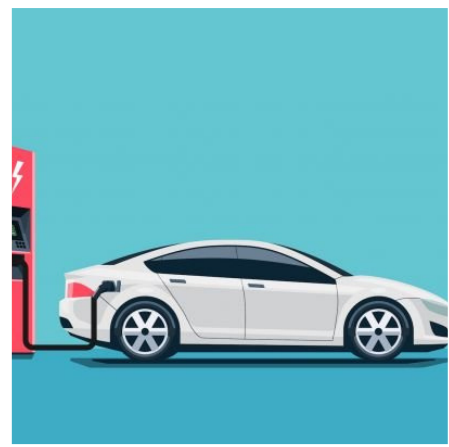


CONTACT LUBRICANTS FOR EV

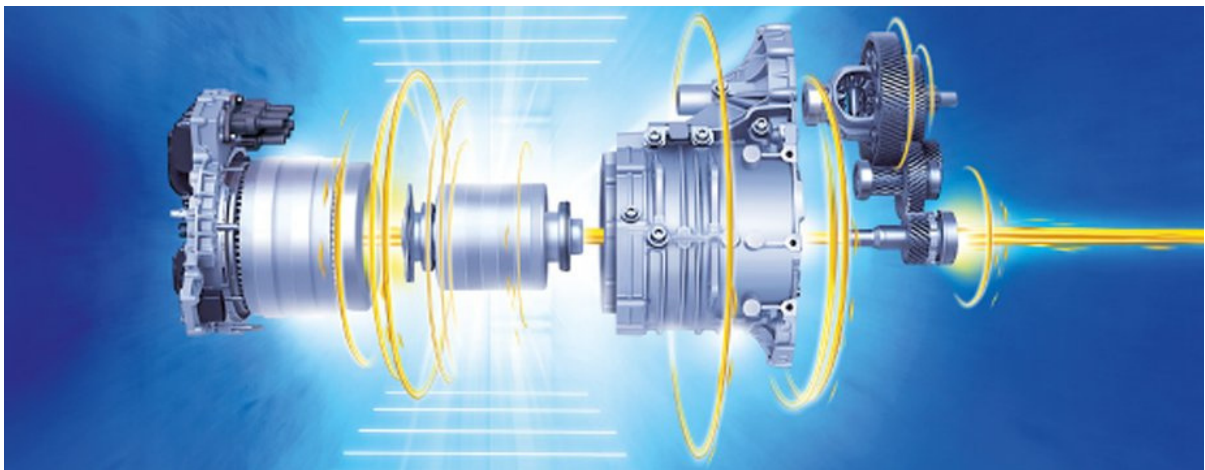
DON'T YOU DARE RUN YOUR EV WITHOUT A GOOD CONTACT LUBRICANT

Electric vehicles are continuing to make major inroads into personal mobility. The sales of new EVs are increasing exponentially around the world and they also have an impact on lubricant formulations to date and this would definitely change.



COMPRISES OF

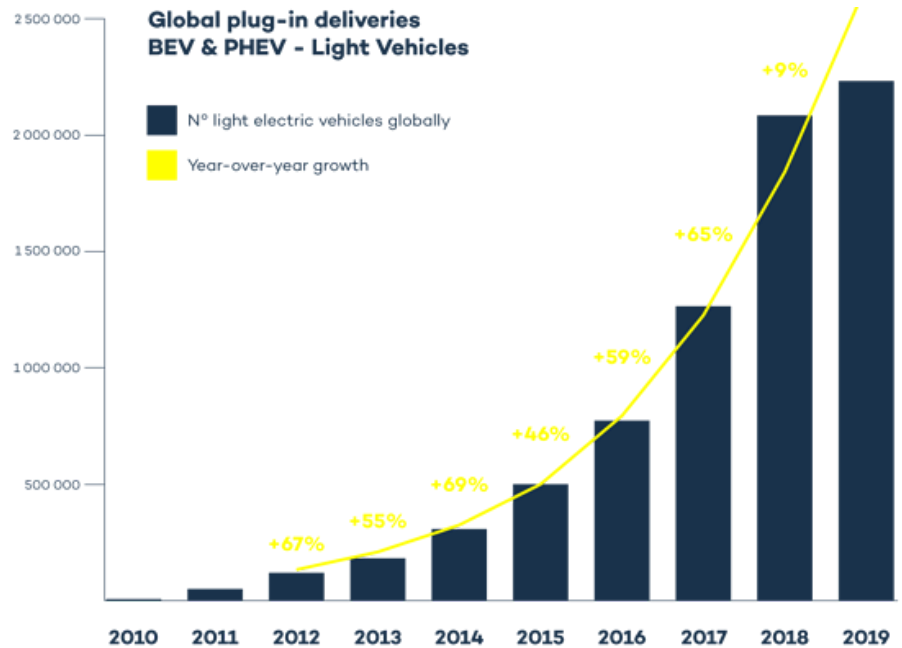
EV comprises a number of switches, terminals, sliding and rotary contacts which require effective lubrication. Electrical contacts in the EV are facing problems caused by silicon migration and carbon residues due to the conventional contact greases used. There was also a considerable rise in heavy arcing conditions. Here contact lubricants not only should meet similar demands as required while lubricating the mechanical sliding surfaces but also should possess some special characteristics in order to avoid the problems faced while the contacts are open or closed.



