

I. IDENTIFICATION DATA

Thesis name:	Virtual design of powertrain components under consideration of construction space and NVH requirements
Author's name:	Helen Hedrichová
Type of thesis :	master
Faculty/Institute:	Faculty of Mechanical Engineering (FME)
Department:	Department of Automotive, Combustion Engine and Railway Engineering
Thesis supervisor:	Ing. Ondřej Miláček
Supervisor's department:	Department of Automotive, Combustion Engine and Railway Engineering

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment	extraordinarily challenging
<i>Evaluation of thesis difficulty of assignment.</i>	
This diploma thesis is very unique because there is a need of knowledge from two important branches, i.e. ICE and dynamic drivetrain analysis.	

Satisfaction of assignment	fulfilled
<i>Assess that handed thesis meets assignment. Present points of assignment that fell short or were extended. Try to assess importance, impact or cause of each shortcoming.</i>	
All tasks of the assignment were fulfilled.	

Activity and independence when creating final thesis	C - good.
<i>Assess that student had positive approach, time limits were met, conception was regularly consulted and was well prepared for consultations. Assess student's ability to work independently.</i>	
This thesis was finished "in the last minute". It wasn't caused only by the student because after starting the internship in the company the precise assignment of the thesis still wasn't clear for few weeks. Despite this issue the thesis was finished in time. Since the company is in Germany there wasn't the possibility of regular consultations. Only via email.	

Technical level	B - very good.
<i>Assess level of thesis specialty, use of knowledge gained by study and by expert literature, use of sources and data gained by experience.</i>	
Technical level of this thesis is quite high. Student gained new pieces of knowledge also by using a special software for dynamic simulations of MBS.	

Formal and language level, scope of thesis	C - good.
<i>Assess correctness of usage of formal notation. Assess typographical and language arrangement of thesis.</i>	
The level of language is very good. The problem is in this thesis that there are often used very long sentences which are in final not understandable.	

Selection of sources, citation correctness	A - excellent.
<i>Present your opinion to student's activity when obtaining and using study materials for thesis creation. Characterize selection of sources. Assess that student used all relevant sources. Verify that all used elements are correctly distinguished from own results and thoughts. Assess that citation ethics has not been breached and that all bibliographic citations are complete and in accordance with citation convention and standards.</i>	
Student used by research a lot of material sources which are quite often referred in the text.	

Additional commentary and evaluation

Present your opinion to achieved primary goals of thesis, e.g. level of theoretical results, level and functionality of technical or software conception, publication performance, experimental dexterity etc.

My opinion at the student's thesis is that it was done a lot of work. Student described a methodology how to calculate torsional stiffness in all phases of DMF work including all necessary springs dimensions. Afterwards there was provided a modal analysis using software "SimulationX" of the whole drivetrain under all possible critical situations for original engine (4 cylinder) and for modification when 2 cylinders are deactivated.

III. OVERALL EVALUATION, QUESTIONS FOR DEFENSE, CLASSIFICATION SUGGESTION

Summarize thesis aspects that swayed your final evaluation.

I evaluate handed thesis with classification grade **B - very good**.

Question:

Please describe what exactly happens in all three DMF phases in the figure 3.2.6. My opinion is that springs arrangement in the scheme is not correct.

Date: **28.8.2018**

Signature: