

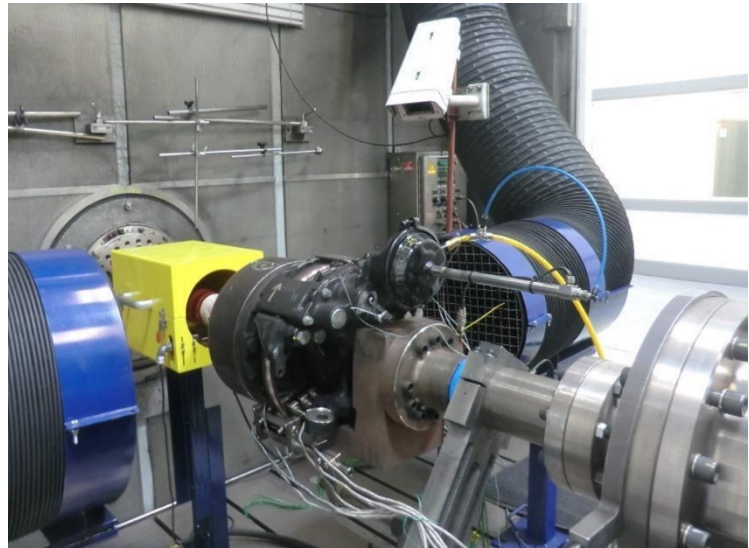
# Test method in order to measure drag torque

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## Background

Market pressures around the world are pushing for more fuel efficient vehicles which produce lower vehicle emissions. The result is an engineering desire to improve vehicle efficiency and to reduce any sources of residual drag in the driveline. Air disc brakes have become common place in Europe on many different Commercial vehicle missions such as line haul trucks, delivery trucks, coaches, buses, refuse trucks and construction vehicles.

Much of the development over the last ten years has focused on improving robustness and performance. However, during the lifetime of the brake the majority of time is spent with the brake in the unapplied condition. This brake unapplied condition is the most important in the context of residual drag and parasitic losses. In order to find improvements and design which reduce or eliminate the residual drag torque it's necessary to find a method to measure the drag torque.



## Objectives

The objective is to investigate and propose a measuring system in order to detect/measure residual drag torque with high accuracy during different dynamic conditions, for example vibration and when the vehicle turns.

## Deliverables

- Master Thesis report and Executive Summary in English, verbal presentation at Haldex
- Propose alternative solutions
- Selection of proposed measuring systems
- Design of hardware
- Test results which prove the measuring system / test method

Appropriate profiles are students in Electrical Engineering, Engineering Physics, Mechanical Engineering with special interest in Mechatronics, or similar. Good communication and English language skills. The Master Thesis is performed at Haldex in Landskrona, includes international interaction and is suitable for 1-2 persons.

## Contact person

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