The open-circuit resistance (OCR) problems are faced due to conductive wear debris when the contact switch is open. Wear debris also inhibits the current flow while the contact switch is closed, thus increasing millivolt (mV) drop issues. Switch performance is compromised in both cases. For optimum performance of a switch grease, the viscosity of base oil should accompany the contact force in the switches. Here lighter base oils can be used for low current or low contact force applications. And similarly high current or high contact force applications can be lubricated well using more viscous base oils.

MARKET

Electric vehicles have been on the market for a couple of decades now, but the development of dedicated contact lubricants for them has just begun to gain momentum. Since late 2018, only a few of the specialty lubricant manufacturers have introduced their lubricants marketed specifically for electric vehicles.



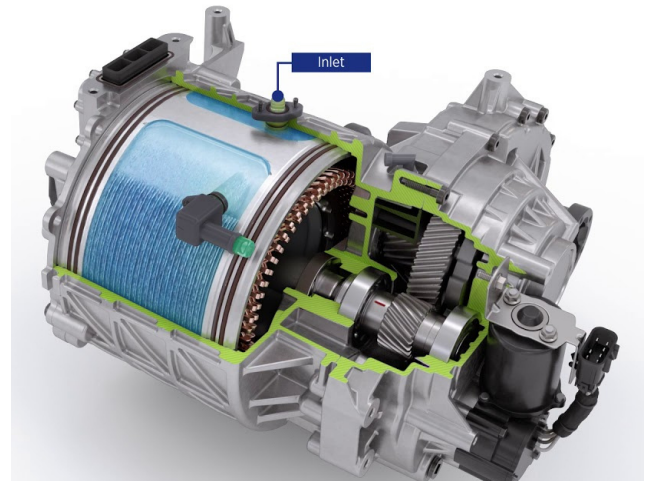
However, some original equipment manufacturers (OEMs) are not yet convinced that the Lubricant supplier is providing the products that they want. Industry sources say most EVs are operating on conventional lubricants developed for vehicles that employ only internal combustion engines. The sources fall short of saying that the EV lubes available in the market do not offer differentiated performance, yet the sources do maintain that the EV lubes do not offer enough of what Electric vehicles need to confirm using them.

DEVELOPMENT & SCOPE

Work continues to develop lubricants and automakers are still evolving their designs. In the market. The line-up of Auto-manufacturers is very much in flux and there is consensus that the engines and drive-trains will undergo significant evolution. And as always, lubrication demands follow equipment design, so to some extent Lubrication requirements of future Electronic vehicles have not been defined.

