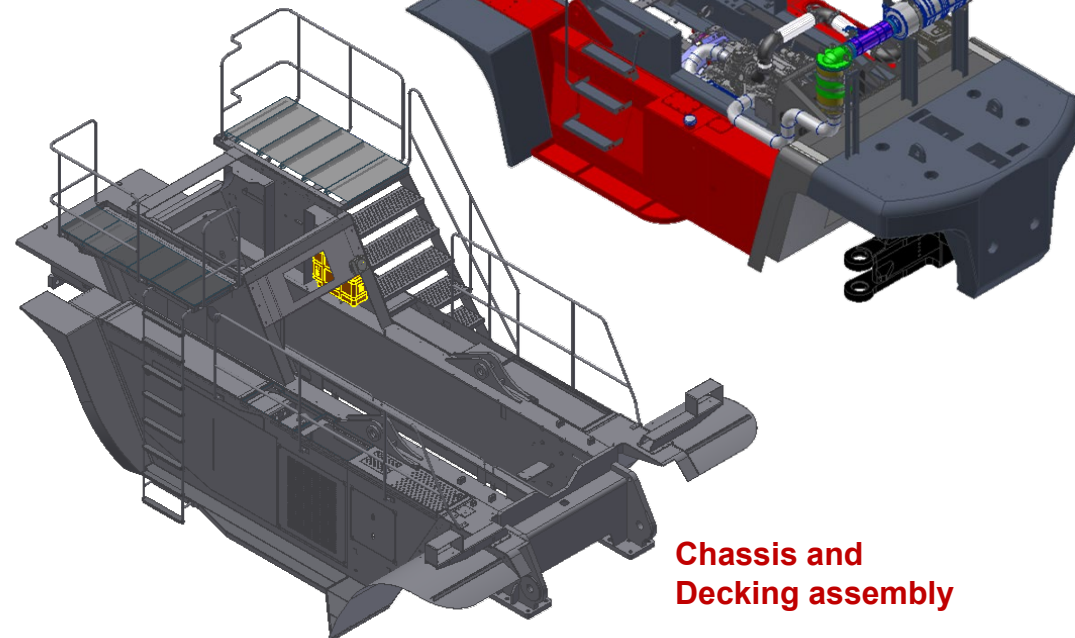
The project involved designing Sub Groups listed below to accommodate Tier 4 Final Implementation:

- New Exhaust line Design to comply Deutz T4F Recommendation
- New Air intake line Design to comply DeutzT4F Recommendation
- New CAC line Design for easy assembly.
- New Engine coolant line Design.
- 5 Distinct concepts of Tier-4F layout and component choices, for 7 Trucks
- Multiple Engine-Transmission combinations
- DEF Module placement with minimal to no modification on Chassis and tank assembly
- Initial inputs do not have Engine and Transmission reference



Complete Engine Assembly

Exhaust System



**Chassis and
Decking assembly**