



MILLERS OILS



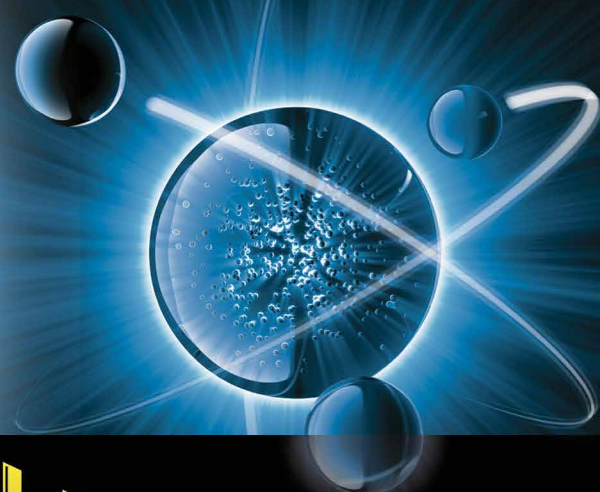
NANO DRIVE
LOW FRICTION TECHNOLOGY

ENERGY EFFICIENT

ENGINE OILS | GEAR OILS | FUEL ADDITIVES

millersoils.co.uk





NANODRIVE TECHNOLOGY

ENERGY EFFICIENT OILS AND ADDITIVES

TECHNICAL EVOLUTION THE NEXT STEP...

Our Nanodrive Low Friction Technology was first used in Motorsport gearbox and engine oils, allowing racers to release more power and torque by reducing frictional losses in the engine.

The same technology has allowed the design of energy efficient engine and gearbox oils for the everyday car.

- Nanodrive technology reduces frictional losses in the engine, gearbox and fuel system
- Low friction reduces fuel consumption
- Low friction reduces component wear, especially in the critical period after start up
- Running costs reduced, with lower fuel consumption and longer component life

NANODRIVE
LOW FRICTION TECHNOLOGY

Our Nanodrive motorsport engine oil formulations have been built on the development of our highly acclaimed, award winning, nano technology gear oils.

Now we have transferred technology from the world of motorsport to the cars that we all drive, every day.

We are able to dramatically reduce friction through the use of spherical nanoparticle structures in the oil formulations. These act to fill the rougher surfaces of metallic components by forming a 'tribofilm', making the surface ultra smooth.

The formulations reduce friction at extreme pressures and continue to function even in stop-start driving conditions – reducing engine component wear, fuel and maintenance costs.





NANO DRIVE
LOW FRICTION TECHNOLOGY

ENERGY EFFICIENT Engine Oils

EE Longlife 5w30 ECO

Fully synthetic fuel efficient engine oil suitable for the latest technology petrol and diesel engines.

Suitable for use in the very latest Ford petrol and diesel engines meeting Euro IV/V emissions standards.

***Compared to XF Longlife ECO 5w30**

50% reduction in wear
47% reduction in friction

ACEA: A5 / B5-08
API: SL, CF

EE Longlife 5w30 C3

Fully synthetic mid SAPS engine oil suitable for the latest technology petrol and diesel engines.

Suitable for use in petrol and diesel engines meeting Euro IV/V emissions standards requiring ACEA C3 specification.

***Compared to XF Longlife C3 5w30**

14% reduction in wear
27% reduction in friction

ACEA: C3-08, A3 / B4-04
API: SN, CF

EE 10w40

Semi synthetic high performance engine oil with higher than average synthetic content, formulated to meet the demanding requirements of today's engines.

Recommended for use in modern petrol and diesel engine vehicles where this viscosity of oil is specified by the manufacturer.

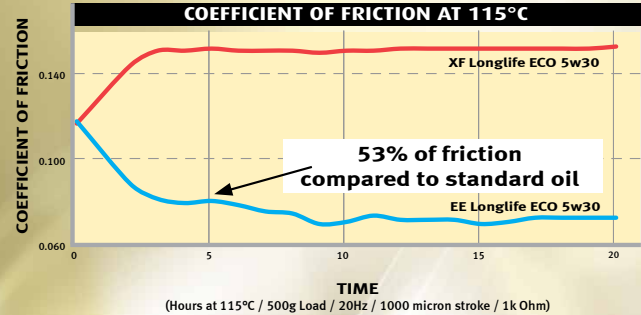
***Compared to XSS 10w40**

42% reduction in wear
60% reduction in friction

ACEA: A3 / B4-08
API: SL, CF

One way to improve fuel economy in an engine is to use a lower viscosity of oil. The consequence of this, using traditionally formulated oil, can be that at operating temperature the oil film thickness is reduced to a point that component wear increases.