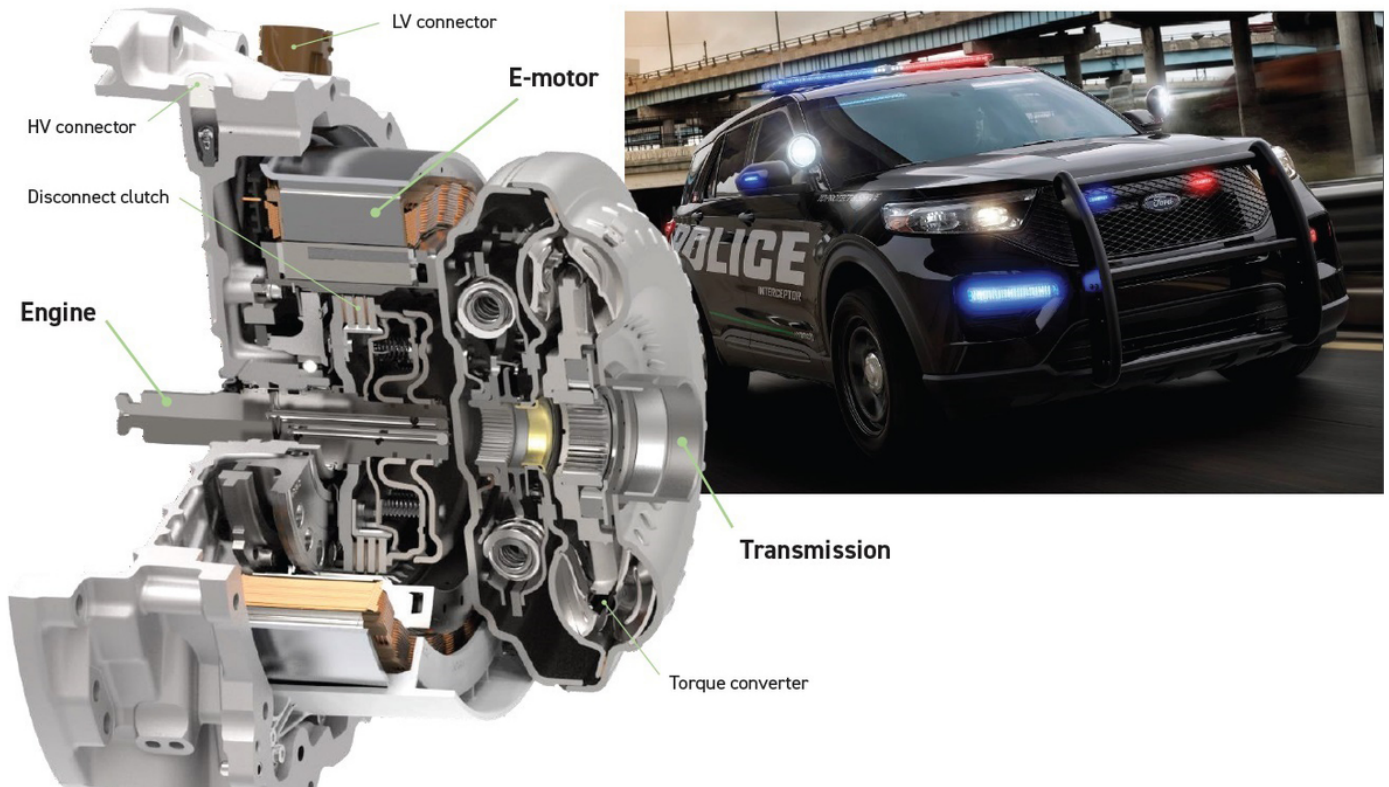
MOSIL Lubricants identified the application and challenges faced using conventional greases and used this opportunity to develop the electrical contact grease (EC series). The series is based on highly stable silicone-free synthetic oil to provide excellent conductivity to electrical contacts and moreover, it also eliminates the problems caused by silicon migration and carbon or silicon residues. Mosil contact greases are inert in nature and have excellent penetrating and coating properties, reducing the heavy arcing conditions and works effectively in corrosive environments. The contact greases help in improving the conductivity of the contacts and act as a clean non-carbonizing contact lubricant for Battery terminals, switches, sliding and rotary contacts, and turret turners in automobiles.

The lubricating greases in the contact grease series are having good moisture resistance and are incorporated with rust and corrosion inhibitors to protect the electrical contacts from corrosion and wear and lubricates from -40 to 150 deg C. The MOSIL series of contact greases are as follows- EC - 111, EC - 211, EC - 221 & EC - 511



Cleaning of the contact parts is necessary before applying contact greases. MOSIL SPRAY - 18 (Cleaner-cum-degreaser) can be used for cleaning the contact parts to remove the dust, dirt particles and also to clean contact grease which was applied earlier.

NEAR FUTURE



The year 2021 will be a period of transition for the lubricant industry. The innovation will lead to more products well suited for hybrid and advanced ICE designs. Meanwhile, EV manufacturers will look for more customized solutions for their lubricant needs and will decide the role of the lubricant in e-motor and battery cooling applications. It is predicted that the lubricant industry will also see a greater impact on demand in the next decade, emanating from extended-life products that are the result of advanced additive and base oil technology and a rapid upgrade to high-quality products in all regions of the world.

AN OFFER



Innovation that improves the lubricant's thermal and electrical conductivity will become important features, Be it for conventional hybrids or for transmissions of EVs. On top of all the other critical issues that lubricants protect against, No matter what technology wins, there is little doubt that the lubricant industry needs to be ready to meet those needs.

MOSIL Lubricants is a specialty lubricant manufacturer which has a wide product range of industrial lubricants for various lubrication applications in the Industries. For more details about the products and product range of MOSIL lubricants, kindly visit website- www.mosil.com or enquire at enquiry@mosil.com.