

HIGHER MATHS

Braking calculations are required to register a vehicle. Customers can get them as an additional service from Haldex.

A wiring diagram and a parts list. These items comprise the core of a braking calculation, which a vehicle manufacturer must present to regulatory authorities to obtain a registration. The wiring diagram shows how the individual components are connected to each other. The parts list contains details about the components. And, of course, the braking calculation itself must show that a system with these specifications meets registration requirements.

Edgar Schneider, who has worked with such calculations at Haldex for almost 40 years, finds that his work varies greatly: 'There are easy jobs and complicated ones', he says. 'In the days of slide rules', he continues, 'a single calculation could sometimes take a couple of days'.

Computers, of course, subsumed such work and today there is Brake It, a special program developed by Haldex in partnership with software experts to do braking calculations. The program allows Haldex to currently produce 2,000-2,500 braking calculations a year.

But this is a subject that still contains tricky issues, not only concerning software.

That's when it helps to have a resource like Edgar Schneider whose decades of experience have taught him a thing or two about the process: 'Well, I did help develop the program', he says, 'and I know when to give the software a nudge in the right direction'.

There are very few customers who have not yet taken advantage of this special service from Haldex. The clientele of this special department is large and diverse: 'The spectrum ranges from market leaders in the trailer industry with large series to specialised manufacturers who need many individual verifications', says Helmut Maltry, group leader for braking calculations at Haldex in Heidelberg.

Some customers, such as Komptech (see page 10), have also taken Haldex up on its offer to lend them the software to do their own calculations.

The procedure is very simple. The customer receives a questionnaire from Haldex that requests relevant vehicle data such as dimensions, axle type and transport weight along with brake and tyre type. Based on this information, Haldex compiles a list of the components necessary for regulatory compliance,



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which means advice is often an integral part of Haldex's braking calculation service. The calculation is then submitted by the customer when the vehicle is inspected by regulatory authorities who will not certify a vehicle without this document.

The braking calculation, however, is in no way a free pass. There are good reasons why regulatory authorities like to carry out practical tests. The calculation, for example, does not factor in the physical length of mechanical connections and brake response time. It is the customer's responsibility to pursue answers to these kinds of questions. The wiring diagram and parts list, as provided by Haldex, aren't everything. Yet nothing can happen without them. ■