

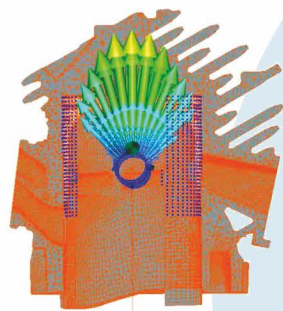
PERMAS

Links to Multi-Body and Fatigue Analysis



STIHL 2-Stroke-Engine

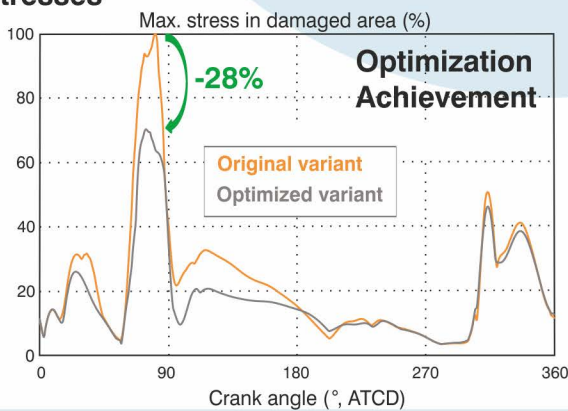
- Speed-up to 15.000 rpm
- High acceleration
- Lightweight design
- Temperatures >250 °C



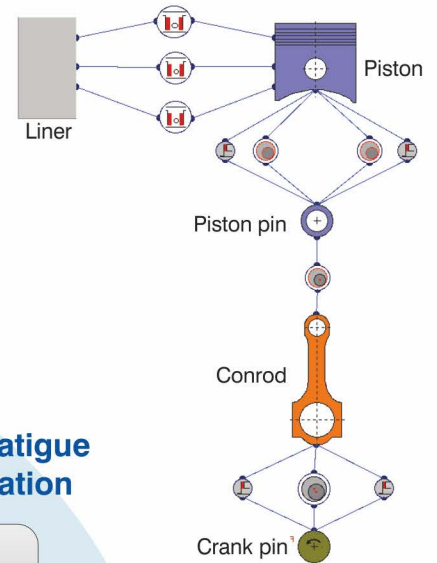
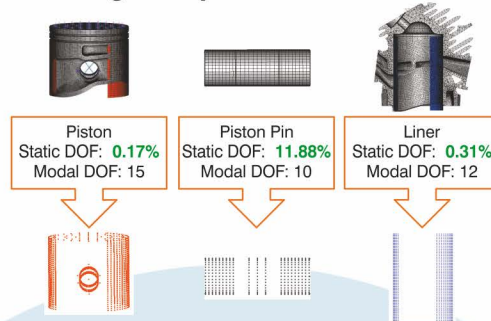
EXCITE Forces



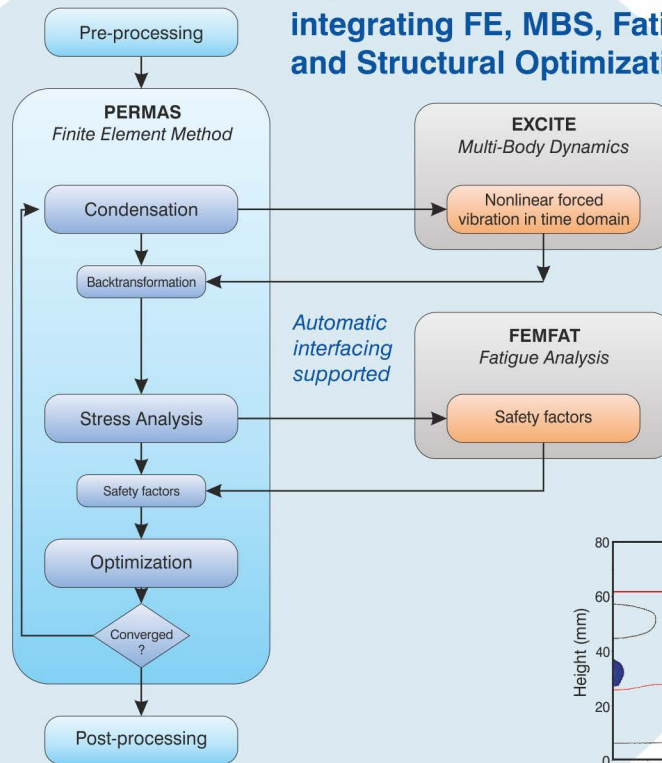
PERMAS Stresses



Craig-Bampton Condensation



Workflow integrating FE, MBS, Fatigue and Structural Optimization

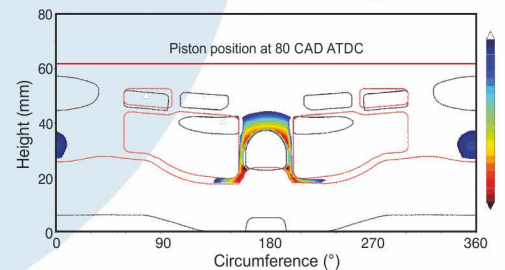


EXCITE Model

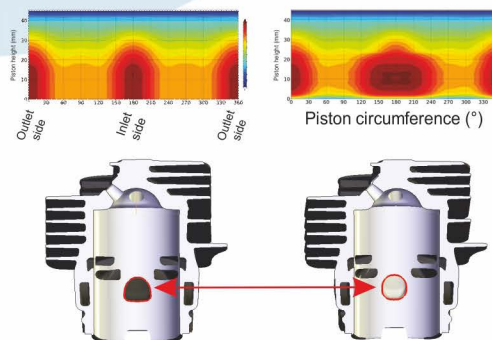
High non-linear elastohydrodynamic (EHD) joint for simulation of piston-cylinder contact and sliding bearing

Analysis of piston damage

Position of highest stress



Optimization



INTES GmbH
Breitwiesenstr. 28
70565 Stuttgart, Germany
Phone +49-711-78499-0
E-mail: permas@intes.de
Web: <http://www.intes.de>



© Copyright INTES GmbH, Mar. 2021

All model pictures and results are taken from the presentation "Numerical Analysis of Piston Secondary Motion and Piston Strength of Small 2-Stroke Engines" by S. Schieche at the PERMAS Technology Day on April 11, 2019 and are shown here by courtesy of ANDREAS STIHL AG & Co. KG, Waiblingen, Germany