Nanodrive technology has overcome this problem and allows a lower coefficient of friction to be achieved, without changing the viscosity of the oil, at the same time maintaining an adequate oil film thickness that minimises wear. This also reduces running costs, as a result of less energy being used to simply turn the engine over.

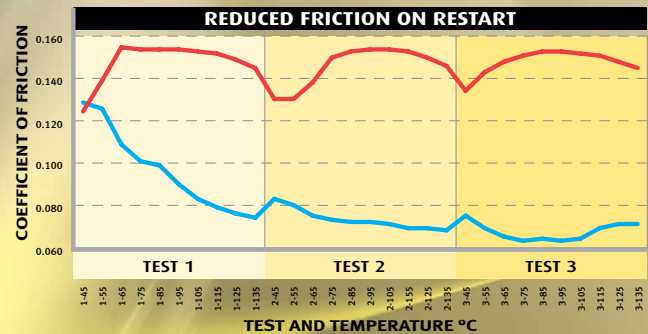


Modern driving involves a lot of stop start driving, with most engine wear occurring soon after start up.

Nanodrive oils contain ingredients that form a low friction surface on the metal components. Unlike traditional oils, this surface remains in place as the engine cools and is there to protect the engine from the moment it is started again.

The chart below shows that for EE Longlife 5w30 ECO the coefficient of friction reduces rapidly as the engine temperature rises – **this improves fuel economy.**

After the oil has been allowed to cool, the second test is started, simulating the restarting of the engine. The coefficient of friction on restart is significantly lower than both the standard oil and the value recorded in the first test. **This feature of the product helps reduce wear in engines that are repeatedly restarted.**



EE Longlife 5w30 ECO

XF Longlife 5w30 ECO

*Calculated comparing wear scars for the 2 comparable products.



NANO DRIVE
LOW FRICTION TECHNOLOGY

ENERGY EFFICIENT Gear Oils

Millers Oils award winning nano technology motorsport gear oils are used in competition across the world to reduce wear in racing gearboxes. The technology has now been transferred to gearbox oil for modern road cars.

- Less energy is lost within the gearbox, making the drivetrain more fuel efficient
- Wear on components is reduced, making the drivetrain components last longer and improving reliability

EE 75w90

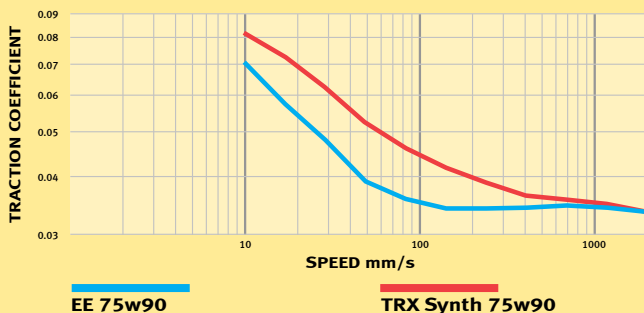
A fully synthetic transmission oil to provide maximum protection and fuel economy.

For use in car and light van manual gearboxes and axles where the ultimate performance gear oil is required.

API: GL-4, GL-5,
ZF: TE-ML 02, TE-ML 05

Friction in a gearbox is caused when the components move against each other with a sliding and rolling action, this is different to the purely sliding action of an engine piston and requires a different oil formulation to absorb the extreme pressure created between metal components. Tests have shown that the new formulation reduces the sliding and rolling friction compared to our standard TRX Synth 75w90 gear oil.

REDUCED FRICTION AT 70°C



NEW IMPROVED Fuel Additives

Diesel and Petrol Power Ecomax have been improved using the latest Nanodrive technology.



- Improved combustion, improving the efficiency of fuel combustion
- Improved fuel lubricity

The improved fuel lubricity helps in two ways. First, frictional losses at the piston/cylinder interface are reduced by 20%. Secondly, wear on components such as the fuel pump is reduced. (Tests on treated fuel show a reduction of 16% in the "wear")



The Petrol Power Ecomax formulation has been improved to take advantage of the latest additives, using Nanodrive technology to improve piston ring lubrication.

TECHNOLOGY

RACE TO ROAD
TRANSFER





NANODRIVE

LOW FRICTION TECHNOLOGY



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THE QUEEN'S AWARDS
FOR ENTERPRISE:
INTERNATIONAL TRADE
2012

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