I. IDENTIFICATION DATA

Thesis title:	**Gearshift Simulation Model of a Dog Clutch**
Author's name:	**Vijay Jeyaraman**
Type of thesis :	master
Faculty/Institute:	Faculty of Mechanical Engineering (FME)
Department:	Department of Automotive, Combustion Engine and Railway Engineering
Thesis supervisor:	Ing. Michal Jasný
Supervisor's department:	Department of Automotive, Combustion Engine and Railway Engineering

II. EVALUATION OF INDIVIDUAL CRITERIA

Assignment	**challenging**

How demanding was the assigned project?

I consider the assignment as a challenging one. The topic of gearshift simulations was not investigated at our department before this thesis. In the beginning there were more possible ways to follow and Mr. Jeyaraman had to parallelly tried more of them (namely use more than one simulation software for comparison) and then choose the most suitable one.

Fulfilment of assignment	**fulfilled**

How well does the thesis fulfil the assigned task? Have the primary goals been achieved? Which assigned tasks have been incompletely covered, and which parts of the thesis are overextended? Justify your answer.

The assigned task was fulfilled. Mr. Jeyaraman presents a working simulation model of a dog clutch engagement based on real geometry. Comparison of this model with experimental data shows similar behavior in terms of general dependency of the engagement process depending on the initial conditions. On the other hand, there are significant differences in the gearshift time values which are main simulation target. However, these seem to be caused mainly by the imperfections of the testing bench and measurement conditions and cannot be considered as a failure of the thesis and simulation model themselves.

Methodology	**correct**

Comment on the correctness of the approach and/or the solution methods.

Mr. Jeyaraman studied a lot of materials regarding simulation programs Simpack and Adams (especially the help files) and used them for first simulation designs. These two softwares were chosen as most appropriate for simulation because of their capabilities and availability. After establishing cooperation with the University of West Bohemia the Adams software was selected and Mr. Jeyaraman continued with simulations in Adams. Mr. Jeayaraman consulted his work often with me and had always his questions prepared logically and well-arranged. He also actively participated in the cooperation with University of West Bohemia.

Technical level	**B - very good.**

Is the thesis technically sound? How well did the student employ expertise in the field of his/her field of study? Does the student explain clearly what he/she has done?

Mr. Jeayaraman brought a reasonable amount of knowledge into the thesis work. I rate especially high that he was always willing to search for missing information and knowledge not only during the consultations but also on his own. The thesis explains his work quite clearly. However, some formulations could me more precise and some statements are misleading. All in all, the text could use some polishing in technical way.

Formal and language level, scope of thesis	**B - very good.**

Are formalisms and notations used properly? Is the thesis organized in a logical way? Is the thesis sufficiently extensive? Is the thesis well-presented? Is the language clear and understandable? Is the English satisfactory?

The same can be said about the formal aspect of the thesis – it could use some polishing both in graphical and grammatical way. However, the logical structure seems correct to me.

Selection of sources, citation correctness	B - very good.
Does the thesis make adequate reference to earlier work on the topic? Was the selection of sources adequate? Is the student's original work clearly distinguished from earlier work in the field? Do the bibliographic citations meet the standards?	
The theoretical part of the thesis uses adequate sources and cites them correctly. The same can be said for the images. More details about the publications could be presented in the bibliography section but this is just minor remark.	

III. OVERALL EVALUATION, QUESTIONS FOR THE PRESENTATION AND DEFENSE OF THE THESIS, SUGGESTED GRADE

I consider this thesis successful and beneficial especially because of two reasons:

1) The result is useful for further research in the field of gearshift mechanisms and their behavior and will be used in further development of the dog clutch without circular backlash.
2) The work on the thesis was in my opinion for Mr. Jeyaraman a convenient opportunity to utilize his knowledge in practical task and to gain new knowledge and experience for further work as a technician.

The grade that I award for the thesis is **B - very good.**

Date: **2.9.2019**   Signature: