

# EXOPRO

## ADDITIVE SUPPLIERS CREATE THE FORMULATIONS

The development of a new engine oil is a gradual process which can take years to complete and can cost several million pounds. The research and development is carried out by additive suppliers in conjunction with the vehicle manufacturer/OEM. The OEM's requirements in terms of viscosity, base oil type, chemical limits etc. are defined which provides a starting point for the formulation. The process can be a balancing act between competing targets, for example, increasing certain additives to improve engine cleanliness can have a negative impact on fuel economy.

The next step is to carry out laboratory testing and after this full blown engine tests are done to simulate a service interval. The engine will be taken apart and inspected after each test to determine how well the formulation has performed in terms of, for example, wear protection and deposit control, and the oil itself is examined to check that it has retained its properties. If any of the detailed tests result in a failure then the formulation has to be adjusted and the process repeated. Only when all of the tests are passed and all parties are happy does the OEM grant its approval and the additive supplier is then free to supply the formulation to all lubricant blenders.

Lubricant blenders then purchase these additives from the additive supplier, and the additives are blended with appropriate base oil following the provided formulation. As long as the lubricant blender follows the correct formulation, the blended product is OE standard and will maintain the vehicle and replacement parts warranty. This is why you do not need an OEM letter of approval for the oil to be OE standard; all of the performance claims have already been thoroughly investigated and satisfy the OEM's requirements. However, if a blender makes unsupported performance claims, or chooses to change the formulation (perhaps to cut costs by using less additive or cheaper base oil), then the final product will not meet OE standards and will not maintain a vehicle or parts warranty.

