



## EVAPORATIVE EMISSIONS OF PROPULSION SYSTEMS

Evaporative emissions of newly developed vehicles are an important value for approval. Especially the California Air Resources Board CARB in the United States has established very strict limits for evaporative emissions of whole vehicles and further tightens these limits with implementing LEV III regulations.

The propulsion system is one source of evaporative emissions, which is very complex. VETReC (Vehicle Emission Test and Research Center) offers a test site, which provides testing of the propulsion system very close according to test procedures for whole vehicle. Thus, the evaporative emissions of an engine can be determined in an early stage of development. Additionally it is possible to quantify the effect of certain parts (e. g. HC-traps, fuel tubing, etc.) accurately. These results enable a reliable conclusion about the potential and the cost-benefit evaluation of certain parts.

### Equipment

- High dynamic engine test bench
- VT/VV SHEDs (7,6 m<sup>3</sup>)
- Mobile TVOC detectors (FID, PID)
- VOC-analytics (e. g. GC-MS)

### Our competences

- Determination of evaporative emissions of propulsion systems closely according to official test procedures
- Identification of emission sources
- Determination of the influence of certain parts on evaporative emissions
- Design and realization of customized test benches (e. g. regeneration characteristics of HC-traps)

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